

integrated wellness

a healing centre for victims of trauma and abuse

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Definitions

Holistic: pertaining to a healing system that focuses on both the mind and the body as equal parts in creating a healthy whole.

Psychological therapy: this method not only includes counselling, but is made up of physical therapies, sensory therapies, eastern techniques (such as Yoga and meditation), aesthetic techniques and traditional methods.

Trauma: this category includes rape, abuse, assault, violence and any other act, whether the victim is physically harmed or not, that may induce psychological disturbances.

Other definitions are explained in the text where they are used. Abbreviations are explained in the text as they are used.

introduction

Introduction

“More than 90% of the people walking about in an ordinary neighbourhood are unhealthy, judged by simple biological criteria. This ill health cannot be cured by hospitals or medicine.” (Alexander 1977: 252)

Theme

Today due to high rates of abuse, trauma and violence many people are subjected to psychological stress (Kaplan 1989:172). Many of the victims who need help, do not get it. Others who are helped do not have a strong enough support system, to enable them to cope once their counselling has ended.

With the AIDS pandemic, much of the focus has been on AIDS orphans. There are other groups affected, such as teenagers and women. According to the UNAIDS report, women are at a greater risk of infection and bear the brunt of the epidemic, as they have to take care of others, lose jobs and schooling due to illness, and face stigmatism and discrimination (2004 global report on AIDS, p4 executive summary). Young people aged 15-24 account for more than half of all new HIV infections worldwide (2004 global report on AIDS, p8 executive summary). Counselling and morale-boosting is necessary to improve their lives.

Psychological counselling has a lot of stigma attached to it (Froneman and Louw interviews 2005). When a traumatic event occurs that disturbs the psychological state of a person, counselling is not always sought. In traditional Black culture, counselling in the western format does not exist (Molefe interview 2005). Previously the traditional healer often helped in this matter, as a thorough understanding of holistic treatment is intrinsic to this discipline. Physical ailments that were a result of psychological causes, cleared up as the treatment continued.

The misconception today is that people who seek counselling are not able to deal with their problems, or are mentally unstable (Louw interview 2005). Counselling is not always necessary, as people are naturally resilient, but working through subconscious thoughts and problems is beneficial (Louw interview 2005). Eliminating negative thoughts, fears and feelings has an immediate beneficial effect on our total wellbeing (Reflexology Manual 2003:3).

The proposed design is for a Healing Centre for women. It aims to focus on a holistic system of healing, as well as psychological and emotional care. The centre is not a primary health care facility, but is for those whose psychological state has affected their physical health. It will also cater for victims of trauma and abuse, patients of long-term illness, early terminal illness (where psychological wellbeing improves patient comfort) AIDS/HIV sufferers and general psychological healing. At the centre, through improvement of the mind, self esteem and morale, general health will be improved. The physical environment created at the facility will be conducive to healing.

The concept for the Healing Centre was conceived through the influence of the ‘look good, feel better’ initiative used with cancer patients, which helps improve morale through make-up and aesthetic treatments. The centre will further develop this concept to ‘feel good, be better’, in terms of an improved sense of well being and health. The centre will provide psychological care and therapies in many forms to help improve psychological health, and so physical health.



Location

The location of the proposed Centre is off Lynnwood Road, to the east of Pretoria in the Bronberg. The site is off the main road, in an area which has little development, and far enough away not to be affected by the urban sprawl which is taking place in the east. It is also close enough to Pretoria to be used as a day facility, and located near the areas which it will serve, such as Mamelodi.

Through the Bronberg Conservation Initiative (BCI), a Strategic Environment Assessment was carried out in 2002 and the area was identified as a unique ecological and physical resource, which needed protection from urban development and other uses. This area contains many valuable biophysical, cultural, historical and other visual resources. The Bronberg Conservation Initiative has an interest in the facility. With the social and cultural history of the area, a reintroduction of traditional healers will strengthen the link to the past. The guidelines and other regulations set by the BCI, will have an effect on the development of the facility. The site is currently being used as a caravan park and picnic location known as Nkwe. There is basic infrastructure on the site, in the form of small buildings and cabins.

development

Development

The intention of the architecture is to create a centre that will be in harmony with the natural environment in which it exists. The functioning of the building must have as little negative impact as possible on the environment, using passive systems with a high regard for embodied energy. The building and its functions must respond to the site and setting, so that it will not be visually intrusive, or psychologically intrusive to the people using it.

The environment created by the building complex must be conducive to healing. The architecture must be appealing cross-culturally and accommodate users from a variety of backgrounds. The architecture must not be institutional or exclusive, and so intimidate the users. The Environmental Preference Report, conducted by the author, must be considered when designing the facilities, so that a variety of users feel comfortable within the building complex. The building complex must be legible to its users, and provide choice in terms of activities and spaces, that is that the individual can choose to be with the rest of the group as a community, or on their own as an individual. The project is connectivity reliant, connecting people, place and the environment as a cohesive and interdependent whole.



The project will be composed of three main components, which operate together as a whole, as well as separately. These are the Healing and Wellness Centre, the Health Spa and the Herbal and Research Centre. The Healing Centre is the main focus and consists of various treatment and counseling rooms, studios, healing compounds and accommodation, as well as the necessary service and administration areas. The Herbal Centre is made up of a herbal research centre, conference centre and restaurant, as well as a Herbal Shop and Nursery. The Health Spa consists of the usual spa facilities and treatments.

The main user group of the Healing Centre will be those from low incomes, such as Mamelodi, which lies approximately 25km from the proposed centre. Women there do not always have the finances for therapy, and may not consider it when it is needed. The centre will mainly focus on post primary psychological counselling, but will offer primary counselling to those who need it. The therapies that will be used include conventional counselling, as well as group therapies, art and dance, reflection and meditation, physical therapies, aesthetic techniques, alternative treatments and traditional African methods.

Clients of the accompanying Spa facility will have some similar therapies, as well as conventional spa treatments. These users will be from higher income backgrounds. The Herbal Centre will function mainly as a research facility for indigenous plant medicines, and will also contain a conference centre, restaurant and shop to help generate income.

Exploration and focus

The design discourse covers the relevant normative theory, the psychological experience and benefits of nature as well as an environmental preference questionnaire conducted by the author, which together explore the effects of the environment on people.

The context of the study includes a site assessment and history, the socio-cultural environment of many of the users, and the culture of healing. Healing incorporates traditional healing, alternative healing and wellness promotion. Rehabilitation, victim empowerment, trauma intervention and mental health associated with these are dealt with briefly.

Outcome of study

Along with the necessary counselling and support, skills empowerment workshops will be presented at the Healing Centre. These workshops will be extended to set up permanent work opportunities near the homes of the users in Mamelodi, with the help of sponsors. This approach further helps to reintegrate the women into the community, empowering and helping the community as a whole. Through educational and preventive healthcare workshops conducted at the Healing Centre, general quality of life and wellness will be improved. The users will be helped to improve their emotional and intellectual health, as well as their lives.

exploration & focus

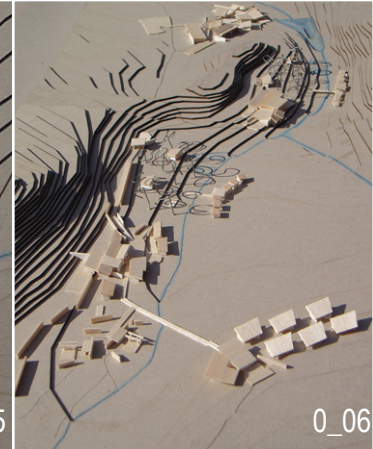
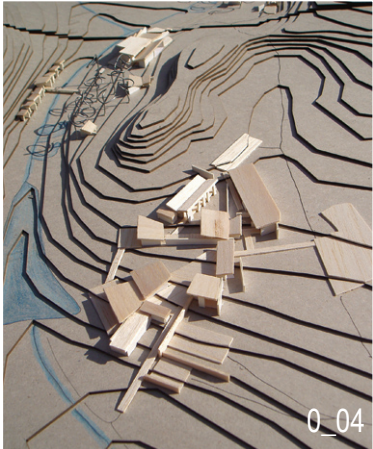


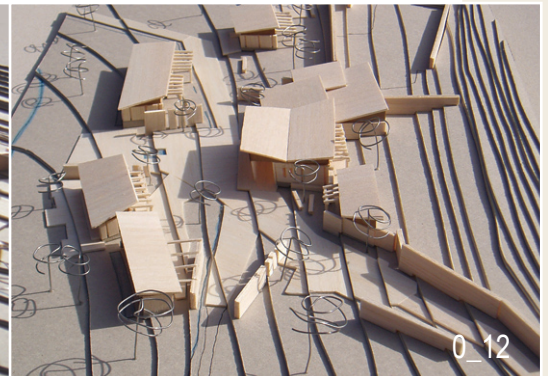
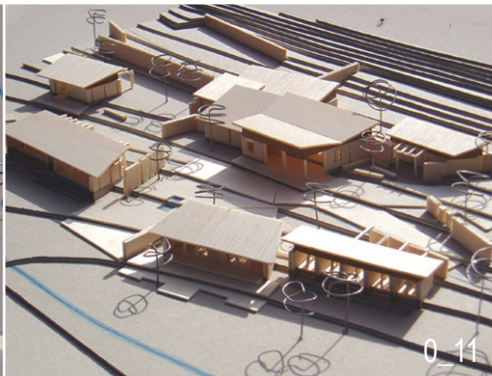
client

The centre will run as a semi-private venture. The Herbal Centre, Spa and Healing Centre will be owned by a private healthcare provider. The Herbal Centre will operate as a research facility as well as a commercial venture. The Spa and Herbal Centres will give a percentage of their profits to the Healing Centre.

funding

Funding will be provided by in a number of different ways. Firstly the Centre will partially fund itself through the profits of the Spa and Herbal Centre. Industry related business, such as manufacturers of feminine products and cosmetic companies, and the Cosmetics Toiletries and Fragrance Association (CTFA-SA) will obtain donations, products and services for the Healing Centre. Themba Lesizwe is a Network of trauma service providers that fund non-profit organisations. Their grants range from R50 000 to R300 000 per year. Such a grant would be obtained. Government funding will be applied for, in terms of the traditional healers, as well as funding from the National Lottery for the indigenous knowledge systems.





Introduction

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01 Design Discourse

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02 Context

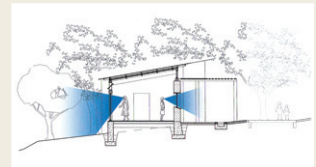
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1.1 Normative Position

The normative position outlined in this section discusses the formative concepts of the project. These concepts and design objective are turned into architecture and applied to this specific project in section 1.3 Design Development.

1.1.1 Dwelling and Place

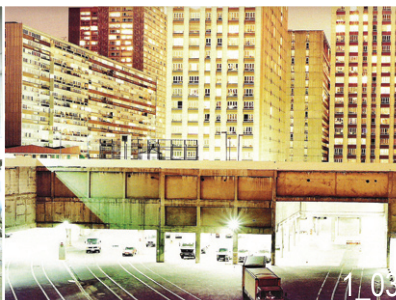
Heidegger (1954) illustrates the idea of place by means of the bridge; a building which symbolises and gathers, and makes the environment become a unified whole. Heidegger says: *“The bridge swings over the stream with cause and power. It does not just connect banks that are already there, the banks emerge only as banks as the bridge crosses the stream. The bridge designedly causes them to lie across from each other. With the banks, the bridge brings to the stream the one and the expanse of the landscape lying behind them. It brings stream and bank and land into each other’s neighbourhood. The bridge gathers the earth as landscape around the stream.”* Heidegger also describes what the bridge gathers and so uncovers its value as a symbol. Before, the meaning of the landscape was ‘hidden’, and the building of the bridge brings it out into the open. The bridge gathers Being into a certain ‘location’ that we call ‘place’. This ‘place’ however, did not exist as an entity before the bridge (although there were many ‘sites’ along the river-bank where it could arise), but comes-to-presence with and as the bridge.

Architecture makes visible the inhabited world, and is the ‘concretisation of existential space’. (Meiss 1990:135). The building protected by its enclosure, walls and roofs, gathers within itself a specific world of the functional and emotional, of work and leisure, of traces of past and present events. A place has its roots and its history; and anchored in time and in a precise spot on earth.

Place is the mental construct of the temporal-spatial experience that occurs as the individual ascribes meaning to settings through environmental perception and cognition (Motloch 1991:279). It involves what is perceived, and the meanings ascribed through mental associations. Place occurs as the synergism of setting, context, previous experience and mental (emotional) state. It is a phenomenological concept that depends on then interrelationships of these variables.

Dwelling takes place when orientation in an environment occurs, or when an environment is experienced as meaningful (Norberg-Schulz 1980: 5). Dwelling therefore implies something more than ‘shelter’. It implies that the spaces where life occurs are places; a space with a distinct character. Since ancient times the genius loci, or ‘spirit of place’, has been recognised as the concrete reality one has to face and come to terms with in daily life. Architecture means to visualise the genius loci, and the task of the architect is create meaningful places.

The existential purpose of architecture is therefore to make a site become a place, that is, to uncover the meanings potentially present in the given environment. In this understanding of nature we thus recognise the origin of the concept of space as a system of places. Only a system of meaningful places makes a truly human life possible (Norberg-Schulz 1980:28). It is not the architect who decides on the values of places, but based on observation, reflection and research, provides a framework which has the best chance of accommodating man’s specific situations (Meiss 1990:138). A strong place presupposes that there is a meaningful correspondence between site, settlement and architectural detail. The built place has to know ‘what it wants to be’ relative to the natural environment (Norberg-Schulz 1980:179).



1.1.2 Experience and movement

“Those of us who are concerned with buildings tend to forget too easily that all the life and soul of a place, all of our experiences there, depend not simply on the physical environment, but on the patterns of events that we experience there...The action and the space are indivisible. The action is supported by the space. The two form a unit, a pattern of events in space... but this does not mean that space creates events, or that it causes them.” (Alexander 1977).

Intangible design is the design of the experience itself (Mitchell 1993:119). Whereas most design efforts focus on the built environment and the production of form, intangible design focuses on the patterns of use and experience. Objects and products are present, but are treated as secondary importance to the experience of the system as a whole. Peoples experiences and actions become the basis for designing. The intangible processes guide the development of the tangible artefacts. Intangible processes include social and cultural features, functions of the accommodation schedule, needs of the users etc.

Experiences of movement and settlement in three-dimensional space are dependent on the unique form of the ever-present body. The most fundamental organising principle in the formation of our body image is that people unconsciously locate their bodies inside a three-dimensional boundary, which surrounds the entire body and demarcates “inside”, personal space, from “outside”, extra-personal space (Bloomer and Moore 1977:37). This extension of the body in the form of an imaginary envelope modifies the perception of forces affecting a person by managing or suppressing the psychological effect of these forces.

Gibson, a psychologist, lists five basic senses: the visual system, the auditory system, the taste-smell system, the basic-orienting system and the haptic system, which are defined as perceptual “systems” capable of obtaining information about objects in the world without the intervention of an intellectual process (Bloomers and Moore 1977:33). Basic orientation refers to our postural sense of up and down which, because of its dependence on gravity, establishes our knowledge of the ground plane. The haptic sense is the sense of touch reconsidered to include the entire body. To sense haptically is to experience objects in the environment by actually touching them (by climbing a mountain rather than looking at it). The fit and movement of our bodies within and around buildings are significantly affected by our haptic sense, by the tactile qualities of the surfaces and edges that we encounter (Bloomer and Moore 1977:71).

The experience of movement can be in the difference between the path one’s body is actually travelling and the eye’s capacity to take in the route in larger leaps, or along an alternative route. The imagination can perceive places where the feet cannot reach. Imagination extends greatly the realm of the moving body and the richness of the path. As the eye sweeps around an impressive building it is bringing the body along on paths it can surmise but not achieve (Bloomer and Moore 1977:91). The movement of the body in space provides a measure for things, allowing people to appreciate the splendour and exploration of that which is hidden, and to organise what there is to see, hear, feel, smell and touch in a given environment (Meiss 15:1990).

1.1.3 Environmental perception and cognition

“Our environmental image is still a fundamental part of our equipment for living, but for most people it is probably much less vivid and particular today” (Lynch 1960:124). Finding one’s way is the original function of the environmental image and the basis on which its emotional associations may have been based.

To be psychologically healthy, designed environments must satisfy basic human needs (Motloch 1991:7). Humans make two demands on their environment. Firstly they must be legible and understandable, thereby addressing the needs of safety and security. Secondly they demand that settings provide opportunities for involvement, thereby satisfying the users need to explore and to motivate oneself to action. People need to be able to situate themselves by affirming their identity as an individual, as a member of a group and as a human being (Meiss 1990:161)

The environmental image, which is related to the spatial organisation of an environment, influences one’s actions (Norberg-Schulz 1984:20). Spatial understanding of a space requires a cognitive mapping process, the product of which at a particular moment in time is a cognitive map or image. A person’s ability to comprehend the surrounding environment and position in it, relies on this image.

Cognition is a two step process (Motloch 1991:282). Firstly the precognitive stage, based on a nearly instantaneous response to the overall shapes or patterns in the environment, is believed to be rooted in the evolutionary need for rapid appraisal and action for survival and security. The second or cognitive phase of perception involves the decoding of the environment clues that reside in objects and their relations. In this stage the user has already established an intuitive understanding of the place and sense of security.

Cognitive maps contain information about the physical setting, establish the position in space, show direction and facilitate tasks such as wayfinding. A person continually acquires new information in interacting with the environment, and the map becomes more accurate. Cognitive maps are also modified by memory and learning (Passini 1992:46). These maps are often distorted due to perceptions about a space that are not accurate. A good environmental image gives its possessor an important sense of emotional security, which is obverse to fear and anxiety that comes with disorientation (Norberg-Schulz 1984:20). To make people truly comfortable in a setting, it must be immediately legible.

The main problems encountered in forming a coherent image of a building are due to difficulties in grasping spatial organisation, spatial enclosure and spatial correspondence (Passini 1992:130). A highly imageable city, building or interior is one that is perceived as a well-structured system of components that are related to each other (Lang 1987:137).

Wayfinding and spatial orientation are important aspects of an efficient environment. However simplistic functionalism must be avoided, as this leads to uninspiring and monotonous environments (Passini 1992:22). Spatial complexity and the unknown awaken curiosity and the desire to explore. The factors of surprise and discovery contribute to a full spatial experience. It is possible to plan interesting, complex and diversified design and still assure efficient wayfinding.

1.2 The Psychological Experience of Nature

1.2.1 Restorative Environments

Natural scenes or experiences have a positive potential, and may have a restorative effect (Bell 2001:47). Urbanization and population growth have created many stresses (Kaplan 1989:172). Countering the stress that humans endure, restorative responses may include reduced physiological stress, reduced aggression and a restoration of energy and health (Bell 2001:48). *“According to the functional-evolutionary perspective, humans should have a biologically prepared affiliation for certain restorative natural settings, but no such prepared response to urban environments, since these have generally affected only a few generations of human experience”* (Bell 2001:48).

From a wilderness study by Kaplan in the 1970's it emerged that in a setting less harassing and less distracting than the everyday environment, there was considerably greater opportunity to be open to information about oneself that might otherwise be ignored. The participants were able to find simplicity and even silence (Kaplan 1989:146). A deeply restorative experience is likely to include reflections on one's life, priorities and possibilities as well as on one's actions and goals.

A restorative garden is a healing landscape, and is intended by its planners to evoke rhythms that energise the body, inform the spirit and ultimately enhance the recuperative powers inherent in an infirm body or mind (Gerlach-Spriggs 1998:2). The restorative garden is intended to provide an ordered place where its occupants will experience a sense of wellbeing and wonder that will alter their mood (Gerlach-Spriggs 1998:7). Restorative gardens are meant for the healthy as well as the sick.

There is no firm scientific proof that gardens or horticulture have therapeutic value; however a steadily accumulating body of evidence compellingly suggests that nature and gardens fill a critical niche in the approach to patients (Gerlach-Spriggs 1998: 35). Restorative gardens are not replacements for medical interventions, they are not cures. At the broadest social level, learned cultural influences may determine our response to nature and to gardens; but virtually every society cherishes nature and gardens in some form as part of its tradition and culture.



1.2.2 Environmental Health

During 1943 McHarg became an Officer with the 2nd Independent Parachute Brigade Group in Italy (McHarg 1969:2). During his leave, he spent time at Albergo Palumbi, high on the Sorrento Peninsula. *“Here was peace absolute, the only noises were the sounds of footsteps on the stone floors, the whispering of servants, the ringing of church bells, the calls of the street vendor...here was equanimity and health”* (McHarg 1989:3).

After the war McHarg developed pulmonary Tuberculosis (McHarg 1989:4), and spent six months in a Glasgow infirmary that was dirty and cold. He describes the spirit of the place as acrid. He learnt of beds in a Swiss sanatorium and transferred there. McHarg describes in detail his journey from England to Switzerland, and the positive effect the air and countryside had on his morale and health. Once there, his examination was positive and was soon allowed to leave his bed as he wished and enjoy the countryside. McHarg says the following, *“such an experience engraves the belief that the sun and sea, orchards in bloom, mountains and snow, fields of flowers, speak to the spirit as well as the flesh”* (McHarg 1989:5). This statement of McHarg's is further reiterated through an environmental preference questionnaire that was conducted by the author (Appendix A).

Women were asked what environments they would most like to be if they needed to heal, and whether they thought certain environments were more conducive to healing than others. Their answers parallel McHarg's statement, stating they would rather be near nature, away from urban noise and pollution.

1.2.3 Environmental Preference

Survey

The conclusion to the Environmental Preference Survey is contained here. The detailed report and an example questionnaire are contained in Appendix A.

Report Conclusion

In terms of healing the general choice of environments was rural, quiet and with a high degree of nature present. Some of the low income group were concerned with quality of care, and believed that this would be better in an urban settings. This exposes the basic needs of survival that may be lacking in this group. Being well, and getting the correct care is more important than what environment they are in. However, all of the groups agree that your emotion and mental state are affected by environment.

There is consensus between the groups of women surveyed in the report that urban environments are the best for work opportunity.

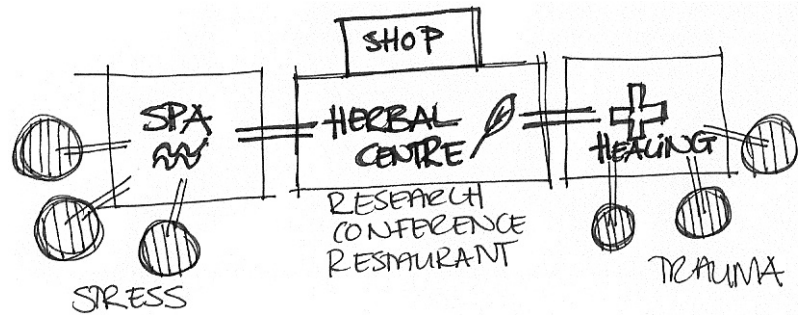
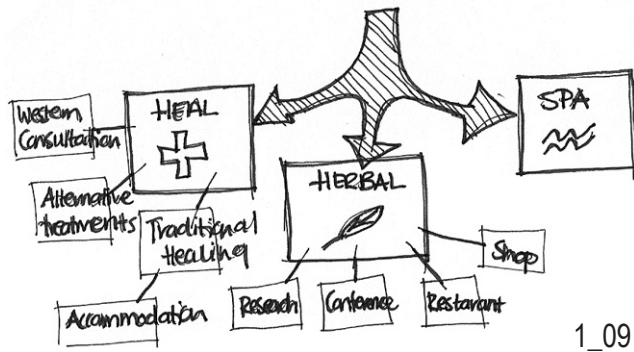
There is a much higher preference among the higher income women to environments that are undisturbed, natural with little human intervention for living and recreational purposes. The students preferred an area with slightly more human intervention. The low income group had a preference for urban residential neighbourhoods as living environments. This is most likely due to their current living conditions not being up to this standard, and the living environments of the other groups are. This links to Maslow's (1970) hierarchy of needs, where the low incomes needs are still at a basic level of survival and safety.

1.3 Design Development

The Design Development exposes the main design objectives that shape the project. These objectives are drawn from the topics discussed in the Normative Position. An appropriate built structure is produced once the Baseline Criteria and Accommodation Schedule have been included in the design. The Technical documentation reveals the final resolved building complex.

Design objectives

1. Integration of development (with site)
2. Reinforcing connections (nodes) with surroundings
3. Circulation and movement, experience
4. Site design



1.3.1 Integration of development (with site)

The site is a constant from the start, but it only emerges as a place of healing when the concepts and built form are applied to the landscape. The buildings bring together the site, its inherent healing forces and those that need healing. The building gathers being into a certain location we call place. There are many sites, but they only come-to-presence with built form. The mental construct of place occurs as the synergism of setting, context, previous experience and mental (emotional) state.

The building creates a space with a distinct character for life to take pace. This induces dwelling. The built form and the landscape provide a framework to accommodate the needs of the users, while meaning is given to the design through the experiences of users, and the concept of healing which the place embodies.

The development must be integrated with the site, acknowledging its location and context. The site for this project was specifically chosen with a spa, herbal and rehabilitation (healing) centre in mind. The Spa and Healing Centre need to be located on a site that is aesthetically pleasing and removed from the urban context.

The starting point for the design and construction of the building complex was the site. The functions of the building complex vary from public to private.

The topography of the site split the building complex into three sections, dictating placement according to the degree of privacy necessary. The most public facilities, the Herbal Centre, which includes the conference centre, research laboratory, restaurant and herbal shop, are located closest to the main entrance. These facilities occupy the area that is currently used as a caravan park and day visitor area. Picnic areas for day visitors are incorporated into the new design, near the dam and waterfall, retaining part of the current function of the site.

The Spa and Healing Centre lie upstream, separated from the Herbal Centre by rocky outcrops of hills. These facilities both lie on the stream, but have no visual connection. Both areas of the site are dominated by clumps of exotic Silver Birch that have been kept due to their place making qualities. These areas are inwardly focused due to the topography and vegetation, with little outside visual intrusion.

To keep noise levels down and control access, public parking is provided near the main entrance with a shuttle service to the Spa and Healing Centre. The rest of the site is limit to pedestrian movement, with controlled vehicular movement. Separate staff and delivery areas are located near the facilities which they serve.

In considering the features of the site, as well as the nature of the building complex, the aesthetics to be embodied in the design were formed. As the overall concept is healing, the materials chosen compliment this approach in that that they do not create a clinical environment.

Rammed earth within a timber frame was chosen as the main construction method. This method of building mimics traditional methods used by many South African races. Aesthetically rammed earth embodies the concept of 'building as close to nature as possible', which is important when designing healing facilities (Anyumba interview 2005). This system becomes a 'modular' system that is applied to all the buildings, and links them visually. Rammed earth architecture is not intimidating or exclusive, appealing to a wide range of users. The abundance of stone on site facilitated the choice as a building material.

The buildings are placed within the landscape as a series of pavilions. In order to keep the scale of architecture down, and limit visual intrusion, a collection of smaller buildings was favoured over a large building. Landscaping and circulation areas are used to connect the buildings so that they form a cohesive whole. Outdoor 'rooms' are created between facilities. These 'rooms' create places within the building complex for transition between facilities and social interaction.



1_12



1_13



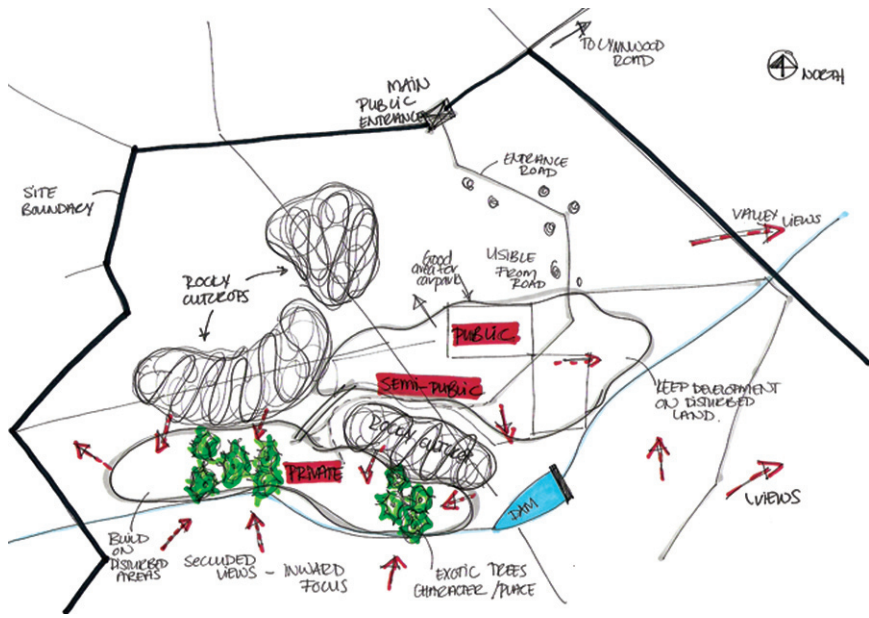
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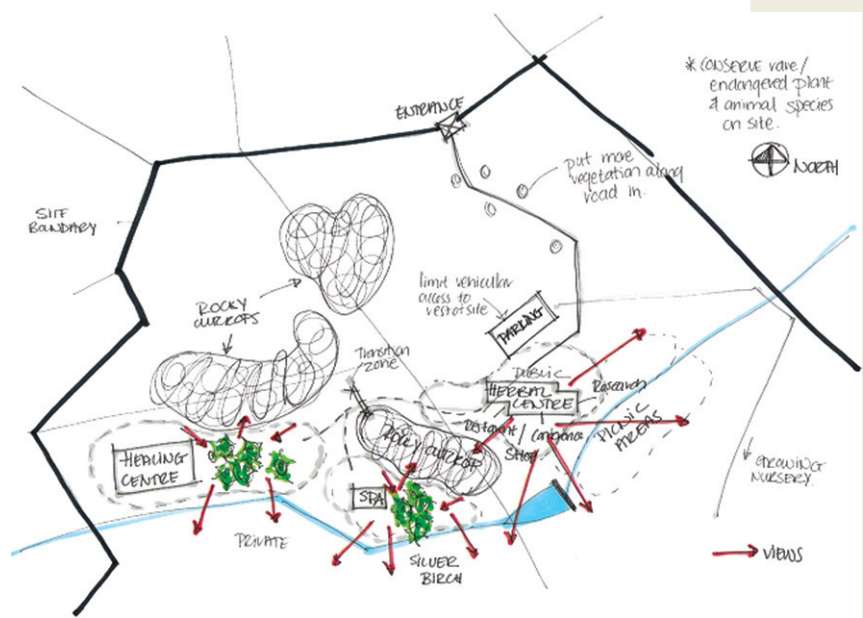
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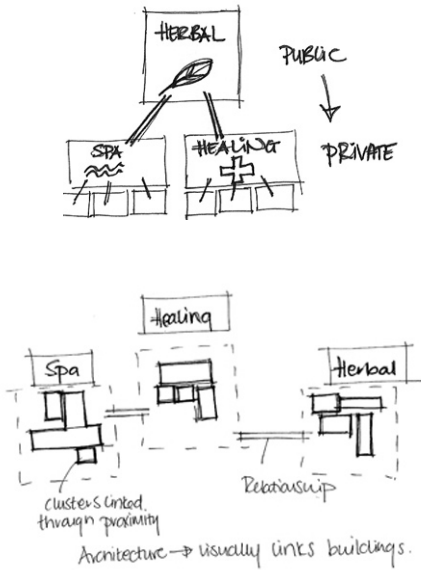
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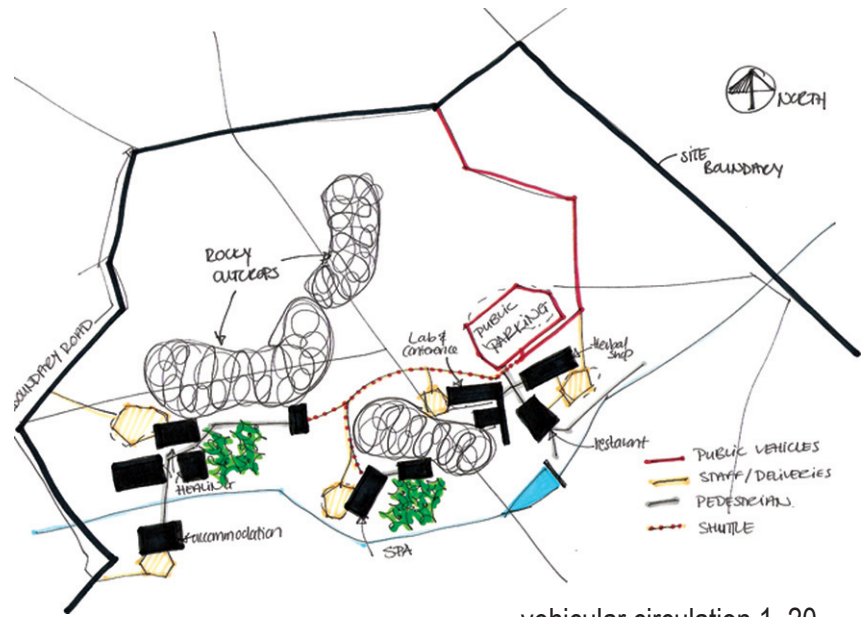
separation of public and private zones 1_17



functional placement 1_18



1_19



vehicular circulation 1_20

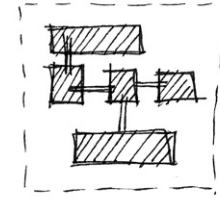
1.3.2 Reinforcing connections (nodes) with surroundings

The form and plan of the design evolved due to spatial organisation, accommodation schedule, topography, views and vegetation. The angular placement of walls emphasises views, topography and creates place. Interior walls placed at an angle create visual axes that lead the user into the landscape. Although the user may not be physically standing outdoors, the experience is that of a disintegration of the boundaries between outdoor and indoor space. The shape of the rooms make the user constantly aware of their surroundings and the context of the site.

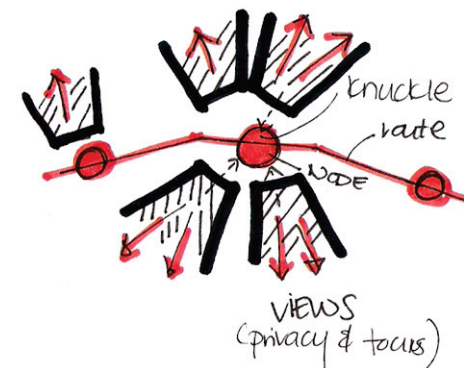
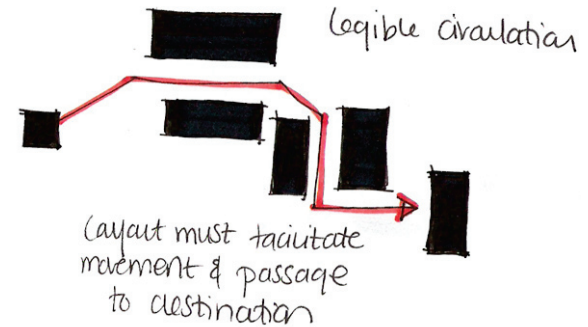
All rooms have openings that provide visual connection to the site. These openings aid orientation within the building complex. The three areas of the site have main features which act as orientation points for users. These orientation points are elements such as the stream, the clumps of Silver Birch and rocky outcrops on site. The built form creates additional orientation points through the creation of nodes and gathering places. The views emphasized by the built form create visual links and orientation points.

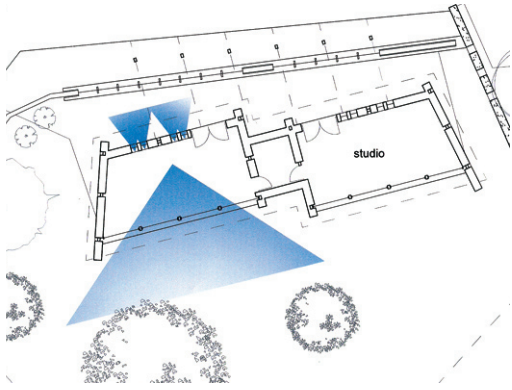
Facilities back onto the main circulation axis, with the main visual axis being in the opposite direction, onto the site. This provides privacy and focus in the rooms. Users of the rooms are not disturbed by [people moving around the building complex. Small windows face onto the main circulation axis, linking the occupant to their 'escape route'.

Orientation and cognition are extremely important when dealing with victims of trauma and abuse. Clear mental images, inducing orientation, facilitate the feeling of safety and comfort on the part of the user. Once this level of security is established, this mental image is enriched through exploration and enjoyment of the site. The buildings must be legible and understandable. Entrances and paths are clearly distinguished. Initially users will be accompanied by staff members, but must be able to find their way around the building complex to return to main nodes or use outdoor spaces. Strong visual axes are a feature of the project to aid orientation. Circulation axes and visual axes link to main nodes of the complexes. From the main nodes links are created to most areas. These nodes form 'knuckles' around which the other facilities are organised. Some axes are made up of a series of axes, that is that the buildings are not dominated by one straight axis. Paths are ordered so that they do not cause disorientation by changing direction often, or breaking the visual link to the main nodes and orientation points

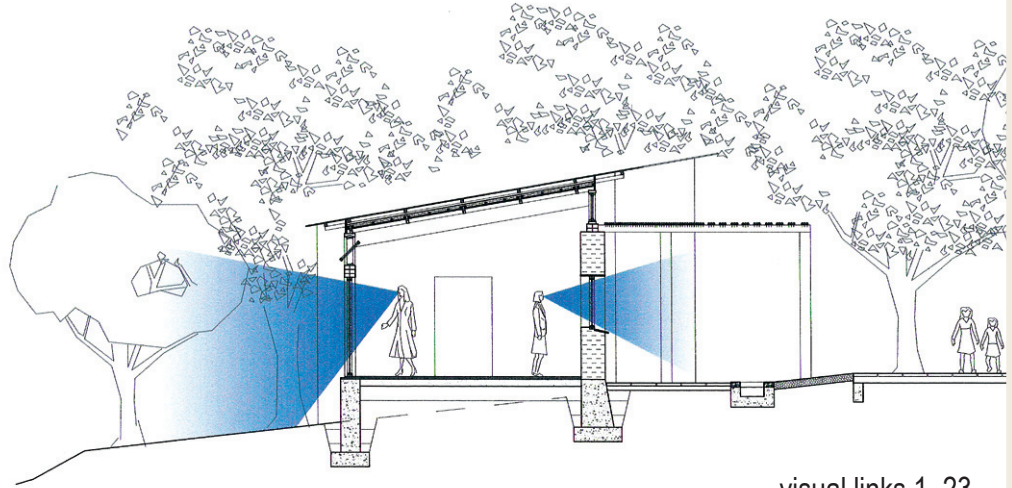


Complex must have
interconnectedness
↳ function as a whole

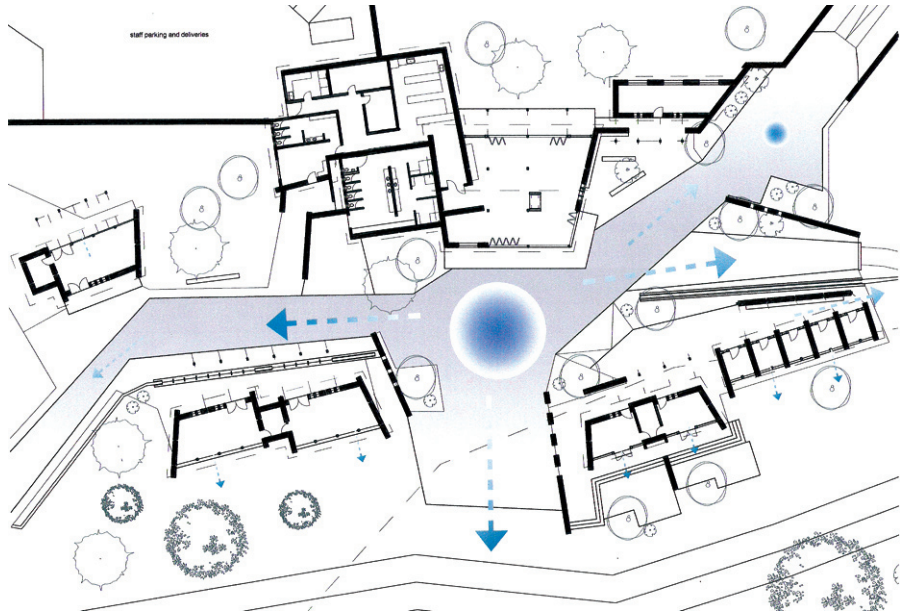




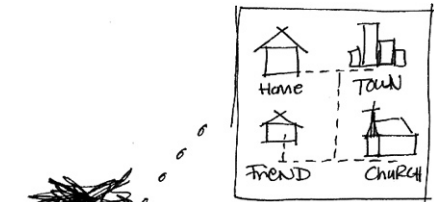
visual links 1_22



visual links 1_23



nodes and visual axis 1_25



Mental image

orientation and cognition 1_24

1.3.3 Circulation, movement and experience

Circulation among the buildings is largely via outdoor areas. These circulation areas are linked through a series of nodes. Primary facilities are located off the main nodes. Main facilities such as dining areas, ablutions and administration offices are located at central nodes. From these nodes there are visual links to other parts of the site.

Circulation is facilitated through surface texture. The main circulation has a particular dense pattern of paving. Secondary circulation pathways leading off the main route have a more permeable paving texture. The paving is not as dense and interspersed with gravel and planting. Circulation surfaces are all wide enough for wheel chairs, and a suitable surface to allow easy passage over the surface.

The spa is made up of a central building housing the café, lounge, gym, indoor studio and ablutions, with a separate hydrotherapy facility, hydrotherapy garden and treatment rooms located outside in the landscape. Circulation within the building complex is such that it supports unobtrusive use of the primary facilities. Treatment rooms and the hydrotherapy garden are located away from the main areas, taking advantage of the site.

The Herbal Centre has a central circulation spine that links the parking to the restaurant, nursery and picnic areas. The research facility and conference centre have a separate entrance, dividing their semi-public function from the public domain. Circulation within each part of this complex prevents disruption of activities in progress.

The clumps of Silver Birch located on the Healing Centre portion of the site separate its entrance from the rest of the facility. Transition from the entrance to the Healing Centre, into the facility itself is via a pathway carved into the side of the hill. This pathway forms a threshold. Screens along this pathway separate it from the facilities located adjacent to it. Openings in the screens provide brief glimpses of the stream and outdoor areas. The path of the eye and the path that the body physically travels are different. The eye is able to anticipate the outdoor areas, before the body experiences them. A main circulation spine runs from the entrance to accommodation unit. The facilities all branch off this spine.

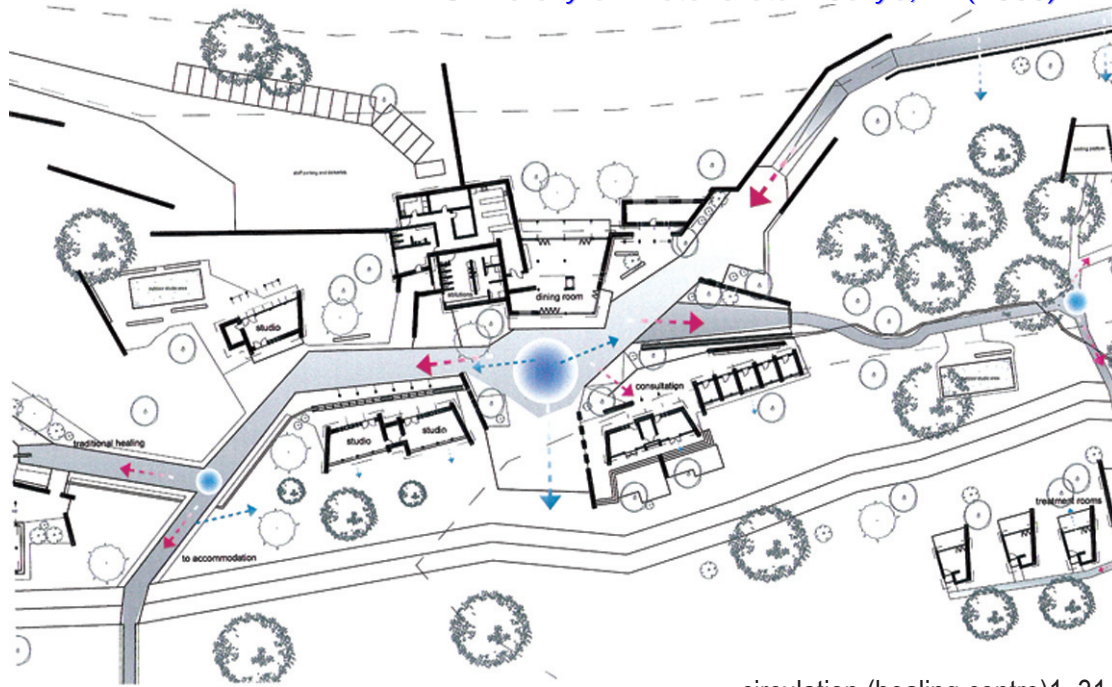
Intangible design explores the patterns of use and experience. Circulation and movement through the complex are encouraged by the design and layout. The textures of the materials used create certain visual qualities that induce meaning and enhance the experience of the user. Movement through the site is ordered, but evokes interest and exploration through the character of space created. The physical path of the body and path of the eye are often different, letting the imagination perceive areas of the site before the body experiences them in their totality.

The separate areas of the building complex provide different experiences based on their layout and the perception of the user. The buildings are arranged in such a way that users can stay within the building compound and find security, or choose to move into nature, to areas with built mass.

The environment created by the Healing Centre must not be perceived as threatening or harmful by its users. Meanings are manifested in the landscape through the experiences and prejudices of the user. The overall experience that the building complex should provide is one of healing and rejuvenation. The architecture on site is the concretization of the concept of healing.

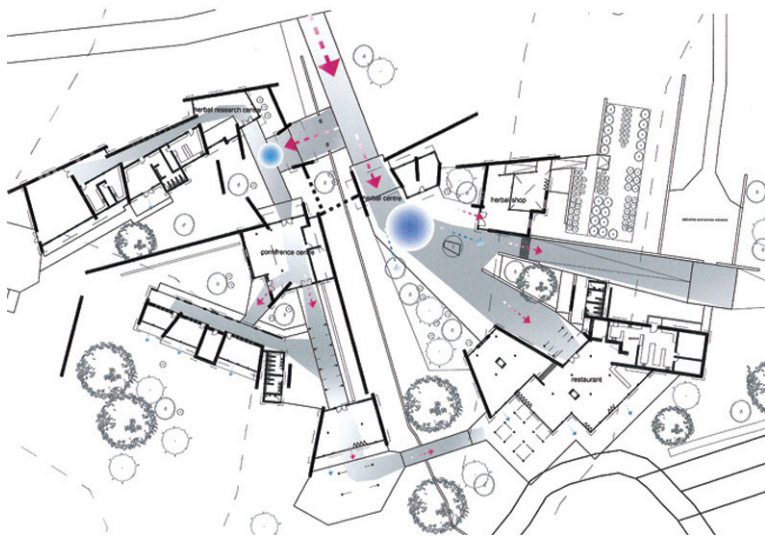


silver birch trees

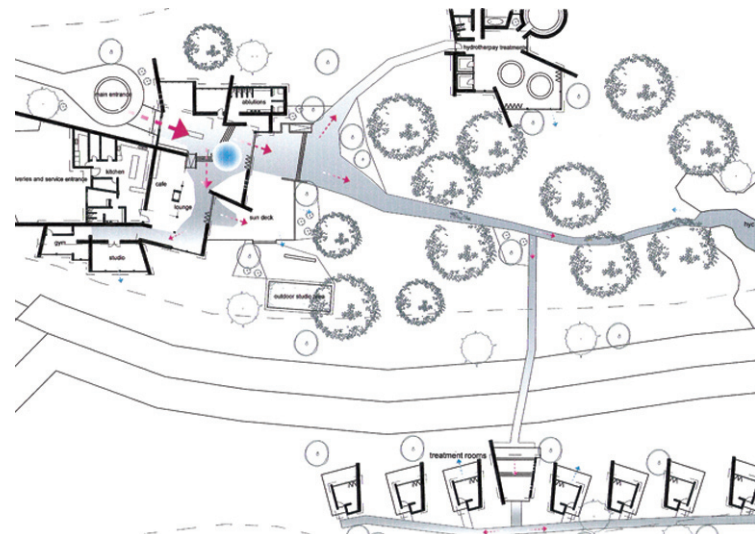


Key
grey - main circulation
red arrow - circulation
blue dot - node
blue arrow - visual axis

circulation (healing centre)1_31



circulation (herbal centre) 1_32



circulation (spa) 1_33

1.3.4 Site design

The building is rooted in nature, anchored in its surroundings by its physical and cultural context. The placement of the buildings, acknowledges the inherent features of the landscape, and accommodates them in the design. The topography of the site separates the building complex into three parts, and determines their location on site due to privacy and noise considerations. The materials and design of the building make it harmonious with the landscape; where the natural healing power of nature is not overshadowed. Retreat from the urban realm into a natural surrounding that helps to induce relaxation, reflection and healing is important to the design concept.

Healing is a process that can only take place from within ourselves, but this process can be triggered and supported by things and actions outside us. We can, therefore, talk about healing environments and healing qualities of environment (Day 1990:138). To be healing, a place must be harmonious, bringing change as an organic development so that new buildings seem not to be imposed aliens but inevitably belong where they are (Day 1990:19). Buildings must be nourishing to the human spirit.

Materials and views are chosen for their aesthetic and concept of healing they embody. Stone, earth and water are the main elements in the design. The sound of running water and wind in the trees has its own restorative quality (Anyumba interview, 2005). The landscape of the building complexes seeks to nurture healing by providing a safe and visually harmonious environment.

Due to the nature of the facilities, noise levels in many areas of the facility must be kept as low as possible. Functions have been zoned so that noisy and quiet areas are separated, and do not interfere with one another. This is especially important in the Healing Centre, where noise is unwanted in some areas. Noisy functions such as traditional healing, music and drumming therapy are separated from quieter activities such as consultation and alternative treatments. The main dining and service areas are located as a buffer between the two zones.

The orientation of the buildings on site is composed of many factors: local topography, the requirements for privacy, views, reduction of noise and the climatic factors of wind and solar radiation. Passive systems of climate control and environmentally responsible design are included in the design. This topic is discussed in further detail in the Technical Documentation, chapter 5.



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1_35



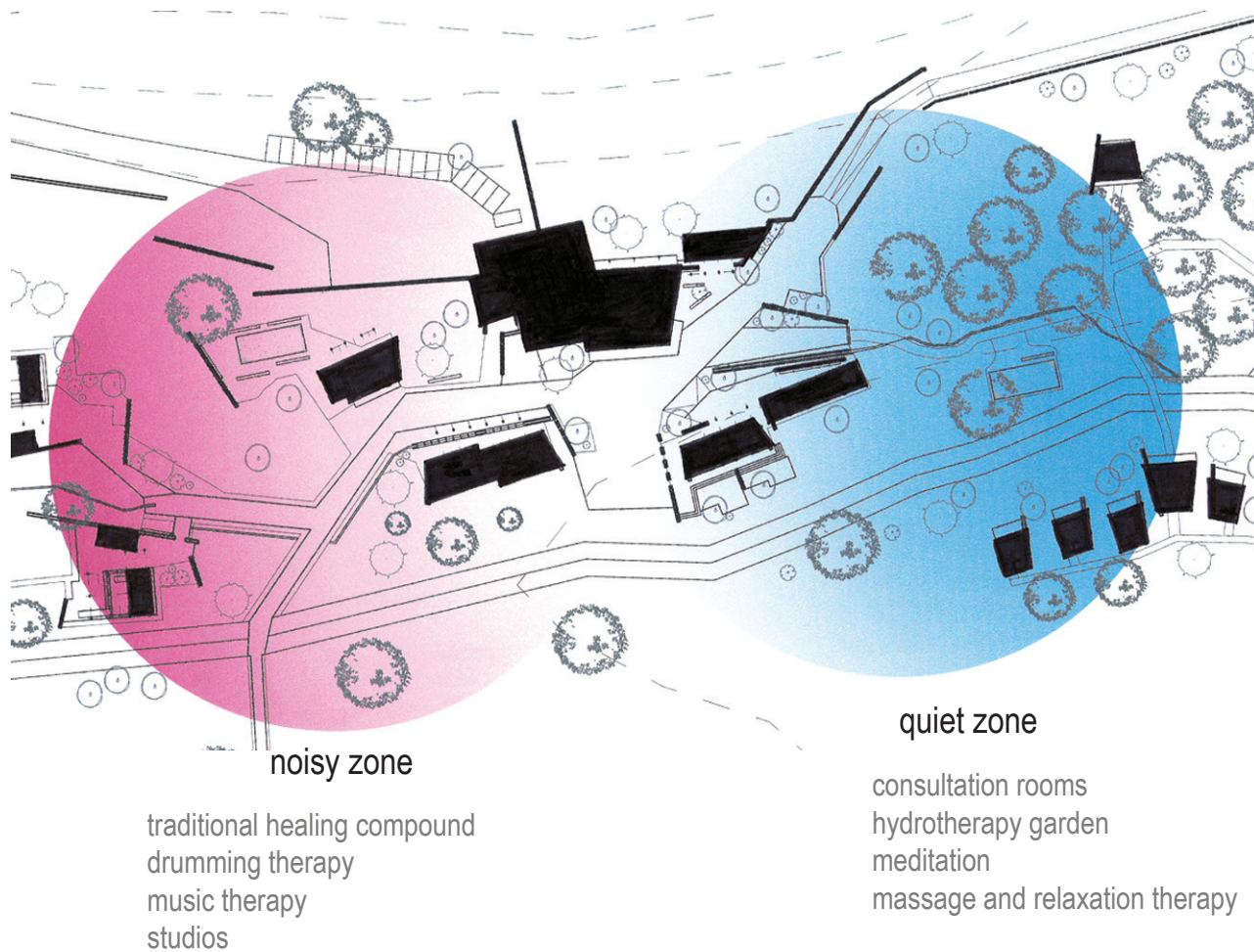
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Introduction

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06 Appendix

References



site location



southern africa

2_01



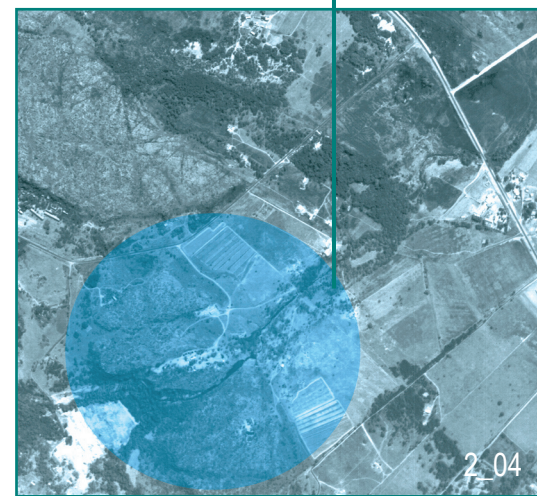
south africa

2_02



gauteng

2_03



2_04

site

2.1 Site Assessment

In 2002 a Strategic Environmental Assessment (SEA) was completed of the Bronberg, and a Basic information Document was drawn up as part of a Bronberg Conservation Initiative. The following is an extract from the document:

“The unique ecological and physical features of the Bronberg make it worthy of protection from conventional urban development and other inappropriate uses. Both the Constitution of the Republic of South Africa, (Act 108 of 1996), and the National Environmental Management Act (Act 107 of 1998) recognise the importance of such assets and the need for their proper management and protection.”

2.1.1 Location

The Bronberg is a prominent ridge that runs south-east from Pretoria between the R6 Lynnwood Road, and the R30 Garsfontein Road, to the R25. The site lies just off Lynnwood Road, approximately 14km east of the Lynnwood Road and Hans Strydom Road intersection. The site is known as Nkwe and is currently used as a recreational area and caravan park. This area is known as Tiegerpoort and the site is located in the Kungwini Local Municipality.

2.1.2 Climatic Data

The climate is moderate, summer day temperatures range from 15-30°C, and in winter 6-23°C.

Altitude of Bronberg 1595m

Average annual rainfall 700mm occurring mainly in the form of thundershowers.

Humidity 30-50%

Hours Sunshine 60-80%

Prevailing winds - North East in summer

North East / North West in winter

2.1.3 Biophysical study

- The properties that make up the site are sized as 8.5ha and larger.
- The land is zoned as vacant and residential.
- The site lies to the north of the Pienaars River, and falls in the Pienaars River catchment (SEA p.124)

The geology of the site is made up of Quartzite and Shale. The Bronberg consists of Daspoort Quartzite underlain with Silverton shale, both of the Pretoria group. The shale has a faster rate of weathering than the other rock types, and weathers to a clayey soil, and the quartzite into a gravely or sandy soil. The area is covered in large boulders and rock sheets, shallow sandy soils predominate (SEA p.123).

According to the Bronberg Strategic Environment Survey, the land is zoned

- critically sensitive zone
- highly sensitive zone
- moderately sensitive zone
- conditional development area

Development and construction on site should be confined, as far as possible, to the moderate development and conditional development zones. This survey also states that the land has high conservation value, and moderate agricultural potential.

The broad land cover is the following

- Thicket, bushland and bush clumps (this is the majority of the land cover)
- Unimproved grassland (south of the river)
- Forest plantations (exotic) (most development will take place in these areas)
- The broad vegetation type is classified as Rocky Highveld Grassland.



summer



winter

The area harbours many species of animals including reptiles, mammals, birds, amphibians and invertebrates (SEA p.15). The area is said to have unique natural elements, and a wide variety of animal species.

The site has areas that are listed as a potential habitat for the following animals

- Brown hyena
- Wild cat
- Klipspringer
- Springhare
- Water rat
- South African hedgehog

The site is also a potential habitat for the *Eulophia coddii* and a potential habitat for Juliana's Golden Mole (red data fauna) on the adjacent farm. The conservation of this species is of high priority.

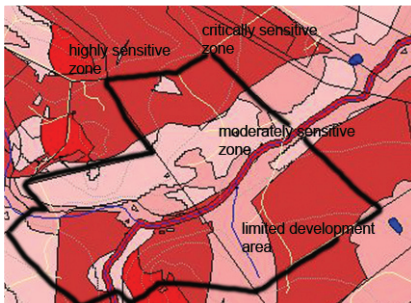
This area has been used since the early Stone Age. Cultural resources have been identified on adjacent farms. These include the site of a British fort to the south, and an early farm to the north-east.

The high conservation value of the site and its potential as a habitat for indigenous fauna and flora, dictate that development and construction on the site must take these facts into consideration. A building with minimal negative impact during construction and operation is necessary. Users must be educated, so that they are aware of the value of the site.

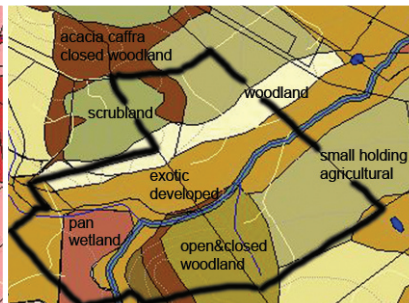
Recommendations of the SEA

- Controlling runoff
- Preserving indigenous species
- Removing snares
- Controlled burning
- Measures to retain the resource value of the Bronberg

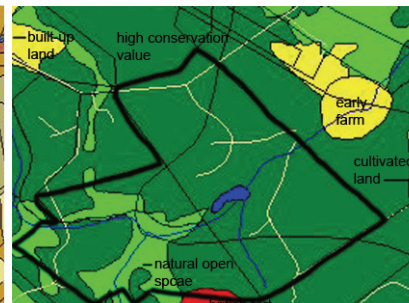
According to the SEA only 10% of the site may be developed on, and requires an Environmental Impact Assessment. The area must be managed so that any development will not have a negative impact on existing and potential habitats.



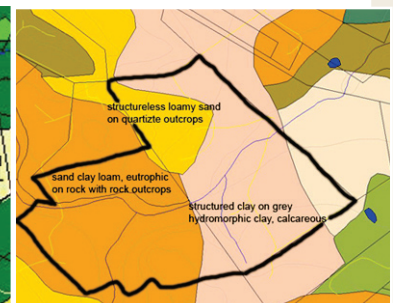
land development zones 2_15



broad land cover 2_16



conservation value 2_17



soil types 2_18

2.2 History

2.2.1 Oral History of the Manala occupation of the Bronberg. (As per Kusel in the Bronberg Strategic Environmental Assessment)

The main settlement of the Manala was on the farm Klein Sonderhoud 519JR and was known as Ezotshaneni, which they occupied from 1676-1717. The Manala's main *umusi* (living place) was on the farm Tierpoort 371JR where the remains of this settlement can still be seen today.

With the rise of the Zulu nation and move of Mzilikazi to the north settling in the Pretoria area, trouble began between the Manala and Mzilikazi's soldiers. After many attacks the Manala were scattered over a very large area. Most of the young men and women were initiated into Mzilikazi's tribe. By the arrival of the first Boer farmers in the area around 1840 the Manala's power had been broken. The first white farmers who moved into the area, Bronkhorst and Erasmus, eventually evicted the last Manala people off their land and recommended that they settle at the Berlin mission station at Wallmannsthal.

Iron Age Sites associated with the Manala Ndebele occur all along the Bronberg area. The sites which have been left in tact, are mainly on top of the Bronberg, and are concentrated on the farms Swawelpoort, Tierpoort and Klipkop. What is left is only a small portion of what once formed the empire of the Manala Ndebele people. Unfortunately through development most of the other sites have disappeared.

The Iron Age sites of the Bronberg are by far the most important pre-historic settlement sites in the whole of the Pretoria region. None of the sites have been excavated, thus little is known of the cultural material they contain. There are still known ancestral grave sites, as well as initiation sites on farms in the area.

The Bronberg with its diversity in ecosystems has been the ideal settlement area for many people. The area contains medicinal plants as well as many other species, which had been used in daily life. These include wild fruit, fibre for making mats, ropes, and building material.

Of the very first farms that were allocated to white settlers in Pretoria during 1839 and 1840 were farms near the Bronberg. Very little is left of the original homesteads as during the Anglo Boer War the British forces destroyed and burnt most of the houses in this area. Remains of old water furrows, demarcations of farm borders and stone walls can still be seen on some farms today.

During the Anglo Boer war the British built fortifications along the Bronberg. These were temporary fortifications on the highest points with many smaller redoubts towards the east in the direction of the Pienaars River. The fortifications were often build from stones from the Ndebele settlements.

The historic farms of Swawelpoort, Tierpoort and Klipkop, contain a number of important farm and architectural sites, including graveyards. These sites have development potential and are also protected by the National Heritage Resource Act (25/1999) because they are older than 60 years.

Today the area has a mixture of all possible architecture. On the northern portion of the Bronberg modern township development is taking over. On the eastern and especially on the western side small scale farming has replaced large-scale farming.

2.2.2 Pretoria

The topography of Pretoria is dominated by three parallel quartzite ridges, which run in a west-easterly direction (Heydenrych, Swiegers 1999:2). These ridges have necks and poorts through which the different parts of the city are connected. Fountains Valley is the site of an original spring, that gives rise to the Apies river, the main river running north through the city (Heydenrych, Swiegers 1999:3).

The first Iron Age people arrived in the area between the Vaal and the Limpopo about 1800 years ago (Heydenrych, Swiegers 1999:7). The earliest Iron Age settlement found in the Pretoria municipal area dates from 1200AD. According to the Black oral tradition the Ndebele tribe were residing in the area (Heydenrych, Swiegers 1999:7). The migration of Mzilikazi and his tribe to the area north of Pretoria in about 1820, lead ultimately to the downfall of the Ndebele due to clashes. Around the 1840's the first white settlers arrived and settled mostly along the water source of the Apies River.

The town of Pretoria was founded on the 16 November 1855, on the farms Daspoort and Elandsport along the Apies River. Pretoria was established as the capital of the South African Republic in 1860, with many African settlements around the town. In 1886 gold was discovered on the Witwatersrand, with it came the rush of British imperialists, and thousands of fortune seekers. In 1910 when the Union of South Africa was formed Pretoria remained the administrative capital, with Cape Town as the legislative seat of Parliament (Heydenrych, Swiegers 1999:13).

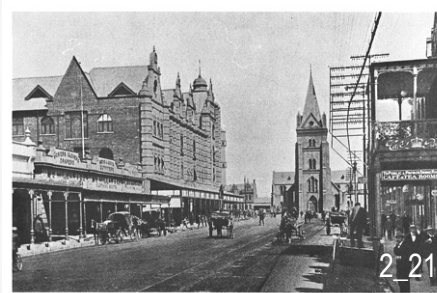
In 1952 Dr H.F. Verwoerd identified the 82 squatter camps and eleven locations that existed in and around Pretoria and consolidated them into three black areas: Vlakkfontein, Atteridgeville and another area that was not identified (Walker, van der Waal 1993).

Lady Selborne, to the north-west, was one of the few black residential areas where land could be owned (Walker, van der Waal 1993). This multicultural settlement, including Indians, Chinese, Blacks, Coloureds and Whites. In 1957 the Group Areas Act was passed, and Lady Selborne was changed to a 'white' area, later renamed Suiderberg.

By 1960 its residents had been removed mostly to Atteridgeville and Mamelodi. Coloureds were removed to Eersterus, just south of Mamelodi, and the Indians to Laudium.

In 1961 when South Africa became a republic outside the commonwealth Pretoria remained the capital, as it did in 1994 after the first democratic election (Heydenrych, Swiegers 1999:17).

The city has steadily grown in size with new townships and suburbs proclaimed from time to time (Heydenrych, Swiegers 1999:19). The black areas developed in a haphazard way and were poorly serviced. This is because the constitution excluded people of colour from citizenship and the right to own land, except in demarcated areas. In 1986 the pass laws were abolished, many blacks streamed from the rural areas to cities in search of work (Heydenrych, Swiegers 1999:22). Many settled in informal settlements, or squatter camps.



2.2.3 Mamelodi

(Extract from Walker and van der Waal, 1993)

Mamelodi lies 18km east of church square Pretoria, between the Magaliesberg mountains to the north, and the old Delagoa Bay railway line to the south. The Moreleta Spruit wanders through Mamelodi cutting it into the East and West sections. Black people had lived here from early times, evidence of their settlements can be found on the nearby hills.

Mamelodi is a large township compared to other townships. Almost one third of the population is officially homeless and living in the large informal area, Mandela village. Mamelodi West is the oldest part of the township. The houses are small, and often badly maintained. These houses were built immediately after the establishment of Mamelodi in 1953. There are a few wealthier neighbourhoods in Mamelodi West, with big houses and fences around them. Mamelodi East has small houses.

Mandela village is the large squatter camp in Mamelodi. Thousands of people live in Mandela village without electricity, and water is provided by means of taps on the street. The roads are un-tarred, and refuse removal does not exist.



2.3 Socio-cultural Environment

"And what of the cities? Think of the imprisoning grey areas that encircle the centre. From here the sad suburb is an unrealised dream. Call them the no place although they have many names. Race and hate, disease and poverty, rancour and despair, urine and spit live here in the shadows. United in poverty and ugliness, their symbol is the abandoned carcasses of automobiles, broken glass, alleys of rubbish and garbage. Crime consorts with disease, group fight group, and the only emancipation is the parked car" (McHarg 1969:20).

2.3.1 Urban Conditions

Urban areas seem to hold much promise, and 'pull' people towards them, there would appear to be more employment opportunities, better healthcare and educational facilities (De Beer 2000:7). In the early years of the twentieth century the 'poor white' migrated towards the cities looking for opportunities. For a long period the apartheid policy made it difficult for poverty stricken blacks to move to the metropolitan areas. The 1986 white paper on urbanisation started a process of normalising urbanisation in the country (De Beer 2000:8). This process accelerated after 1994, and increased numbers of migrants started moving into cities.

People from the rural areas, thrown into the strange environment of a squatter camp, react psychologically (Swanepoel 1997:67). Migration to the city means leaving behind the safe confines of the tribal community, its identity, culture, religious beliefs, the disregard for material wealth and the group support (Farier-Wessels 1989:24). In the urban culture some of the old values and beliefs are lost, others change, and new beliefs and values emerge, often with a mixture of western and traditional beliefs (Farier-Wessels 1989:24).

Some people manage better than others in the transition. The environment can quickly become a place of fear, tension and uncertainty. Today churches, clinics and burial societies provide the support networks that were originally given by the traditional community.

The subservient position of women in traditional society is a fact of life (Swanepoel 1997:66). Women fulfil a servile position and have little decision making power. Because of the absence of men, who often work in other areas, women are the caretaker heads of households. Most women carry a double load on their shoulders. They are busy running a household, but often have to do part-time work to augment the family income. Women suffer more than men do from poverty and are more at risk (Swanepoel 1997:66).

The more than seven million South Africans living in urban squatter settlements are poor (De Beer 2000: 8). Families of up to six people share one or two roomed shacks, equipped with only the most basic furniture. Poverty manifests itself through a lack of job opportunities, housing and other services. Informal settlements are found on the outskirts of cities, away from places of employment. Townships are predominantly working class, with residents having higher education and qualifications (Farier-Wessels 1989:40).



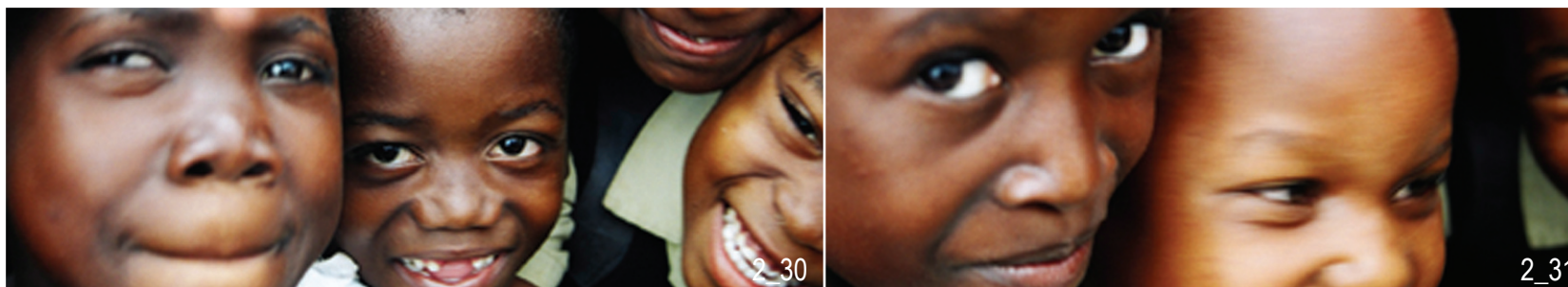
2.3.2 Health and Living Conditions

David Schmidt (1978) cites a number of studies demonstrating a positive correlation between poor health outcomes and the levels of stress in a home, measured by such things as unemployment, communication problems, having a member with a chronic illness, a recent experience of divorce, death or desertion etc. (Schmidt p305-310 in Loustaunau 1997:25).

It is suggested that while high density contains negative aspects, individual differences and situational and social conditions determine whether these are salient and whether crowding occurs (Bell 2001: 330). While density does not have a totally consistent negative effect on humans, it leads to aversive consequences in a variety of dimensions. It can lead to higher psychological arousal, aggression and lower prosocial behaviour, less liking for others, withdrawal from interactions, as well as being associated with illness.

Comparisons of urban and rural areas suggest that cities contain more stressful environmental features (Bell 2001: 340). Furthermore as the city size increases, so do risks of both physical stressors such as noise and pollution, and social stressors like crowding and divorce.

Urbanites most exposed to urban stressors (noise, pollution, heat, crowding and extra demand) are those with other problems as well (Bell 2001: 340). The poor are probably exposed to more urban crowding, noise and crime. Given the fact that these individuals are already vulnerable to stress, adding the environmental stressors characteristic of urban life can be especially problematic. Since poor people are sicker than the well-off, largely because of poverty conditions, their life chances, opportunities for acquiring favourable life experiences, are affected through loss of opportunities for advancement of personal and social goals (Gerth and Mills 1958, From Max Weber: Essays in Sociology).



2.3.3 Crime

A term used by Zimbardo (1969) called deindividuation, tried to explain why there is more crime in urban areas than in small towns (Bell 2001: 345). According to the theory a person feels anonymous as a member of a crowd, and believes it to be unlikely that identification and punishment will take place. Under such conditions, criminal behaviour is more likely to occur. Other explanations include unemployment, a greater number of antisocial role models, more goods to steal, more possible victims, as well as more outlets for stolen goods (Bell 2001: 345).

Fear of crime and associated stressors are a major problem in urban areas. Fear of crime has been found to be increasing faster than crime rates, and often not even related to the likelihood of being victimised (Maxfield 1984, Taylor & Hale 1986) (Bell 2001:346).

When comparing the crime figure for the areas of Brooklyn and Mamelodi, both in Pretoria, a large difference is noticed immediately. Brooklyn is a predominately white, high income residential area east of Pretoria city centre, and Mamelodi a township to the north-east of Pretoria. The greatest differences is in terms of murder, rape and assault, with Mamelodi having higher figures for assault. The only categories where Brooklyn is higher, is with, burglary and theft.

2.3.4 AIDS/HIV

An estimated 25 million people are living with HIV in sub-Saharan Africa (2004 global report on AIDS, p6 executive summary). Sub-Saharan Africa is home to just over 10% of the world's population, and almost two-thirds of all people living with HIV. In South Africa it stands at approximately 30% of the population.

According to the UNAIDS report, women are at a greater risk of infection and bear the brunt of the epidemic, as they have to take care of others, lose jobs and schooling due to illness, and face stigma and discrimination (2004 global report on AIDS, p4 executive summary). Older women often take on the burden of caring for ailing adult children, and later when they die, adopt the parental role of the orphaned grandchildren. Stigma also means that family support is not a certainty when women become HIV positive. Women may have property seized when their husband dies.

African women are at greater risk, becoming infected earlier than men. The difference is pronounced among 15-24 year olds. In South Africa the ratio of young women to young men is 2:1 (2004 global report on AIDS, p6 executive summary).

In general AIDS-affected households are more likely to suffer severe poverty than those not affected (2004 global report on AIDS, p8 executive summary). AIDS takes away the income and production capacity of the family members that are sick. At the same time it creates extraordinary care coupled with needs rising household expenditure on medical and other costs, such as funeral expenses. In South Africa, studies of AIDS affected households, found that their monthly income fell by 66-80% because of coping with the AIDS sickness.

2.4 Healing

“A system of healthcare which is capable of keeping people healthy in both mind and body, must put its emphasis on health, not sickness... it must be able to encourage people in daily practises that lead to health. The core of the solution, as far as we can see, must be a system of small, widely distributed, health centres which encourage physical activities... swimming, dance, sports and fresh air.” (Alexander 1977:252)

2.4.1 Traditional Healers

In attempting to understand and analyze health and illness in any society, individual's behaviours, interactions and social structures must be placed within a cultural context (Loustaunau 1997:10). Culture affects our perceptions and experiences of health and illness in many ways, and these perceptions and experiences change as culture changes (Loustaunau 1997:17).

Traditional healers have been practising in Africa for about 4500 years, before there was any knowledge of the Western medicinal system (Adler 1995:45). Before the European colonisation of South Africa, traditional medicine exerted great political influence in public and private affairs. Under missionary influence, as well as imperialistic political trends, traditional medicinal practises were prohibited (Adler 1995:45).

African traditional healers diagnose illness, prescribe and prepare herbal medicines, provide counselling and offer spiritual support (Schuster Campbell 1998: 7). Traditional African medicine and treatments address healing of both the body and the spirit and can be a catalyst for subtle yet profound changes.

The treatment used by the traditional healers, and diviners varies greatly and depends on the healers own knowledge and skills as well as the patients own illness (Hammond-Tooke 123:1989). Satisfactory healing involves not merely the recovery from bodily symptoms, but the social and psychological reintegration of the patient into his community (Adler 1995:44).

One of the many changes that came with the dismantling of apartheid in South Africa was the creation of a health system that would be applicable to the needs of all the people of the country (Adler 1995: 41). With a white minority government in control, the health system had also been 'white', that is, based on the Western approach to medicine. This automatically meant that the traditional African approach to healing, favoured by many of the 85% black population, was not officially and legally recognised, but disparaged by the white establishment.

It has often been stated that traditional healers are accessible because compared with modern medical practitioners, they have the advantage of cultural, social, psychological and geographical proximity (Adler 1995:47). The traditional healers form a crucial link between the community and the western medical professionals (Schuster Campbell 1998:4). Senior, credible traditional healers are well established, well-respected, accepted and trusted by the community. They are a precious resource for the dissemination of basic health care, especially in rural areas where access to information is limited.

(A detailed report on Traditional Healing is contained in Appendix B, as well as information on Trauma Intervention in Appendix C.)

2.4.2 Alternative Healing

2.4.2.1 Hydrotherapy

In hydrotherapy the waters can be taken in many different ways, internally or externally (Inglis 1983:22). Water can be used as a stimulant or as a relaxant, as a medium in which to exercise or in which to rest.

2.4.2.2 Herbal Therapies

As it is most widely practised, herbal medicine involves the preparation of roots, leaves, stems and seeds of plants, either for consumption, in the form of medicine, or for use on the skin. In aromatherapy they are rubbed into the skin, usually through massage (Inglis 1983:45).

2.4.2.3 Physical Therapies

Physical therapies include massage and reflexology. A well recognised benefit of physical therapies is reduction of the symptoms arising from stress (Inglis 1983:95). Soft flowing movements calm and soothe the nervous system, stimulate nerve endings in the skin and warm and loosen superficial tissues. Deep movements remove tension from the muscles and increase suppleness and mobility.

A further effect is that massage triggers the body's own inner healing process. It therefore naturally relieves many medical conditions over a period of time, to achieve positive and lasting health benefits (Reflexology Manual 2003:1). The combination of treatment and relaxation creates a powerful tool, and if used together with skills in counselling and nutritional advice, it provides a holistic health programme.

2.4.2.4 Other therapies

The eastern therapies that originally came from China and India, deal mostly with the balance of energy or 'chi'. Acupressure, acupuncture, yoga, T'ai Chi, meditation and Ayurvedic practises are just some of many.

Many alternative therapies are being developed today such as art therapy, dance therapy, music therapy and colour therapy. These are particularly beneficial for psychological and emotional problems, as they help with the expression of pent-up emotions and the release of tension associated with these (Inglis 1983: 150,193). (Detailed information on Alternative Healing is contained in Appendix D.)



2.4.3 Wellness

Good health is often defined as the absence of disease, but in reality it includes physical fitness, emotional and spiritual health as well (Powers 1996: 9). A healthy lifestyle refers to behaviours aimed at reducing one's risk of disease and accidents, achieving optimal physical health, as well as maximising emotional, social, intellectual and spiritual health (Powers 1996:10). None of the components of wellness work in isolation; there must be a strong interaction among the five.

Although it is customary to distinguish between physical and mental health, this distinction is artificial in nature; it does not describe what happens to many patients who simultaneously suffer from physical and psychic distress (Gielen in Adler 1995: xvii). In contrast to the modern division between body and mind, traditional notions of healing have always perceived the patient as inhabiting a unitary world of visible and invisible forces.

The traditional healer must simultaneously cure body and soul; otherwise society will perceive him as a failure (Gielen in Adler 1995: xvii). Healing does not merely consist of the recovery of physical strength and health but must also result in the integration of the patient into his/her social group.

As medical science developed and advanced, so the dualistic approach of mind-body interaction grew, and dominated medical thinking up until the twentieth century (Adler 1995:7). The earliest attempt to take psychological causation into account in the disease process was the development of the concept of psychosomatic illness (Adler 1995:7). It stressed the role of the unconscious motivation, and reintroduced the human factor into the etiology of the disease process.



Introduction

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References



3.1 The Apartheid Museum Johannesburg

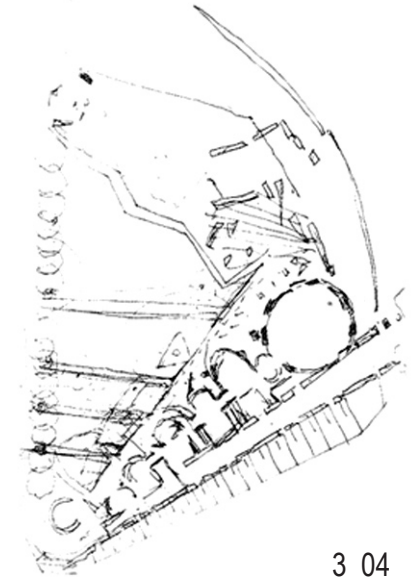
“The Apartheid Museum, south of Johannesburg, portrays a history of the city with a focus on the apartheid years from 1948 to 1994. The building itself, with its landscaped grounds, is a positive contribution to the city; as is the exhibition which offers the visitors a powerful representation of the journey we have travelled.”

The site is located between the Johannesburg CBD and Soweto, in a semi-industrial zone that also accommodates office and retail facilities.

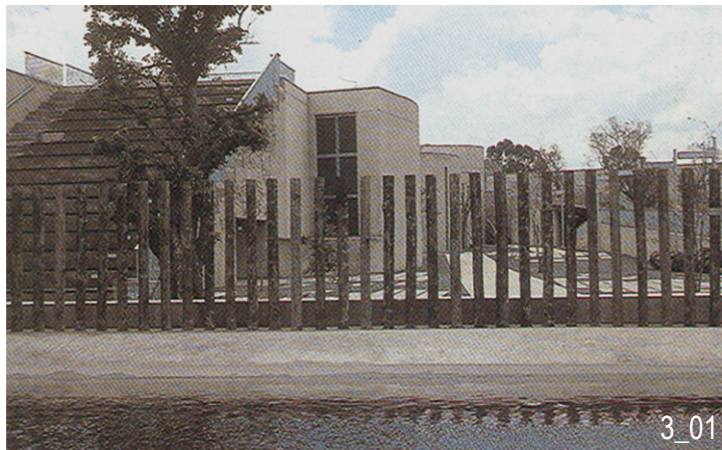
The guiding design principle is that the building is essentially African and at the same time of a quality that reverberates locally and internationally. The landscape is important, and the building appears buried, built out of a kloof carved into the land. Due to a difficult site, in the middle of suburbia, the building had to be screened and turned in on itself, to provide for a ‘spiritual building’.

Fundamental to the project was the need to restore the Highveld landscape. The sky and the veld are significant of the Highveld. The veld is stylized into sections; the long straight rows of tall thatching grass are interspersed with bands of kikuyu that carry the eye away from the building to the distant skyline. The kikuyu provides a practical public space where people can sit in comfort and picnic.

The complex is made up of three linear buildings which frame the internalised park. The main building is on the southern side, with a ramp up one side. This building comprises pavilions which are strung together with interlinking mood spaces, to accommodate a chronological history of apartheid as it has been witnessed in Johannesburg. On the opposite side of the building the land falls away to a small dam. An entrance wing, that parallels the parking area to the east, houses a ticket office, a restaurant, public toilets and a museum shop. An administrative wing, incorporating offices a library and archives is located against the western boundary.



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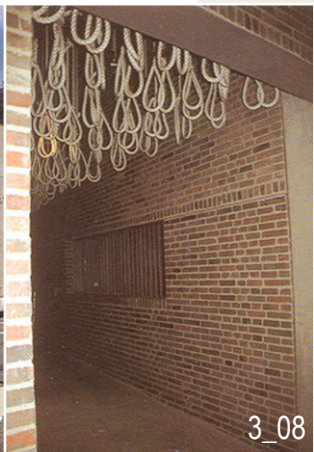
The restrained palette of materials and colours, the severity of stone and rusted steel, concrete, raw plaster and red brick, reflect the gravity of what the building is about. Yet despite the harshness, there is a sense of celebration in acknowledgement of the triumph of the human spirit over adversity. The exhibition spaces are largely devoid of finishes: bare concrete, raw plastered or red brick walls, screeded floors, exposed concrete soffits and conduiting carried in industrial steel cable trays. This raw interior contributes to a direct and unpretentious presentation. The rooms fragment as the story of division, tension, oppression and resistance is encountered. The transition out of the building is gradual via a hall of remembrance, into a treed courtyard. The landscape and grounds provide a contemplative space, stilled by the presence of the building, where one can walk or take a seat in the park, or leave passing the restaurant and shop on the way out.

Lessons learnt

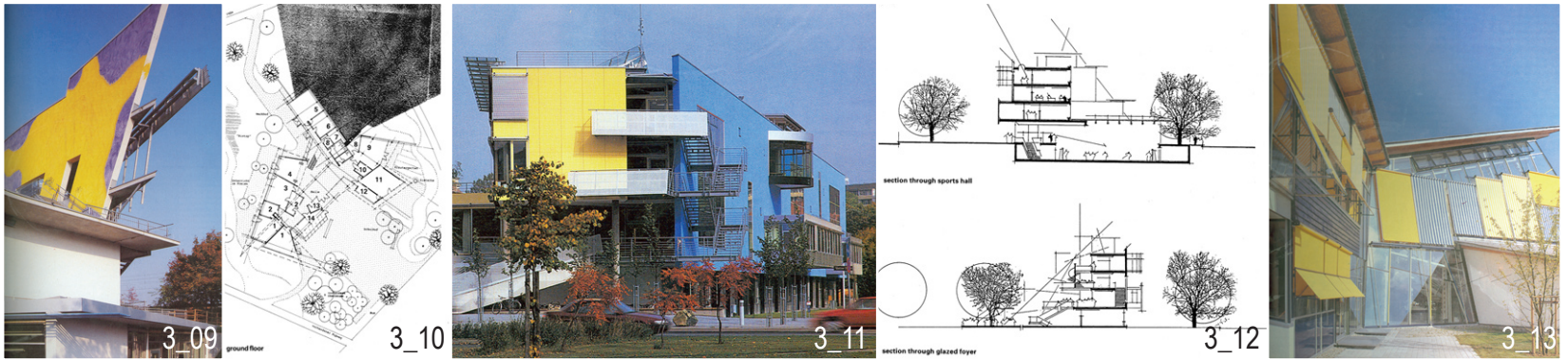
- + moods and emotions conveyed by the spaces in the building. The visitor has an emotional visit.
- + importance of the landscape surrounding the building.
- + screening and inward focus to provide a particular experience.
- + use of materials and finishes to enhance exhibition.
- + exit from the exhibition, transition into exterior courtyard and emotional contrast of the space: experience of hope on movement into grounds.

References

Darroll L., 2001. Urban Roots: A history of Johannesburg, *Urban Green File*, December 2001, vol. 6, no. 5, p. 24-29.



3.2 Behnisch and Partners



Behnisch and Partners have a distinguished record in school architecture. Their distinctive free responsive planning, accepting acute and obtuse angles, has become synonymous with their office. Behnisch uses polygons to create dynamic spaces within a building. Along with this Behnisch uses elements and planes in contrasting materials and colours. Angled walls emphasis horizontal, vertical, and diagonal lines and planes within a building.

The skewed placing of the parts of the building derives initially from the orientation of neighbouring buildings, site boundaries, and paths. The angles are used advantageously on the outside to contain space and inside to direct movement. Contrasting orientations allow exploitation of views on the site, while shafts of sunlight play through the building during the day. The conflicting geometrical systems and skewed partitions give the rooms individual unregimented characters.

The central hall of the School is an important space to Behnisch, as this is the community space, a place for accidental encounters and social events occur, the identifiable hub and focus. The hall is designed as a well shaped in-between place, allowing interaction and movement.

Despite the angular and irregular nature of the buildings, Behnisch uses circulation and visual axis to retain cognition and orientation within the buildings. Circulation spaces are generous and well lit.

Behnisch uses layering, in the form of screens, glazing, wall surfaces, cladding and colour to add interest to building surfaces. Pitched roofs of corrugated steel sheeting are used on many of his buildings

Natural lighting is used to its fullest capacity in all the Schools designed by Behnisch. Large glazed facades allow generous amounts of light into the buildings. Excessive sunlight is controlled through shading devices, screens and overhangs. In atria and interior courtyards roof lights are used to allow natural lighting in.

Some well publicised buildings include schools in Frankfurt, Bad Rappenau, Germany and Dreseden Germany.

Lessons learnt

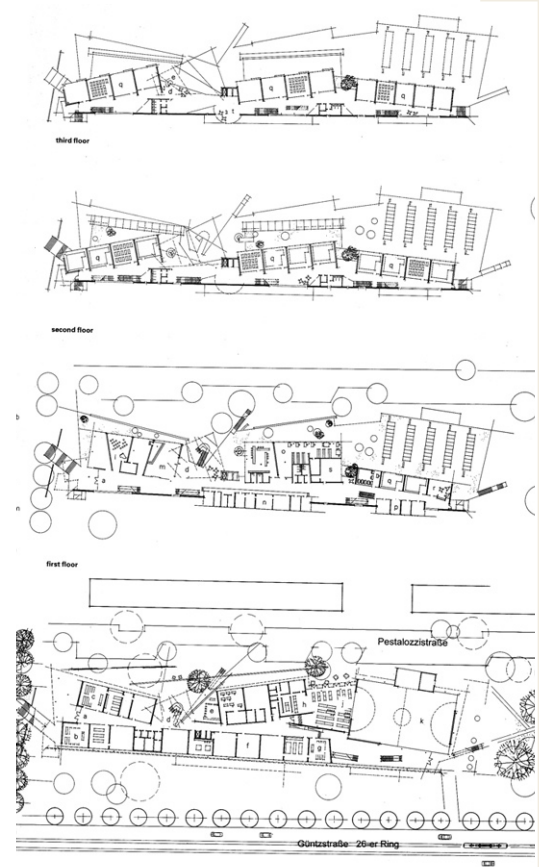
- + angular geometry used to emphasise spaces, views and circulation, as well as enclose and create space
- + contrast of materials and planes within a building
- + natural lighting
- + circulation and visual axis used to maintain orientation and cognition of the building

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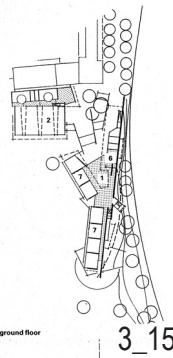
Miles E., 1997. Grammar Lesson, *Architectural Review*, January 1998, vol. 202, no. 1208, p. 38-45.



3_17



3_14



ground floor

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3.3 Freedom Park, Salvokop, Pretoria



“Essentially the rock is our home...in the mountains African people listened to the voice of silence. Mountains and hills served as a seat of governance for many royal kraals. Mountains were considered sacred by some groups who used to go there to pray for rain, or to bury kings in the caves...believing that the ancestors reside there...a step to the heavens and to our humanity.”

Freedom Park is located on Salvokop, a 52ha site immediately south of Pretoria. The koppie is situated at the interface between urban areas to its north and natural areas to its south. The hill was chosen for its symbolic historical and cultural significance. The location of the park is intentionally in view of the Voortrekker Monument, to juxtapose that history with the processes of moving forward as a united nation.

The principle elements of Freedom Park include a Garden of Remembrance, a museum, a memorial and gathering place. The first phase of the site, the garden of remembrance is intended to become a national symbol for reparation, a symbol of healing and cleansing, and a place where the spirits of those who lost their lives for freedom can rest.

Anchoring the garden of remembrance is a spiral pathway with contemplative spaces along it. This pathway will ultimately connect most of the buildings on the site. The pathway moves up the site in an easterly direction. East is significant as it is here that the sun rises, marking the beginning of a new day, and metaphorically the beginnings in the new history of South Africa.

Following the contours, the pathway reaches the *isivivane*, built on the southeast slope of the hill. The *isivivane*, meaning monument or memorial, is a sanctuary, “a final resting place for the people who fell in the fight for freedom in the eight conflicts that have shaped South Africa.” These conflicts include the colonial wars and wars of resistance and freedom. This contemplative space has been designed primarily with deference to African symbolism and belief systems, but intentionally contains universally recognisable symbols of hope and unity.

African cosmology gives special significance to stones, boulders and rocks. The fundamental layout of the *isivivane* was derived from an African homestead which traditionally encompasses the *lesaka*, burial place, and the *kgotla*, meeting place. A wide flat terrace has been created in the slope of the hill, supported by a retaining wall.

The *lesaka* is a circular structure where people are buried and where the spirits can come home to rest. At Freedom Park the *lesaka* is made up of flat stone, edged with brushed concrete. Around this circle eleven boulders have been placed; nine of these were selected and sanctified by each of the provinces and transported to the site with some soil from their home ground; the two larger boulders represent the local and national governments. Contained within the circle are stones from countries outside South Africa, symbolic of the exiles who fell while they sought refuge abroad.

A fine water spray has been designed into the *lesaka*, so that mist rises up to billow and drift across it. Smoke signifies the beginning of spiritual healing, smoke being indicative of the incense that is often burned in traditional and religious ceremonies to signify a holy place and to represent spiritual cleansing.

On the terrace a single Monkey Thorn, *Acacia galpinii*, has been planted. This signifies the *kgotla*. Nine Buffalo Thorn trees have been planted to form a backdrop to the setting. This tree is special to the Nguni people. When someone died far from home, the elders of the party would send someone to 'fetch the spirit' and would carry a branch from this tree to the place where they had died and call the spirit home.

A waterfall has been built into the packed-stone wall that frames the terrace. The water flows down the wall and into a shallow pool, reminding the visitor that "the spirit flows and cleanses like water." On the way out a 'spring' of water bubbles into a bowl carved into the top of a large boulder placed near the exit. Here visitors can wash their hands in respect of the place, after paying homage to those who rest here.

Lessons learnt

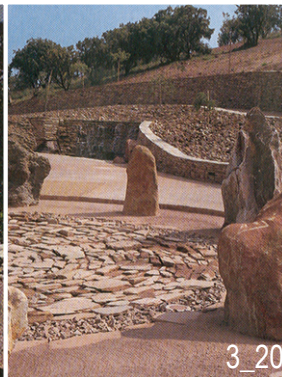
- + symbolic cultural and historical significance of the site.
- + zoning and development of the site according to ecological survey.
- + important African indigenous symbols; the east, stones, boulders, rocks, trees.
- + the symbolism of water and smoke in indigenous healing.
- + layout and placement of elements to increase significance.

References

Young G. and Darroll, 2004. Freedom Park: A landscape narrative of South Africa's history and heritage, *Urban Green File*, June 2004, vol. 9, no. 2, p. 18-23.



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3.4 Mount Grace Country House and Spa, Magaliesburg

Mount Grace is situated an hour west of Pretoria, near the town of Magaliesburg, South Africa. The main building is of stone construction with a thatch roof. Reed ceilings, cane furniture and natural colours complement the stonework of the walls. The main building houses the reception, lounge, spa café and six treatment rooms. One of these treatment rooms has wet facilities, that is, a shower and spa bath.

The café and lounge area are surrounded by water, which adds white noise, and large openings that integrated the café into the landscape. Below the café is the relaxation and tanning deck, as well as pools for swimming. Situated next to the café is the hydrotherapy spa garden.

The hydrotherapy spa garden consists of open air facilities. These are made up of a heated pool, a massage table, cold pools, a fountain and a reflexology path. The flotation pool makes up the last element, and this is a covered facility. The materials used in the garden are rocks and stone. Tree branches are used as handrails to enhance the natural quality. The circular flotation pool is surrounded by a heavy dry stone wall, with a suspended roof that is painted with clouds and sky.

The bush spa is situated a couple of hundred meters away. This consists of five treatment rooms, changing facilities and a central lounge area. All of these elements are separate units that are linked by timber walkways. Each treatment room has an en-suite toilet, and shower room. The construction of these units is a timber frame, lifted off the ground, with a thatch roof. Dry wall construction makes up the walls. The ambience of these treatment facilities is different from that of the main building. A gentle stream runs through the complex, winding along the pathways and providing a tranquil atmosphere.



Lessons learnt

+ spa garden is unique and well integrated into the landscape, the facilities are a feature that adds to the experience.

+ flotation pool is unique it mimics nature, and abandons previous types of machine like examples.

- circulation through the main facility lacks privacy and separation. Staff carry dirty linen through the lounge and café area to the kitchen and laundry.

- placement of the hydrotherapy garden is awkward. The kitchen walkway backs onto the spa garden, seperated by a thin fence, that provides little sound insulation.

- entrance to the hydrotherapy garden is through the café and past the buffet area.

- no reference to the context of the facility is discernable from inside the treatment rooms of the main facility.

+ bush spa acknowledges its context, and functions as a removed, enclosed whole.

+ placement of the units and the natural trees provide privacy and enclosure.

+ approach to the bush spa down a timber walkway, with the stream alongside, is very effective as a transition into the complex.

- client has to walk through the car park in their robe, unless they change at the bush spa, and then again once back at the main facility.

References

Site visit 17 April 2004, photographs and wording authors own.

www.grace.co.za

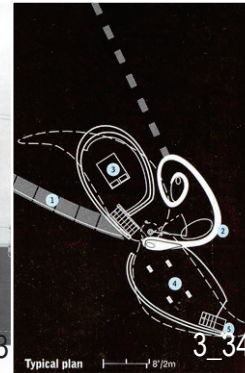
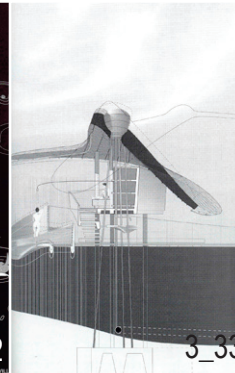


3.5 Okavango River Delta Spa, Okavango Delta, Botswana

The spa integrates two current trends in tourism: the industry is responding to an increasing demand for ecotourism destinations, at the same time that marketing of stress has triggered a 'spa boom'. The site lies deep within the Okavango Delta. The spa is located in a perennial swamp, while the outer edges of the delta system fluctuate, water levels here remain constant.

The elements appear to float on the water, but are anchored to the delta floor with ebony wood pylons that sit in concrete footers. Buoyant wood and fibreglass tracks weave through the papyrus, connecting pairs of units to three termite islands. A nearby runway serves as the only means of access to the resort.

The spa comprises a series of fixed (bar and dining and guest units), tethered (buoyant fibreglass spa and tracks) and free elements. Four mobile meditation pavilions and a crocodile resistant lap pool are powered by low speed outboard motors and can be manoeuvred through the reed beds or docked in the shade of the bar/dining roof overhang. The lap pool, a steel frame lined with steel mesh, allows guests to swim in filtered delta water. There is also a bentwood deck for sunbathing.



Each guest pavilion has petal-like thatch roof construction and is solar powered. Each tripartite pod comprises a wood framed sleeping quarter, a lounge-massage area and a floating, moulded fibreglass bathing facility. The units are placed in natural clearings in the papyrus beds, optimising views and breezes while maintaining privacy. A fibreglass spa is tethered to each unit. Water is filtered and pumped into a solar collector drum located on an aluminium tripod at roof level. Two pivoting arms feed heated water to the tub or shower and large sinks.

A grid of waste pipes (linked to septic tanks and pumps) is submerged and runs along the delta floor connecting to each unit. Waste water is pumped to a leech field on the main island. Below water the grid of waste pipes, tanks and pumps process and separate waste in accordance with environmental regulations.

Daytime temperatures during peak tourist season are high. Thatch roofs are orientated to maximise shade and take advantage of the shifting winds. The buoyant fibreglass spa moves with the fluctuating water level and is shaded by the roof. Extending overhangs allow for areas of water to be incorporated into the enclosed space.

Kitchen and other facilities are shaded by trees along the edge of the main island.

Above water, anchoring pylons secure the buoyant tracks at each termite mound island. The tracks flex with changing water levels. A solar powered light source on each island produces 'runway' lighting along the tracks.

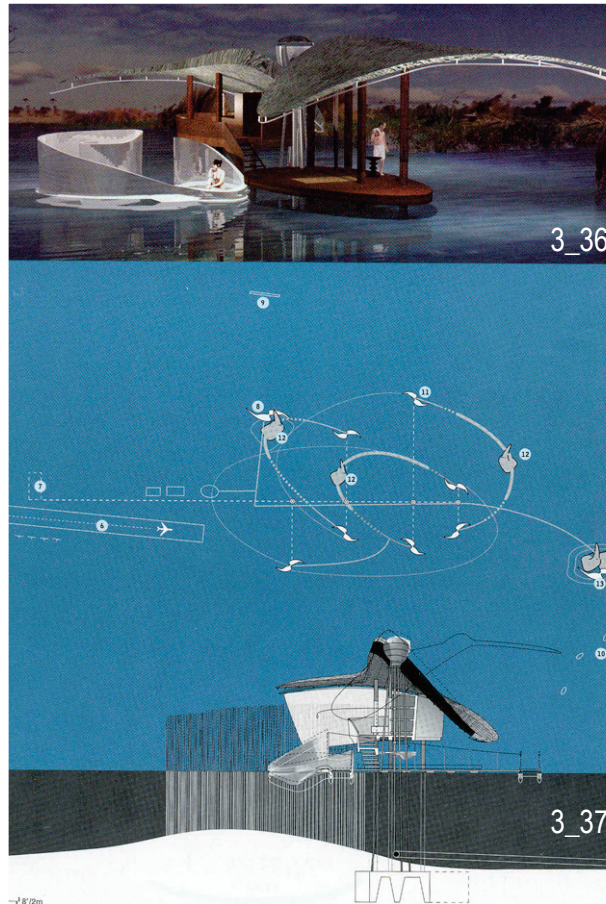
Lessons learnt

- + climate responsive construction of the units. Orientation of roofs and units is important to engage passive cooling technique and appropriate shading.
- + solar power, and care taken to remove and eliminate waste, shows high environmental regard.
- + energy efficient power makes the complex self-sufficient. Solar power takes advantage of the high level of sunshine that occurs.
- + filtering and use of Delta water uses the resources available on the 'site'.
- + waste water is pumped to a leech field on the main island. The containment, processing and disposal of waste water and sewage shows prevents these substances from polluting the surrounding delta.

The development and systems in the complex strive to have as little environmental damage as possible. This is an important feature.

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rammed earth architecture

3.6 Rick Joy, Rammed Earth Architecture

Rick Joy designs with an element palette of light, space and soil. The Sonoran desert, around Tucson, contains a few of his buildings. Despite the violence of the sun and the stark profile of its mountains, the desert is visually fragile and easily thrown into imbalance by a jarring building. Joy has a history of using rammed earth structures, and expresses the nature of the material. The earth is packed into walls that reveal the strata of pours, giving surface texture. Joy uses the rammed earth as the majority of the building can be built without skilled labour. Skilled labour can be used in target areas to contrast with the shell.

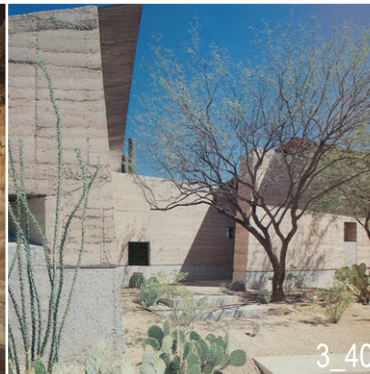
Joy's search for the origins of desert architecture have drawn on straightforward building traditions of the indigenous and Hispanic cultures that have inhabited the Southwest of America for centuries. At their core these traditions embody logic about how to build in and live harmoniously with this harsh environment. A typical indigenous structure has thick bearing walls of adobe that support a wooden-frame roof covered in corrugated metal. Colourfully painted, handcrafted doors and windows accent the simple palate.

Rick Joy Studio, in Tucson has been reduced to similar essentials as the indigenous architecture. It consists of one enclosed volume surrounded by rammed-earth walls that rise from the boundaries of the small site. The volume is divided longitudinally by a glass window wall that creates an interior studio to the south and an exterior courtyard to the north. The entrance to the courtyard is located beneath a lone tree, through a pair of rough hewn, plank-and-steel gates.

The decomposed granite floor, water feature and earthen walls all lead to a series of encounters with light; the desert environment being defined by extraordinary light. Inside the studio a narrow skylight traces one of the walls, and combined with the light from the courtyard, the studio has soft ambient light.

Palmer/Rose House in Tucson is a one bedroom house, divided into three segments, according to its function. The massive rammed earth walls act as the house's shield from the harsh southern and western sun. The walls support corrugated steel butterfly roofs with inverted gables. The rusty v-shaped roofs recall the profile of the surrounding mountains, and the entire mass lies low in the landscape.

The living areas have views of the mountain panorama with wide floor-to-ceiling structural glass. The valley of the butterfly roof compresses the space on the south side and releases it to the views on the north face. Other small windows are punched out of the earth surface. Full advantage of the walls thermal properties are exploited, and the walls are kept closed to the south, with openings on the north.



Convent avenue studios is a collection of four houses, on a narrow site in Tucson. The houses have identical wedge-shaped plans and are arranged in a tight matrix of private and semi-private courts and pedestrian access ways.

The simple volumes of the houses are derived from abstraction of the traditional long narrow sheds in the area. The rammed earth walls are powerful elements, and assist in passive cooling of the studios as well as shading. The earth was carefully chosen from three different local sources to provide desired consistency and colour. To contrast to the walls, Joy uses timber finishes inside the studios.

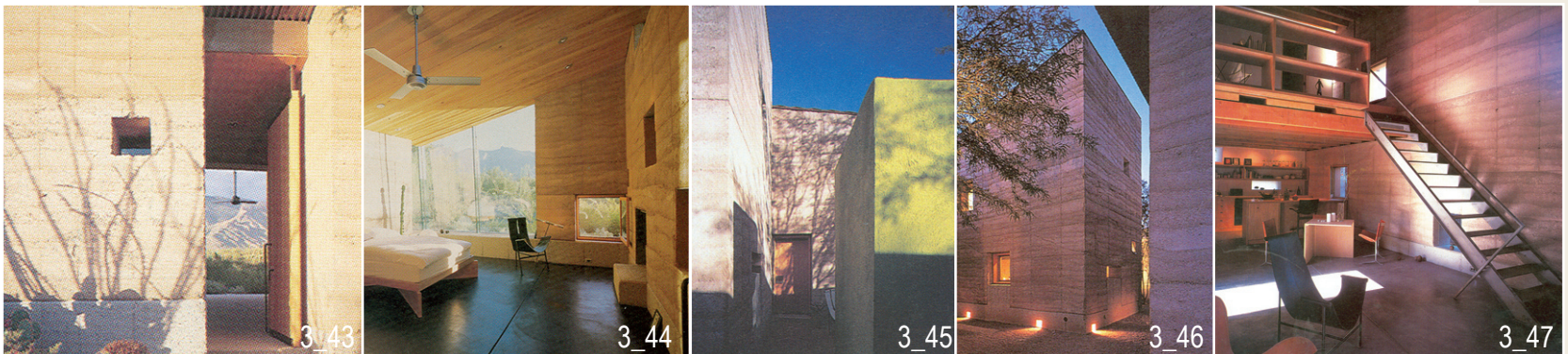
Garden walls are plastered concrete blocks, and garden fences of pre-rusted steel. Joy has coloured the concrete walls in a striking green. This may not be fashionable, but it works well to offset the steel and striated earth to define and clarify the maze of external spaces, and provide numerous moments of surprise and delight within the small site.

Lessons learnt

- + rammed earth construction
- + response to site and the environment
- + climate and orientation, passive systems
- + use of materials and their properties
- + use of traditional building techniques, with adaptation to contemporary needs
- + use of natural light

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3.7 Thanda Private Game Reserve, Wellness Centre, Mkuze

Thanda is situated in Northern KwaZulu Natal, 23km north of Hluhluwe on the N2, towards Mkuze, approximately 300km north of Durban, South Africa.

Guests park at a main car park, and are taken into the lodge on a game drive vehicle. This decreases noise, vehicular circulation, and enhances the transition into the bushland. The building complex consists of a main lodge, nine bush villas and a spa. The building complex is joined by a series of timber walkways.

The spa is situated centrally and surrounded by the accommodation units. The materials used in the construction are mainly timber, stone and thatch. The facility is circular in shape. At the core is the circular steam room, with a passage way to the south. Off this passage are two treatment rooms, one for massage, and the other for facials and pedicures. The hydro bathroom, change rooms and storeroom open off this passage. On the northern side is an open fronted lounge, entrance, and outside treatment area.

The outside treatment area has two pools on separate levels. The top pool is the heated jet pool, and below it the cold plunge pool. A reflexology path runs alongside the two pools. The relaxation and tanning deck lies in front of them. Off from the lounge area is an outside massage area. Due to the high temperatures normal to this region, the indoor treatment rooms have to be air-conditioned.

The walls of the steam room are built of smooth river pebbles, and this element is a focal point of the building. The floors of the facility are concrete, the walls plastered, and the roof is thatch. Lath fences act as separation and privacy elements.



Lessons learnt

- + facility blends into the bush environment. The use of natural materials helps to enhance the ambience and unobtrusiveness of this facility.
- + integration of the outdoor wet treatment facilities into the landscape, as a water feature.
- + indoor treatment facilities have large window openings, with sweeping views of the surrounding bushland.
- + facility acknowledges its context and setting, and exploits it for the benefit of the client, and the experience as a whole.
- + facilities of the spa are well planned, relate well to one another, with good circulation.
- + natural trees, shrubbery and partitions enclose separate areas.

References

Site visit on 20 March 2005, photographs and wording authors own (apart from where specified).

www.thanda.com



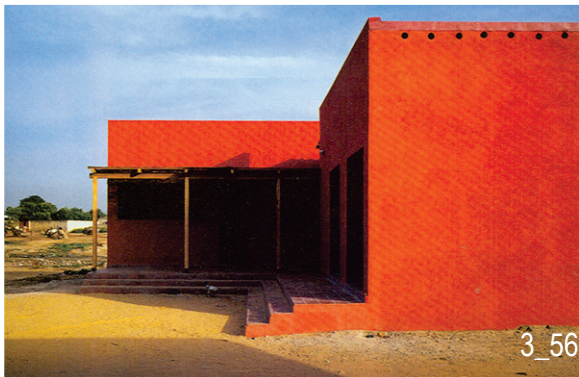
3.8 Women's Centre, Rufisque, Senegal

Rufisque is a port on the Atlantic Coast, to the east of Dakar. This port is undergoing traumatic transformation with the impact of modern technology and a surge of immigration from the countryside. Women's groups are not new, and have a long tradition in Africa. The women's centre is a focus for local groups, a reception organisation for rural immigrants and a powerhouse for empowering women in a traditionally male orientated culture.

Built on a site that was donated by the city of Rufisque, the design responds to the scale and massing of the low, dense buildings on the surrounding city blocks. The centre is modelled on traditional compounds in this part of West Africa, with a strong perimeter surrounding buildings turned inwards to a private communal court. The baobab is one of the few trees left in an area starved of wood, and it shades the entrance to the communal hall. The other public entrance is on the north-west corner of the compound and is an attempt to make a small public square, onto which the centres shop and restaurant open.

Inside the compound a paved courtyard is enclosed by an orderly rhythm of the piers of the communal hall to the right and the workshops of the other side. The red building is massively constructed to exploit the flywheel effect. The buildings have wide overhanging roofs to provide shade, using arcades, eaves and shutters, and are open to the maximum amount of natural ventilation.

The goal was to employ as many local materials as possible. The structure is in-situ concrete frame filled in with concrete blocks, cast and cured on site. One of the largest cement factories in West Africa is located near by. The roof is corrugated metal on steel beams. For ventilation, an open space is left between the roof and ceiling, which is made of thick straw matting to bring a warm, textured surface to the interiors. The matting was chosen due to its insulating properties and to resurrect a fast-disappearing local skill.



The use of wood has been reduced, as it is a scarce resource. The windows and doors are made of steel, and the reinforcing was made of recycled metal. Some of the ventilation ducts use wheel hubs from old vehicles as protective grilles. Bottle bottoms have been used in some places to make 'glass brick' windows. The craft centre is largely open between its piers to allow the poisonous gases of the dying processes to be dissipated.

The only indulgence was colour. The walls are painted a powerful red, a dramatic departure from the greys of the surrounding buildings.

The centre is intended to facilitate the development of women's groups and help improve the women's live as well as through the economic and social initiatives, the life of the greater community as well.

Lessons learnt

- + response to scale and mass of surrounding buildings and context.
- + use of passive systems in building functioning.
- + use of local materials, recycling of building materials, and sensitivity to scarce resources.
- + upliftment of the community.
- + use of colour.

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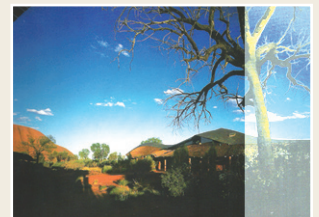
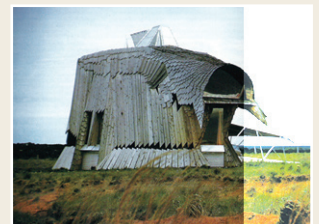
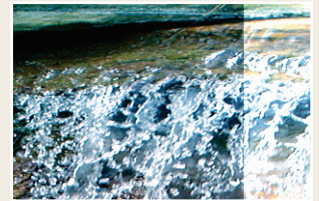
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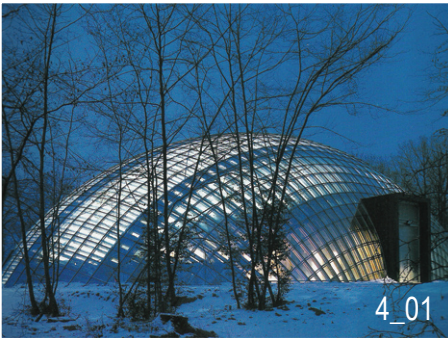
Baseline Indicators

The place created by the building complex has a distinct character where specific yet integrated functions occur. The buildings provide a place for the activities to occur. The functions must be accommodated optimally, with high environmental regard. A strong place presupposes that there is meaningful correspondence between site, settlement and architectural detail. The buildings become a concretisation of the concept of healing.

Experiences and meaning come subconsciously while moving around a place. The movement of the body in space provides a measure for things, allowing people to appreciate the splendour and explore that which is hidden; to organise what is there to see, hear, feel, smell and touch in a given environment (Meiss 15:1990). The layout of the buildings affects the orientation and wayfinding of the user. This in turn will either make their experience exciting and helpful, or disorientating and frightening. Wayfinding and spatial orientation are important aspects of an efficient environment. Simplistic environments must be avoided; spatial complexity can be provided without making environments confusing and disorganized.

The building complex must be rooted in the site, and in nature. The context of the site, the views and quality of place provided are important to the experience of healing at the facility. Natural scenes have a positive potential, and may have a restorative effect. Nature has intrinsic healing powers; water, stone, and wind are regarded as important to Traditional Healers. The site has been identified as a valuable resource, and must be managed to retain this value. Construction must not degrade the site, or drastically alter its inherent properties. The site was chosen largely for its aesthetic appeal, and it is important to retain this.

To provide the correct environment to be able to fulfill the functions of the building complex, certain baseline criteria are needed. These criteria ensure that the building accommodates all users, invites participation, monitors safety and health, reduces short term and long term economic costs, considers context and site, selects materials responsibly, and keeps the environment as an important stakeholder in the project through climatic response and environmental concern.



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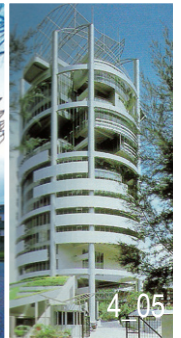
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4.1 Sustainability

Sustainability is evocative of optimistic and protective ideas, recalling sustenance and therefore a nurturing, or at least good common sense (Steele 1997:ix). Linked as it has been to development, sustainability's connotations are those of building a solid future and achieving prolonged, lasting, worthwhile progress. What is sustainable architecture? A basic definition is an architecture that meets the needs of the present without compromising the ability of future generations to meet their own needs (Steele 1997:234).

More energy is used in running buildings than in their construction and material manufacturing (Day 1990: 31). Buildings themselves, their materials, location, services and design have local effects, as well as affecting the health of people that use these places. Sustainable architecture, variously called ecological, biological, green or Gaia architecture, aligns with this critical response to a perceived global imperative that differs from its predecessors (Steele 1997:234).

In either active or passive mode, sustainable architecture tries to make connections to other buildings to take maximum advantage of mass, to local typologies that can be identified as climatically and culturally effective over time, to regional microclimates and materials or to global supplier if necessary in the implications that some material choices have for non-renewable resource depletion and for the possibility of technology transfer (Steele 1997:237).

“Humanity stands as a defining moment in history. We are confronted with a perpetuation of disparities between and within nations, a worsening of poverty, hunger, ill health and illiteracy and the continuing deterioration of the ecosystems on which we depend for our well-being. However, integration of environment and development concerns and greater attention to them will lead to the fulfilment of basic needs, improved living standards for all, better protected and managed ecosystems and a safer more prosperous future. No nation can achieve this on its own, but together we can in global partnership for sustainable development” (Steele 1997:9), from Agenda 21.

Agenda 21 addresses the built environment and the construction industry, which it identifies as “a major source of environmental damage through the degradation of fragile ecological zones, damage to natural resources, chemical pollution, and the use of building materials, which are harmful to human health.”

Specifically, as a corrective the report recommends:

1. The use of local materials and indigenous building sources.
2. Incentives to promote continuation of traditional techniques, with regional resources and self-help strategies.
3. Regulation of energy-efficient design principles.
4. Standards that would discourage construction in ecologically inappropriate areas.
5. The use of labour-intensive rather than energy-intensive construction techniques.
6. The restructuring of credit institutions to allow the poor to buy building materials and services.
7. International information exchange on all aspects of construction related to the environment, among architects and contractors, particularly about non-renewable resources.
8. Exploration of methods to encourage and facilitate the recycling and reuse of building materials, specially those requiring intensive energy consumption in their manufacture.
9. Financial penalties to discourage the use of materials that damage the environment.

4.2. Social issues

4.2.1 Indoor environment, Occupant

Comfort

“The quality of the environment in and around the building has been shown to have a direct impact on health, happiness and productivity of people. Healthier, happier, more effective people contribute to sustainability by being more efficient and therefore reducing resource consumption and waste. The quality of this environment needs to be achieved with minimal cost to the environment” (Gibberd 2004: SBAT). Shelter is the main instrument for fulfilling the requirements of comfort. It modifies the natural environment to approach optimum conditions of liveability. It should filter, absorb or repel environmental elements according to their beneficial or adverse contributions to man’s comfort. Man strives for the point at which minimum energy expenditure is needed to adjust to the environment (Olgay 1963:15)

Thermal comfort

The building must work with the environment in such a way that it positively modifies the thermal conditions to make the internal environment comfortable for its users. Through passive systems of heating and cooling, using the building itself to regulate temperature, a desired environment can be obtained with little mechanical assistance.

Lighting and daylighting

All facilities must be well lit; daylighting is to be used as much as possible. Day light must be controllable, so that glare is kept to a minimum. If used properly day lighting can reduce electrical consumption, reduce cooling requirements and increase occupant comfort. Facilities should be designed so that electrical lighting is kept to a minimum.

Ventilation and indoor air quality

Fresh air is necessary to replenish oxygen, and remove stale air. Required ventilation should be provided by natural means, where mechanical ventilation can be minimised, or even excluded from the building. Building orientation and space linkage must enhance natural ventilation.

The materials used within the building must not contaminate the indoor air quality. Paints, particle board, adhesives and furnishings can contribute to contaminants found inside new buildings. The least toxic materials should be chosen, along with the design of systems that circulate and distribute fresh air passively.

Noise

Due to the nature of the facilities, noise levels in many areas of the facility must be kept as low as possible. Functions must be zoned so that noisy and quiet areas are separated, limiting unwanted excessive noise, and preventing interference between groups. The limited vehicular circulation on site keeps traffic noise down to a minimum.

Views and visual quality

All work and recreational areas have views outside. These views are important, and have influenced the placement of walls and shape of rooms, so that the eye is drawn to outdoor elements.

Access to outside

Users of the buildings must have easy access to outside green spaces. These spaces provide places for outdoor activities, as well as mental rejuvenation between tasks.



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4.2.2 Inclusive Environments

“An essential criterion for sustainable buildings is that the building is designed to accommodate everyone, or specially designed buildings need to be provided. Ensuring that buildings are inclusive supports sustainability as replication is avoided and change of use supported” (Gibberd 2004:SBAT).

Transport

Due to the nature of the facilities located on the site, a major part of the site is limit to pedestrian movement, with controlled vehicular movement. All transport on site accommodates wheelchair users. Larger parking bays are provided near entrances and pathways for disabled users.

Routes, signage, level change

All routes and circulation space have an even surface that is easily navigable by wheelchair. Increased isle width, and path width is needed to accommodate all users. Outdoor surfaces take into consideration the various users, including wheelchairs.

Level change within the building as well as between buildings must be facilitated using ramps with a gradient of 1:12. The surface of the ramp must not be slippery. Handrails and restplatforms must be provided on stairs and ramps. Curbs must be provided on ramps.

Visual signs and displays must be clear, simple, and be translated into at least three languages. Visual signals must be used to reinforce audible warning signs, such as a flashing red light used with an audible fire alarm. Certain areas of the buildings are restricted to staff. This must be clearly demarcated and signed.

Toilets and bathrooms

The correct dimensions for toilet cubicles must be provided to aid wheelchair users. Doors must open outwards, with sufficient room to maneuver into the cubicle.

Showers must be of the correct dimension to accommodate disabled users. Handrails and a folding seat must be provided. Water controls, in the shower as well as on basins, must be such that they can be operated by all users

4.2.3 Access to Facilities

“Convention living and working patterns requires regular access to a range of services. Ensuring that these services can be accessed easily and in environmentally friendly ways supports sustainability by increasing efficiency and reducing environmental impact” (Gibberd 2004:SBAT).

Childcare

Childcare facilities are provided for users of the Healing Centre. These facilities are provided off-site in Mamelodi, near the pick-up point for transport to the facility. They are not located at the Healing facility itself as this may cause distraction to the users.

Residential

Residential areas of the users as well as the staff are located more than 12km from the facility. Due to this reason transport to and from for the Healing centre is available for its users. A similar transportation system for the staff can be arranged, with a central parking area close to their homes. This parking area should be located close to retail and banking facilities where banking, post and groceries can be handled daily if necessary.

4.2.4 Participation & Control

“Ensuring that users participate in decisions about their environment helps ensure that they care for and manage this properly. Control over aspects of their local environment enables personal satisfaction and comfort. Both of these support sustainability by promoting proper management of buildings and increasing productivity” (Gibberd 2004:SBAT).

Environmental control and user adaptation

Users of the building have reasonable control over the building; this is in terms of opening windows and adjusting blinds and curtains. Furniture and fittings allow arrangement or rearrangement by the user. Personalisation of spaces may take place in the office facilities, and on a limited level in the accommodation facility. Provision should be made for places to put up pictures and notes.

Social space

Design for easy informal as well as formal interaction between people has been provided. This is accommodated in term of various indoor and outdoor seating areas, meeting and counselling rooms and studios. This aids interaction between users themselves, as well as staff.

Community involvement

The community is an important part of this project. The aim of the Healing Centre and the rest of the building complex is to uplift the community, by providing a better psychological state, and so quality of life for its members. Skills training and workshops will benefit the community from the construction phase, through to operation of the buildings. The greater Pretoria community is involved to a certain extent by supporting the Healing facility. Through the Spa and Herbal Centre income, awareness and support is generated to facilitate the functioning and operation of the Healing facility.

4.2.5 Education, Health and Safety

“Buildings need to cater for the well being, development and safety of the people that use them. Awareness and environments that promote health can help reduce the incidence of diseases such as AIDS. Safe environments help to limit the incidence of accidents and where these occur, reduce their effect. Learning and access to information is increasingly seen as a requirement of a competitive work force. All of these factors contribute to sustainability by helping ensure that people remain healthy and economically active, thus reducing the ‘costs’ (to society, the environment and the economy) of unemployment and ill health” (Gibberd 2004:SBAT).

Lifelong learning / education

The nature of the Healing Centre, Herbal Centre and Spa are conducive of education and learning, especially by its users. The staff of all these facilities should periodically be sent on courses, and have access to materials that will further their knowledge, and help them educate users better.

Security, health and safety regulations

Security of the building complex in general will be aided by check points at the entrances. The property must be securely fenced, especially due to the accommodation facilities located at the Healing Centre. At night security should be increased through the employment of security services.

The buildings must comply with health and safety regulations. Policy and checks must be in place to ensure that these are complied with.

First-aid kits must be located in central locations. Staff must be trained in first-aid to be able to assist the injured properly. A protocol on dealing with injuries and emergencies must be established and made known to all staff.



4.3 Economic issues

4.3.1 Local Economy

"The construction and management of buildings can have a major impact on the economy of an area. The economy can be stimulated and sustained by buildings that make use of and develop local skills and resources" (Gibberd 2004:SBAT).

Contractors

80% of the construction should be carried out by contractors based within 100km of the building project. Skilled and unskilled labour must be included, with training programmes and educational tasks.

Materials and manufacture

80% of the construction materials: cement, sand and bricks, and the building components, windows, doors and furniture, must be produced within 200km of the site.

Outsource opportunities

Opportunities should be created for emerging small businesses. This includes outsourcing catering, cleaning and security services, making space and equipment available for these businesses to use. All repairs and maintenance required by the building can be carried out by contractors within 100km of the site. Standardised quality fixtures last longer, and when damaged their components are easier to replace.

4.3.2 Efficiency of Use

"Buildings cost money and make use of resources whether they are used or not. Effective and efficient use of buildings supports sustainability by reducing waste and the need for additional buildings" (Gibberd 2004:SBAT)

Usable space

All buildings must be managed so that they are used productively and generally occupied to ensure efficiency. Programmes and events must be monitored to ascertain which spaces are being used effectively, and which could be used better or more frequently. The use of space must be intensified by space management approaches such as shared work spaces and areas. Some spaces can be adapted and used for more than one function. Non-useable space such as WC's, plant rooms and circulation must be kept to a minimum.



4.3.3 Adaptability and Flexibility

“Most buildings can have a life-span of as least 50 years. It is likely that within this time the use of buildings will change, or that the feasibility of this will be investigated. Buildings which can accommodate change easily support sustainability by reducing the requirement for change and the need for new buildings” (Gibberd 2004:SBAT).

Partitions

Internal partitions between space are non-load bearing, made from brick, block or plaster board and can be removed or changed relatively easily.

Services

There is easy access to electrical and communication services in usable space. Provision should be made for easy modification of these systems.

Vertical Dimensions

Structural dimensions from the underside of the roof, or slab to the floor should be a minimum of 3m. this ensures ease of change, good depth for future services, as well as a comfortable environment for occupants for visual, acoustic and thermal quality.

4.3.4 Ongoing Costs

Maintenance

Specifications and material specification for low maintenance and or low cost maintenance should be implemented at initial design stages. All plant and fabric have a maintenance cycle of at least two years. Low or no maintenance components, windows, doors, paint and, ironmongery should be selected. Maintenance should be carried out effectively and efficiently, with access to hard-to-reach areas provided for cleaning and repairs.

Security

Measures must be taken to limit the requirement and costs of security. Alarms and other monitoring devices can be installed to minimise the number of security people necessary.

Insurance/ water/ energy/ sewage

Costs of insurance, water, energy, and sewage should be monitored. Consumption and costs must be regularly reported to management and users. Policy and management to reduce consumption should be implemented, whereas passive systems can be used for the control of energy saving, such as photo voltaic cells that control ventilators, or supply night-lighting through energy-efficient controls.

Disruption and down time

Electrical, communication, plant and other services should be located where they can easily be accessed with a minimum of disruption to occupants of the building. Access to these should be from circulation areas and not living and working areas.

4.4 Environmental issues

4.4.1 Environmental Architecture

What is here referred to as Environmental Architecture, has many other names: Construction ecology, Green Architecture, Selective Design etc. In general Environmental Architecture is a reaction to environmental degradation.

Protection of the globe through re-evaluation of the way in which buildings are designed and constructed ,reflects the concerns of the green movement generally. The major impact that building design, construction and maintenance have on national energy consumption began to be widely recognised in the early seventies (Jones 1998:12). The design of any building derives from a considered response to climate, technology, culture and site. Considerations of global sustainability and energy conservation bear directly on these four issues and therefore go right to the heart of architectural design.

Under the impact of technological change, there is a growing consensus that architectural objectives and procedure should be realigned to reflect our improved climatic awareness (Hawkes, McDonald, Steemers 2002:17). Global climate change is an issue of widespread social and political concern as it is witnessed by international accords and protocols.

The environmental impact of buildings is widely acknowledged, and in the past quarter-century much progress has been made in developing the means to reduce it through technological development and scientific analysis. However, there is a need to locate this within comprehensive architectural paradigms that connect it to the wider historical, cultural and social discourse without which technology remains of purely instrumental value. The challenge is to reach a point where Environmental Architecture is indistinguishable from good architecture.

Selective design, as opposed to exclusive design, aims to exploit the climatic conditions to maintain comfort, minimising the need for artificial control reliant on the consumption of energy (Hawkes, McDonald, Steemers 2002:123). This manipulation of climate, to filter selectively positive characteristics of the environment, is achieved through architecture. The form of a building is the most significant consideration with respect to the selective potential of a design.

The environmental architecture mode denotes the possibility of making a return to the rich relationship between climate and comfort in which a building is understood as a complex system of interrelated uses, spaces, materials, components and sources of energy.

The approach has the following principles:

- To maximise the use of ambient, renewable sources of energy in place of generated energy and fossil fuels.
- To minimise the use of energy-consuming mechanical plant in processes of environmental control.
- To provide the users of buildings with the maximum opportunity to exercise control over their environment and adapt it to their needs.
- To use non-toxic materials that affect the health of construction workers or the users.
- To reuse, recycle and adapt old structures for future construction.



4_15



4_16



4_17



4_18



4_19

4.4.2 Water

“Water is required for many activities. However the large-scale provision of conventional water supply has many environmental implications. Water needs to be stored (sometimes taking up large areas of valuable land and disturbing natural drainage patterns with associated problems from erosion etc.), it also needs to be pumped (using energy) though a large network of pipes (that need to be maintained and repaired). Having delivered the water, a parallel effort is then required to dispose of this after its use (sewage systems). Reducing water consumption supports sustainability by reducing the environmental impact required to deliver water, and dispose of this after use in a conventional system” (Gibberd 2004:SBAT).

Water consumption and efficiency of use

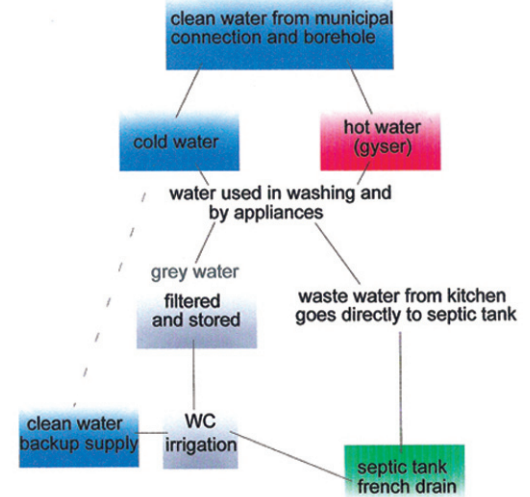
All water devices should minimise water consumption and encourage efficiency of use. Recycling and re-use of greywater to flush toilets and water plants is encouraged. Onsite treatment of black water must be accommodated in the design of such services. A borehole should be included if a site is located far from municipal services, ground water levels permitting.

Runoff

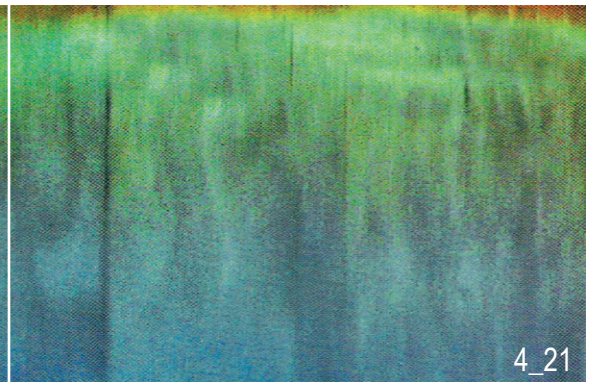
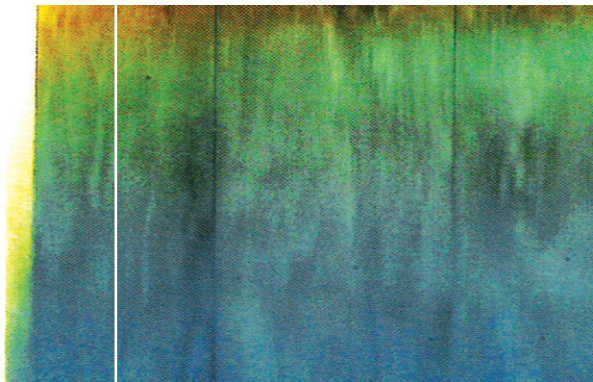
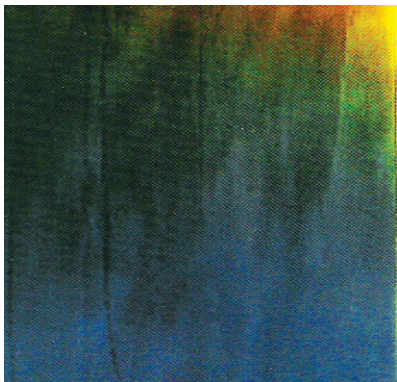
Runoff can be reduced by using pervious and absorbent surfaces. Hard landscapes should be minimised, with pervious surfaces specified for parking and paths.

Planting and landscaping

Planting must be indigenous with low water requirements. Planting can help to prevent excessive water evaporation, modify the ambient temperature around a building, act as a wind break, help to filter pollution and provide privacy. The character and contours of the site should be retained as far as possible, to assist with water absorption, reducing runoff.



water usage (diagrammatic representation) 4_20



4_21

4.4.3 Energy

“Buildings consume about 50% of all energy produced. Conventional energy production is responsible for making a large contribution to environmental damage and non-renewable resource depletion. Using less energy or using renewable energy in buildings therefore can make a substantial contribution to sustainability” (Gibberd 2003:SBAT).

Natural lighting

Natural lighting is used as much as possible throughout the building complex. There has to be sufficient light for visual focus and to perform the desired task. Glare must be avoided. Artificial lighting should be limited to nighttime. Energy efficient lighting fixtures must be used.

Ventilation

Natural ventilation is maximised. The interiors are cooled by openable windows, most located near ceiling level to allow stale and warm air out. In areas with high moisture levels and excessive heat, such as bathrooms and kitchen, extractor fans are used to aid ventilation.

Heating and cooling

Energy efficient systems are used within the building to passively control temperatures. Passive methods for heating include direct gain, trombe walls/floors and fire places. Passive cooling uses the building's thermal mass, as well as ventilation to keep the structure, and so the rooms cool. Openings are shaded to prevent uncontrolled solar gain.

Renewable energy

Solar hot water systems are used to heat water in summer. Back-up electrical systems are used in very cold weather, or conditions with little sunlight.

4.4.4 Site

Buildings have a footprint and a size that take up space that could otherwise be occupied by natural ecosystems which contribute to sustainability by helping create and maintain an environment that supports life. Buildings can support sustainability by, limiting development to sites that have already been disturbed, and working with nature by including aspects of natural ecosystems within the development.

Energy

A building consumes energy in a number of ways: in the manufacture of building materials, components and systems (embodied energy); in the distribution and transportation of building materials and components to the site ('grey energy'); in the construction of the building (induced energy); and in running the building and its occupants equipment and appliances (operational energy). A building also consumes energy in its maintenance, alteration and final disposal. An energy efficient building looks to reduce consumption on all of these areas (Jones 1998:36).

'Brownfields'

The site as a whole is largely a brownfields site. The building complex is situated in areas that have already been disturbed by human intervention. The proposed buildings must not cause further environmental degradation.

Landscape inputs

All new planting must be of indigenous species. Exotic species must be cleared from the site. However, the clumps of exotic Silver Birch are to be retained due to the quality of place they create. The planting and vegetation chosen to be planted on site must take into consideration the natural climatic and soil conditions.

4.4.5 Recycling and Re-use

“Raw materials and new components used in buildings consume resources and energy in their manufacture and processes. Buildings accommodate activities that consume large amounts of resources and products and produce large amounts of waste. Reducing the use of new materials and components in buildings and in the activities accommodated and reducing waste by recycling and reuse supports sustainability by reducing the energy consumption and resource consumption” (Gibberd 2004:SBAT).

Inorganic waste

This waste should be sorted into what can be recycled or re-used, and either stored or arrangements made for the recyclable waste to be taken to an appropriate plant.

Organic waste

This must be recycled and disposed of on site; greywater can be filtered and re-used, blackwater treated and used for irrigation, and other organic waste can be used for compost.

Construction waste

Construction waste must be minimised through design management and construction practises. Design allowances should be made for material recovery with disassembly, and adaptive reuse of salvaged building materials.

4.4.6 Materials and Components

“The construction of buildings usually requires large quantities of materials and components. These may require large amounts of energy to produce. Their development may also require processes that are harmful to the environment and consume non-renewable resources” (Gibberd 2004:SBAT).

Embodied energy studies have assessed the energy taken to bring materials and components to their final position. This includes extraction of the raw material, processing it into a workable material, making components and products, installation and use, removal and demolition, as well as the transport and storage of the product at each stage. Industry and its products can have damaging effects and the environment. If a suitable alternative material can be found which is less damaging to the environment, then it should be used.

Materials should be chosen for their local manufacture, low embodied energy and limited environmental damage, their properties for recycling and re-use at a later stage and lastly their aesthetic appeal.

Earth and stone found on site make up a major part of the construction materials used in the buildings. Other materials used are found within close proximity of the site.

Rammed earth

Rammed earth is a method of simple wall construction that utilises form work, wood or steel, into which a damp gravelly earth mixture is rammed in layers, till total compaction. When the forms are removed the wall is complete, except for curing, and requires no further treatment other than plaster finishes or cosmetic treatments as desired (McHenry 1984:48). The final product is solid and durable.

There are many benefits to using earth construction in South Africa. Earth has good thermal properties; it stores energy in the form of heat due to its mass, is warm in winter and cool in summer. Soil is a readily available resource that is relatively cheap, or even free if it is excavated on site. Due to a long tradition of earth construction in this country, many people have the skills to build with earth. Earth construction is labour intensive, and provides jobs. Due to availability of the material, cost and available skills, earth building is a highly affordable alternative to some conventional technologies. Local communities become directly involved in the process and production of the building and generate income from its construction.

Ideally soil used in earth construction must contain four elements: coarse sand or aggregate, fine sand, silt and clay (McHenry 1984:48). Earth construction has good compressive strength, but poor tensile strength. Appropriate structural design and construction has to be addressed.

(A more detailed report on rammed earth and the other building materials used is included in the Technical Documentation chapter.)

The Accommodation Schedule for the building complex is contained in Appendix E.

The Sustainable Building Assessment Tool (SBAT), tables and graph are contained in Appendix F.



Introduction

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References



technical investigation

Technical Investigation

Architecture has a profound effect on human beings, on place, on human consciousness and the world. Anything with such powerful effects has responsibilities (Day 1990:16). Architecture has responsibilities to minimise pollution and ecological damage; minimise adverse biological effects on occupants; responsibilities to be sensitive to and to act harmoniously in the surroundings; responsibilities to humans who will come into contact with the building; responsibilities in visual aesthetics, intangible perception and 'spirit of place'.

These responsibilities involve energy conservation-ranging from insulation, organisation, re-use of waste heat and alternative energy production (solar energy). It involves careful selection of building materials and the ways they are put together, both with regard to occupants, manufacturing and building workers health, to environmental impact of products from primary extraction to demolished rubbish.

The technical investigation is the concrete realization of a theoretically generated architectural form. Once the theoretical standpoint and baseline have been explored, the concept and design are developed into a definite building.

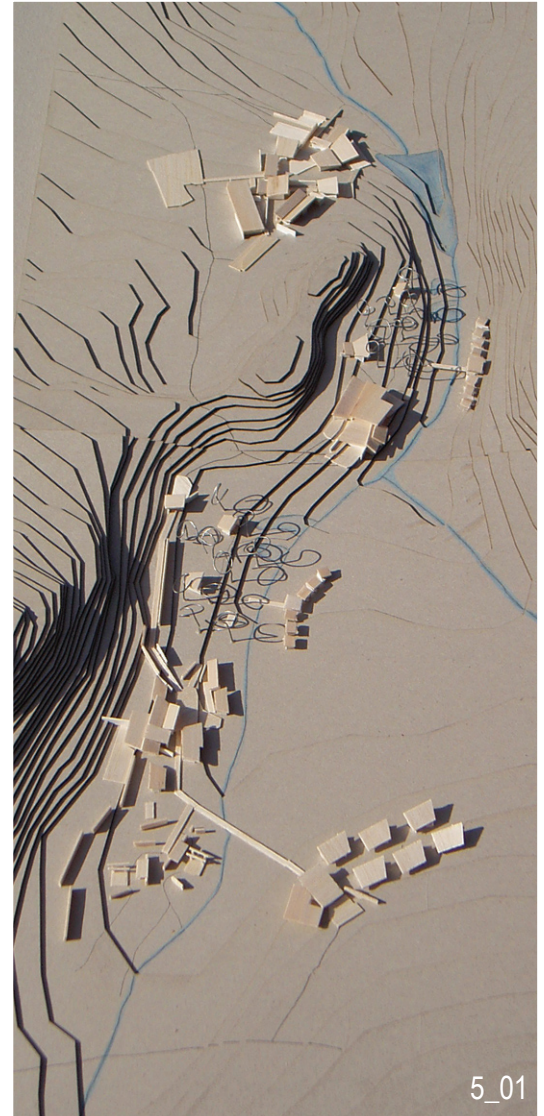
5.1 Conceptual design

The starting point for the design and construction of the building complex was the site. In considering the natural elements and features of the site, as well as the nature of the building complex, the aesthetics to be embodied in the design were formed. As the main function of the Healing Centre is emotional and psychological healing, the materials chosen compliment this, that is that they do not create a clinical environment.

The form and plan of the design evolved due to spatial organisation, accommodation schedule, and the features of the site, such as the views, vegetation and topography. The angular placement of walls emphasis views and spaces within the building complex, making the user aware of the site and their surroundings.

The topography of the site separated the building complex into three parts, and determined their location on site due to privacy and noise considerations.

Orientation of the buildings is influenced by local topography, the requirements for privacy, views, reduction of noise and the climatic factors of wind and solar radiation. The sun is an important consideration due to its thermal effect, natural lighting and psychological benefits.



5_01

5.2 Structural Overview

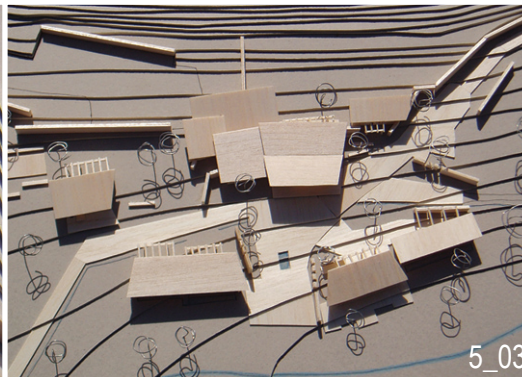
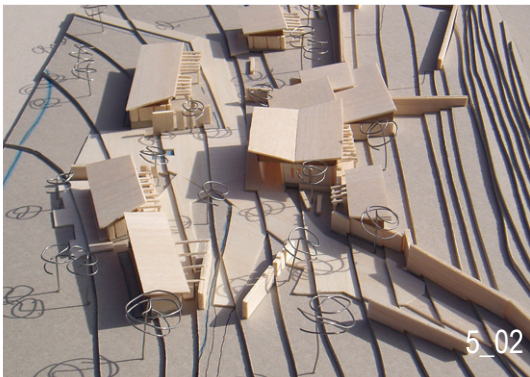
The main structure consists of a timber column structure and rammed earth in-fill panels. Rammed earth was chosen due to its construction qualities and aesthetics, and is supplemented with timber columns to relieve it of any structural and service responsibilities. The main function of the timber columns are to support the roof and act as support frames for service ducting. This system of construction is used modularly throughout the building complex, with column spacing dependent on room dimensions and wall angles.

The timber columns are made up from two 75x225 softwood structural timber columns, grade S7, to become a 125x225 timber column. The two pieces of the column are held together with M10 threaded rod and M10 friction grip nuts.

The earth walls are constructed at a thickness of 500mm, in panels in-between the exterior columns. The sides of the columns not in contact with the earth walls are left exposed, and act as frames for service ducting. Due to the ramming method and the nature of the material, services are a design challenge. Timber service ducts are attached to the exposed surfaces of the columns in which the services are accommodated.

The roof is constructed of a double roof system made up of a main supporting beam, a purlin, a common rafter and a top purlin onto which the galvanised roof sheeting is attached. The double roof system is necessary as the grid spacing of the timber columns is a maximum of 4500mm. The roof beams are attached directly to the top of the timber columns, with the rest of the roof resting on the beam.

The structure is discussed in further detail in section 6.6 Materials.



5.3 Indoor environment and human comfort

Shelter is the main instrument for fulfilling the requirements of comfort. It modifies the natural environment to approach optimum conditions of liveability (Olgay 1963:15). It should filter, absorb or repel environmental elements according to their beneficial or adverse contributions to man's comfort. Man strives for the point at which minimum energy expenditure is needed to adjust to the environment.

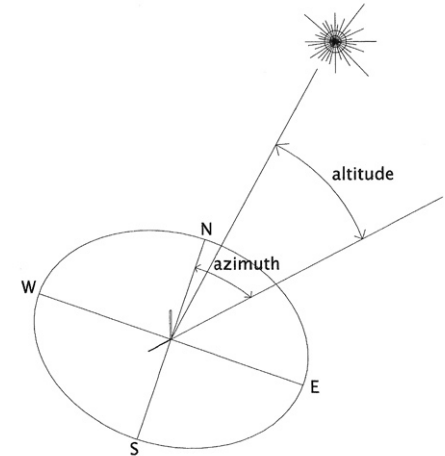
Basic climatic data for the site

- summer rainfall 125-375mm
- winter rainfall 62-250mm
- summer temperatures 15° - 30°C
- winter temperatures 6° - 23°C
- prevailing winds, N-E in summer and N-E to N-W in winter
- relative humidity 30-50%
- hours sunshine 60-80

The following are the optimum conditions for thermal comfort:

- Air temperature – 20 to 25°C
- Humidity – 20 to 80% (80% at 24°C)
- Air speed – comfort up to 3.5m/s

The above factors combine to make occupancy bearable or not. These factors can compensate for each other to increase comfort. Thermal comfort is also affected by human factors; clothing levels and activity levels. On site humidity is within the acceptable range. Winter temperatures need to be increased, and summer temperatures kept low, while controlling air flow so that it falls within a comfortable level.



facing the sun, its height as an angle upward from the horizon is the ALTITUDE
facing the sun, its angle on the ground away from north is the AZIMUTH

Solar chart

Pretoria, Latitude nearest 26 South, 28East.

	Solar time	06.00	08.00	10.00	12.00	14.00	16.00	18.00		
	Clock time	06.18	08.18	10.18	12.18	14.18	16.18	18.18	sunrise	sunset
Summer 21/12	Azimuth°	112E	101E	91E	0	91W	101W	112W	05.28	19.08
	Altitude°	10	35	63	88	63	35	10		
Equinox 21/3&9	Azimuth°	90E	76E	53E	0	53W	76W	90W	06.18	18.18
	Altitude°	0	26	51	65	51	26	0		
Winter 21/6	Azimuth°	-	55E	34E	0	34W	55W	-	07.08	17.28
	Altitude°	-	14	32	40	32	14	-		

(From Napier 2000:4.10)

azimuth and altitude 5_05

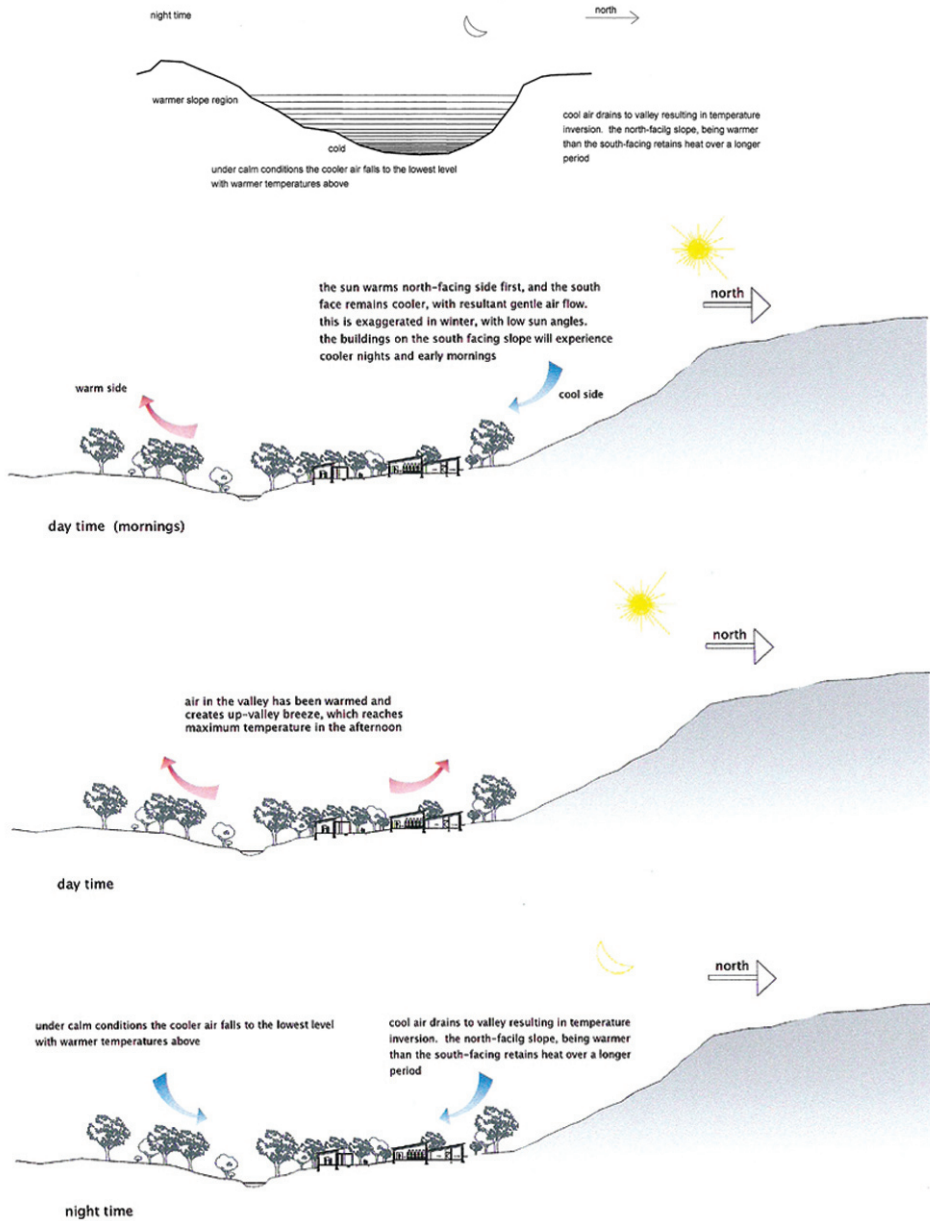
thermal comfort

5.3.1 Climate control and thermal comfort

The building must be used to positively modify the thermal environment, so as to make it as comfortable as possible for its users. Passive systems of heating, cooling and ventilation are used to achieve this. Mechanical assistance is only employed in extreme temperatures.

On the South African Highveld, buildings need to be designed mainly to remain cool. The highveld is predominantly grassland with scattered trees in the wetter parts. Summers are warm to hot, with fairly dry air, relieved by thunder storms generated from thermal air movement. Hail is not uncommon. Winter days are sunny with cold to very cold nights. High mass structures are better suited this region. During the few short months of winter, passive heating principles can be applied.

The microclimate of the site is affected by the valley and river that runs through the site. The main thermal consideration is heating in winter, as most of the buildings lie on a south facing slope. At night cold air flows downhill and fills depressions to create cold air pockets in low-lying areas. In the morning, the sun warms the northern-facing slope first, while the southern slope remains cooler, with a resultant gentle air flow. This is exaggerated in winter with low sun angles, with the south facing slope being cooler in the mornings and the evenings. For this reason the accommodation is located on a north facing slope, and the buildings on the southern slope are positioned far enough away from the ridge so that they are not shaded in winter.



microclimate on site 5_06

In a building, heat transfer happens in the following ways:

- Radiation – direct admission of sunlight, infrared heat being radiated from warm surfaces. Sunlight should not be allowed to penetrate at overheated times (e.g. summer afternoons) but should be admitted at under heated times (e.g. winters day). Dull surfaces radiate heat best.
- Conduction – through ceiling panels, roof panels, walls, windows and floors. Heat flow is prevented by materials with mass insulation that rely on trapped air pockets.
- Convection – Air circulates in a room as warm air at the ceiling cools and falls along the window surfaces and warms up again by drawing heat from occupants and thermal mass.
- Evaporation – a mist spray applied to a warm roof, cools the surface of the roof, the roof supplies the heat necessary for evaporation.

The thermal flywheel effect is the principle applied to the building to control temperatures as it can help to passively assist temperature control within a building. For a climate which has warm summers and temperate sunny winters, heavier mass materials are used to help control the temperatures, with good heat storage capacities and suitable absorptive and emissive qualities.

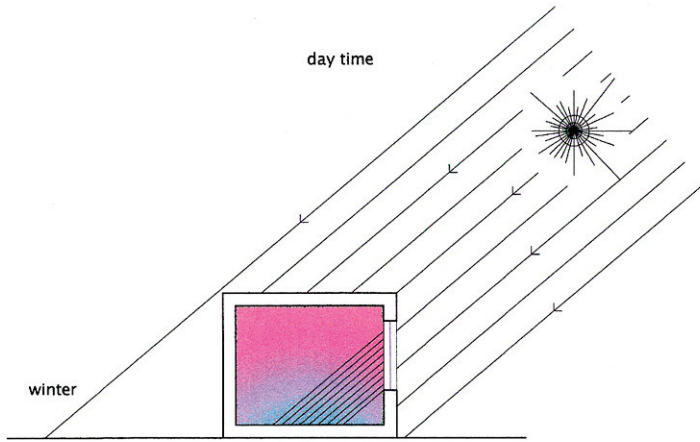
The roof is well insulated to prevent heat gain in summer and loss in winter. A 75mm layer of mineral fibre insulation is placed in the roof.

The green house principle allows glazed rooms to heat up quickly. The sun's infra-red rays are short waves and able to penetrate glass. Once inside the rays are reradiated and become long wave, which are not able to penetrate glass, thus the interior heats up. Solar gain is controlled by a timber trellising shading device so that overheating does not occur. Fresh air intake and stale or warm air is again expelled through windows located near roof level. On very cold days passive heating is supplemented with electrical space heaters in smaller rooms, such as consultation and treatment areas, and in the main lounges and dining room by fire places. On winter nights the windows are closed to keep in any warmth. Heat from the structure is partially radiated to the interior, and keeps temperatures from dropping too low.

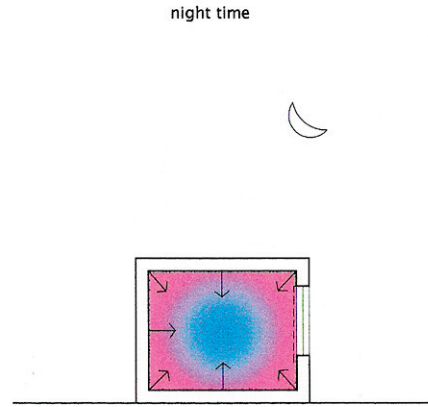
On hot summer days the thermal mass of the rammed earth walls keeps temperatures down by absorbing the heat from the interior. The walls of the buildings are shaded by roof overhangs and trellising during peak summer months, keeping them cool, and enhancing their cooling abilities. Fresh air enters the room via shaded, open windows. Stale and warm air are expelled through windows located near roof level. Window fans near roof level facilitate air removal. Temperatures are further lowered by passing fresh air over water features (evaporative cooling) and shaded paving before it enters a room.

At night time windows are left open and window fans left on, which allows cool night air to enter the room and cool the interior. Heat stored in the structural mass of the earth walls is radiated into space, and their temperature drops.

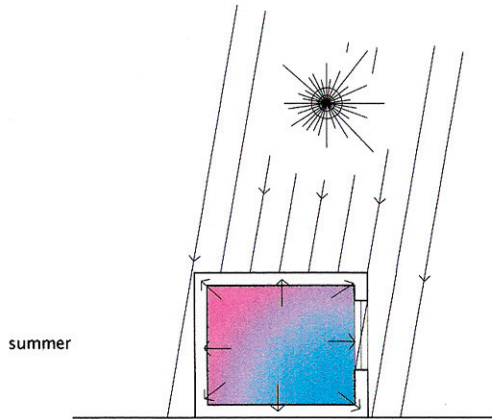
In winter the rammed earth act as a thermal store and absorbs heat from the sun. Direct sunlight falls onto the walls due to lower sun angles and solar gain is maximised. Heat stored in the structural mass is reradiated to the interior of the room. Window positioning allows some direct solar gain.



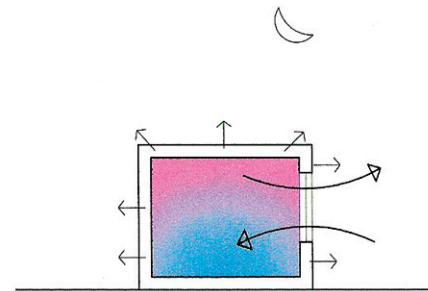
structural mass absorbs heat from the sun



heat stored in structural mass is partially radiated to the interior. curtain drawn conserves heat



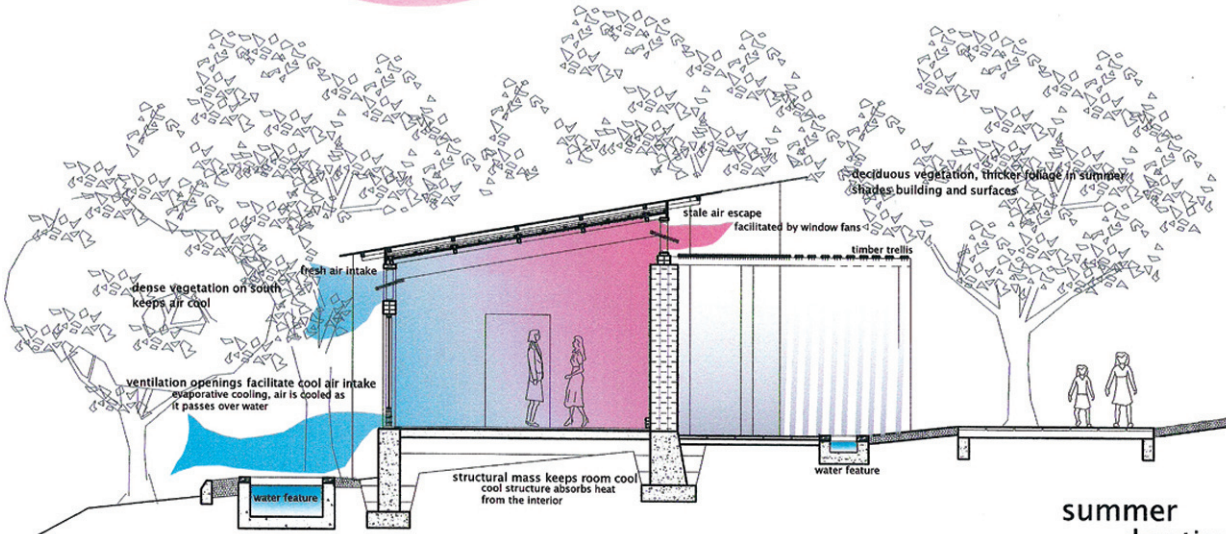
cool structural mass absorbs heat from interior.



heat stored in structural mass is radiated to space. open windows allow night air to cool interior mass

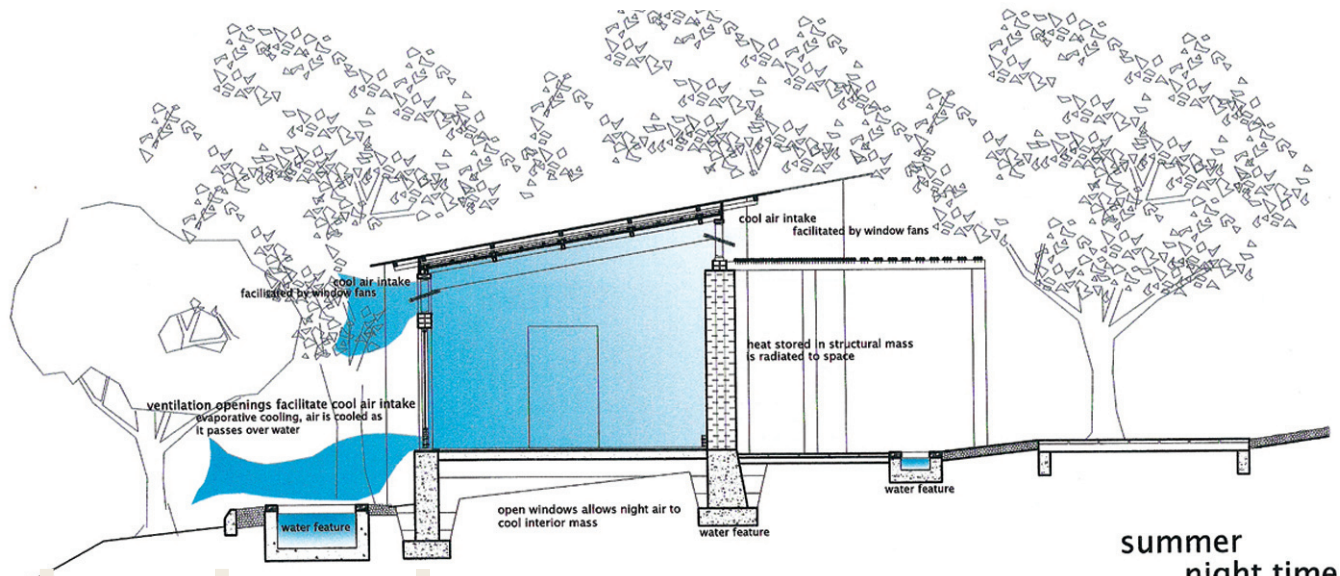
flywheel effect

5_07

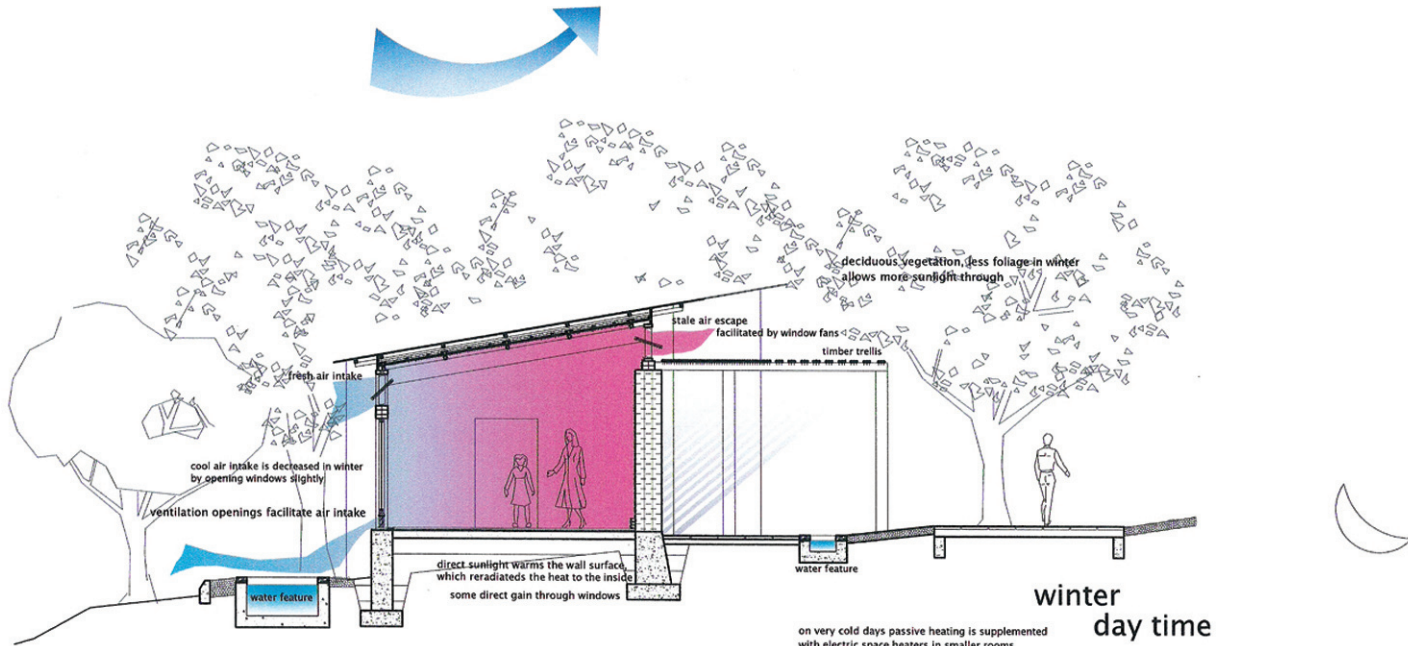


summer day time

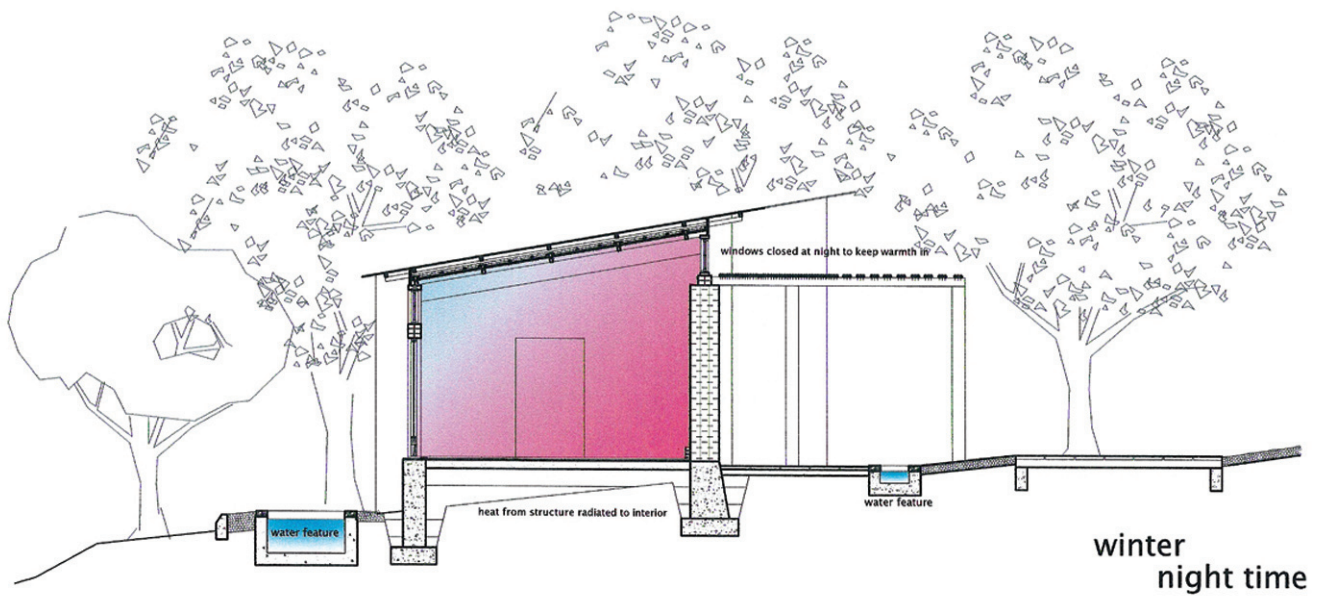
In areas where evaporative cooling is not used, air passes over cool shaded surfaces before being drawn into the building



summer night time



on very cold days passive heating is supplemented with electric space heaters in smaller rooms and fires in fire places in the dining room, lounge etc



5.3.2 Ventilation

Natural ventilation is necessary to provide fresh air, to provide movement for connective and evapoartive cooling from the human body and to dissipate heat from the building. The prevailing winds on site are from the NE and NW. The wind effects on site are modified by the microclimate. The ridge to the north of the site and the tall trees deflect unwanted breezes, creating wind shadows and calm areas. The trees and other vegetation further help to cool down areas and provide shade

In a passive building, air flows due to the stack effect and wind pressure on the surfaces. Pressure differentials at openings cause air flow through rooms. Multiple openings are positioned to allow maximum cross-ventilation. The shape and orientation of openings are positioned to align with prevailing breezes. The narrow footprints of all the buildings allows for cross ventilation to be achieved easily. Maximum room depths of 12m are found in the main dining areas, with other facilities having an average room depth of 7m. Most openings can be easily opened or closed by users. Windows located close to roof level are used in many rooms to induce the stack effect and expel stale air.

In summer air flow is maximised to keep temperatures down. Ventilation is achieved by passive means, through open windows and gaps under doors. Windows located near roof level allow stale and warm air to escape. In winter ventilation is kept to a minimum to prevent cold air from flushing out rooms.

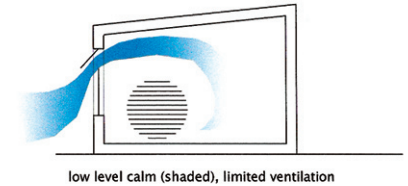
Good ventilation is necessary to avoid condensation. Extractor fans are used in areas where moisture is likely such as bathrooms and kitchens. This is important be keep rammed earth walls from absorbing moisture and disintegrating.

5.3.3 Lighting

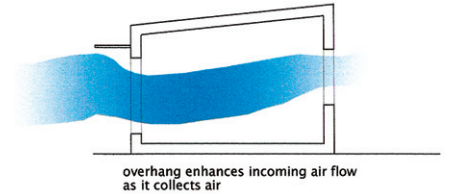
The north-south orientation of the buildings allows for natural lighting into most rooms. Areas where natural lighting may need to be supplemented with electrical lighting are kitchens, store rooms and the ablutions. Sufficient window area is provided in other rooms to allow a good level of natural light into rooms. Southern light is maximised and northern light controlled to prevent excessive heat gain and glare. In studios glass curtain walls allow maximum light penetration. These glass facades are located on the southern side of buildings. Where large glass openings are located on the northern side of a building a timber trellis is used to shade the glass. The openings for light and ventilation take advantage of the views on site, and integrate the user into the landscape, even when indoors.

Electrical lighting can account for the largest single primary energy load in buildings, thus natural lighting can make significant energy savings.

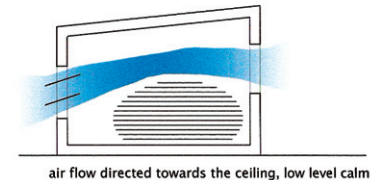
Building depths are limited to allow for natural lighting. windows are positioned so that there is an even distribution of light. High level windows give good daylight penetration, and are used in most rooms along with other openings.



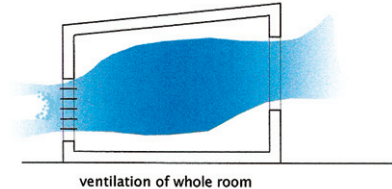
low level calm (shaded), limited ventilation



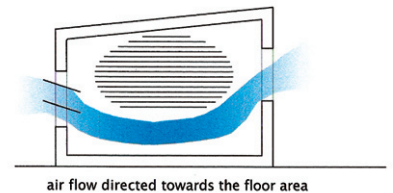
overhang enhances incoming air flow as it collects air



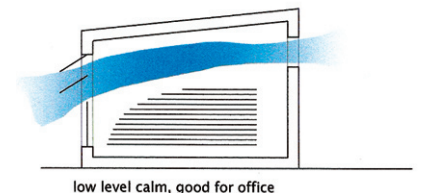
air flow directed towards the ceiling, low level calm



ventilation of whole room



air flow directed towards the floor area



low level calm, good for office

5.4 Services

Services are accommodated in skirting boards and run along the top of the wall into service ducts as making grooves into earth walls to accommodate services must be avoided. Switches and sockets are fixed to the timber ducts and skirting boards.

Plumbing and pipe work is centralised, and integrated into the floor to the maximum extent. Where soil water pipes pass through the wall, a 220 burnt brick wall is used. The walls in the bathrooms and kitchens near water fittings are protected from water damage with splash backs. Floor drains are provided in bathrooms and kitchens.

5.4.1 Water

Water is a visible feature of the site in the form of a stream and constructed water features. These form important elements for healing and the aesthetics of the site. Water features on site draw water directly from the stream, and redeposit it there. This water flows due to gravity, and does not need to be supplemented by pumps. In dry seasons, filtered grey water can be pumped into water features when the stream level is low.

Water is a precious resource that must be conserved and re-used where possible. Water is obtained from a municipal connection, as well as by means of a bore-hole. Rain water harvesting is ideal, but due to the layout of the buildings and small roof areas this becomes impractical. Water conservation is encouraged through the installation of dual-flush WC's and showers in the accommodation instead of baths. Water efficient fittings, appliances, washing machines, dishwashers etc, are used. Grey water from washing is filtered and reused to flush toilets and for irrigation.

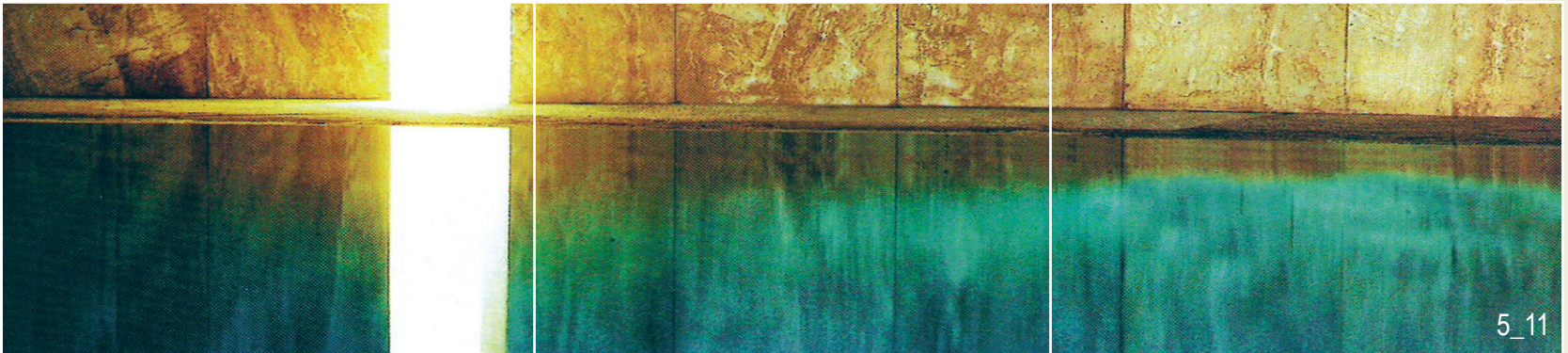
Black water is disposed of on site. Septic tanks and French drains are used to break down the effluent, and return the liquid to the ground. The septic tanks and french drains are located a minimum of 50m away from the stream to prevent pollution.

5.4.2 Energy usage

Roof mounted solar panels are used to heat water to 60°. In kitchens and the hydrotherapy centre this will have to be supplemented with electrical water heating, due to the quantity of hot water used. Natural lighting is supplemented by electrical lighting at night and in areas with poor natural light levels. Energy efficient light fittings, appliances and equipment are used to keep energy expenditure low.

Electricity

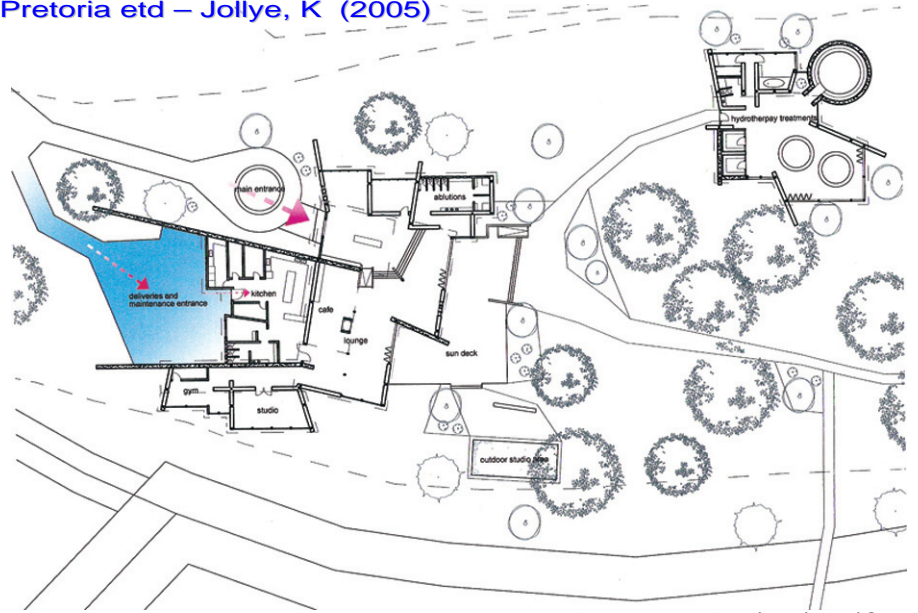
Cables to buildings may not be trenched with other cables or pipes, must be 500mm deep, backfill material must not contain sharp edged objects and should be marked with danger tape at a depth of 300-400mm. All buildings must have their own power supply cable, distribution boards and circuit breakers. Electrical equipment must be accessible for replacement, testing, examination, maintenance and repair, not be easily damaged, not gather dust or moisture on live parts and not be exposed to corrosion or heat and cold. Wiring is installed in plastic conduits, built into floors, in service ducts or on ceilings and must be properly supported if exposed.



5_11

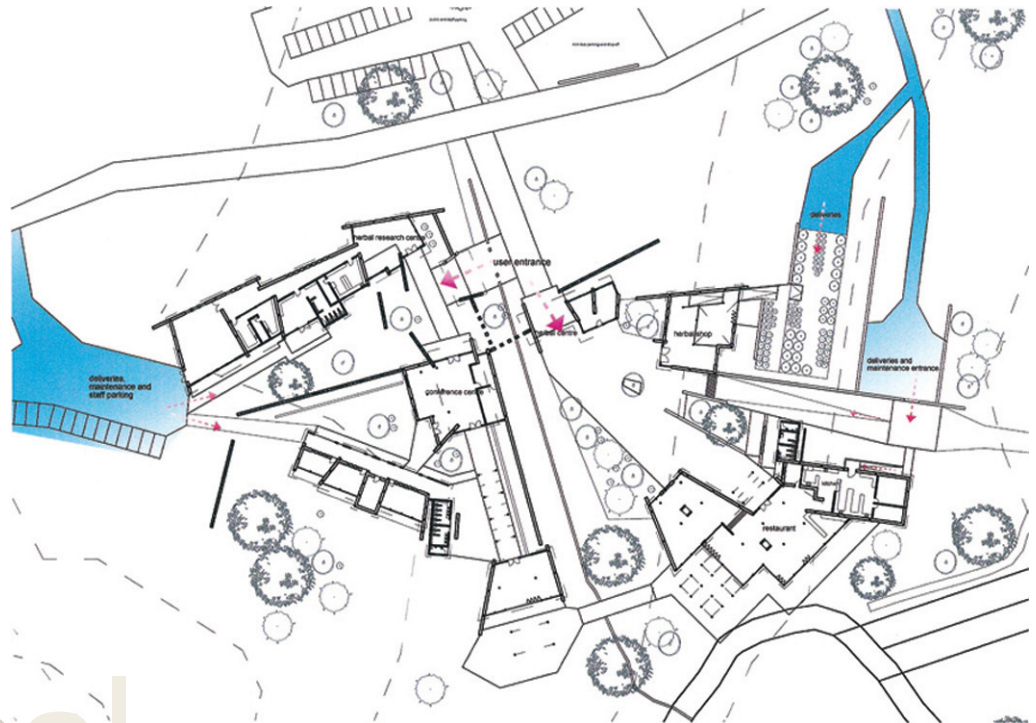
5.4.3 Maintenance

Separate services areas are provided that prevent maintenance and deliveries from interfering with the functioning of the building complex. The Healing Centre has a large parking and delivery area located next to the kitchen. Maintenance and repairs can be conducted from here without disturbing activities. The accommodation has a back road that allows maintenance and delivery vehicles up to the building, without disturbing users. The Spa has a service entrance located adjacent to the kitchen and staff facilities. The Herbal Centre has two delivery areas that service the restaurant, nursery and research laboratory. This prevents deliveries from being transported through main circulation and public areas.



maintenance plan (spa) 5_12

Service ducts are fitted with removable timber panels that allow easy access for repairs and maintenance. Soil water pipes are positioned facing away from main areas, to hide maintenance operations.



maintenance plan (herbal centre) 5_13

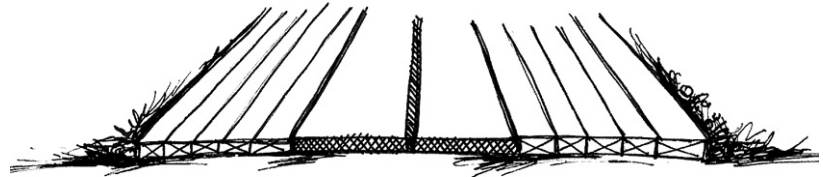
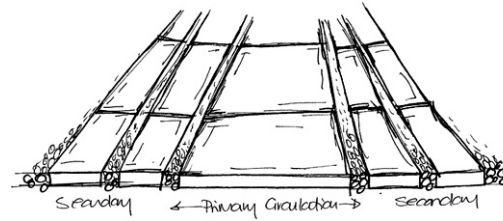
5.5 Landscaping

Landscaping is an important element on site, as the building complex is made up of a series of smaller buildings, connected through landscaping and outside areas. The landscape helps to protect against unwanted prevailing winds, using tall trees for wind deflection and to create a wind shadow. Prevailing winds are channelled and modified through landscaping. Deciduous trees are used to shade the structure to the north, to provide shaded outdoor living areas in summer and allow sun penetration in winter.

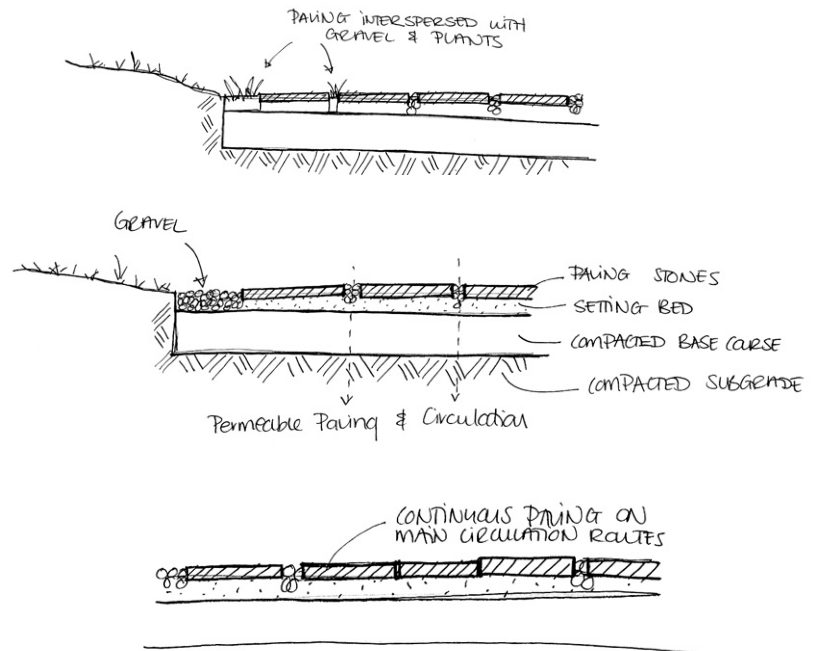
The landscaping cools down the environment in summer. Surface materials are used that do not store too much energy from the sun and create hot surfaces. This means that hard paving is only used where necessary, a permeable surface used else where. This also aids the prevention of excess water runoff during thunderstorms.

Circulation is emphasised by surface materials; where main circulation and secondary circulation routes have different surface textures. This adds to the quality of the environment. Main routes are continuously paved, while secondary circulation has paving in strips interspersed with gravel and small plants. Pathways in the landscape, such as those leading through the gardens to treatment rooms use timber surfaces. All pathways are wide enough and have a suitable surface so that they are wheelchair accessible.

Water features are used to create visual axes, emphasis threshold and features, as well as to some extent for their cooling and emotional qualities.



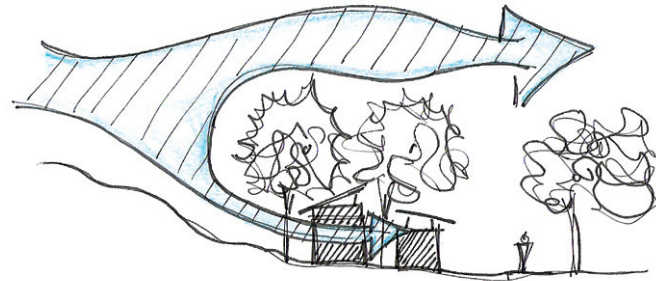
examples of circulation surfaces, concrete pavers and timber planks



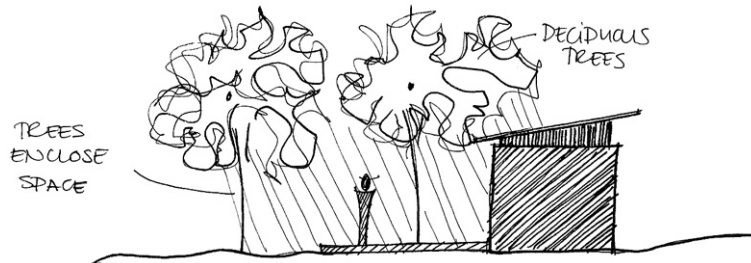
circulation surfaces 5_15



BUILDINGS CONNECTED THROUGH
LANDSCAPING & OUTSIDE AREAS



TREES DEFLECT WIND



TREES
ENCLOSE
SPACE

DECIDUOUS
TREES

WALKWAYS & NORTHERN FACADES OF
BUILDINGS SHADED IN SUMMER.

concepts 5_16



COMFORT ENHANCED THROUGH
EVAPORATIVE COOLING

evaporative cooling 5_17

5.6 Materials

5.6.1 Rammed earth

Soil

Soil used in rammed earth walls is available in virtually unlimited quantities almost everywhere (McHenry 1984:47). Ideally soil used in earth construction must contain four elements: coarse sand or aggregate (23%), fine sand (30%), silt (32%) and clay (15%) (McHenry 1984:48). The aggregate provides strength; the fine sand is a filler to lock the grains of aggregate, and the silt and clay act as a binder to glue the other ingredients together. To determine the soil quality on site simple field tests can be conducted. The durability and waterproof qualities of the wall are dependant on the clay content, which is ideally 15-18%. The soil on site consists of the following:

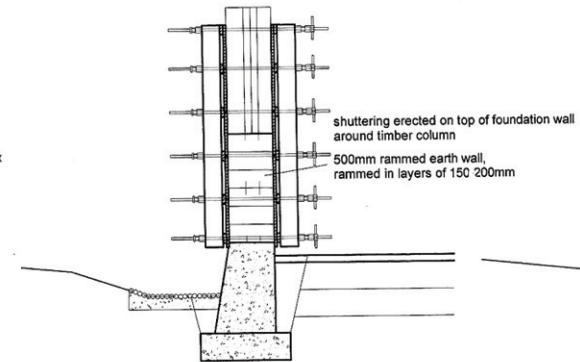
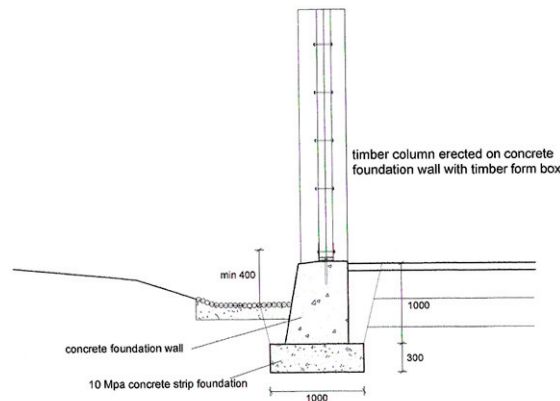
1. Red structured sandy loam / sandy clay loam, eutrophic on rock with rock outcrops.
2. Deep (1200+mm) dark grey moderate / weak structured clay, on grey hydromorphic clay, calcareous.
3. Brownish / grey structureless loam sand on sandstone or quartzite outcrops.
4. Moderate deep (600-1200mm) yellow brown apedal sandy loam / sandy clay loam, mesotrophic on soft plinthite.

The soil found on site must be mixed to the correct quality for rammed earth walls.

Soil from a ground source frequently has adequate moisture for its use directly in rammed earth walls. The soil should be damp but not wet. Stabilising agents such as Portland cement or lime may be added to the soil source to provide ultimate moisture proofing or additional strength qualities. 5% Portland cement is added to the soil on site.

Stability

Earth construction has good compressive strength, but poor tensile strength. For thermal mass properties a wall thickness of 25-60cm is advised (McHenry 1984:105). The rammed earth construction is used as non-load bearing infill panels, with a timber frame construction making up the structural element. For a 500mm thick wall a wall height of 4 - 7.5m is acceptable.



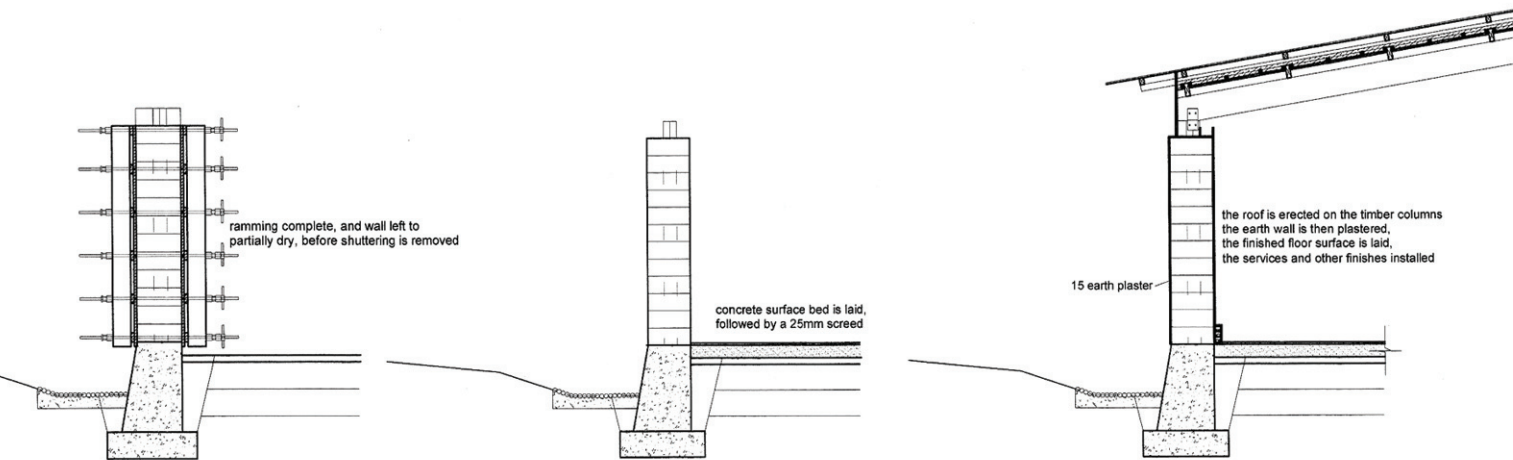
Foundations

All strip foundations and foundation walls are constructed out of 10Mpa concrete. Footing sizes under earth walls are 1000x300. Strip foundations under interior and exterior 220 brick walls are 600x200. Foundation walls are the same thickness as the walls they support. Foundations walls and footings are constructed from reinforced concrete. Foundation walls are waterproof below grade, and strong enough in compressive strength to support the weight of the wall and other expected loads. A waterproof DPC is placed between the top of the concrete foundation wall and the rammed earth wall. Drainage, capillary rise, planting, standing water and water splash back is addressed in foundation design. The top of the base layer wall is at least 400mm above ground level to prevent moisture problems. Foundation walls are slanted away from the wall to aid runoff. In addition a concrete swale will remove water from the wall swiftly.

Formwork, filling and compaction

A simple plywood and brading formwork system is used, with clamps to hold the form in place. Special attention must be paid to corners, ends and openings when form work is being used.

When the form work is securely in place, the cavity is filled by hand, with a shovel or bucket, or by mechanical equipment. The earth is placed in depths of 150-200mm before compaction. The compaction is done by hand or mechanical means. When the wall is compacted and the forms removed, the wall is stable enough for further construction, but the corners and surface are fragile. Full curing will occur after several months to years, depending on climatic conditions.



rammed earth construction method

5_18

Openings

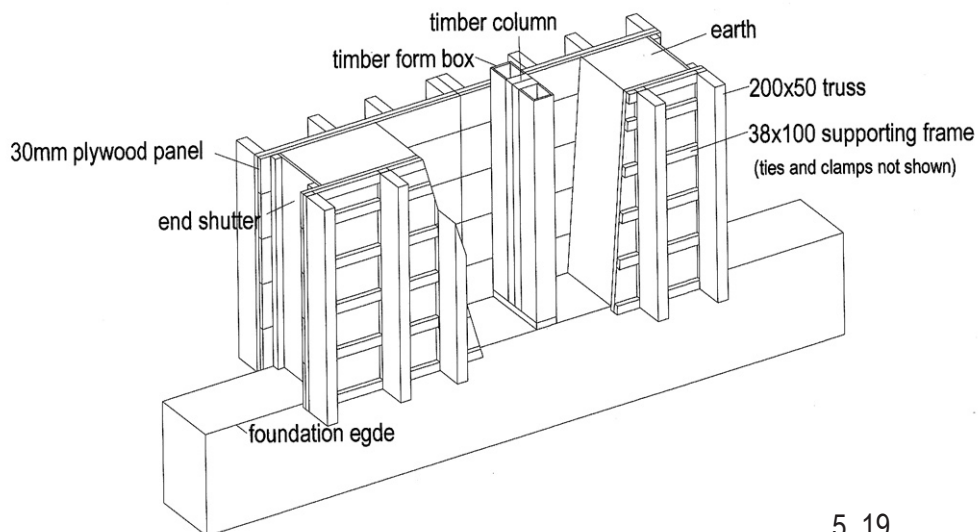
Openings can weaken the structure of a wall. To prevent this overall length of openings does not exceed 35% of the length of the wall. For openings wider than 1,2m lintels are used with 250mm deep anchorage in the wall. Lintels are as wide as the wall and made up from 25x225 softwood timber planks placed above the opening.

100x38 softwood timber rough frames are used as anchoring devices for window and door frames. The rough frames are installed as the wall is rammed, and secured to the earth walls with galvanised ties. A rough frame provides easy door frame and window attachment at any point along the frame. Drip grooves must be provided on all window heads, and on sills.

The rammed earth walls are not built up to roof height. The top of the wall stops short of the roof, and tongue and groove timber planks are used to bridge the gap. In some rooms windows are placed in the void between the wall and the roof.

Roofs

To prevent rainwater from damaging the wall the roof overhang is 500mm. Roof construction is made up of a 100x300 laminate softwood beam at maximum 4500mm centres. The beam is bolted to the top of the timber columns by means of a 1,2mm galvanised mild steel bracket. A 50x150 softwood timber purlin is nailed to the beam, with a 50x76 timber common rafter and 50x76 softwood timber purlin laid at right angles. A 0.6mm galvanised steel, S-profile roof sheeting, laid at a 10° slope, and is fixed to the purlins with 65mm galvanised steel roof screws. 22mm tongue and groove ceiling boards are nailed to the common rafters with 38x38 brandering. A 75mm mineral fibre insulation layer is laid in the roof cavity to enhance desired thermal conditions.



5_19

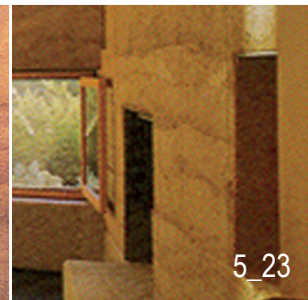
Floors

Concrete surface beds must be minimum 100mm thick, of 10Mpa minimum strength concrete, on suitable ground fill compacted in layers of 300mm. The surface bed must be cast on a 0,25mm polyethylene damp proof membrane. Because the floor slab is cast continuously over the full building area, it should be reinforced against shrinkage, cracking, a two-way mesh with a steel area of 0,15% of the cross-section area of the concrete (e.g. 200x200x4mm). The mesh should be placed 20-30mm from the top of the slab. The floor should be finished smooth, ready for the laying of the floor finish. A 25mm trowelled cement screed and tiles or 22 timber tongue and groove flooring is laid on top of the surface bed. 45mm concrete floors are laid directly on the surface bed.

Earth floors, when properly finished and sealed, are reasonably waterproof. The substrate must be properly compacted, and the plaster mixture laid in several thin layers approximately 5cm thick. The soil mixture should be slightly higher in clay than the wall mixture, with enough water added to mix thoroughly and provide a trowelable consistency. Minimum floor thickness is 10cm. The surface is sealed with an oil varnish waterproofing material. Earth floors are not suitable for high traffic areas and are used only in the traditional healing compound.

Renders

A suitable render must be used depending on climate, and internal conditions of the building. Using an incorrect render may lead to render damage or deterioration, and so result in water infiltration into the wall, wall weakening due to attack by micro-organisms and plants, rain and wind erosion of the wall structure. Cement slurry is made up of 2-3 volumes of sandy or clayey soil mixed with 1 volume of cement, diluted with water is used to seal the wall surface. Coats are brushed on in at least two coats 24 hours apart. Colouring (mineral oxides) and water repellents (2% calcium stearin) can be added.



5.6.2 Timber

Timber is a commonly used building material. Advantages of timber construction is that wood is an organic, non-toxic material using up less energy and causing less pollution than any other construction material during production; new trees are planted in place of those that have been felled; waste wood is efficiently used for fibre board and paper; wood is biodegradable; wood has a great strength-to-weight ratio and is easily worked; wood is light to transport and handle, cheaper foundations can be used; wood construction can easily be knocked down and re-erected.

Disadvantages are that commercial forests use large quantities of water causing water tables to drop; untreated wood has a limited life span, even treated wood weathers and must be regularly protected with paint, varnish and/or water repellent agents (2002:3 Build, timber frame buildings, University of Pretoria).

Timber has high moisture movement, but little thermal movement. All timber members need to be protected against moisture and adequate ventilation to prevent decay. External timber columns are treated with preservative and water a repellent. Only dried wood, with a moisture content below 15% is used. Sites are well drained and free of termite infestation. Timber columns and base plates are separated from foundations by means of a damp proof course.

The earth walls provide lateral support for the timber columns. The timber columns are connected to the earth walls with 400x30x1,2 galvanised mild steel ties, 300mm deep at 500mm centres. Movement joints are not necessary as the earth contracts on drying leaving a small gap that will accommodate any expansion of the timber.



5_25



5_26



5_27



5_28



5_29

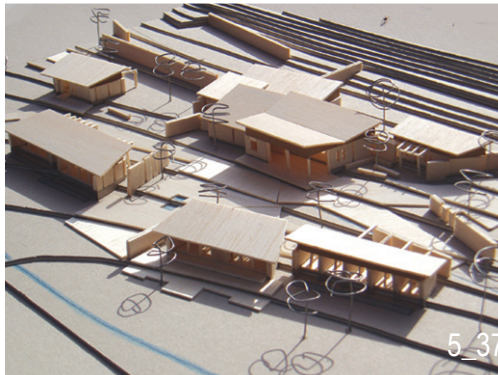
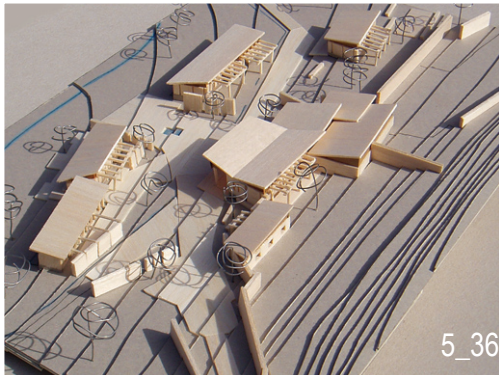


5_30

Foundations, walls and footings for the timber columns are shared with the rammed earth walls. The base plate between the foundation wall and the timber column provides a level surface, and a convenient fixing member for anchoring the column to the floor. This base is a 75mm thick, pressure treated softwood member. The base plate is fixed on a plastic damp course to the foundation wall by means of 8mm bolts. Timber columns are anchored to the base plate and foundation walls with galvanised steel angles and the bolts cast into the foundation walls.

Outdoor timber structures, walkways, decks, screens and fences are exposed to water, sun and soil. Proper preservation and surface treatment is necessary on these timber elements. The following precautions will prolong the life of an outdoor structure: prevent wood from being constantly in contact with wet soil; promote the shedding of water, by sloping and drainage; limit hard contact between parts where water can be caught; protect end grain with metal caps or nail plates; treat cuts and grill hole with preservative before assembly; joints must accommodate larger movement than is required indoors; improve stability of wood with water-repellent penetrating oil-preservative dressing; treat surfaces before assembly; metal shoes, plates, screws, bolts and other fixings should be of galvanised steel.





5.7 Technical Drawings

5.7.1 Main Drawings

1. Master plan 1:2500
2. Healing Centre plan 1:1000
3. Spa and Herbal Centre plan 1:1000
4. Section c & d1 1:250 (Healing Centre)
5. Section e & g 1:250 (Healing Centre)
6. Section k1 & k2 1:250 (Spa)
7. Section n & o 1:250 (Herbal Centre)
8. Detailed plan 1:250 (Healing Centre)
9. Section detail c 1:100 (Healing Centre)
10. Section detail d1 1:100 (Healing Centre)
11. Section detail d2 1:100 (Healing Centre)
12. Section detail e 1:100 (Healing Centre)
13. Section detail k1 1:100 (Spa)
14. Section detail o 1:100 (Herbal Centre)
15. Elevation 1:200 (Healing Centre)
16. Elevation 1:200 (Spa and Herbal Centre)

5.7.2 Supplementary Drawings

5.7.2 Supplementary Drawings

17. Section a & b 1:250 (Healing Centre)
18. Section f & m 1:250 (Healing Centre and Herbal Centre)
19. Section h & i 1:250 (Accommodation units)
20. Section p 1:250 (Herbal Centre)
21. Section j 1:250 (Spa)
22. Section l 1:250 (Spa)
23. Roof plan 1:500 (Healing Centre)
24. Detail (Timber column construction)
25. Detail (Service ducts)
26. Detail (Foundation)
27. Detail (Roof construction)
28. Detail (Roof edge and gutter)
29. Detail (Roof insulation)
30. Detail (Window and Door)
31. Detail (Timber trellis)

Introduction

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02 Context

03 Precedents

04 Baseline Indicators

05 Technical Investigation and Drawings

06 appendix

06 Appendix

A. Environmental Preference Questionnaire and Report

B. Traditional Healing

C. Trauma and Abuse

D. Alternative Healing

E. Accommodation Schedule

F. Colour and Light

G. Feasibility Report

H. Interviews

References



A. Environmental Preference Questionnaire and Report

An environmental preference questionnaire was set up by the author to gain more understanding of the preference of the user groups for the proposed centre. (The questionnaire is attached at the end of the document. The numbers in brackets indicate the picture number that illustrates the preference.)

Part A

Part A was answered by three groups of women; those form a low income group, a medium to high income group, and students. (Assumptions based on their responses are made by the author in this report).

Work Environment

The women from low economic backgrounds chose the city environment as the place they would most like to work, this may be due to the belief that there are better work opportunities here (2). The women from a higher income bracket chose a low rise urban area, with some natural elements such as trees, and water (1). The students chose an urban environment, but with a high degree of nature present (15). Urban environments are seen as places of good work opportunity by all the groups.

Living Environment

The women from low economic means preferred residential neighbourhoods, and low rise apartment type accommodation both in urban areas (4, 15). The higher income bracket chose a more rural environment, with unobtrusive buildings, trees and a strong natural presence (12). The students chose an environment with undisturbed nature, water features and clean building lines (7). The difference in preference is most likely due to the fact that residential suburbs have good services, and the low income bracket may not have this where they currently reside. The older women preferred more rural environments to the students, as they have probably experienced the city, and now prefer a quieter life.



Relaxation/recreational purposes

Nature features strongly in the choice of the low income women. Water, trees and the aesthetics of the building are important (8, 12). The higher income ladies chose completely undisturbed nature, with water and mountain scenery (11). The students chose a rural setting with a village type atmosphere (17). The low income group's response identified environments similar to those of rural settlements; the younger women's preference was for an environment with human stimuli in it, and the older women to completely natural settings.

Most appealing

Very natural environments, with buildings of natural materials such as stone and thatch were chosen by the low income group. Human interference has a minimal effect on the environment (8, 11). The higher income group chose an environment that was dominated by trees, with unimposing architecture (12). The students again chose the rural, village type environment (17). All of these choices are similar in that they are not urban environments, and have a high degree of natural and undisturbed content.

Healing environment (for yourself)

The women from the low income were divided, half chose a city environment (2), the other half chose a rural environment (12). The choice of an urban environment may be due to the belief that better medical care would be obtained here. The others wanted to be able to heal in a quiet place, with calming, natural surrounds. The higher income bracket chose the rural environment, with a strong natural presence (12). The students chose the rural, village type setting again (17). The choice of rural environments indicates that they believe this environment is more conducive to healing.

Healing Environment (daughter/mother/sister)

This varied greatly between the women of the low income group. They were divided between rural settings with a strong nature presence, and a more urban setting (12, 13). The response was not the same as the previous question, good treatment for the family member was the primary concern. The higher income bracket chose the rural environment, with a strong natural presence (12). This is the same as the answer for where they would want to be to heal. The students chose a rural environment, with high natural presence, and an environment where only nature was present (11, 12). The students chose a more natural and undisturbed environment for their family member.



6_08



6_11



6_17

Quiet time alone

Half of the low income group use a natural setting such as the park, or a nearby stream to spend quiet time alone, others mentioned their bedroom. This is private space. One woman said that she goes window shopping. Here there is anonymity and human contact. The higher income group said that they prefer to spend quiet time in completely natural surrounds, outdoors in the fresh air, surrounded by trees, birds and water. The students indicated that they like places in nature that are quiet with a good view. Other places mentioned were the bathroom, or a coffee shop.

Psychologist

All the groups indicated that they would visit a psychologist if they were a victim of trauma or abuse. One woman indicated that she might speak to her minister before she spoke to a psychologist.

General Environmental Preference

The low income group indicated a strong dislike for urban environments that are noisy, dirty, with few natural elements (10, 16, 18). They indicated a strong preference for rural environments (8, 12). Completely rural and unspoilt areas were not preferred. The group was indifferent about residential areas and urban areas (5, 14).

The higher income women had a strong preference for completely natural, undisturbed areas, with no human intervention (3, 11). As with the above group they do not like urban environments that are noisy, busy and devoid of natural elements (9, 16). They too were indifferent to urban areas (5, 14). The two older groups had very similar results in terms of preference rating of the environment.

The student's response is very similar to that of the above groups. They had a slightly stronger preference for environments that were urban, but disliked crowded and noisy areas (15). This is probably due to the fact that the students perceive an urban environment as stimulating and full of opportunities.



Holidays (in a different environment)

All of the low income women replied positively to holidays. The experience of learning about new cultures, their language and seeing new things was a strong reason for holidays being beneficial. Other reasons included the need to remove yourself from everyday situations, relax and 'help you breath'.

The higher income group indicated that holidays were good, as they refresh and remove one from everyday activities and stress. They indicated it was good to experience new things and be in different environments.

The students response rated stress relief and relaxation as reasons for holidays. One student mentioned that by removing yourself from everyday reality, your perspective on it is restored. They also said that it is exciting and good to see new things.

Psychological health and the Environment

The low income bracket indicated that they were affected by the environment, and do feel differently.

The second adult group were of the opinion that an environment does influence a person psychologically. Many of them stated that an environment can be conducive to healing and health. Apart from the obvious such as pollution and dirt affecting health, they stated that a person's mood and attitude to an environment affected healing. In order to aid healing you need to be positive.

The student's response was similar to the above. One stated that the environment influences our emotions, reactions and perspective, but not all problems will be solved simply by the environment they are in. They also said that some environments are more conducive to good healing than others.



part B

This section was only answered by black women with low economic income.

Have you ever consulted a traditional healer?

Most answered yes, the two who answered no, said that they did not like traditional healers.

Would you tell if you were abused?

All of the women, apart from one, said that they would tell someone if they were abused. They said that they would be most likely to tell a family member, doctor or minister about it. One woman said she would attend workshops for those that had been abused.

All the women said that they would visit a psychologist if they had been abused. Only two of the six women questioned would visit a traditional healer if they had emotional and mental problems. All of the women apart from one would be willing to join a 'group therapy' session for women who had experienced similar trauma or abuse.

Half of the women said that they liked the hospital and clinic where they went, as it was clean and are helped. The other half said that they did not like them, as they are complicated places to go to, that are not easy to understand and confusing in their layout of facilities. They also mentioned that the service was poor and the staff were unfriendly and unhelpful.

Conclusion

There is consensus between the groups that urban environments are the best for work opportunity. There is a much higher preference among the higher income women to environments that are undisturbed, natural with little human intervention for living and recreational purposes. The students preferred an area with slightly more human intervention than the previously mentioned group. The low income group had a preference for urban residential neighbourhoods as living environments. This is most likely due to their current living conditions not being up to this standard, and the living environments of the other groups are. This links to Maslows (1970) hierarchy of needs, where the low incomes needs are still at a basic level of survival and safety. The other groups are at self-fulfilment.

In terms of healing the general choice of environments was rural, quiet, with a high degree of nature present. Some of the low income group was concerned with quality of care, and believed that this would be better in an urban setting. This again reiterates the basic needs for survival that may be lacking in this group. Being well, and getting the correct care is more important to them than what environment they are in. However, all of the groups think that your emotion and mental state are affected by environment.

All of the women said that they would seek help if they were a victim of abuse or trauma. The use of traditional healers by black women is limited though. They would not go to them if they had been abused or through a traumatic experience, but would rather see a psychologist. This may be due to the perception that a psychologist is better trained to deal with such a matter, and that they have the necessary contacts to inform the relevant authorities.

questionnaire

Environmental Preference Questionnaire

Part A

1. In which of the following environments would you most like to work? (number)
2. In which of the following environments would you most like to live? (number)
3. Which environment would you like to be in for relaxation/recreational purposes? (number)
4. Out of the images presented, which environment appeals to you the most? (number)
5. If you were sick/ needed to heal which environment would you like to be in? (number)
6. If daughter/mother/sister was sick and needed to get better, which environment would you choose for her? (number)
7. What is your ideal environment for spending quiet time alone? (if there is a place that you currently go, describe it in a few words)
8. Rate the environments on a scale of 1 – 5. (1 – most appealing, 5 – least appealing)
9. If you were a victim of trauma or abuse would you visit a psychologist? (Y/N)
10. Do you think that holidays, in a different environment from your everyday life are good? (Y/N) Why? (short answer)
11. Do you believe that healing and psychological health can be affected by the environment? (Y/N) Why? (short answer)

Part B

12. Have you ever been to a traditional healer? (Y/N)
13. If you were abused or mistreated would you tell anyone about it? (Y/N) If yes who would you tell?
14. Would you visit a psychologist if there was something troubling your mind? (Y/N)
15. Would you visit a traditional healer if there was something troubling your mind? (Y/N)
16. Would you discuss your problem with a group of friends, or people who had experienced the same? (Y/N)
17. Do you like the environment of the clinic/ hospital that you visit? (Y/N) Why?

Pictures

Here follow the pictures that were given with the questionnaire, numbered as they originally were.



picture 1

6_01



picture 2

6_02



picture 3

6_03



picture 4

6_04



picture 5

6_05



picture 6

6_06



picture 7

6_07



picture 8

6_08



picture 9

6_09



picture 10

6_10



picture 11

6_11



picture 12

6_12



picture 13

6_13



picture 14

6_14



picture 15

6_15



picture 16

6_16



picture 17

6_17



picture 18

6_18

B. Traditional Healing

In attempting to understand and analyze health and illness in any society, individual's behaviours, interactions and social structures must be placed within a cultural context (Loustaunau 1997:10). Culture affects our perceptions and experiences of health and illness in many ways, and these perceptions and experiences change as culture changes (Loustaunau 1997:17).

Traditional Healers

Traditional healers have been practising in Africa for about 4500 years, before there had been any knowledge of the Western medicinal system (Adler 1995:45). Before the European colonisation of South Africa, traditional medicine exerted great political influence in public and private affairs. Under missionary influence, as well as imperialistic political trends, traditional medicinal practises were prohibited (Adler 1995:45).

True respect for the important work of the traditional healer has waned in modern times, partly due to the misconceptions about their practise (Schuster Campbell 1998:1). *"We are not practising witchcraft or promoting evil or harm,"* says Dlamini, professional nurse and sangoma, *"Traditional healers use only natural substances. We have a deep knowledge of the medicinal properties of our indigenous plants"*.

African traditional healers diagnose illness, prescribe and prepare herbal medicines, provide counselling and offer spiritual support (Schuster Campbell 1998: 7). Traditional African medicine and treatments address healing of both the body and the spirit and can be a catalyst for subtle yet profound changes. The treatment used by the traditional healers, and diviners varies greatly and depends on the healers own knowledge and skills as well as the patients own illness (Hammond-Tooke 123:1989). Satisfactory healing involves not merely the recovery from bodily symptoms, but the social and psychological reintegration of the patient into his community (Adler 1995:44).

Training

The training period for traditional healers can last from one to ten years, during which time the students may not see their family, must abstain from sexual contact and often live under harsh conditions (Schuster Campbell 1998:48). All this is part of the cleansing process to prepare the healer for their life.

Graduation is not a ceremony to acknowledge completion of study, as it is in western study, but it is in fact the most difficult test endured during the healers training (Schuster Campbell 1998:66). The graduation ceremony is the most exotic and primitive experience the healers go through, and therefore the most colourful to westerners.



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Healers

There are two kinds of healers in southern Africa. The first type is 'called' to the profession (Schuster Campbell 1998:79). This person receives a powerful spiritual calling from the ancestors, *thawsa*, that is not easy to resist, and can have physical complications if they do resist. This group has the strictest code of conduct. They are also called a *sangoma* or *inyanga*. These are the most spiritual of the healers, with the highest ethic. All members of this group believe in God, and that the ancestors act as a go-between, between God and the healer. This is a deep calling that can only be given up in death.

The second category chooses to train and study due to their interest, and are often called herbalists (Schuster Campbell 1998:80). There is no code of conduct, or 'contract' between themselves and a higher power to heal and never harm. They are students that merely learn about the herbs and treatments, and apply this knowledge. They have no psychic ability and never cross over into the *sangoma* group. The herbalist's knowledge is based on years of experience assisting a *sangoma* or an experienced herbalist (Schuster Campbell 1998:1). Herbalists are important contributors to the primary healthcare system.

The witchdoctors are at the opposite end of the spectrum (Schuster Campbell 1998:1). These purveyors of mutis and charms, cause endless harm. They frequently operate at night and focus on retribution. The witchdoctors believe there is an external source, usually another person, responsible for the patients illness. In contrast the healers believe that each person is responsible for their own healing, and harming another person will never help cure a patient.

Treatment Aids

The purity of herbs that Traditional healers use is crucial (Schuster Campbell 1998:5). Great pains are taken to collect and purchase herbs, plants and barks from areas not contaminated by pesticides. Herbal medicines can be taken in a variety of ways. The powder can be boiled and taken as a tea, inhaled during a steaming process, or rubbed lightly into a shallow cut also called the traditional injection. Tools and objects for the preparation of herbs are purely functional, with no inherent magical powers.

Medicinal plants are used widely by indigenous South African healers and are also used by the public for self care. In addition to being used for conditions recognised by modern medicine, the herbal treatments are used for magical, ritual and symbolic purposes and for treating 'traditional ailments. The plants are usually used in raw form and are harvested in the wild.

South Africa has a remarkable biodiversity with approximately 3000 species of plants that are used as medicines. About 350 species are the most commonly used and traded throughout the country. Although there are no accurate figures available, unregulated trade in rude medicinal roots, barks, bulbs and leaves is estimated to be worth R1 billion annually (Schuster Campbell 1998:77). The annual turn over for the top 35 crude herbal medicines in Gauteng Province alone is estimated to be R21 million.

The healers describe the 'ancestors' as spirits, much like guardian angels. The ancestors make contact through a healers consultation or through personal dreams (Schuster Campbell 1998:38). The ancestors use the healer as an instrument to do their work. In the old days people honoured and contacted their ancestors easily. Their close contact with the ancestors healed physical ailments and personal relationships. They were guided and well protected. Today there is a loss of respect and understanding of the traditional ways in this regard (Schuster Campbell 1998:39).

The throwing of the bones is a very powerful diagnostic tool. The ancestors aid in the interpretation of the bones, it is not a skill that can be learnt (Schuster Campbell 1998:56). Bones refer to actual bones, often those of a goat eaten in the healers' graduation or initiation ceremony signalling the completion of training. Bones may also include dominoes, coins, a symbol of a foot or an actual foot (of a rooster or monkey), sea shells and small smooth stones.

6_01 Traditional healing vs. Western psychotherapy

Traditional healing	Western psychotherapy
Focus is on the individual client and their whole family.	Focus is usually on the individual client, although family therapy is often used.
Main tool is divining bones. Also makes use of rituals like music and dance.	Main tools are the psychotherapeutic interview, assessment and specific therapeutic counselling strategies.
Exploration of the client's standing with their ancestors and neighbours, as it is believed human machinations of witches and sorcerers can cause problems.	Promotion of insight, exploration feelings and the use of specific intervention and techniques.
Usually treats patient in community where he/she lives.	Usually treats patient in consulting rooms outside the community.
Makes use of systemic thinking.	Utilises the eclectic approach.
Unlicensed but governed by high moral code. Many charlatans exist.	Licensed and bound by ethical code. Very few charlatans are found.
Main inclinations: sort things out between patients and ancestors.	Main message: develop inner resources and strategies to deal effectively with external factors and intrapsychic conflict.

(Adapted from Bodibe, 1992 in Adler 1995:53)

today

Healing Today

“There is a traditional belief system that is bound up in healing that the southern African cannot and maybe should not, get away from” (Lemmer in Schuster Campbell 1998:162). “Healing is a strong part of the tradition and historic fabric. There are many people who are anti traditional healers but they have been here for much longer than modern medicine has. In general practise many of the patients that come to see the doctor do not need medicine. They need to talk. They might have something physically wrong with them but much of the problem is psychological. This is just one area where the traditional healer plays a very important role”.

One of the many changes that came with the dismantling of apartheid in South Africa was the creation of a health system that would be applicable to the needs of all the people of the country (Adler 1995: 41). With a white minority government in control, the health system had also been ‘white’, that is, based on the Western approach to medicine. This automatically meant that the traditional African approach to healing, favoured by many 85% black population, was not officially and legally recognised, but disparaged by the white establishment.

It has often been stated that traditional healers are accessible because compared with modern medical practitioners, they have the advantage of cultural, social, psychological and geographic proximity (Adler 1995:47). The traditional healers form a crucial link between the community and the western medical professionals (Schuster Campbell 1998:4). Senior, credible traditional healers are well established, well-respected, accepted and trusted by the community. They are a precious resource for the dissemination of basic health care, especially in rural areas where access to information is limited.

duality

Duality in Healing

Although it is customary to distinguish between physical and mental health, this distinction is artificial in nature; it does not describe what happens to many patients who simultaneously suffer from physical and psychic distress (Gielen in Adler 1995: xvii). In contrast to the modern division between body and mind, traditional notions of healing have always perceived the patient as inhabiting a unitary world of visible and invisible forces. The traditional healer must simultaneously cure body and soul; otherwise society will perceive him as a failure (Gielen in Adler 1995: xvii). Healing does not merely consist of the recovery of physical strength and health but must also result in the integration of the patient into his/her social group.

As medical science developed and advanced, so the dualistic approach of mind-body interaction grew, and dominated medical thinking up until the twentieth century (Adler 1995:7). The earliest attempt to take psychological causation into account in the disease process was the development of the concept of psychosomatic illness (Adler 1995:7). It stressed the role of the unconscious motivation, and reintroduced the human factor into the etiology of the disease process.

The relationship between mental and physical health is well documented (Adler 1995:197). In some cases, emotional disorders are misdiagnosed as physical illness. There is evidence that individuals with mental illness may be more susceptible to physical disorders. Many patients present with both physical and psychiatric problems, and physicians must be prepared to treat and diagnose both. Yet, in literature, health and mental health are more frequently treated as separate entities. This is beginning to diminish with the trend towards interdisciplinary treatment teams and holistic treatment strategies.

C. Trauma and Abuse

Victimology

The British Crime Survey identified that the risk of victimisation is often related to geographical areas (Davies 2004:12). These areas have common characteristics: they are in the main, low status, urban areas of low quality housing with above average concentrations of children, teenagers and young adults and with a preponderance of single adult households. On the basis of this, some neighbourhoods themselves can be seen as victims of crime (Davies 2004:18).

Many communities are affected by ongoing cycles of violence. This includes revenge attacks and other forms of aggression taken out on others, such as domestic violence, sexual violence and violent crime (Meintjies p.13). Vulnerability to crime and fear of crime are exacerbated by social, economic and political exclusion.

Academic studies have identified that children and teenagers who suffer a high incidence of crime, are disproportionately likely to be victims, and that fear of crime has a damaging effect on their lives (Davies 2004:16).

Older people have different risks of victimisation compared to younger people (Davies 2004:65). The first is harassment in public space, this may include name-calling, nuisance and vandalism as well as mugging of older people for their pensions. The second is elder abuse in private space, defined as the physical, sexual, psychological and financial abuse of older people taking place in domestic or institutional context.

The impact of trauma extends beyond the individual who was directly involved in the event. It often affects the family, friends, neighbourhood, community and even society at large. Family and friends are likely to have some sort of traumatic stress response, including feelings of horror, fear and feeling helpless to assist the person involved in the trauma (Meintjies p.13).

The 'social disorganisation model' argues that anti-social and offending behaviours are normalised in certain areas. The 'normalisation' of offending behaviour is seen to be more likely to occur where people have weak social ties to sources of conformity such as school, job opportunities and community with stronger ties to sources of non-conforming behaviour such as gang cultures, unemployment and criminal opportunities (Davies 2004:84).



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Trauma Intervention

The following is information out of various Sinani, (The Kwazulu-Natal Programme for the Survivors of Violence) pamphlets and Manuals:

A traumatic experience usually involves:

- Danger or threat to one's life
- Feelings of intense fear, helplessness or horror.

A normal post traumatic response usually involves the following:

- Nightmares
- Concentration difficulties
- Headaches and bodily pains
- Irritability
- Anger
- Guilt
- Spiritual questioning
- Avoiding things associated with the trauma
- Flashbacks, and constantly thinking of the event

Trauma intervention can help the person cope with the event, and feel less lonely and isolated afterwards. The aim is to integrate the memory, so that it can be thought about without fear and helplessness. Although there are different aspects of trauma intervention, they have the same aims:

1. to allow expression of the traumatic experience and related feelings
2. to do this in a manageable way, within a safe relationship with someone who is in control of the process

The Sinani Workbook describes the cycle of violence by emphasising that exposure to violence leads to extreme fear, hurt and anger. If the person is not well supported after the violence, one of three things may happen:

1. The anger may be displaced onto others, in the form of domestic violence, sexual violence or crime.
2. The anger may grow inside the person, and turn onto hatred and the desire for revenge. This is common where a person's dignity has been damaged, and where close family have been attacked or killed. The cycle of violence then continues.
3. Some survivors of violence blame themselves for the violence. These people unconsciously put themselves at risk of further violence (Meintjies p.15).

If a person's fear, anger and hurt are expressed and contained in a safe relationship, then peace is more likely (Meintjies p.16). Trauma counselling tries to empower the victim, so that they can once more be in control of their lives.

Children are just as affected by trauma as adults (Meintjies p.42). If a child has been exposed to a traumatic event, care should be taken to support the child in dealing with, and understanding the event. Children take a lot longer than adults to develop trust after a traumatic event, and may express themselves better through playing games, pictures and other means.

Adults are affected by different forms of violence, such as physical, sexual, emotional and economic abuse (Meintjies p.73). Usually these people have never had the opportunity to deal with past traumatic experiences. Therefore they often struggle in handling their daily lives. Many have not been exposed to any formal education. As a result they do not realise their strengths or capabilities. These adults still want to be seen by their children as good parents who are able to provide for them.

Many people in South Africa, from all different economic and cultural backgrounds, suffer repeated physical, emotional and/or sexual abuse from their partners. This is an example of complex trauma which is difficult to deal with because of the personal relationship between the perpetrator and the victim (Meintjies p.50).

Group work with survivors of trauma can be one of the most effective forms of support. The following are reasons why it is so effective:

1. people feel safer working in a group
2. for many cultures, it is more appropriate to process something like trauma with other people
3. hearing other peoples stories can offer a sense of relief
4. survivors feel less alone when they know that others have been through difficulties
5. people in the group are able to support one another
6. having your story heard and accepted by several people similar to yourself can be a powerful healing process (Meintjies p.73)

The following are some of the Trauma Interventions offered by Sinani (The KwaZulu Natal Programme for Survivors of Violence)

African Dream Circus

The circus helps young Africans to realise their dreams. Participants enrich themselves with new skills and cope with the past; through this they develop emotionally, physically and psychologically, regain self-esteem and trust among themselves. The circus also gives them a means of making a living.

The performers work with youth and children and show them that there is hope. The circus performs for communities who are survivors to bring back smiles, and repair their souls. This programme uses victims to reach other victims.

Emotional healing arts

Young people from previously disadvantaged communities, who have suffered from various social problems share the objective of working towards peace and reconciliation. Stories are collected and crafted into performances as a means of expression. These stories are intended to heal affected communities. The group performs psychodramas, traditional dancing and different types of music, all of which reflect and express their local way of life, in order to heal the hearts of the KwaZulu Natal people.

The adult programme

This programme works with adults affected by different forms of violence, such as physical, sexual, emotional and economic abuse. Usually these people have never had the opportunity to deal with past traumatic experiences, therefore they often struggle in handling their daily lives.

Victim-empowerment training such as life skills, decision making, problem solving and self determination are conducted. This includes weekly adult groups, stress and trauma workshops, wilderness trails.

south african police

South African Police Service (SAPS)

The SAPS has a commitment to women, and has a complete section on women and children on their website, called Conversation with Women in which they aim to break the silence.

On their web page they state the following:

If you have been the victim of crime we will:

- treat you with respect and dignity;
- take whatever steps necessary to investigate your case;
- give you regular feedback on your case;
- inform you of available victim support services in your area;
- inform you of the procedure that must be followed in your case; and
- treat any information you give us as confidential

“The empowerment of women enhances service delivery at all levels as women and men carry the workload together. Let us stand together and build a people’s contract for a safe and secure South Africa.”

On their website as part of their crime prevention method, there are precautions to take to avoid being assaulted, or raped, and what to do if this has taken place. It also lists the normal procedures that take place once the crime has been reported. There is also a section on domestic violence which includes definitions, information on assistance and protection orders as well as the normal procedures for intervention.

The following are trauma based websites

www.healingofmemories.co.za Healing of Memories, for Political Violence

www.itn.org.za Inter trauma nexus

www.survivors.org.za KwaZulu Natal Programme for the Survivors of Violence, SINANI

www.powa.co.za People Opposing Woman Abuse

www.saps.gov.za South African Police Service

www.santsep.co.za Themba Lesizwe

www.trauma.org.za Trauma Network

D. Alternative Healing

“A system of healthcare which is capable of keeping people healthy in both mind and body, must put its emphasis on health, not sickness... it must be able to encourage people in daily practises that lead to health. The core of the solution, as far as we can see, must be a system of small, widely distributed, health centres which encourage physical activities... swimming, dance, sports and fresh air.” (Alexander 1977:252)

Hydrotherapy

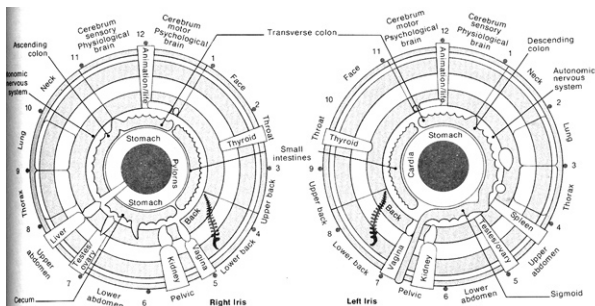
In hydrotherapy the waters can be taken in many different ways, internally or externally (Inglis 1983: 22). The same water may be recommended for both purposes, either because it is known to be pure or because it is full of health-giving impurities, such as sodium, calcium and zinc. Water can be used as a stimulant or as a relaxant, as a medium in which to exercises or in one to rest. Applications in which you may encounter water include alternate hot and cold foot baths; body pack, in which a wet sheet is wrapped around the body to lower the surface temperature; compresses for sprains and swelling; steam inhalation; and salt baths.

Herbal Therapies

As it is most widely practised, herbal medicine involves the preparation of roots, leaves, stems and seeds of plants, either for consumption, in the form of medicine, or for use on the skin. In aromatherapy they are rubbed into the skin, usually through massage (Inglis 1983:45).

Aromatherapy is an ancient practice involving the use of essential oils to promote healing through the stimulation of olfactory nerves and the subsequent mental, circulatory, and respiratory responses to the scents (Body Therapy Manual 2003:59). The essential oils used in aromatherapy treatments are typically derived from organically grown plants, plant roots, flowers, and seeds. Aromatherapy may be incorporated into a number of treatments, such as facials, massages, or water therapies (baths and footbaths), and less commonly ingested (Inglis 1983: 58).

Homeopathy treats like with like, by using small doses of the bacteria, virus or substance which causes the problem (Body Therapy Manual 2003:60). The treatment builds up the patient's resistance and immunity to the problem, substance or bacteria.



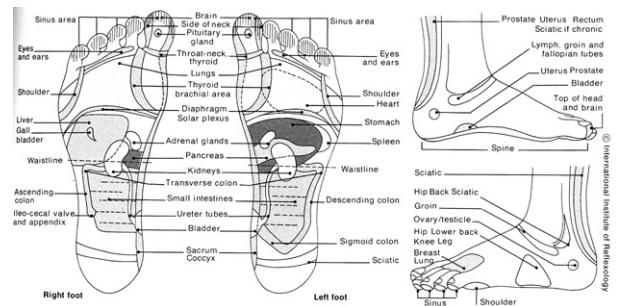
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Physical Therapies

Massage is defined as the manipulation of the soft tissue of the body, performed by the hands, for the purpose of producing effects on the vascular, muscular and nervous systems of the body (Body Therapy Manual 2003). Massage is a powerful treatment as it works on both physical and psychological levels and because it has the ability to relax and invigorate. It provides a safe and neutral situation in which to receive caring touch and stimulation to the senses, important for physical and emotional health and self esteem. A well-recognised benefit of massage is reduction of the symptoms arising from stress (Inglis 1983:95). Soft flowing movements calm and soothe the nervous system, stimulate nerve endings in the skin and warm and loosen superficial tissues. Deep movements remove tension from the muscles and increase suppleness and mobility. Massage has been used throughout the centuries by various civilisations for its therapeutic and healing benefits. Massage may be performed with oil, cream or talc. In classical massage these are merely mediums to allow slip on the skin and have little or no therapeutic value.

Reflexology is a type of treatment in which pressure is applied to specific small areas of the skin, mainly hands and feet (Reflexology Manual 2003:1). It is a non-invasive, natural therapy that induces deep relaxation, alleviates tension, mild anxiety and depression from everyday life. A further effect is that it triggers the body's own inner healing process. It therefore naturally relieves many medical conditions over a period of time, to achieve positive and lasting health benefits (Reflexology Manual 2003:1). The combination of treatment and relaxation creates a powerful tool, and if used together with skills in counselling and nutritional advice, it provides a holistic health programme.

Other therapies

The eastern therapies that originally came from China and India, deal mostly with the balance of energy or '*chi*'. Acupressure and acupuncture promote health by stimulating *chi*, using pressure and needles respectively, along the meridians associated with the functions of the organs. These essentially are used for pain relief (Inglis 1983:120-133). Yoga and T'ai Chi are beneficial exercises for posture, breathing and meditation (Inglis 1983:145-150). Meditation has been practiced in India for many centuries. The aim is to bring the mind under control and focus it in such a way that it dissipates the thoughts that cause stress and suffering. As the mind relaxes, the body calms down and the homeostatic mechanism is given a chance to recover its authority (Inglis 1983:182).

The Chakras is an Ayurvedic term that refers to channels for the flow of energy and light in the body (Reflexology Manual 2003:66). By Ayurvedic principles, there are seven chakras in the body running from the base of the skull to the bottom of the spine. Chakras are transformers of light and release energy into the aura to invigorate the mind, emotions and organs of our physical bodies. When all seven chakras are balanced, physical, mental, and spiritual aspects are in harmony. Crystal stones and colour therapy, along with yoga and meditation are all thought to balance chakras. The Chakras closely correspond to the key energy points of the Chinese acupuncture.

Many alternative therapies are being developed today such as art therapy, dance therapy, music therapy and colour therapy. These are particularly beneficial for psychological and emotional problems, as they help with the expression of pent-up emotions and the release of tension (Inglis 1983:150,193).

Therapeutic touch and Hand healing are common therapies (Inglis 1983:223). These are similar to the Christian technique of the laying on of hands.

Two more diagnostic therapies are Kirlian photography and Iridology. In Kirlian photography the colours of the aura are exposed, and used for diagnosis. With Iridology, the emotional and physical state of the body is assessed, due to the condition of the iris.

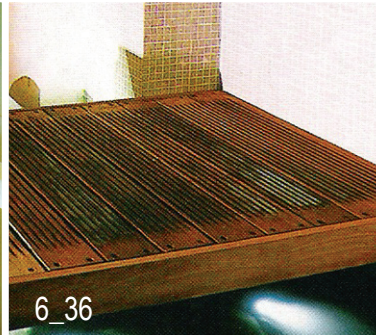
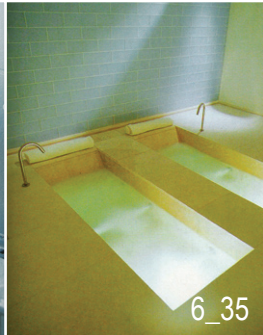
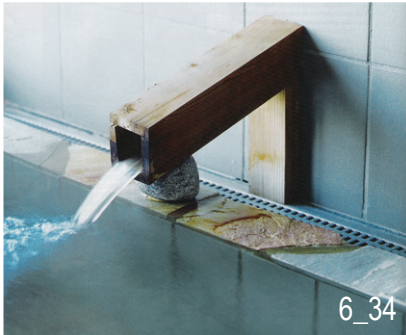
Wellness

Good health is often defined as the absence of disease, but in reality it includes physical fitness, emotional and spiritual health as well (Powers 1996: 9). A healthy lifestyle refers to behaviours aimed at reducing one's risk of disease and accidents, achieving optimal physical health, as well as maximising emotional, social, intellectual and spiritual health (Powers 1996:10).

Emotional health includes our social skills and interpersonal relationships. The cornerstone of emotional health is emotional stability, the objective being to maintain stability somewhere between an extreme high and extreme low. Intellectual health can be maintained by keeping your mind active through life long learning.

Spiritual health is often called the glue that holds an individual together (Powers 1996:10). Optimal spiritual health is often described as the development of spiritual makeup to its fullest potential. This includes the ability to understand the basic purpose of life and to experience love, joy, pain, peace and sorrow and to care for and respect all living things. Social health is defined as the development and maintenance of meaningful interpersonal relationships (Powers 1996:10). Good social health results in feelings of confidence in social interactions and provides you with a feeling of emotional security.

None of the components of wellness work in isolation; there must be a strong interaction among the five.



hydrotherapy

6_02 Hydrotherapy treatments

therapy	description	requirements	spa	healing centre
Hydrotherapy	Aids in the treatment of many conditions from arthritis to physical rehabilitation and stress			
Steam bath/ cabinet	Steam treatments applied to the body promote relaxation, have a deep cleansing effect and make the tissues more responsive to other treatments (Therapy Manual 2003:31).	Facility may be a cabinet in which one person sits or a room shared by many.	Y	N
Exercise pool	This is mostly used for swimming and water aerobics (Body Therapy Manual 2003:31).			N
Impulse shower/ Swedish massage	Powerful jets that alternate hot and cold water, directed onto the body at various levels, produce the effect of an invigorating massage (Body Therapy Manual 2003:31).	The shower cubicle is fitted with a normal shower head for hot water and spray bars for cold water. The unit is electro magnetically controlled to alternate hot and cold sprays.	Y	N
Sauna	The traditional Finnish sauna is a birch log cabin. The occupant then swelters in the heat created by a sauna stove.	Temperature should be 38°C or higher. Saunas help with aches and pains, respiratory troubles and indigestion. It is not recommended for people with heart troubles (Inglis 1983:26).	Y	N
Vichy shower	Shower taken lying on a special 'wet' water mattress with various jets coming from above (Body Therapy Manual 2003:31).		N	N
Spa bath/jet bath	High powered water jets, hot and cold, are aimed at specific areas that require attention according to a treatment regime (Body Therapy Manual 2003:31).	Spa bath.	Y	N
Scots house	Massage received in the standing position and performed by a therapist who uses a hose to spray strong jets of water onto the body, alternating hot and cold water, or using seawater (Body Therapy Manual 2003:31).	This treatment is used to decongest inflamed muscles and to stimulate circulation.	Y	N
Plunge pool	Either hot or cold used to enhance other treatments.(Ontario spas glossary).	Cold water rapidly contract capillaries, developed to stimulate circulation after a sauna. Hot water helps to rapidly expand capillaries.	Y	Y

6_03 Beauty therapy treatments

Beauty therapy	description	requirements	spa	healing centre
Facials	Provide cleansing, facial massage and various masks to soothe, hydrate, balance the skin, and prevent aging. Different types available (Aesthetics Training Manual 2003:14).	Cubicle with basin, facial chair and trolley for storing products and equipment. Needs power points.	Y	Y
Manicure/ pedicure	Cosmetic treatment of hands and feet (Aesthetics Training Manual).	Client needs to be seated at manicure table, or at foot bath.	Y	Y
Waxing treatments	The term used for a depilatory treatment whereby unwanted hair is removed from the skin by its roots, by applying hot wax and peeling it off with the hairs (Aesthetics Training Manual 2003:80).	Cubicle with basin, massage bed and trolley for storing products and equipment .	Y	N
Bronzing	Artificial tan.	Cubicle with basin, massage bed and trolley for storing products and equipment .	Y	N
Eyebrow/lash shaping and tinting	Aesthetic improvement of eyelashes and eyebrows (Aesthetics Training Manual).	Cubicle with basin, massage bed and trolley for storing products and equipment .	Y	N
Body treatments	Body-wraps, body-masks and deep cleansing treatments. Linen sheets soaked in herbs are placed/wrapped around patient (Ontario spas glossary) .	Cubicle containing massage bed and trolley for storing products and shower area. Used to stimulate circulation, detoxify, and relax.	Y	N
Slimming treatments	The treatment of problem fat areas and muscle deterioration by the use of specialised products and different electrical equipment. Muscle toning therapy – faradic and interferential therapy (muscle contraction treatments, resembling natural exercise). Cellulite treatments – galvanic therapy and product usage. Weight deposit removal – vacuum suction(stimulates adipose tissue removal) and G5 (mechanical message, stimulates circulatory and lymphatic system) (Body Therapy Manual 2003:31).	Cubicle with basin, massage bed and product storage area. Must also contain weighing scale and other equipment. Activates sweat glands, helps with waste removal. Activates blood and lymphatic circulation. Relaxes tissues and decreases tension.	Y	N

Manicure and Pedicure

Normal procedure for pedicure:

- Feet wiped with disinfectant
- Nail varnish removal, inspection and treatment plan
- Nails cut and filed
- Cuticle cream applied (repeat on other foot, left first then right)
- Immerse both feet in warm water
- Remove feet, dry and push cuticles back, then remove cuticles
- Remove hard skin on feet
- Massage up to knees
- Brush nails
- Apply powder between the toes
- Paint toe nails if required

(Aesthetics Training Manual 2003:68)

Skincare therapy

The standard basic facial is comprised of the following:

- Client reception and consultation
- Primary cleanse and makeup removal
- Skin analysis (skin type and condition)
- Lash and brow tint, brow shape
- Secondary cleanse and exfoliation
- Electrotherapy (increase product application and oxygenate)
- Massage (stimulation, regeneration, toning, cleansing, relaxation)
- Mask (stimulate, refine, cleansing, hydrating, normalise pH, nourishing)
- Tone and day cream

(Aesthetics Training Manual 2003:3)

Normal manicure procedure:

- Clean client hands and remove nail varnish
- Inspect hands
- Shape nails
- Finger massage
- Immerse fingers in warm water (up to the knuckles)
- Remove cuticles
- Massage hands
- Clean under nails
- Apply nail varnish if required

(Aesthetics Training Manual 2003:64)

alternative therapies

6_04 Alternative healing treatments

Alternative healing	description	requirements	spa	healing centre
Acupuncture	An ancient technique in which a skilled practitioner inserts acupuncture needles into specific points (meridian lines), corresponding to the various organs, in the body to restore the flow of energy 'chi', which is essential to good health. The needles release the blockage and help the body heal itself (Inglis 1983:120).	Cubicle with bed.	Y	N
Shiatsu or Acupressure	A Japanese form of massage therapy, similar to acupuncture but uses pressure instead of needles. Fingers, thumbs, palms, elbows, knees and feet are used to apply pressure to points along the main meridians of the body, to restore 'ki' and relieve pressure, chronic problems and disabling aches and pains. It is essentially a self-healing technique (Inglis 1983:133).	A floor area with a mattress for the client to lie on. Can also be done on some types of massage beds.	Y	Y
T'ai chi ch'uan	A form traditional form of Chinese medicine. All the movements are circular and are aimed at improving muscular control. The movements are derived from the martial arts. Meditation in motion, it is a ritualised succession of flowing movements, with little scope for individual variation. Each movement has a psychological element involved.	After learning the skills it can be practised anywhere. Studio is appropriate. It is known to help with heart disease, as well as general conditioning of the body and mind (Inglis 1983: 145).	Y	Y
Yoga	An Indian system of philosophy and exercise that encourages the union of mind, body and spirit. It concentrates on breathing, posture and meditation to obtain the inner balance. It requires high concentration for long periods of time. The belief is that good health arises out of harmony (Inglis 1983:138).	Any open space, indoor, outdoor or studio Yoga is particularly effective in dealing with stress disorders through mind-body interactions, as well as easing chronic diseases.	Y	Y
Meditation	Mind –body technique in which a person engages in quiet contemplation in order to induce a state of mental and physical tranquillity (Inglis 1983:182).	Any open space, indoor, outdoor or studio.	Y	Y
Reflexology	A form of hand and foot massage that concentrates on particular reflex points that represent other body parts within the same zone. The main aim is to restore energy flow within the body (Reflexology Manual 2003:1).	Massage bed, or a chair where the client can sit comfortably and a therapist can work.	Y	Y
Reiki	Eastern therapy that aims to help mind-body-spirit to heal itself using the 'universal life force' that exists around all things (Ontario spas glossary).	Massage bed for client to lie on.	Y	Y
Therapeutic touch and Hand Therapy	Practitioners of therapeutic touch believe that they can increase, reduce or modify a persons 'human energy field' to increase that persons self healing ability, whether or not that person believes in the technique. The method uses stroking motions to heal pain and physical ailments.	A consultation room (Inglis 1983:143).	Y	Y

physical therapies

6_05 Physical therapy treatments

Physical therapies	description	requirements	spa	healing centre
Therapeutic massage	Method of manipulating the soft tissue of the body by means of the hands to produce invigorating or relaxing effects on the muscular vascular and nervous system of the body (Body Therapy Manual 2003: 2).	Spacious room with suitable ambience for relaxation and massage bed. Main therapy done at most spas, neck-back-shoulder/ full body.	Y	Y
Aromatherapy massage	The use of essential oils in massage to evoke emotions and promote relaxation (Body Therapy Manual 2003).	Cubicle with basin, massage bed and storage facilities.	Y	Y
Dance movement therapy	It gives outward form and expression to inner feelings. Dance therapy is specifically aimed at positive health promotion, and can be adapted to treat mental and emotional problems. By changing movement patterns the therapist can affect the mood and mental functioning of the patient.	Movement therapy, needs outdoor space or studio (Inglis 1983:150).	N	Y
Personal fitness training	Exercise programme worked out by a fitness trainer to suit the specific abilities and needs of the client (Ontario spas glossary).	Consulting room and fitness training area.	Y	N
The Alexander method	A method of movement and alignment in which people can learn to use their bodies more effectively. It helps individuals improve their posture, release muscle tension, and move with greater ease. It is based on correct posture so that the body is able to function naturally and with minimum amount of muscular effort.	Consultation room or studio. It is especially useful for headache and backache. (Body Therapy Manual 2003:59)	Y	Y
Aerobic exercise	Light aerobic dancing, cycling or jogging.	Gym, studio or outside area.	Y	Y
Hiking	Short guided walks through the gardens and surrounding areas for light exercise.	Natural surroundings.	Y	Y

6_06 Other therapy treatments

other therapies	description	requirements	spa	healing centre
Psychological counselling	A variety of treatments that trained practitioners use to help people with mental and emotional problems. The patient is helped to understand and ultimately solve his problems by talking them over with a doctor. Often problems are repressed into the subconscious, and by bringing them to the surface and working with them, pent-up feelings and symptoms disappear. Psychotherapy can be used for anyone, from a person undergoing a minor surgery, to a person who has experienced trauma.	Private consultation room where practitioner and patient can develop a relationship of trust (Inglis 1983:163).	Y	Y
Group therapy	Designed to offer a sympathetic environment that offers patients emotional support and allows them to test new modes of behaviour and new ways of relating to people. Used in rehabilitation treatment.	Environment where patients can function in their personal space as well as develop trust relationships (Inglis 1983:150).	N	Y
Music therapy	Music therapy is based on a two-fold premise: that the ability to respond to music is innate in each one of us, and that this ability is not lost as a result of, and may indeed exist in spite of physical or mental handicap, injury or psychological disorder. Music can be used to strengthen the frequencies and align the charkas.	Passive therapy which is often used with other therapies such as massage, dancing and art therapy (Inglis 1983:193).	Y	Y
Nutrition	Dietary requirements worked out by a dietician for the specific needs of the client (Ontario spas glossary).	Consulting room with weighing and other equipment.	Y	Y
Iridology	The scientific analysis of pattern structures in the iris of the eye locating areas and stages of inflammation throughout the body. Iridology can diagnose physical and psychological problems. It is believed that it can reveal the past, present and future.	A consultation room (Inglis 1983:279).	Y	N
Gym	Fitness equipment that helps to increase muscle tone, fitness and overall health.	Room with equipment.	Y	N
Lymphatic massage	Massage therapy treatment that encourages the elimination of toxins from hidden pockets in the body by stimulating the body's natural lymphatic circulation, either through manual massage or hydrotherapy massage (Ontario spas glossary).	Room with equipment.	Y	N
Hot stone massage	A healing therapy using warmed, smooth volcanic stones to massage the body (Ontario spas glossary).	Massage bed, stones and heating device.	Y	N

other therapies

6_06 Other therapy treatments (continued)

Other therapies	description	Requirements	spa	healing centre
Flotation tank	A large, salt water-filled tank where client soak. Flotation tanks are usually placed in a dark or dimmed room to alleviate stress and help clients relax. This therapy may also be combined with other treatments, such as music or aromatherapy (Ontario spas glossary).	A flotation tank, or flotation room.	Y	N
Ayurveda	A philosophy based on balancing the internal and external self based on the Eastern Indian principles of using herbal and hot oil treatments in conjunction with meditation, nutrition and aromatherapy (Ontario spas glossary).		N	N
Colour Therapy	Colour affects the autonomic nervous system, and so affects a person. This therapy is still being developed. Colours are used to align charkas and their respective fields to correct frequency.	Consultation room (Inglis 1983:154)	Y	Y
Art Therapy	The basis of art therapy is for the patient to express themselves through a nonverbal means, through painting, drawing or models. The works can also be used as aids in diagnosis. A release of emotional and energy can be induced through this therapy.	Studio Often used in the treatments of anorexia nervosa, alcoholism and drug addiction. (Inglis 1983:156)	N	Y
Psychodrama	Through acting out our problems we are playing a part, and not being ourselves, enabling us to throw off our inhibitions. Used to understand and alleviate social and psychological problems through theatre, dance, mime and psychodrama.	Studio (Inglis 1983:205)	N	Y
Crystal or Stone Healing	Used for their fixed energy properties. Crystals can be used to change human energy if it is out of balance. As with charkas the colour of a crystal is indicative of the frequency. Crystals with warm rich colours are through to promote energy flow, while light coloured crystals are used to achieve a calmer and more focused state.	Cubicle with bed for patient to lie on (Body Therapy Manual 2003:60)	Y	Y
Kirlian Photography	Technique of high frequency photography. The belief is that the display of colours and patterns using this technique can be used as a diagnostic tool for detecting both psychological disorders and physical illness before its onset.	Consultation room and equipment (Inglis 1983:273)	N	N

E. Accommodation Schedule

6.07 Spa Accommodation Schedule

Description/ function	Usage	No. of people	No. of facilities	Norms	Space required	Standards
Entrance and reception	Access to facility, and aids transition	8	1	2.3 – 2.8m ² /person	25m²	Metric Handbook (Adler)
Circulation areas	Move between places	15 plus staff		2.3 – 2.8m ² /person Walkways 1800mm wide		Metric Handbook (Adler)
Sitting area	Gathering, relaxing, waiting	10	3	0.5 – 1.4m ² /person	70m²	Metric Handbook (Adler)
Ablutions	Change rooms WC basins showers	10	2 3 2 2	1.8m ² /person 1.6m ² /cubicle 1.2m ² /cubicle	18x2=36m ² 4.8m ² 2.4m ² 50m²	SABS 0400
Treatment facilities	Treatment rooms and attached storage areas Studios – outdoor and indoor Gym and consultation area and store room	1 20 5	8 2 1	25m ² /room 1.8m ² /person	200m² 50x2=100m ² 45m²	SABS 0400
Admin and offices		3	2	7.5m ² - 20m ²	20m²	Metric Handbook (Adler)
Café	Light meals	15	1	1.7 – 1.9m ² /seat add circulation	40m²	Metric Handbook (Adler)
Food and beverage storage and preparation	kitchen storage		1	60% of dining room area / 0.9 – 1m ² /seat 50% of dining area / 0.5m ² /seat	150m²	Metric Handbook (Adler) SABS 0400
Gardens	Therapies					
Staff facilities	kitchenette sitting room WC and change room	5	1 1 2WC 2basin	0.7 – 0.9m ² /person 0.5 – 1.4m ² /person 1.6m ² /cubicle	9m ² 7m ² 3.2m ² 40m²	Metric Handbook (Adler) SABS 0400
Storage	storage					
NB, separation of noisy and quiet places and functions						

6_08 Healing Centre Accommodation Schedule

Description/ function	Usage	No. of people	No. of spaces	Norms	Space required	Standards
Entrance and reception	Access to facility, and transition	15	1	2.3 – 2.8m ² /person	30m²	Metric Handbook (Adler)
Circulation areas	Move between places	25 plus staff		2.3 – 2.8m ² /person Walkways 1800mm wide	105m²	Metric Handbook (Adler)
Sitting area	Gathering, relaxing, waiting	15	5	0.5 – 1.4m ² /person	105m²	Metric Handbook (Adler)
Ablutions	Change rooms WC basins showers	25	5 3 3	1.8m ² /person 1.6m ² /cubicle 1.2m ² /cubicle	45m ² 8m ² 3.6m² 100m²	SABS 0400
Treatment facilities (western)	Treatment rooms and storage areas Studios – outdoor and indoor Consultation rooms single Consultation rooms group	1 20 2 10	9 3 5 2	25m ² /room 1.5m ² /person 9m ² /room 1.7m ² /person	225m² 150m² 40m² 40m²	SABS 0400
Traditional healing	Treatment rooms (compound) Herbal storage rooms Outdoor treatment places	3 3	1 1 2	25m ² /room 15m ² /room 20m ² /area	25m² 18m² 40m²	
Offices	Administration of building complex	5	3	7.5m ² - 20m ²	30m²	Metric Handbook (Adler)
Café	Light meals	20	1	1.7 – 1.9m ² /seat	130m²	Metric Handbook (Adler)
Food and beverage storage and preparation	Kitchen Food storage deliveries		1 2 1	60% of dining room area / 0.9 – 1m ² /seat 50% of dining area / 0.5m ² / seat	120m²	Metric Handbook (Adler) SABS 0400
Gardens	Therapies (western), meditation etc Gardens surrounding healing compound	25				
Staff facilities	kitchenette sitting room WC and change room		1 1 2WC F 2basin 1m+1	0.7 – 0.9m ² /person 0.5 – 1.4m ² /person 1.6m ² /cubicle	7m ² 14m ² 3.2m ² 3.2m² 50m²	Metric Handbook (Adler) SABS 0400
Storage	storage areas					

NB separation of noisy and quiet functions, e.g. drum therapy and meditation

healing centre

6_08 Healing Centre Accommodation Schedule (continued)

Accommodation						
Description/ Function	Usage	No. of people	No. of spaces	Norms	Space required	Standards
Sleeping rooms	Single group	1	6	20m ² /person + ablutions	432m ²	SABS 0400
		4	1	5m ² /person	115m ²	
Ablutions	WC basin showers		3	1.6m ² /cubicle	4.8m ²	SABS 0400
			3			
			3	1.2m ² /cubicle	3.6m ²	
					50m ²	
Dinning room and Lounge	Sitting Storage	10	1	1.7 – 1.9m ² /seat	120m ²	Metric Handbook (Adler) SABS 0400
			1			
kitchen	Food preparation		1	60% of dining room area / 0.9 – 1m ² /seat		Metric Handbook (Adler) SABS 0400
	Storage room		2	50% of dining area / 0.5m ² /seat		
	Delivery and service area		1		45m ²	

6_09 Herbal Centre Accommodation Schedule

Description/ function	Usage	No. of people	No. of spaces	Norms	Space required	Standards
Entrance and reception	Access to facility, and aids transition	15	1	2.3 – 2.8m ² /person	20m²	Metric Handbook (Adler)
Circulation areas	Move between places	25		2.3 – 2.8m ² /person Walkways 1800mm wide	57.5m²	Metric Handbook (Adler)
Sitting area	Gathering, relaxing, waiting		2	0.5 – 1.4m ² /person		Metric Handbook (Adler)
Ablutions	WC basins		3f/ 3m+1 2each	1.6m ² /cubicle	4.8m ² 6.4m ² 25m²	SABS 0400
Shop	Merchandise display Storage of stock	10	1 1	10m ² /person	100m ² 20m ² 120m²	Metric Handbook (Adler)
Offices	Administration of building complex	5	2	7.5m ² - 20m ²	30m²	Metric Handbook (Adler) SABS 0400
Restaurant	Seating – indoor and outdoor Delivery area Picnic preparation	60	2 1 1	1.7 – 1.9m ² /seat	114m ² 20m ² 250m²	Metric Handbook (Adler) SABS 0400
Food and beverage storage and preparation	Kitchen Food storage		1 2	60% of dining room area / 0.9 – 1m ² /seat 50% of dining area / 0.5m ² /seat	60m ² 30m ² 130m²	Metric Handbook (Adler) SABS 0400
Gardens	picnics	20	1			

herbal centre

6_09 Herbal Centre Accommodation Schedule (continued)

Conference facilities						
Description/ Function	Usage	No. of people	No. of spaces	Norms	Space Required	Standards
Entrance and reception	Transition into conference centre	20	1	2.3 – 2.8m ² /person	50m²	Metric Handbook (Adler)
Sitting areas	Waiting, gathering	40	3	0.5 – 1.4m ² /person	50m²	Metric Handbook (Adler)
Conference rooms	Meeting rooms	10	1	0.7 – 0.9m ² /person Isles clear 1.1m min, fire escape 1.8m wide	15m²	Metric Handbook (Adler) SABS 0400
		20	1		20m²	
		40	1		36m²	
Food and beverage areas	Food preparation at main kitchen at Herbal Centre					Metric Handbook (Adler) SABS 0400
	Refreshment lounge	40	3		70m²	
storage	Storage of equipment and chairs , tables etc		2		20m²	
toilets	WC	60-70	5f	1.6m ² /cubicle	8m ²	SABS 0400
	basins		3m+2 3each		8m ²	
					30m²	

6_09 Herbal Centre Accommodation Schedule (continued)

Laboratory						
Description/ function	Usage	No. of people	No. of spaces	Norms	Space required	Standards
Entrance and reception		10	1	2.3 – 2.8m ² /person	30m²	Metric Handbook (Adler)
Sitting areas	Waiting and gathering	10	1	0.5 – 1.4m ² /person	14m²	Metric Handbook (Adler)
research	Plant processing units and equipment offices	12	2	24m ² per 4 people	72m²	Metric Handbook (Adler) SABS 0400
			5	7.5m ² - 20m ²	40m²	
Staff facilities	Kitchenette	8	1	0.7 – 0.9m ² /person	9m ²	Metric Handbook (Adler) SABS 0400
	WC and change room		3f/ 2m	1.6m ² /cubicle	4.8m ² 4.8m ²	
	basins		2each		15m ²	
	Sitting room		1	0.5 – 1.4m ² /person	28m ² 50m²	
Production area	Manufacturing, assembly and packaging of products	8		15m ² /person	120m²	Metric Handbook (Adler) SABS 0400
Nursery	Plant growing space	2	1		300m²	
	Administration facility (office)		1		20m²	

design information

Design Information and Norms

Conference

Conference room

Isles clear 1.1m min

Fire

Distance to escape < 45m
 Feeders must be fire resistant
 Escape must have a non-slip floor, and discharge into the open
 1 escape route maximum 190 people, minimum 1.8m wide
 seats < 21m from door /escape

Laboratories

workstations

Worktop height 850-950mm

(1450mm - height of services control, 1800mm - height of vertical work zone) Worktop depth 600mm, 700-750mm for bench mounted instruments

Stool height 580mm

24m² - 4 workers @ 6m³ each
 3 workers @ 8m³ each
 2 workers @ 12m³ each

lab square grid – 4.8x5.1m

Storage areas (cold storage, dry storage and dark storage areas)

Fume cupboards 750-900x1200,1500,1800mm
 Height 2700mm

Need 900mm clear space in front of fume cupboard

Eating and Drinking

cooking circle

goods inwards (food supplies)
 storage
 (dry stores shelf width 450mm, length 9.1-15.2m; cold stores 2.5-5m³)
 (wire cages for dry storage goods, walled room not always necessary)
 processing
 preparation (at least 2 preparation areas)
 cooking
 serving, and assembly
 food served, and plates etc returned
 equipment cleaned and prepared for re-use
 goods outwards (disposal)

picnic - food processing and collection

drink/beverage preparation, clean-up and storage area

kitchen

ratio dining area : kitchen area – 3:1
 ratio kitchen : servery – 2:1
 food and china storage

dining rooms (restaurant floor)

tables 2 people 750x750mm
 4 people 900x950mm (space 2.5x2.3m)
 6 people 1400x950

seating

2 people 1.7 – 2m²/person
 4 people 1.3 – 1.5m²/person
 6 people 1.0 – 1.3m²/person

need 750mm clear space next to table for chair and 450mm for aisle (movement)

(main dining room must be directly adjacent to the kitchen, specific preparation in separate areas)

customers inwards and outwards

waiting area/bar
 WC and basins
 Food and drinks, and payment

Office and staff area

Other facilities

Ablutions

WC cubicle 900x1640mm (Adler)
 Showers 1000 – 1200mm square

Small shops

shelves 600-800mm wide

F. SBAT table and graph

Sustainable Building Assessment Tool

The Sustainable Building Assessment Tool (SBAT) was developed by the CSIR to help evaluate sustainability of buildings. The performance of a building is assessed in relation to a number of economic, social and environmental criteria.

The baseline criteria are set up and later compared to the finished building. This helps to evaluate and compare different options and outcomes, aiding the architect in designing a sustainable building with the least negative impact on the environment.

To each of the categories that are listed below yes (y) or no (n) is answered to the relevancy and importance of each category. The values obtained from the tables are plotted on the graph for the baseline criteria to be used on a building proposed. This process is repeated again after the design has been completed, to evaluate its performance.

6_10 Social issues

Occupant comfort	Natural lighting	Natural ventilation	Low noise	Views (6m from external window)	Access to green outdoor spaces	Target	Total
	y	y	y	y	y	5	5
Inclusive environments (Wheel chair accessible)	transport	Accessible Routes	Ramps (1:12) and handrails or lifts	WC's	Edges and nosings		
	y	y	y	y	y	5	4
Access to facilities	Childcare (<3km)	Banking (<3km)	Retail (<3km)	Communication (post, telephone, e-mail) (<3km)	Residential (<12km)		
	y	n	n	y	n	2	1
Participation and control	Environmental control	User adaptation	Social spaces	Amenities (WC, refreshments, vending machines)	Community involvement		
	y	y	y	y	y	5	4
Education, health and safety	Education	Security	Health	Smoking	Safety (Regulations)		
	y	y	y	n	y	4	4

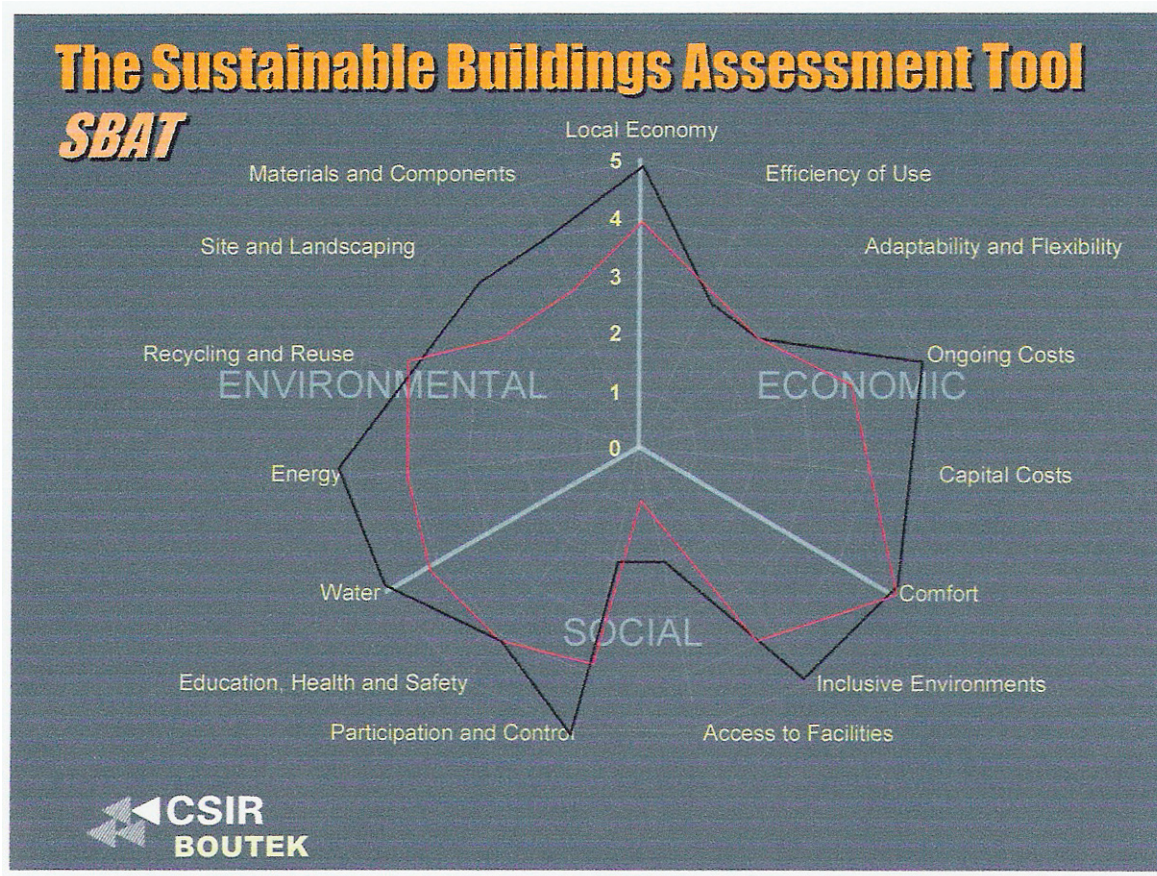
6_11 Economic issues

Local economy	Local contractors (80% or <100km)	Local building material supply (80% or <200km)	Local component manufacture (80% or <200km)	Outsource opportunities	Repairs and maintenance (<100km)	Target	Total
	y	y	y	y	y	5	4
Efficiency of use	Useable space (80%)	Occupancy (min 30 hours/ week)	Space use (intense use)	Use of technology (reduce space needed)	Space management		
	y	y	y	n	n	3	3
Adaptability and flexibility	Vertical floor to ceiling dimension (min 3m)	Internal partitions	Services	structure	Vertical circulation and service cores		
	y	y	y	n	n	3	3
Ongoing costs	Maintenance (2yr cycle)	Cleaning	Security	Insurance/ water/ energy/ sewage	Disruption and downtime (accessing services)		
	y	y	y	y	y	5	4

6_12 Environmental Issues

Water	Rainwater harvesting	Efficient water use	Greywater reuse	Runoff (minimised)	Planting (indigenous)	Target	Total
	y	y	y	y	y	5	4
Energy	Natural lighting	Ventilation (passive systems)	Heating and cooling (passive systems)	Appliances and fittings (low energy)	Renewable energy		
	y	y	y	y	y	5	4
Recycling and reuse	Toxic waste	Inorganic waste (sort)	Organic waste (compost)	Sewage	Construction waste		
	n	y	y	y	y	4	4
Site	'Brownfields' site	Vegetation range	Habitat range	Neighbouring buildings (effect on them)	Landscape inputs (no fertilisers and pesticides)		
	y	y	y	n	y	4	3
Materials and components	Embodied energy (80% have low)	Materials/ components source (90% renewable)	Manufacturing process (little environmental damage)	Recycle/ reuse (10% from this source)	Construction process (min impact on the environment)		
	y	y	y	n	y	4	3

6_13 Final Graph



The black line represents the target values, and the red line the assessment of the building after design is complete. The final product relates closely to the target values.

G. Colour and Light

Colour

Colour conditioning affects our attitudes to colour (Fehrman 2004:6). We are all afflicted with colour bias based on the things that we have been taught as children, our culture and the misinformation that we have come to accept as fact. Colour bias particularly affects food and our enjoyment of it. A lot of our associations with colour come from imagery (Fehrman 2004:6).

Humans create symbols and attach artificial significance to colours due to our feelings, emotions, psychological and intellectual preconceptions, that interfere with our direct perception of the physical world. Colour perception varies from person to person, depending on the individual brain's interpretation of colour signals coming from the eye, and on our psychological and cultural biases towards colour (Fehrman 2004:6). Colour symbolism is a predetermined response based on literary and psychological ideas about colour rather than a response to the nature of colour itself (Fehrman 2004:9).

There are many colour myths, such as that green has a calming effect on aggression (Fehrman 2004:14). With regard to excitement or arousal, the intensity of the colour, or saturation, is of a greater significance than the colour itself (Fehrman 2004:107). Research has shown that a definite colour-mood association does exist, but differs widely between people (Fehrman 2004:108). Colours do not contain any inherent emotional triggers, it is more likely that changing moods and emotions caused by psychological and physiological makeup at the moment, interact with colour to create preferences and associations that link to the colour-emotion response itself.

Light

Colour and light are inextricably linked. They both affect our physical and psychological states both directly and indirectly (Fehrman 2004:12). Different wavelengths (colours) of light entering the eye can directly affect the centre of emotion in the brain. This in turn affects the pituitary gland and the endocrine system. The pituitary glands regulate the thyroid and sex glands which regulate hormone levels and the moods related to them. Colour and light also has an ability to penetrate our bodies and has a marked effect on biological systems (Fehrman 2004:12). A commonly known effect is the synthesis of vitamin D through ultraviolet radiation on the skin, and the production of melanin pigment, otherwise known as tanning.

Light has subconscious and subliminal effects on our mental and physical conditions (Fehrman 2004:37). Glare makes us irritable, while sparkle leads to heightened conversation and appetite. SAD syndrome (seasonal affective disorder) is a type of depression that is linked to natural light, and the length of day (Fehrman 2004:285). People, particularly in the far northern and southern parts of the hemispheres are affected by the short days that are experienced, have altered moods and depression like attacks. Recent studies have shown that artificially lighted environments may have harmful effects. People can become more easily fatigued when working under artificial light conditions (Fehrman 2004:85).

Chakras

The chakras (energy centres) are associated with certain colours (Fehrman 2004:281)

- Violet: brain and upper crown
- Indigo: eye, nervous system
- Blue: throat, thyroid and lungs
- Green: heart
- Yellow: solar plexus
- Orange: pelvic area and reproductive system
- Red: root, kidneys and spinal column

6_14 Colour perceptions and colour use in reflexology

colour	perception	use in reflexology
red	Blood and fire Love, courage, lust, murder, rage and joy Passion (Fehrman 2004:66)	Strong physical colour Warm extrovert characteristics Embodies empowerment, action, expansion. Stimulates vitality and energy through the living organism. Lends vigour to physical functions and releases inertia, melancholy, sadness, depression and lethargy (Reflexology Manual 2003:68).
Orange	Extrovert, cheerful Autumn If brown tones, then associated with security (Fehrman 2004:68)	Balances emotional and physical tract. Good colour for the treatment of alcoholics. Helps to release self pity, feeling of inadequacy, lack of self worth and the unwillingness to forgive (Reflexology Manual 2003:68).
Yellow	Cheerful, sunshine Spring For Buddhists yellow signifies morality. The Jews were made to wear yellow arm bands in Nazi Germany. Can be linked to sickness Warning - often on road signs (Fehrman 2004:69)	Warm, joyful colour Represents the mental body and the intellectual, rational side of the mind. Encourages sharing, expression and communication. Heals the inner-child, provides the freedom to play and have fun (Reflexology Manual 2003:68).
Green	Growth, spring, foliage Decay, nausea, poison and jealousy Irish (Fehrman 2004:70)	Major healing colour useful for general healing, balancing and cell restoration. Alleviates the fear of traumatic situations and is effective in treating shock. Aids people suffering from claustrophobia (Reflexology Manual 2003:69).
Blue	Seas, sky Infinity and serenity Depression sadness and isolation (Fehrman 2004:71)	Cool colour – sky and sea Associated with mental control and clarity of thought. Encourages wisdom, truth, integrity and creativity. Generates concern for others and is willing rather than wilful. Promotes serenity and release from tension, stress, headache (Reflexology Manual 2003:69).

colour	perception	use in reflexology
Indigo		Transformation, change and upliftment. Acts as a stabiliser for the emotionally disturbed in cases where there may be aggressive or violent behaviour. Is very powerful when used with meditation and visualisation. Helps develop inspiration. Stimulated a high level of creativity and spiritual awareness (Reflexology Manual 2003:69).
violet	Sensuality, decadence Seldom used in advertising and packaging (Fehrman 2004:72).	A cool colour Powerful, psychic colour and is associated with the right, intuitive, imaginative side of the brain (Reflexology Manual 2003:69).
white	Represents maximum lightness Positive image Surrender, peace, purity Hygiene and cleanliness (Fehrman 2004:66)	
black	Strong associations with language Represent the unknown, maximum darkness Often has a negative association Mourning colour, or colour of power (Fehrman 2004:65).	

H. Feasibility Report

Calculation of Areas

1. The Spa

Areas	Treatment rooms 25x8	200m ²	
	Sitting 35x2	70 m ²	
	Indoor Studio + Gym 50+45	95 m ²	
	Ablutions	50 m ²	
	Office + reception 25+25	50 m ²	
	Circulation, eat, sit	350 m ²	
	Kitchens and store	165 m ²	
	Total	980 m²	
	Outdoor landscaping and decks	400 m ²	
Total construction area		1050 m²	
Total rentable area (rent complete facility as a whole)		980 m²	
Useable area		690 m²	
Efficiency Ratio	80:1050	0.93	

2. The Herbal Centre

	Conference centre		
Areas	Conference rooms	70 m ²	
	Reception + sitting	100 m ²	
	Ablutions	25 m ²	
	Sitting (eat)	70 m ²	
	Offices	30 m ²	
	Total	295 m²	
	Landscaping and decks	200 m ²	
Total construction area		315 m²	
Total rentable area (rent complete facility as a whole)		265 m²	
Useable area		260 m²	
Efficiency Ratio	65:315	0.84	

	Research centre		
Areas	Office	40 m ²	
	Laboratory	72 m ²	
	Production	120 m ²	
	Reception + circulation	60 m ²	
	Staff + ablutions	50 m ²	
	Total	342 m²	
	Landscaping	200 m ²	
Total construction area		365 m²	
Total rentable area (rent complete facility as a whole)		342 m²	
Useable area		262 m²	
Efficiency Ratio	342:365	0.94	

	Recreational area		
Areas	Shop	120 m ²	
	Admin + entrance	75 m ²	
	Restaurant (floor)	250 m ²	
	Restaurant (kitchen)	130 m ²	
	Ablutions	25 m ²	
	Total	600 m²	
	Landscaping and pathways	400 m ²	
	Nursery	700 m ²	
Total construction area		655 m²	
Total rentable area		500 m²	
Useable area		370 m²	
Total Shop area		120 m²	
Efficiency Ratio	500:655	0.76	

3. The Healing Centre

Areas	Treatment rooms	25x9	225 m ²
	Consultation	40 + 40	80 m ²
	Sitting	35x3	105 m ²
	Reception + offices		60 m ²
	Studios	50x3	150 m ²
	Traditional healing	15+ 25	40 m ²
	Restaurant (floor)		130 m ²
	Kitchen + storage		120 m ²
	Ablutions		100 m ²
	Staff facilities		50 m ²
	Accommodation		720 m ²
	Kitchen		45 m ²
	Total		1825 m²
	Landscaping		600 m ²
	Total construction area		1952 m²
	Total rentable area		
	(not for rental, but if it were, rental of complete facility)		1825 m²
	Useable area		1290m²
	Efficiency Ratio	1825:1952	0.93

Financial Viability Report

The building complex consists of three parts; the Healing Centre, the main focus, and accompanying Spa and Herbal Centre. The Spa and Herbal Centres will act as income generating facilities that help to fund the project, along with sponsors and other donors.

The Spa will be rented out as a complete facility. The Spa facility functions independently of the other facilities on site. It can be rented out as an independent unit, and a percentage of the income from the rental will be given to the Healing Centre.

The Herbal Centre contains three main sections that can be rented out to generate income. The conference centre can be rented out independently, or included as part of the herbal research centre, and function along with it. The shop and nursery are for rental, as well as the restaurant on site. The restaurant and conference centre are linked, as the restaurant provides food and refreshment for the conference centre. There are main administration and toilet facilities that are for all of the above tenants, and their client's usage.

The Healing Centre is not for rental, or sale. The cost of construction calculations will be included, but no profit from this centre will be included in the return on investment calculation. The size of the Healing Centre is larger than the other facilities, which affects the calculations.

The objectives of the developer are to provide social facilities that are partially able to fund their operation and maintenance. The income generating facilities, the Spa and Herbal Centre, will fund themselves, and a percentage of their profits will be allocated to the Herbal Centre as income to sustain on-going costs.

The Healing Centre cannot sustain itself financially as the patients are from low income backgrounds, and will be charged a minimal fee for treatment. Initial funding for buildings and facilities will be sought through donations and sponsors, as well as through grants from government and other institutions. The main problem is for on-going funding to keep the facility operational. The Spa and Herbal Centre will help to generate income for the Healing Centre, along with grants from government organisations, NGO's and other industry related sponsors. This aim is to remove some of the burden of on-going costs.

This project needs to be carefully managed over its life to ensure that there is no abuse of the system, or the developers objectives, for personal gain of any party.

Total site area	89 000 m ²
Maximum development area (20% of site)	17 800 m ²
(This value includes buildings, roads and service elements)	
Building Coverage allowance (30% of development area)	5 340 m ²
Footprint of built area	
Spa	1050 m ²
Herbal Centre (315 + 365 + 655)	1335 m ²
Healing Centre	1952 m ²
Total coverage	4 337 m²
(Within coverage and development allowances)	

Total Development Cost / Total Capital Outlay

Land costs

Land size 89 000 m², zoned as vacant, re-zoned as recreational.

Land value currently R50/m ²	R 4,450,000
Rezoned value R150/m ²	R 13,350,000
Rezoning development contribution	R 2,225,000
Land cost	R 15,575,000

Escalated construction costs

Estimated current building cost:

Spa Facility	1050 m ² @ R 4,500/ m ²	R 4,725,000
Herbal Centre		
Conference	315 m ² @ R 5,000/m ²	R 1,575,000
Research	365 m ² @ R 3,500/m ²	R 1,277,500
Recreational	655 m ² @ R 3,500/m ²	R 2,292,500
Healing Centre	1952 m ² @ R 3,500/ m ²	R 6,832,000
Parking, roads	2500 m ² @ R 200/m ²	R 500,000
Landscaping	2500 m ² @ R 450/ m ²	R 1,000,000
Total		R18,202,000

Pre-construction project planning period 12 months (due to rezoning application)

Construction period 12 months

Escalation during pre-construction (16% for 2005)

(For 12 months, with applied 0,85 factor of the Haylett formula)

R 2,475,472
R 20,677,472

Escalation during construction (7% for 2006)

(For 12 months, with applied factors of 0,85 and 0.6)

R 738,186

Total escalated building costs R 21,415,658

Professional fees (10,35% of R 21,415,658)	R 2,211,978
Finance costs	
Loan costs (admin and legal)	R 2,000,000
Cost of capital (over 24 months)	
R 10,000,000 developers money (10% x 2)	R 2,000,000
R 40,000,000 loan (x 0.4 x 10% x 2)	R 3,200,000
Total	R 7,500,000
Marketing costs	R 200,000
Other costs	
Interim rates and taxes (24 months @ R5,500)	R 132,000
Legal fees	R 30,000
Plan approval fees	R 20,000
Total	R 182,000
Total development cost	R 47,084,636

Projected net operating income for first year (total operating costs)

	Area	escalation	cost	months	
Spa	980 m ²	1.1449	60	12	R 807,841
Herbal Centre					
Conference	265 m ²	1.1449	60	12	R 276,469
Research Facility	342 m ²	1.1449	60	12	R 356,802
Recreational Facilities					
	500 m ²	1.1449	60	12	R 521,640
Total gross income					R 1,962,752
Less non-recoverable expenses (operating costs)					R 200,000
Less allowances for vacancies (5%)					R 98,130
Total operating income					R 1,664,622

Operating costs include local authority charges, management and rent collection, cleaning and maintenance, sinking funds, assurances and other costs.

Initial Return on Investment (1st year operation only)

R 1,664,622 (net annual income) / R 47,281,919 (total capital outlay)

equals **3,5% ROI (Return on Investment)**

This return on investment is low, due to the fact that the Healing Centre is a social project, with funding from sponsors, as well as the Spa and Herbal Centres. The negligible income of the Healing centre was not included in the calculation.

Sensitivity analysis

Change in Building escalation costs:

Estimated current building cost R18,202,000

Pre-construction project planning period 12 months (due to rezoning application)
Construction period 12 months. If the building cost escalation rates drop, the escalated building cost will too.

Escalation during pre-construction (15% for 2005)

(For 12 months, with applied 0,85 factor of the Haylett formula) R 2,320,755
R 20,522,755

Escalation during construction (6% for 2006) R 627,996

Total escalated building costs R 21,128,751

Whereas the previous total escalated building cost was R 21,415,658 (Rates were dropped by 1%).

Change in rental rates and provision for vacancies and bad debt:

	Area	escalation	cost	months	
Spa	980 m ²	1.05	60	12	R 740,880
Herbal Centre					
Conference	265 m ²	1.05	60	12	R 200,340
Research Facility	342 m ²	1.05	60	12	R 258,552
Recreational Facilities					
	500 m ²	1.05	60	12	R 378,000
					R 1,577,772

(Previous total gross income R 1,962,752, escalation changed from 1.449)

Less non-recoverable expenses (operating costs) R 200,000

Less allowances for vacancies (6%) R 94,666

(Vacancies previously 5%)

Total operating income R 1,283,106

The previous total operating income was R 1,664,622.

Changes in interest rates:

Finance costs, interest rate changed from 10% to 12%

Loan costs (admin and legal) R 2,000,000

Cost of capital (over 24 months)

R 10,000,000 developers money (12% x 2) R 2,400,000

R 40,000,000 loan (x 0.4 x 12% x 2) R 3,840,000

Total R 8,240,000

The previous finance costs were R 7,500,000, at 10% interest rate.

Professional fees Calculation

	Land cost		R15,575,000
Estimated current building cost:	Total		R 18,202,000
	Total escalated building costs		R 21,415,658
Consultants engaged in project:			
<u>Architect</u> (will act at Principle Agent)			
Spa Facility			R 4,725,000
Herbal Centre	Conference		R 1,575,000
	Research		R 1,277,500
	Recreational		R 2,292,500
Healing Centre			R 6,832,000
	Total		R16,701,000
	(R 16,701,000 x 7%)		<u>R 1,169,070</u>
<u>Landscape Architect</u>			
	Parking, roads		R 500,000
	Landscaping		R 1,000,000
	Total		R 1,500,000
	(R 1,500,000 x 4%)		<u>R 60,000</u>
<u>Quantity Surveyor</u>	(R 18,202,000 x 2%)	Total	<u>R 364,040</u>
<u>Construction Manager</u>	(R 18,202,000 x 3%)	Total	<u>R 546,060</u>
<u>Disbursements</u>	(R 18,202,000 x 0,4%)	Total	<u>R 72,808</u>
	Professional fees		R 2,211,978
Professional fees 10,35% of R 21,415,658			

I. Interviews

Heloise Froneman (Psychologist)
MidCity Trauma Therapy Centre (MTTC),
Pretoria (16 March 2005)

MTTC operates at four schools within the city centre. Their staff consists of therapists, social workers, occupational therapists and music therapists.

Here follows a simple outline of the normal therapy procedure. Normally a school teacher will realise something is not right with the child, and contacts the therapist. The therapist then meets with the child and establishes an emotional profile, analysing their emotional and cognitive development. The child will then attend sessions with the therapist. Problems that are normally encountered are often poverty related. These include trauma, exposure to violence, alcohol induced trauma and violence, abuse, and poorly functional family units.

Most of the children dealt with are from the inner city, and have a limited frame of reference. The multidisciplinary team that deals with these children often includes volunteers, who are just as good for the children as the professionals, as they expose the children to new experiences and backgrounds. To increase their life experiences various activities have been started. Once a year a camp takes place; some of the children who take part will have never left the city centre before. Substitute groups take the children on excursions out of the city environment. These include going to a mall, ice-skating or to a movie.

One project called 'little princess', allowed the girls to dress up and be princesses for a day. This was a huge success. Another had the children icing cakes. This arose from one child's strong desire to bake a cake. Cakes were brought in for them to ice, and it was well received. Simple things like childhood games and activities are not experienced by these children due to broken down family units and living conditions. The children are often so used to a situation that they are not aware that it could be any different, or even that it should not be that way.

Self confidence is very low. This is addressed in the therapy groups, which are attended after individual therapy has ended. Often near the end of the therapy block, the school reports that the original problems have surfaced again. This is the therapy having provided support and attention for the child. A strong bond of trust is gained through the primary therapy sessions. The group sessions that take place afterwards help to keep the bond, and maintain support.

The children are at a level of survival. These children can name many friends, but few have real friends who will help them when in trouble, or are in need of something. Trust is a problem. Small items such as stationery will not be lent, as if it is not returned, there is an unjustified fear of punishment from parents and teachers. The lack of peer support stems from the lack of support in the family unit. There is no trust in the family unit, as the parents are dealing with their own survival. Often if a child has a function or job in a family, this is important for them to maintain, as without this they are of no use to the family. Often they have to compete for money, food, a bed and affection in the home environment.

Group work can be problematic, as the children are not used to working as a group. The group sessions help to alter this, and help with their trust and group dynamics.

During therapy a child will tell the therapist details of their home circumstances, but often the therapist has no authority to do anything about it. If there is a crisis, steps can be taken, but most foster homes and orphanages are full. Children can only be in a place of safety for a couple of days before having to return home. Trying to find a family member that can take the child is difficult, as often similar situations are experienced at their homes.

A lot of problems experienced by the children are due to the parents. Family and parent sessions of therapy are held, but often parents do not arrive, because of work and lack of transport. The parents also deny that there is a problem, and think that therapy is only for 'crazy children'. These parents have low self esteem, and this affects the children. If a therapeutically positive effect could be introduced that helped the parent, this would have a trickle down effect where it would impact positively on the children. A therapy session for the parents was once held, where their self esteem was addressed. Mothers were given pedicures, makeup, and products which they could take away with them. This greatly enhanced their self esteem and self worth, and there was positive feedback on the event.

Froneman strongly believes in healing environments, and that some environments are more conducive to healing than others. In different offices and schools that she has worked at she has noticed changes in attitude and healing. Froneman says that through therapy the objective is to change the person from within, so that whatever environment they are placed in they are able to remove themselves from it. Therapy should empower the child, and that cannot be taken away from them when the environment is not positive. Positive environments are good as they remove the person from the stress of their usual environment. The climate within which the relationship between the therapist and the patient develops is very important. The patient will react much better to counselling and therapies in a positive environment in which they feel comfortable.

Placing the facility out of town, was viewed as important by Froneman, she said that as a lot of the children had not left town, and this would be good for them. Due to the oppressive environment of the buildings and noise in town, even she felt relief at the end of the day to be able to leave the city. Many of the children that attend the school live in Schubart Park, what she called 'hell on earth'. This is a complex of apartment blocks that are very old, and are not a good living environment.

There is still a lot of stigmatism in older generations with regards to therapy. Froneman is of the opinion that it would be good to have a place that is not seen as a hospital or an institution where you go to heal. If women in the township experience, trauma, abuse or rape they are not likely to go and see someone about it. They are not conditioned in the western way to seek medical and psychological help. If they went to a clinic after the experience, a sister there could tell the women about the centre, and so get help for people.

The generation of children at the school have not been affected by this stigma. They often swamp Froneman and ask when they are going to have therapy again as they enjoy it, and associate it with fun activities. They appreciate the fact that someone wants to help them.

The traditional African way that exists in books and literature is changing in the real world, and is becoming more westernised. The older generations are still very conscious of community and kinship, but the younger generations are not. Where community and unity in supporting one another used to be very important, this is often not present today. In designing a facility traditional cultural practises must be considered, but changing cultures must also be accommodated.

Froneman Cited the example Wilgers Hospital trauma unit. When they have a crisis such as a rape, the psychologist is involved as part of the medical team, and so accepted in that way. Culturally there is still a weariness of psychology, as people try to deal with problems by themselves.

After abuse, especially of a sexual nature, there is trouble with self esteem. Any abuse and trauma often affects the victim in such a way that they have a poor self image. In our society we equate sexuality with beauty, and after a sexual offence it is important to learn to feel beautiful again. In women and teenagers it is very important to build up their self-confidence and image of themselves again.

The same problems that are encountered with these little children are encountered with the older children at high school too. Problems of self esteem only increase with the age of the child.

The name of the centre is very important in encouraging people to use the centre. Froneman is of the opinion that calling it a trauma centre could make people shy away, but by calling it a healing centre, it has better connotations. Victims do not want to be singled out and labelled as trauma or abuse patients; and calling the centre a trauma centre, could induce these feelings.

MTTC is an NGO and funding is mostly donated by businesses. Often they donate an amount, and then want to see concrete things done with the money. Because of this money for salaries is difficult. Building facilities is not a problem, but being able to staff them is.

molefe
 Mdu Molefe (Midlands Coordinator)
 SINANI, The Kwazulu-Natal programme for
 survivors of violence
 Pietermaritzburg (24 March 2005)

The Kwazulu-Natal programme for survivors of violence, SINANI, deals with communities affected by political violence. They offer stress and trauma workshops to these groups of people. These are either people directly involved in the violence, on the front line, or directly affected by the violence. After the completion of the workshops individuals can then approach a member of the programme and request counselling. Counselling is entirely voluntary, and victims are made aware of the counselling services during the workshops. As counselling is not traditionally an African way, the structure of the programme is as such to introduce it at a later stage.

SINANI offers a community based intervention. The community must meet certain criteria set by SINANI before they will approach them to offer help. The first people that are approached are usually the community leaders, who then contact the people affected, and so on. There are personal development programmes, included in the workshops, that deal with healing, peace building, HIV and poverty.

During the stress and trauma workshops the personal goals of the individual are established. Through mapping out and conceiving of these goals, a plan and positive structure to proceed with emerges. Some goals include finishing school, getting a higher qualification, or finding a job. This helps with self esteem and the realisation that life can be positive.

The youth are involved in play therapy. With children and the youth, emotion cannot be verbalised easily, but they respond very well to dramatisation, and acting out their fears, worries and experiences. The Emotionally Healing Arts programme uses psychodramas, where the events that affect the youth are presented in play form. These groups are used to educate the community on issues such as abuse and HIV. Self esteem is often very low, as well as there being feelings of anger and resentment. The acting and role play that is expressed through the above means help to bring these feelings to the fore, and so help the child deal with them.

In terms of surrounding environment, Molefe feels that it is very important to perform the workshops out of the village, or settlement where the community resides. By removing them, this has its own healing effect. Putting these people in a new environment allows them to meet new people, helps review personal potential, and realise that the world is not as small as they feel. The world does not only consist of their small community and the event that took place, but is a much larger whole, full of opportunity and possibilities for them.

Traditional healers are sometimes used as part of the programme. They perform ritual cleansing of the community, and are used when it is believed that only a healer will help to stop the violence. There is sometimes the belief that the violence was due to dissatisfaction of the ancestors, or evil external forces, that only the healer can remedy.

In terms of working on and providing a new programme, Molefe feels that the most important thing is to respond to peoples needs, and design the programme accordingly. Molefe stated that one of the reasons that their programme is so successful is due to the fact that they are flexible in their approach, and tailor the programme to the needs of the specific community and their problems. Sampling of relevant interventions will help to assist in the programme provided. The theoretical and practical interventions that will benefit the victim should be examined. Without this a superficial programme would be established, that did not benefit those for whom it is intended, with no constructive outcome. Establishing what the victim can do for themselves is important in programme development. There are many avenues that can be taken, counselling being one of them. The programme should provide support in such a way, that the victim must know that they are not alone.

Louw
Rev Barbara Louw
Trauma Nexus,
Pretoria (1 April 2005)

Trauma Nexus receives no government funding, and limited funding from other sponsors. Consultations and group counselling sessions are charged at an hourly fee, with the average fee being R180.00. In the centres based in poorer areas a minimal fee is charged. Louw says that companies are happy to support 'children and puppies', but do not necessarily want their name to be associated with rape and domestic abuse. Some funding does come from corporates when Trauma Nexus is brought in to debrief its employees after an incident has occurred.

The head office operates out of an old house on Atterbury road. The house consists of admin offices, single and counselling rooms, dining area, kitchen and bathrooms. There are outside training rooms on the premises. In the foyer there are plants and a couple of bird cages. Louw says that people, especially children, love animals and this has a soothing effect on them. One of the main counselling areas is on a glassed off veranda, which has large windows and a lot of natural light, situated next to the plants and birds on the foyer. Louw says that for victims of violence and armed robbery this is a good place for counselling as they often have fears in terms of safety, and from this vantage point are able to see what is going on and so are put at ease.

The services offered are basic counselling and support. In the children's counselling room are bean bags, with paintings and drawings on the walls. There are stuffed animals for victims to play with, that can be taken home when the victim leaves.

Only basic support may be given to a rape victim before the end of a trial, which may take up to two years to conclude. One victim received support from a community member during this time, who did her hair every day for her. Although she did not say so at the time, she noted afterwards that it had helped her. Care packages are given to rape victims, this includes a towel, toiletries and other personal items.

The majority of people that come to the centre are 16 – 35 years old, 60% being female. Men often do not report abuse and violence. With hijacking, rape of men is common, but often not reported. Most crimes are under reported.

In terms of self esteem, Louw engages the victims in hobbies and crafts programmes. The victim would not have completed any projects or tasks during the trial, and so by completing a project, such as ceramic painting, a sense of achievement is created in terms of job satisfaction. Narrative therapy is another therapy method. The victim chooses a plastic animal from a selection, and problems are worked through in terms of the characteristics of the animal chosen.

Seventy five percent of victims need only support, while 23% need counselling, and 2% will be permanently affected. Support is given to a victim through a volunteer from the community, as well as group sessions. If by the end of the group sessions the victim is fine, but does not want to leave, they will be allowed to stay on, but be given limited responsibility within the group. If a victim participates as a support member, then they are not used in groups that were affected by the same crime, but by other crimes. This is due to the tendency for flashbacks and emotional triggers to occur when hearing a similar story.

After six sessions of counselling the victim is evaluated. Louw says that bad things happen to people all the time, and people are naturally resilient, so counselling should not continue indefinitely. At Inter Trauma Nexus secondary counselling is offered to family and friends of victims. This helps to strengthen the support network of the victim.

Victim empowerment is also provided, where life skills are taught in the form of job seeking skills, writing a CV, and how to dress for an interview.

Victims often do not receive support from their community, and are exposed as victims. AIDS changed community support for victims, and sexual violations are seen as the fault of the victim. "Why were they there? What did they do to cause it?"

Louw says that issues of beauty can be superficial, and the concerns and then the needs of a victim should be addressed. The concerns will play a primary role, and the needs can be addressed later. For example with rape cases, often the primary concern is whether they have contracted AIDS, and this can only be ascertained for certain up to six months later. This concern needs to be addressed before issues such as beauty and self-esteem are worked on.

Counselling still has a lot of stigma attached to it. "If you go to a psychologist then you are not well, if you go to a psychiatrist you are crazy, and if you go to a social worker then they will take your kids away from you". Louw says that affluent black families feel that the family name is brought into shame when it is exposed that a member has been abused or raped. She says that economic background does not affect the crimes, they are the same over all income groups. The more sophisticated the person, the more sophisticated the crime becomes.

Louw says that support should take place close to home, so that the victim is aware of where to go. Removing the victim from their work environment, if the crime took place there, is not advisable as fear of that environment can develop. Louw says that ecotherapy and retreats do have a place, but the patient should not be removed from reality, and must be made to face the real situation and life.

Louw says that much of their training and counselling takes places outside under the trees in the garden of the property. She says that it helps the people relax and has good response from it. The centre was previously based at an office park, and victims parking outside felt exposed, and not as comfortable as they do with the setting at the house.

anyumba
Dr. Anyumba (Traditional Healer)
University of Pretoria
17 May 2005

Christianity had a bad influence on traditional healing in the past, but currently in South Africa people are open about traditional healing and it is no longer shrouded in secrecy. Tradition and respect for the healers is still important. Many healers are still reserved about their profession, and have a main career, with healing being performed in their private time. Introductions are sometimes necessary from another party before a healer will agree to meet with you.

Traditional healing consists of a main healer and an apprentice or helper that assists them. Healers are active at different times of the day; some only have powers in the morning, others in the evening. There are two main types of healers, those that use spiritual forces, and those who use herbal remedies, with the help of the ancestors. Different healers need different things in terms of their healing environment. Different methods and treatment aids are used by healers; these include herbs, animals, bones, water and even marine species of plants.

Facilities that are required by most healers are treatment areas, store rooms, waiting areas and accommodation for patients that require longer treatment periods. Rooms are necessary for treatment of individuals and groups of people. Patients are not taken into a private room, as in the western way, but healing is often performed in front of the other patients waiting to be seen. The problems of the patient are not secret, but known by the community.

Energy in healing is very important. Healers cannot work in close proximity to one another as their energies will interfere. Traditional healing is often noisy, and this should be considered when designing facilities.

Certain places have energy portals, and this energy enhances healing. Healing itself attracts and uses energy. Traditional healers have certain places that they go to out in the countryside due to their healing powers and energy found here.

Traditional healing frequently takes place outside, with a great deal of importance being placed on the natural environment. Water is an important element in healing. The sound and sight of it alone has healing qualities. This applies to other natural sounds such as wind blowing through the trees. Healing places attract nature in the form of birds and small animals. These have enormous relaxation qualities that together with the place itself contribute to the overall healing of a patient.

Trees have a magnetic and protective quality. Bark from trees is often used in treatments. The bark is always taken from the east side of the tree, where the sun rises. When a healer removes herbs from the ground it is done in a controlled way that does not damage the plants surrounding it, and leaves the other plants to grow. Mother Nature must be respected when harvesting plant matter.

In terms of the architecture, the closer the built forms are to nature, the better. Organic materials must be used. Wood and timber should be used as much as possible. Other materials such as thatch, adobe and earth construction are acceptable. Steel is a negative material as it interferes with the energies of healing. Connections must be designed in such a way that they minimise the use of steel.

The orientation of the facility itself must be towards the east. This is as the east represents a life giving force. The buildings themselves need not be enclosed units, but can be designed so that they are open to nature and the site.

In treating trauma and abuse, healers try to establish the underlying problem. Many different treatment methods are used. The healer will give the patient a treatment method as they see fit for the individual case. They then work with the patient to alleviate the problem. Animal therapies are beneficial in healing victims of trauma and abuse. Children are especially receptive to these treatments. A traditional healer works in a holistic manner. Healers do not just want to work with the problem; they work to improve the life of the patient.

In terms of employing healers at the centre, Anyumba says that the healers must be carefully selected. Selection should be based on the ethnic groups of the patients, as most patients will want to see a healer from their own group. The credentials of the healer must be examined as there are currently many 'fakes' posing as healers.

Healing cannot be performed for free. Money, sacrifices and tasks are offered to the ancestors as payment. Sacrifices can be in the form of small animals or plants. This has the result that some healers keep animals. Counselling in general should not be offered free either. Anyumba says that if the services are free they will be subjected to abuse from the community. The cost of the service should depend on the client, and what they can afford to pay.

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