Re-presenting Layers of History in the “Natural Landscape”

An Architectural Exposition of the Silvermine Reservoir

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November 2016

Design + Research Dissertation Report (APG5058S)
Submitted in partial fulfilment of the requirements for the degree
Master of Architecture (Professional)
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Preface

As a trail runner, I spend a great deal of time navigating the landscape of the Cape Peninsula mountain range – from Table Mountain in the north, to Cape Point in the south. As I move through this landscape I often wonder what it might have been like to walk or run on these mountains, across different periods in history. I imagine a Khoi herder, with cattle and fat-tailed sheep migrating over the rugged terrain – tough bare feet running across table mountain sandstone. I picture European explorers picking their way along the unfamiliar mountain range, their ships at anchor far below. I ask myself if they would have stuck to the lower slopes for ease of travel, or tackled the steeper areas in search of particular places or resources. I wonder what motivated them to navigate this peninsula. I wonder what they would have seen, heard, and smelt along the way. My own wanderings-on, and wonderings-about, this landscape have led me to investigate some of the histories of this unique mountain range.

In pursuit of a Master of Architecture degree, I have become interested in how I might re-present historical narratives through the medium of architecture. As part of my design dissertation project, I have been searching for historical artefacts and sites along this mountain range and am interested in how architectural interventions might re-configure these places in a way that engages with their histories.

This mountain range is home to a great variety of fauna and flora – including the indigenous fynbos vegetation type, which forms part of the world's smallest floral kingdom (the Cape floral kingdom). This sensitive ecosystem has been transformed by agriculture, urbanisation, and modern infrastructure. This report frames this "natural landscape" as no longer comprising only of natural elements, but recognises traces of human inhabitation as part of this landscape. In addition to asking how one might engage with history meaningfully in this landscape, I have also been interested in how people might begin (again) to occupy this place in a more environmentally sensitive way.

Running is an interaction between the body and the environment. The most significant of these interactions is that between the runner and the topography as she/he moves over the different slopes and surfaces, becoming a student of terra firma and its implications for the body in space.[1]

– Simon Cook

The disclosure of meaning in a given landscape can only occur when the subject is present, moving through it, open to sensation and experience.[2]

– James Corner

My attitude toward intervening in the landscape circles around paying attention to that which one would like to be present where no one expects it any more. Thus, for me, to recover something – a site, a place, a history, or an idea – entails a shift in expectation and point of view.[3]

– Georges Descombes

1 Simon Cook, Jon Shaw, and Paul Simpson, "Jography: Exploring Meanings, Experiences and Spatialities of Recreational Road-Running," in Mobilities (2015).

2 James Corner, "Drawing and Making in the Landscape Medium," in The Landscape Imagination, ed. James Corner and Alison Bick Hirsch (New York: Princeton Architectural Press, 2014). 167

3 Georges Descombes, "Shifting Sites: The Swiss Way, Geneva," in Recovering Landscape: Essays in Contemporary Landscape Architecture, ed. James Corner (Princeton Architectural Press, 1999). 79

Introduction

The story of how a particular place came to be is more than the knowledge of a chronology of events; it is intimately part of our experience of that place. By knowing even a little of the history of a place, our perception of that place is transformed. In *Historical Ground*, John Dixon Hunt uses the term *historical ground* to refer to the notion that memories, tales, myths, and historical artefacts *adhere* to a place.[4] The question Hunt then asks is how an existing site, and its tales, may be told through the medium of architecture, or landscape architecture.[5] The idea that each site accumulates histories which may be revealed through architecture, is the basis for my own investigation. In the context of the Cape Peninsula mountain range, I am interested in seeking out and revealing particular historical narratives through the medium of architectural intervention.

This report traces the journey of my design research project from my broader interests in the history of the mountain range; through the clarification of my architectural intentions; to my initial siting and programming strategies; and finally to my first ideas about making architecture in this context. I would describe this process as one of walking, finding, linking, and ultimately responding. This report introduces several key elements which underpin my research project. These elements (or layers) are: mountain (my general site of inquiry); pathways (how movement is linked to memory and meaning); earth (a technical study of the encounter between earth and architecture); fire (and its effects on the landscape); water (a resource with a story); and the wall (an historical piece of infrastructure). Each of these elements guides the reader through my research process and highlights certain found histories and artefacts along the way. As each element is presented, my research hones in on one particular place in the landscape, which is ultimately the site of my design investigation. This site, with the addition of a final artefact (a found brief), becomes the site of an architectural proposition which seeks to engage and link all of these elements together.

4 John Dixon Hunt, Historical Ground (New York: Routledge, 2014). 11
5 Ibid. 52

A Palimpsestial Approach

According to John Dixon Hunt, it is the visitor to an architectural or landscape intervention who is the narrator of a history, because by responding to the architecture and to the place, the visitor *registers* the history of that place.[6] In other words, while every place has multiple histories, each visitor's unique interaction with a site is ultimately the story which for that person is most significant, or meaningful, at that time. Upon registering a particular history of a place, a person's interpretation comes into existence. While the visitor's subjective experience of the place may reside within that person, the interpretation now also belongs to the multiple historic interpretations of that place.

In the context of multiple, and overlapping, histories – I am interested in how particular narratives may be evoked and brought to the attention of visitors, and, given the subjective nature of site interpretation and the immeasurable range of unique readings of history, how architecture might facilitate specific expositions of a given site. A useful metaphor, employed by Hunt to refer to layers of history, is the term *palimpsest*. The word comes from the Greek *palimpsestos*, which means "*scraped and reused*" and refers to ancient parchments which could be written on, and then reused via the complete or partial erasure of the original text.[7] Hunt describes how in the design of three-dimensional space, palimpsests are analogous to historically layered sites whose histories can either be edited, erased, preserved, or highlighted – depending on the intended use of the site.[8] Considering that my dissertation project is concerned with the introduction of new layers of built fabric, with the revival of older layers, and with the sensitive maintenance of existing layers of landscape – I would define my own approach to site intervention as a palimpsestial one.

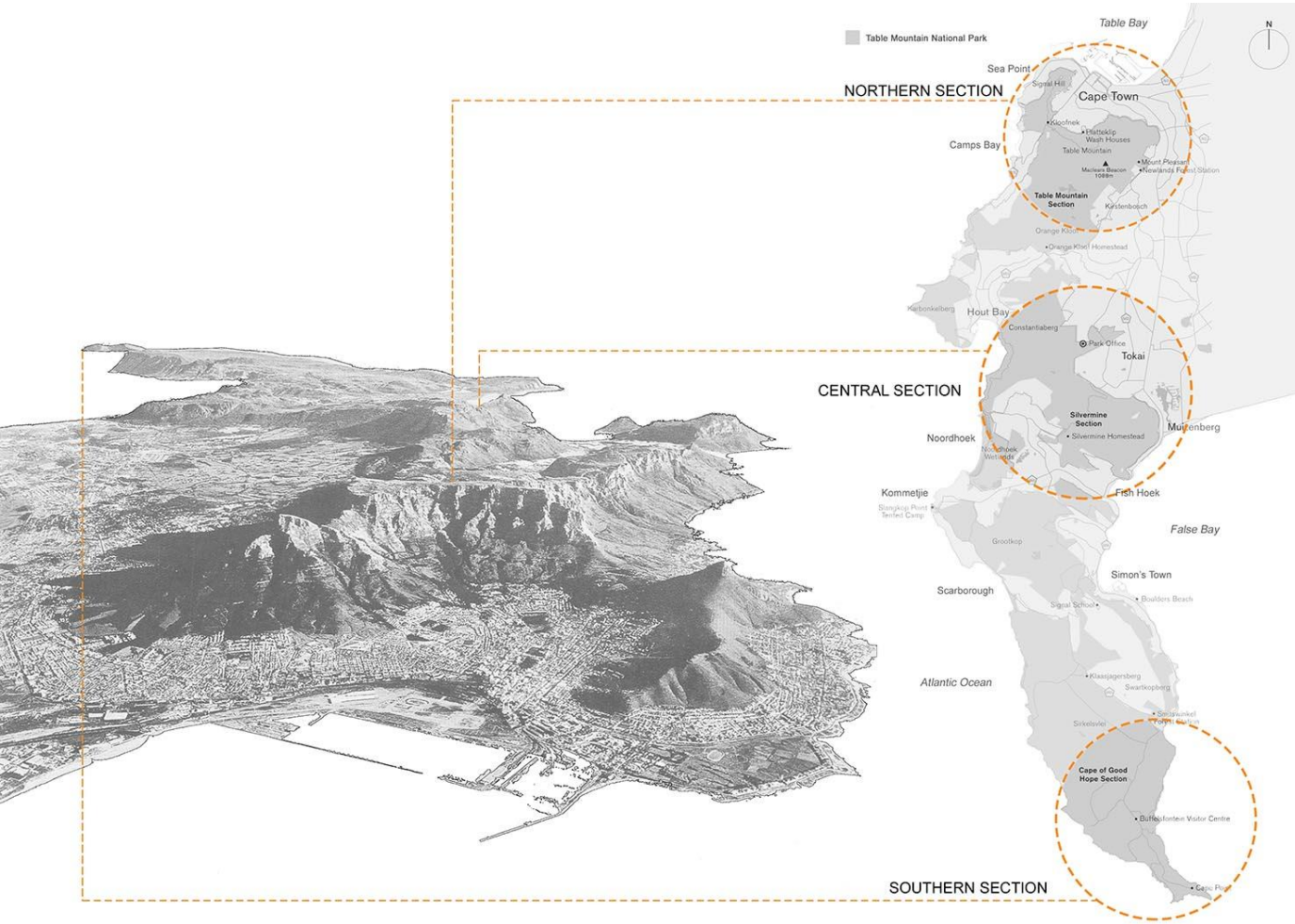
6 Ibid. 29
7 Ibid. 6
8 Ibid. 45

Mountain

For many years I have been a student of the mountain, impressed by its landforms and fascinated by the rich biodiversity of the Cape Peninsula mountain range. As part of my design research project, my explorations of Table Mountain National Park (TMNP) have transformed into more rigorous studies of the landscape. This unique mountain range is a UNESCO Cape Floral Region World Heritage Site, managed by South African National Parks (SAN Parks). This ecologically sensitive range presents itself as an iconic geographical feature, which defines much of the urban edge of Cape Town and its surrounding suburban areas. Throughout history these mountains have represented both opportunity and constraint – being rich in natural resources on the one hand, but challenging to navigate and inhabit on the other. I have primarily been concerned with people's relationships to this landscape in terms of movement; use of resources; and the question of how to insert architecture and infrastructure into such a historically and ecologically sensitive context.

Within the studio, my journey began with a short group design exercise entitled *The Valley Section*. This task involved the investigation of a section of the mountain (from Devil's Peak down to the shoreline in Woodstock) in terms of Patrick Geddes' *valley plan of civilization*. In groups of three, we assumed one of the roles of Geddes' seven characters (miners, woodsmen, hunters, shepherds, peasants, farmers, and fishermen). This task provoked a deep reading of the site, and encouraged us to look at how the condition of the landscape and its subterranean processes effected the formation of certain cultural practices and modes of inhabitation above the surface – both in the past and the present. As one of Geddes' "shepherds", I began researching the first herders of this region – the Khoi people – and their relationship to these mountains. These indigenous nomadic pastoralists lived a transhumance existence, migrating according to the seasons and the needs of their livestock.

1. The Cape Peninsula Mountain Range: my general site of inquiry. The map indicates the three sections of national park, which I have been exploring and investigating.



The temporary dwellings (*matjieshuis*) of the Khoi were transported on the backs of their cattle. These light-weight structures comprised of frames made from saplings (tied together with leather thongs), and cladding made of reed mats.[9] These were assembled at each settlement and disassembled when the Khoi moved on. Often all that was left behind were piles of bones and stone tools (referred to by historians as "garbage heaps"). From these, historians have been able to deduce that the Khoi would return to constant water supplies and known pastures, establishing their temporary dwellings near these key resources.

2. A Transhumance Existence at the Cape Peninsula.

[9] Emile Boonzaier et al., *The Cape Herders* (Cape Town: David Philip Publishers, 1996). 37

In the digital collage two Khoi people are seen eating a watsonia bulb, their cattle and family on the move behind them. The father is visualising the landscape of the Cape – where the dark grey areas represent the original distribution of renosterveld grasses. Approximately 97% of lowland renosterveld has been destroyed by agriculture, invasive alien plant species, and urbanisation. The primary resources (land, water, vegetation, and cattle) are seen along a continuum drawn below the section through the mountain – representing the shifting presence of these elements across the landscape.

3. An Intimate Relationship with the Land.

An intimate knowledge of the seasons, of the geography, of their animals, and of the vegetation are what defined the Khoi's inhabitation of this landscape – a relationship which lasted almost two thousand years before the arrival of European settlers in the 16th and 17th centuries. The Khoi people's relationship to resources differed radically from the way in which we use resources and inhabit the landscape today. Much of this difference can be attributed to differing conceptions of ownership. The constant movement of the Khoi and their distinct social system meant that they viewed land and water as shared resources. While one group of Khoi occupied a particular place they may temporarily "own" that place and its resources – but they would sometimes share it with other groups who were passing through (something akin to usufruct, or user's rights).[10] Put simply the Khoi's use of resources would better be described as temporary ownership, rather than permanent ownership. A large part of the Europeans' systematic colonisation of the Cape relied upon their occupation of the land and the capturing of water and other resources by way of introducing permanent ownership. According to Leonard Guelke and Robert Shell, "the Khoikhoi were gradually squeezed out of the lands they had once occupied as European settlers alienated the springs and permanent water courses."[11] This question of ownership has been intricately involved in the unfolding of this place's history and the exclusion of indigenous people. The idea that people can inhabit a place and use it resources, over thousands of years, yet have little or no tangible impact upon the natural landscape provokes an architectural challenge: how might we better utilise and share land and water in the future?

[10] Ibid. 39

[11] Leonard Guelke and Robert Shell, "Landscape of Conquest: Frontier Water Alienation and Khoikhoi Strategies of Survival, 1652-1780," *Journal of South African Studies* 18, no. 4 (1992). 804

Path

In *Topographical Stories*, David Leatherbarrow quotes the landscape architecture and design studio PROAP, who remark on how the earth faithfully "stores the marks of pathways that man has trodden."[12] Well-worn trails are themselves stories about the ways that people have moved across a particular topography over time. By encouraging visitors to retrace particular routes, or to tread new paths between historical artefacts, new links and interpretations of the history of a place are experienced, through movement. How might architecture operate like a path which facilitates new relationships between people's movements and particular historical artefacts?

The power of architecture, in terms of its ability to reveal historical narratives, lies in the spatial nature of the discipline. There is great potential for understanding a place through the movement of our bodies in space. Other modes of representing history, as are found in books, or hanging on walls, in audio recordings or films, do not afford a person the physical experience of moving through a space. The idea that we might better understand our surroundings through movement is what Juhani Pallasmaa would call e*mbodied thinking*. As he explains in *The Thinking Hand*, "the body is also part of our system of memory."[13] Pallasmaa argues that as cognitive beings we would not have the capacity to remember if we did not have the capacity for *body memory*.[14] This is the ability of our bodies to remember spatial experiences (on a subconscious level at least) and appears to be directly related to our imaginations.[15] It is because of this relationship between our bodies, our physical experiences, and our imaginations that we are able to conceptualise and envision the quality of spaces and derive greater understanding by being physically present.

[12] David Leatherbarrow, Topographical Stories (Philadelphia: University of Pennsylvania Press, 2004). 4
[13] Juhani Pallasmaa, *The Thinking Hand* (Sussex: John Wiley and Sons, 2009). 117
[14] Ibid. 117
[15] Ibid. 132

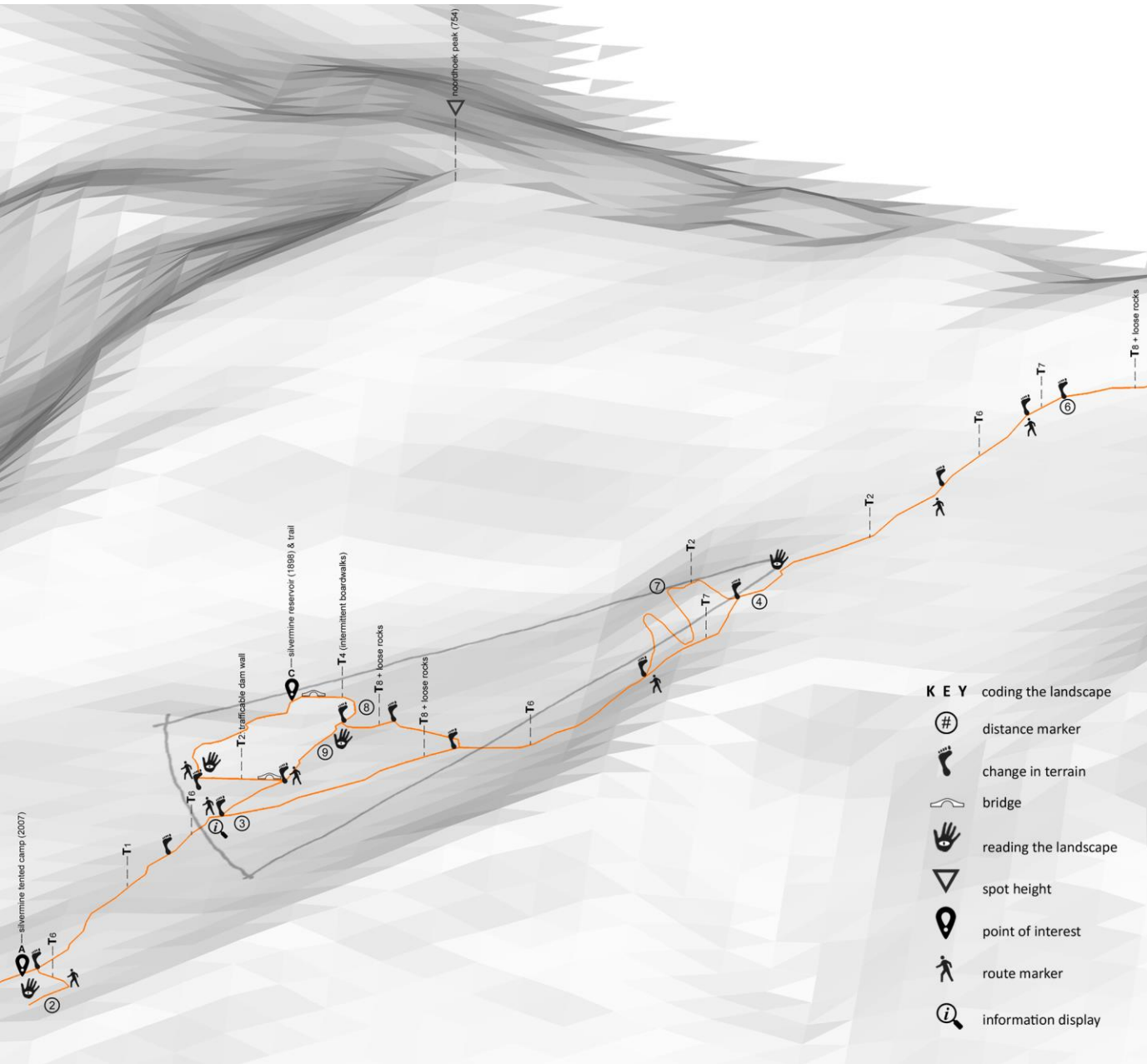
Thus, architecture enables visitors to experience, through their movements in space, spatial clues about a place's history. When the landscape architect, James Corner, talks about the link between history and landscape, he says that "the disclosure of meaning in a given landscape can only occur when the subject is present, moving through it, open to sensation and experience."[16] This reference to our own movement in relation to a landscape is key to my understanding of the interaction between people and my proposed interventions. It is by moving through a landscape, and thereby experiencing the space, that we open ourselves to emergent local histories. It is the topography of a place – both the natural form of the landscape and the forms created by human intervention[17] – which reveal the history of the surface upon which we move.

The migratory patterns (pathways) of the Khoi were determined by: a) the gradient and terrain (surface); b) the seasons; and c) the locations of key resources. Their routes and destinations would also have become familiar through repeated travel over time. My investigation into the movements of the Khoi led to me to think more deeply about my own movements on this mountain range and I decided to record my journeys and develop a language for representing my pathways.

Using GPS software, I was able to accurately record the routes which I travelled. I then plotted my pathways onto a digital model of the mountain range. By abstracting the surrounding terrain and marking out my route in bold – I presented my journey as a known path in an otherwise unknown territory. This map is my record of a route which I ran at Silvermine Nature Reserve, with symbols marking key places and artefacts on my journey. The surrounding landscape is presented as abstracted – known to me only through its distant forms.

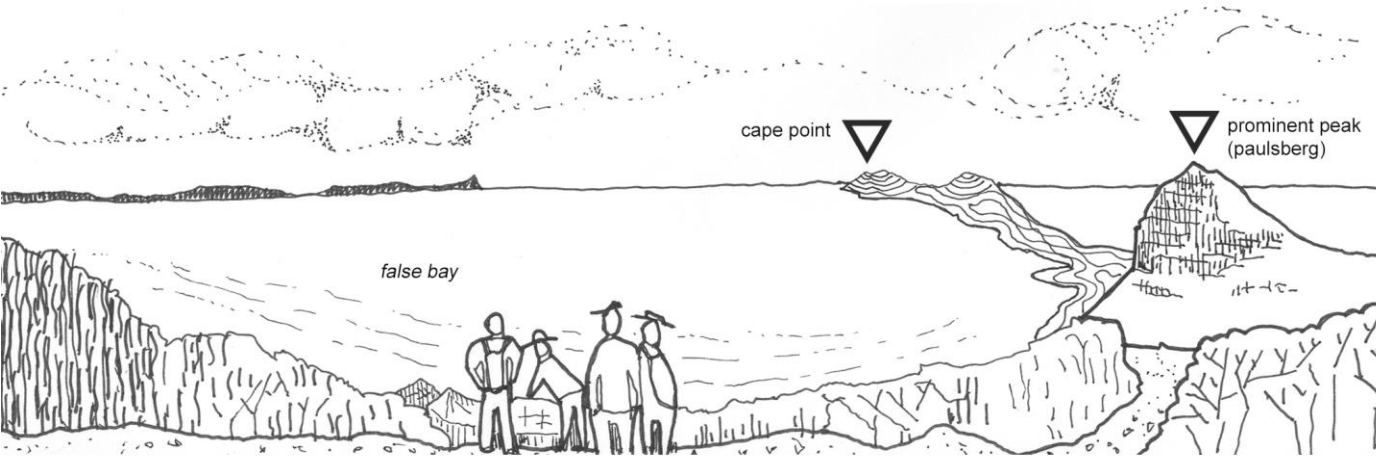
[16] Corner, "Drawing and Making in the Landscape Medium." 167
[17] Hunt, Historical Ground. 28

4. Detail of Silvermine Nature Reserve Route Map.



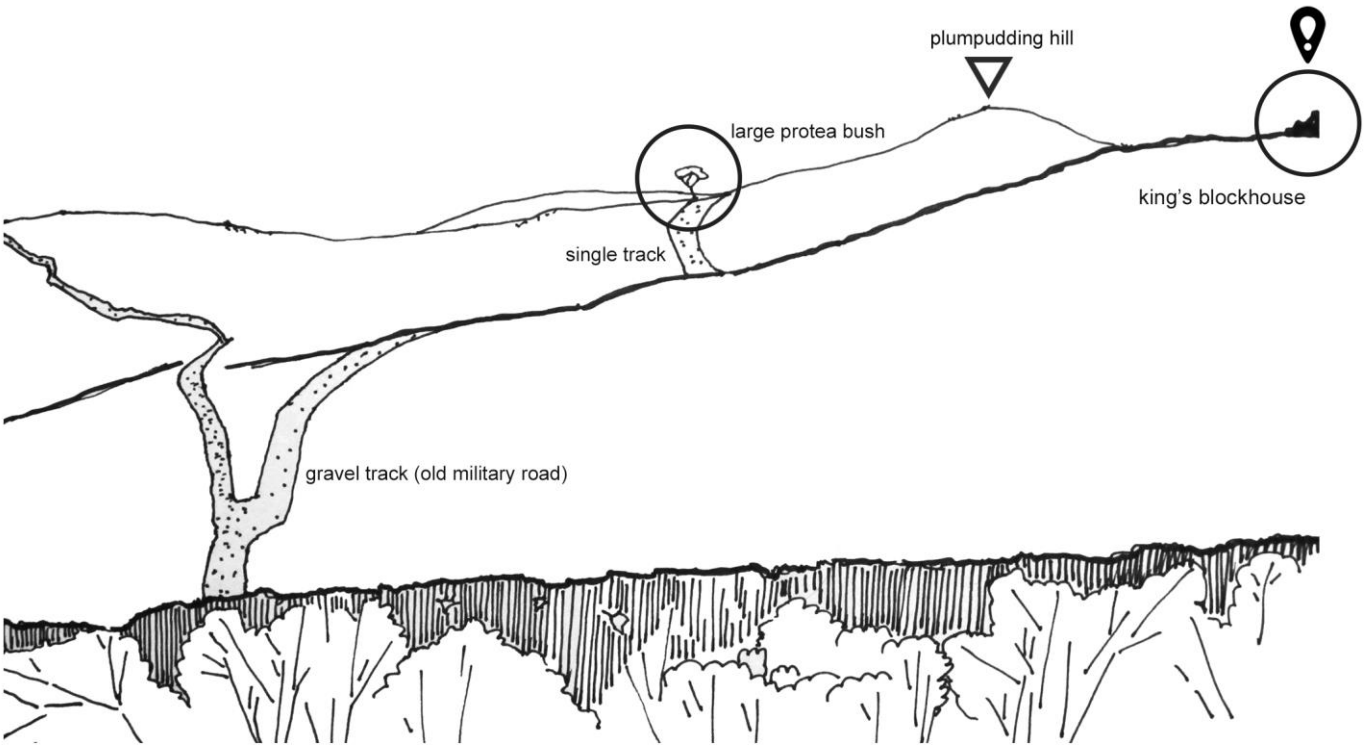
During each journey I would stop to observe the landscape – noting each place of pause and identifying what made me pause there: a place to sit; shade; a change in orientation; a widening of the path; a vantage point; an important resource; a geographical feature; or an historic artefact. At these places of pause I would then sketch the view before me, marking key elements in the landscape as navigational beacons which I would then navigate towards.

5. Navigational sketch of Cape Point.



While running on the slopes of Devil's Peak, I paused at a bend on Old Military road. Above me I noticed the ruin of the Queen's Blockhouse. I had read about this small building, which was built as an outpost in 1795 as part of a defence system which set up visual links between a series of outposts along the mountain range. This served as an early warning system which allowed soldiers at one end of the peninsula to warn soldiers at the other end of potential threats. Upon climbing the steep hill to this ruin and looking out across the landscape, I spotted the King's Blockhouse – appreciating for the first time the visual link between the two. This process of moving, pausing, and noting landscape markers affirmed my own understanding of the use of movement as a tool for reading the landscape and understanding history.

6. Navigational sketch of the King's Blockhouse.



7. *Memory-map* of Cape Point Journey.

As part of my process of exploring the landscape I would repeat each journey. Repetition of movement is understood here as an integral part of developing an ability to navigate the mountain range without a map. I hoped that each route would imprint itself on my memory – forming an abstract map-like understanding of the landscape in my mind. My digital representations and GPS maps lacked the quality which I associated with this kind of “memory-map”. This linoleum print of my journey at the Cape of Good Hope forms part of a series of subjective maps which attempt to capture my memory of moving through a particular place.

Earth

The moment when an architectural intervention meets the natural landscape is the moment that the pre-existing landscape ceases to exist in its natural form and the natural processes are interrupted. No matter how subtle, delicate, or sensitive an architectural intervention may be, when it is built, it disrupts the natural landscape and transforms the nature of the place – for better or for worse. The rocks on a site determine, through weathering processes, the types of soils which form, and therefore the types of vegetation which can grow in a particular place.[18] The relationship between geology and growth is extremely sensitive, especially on the slopes of the Cape Peninsula mountain range where the nutrient-poor soils and shallow bedrock leave little room for growth.[19] However, fynbos is well adapted to suit these conditions as it is able to withstand extreme winds, and has evolved to derive nutrients from the ash of bush fires.[20] This sensitive ecosystem, which is one of the richest areas of fynbos growth, is highly susceptible to erosion and collapse. If too much soil is removed from a site or if foreign sands are brought to a site, the ecosystem is put at risk. Given the various ecological constraints of my site of inquiry, I am interested in understanding how I might insert architecture into this landscape in a way that mitigates damage to the natural landscape (while recognising that this place is already disturbed by the presence of human intervention). For the purposes of this investigation I have focussed on how buildings meet the earth, how earthworks are employed, and which foundations are used. While this encounter between architecture and natural landscape is an important part of how architecture might mitigate damage to a site – other factors such as choice of materials; passive energy systems; siting and orientation; and an appropriate maintenance plan, all effect how sensitive an architectural intervention is to the surrounding landscape. But, because of my interest in the nature of the ground beneath our feet and my understanding of the cultural determinants of subterranean processes, I have chosen to look more closely at the encounter between earth and architecture.

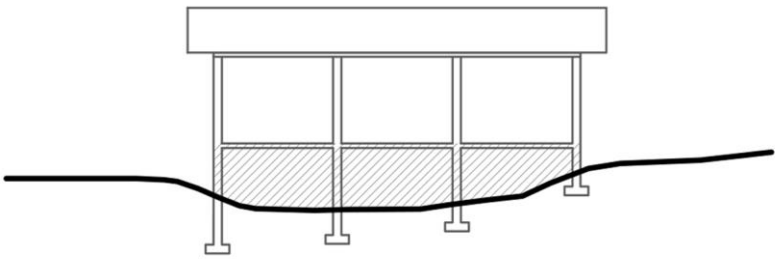
Because of the temporary nature of the Khoi's dwellings, their inhabitation of this mountain range left no trace in terms of built remnants. The use of light-weight natural materials, and structures which rested on top of the earth, stands in stark contrast with the brick and stone buildings of the European settlers or the modern concrete and steel structures which cover the landscape today – rooted to the earth in a far more permanent way. This contrast led me to investigate the ways in which I might choose to introduce new layers of built fabric into this environment and initiated a technological study of the encounter between earth and architecture.

18 John S. Compton, The Rocks and Mountains of Cape Town (Cape Town: Double Storey Books, 2004). 36
19 Ibid. 38
20 Ibid. 38

A Study of the Encounter between Earth & Architecture

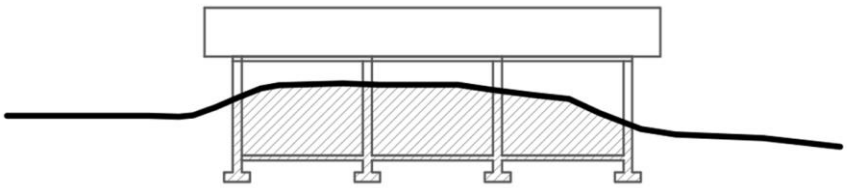
Tomà Berlanda's book, A*rchitectural Topographies*, offers a lens through which to analyse some of the ways in which architectural interventions make contact with the ground. Berlanda's three primary relationships are termed *separation*, *interlocking*, and *adjacency.* As part of my technological research I became interested in understanding these relationships and their effects on the choice of foundations and the use of earthworks in each case.

8. Separation.



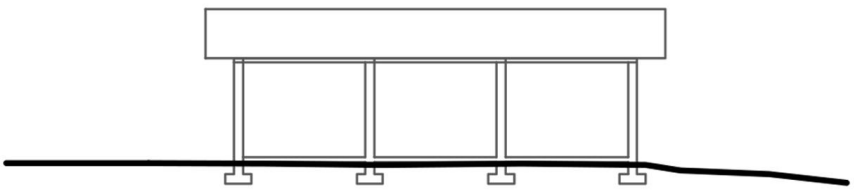
Separation describes cases in which the architecture is elevated above the surrounding landscape. This relationship presents buildings as objects distinct from their surrounding context – as separate figures against the backdrop of the ground plane. The shaded area indicates the zone of separation between the architecture and the natural ground plane.

9. Interlocking.



Interlocking is defined as architecture which is partially or completely embedded in the earth's surface. This relationship describes a manipulation of the natural landscape and an exploitation of the surrounding topography such that the architecture rests partly inside, or underneath the ground. Typically this relationship requires earthworks to insert the architecture into an existing cavity or a newly created hole in the ground.[21] The shaded area indicates the area of the building which is below the ground.

10. Adjacency.



Adjacency describes an architecture which rests directly on top of the ground plane (be it natural or artificial). The only part of the building which penetrates the surface of the earth are the foundations.

21 Tomà Berlanda, Architectural Topographies (New York: Routledge, 2014). 47

With regards to separation, one might notice two possible and apparently contradictory attitudes towards the natural landscape. One suggests that because the building is elevated above the ground, the architecture is preferenced over the landscape and given a position of superiority. The implication here is that the surrounding landscape is merely a backdrop and that the man-made architectural object is therefore more important. On the other hand buildings which separate themselves from the natural ground plane can be said to be more sensitive to the natural landscape – and may in fact be preferencing the natural condition of the site over the new intervention.

There is a tendency, especially with regards to buildings which attempt to mitigate damage to a site, to employ evocative yet unspecific rhetoric when discussing how buildings make contact with the ground. Berlanda suggests that many architects' claims are often no more than vague metaphors which carry no specific instructions on how exactly a building should meet the ground.[22] Phrases such as *floating above the ground* and *touching the earth lightly* (both fairly common phrases in this discourse) imply lightness and sensitivity, yet these buildings must in fact make contact with the ground, and must often penetrate the earth's surface for structural purposes. Herein lies the contradiction – that however sensitive a building is to its context, and however much it "floats" above the earth – there is a structural imperative which requires the founding of architecture on, or in the earth. To borrow Richard Neutra's words, "Houses do not sprout from the ground, sucking natural juices out of the soil! That is lyrical exaggeration."[23]

Considering that excavation is essential to the insertion of structural foundations it is crucial for architects to understand the requirements and implications of earthworks. Earthworks, defined here as the excavation or manipulation of the ground, are seen as necessary in three basic ways. Firstly in the insertion of structural foundations below the earth's surface; secondly in the manipulation of topography and the creation of artificial ground planes (including the relocation of soil from one place to another); and thirdly in the creation of voids and spaces which might then receive built elements – associated with interlocking architecture.

[22] Ibid. 1
[23] David Leatherbarrow, Uncommon Ground: Architecture, Technology, and Topography (Massachusetts: MIT Press, 2000). 54

Berlanda argues that "by allowing architects to operate at an unprecedented scale in the removal of the terrain's asperities … there is a risk of generating architectures which are indifferent to site."[24] According to Berlanda, because earthworks technologies have developed so quickly, and their effects have become such common practice within the field of architecture, there is now a risk that architects will simply demolish any unwanted piece of terrain without regard for the spatial or environmental consequences.[25] As described by Peter Petschek grading and earthworks can destroy a site if not used properly but can also contribute to the conservation of the site's ecology if understood and used appropriately.[26] Petschek refers to the destruction of soil – which he points out is a "material of life-giving consequence."[27] Because soil fosters plant life (which in turn effects climate; provides a source of food; produces oxygen; shelters animals; and protects soil), by preserving the soil on a site and approaching earthworks cautiously we might conserve natural ecologies during the construction process.[28]

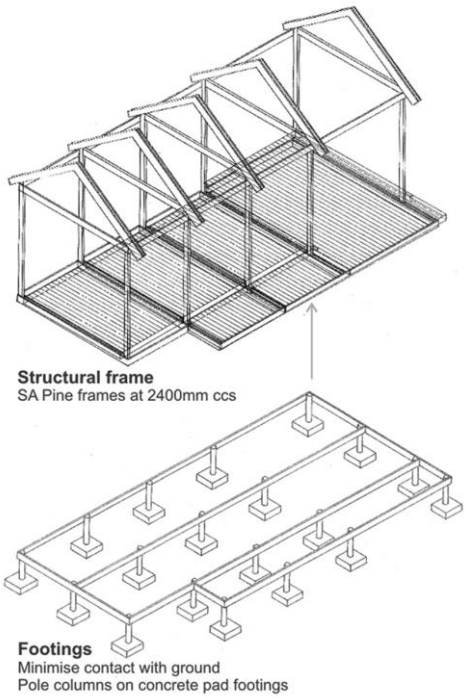
With regards to the precise siting of architecture, Petschek outlines three ways in which a building can be inserted into the existing ground, "as a cut; as a fill (with the foundations at the spatial edge)"; or "as a combination of cut and fill."[29] *Cutting* refers to the excavation or removal of terrain while *filling* refers to the building up of layers of terrain. A combination of cutting and filling allows one to cut from one part of a site and use the displaced earth as fill in another part of the site. Petschek dismisses the over-use, or the repetition, of excavation techniques without thought for site specificity or particular ecologies.[30] He talks scathingly about what he calls, the "interchangeability of places,"[31] referring to the lack of nuance and variation in each design.

[24] Berlanda, Architectural Topographies. 15
[25] Ibid. 15
[26] Peter Petschek, Grading for Landscape Architects and Architects (Basel: Birkhauser, 2008). 13
[27] Ibid. 13
[28] Ibid. 13
[29] Ibid. 86
[30] Ibid. 14
[31] Ibid. 15

Local Case Studies

During my explorations of the Cape Peninsula mountain range I encountered several structures whose relationships with the surrounding topography presented themselves as valuable precedent studies. What follows is a comparison between two local buildings whose relationships with the earth differ radically – yet both attempt to fit into their surrounding contexts and mitigate site damage through an understanding of their particular environmental conditions.

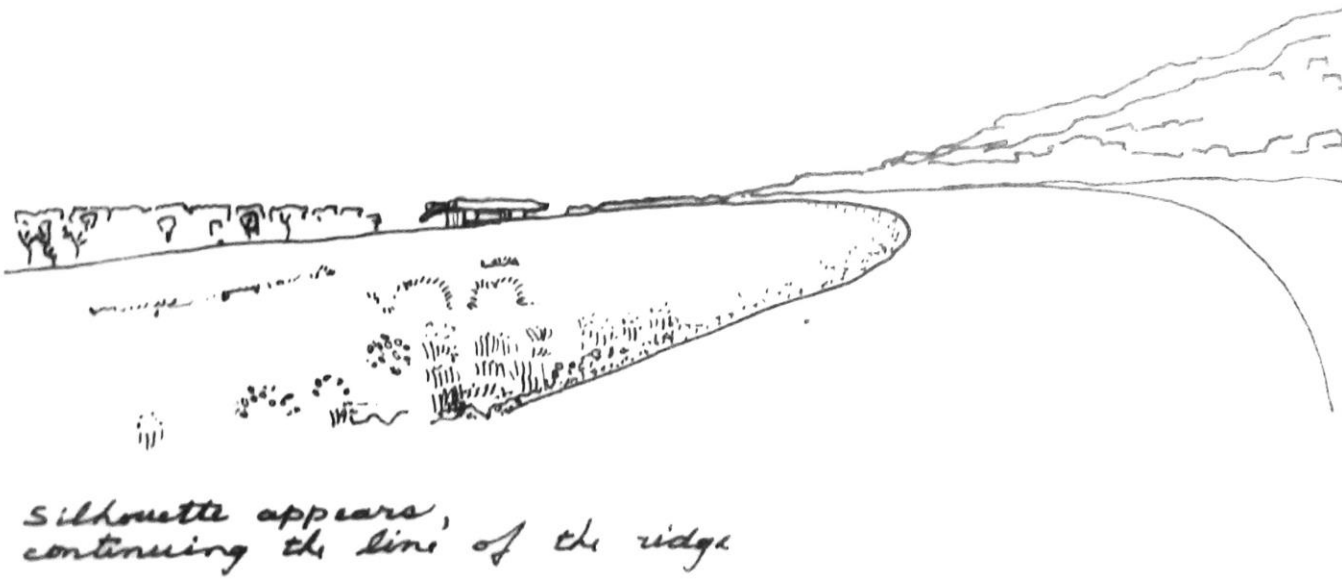
11. Kogelberg Nature Reserve Cabins.



In the case of the cabins at the Kogelberg Nature Reserve (designed by Architecture Co-op), the pre-fabricated structural timber frames are supported on gum-pole foundations. These poles then rest on top of small pre-cast concrete foundation pads which have been engineered to the minimum possible size to reduce the amount of excavation and wet works required on site. The reason cited for separating the building from the natural ground plane was to allow for natural surface drainage to continue without interruption and to reduce the amount of excavation required. This specific site requirement and the precise engineering of the foundations affirm the cabins' stated intention to "touch the earth lightly"[32] – showing how separation can be used to mitigate site disruption.

[32] Justin Cooke, "Oudebos Mountain Camp," (2012).

12. Cape of Good Hope Entrance Gate.



The entrance gate building at the Cape of Good Hope Nature Reserve, designed in 1992 by Gabriël Fagan, presents itself as a continuation of the line of the ridge behind it. This drawing illustrates an appreciation of the natural landform and a desire for the architecture to blend in with its surroundings – thereby reducing the visual impact of the architecture on the site. While Fagan's intriguing building mitigates the visual impact of the architecture here, extensive earthworks were used to embed the building in the hillside.

By understanding the specific implications of different earthworks and various foundations, we improve upon our ability to mitigate damage to sensitive landscapes. While phrases such as *touching the earth lightly* and *floating above the ground* are indeed evocative, they fail to quantify or detail the exact impact that architecture has on a site. The imprecisions and ambiguities of the rhetoric associated with describing these intentions are brought into focus when one examines exactly how a building makes contact with the earth.

In the case of the Kogelberg Nature Reserve Cabins, the architects describe the buildings as *touching the earth lightly*. On closer inspection, what this statement translates to is a limited use of earthworks and wet works, and the penetration of the earth's surface only at key moments (and to a minimal depth). Coupled with a site-restoration strategy and the use of excavated soil on the planted roofs, this project is an example of a close connection between the original intention and the way in which the building actually makes contact with the site. Before any architecture came into contact with the landscape, the site-restoration strategy announced that the surrounding landscape was preferenced over the man-made object. Yet the form of the buildings, elevated above the surface of earth, present themselves as objects dotted in the landscape.

The entrance gate at the Cape of Good Hope Nature Reserve is a continuation of a nearby landform – thus attempting to express itself as part of the natural landscape. In pursuit of this formal relationship to the landscape, extensive earthworks were employed. While the building does appear to step down the mountainside and makes use of a planted roof to continue the ridge line, the building imposes itself on the terrain by virtue of large excavations, revealing itself through its imposition on the landscape. Perched on a ridge, this project's site and intentions are vastly different from that of the Kogelberg cabins. The flat, gently sloping topography beneath the cabins is a natural surface drainage area, while the ridge line at the Cape of Good Hope would shed water away from the building. Thus the primary reason for elevating the cabins does not exist for the entrance gate building.

These two vastly different buildings, with their nuanced attitudes towards the landscape offer two valuable examples of how one might approach the critical encounter between architecture and ground. While one attempts to blend into the landscape, the other asserts itself as a separate element above the ground plane. The insertion of foundations demands the excavation of earth. How then might I approach the challenge of sensitively inserting architecture in the Cape Peninsula mountain range? If, as Berlanda suggests, architects are at risk of simply obliterating any unwanted piece of landscape, and if, as Peter Petschek suggests, architects tend to adopt and repeat inappropriate excavation techniques regardless of the particularities of a landscape, then we find ourselves in a position where we must learn more about the effects of foundations and earthworks.

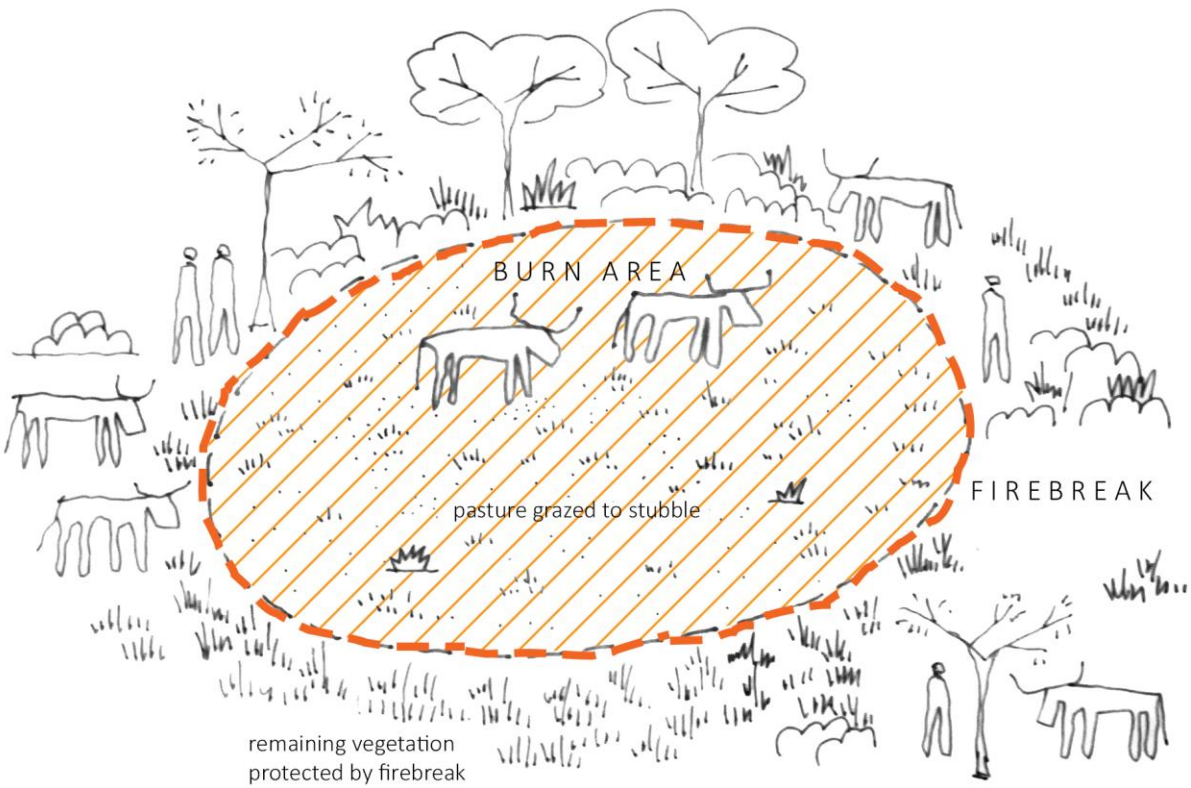
In terms of my design project, the Kogelberg cabins offer insight into how one might approach the founding of a building more cautiously – reducing earthworks and wet works as a means of reducing the impact of the architecture on the site and elevating the building above the ground, allowing natural processes to carry on beneath the structure. At the same time I am fascinated by the spatial and formal qualities of the entrance building at the Cape of Good Hope Reserve, and appreciate the complex way in which this structure meets and makes the topography. Perhaps then I should adopt Petschek's call for variation and appropriateness as well as his cry for architects to understand earthworks, and develop my own language of interventions which recognises that each site has its own pre-existing qualities as well as opportunities and constraints.

Fire

One of the most notable characteristics of the areas I began to study on this mountain range were the effects of the recent bush fires. Early in 2015 massive fires raged across this mountain range (burning vast areas of vegetation and destroying several homes and structures). Fires such as these transform the landscape every few years and are a part of life on the Cape Peninsula. Each burn reduces a once lush carpet of greens and yellows to a sparse moonscape of blacks, silvers, and greys. Skeletal protea trees dot cling to this desert-like landscape and dry burned leaves crack underfoot. There is a stark beauty in this transformed place. Even more so when fynbos reveals its magic – as new plants emerge from the ashes – producing magnificent flowers and green shoots.

13. The mountain fynbos and peninsula shale renosterveld require ash for nutrients and rely on these soils as a seeding medium. This important relationship reveals itself in the months after a fire, when new shoots appear alongside mountain trails.

14. Traditional Veld-Fire Management.



An important part of the Khoi people's relationship with this landscape relied upon their use of fire as a tool for the regeneration of fynbos and renosterveld. Once their livestock had grazed a pasture down to stubble, the group would move on. Before leaving would first set fire to the vegetation to ensure that it regrew before their return the following season. This diagram illustrates how the Khoi would dig small trenches around the area that they wished to burn, creating fire breaks which prevented the burning of unnecessarily large portions of the landscape. Upon their return the following season, they would find a new supply of both grass for the animals and edible plants for the people.

The role of fire and its relationship with those who inhabit this mountain range is seen here as an integral part of understanding the shifting landscape of this place. Not only does fire represent change and the birthing of new life, but fire is intricately involved in the way in which we inhabit this peninsula today. From the threat of fires to peoples' homes, to the way in which a tall dense forest is transformed into a desert-like landscape, fires effect our spatial occupation of this mountain range. Of the areas that I explored, the one most effected by the recent fires was the Silvermine Nature Reserve. A huge part of this reserve was burned and significant damage was done to the reserve's amenities and infrastructure, including many of the most popular hiking trails in the area. Some of these have since been rebuilt.

This photograph highlights the burned remains of the timber boardwalk and viewing platform at the Hout Bay lookout point. A key vantage point along the Hoerikwaggo Hiking Trail (a multi-day trail which runs the length of the Cape Peninsula mountain range), this lookout has been a popular picnic destination in the reserve for many years. Seeing the burned remains of this platform led me to question how one might reconstruct this lookout in such a way that would reveal the story of the regular fires in this area.

15. Hout Bay Lookout Platform (burned).

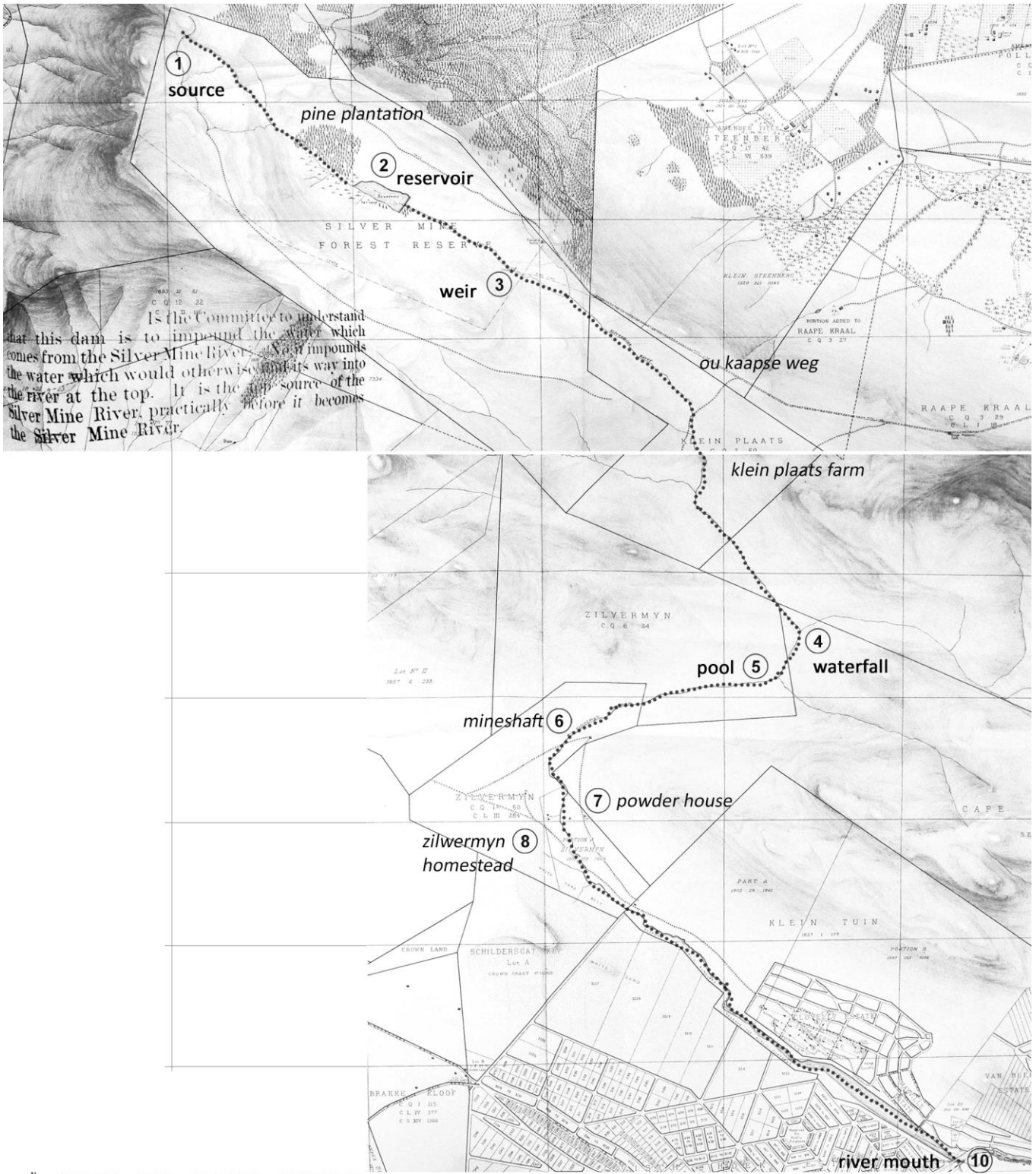
Water

The hiking trail most severely affected by the fires in 2015 was the Silvermine River Walk – an hour-long route starting at the entrance of the reserve. This path climbs slowly up a small valley for about two kilometres following the course of the Silvermine River. Meandering along the banks of the narrow river, through the indigenous riparian forest, this path allows visitors to experience the journey of this river and encounter some of the animals and plants along its banks. As the rocky path nears the riverbed itself, it becomes a timber boardwalk, which crosses the river several times – allowing walkers to see frogs in the water and hear the burble of the stream as it courses over the rocky riverbed.

As I climbed the path (soon after its reconstruction) I began to wonder about the history of this river. The difference between the old unburned parts of the boardwalk and the new planks beneath my feet told a story of the recent fires. Sections of new boardwalk coincided with places where the black skeletons of burned trees lay close to the pathway. I began to wonder how one might remake this pathway in such a way that might tell the story of this burning process in a longer-lasting way, instead of simply replacing the burned planks. With time the new planks will age and resemble the older ones, the vegetation will regrow and any trace of the fire will disappear. Upon seeing an old burned plank lying discarded next to the path – I began to envision a path made of charred old planks – put back in place using new steel brackets – merging old with new and presenting the path as burnt, rather than as new and without any history. The intention behind such a gesture would be to celebrate rather than disguise the process of burning, and to create a lasting impression of change.

16. Reconstructed River Trail.

17. Silvermine River Map.

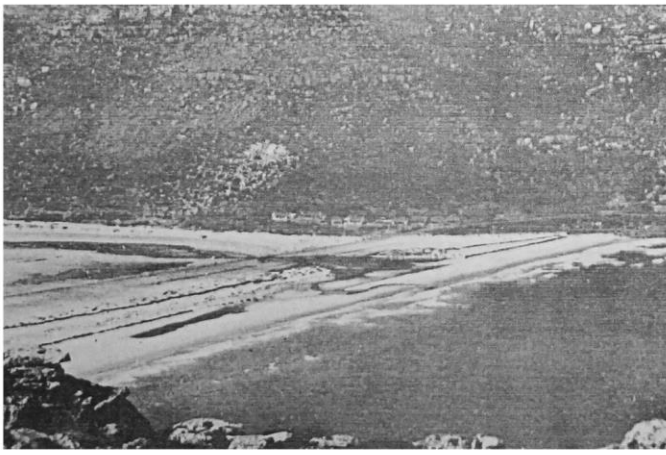


Starting in the Steenberg Mountains, near Noordhoek Peak, the Silvermine River flows in a south easterly direction across the Steenberg Plateau before entering the Silvermine Valley and flowing southwards to the coastal plain and out to sea at Clovelly Beach – approximately twelve kilometres from its source. By examining old maps and digging in the Cape Archives I was able to ascertain some of this place's historical development. The name Silvermine comes from early attempts by Dutch settlers to mine the area for silver in the 1680's.

Several local archaeological sites have revealed that some of the caves above the Silvermine Valley were once occupied by Khoi and San people. It is likely that they would have visited the shores of this river to fish or bath in its cool waters. Such assumptions are not easily verifiable, but given the archaeological remains nearby and the river's constantly flow, it is likely that the Khoi would have spent time on this easily accessible plateau making use of its abundant resources. Later, a few small homesteads and a mineshaft were established there by the Dutch settlers. After several years of prospecting for silver, attempts to extract metals were abandoned, but the establishment of the small Dutch settlement and the larger colonisation of the Cape had ensured the decline of the indigenous people of that area. As the population of the Cape colony grew and expanded southwards along the peninsula, demand increased for water (for both drinking and agricultural use). Records show that the first farms built in Clovelly and Fish Hoek (near the mouth of the river) began to compete for the rights to this abundant resource.[33] By that stage the indigenous people had been pushed out of this region, roads were being built, and the landscape was beginning to transform more radically due to urbanisation. The history of this river reflects how notions of ownership changed under the colonisation of the Cape and tells a story of competition for access to precious resources.

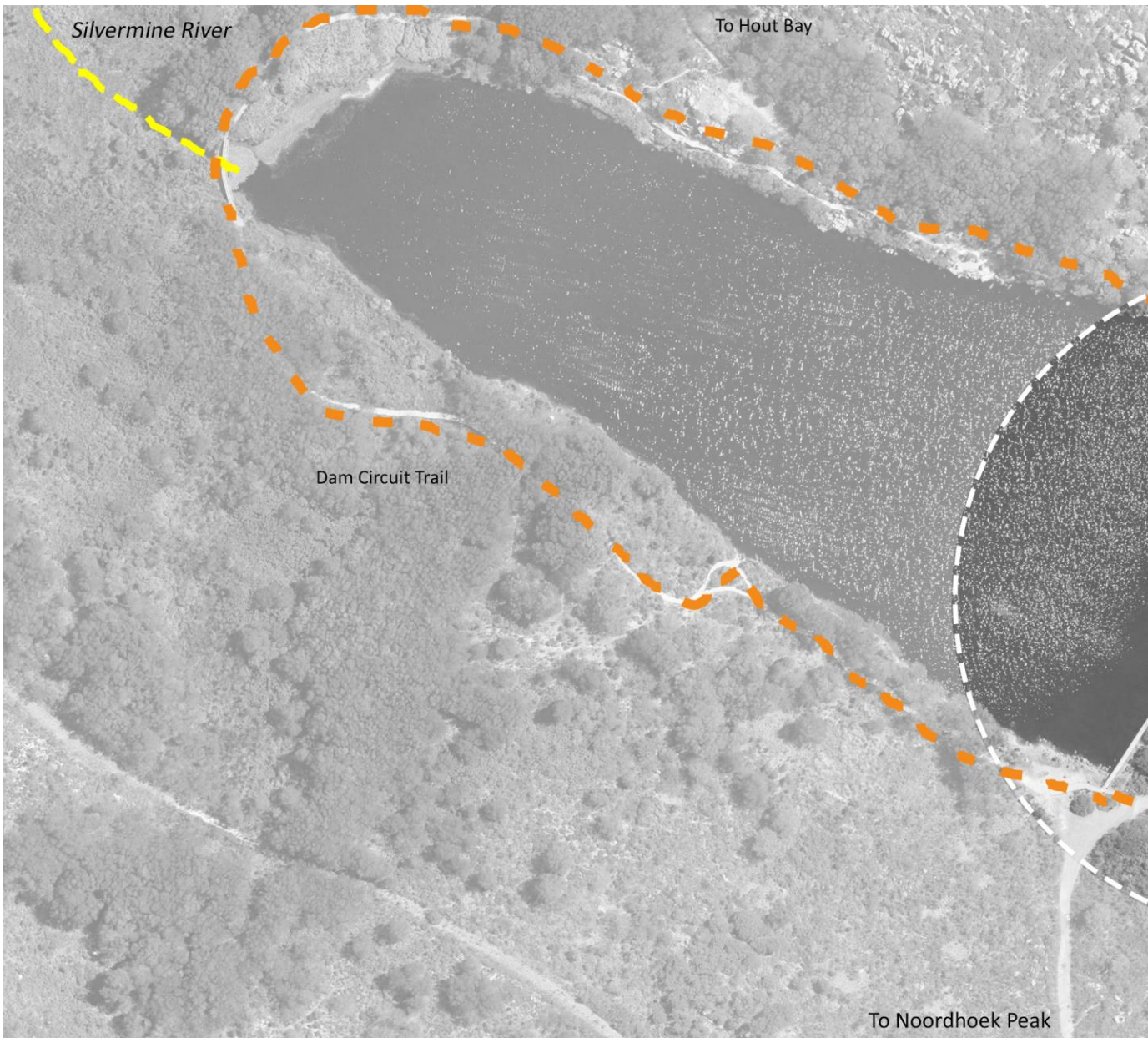
[33] Malcolm Cobern, *Story of the Fish Hoek Valley from the Beginning of Time* (Cape Town: M.M. Cobern, 1984). 225

18. Top left: Silvermine Valley, with original farmstead in foreground (1975).
19. Top right: Silvermine River Mouth (1918).
20. Bottom left: Hikers walk next to Silvermine River (c. 1980).
21. Bottom right: Silvermine Reservoir and Pine Plantation (1974).



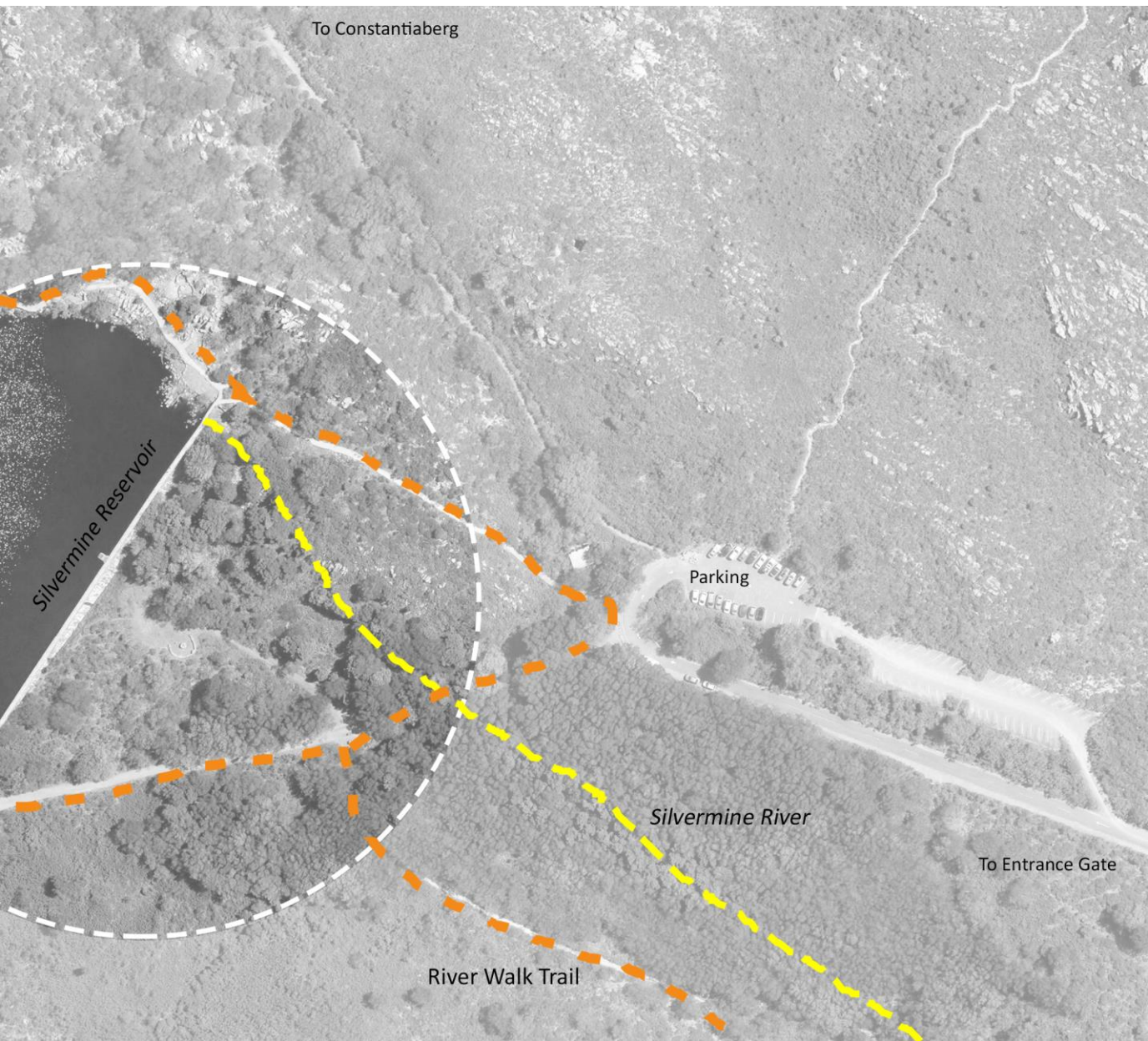
The Wall

Towards the top of the River Walk Trail the path veers away from the river course, coming out at a non-descript intersection with a perpendicular gravel maintenance track – a place without a sign and with no clear direction of where to go, nor any indication of where the river is. Going either left or right takes you up the sides of the valley, where you emerge alongside a great sheet of water, at the Silvermine Reservoir. Fringed by timber boardwalks, thick reeds, and indigenous riparian vegetation, this body of water marks a special place in the valley and a popular leisure destination. Yet there is a disconnection between the end of the River Walk trail and the arrival at the reservoir.

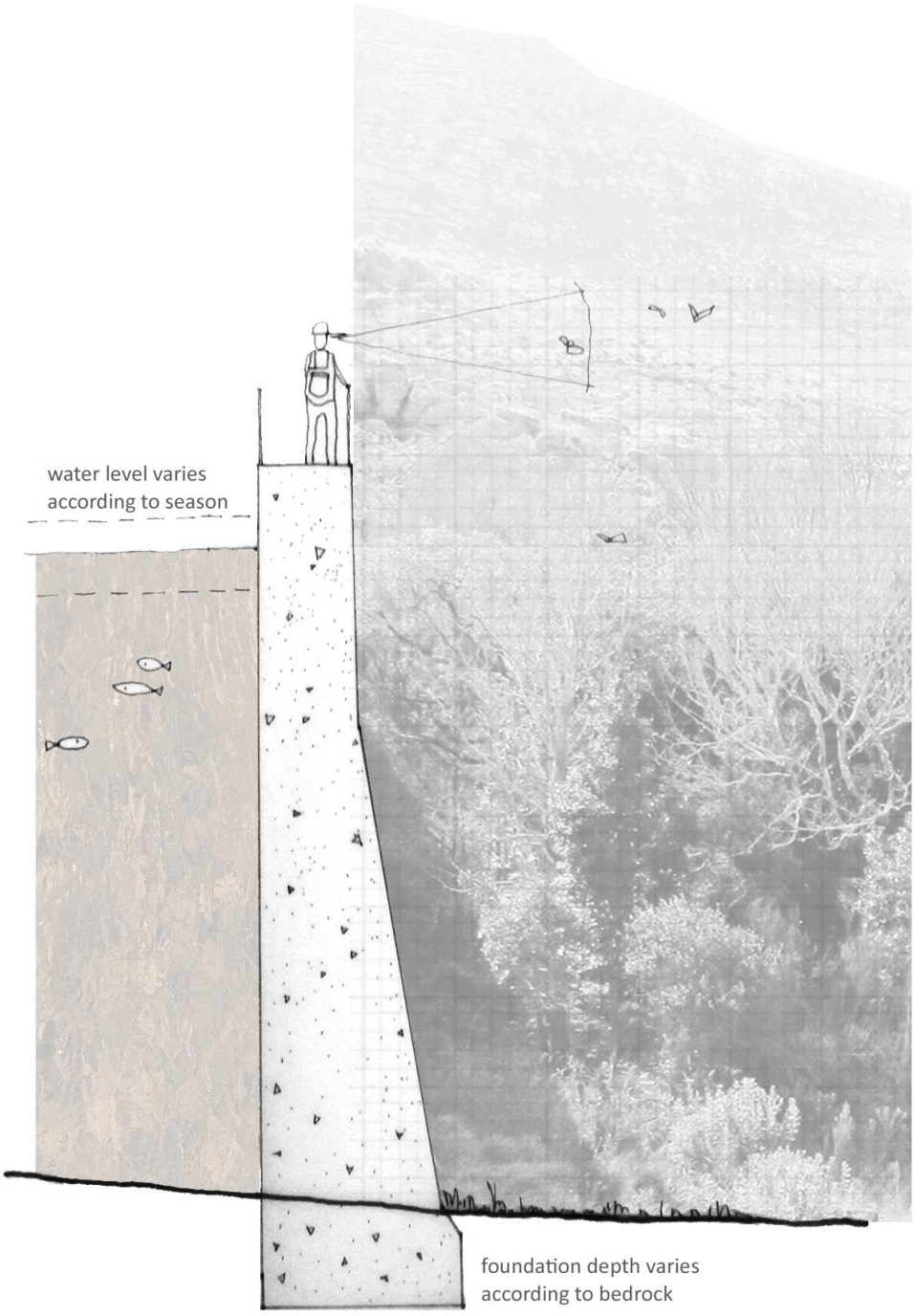


The arbitrary way in which you arrive at this place seems to detract from the journey of the river and its relationship to the reservoir. Looking back across the water you notice for the first time the top of the dam wall – a horizontal band of concrete above the surface of the water. From this point of view the wall appears as relatively innocuous – half a metre above the water line (depending on the season). But if you cross the dam, walking along the top of the wall, you have the chance to look over the wall and for the first time appreciate that this mass of concrete is responsible for the damming of this large body of water.

22. Silvermine Reservoir Site Plan.



23. Cross-section through the wall.



A full nine metres high at its centre, this concrete dam wall, holds back approximately 85-90 mega litres of water. Built in 1898, and designed by the prolific Scottish hydraulic engineer Thomas Stewart, the Silvermine Reservoir was built to store and provide water to the newly formed Kalk Bay and Muizenberg municipalities. This mass-gravity-type dam cuts across the landscape – at odds with the natural topography of the valley. With deep foundations, resting on the bedrock below, the wall is 2.2 metres wide at its base and 1.1 metres wide at its top.

24. Silvermine Reservoir (2016).

25. Silvermine Reservoir (2016).

What could be more impactful than this massive piece of concrete: cast deep into the earth, damming the river, altering its course, and rising nine metres from the ground below? Yet somehow, this wall which presents itself as a harsh rectilinear line cutting across the natural contours of the site – appears to have been absorbed into the natural landscape. It now constitutes an important layer which is intricately part of both the human experience of the place and the formation of new "natural" habitats. If not for this foreign object, there would be no body of water which is now home to hundreds of species of fish, insects, birds, and rare frogs. This historical piece of infrastructure is an unnatural element which has been absorbed into the natural landscape over time.

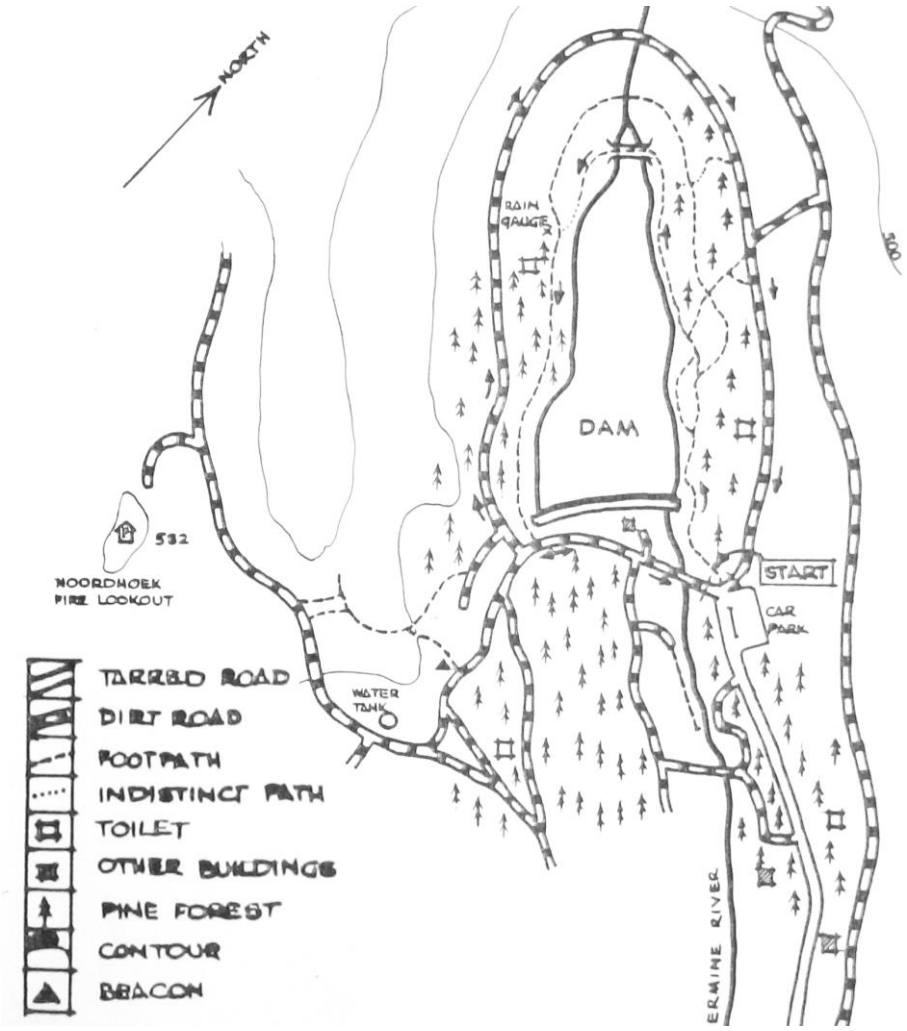
Originally intended to provide water to nearby suburban areas, the reservoir was built at a time when Cape Town was expanding and the population was growing quickly. Several dams were built on this mountain range at the time, and are seen here as the culmination of mankind's desire to harness (and own) a natural resource. For approximately twenty years this dam provided drinking water to Kalk Bay and Muizenberg. It wasn't long however, before demand outstripped supply and these reservoirs could no longer cater for the population of Cape Town. The City of Cape Town began to look further afield and by the late 1920's several other dams (including the Steenbras dam) had been built in the Hottentots-Holland mountains – bringing water to the city via a large network of underground pipes – rendering some of the smaller reservoirs on the Peninsula Range (including Silvermine) redundant. What becomes of these pieces of infrastructure after they have outlived their intended function?

Other than the irrigation of a nearby golf course, the reservoir's waters fell into disuse. The river continued to flow (albeit via a diverted course from the dam's spillway), yet the reservoir itself remained closed for several decades. In 1962, a few years before the formation of the reserve (in 1965), the local historian Jose Burman wrote that he "was staggered to find that today this reservoir, whose eighteen million gallons are apparently used only to water a golf-course, still preserves all the security regulations pertaining to a town's drinking supply: nobody is allowed in the water, and there is no access without permission. Here is an excellent opportunity for Cape Town to develop a new amenity – a lake, with swimming, boating, probably fishing and camping under the trees, in controlled conditions."[34]

[34] Jose Burman, *Safe to Sea* (Cape Town: Human and Rousseau, 1962). 127

Two decades after Burman noted the potential for re-purposing this reservoir, Shirley Brossy describes a walk around the reservoir noting the newly built amenities alongside the dam.[35] Brossy's guide to *Walks in the Silvermine Nature Reserve* (first published twenty years after the formation of the reserve), presents a marked change in society's perception of natural resources – re-framing this mountain range as a site of natural heritage. Previously there had not existed a trail around the reservoir, nor the picnic areas and braai places which are so popular today. With the formation of the reserve came a realisation of potential new uses for this reservoir.

26. Map of Silvermine Reservoir Circuit (1984).



[35] Shirley Brossy, *A Walking Guide for the Hout Bay Mountains and Silvermine Nature Reserve* (Cape Town: S. Brossy, 1984). 32

27. Silvermine Reservoir (2016).

It was only in 2000 that the laws controlling access to the water were changed to allow swimming in the reservoir. Since then the area has grown in popularity and today the dam is frequented daily by both hikers and swimmers.

28. Panoramic view of Silvermine Reservoir (Steenberg Plateau 2016).

The wall, despite being a large piece of unnatural infrastructure, has thus been absorbed into the “natural landscape” and the artificial lake has been adopted for new uses – presenting itself as an important cultural resource. Considering this place’s history and the increasing demand for additional public amenities on the Cape Peninsula mountain range, I began to ask what potential this place has for the development of new programmatic elements to supplement the current leisure activities. How might my understanding of the history of this area be used to re-imagine this site as a place of historical value and ecological education?

Brief

During my archival research I came across a management plan for Silvermine Nature Reserve. According to this document (drawn up in 1996) the vision was to "preserve and enhance the reserve as an open space for the enjoyment and recreation of all members of the community."[36] Under the section "Special Projects," it is suggested that certain sites be developed to promote the reserve as a cultural and environmental resource which stimulates education. The special projects listed included, amongst other things, the introduction of new interpretive trails (and appropriate signage); as well as the introduction of a new information centre complex. A number of these projects have been developed, while others have lain dormant for twenty years. The management plan states that, "there is currently no information centre serving the Peninsula Mountain Chain (although one is currently planned for the Cape of Good Hope Nature Reserve). With a projected 2-3 million visitors and users of the mountain chain per annum, this is an unacceptable state of affairs."[37]

An information centre at the Cape of Good Hope Nature Reserve has since been developed (at Buffelsfontein). While the small centre houses some interesting historical information and an impressive array of stuffed animals and photographs of the landscape – the centre is rather static in terms of its engagement with the surrounding landscape. Such an inward-facing building of this sort cannot engage with a site's history and ecology through embodied experience, movement, and an exposition of the changing landscape. Not only can this small centre not cater to the growing number of annual visitors to TMNP, but it is located over 90 minutes by car from the city centre. Thus the vision of the 1996 management plan remains unfulfilled. As part of my research and design project I propose fulfilling the original plan to develop an information centre at Silvermine Nature Reserve.

[36] "Silvermine Nature Reserve Management Plan," ed. City Engineer's Department (Parks and Forests Branch) (South Africa: Cape Town Council, 1996).
[37] Ibid.

As per the management plan, the reserve requires an “information centre at a central, accessible, and secure location,”[38] and, “Silvermine’s central location on the mountain chain, its position along the major tourist route, and the spectacular views offered from this reserve make it ideal for this purpose.”[39] The plan goes on to say that any developments should, “ensure that only sites that are already disturbed are considered as potential development sites.”[40] I have selected the site of the Silvermine Reservoir for the development of this central, accessible, and secure information centre. This site’s location within the centre of the reserve, its proximity to the M3 freeway, and the existing security at the reserve afford it the necessary access and security measures. The 130 metre long dam wall presents itself as a disturbed site – already having impacted the river course and surrounding wetland. Moreover, siting my project at the intersection of several pathways; in a place regularly effected by fire; alongside a large body of water, enables me to engage with the key themes of my research project through my architectural response.

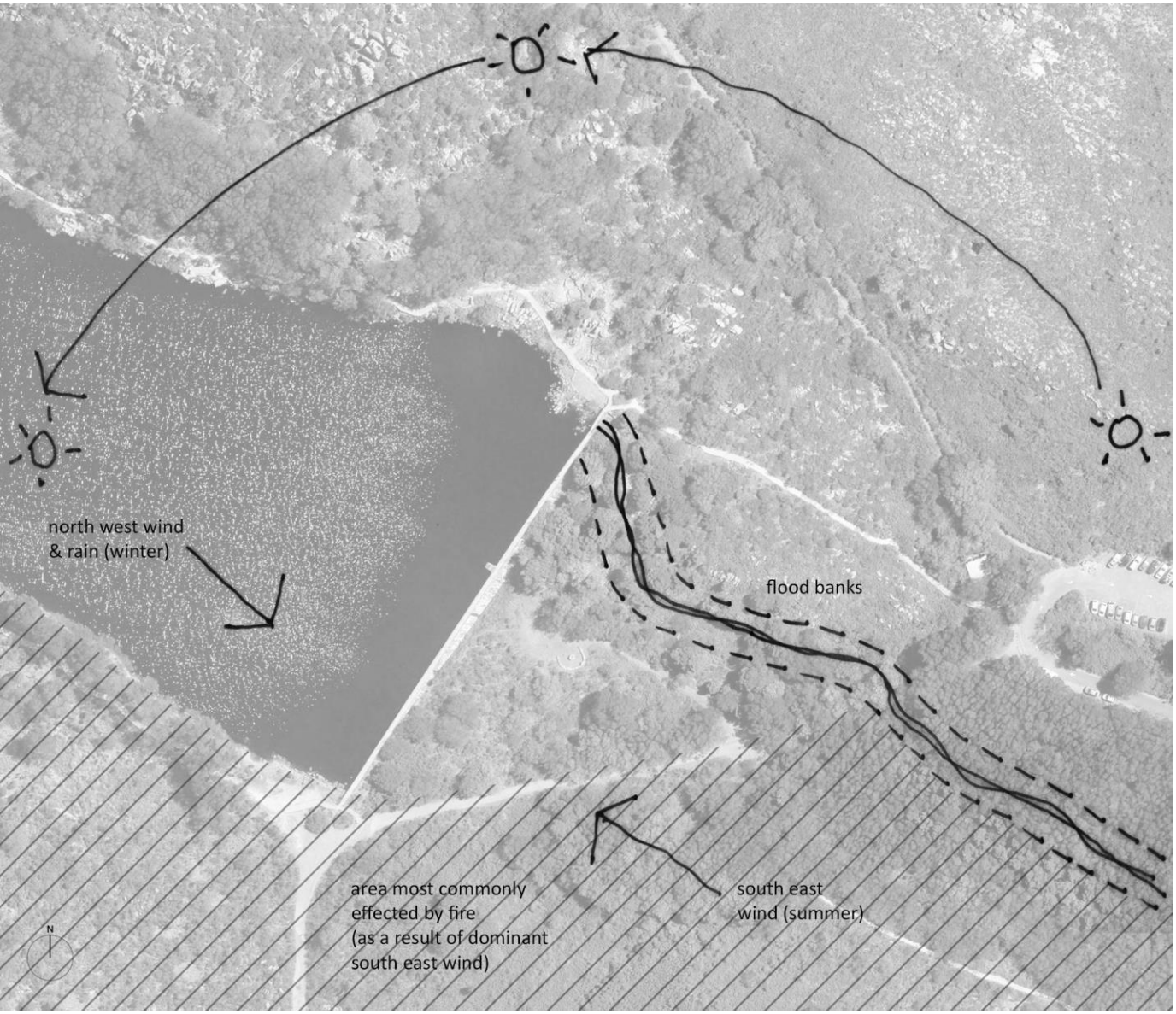
My project sees the current use of the river and the reservoir as both relevant and beneficial, but I believe I can provide additional programmatic value to the site by using this piece of infrastructure in new ways. This seeks to address the question of redundant historic infrastructures by re-purposing the reservoir wall. According to Jose Burman, provision was made in Thomas Stewart’s original design for the wall to be raised by eight metres.[41] Such provision would have been made in the founding of this wall on the bedrock below and the most recent dam safety report carried out by Aurecon, confirms that the dam’s structure is intact and that the wall is firmly anchored to the bedrock below. Burman states that the probable reason for not increasing the height of the wall is that the catchment area is not in fact large enough, nor the tributaries constant enough, to fill such a large dam.[42] The knowledge of the wall’s structural integrity and its over-engineered foundations led me to ask how I might use this wall as the structural foundation for a new architectural intervention.

[38] Ibid.
[39] Ibid.
[40] Ibid.
[41] Burman, *Safe to Sea*. 126
[42] Tony Murray, "Much Water under Many Bridges," (2002). 45

Site Analysis

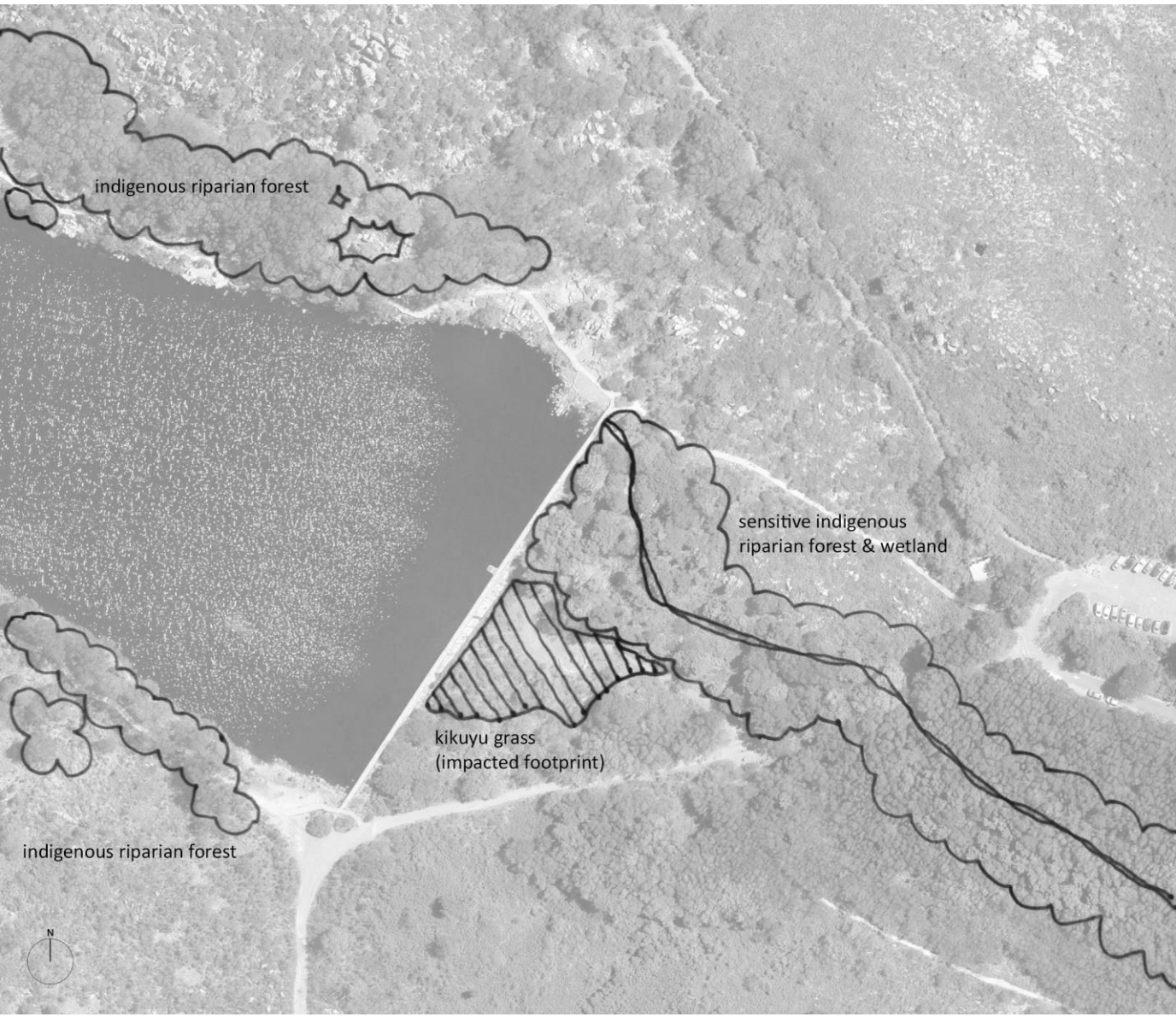
Having selected the site at Silvermine Reservoir for the development of my design project, I initiated a series of site analysis studies. The first analytical study examined the climatic conditions and basic natural phenomena which effect the site. This study analysed sun, wind direction, and rainfall. Understanding the rainfall also allows me plan for potential flooding scenarios in the valley and the potential overflow of the dam in a 1 in 1000 year flood situation. By analysing the wind direction, I was also able to better understand where fires were likely to come from (given that the majority of fires in the region are driven by a south easterly wind in the summer months).

29. Site Plan (weather).



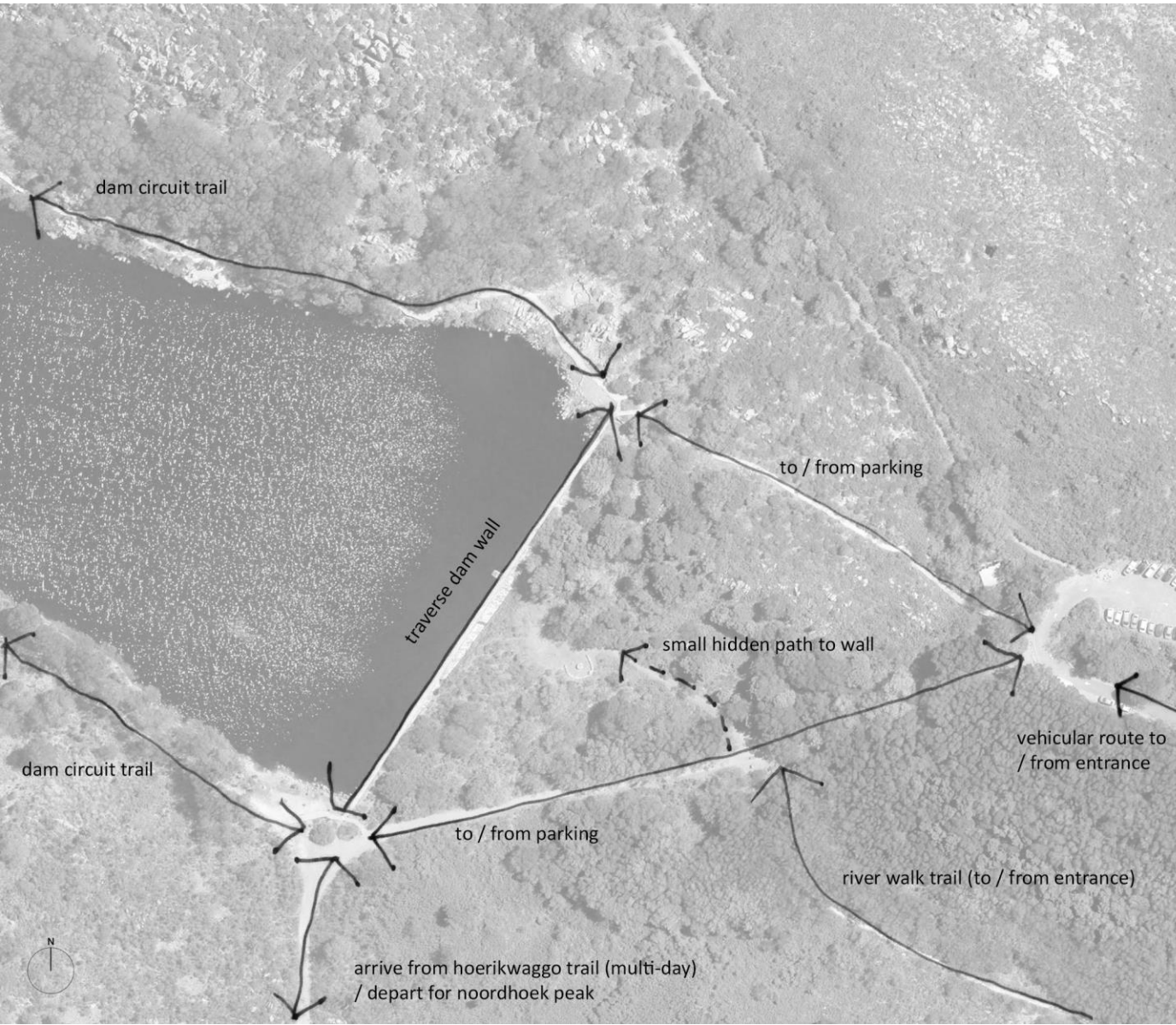
Mapping the existing vegetation on site was also key to understanding which areas were impacted by the encroachment of alien species and to what degree other areas were considered to have rare or sensitive types of flora.

30. Site Plan (vegetation).



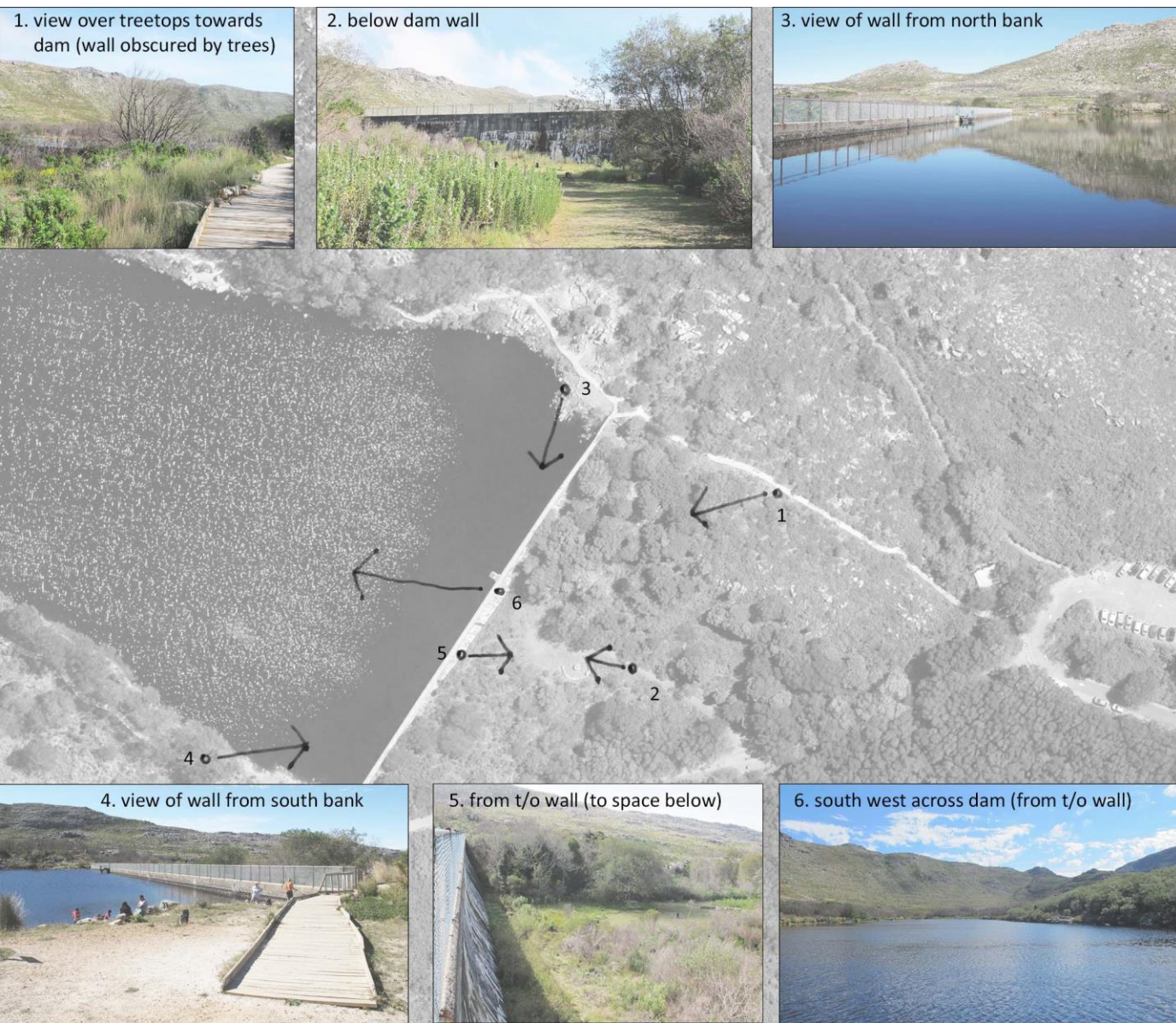
Mapping the movement patterns of people across the site enabled me to better understand who arrived at the site and by which pathway. Understanding the distinction between those who arrive by car, those who hike from Kommetjie (as part of the Hoerikwaggo trail), and those who arrive at the top of the River Walk Trail, is key to curating movement according to my own site strategies.

31. Site Plan (movement).



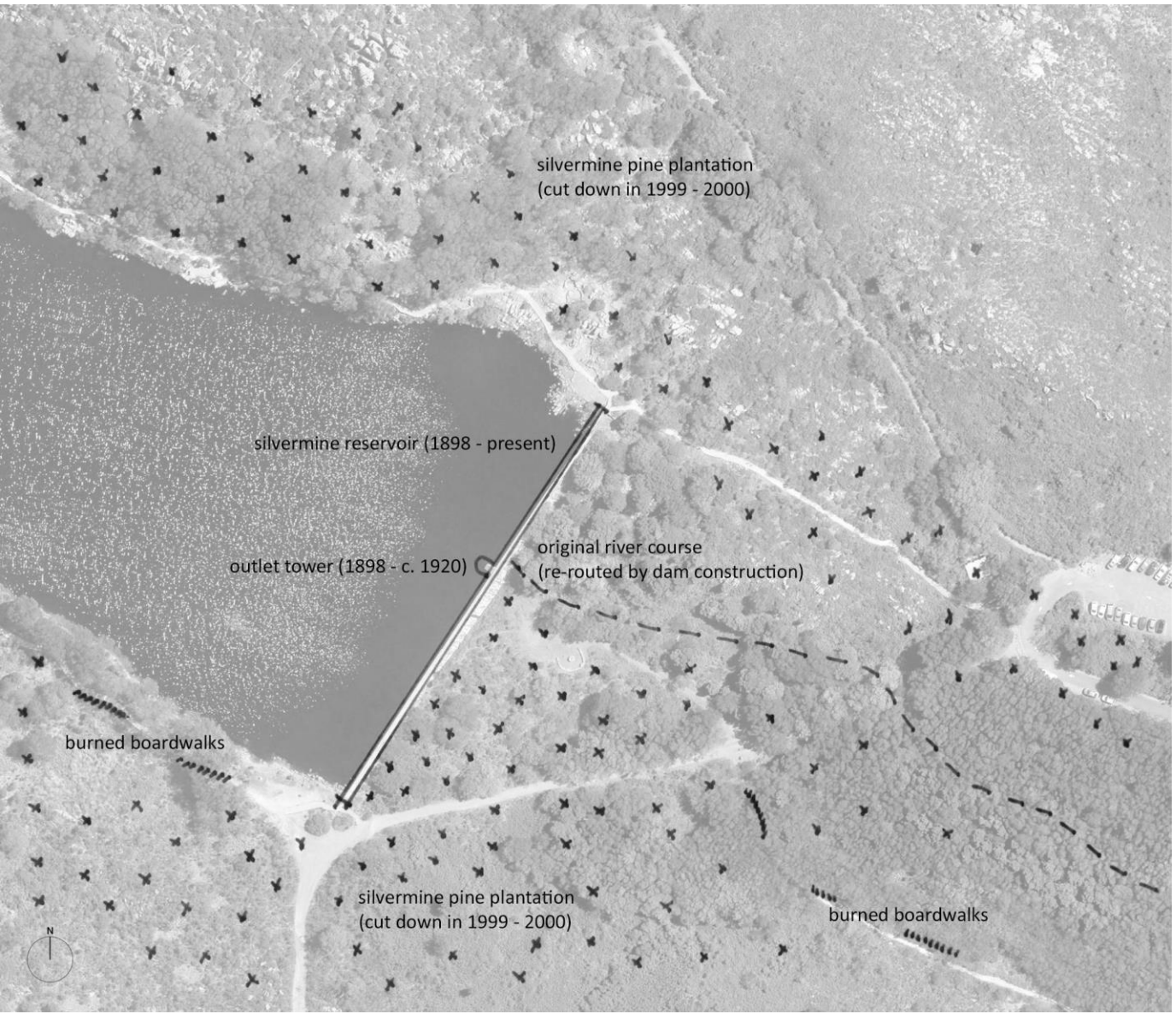
Closely linked to understanding the movement of people on site, is an understanding of views and orientation. As part of conceptualising how people will encounter and perceive both the proposed architectural intervention and the existing landscape, I analysed what it is that people can see from different vantage points on site.

32. Site Plan (views).



This diagram highlights some of the key historical layers pertaining to the site. These include: the original river course; evidence of the most recent fires (burned boardwalks); the location of the old pine plantation; and the location of the outlet tower.

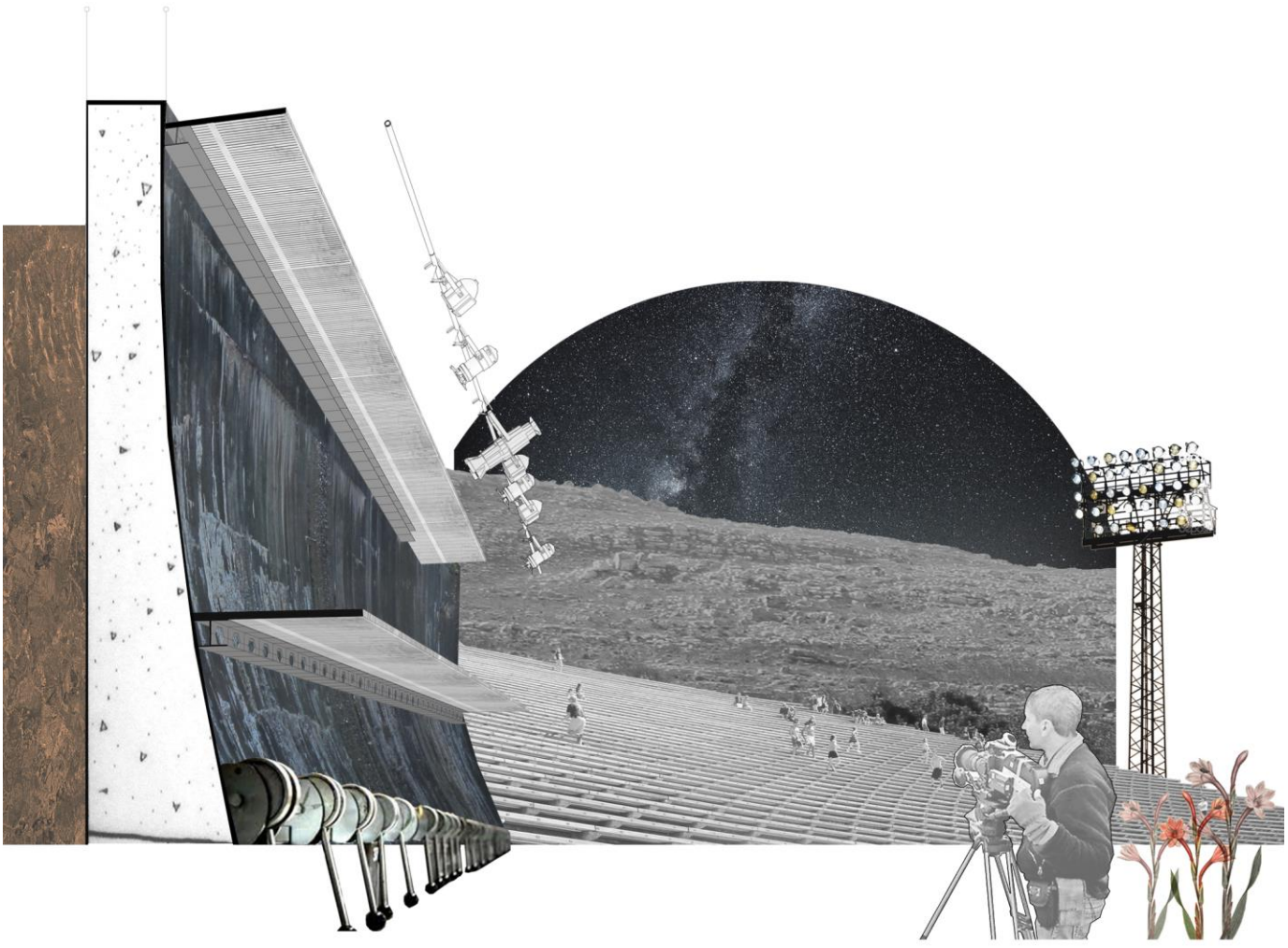
33. Site Plan (historical layers).



Programming

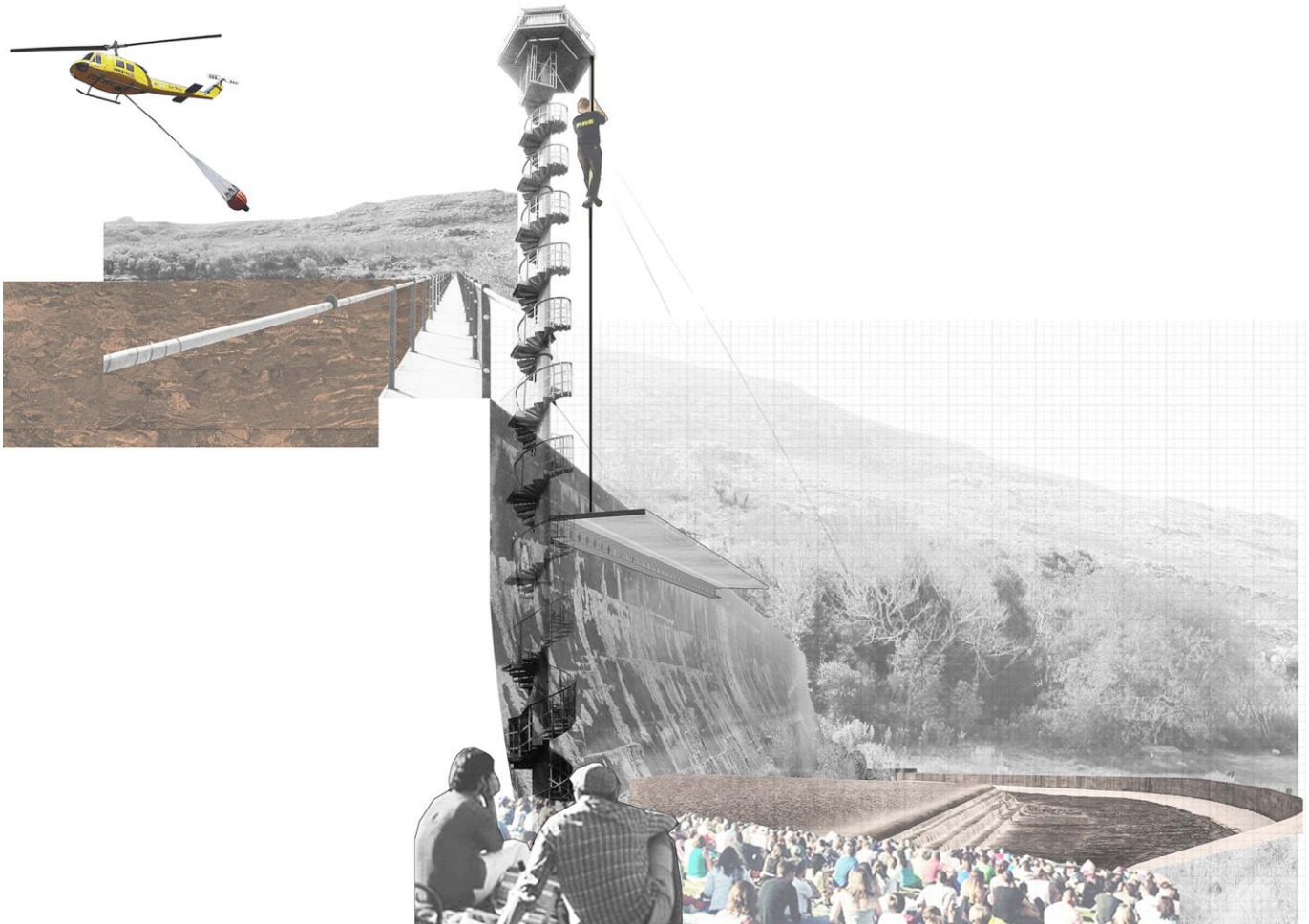
The following design exercise arose from a desire to program the site in order to activate the area below the dam wall and to imagine new ways of inhabiting the wall itself. I did this by overlaying new programmatic possibilities onto photographs of the site. This first collage presents the wall and space below as an event space – offering a public gathering arena for either education or leisure, and awakening the site at night time. A large amphitheatre might nestle into the contours below the wall, allowing hundreds (perhaps thousands) of spectators to sit under the stars while performers engage with the wall through their movements.

34. Event Space Provocation.



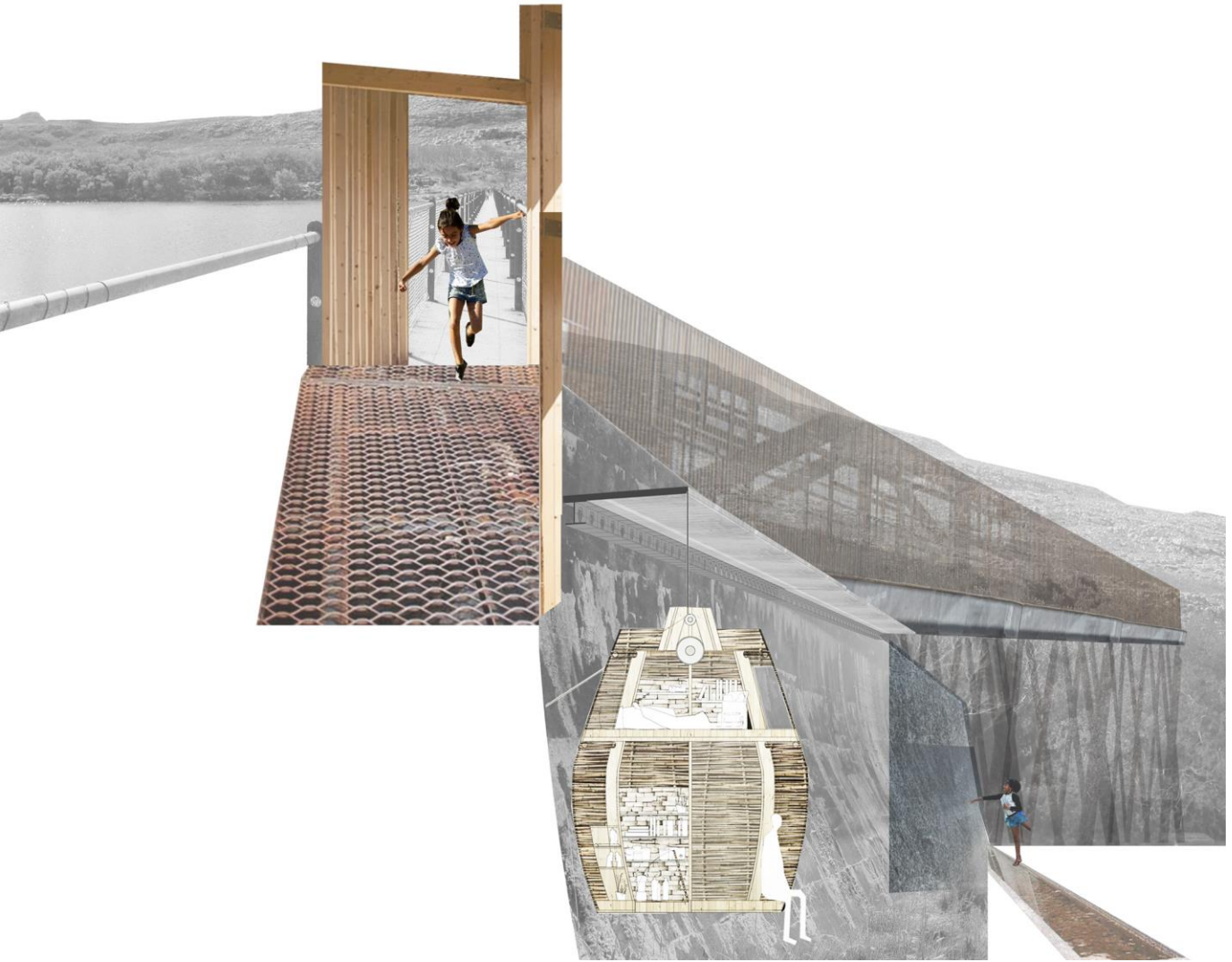
The second collage imagined a centre for the Volunteer Wildfire Services organisation. Such a place might include a fire lookout tower balancing on top of the wall, as well as a training facility. An amphitheatre would allow visitors to sit on the side of the valley and watch fire-fighting demonstrations. The site thus becomes an interactive space, combining the programs needed to operate a fire-fighting headquarters, and those which advance education about the environment.

35. Training Facility Provocation.



The third collage proposed an elevated walkway which would arrive at the dam wall through the treetops – a new way of encountering this historical artefact. On top of the wall I imagined a timber interpretation pavilion (a horizontal circulation space facilitating different kinds of movement along the wall and framing particular views). Below the wall I envisioned an interactive water-park where the theatrical power of water is harnessed to activate this otherwise dead space by drawing visitors into a dialogue with this resource. Light-weight cabins hang from the wall. These re-imagined the existing Hoerikwaggo tented camp – which is currently in a rather non-descript corner of the reserve – proposing an amalgamation of programmatic elements and the possibility of exciting new ways of inhabiting this wall.

36. Interpretation Centre Provocation.



From these three collages I drew several programmatic ideas: an outdoor event space (for educational workshops); a water-park; viewing platforms; additional swimming facilities; an information pavilion; and hiker's cabins. The third collage also began to inform my choices of material – suggesting timber cabins which might echo the temporary dwellings of the Khoi as well as a light-weight pavilion on top of the wall. This pavilion was also my first intuitive attempt to envision a space that would facilitate movement along the wall and frame particular views.

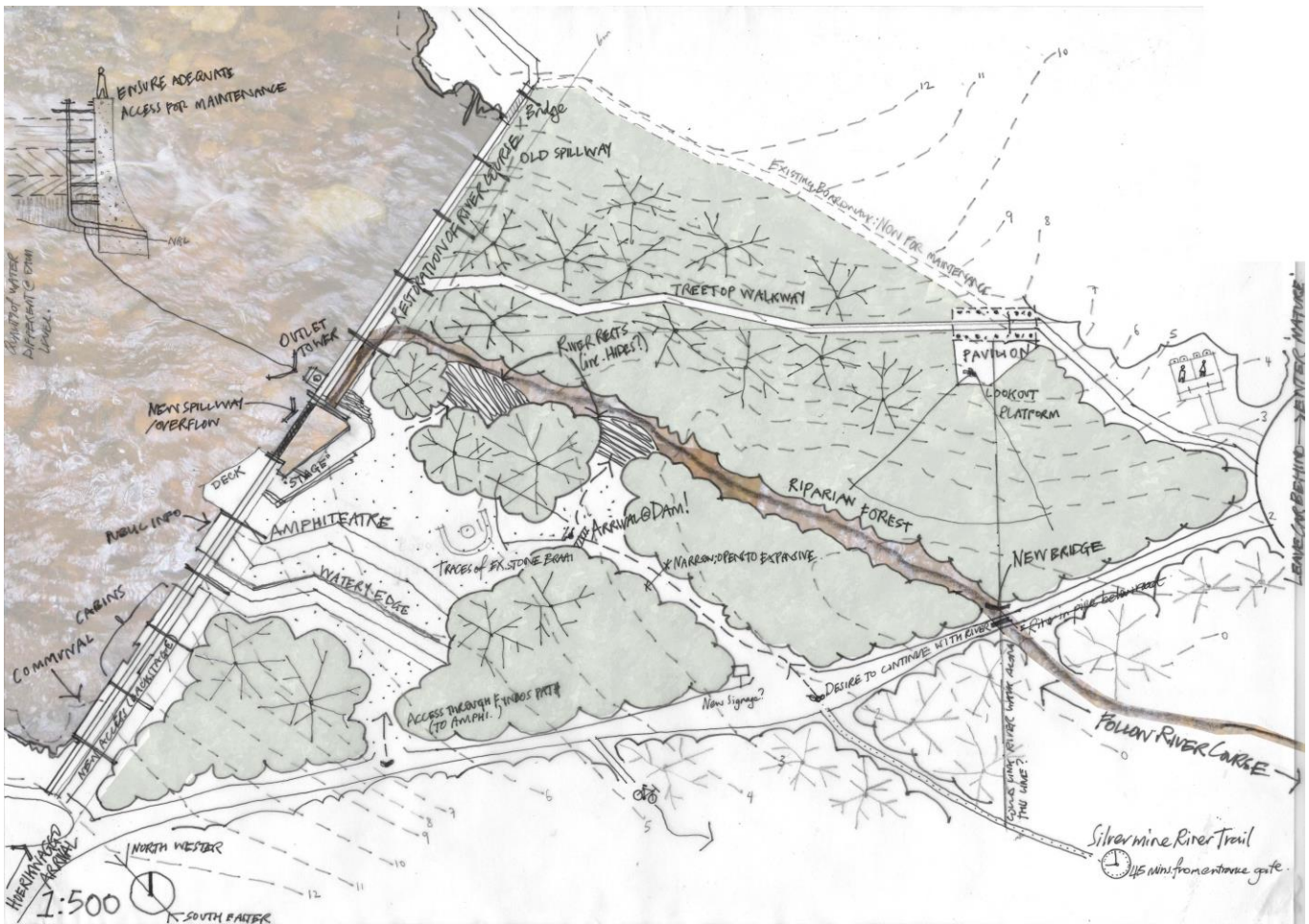
Site Strategies

In terms of developing a site strategy for the Silvermine Reservoir, the two most important factors for me to address are: 1) the disconnection between the river trail and the reservoir as a part of the river's story; and 2) the activation of the space below the wall. To this end I propose altering the path so that it delivers visitors to the base of the dam wall – hoping to evoke in them a sense of the power of this foreign object in the landscape, and how it has altered the course of the river. I also propose moving the existing spillway (which currently hides amongst the trees) and align it with where the river would previously have flowed down the contours (in the centre of the valley). The new spillway in the centre of the wall will create a waterfall which cascades down the front of the wall – using the power of the water to draw people into an interactive space below the wall.

The area below the wall is under-utilised, not only because of the lack of a clear entrance, but because of the somewhat ominous presence of the wall itself. I do not wish to reduce its impact, but rather to create other softer and smaller elements near the wall which complement it and enable people to inhabit this space in spite of the its dominance. Essential to the activation of this space will be the water-park as well as the formation of carefully terraced seating up the side of the valley. This will enable people to sit and observe the drama of the water falling down the face of the wall – turning the space below the wall into an informal public stage where people and water meet.

I intend to direct those visitors who arrive by car (at the nearby parking lot) to the centre of the dam, via an elevated treetop walkway. The current boardwalk which skirts around the forest (ignoring its rich biodiversity) fails to introduce visitors to the wall as an important piece of historical infrastructure. I wish to highlight the presence of this wall as very thing which has formed the artificial lake to which these people have come.

37. Site Strategy Sketch Proposal.

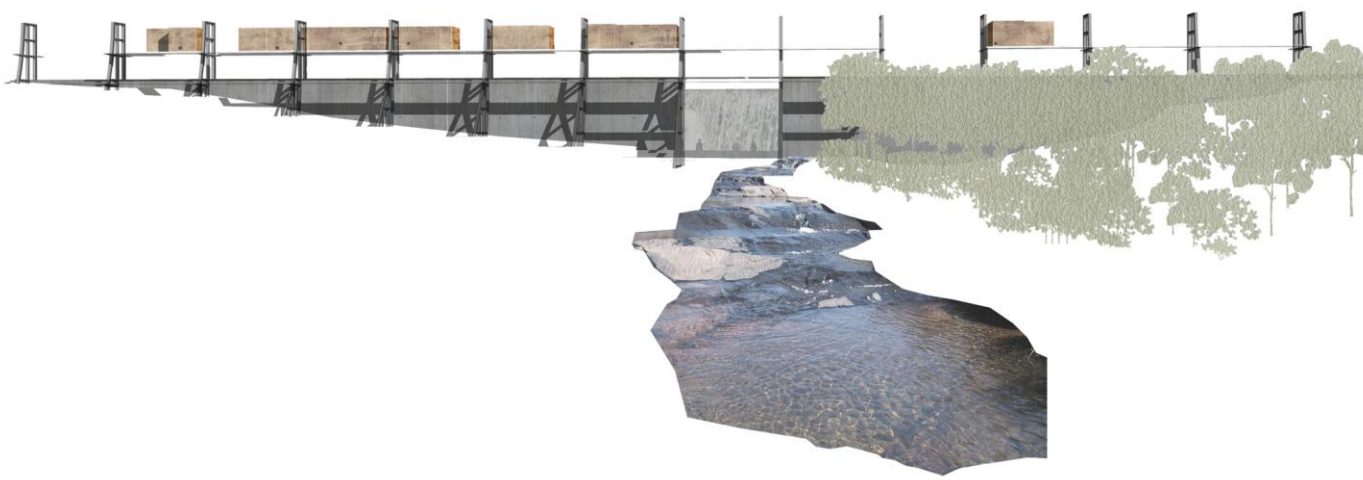


Structural & Material Development

In order to mitigate further impact to the site I have chosen to use the wall as a structural foundation. Initially I envisioned the wall supporting a small light-weight pavilion (either on top of, or against its downstream face). My first design proposals were constrained by the assumption that the wall could not support much of an additional load. However, upon discovering that the wall had originally been engineered to support an additional eight metres of concrete, I was emboldened and began proposing larger and heavier elements on top of the wall. The wall thus becomes a large strip footing, already in an interlocking relationship with the earth – primed to receive any number of architectural forms which need not touch the earth at all.

As a way of referencing Thomas Stewart's original vision of a taller dam wall, I began to explore the techniques used in dam construction and a variety of ways in which dams are raised. This elevation shows large steel buttresses (commonly used to support raised dam walls), rising eight metres above the wall. These large infrastructural elements would accommodate my pavilions and cabins. I imagined these programmatic elements as a kit of parts which could temporarily fill the bays between the permanent structural buttresses. While I was drawn to the idea of a bold and permanent structural framework inspired by dam construction techniques, I was struck by how much additional concrete and steel would be needed and reluctant to introduce the additional foundations that such buttresses would require. The wall already presented me with a massive concrete foundation, engineered to support anything I could dream of. I therefore rejected the idea of large structural buttresses.

38. Raising the Wall.

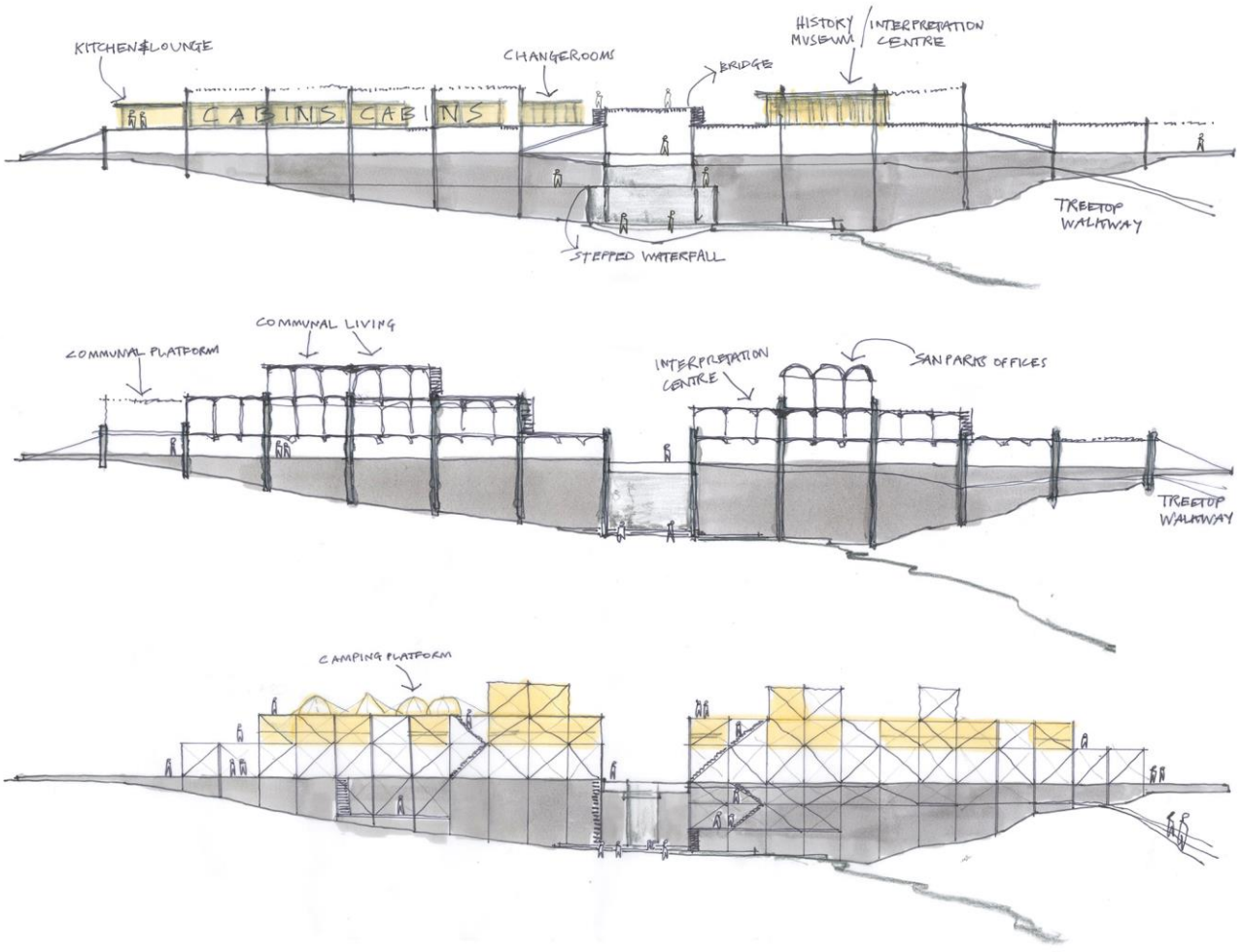


Looking at old photographs of dam construction methods – I noticed the scaffolding built on and around the walls – and the hundreds of workers who used this temporary infrastructure to inhabit the wall in different ways. Scaffolding could provide a large temporary structure which would rest on top of the dam wall and house a great variety of programmatic possibilities.

39. Scaffolding during dam construction.

These elevational studies show various structural options: buttresses (top); aqueduct-inspired arches (centre); and a scaffold-like system housing temporary dwellings (bottom). Realising that by placing the majority of the structure above the dam wall I might be blocking the views of those to the north-east of the wall, I decided to explore ways in which I might fragment the forms. These elevational studies reflect part of that process, which involved testing a range of structures above the wall. I decided to stagger the accommodation in elevation – allowing light and views to punctuate the massing. Ultimately I settled on a scaffold-like structure – opting for a structural language which implies change and allows for new spatial configurations to develop over time.

40. Elevational Studies.



This hotel design proposal (by Chinese architecture firm, Penda) advances the structural logic of bamboo scaffolding to create a large building with an intriguing pattern of temporary spaces, within a larger more permanent grid. The variety of programmatic options within the grid fragments the massing and frames unique views in a constantly shifting field of light and form.

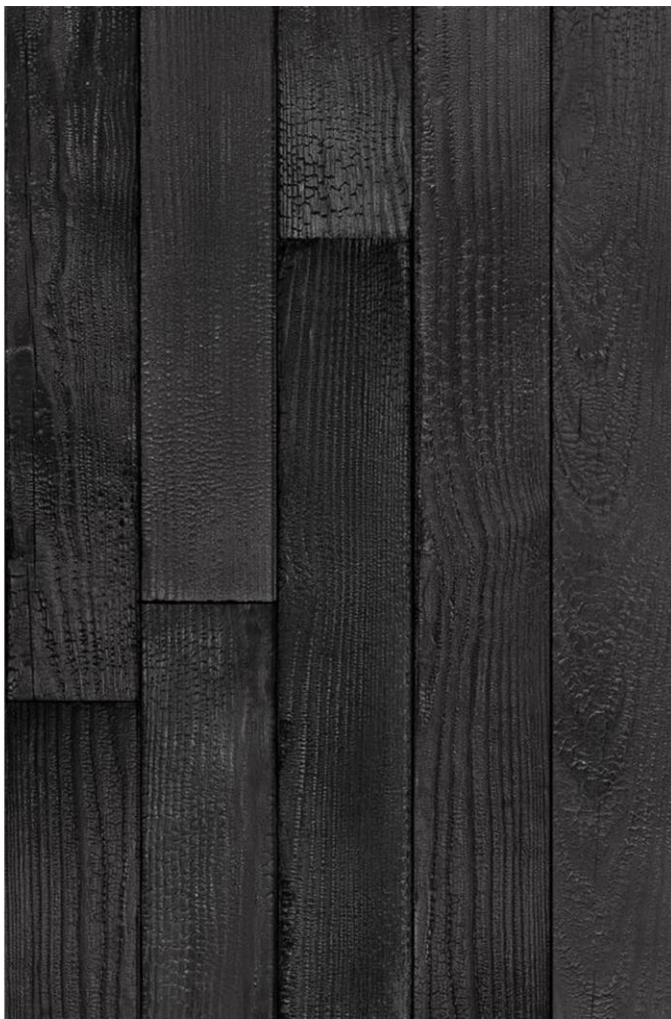
41. Scaffolding as Permanent Structural Framework.

In 2000 the pine plantation at Silvermine was partially by destroyed by the large fires of that year. Fearing a loss of value and further damage, the company MTO Forestry, who owned the plantation (renting the land from TMNP), decided to clear-cut what remained of the plantation. This suited TMNP who wanted to develop the dam as an amenity with boardwalks as well as improved picnic and braai areas. An integral part of this project was to replace the pine with indigenous riparian vegetation. Currently, MTO Forestry are cutting down the Tokai plantation (less than 10 kilometres from Silvermine Reserve, and also on TMNP land) for similar reasons. This triggered my idea to use the locally harvested Tokai pine to create my scaffold-like structures. By creating a forest of pine columns and beams, I hope to evoke the history of the Silvermine pine plantation.

42. Silvermine Pine Plantation (1999).

The Japanese technique of *Shou Sugi Ban* (the charring of timber) creates a bold and textural surface which reads as burned and also gives the wood a greater lifespan in terms of resistance to rot; insects; and ironically, fires. By incorporating this technique I hope to give the architecture a striking identity which references the regular fires of this landscape.

43. Charred Timber Technique.



The “Nest We Grow” Pavilion, designed by Kengo Kuma, exemplifies a space which celebrates timber construction and creates a multi-purpose venue for showcasing the local ecology. The multi-level pavilion opens itself to key views at different heights, and engages with the surrounding landscape by allowing light and air through a variety of openings. The use of materials such as polycarbonate sheeting and large robust timber members lend this public pavilion its necessary durability. By exposing the structure of my pavilions, I intend to make it clear that the structure is supported on the dam wall. By revealing the structural elements I hope to showcase the locally harvested pine and its structural capabilities.

44. Public Pavilion: Exhibiting Timber Construction and Local Ecology.

Conclusion

Starting with the entire Cape Peninsula mountain range, and arriving at the Silvermine Reservoir, this report has traced my research and design process to arrive at the site of my design investigation. The question posed at the beginning of this journey asked how one might reveal specific histories, in the context of this mountain range, through the medium of architecture. To answer this question, the palimpsest metaphor was introduced – offering a useful way of working with multiple layers of a site's history. It was suggested that the so-called natural condition of a site is not necessarily more important than the traces of human inhabitation – but that these overlapping layers have equal value – and through a palimpsestial approach may be presented alongside one another in new ways. These re-presentations of history take on new meaning when visitors to a site become the narrators of history – through their movements. Pathways were presented as elements which store and link traces of history – relying on the movement of bodies in space to unlock meaning. It is my intention to explore how an architectural intervention may operate like a path (which directs, links, and re-presents).

My interest in history is not only concerned with the celebration of particular historical events – a somewhat nostalgic approach. Rather, I see history as a way of marking time and of understanding that all places do change. By recognising the effects of fire and highlighting similarly mutable phenomena, I aim to re-present this place as a constantly changing one. By providing flexible programmatic elements that are part of a structural language which facilitates growth, I wish to present an architectural strategy which is able to adapt to future uses of this landscape. Not only is the landscape seen as constantly being in flux, but attitudes towards resources and notions of ownership have been presented as changing – and as part of the history of inhabiting this landscape. How then might my architecture imagine future uses of this place and engage with the preservation and the sharing of natural resources?

The sensitivity of this landscape has been discussed – especially in terms of the fynbos vegetation and mountain soils. Through a study of how architecture makes contact with the ground I have developed a better understanding of how one might mitigate damage to the surrounding landscape by considering the implications of foundations and earthworks. Perhaps somewhat ironically, I have found an existing foundation (the wall) that may enable me to introduce new structures which do not touch the ground at all. In addition to this I have begun to develop site strategies and examine materials which will contribute to a sensitive engagement with the existing context.

With the discovery of the wall, I have found a site which is already disturbed; is at the intersection of several pathways; in a place regularly effected by fire; alongside a large body of water – enabling me to engage with the key themes of my research project through an architectural response there. A site of overlapping histories, this wall presents as both man-made intrusion and a layer absorbed into the natural habitat. By engaging with this piece of infrastructure it is my intention to both re-present this wall as the foreign object that it is, and to re-purpose it in ways that re-affirm its place in this natural landscape and offer new spatial possibilities.

Using the Silvermine Management Plan (which calls for the introduction of a new information centre at a central, accessible, and secure location) as the basis for my own brief, I intend to design a new public education facility (with Table Mountain National Parks as my assumed client). I see this information centre as an interactive space which: encourages subjective interpretation; facilitates movement; exhibits layers of history; re-purposes existing built fabric and infrastructure; celebrates the site's natural processes; and offers new public amenities.

Figure References

All drawings and photographs were produced by the author, unless listed below.

1. Photograph: *The Cape Peninsula* by Terrence McNally, c. 1970's, printed in *Hoerikwaggo: Images of Table Mountain*, edited by Nicolaas Vergunst. Cape Town: South African National Gallery, 2000.
11. Drawing courtesy of Architecture Co-op.
12. Drawing courtesy of Gabriël Fagan Architects.
18. National Archives of South Africa (NASA). Photograph CA 2291: *Silvermine Farm, Silvermine Valley (Dec '75).*
19. Photograph printed in *Story of the Fish Hoek Valley from the Beginning of Time*, by Malcolm Cobern (1984).
20. Photograph printed in *Story of the Fish Hoek Valley from the Beginning of Time*, by Malcolm Cobern (1984).
21. National Archives of South Africa (NASA). Photograph CA 925: *Muizenberg Reservoir, Steenberg Plateau (March 1974).*
26. Map printed in *A Walking Guide for the Hout Bay Mountains and Silvermine Nature Reserve*, by Shirley Brossy (1984).
39. The Huffington Post. "Incredible Photos Tell The Story Of The Hoover Dam." Accessed August 2016. http://www.huffingtonpost.com/2015/07/07/hoover-dam-photos_n_7745916.html
41. Behance. "One with the birds." Accessed September 2016. https://www.behance.net/gallery/18495633/One-with-the-birds
42. Cape Town Skies. "Gordo's photos from Silvermine Nature Reserve." Accessed September 2016. http://www.capetownskies.com/silvermine.htm
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44. ArchDaily. "Nest We Grow / College of Environmental Design UC Berkeley + Kengo Kuma & Associates." Accessed October 2016. http://www.archdaily.com/592660/nest-we-grow-college-of-environmental-design-uc-berkeley-kengo-kuma-and-associates

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