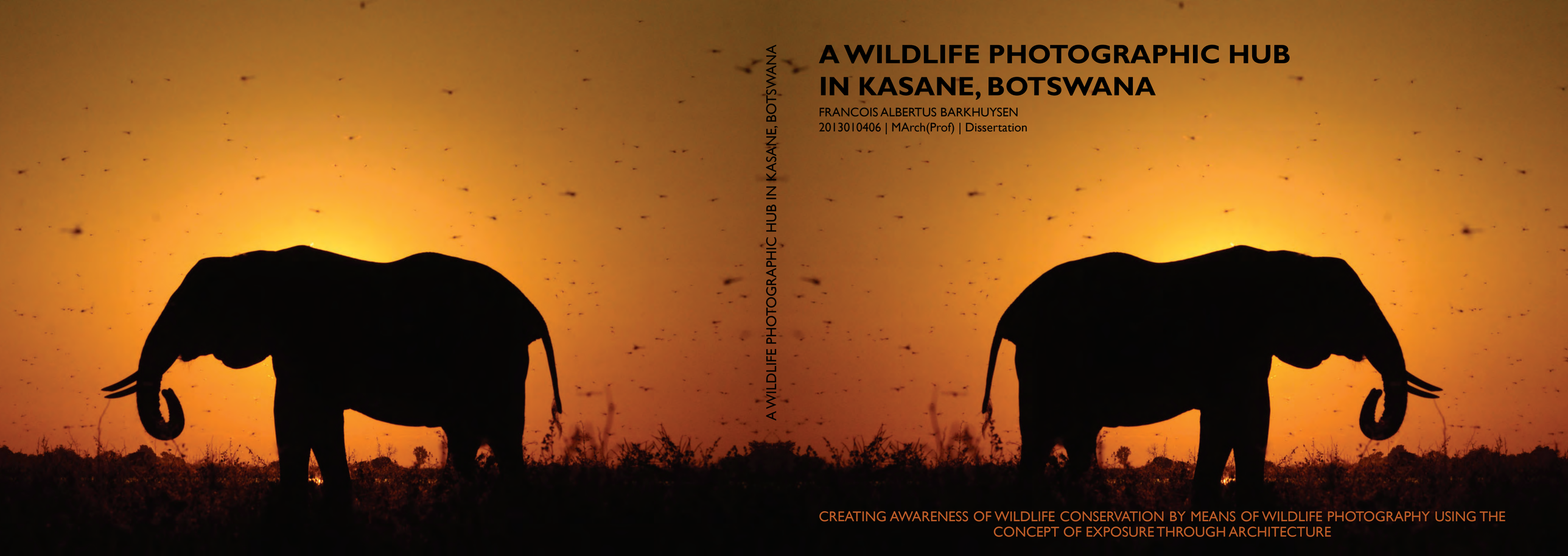

A WILDLIFE PHOTOGRAPHIC HUB IN KASANE, BOTSWANA

A WILDLIFE PHOTOGRAPHIC HUB IN KASANE, BOTSWANA

FRANCOIS ALBERTUS BARKHUYSEN
2013010406 | MArch(Prof) | Dissertation

CREATING AWARENESS OF WILDLIFE CONSERVATION BY MEANS OF WILDLIFE PHOTOGRAPHY USING THE CONCEPT OF EXPOSURE THROUGH ARCHITECTURE

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Francois Albertus Barkhuysen

Master's in Architecture (Professional) Dissertation

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This dissertation is submitted in partial fulfilment of the requirements for the degree MArch(Prof).

Declaration of original authorship:

The work contained in this dissertation has not been previously submitted to meet the requirements for a qualification at this or any other institution of higher education. To the best of my knowledge, this dissertation contains no material previously published or written by any other person except where due reference is made.

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Pre-Amble

The foundation of this dissertation derives from a personal love for nature; specifically, wildlife. This coupled with a great passion for photography leads to the reasoning and idea behind this project. Using Wildlife photography as a tool for creating greater awareness of conservation and the need for humans to enhance their support of nature (or then wildlife) conservation.

The client is a company that attempts doing exactly that, photography as a means of giving exposure to wildlife conservation, this makes them the ideal client; Pangolin Photo Safaris. They already use their photographic networks and powers to raise money for wildlife conservation through their non-profit pangolin.africa.

This dissertation aims to equip them better with their required services needed to enable their efforts of conservation. This leads to the idea of a new central hub for their operations base in Kasane, Botswana. The new architectural intervention aims to improve the workings of Pangolin Photo Safaris, to optimise and allow them to further their efforts in conservation through Wildlife photography.

This dissertation starts with the gathering of information about all relative subjects as per chapter one. Chapter two leads to a more detailed analysis of said information and relating it to architecture. Chapter three involves the exploration of possibilities by means of touchstone and precedents which is then grounded by a theoretical underpinning.

Chapter four is the technical investigation into structures, materiality etc. Chapter five tries to tie in the investigations and research to a design methodology to approach the design process. Chapter six is the design process combined with the final design iteration and this is followed by a conclusion and personal reflection of the process of this dissertation.

Document Framework

1 → 2 → 3 → 4 → 5 → 6 → 7

Viewfinder

THE SETOUT OF THE ENTIRE DOCUMENT. AN OVERVIEW OF THE PROJECT, WHY, WHERE, WHAT AND FOR WHOM IS THIS PROJECT

Zoom

AN ANALYSIS OF WHAT CURRENTLY EXISTS

Focus

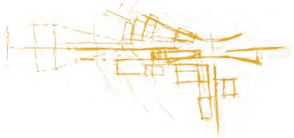
EXPLORATION WITH REGARDS TO A TOUCHSTONE AND CONCEPTS FOLLOWED BY PRECEDENTS AND GROUNDED BY A THEORETICAL APPROACH

Settings

THE TECHNICAL ANALYSIS OF EXISTING SITUATIONS. PLANS FOR A SUSTAINABLE DESIGN. POSSIBLE STRUCTURES. MATERIALITY AND MATERIAL CONSTRUCTION POSSIBILITIES.

Shutter Release

THE BRIEF OF THE PROJECT FOLLOWED BY A PROPOSED PROGRAMME AND ACCOMODATION LIST. THE DESIGN METHODOLOGY THAT TIES THE THEORETICAL ELEMENTS IN WITH DESIGN ELEMENTS



The Image

THE DESIGN PROCESS FOLLOWED BY THE FINAL ITTERATION OF THE INTERVENTION AND DRAWINGS

Post Production

A CONCLUSION TO THE DOCUMENT FOLLOWED BY A PERSONAL REFLECTION

Contents

1 - Viewfinder 2
Introduction 3
Research Methodology 4
Rationale 5
Wildlife Conservation 6
Photography 6
Wildlife photography 6
Dissertation Challenges 6
Dissertation Aims 7
The Setting 7
Introduction to client 7
Introduction to User 7
Research Question 8

2 - Zoom 10
Site 11
Location 11
Macro 12
Kasane 12
Climate/weather 13
Meso 14
River Road 14
Chobe National Park 14
Micro 15
Chobe River 15
Trees 17
Wildlife 18
Sound 18
Precedent 19
Translation to design 23
Client 25
Pangolin Photo Safaris 25
Wildlife Conservation 27
Pangolin.Africa 28

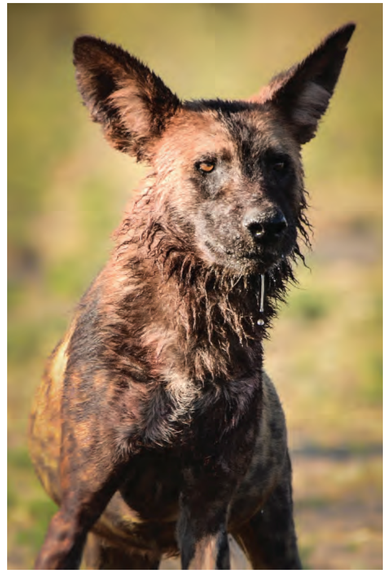
3 - Focus 30
Touchstone 31
Concepts 33
Conceptual Development 33
Exposure – Viewing 34
Framing – Capture 34
Exposure – Light 34
Precedents 35
Function 35
Velddrif Photographic centre – Nicola Wessels (2006) 35
Feel 37
Sandibe Okavango Safari Lodge - Nicholas Plewman Architects (2014) - Okavango Delta, Botswana 37
Form/Materiality 39
Africa Centre for Health and Population studies - East Coast Architects (2003) 39
Approach 41
View 41
Meandering 42
Theoretical Underpinning 43
Exposure 43
Wildlife Photography 43
Photography 44
The Image 44
The Apparatus 45
The Photographer 47
The Photograph 48
A Philosophical Approach Towards Photography 49
Perspective 50
Photography for conservation 53
Subjects 53
Opportunities 53
Knowledge 53
Anticipate 53
Reactions 54
Moral Challenges 54
Resemblance of light in Photography and Architecture 55
ISO 55
Shutter Speed 56
Aperture 56
Stepping in-between 57

4 - Settings 60
Site Technicalities 61
Locality 61
Zoning and Usage 62
Sub-division diagram 64
SG Diagram 64
Existing structures to be demolished 65
Sustainability research 66
Aims 66
Ethical 67
Challenges 67
Opportunities 68
Case Study 69
Zambesi Mabula Lodge – Sven-Erik Staby (2017) 69
Structural Investigation 72
Different types of structures 72
Loadbearing Boxes 73
Braced Frames 74
Trusses 75
Structural possibilities on site 76
Materiality 77
Founding of material pallet 77
Interpretation thereof 78
Material Investigation 79

5 - Shutter Release 88
Brief 89
Programme 89
Accommodation list 89
Design Challenges 90
Design Aims 90
Photographic principles as Design Methodology 90
Exposure 91
Conceal and reveal 92
Moment 93
Capture 94
Panning 95
Frame 96
Composition 97
Rule of Thirds 98

6 - The Image ... 100
Design Process 101
Design Iteration 1 103
Development 105
Design Iteration June Review 107
Development 109
Design Iteration September Review 113
Final Design Iteration 125

7 - Post Production 164
Principles Interpreted 165
Conclusion 173
Reflection 174
List of Figures 175
References 179



Introduction
Research Methodology
Rationale
Dissertation Challenges
Dissertation Aims
The Setting
Research Question

Introduction

When the love of nature, specifically wildlife, is coupled with a passion for photography it delivered, the inspiration and reasoning for an architecture dissertation; *Supporting wildlife photography as a tool for conservation awareness by improving the human interaction in the support thereof through architecture.*

How could architecture assist in achieving this? This dissertation proposes an architectural photographic hub on the banks of the Chobe River in Kasane, Botswana. A design that compliments and relates to nature derived from the reinterpretation of photographic principles.

The dissertation is structured as follow;

Chapter One – *Viewfinder* entails the rationale of the project and brief overview of the topic of photography. It also includes the challenges and aims of this dissertation.

Chapter Two – *Zoom* is a chapter based on analysis. The site is analyzed in terms of Macro, Micro and Meso, a detailed analysis of the client is included and some statistical analysis on Wildlife conservation is discussed.

Chapter Three – *Focus* tries to create an angle of approach by starting with a touchstone that gives rise to three possible architectural concepts. The exploration is deepened by a theoretical examination to ground the previous explorations and approach the design process well informed.

Chapter Four – *Settings* is the technical report. An investigation into the technical aspects of the site, sustainable design solutions, the structural possibilities and challenges is followed by the material pallet and materials structural possibilities.

Chapter Five – *Shutter Release* contains the design approach. The proposed brief followed by a suggested program and possible accommodation list. The photographic principles are interpreted as architectural design principles.

Chapter Six – *Image* depicts the design process with multiple iterations that leads to the final design and includes the full set of proposed renders, plans, sections, elevations and construction drawings.

Chapter Seven – *Post-production*; the conclusion of the thesis followed by a personal reflection on the year that was.

Research Methodology

There are four specific pillars this research is based on;

- What should be designed for whom?
- Where it should be based?
- How the feeling of the design is influenced and
- How the design is constructed.

After site exploration sparked interest in the possible project, the proposed client as well as research theme followed naturally. With some refinement these developed into project specific aims that includes the details of the site, client and theme. This knowledge lead to the use of the following specific research methods;

Touch stone – an object or piece of compiled words that informs all aspects of a project. From the touch stone, concepts derive.

Conceptual framework – the framework entails the initial ideas that are explored by means of precedents and/or case studies (projects from similar fields; architecture, art engineering etc.) and grounded in theoretical approaches, in this case Exposure.

Underpinning – the grounding of the theory with reference to the literature and critique of the reading material or a reinterpretation thereof (the quantitative information).

Cognitive analysis – the personal experiences from investigation of the project.

Interpretative analysis – a subjective understanding and interpretation of the aspects of the project. The aspects as bulleted above.

Creative reflection – interpretation and analysis of the above understanding including the literature elements.

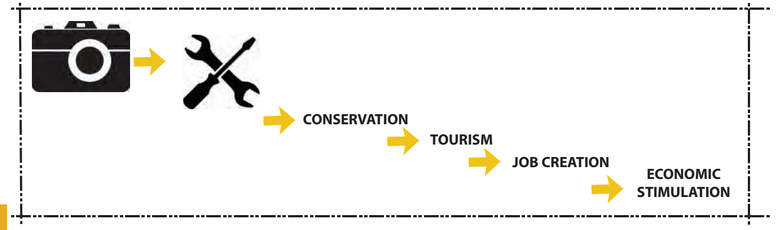
Site investigation – identifying a possible site and then investigating all the aspects that holds relevance to the site and the project (quantitative data).

Rationale

A great personal love for nature and the African wildlife, paired with an enormous interest in photography, results in the passion that is wildlife photography.

Traditional trophy hunting in Southern Africa is what led to the well-known African Big 5. The 5 'most wanted' animals on the hunter's list. Over time and social cultural development this became frowned upon by environmental activists and environmental awareness. With the development of digital photography, it quickly shifted to a photographic trophy rather than the hunted trophy.

Tourists from all over the world travel to Southern Africa to try and capture their trophy siting of the African Big 5 and share their trophy on social media platforms.



Wildlife Conservation

The inherent idea is to use the power of the photographic image on social and other media to raise both awareness and funds in aid of wildlife conservation in order to preserve the natural beauty of our continent and that which humans are dependent on for their own lives. This also strengthens and supports local economic growth around national parks.

Photography

We live in unparalleled times where we all carry a camera every day and have increasingly innovative ways to see and share imagery among friends and strangers. As such, it was only a matter of time until this habit forced an evolution in the safari industry too (Pangolin Photo Safaris, 2019).

Wildlife photography

Some may argue that there are only two types of safari – photographic or hunting – which is true to a certain extent. The digital revolution has especially made photography that much more accessible with camera gear not only becoming exponentially more sophisticated, but also more affordable (especially at entry and mid-level). This means that more and more people are seeking out and enjoying photo safaris (Pangolin Photo Safaris, 2019).

Dissertation Challenges

The biggest dissertation challenge is connecting photographic principles and architectural design principles. There must be ensured that the reader is familiar with the basic concepts and fundamentals of photography and photographic equipment, before a clear relation can be made in architectural terms.

Apart from the philosophical interpretations of a single image or photograph, the project derives from a passionate interest and is based on subjective guiding principles rather than theoretical principles. As in architecture, photography is an opinionated and subjective field and it depends largely on perspective, for both the viewer and the creator. This could be challenging to the theoretical grounding of the project.

Dissertation Aims

- To show that photography is already creating great awareness for wildlife conservation, but that an architectural proposal can largely contribute to pre-existing efforts of creating awareness.
- To improve the experience of the photographers and to further develop the sensitivity of the local community towards conservation.

The Setting

Introduction to client

Pangolin Photo Safaris is a company that specialises in photographic safaris: *"At Pangolin we work hard to meet the needs of our photographic clientele and we are constantly developing our photo safari packages to top destinations throughout southern and east Africa"*. They invest in their own properties, predominantly in Botswana, to ensure an authentic wildlife experience for their clients. They pride themselves in understanding what their clients want photographically and the experience can be enjoyed by photographers and non-photographers alike (Pangolin Photo Safaris, 2019).

Introduction to User

The user will typically be clients of Pangolin, that are predominantly American and European tourists with a passion for photography. The exchange rates makes trips to Kasane affordable for these tourists who have no opportunity to see these animals on their home continents. The users usually spend their nights at the Pangolin Hotel, the houseboat or other lodges along the riverbanks. They will use the proposed site as a pause space between their accommodation and their safari trips on the river or in the park. The building will act as the link between excursions and accommodation that can include breaks between morning and afternoon safaris rather than to go back and forth between lodges and the photographic hub.

Research Question

How can the understanding of photographic principles inform the design of an architectural photographic hub in support of creating greater awareness for wildlife conservation, in Kasane, Botswana on the banks of the Chobe River?

2 - Zoom

PHOTOGRAPHY HUB

Kasane - Botswana

Site

Client

Wildlife Conservation

Site

Location

Coupling the client with the focus of the project requires a site/location that really has a strong connection between nature and humans, a space that allows the human to feel completely submerged in nature in an attempt to understand what it is you are trying to conserve

The location also needs to offer an alternative to the standard African safaris known to typically take place from your Land Cruiser. The human perspective needs to move closer to the idea of being on eye level with the animals, in close quarters, and away from overpowering them from afar inside a large object.

The crucial part will however be to enable great photographic experiences and opportunities. Three of the best locations in the Africa for wildlife photographic sightings are the plains of the Mara in Tanzania and Kenya, The Kruger National Park South Africa and the Chobe National Park Botswana. These three are densely populated wildlife areas while completely different in experience. The client already has an African operation base in Kasane focusing on daily excursions to the Chobe National Park in Botswana. From Kasane they can access multiple other wildlife spaces for excursions such as the Okavango delta and the plains of the Mara.

Figure 1: Botswana in Southern Africa (Barkhuysen, 2019)

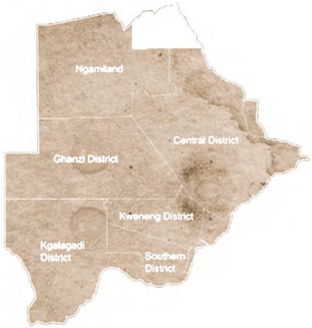


Figure 2: Chobe District in Botswana (Barkhuysen, 2019)

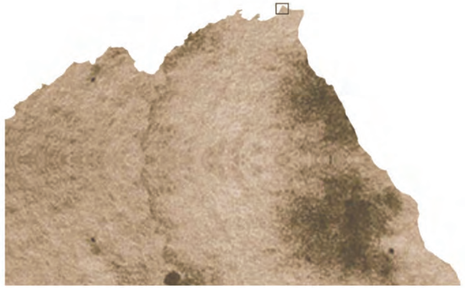


Figure 3: Kasane with proposed site (Barkhuysen, 2019)

Macro

Kasane

Kasane sits on the banks of the mighty Chobe River. This creates the opportunity to enter and explore the Chobe National Park from the water, providing a closer, more intimate and alternative point of view from well-known forms of wildlife safaris.

The angles of viewing from the water are lower and gives a more natural angle of the wildlife than the view from atop a vehicle would.

During the dry seasons the animals are forced to move closer to the riverbanks for water, which increases the number of sightings from the river.

Chobe National Park has no fencing and the animals and humans find a way of living in harmony. An elephant in your yard is not unheard of, neither is sighting a pack of wild dogs on your way to the airport.

The Kasane International Airport has daily flights to Johannesburg making transfers effortless. For the more adventurous, the tarred road leading to Kasane is in an excellent condition and provides ample traveling possibilities from Kasane into central and the rest of Southern Africa.

Figure 4: Kasane in Chobe District (Google Earth, 2019) adapted (Barkhuysen, 2019)

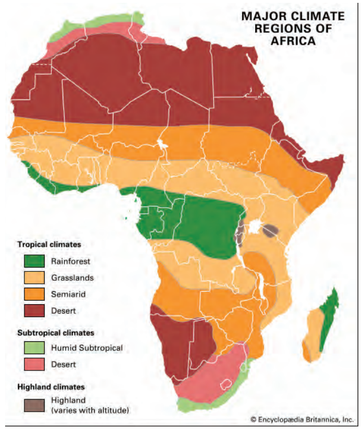


Figure 5: Kasane in Chobe District

Climate/weather

Kasane has a Semi-Arid climate, albeit hot in the summer the temperatures seldom drops into the single digits centigrade. The range between maximum and minimum temperatures is small, making it a favourite for European guests. Rainfall might become a concern with great amounts of rain falling in the summer and none in the winter, typical of Semi- Arid climate regions. This leads to a fluctuation in river water levels and places a greater load on the natural resources of Kasane and surroundings.

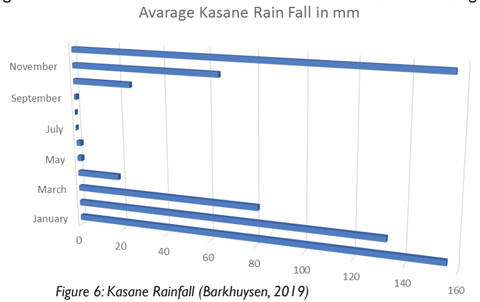


Figure 6: Kasane Rainfall (Barkhuysen, 2019)

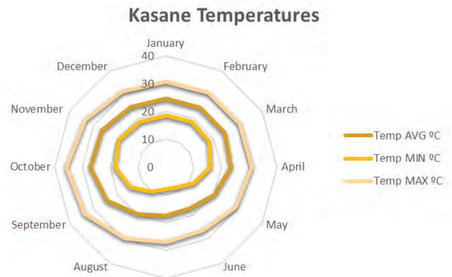


Figure 7: Kasane Temperatures (Barkhuysen, 2019)

Meso

River Road

The specific site in Kasane chosen is currently a camping site but the location is ideal for the proposed intervention's functional operations.

It is removed from the, albeit small, CBD of Kasane. To the west is the mighty Chobe River, the south is directly adjacent to the Chobe National Park and east is undeveloped land where animals can still roam free as Botswana has no fences for their wildlife districts. To the north is an existing game lodge, but ample trees in between allows for the site to be secluded and feel like you are deep in the African bush whilst being conveniently close to the airport and the inner city.

The site is as close as possible to the National Park which gives the client the opportunity to be the first to enter the park and the last ones out. It also provides quick access to the river and the park's roads to optimize good daylight for photographic opportunities. The new site is also close to the new hotel recently opened by the client which allows these two sites to operate independent while being able to support one another as well.

Figure 8: Proposed Site (Google Earth, 2019) adapted (Barkhuysen, 2019)

Chobe National Park

The Chobe National Park is one of the most iconic wildlife parks in Southern Africa. It is especially known for not having fences where local citizens live in harmony with the animals. The National Park was formed in 1967 and spans about 11 700 square km (Chobe National Park, 2019). The Park hosts four of the African Big Five, with rhino's no longer present due to the great crisis of rhino poaching. This strengthens the idea to use photography as a tool to create awareness. The National Park, due to the large number of floodplains and marsh lands, is home to a great number of birds with great birding sites on offer up close.

CHOBE NATIONAL PARK

Figure 9: (Chobe National Park, 2019)

Micro

Chobe River

The connection between the river and the site will be crucial. The interaction between the river and architecture will be an attempt to replicate this connection. The river and ever-present overpowering sky create the sense of the vastness and openness of the Chobe flood plains.
The Chobe River is primarily fed by backwash water from the great Zambezi river downstream where they converge in Kazungula before ending up at the Victoria Waterfall.

Figure 10: View from site (Barkhuysen, 2019)

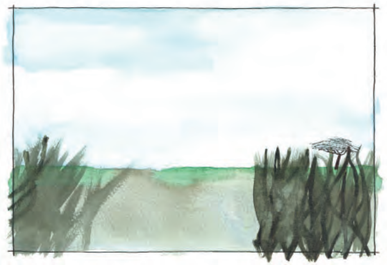
Figure 11: View of site from river (Barkhuysen, 2019)

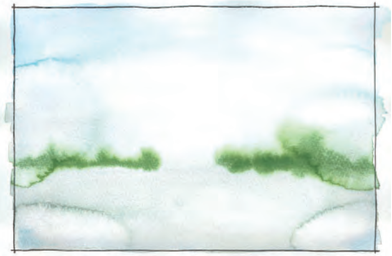
Figure 13: View of site from river (Barkhuysen, 2019)

Figure 12: View from site (Barkhuysen, 2019)

Figure 14: View of site from river (Barkhuysen, 2019)

Figure 15: View of site from river (Barkhuysen, 2019)





An attempt to catch the feeling of the place ito the views of the river in contrast to the dense bush of the site

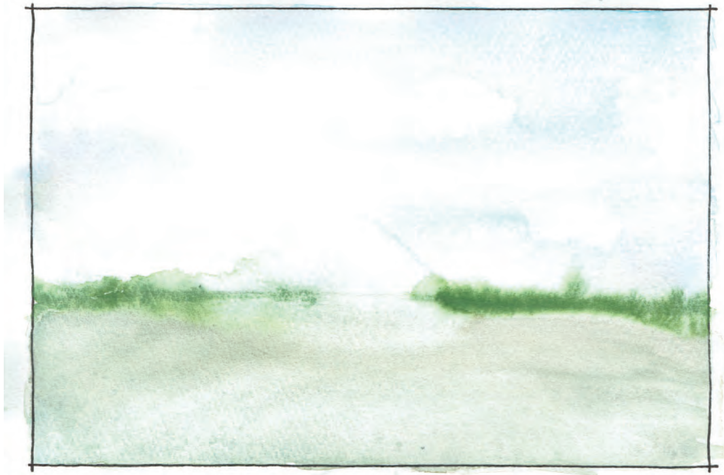


Figure 16: Existing trees on site (Barkhuysen, 2019)

Trees

This site already has a great number of trees, which will be a great guideline for the design in all its different stages. A cluster of large trees creates a great outside space, while the natural spaces created by the bush already sets the mood for what the site should still be like after the architectural implementation. The feeling of the space is what made me decide on this site for the project, it has an immediate feeling of calmness and makes one feel submerged in nature.

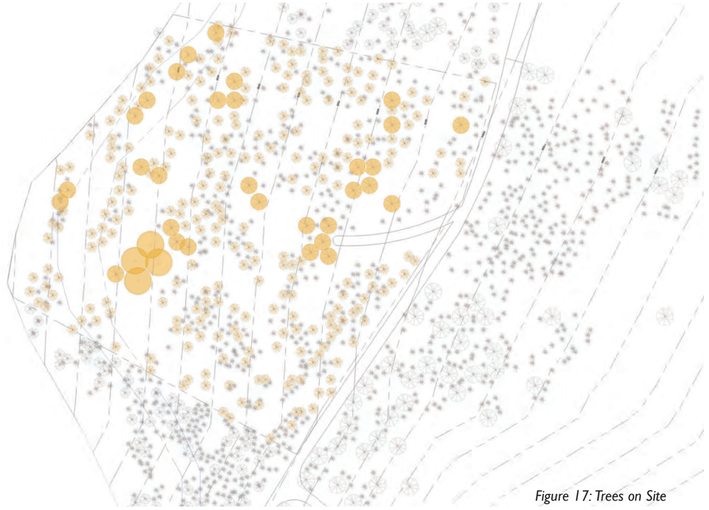


Figure 17: Trees on Site

Wildlife

It is important to note again that the Chobe National Park has no fences around its borders, thus the site being directly adjacent to the park means that animals can roam freely through the site. Having an elephant stroll by is not an uncommon situation, in fact it is considered "business as usual". The river also has many crocodiles and hippos that can access the site from the river although the amount of boat traffic usually keeps these animals further downstream in the river.

Sound

An observation on noise levels during the day on and around the site. Noise levels are primarily derived from passing boats during peak morning and afternoon excursions on the river.

Figure 18: Sound levels 05:00 - 09:00

Figure 19: Sound Levels 10:00 - 14:00

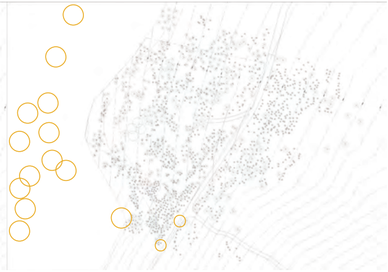


Figure 20: Sound Levels 15:00-19:00

Figure 21: Singita - Sweni Lodges (Joubert, 2009).

Figure 22: Singita - Sweni Lodges (Joubert, 2009).

Figure 23: Singita - Sweni Lodges (Joubert, 2009).

Precedent

Singita Lebombo and Sweni Lodges - OMM Design Workshop (2003) - Eastern Kruger National Park

A precedent study on a project built on a similar site and locality, with slightly different accommodation and programme. Laid out in the bush on a sloped site 'hidden' between the trees of the landscape. An attempt at understanding the process of designing in a connection with nature and designing around and taking into consideration existing trees and vegetation but still creating an architectural solution.

These two lodges are designed in a concession area of the Kruger National Park in South Africa. The requirements and prerequisites are based on a strict 20-year lease term, after the lease, all construction needs to be able to be completely removed with no visible trace on the landscape. Although these requirements are not present in this dissertation, it is a great example of designing with minimal effect on the natural landscape. The material pallet is very similar to what would be found on the chosen site as well as a relationship with the river and the idea of the design, to be submerged within nature rather than atop of nature. The design being nestled among the trees and in a sense mimicking them rather than overpowering them.

Figure 24: Singita - Sweni Lodges (Joubert, 2009).

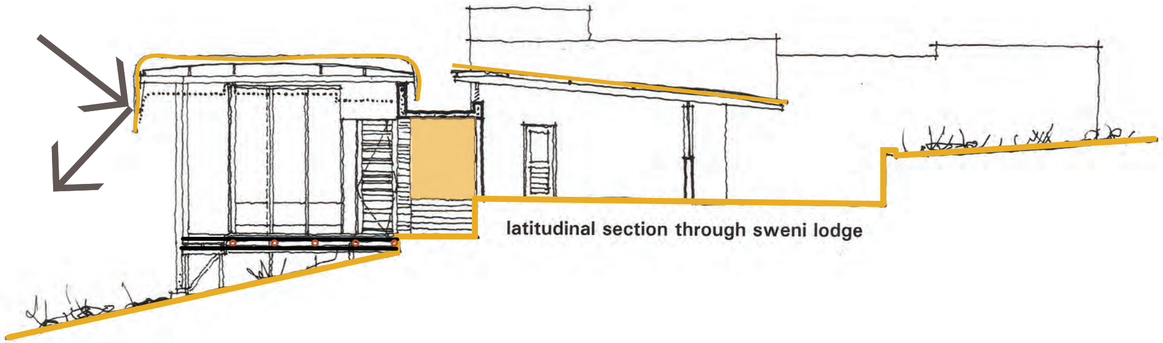
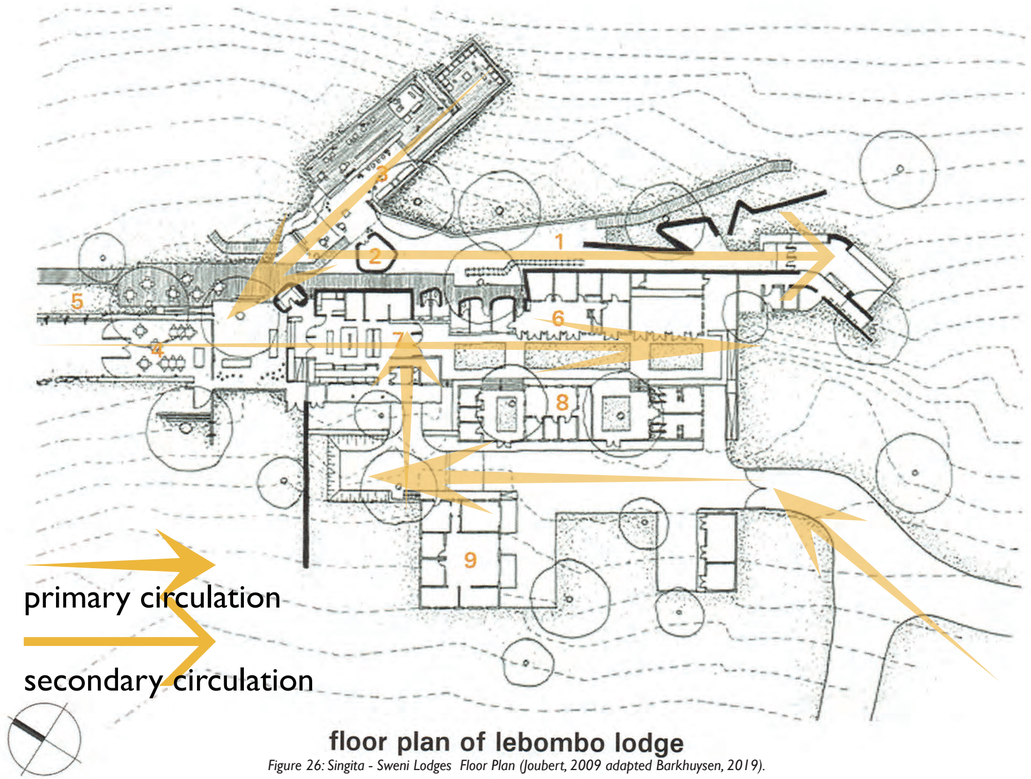


Figure 25: Singita - Sweni Lodges Section (Joubert, 2009 adapted Barkhuysen, 2019).

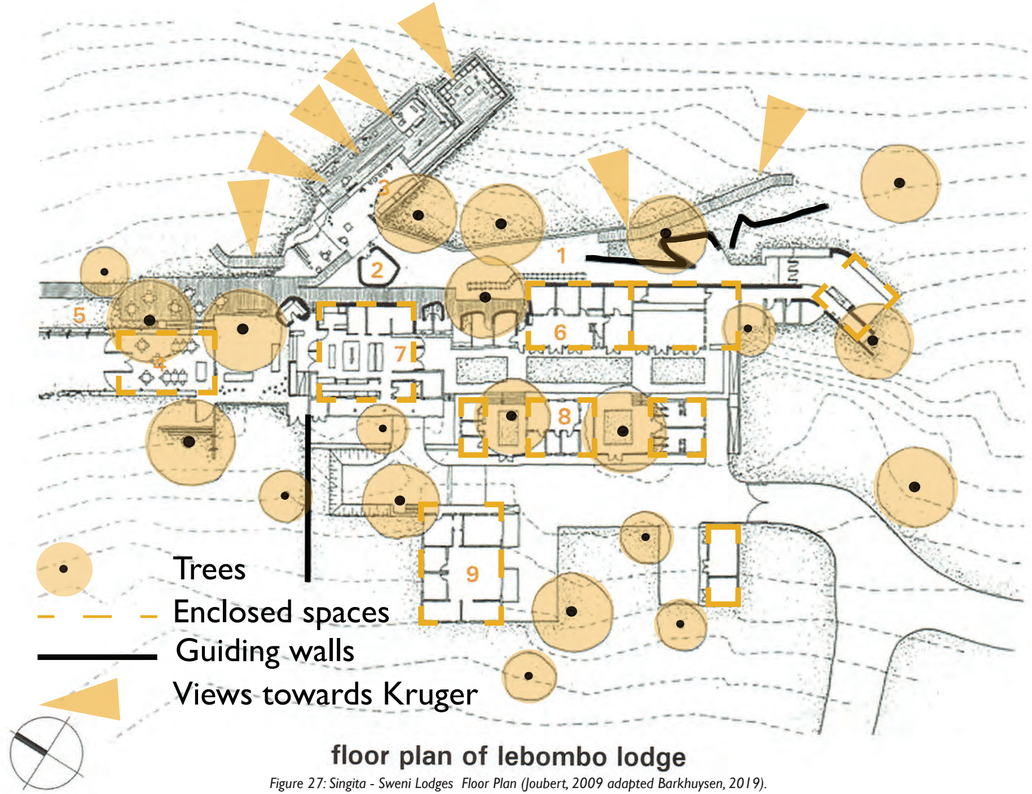
Wildlife Photographic Hub - Kasane - Part 2 Zoom Precedent - Singita Lebombo and Sweni Lodges



floor plan of lebombo lodge

Figure 26: Singita - Sweni Lodges Floor Plan (Joubert, 2009 adapted Barkhuysen, 2019).

Wildlife Photographic Hub - Kasane - Part 2 Zoom Precedent - Singita Lebombo and Sweni Lodges

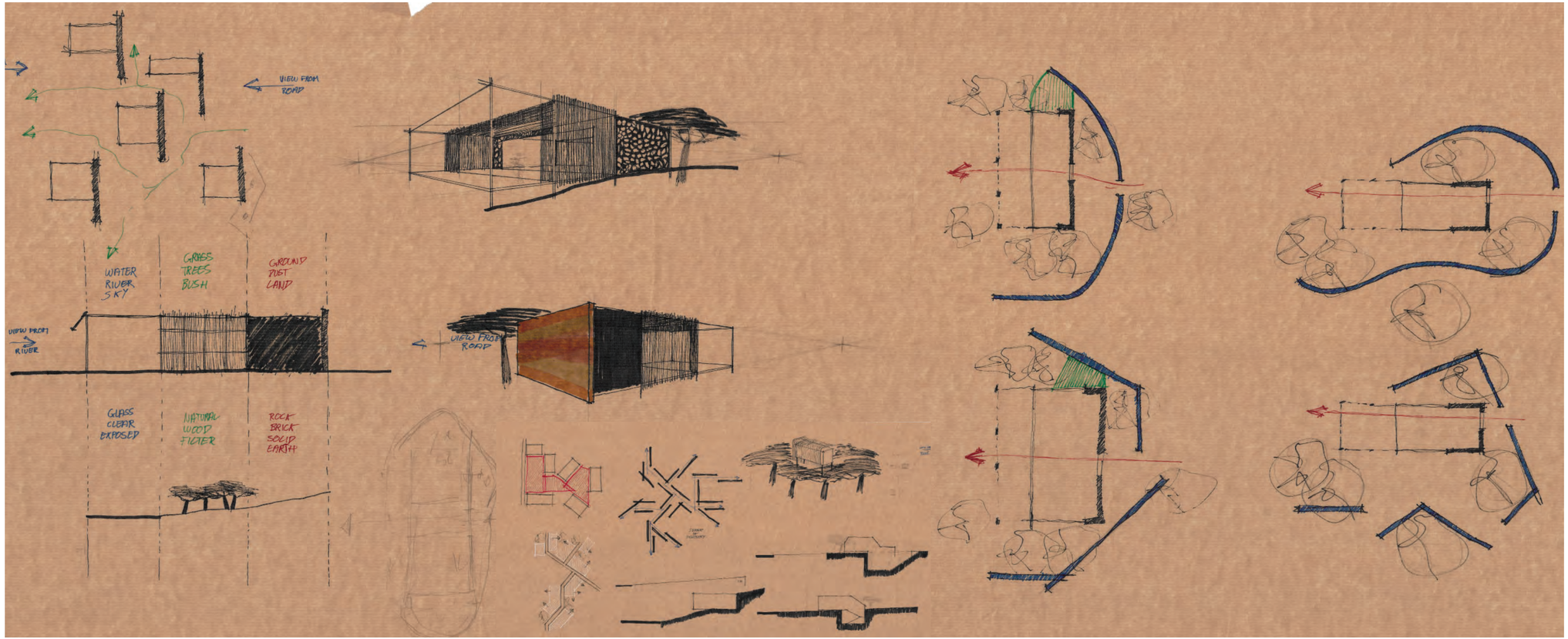


floor plan of lebombo lodge

Figure 27: Singita - Sweni Lodges Floor Plan (Joubert, 2009 adapted Barkhuysen, 2019).

Translation to design

A diagrammatic representation of the influence the analysis could have on the design and the design process.



Wildlife Photographic Hub - Kasane - Part 2 Zoom Architectural interpretation of Site

Figure 28: The Client's Photo Boat on the Water (Pangolin Photo Safaris, 2019).

Figure 29: Relevant locations of client in Kasane (Google Earth, 2019).

Client

Pangolin Photo Safaris

Pangolin Photo Safaris was born out of the principle that these days "Everyone Is A Photographer" (Pangolin Photo Safaris, 2019)

This company is managed by the two founders, Guts Swanepoel (Kasane) and Toby Jermyn (Cape Town). The company has 4 photo hosts located in Kasane, an operational and marketing team in Cape Town, the hotel team as well as the team running the houseboat.

They are a dedicated photo safari operator, seeking out unique photo opportunities that allow their clients to capture the essence of what it is like to be in the greatest photographic playground of them all – The African Bush (Pangolin Photo Safaris, 2019).

PANGOLIN
PHOTO SAFARIS

Figure 30: (Pangolin Photo Safaris, 2019).

The aim is to offer an all year opportunity for people to come on safari and enjoy their nature photography. Guest are accompanied by experienced guides as well as a photo hosts that is familiar with the wildlife and as expert photographers can assist or train the novice and the well-seasoned photographer. Clients are not only treated with the most amazing experiences and photo opportunities, the company also offer top quality cameras and lenses for the tourists to use during the safaris.

A big selling point of the Pangolin safaris in Kasane is the customised flat boats that was designed to minimise the effect on the river and the animals but in the same time provide all photographers maximum access to the scenery with state-of-the-art camera rests. The safari-vehicles are also equipped with these camera rests. What started off as safaris only, soon expanded to hosting quests on the Pangolin Voyager Houseboat that was purchased in 2015. In 2018, they opened their own lodge, The Chobe as well as a camp site in the Okavango Delta

Figure 31: Photo excursion with Pangolin Photo Safaris (Barkhuysen, 2019).

Figure 32: Current Boat Jetties (Barkhuysen, 2019).

Wildlife Photographic Hub - Kasane - Part 2 Zoom Client

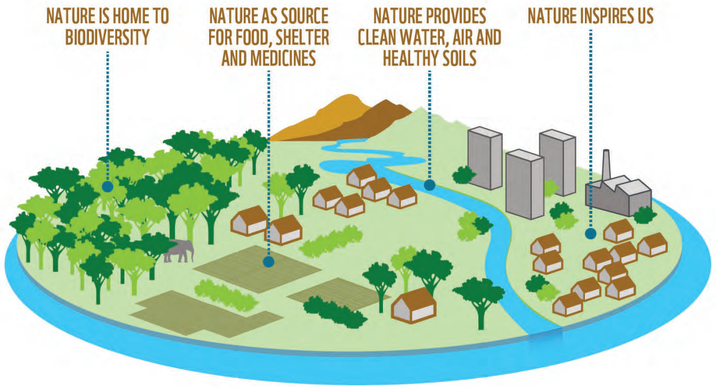


Figure 33: Necessity of nature to human life (Grooten & Almond, 2018).

Figure 34: The benefits humans gain from nature (Grooten & Almond, 2018).

Wildlife Conservation

It is undisputed that humans have to be in harmony and is dependent on the harmony of nature with itself to be able to sustain life.

According to The Nature Conservancy (The Nature Conservancy, 2018), the benefits that nature provides is crucial not only to maintain biodiversity but also ensure human wellbeing. Marshall discusses a host of possible reasons to support conservation (Marshall, 2015), some of them emotionally motivated and others more direct, although the bottom line is very clear; the human race would not be able to continue existing without conserving wildlife and especially ecological diversity.

Humans has however, been its own as well as the environment's biggest threat, the most recent effects on the planet captured by Grooten & Almond, in the Living Planet Report (2018). As a measure of biodiversity, the Living Planet Index (LPI) tracks global wildlife abundance. Tracking 16,704 populations of 4,005 vertebrate species, the LPI finds that global populations of mammals, birds, fish, reptiles, and amphibians have declined, on average, by 60 percent between 1970 and 2014, the most recent year with available data (Grooten & Almond, 2018). The LPI since 1970 (as a base case) is published by (Grooten & Almond, 2018) and shown in Figure 36.

It is clear that a global effort to restore biodiversity and at the very least stop the destruction of our natural resources is critical. One of the tools required to drive conservation is the education of the general public on the importance and necessity of conservation. (Spooner, et al., 2019) found that a live theatre show succeeded in educating both children and adults alike about conservation facts. In a similar fashion, one could reasonably expect that photography might achieve a similar goal.

Pangolin.Africa

Pangolin.Africa is a non-profit organisation dedicated to the survival of the most highly trafficked wildlife species on the continent – the African Pangolin (Pangolin.Africa, 2019).

"Through our three-pronged approach of Publicity, Participation and Protection we are working with partners in the tourism, conservation and corporate fields to increase education and awareness around all four African pangolin species; contribute towards much-needed research; and implement protection and rehabilitation projects on the ground" (Pangolin.Africa, 2019).

"We also play an integral role in bringing together and supporting other individuals and organisations across Africa who are working in the pangolin conservation space" (Pangolin.Africa, 2019).

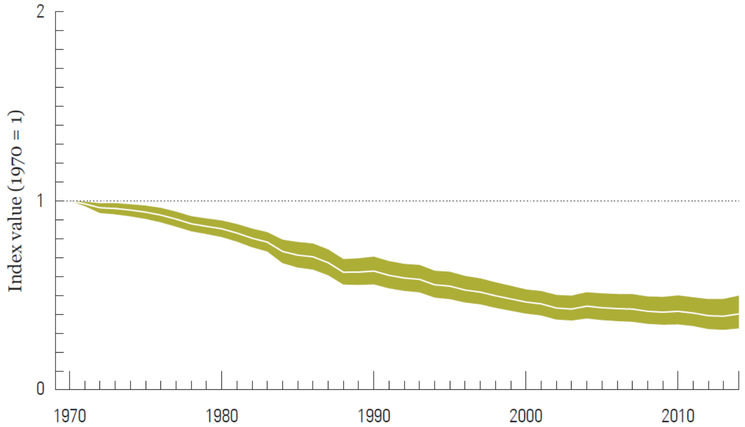


Figure 36: Global LPI for 2014

Pangolin Africa
Teaming up to save a species

Figure 35: (Pangolin.Africa, 2019).

This Chapter contains the initial explorations and the grounding of these explorations.

It starts off with a touchstone for the project which then leads to three possible conceptual ideas as a way of exploring an approach to the site and the project.

This is followed by several precedent studies on projects of similar function, feel and form/materiality and three possibilities of design approaches that stem from the preceding explorations.

The explorations are then grounded by means of theoretical research and reasoning. This research focuses on the theoretical aspects of photography, the physical workings of photography and the application to wildlife photography. Comparisons between light in photography and light in architecture is then followed by the idea of the in-between.

Touchstone

Concepts

Precedents

Approach

Theoretical Underpinning

Photography for conservation

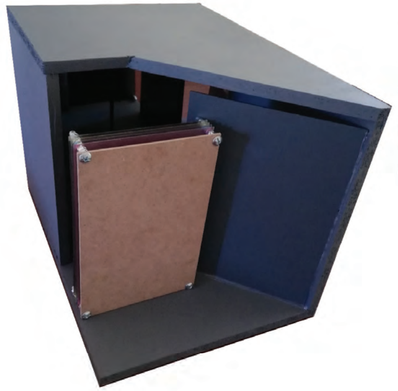
Resemblance of light in Photography and Architecture

Stepping in-between

3 - Focus

PHOTOGRAPHY HUB

Kasane - Botswana



Touchstone

The Idea to capture – One cannot experience the touchstone if one does not take out one's smartphone and capture a picture. Through a series of mirrors one can then see the intended image of the male lion. The picture of the male lion consists of 100's of smaller images as a means of showing that the more pictures one captures the clearer and bigger the image can become. The detail of the lion picture is dependent on the amount of light exposure the back of the model receives which ties into the idea of giving exposure as well as light as a crucial element in the workings of photography.

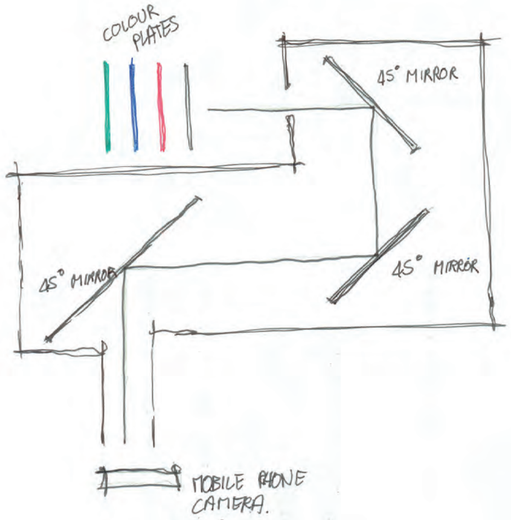
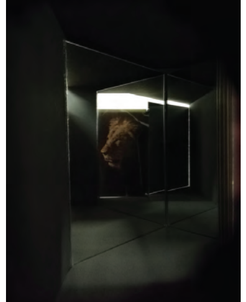
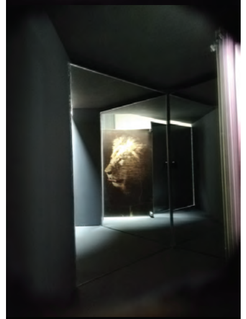
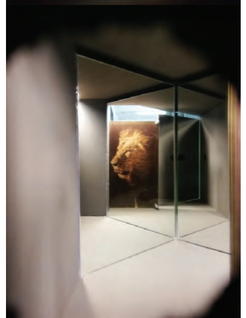


Figure 37: Drawing of touchstone Inside



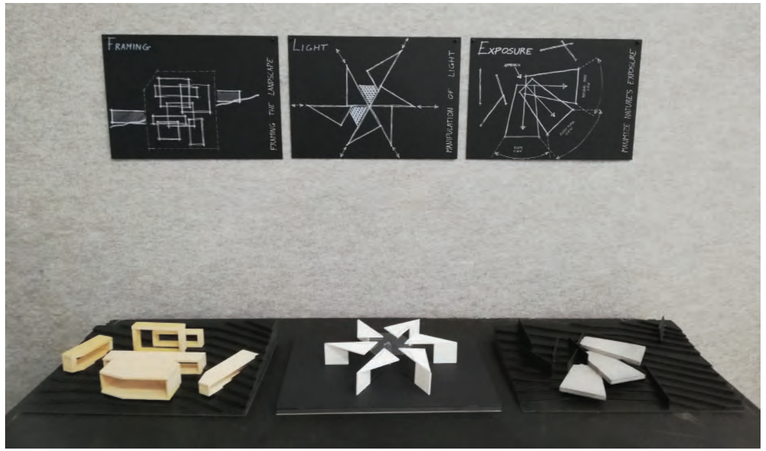




Concepts

Conceptual Development

A series of models showing the exploration to focus the ideas in to three dimensional concepts.

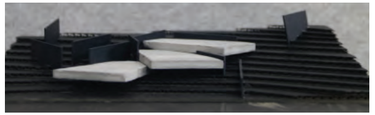


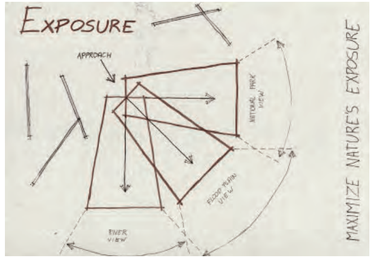
The three concepts are tied together as the workings of a camera; light being the camera body that changes all the settings. The viewing, the lens that brings the user closer to the object it wants to photograph and framing the moment in which the photograph is captured.

The concept of viewing (exposure) is the prominent concept that continues through with small elements from the other concepts coming through.

Exposure – Viewing

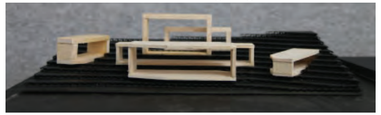
Maximum exposure towards the river and the National Park adjacent to the site. It is important that the architecture allows for large views of nature to bring the user and nature closer to one another by creating a constant link.

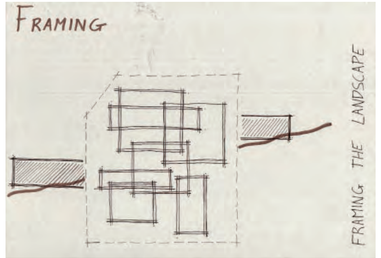


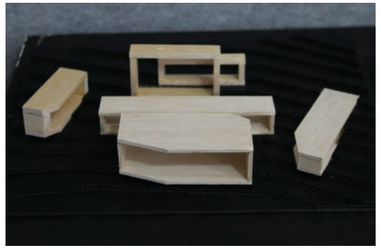


Framing – Capture

The architecture used to frame the landscape, a mimicry of capturing that which is in close proximity, whether this is from the land framing the views of the river or from the river framing elements of the landscape such as the existing large trees.

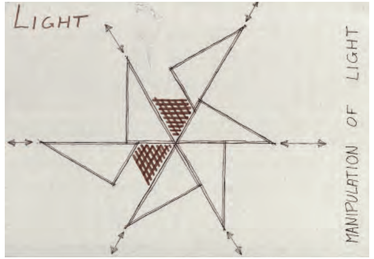


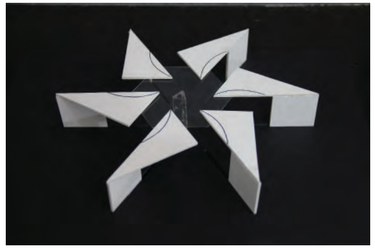




Exposure – Light

An idea on a skin or an element that allows the user to be able to change the amount of light allowed into the building or spaces as would be done by the settings on a camera. The notion of a building being or mimicking the camera body.





Precedents

Function

Velddrif Photographic centre – Nicola Wessels (2006)

A precedent study on a previous M.Arch(Prof) Thesis at the University of the Free State Department of Architecture, similar accommodation and programming. Focus placed on the organisation of the different functions around a central circulation element. The circulation is the element that ties all the functions of this project together. A good example of the workings of a building with a similar accommodation and programme needs.

The beauty of this project for the author lies with the dynamic way the plan reads. Upon investigation it contains square, functional blocks with functions inside them and then the subtle movement away from axis makes the axis seemingly disappear although it is still very much present.

- Functional boxes
- Expressive spaces
- 10- or 20-degree lines for subtle widening or narrowing
- Two central axis's crossing at a point of hierarchy
- Expansion into the landscape

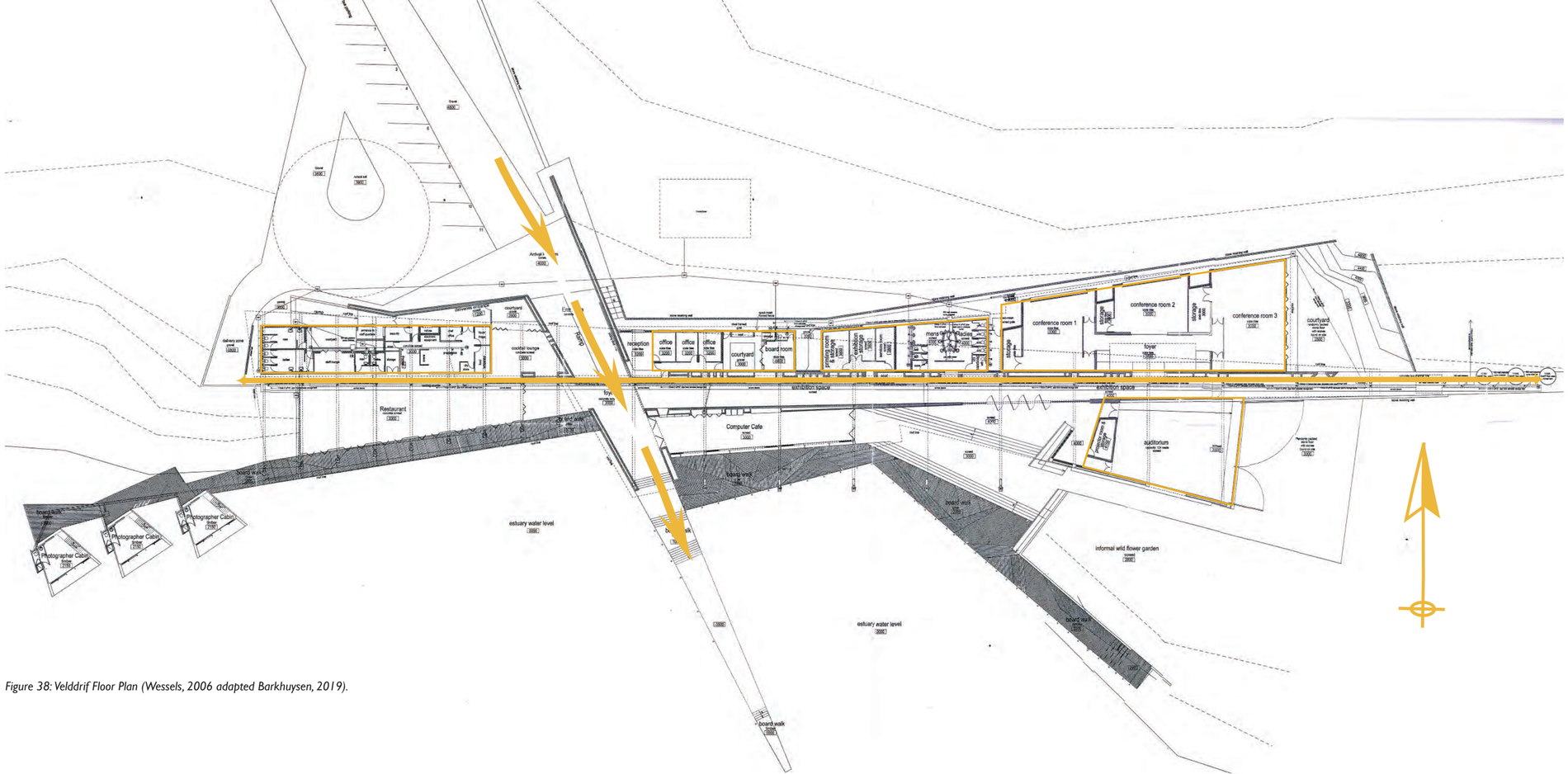


Figure 38: Velddrif Floor Plan (Wessels, 2006 adapted Barkhuysen, 2019).

Feel

Sandibe Okavango Safari Lodge - Nicholas Plewman Architects (2014) - Okavango Delta, Botswana

A precedent study on a recent project built close by as an informant on the use of the natural materials and understanding of the feeling of the place that these architectural interventions seek.

The design is based on that of a pangolin and meant to mimic the scales that make the pangolin unique but also so sought after. Wooden structures to mimic the natural material around the design and a close relationship with the trees. The climate allows for open spaces with no glass facades to try and keep the weather at bay. It reads as an open plan but to nature not to the adjacent function as in common home design.

It places emphasis on the connection between the inside (covered) spaces and the outside (nature). An attempt to blur the boundaries between inside and outside.

Figure 41: Sandibe Living Unit

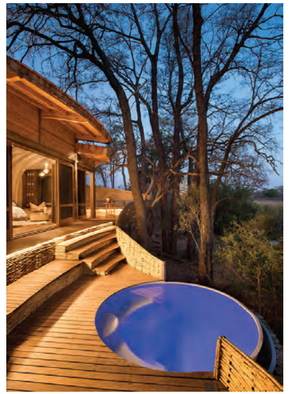


Figure 39: Sandibe Approach

Figure 40: Sandibe Entrance

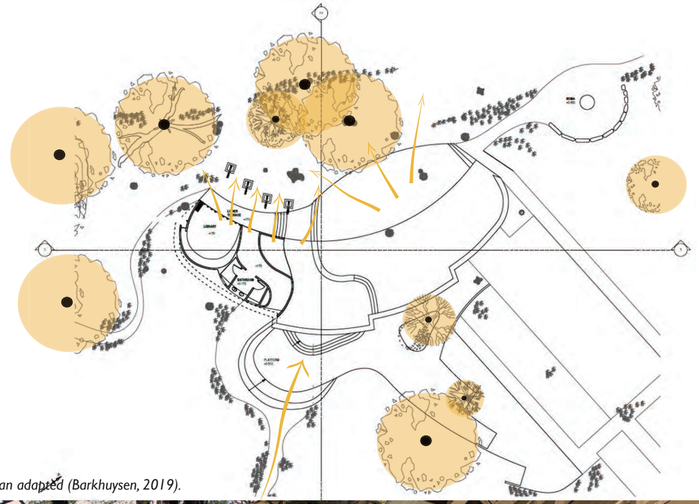


Figure 42: Sandibe Floor Plan adapted (Barkhuysen, 2019).

Figure 43: Sandibe Deck

Figure 44: Sandibe Interior

Form/Materiality

Africa Centre for Health and Population studies - East Coast Architects (2003)

A central entrance that leads straight through to the viewing area to get people inside the building. Only afterwards do you peel off to the functions on either side.

Instead of one large research room they are split into three smaller more manageable rooms - this might work very well with the proposed workshop rooms allowing for more individual time with the instructors/photo hosts.

The materiality of the project is a great example of a similar material palette to be used in the dissertation. The tower element of the design can be a great tool for orientation on a large site as a form of hierarchy. The functionality of the tower will be important in determining its relevance and success.

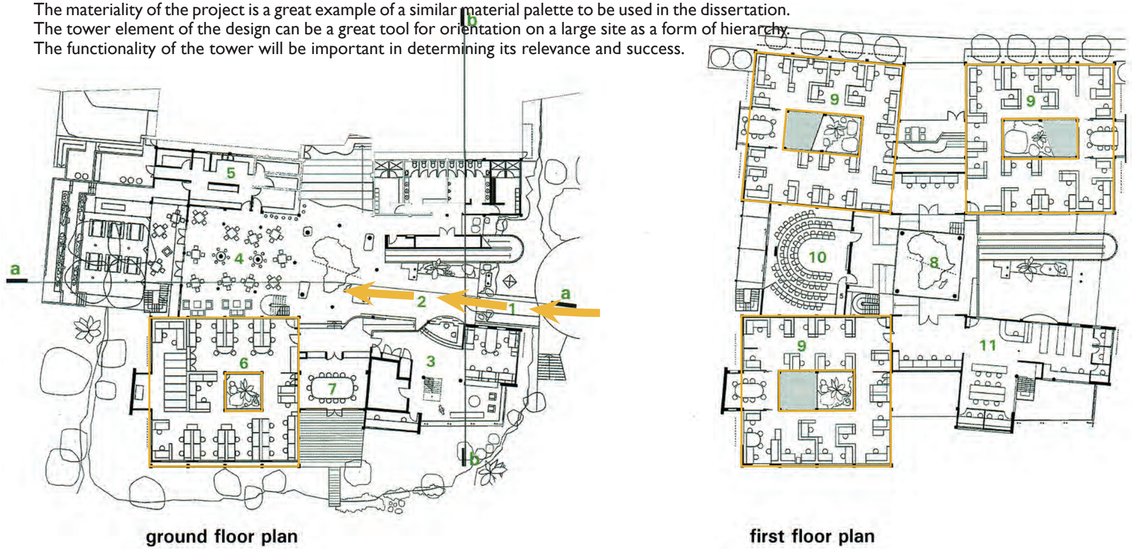


Figure 45: Africa Centre Floor Plans (Joubert, 2009 adapted Barkhuysen, 2019).

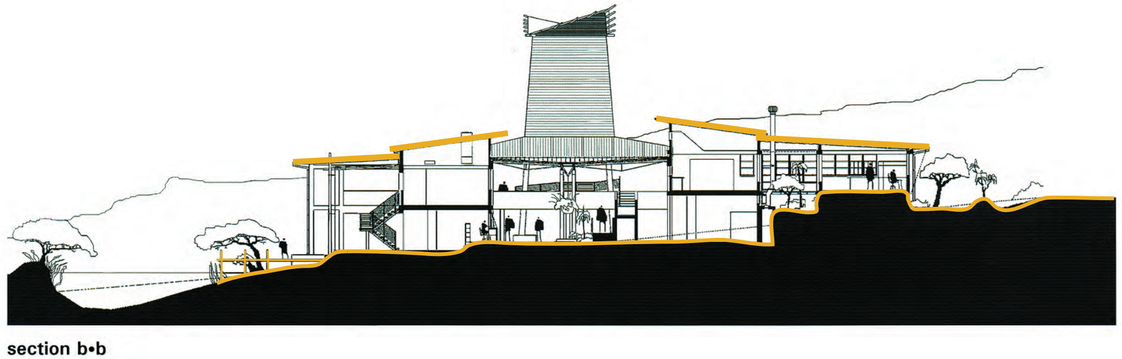


Figure 46: Africa Centre Section (Joubert, 2009 adapted Barkhuysen, 2019).

Figure 47: Africa Centre (Joubert, 2009).

Figure 48: Africa Centre (Joubert, 2009).

Approach

View

Having multiple views always, orientated towards nature with the emphasis placed on nature rather than the architecture.Views that stretches across the river to the west, the bush to the north and the national park to the south. How the user views the outside is where the emphasis should be.

Figure 49: View towards river from the site - current (Barkhuysen, 2019).

Figure 50: View towards bush from the site - current (Barkhuysen, 2019).

Meandering

Mimicking the flow of a river and the process of wildlife photographic safaris, meandering about the natural elements, moving about with a sense of orientation but without knowing what could be waiting around the next corner or behind the following tree. It is a path formed by nature, moving around an object and not removing said object. A path of discovery that follows the natural principles of a river following the path of least resistance.

Figure 51: Diagram showing the meandering flow of the Chobe River (Barkhuysen, 2019).

Theoretical Underpinning

Exposure

A word that truly captures the essence of the project - exposure. Exposure in terms of giving coverage to a subject, creating more awareness or providing the platform to do so. Exposure in terms of the functionality and workings of a camera where the level of exposure is essentially all that changes on a camera's settings. Exposure in reference to architecture by creating a space that allows multiple exposure of nature, for man and nature to feel connected without direct contact. Principle decisions and arguments in this dissertation can be rationalised and argued by its value added to the concept that is, Exposure.

Wildlife Photography

Traditionally most of Africa's foreign visitors came on hunting safaris. Expeditions to Africa was to find and hunt the exclusivity of the continent and to take home trophies and souvenirs

A result of uncontrolled hunting and poaching of the rare animals, mainly for use in eastern and traditional medicines, lead to drastic decline in numbers. Environmentalists started with all forms of awareness campaigns to warn people and to make government officials aware of the crisis. Most African countries already banned hunting of wild animals and only licence limited individuals with the rights to hunt animals in a controlled manner.

Due to the development in digital photography, access to cameras became easier and more people are interested in the art of photography. The camera replaced the scope of a hunting rifle and changed the expedition industry completely. Instead of visiting Africa to hunt the Big 5, visitors from all corners of the world to now capture trophy photos of the Big 5 and other animals to share it with their friends and on social media.

The industry of wildlife photography grew exponentially and companies, such as the client, exists solely out of hosting photographic safaris across Southern and Central Africa. Companies that give exposure to wildlife photography.

The opportunity however lies with the exposure that these photographs can create. Exposure that can contribute to the conservation of wildlife and our natural resources by showing the world, the beauty and uniqueness of the African Wildlife and exposing the truths behind animal cruelty and poaching. Photography is an excellent aide to assist existing efforts of wildlife conservationists in creating an additional and needed platforms to expand their efforts and give them exposure.

What is photography and is it possible for photography to assist in this environmental issue?

Figure 52: African Elephant (Barkhuysen, 2019)

Photography

Photography: "*a picture made using a camera, in which an image is focused on to light-sensitive material and then made visible and permanent by chemical treatment or stored digitally.*" (Simpson, 2008).

The Image

According to (Flusser, 2000): *"Images are significant surfaces. Images signify – mainly something 'out there' in space and time that they have to make comprehensible to us as abstractions"*. In other words, images are abstracted forms of our reality at a point in time. They make us understand the world better, by being the link between the world and humans (Flusser, 2000).

The ability to abstract reality requires imagination, but imagination is also required to decode images and learn from them. The written word together with the images should be able to explain and inform to create a higher level of understanding in an attempt that these two powerful mediums do not overthrow each other losing the ones' value (Flusser, 2000).

(Barthes, 1981) Did not share this view of the image. He claimed that an image is a signifier without a signified. He states: "*a photograph is always invisible: it is not it that we see*". Barthes reasons that the image is merely an image and does not convey a special type of message or story. That which is seen on the image is not what the observer sees but only a moment of time and space.

The Apparatus

According to (Flusser, 2000); photography apparatuses are nothing more than boxes that simulate human thinking, turning it into a mechanical rather than intuitive exercise, leading to the human becoming increasingly more uninvolved in the process. He argued that apparatuses are intoxicating, overwhelming, and more inventive than human beings. The apparatus is the physical equipment used in the capturing of a photograph; the camera, the lens, the tripod, a remote and external or secondary lighting for photography.

The manipulation of the apparatus' functions and possibilities is where the true art and magic lies, where the photographer pours their experience, perspective and emotions into their photography. *"in pursuit of possibilities that are still unexplored in the camera's program, in pursuit of informative, improbable images that have not been seen before."*(Flusser, 2000).

How does the apparatus work?

A camera in its most elementary form is a dark box with a light hole through which light shines onto a light sensitive medium or sensor. Over time this developed into the sophisticated industry we have today of digital cameras, lenses and intelligent software that add more possibilities and options to the photographer to explore alternative images.

See illustration that shows the workings of a camera, the entering of light and the mirrors and lenses that interpret the light into a physical image on a light sensitive material or a digital image sensor. Light is the crucial element in all of photography. Without light there is no photograph. All settings on apparatuses entails the manipulation of the amount of light and the way the light is read by the sensor (exposure). A camera captures light, and the captured light is then perceived and transformed into a physical image known as a photograph.

Figure 53: Apparatusses (Stols, 2019)

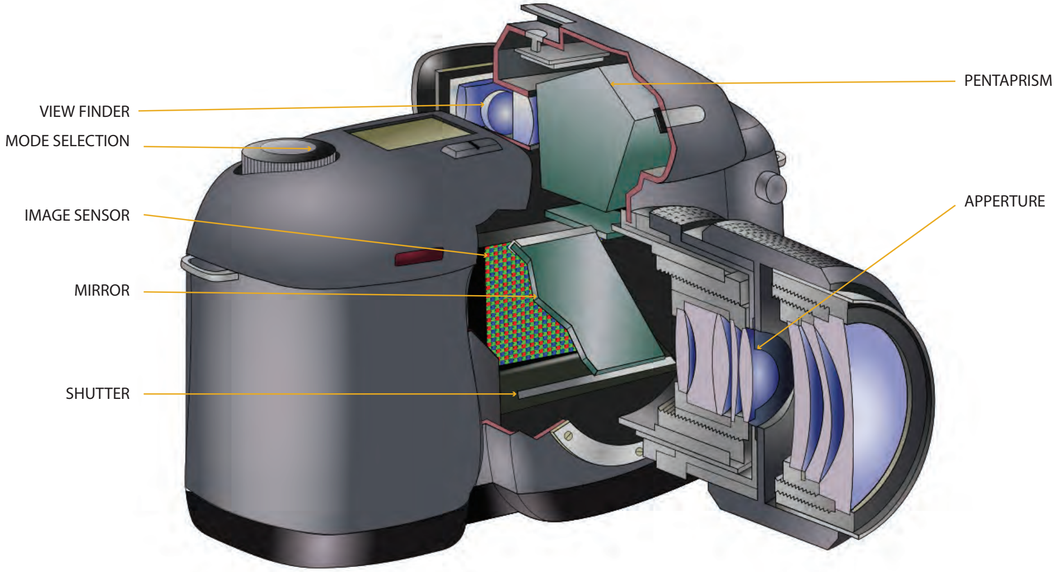


Figure 54: Parts of the camera. adapted (Barkhuysen, 2019)

The Photographer

The intent of a photographer is to use their apparatus to permanently edge their ideas of their world around them into an image. They then distribute these images to serve as an everlasting memory of their knowledge, actions and life experiences (Flusser, 2000). They try to capture that specific moment and make it an everlasting image with a personal side to it, no technical image will ever be the same. This can also be through the story which the image carries over.

The difference between a happy snapper with a camera and a photographer, according to (Flusser, 2000), is the snapper's need of automation. They are lured by the camera being a plaything/object and become caught in the race for shooting new pictures *"consumed by the greed of their camera"* (Flusser, 2000). A snap is purely the result of a human pressing a button on a camera and this is where the camera has victory over the human being. *"People taking snaps are unable to decode photographs: They think photographs are an automatic reflection of the world."* (Flusser, 2000).

(Barthes, 1981) Refers to the photographer as the operator as he sees them merely as a vessel pressing buttons on apparatus without emotional or self-input. He imagines them as a completely objective being capturing that which lies in front of them. This does oppose the statements of Flusser.

The photographer has a specific acquired human knowledge, and carries this over to their image, giving it more depth and the ability to understand images. Flusser stated that there was a permanent battle between photographer and camera, or the human intensions vs the camera's functions. The photographer strives to push the boundaries of the camera functions to achieve a new understanding. This can however only be done if the photographer is aware of the camera's functions and capabilities and draws into a battle with it.

It is this acquired human knowledge and a lived human experience that makes each photographer unique and what makes their uniqueness visible and present in their photography. It is in my opinion impossible to remove the personal narrative and emotions from the action of committing photography.

Figure 55: Author behind his Camera

The Photograph

(Flusser, 2000) does not see the photograph as an image of the world but rather as a message with buried code. The difference between photography and reality can be made smaller by adding linear writing (the written word) to the image, against the apparatus, thus allowing our imaginations to regain access to that which goes on in the world around us.

"…the traditional distinction between realism and idealism is overturned in the case of photography: It is not the world out there that is real, nor is it the concept within the camera's program – only the photograph is real." (Flusser, 2000)

This buried code that (Flusser, 2000) talks about is exactly the possibility that lies within photographs that I think can be utilised for creating awareness for wildlife conservation. The impact that wildlife photography can have on the fight against poaching of animals can be seen in movies such as "Eye of the Pangolin" that was made solely to portrait the current pangolin poaching situation in Africa. The reach and response from this free-to-watch movie is a great precedent of the power that digital media can have.

"What the Photograph reproduces to infinity has occurred only once: The Photograph mechanically repeats what could never be repeated existentially." (Barthes, 1981). Barthes argues a bit different from Flusser on the subject of the photograph. Barthes argues that the code inside the photograph that Flusser speaks of does not exist, it is rather just a portraying of the physical elements that was captured in that moment in time. I disagree with Barthes though, I think that a photograph always has that embedded code, a story behind the photograph. The intention of the photographer portrayed and interpreted by the observer.

Figure 56: Pied Kingfisher (Barkhuysen, 2016)

Figure 57: Young Hippo in water (Barkhuysen, 2016)

Figure 58: Young Leopard with burn wounds (Barkhuysen, 2018)

A Philosophical Approach Towards Photography

There were two fundamental turning points observed in human culture, the invention of linear writing followed by that of the technical image (Flusser, 2000). Before linear writing we had 'the age of the image', which was neither historical nor linear but rather timeless and based on an almost magical circular form of repetition. With the start of writing, thoughts became linear, the concept of a past and a future; that which happens now followed something else from the past that will never return and will be followed again by something else.

Just how is photography connected to this world of ours? The photograph is supposed to capture those moments in time that we as humans' treasure. It is a form of cultural preservation, a means to draw comparisons between what was and what is. Photographs however have the ability to trick the observer into thinking they know something they don't. It gives a false sense of knowledge. For example, if you see an image, you decode that image without any knowledge of the events that lead to that moment or those that followed, the viewer creates their own opinion/story line based on their lived experiences and knowledge.

Photographs become a representation of human experiences and ideas with the aim of helping humankind to better understand the things that happen around us or give an explanation.

Figure 59: Yellow Billed Hornbill (Barkhuysen, 2018)

Perspective

The power and importance of perspective in photography relates closely to that of architecture. It does not refer to a three-dimensional perspective or the angle at which an image is photographed. In this case perspective refers to the point of view, the subjective opinion.

In architecture the perception of a design is determined by a personal perspective and interpretation of what lies before the viewer, a subjective opinion. That image was also created by some else's' perception, own perspective and subjective opinion of what must be achieved/created.

In photography a photo will also be interpreted by the viewer's perspective. Embedded within each image lies the subjective opinion and perspective of the photographer, who tried to capture, a personal interpretation of what happened in front of the camera.

Canon did an experiment to test the perspective of the photographer rather than the viewer (Gragert, 2015). They gave six different photographers the same subject (actor Michael) to capture but gave a different back story about the subject for every photographer. Each photographer attempted to capture their perspective of the subject and the differences in interpretation of the same subject is a powerful means of showing the power that lies in the perspective of the photographer (Gragert, 2015).

Part of perspective is the power of the photographer to include and exclude specific details on an image thereby influencing the interpretation of the viewer. (Stewart, 2018).

Figure 60: Michael as a fisherman (Gragert, 2015)

Figure 61: Michael as a recovering alcoholic (Gragert, 2015)

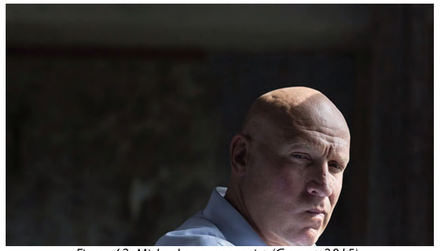


Figure 62: Michael as a ex-convict (Gragert, 2015)

Figure 63: Michael as a self made millionare (Gragert, 2015)

Figure 64: Michael as a life saver (Gragert, 2015)

Figure 65: Michael as a self proclaimed psychic (Gragert, 2015)

Figure 66: the Author behind the camera

Figure 67: The Resulting Photograph (Barkhuysen, 2016)

Photography for conservation

If photographs assist humankind in understanding things better, why is it not used more effectively - especially with the digital possibilities of the information age - to create greater awareness of wildlife conservation? It is here where I differ from (Barthes, 1981) greatly, he speaks of signifier without a signified, I think we as human beings finally have something to be signified – Wildlife Conservation.

Subjects

The key challenge with wildlife photography is the subjects; the animals. They are free-ranging, and a composition can't be created. The best is finding the correct spot and conditions and wait for the animal's actions. Photographing wildlife is however more than just the waiting – it is about vigilantly anticipating the perfect moment with regards to light, the animal's unpredictable behaviour and capturing that perfect moment.

Opportunities

As with most things uninhabited and in nature it boils down to opportunities; you need to be at the right place at the right time with the right exposure for those truly mesmerising images. Since it is not possible to set up conditions for these perfect moments, the best option for photographers is to create more opportunities and to manage the light in the best possible way.

Knowledge

In wildlife photography there is no second chances or time to adjust camera settings. The photographer must understand photographic principles, knows his equipment and have prior knowledge and experience of his subject and the surroundings in order to set up prior to any actions.

Knowledge of the animals and their behaviour largely contributes to great photographs. If one knows that an elephant sprays himself with water whilst drinking, you can be ready for when it does release those droplets all over its body in spectacular fashion.

Anticipate

To capture a great wildlife image, you need to be able to anticipate the possible opportunities that might arise. If you spend enough time amongst the animals, you start to pick up their language and habits. Should you be able to interpret that a lioness is beginning to stalk her prey you must be able to anticipate the strategy and where the attempted hunt will take place and have the camera on the correct settings for when it does happen.

Reactions

Although a situation can be anticipated, quick reaction is required the moment the animal pounces or strikes. The photographer must be sharp and ready to react on that split-second action of the animal.

Moral Challenges

Instances known as baited photography also takes place, where bait is set out and then it's a simple wait for the animals to approach as you sit at the ready to capture the moment. There are debates as to the ethical behaviour of some photographers especially when it comes to baited photography (Cooper, 2017). Baited photography is a great threat to wildlife conservation. In baited photography the issue is that the animal behaviour is changed by the photographer in order to achieve the desired photograph (Cooper, 2017). Debates surrounds the idea that the presence of the photographers in nature is more intrusive than the advantages of their photography. The case needs to be made however that this is only true when the photographers alters animal behaviour, as it does with baited photography, the animals become dependent on the humans for food and lose their natural ability to hunt or feed for themselves.

I am against baited photography and fortunately, the client is a company with great ethical qualities and are campaigning not only for wildlife conservation but also against baited photography. Animals should be photographed in their natural environment and not be removed therefrom for a better photograph. This is exactly the reason Kasane is so beloved amongst photographers, the ability to get great photographic images within the natural environment.

Resemblance of light in Photography and Architecture

In both photography and architecture light is a crucial component that defines the end-product.

"We need light to see and carry out essential tasks. But it also lifts our spirits, changes our perception of space and can play a vital role in the modelling of a building" (Slavid, 2012). The most obvious interpretation of light through architecture is the use of natural light. Creative spaces and spaces with screens in them rely on a more consistent indirect light and are often orientated South with large windows/light openings (Slavid, 2012). Where light does make an immediate impact is the casting of shadows. An architect can manipulate light by focusing on the shadows that a certain element would produce.

The resemblance:

	Photography	*Architecture*
Exposure	Refers to the amount of light allowed into the camera's sensor to process. Can be adjusted to add or remove light in order to achieve the desired outcome.	How and where natural light enters an architectural design and how the light is utilised rather than shut out and replaced by artificial light.
ISO	The ISO is the sensitivity of the film or the digital sensor. The higher the ISO setting the more sensitive the sensor, which means that with a high ISO you require less light. Higher sensitivity could also have a negative affect the quality of the image as the impact of light on the sensor is greater. This has the ability to make images appear grainy.	The amount of direct light or indirect light that is required and how this light is handled in the design.
Shutter Speed	Refers to the time the shutter between the lens and sensor stays open to allow light onto the sensor. The lower the light quality the longer the shutter needs to remain open. A slow shutter speed creates the feeling of capturing movement while a quick shutter speed attempts to freeze a moment in time.	The frequency at which light openings is present in an architectural design, allowing to freeze elements through the opening or multiple openings mimicking the movement of an object through the openings.
Aperture	The size of the opening on the camera before the sensor. The primarily purpose is to determine how much of the photo will be in focus. It also influence the amount of light that will be allowed through the opening. The smaller the aperture value, the bigger is the opening and the more light is allowed in relating to less of the subject is in focus.	The sizes of light openings in the design, these elements can be used together as a powerful tool to manipulate the light in interior spaces as required.

Stepping in-between

While taking a photo everything is confined between the edges of the camera, what happens outside of the camera's edges will simply not be present on the resulting photograph that is produced. It is the photographer's discretion what ends up inside of these edges – a choice, a subjective and impulsive choice.

Does the significance of edges lie with the edges or are the edges merely the boundaries, the confinement? The true significance lies with that which is confined within these edges. The edges place the importance on what lies **in-between** them.

Edges serves as frames rather than limits, they attempt to support shelter and frame whatever is inside the edges (Casey, 2008). *"A frame is a provisional structure that makes something else possible."* (Casey, 2008) The important word that stands out is 'provisional' although the photograph is everlasting the frames are only a temporary constraint of that which happens outside of the edges. As soon as one captures a photograph you immediately frame a moment into eternity, and you will never be able to capture that exact moment ever again. It is the author's opinion that the essence of good photography rests in this capturing/framing of moments in time and space. Mohassel (Casey, 2008) states that there exist two kinds of edges; that of the mental spaces and that of the canvas (photo/building).

Edges in Photography

In photography edges are the physical edges of both the camera and the photograph, but of importance is the in-between, that which happens between the edges instead of the edges themselves. The object or the action is subjected to being composed by the photographer within the edges of the photograph, the physical edges. The image thus implies that there is more beyond the edges of the photo and will be interpreted differently by each viewer due to their own mental edges. (Casey, 2008).

The first in-between in photography is the camera that presides between the photographer and the subject intended to be captured. The 'lens' through which the photographer observes life, the camera becomes the link between man and subject. Specifically referring to wildlife photography, the camera finds itself in-between the photographer and the wildlife replacing the hunting scope as the former object in-between the man and wildlife.

Edges in Architecture

The in-between with reference to architecture, changes the interpretation somewhat. The specific connection with architecture is related to that of the camera. In this instance the architectural intervention also acts as the in-between of man and nature, creating the link between these two entities. The intervention is replacing the camera to bring man and nature closer to one another within a harmonious relation, blurring the edges without removal thereof. However, in the notion of architectural in-between spaces, these spaces start to become an important part of the architectural proposal.

What is an architectural in-between space then? In the opinion of the author an in-between space is space that lies between the edges of architecture, the thresholds, those spaces that acts as links between functional spaces rather than a functional space. It is in these spaces that one finds human interaction, a link between man and nature as these spaces have no specific function and no script to follow as to how one moves about these spaces. In this specific case, the meandering space of moving between functional spaces. These spaces become the datum and the means of orientation, always within the edges, but being free to move about as and when one wants within the confinement of the physical, architectural edges.

The technical report. The initial investigation and approach regarding:

- The technical site analysis
- The aims for a sustainable design
- Different structural interventions
- Foundation of a material pallet
- Material's structural capabilities and standards.
- An investigation regarding the construction of the building

Site Technicalities
Sustainability research
Structural Investigation
Materiality

4 - Settings

PHOTOGRAPHY HUB

Kasane - Botswana

Site Technicalities

The technical analysis of the site.

Locality

The location for the site of the dissertation proposal

Currently the site is a camping site on the premises of Chobe Bush Lodge. Chobe Bush Lodge also runs the camping site.

Figure 68: Botswana in Southern Africa

Figure 69: Kasane in Chobe District in Botswana

Figure 70: Kasane with proposed site

Zoning and Usage

The zoning for Kasane as per government redevelopment plans in 2014. Unfortunately, the planned development never materialised

Figure 71: Kasane - Urban Connectivity (Botswana Government, 2014)

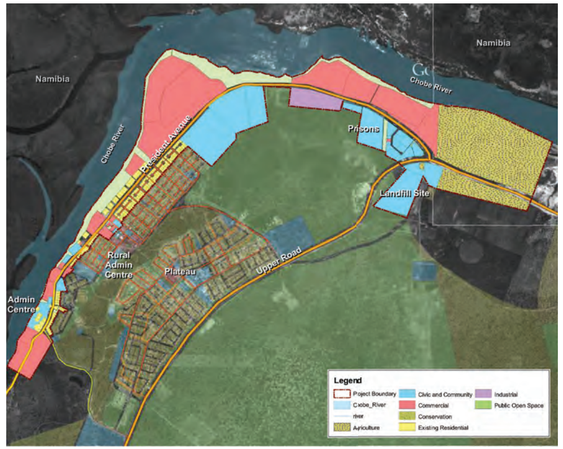


Figure 72: Kasane Land Usage (Botswana Government, 2014)

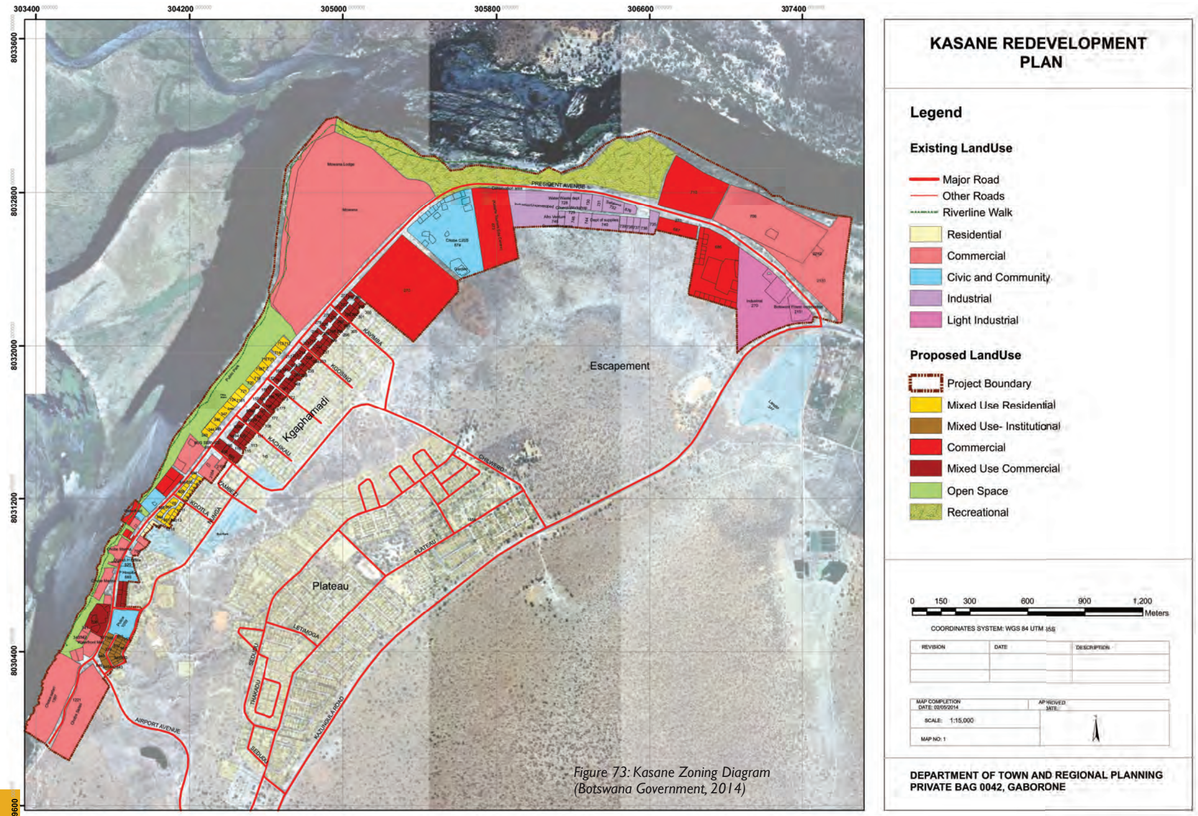


Figure 73: Kasane Zoning Diagram (Botswana Government, 2014)

Sub-division diagram

Division diagram of the proposed changes to Plot no. 1397 in Kasane, Botswana. The sub division will happen where the lodge and the camping site splits now as they have separate services on these two parts of the site.

SG Diagram

SG diagram of the proposed new site Plot no. 1973 B

Points	Sides	Cooirdinates	Distance (m)	Bearing
D	CD		45,5757	26° 00' 00"
E	DE		6,9511	0° 00' 00"
F	EF		28,8362	66° 56' 27"
G	FG		34,324	32° 00' 00"
H	GH		16,8437	21° 00' 00"
I	HI		157,5885	82° 40' 41"
J	IJ		23,642	13° 00' 00"
A	JA	*-17.808532, 25.146302	59,2672	28° 00' 00"
B	AB		103,0321	32° 00' 00"
C	BC		160,0343	60° 30' 31"

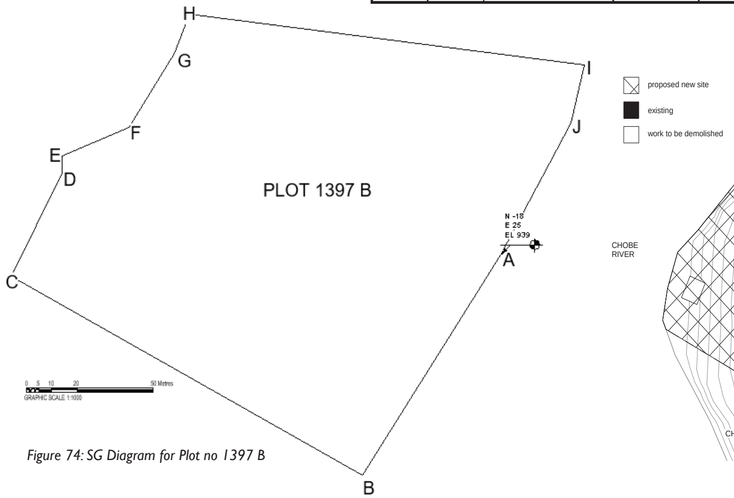


Figure 74: SG Diagram for Plot no 1397 B

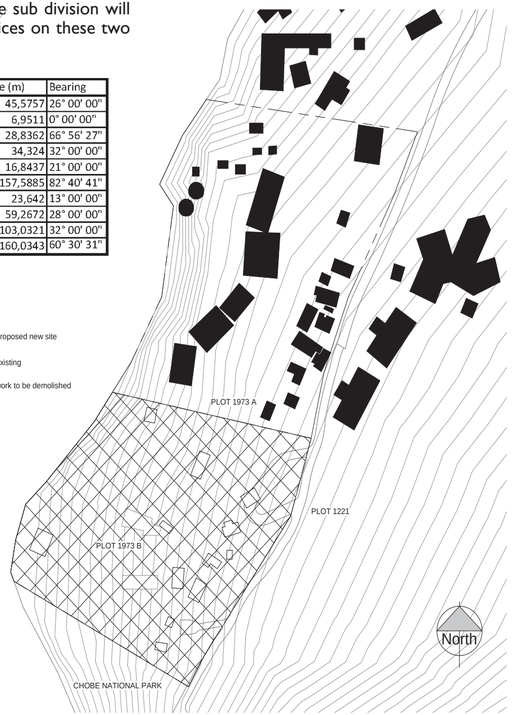


Figure 75: Sub-dividion Diagram of Plot no 1397

Existing structures to be demolished

A plan of existing structures on site to be demolished and removed. They are mostly ablutions for the camping site and admin buildings.

Figure 76: Site Plan for Plot no 1397B with demolition works

Sustainability research

Sustainability in terms of natural resources, relates to the avoidance of the depletion of natural resources and promoting an ecological balance. Sustainability in wider terms, relating to all other aspects of life, "the ability to be maintained at a certain rate or level" (Simpson, 2008).

Aims

The main aim of the proposal, in terms of sustainability, is to make the development work as energy efficient as possible in terms of resources used (electricity, water etc.). This can be achieved by three different methods of sustainable design; being independent from the Municipal grid, minimum usage of resources and 'creation' of own resources.

Minimum Usage

The principal of minimum use as well as re use is perhaps the easiest way to lighten the load on the environment by the proposed intervention. It translates into systems such as grey water systems where the water from showers and hand wash basins is filtered and used to flush toilets or for irrigation and thus means less purified water is used on the site.

Off the grid, generating own resources

These two works in tandem as you need to create your own resources if you want to be off (or lessen the load on) the municipal grid. However, being completely free of the municipal grid poses a great deal of challenges and likely the creation of own resources will only minimize the usage of the municipal grid.

Resources can be created primarily by storage. Roofs can be used to catch rainwater and then store it for use in the services. Solar panels can also store electricity in batteries to then be used as needed in support of the electricity supply from the municipal grid. There is also the possibility of using solar lights in which the light is directly charged by sunlight and as soon as the sun is not strong enough to charge the light switches itself on. These lights are especially used for safety lights on walkways.

Usage of locally available materials in systems such as timber framed structures for ventilating roofs and earth construction/materials with thick insulating walls allows for local materials to be used instead of transporting all materials to the rather remote site. Removing trees just to plant new ones where needed is not sustainable and the design should rather be formed around the existing trees and only remove trees where necessary but to use these trees as a source of wood directly from the site.

Ethical

Ethical issues are addressed in terms of social sustainability. The approach is to involve the local villages in the construction process as a form of knowledge transfer, where the villages can learn new building methods from local material and then take this new knowledge back to their villages and implement the construction methods learned to their own living spaces.

Challenges

Site

The remote location of the site makes it expensive (albeit not impossible) to get some of the systems, materials and expert knowledge to the site. The slope (1:15) may contribute to difficulties with installation of the proposed systems of sustainability, especially in the fact that the water from the river must be pumped up to the top of the site in the east.

The warmer Semi-Arid climate of Kasane (as in Part 2) means that keeping living spaces cooler requires a lot of energy. This means effective passive cooling designs and systems that maximises natural ventilation to minimize the usage of mechanical systems such as air conditioners.

Structure

The building of such large quantities of wooden structures requires a higher amount of maintenance, once completed, than for instance a masonry brick construction would. The fact that the design consists of multiple individual buildings means each should have small adaptions of the overall approach towards sustainability. The different materials and types of structures also requires different handling of passive cooling systems (framed wooden structure vs. concrete load bearing structure.)

Materiality

The abundance of natural materials in the vicinity mostly falls under protected areas so the use of the materials is not always allowed, and the resources should be managed sustainably. The use of natural materials though means that great care should be given to the protection of these materials (such as wood and earth) from the natural elements. This leads to greater amounts of maintenance and can be problematic towards efforts of sustainability as materials might need replacement more often if not maintained. The architecture should be appropriately designed to address these issues of materiality

Services

Being a remote site, electricity is supplied to the town together with nearby Kazungula border crossing town, as part of the national electricity grid. The system, however, has occasional black outs due to wildlife such as elephants damaging the wires' poles and repairs take time due to the isolated location.

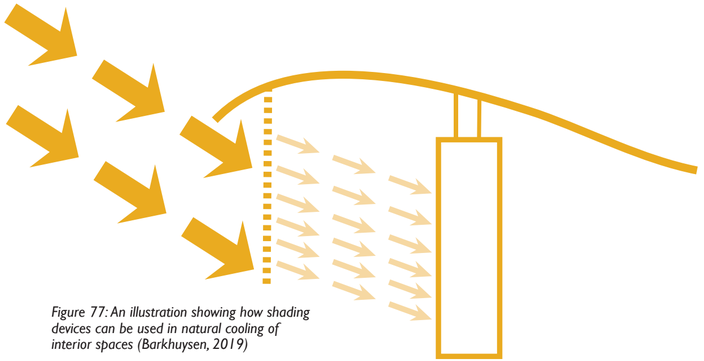


Figure 77: An illustration showing how shading devices can be used in natural cooling of interior spaces (Barkhuysen, 2019)

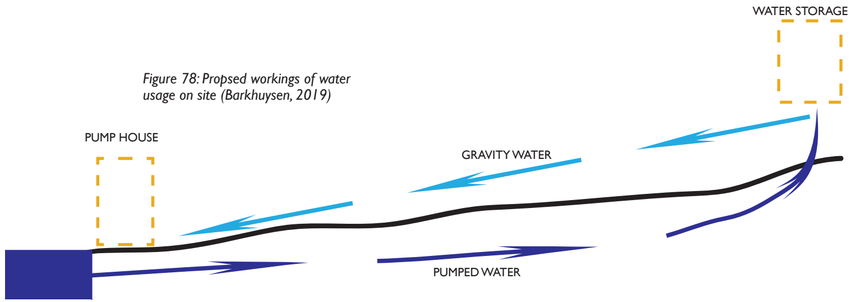


Figure 78: Propsed workings of water usage on site (Barkhuysen, 2019)

Opportunities

Site

The slope of the site will assist in the creation of water pressure, gravity feed, without the permanent running of a pump which will lower the demand on the electricity systems. Water can be pumped through filters during low peak times out of the river to the highest point on the site where it is stored and then allow gravity to feed it down the system for usage along the site.

Although the warmer climate requires greater efforts for the cooling of spaces, the warmer climate also means that less efforts needs to try and warm the living spaces in winter months as it does not get as cold and the temperatures mostly stay very mild.

Structure

Framed roof structures built with the double roof principle allows for good natural ventilation that will cool the building naturally, the raised wooden decks(floors) also allows natural ventilation to occur beneath the structures to double the effects of the natural ventilation. The natural ventilation means far fewer mechanical systems required as a tool for climate control.

Materiality

The thick walls with a high thermal mass mean less energy that gets lost and gives one more control over the interior climate. The insulation qualities of rammed earth or adobe blocks is high because of their density meaning greater insulation of the interior spaces. The use of light and open wooden structures allows for great natural ventilation and the wood can also be used as tool to mimic natural shading and keeping out warm sunrays when hot or allowing them in when cooler.

Services

A grey water system is used to lighten the load on the infrastructure of Kasane. Repurposing the grey water for the watering of flora and the flushing of toilets. This also means less water needed to be processed as sewage and less water needed to be pumped from the river. Sun power lights along pathways and in public spaces can lighten the load on the local electricity network.

Case Study

Zambesi Mabula Lodge – Sven-Erik Staby (2017)

Visited during March 2019, the lodge, situated in the Caprivi on the Zambesi river, has a very definite approach in terms of form. The design derives from naval inspiration echoing the shape of a hull of a ship with small circular light openings.

The applicability of the project as a case study most notably lies with the double roof systems applied to living units. Apart from form these roofs acts as the sun and rain roof whilst the underside of the roof has the insulation qualities. The system of the double roof is a great way to handle the warmer climates of the region. As well as the large volumes of rainfall during wet season.

Figure 79: Zambesi Mabula Lodge (Barkhuysen 2019)

Figure 80: Zambesi Mabula Lodge (Barkhuysen 2019)

Figure 81: Zambesi Mabula Lodge (Barkhuysen 2019)

Figure 82: Zambesi Mabula Lodge

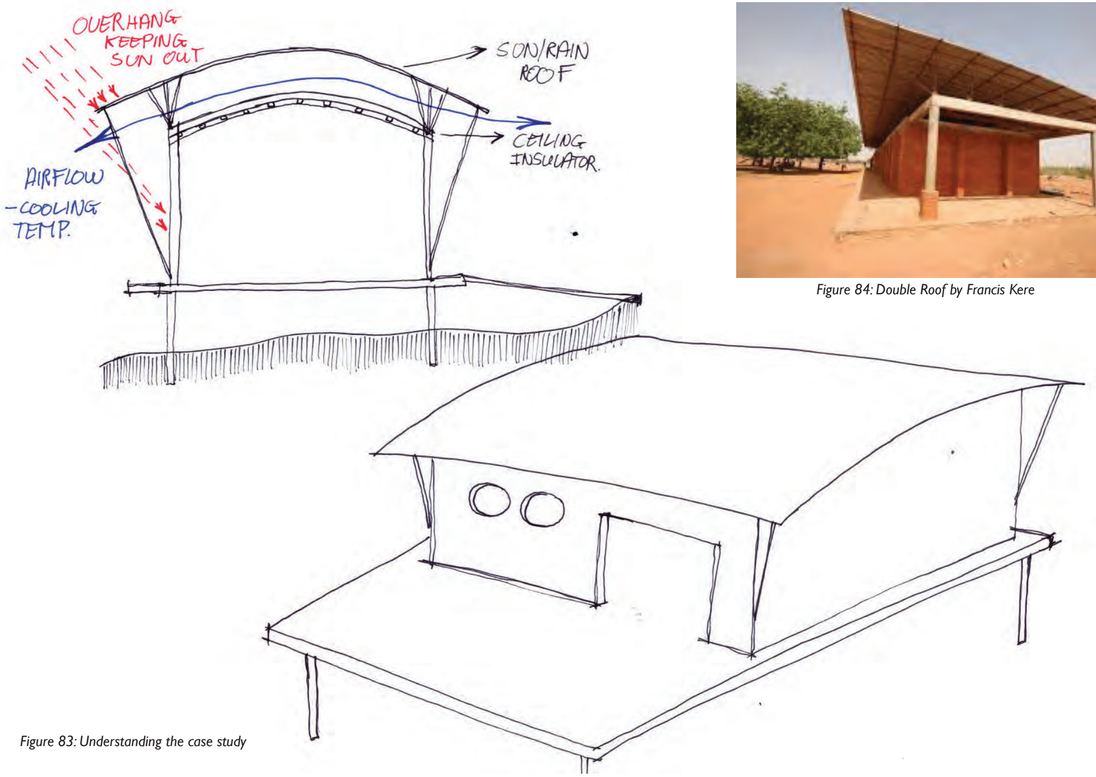


Figure 83: Understanding the case study

Figure 84: Double Roof by Francis Kere

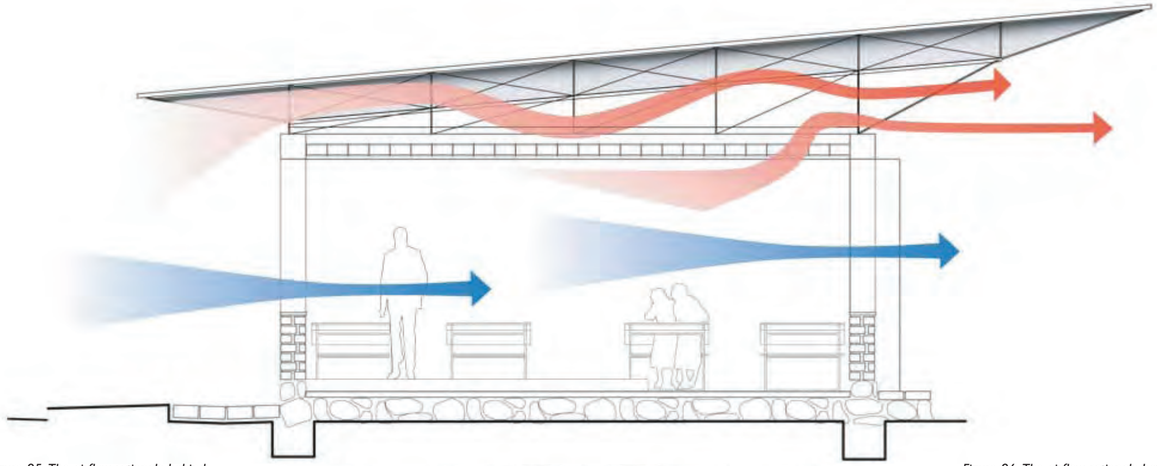


Figure 85: The airflow rationale behind a flat mono pitched double roof

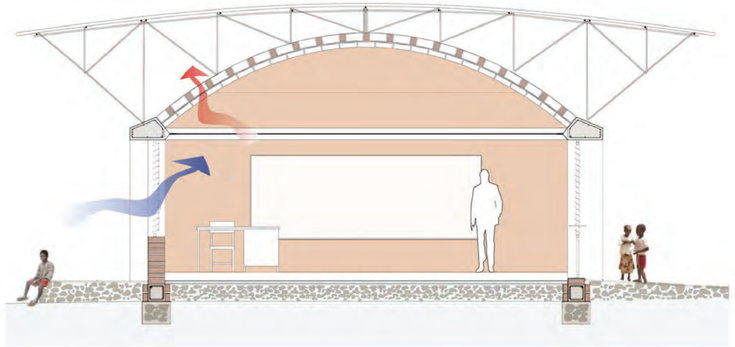


Figure 86: The airflow rationale behind a curved double roof

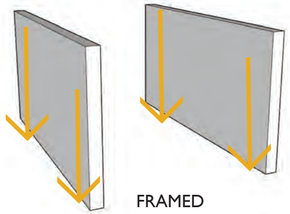


Figure 87: Loads of a load bearing structural system

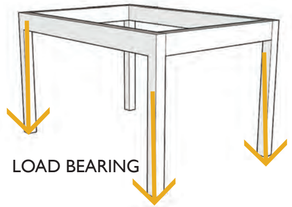


Figure 88: Loads of a framed structural system

Structural Investigation

Different types of structures

The most used structural systems to construct buildings are braced frames, load bearing boxes, portal frames, arches, trusses and shells (Watts, 2019). Of these systems three are investigated with their possibilities for the project; Load bearing, framed and trusses

The location takes complex portal frames out of consideration as well as shell structures for their complexity and knowledge requirements. This leaves the three systems named above.

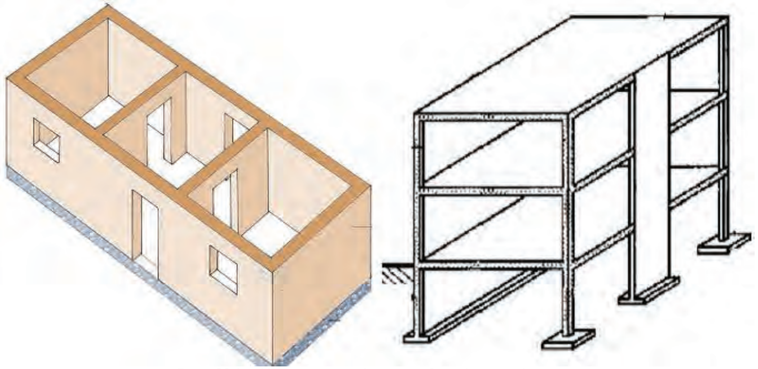


Figure 89: Load-bearing structural system vs framed structural system

Loadbearing Boxes

This structural system entails loadbearing wall elements that are braced by elements such as floor slabs which in turn sits on interior load bearing walls (Watts, 2019, p. 302). The walls are structural elements irrelevant of their material. The key part of the loadbearing structure is the loads being carried by the walls. (Watts, 2019, p. 302) It is possible that load bearing walls can distribute their loads to the ground through point load structures, this does not make it a framed structure.

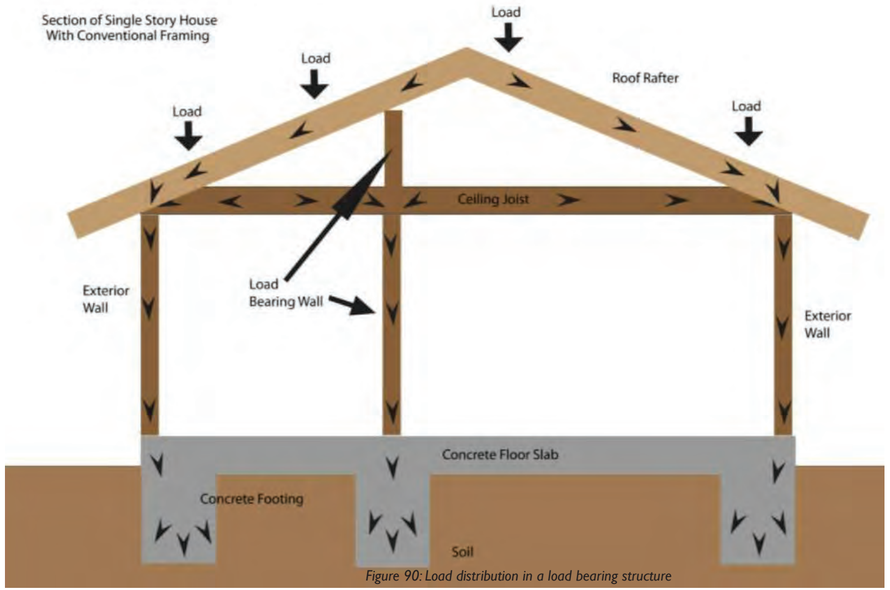


Figure 90: Load distribution in a load bearing structure

Braced Frames

Framed structures consist of a series of beams and columns that carry the loads of the building. Wall and floor elements are non-structural and contribute in no way to the structural stability of the site. These are most commonly found with steel column and beam systems where the walls are in fill panels and floors can be elements such as precast hollow core slabs placed on the beam system. (Ching, 2014)

For this investigation the specific framed system of timber frames is more applicable. For larger structures laminated timber is used in the same principal usually with spans between five and six meters. This frame structure is then finished with infill panels (walls) and the floors usually sits on the beams (Watts, 2019).

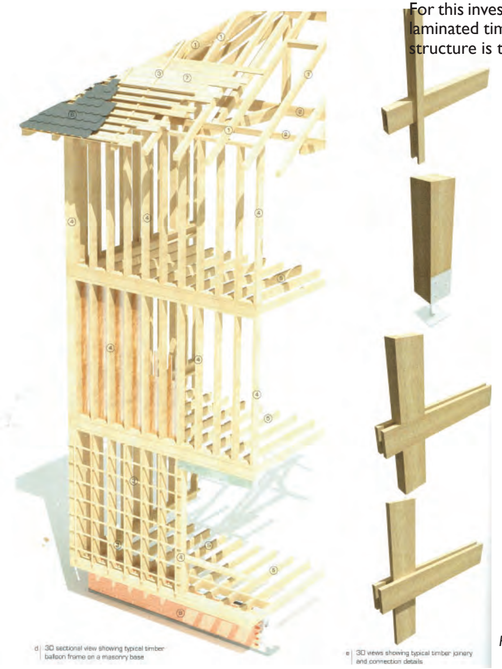


Figure 91: a wood framed structure (Watts, 2019)

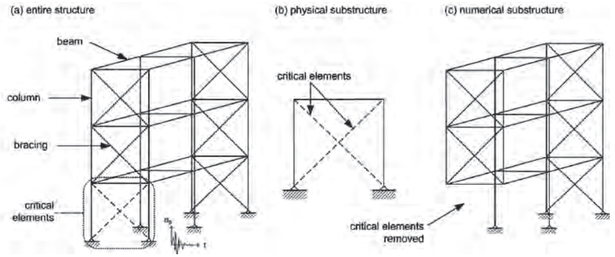


Figure 92: Basic elements in a framed structure

Wildlife Photographic Hub - Kasane - Part 4 Settings Structural Investigation

Trusses

Trusses are used usually for large spans where a single girder would become too heavy or that the depth of a beam would become too big. The trusses are then a more economical solution than the deep solid sections required for spans (Watts, 2019, p. 316). These trusses can be implemented when needed to cover larger spans. Although in all likelihood for this project trusses won't be necessary.

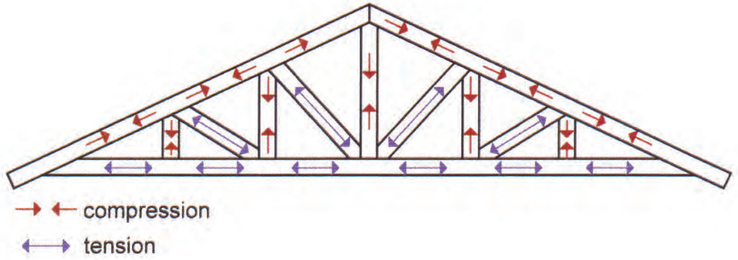


Figure 94: Different types of trusses (Bossert & Schmidt 2013 p456.)

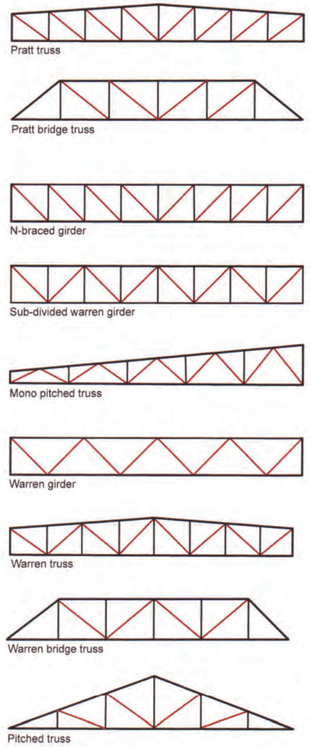


Figure 93: Different types of trusses (Bossert, P. & Schmidt, S., 2013 p456.)

Structural possibilities on site

A diagrammatic investigation and interpretation of what could be achieved on the specific site, using a combination of the above-mentioned structural systems.

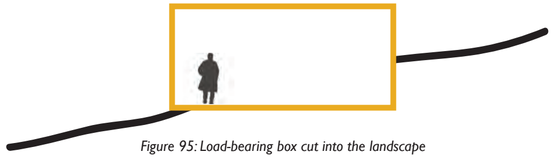


Figure 95: Load-bearing box cut into the landscape

Figure 96: Framed structure with pile foundations on landscape

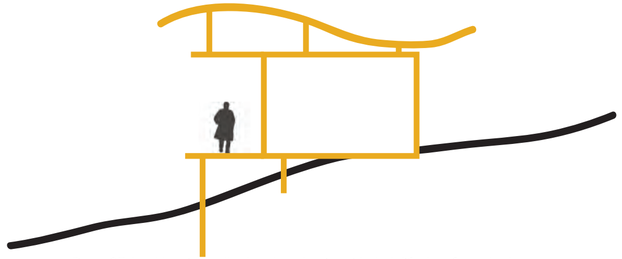


Figure 97: Load-bearing walls placed on the site with deck lifted on framed columns

Materiality

Founding of material pallet

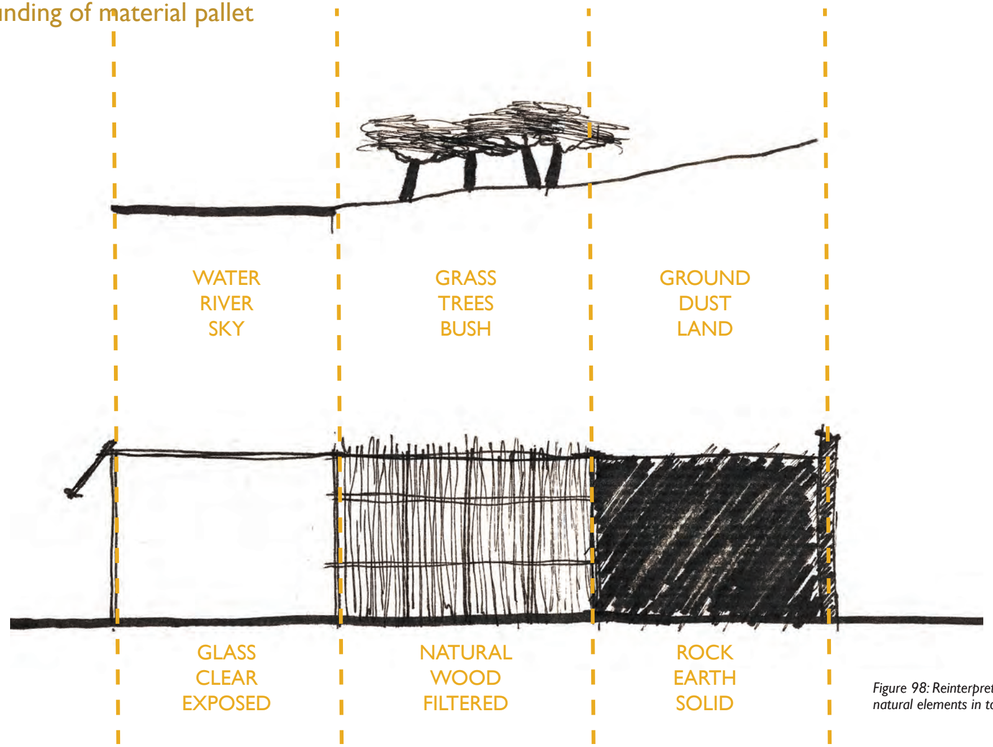


Figure 98: Reinterpretation of the natural elements in to material palette

Interpretation thereof

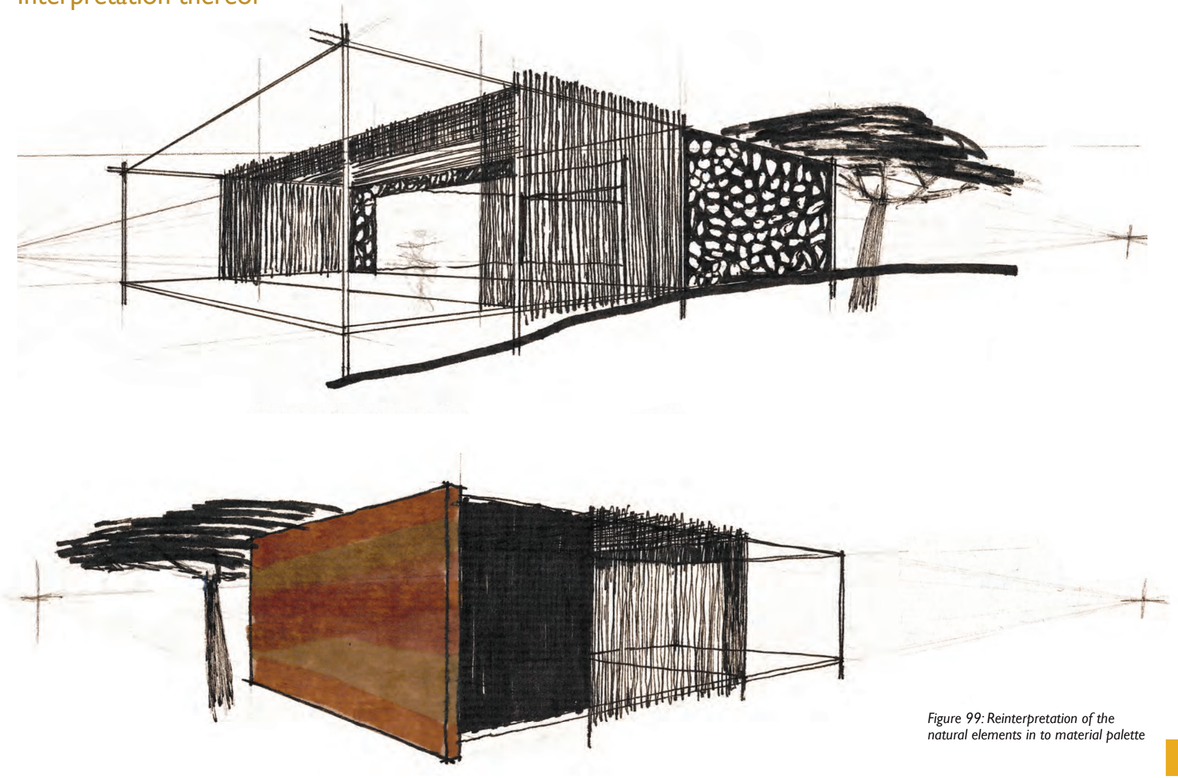


Figure 99: Reinterpretation of the natural elements in to material palette

Material Investigation

The sizes and construction of the possible material implementations.

Earth

Rammed Earth is a construction method where wet earth (ground/sand) is compacted inside a mould/formwork. It usually has an added mixture of cement as a stabilising agent. This is then left to dry and the formwork removed. This can also be compacted with insulation inside the wall if is required. For larger structural usage rammed earth can also be reinforced as with concrete.

Stabilised rammed earth (SRE)

These rammed earth walls can be anywhere from 200mm to 1000mm thick going up in 100mm increments. These walls have a high thermal mass (Onlee Construction, 2018).

Insulated stabilised earth (ISE)

Insulated rammed earth walls start at 400mm thick with a 50mm Styrofoam insert and can go up to your desired thickness in 100mm increments. They are used for achieving higher external wall R-value levels (Onlee Construction, 2018).

Figure 100: Interior Structural usage of rammed earth

Figure 101: Rammed Earth as Design Element

Figure 102: Rammed Earth as Design Element

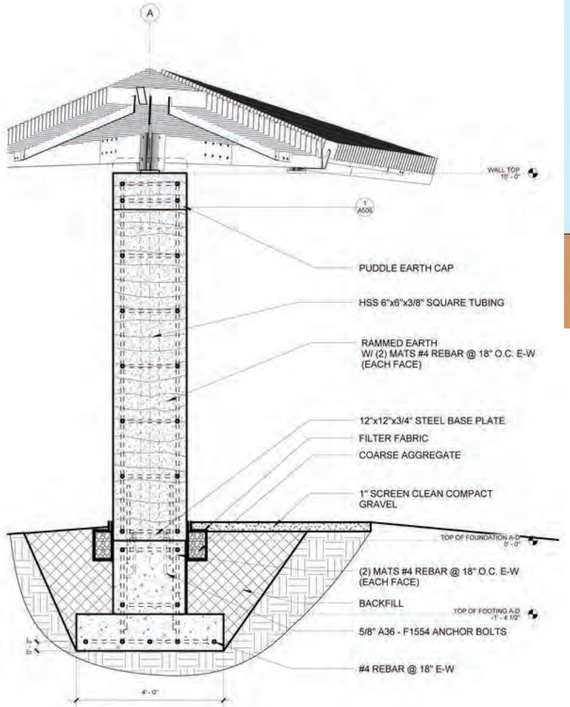


Figure 103: Detailed section through a reinforced rammed earth wall

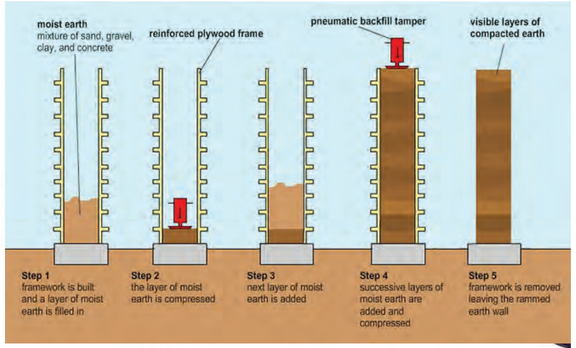


Figure 104: The construction of a Rammed Earth Wall

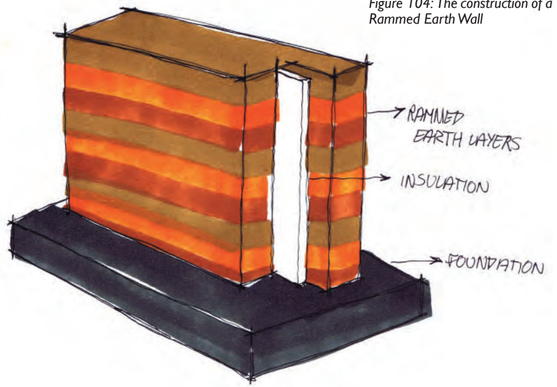


Figure 105: Insulation inside Rammed Earth Wall (Barkhuysen, 2019).

Wood

Timber is probably the oldest building material known. It has great structural capabilities and is easily obtainable as well as completely recyclable (Watts, 2019, p. 60). Its fibre quality makes it strong in both tension and compression but it does perform better in tension (Watts, 2019, p. 60).

For this project the investigation will focus specifically on laminated wood beams and their structural possibilities. These beams are also called 'glulam' beams. Glulam beams are manufactured by bonding (with glue) laminations of solid timber (Watts, 2019, p. 60). This method of bonding allows for a stronger and much more versatile beam that can be produced to more custom sizes as well as longer sizes than one would find in a single wood sawed beam.

Figure 106: Wood Construction joineries

Figure 107: Wood Construction joineries

Figure 108: Wood Construction joineries

Figure 109: Wood Construction joineries

Figure 110: Wood Floor rafter System

Figure 111: Example of Laminated (glulam) wood beam

Figure 112: Wood Deck Floor system

Figure 113: The Procces of laminating a wood beam

Product	Sizes						
Solid timber	Lengths 1,8m up to 6.6m with increments of 300 mm or 600 mm						
	Depth of member, mm	Width of member, mm					
Brandering & Battens		38	50	76	114	152	228
	38	x	x				
Structural (The lengths is limited by the quality of the logs and demand. The sawmill will manufacture the longest possible unit in compliance with the grade.)	38			x	x	x	x
	50			x	x	x	x
Finger joint timber	As for solid timber						
Laminated beams Limited up to 16 m. Determined by the manufacturer.	Depth of member, mm	Width of member, mm					
	67,89,111,133,156,178, 192, 216, 240, 264, 288, 312, 336, 360, 384, 408, 432, 456, 480, 504, 528, 552, 576, 600	19, 25, 32, 45, 50, 63, 90, 114,140					
Plywood	4, 6, 9, 12, 16, 18, 21, 25, 32	1220					
	Lengths up to 2440 mm						
Blockboard	Length: 2 440 mm Width: 1 220 mm Thickness: 18 and 21mm						

Figure 114: Typical Timber sizes (Smit, 2019 p443.)

Floor joist length between	Width	Thickness
2500	50	152
3000	38	228
4000	50	228
5000	76	228
6000	70	297
7000	70	363

Figure 115: Typical Timber sizes (Smit, 2019 p445.)

Wildlife Photographic Hub - Kasane - Part 4 Settings Material Investigation

Masonry with Cladding

Cinder blocks are widely used as a building material in Kasane for the construction of government houses to boost economic activity. This means that it is a material that is easily obtainable and there is knowledge on building with these blocks in Kasane.

Cinder block sizes depends on the size of the moulds used and can vary based on specific needs. The holes in the blocks are excellent for inserting/hiding water pipes and electrical conduits.

The idea is to use these cinder blocks as an easy and quick method of construction but to then apply a cladding layer of stone atop it, this is to tie into the surrounding natural elements. These cladding stones are added like tiles on to the wall but with the mortar rather than tiling cement depending on the size and weight.

Figure 116: Typical Stone Masonry Bonds (Pienaar & Pienaar, 2013 p 204)

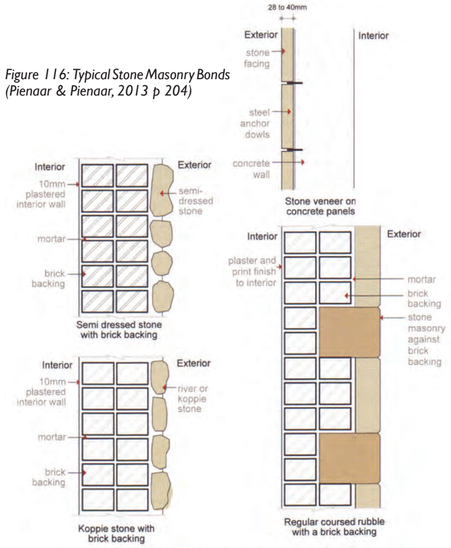


Figure 117: Addition of stone cladding on to cinder block walls

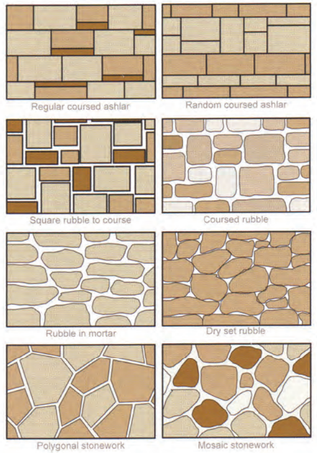


Figure 118: Typical Stone Masonry Bonds (Pienaar & Pienaar, 2013 p 204)

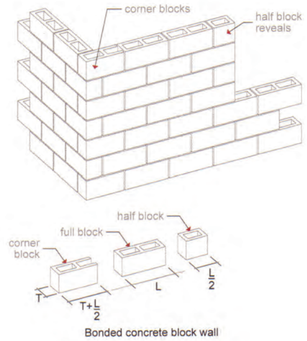


Figure 119: Modular coordination in a standard concrete masonry wall (Pienaar & Pienaar, 2013 p 218)

Figure 120: Stone cladded elements

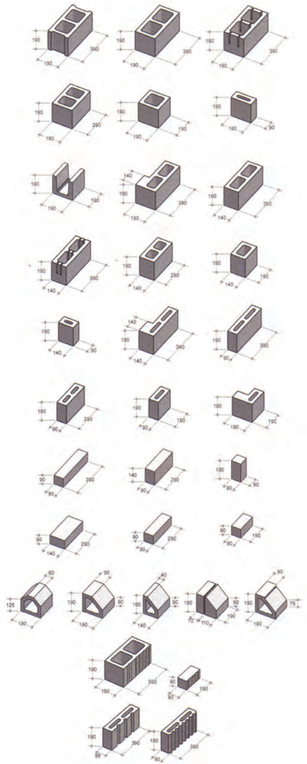


Figure 121: Different Pre-Cast concrete masonry units (Pienaar & Pienaar, 2013 p 218)

Wildlife Photographic Hub - Kasane - Part 4 Settings Material Investigation

Figure 123: Rocks Used as a retaining wall

Rock

The main idea with rocks is the idea of gabion walls. A wire mesh grid folded and tied into a rectangular shape where after it is filled with a collection of stones and then meshed closed again. Usually this is used as retaining walls, especially where rockslides can occur.

For this project the idea is rather to use gabion walls as part of an organisational system and not so much as a structural element. The thickness of the gabion walls is great for blocking out sun rays, but the porousness of the construction method allows some ventilation and energy release to still be present. Ideal for this semi-arid climate.

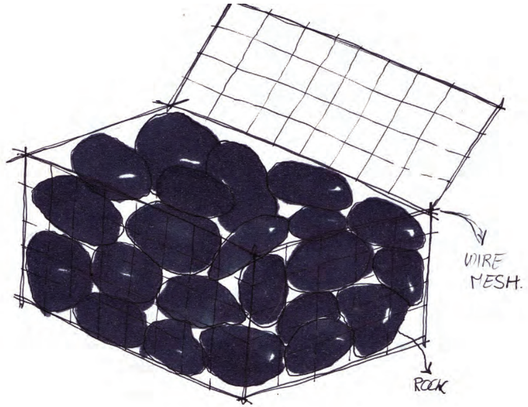


Figure 122: Placement of rocks in the mesh of a gabion wall

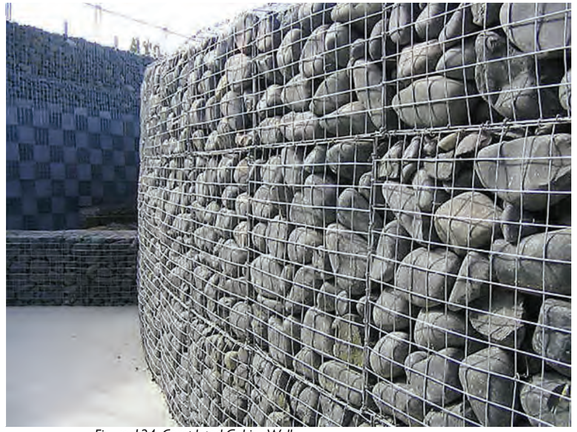


Figure 124: Completed Gabion Wall

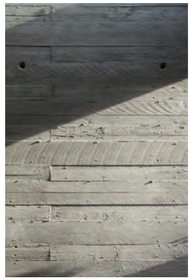


Figure 125: Board marked finish - the result

Concrete

The concrete investigation relates specifically to off-shutter concrete work. The reasoning is for the concrete to resemble something of all the wooden elements around them.

Concrete is a dense material and primarily exists of cement and aggregate that is mixed with water. In its liquid form it can be cast into any shape buildable as a mould. Concrete is strong in compression but weak in tension. To address this problem reinforced concrete consists of concrete cast with mild steel reinforced rods inside. This takes advantage of the tension strength of steel together with compression strength of concrete (Watts, 2019, p. 46).

Off-shutter concrete consists of formwork built with wooden planks that have a definite texture on them. As the concrete dries it assumes the texture of the wooden planks. Once the formwork is removed, the finished concrete has a wooden texture quality to it. This technique is called Board Marked Finish. This will make the concrete structures for the project relate to all the wooden elements of the project.

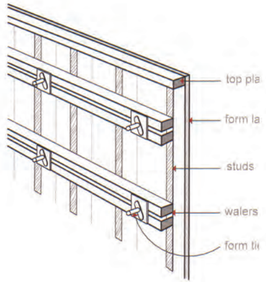


Figure 126: Side Panel of formwork (Janse van Rensburg, 2013 p 430)

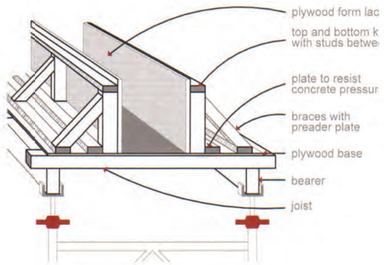


Figure 127: Typical boxed framework (Janse van Rensburg, 2013 p 430)

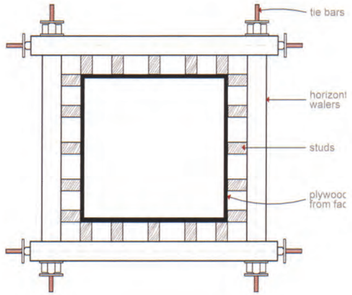


Figure 128: Formwork for a column (Janse van Rensburg, 2013 p 430)

5 - Shutter Release

PHOTOGRAPHY HUB

Kasane - Botswana

A chapter on the architectural brief for the design intervention from which stems a programme and a proposed accommodation list. Thereafter is an attempt to determine a design methodology based on the previous chapters that can assist in the process of design based on photographic principles carried over into architectural design.

Brief

Programme

Accommodation list

Design Challenges

Design Aims

Photographic principles as Design Methodology

Brief

Design a Photographic Centre in Kasane, Botswana for use as a new operation base for Pangolin Photo Safaris (primary user). The Centre must focus on the activities presented by Pangolin Photo Safaris to their clients (secondary user) and assist the primary user to satisfy the needs of the secondary user. It should act as a service station for the users' functionality requirements and not as a traditional 'African Lodge'. The Design should be in a sense of harmony with the surrounding natural elements and enhance the feeling of being submerged within the African bush.

A public restaurant should be included to attract more (non-photographical) visitors to the site as there is currently one public restaurant in Kasane outside of the existing lodges.

Programme

- Restaurant
- Staff Offices
- Photographic Hub
- Storage/Services
- Vehicle Storage
- Waiting Area

Accommodation list

Foyer	44	m^2
Exhibition Space	150	m^2
Viewing Deck	130	m^2
Industrial Kitchen	75	m^2
Cold Storage	6	m^2
Dry Storage	10	m^2
Restaurant	135	m^2
Offices	7 x 6	m^2
Board Room	20	m^2
Conference Rooms	2x 20	m^2
Printing Room	22	m^2
Dark Room	2x 14	m^2
Computer editing Room	60	m^2
Workshop Rooms	54	m^2
Screening Room	164	m^2
Foyer		m^2
Linen Storage	5	m^2
Furniture Storage	5	m^2
Laundromat	5	m^2
Service Yard	50	m^2
Vehicle Storage	150	m^2
Jetties	n/a	m^2
Guest Parking	100	m^2
Staff Parking	62.5	m^2
Waiting Room	180	m^2
Shower Rooms	2x 5	m^2
Luggage Storage	5	m^2
Equipment Storage	6x 1	m^2

Design Challenges

The main design challenges in this dissertation derives from the site. With no immediate context other than the river and a vast number of trees, there are no real indicators to respond to on the site. There are no lines to follow or forms to replicate or oppose. The location however is as close to ideal as possible but the connection with the river, in terms of architecture, will be a difficult connection to address.

The way in which the architecture will sit in this landscape will be crucial as to not overpower the natural elements but to enhance and compliment them. Finding the balance between architecture in harmony with nature and a functional architectural approach.

The final challenge will be the presence of animals on and around the site. Creating some sort of a safety threshold between man and nature without separating human and nature from one another.

Design Aims

- A design that sits softly in the landscape with constant references to the natural elements.
- Spaces that start to question the boundaries between what is outside and what is inside.
- A feeling of being amongst the trees rather than under them.
- A design that mimics the way the trees and the earth relate and connect
- Influences of photographic principles relayed into design.

Photographic principles as Design Methodology

The idea that the principles used to produce a great photograph can be translated into producing a unique piece of Architecture.

Figure 129: (Stols, 2019)

Exposure

As explained before exposure comprises of many aspects in photography, but in this instance, it refers to the amount of light that is either present or not in a photograph. Do you overexpose a photo to achieve a high key image or under expose to achieve a low-key image?

In terms of architecture, it can relate to the amount of light that enter the space, the light quality, as well as where the light shines from and how it is filtered. Architecture that mimics a camera in the way it can manipulate light.

Figure 130: (Stols, 2019)

Conceal and reveal

Deciding what parts of an animal is concealed behind a tree and what parts are revealed for the image.

Architecture-wise it relates to what you hide (conceal, services) and what you reveal. A long moment of concealing what happens and then a sudden large reveal of what happens on the other side of the wall as is customary in nature.

Figure 131: (Stols, 2019)

Moment

That specific moment where the light is perfect, everything that must be concealed is and that what must be revealed is as well.

As stated, it is that exact moment of revealing that creates these memorable moments.

Figure 132: (Stols, 2019)

Capture

To capture those specific moments and etch them into eternity on the photograph.

Celebrating that moment of reveal to capture it as a moment in specific time and place.

Figure 133: (Stols, 2019)

Panning

Following a moving Animal at the same speed creating an image that although frozen in time shows the movement of the animal.

A long architectural element that follows circulation routes to emphasize the movement of the user.

Figure 134: (Stols, 2019)

Frame

To frame relates to conceal and reveal, although it does differ. Where the process of 'conceal and reveal' still shows the element that conceals, framing determines what is included in what you show/capture on the photograph.

If an element is not visible it is not 'framed' but if it is visible but behind a screen element, for example, it is concealed. One can still see a concealed element if it is in the frame.

Figure 135: (Stols, 2019)

Composition

Composition is very important in wildlife photography. It entails where you place the concealed and revealed elements within your frame.

This can be translated into architectural planning, but it does not mean the exact same thing. It leans more towards the placement of objects such as hierarchal elements or a datum and how these elements translate and interact with one another. The composition of the architecture and is usually only observed in plan and experienced in three dimensions.

Figure 136: (Stols, 2019)

Rule of Thirds

This means the composition is based on splitting the frame into 9 blocks and not placing the most important element in the middle but on the lines of a third determined by the subject of the image.

Again, it is to not place the points of importance in the middle of the design but to rather offset them to the third of the plan. It is a rule applied to composition.

6 - The Image

PHOTOGRAPHY HUB

Kasane - Botswana

This Chapter entails the design process with the different iterations and leads to the final proposed design intervention. Followed by a collection of images, plans, sections and elevations.

Design Process

Design Iteration 1

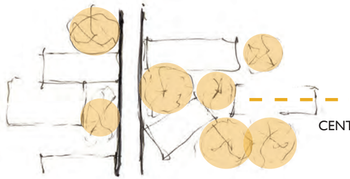
Design Iteration June Review

Design Iteration September Review

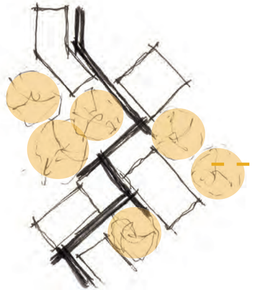
Latest Design

Design Process

SPACES PLACED IN BETWEEN EXISTING TREES



CENTRAL AXIS SEPERATING SERVED AND SERVICE SPACES



IMPLIED PATH OF MEANDERING AND DISCOVERY
AS ORGANISING ELEMENT

Figure 137: Initial Reaction to the Design Process

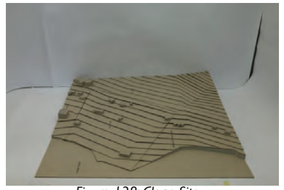


Figure 138: Clean Site

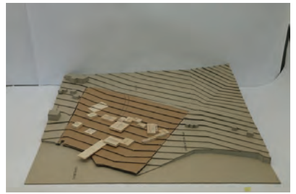


Figure 139: Approach 1

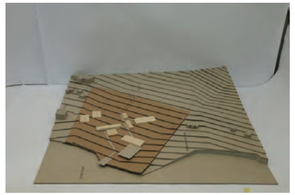


Figure 140: Approach 2

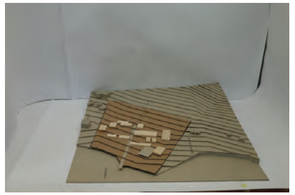


Figure 141: Approach 3

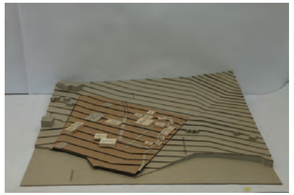


Figure 142: Approach 4

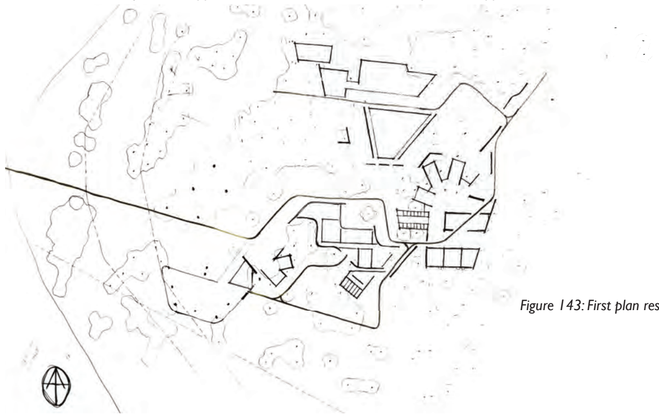


Figure 143: First plan response to the site

Design Iteration 1

Figure 144: First Itteration model

Figure 145: First Itteration model

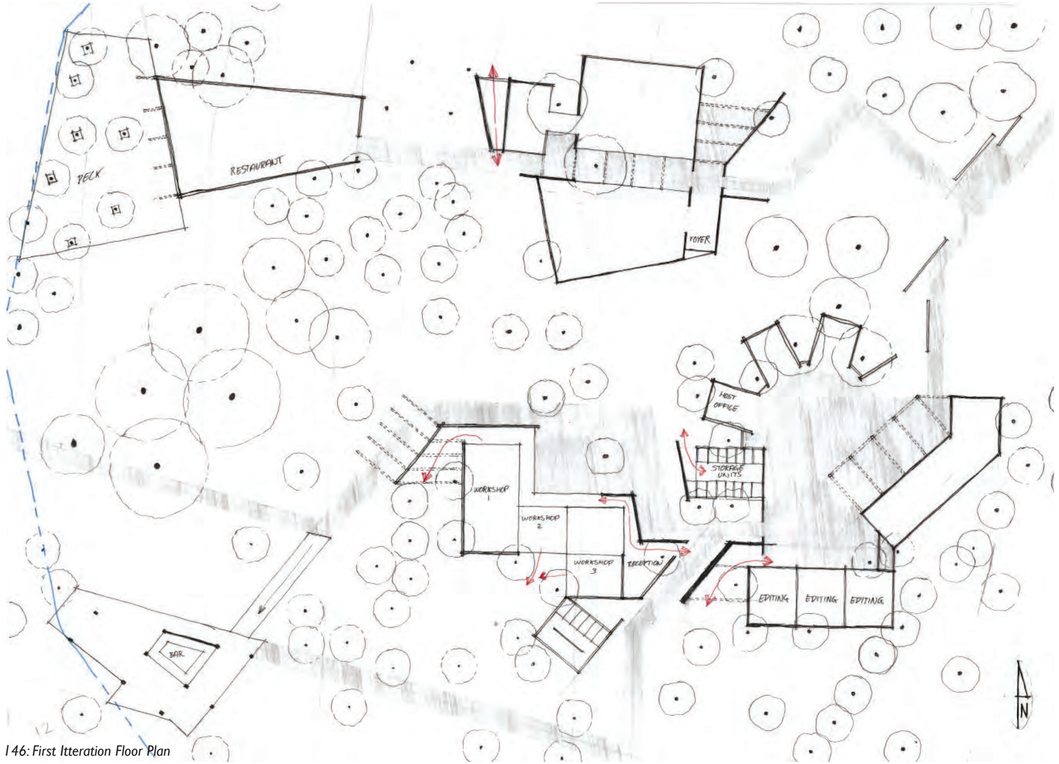


Figure 146: First Itteration Floor Plan

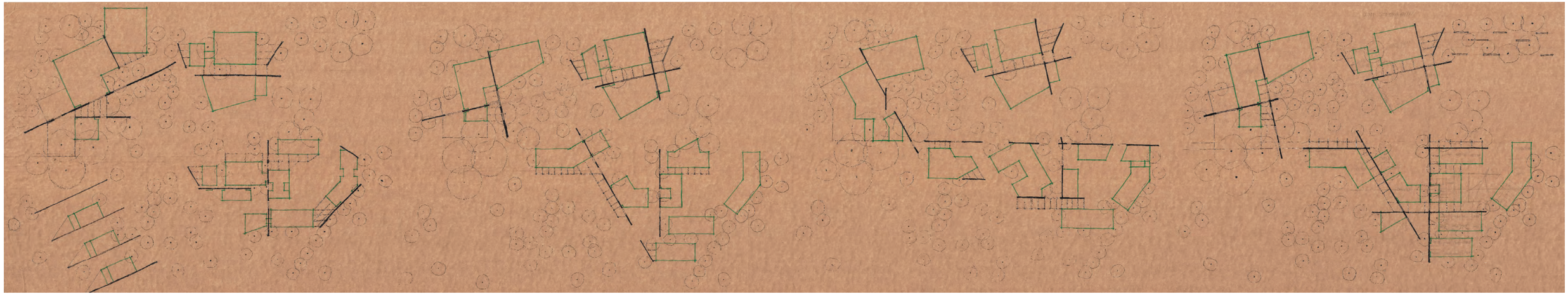


Figure 147: Development of Floor Plan

Design Iteration June Review

Figure 148: June Itteration Model

Figure 150: June Itteration Model

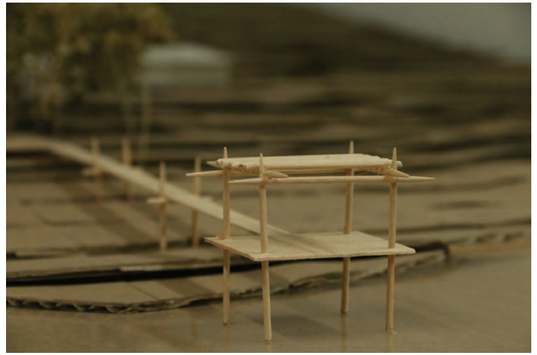


Figure 149: June Itteration Model

Figure 151: June Itteration Model

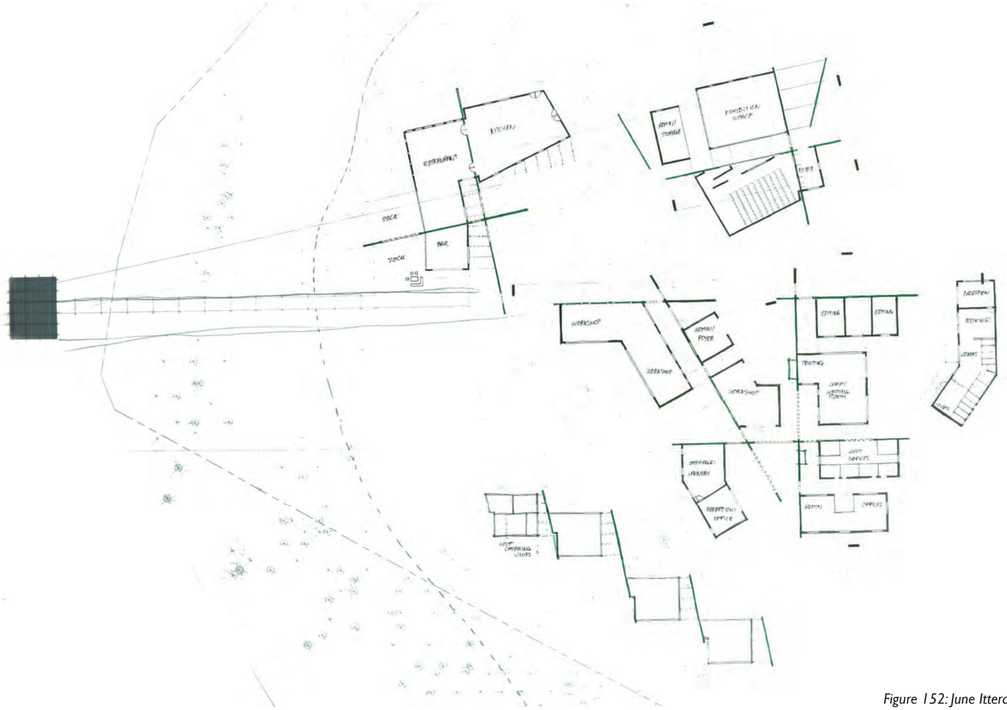


Figure 152: June Itteration Floor Plan

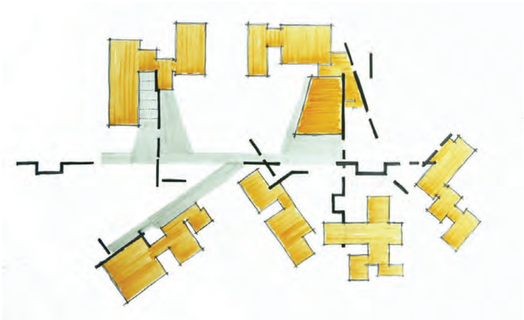


Figure 153: First attempts at rescueing design

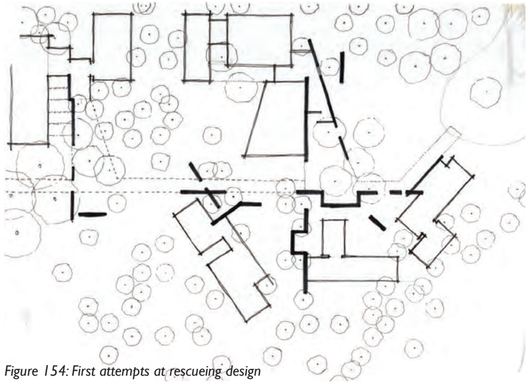


Figure 154: First attempts at rescueing design

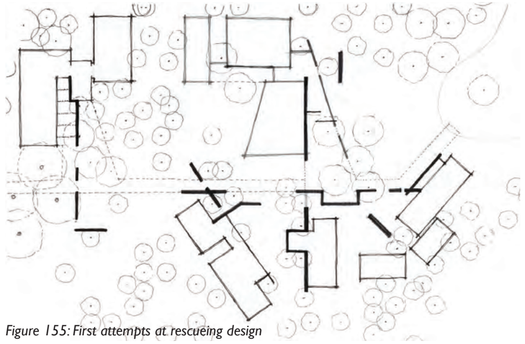


Figure 155: First attempts at rescueing design

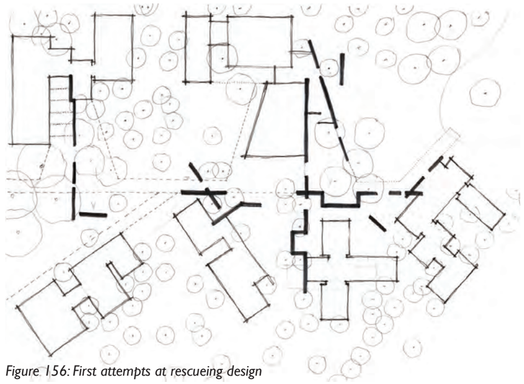


Figure 156: First attempts at rescueing design

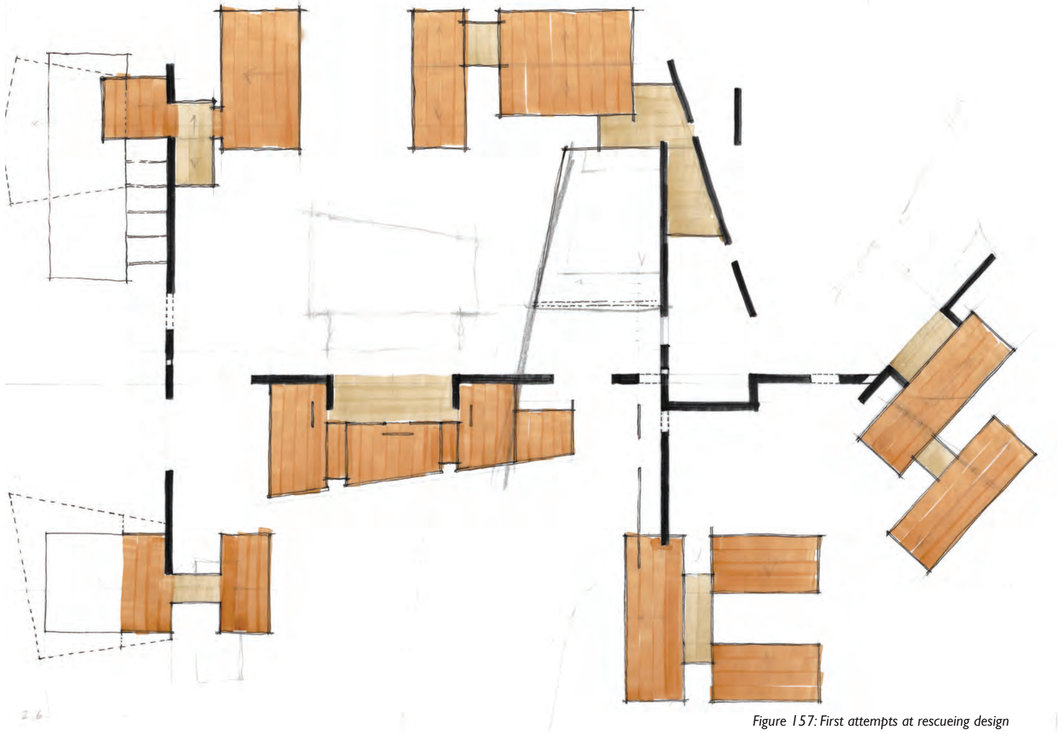


Figure 157: First attempts at rescueing design

Figure 158: The Turning Point Plan 1

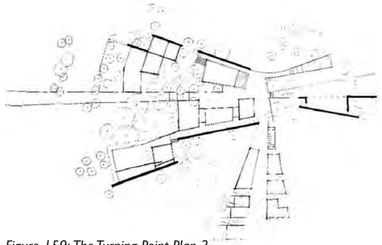


Figure 159: The Turning Point Plan 2

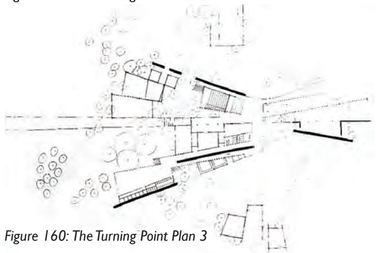


Figure 160: The Turning Point Plan 3

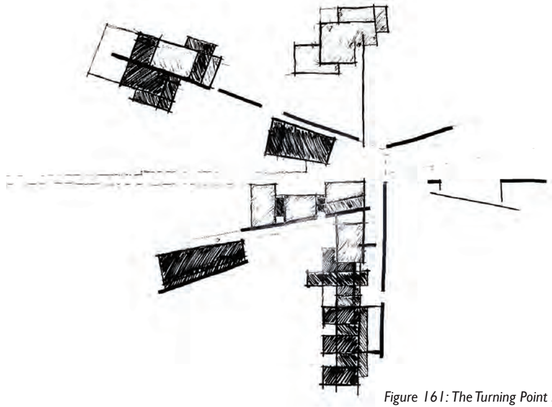


Figure 161: The Turning Point Plan 4

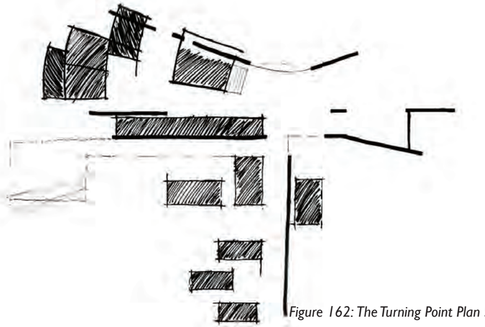


Figure 162: The Turning Point Plan 5

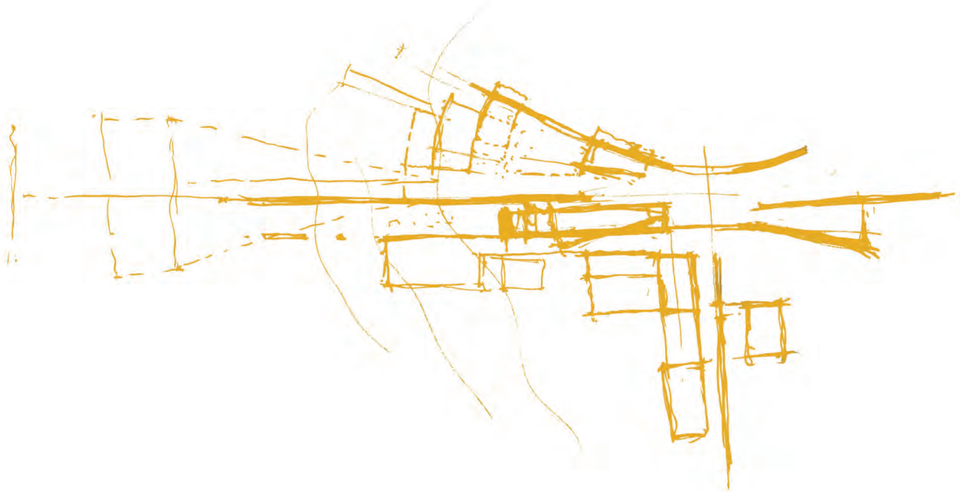


Figure 163: The Core of the Design

Design Iteration September Review

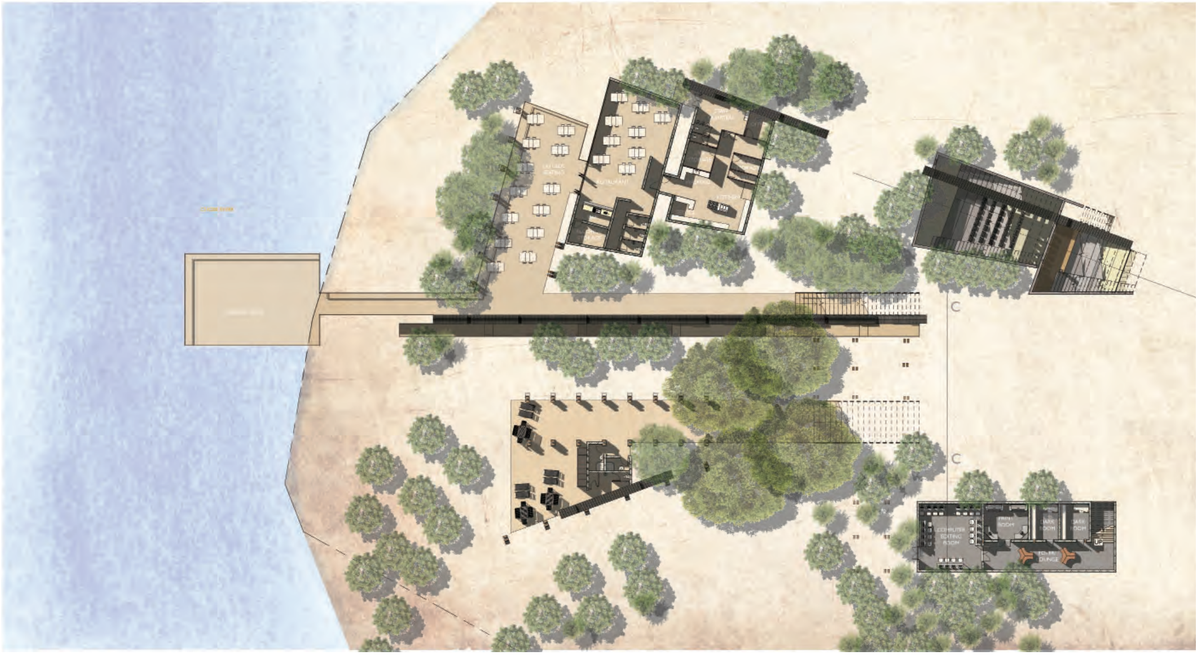


Figure 164: September Itteration - Lower Ground Floor Plan

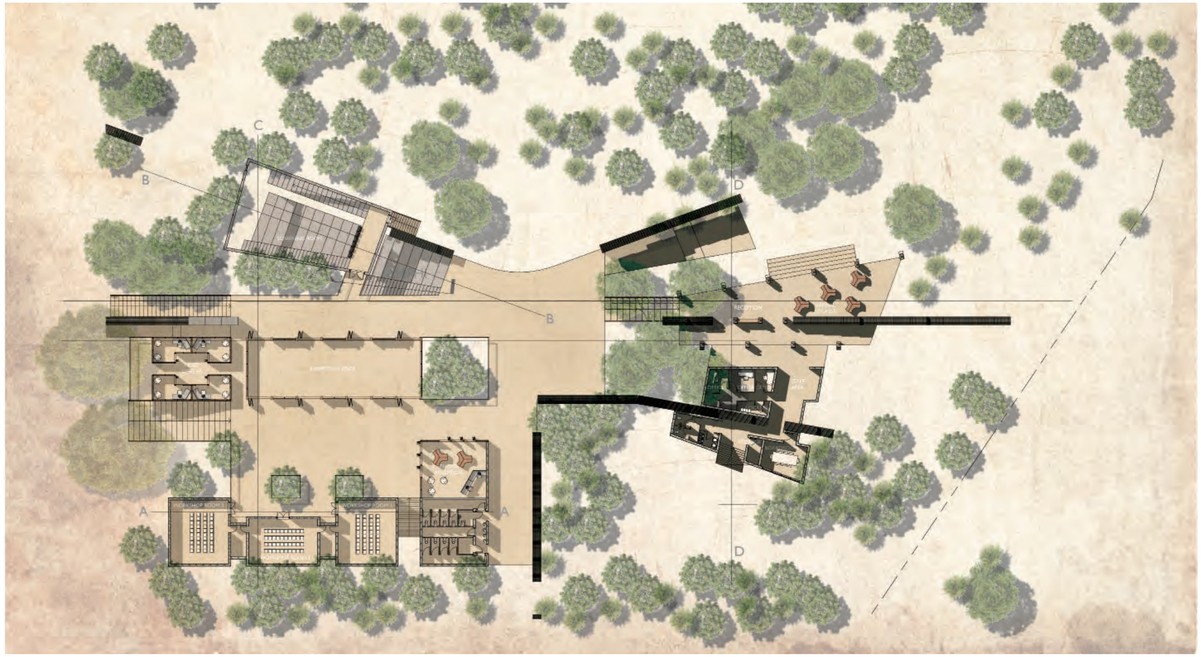


Figure 165: September Itteration - Upper Ground Floor Plan

Figure 166: September Itteration Sections

Figure 167: September Itteration Sections

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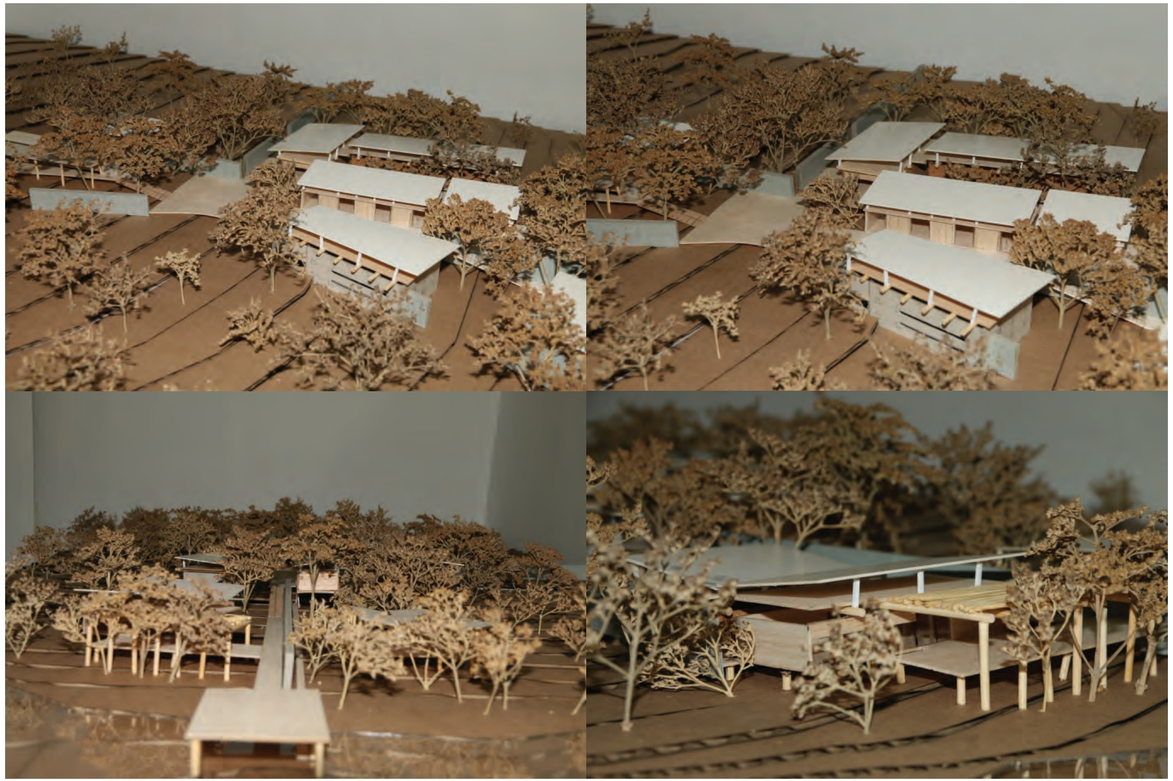

Figure 168: September Itteration Model Images

Figure 169: September Itteration Model

Figure 170: September Itteration Model

Figure 171: September Itteration Model

Figure 172: September Itteration Model

Figure 173: September Itteration Render

Wildlife Photographic Hub - Kasane - Part 6 The Image Iteration 3

Figure 174: September Itteration Render

Figure 175: September Itteration Render

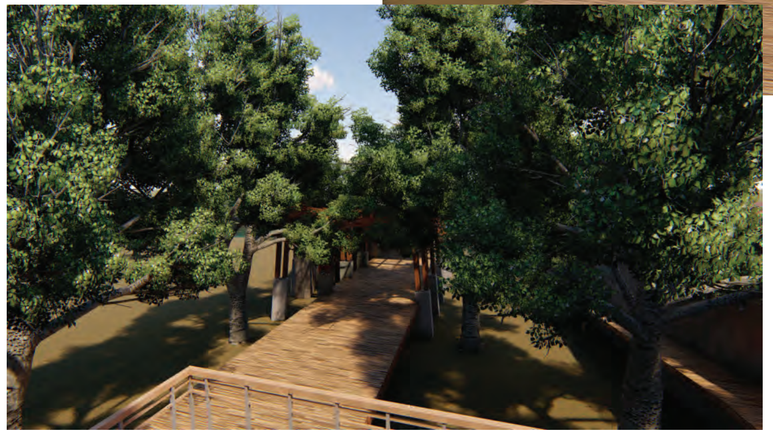

Figure 176: September Itteration Render

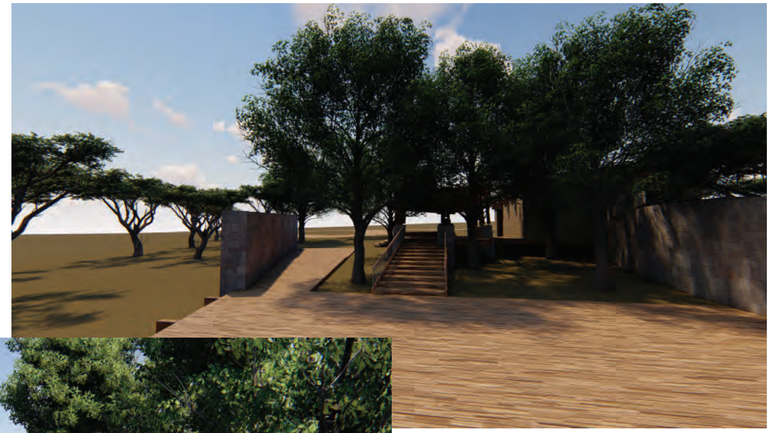

Figure 177: September Itteration Render

Figure 178: September Itteration Render

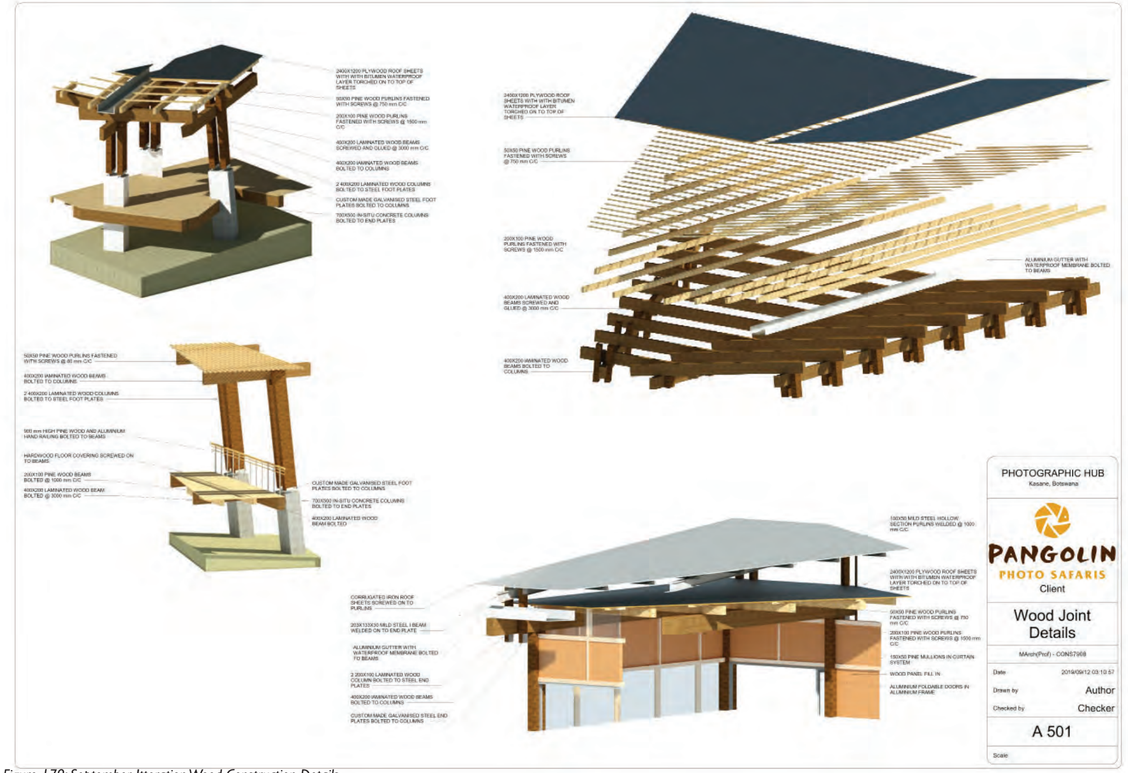

Figure 179: September Itteration Wood Construction Details

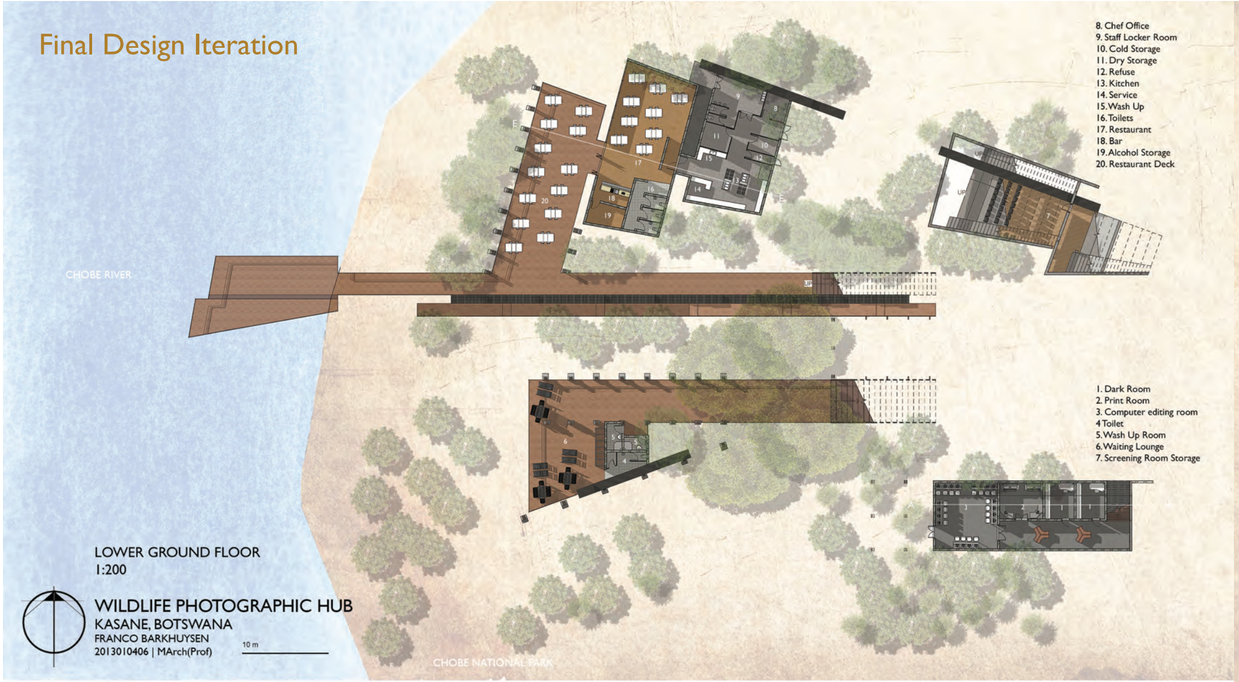

Figure 180: Final design iteration lower ground floor plan

Figure 181: Final design iteration upper ground floor plan

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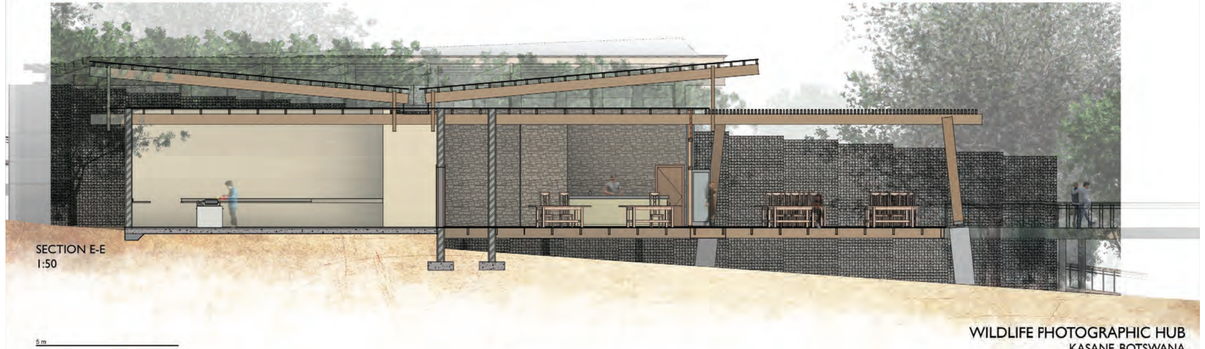

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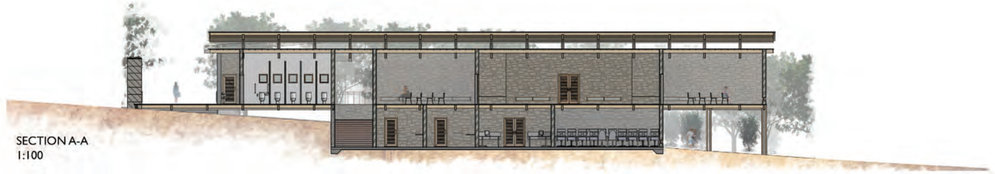
FRANCO BARKHUYSEN
201301406 | MArch(Prof)

Figure 182: Final design iteration sections



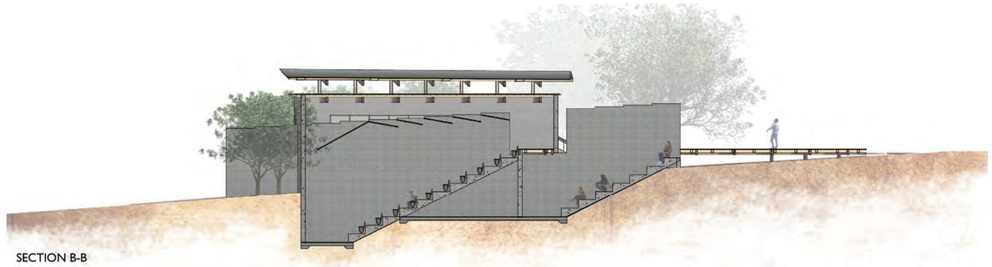


Figure 183: Final design iteration sections

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201301406 | MArch(Prof)

Figure 184: Final design iteration elevations

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Figure 185: Final design iteration

Figure 186: Final design iteration - Entrance Approach

Figure 188: Final design iteration - view from Tower

Figure 187: Final design iteration - View from Reception

Wildlife Photographic Hub - Kasane - Part 6 The Image Final Iteration

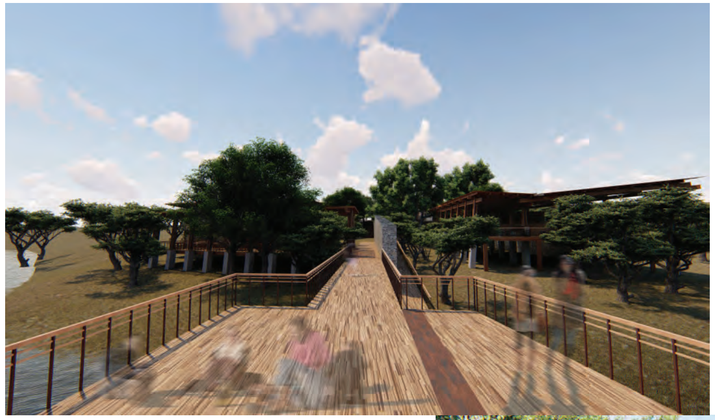


Figure 189: Final design iteration - from viewing deck towards project

Figure 190: Final design iteration - towards waiting lounge

Figure 191: Final design iteration - Livinig Units

Figure 192: Final design iteration - Living Units

Wildlife Photographic Hub - Kasane - Part 6 The Image Final Iteration

Figure 193: Final design iteration - Photography Courtyard

Figure 194: Final design iteration - Outside Screening Room

Figure 195: Final design iteration - Towards Exhibition Space

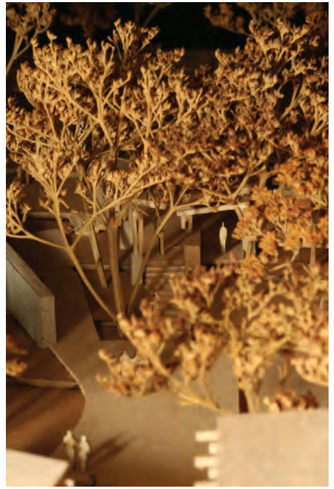
Figure 196: Final design iteration - Photo Hosts Ofiices

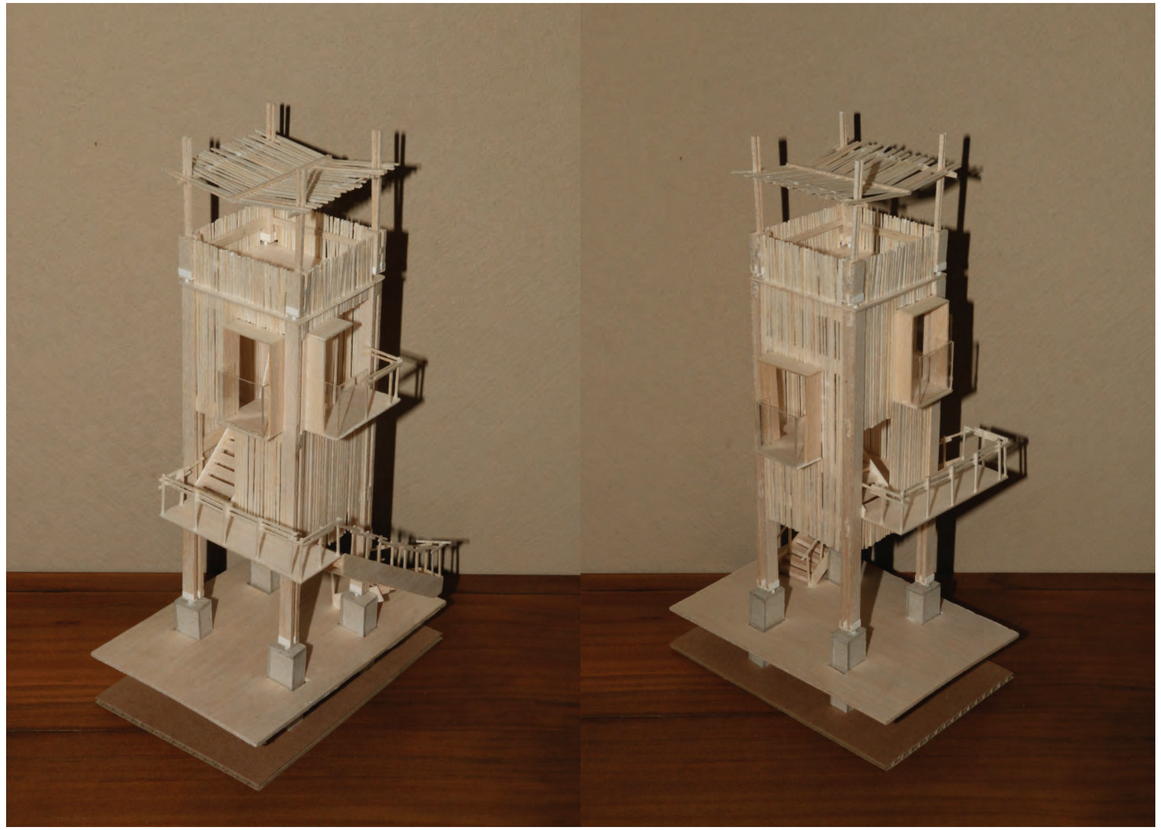
Figure 197: Final design iteration - View of River from Restaurant

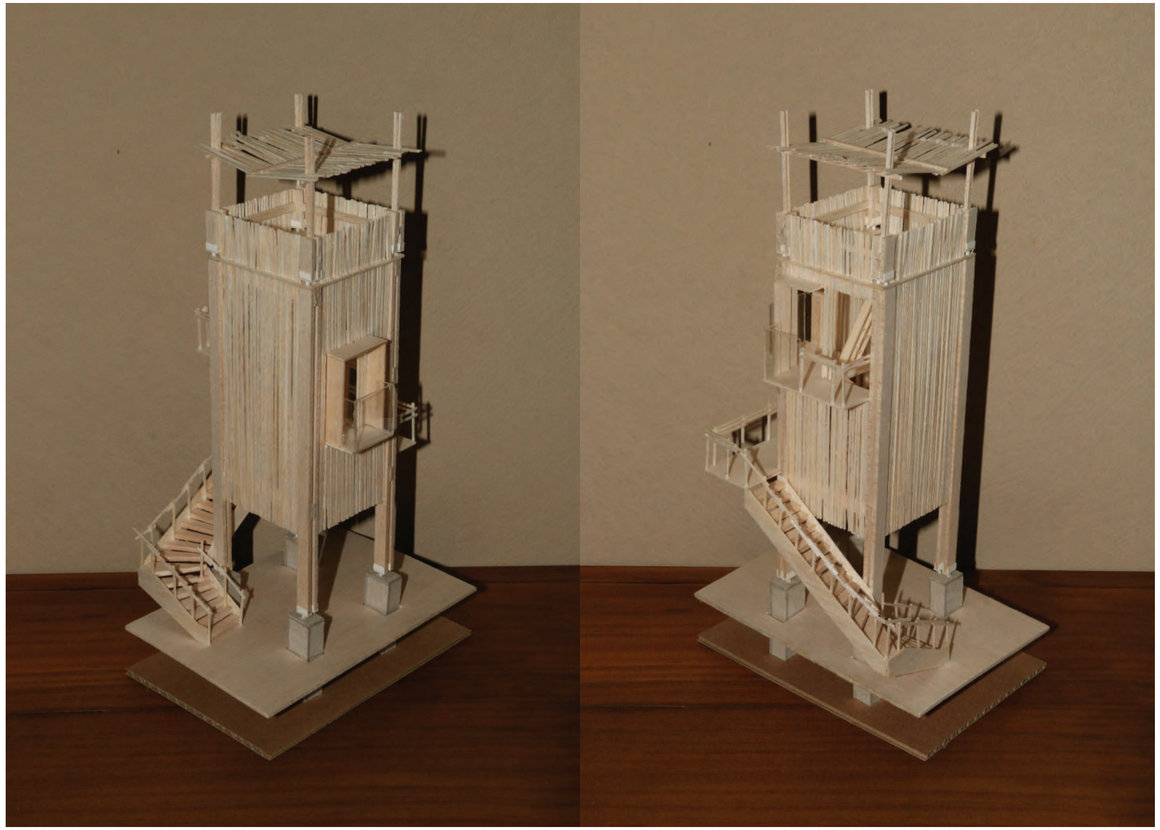
Figure 198: Final design iteration - View of River from Waiting Lounge

Figure 199: Final design iteration - Reception

Figure 200: Final design iteration - Waiting Lounge

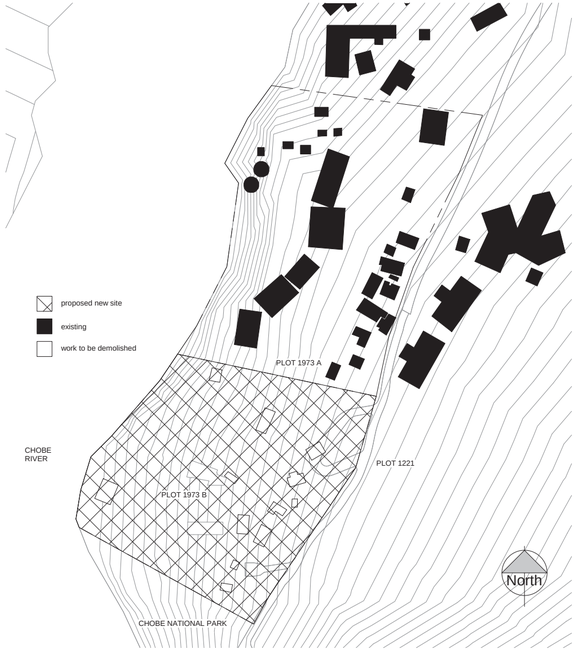






Wildlife Photographic Hub - Kasane - Part 6 The Image Final Iteration

1 Locality Plan
1 : 5000



2 Subdivision Diagram and
works to demolish
1 : 1000

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PHOTO SAFARIS
Client

Site Information

MArch(Prof) - CONS7908

Date	2019/11/15 15:42:02
Drawn by	FA Barkhuysen
Designed by	FA Barkhuysen
A101	
Scale	As indicated

1 Site and Roof Plan
1 : 500

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Site Information

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Designed by	FA Barkhuysen
A102	
Scale	1 : 500

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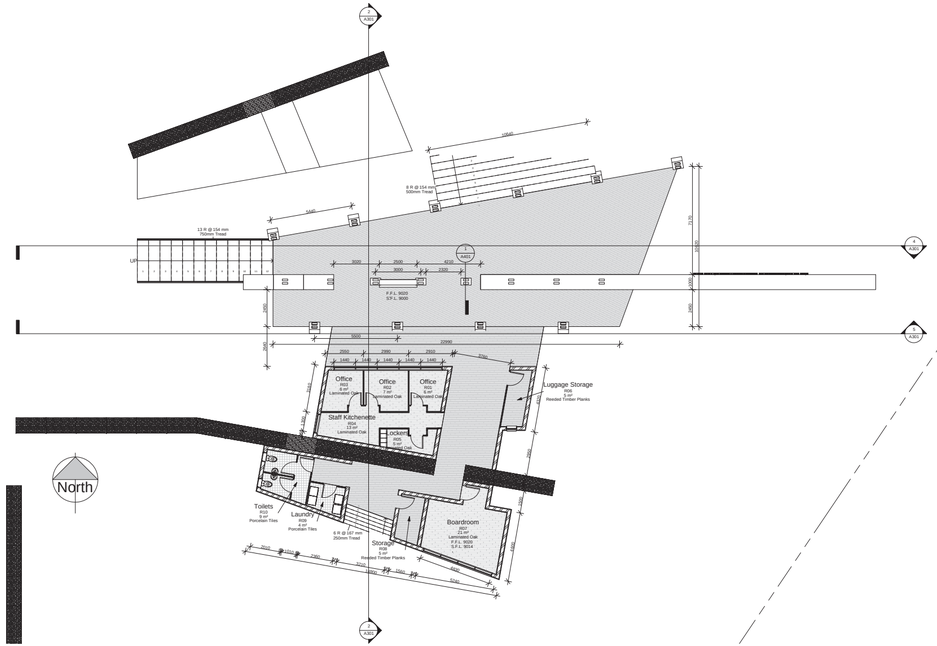

1 Reception Floor Plan
1 : 100

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Floor Plans

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Date	2019/11/15 15:43:16
Drawn by	FA Barkhuysen
Designed by	FA Barkhuysen
A103	
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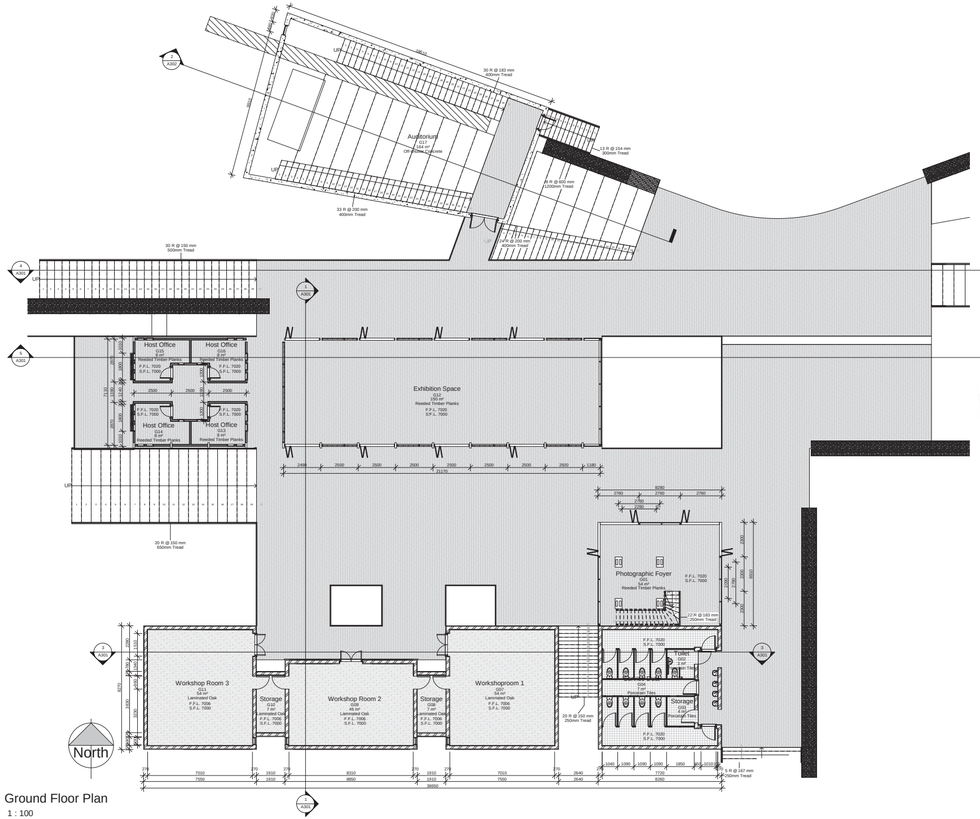

1 Ground Floor Plan
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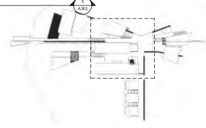

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Floor Plans

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Date	2019/11/15 15:43:50
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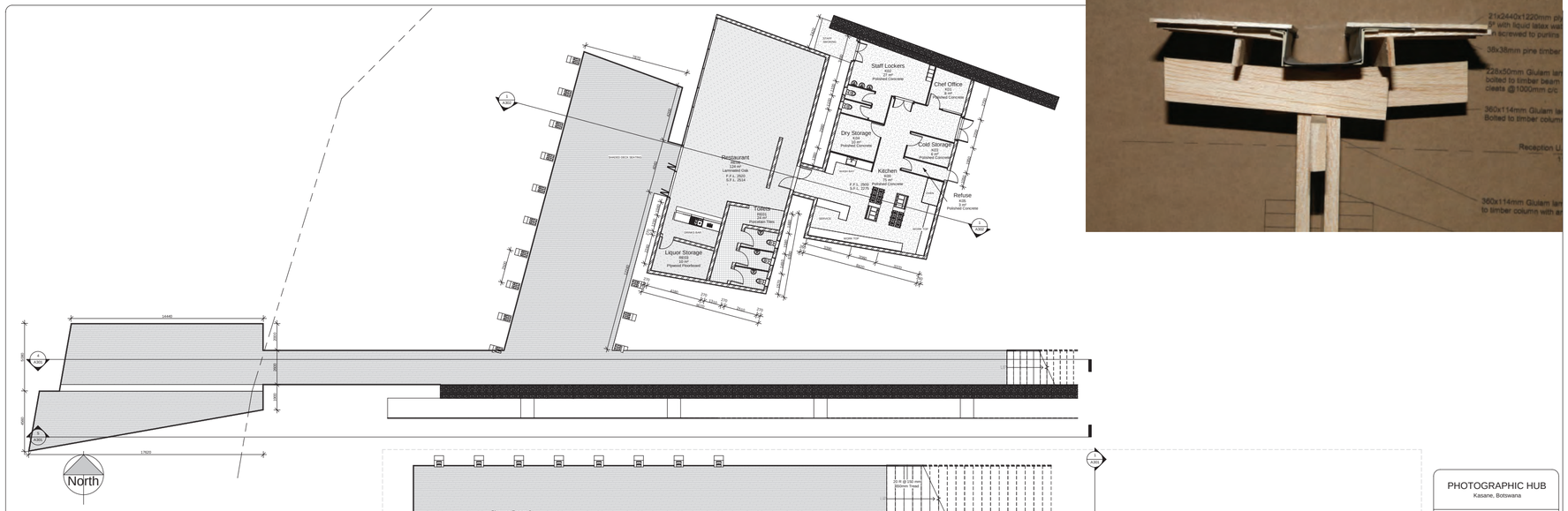

1 Restaurant Floor Plan
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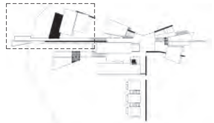

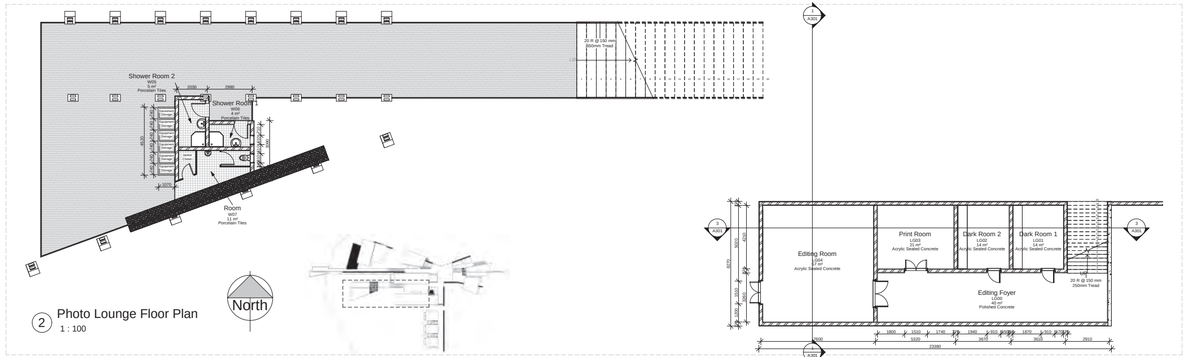

2 Photo Lounge Floor Plan
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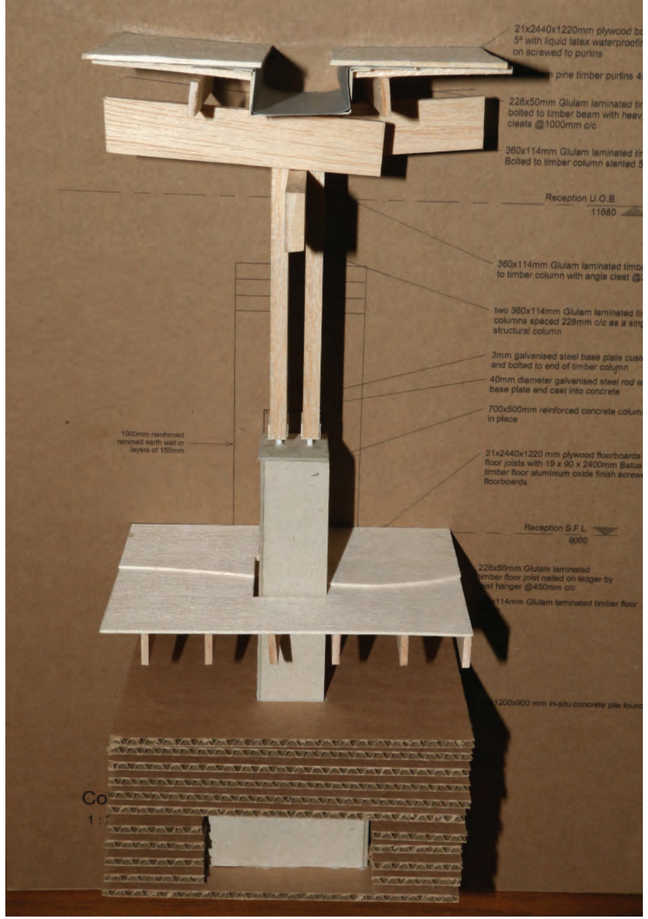

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Floor Plans

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Date	2019/11/15 15:47:28
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Checked by	FA Barkhuysen
A105	
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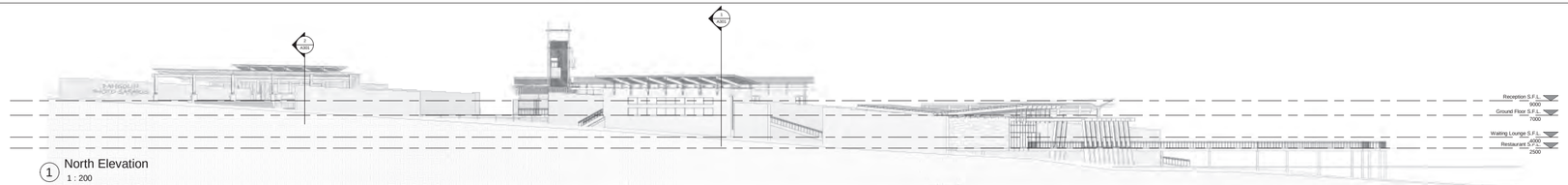
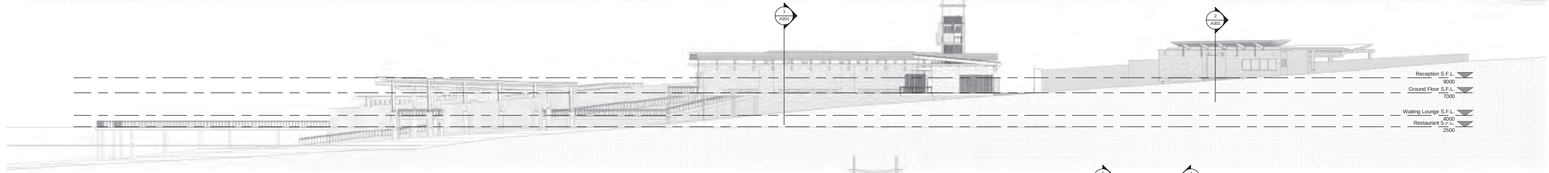
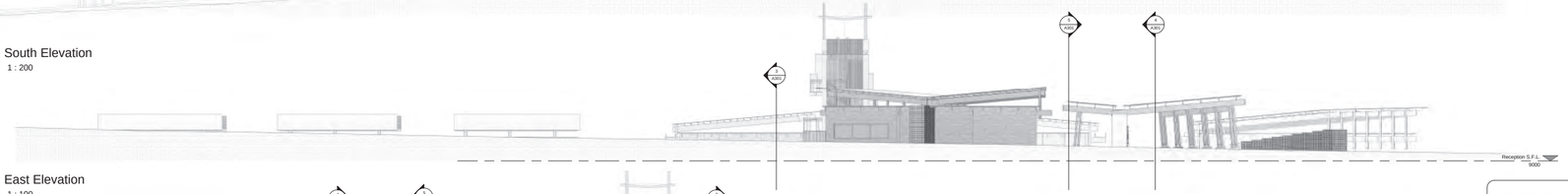


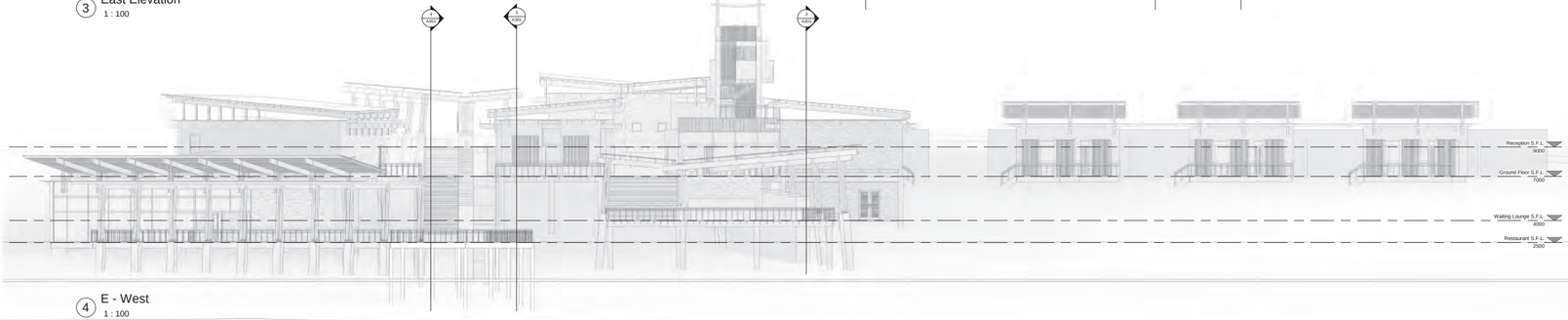
1 North Elevation
1 : 200



2 South Elevation
1 : 200



3 East Elevation
1 : 100



4 E - West
1 : 100

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Elevations

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Date	2019/11/15 15:50:27
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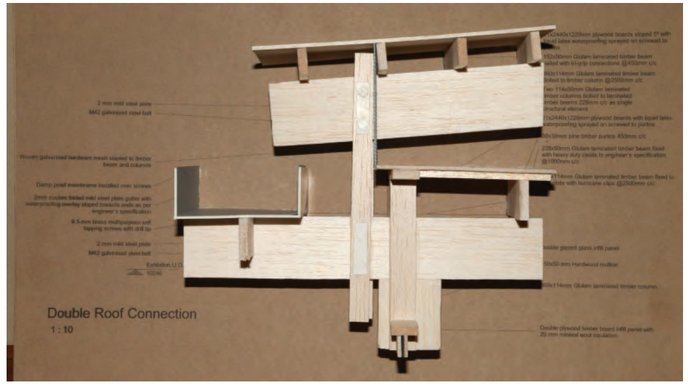
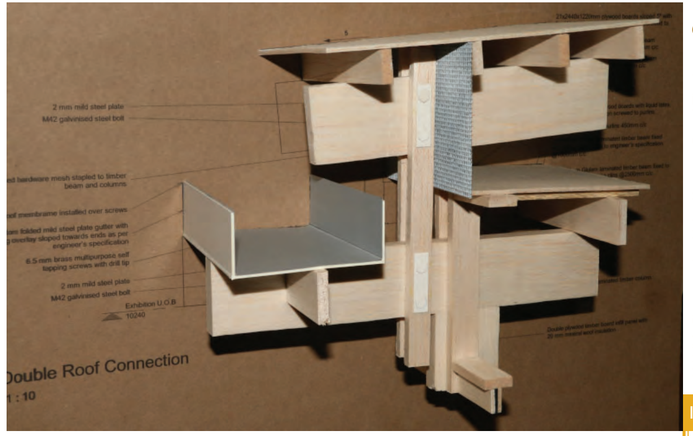
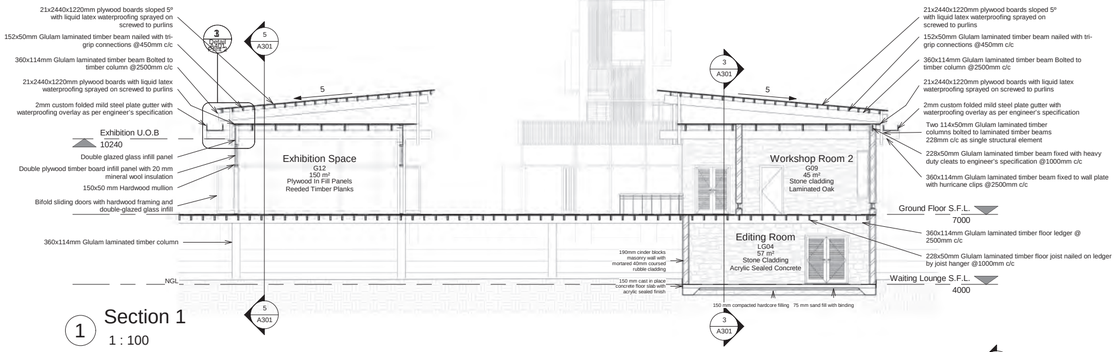
Checked by	FA Barkhuysen
A201	
Scale	As indicated

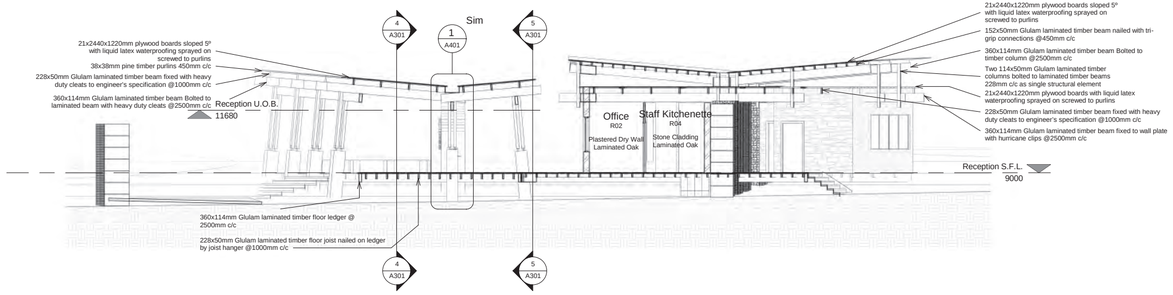




Wildlife Photographic Hub - Kasane - Part 6 The Image Construction Drawings



1 Section 1
1 : 100



2 Section 2
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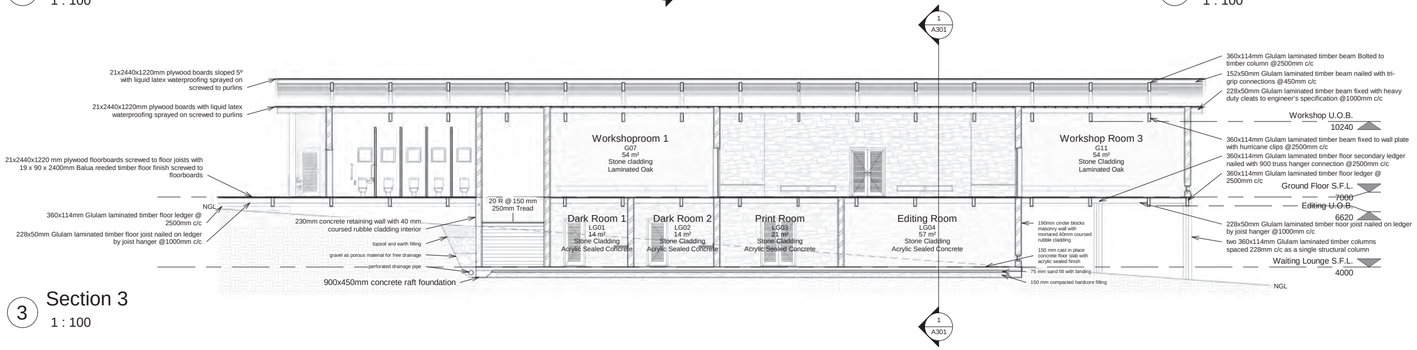

3 Section 3
1 : 100

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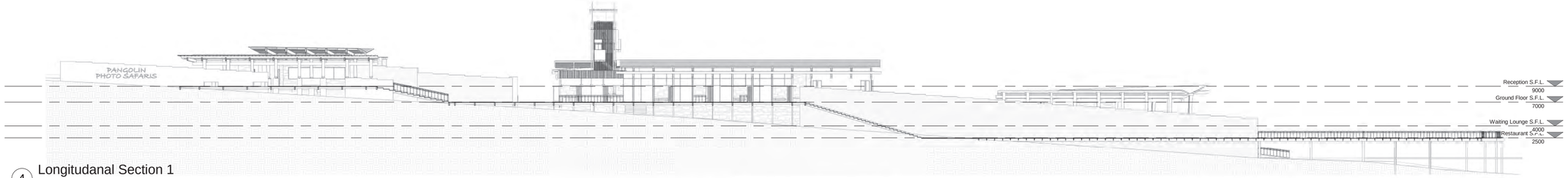

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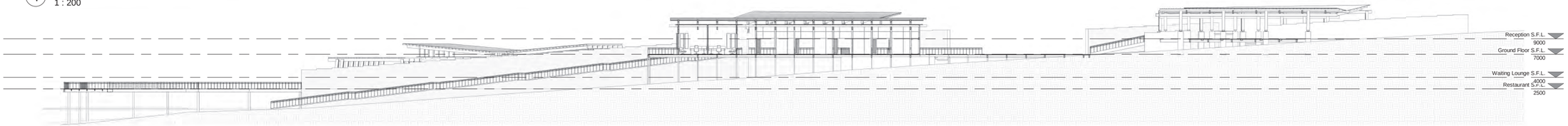
1 : 200



5 Longitudanal Section 2
1 : 200

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Sections

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Date	2019/11/15 15:51:19
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Checked by	FA Barkhuysen
A301	
Scale	As indicated

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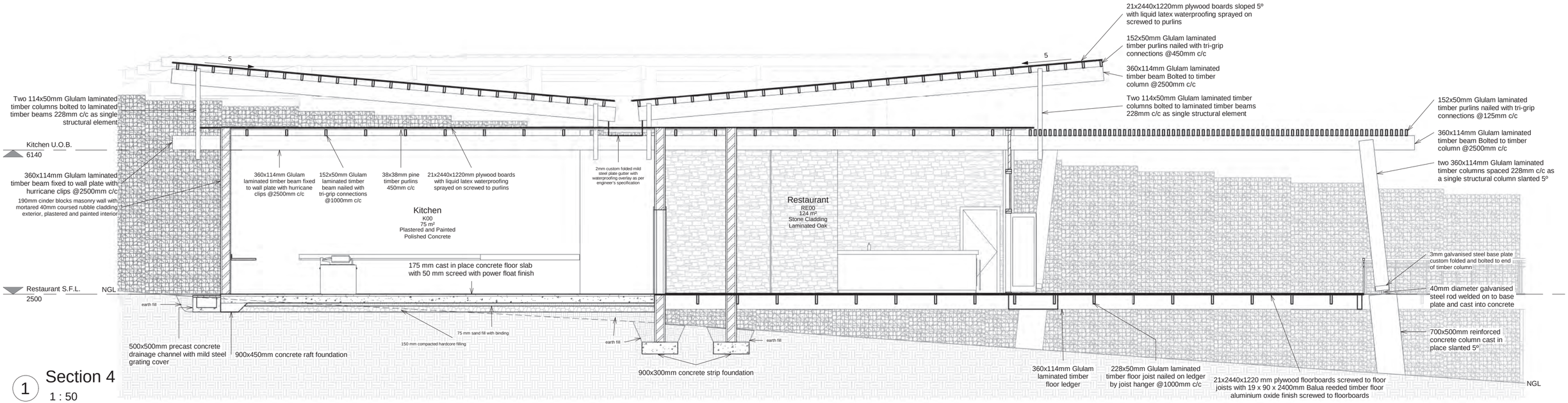
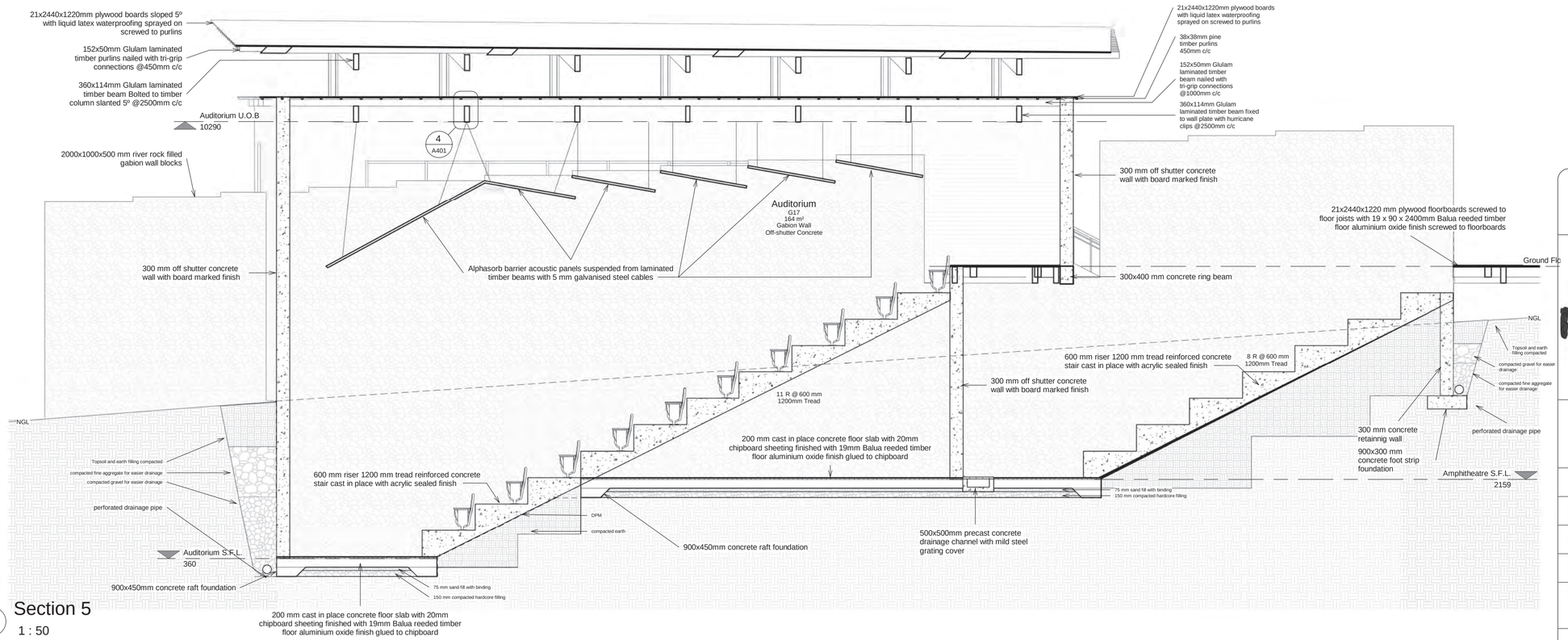


1 Section 4
1 : 50

Wildlife Photographic Hub - Kasane - Part 6 The Image Construction Drawings



2 Section 5
1 : 50

PHOTOGRAPHIC HUB
Kasane, Botswana

PANGOLIN PHOTO SAFARIS
Client

Sections

MArch(Prof) - CONS7908

Date	2019/11/15 15:44:29
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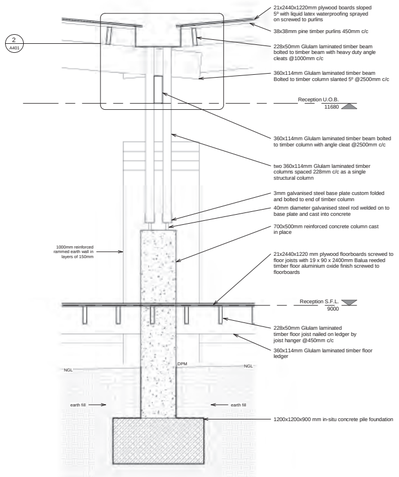
Designed by	FA Barkhuysen

A302

Scale 1 : 50

Wildlife Photographic Hub - Kasane - Part 6 The Image Construction Drawings



1 Column Detail
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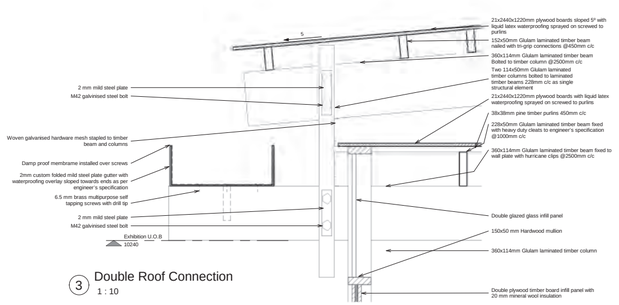
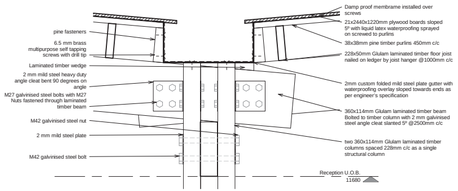
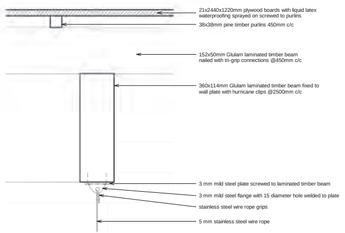


3 Double Roof Connection
1 : 10



2 Roof Joinery
1 : 10



4 Suspended Acoustic Panels
1 : 5

PHOTOGRAPHIC HUB
Kasane, Botswana

PANGOLIN
PHOTO SAFARIS
Client

Details

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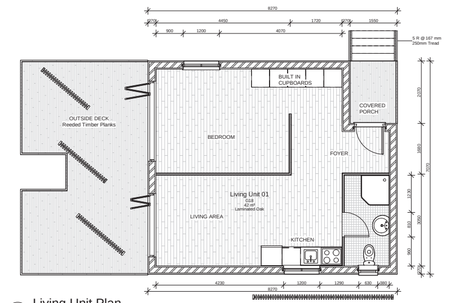
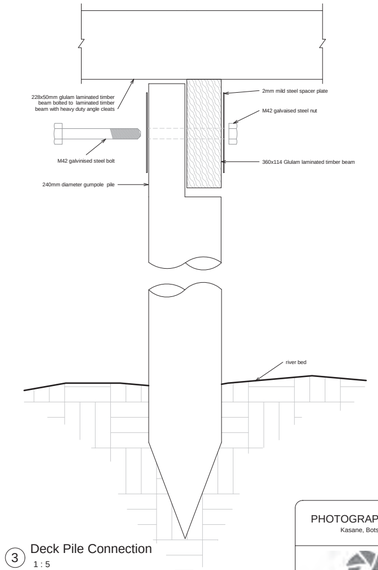
A401	
Scale	As indicated



1 Living Unit Plan
1 : 50



3 Deck Pile Connection
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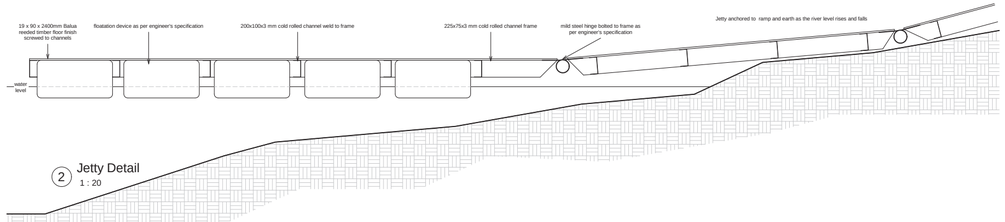

2 Jetty Detail
1 : 20

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Kasane, Botswana

PANGOLIN
PHOTO SAFARIS
Client

Details

MArch(Prof) - CONS7908

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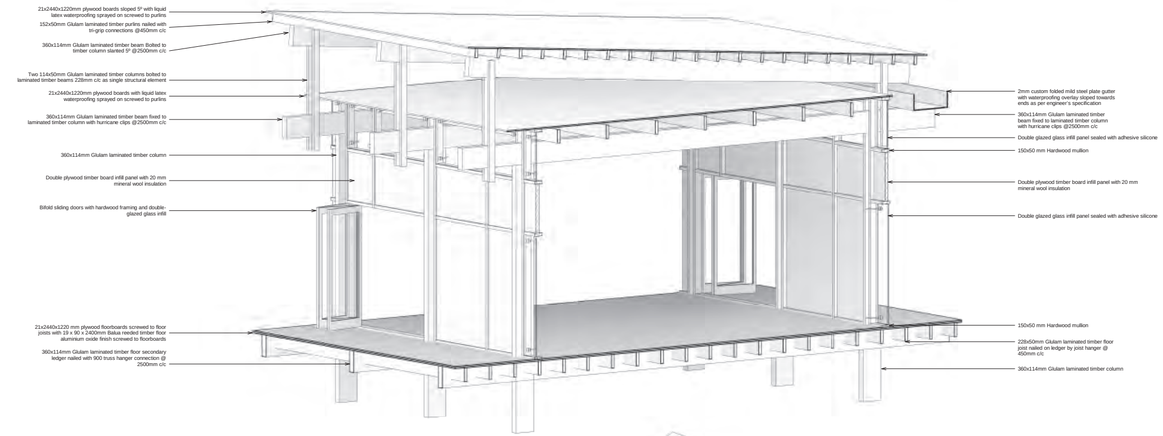
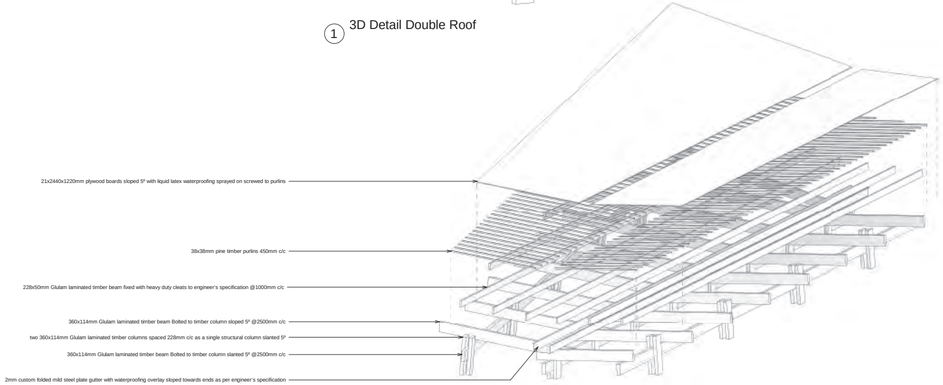


1 3D Detail Double Roof



2 Exploded Roof

PHOTOGRAPHIC HUB
Kasane, Botswana

PANGOLIN
PHOTO SAFARIS
Client

3D Details

MArch(Prof) - CONS7908

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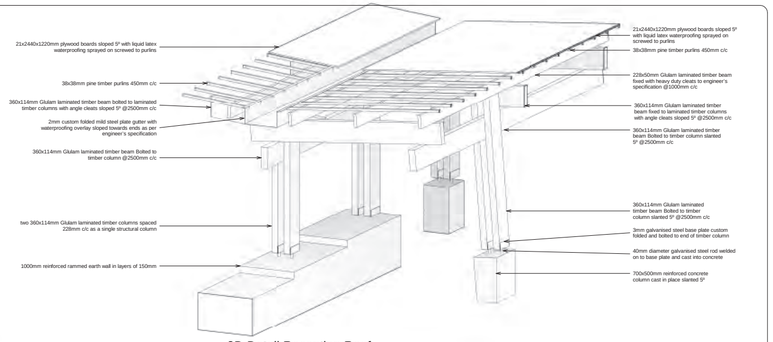
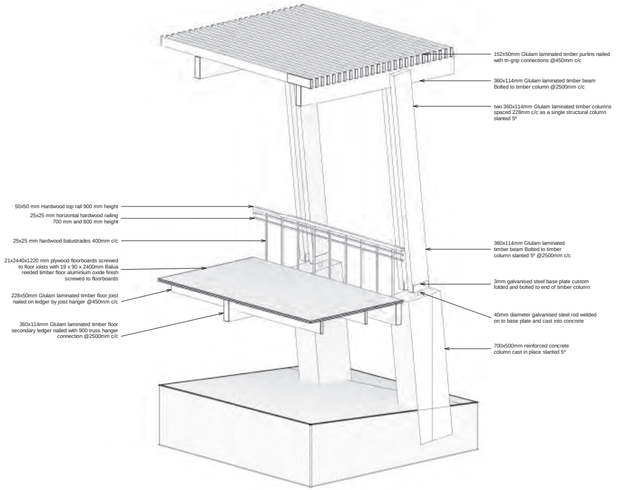
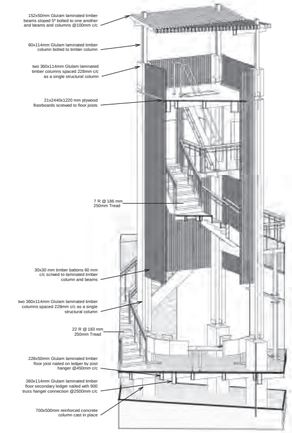
Designed by	FA Barkhuysen
A501	
Scale	



1 3D Detail Reception Roof



2 3D Detail Deck Roof



3 3D Viewing Tower Detail

PHOTOGRAPHIC HUB
Kasane, Botswana

PANGOLIN
PHOTO SAFARIS
Client

3D Details

MArch(Prof) - CONS7908

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Designed by	FA Barkhuysen
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7 - Post Production

PHOTOGRAPHY HUB

Kasane - Botswana

The dissertation is closed out with a representation of the photographic principles as applied, a conclusion and a personal reflection on the year that was. It also includes the table of figures and reference list and Turn-it-in plagiarism report.

Principles Interpreted

Conclusion

Reflection

List of Figures

References

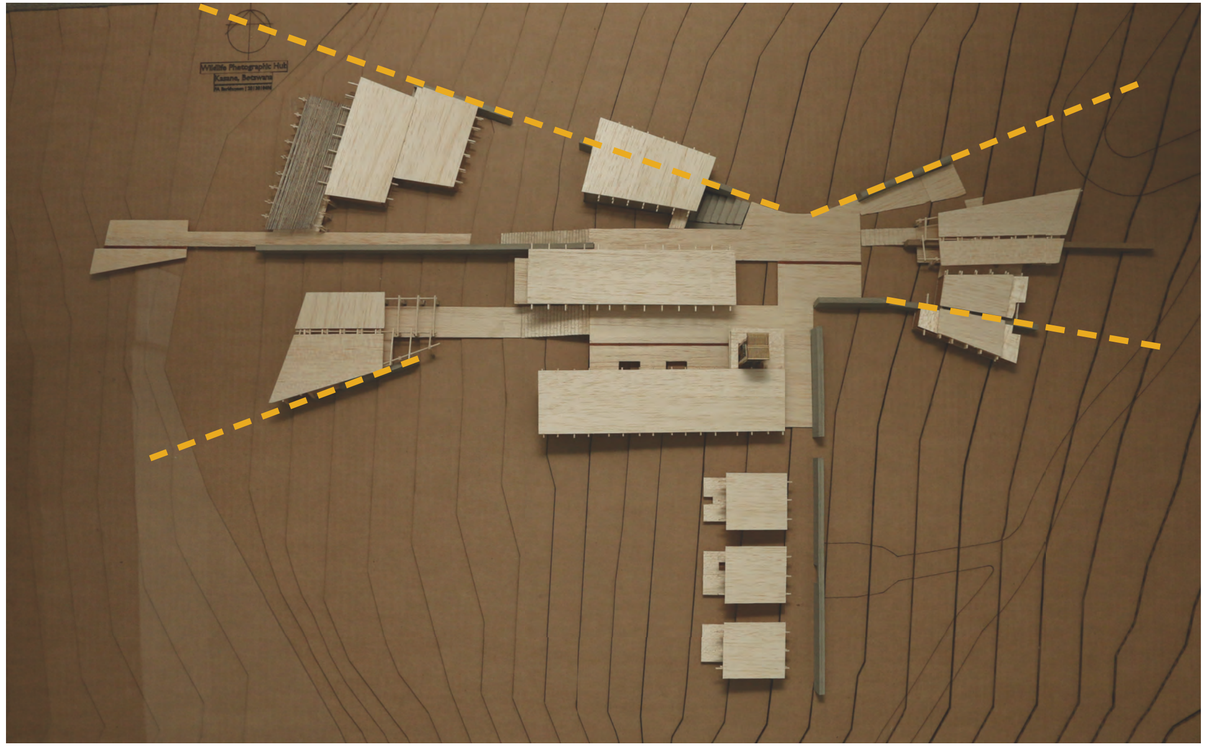

Figure 201: Camera focus reinterpretation

Wildlife Photographic Hub - Kasane - Part 7 Post Production Post Production

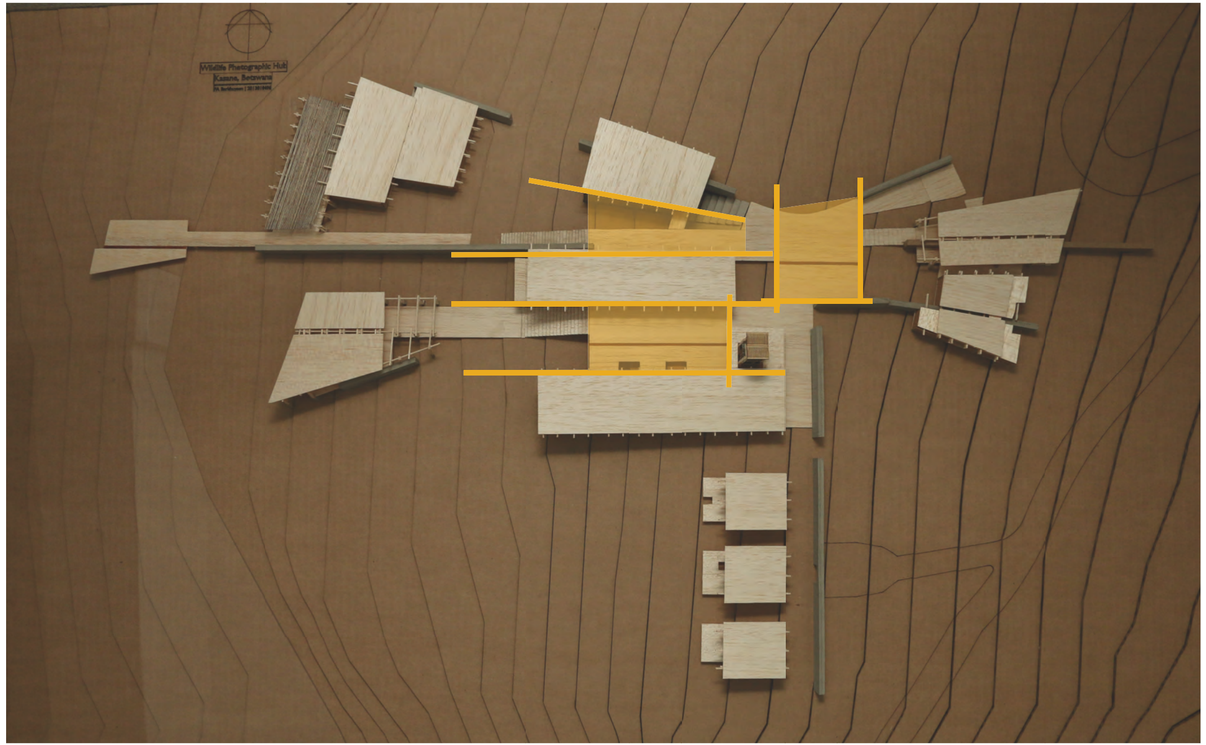

Figure 202: In- between spaces

Thresholds/Edges

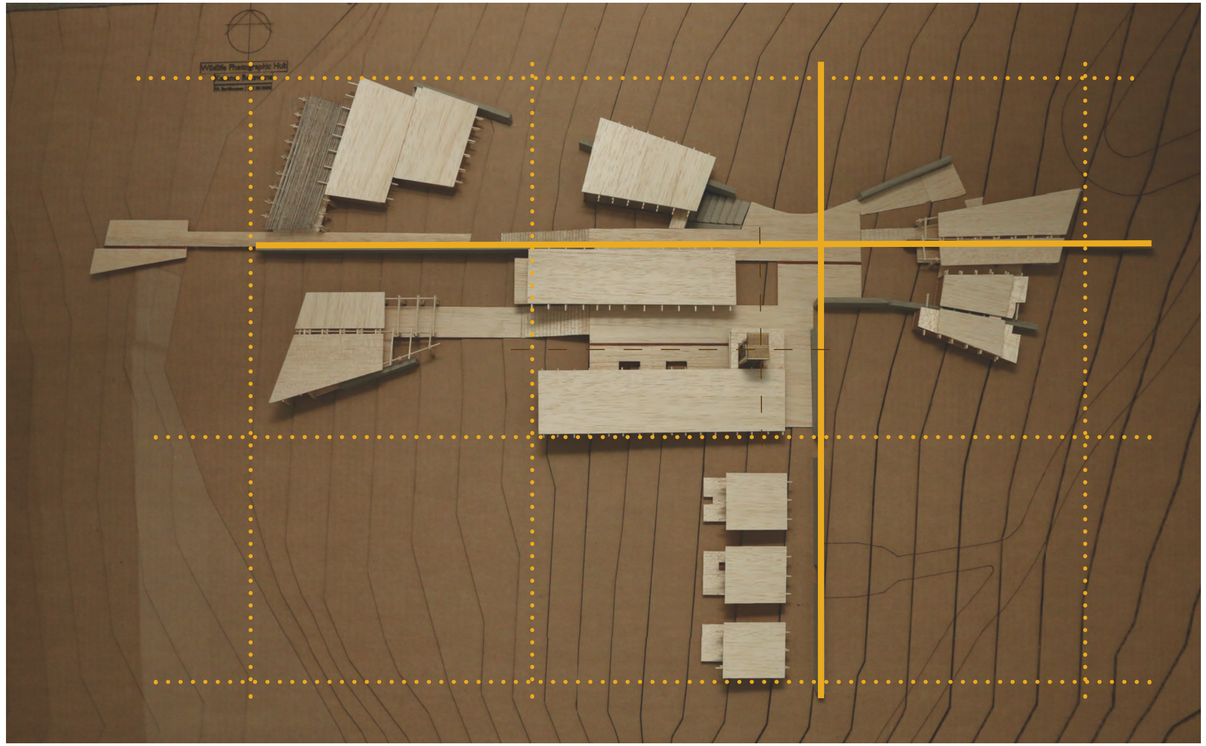

Figure 203: Rule of thirds

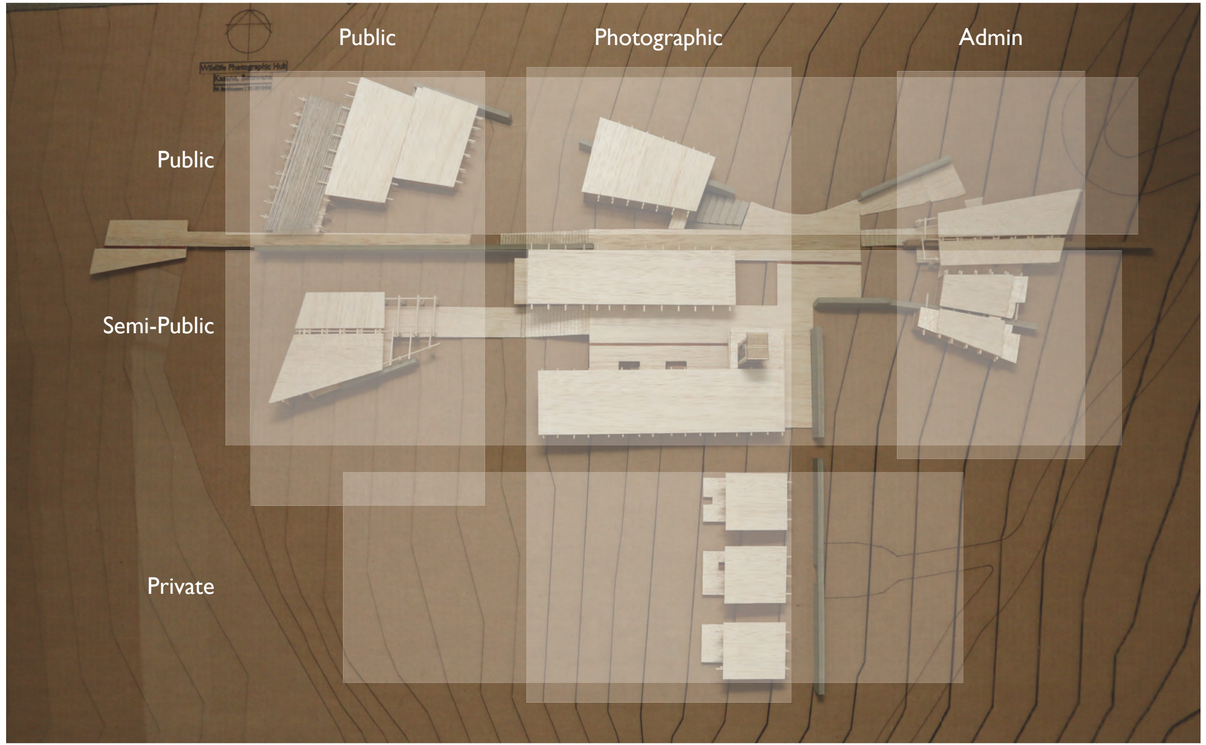

Figure 204: Rule of thirds environmental levels

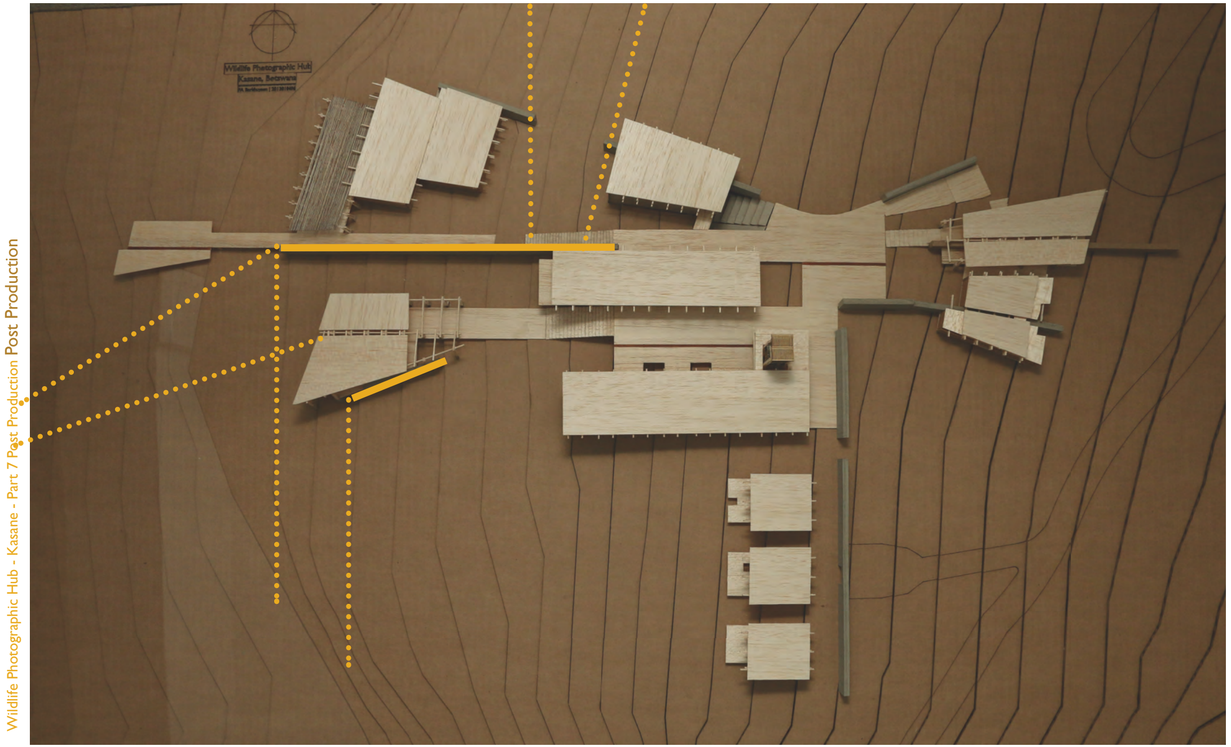

Figure 205: Conceal and reveal

Figure 206: Conceal and reveal render

Figure 207: Conceal and reveal render

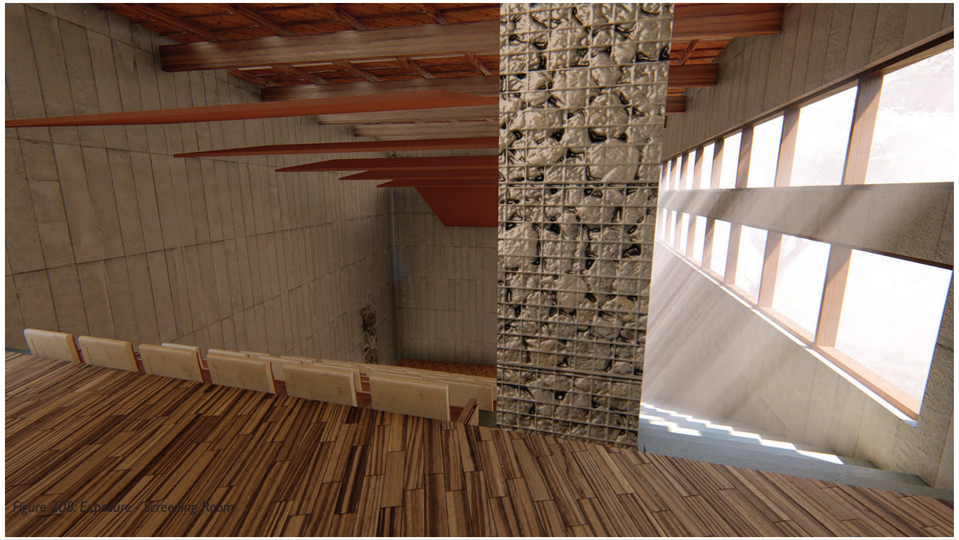

Figure 208: Exposure - Screening Room

Figure 209: Exposure - Screening Room

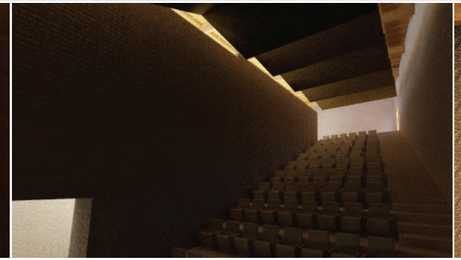

Figure 210: Exposure - Screening Room

Figure 211: Exposure - Editing

Figure 212: Perspective - Wide Angle

Figure 213: Perspective - Low Angle

Conclusion

The usage of photographic principles as an informant on an architectural design of a photographic hub can be seen as to direct. However, the design does not aim to represent a camera but rather use photography principles to relate to a photograph. These principles, albeit late, made the design work and applicable.

By no means does the dissertation claim to show that architecture can directly influence wildlife conservation, it simply won't. The dissertation does illustrate that architecture can contribute significantly the existing efforts of wildlife conservation. In this specific instance it specifically assists conservation by showing people what it is that is being protected (animals, national parks) by wildlife photography the architecture creates opportunity for greater and improved human interaction with nature. It is this interaction that allows humans to better understand the natural environment and that develop a love, therefore. It is natural for humans to protect that which they and guard it for the next generation.

Reflection

It was a testing year filled with highs, lows and most importantly, learning. The process in the start of the academic year felt to me somewhat generic and forced but progress was made none the less. The middle part of the year felt like a dead end as I could not see the progress despite work being produced. Efforts from both myself and the lecturers to address the lack of movement proved during June reviews to be fruitless. The immediate attempts of rectifying the issues were just descending the project further down a spiral.

An open conversation with Jan Ras lead to the decision to start the design from scratch. Revisiting the precedent studies from earlier in the year helped to approach the design from a new angle. The development grew on me, I enjoyed what I was working on and it started to show in the work. Elements started working together more often and the positivity grew from day to day. Having to catch-up during the last couple of months was difficult and challenging but taught me so much about myself and architecture. I entered the September review with confidence and excitement. I do wish that the turnaround happened earlier in the year, which would have improved the detail and resolved design proposal and thesis better. Having said that the experience prepared me better for real life situations and I am pleased and proud with the result of this dissertation.

In retrospect, the year of master's architectural studies need to be approached with a lot more confidence and self-belief. Decisions needs to be made quicker and explorations more detailed. Getting caught up in details during explorations wasted a lot of time that should rather be spent on the projects core issues and problems. I never really looked back at my touchstone and concepts for clues when I was stuck and therein lies the mistake from my side. I feel that more time, effort and thought was needed for my concepts and that that could possibly have steered me in the right direction earlier.

The writing of this specific document should have been approached differently in my personal view. The prescribed irregular hand ins and approach to complete chapter by chapters and not as an integrated unit lead to a disjointed document that required far more effort to consolidate then what was necessary.

I enter these final weeks with peace at heart and a sense of accomplishment. I end my studies with excitement and ambitious dreams for my future.

List of Figures

Figure 1: Botswana in Southern Africa (Barkhuysen, 2019) 11
Figure 2: Chobe District in Botswana (Barkhuysen, 2019) 11
Figure 3: Kasane with proposed site (Barkhuysen, 2019). 11
Figure 4: Kasane in Chobe District (Google Earth, 2019) adapted (Barkhuysen, 2019) 12
Figure 5: Kasane in Chobe District. 13
Figure 6: Kasane Rainfall (Barkhuysen, 2019) 13
Figure 7: Kasane Temperatures (Barkhuysen, 2019) 13
Figure 8: Proposed Site (Google Earth, 2019) adapted (Barkhuysen, 2019) 14
Figure 9: (Chobe National Park, 2019) 14
Figure 10:View from site (Barkhuysen, 2019) 15
Figure 12:View from site (Barkhuysen, 2019) 15
Figure 11:View of site from river (Barkhuysen, 2019) 15
Figure 14:View of site from river (Barkhuysen, 2019) 15
Figure 13:View of site from river (Barkhuysen, 2019) 15
Figure 15:View of site from river (Barkhuysen, 2019) 15
Figure 16: Existing trees on site (Barkhuysen, 2019) 17
Figure 17:Trees on Site 17
Figure 18: Sound levels 05:00 - 09:00 18
Figure 19: Sound Levels 10:00 - 14:00 18
Figure 20: Sound Levels 15:00-19:00 18
Figure 21: Singita - Sweni Lodges (Joubert, 2009). 19
Figure 22: Singita - Sweni Lodges (Joubert, 2009). 19
Figure 23: Singita - Sweni Lodges (Joubert, 2009). 19
Figure 24: Singita - Sweni Lodges (Joubert, 2009). 19
Figure 25: Singita - Sweni Lodges Section (Joubert, 2009 adapted Barkhuysen, 2019). 20
Figure 26: Singita - Sweni Lodges Floor Plan (Joubert, 2009 adapted Barkhuysen, 2019). 21
Figure 27: Singita - Sweni Lodges Floor Plan (Joubert, 2009 adapted Barkhuysen, 2019). 22
Figure 28:The Client's Photo Boat on the Water (Pangolin Photo Safaris, 2019).. 25
Figure 29: Relevant locations of client in Kasane (Google Earth, 2019). . . . 25
Figure 30: (Pangolin Photo Safaris, 2019). 25
Figure 31: Photo excursion with Pangolin Photo Safaris (Barkhuysen, 2019). 26
Figure 32: Current Boat Jetties (Barkhuysen, 2019). 26
Figure 33: Necessity of nature to human life (Grooten & Almond, 2018). . 27
Figure 34:The benefits humans gain from nature (Grooten & Almond, 2018). 27
Figure 35: (Pangolin.Africa, 2019).. 28
Figure 36: Global LPI for 2014 28
Figure 37: Drawing of touchstone Inside 31
Figure 38:Velddrif Floor Plan (Wessels, 2006 adapted Barkhuysen, 2019). . 35
Figure 39: Sandibe Approach. 37
Figure 40: Sandibe Entrance 37
Figure 41: Sandibe Living Unit. 37
Figure 42: Sandibe Floor Plan adapted (Barkhuysen, 2019).. 38
Figure 43: Sandibe Deck 38
Figure 44: Sandibe Interior 38
Figure 45:Africa Centre Floor Plans (Joubert, 2009 adapted Barkhuysen, 2019).. 39
Figure 47:Africa Centre (Joubert, 2009). 40
Figure 46:Africa Centre Section (Joubert, 2009 adapted Barkhuysen, 2019). 40
Figure 48:Africa Centre (Joubert, 2009). 40
Figure 49:View towards river from the site - current (Barkhuysen, 2019).. 41
Figure 50:View towards bush from the site - current (Barkhuysen, 2019).. 41
Figure 51: Diagram showing the meandering flow of the Chobe River (Barkhuysen, 2019).. 42
Figure 52:African Elephant (Barkhuysen, 2019) 44
Figure 53:Apparatusses (Stols, 2019) 45
Figure 54: Parts of the camera. adapted (Barkhuysen, 2019) 46
Figure 55:Author behind his Camera. 47
Figure 56: Pied Kingfisher (Barkhuysen, 2016) 48
Figure 57:Young Hippo in water (Barkhuysen, 2016). 48
Figure 58:Young Leopard with burn wounds (Barkhuysen, 2018) 48
Figure 59:Yellow Billed Hornbill (Barkhuysen, 2018) 49
Figure 60: Michael as a fisherman (Gragert, 2015). 51
Figure 62: Michael as a ex-convict (Gragert, 2015) 51
Figure 64: Michael as a life saver (Gragert, 2015). 51
Figure 61: Michael as a recovering alcoholic (Gragert, 2015) 51
Figure 63: Michael as a self made millionare (Gragert, 2015) 51
Figure 65: Michael as a self proclaimed psychic (Gragert, 2015) 51
Figure 66: the Author behind the camera. 52
Figure 67:The Resulting Photograph (Barkhuysen, 2016) 52
Figure 68: Botswana in Southern Africa 61
Figure 69: Kasane in Chobe District in Botswana 61
Figure 70: Kasane with proposed site. 61
Figure 71: Kasane - Urban Connectivity (Botswana Government, 2014) . . 62
Figure 72: Kasane Land Usage (Botswana Government, 2014) 62
Figure 73: Kasane Zoning Diagram (Botswana Government, 2014) 63
Figure 74: SG Diagram for Plot no 1397 B. 64
Figure 75: Sub-dividion Diagram of Plot no 1397. 64
Figure 76: Site Plan for Plot no 1397B with demolition works 65
Figure 77:An illustration showing how shading devices can be used in natural cooling of interior spaces (Barkhuysen, 2019). 67
Figure 78: Propsed workings of water usage on site (Barkhuysen, 2019) . . 67
Figure 79: Zambesi Mabula Lodge (Barkhuysen 2019). 69
Figure 80: Zambesi Mabula Lodge (Barkhuysen 2019). 69
Figure 82: Zambesi Mabula Lodge 69
Figure 81: Zambesi Mabula Lodge (Barkhuysen 2019). 69
Figure 83: Understanding the case study 70
Figure 84: Double Roof by Francis Kere. 70
Figure 85:The airflow rationale behind a flat mono pitched double roof. . 71
Figure 86:The airflow rationale behind a curved double roof. 71
Figure 87: Loads of a load bearing structural system. 72
Figure 89: Load-bearing structural system vs framed structural system . . . 72
Figure 88: Loads of a framed structural system 72
Figure 90: Load distribution in a load bearing structure 73
Figure 91: a wood framed structure (Watts, 2019) 74
Figure 92: Basic elements in a framed structure 74
Figure 94: Different types of trusses (Bossert & Schmidt 2013 p456.) 75
Figure 93: Different types of trusses (Bossert, P. & Schmidt, S., 2013 p456.) 75
Figure 95: Load-bearing box cut into the landscape. 76
Figure 97: Load-bearing walls placed on the site with deck lifted on framed columns. 76
Figure 96: Framed structure with pile foundations on landscape 76
Figure 98: Reinterpretation of the natural elements in to material palette. 77
Figure 99: Reinterpretation of the natural elements in to material palette. 78
Figure 100: Interior Structural usage of rammed earth 79
Figure 101: Rammed Earth as Design Element. 79
Figure 102: Rammed Earth as Design Element. 79
Figure 103: Detailed section through a reinforced rammed earth wall. . . . 80
Figure 105: Insulation inside Rammed Earth Wall (Barkhuysen, 2019). 80
Figure 104:The construction of a Rammed Earth Wall 80
Figure 106:Wood Construction joineries 81
Figure 110:Wood Floor rafter System 81
Figure 107:Wood Construction joineries 81
Figure 111: Example of Laminated (glulam) wood beam 81
Figure 108:Wood Construction joineries 81
Figure 112:Wood Deck Floor system 81
Figure 109:Wood Construction joineries 81
Figure 113:The Procces of laminating a wood beam 82
Figure 114:Typical Timber sizes (Smit, 2019 p443.) 82

Figure 115: Typical Timber sizes (Smit, 2019 p445.) 82
Figure 116: Typical Stone Masonry Bonds (Pienaar & Pienaar, 2013 p 204). 83
Figure 117: Addition of stone cladding on to cinder block walls 83
Figure 118: Typical Stone Masonry Bonds (Pienaar & Pienaar, 2013 p 204). 84
Figure 119: Modular coordination in a standard concrete masonry wall (Pienaar & Pienaar, 2013 p 218) 84
Figure 120: Stone cladded elements 84
Figure 121: Different Pre-Cast concrete masonry units (Pienaar & Pienaar, 2013 p 218) 84
Figure 122: Placement of rocks in the mesh of a gabion wall 85
Figure 123: Rocks Used as a retaining wall. 85
Figure 124: Completed Gabion Wall. 85
Figure 125: Board marked finish - the result 86
Figure 126: Side Panel of formwork (Janse van Rensburg, 2013 p 430). . . . 86
Figure 127: Typical boxed framework (Janse van Rensburg, 2013 p 430) . . 86
Figure 128: Formwork for a column (Janse van Rensburg, 2013 p 430) . . . 86
Figure 129: (Stols, 2019). 91
Figure 130: (Stols, 2019). 92
Figure 131: (Stols, 2019). 93
Figure 132: (Stols, 2019). 94
Figure 133: (Stols, 2019). 95
Figure 134: (Stols, 2019). 96
Figure 135: (Stols, 2019) 97
Figure 136: (Stols, 2019). 98
Figure 137: Initial Reaction to the Design Process. 101
Figure 139: Approach 1 102
Figure 140: Approach 2 102
Figure 138: Clean Site 102
Figure 141: Approach 3 102
Figure 143: First plan response to the site 102
Figure 142: Approach 4 102
Figure 144: First Itteration model. 103
Figure 145: First Itteration model. 103
Figure 146: First Itteration Floor Plan 104
Figure 147: Development of Floor Plan 105
Figure 148: June Itteration Model 107
Figure 149: June Itteration Model 107
Figure 150: June Itteration Model 107
Figure 151: June Itteration Model 107
Figure 152: June Itteration Floor Plan. 108
Figure 153: First attempts at rescueing design 109
Figure 154: First attempts at rescueing design 109
Figure 155: First attempts at rescueing design 109
Figure 156: First attempts at rescueing design 109
Figure 157: First attempts at rescueing design 110
Figure 158: The Turning Point Plan 1 111
Figure 159: The Turning Point Plan 2. 111
Figure 160: The Turning Point Plan 3. 111
Figure 161: The Turning Point Plan 4. 111
Figure 162: The Turning Point Plan 5. 111
Figure 163: The Core of the Design 112
Figure 164: September Itteration - Lower Ground Floor Plan 113
Figure 165: September Itteration - Upper Ground Floor Plan 114
Figure 166: September Itteration Sections. 115
Figure 167: September Itteration Sections. 116
Figure 168: September Itteration Model Images 117
Figure 169: September Itteration Model 118
Figure 170: September Itteration Model 118
Figure 171: September Itteration Model 118
Figure 172: September Itteration Model 119
Figure 173: September Itteration Render. 120
Figure 174: September Itteration Render. 121
Figure 175: September Itteration Render. 121
Figure 176: September Itteration Render. 122
Figure 177: September Itteration Render. 122
Figure 178: September Itteration Render. 123
Figure 179: September Itteration Wood Construction Details 124
Figure 180: Final design iteration lower ground floor plan 125
Figure 181: Final design iteration upper ground floor plan 126
Figure 182: Final design iteration sections 127
Figure 183: Final design iteration sections 128
Figure 184: Final design iteration elevations. 129
Figure 185: Final design iteration 131
Figure 186: Final design iteration - Entrance Approach 131
Figure 188: Final design iteration - view from Tower 132
Figure 187: Final design iteration - View from Reception. 132
Figure 189: Final design iteration - from viewing deck towards project . . 133
Figure 190: Final design iteration - towards waiting lounge. 133
Figure 191: Final design iteration - Livinig Units. 134
Figure 192: Final design iteration - Living Units 134
Figure 193: Final design iteration - Photography Courtyard 135
Figure 194: Final design iteration - Outside Screening Room 135
Figure 195: Final design iteration - Towards Exhibition Space 136
Figure 196: Final design iteration - Photo Hosts Ofiices 136
Figure 197: Final design iteration - View of River from Restaurant 137
Figure 198: Final design iteration - View of River from Waiting Lounge . . 137
Figure 199: Final design iteration - Reception 138
Figure 200: Final design iteration - Waiting Lounge 138
Figure 201: Camera focus reinterpretation 165
Figure 202: In- between spaces. 166
Figure 203: Rule of thirds 167
Figure 204: Rule of thirds environmental levels 168
Figure 205: Conceal and reveal. 169
Figure 206: Conceal and reveal render. 170
Figure 207: Conceal and reveal render. 170
Figure 209: Exposure - Screening Room 171
Figure 208: Exposure - Screening Room 171
Figure 210: Exposure - Screening Room 171
Figure 211: Exposure - Editing 171
Figure 212: Perspective - Wide Angle 172
Figure 213: Perspective - Low Angle. 172

Wildlife Photographic Hub - Kasane - Part 7 Post Production List of Figures

References

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