

**EMBODYING THE
INTANGIBLE AT PRINCESS
VLEI**

Capturing memory, history
and imaginings in landscape
and architecture

Ekin Thompson M.Arch (Prof) 2015

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Embodying the Intangible at Princess Vlei

Ekin Thompson

This dissertation is site driven, emerging from an interest in the controversy and resultant inspired community input surrounding the Princess Vlei wetland. It explores the approaches of designing for a natural open space that a community is strongly connected to by uncovering distinct meanings in the vast natural landscape of Princess Vlei and embodying them in an architectural and landscape intervention.

This dissertation proposes enhancing site experience through the use of poetic landscape and built strategies, while simultaneously supporting and diversifying current activities by means of pragmatic considerations of program.

An exploration into the history, legend, memory and imaginings associated with Princess Vlei illustrate that landscape is not simply made up of physical attributes, but holds intangible values. The variety of human expression and activity that take place at the vlei define it as a cultural space whereby the practices and relationship of the community with the site are what form its unique character and provide a strong basis for it to be conserved and enhanced.

The increasing pressure of urbanisation and commercialism have led to contestation over the use of land on the eastern bank of the wetland. The proposal of the City to sell the land to private developers for the construction of a mall on the wetland's banks inspired counter-proposals by environmental organisations. These have in turn inspired this dissertation project which puts forward a more meaningful approach to green spaces in the city.

The project is built upon community driven imaginings and embodying intangible qualities of landscape through an evocative intervention that captures memories that run the risk of being lost through inappropriate development.

CONTENTS

INTRODUCTION	4
THE SITE [UNCOVERING]	8
Legend, History and Identity at Princess Vlei	11
Existing Diverse Uses and Users	25
THE SITE [READING]	29
Defining Landscape	29
Identifying and Protecting Intangible History	32
THE SITE [TOOLS]	38
TECHNICAL STRATEGIES FOR LANDSCAPE RESPONSIVE DESIGN	38
Working with a Limited Palette of Materials.....	42
Blurring Boundaries between Built Form and Landscape	44
Interpreting surrounding Landscape Elements and Processes.....	49
Scaling Landscape	53
STRATEGIES FOR EMBODYING THE INTANGIBLE IN LANDSCAPE	56
Symbolic interpretations.....	56
Re-translation of Topography.....	57
Vegetation and Natural Process as Narrative.....	60
Positioning of Observer and Materials.....	61
Reading the Landscape	64
Macro Urban Analysis	64
Natural Forces, Landscape Lines and Zones, Spatial characteristics of natural elements	71
THE SITE [MAKING]	87
Description of Programme & Spatial Qualities	93
CONCLUSION	105
IMAGE REFERENCES	107
BIBLIOGRAPHY	111
APPENDIX	

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INTRODUCTION

This dissertation is site driven, emerging from an interest in the controversy and resultant inspired community input surrounding the Princess Vlei wetland. It explores the approaches of designing for a natural open space that a community is strongly connected to by uncovering distinct meanings in the vast natural landscape of Princess Vlei and embodying them in an architectural and landscape intervention. This dissertation proposes enhancing site experience through the use of poetic landscape and built strategies, while simultaneously supporting and diversifying current activities by means of pragmatic considerations of program.

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Safe and sheltered baptism celebration
An initial imagining for Princess Vlei
(Result of an en loge exercise April 2015)

THE SITE [UNCOVERING]

The chosen dissertation site is located on the eastern shore of Princess Vlei on the Cape Flats (See Fig. 1-9). My personal interest in investigating an architectural intervention on this site arose from its rich history and the community identity attached to it, which has been threatened through controversy over the use of the land surrounding the urban wetland.

The land owned by the City on the eastern shore is of particular interest as its position along a major transport route, the M5, poses a dilemma in its management and sets a precedent for the City's response to urban green space. The M5 forms a socio-economic divide between more affluent neighbourhoods on the west and the Cape Flats district on the east. With Princess Vlei located on this border, two conflicting approaches have arisen - the proposal to sell the land to private developers to increase economic development in the poorer Cape Flats area and the suggestions to conserve the green space for recreational use by the community.

The lack of green recreation space in the area and the legend, history and identity that the landscape holds are what have motivated a speculative architectural intervention for this dissertation project, which proposes sensitive intervention on the site that will encourage economic gain yet embody and celebrate the intangible elements of the site.

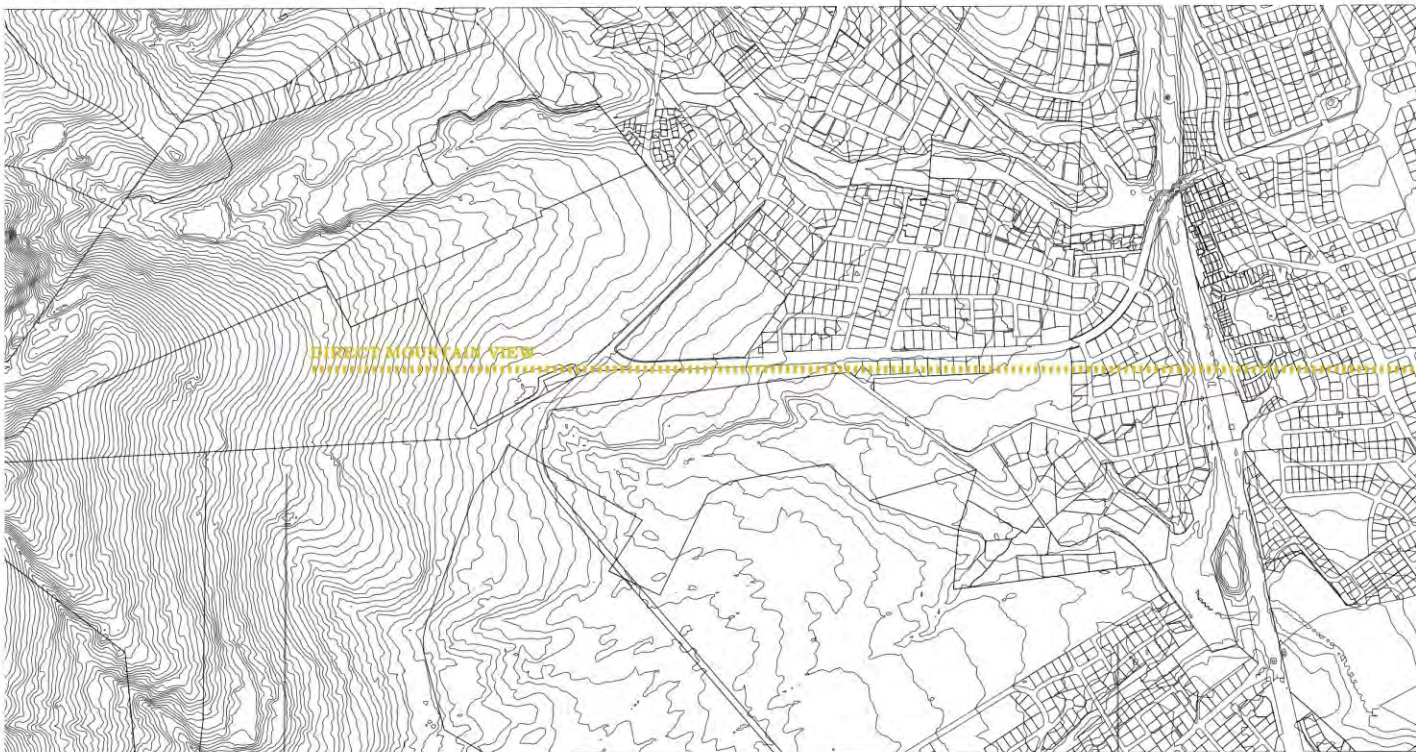


Figure 1: The position of Princess Vlei (indicated with a red marker) in relationship to its wetland system which includes Rondevlei and Zeekoevlei to the East. The M5 (Prince George Drive) runs past the eastern side of the vlei.

Figure 3: Site situated within contours and property lines of the macro context. The location of the eastern banks of Princess Vlei allows for direct views towards the Constantiaberg mountains across the water.

N
1:20000

CONSTANTIA



CONSTANTIABERG MOUNTAIN

TOKAI



4



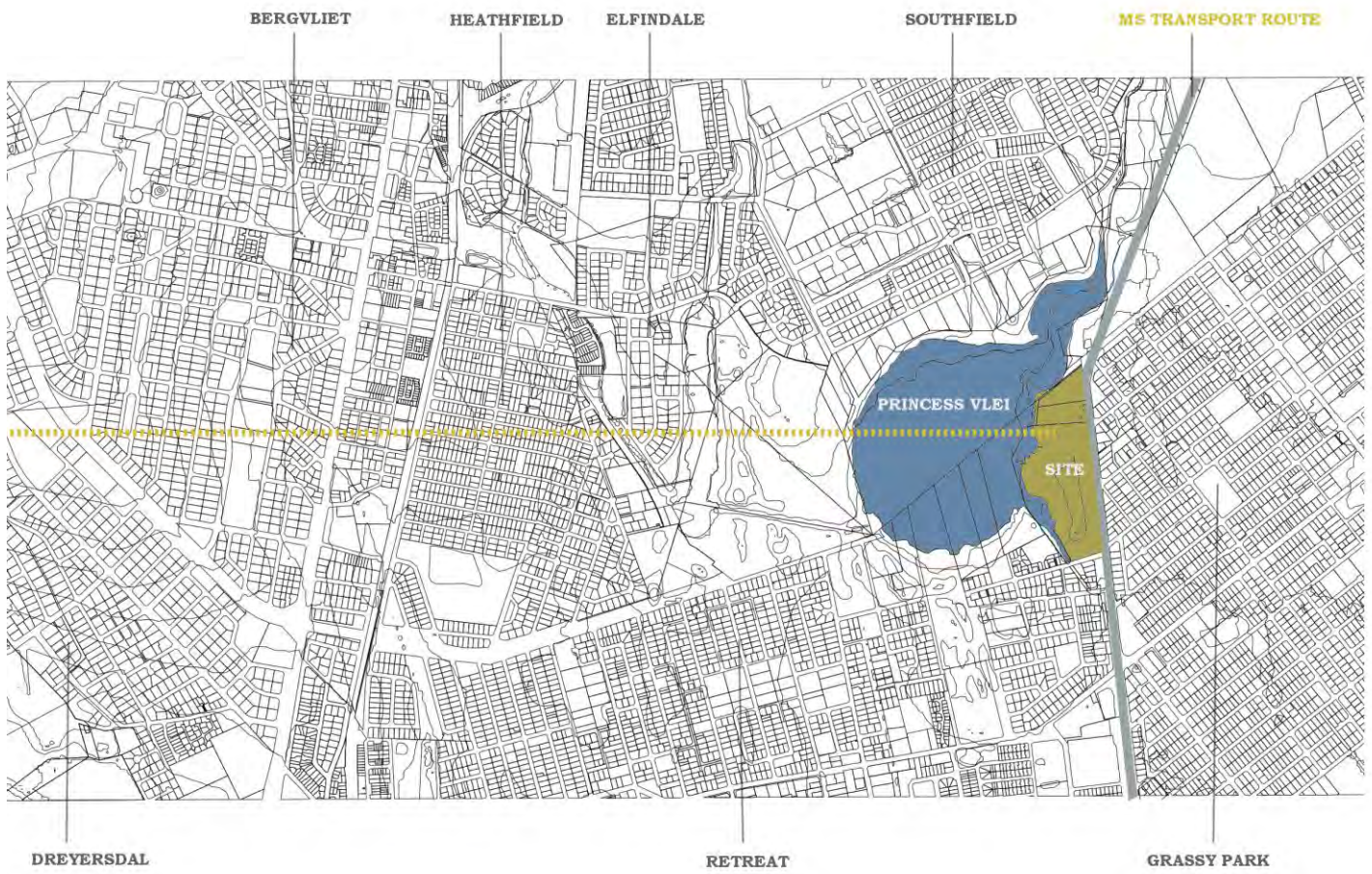
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6

Figure 4-9: Views from within the site. The physical elements of the landscape consist of a grassy and sandy grounding which supports the growth of strandveld and sand fynbos plants, including Restios, Ericas and Serrurias. Openings in the reeds provide access and magnificent views of the water. The vegetation and water provide an important habitat for many different animal species, specifically birdlife. Trees are scattered sparsely throughout and form a boundary between the M5 and the site. The effects of the raging South Easter can be seen in the permanent bend of the trees, emphasising the exposure to the elements on the site.

Figure 2: An aerial view of Princess Vlei facing South with the M5 shown on the left. The site is positioned on the eastern banks of the vlei, the open space between this main transport route and the water



Legend, History and Identity at Princess Vlei

Legends are created and sustained through the narrative of a people, providing a living connection between the past and present, between a place and its users, and therefore form an intrinsic part of identity. The embellished storytelling that differentiates legend from pure factual accounts evokes a connecting emotion which allows it to be shared amongst many in a meaningful way. Legends originate from truth but are symbolic translations of an experience which attempt to greater encapsulate the intangible feelings of an event.¹

The legend of Princess Vlei is significant as it connects the surrounding communities with the first people in South Africa, the ancient Khoi and San tribes, and tells of the violence that ensued after encountering the first European settlers in the Cape. It recounts the tale of a solitary Khoi or San woman who lived in a cave in the Constantiaberg mountains and who endured abduction and abuse from a European hunter or sailor. (See Fig. 10) It is said that her relentless tears flowed down the mountain and formed Princess Vlei. For this reason, the mountains are often referred to as Prinseskasteel by locals and two streams - Prinseskasteel and Prinskasteel flow down this mountain to the wetlands.²

This legend is based on early South African history, wherein Princess Vlei served as a source for drinking water, a place for bathing and a watering hole for animals belonging to the Khoi Gorachqua tribe.³ The Khoikhoi encountered the Europeans for the first time in the battle against Francisco D'Almeida in 1510 (See Fig. 11 & 12). For many years to follow, the Princess's descendants were enslaved, abused and murdered and the landscape therefore holds memory of degradation, disempowerment and injustice of people that initially lived peacefully with understanding and respect for their environment.⁴

¹ Princess Vlei Forum, *Legend* [Online]

² Princess Vlei Forum, *Legend* [Online]

³ Cupido, *Princess Has a Rich Heritage* [Online]

⁴ Princess Vlei Forum, *Legend* [Online]



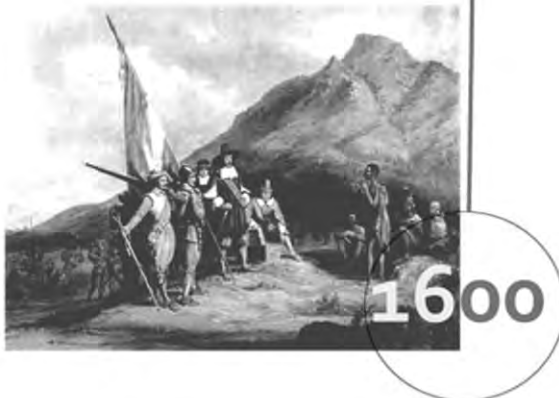
Figure 10: An artist's impression of the Khoi Princess in the Princess Vlei legend

Figure 11: Depiction of the battle between D'Almeida and the Khoi



Figure 12: A painting by Charles Bell depicting Jan van Riebeeck's party meeting Khoi inhabitants for the first time

Figure 13: Zandvlei and environs





1832

Figure 14: Zandvlei and environs. Princess Vlei is labelled 'Diep Valy.' The map shows no noticeable development around the vleis

Figure 15: Cape Flats. This image is more an artistic impression and provides an impression of landforms and water bodies.



1795

Figure 16: s.WG Bevington represents a densely vegetated Princess Vlei through the painting 'Princess Vlei, Cape'



1897

Figure 17: This map shows Princess Vlei, Rondevlei and Zandvlei and the property boundaries that begin to infringe upon the wetland system



1880



Figure 19: Princess Vlei. The western shores has been divided into private plots, while the rest of the shores remain undeveloped. A large amount of this area remains public open space at present.

Figure 20: Princess Vlei. The development of Grassy park to the East of the vlei allows for a ring of recreation space around the vlei.

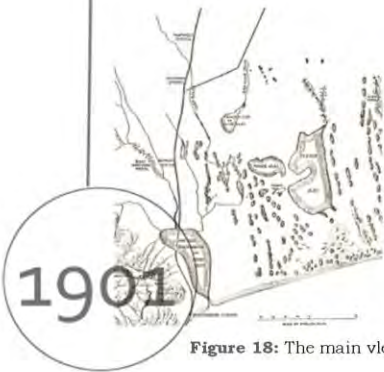


Figure 18: The main vleis



Figure 21: The Jolly Carp Tea Room.

Figure 22: The use of a baptism stick at Princess Vlei



early
1900s

In the early twentieth century, the banks of Princess Vlei and its surrounds became a peaceful home to residents of all races.⁵ One of the most influential locals was Edith Mary Woods, who was the first female journalist at the Cape Argus and also the first woman to fly an aeroplane over Kenilworth Race Course. Woods owned 30 acres of land around the vlei and her French friend, Susan Perrode opened the Jolly Carp restaurant on this land (See Fig. 21). The restaurant became very popular amongst the French sailors and the military as a Sunday afternoon tea venue.⁶ Another well known establishment around the vlei was a farm stall owned by the Jacobs, a coloured family who had been given the land after World War II as compensation for Mr Jacobs losing an eye in battle. The stall became the home of the 'baptism stick' which would be used for the many religious groups that travelled to the vlei for baptisms, a practice that still takes place regularly at Princess vlei today (See Fig. 22). This stall flourished for several decades before the land was expropriated in the seventies to allow for the widening of the adjacent main transport route.⁷

During the Apartheid years, the social structure of Princess Vlei underwent changes. As it is situated in the Cape Flats and therefore a designated black and coloured area, it became one of the few natural recreational spaces for those who had been forcibly removed to the surrounding housing estates; Grassy Park, Lavender Hill, Lotus River, Steenberg and Retreat.⁸ The vlei served as an escape from the increasing crime and gansterism and created a serene space where families spent time together in relief from their cramped living conditions.⁹ (See Fig. 25)

During this time, the construction of two main transport routes, Prince George Drive (the M5) and a new Parkway Road, were discussed by the City Council in 1947, with both roads proposed as an addition to the existing Southern Suburbs transport scheme and planned in a way which the City stated would maintain and further promote the development of the surrounding suburban areas (See Fig. 24). The

⁵ Princess Vlei Forum, *History* [Online]

⁶ Princess Vlei Forum, *History* [Online]

⁷ Princess Vlei Forum, *History* [Online]

⁸ Princess Vlei Forum, *History* [Online]

⁹ Princess Vlei Forum, *History* [Online]

meeting minutes on this topic noted that 'an important prerequisite to successful neighbourhood planning is the provision of adequate green belts of communal open space for use for active and passive forms of recreation as well as to define the limits of the neighbourhood and to prevent their coalescence.'¹⁰ For this reason, The City envisioned the water body being 'ringed with an open space reservation and bypassed in a suitable manner by two major roads,'¹¹ and expressed the importance of the vlei as a natural setting, stating in the meeting minutes:

In this charming setting, and with its distant views of the mountain, Princess Vlei is a beauty spot undoubtedly worth preserving, and its popularity with Capetonians as a picnicking, fishing and boating rendezvous, despite the lack of proper facilities for recreation, needs no stressing. Thus besides its value in the neighbourhood plan, Princess Vlei will also serve a wider use in its relation to the City as a whole.

To secure the foregoing objects it is essential that the land surrounding the vlei should be acquired for public use. The Council already owns some of the land bordering the vlei, and the proposals under review show the further land acquisitions which will be required to bring the whole scheme to fruition.¹²

Despite the importance the City seemed to place on its natural beauty, the position of the vlei in a designated black and coloured area during Apartheid led to its growing neglect by authorities and it became run down and unsafe. The widening of Prince George Drive further disconnected surrounding residents from the vlei and increased dumping, resulting in the decline of water quality.¹³ The construction of a major transport route adjacent to the vlei and the increase in development along this route also changed the dynamics of the vlei and its surrounding land - it was no longer just a natural open space, but land becoming encroached upon by a developing suburban area. Fig. 13

¹⁰ Cape Archival Material, *Rivers, Vleis and Streams: Princess Vlei 1934-1956*

¹¹ Cape Archival Material, *Rivers, Vleis and Streams: Princess Vlei 1934-1956*

¹² Cape Archival Material, *Rivers, Vleis and Streams: Princess Vlei 1934-1956*

¹³ Princess Vlei Forum, *History* [Online]

- 20, 23 & 26 depict photos and maps of the vlei dating from 1780 till present showing the effect of settlement and urbanisation on the area.

Figure 23: Farming upstream of Princess Vlei. This continued farming activity and fertilizer use has led to continual decrease in the water quality of the vlei



Figure 24: Extent of the M5



Figure 25: Recreation space during Apartheid

Figure 26: Lack of maintenance has led to a degraded, sparsely vegetated and unsafe site



Although many people from the surrounding communities still viewed the vlei as an area for recreation in a beautiful natural setting and attached memories to the space, private developers started realizing its commercial potential. In 1998, the first bid was made to the City by private developers¹⁴ in an effort to secure the land around the vlei, adjacent to the M5 route, for the construction of a mall, car park and taxi rank.¹⁵ (See Fig. 27-29) The proposal, which was designed to cover 9090m² of the vlei's eastern bank,¹⁶ sparked huge outrage amongst the surrounding community. They opposed the creation of a large-scale commercial development which would threaten the survival of existing smaller businesses, as well as force the removal of vegetation unique to the area¹⁷ and degrade the natural environment used for recreational activities, baptism and cultural expression, and which held memories and legends intrinsic to the identity of the surrounding community. The City motivated considerations of the proposal as part of a new planning process that aimed to create a balance between environmental sustainability, social justice and economic development, as the M5 forms a socio-economic divide between more affluent neighbourhoods on the west and the Cape Flats district on the east. Princess Vlei is located on this border and therefore a proposal for a mall along the banks of the vlei supported the efforts of the city to foster economic development along the main route, therefore expanding the activities of the inner city into the poorer Cape Flats areas.¹⁸

¹⁴ Princess Vlei Forum, *The Story So Far* [Online]

¹⁵ Geldenhuys, *Delight at Princess Vlei Decision* [Online]

¹⁶ Princess Vlei Forum, *The Story So Far* [Online]

¹⁷ Princess Vlei Forum, *The Story So Far* [Online]

¹⁸ Smith, *Princess Vlei: Frontline between two Value Systems*, 2012 [Online]

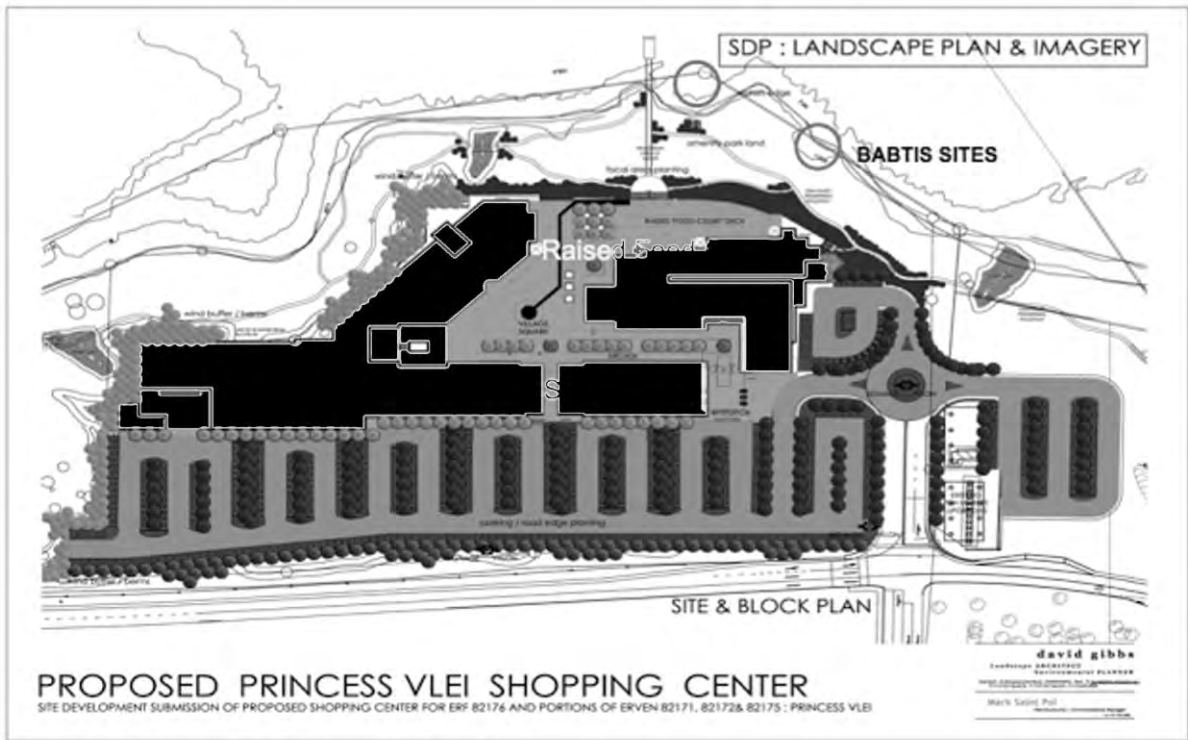


Figure 27: Mall proposal on the eastern shore (built form shaded in black), almost completely filling up the open space between the M5 and the vlei, illustrating how the placement of the building would obstruct the connection between the suburban and the vlei



Figure 28: The shaded blue area indicates the extent of the site proposed for the development of the mall



Figure 29: Environmentalists and members of the surrounding community protest against the development of the mall and suggest that dignity should be restored to the 'princess'

Environmentally conscious community organizations were formed in opposition to the mall development and a battle over the use of the land ensued for almost 15 years.¹⁹ The People's Plan (See Fig. 30) and Dressing the Princess (See Fig. 31) were counter-schemes formed to introduce more ecologically and socially responsive interventions on the site. In March 2014, the City announced the cancelation of the mall development and a year later, the Princess Vlei Forum made amendments to its constitution to enable the City to recognize it as a 'friends' organization, which would allow the forum to act as an official link between the community and the City.²⁰ Currently (September 2015), the Memo of Understanding for this transition is still in progress, but the City has begun working with the Princess Vlei Forum to develop a realistic scheme for the vlei. In August 2015, the City presented a Conceptual Development Framework for Princess Vlei and a draft plan for its Eastern Shore Precinct to the public (See Fig. 32 & 33), providing the opportunity for discussion of the proposal by the community. The counter-schemes placed a strong focus on the involvement of the community in the process of imagining what Princess Vlei could become through online surveys, interviews and workshops (See Appendix A).²¹ The programmatic proposals resulting from this research has therefore been invaluable in informing the programme for this dissertation project, which aims to build upon these findings by uncovering the sites intangible qualities and embodying them in architectural and landscape intervention, enhancing the experience of the landscape and forming a stronger sense of meaning between the users and the site.

¹⁹ Geldenhuys, *Delight at Princess Vlei Decision* [Online]

²⁰ Pitt, *Princess Vlei AGM*, 2015

²¹ Pitt, *Princess Vlei AGM*, 2015

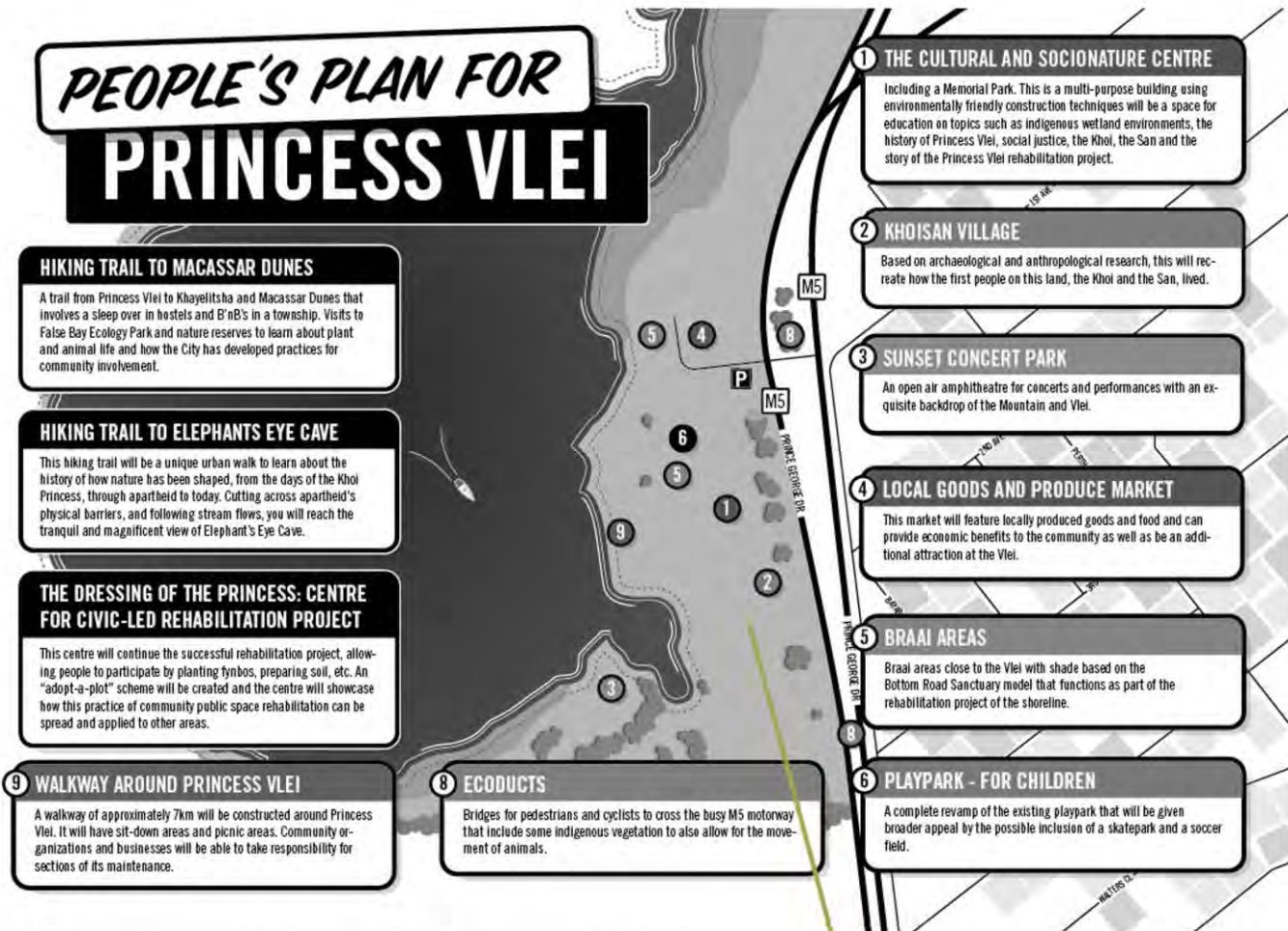


Figure 30: "The People's Plan" for Princess Vlei developed as a reaction to the mall proposal and was formulated as a result of community participation through consultation and events.

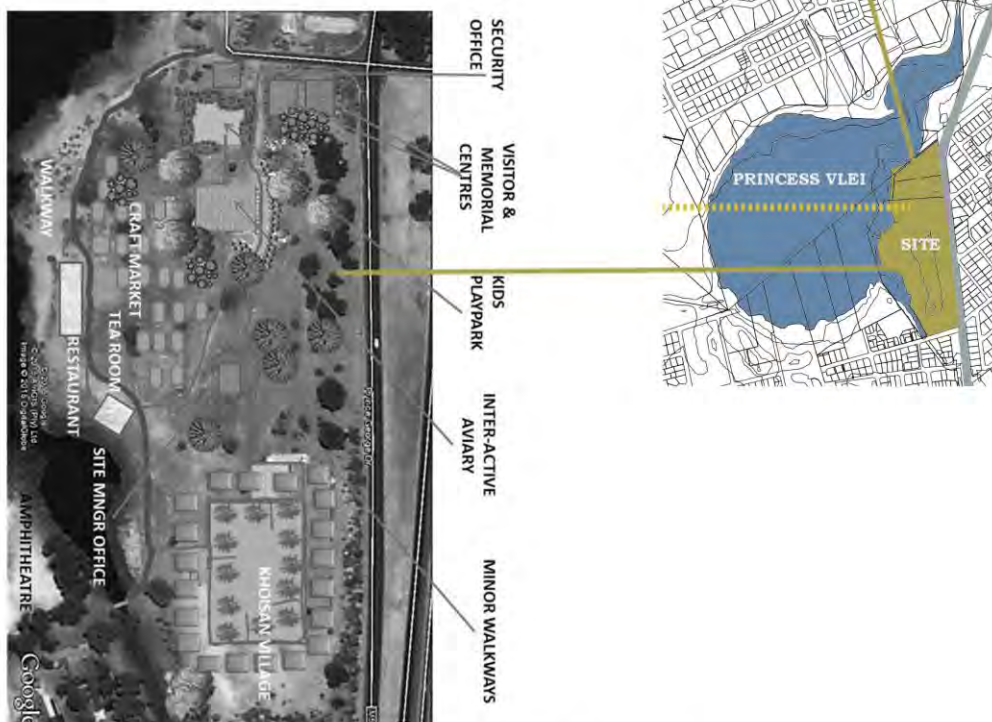


Figure 31: CAMPS (Caring and Maintenance of Public Spaces), headed by Kelvin Cochrane, have developed a scheme informed by the community's imaginings. The above image shows the proposed layout for the scheme on the eastern banks of the vlei (the same area as the dissertation site). There are plans to present this to the City and beginning the process of obtaining funds for the development.

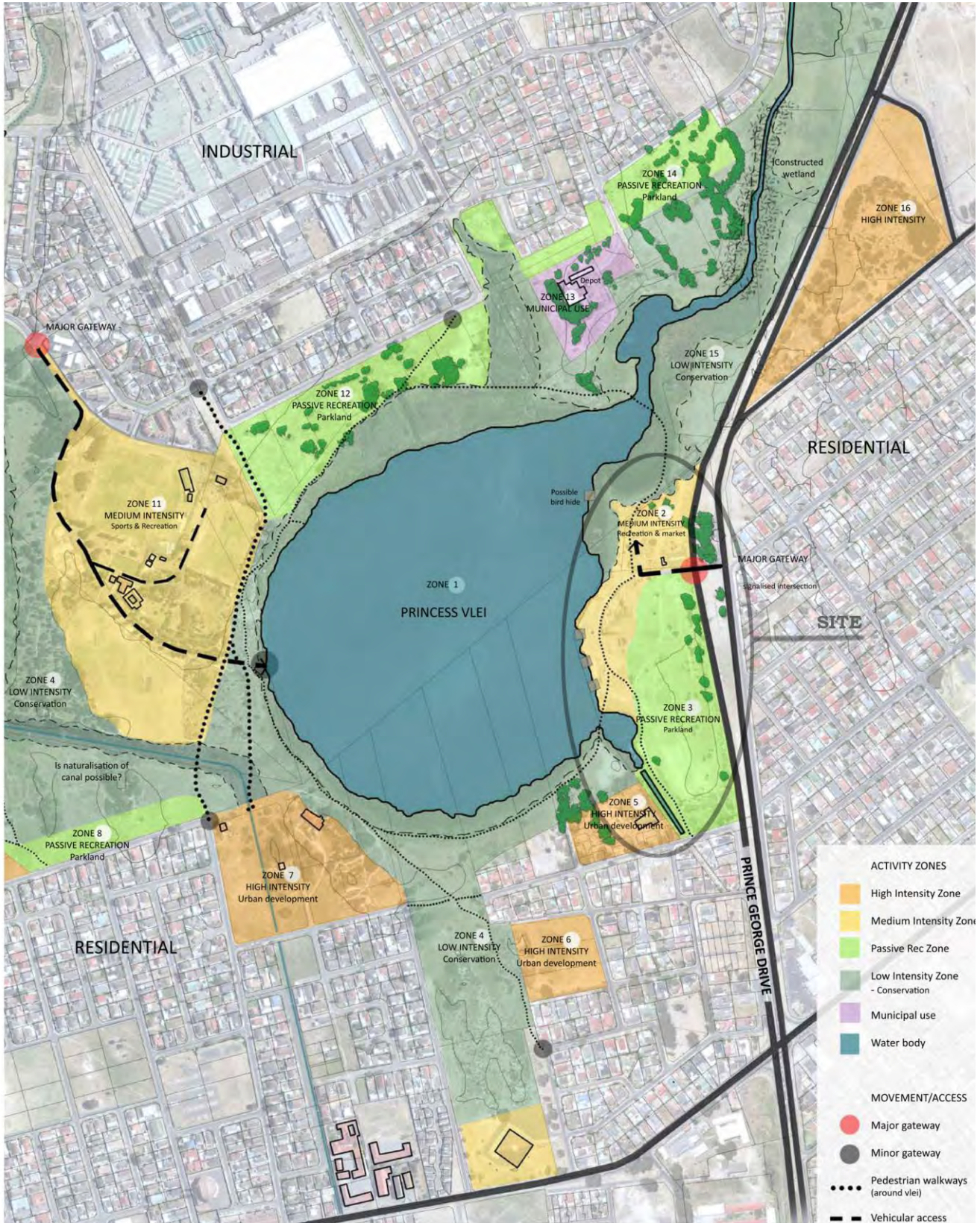


Figure 32: City of Cape Town's Conceptual Development Framework with the objective to conserve and rehabilitate natural areas, encourage recreational use where appropriate in these areas and increase surrounding urban density in order to maximize users and passive surveillance



Figure 33: City of Cape Town's draft plan for the eastern precinct of Princess Vlei, the same area that the dissertation focuses on



A bustling market space as an alternative to the mall, allowing economic development in a more socially sustainable setting
An initial imagining for Princess Vlei
(Result of an en loge exercise April 2015)

Existing Diverse Uses and Users

Despite degradation of the site since the 1960's, Princess Vlei continues to draw users to its shores, supporting a range of activities from the poetic to the prosaic (See Fig. 35). The early history of the site gives it special significance to this day, with the space being described as 'sacred to the Khoisan people'²² by Khoisan leader Chief Hendrik Van Wyk. Following the end of apartheid in 1994, the Khoisan classification as 'coloured' fell away, leading to an increasing need and freedom of recognition as a group with their own unique identity.²³ This was identified by President Zuma at the 2012 State of the Nation Address, which contained the first official acknowledgement of Khoisan communities.²⁴ He stated in his speech:

*'It is important to remember that the Khoi-San people were the most brutalized by colonialists who tried to make them extinct, and undermined their language and identity. As a free and democratic South Africa today, we cannot ignore to correct the past.'*²⁵

Therefore the site offers the opportunity for an architectural/landscape intervention in order to carefully embody and celebrate this layer of the past, providing a means for the people of contemporary South Africa to learn about and connect to their cultural heritage, particularly those living in surrounding communities. Cecille le Fleur, chairperson of the *National Khoisan Consultative Council*, emphasizes the importance of this:

'We need to re-introduce the pride of who we are. We want to penetrate the coloured community. There's so much gangsterism because people want to belong. They want to fit in and be part of something. They call themselves 'coloured' but they don't know where they originate. The Western lifestyle was pushed on them throughout the colonial period. They can't see how important it is to

²² Geldenhuys, *Delight at Princess Vlei Decision* [Online]

²³ Mitchell, *Khoisan Identity*, n.d [Online]

²⁴ Mitchell, *Khoisan Identity*, n.d [Online]

²⁵ Zuma, *State of the Nation Address*, 2012.

*see their roots. We need to unite our people. We need to show them where they belong.*²⁶

Another activity of cultural significance occurring on the site are the baptisms, which take place at access points to the water. These events require improved facilitation in order for their sacred quality to be better celebrated and for increased comfort and safety of the process. Religious crowds gather regularly on the banks of Princess Vlei to witness these, whereby those being baptised wade into the water for the ceremony. The lack of wind protection and seating result in uncomfortable gatherings during windy conditions and the process of being immersed in the water raises safety concerns. Intervention on the site therefore offers the opportunity to make these events more sacred and safe, protecting from natural elements while increasing the celebration of the presence of water. (See Fig. 34)



Figure 34: Safe and sheltered baptism celebration
An initial imagining for Princess Vlei
(Result of an en loge exercise April 2015)

²⁶ Mitchell, *Khoisan Identity*, n.d [Online]

4 Parking and braaing



5 Baptism gatherings



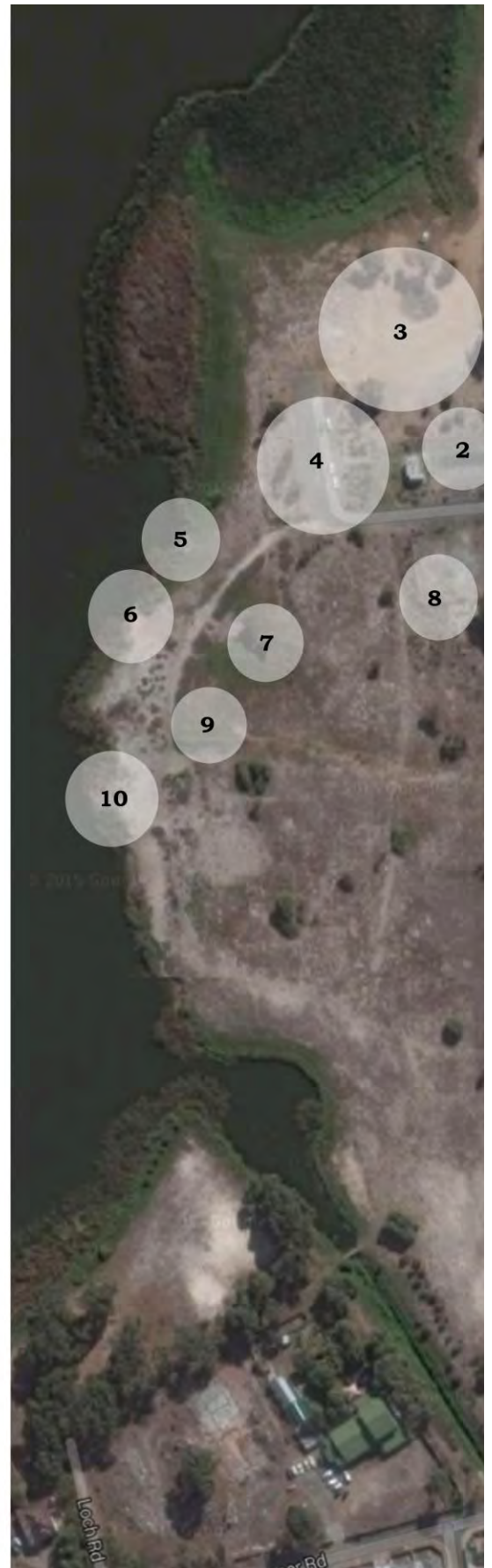
5 Baptism ceremonies



6 & 10 Fishing and relaxation



Figure 35: Existing activity zones on the site





1 Vehicular entry



2 & 3 Parking and braaing



7 Khoisan ceremonies



8 & 9 Planting



10 Boat launching



THE SITE [READING]

An exploration into what defines landscape and intangible heritage, as well as the processes that have been put into place to protect it, provide a basis for motivating the conservation of cultural landscapes in the city and highlight the importance of embodying the intangible heritage in an intervention at Princess Vlei. Extracted from *Landscape and Memory*, the following words of Schama encapsulate the attitude towards the landscape reading of the dissertation site:

*Before it can ever be a repose for the senses, landscape is the work of the mind. Its scenery is built up as much from strata of memory as from layers of rock.*²⁷

Defining Landscape

In geographical texts, the word 'landscape' is classified as having its origins in describing 'an identifiable tract of land' or 'an area of known dimensions.'²⁸ This ambiguous description merely encompasses the physical and spatial qualities of landscape, disregarding its intangible layers. In *Changes in the Land*, Cronon poses the theory that landscape consists of a human action combined with an 'ecological history'²⁹, bringing forward a concept that landscape is defined by a relationship - that it is a construction of perceptions formed through a human and nature relationship, rather than just a region or area that exists. Expanding upon this, it is not simply the physical interaction of humans with the environment which characterizes a landscape, but also the meanings which people attach to an environment. Cosgrove illustrates how this in a 'Medieval World Picture' in comparison to an 'Imperial World Picture.' (See Fig. 36 and 37).³⁰ This idea of the projection of meaning onto the earth's surface is further encapsulated by Stewart and Strathern's description of landscape as a 'perceived setting that frames

²⁷ Schama, *Landscape and Memory*, 1995, pg. 6/7

²⁸ Cosgrove, *Social Formation and Symbolic Landscape*, 1984, pg. 16

²⁹ Cronon, *Changes in the Land: Indians, Colonists and the Ecology of New England*, 1983, pg. 6

³⁰ Cosgrove, *Social Formation and Symbolic Landscape*, 1984, pg. 7

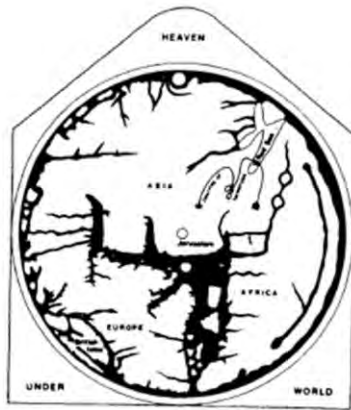


Figure 36: Medieval World Picture based on the 'Mappa Mundi', illustrating a view of landscape that integrates intangible elements - the terrestrial and celestial fields are regarded as an intrinsic part of the human lived reality



Figure 37: Imperial World Picture - the conventions of cartographic projection have been strictly adhered to in order to show nation states and imperial possessions through boundary lines and colour

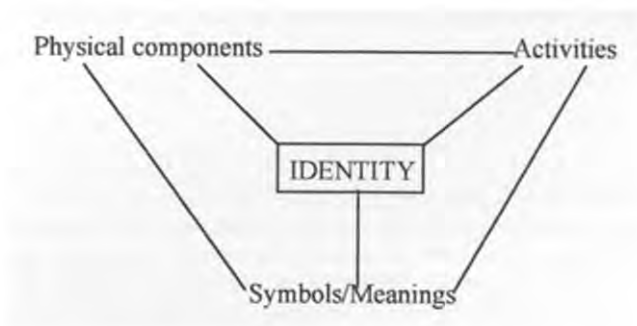


Figure 38: Place identity and its components

people's senses of place and community.'³¹ Landscape therefore constitutes an 'external world mediated through subjective human experience';³² it is not just something we see but a world that is experienced through a frame predicated on our existence in relationship to it.³³

Therefore it is important to consider the Princess Vlei landscape as an ensemble of rich layers of legend, history, memory and imagination that structure a lens through which its material environment is experienced. In terms of its position within built fabric and along a major urban route, it is also important to consider Corner's description of landscape in relation to urbanism in which he defines landscape as 'connective tissue' which performs the dual function of arranging substance and space, as well as providing a framework for constantly changing processes and events. He refers to landscape as 'urban surface' and comments that the objectives for designing it are to increase its ability to sustain and diversify activities.³⁴ An architectural intervention at Princess Vlei should therefore ultimately support and enhance existing cultural activities, while providing a means for new activities to take place without posing threat to the continuation and meaning of existing expressions.

³¹ Stewart & Strathern, *Landscape, Memory and History*, 2004

³² Cosgrove, *Social Formation and Symbolic Landscape*, 1984, pg. 13

³³ Cosgrove, *Social Formation and Symbolic Landscape*, 1984, pg. 13

³⁴ Corner, *Recovering Landscape: Essays in Contemporary Landscape Architecture*, 1999, Chapter 15

Identifying and Protecting Intangible History

In essence, architecture is an 'art form of reconciliation and mediation';³⁵ as well as providing shelter in space, landscapes and buildings are expressions of the relationship between the past and the future. In addition to a material and spatial reality, humans inhabit a cultural, mental and time connected reality which, although intangible in nature, constitutes our very existence; an existence which is complex, layered and linked inextricably to our history and future (See Fig. 38).³⁶ The fundamental purpose of architecture is to gather the meanings of these realities and embody them through form and materiality, in order to create spaces in landscape which reinforce identity in those that encounter them.³⁷

Every place is made up of 'concrete phenomena' and 'intangible phenomena,' which combine to form the substance of our reality.³⁸ There is currently a global movement towards a new idea of landscape which integrates both these phenomena - encouraging responses to nature and environment, as well as incorporating the reinforcement of memory and the identity of people and places. This shift stemmed from discussions about intangible heritage in landscapes during the 2003 ICOMOS (International Council on Monuments and Sites) *International Scientific Symposium: Place, memory, meaning: preserving intangible values in monuments and sites*.³⁹ The consequent *European Landscape Convention* introduced in 2004, established 'landscape quality objectives' into the process of planning, protecting and managing landscapes and this convention, combined with the *Xi'an Declaration on the Conservation of the Setting of Heritage Structures, Sites and Areas* (2005) and the *Teemameng Declaration on the Intangible Heritage of Cultural Spaces* (2007) have been pivotal in providing a global shift towards understanding and protecting intangible heritage.⁴⁰

³⁵ Pallasmaa, *Space, Place, Memory and Imagination: The Temporal Dimension of Existential Space*, pg.

³⁶ Pallasmaa, *Space, Place, Memory and Imagination: The Temporal Dimension of Existential Space*, pg.

³⁷ Norberg-Schulz, *Genius Loci: Towards a Phenomenology of Architecture*, 1980, pg. 6

³⁸ Norberg-Schulz, *Genius Loci: Towards a Phenomenology of Architecture*, 1980, pg. 6

³⁹ Liana Müller, *Intangible and Tangible Landscape: an anthropological perspective based on two South African Case Studies*, 2008, pg.118

⁴⁰ Stoffberg, Hindes & Müller, *South African Landscape Architecture*, 2012, pg. 98

However, the aspects of meaning and memory are mostly disregarded in conservation policies of South Africa, as the notions and realities of intangible history have not been grasped by the development industry.⁴¹ This is emphasised in Bakker's paper presented at the *ICOMOS General Assembly* in 2003 where he stated that 'many local planning authorities and most developers are not sensitised to and cannot practically deal with the concept and realities of preserving intangible heritage.'⁴² This disregard is clearly illustrated through the mismanagement of Princess Vlei, particularly in regards to the 2008 mall proposal. In order to protect intangible heritage, a definition of the concept needs to be provided. Most definitions use examples of potential kinds of intangible heritage to describe the term and therefore a combination of discussions on the issue has produced the following definitions, extracted from *Definitions of Intangible History* (2004):

- *Oral expressions: language, oral traditions, oral histories, storytelling, literature, mythology.*
- *Performing arts: music, dance, games, festivals, song.*
- *Social practices: rituals, festivals, events.*
- *Knowledge and practices: customs, cosmology and spiritual beliefs, values, traditional systems of healing and pharmacopoeia, religion, traditional means of conflict resolution.*
- *Traditional craftsmanship: vernacular architecture, the culinary arts and all kinds of special skills connected with the material aspects of culture, such as tools and habitat.*
- *Cultural spaces associated with intangible heritage practices or intangible values associated with sites.*⁴³

Presently in South Africa, efforts to identify the characteristics of intangible heritage and the protection thereof are included in the following major policy and legislative agendas: the *White Paper on Arts, Culture and Heritage* (1996), the *Policy on Indigenous Knowledge Systems*, the *National Heritage Resources Act* (Act 25, 1999) and the

⁴¹ Liana Müller, *Intangible and Tangible Landscape: an anthropological perspective based on two South African Case Studies*, 2008, pg.118

⁴² Bakker, *Preserving Intangible Heritage Resources: Examples from South Africa* (presented at ICOMOS International Scientific Symposium "Place, memory, meaning: Preserving intangible values in monuments and sites), 2003

⁴³ HSRC, *Definitions of Intangible Heritage*, 2004, pg. 27 [online]

National Heritage Council Act (Act 11, 1999).⁴⁴ The *National Heritage Resources Act* is based on the principle that 'heritage resources, which are of cultural significance or other special value for the present community and for future generations that must be considered part of the country's national estate.'⁴⁵

These policies provide the conceptual framework for working with intangible heritage although Scheerrmeyer comments that 'the practical integration of intangible heritage into mainstream heritage resources management has been sorely lacking.'⁴⁶ UNESCO (United Nations Educational, Scientific and Cultural Organisation) describes the anthropological concept of 'cultural space' as opposed a 'site' in the following explanation of their differences:

*In proclaiming 'Masterpieces of the Oral and Intangible Heritage of Humanity,' UNESCO seeks to draw attention to cultural spaces or the traditional and popular forms of cultural expression. We have to be quite clear about the difference between a cultural space and a site. From the standpoint of the cultural heritage, a site is a place at which physical remains created by a human genius (monuments or ruins) are to be found. A 'cultural space' is an anthropological concept that refers to a place or a series of places at which a form of traditional or popular cultural expression occurs on a regular basis...Both cultural spaces and cultural expressions qualify to be regarded as masterpieces of the oral and intangible heritage of humanity.*⁴⁷

From this description, it can be deduced that Princess Vlei constitutes a cultural space, with the major cultural expression on the site being the baptisms, which draw people from all over Cape Town to the waters of the vlei,⁴⁸ (See Fig. 39) as well as the ceremonial practices of Khoisan

⁴⁴ Liana Müller, *Intangible and Tangible Landscape: an anthropological perspective based on two South African Case Studies*, 2008, pg.120

⁴⁵ NHRA No. 25 of 1999, Government Gazette 28 April 1999, No. 19974, Vol. 406: 14(3)

⁴⁶ Scheerrmeyer, *South African Archaeological Bulletin*, 2005

⁴⁷ HSRC, *Definitions of Intangible Heritage*, 2004, pg. 29

⁴⁸ Princess Vlei Forum, *Spirit* [Online]



Figure 39: Religious crowds gather regularly on the banks of Princess Vlei to witness the baptisms



Figure 40: Cairns (a symbolic pile of stones) have their origins in KhoiSan culture, where they were used to mark a burial place or a place of religious significance. The Princess Vlei cairn was started by Khoi elders and religious leaders from different faiths, as a symbol of their commitment to save the space



Figure 41: Chief Hennie Van Wyk, a Khoi descendant, participating in a Khoi ritual at Princess Vlei

Domonique Affinand , Lotus High

I've been helping out at the Princess Vlei for a year... as you can see on the side there are pictures of what we and the other schools have done - we actually put our blood sweat and tears in literally ... don't build another mall, rather build a recreational facility for us. Because building another mall, who's it actually going to benefit? Us, or people who have more money than us or wealthy people? Whereas with a recreational facility you can come and bond with each other, you can be as God wanted us to be because God created Princess Vlei and he wanted us to look after it because when we never had a home. Princess Vlei provided us with a home

Figure 42: Letter from a Lotus High student as part of the Princess Vlei Campaign, describing the importance of the vlei and how much the community has invested in it



Figure 43: An artwork by Mak1, a graffiti artist that grew up in Cafda near Princess Vlei. The piece is a depiction of his interpretation of the princess in the legend of the vlei. It is inspired by patterns in nature and Khoisan rock paintings.

descendants and other interfaith leaders⁴⁹ as a result of its significance as the Gorachqua tribe's watering ground in early history (See Fig. 40 & 41).

The practices and relationship of the community with Princess Vlei are what form its character, therefore an anthropological approach was essential in uncovering the intangible elements of the site - its memories, stories, legend and history, as well as future imaginings for the space inspired by the wants and needs of the surrounding community - in order for these to be overlaid on the tangible elements of place.⁵⁰ As a result, the qualitative anthropological fieldwork conducted by environmental organizations opposing the mall scheme provided a powerful guideline for the development of programme (See Appendix A). This created the pragmatic basis for an evocative intervention with the intention of capturing memories that, under the increasing pressure of urbanization and commercialism, run the risk of being lost through inappropriate development (See Fig. 42 & 43).

⁴⁹ Princess Vlei Forum, *Spirit* [Online]

⁵⁰ Liana Müller, *Intangible and Tangible Landscape: an anthropological perspective based on two South African Case Studies*, 2008, pg.118



Intervention that merges into and enhances natural landscape
An initial imagining for Princess Vlei
(Result of an en loge exercise April 2015)

THE SITE [TOOLS]

In order to build up a set of strategies for making, the reading of the landscape was enriched by an analysis of buildings which have utilized nature as their first point of departure in the design process and those which have created physical manifestations of intangible elements.

TECHNICAL STRATEGIES FOR LANDSCAPE RESPONSIVE DESIGN

The Marika-Alderton House, Mason's Bend Community Centre and the de Young Museum are buildings which share a unified objective; they constitute architectural interventions inspired by nature and built with sensitivity to respond to and enhance the landscape they belong to. Common strategies for achieving landscape responsive design were extracted through technical investigations into these precedent studies of varying size and function - a house, community centre and large scale museum. The vastly different landscapes and contexts the projects situate themselves in, as well as the specific requirements in function and scale for each, allows for a comparative analysis across the buildings to uncover the diverse approaches through which these core strategies have been accomplished.

The Marika-Alderton House

The Marika-Alderton House, completed in 1994, is located in Eastern Arnhem Land in Northern Territory, Australia (See Fig. 44). The specific site for the project is Yirrkala, forming part of the traditional land of the Marika Aboriginal clan, and is located near the coast approximately 4.5 metres above the Arafura Sea. This region is situated within the Monsoonal Tropic climatic zone which experiences wet summers and dry winters.⁵¹ Summer temperatures and humidity levels are high, accompanied with cyclones and flooding caused by tidal surges. During the dry winter season, temperatures are moderate and humidity levels decrease.⁵² Positioned close to the beach, freshwater

⁵¹ Ozetecture, *Marika-Alderton House*

⁵² Cecilia & Levene, *Glenn Murcutt: Feathers of Metal*, 2012, pg. 224

lagoon and estuary creek, building on the site demands using the landscape and climate as the first point of departure in the design.⁵³

The project provided the architect, Glenn Murcutt, with the opportunity to conceive a new prototype which would address the natural landscape, the extreme climatic conditions and the deeply entrenched Aboriginal cultural practices.⁵⁴

Mason's Bend Community Centre

Mason's Bend is situated in the Black Belt region of Hale County, Alabama and forms home to a rural, African-American community. The area is historically a cotton farming landscape⁵⁵ and has been inhabited for generations by four extended families who reside in dilapidated trailers and shacks. Rural Studio decided to intervene through an architecture program at Auburn University which facilitated the building of inventive homes for the residents of Mason's Bend.⁵⁶ In gratitude for Rural Studio's involvement in the community, a recipient of one of their houses donated a triangular piece of land which lies at the intersection of three different families' properties.⁵⁷ The placement of the building at such an intersection called for it to take the form of an architectural landmark, visible to the whole community (See Fig. 45) and with the ability to house a range of functions to serve the people of the area.⁵⁸ The combination of a restricted budget and the need to respond sensitively to the rural landscape led the designers to follow the example of the low-income community's practices of recycling and reclaiming found materials. The project called for a programmatically flexible space constructed from limited materials.⁵⁹

⁵³ Ozetecture, *Marika-Alderton House*

⁵⁴ Ozetecture, *Marika-Alderton House*

⁵⁵ Bell & Rand, *Materials for Architectural Design*, 2006, pg. 26

⁵⁶ Rael, *Earth Architecture*, 2009, pg. 48

⁵⁷ Bell & Rand, *Materials for Architectural Design*, 2006, pg. 26

⁵⁸ Rael, *Earth Architecture*, 2009, pg. 48

⁵⁹ Rael, *Earth Architecture*, 2009, pg. 48



Figure 44: The Marika-Alderton House by Glenn Murcutt - an architectural prototype conceived to respond to the natural landscape and extreme cyclone conditions



Figure 45: Mason's Bend Community Centre serves as a landmark in its rural landscape, utilising a limited palette of materials which emanate the surrounding natural elements



Figure 46: The de Young Museum uses copper panels over its entire facade which have discoloured over time, merging it into the park landscape

de Young Museum

San Francisco's oldest and largest art museum, The M.H. de Young Memorial Museum, houses a diverse range of collections, displaying an array of cultures from all over the world in works of art from present day back to early human history.⁶⁰ The museum has existed in Golden Gate Park since the construction of the first building to house the collections in 1895 and over the years has experienced additions and alterations, driven by the need to expand, as well as to counteract the effects of the earthquakes that the region experiences.⁶¹

Geological landscape conditions were in fact what prompted the need for a new museum building, as the inspection of the old de Young by a civil engineer led to the discovery that there was a possibility that the building could collapse during an earthquake and result in fatalities. The need for a new building presented the architects, Herzog and de Meuron, with the opportunity to reinvent the de Young; applying appropriate technology in an earthquake vulnerable area, exploring adaptations to the museum typology and enhancing the building's connection to the public and its surrounds: the Golden Gate Park.⁶² Many residents of San Francisco described the park as their 'sanctuary' and 'sylvan retreat'⁶³ and therefore it was of utmost importance that the design took cues from the surrounding park landscape (See Fig. 46).

⁶⁰ Herzog & de Meuron, *de Young Museum*

⁶¹ Ketcham, *The de Young in the 21st Century: A Museum by Herzog and de Meuron*, 2005, pg. 18

⁶² Ketcham, *The de Young in the 21st Century: A Museum by Herzog and de Meuron*, 2005, pg. 15

⁶³ Ketcham, *The de Young in the 21st Century: A Museum by Herzog and de Meuron*, 2005, pg. 44

Working with a Limited Palette of Materials

As in the case of the community centre and the house, the use of a smaller range of materials which are locally sourced assists with the project's economic viability, creates a more environmentally sensitive intervention and allows for greater ease and speed of construction. In the case of the museum, the use of a single facade cladding inspired by its natural environment assisted in merging its large form into the surrounding landscape.

Constrained by a tight budget and identifying the need to respond sensitively to the rural environment, the designers of Mason's Bend Community Centre followed the cultural precedent of the area whereby found materials are recycled or reclaimed. This led to the use of local soil and salvaged glass⁶⁴ in the creation of an open-air structure enveloped by a 'soaring' metal and glass canopy and grounded by rammed earth walls. Students cheaply purchased eighty 1985 Chevrolet Caprice side-door windows for re-use in construction of the glass portion of the roof (See Fig. 47).⁶⁵ The placement of ready-made holes near one edge of each window for the mechanism that raises and lowers the window and the convex shape of the glass were central to informing the technical solution to the glass portion of the building. The shape of the glass pieces allows them to be lapped over each other in a fish scale-like fashion, offering protection from the elements without the need to seal the edges in the open-air structure (See Fig. 48).⁶⁶ The limited palette of materials used enclose a programmatically flexible space used as a community meeting area, chapel, play area and stopping point for a book mobile and health clinic.⁶⁷

The hybrid structure of the Marika-Alderton House is limited to two materials. Hardwood structural components span the length of the house, while a structural steel frame achieves stability across the width⁶⁸ (See Fig. 49). Openings in the structure are protected by finely crafted operable plywood screens, allowing them to forgo costly glazing and to

⁶⁴ Bell & Rand, *Materials for Architectural Design*, 2006, pg. 26

⁶⁵ Rael, *Earth Architecture*, 2009, pg. 48

⁶⁶ Bell & Rand, *Materials for Architectural Design*, 2006, pg. 26

⁶⁷ Phaidon Atlas, *Masons Bend Community Center*

⁶⁸ CJ Builds LLC, *Marika-Alderton House: Northern Territory, Australia: 1994*



Figure 47: Reclaimed car windows provided an economically efficient option for constructing the glass portion of the building

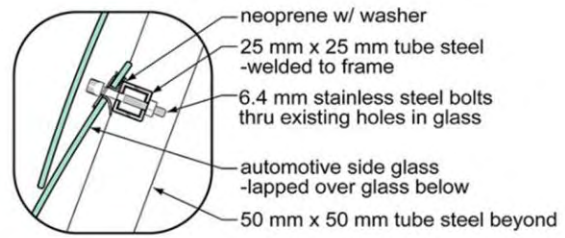


Figure 48: Section through glazing illustrating connection of glass to steel tube. The shape of the re-used car windows allows them to lap over each other, providing enough protection from the elements without the need for sealant.



Figure 49: This image clearly shows the two main materials which constitute the hybrid structure of the Marika-Alderton house. The hardwood structural components span the length of the house, while a structural steel frame achieves stability across the width.



Figure 50: Glazing is rendered unnecessary as operable plywood screens protect the internal space and can be opened up as necessary to provide natural ventilation

maintain a free flow of air throughout the space,⁶⁹ (See Fig. 50) taking a similar open-air approach as the community centre.

Blurring Boundaries between Built Form and Landscape

The buildings have taken two different approaches to this strategy. The de Young Museum integrates landscaping into its built form, whilst the Marika-Alderton House and Mason's Bend Community Centre have permeable boundaries which allow natural light and air to enter their spaces. The community centre allows this to happen constantly while the operable envelope of the house allows for varying degrees of permeability.

Jacques Herzog explains that the de Young museum concept works 'because it was derived from the givens...The given was the park. Tradition and nature had to be foremost. The white box should not be the solution.'⁷⁰ The 'white box' he is referring to is the gallery type commonly used from the 1970's until the 1990's. This typical model turns its back on nature, creating definite boundaries between inside and outside. Instead of following this design type, the consideration of the natural features of the landscape: its topography, vegetation, weather and light, were the chosen informants for shaping the museum and the incorporation of these natural elements into the building itself were important.⁷¹ The resultant form consists of three parallel bands, allowing the landscape to enter the spaces between the bands where inner courtyards are formed within the built structure.⁷² (See Fig. 51) The park and building 'interlock like fingers',⁷³ allowing trees, plants and water to form an integral part of the museum. Internally, the character of circulation and public gathering spaces are shaped by the 'philosophical goal of linking the outdoors and indoors, and the inherent challenge of admitting light into a building of this size.'⁷⁴ (See Fig. 52)

The simple objective of Mason's Bend Community Centre was the creation of a cool and shaded area where the community could join

⁶⁹ Cecilia & Levene, *Glenn Murcutt: Feathers of Metal*, 2012, pg. 232

⁷⁰ Ketcham, *The de Young in the 21st Century: A Museum by Herzog and de Meuron*, 2005, pg. 83

⁷¹ Ketcham, *The de Young in the 21st Century: A Museum by Herzog and de Meuron*, 2005, pg. 83

⁷² herzogdemeuron (online)

⁷³ Ketcham, *The de Young in the 21st Century: A Museum by Herzog and de Meuron*, 2005, pg. 86

⁷⁴ Ketcham, *The de Young in the 21st Century: A Museum by Herzog and de Meuron*, 2005, pg. 92

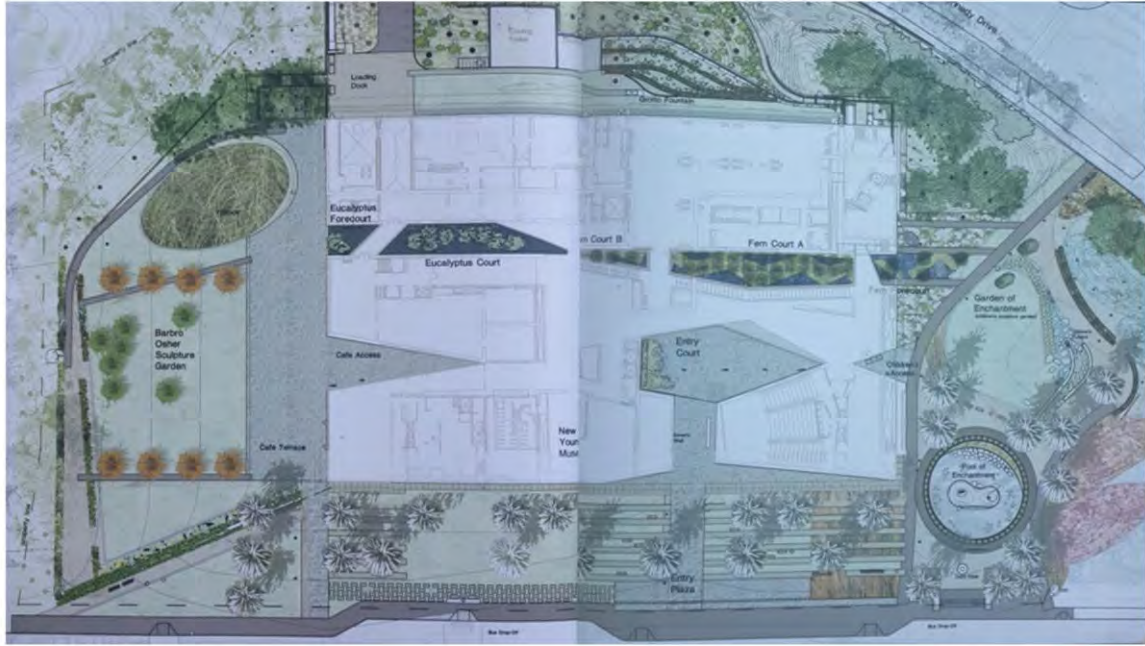


Figure 51: The ground floor plan illustrating how the landscape enters the built fabric. One courtyard is dedicated to eucalyptus and the other ferns, encouraging the user to focus on the unique qualities of each vegetation type.



Figure 52: The section through the museum further shows how nature punctures the building through the form of the eucalyptus courtyard and fern courtyard. These courtyards also allow natural light and air to penetrate deep into the large building.

together for different activities. The open air form of the community centre allows it to have a strong connection with its surrounding natural environment while still providing protection from the elements through an aluminum roof and glazed roof portion which wraps around the space to meet the rammed earth walls. (See Fig. 53) Although a small and simple project, the buildings relationship to the outside environment is inherent in the creation of an ethereal internal experience. The section of glazed roof allows light to enter in a modest yet moving way, using natural light to create an 'exhilarating space of reflection.'⁷⁵ (See Fig. 54)

The Marika-Alderton House has a similar open-air approach in order to deal with the high temperatures of the area. Multiple passive ventilation techniques are employed, some of which form dual purpose in the function of the building. Slatted timber screens provide security and ventilation simultaneously and can slide open to increase air flow and blur the boundaries between the built form and the surrounding landscape (See Fig. 55 & 56). Most of the exterior wall panels swing open to create open-air 'windows' at different levels, capturing the prevailing breezes in order to naturally cool the house (See Fig. 57 & 58).⁷⁶ Even when these 'windows' are closed the house still remains well ventilated as cool air is let in through continuous meshed screens placed along the walls at floor level and hot air is expelled through directional roof vents.⁷⁷ The project demonstrates the creation of a building in which elements of the structure are manipulated in order to harness or protect from the elements of the surrounding environment.

⁷⁵ Rael, *Earth Architecture*, 2009, pg. 48

⁷⁶ Ozetecture, *Marika-Alderton House*

⁷⁷ CJ Builds LLC, *Marika-Alderton House: Northern Territory, Australia: 1994*

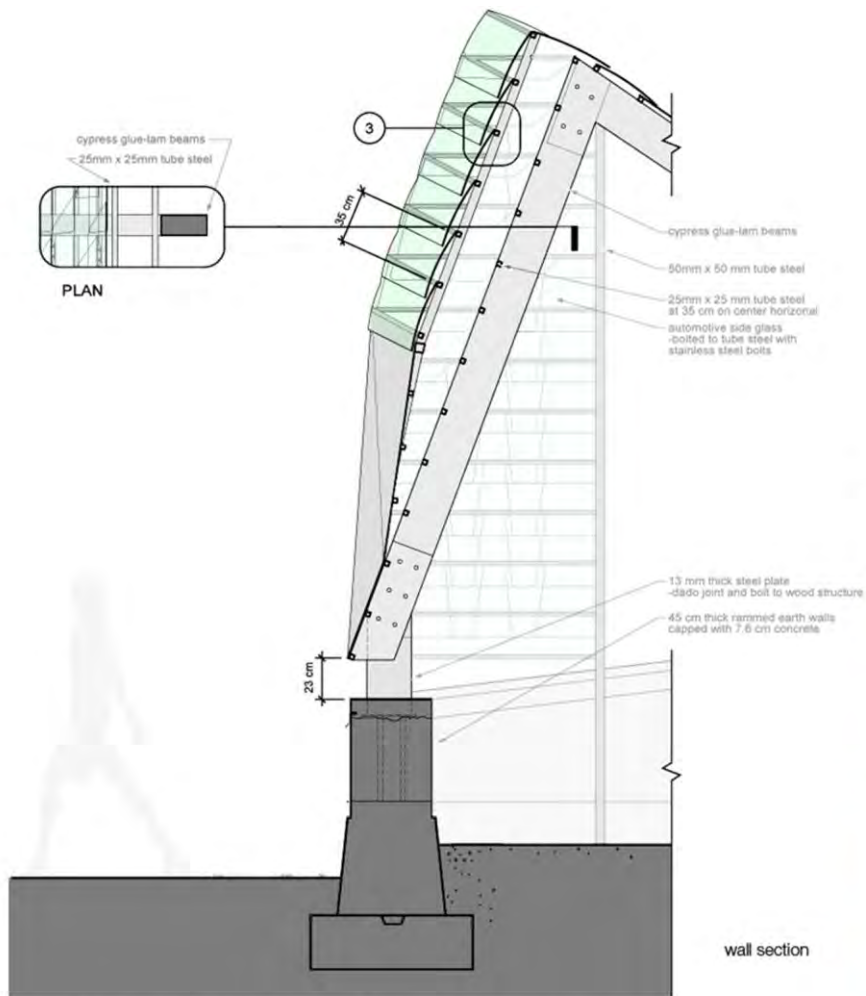


Figure 53: Section through the glazed portion of the structure. The unsealed lapped glass and the gap between the cypress beams and the concrete cap of the rammed earth walls allow for free flow of air into the space.

Figure 54: The lighter secondary structure which supports the glazing allows more natural light to penetrate the space





Figure 55: Slatted timber screens provide security whilst still allowing fresh air into the space

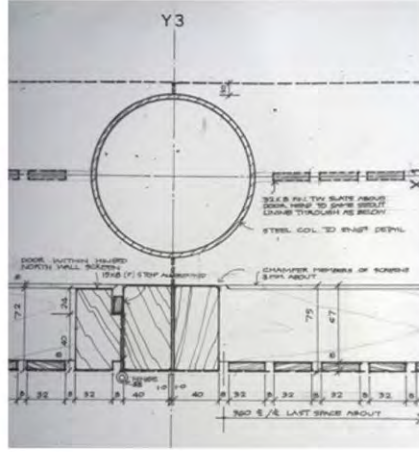


Figure 56: Plan of slatted timber screens illustrating the permeability of the structure

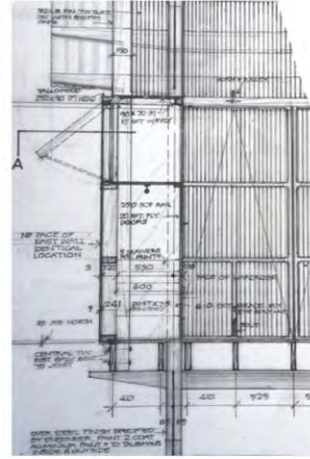


Figure 57: Section through the house depicting the operable plywood panels which can be opened as necessary to capture prevailing winds for cooling



Figure 58: Operable plywood panels allow for flexibility in the permeability of the building envelope, blurring boundaries between nature and building

Interpreting surrounding Landscape Elements and Processes

The projects take inspiration from the surrounding natural environment and translate these findings into the colour and texture of materials used, in order for the building emanate the characteristics of the landscape in which it stands. In the Marika-Alderton House the finely crafted operable plywood screens are finished with an ultraviolet-stabilised red oxide satin paint, in order to respond to the red bauxite colours of the landscape.⁷⁸ Similarly, the colour of the rammed earth walls in Mason's Bend Community Centre emulate the colour of soil on which it sits, while the glass and aluminium roof reflect the changing sky, constantly relating the building to the changing natural elements. (See Fig. 59)

The extension of nature into the de Young Museum is articulated as 'cracks' through the building, creating a conceptual interpretation of the relationship between the architecture and the landscape it sits on, which is vulnerable to 'cracking' from the earthquakes it experiences (See Fig. 60). The curved shape of the museum as seen in elevation, is inspired by the sand dunes which make up part of the site and also aids in de-emphasising the unavoidable bulk of the building (See Fig. 61).⁷⁹ The architects furthermore wanted to use the facade to achieve the same objective of decreasing the buildings vastness by taking cues from the landscape and started exploring natural materials inspired by blending into the landscape setting. Inspired by the copper fitting details of the Dutch Windmill, also situated in the park, the team began an exploration into copper and how it could be used as a sensitive interface between the building and the landscape. The use of copper would transform the facade into a mottled, rather than uniform, surface as it aged over time through processes of the environment, increasingly merging the building into the natural surroundings.

With copper as the choice of facade treatment, the team experimented with different ways of altering the material in order to give it an organic and dynamic impression when placed over large portions of the building.

⁷⁸ Cecilia & Levene, *Glenn Murcutt: Feathers of Metal*, 2012, pg. 226

⁷⁹ Ketcham, *The de Young in the 21st Century: A Museum by Herzog and de Meuron*, 2005, pg. 151



Figure 59: The glazing which wraps around the community centre provides a constant reflection of the changing natural conditions. In this way, the building continually emanates the characteristics of its surrounding environment.

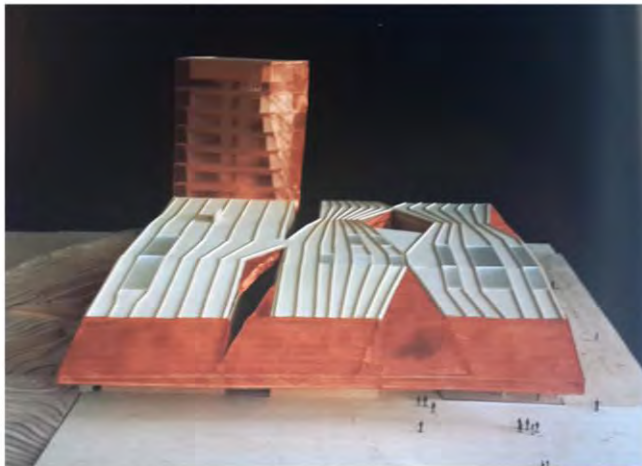


Figure 60: The 'cracked' form of the museum is symbolic of the earthquake prone landscape in which it sits

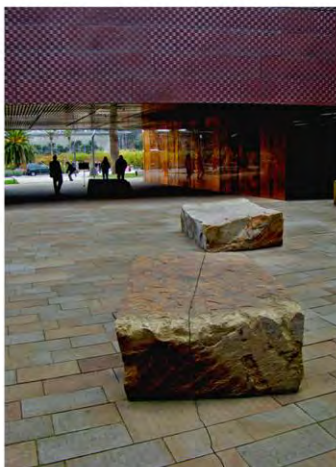


Figure 61: Landscape art has been used to create an awareness of the natural processes of the area

The chosen method was the use of pixelated photographs of surrounding tree canopies translated into abstract patterns of perforations, dimples and bumps onto the sheets of copper through the use of a computer program (See Fig. 62 & 63).⁸⁰ The result was 7200 individually shaped and patterned copper panels,⁸¹ creating the effect of a building whose vastness still manages to mimic and merge into the landscape, exuding the feeling that it was always meant to be there (See Fig. 64 & 66). Furthermore, the fuzziness of the perforated panels is reminiscent of the common fog conditions in San Francisco and the change in colour of the copper from exposure to this condition expresses the climate of the area (See Fig. 65),⁸² increasing the building's connection to nature.

⁸⁰ Ketcham, *The de Young in the 21st Century: A Museum by Herzog and de Meuron*, 2005, pg. 106

⁸¹ Ketcham, *The de Young in the 21st Century: A Museum by Herzog and de Meuron*, 2005, pg. 103-104

⁸² Ketcham, *The de Young in the 21st Century: A Museum by Herzog and de Meuron*, 2005, pg. 155

Figure 62: The use of the same material over the entire facade is made more dynamic through the individually patterned and indented panels



Figure 64: The colour and patterns of the copper panels mimic colours and patterns of the surrounding landscape

Figure 63: Pictures of surrounding trees were pixelated and then translated into patterns and bumps which could be used on the copper panels. The resultant effect is a building that has a dappled rather than uniform facade, allowing it to blend in with its natural environment

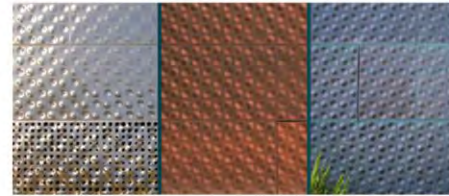


Figure 65: The colour changes in the copper (from left to right) as it ages over time

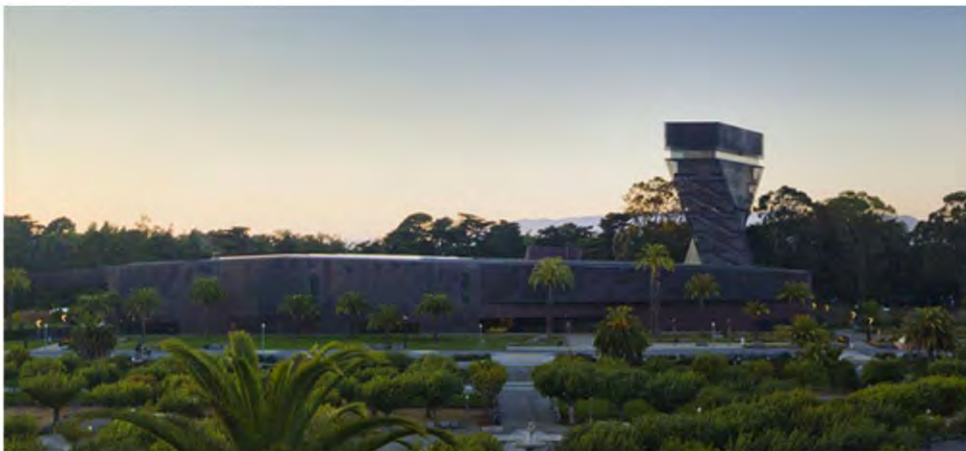


Figure 66: The building's curved shape is inspired by the sand dunes which make up part of the site, thereby embodying the characteristics of a natural element in built form. The use of the same material for the entire facade reduces the bulkiness of the building, blending it into the landscape

Scaling Landscape

Often landscape can be more meaningfully experienced when its vastness is filtered by breaking down the scale of the outside and making it more accessible to the human scale of the inside.⁸³ In the Marika-Alderton house, this is achieved by the ability of the façade to open up in sections. Along the southern façade, vertical plywood screens extend from the steel column line (See Fig. 67) and correspond to the size and placement of internal built-in furniture pieces - the kitchen counter, bed or timber joinery. This creates a relationship between the internal function and the surrounding environment, framing each element for the receiving landscape in 'floating window bays.'⁸⁴ (See Fig. 68 & 69) The ability of the house to open up to the landscape allows the inhabitants to be able to constantly view the horizon and remain aware of weather changes, as well as observe animals and children. (See Fig. 70) When born into the Aboriginal culture, each person takes on the character of a natural element,⁸⁵ therefore the ability of the house to maintain visual connection with elements such as animals, trees and water is strongly informed by their beliefs.⁸⁶

⁸³ Cecilia & Levene, *Glenn Murcutt: Feathers of Metal*, 2012, pg. 55

⁸⁴ Ozetecture, *Marika-Alderton House*

⁸⁵ Wines, *Green Architecture*, 2008, pg. 44

⁸⁶ Cecilia & Levene, *Glenn Murcutt: Feathers of Metal*, 2012, pg. 226

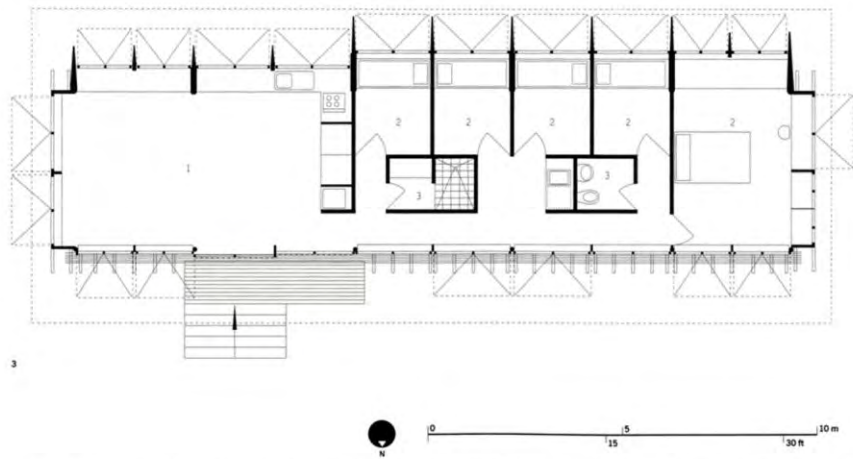


Figure 67: Plan of the Marika-Alderton house illustrating the plywood screens which extend from the steel columns

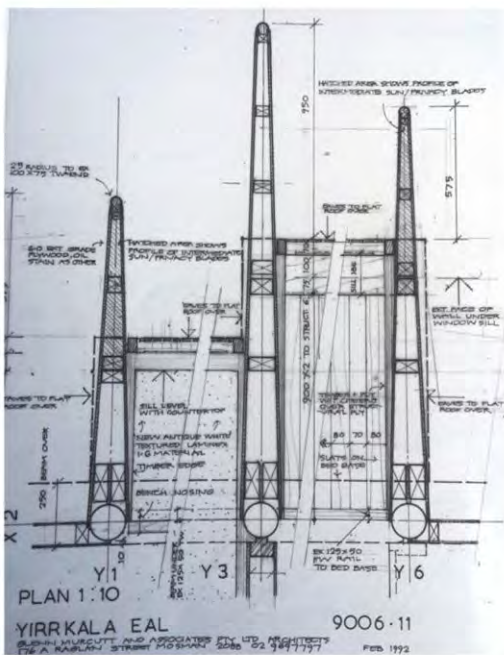


Figure 68: Plan of screens illustrating how they correspond to internal elements, as well as provide shade from early morning and late afternoon sun



Figure 70: The operable plywood screens can be opened up to frame meaningful scaled views of the landscape



Figure 69: Relation of projecting screens to internal furniture elements and activities



**Creating evocative experience through the awareness of the
body's relationship to nature**
An initial imagining for Princess Vlei
(Result of an en loge exercise April 2015)

STRATEGIES FOR EMBODYING THE INTANGIBLE IN LANDSCAPE

Alongside the essential pragmatics of design in natural landscape - such as appropriate and comfortable places to sit, walk, explore and play - and the ecological considerations in construction and programming of the site, designing in a natural landscape can provide the opportunity to create a 'poetic' awareness of the relationship between the body and its surrounding environment⁸⁷ through 'experiences that reduce barriers between humans and the natural world.'⁸⁸ Cosgrove describes this constructed relationship as the 'the idea that under certain conditions humans can touch the deepest rhythms of creation and achieve a unity between their own spirit and that of the living universe.'⁸⁹ Strategies and supporting projects that encapsulate such intangible elements were investigated in order to uncover approaches whereby these phenomena can be translated into physical manifestations for experience.

Symbolic interpretations

Water has also been used as symbol and combined with path in the 'Trail of Tears' at Chattanooga Waterfront Park, which commemorates a National Historic Trail - twenty two mile trail through water and land across nine states that was walked by American Indians after forced removal by the US Government. The design by Hargreaves Associates develops a portion of the trail into a cut which slopes from the street grid into the Tennessee River.⁹⁰ The use of water along the pathway symbolises 'tears' and therefore the hardship caused by the forced removals. Cherokee art is embedded in the pathway walls and an explanation of each artwork is located in the centre of the wet and dry ground which form the pathway, a symbol of the trail over water and land.⁹¹ (See Fig. 71) Although the intervention is symbolic of an historical event, it also forms an interactive space which attracts people there, who in turn learn more about the historical Trail of Tears.

⁸⁷ Hunt, *A World of Gardens*, 2012, pg. 314

⁸⁸ Hunt, *A World of Gardens*, 2012, pg. 315

⁸⁹ Cosgrove, 'The Geometry of Landscape' in *The Iconography of Landscape*, 1988, pg. 270-71

⁹⁰ M'Closkey, *Unearthed: The Landscapes of Hargreaves Associates*, 2013, pg. 40

⁹¹ M'Closkey, *Unearthed: The Landscapes of Hargreaves Associates*, 2013, pg. 41

Re-translation of Topography

Topography is defined as 'the arrangement of the natural and artificial physical features of an area.'⁹² In Candlestick Point Park and Byxbee Park, previously serving as a rubble heap and sanitary landfill respectively,⁹³ Hargreaves Associates utilise the physical manifestations of the history of activities in the landscape as a means to reconstruct a new landscape. The accumulation of layers on the sites inspired the approach to new arrangements of physical materials which furthermore allude to the state of the sites in earlier periods through landforms that resemble Indian shell middens at Byxbee Park (See Fig. 72) and the creation of sheltered areas inspired by the windswept dune morphology that existed before industrialisation at Candlestick Point Park.⁹⁴ (See Fig. 73)

Photographic imagery of agricultural land in the German Ruhr presented in Paolo Bürgi's *Field Studies*, also illustrates the possibility for topography formed by human action to fulfill a new purpose.⁹⁵ The designer had to synthesise two objectives - the need for farmers to continue to make a living from the land and the need for the land to respond aesthetically and experientially to the fringing housing estates. The proposal suggested following the existing patterns of ploughing and seeding, introducing flowers in selected panels between the crops.⁹⁶ The result is a section of poppies in the cornfields and cornflowers in the wheat fields, simultaneously integrating functional, aesthetic and experiential qualities within an existing topography. (See Fig.74)

⁹² Random House Kernerman Webster's College Dictionary, 2010

⁹³ M'Closkey, *Unearthed: The Landscapes of Hargreaves Associates*, 2013, pg. 29

⁹⁴ M'Closkey, *Unearthed: The Landscapes of Hargreaves Associates*, 2013, pg. 29

⁹⁵ Hunt, *Historical Ground: The Role of History in Contemporary Landscape Architecture*, 2014, pg. 33

⁹⁶ Hunt, *Historical Ground: The Role of History in Contemporary Landscape Architecture*, 2014, pg. 33



Figure 71: Hargreaves Associates translation of this historic event into an interactive public walkway which utilises contemporary Cherokee art integrated into wet and dry ground as symbolism of the land and water of the trail and the heritage of the people who were forcibly removed.



Figure 72: The topography of Byxbee Park tells stories of the history of activities on the land.



Figure 73: The topography of Candlestick Point Park expresses the dune formations of the land before development, as well as provides sheltered areas in the new park.



Figure 74: The topography of the land becomes a more noticeable element by translating sections of functional farmland into aesthetic delights.

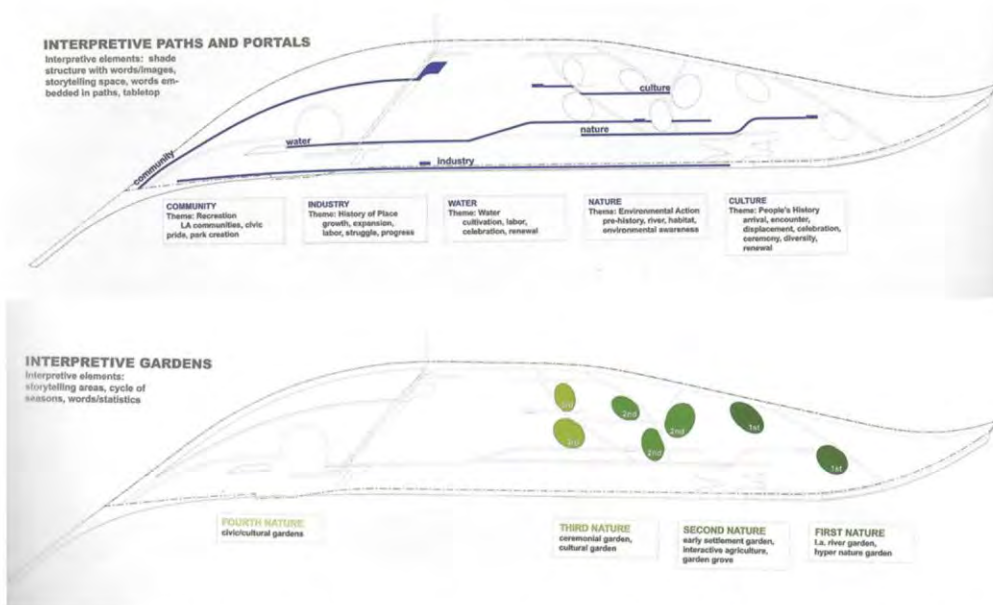


Figure 75: Los Angeles State Historic Park creates layers of narrative through paths and vegetation. With paths dedicated to discoveries in industry, water, nature, culture and community and interpretive gardens which use specific vegetation in each to make observers aware of different historical eras or cultures



Figure 76: Van Valkenburg's wall at Teardrop Park, Manhattan, is an intervention which relies on the qualities of water to demonstrate the intangible concept of natural process. The noticeable change of the wall at a human scale makes observers aware of changing seasons.

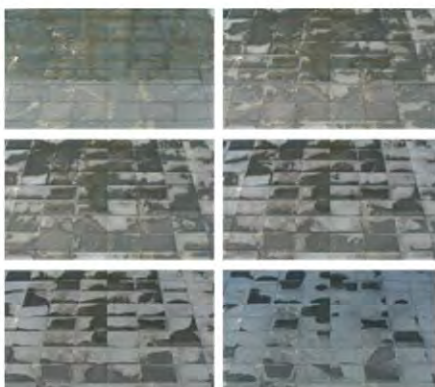


Figure 77: 'Weather Garden' at Park Hyatt Hotel allows nature's processes to be celebrated rather than remain an intangible and unnoticed phenomena



Figure 78: The landscape intervention at Louisville Waterfront Park further emphasises nature's process by dividing the land into its flood zones through the use of paths

Vegetation and Natural Process as Narrative

The design of the Los Angeles State Historic Park uses a Sloped Garden to portray different cultural definitions of nature. This garden runs along the community pathway and uses different vegetation types to illustrate the passing of time: from plants that were common to the area before development followed by Mediterranean vegetation that was aesthetically preferred, to subtropical plants and then drought-tolerant plants as a hopeful future preference which provide awareness of restricting water use.⁹⁷ Vegetation is also used as narrative in the three types of interpretative gardens, which use specific vegetation types to emphasise historical eras and events. As well as the community pathway, other interpretive paths create a cultural, historical and natural narrative throughout the space.⁹⁸ (see Fig. 75)

Constantly occurring natural processes such as weather, changes in the tide and seasons are integral to our experience of landscape and interventions which visibly present their effects help to create awareness of these important yet intangible aspects. Van Valkenburg's wall at Teardrop Park, Manhattan, allows water to drip over its jagged rock face that then freezes as it falls during winter, transforming the wall⁹⁹ and thereby creating a physical manifestation of the climate (See Fig. 76). The 'Weather Garden' at Park Hyatt Hotel is also an acknowledgment of weather. The unevenly paved surface allows rainwater to settle in certain areas. The courtyard is inaccessible to hotel guests, but they can look down into it and view the reflection of rainclouds and the changing puddles as water evaporates from this modest intervention, making the 'story of rain tangible and evocative.'¹⁰⁰ (See Fig. 77).

The natural process of water is also made visible in the Louisville Waterfront Park, where paths have been positioned to demarcate different flood zones. The lower park is located just above the normal high-water level and the upper pathway defines the ten-year flood line. The contrast between the upper maintained lawn and lower flooded

⁹⁷ M'Closkey, *Unearthed: The Landscapes of Hargreaves Associates*, 2013, pg.76

⁹⁸ M'Closkey, *Unearthed: The Landscapes of Hargreaves Associates*, 2013, pg. 76

⁹⁹ Hunt, *Historical Ground: The Role of History in Contemporary Landscape Architecture*, 2014, pg. 37

¹⁰⁰ Hunt, *Historical Ground: The Role of History in Contemporary Landscape Architecture*, 2014, pg. 37/39

lawns can clearly be seen,¹⁰¹ creating an awareness of the effect of water on the landscape.(See Fig. 78)

Positioning of Observer and Materials

In Paolo Bürgi's Geological Observatory at Cardada in the Canton of Ticino, Switzerland, the intervention provides a platform for observation of the surrounding geology. The edge of the platform contains descriptions and images about what the landscape presents, but it is the considered positioning of viewers which provides insight into the intangible changes of the geology over time. The platform allows a compelling view of a striking crevice in the hillside, a geographic split that resulted from the movement of the African and European tectonic plates sliding past each other millions of years ago. The use of materials on the platform itself further encompasses this natural event through the placement of two rows of stone - one of which is made up of rocks from the African plate and the other of rocks from the European plate.¹⁰² (See Fig. 79)

A similar technique is used in a project of completely different intention in a memorial at Majdanek in Poland, one of the best preserved death camps built during the Holocaust. Wiktor Tolkin's bulky stone monument uses heavy material placed on two plinths to signify the burden of memory that the death camp holds.¹⁰³ (See Fig. 80) A 'valley of death' leads up to this, lined by sharp rocks which create a threatening atmosphere (See Fig. 47). The use of this pathway positions the viewer at the of the monument, presenting a framed view of the distant chimney of the crematorium and the dome which covers a mausoleum of ashes in the gas chambers.¹⁰⁴ (See Fig. 81) The placement of the materials in relation to the guided position of the observer, creates a setting of contemplation - an abstract, timeless space where the intangible memory of destruction can be better grasped.

¹⁰¹ M'Closkey, *Unearthed: The Landscapes of Hargreaves Associates*, 2013, pg. 169

¹⁰² Hunt, *Historical Ground: The Role of History in Contemporary Landscape Architecture*, 2014, pg. 21

¹⁰³ University of Minnesota, *Majdanek Death Camp*, 2014 [online]

¹⁰⁴ Hunt, *Historical Ground: The Role of History in Contemporary Landscape Architecture*, 2014, pg. 67



Figure 79: Paolo Bürgi's Geological Observatory at Cardada positions the viewer in landscape in order to make them aware of the manifestations of a geological event they might have otherwise missed. The positioning of rock from the two tectonic plates involved in this event are placed in rows, their presence is made easily noticeable on the otherwise flat and empty platform.



Figure 80: The placement of a heavy rock sculpture on two plinths creates a compelling image about the weight of memory.



Figure 81: The framed view resulting from positioning the viewer using the pathway creates a feeling of timelessness - as if they have been transported back to the time when the atrocities took place. This bridges the gap between the intangible and the present.

THE SITE [READING]

Reading the Landscape

The Khoisan people were the epitome of 'landscape readers' with their nomadic lifestyle enabling them to build up a knowledge of instinctual responses to natural environments for settlement. Apart from the presence of a magnificent body of water, the site itself provides no obvious clues for design through its sparsely vegetated and relatively flat character, and therefore it required an analysis through a similar instinctive lens in order to identify the natural forces acting on the site and the spatial characteristics of physical natural elements. An additional layer of analysis is one of imagination, as the history of the site presents a palimpsest, calling for a design system to be extrapolated through a reading of the landscape that combines these physical findings in conjunction with its intangible heritage and enriched by observations in how people currently use the site.

Macro Urban Analysis

Diagrammatic analysis of the water, open space and urban fabric of the Princess Vlei area at a macro scale shows decreasing zones of built interference towards the water's edge (See Fig. 82).¹⁰⁵ The City of Cape Town's response to this condition is presented in their 2015 conceptual design framework for Princess Vlei, which zones surrounding land into areas of low, medium and high intensity activities, as well as defining passive recreation zones and areas for municipal use. (See Fig. 32) Their objective with this scheme is to conserve and rehabilitate natural areas, encourage recreational use where appropriate in these areas and increase surrounding urban density in order to maximize users and passive surveillance.¹⁰⁶

These decreasing zones of interference and the relationship between suburban fabric and natural open space present two main approaches for architectural intervention on the site. One approach is a building as bridge or path across these zones to draw users towards the water and

¹⁰⁵ Klitzner, *Interview on Landscape Strategies for Princess Vlei*, 2015

¹⁰⁶ *Princess Vlei AGM*, 2015

deeper into the site across the zones. Another approach is to concentrate the building along the main transport route, creating a response to the existing built fabric and main transport route whilst minimizing development in more sensitive ecological zones (See Fig. 83 & 84). Both these approaches were explored during the design development phase. Through these investigations, it was decided that the built intervention had more strength acting as bridge between the suburban and the vlei through a predominantly linear form providing framed glimpses into the landscape (See Fig. 85-91 illustrating early design ideas).

Figure 82: Water, open space and built fabric

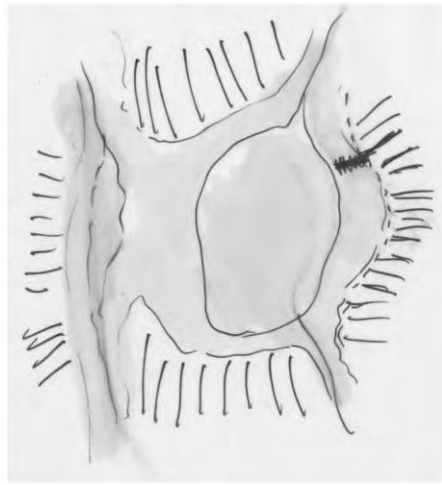
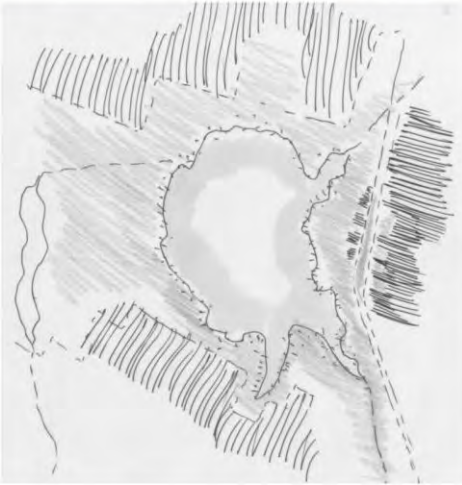
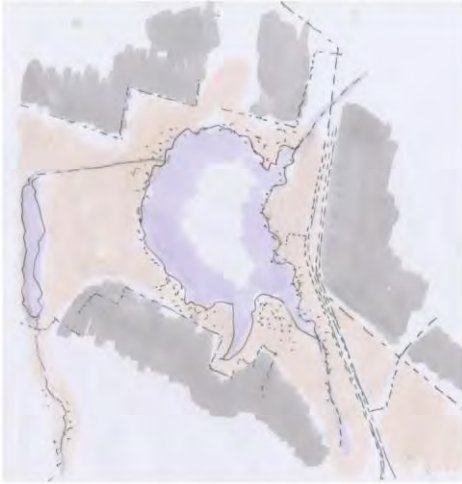


Figure 83: Sketch exploration - responding to the urban and creating a buffer zone between the suburban and th water

Figure 83: Sketch exploration - bridge between the urban and the water

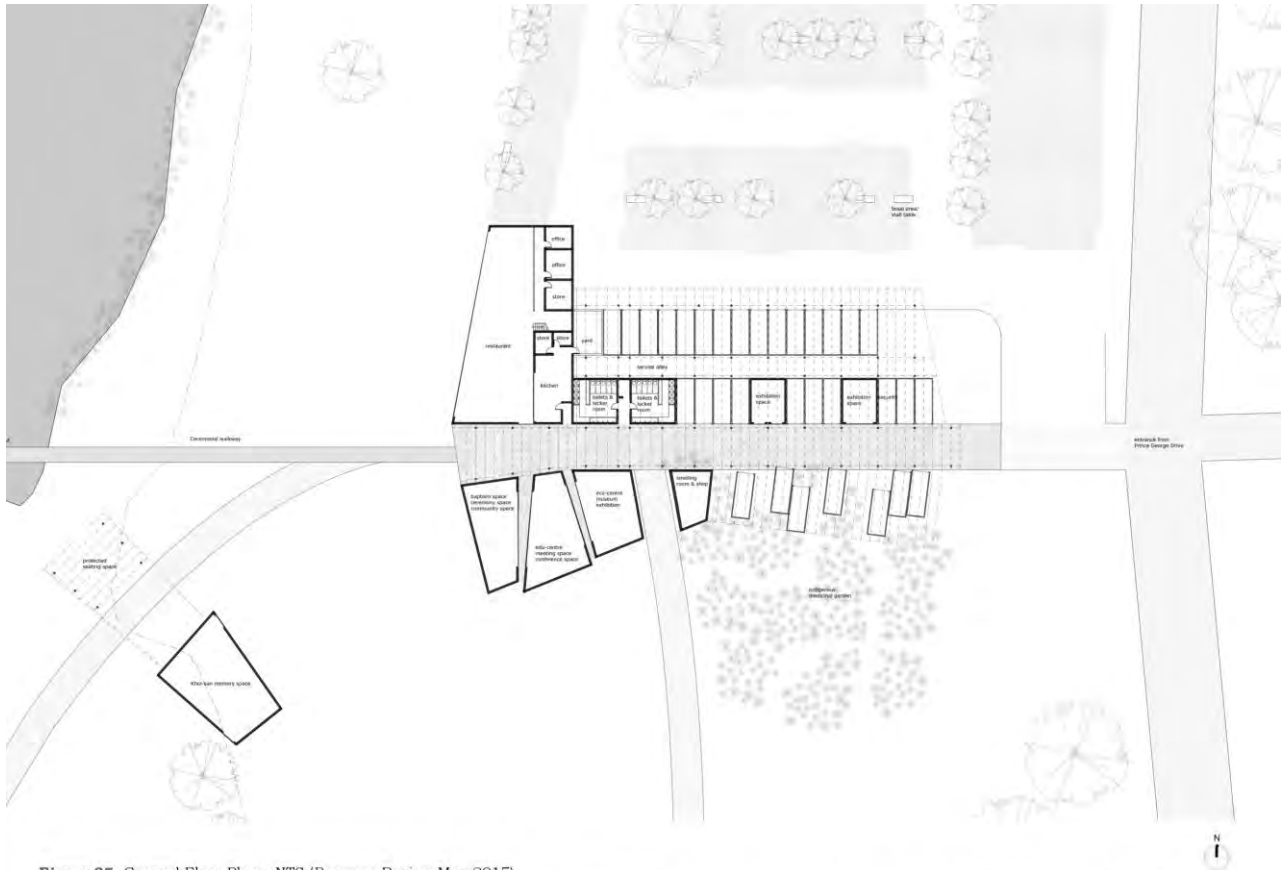


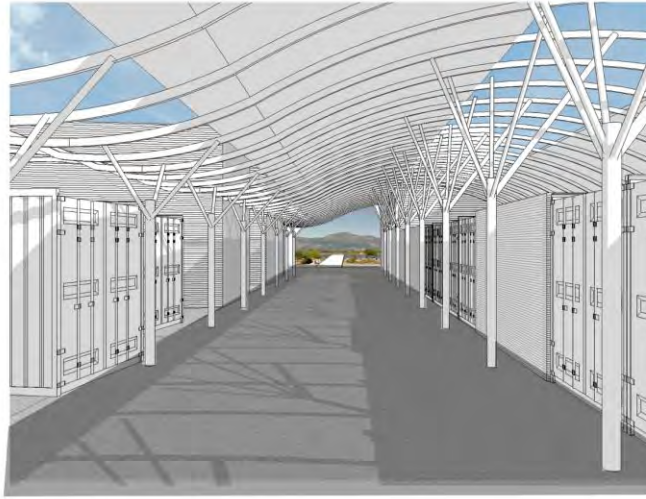
Figure 85: Ground Floor Plan - NTS (Progress Review May 2015)
 Linear plan formed by creating a pathway from the existing entrance to the water. The boundaries of this pathway are made up of repeated market modules and exhibition/meeting/eating spaces shaped by contours and views. The pathway opens up on the south side, revealing strategic views and allowing the natural landscape to enter the built form. The linear form of the building is continued in a ceremonial/recreational walkway for use in baptism ceremonies or as a viewing platform.



Figure 86: Section through pathway - NTS (Progress Review May 2015)



Figure 87: Entrance elevation - experimenting with translating landscape form into the roof structure in a way which protects from the south easterly wind, shades the north elevation and harnesses solar energy - NTS (Progress Review May 2015)



Perspective through market space
Progress Review May 2015



Form derived from landscape elements
shaped by natural process




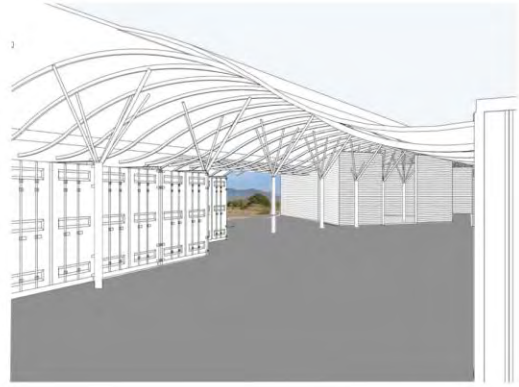
Landscape forms



Figure 89: Exploring translations of natural form and elements into built form




Site Plan (NTS) 



Pathway opens up to reveal specific views



Ground Floor Plan 1:250 

The building forms a pathway towards the water, mixing market and exhibition programme along the way. Openings reveal specific landscape views well still protecting from wind

Figure 90: Design Development June 2015

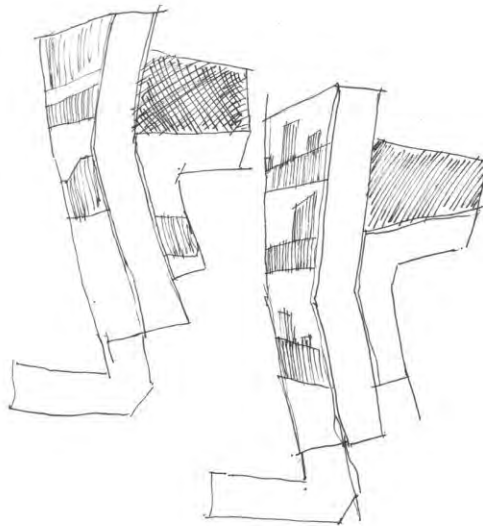
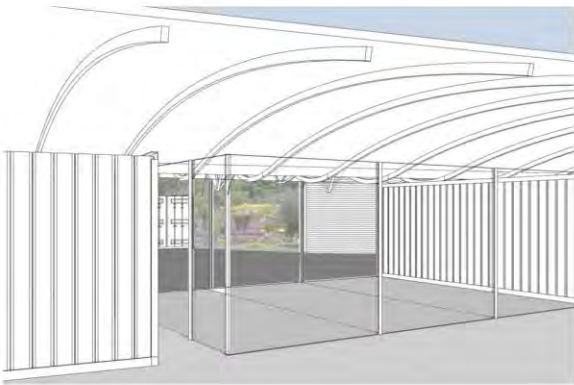
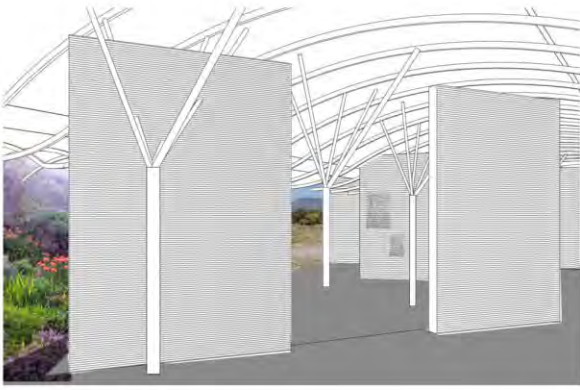


Figure 91: Design Development June 2015 - exploring materials, elevations and roof

Natural Forces, Landscape Lines and Zones, Spatial characteristics of natural elements

The decision to create site-generated architecture led to an in-depth analysis of the physical attributes of the site, in order to extrapolate design clues from nature and build upon existing spatial characteristics of natural elements. A mapping of existing site surfaces and the position and height of each tree began to reveal subtleties in a seemingly uninteresting landscape (See Fig. 92), which was further enriched by a diagrammatic analysis of the spatial characteristics of the mapped natural elements that could be translated into design (See Fig. 93). A further layer of study was added through exploration of the site by means of walking it, experiencing it and observing the experience of others. These analysis drawings start to uncover the intangible layers of the site and make them perceptible by revealing the instinctive topography, views, activity zones and areas on the site that attract people, either for shelter, shade, views or access to the water. (See Fig. 94)



Existing tree positions and Heights

- 2m
- 2.5m
- 3m
- 5m
- 9m

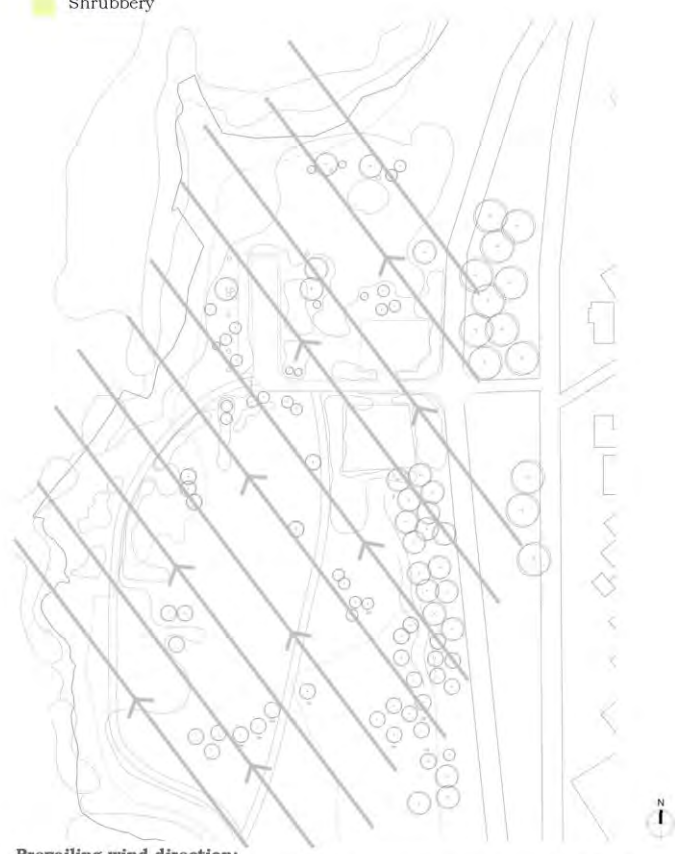


Existing site surfaces

- Tar
- Sand
- Reeds
- Marsh
- Shrubbery



Location of site



Prevailing wind direction:

This aspect is particularly important in a sparsely vegetated and relatively flat site that requires increased wind protection

Figure 92: Mapping of existing site surfaces, specific tree locations

The need for the architectural intervention to provide an embodiment of the Khoisan culture created an interesting dilemma as this indigenous community placed little importance on material culture with many of their rituals, stories and beliefs based on natural elements - the moon, vegetation, water, fire and animals (See Fig. 95). The project then called for building up a set of design tools that expanded upon the notion of 'the built', introducing methods of creating space through minimal means and landscape conditions. The decision to embody Khoisan memory called for an imaginative reading of the landscape with their culture in mind. These explorations led to instinctive mappings in order to develop landscape lines which could form a base map for design (See Fig. 94).



Figure 95: An important activity in Khoisan culture is gathering around a fire for storytelling, singing and dancing or around those who are partaking in ritual. This inclusive, embracing way of gathering informed spatial decisions in landscape intervention on the south side of the building

Site picture



Spatial plan diagram



Bent structures positioned to create constant cover with dense canopy
Creates defined through routes



Bent structure with cover that becomes increasingly dense towards ends



Many vertical supports and dense canopy



Dense canopy cantilevering from single main support



Dense cantilevering canopy providing wind and shade protection



Cantilevering canopy that becomes denser at the ends



Low dense cantilevering canopy
Webbed dense structure



Close supports with dense voluminous canopy expanding sideways and upwards



Separate permeable canopies expanding outwards and downwards



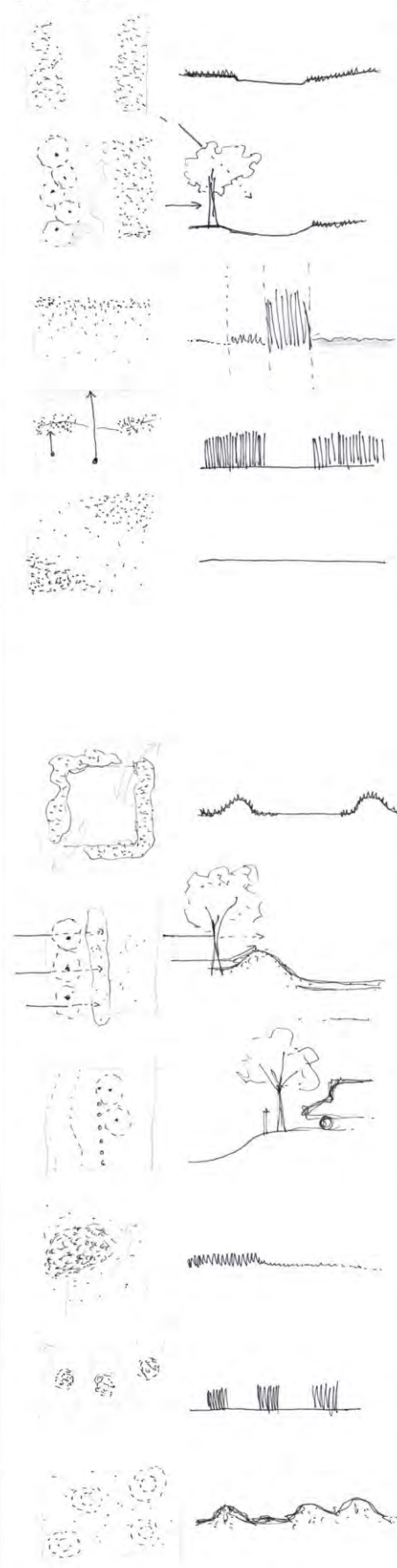
Supports almost completely draped with moderately dense canopy

Figure 93: Spatial Characteristics of Landscape Elements

Site Pictures



Spatial diagrams



Path
Defined by the change in surface type and height

Path
Created by the need for shade provided by a line of trees

Transition from land to water through zones of different textures and height

Opening in vegetation revealing view and creating access point

Surface
Defined areas created through change in texture but not height

Raised edge surrounding a flat area

Raised edge with trees behind combined to create extra protection from wind

Edge of car access defined by slope and vertical elements (trees and bollards)

Surface
Change in surface clearly defined by height and texture - discourages walking over the surface

Surface
Scattered vertical elements creating different path options

Surface
Change in levels of surface creates a dynamic floor plane



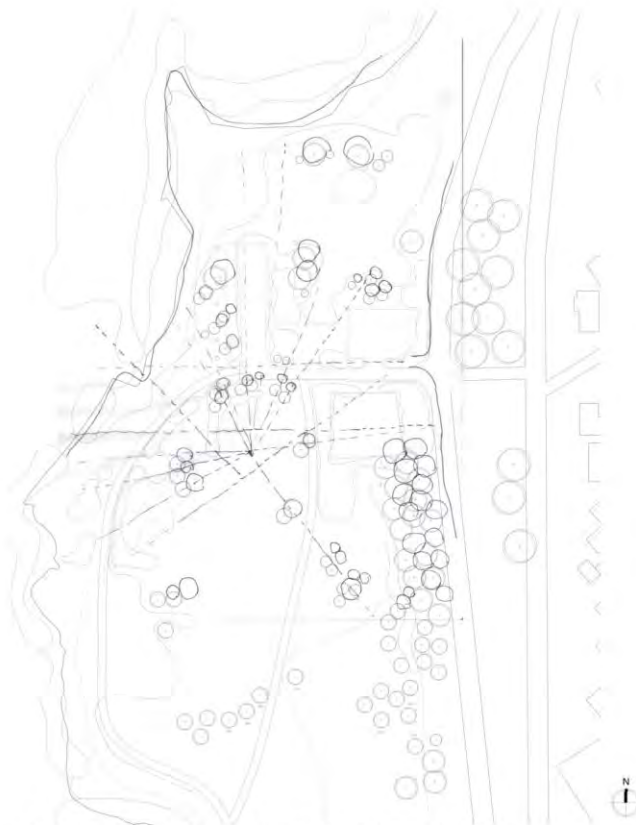
Places you want to be

The exercise of mapping out trees and then observing behaviour to deduce where people wanted to spend their time on the site, it was found that gathering often occurred under trees because of the shade and wind protection they provide. The trees most commonly gathered/sat/parked under were those closest to the entrance of the site



By creating connections between trees, and therefore places where people gather, radial patterns began to emerge in the site, providing clues for landscape intervention which could embrace these areas, providing wind shelter and defining spaces in the vast relatively flat landscape

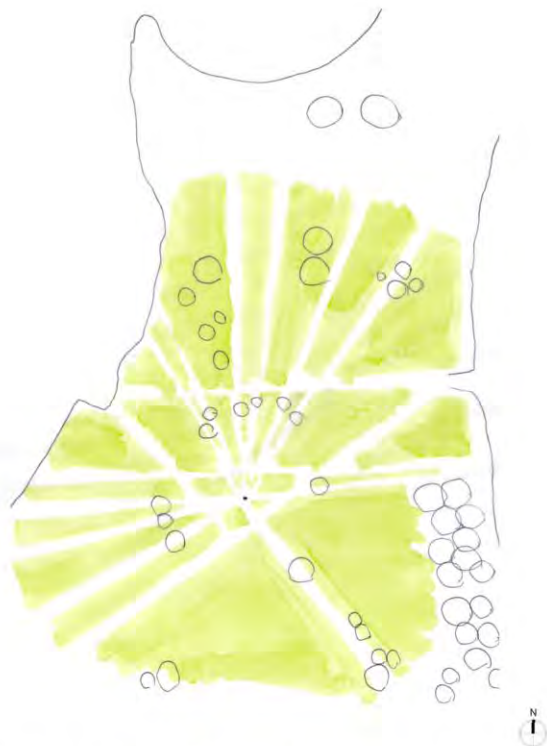
Figure 94: Instinctive mapping to re-imagine landscape lines



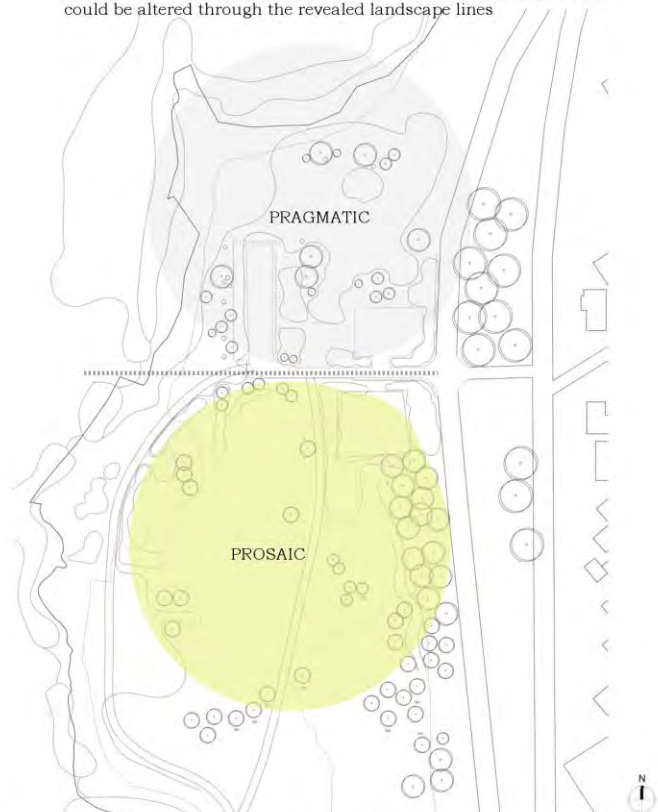
Base map of landscape lines formed by overlaying radial tree patterns with view lines, focusing on those closest to the entrance where the intervention will occur



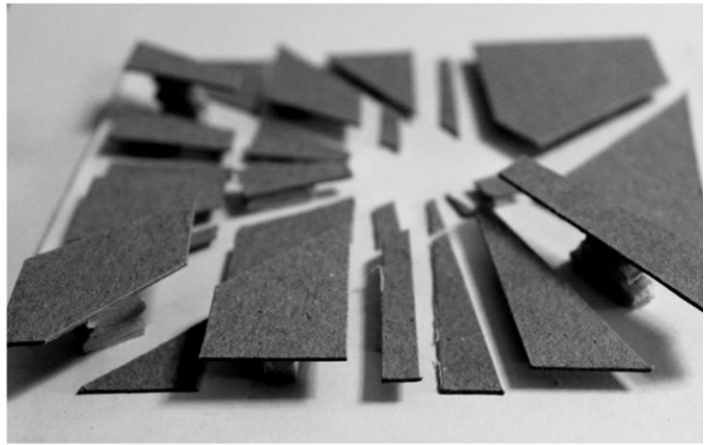
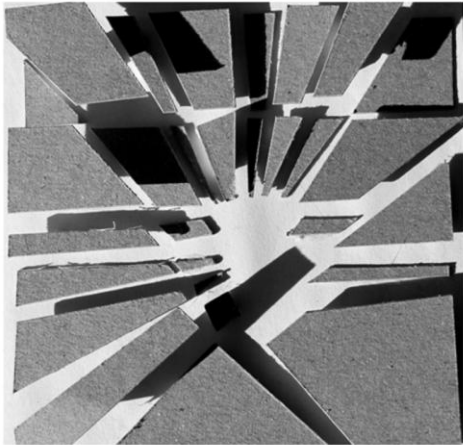
Instinctive topography - the subtle level changes of the landscape are not visible in mapped contour lines, therefore instinctive topography was recorded while walking the landscape. The land was found to be slightly bermed on the south side, a factor which could be built upon in order to increase protection from the south easterly wind and define spatial zones. The north side was found to be slightly raised and flat, creating an uninteresting landscape which could be altered through the revealed landscape lines



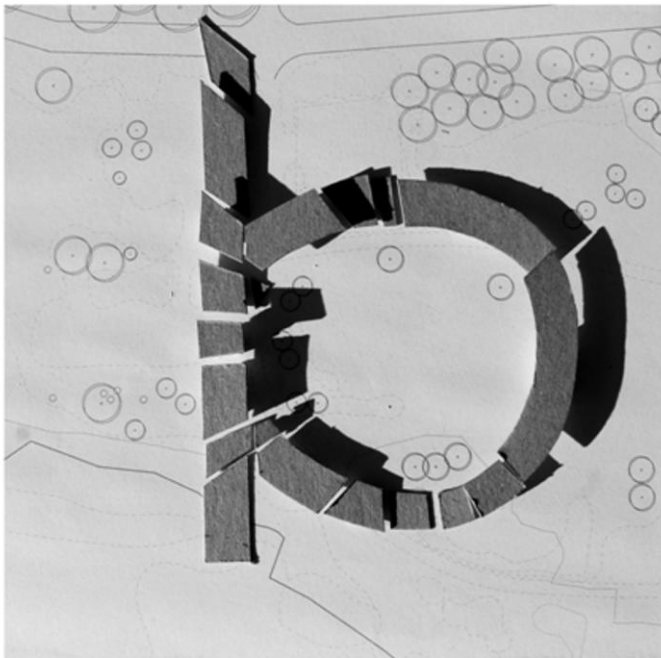
Base map of landscape lines formed by overlaying radial tree patterns with view lines, focusing on those closest to the entrance where the intervention will occur



Through analysis of activity on the site, two main zones have been found to exist, with the entrance route acting as a divider between the two. The North side forms a pragmatic zone, with activities including eating, braaing and parking. The South side forms a prosaic zone, with activities including baptism, khoisan ritual, planting, resting and landscape contemplation



Investigating changes in levels in relation to landscape lines



Exploring the sacred vs. pragmatic forms and effect of landscape lines

Figure 97: Model explorations of landscape lines

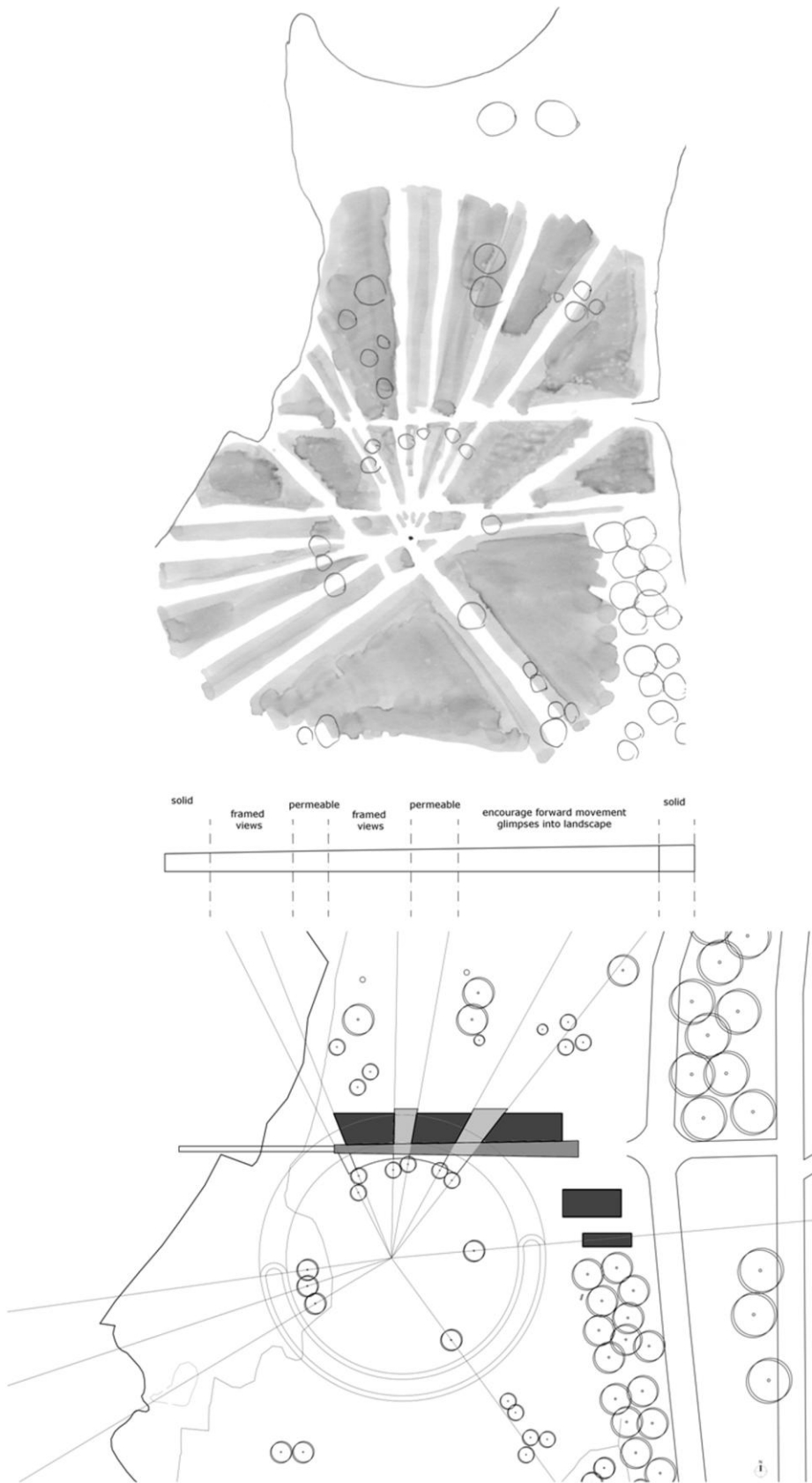


Figure 98: Diagrammatic exploration into how landscape line effect the permeability of the built form and circulation element (NTS)

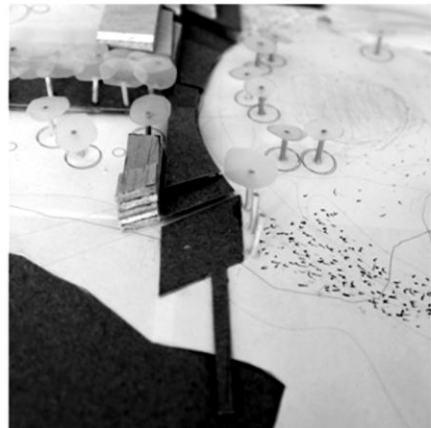
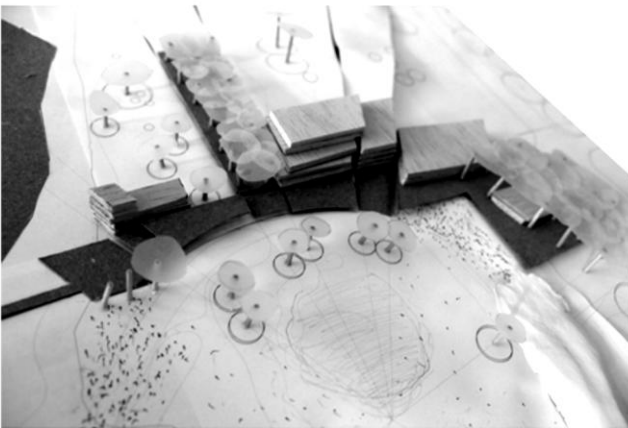


Figure 99:: Exploring building as wall between sacred and practical. Imagined landscape lines inform a re-translation of topography. Canopies take cues from natural elements, continuing shade and protection where trees have begun to do so.

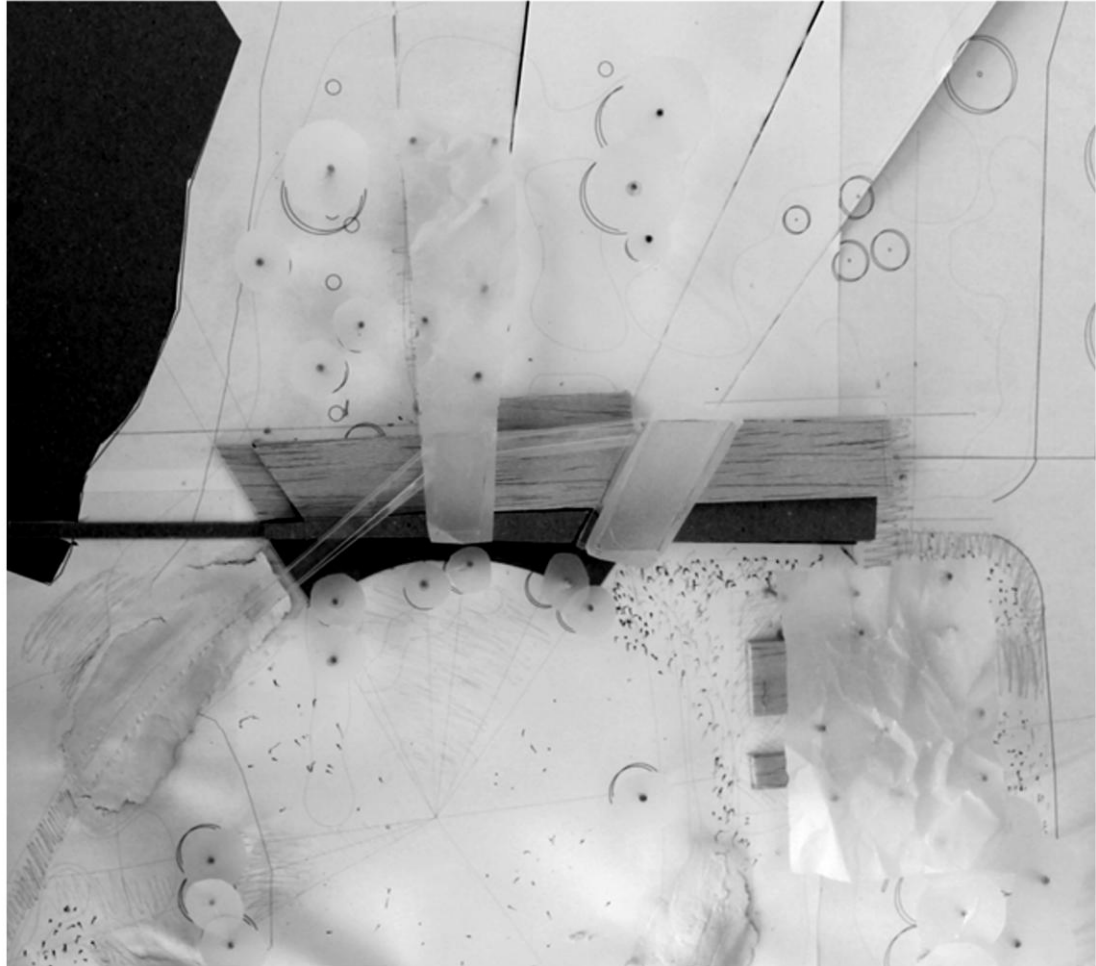


Figure 100: Working model investigating how landscape lines slice through the building to create circulation spaces

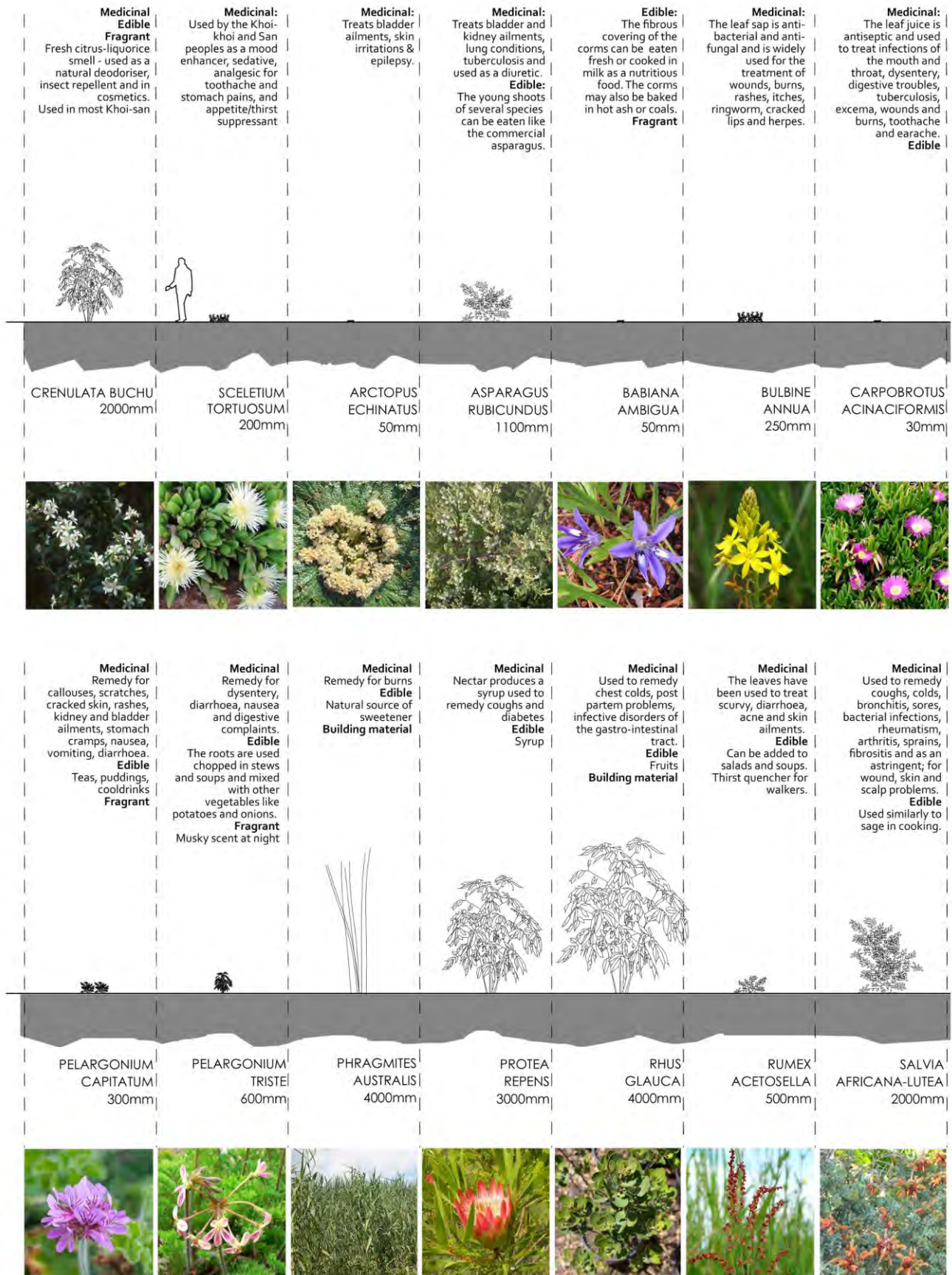
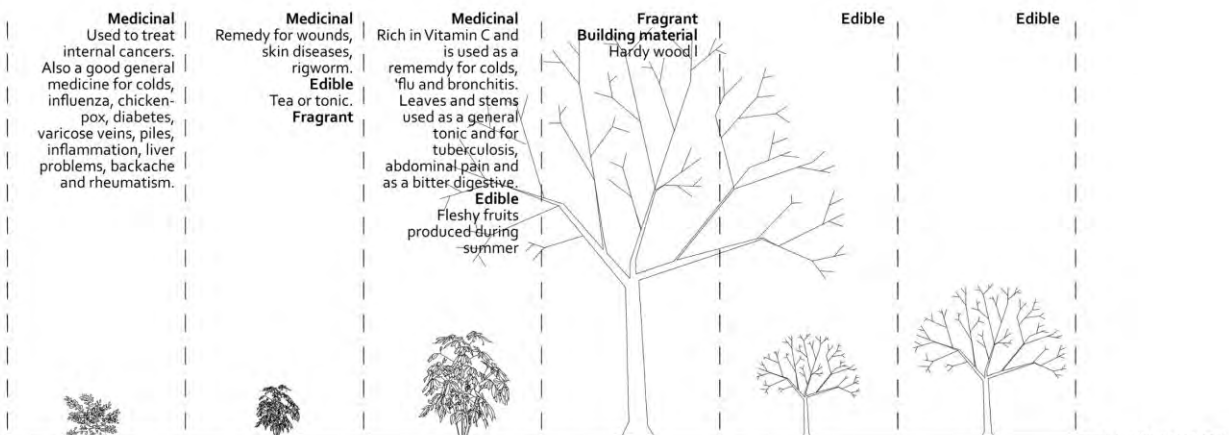


Figure 101: A palette of vegetation was built up through an investigation into plants suitable for growth in the area, many of which held importance in the everyday life of the Khoisan. This created a set of landscape tools which could be used to embody the memory of the Khoisan. Sectional diagrams of the plants give an indication of height as higher vegetation could be used for wind breaks or to define paths.

<p>Medicinal: Blue bottle stings and burns.</p> <p>Edible The pulpy fruit is used to make jams.</p>	<p>Medicinal: Used to treat haemorrhoids, acne, sores and boils. Remedy for diarrhoea or leprosy, stomach ulcers, kidney and bladder infections and diabetes.</p> <p>Edible: Aperitif known to stimulate the appetite.</p>	<p>Medicinal: Like the Khoi, the Sotho, Zulu and Xhosa believe the fruit to contain blood strengthening and purifying qualities.</p> <p>Edible: The fruit is edible and very sweet.</p>	<p>Medicinal: Used as an ointment for sores.</p> <p>Edible: The corms are nutritious, with a relatively low moisture content and a high protein content.</p>	<p>Medicinal Edible Caffeine and tannin free tea rich in antioxidants</p> <p>Fragrant</p>	<p>Medicinal Treats bladder infections, venereal diseases and menstrual related issues.</p> <p>Edible Flowers are often used for edible decoration on salads and puddings</p>	<p>Medicinal The Khoi used it as a calming tea which is also used as a cure for blood pressure and heart conditions, kidney ailments. Smoke from burning leaves used for pain relief.</p> <p>Fragrant</p>
CARPOBROTUS EDULIS 120mm	CHIRONIA BACCIFERA 800mm	CHRYSAN THEMOIDES MONILIFERA 2000mm	CYANELLA LUTEA 250mm	CYCLOPIA GENISTOIDES 2000mm	GERANIUM INCANUM 250mm	HELICHRYSUM SPECIES 90mm

<p>Medicinal Used to remedy chest ailments.</p> <p>Edible Fragrant</p>	<p>Medicinal Used as an astringent.</p> <p>Edible</p>	<p>Edible The young shoots can be eaten before opening</p>	<p>Medicinal Remedy for sores</p> <p>Edible The young shoots make a healthy and delicious dish. Flowerheads are used in stews.</p>	<p>Edible</p>	<p>Medicinal Used to remedy asthma, bronchitis and excessive or irregular bleeding, warts, epilepsy.</p>	<p>Medicinal The large leaves are heated and applied as plasters to wounds</p> <p>Edible The Khoi made a dish called Hottentot bread from the root by boiling the starchy rhizomes.</p>
SENECIO ELEGANS 500mm	SIDEROXYLON INERME 8000mm	TRACHYANDRA CILIATA 500mm	TRACHYANDRA DIVARICATA 800mm	TETRAGONIA DECUMBENS 90mm	VISCUM CAPENSE 400mm	ZANTEDESCHIA AETHIOPICA 1000mm



Medicinal
Used to treat internal cancers. Also a good general medicine for colds, influenza, chicken-pox, diabetes, varicose veins, piles, inflammation, liver problems, backache and rheumatism.

Medicinal
Remedy for wounds, skin diseases, rigworm.
Edible
Tea or tonic.
Fragrant

Medicinal
Rich in Vitamin C and is used as a remedy for colds, flu and bronchitis. Leaves and stems used as a general tonic and for tuberculosis, abdominal pain and as a bitter digestive.
Edible
Fleshy fruits produced during summer

Fragrant
Building material
Hardy wood

Edible

Edible

1:100 SECTION

SUTHERLANDIA
FRUTESCENS
900mm

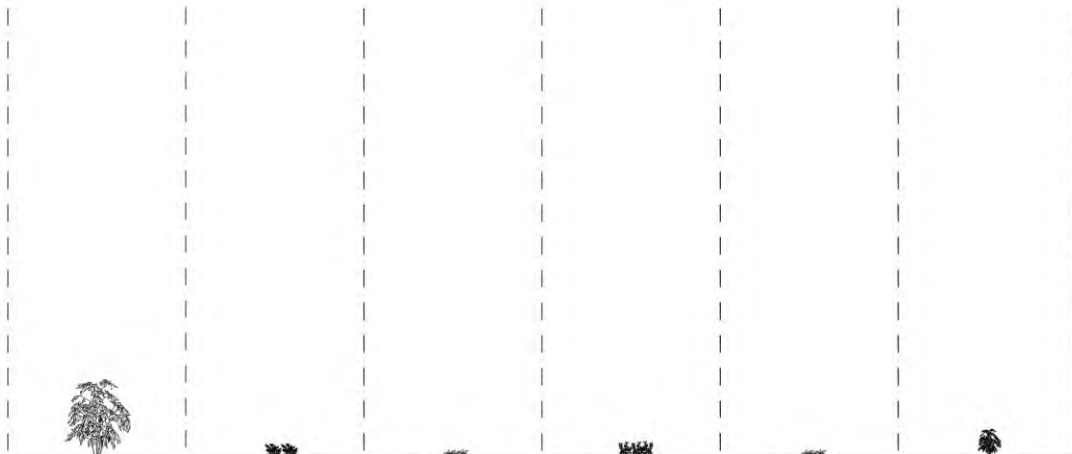
LOBOSTEMON
FRUTICOSUS
1000mm

NYLANDTIA
SPINOSA
2000mm

OLEA
CAPENSIS
8000mm

OLEA
EXASPERATA
2000mm

OSYRIS
COMPRESSA
3000mm



ERIOCEPHALUS
AFRICANUS
1500mm

OSTEOSPERMUM
250mm

ERICACEAE
120mm

MESEMBRYAN-
THEMACEAE
250mm

FABACEAE
120mm

IRIDACEAE
500mm

1:100 SECTION



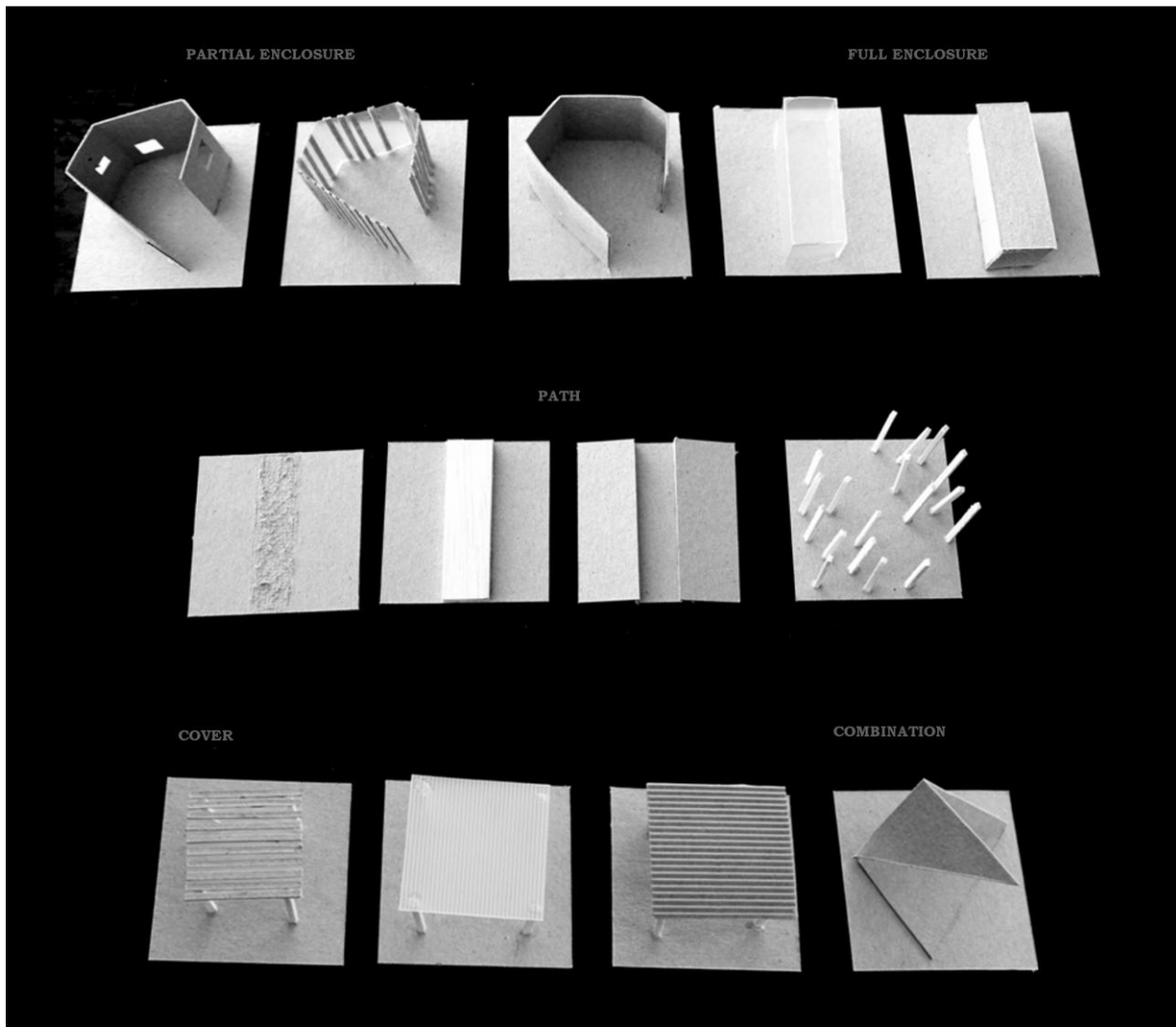


Figure 102: Model explorations into intervention through minimal means in order to form a set of built tools for design

THE SITE [MAKING]

A combination of landscape and built moves were utilised in order to celebrate and diversify both the evocative and the everyday uses of the site, creating simultaneous separation and connection through a sculptural circulation element which connects the suburban to the water. The bermed sacred space on the south side embraces a set of existing trees and provides shelter from the wind for performance, ritual and landscape contemplation. Deduced landscape lines, site analysis and observation of existing uses led to a re-translation of topography and the creation of sacred and pragmatic zones. The built intervention creates a wall between the sacred and pragmatic, a mediating space which is punctured by the lines of the landscape, allowing permeability at certain points. The picnic/braai, parking and recreation space on the north side is separated into zones through landscape elements defined by the landscape lines (See Fig. p103 & 104).



Landscape viewer and circulation element
Collage exploration September 2015

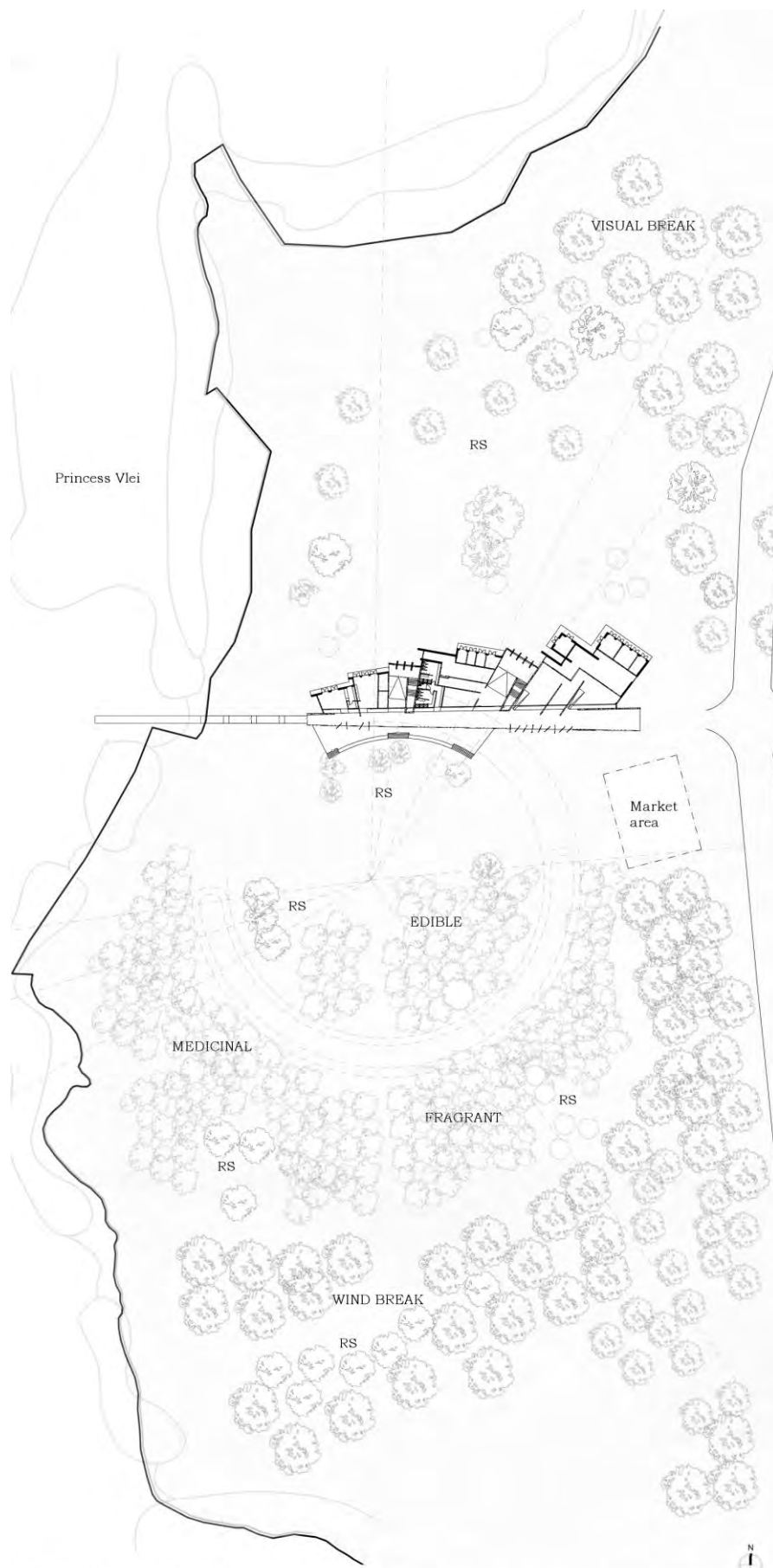
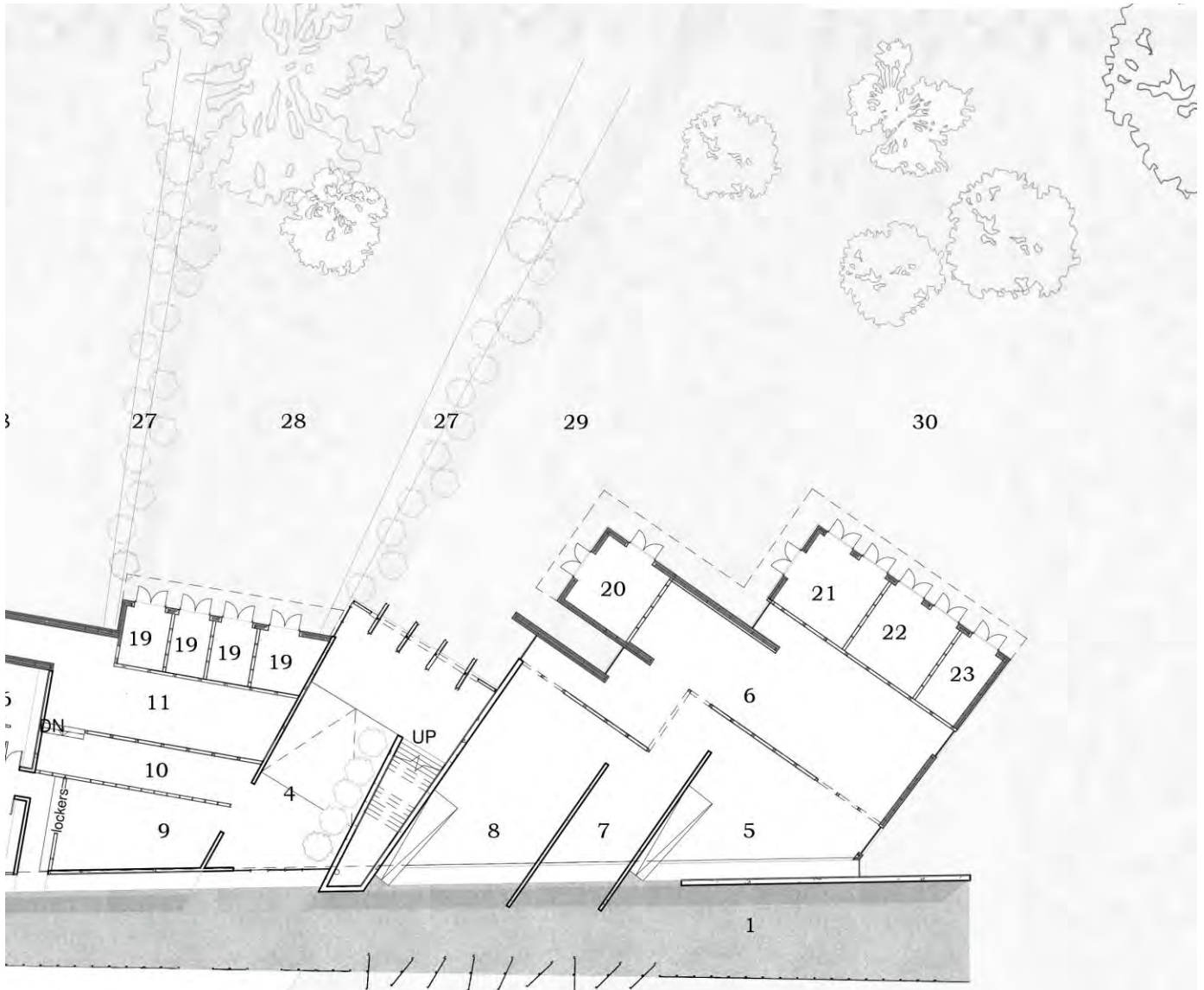


Figure 103: Site Plan 1:1500
 Indigenous gardens define paths through the site and wind protection is provided through taller shrubbery and trees. Sheltered rest/recreation spots (RS) are created through clearings in the vegetation where existing trees provide shade. (September 2015)



Figure 104: Ground floor plan. Steel and timber rotated 'rooms' bulging of the circulation spine allow for changing views across the vlei. Circulation courtyards allow for light and vegetation to enter the building, celebrating the permeability zones through the building. (September 2015)



- 01. Landscape viewer - sculptural circulation
- 02. Covered external space
- 03. Baptism/recreational walkway
- 04. Circulation courts
- 05. Princess Vlei History
- 06. Khoisan exhibition space - Earth and Ritual
- 07. Khoisan exhibition space - Ancestors
- 08. Khoisan exhibition space - Vegetation
- 09. Khoisan audio-visual space - Vegetation
- 10. Khoisan exhibition space - Vegetation
- 11. Khoisan exhibition space - Re-birth - contemporary art
- 12. Boat Hire Info
- 13. Museum Shop
- 14. Edu-centre
- 15. Cafe
- 16. Male WC and showers
- 17. Female WC and showers
- 18. Disabled WC
- 19. Braai pack stalls
- 20. Pottery Workshop
- 21. Metal Workshop
- 22. Fabric Workshop
- 23. Security and Informaion
- 24. Deck and seating
- 25. Perfomance space
- 26. Picnic/play space
- 27. Swales
- 28. Park and braai
- 29. Parking
- 30. Parking

1:300



Princess Vlei

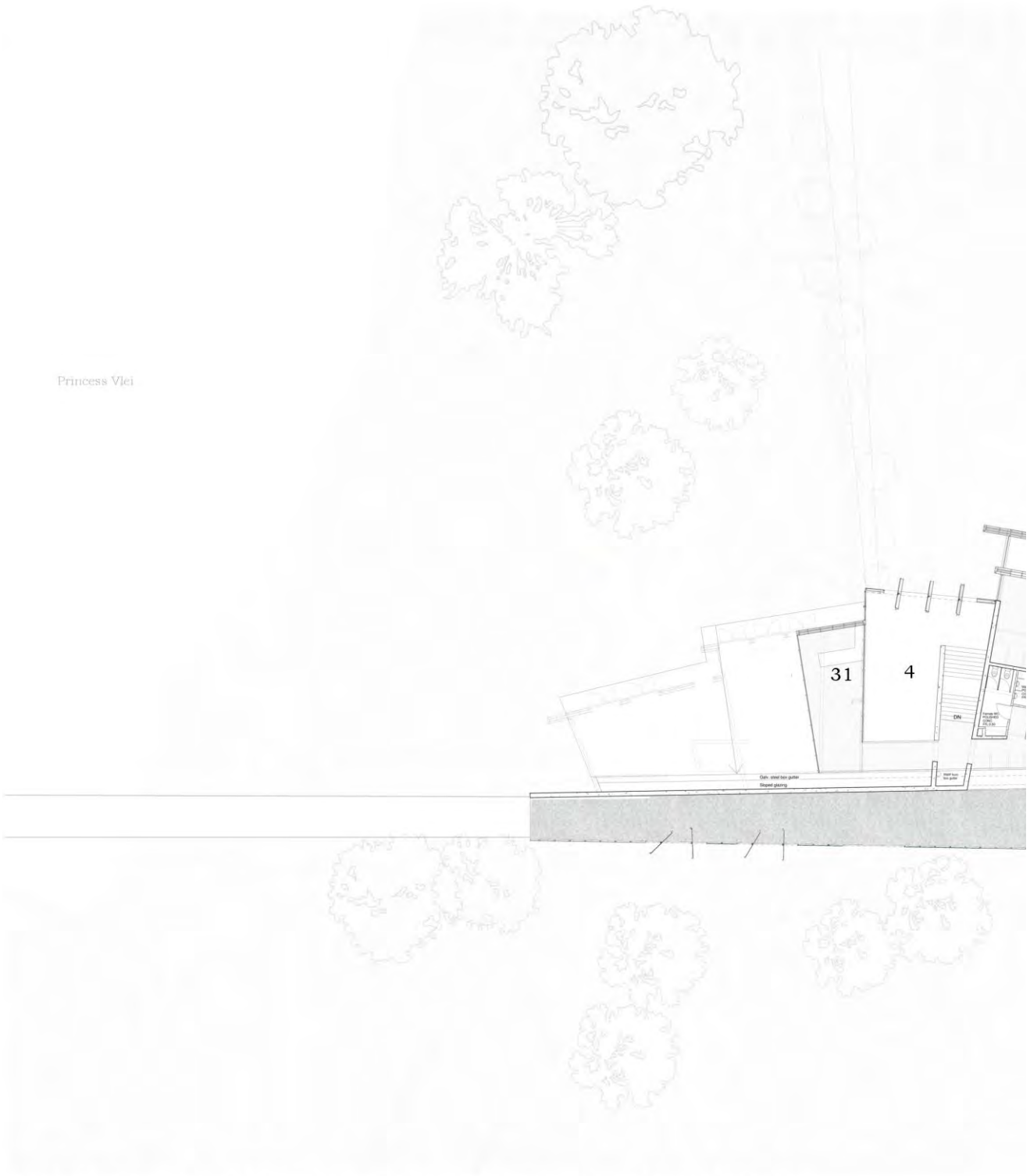
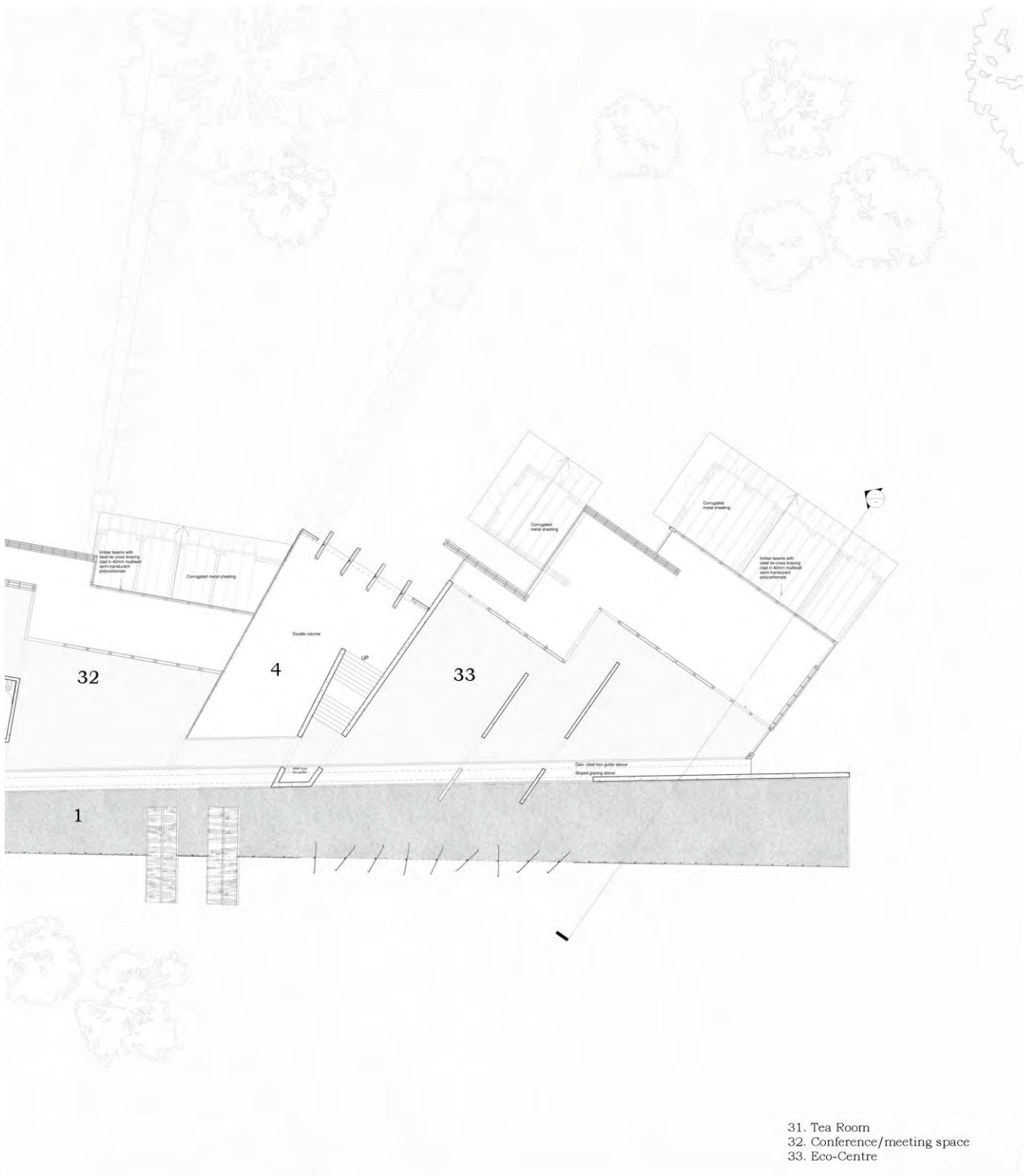


Figure 105: First floor plan. Walkways and spaces look into double volume circulation element and allow for views down into the landscape through the opening screens. (September 2015)



Description of Programme & Spatial Qualities

The core intention of the building and landscape strategies in the project was to embody the memory of the Khoisan. As the culture placed little importance on material culture, the focus was on creating enhanced landscape experiences and an awareness between the human body and surrounding natural elements.

1: Landscape viewer

In Khoikhoi descriptions of landscape, water is depicted as the most valued geographical element, judging by a substantial range of different words used to describe the presence of water.¹⁰⁷ Water served as an important resource for their survival and the claiming of Khoisan territories occurred as a result of their inability to defend their water sources from the European settlers.¹⁰⁸ The landscape viewer therefore serves as a symbolic bridging of this previous disconnect from water, taking form as a sculptural circulation element which connects the suburban to the water, allowing you to look into the site and over the site.

The circulation space acts as a mediator between the landscape and the Khoisan memory 'rooms'. For this reason, it needed to provide sufficient protection from the elements but also create an adaptable permeable boundary between nature and built form. Therefore, the structure of this element is limited to concrete and metal screening, foregoing glazing on the south side. The perforated metal allows natural air to flow freely into the space yet provides adequate protection from strong south easterly wind. Nature is translated into built form through the punctures in the screening which were informed by abstracting an image of rippling water, alluding to the character of the vlei (See Fig. 106). The long pathway of approximately 80 metres needed to blend seamlessly into the environment which led to the choice perforated metal panels which could weather appropriately over time to mirror landscape colours. Large

¹⁰⁷ Guelke and Shell, *Landscape of Conquest: Frontier Water Alienation and Khoikhoi Strategies of Survival, 1652-1780*, 1992, pg. 805

¹⁰⁸ Guelke and Shell, *Landscape of Conquest: Frontier Water Alienation and Khoikhoi Strategies of Survival, 1652-1780*, 1992, pg. 803

portions of the screening are able to open up in good weather conditions, allowing it to respond to the natural elements similar to a Khoisan hut. At the same time as providing circulation and points of observation of the landscape, this space is programmatically flexible, allowing for activities within the 'rooms' to spill out into it and is activated continuously by providing a visual connection between the ground and upper level (See Fig. 108 & 110).

As well as creating changeable framed views of landscape through the opening screens, the landscape viewer's simplistic geometry tapers towards the water's edge and frames the major view across the water towards the Constantiaberg mountains (See Fig. 109). This changes the existing experience of the journey from entrance to water, breaking down the scale of the outside and making it more accessible to the human scale of the inside.¹⁰⁹

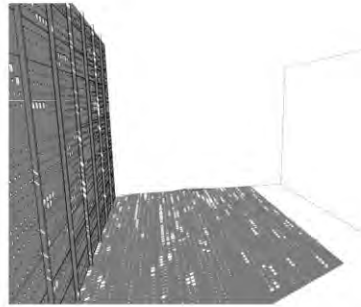
Natural light is manipulated in order to increase the directionality of the space. With the circulation in relative darkness, a top slit of natural light from the north side provides a band of illumination that continues along the edge of the path towards its end, leading towards the evocative reveal of the vlei. Below this light slot, water flows in a channel, collected from swales filtering water from the northern catchment area. The combined visual and acoustic quality of water and light within the bare concrete pathway creates a phenomenological space of landscape contemplation (See Fig. 110).

¹⁰⁹ Cecilia & Levene, *Glenn Murcutt: Feathers of Metal*, 2012, pg. 55

Figure 106: In order for the building to merge into the landscape, the large circulation space is protected from the elements with metal screening. The translation of a natural element into the perforations on the screening allow for protection yet the constant flow of natural air into the space, as well as the casting of ripple-like shadows, capturing the character of the vlei in built form



Picture of natural element



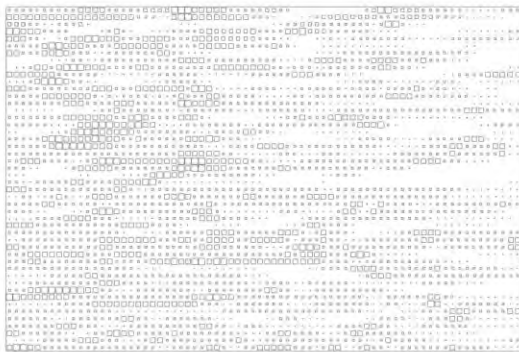
Shadows



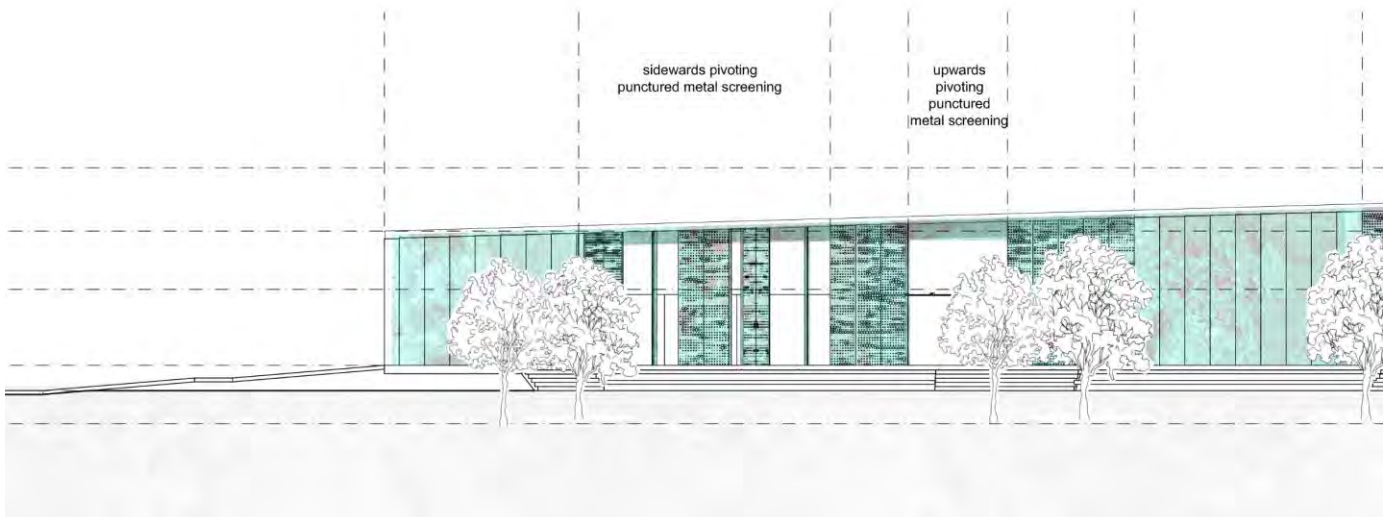
Pixelation of image of natural element



Wall is window is door - South elevation an interpretation of the Khoisan hut which uses the same material for shelter and openings and opens and closes to respond to climatic conditions

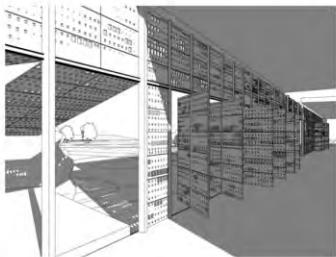


Pixelations translated into perforations for use on metal screens

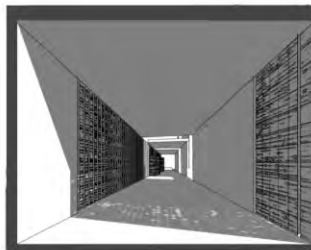




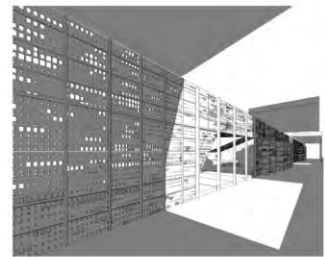
Material study



Experience through views



Experience through geometry



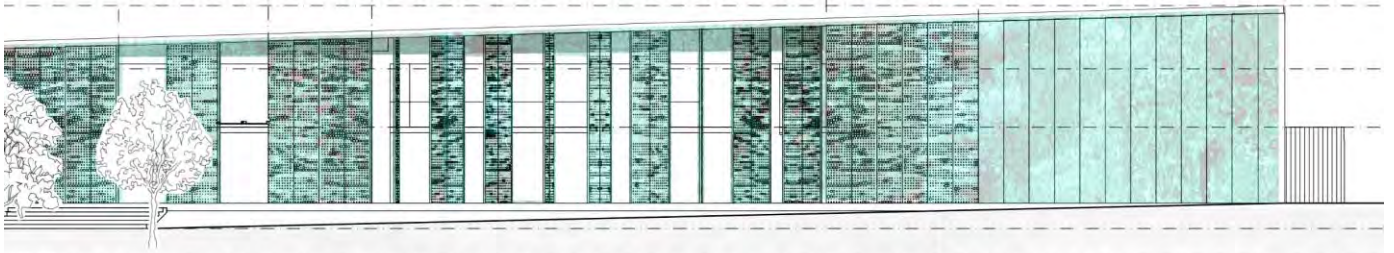
Experience through light

upwards pivoting
punctured
metal screening

sideways pivoting
punctured metal screening

static punctured
metal screening

solid metal screening



South Elevation (NTS)

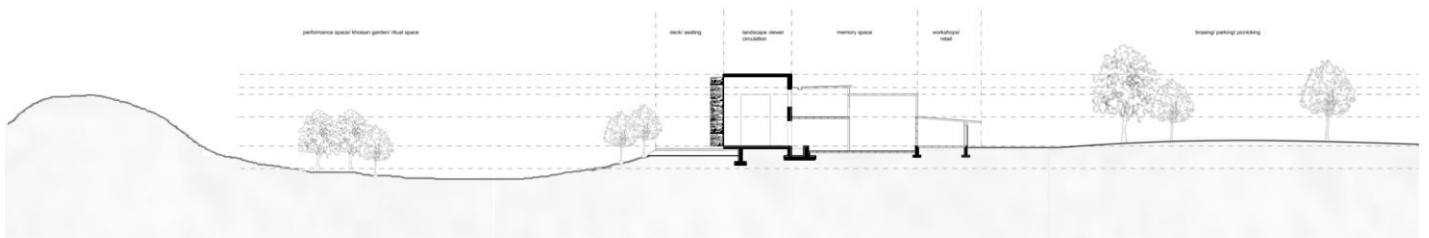


Figure 108: Sectional exploration (NTS) showing how the circulation pathway connects the upper and lower floors (September 2015)



Figure 109: Framed view of the mountains across the vlei. The circulation path delays and celebrates this view, making it more meaningful. Collage exploration September 2015



Figure 110: Raw materials, light and directionality create an experiential journey from entrance to water.
Collage exploration September 2015

2,3: Baptism and Recreational Walkway

The circulation pathway opens up at its end, forming an external covered gathering space protected from wind by the planting of trees on the south side. This creates an area appropriate for baptism gatherings or as a sheltered outdoor viewing platform. A timber walkway extends from this into the water, terminating in steps which allows for baptism to be conducted in a safer manner. When not in use for baptisms, the walkway can be used by visitors to have a different experience of the landscape from the water.

The cafe/event space can be used for celebration after baptism ceremonies or for other events, situated at the west end of the building to allow for uninterrupted views over the vlei. Toilets include showers and lockers for those who have taken part in the baptisms or boating activities.

4: Circulation courtyards

These open air spaces can be closed for security or shading reasons with the same pivoting metal screens used on the south side of the building. These screens form the roof of these spaces, allowing for shading and the creation of rippling shadows as north light shines through them. The circulation spaces allow for light and vegetation to enter the built fabric, blurring boundaries between building and nature and celebrating the permeability zones from the prosaic to the pragmatic.

5 - 11: Khoisan and Princess Vlei memory 'rooms'

The circulation space serves as a landmark and sculptural element and is therefore given a permanence through the use of concrete as its structure. In contrast, the 'rooms' bulging off of it touch the earth more lightly through the use of steel and timber construction. The external timber cladding serves the same purpose as the metal screening in that its weathering over time mimics landscape colours. (See Fig. 111) Originally facing directly north to serve the pragmatic zone of the site, each room was rotated where the landscape lines slice through the

building, allowing for varying framed glimpses of the vlei from each space. (See Fig. 112 & 113)

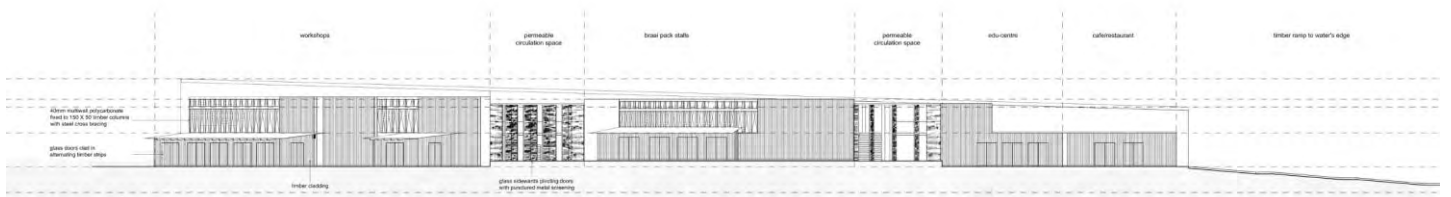


Figure 111: North elevation - use of the minimal different materials in order for the building to merge into the landscape



Material exploration

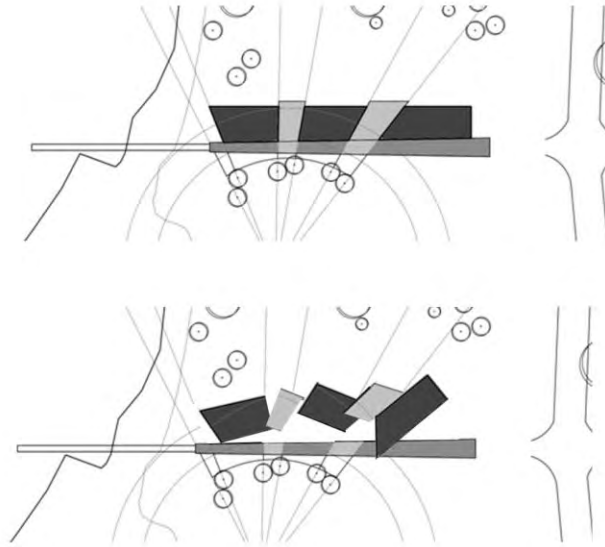


Figure 112: Original plan diagram with 'rooms' rotated, allowing differing glimpses into the landscape



Figure 113: Framed views inside exhibition rooms making visitors aware of the surrounding natural landscape

19: Braai pack stalls

20 - 22: Workshops

The pragmatic programmes have a relationship to the urban through their rotation, which allows them to be visible from the street and from cars parking on the site. These spaces respond to the community's need for a fabric, pottery and metal workshop (See Appendix) and offer the opportunity to create an income by selling braai packs to those parking and braaing, an activity that has long existed on the site.

26 - 30: Picnic/braaing/parking

These activities are better supported through upgraded braai facilities and planting of trees for protection and privacy. Landscaping informed by landscape lines better defines zones of interference (cars on the east side, park and braai facilities in the middle and picnicking on the west side) and creates a more interesting landscape.

Indigenous gardens

A palette of vegetation was built up through an investigation into plants suitable for growth in the area, many of which held importance in the everyday life of the Khoisan. (See Fig. 114) A narrative is created by grouping these into different indigenous garden zones - edible, medicinal and fragrant. Facilitated by paths and information boards, and with seating areas defined by existing trees, visitors are encouraged to explore deeper into the site to learn about the uses of these vegetation types. The tea room, museum shop and restaurant provide the opportunity to smell, taste and buy the teas, natural remedies or herbs harvested from the gardens.



Figure 114: Conceptual exploration into vegetation as narrative

CONCLUSION

This dissertation project at Princess Vlei provided the opportunity to explore a new approach to green landscapes within an urban context in Cape Town, with the core intention of embodying memory, history and imaginings in landscape and architecture. The standard analytical mapping of site was enriched with an instinctive exploration, developing an imaginative layer often lost in landscape intervention.

A set of tools and strategies were built up; informed by spatial characteristics of the site, as well as an analysis of projects that use nature as their first point of departure and those which embody intangible elements into physical manifestations for experience. Through the translation of these layered findings into landscape and built intervention specific to site, the project celebrates and diversifies existing uses on the site and mediates between the poetic and pragmatic through built form.

The embodiment of the intangible layers on site led to a project which enhances the experience of the surrounding natural landscape and allows the memory of the site to become accessible to the surrounding community and visitors through experience captured in combined landscape and built form.

IMAGE REFERENCES

All drawings/images/photos are author's own unless otherwise specified below.

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Figure 2: <http://bottomroadsanctuary.co.za/wp-content/uploads/2011/09/PVLEI.jpg>

Figure 3: GIS underlay

Figure 8: <http://www.princessvlei.org/articles/save-our-wetlands>

Figure 10: <http://www.sahistory.org.za/topic/khoisan-identity>

Figure 11, 16, 21: <http://www.princessvlei.org/history.html>

Figure 12: <http://www.princessvlei.org/legend.html>

Figure 13, 14, 15, 18, 20:

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Figure 17, 23:

<http://blog.dhec.co.za/2011/04/history-of-the-cape-flats-vleis-part-iv-langevlei/>

Figure 19:

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Figure 22:

<http://www.princessvlei.org/uploads/2/4/5/1/24519386/524885.jpg?1389714474>

Figure 24:

https://upload.wikimedia.org/wikipedia/commons/thumb/f/f3/Cape_Town_M5_route_map.svg/2000px-Cape_Town_M5_route_map.svg.png

Figure 25:

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Figure 27:

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Figure 28:

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Figure 29:

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Figure 30:

<http://bottomroadsanctuary.co.za/wp-content/uploads/2012/06/Princess-Vlei-Peoples-Plan2.jpg>

Figure 31: CAMPS c/o Kelvin Cochrane, *Dressing the Princess: A Princess Vlei Project...The People's Plan*, 2015, pg. 9

Figure 32:

City of Cape Town, Princess Vlei Conceptual Development Framework, August 2015

Figure 33:

City of Cape Town, Princess Vlei Eastern Shore Precinct Draft Plan, August 2015

Figure 36, 37:

Cosgrove, *Social Formation and Symbolic Landscape*, 1984, pg. 7

Figure 38: Taylor, *Landscape and Memory*, pg. 5

Figure 40: <http://www.princessvlei.org/bring-a-stone-for-the-princess.html>

Figure 41:

<http://bottomroadsanctuary.co.za/news/princess-vlei-people%E2%80%99s-plan-community-participation/>

Figure 42: <http://www.princessvlei.org/youth-speak-4-the-princess.html>

Figure 43: <http://www.princessvlei.org/socio-ecological-importance.html>

Figure 44: http://www.ozetecture.org/wp-content/uploads/2012/08/PB_148-149.jpg

Figure 45: http://forrestfulton.com/wp-content/uploads/2009/09/mbcc_interior_f_fulton.jpg

Figure 46: <http://static01.nyt.com/images/2013/03/16/arts/16FRISCO/16FRISCO-articleLarge.jpg>

Figure 47: <http://citizenarchitectfilm.com/rural-studio.php>

Figure 48:

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Figure 49: Cecilia & Levene, *Glenn Murcutt: Feathers of Metal*, 2012, pg. 231

Figure 50:

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Figure 51:

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Figure 52:

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Figure 53, 54:

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Figure 55: Cecilia & Levene, *Glenn Murcutt: Feathers of Metal*, 2012, pg. 231

Figure 56: Cecilia & Levene, *Glenn Murcutt: Feathers of Metal*, 2012, pg. 240

Figure 57: Cecilia & Levene, *Glenn Murcutt: Feathers of Metal*, 2012, pg. 236

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Figure 61: http://farm4.static.flickr.com/3032/3298073095_dbb9f5e700_b.jpg

Figure 62:

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Figure 63:

Ketcham, *The de Young in the 21st Century: A Museum by Herzog & de Meuron*, 2005, p.34

Figure 64:

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Figure 65: <http://www.azahner.com/portfolio/de-young>

Figure 66: [http://www.azahner.com/resources/exterior/images/de-young-museum-\(c\)tex-rnigan.jpg](http://www.azahner.com/resources/exterior/images/de-young-museum-(c)tex-rnigan.jpg)

Figure 67: <http://www.cjbuildsllc.com/wp-content/uploads/2012/02/img193.jpg>

Figure 68: Cecilia & Levene, *Glenn Murcutt: Feathers of Metal*, 2012, pg. 239

Figure 69:

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Figure 70: Cecilia & Levene, *Glenn Murcutt: Feathers of Metal*, 2012, pg. 249

Figure 71:

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Figure 72: http://www.hargreaves.com/projects/PublicParks/Byxbee/BYX_1.jpg

Figure 73: http://www.hargreaves.com/projects/PublicParks/Candlestick/CAN_1.jpg

Figure 74:

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Figure 75:

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Figure 81: Hunt, *Historical Ground: The Role of History in Contemporary Landscape Architecture*, 2014, pg. 66

Figure 94 (Khoisan around fire): <http://kwekudee-tripdownmemorylane.blogspot.co.za/2013/06/san-bushmen-people-world-most-ancient.html>

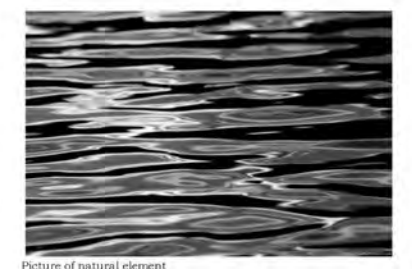
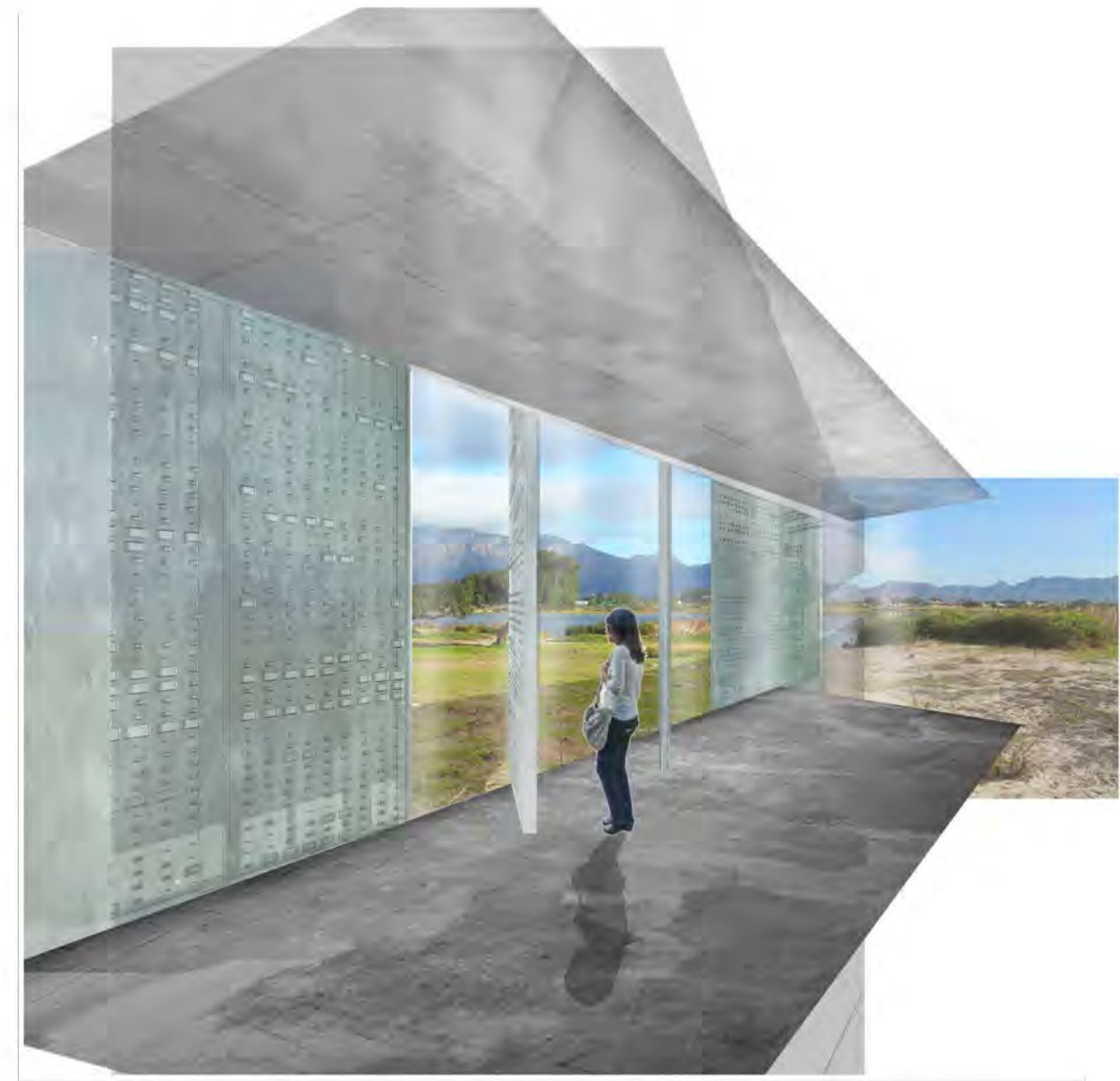
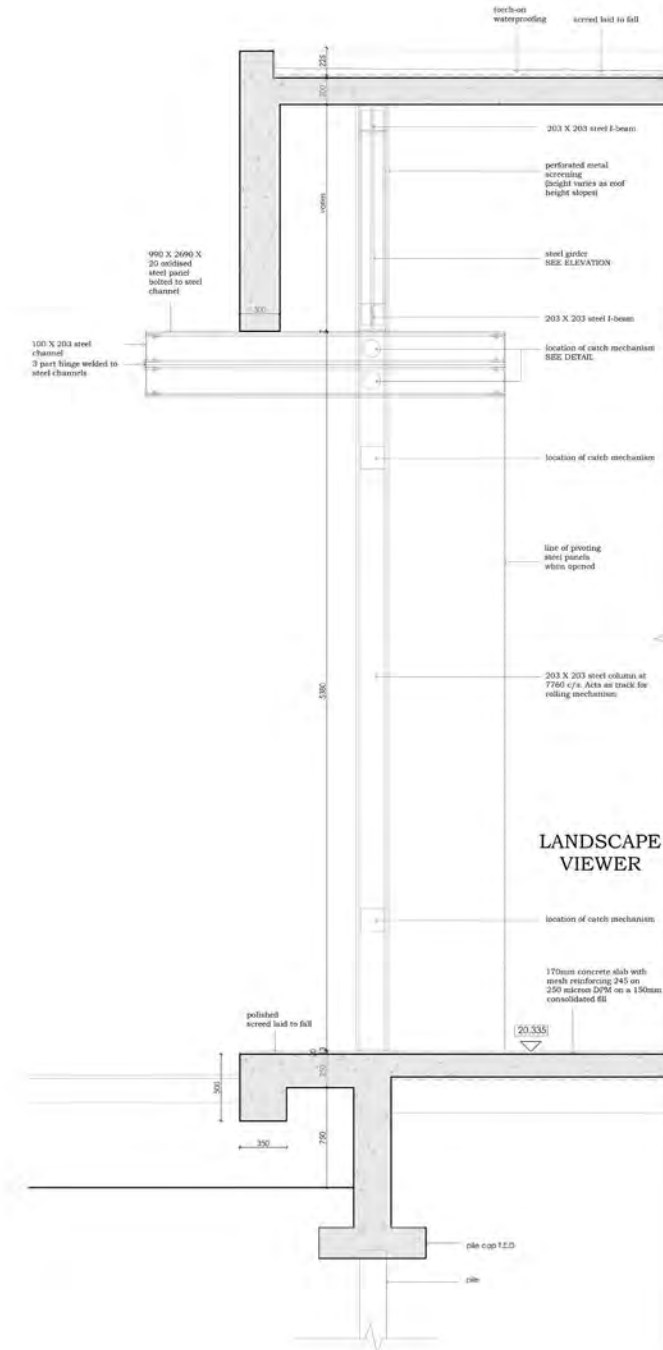
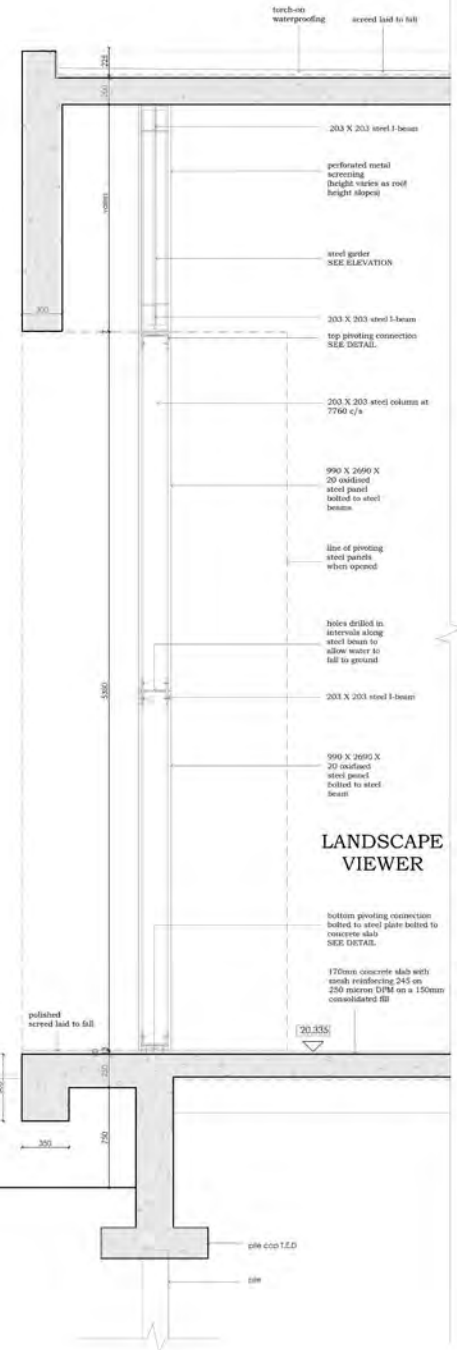
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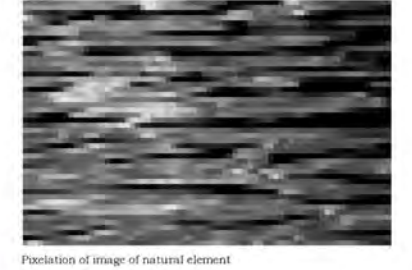
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Picture of natural element



Pixelation of image of natural element

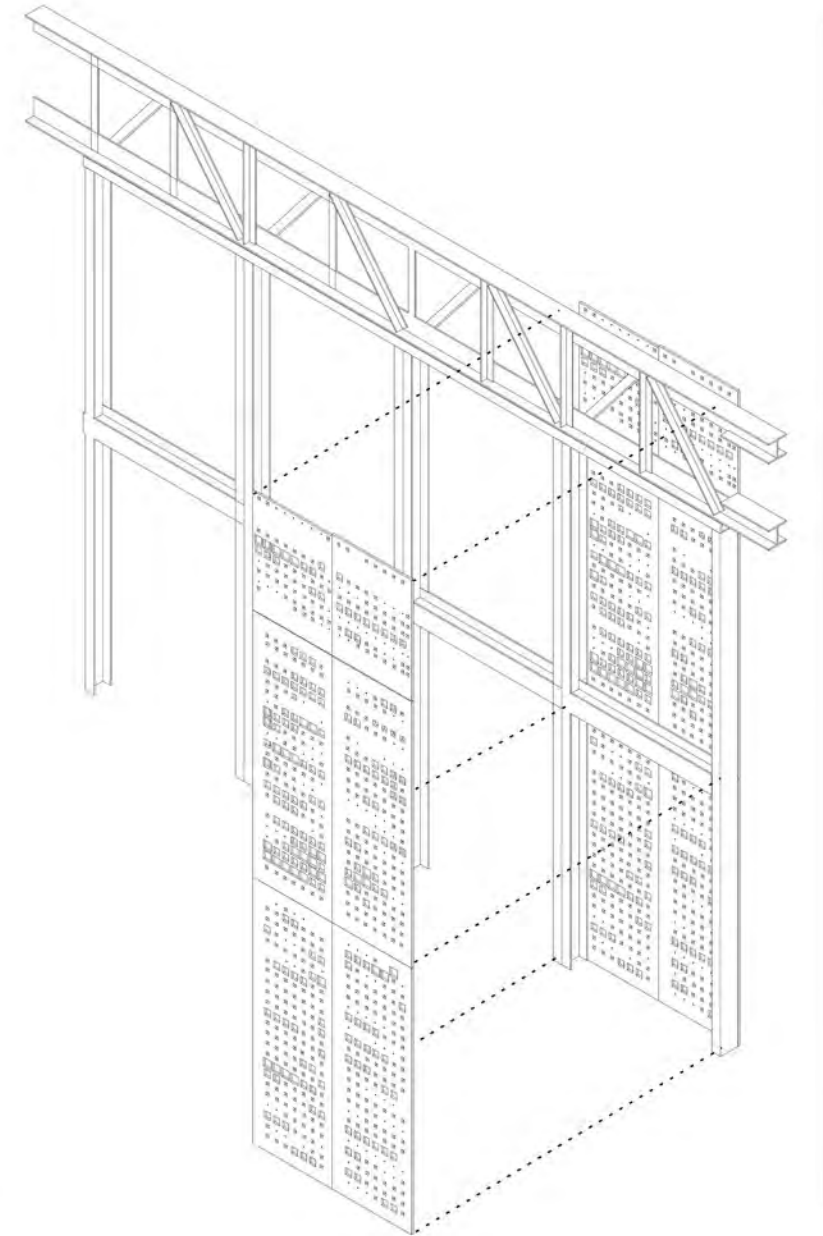


Pixelations translated into perforations for use on metal screens



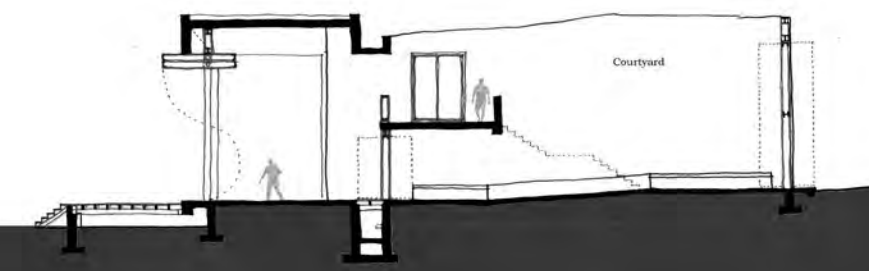
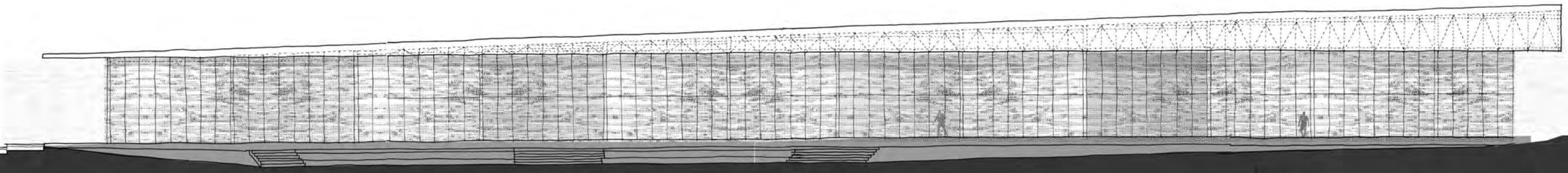
Wall is window is door - South elevation an interpretation of the Khoisan hut which uses the same material for shelter and openings and opens and closes to respond to climatic conditions

KHOISAN HUT - WALL IS WINDOW IS DOOR

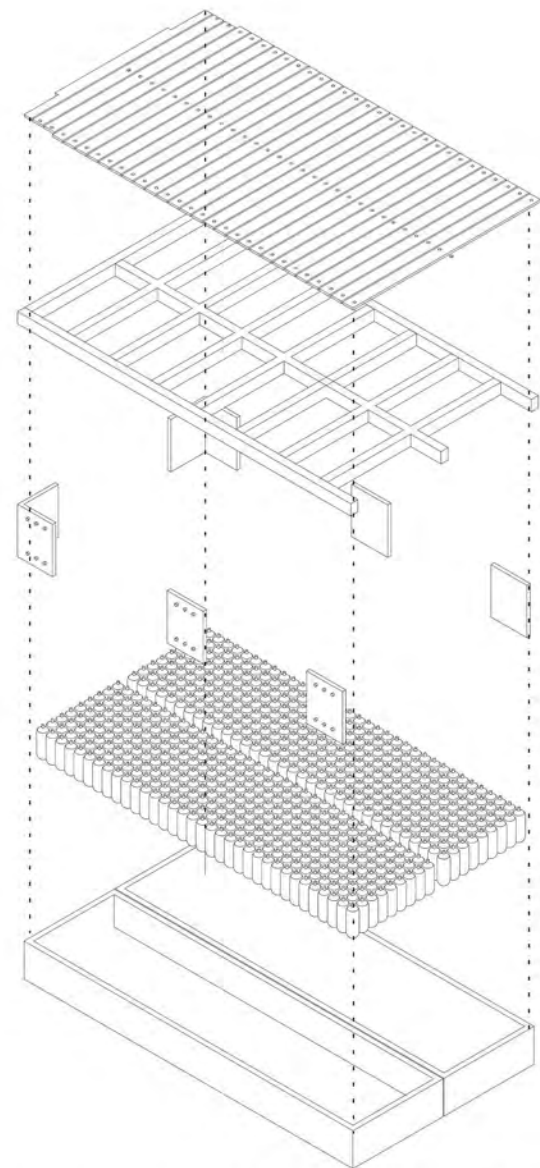


TRANSLATION OF NATURAL ELEMENTS INTO BUILT FORM

SOUTH ELEVATION 1:100



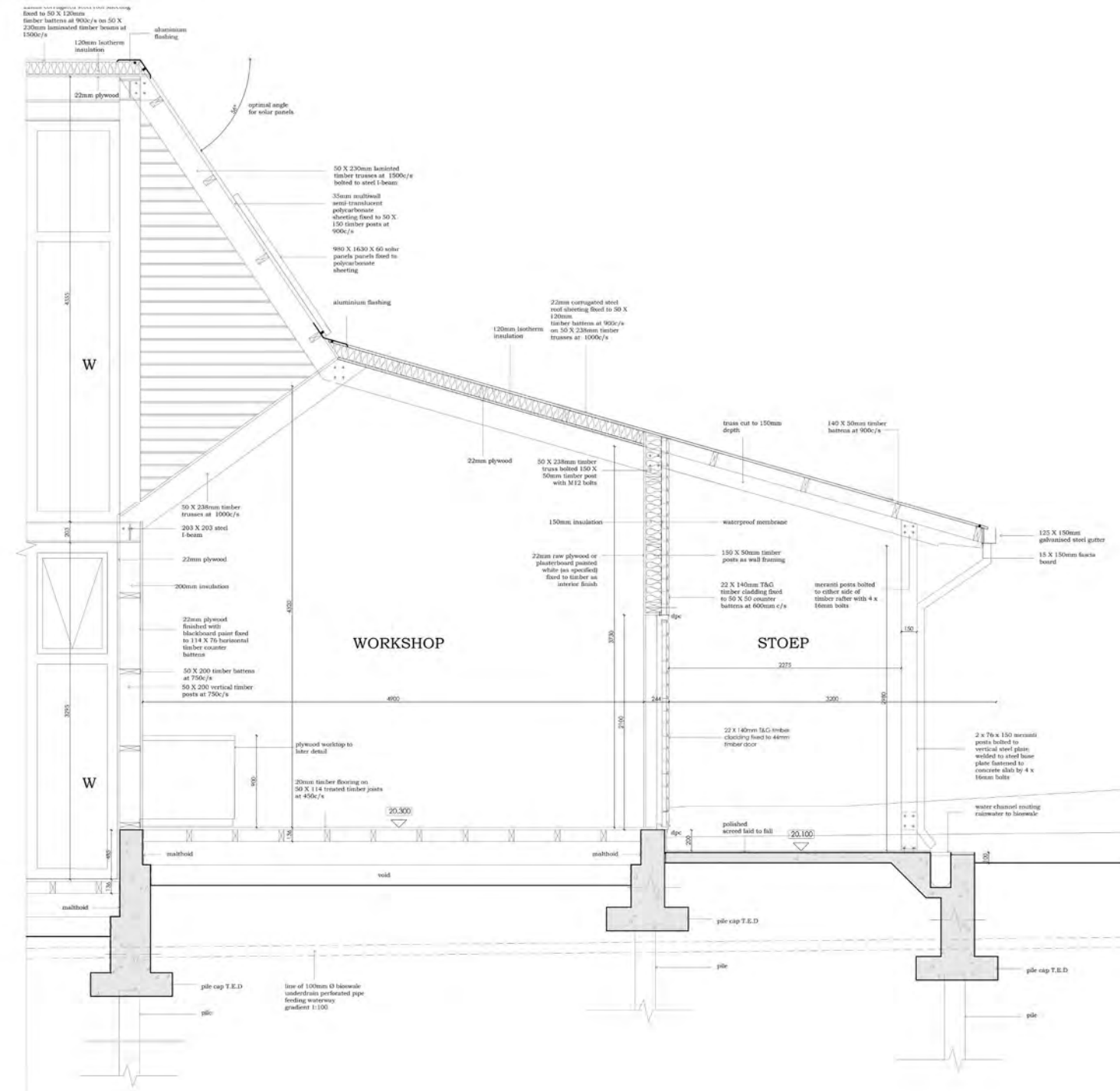
SECTION B-B



RECYCLED BOTTLE AND TIMBER FLOATING WALKWAY



EXPERIENCES OF THE INTANGIBLE



SECTION F-F



NORTH ELEVATION

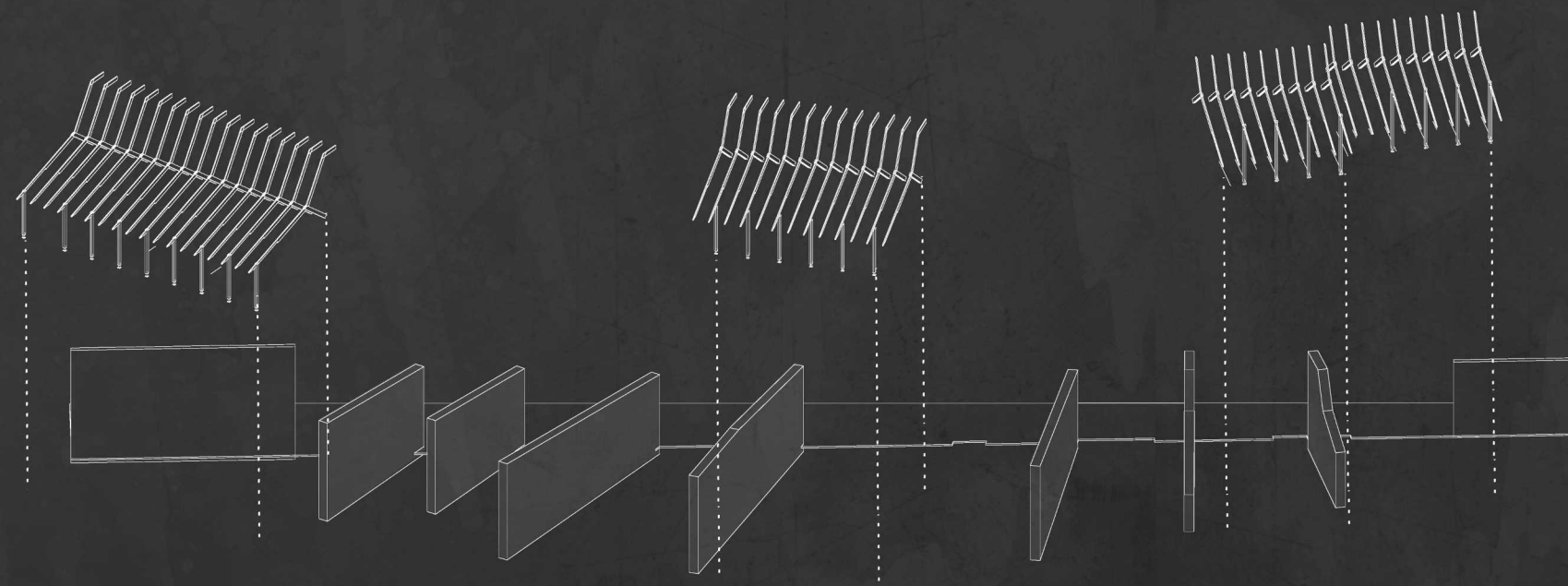
FIRST FLOOR PLAN
1:200



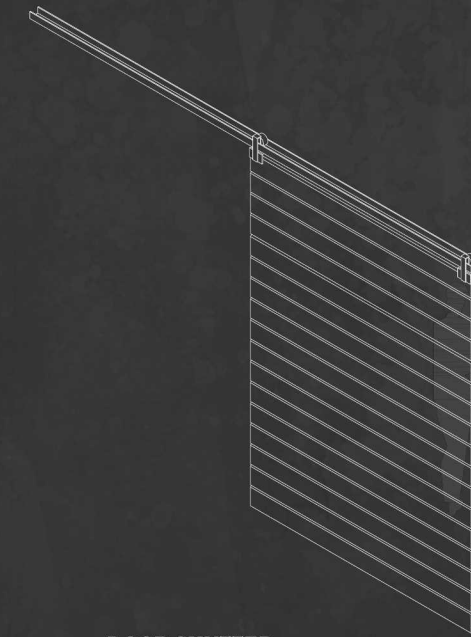
GROUND FLOOR PLAN
1:200



RADIATING SUPPORT STRUCTURE



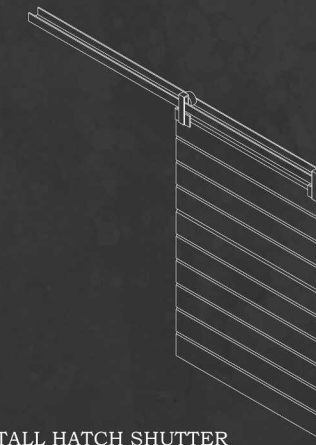
DOOR SHUTTER



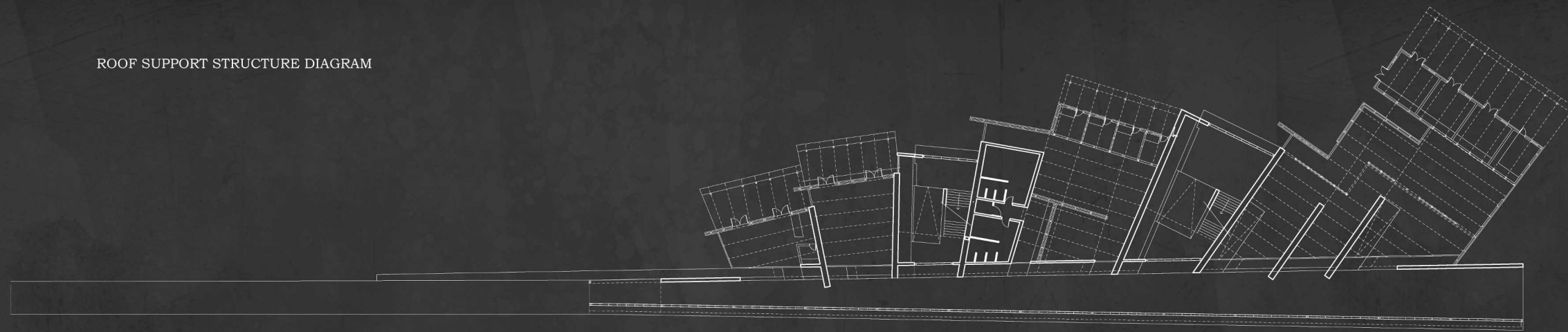
WINDOW SHUTTER



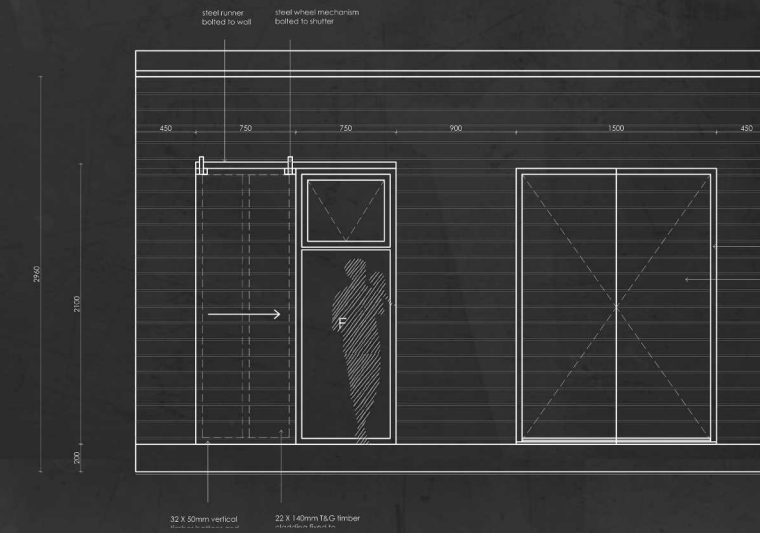
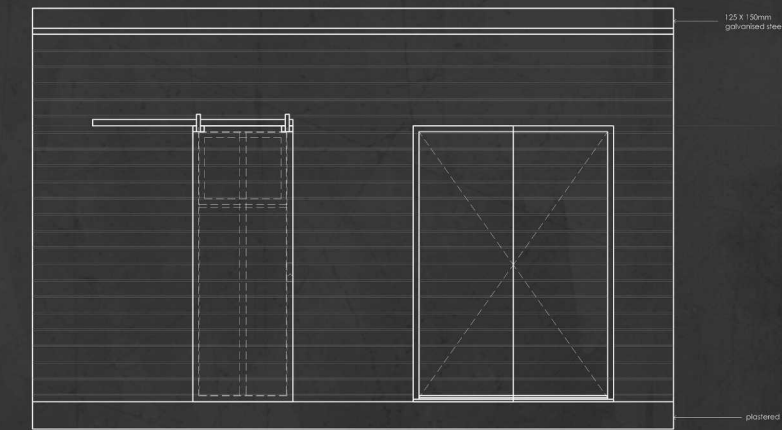
STALL HATCH SHUTTER



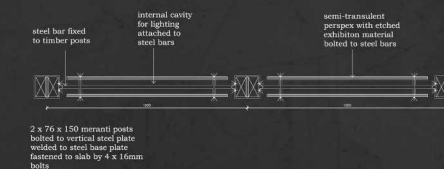
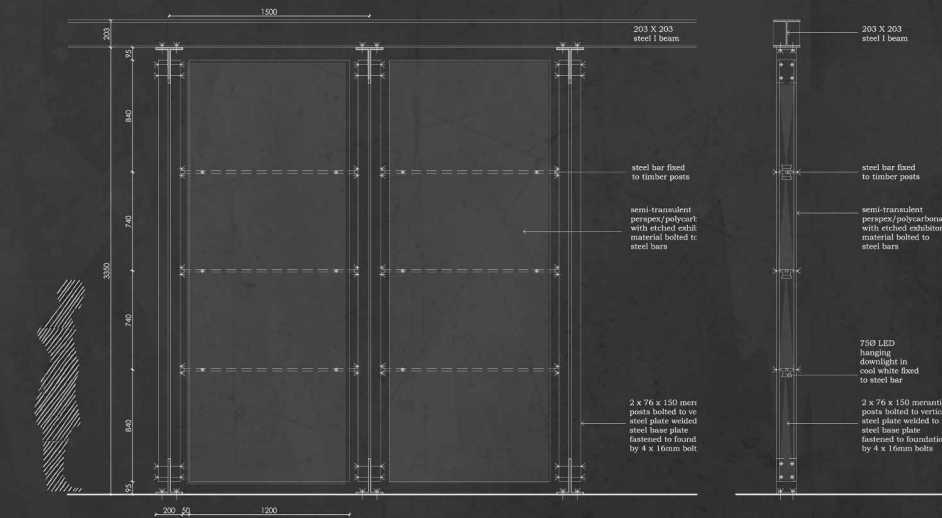
ROOF SUPPORT STRUCTURE DIAGRAM



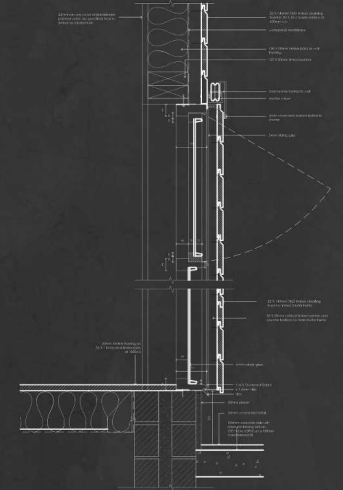
NORTH ELEVATION DOORS & SHUTTERS
Section 1:20



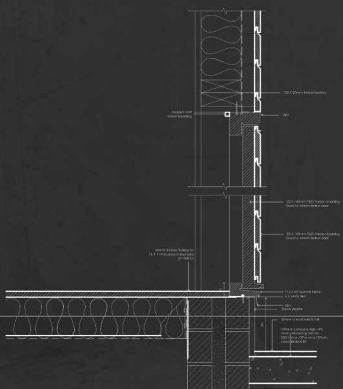
EXHIBITION DISPLAY BETWEEN TIMBER COLUMNS
1:20



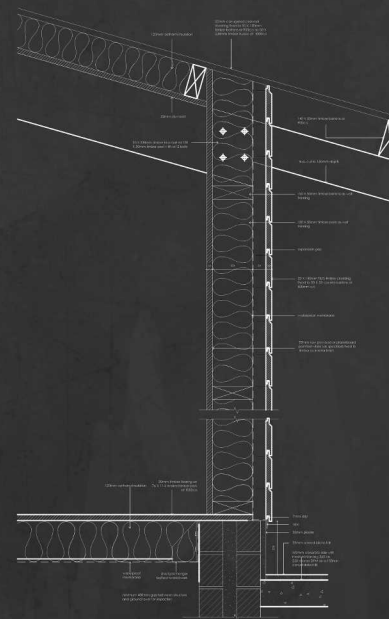
WINDOW IN TIMBER CLAD WALL & SHUTTER
Section 1:20



TIMBER CLAD DOOR
Section 1:20



TIMBER CLAD WALL
Section 1:10



khoisan fragrant garden

wind break
oleo capensis

- pelargonium capitatum
- cyclopia genistoides
- halsiana ambigua
- senecio elegans

khoisan medicinal garden

- bulbine annua
- acletium tortuosum
- protea repens
- cremularia bichu
- arcinopus echinatus

wind break
milk wood

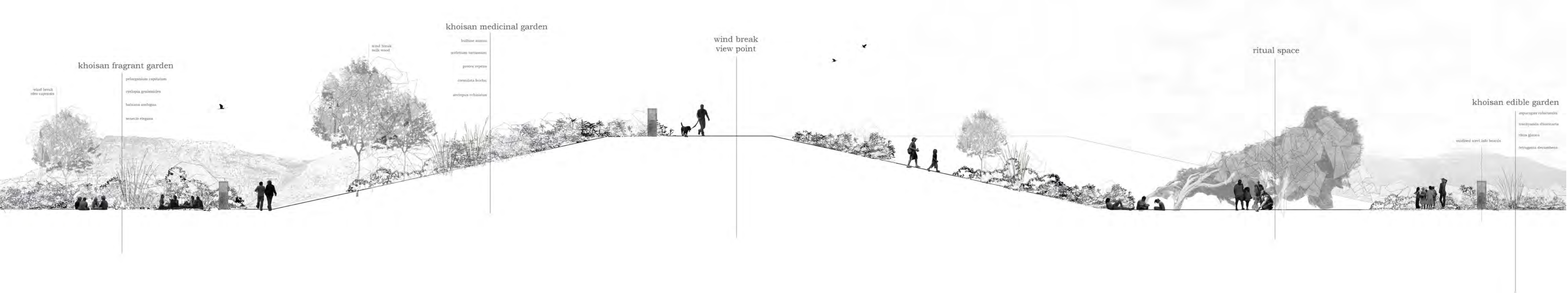
wind break view point

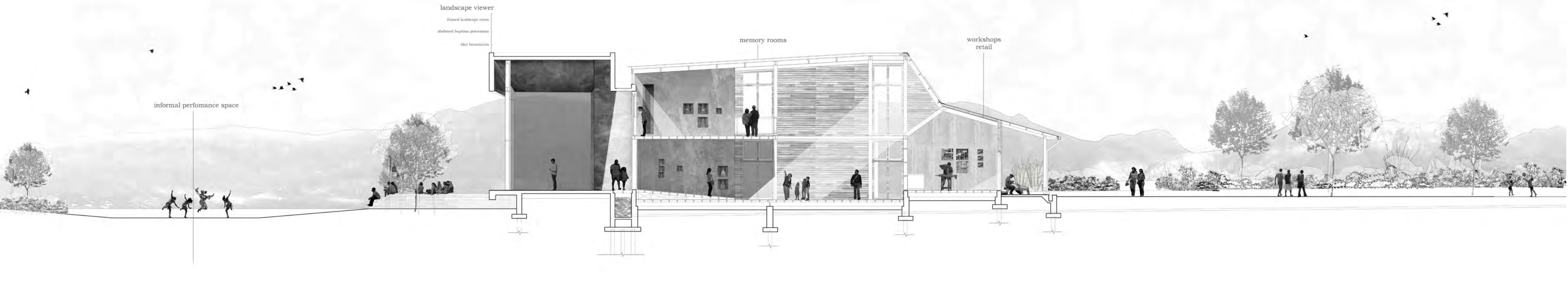
ritual space

khoisan edible garden

oxidised steel info boards

- asparagus rubicundus
- trachyantha divaricata
- rius glauca
- tetragonia decumbens





landscape viewer

framed landscape views
sheltered baptism procession
blur boundaries

memory rooms

workshops
retail

informal performance space

park
braai
recreation

bioswale
water filtration
parking boundary

wind protection
timber screening

braai area

