Tantalizing Aromatic Observance

A Sensory Boutique of Historical Significance on
Changuu Island, Zanzibar



Figure 1.1: (Author,2021)

Muller Ferreira
2015007061

“Perfume is the art that makes memory speak” (Kurkdjian, n.d.)

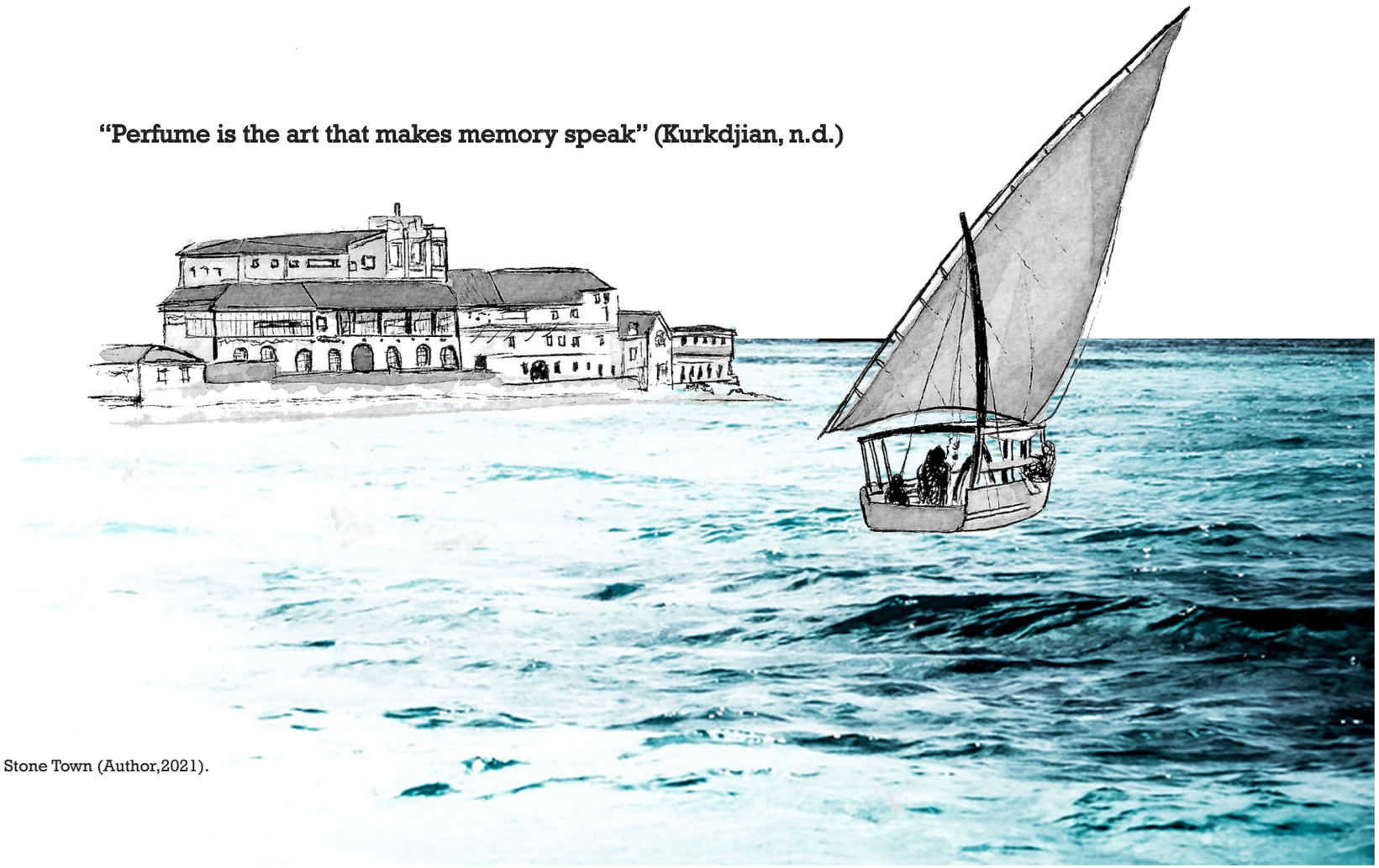


Figure 1.2: A traditional dhow sailing towards Stone Town (Author,2021).



Figure 1.3: Inside the Changuu Tortoise Sanctuary (Author,2016).

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2021
Masters Dissertation

Comments

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Changuu Island, Zanzibar

This dissertation is submitted to reach the specified requirements for the degree M.Arch. (Prof).

All the work contained within this document belongs to the author, apart from work and research otherwise referenced or acknowledged.

I hereby declare that **"Tantalizing Aromatic Observance"** is my own work.

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Supervisors: Prof. J.D. Smit, Mrs. P. Smit, Prof J. Noble, Mr. D. van der Merwe

Date of Submission

15 October 2021

Declaration of Original Authorship:

This dissertation, along with all the work submitted within the document, has not been submitted prior to obtain any rewards; nor has this dissertation been submitted to any other institution of higher education. This dissertation contains no previously published written or graphic material, apart from where adequate referencing is made. I can therefore state that this publication is purely my own.

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I want to make use of this opportunity to thank my parents, Wilmer and Tania. They have provided me with the opportunity to pursue a dream, which inevitably led to the development of the man I am today.

Without their love, support and constant sacrifice; all of this would not have been possible. They have been and are a crucial ingredient of my vision towards success and they truly sculpted the foundation grounding me today.

Furthermore, I would like to thank Professor Jan Smit and Petria Smit, for all the time and endless hours spent on developing my dissertation. Without your wonderful ideas and solutions, I would not have developed the confidence I have today.

I dedicate this dissertation to my family. Their inspiration, love and support has given me strength, in moments of doubt.

Lastly none of this would be possible without God walking this road with me.

I appreciate everyone's input and I thank you all for walking this challenging journey with me.

Walk on through the wind
Walk on through the rain
though your dreams be tossed and blown

Walk on, walk on
with hope in your heart
and you'll never walk alone

Gerry and the Pacemakers
(Lyricfind, 2021; online)



Figure 1.4: A narrow corridor in Stone Town (Author,2021).

Abstract

Islamic culture is rooted deep within the heart of Zanzibar. This picturesque Island has become a cultural commemoration of the past and a religious celebration of the present.

The significance of fragrances in the Islamic culture becomes evident when one explores the traditions and heritage of the culture. It incorporates the use of aromas/fragrances on a weekly and even daily basis - as a means of evoking emotion or expressing gratitude when presenting an individual with a gift. The most pivotal characteristic of fragrances is that they can associate with or portray groups, races, genders, classes, ethnicities, and nationalities. Fragrances, therefore, play an intricate role in who we are and becomes an expression of identity.

The essence of the project provokes the historical and cultural qualities associated with the significance of fragrances within the Islamic culture. By integrating the historical and mythological use of Islamic architecture and through the spiritual qualities associated with fragrances, a new introduction to the architectural approach within Zanzibar arises. One that arouses the sensory organs and allures the dweller to take part in the narrative. The proposed design will thus focus on underpinning fragrances, in the development of a sensory boutique, where the user will learn to understand and reminisce in the quality and meaning of aromatics.

The dissertation questions the significance of the role that fragrances play within the Islamic culture - as a means of portraying the quality of an intrinsic, sensory experience. It also develops a distinct understanding of the historical use of fragrances. The Changuu Fragrance Boutique will allow the outside world to experience the sensory quality of the Islamic culture. This experiential narrative will further act as a method of preserving the culture for the Islamic community and will also allow the visitor to create and preserve memories and connections established through sensory interplay.

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Figure 1.5: Traditional Arabian Dhow

Project Rationale

Part 01

Part 1 - Project Rationale (Structure)

1.1 Dissertation Framework

In this part of the document the relevant goals and aims will be outlined. Through the implementation of a structural framework system, the framework will allow the reader to easily orientate themselves within the document.

1.2 Project Rationale

This support route provides a clear understanding to WHY this proposed design will flourish within the current surrounding environment

1.2.1 This part of the document illustrates the necessity of such an architectural intervention, through the use of existing infrastructure and trade nodes.

1.2.2 How heritage plays a significant role in the formulation of the built environment. This then gives way to how the proposed project will utilize heritage to portray a familiarized connection with place and space.

1.3 Introduction.

The topic discussion is undertaken, as it focusses on formulating a response or a reaction on the proposed design mentioned within the project rationale and why this project would succeed.

1.4 Research Methodology

Outlines the research methods utilized to address the main issues of the project, with the goal of achieving a significant outcome on a design front. The design can only be deemed successful if the goals and aims stipulated within the dissertation framework are carried out correctly.

1.5 Proposed Programme and Project aims

This proposed program will structure the outline for the development of a fragrance boutique on Changuu Island.

Fin

1.1 DISSERTATION FRAMEWORK

Part 1 ... Project Rationale

Sections

1.1 Dissertation Framework

1.2 Project Rationale

1.3 Introduction

1.4 Research Methodology

1.4.1 Phases of investigation:

1.5 Proposed Programme and Project Aims

Project Limitations and aims:

1.5.1 Typology | 1.5.2 Topology (i) Clients (ii) Users (iii) Issues and aim | 1.5.3 Morphology



Part 2 ..... Experiencing Changuu Island

Sections

2.1 Marco Analysis of Stone Town, Zanzibar

2.1.1 The Story of Stone Town and traditional craftsmen

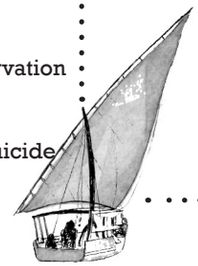
2.1.2 Zanzibar analysis

- Climatic conditions
- Soil conditions
- Wind speed and wind direction
- Drainage systems
- Land usage

2.1.3 The Stone Town of Zanzibar - Conservation of a difficult heritage

2.1.4 Deep Mapping of Stone Town and Suicide Alley Analysis

2.1.5 Suicide Alley Micro Analysis

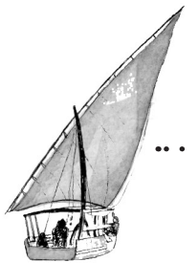


2.2 The Identity of Changuu Island

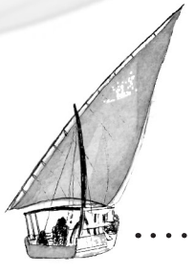
2.2.1 Changuu Island Nodes

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2.2.3 Deep Mapping of Changuu Island – The Sensory Experience



Part 4 Design & Technical Synthesis



Part 3 Theoretical Expoloration and Grounding

Part 5 Reflection



Figure 1.6: Image of the main islands of Zanzibar (Office of Chief Government Statistician-Zanzibar,2020).

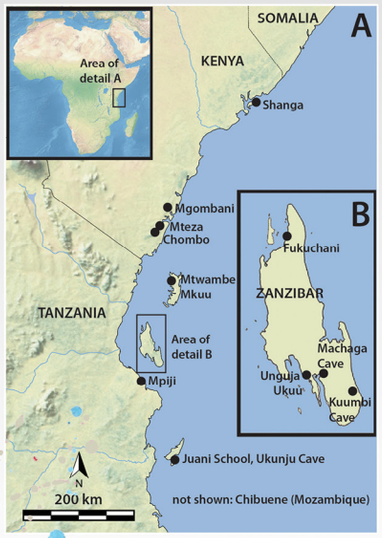


Figure 1.6.1: Image of the Swahili coastline (Prendergast, M.E. et al., 2017).

1.2 Project Rationale

Understanding Changuu Island

The following section aims to orientate the reader in understanding the essence of Changuu Island. This section will justify questions regarding the proposed design, as the project rationale create an interconnected net between crucial factors and information grounding the project.

1.2.1 Statistical Underpinning of Changuu Island

The proposed development of a Fragrance Boutique needs to be justified through a statistical analysis. This analysis needs to investigate the use of fragrances for cultural and religious purposes, as well as tourists' demand.

The first step towards the justification, would be to investigate the religious landscape or demographic of Zanzibar. One of the latest studies show that out of roughly 1.3 million residents, currently residing on the island, 99 percent have confirmed to be Muslim, according to a United States of America government estimate (U.S. Department of State, 2019: online).

This information therefore clarifies that most of the residents in Zanzibar form a part of the Islamic community. Although there are multiple mosques and religious gathering spaces located all across the mainland of Zanzibar, these nodes are located some distance away from the nearest spice farm. As stipulated in the theoretical part of the document, the Islamic culture incorporates multiple fragrances into their daily lives as well as religious practices. It is therefore of utmost importance to investigate the availability of fragrances, which will allow these religious institutions to practice and teach in an interactive manner. The way of practicing will inevitably establish a clear connection between the smell and its cultural use, in order to develop its cultural significance.

Spice farms may seem to be a major asset to the Zanzibar mainland, but due to a lack of funding and infrastructure, formality in this trade sector appears to lack. I have personally experienced this on my visit to some of the spice farms on the island.

Some of the well renowned farms on the island are: Tangawizi spice farm, Kizimbani spice farm, Kindichi spice farm, and Zanzibar Spices and Heritage Centre. These farms are major tourist attractions, allowing visitors to experience the locally grown plants and spices. There is, however, no formal space dedicated to teaching the user on the significance and historical background of their sensory encounter. It would benefit both the locals and tourists, if a space is dedicated to informing and educating on the historical significance of each smell, as well as for each participant or traveller to engage with the surrounding context, as a means of understanding the origin and use of each fragrance (Flightlink, 2018).

1.2.2

The issue addressed in the previous sub-section, can be seen as an opportunity to generate jobs for the local community in Zanzibar. To further structure an argument for developing a fragrance boutique, a site had to be identified that illustrates both the heritage of the Island in terms of materiality as well, as present the opportunity to attract tourists. Such a location would therefore include a lush and diverse natural landscape, which will have ideal soil types and conditions for growing plants.

Changuu Island located just off the coast of Zanzibar, presents exactly this, as it already functions as a major tourist attraction. The Island, functioning as a tortoise sanctuary, attracts multiple groups of people from all over the world to experience the natural beauty the mosaic-like canopy has to offer.

The island also presents tourists the opportunity to explore the ruins of a historical prison, currently functioning as a restaurant. The way in which an adequate design will be erected in this environment will be to use the materiality of both the existing infrastructure on the island, together with basic Islamic design principles. Implementing and adapting to these design guidelines will allow the proposed site to seamlessly integrate with the design of a fragrance boutique. In the theoretical section of this dissertation an investigation concluded that the design is to utilize the methodology of Critical Regionalism as interpreted by Kenneth Frampton (Frampton, 1973). Along with this theory, the work of Tadao Ando influences the use of defamiliarization, which is an evident characteristic in his designs (Frampton, 1973).

Vital Events Indicators

Indicator	Data	Source
Demography		
Total population	1,303,569	PHC, 2012
Male population	630,677	PHC, 2012
Female population	672,892	PHC, 2012
Average annual intercensal growth rate, 2002-2012	2.8	PHC, 2012
Number of households	253,608	PHC, 2012
Average household size	5.1	PHC, 2012
Population density (population per square kilometer)	530	PHC, 2012
Sex ratio	94	PHC, 2012
Total fertility rate	5.1	2015/16,TDHS
General fertility rate (per 1,000 women aged 15-44)	155	2015/16,TDHS
Crude birth rate (per 1,000 population)	36.3	2015/16,TDHS
Mean children ever born (women 45-49 years)	6.5	PHC, 2012
Childless women (45-49 years)	5.2	PHC, 2012
Percentage of women delivered with the help of a skilled health care provider	68.8	2015/16,TDHS
Percentage of women delivered in a health facility	64.1	2015/16,TDHS
Mean age at first birth (years)	22.9	PHC, 2012
Adolescent fertility (births per 1,000 women)	35.6	PHC, 2012
Mean age at first marriage for males(years)	26.3	PHC, 2012
Mean age at first marriage for females(years)	23.3	PHC, 2012
Proportion of married/ living together population	57.1	PHC, 2012
Proportion of never married population	36.2	PHC, 2012
Proportion of separated/ divorced population	4.6	PHC, 2012

Figure 1.7: Zanzibar's Demography (Office of Chief Government Statistician-Zanzibar,2020).

Figure 1.8: Sketch of man weaving a crown (Author,2021).



4.2 Mining and Quarrying

Table 4.2.1: Quantity and Value of Quarry Product, 2016-2020
Value (TZS in Millions)

Type of Product	Unit	2016	2017	2018	2019	2020
Stone (Mawe)	Qnty (Ton)	81,377	91,728	132,434	103,513	130,230
	Value (TZS)	977	1,101	1,722	1,242	1,953
Sand (Mchanga)	Qnty (Ton)	576,476	832,043	948,329	639,602	466,872
	Value (TZS)	4,324	6,240	6164	4,797	3,455
Gravels (Kokoto)	Qnty (Ton)	56,660	58,541	65,985	52,440	86,202
	Value (TZS)	2,266	2,342	3,299	2,098	4,483
Rubbels (Kifusi)	Qnty (Ton)	41,820	43,500	57318	53,718	97,727
	Value (TZS)	836	870	1,146	1,075	1,710
Limestone (Chokaa)	Qnty (Ton)	84	93	67	47,323	34,411
	Value (TZS)	126	140	101	71	86
Stone bricks	Qnty (Ton)	13,917	17,135	14,592	12,826	4,566
	Value (TZS)	125	154	730	115	2

Source: Zanzibar Statistical Abstract, 2020

Figure 1.9: Mining statistics and the value of limestone (Office of Chief Government Statistician-Zanzibar,2020).

Mining and Quarrying

Heritage plays an important part in the architectural development of Zanzibar. When analysing the materiality of Stone Town, the material incorporated within the construction of almost every building is Limestone. As discussed in the technical analysis, limestone is one of the materials accentuating the identity of Zanzibar. As the table in **figure 7** illustrates, the mining of limestone has increased drastically since 2016, but decreased immensely in value.

For Zanzibar, the value of this material has however remained priceless as new structures are erected year-round, due to the availability of the stone, its structural properties and to further develop the unique identity of Zanzibar.

Figure 1.10: Zanzibar tourist statistics (Office of Chief Government Statistician-Zanzibar,2020).

SECTORS OF SOCIO-ECONOMIC SERVICES

5.1 Tourism

Table 5.1.1: Number of Tourist by Continent, 2016-2020

Nationality	2016	2017	2018	2019	2020
Europe	233,157	275,402	311,177	341,756	189,031
Asia	58,108	57,703	57,305	42,536	14,210
Africa	46,016	51,457	52,674	61,312	23,347
America	30,404	38,344	71,574	74,247	29,393
Oceania	5,359	7,074	13,364	8,633	2,435
Not Stated	3,198	3,494	14,715	9,780	2,228
All Countries	376,242	433,474	520,809	538,264	260,644
Growth Rate	27.9	15.2	20.1	3.4	-51.6

Source: Zanzibar Statistical Abstract, 2020

Table 5.1.2: Tourist Arrivals by Continent and Sex, 2020

Continent	Male	Female	Total
Europe	84,389	104,642	189,031
Asia	8,252	5,958	14,210
Africa	11,439	11,908	23,347
America	11,847	17,546	29,393
Oceania	1,216	1,219	2,435
Not stated	1,204	1,024	2,228
Total	118,347	142,297	260, 644

Source: Zanzibar Statistical Abstract, 2020

Manufacturing and Processing

For this dissertation to be deemed relevant, a dependent factor can be the production value of fragrances. Zanzibar is well renowned for its historical spice trade and the significance of fragrances within the Islamic culture. The value of Essential Oil Products as illustrated in **figure 9 and figure 10** allows us to understand how the quantity, as well as the value of these products have increased over the past years.

It can therefore be stated that the existing market for fragrance trade is in a flourishing and ever developing state. These numbers signify exponential growth, and for Zanzibar to make use of the opportunity would be of benefit for the island. This opportunity would mean an influx within the tourism sector, which can be profitable for both the informal and formal trade sectors within Zanzibar as the increasing demand in products rises.

4.1 Manufacturing and Processing

Table 4.1.1: Production from Selected Private Industries, 2016-2020 Value (TZS in Million)

Production	Units	2016	2017	2018	2019	2020
Beverages*	Liters '000'	19,811	21,699	20,166	22,031	22,291
	Value	7,232	7,922	7,362	8,043	8,204
Bread	Number '000'	174,350	194,893	209,439	231,540	237,918
	Value	20,853	23,192	24,923	34,731	35,688
Sugar	Tons	4,814	677	3,339	6,467	0
	Value	6,258	1,211	5,970	10,994	0
Wheat Flour	Tons	23,834	25,196	26,963	30,230	35,513
	Value	23,085	23,939	24,712	29,156	33,717
Wheat bran	Tons	9,922	6,865	11,554	6,757	17,533
	Value	3,305	2,277	3,047	2,121	5,297
Dairy Products	Liters '000'	10,475	8,174	7,709	7,874	8,041
	Value	13,061	7,751	8,702	8,888	9,077
Noodles (Tambi)	Kgs	181,872	247,350	295,701	373,053	387,414
	Value	327	445	532	728	774
Door UPVC	Sq meter	93	121	239	222	40.45
	Value	13	17	34	31	11
Window UPVC	Sq meter	149	71	121	111	150
	Value	18	13	22	21	17
Garments Dash	Pcs	3,674	3,119	2,973	2,971	1,392
Dash (Nguo)	Value	111	105	104	91	29
Jewellery (gold/Silver)	Gms	5,915	5,060	5,684	5,282	8,315
	Value	15	12	12	18	39
Essential Oil Product	Number	0	227,088	224,045	230,318	234,924
	Value	0	812	801	850	955

Source: Zanzibar Statistical Abstract, 2020

Figure 1.11: The production value of fragrances in Zanzibar (Office of Chief Government Statistician-Zanzibar,2020).

Conclusion

This statistical investigation generates many perspectives and possibilities towards the introduction of a fragrance boutique. Although the private sector plays a substantial role in the production of fragrances, incense, oils and cosmetics, the true catalyst in Zanzibar's aroma trade lies in the public sector (figure 10). The government rules this trade and due to the increase in production numbers, jobs are created. As the market continues to grow, the demand and interest in aromas increase. More tourists will stream towards the lush island for an eyewitness, personal experience - Leaving Zanzibar with the opportunity to tell the story of smell.

Table 4.1.2: Value of Goods Produced from Public Industries, 2016-2020 Value (TZ inMillion)

Commodity	2016	2017	2018	2019	2020
Clove stem Oil	368	1,042	1,375	3,102	750
Essential Oil (Others)	21	24	62	44	39
Printing	942	630	2,306	2,172	3,509
Electricity Distribution	86,626	93,637	110,703	120,852	119,895
Total	87,958	95,333	114,445	126,170	124,193

Source: Zanzibar Statistical Abstract, 2020

Table 4.1.3: Total Production from Public and Private Industries, 2016-2020 (TZS in Million)

Industry	2016	2017	2018	2019	2020
Private	74,279	67,697	76,220	95,024	93,807
Public	87,958	95,333	114,445	126,170	124,193
Total	162,236	163,030	190,666	221,194	218,000

Source: Zanzibar Statistical Abstract, 2020

Figure 1.12: The production value of fragrances in Zanzibar (Office of Chief Government Statistician-Zanzibar,2020).



Figure 1.13: A whiff of a spice market in Zanzibar ('Zanzibar spice tour',n.d.).



Figure 1.14: Image of Author on a traditional dhow with Changuu Island in the distance (Author,2021).

1.3 Introduction

I sit staring out over the open water. The wind brushing through my hair. The old wooden hull of the dhow rocks to and fro as we plough through the tropical waters. In the distance lies a resting landmass, caressed in a blanket of flora. A sense of euphoria plays on my heartstrings as we edge closer and closer to Changuu Island. This jewel hidden just off the coast of Zanzibar is a heavenly environment with breath-taking sights. For Zanzibar this Island does not only serve as a major tourist attraction, it also is home to the many Giant Aldabra Tortoises.

As I step off the dhow my feet are kissed by the warm, soft sand. The bright sunlight beams down from above, reflecting off the white sand. Ahead lies a sensuous place, bustling with life.

A smell of moisture fills my nostrils as the gentle sea breeze cools the island. As I walk up the mangrove timber steps located on the fringe of the sandy beach, I look up and realize: This is where my adventure begins...

For as long as a man can remember smell has always been a crucial part of understanding our surroundings. The limbic system can dictate mood, memory, behaviour and emotion. This system found within the brain has been around for centuries, as studies have identified this system to be present within the earliest of mammals. The sense of smell latches itself onto memory. Different smells evoke particular memories of experiences from the past. A smell can recall memories even if they are long forgotten. What makes smell such a powerful sense is the fact that every person experience smells differently. One person can for example describe a smell to be pleasant or powerful, whereas another might experience the same smell to be overpowering.

From an Islamic perspective, smells play an important part in the performing of rituals and honouring traditions. In the absence of smell, both cultural identity and historical significance can be lost. To Zanzibar's advantage, the fertile soil and favourable climatic conditions serve as the perfect incubation system to grow the plants interlinked with all the cultural activities related to fragrance. This dissertation questions the mediation of both tradition and sensory interplay to create and develop a stable environment- one where man and nature are harmoniously integrated. This proposed development will function as a fragrance boutique, gathering inspiration from the works of Kenneth Frampton and Tadao Ando, to create a design that includes defamiliarized elements and reconnecting them in a critical regionalist fashion. The design will offer a sensitive solution with regards to Islamic traditional values and inevitably aim to become an identity of culture through the incorporation of fragrance. The design will connect the user with the significance of each smell, as the landscape choreographs a story both the locals and tourists can relate to.

This dissertation does not question the methods implemented in the teaching of Islamic culture. Rather it raises awareness towards implementing a sensory approach when the experiential quality of an occasion is of utmost importance. If the experience taught does not have any lived experience or connection by those receiving the form of education or knowledge, he or she might not understand the quality and importance of the lesson. This does however not focus purely on the Islamic community, as the dissertation also leans towards educating the outsider on the quality of the Islamic culture and the fragrances utilized in the performing of cultural activities.

As a means to establish the importance of the Islamic cultural activities and practices, a discussion develops to allow the key elements of Islamic architecture to express its true identity and complexity within the context. The information gathered and portrayed within the document stems from multiple resources, together with my personal experience of the architectural style implemented within Stone Town, Zanzibar and Changuu Island.

1.4 Research Methodology

This dissertation has a variety of exploratory methods in order to actively adapt and generate solutions for the main concerns surrounding the project. The methods approached within this dissertation have the common goal of successfully achieving the proposed architectural project. A strategic set of goals had to be established which act as beacons in the process of design development. These goals had to reinforce the structural backbone of the dissertation and will allow any challenges and complexities that may be problematic for the sufficient and poetic development of the **Changuu Fragrance Boutique**, to be dealt with without negative repercussions.

This proposal first needs to establish a solid grounding within the surrounding context of Zanzibar to establish whether such a dramatic insertion would be deemed relevant. As the findings with the statistical analysis (p. 14-19) illustrates, such a development will thrive given the analysed numbers. This next step is identifying the appropriate setting or location to introduce a designed space. This involved searching for a location that will accentuate the narrative, whilst simultaneously reviving the landscape. Changuu Island presented the qualities required to introduce a sensory development that would give back to the landscape, the local community and will continuously strive towards proclaiming cultural significance.

Implemented research methodology for this dissertation:

The research methodology is established to achieve the ultimate goal of a successful and innovative architectural solution. This will be done through a structural investigation consisting of four design phases, which will inevitably interlace. These phases are the; design inception phase, the typology phase, the topology phase and the morphology phase.

Phases of investigation:

Design Inception Phase

A touchstone is designed to become a sensory expression of the project. This artistic representation highlights the fundamentals of the proposed project as it explores the sensory realm. From this a conceptual adaptation comes to light, allowing the visual expression of both materiality and consciousness to intertwine with the sensory expression of the touchstone. The product was an array of sketches, functioning as abstract depictions of each of the three conceptual models.

From a structural perspective, the construction touchstone was built to express the Islamic style of architecture present within Zanzibar. This structural representation simultaneously incorporated materiality evident within the construction of Stone Town. The final product was a model illustrating the quality and significance of Zanzibar's architecture.

Typology Phase

An investigation was launched to identify a relevant intervention within Zanzibar. This method identifies a programme, with the aim of expressing the cultural and historical significance of the island, along with being a beneficial insertion for both the local community and the proposed client.

Topology Phase

An introduction of topology is launched with the aim of attaining research surrounding the proposed location of Changuu Island. This phase analytically identifies the beneficial factors as well as the shortcomings of the proposed site. Along with this, the construction systems of the existing urban fabric are investigated to gain clarity on structural quality and characteristics of available historic materiality.

Morphology Phase

During this phase a theoretical essay was written stipulating the historical significance of Zanzibar and identifying the correct theoretical approaches towards developing the proposed dissertation.

The next step towards deriving the applicable form created for the design, was to conduct precedent studies. This section aids the decision-making process of the design as the precedent studies, incorporate both theoretical and construction examples.

All the above paved the way towards a culturally integrated design, as the next step was to start the documentation process and to produce a technical report on the proposed development.

1.5 Proposed Programme and Project Aims

This prescribed programme for the proposed design of the Changuu Island Sensory Boutique is developed to generate a cultural ambience of place. A multisensory design transpires, incorporating fragrances with cultural significance and historical value. This displays the importance of the island's heritage. Together with this, a formal approach to the fragrance industry is established. A blossoming fragrance sanctuary is designed to educate both community and tourists on the trade and history of perfumes and scents. The designed space serves the purpose of generating job opportunities for local community members and members who previously relied on the informal trade of perfume.

The Olfactory design is developed on the northern edge of the site to underpin the history of the previous coral farm and connects the history of the site to a contemporary design approach - creating a multisensory design that functions as a fund generator for the current, neglected tortoise sanctuary.



Figure 1.15: Swahili woman in traditional clothing (Author, 2021).

Figure 1.16: Swahili woman in traditional clothing (Author, 2021).



1.5.1 Project Limitations and aims -Typology

Fragrance is implemented over a broad spectrum and has multiple uses, however, in this specific study, the relevance of fragrances is investigated in the context of Zanzibar and will only deem suitable for the impact it has on the Islamic culture.

The study is also limited due to the site-specific implementation of certain fragrances and the development of trade within the surrounding area. External factors such as technology and manufacturing methods may have altered the traditional routes of this process, but the cultural value of fragrances still remain, along with the holistic use of these scents.

An investigation needs to be conducted to specify the variety and significance of fragrances within Zanzibar. This research allows a process of adaption to emerge, with the goal of attaining valuable cultural insight towards the formal and informal application of fragrances within the Islamic culture. The process of adaptation does not question the relevance of the specified fragrance, rather it utilizes the application process as a means to incorporate it within the narrative. This investigation is available within; **The history of fragrance and its significance within the Islamic culture (p.** 75 –76**) and The identity of fragrance within Zanzibar (p.** 77, 80 - 82**).**



Figure 1.17: The significance of fragrance (Author, 2021).

In addition to these limiting factors, the dissertation addresses the typology of the site. This becomes clear within, **1.2.1 Statistical Underpinning of Changuu Island**. In this section, it is mentioned that the fragrance industry is gradually experiencing an increase in demand. With this increasing demand, it raises the issue of increasing production of fragrances, along with adhering to the identity of place[2], without neglecting the values of the Islamic culture.

The typological aim is to utilize this economic opportunity to gain interest in the cultural qualities of the produced fragrances. This creates the opportunity to revitalise the dilapidating Island of Changuu with a culturally and environmentally sensitive approach. This approach will stimulate growth within the fragrance industry and will provide Zanzibar with job opportunities.

2. 'identity of place'- This refers to the character of the place (what the space/place is renowned for) and what the space/place aims to become.

1.5.2 Project Limitations and aims -Topology

(i) Clients:

The clients for the proposed design are **The United Nations Educational, Scientific and Cultural Organization (UNESCO)** and the **Zanzibar State Trading Corporation (ZSTC)**. Zanzibar's heritage status binds it within the guidelines of UNESCO. This organization outlines the historical significance of Zanzibar and Changuu Island. It is therefore of utmost importance to adhere to the set principles and policies, whilst expanding the commercial trade of fragrances in Zanzibar. This commercial aspect is regulated by the ZSTC as they aim to provide market-orientated products and services (ZSTC, 2018). This corporation conducts all the business concerning the supply and distribution of essential oils and other agricultural products (ZSTC, 2018).

These separate entities will allow a connection to be established between heritage and produce, to generate a business that encapsulates the identity of Zanzibar.

United Nations Educational, Scientific and Cultural Organization

World Heritage Convention

Figure: 1.18

Zanzibar State Trading Corporation ZSTC

Figure: 1.19

(ii) Users:

The proposed development aims to cater for the cultural and educational purposes of the Islamic community located all over the world. The design will also focus on attracting multiple tourists to experience the cultural quality of Zanzibar through the use of fragrances. Lastly, the proposed design aims to encourage the local community to participate, and to gain deeper insight into their cultural heritage.

The United Nations Educational, Scientific and Cultural Organization (UNESCO)

The proposed design will generate an alternative source of income for Changuu Island, which will in turn supplement the existing tortoise sanctuary. This additional income gained through tourism, will be used to maintain the existing infrastructure, such as the old prison found on Changuu Island. This will benefit UNESCO due to Stone Towns' historical significance embedded within its materiality. The use of materials in Stone Town generates a cultural ambience and harmoniously intertwines the cultural background the town is renowned for (Centre, U.W.H., 2021).

The proposed design will allow UNESCO to raise awareness towards the structural and cultural qualities persevered over the years, thus emphasizing the significance of the proposed design as it will incorporate regional design methods to portray the quality of its surrounding context.

(iii) Issues and aim:

Topology on Changuu Island has underlying issues that need to be addressed. The site is of historical significance (Centre, U.W.H., 2021) and has a diversity of plant and animal life. The proposed design project will encourage more tourists to visit the island. This may have a negative impact on the natural environment as human interaction can lead to the disturbance of this tranquil haven. The project can also be seen as an intrusion if the natural landscape is demolished.

The topological aim is to establish a narrative, utilizing the classical elements on the eroding edge of the island rather than removing the tree canopy within the romantic landscape. This intervention aims to educate the tourist on both the importance of preserving the natural landscape and biodiversity of our planet as well as optimizing the use of vernacular styles - to classify the project as a harmonious insertion, rather than an intrusion. Respectively, the island already functions as a tourist attraction and will have a supplementary source of income and funding to safeguard the preservation of the existing tortoise sanctuary and the historic prison.



Figure: 1.20: Locally grown produce (Author, 2021).

1.5.3 Project Limitations and aims - Morphology

The morphological issue the architectural development exploits are the connections between historic and contemporary. The nature of the project questions the use of defamiliarized elements to reestablish the meaning of the place. As elements are utilized straying from their designed intent, the proposal may be classified as foreign or stitched together. This will spill over in misinterpreting the experiential quality of Changuu and may be misleading in educating the user on the Islamic culture.

Due to the theoretical methodology of Critical regionalism **(see p. 94-97)**, which the design aspires to successfully incorporate, a cohesive flow of architectural elements and nodes are required. The veracious utilization of Zanzibar's architectural language evokes an exciting solution towards rejuvenating the island.



Figure: 1.21: An alleyway in Stone Town (Author, 2021).



Figure: 1.22: A journey made possible through fragrance (Author, 2021).



Experiencing Changuu Island

Part 02

Part 2: Experiencing Changuu Island

2.1 Marco Analysis of Stone Town, Zanzibar

The purpose of this section is to illustrate the importance of Zanzibar and the significance of architectural heritage. This section takes the reader on my experiential journey of the place, in order to generate an image in their mind. Thus, creating a coherence of place, architecture and construction. The next step is analyzing the impact of natural conditions on the surrounding context. This will raise multiple questions relating to the proposed design and will establish a sensitive solution when spatial development is undertaken.

2.2 The Identity of Changuu Island

Changuu Island is a unique environment with an exuberant personality. The many different elements contributing to this identity can be experienced through nodes located across the green island. This section of the dissertation focusses on underpinning the working of this tropical paradise, by incorporating my own sensory experience. The method of deep mapping comes into play, working as a filter for the thought process. What remains is small sensory details, capturing the significance of the place.

Fin

Part 2: Experiencing Changuu Island

Figure 2.1: Dhow heading to Changuu Island (Zanzibar tanzanie archives, n.d.).



2.1 Marco Analysis of Stone Town, Zanzibar

6.1622° S, 39.1921° E



Figure 2.2: map illustrating important nodes in Stone Town ('Light box', n.d.) adapter by author.

2.1.1 The Story of Stone Town and traditional craftsmen

The luscious East African Town, with its naturally sculpted harbour served as a gateway for multiple cultures. Sailors, merchants, explorers and conquerors came from distant lands in search of treasures such as spices, adding value to this tropical paradise (Malisius, 1987).

Among these groups of travellers, the Arabians had a notable impact on the architectural development of Stone Town. They brought their unique architectural style, but paid respect to the land by incorporating locally sourced materials (Malisius, 1987).

As I walked down the dimly lit alleyway, I heard the flopping of sandals on the stone walkway. In the distance I saw a little boy running. He ran with such intent, as if he was ordered to fetch something. To my surprise he stopped in front of our group, waved his hand and said; "Come, come start". Flustered by his act, we proceeded in the direction of the silhouette now hurriedly shuffling down the corridor. We came to a halt midst a group of tourists ready to explore a building known as Stone Town's Hamamni Bath complex or the Persian Baths.

Although this was not part of our initial plans, I tagged along to find out more about this historic bath house. Built in the 19th Century, this space served as the first public baths in Zanzibar (Malisius, 1987). Incorporating multiple techniques from the previously mentioned Arabian architectural style, as well as the locally sourced materiality, such as coral stone and limestone (Malisius, 1987). This building consisted of walls of coral stone, built into masonry structuring. The walls are covered in a limestone mortar and whitewashed with lime. Some of these walls are as thick as 600mm, allowed a cool climate to be established within this historic space (Malisius, 1987). As I continued through the building, multiple elements of this specific architectural style became evident. Elements such as arches and niches, allow the building to portray a feeling of holiness or purity as all the rough edges and corners are washed away leading me deeper into the chambers. These elements generate a specific atmosphere within the bath house, which contribute to quality of the space that I could describe as a very pure and reflecting environment.



Figure 2.3: Public Bath House in Stone Town.

As for other notable elements, the use of sand and red earth is also incorporated into walls, to further add both strength, colour and texture. When analysing the roofing and slabs, there is a use of mangrove poles, topped with a layer of stones covered in mortar (Malisius, 1987).

Decolonization in 1963, led to Zanzibar's dilapidation as the Arabian landlords and Indian merchants were banished from the land, leading to abandonment and confiscation of many houses and buildings. Together with this order cast by the British, the new ruling government failed to maintain the historical significance and cultural heritage that Zanzibar was so well renowned for. The government did however acknowledge the state of Stone Town and made multiple attempts to remediate the issue. These attempts however led to no avail (Malisius, 1987).

Soon the negligence became visible as poles showed signs of rot, water damage made walls crackle and slabs started crumbling (Malisius, 1987).



Figure 2.4: Entrance to public Bath House in Stone Town.

As time passed the Government established an institution, with the aim to purely cater towards the conservation of Stone Town. The institution known as "Stone Town Conservation and Development Authority" (STCDA) of 1985 set forth to uplift the current conditions within fallen Stone Town (Malisius, 1987). One of the implemented actions was to educate the community on the importance of traditional craftsmanship techniques and methods. This helped to rebuild the aesthetic quality of Stone Town whilst simultaneously rediscovering the cultural and historical significance of the lost town. This would deem to be a profitable implementation as the government at this stage in time changed the policy towards economic liberalization, leading to an increase in building activities (Malisius, 1987).

Figure 2.5: Bathhouse interior (DestiMap.com, n.d.).



2.1.2 Zanzibar analysis

Changuu Island forms a part of the mainland of Zanzibar, also referred to as Unguja. This area is around 1600 square km. The main city within these boundaries, known as Stone Town, has a population of around 170 000 inhabitants.

Climatic conditions

Climatic conditions in Zanzibar can be deemed mostly humid, with high temperatures averaging around 31°C. During colder months, such as September temperatures average at 29°C. Rainfall in Zanzibar averages around 1900mm annually, with major storms and flooding commonly occurring during the month of April (Weather Spark, 2021).

Unguja and the other main island know as Pemba, have a bimodal rainfall pattern, which gives Unguja an average rainfall of 1800mm per annum in the northern parts and a 1500mm per annum rainfall in southern parts of the island.

The main season for rain in Zanzibar is usually between the months of March and May, where the island accounts for around half the annual rainfall. This season is also known as "Masika" and together with the season "Vuli" (between October and December), is known as the rainy seasons of Zanzibar.

Growing season, water temperature and wind direction played an important role in the development of the design. Taking into consideration that Changuu Island is home to the renowned Galapagos Tortoise, which is a major icon within the community. The surrounding environment or habitat needs to be at a degree of comfort to ensure the survival of the species. Optimum climatic conditions are required to grow vegetation, which starts from May to the end of October, when the humidity drops (Weather Spark, 2021).



Figure 2.6: Map illustrating the global site positioning, starting with the location of the country with Africa and moving towards the Island of Changuu, located on the edge of Zanzibar (Snazzy Map, 2021) adapted by author.

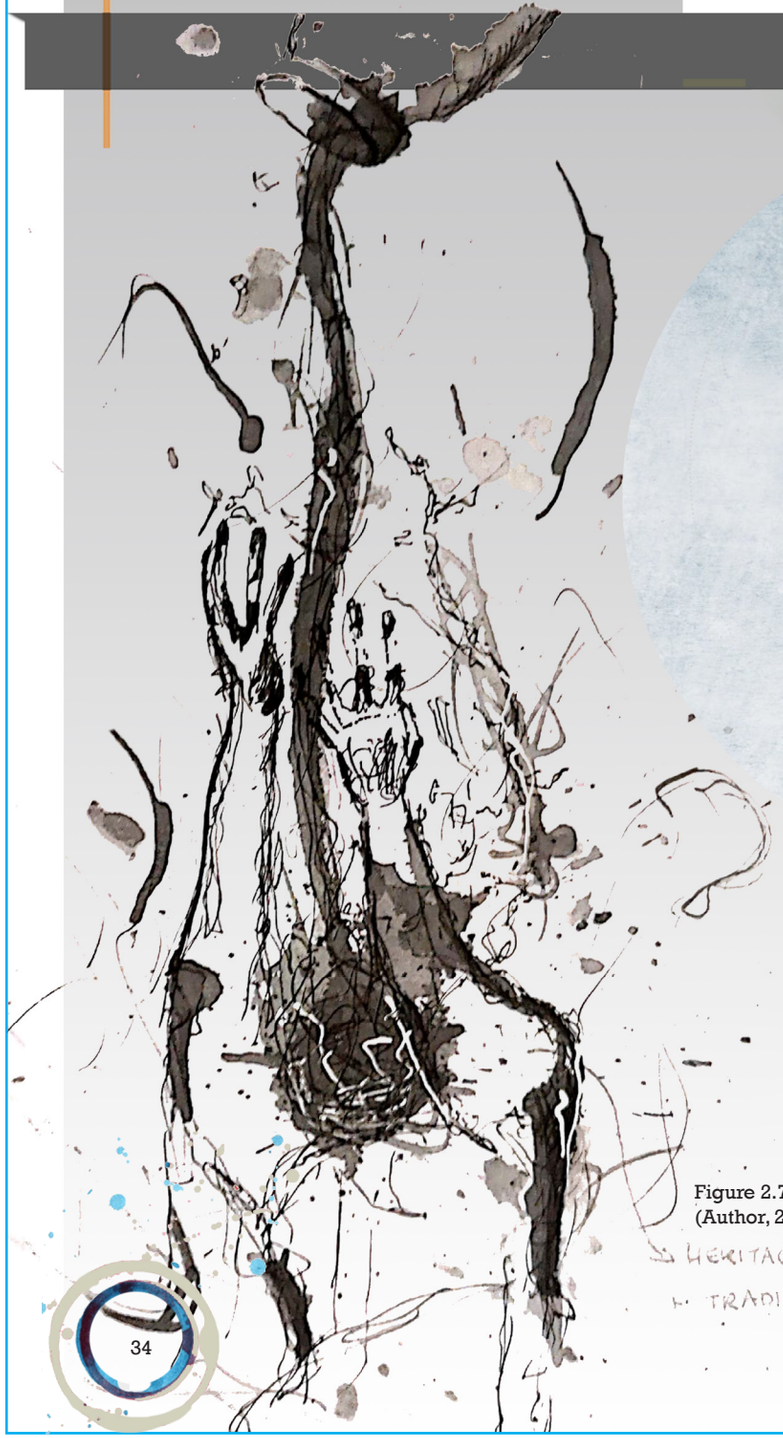


Figure 2.7: Abstract illustration of heritage (Author, 2021).



Figure 2.8:
The ocean becomes an important factor within the design as the trip to the island itself will become a spiritual journey and a time to reflect.



Figure 2.9:
The importance of religion within Zanzibar- Design a space to experience the culture and heritage

Soil conditions

Two of the most iconic rivers which shaped the main islands of Zanzibar are known as the Rufuji and the Rufu rivers. Due to the flow of these rivers the limestone layer making up these islands was affected, which led to the creation of landform patterns still apparent in areas of Unguja. Together with this sea levels in early times (1-2 million years ago) led to marine erosion, creating the fringing reefs as seen at Changuu Island.

Unguja consists mainly of three different types of Miocene limestone. The first of the three called the M1 on the stratigraphic plane, is notably made up of crystalline, reef and detrital limestone. This specific limestone was one of the first sediments on the island (Hettige, 1990).

The M2 limestone is a grey and white limestone of a sandy consistency and is also characterized due to its easily "weatherable" quality. This type of limestone, is more exposed than the M1 and weathers into sand or sandstone (Hettige, 1990).

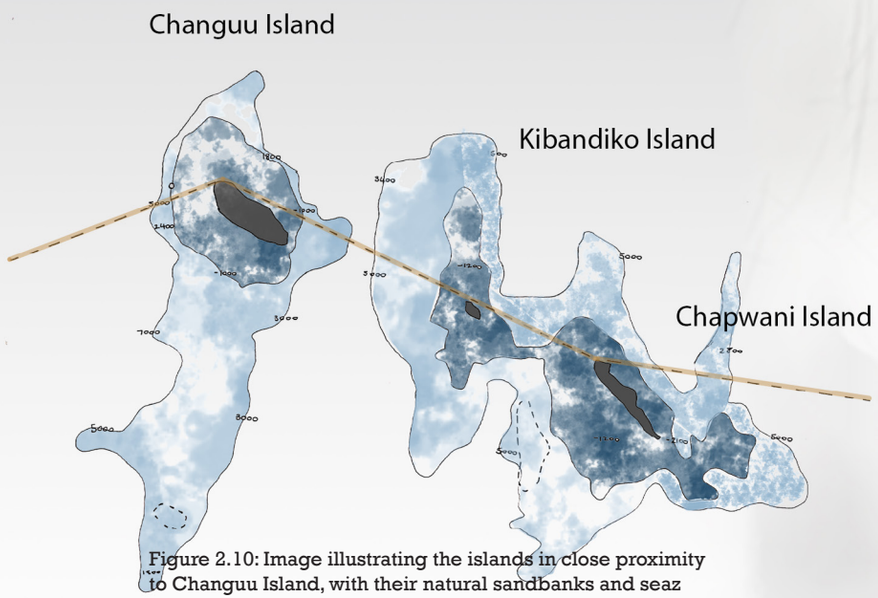


Figure 2.10: Image illustrating the islands in close proximity to Changuu Island, with their natural sandbanks and seaz levels
(Google Earth, 2021) adapted by author.

Figure 2.11: The third and final type known as the M3 on the stratigraphic plane, has a grey and blue appearance and is made up of marls clay and sandy clays. This type of limestone eventually turns to a heavier and dense coarse sand, which are found beneath the M2 layer (Hettige, 1990).



Wind speed and wind direction

June to September are the months known for trade winds. Winds that would normally affect areas such as Changuu blow from the South easterly region and these winds average around 1.8 m/s to around 2.3m/s, especially during dry periods of the year, which occur during the months of November up until the end of February (Hettige, 1990)..

Water temperature

This together with the average water temperature of 26°C creates a pleasant environment to maintain and develop a functional environment where natural growth is of major importance to facilitate the function of the design (Hettige, 1990).

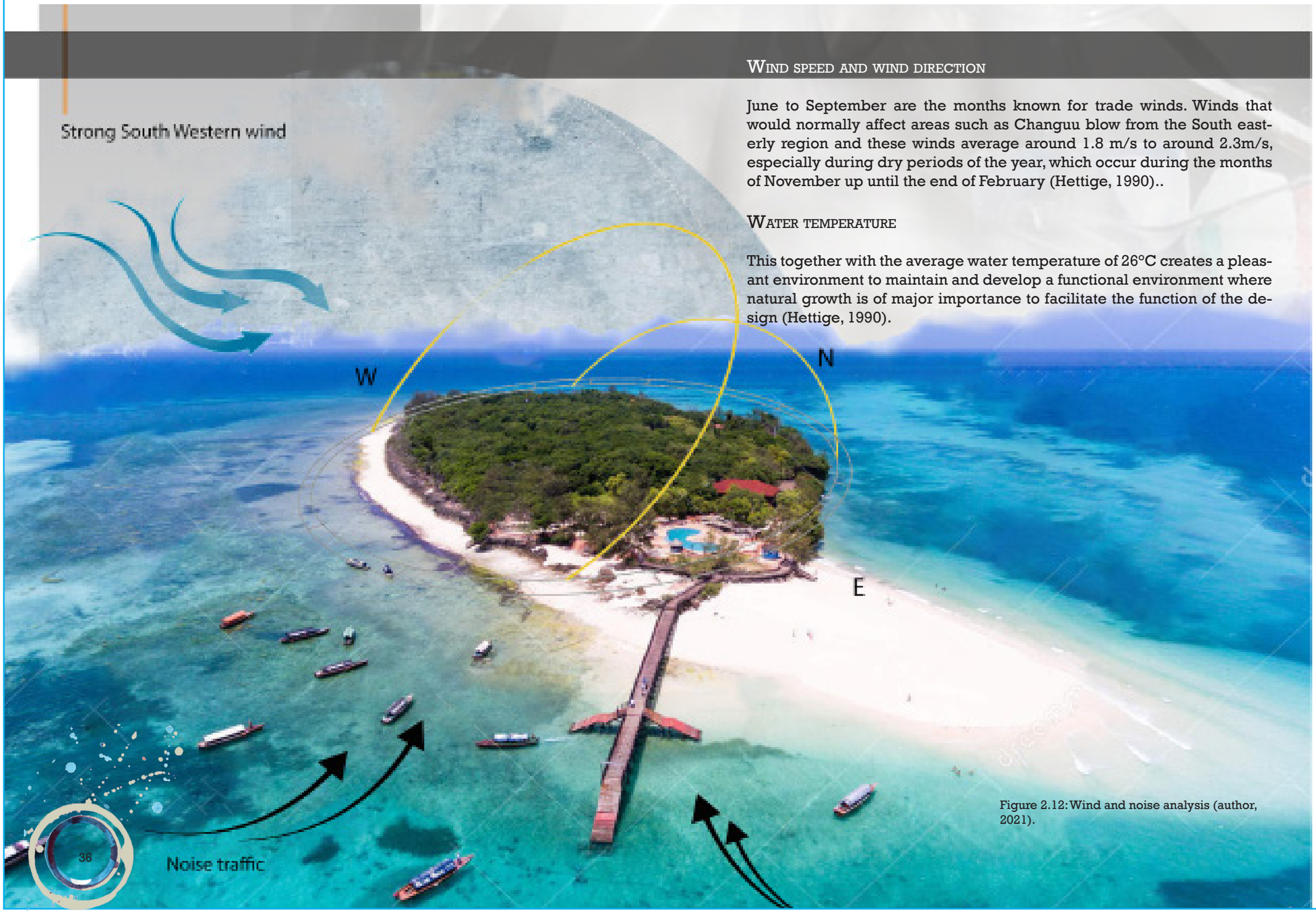


Figure 2.12: Wind and noise analysis (author, 2021).

Drainage systems

Water in Zanzibar is supplied to Stone Town, rural areas and villages through springs, limestone caves and manmade wells. The surface layer of soil in Zanzibar does not have the capability to store a large amount of water. Limestone layers such as M1 and M3 as previously mentioned also act as ground water storage systems, which contribute to the industrial and irrigation use of water in Zanzibar. Most of the water encountered on the island is safe for domestic use due to the characteristics of the limestone to purify groundwater (Hettige, 1990).

Drainage in Zanzibar and areas such as Changuu Island is mostly subsurface draining. This is due to peripheral coralline and miocene limestone, which have sinkholes and caverns to transport the water away from surface areas. Although drainage does not pose a problem in most areas of Unguja, there are, however, areas on the island where heavy clay soil poses a problem of flooding during heavy rains (Hettige, 1990).

Land usage

Due to human impact on the island of Zanzibar the tropical mosaic pattern[3] has been altered to some extent, but still the majority of the land can be seen covered in a high tree canopy. In other areas where dense woodland is absent coralline is visible. These coralline areas are in most cases located closer to the coastline. These coastal areas also have less humidity than more tropical areas or woodland areas located inland. When analysing the swampy areas within Zanzibar, valuable timber resources can be identified such as the mangrove tree. These areas are heavily influenced by the movement of the tides, together with the presence of fresh water, which contributes to the growth of the trees. Some of these trees grow to around 20 meters in height, which make them perfect for construction use, such as poles.

Settlers such as the Omani Arabians, contributed massively to deforestation as they cleared land for plantations used to plant coconuts and cloves. Over the years these plantations located in Unguja have been neglected and show signs of poor cultivation systems, but most plantations are currently undergoing rehabilitation in an effort to salvage the land. This rehabilitation processes would profit the island of Zanzibar greatly seeing that agriculture makes up for around 55 percent of foreign exchange earnings, as well as allowing more job opportunities in coastal areas (Hettige, 1990).

Majority of the land in Zanzibar is the property of the government. The Ministry of Agriculture is however, fighting a battle to encourage farmers to make use of the land available to increase the production of crops. Due to the scarcity of land every person in Zanzibar with sufficient farming land is required to utilize this land for the growing of crops either for personal use or to sell to products grown on their soil (Hettige, 1990).

[3] 'tropical mosaic pattern' - The island allows the visitor to experience the true beauty of nature. From a personal point of view, the tree canopy of Changuu Island allows light to filter and penetrate through the luscious leaves. This penetration of light gave the experience a feeling of expression, as if the island was telling a story through the artistic filtering of light.

2.1.3 The Stone Town of Zanzibar - Conservation of a difficult heritage

Zanzibar and Stone Town still pride themselves on the incorporation of traditional construction techniques, in order to portray cultural history within the contemporary development of Zanzibar. It would therefore not be an uncommon feature to see methods such as concrete blockwork and laterite-sand masonry used together in the erection of modern structures. This allows a form of authenticity to come to light within the historic town, whilst simultaneously catering for the functionality of the building. For a traditional craftsperson or specifically a mason the above-mentioned construction method comes almost naturally as they are expected to build in both of these styles.

During the 19th century the Omani traders settled within Zanzibar and started to take their place as plantation owners amongst the local community. Furthermore, these newcomers projected their own unique architectural style as new multi-storey buildings of coral stone rose from the ground. Together with this, a problem arose concerning the climatic conditions, as these new buildings had to adapt in order to overcome the wet conditions of Zanzibar. The initial Arabian flat roofs, had to be changed to corrugated pitched roofing, which in certain cases caused a lot of quarrels due to traditional features, such as crenelated parapets being obstructed. Although this new feature deemed to be a downfall for tradition, this specific method of roof construction has been around in Zanzibar for over a hundred years and has since become a traditional construction material within Stone Town (UNESCO Centre, 2000).



Figure 2.13: Stone Town, Zanzibar vernacular (Author, 2021).

Although the Omani people had an immense impact on the architectural development of Zanzibar the traditional Swahili architecture was maintained and adapted to develop the Swahili House (refer to figure 2.13). This house with its entrance porch and traditional seating known as barazas, developed from a mud hut with a thatched roof to a plastered stone house, with corrugated iron sheet roofs. Another design aspect of these buildings is the corridor leading to an open courtyard, which allowed for an aspect of privacy. This internal courtyard is wrapped with balconies, allowing woman to perform daily tasks out of sight of those who pass by.

Another aspect of the Swahili House that personally had me searching every street, is the carved wooden doors (refer to figure 2.14). I recall walking up and down the narrow corridors searching for these iconic doors, as if I would be awarded with a prize if I was to find all of them (refer to figure 2.15). These fascinating doors of teak wood told a tale of those who once occupied the dwelling and allowed the dull facades to come to life. They encapsulate history and identity and display carved features or patterns such as fish, which is a symbol of fertility and incense, illustrating wealth. These pieces of art display the creativity and skills of traditional craftsmen and is just another example of the skills this culture possess (UNESCO Centre, 2000).



Figure 2.14: Stone Town, Zanzibar handcrafted mahogany doors (Author, 2021).

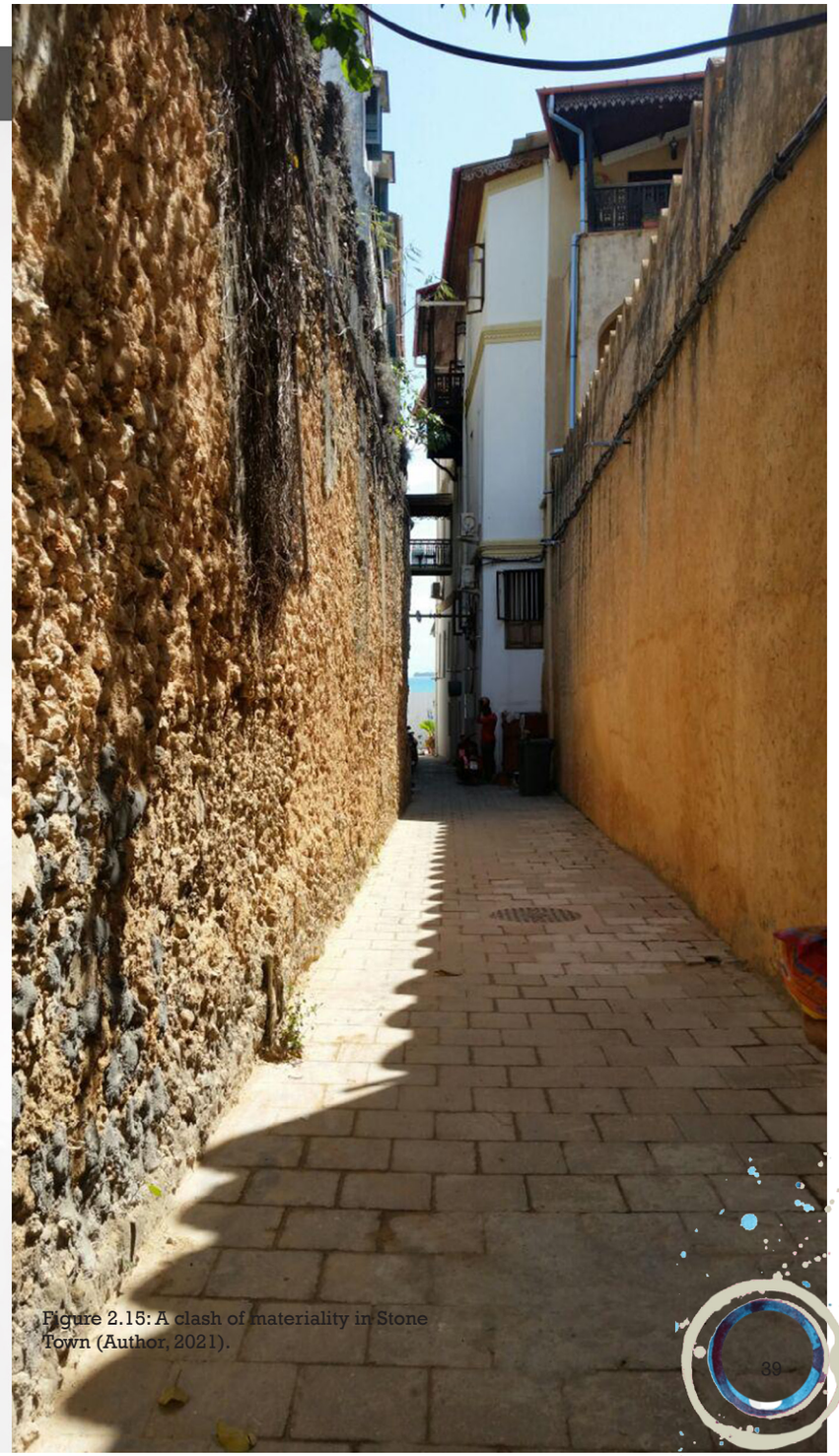


Figure 2.15: A clash of materiality in Stone Town (Author, 2021).

2.1.4 Deep Mapping of Stone Town and Suicide Alley Analysis

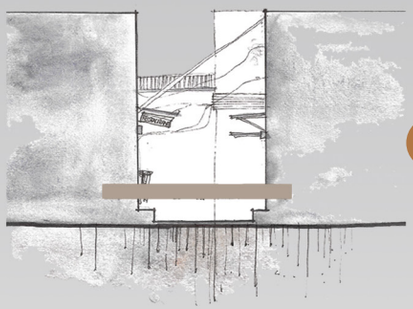


Figure 2.16: Although the streets are narrow they can still accommodate pedestrian traffic (Author, 2021).

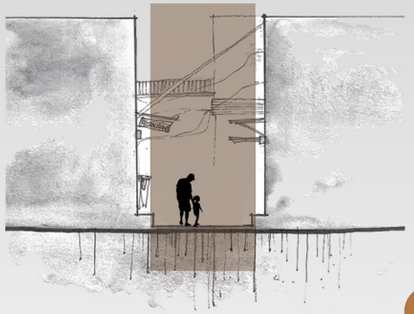
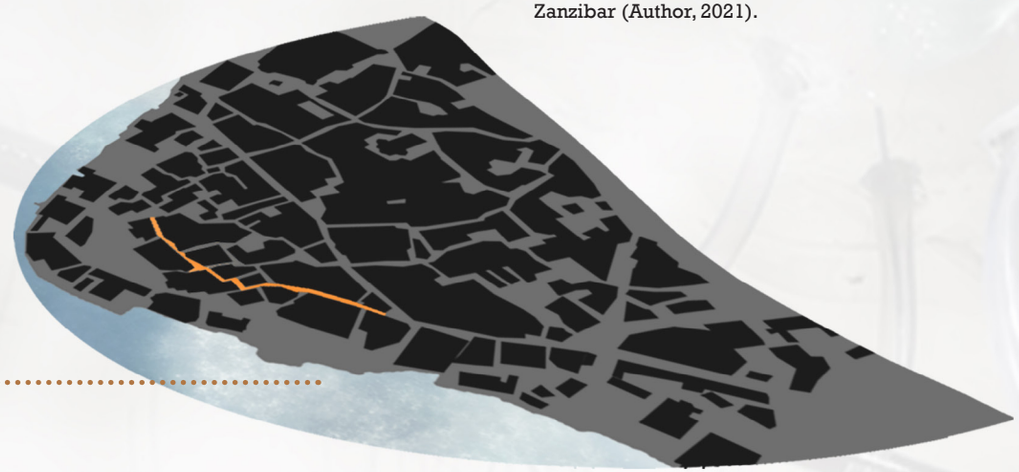


Figure 2.17: Multifunctional streetscape, serving residential and business (Author, 2021).



Figure 2.18: Informal trade takes place within buildings as well as in street. Thus, spilling from semi-public into public zone (Author, 2021).

Figure 2.18: Map highlighting Suicide Alley in Zanzibar (Author, 2021).



2.1.5 Suicide Alley Micro Analysis

Figure 2.19: Mapping and analysis of Suicidse Alley Zanzibar (Author, 2021).



1

Congestion



Very narrow and congested. Informal venders sit next to crafts and items.

Sales Tactics



Venders in most cases try to engage with the customers in order to attract their attention.

2

Proximity



Extremely narrow corridors. Therefore customers almost forced up against vending spaces.

Availability of Space



No vehicles, only pedestrians. Therefore ample market space.

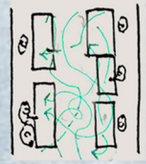
3

Utilization of space



Venders are crammed in. All space is utilized.

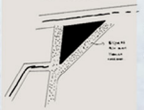
Pedestrian Circulation



Jagged and unpredictable, people have to avoid obstructions

4

Vehicular Traffic



Traffic utilizes alternative routes to accommodate pedestrians in market space.

Node Distribution



Market becomes an entity of its own.

Figure 2.20: Micro Context analysis of Changuu Island
(Site and Materiality Investigation)

Author, 2021.



Changuu Island Tide Fluxuation

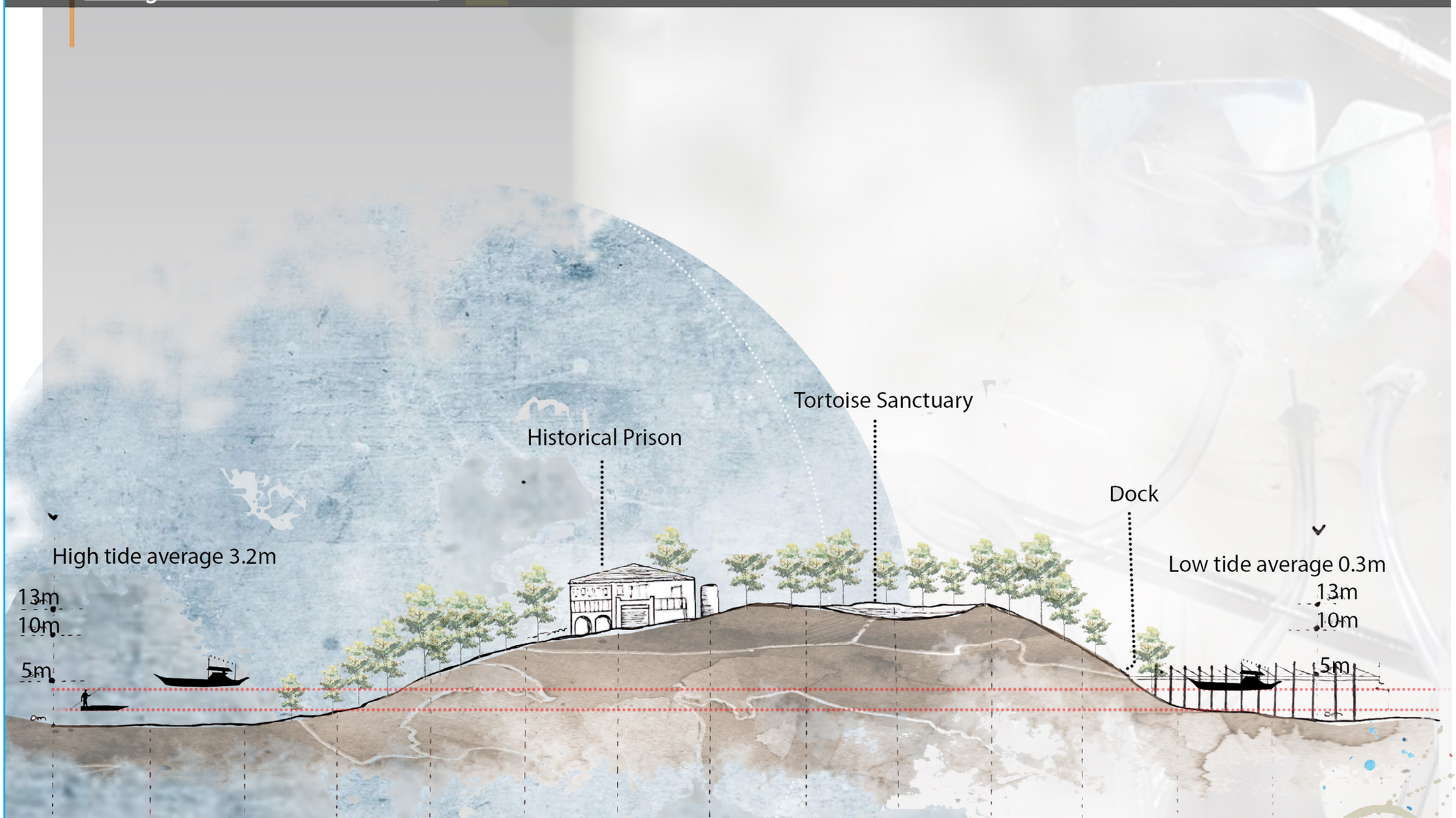


Figure 2.21: Section of Changuu Island illustrating the difference in high and low tide (Ferreira, 2021).

Changuu Island Site Images

Figures:

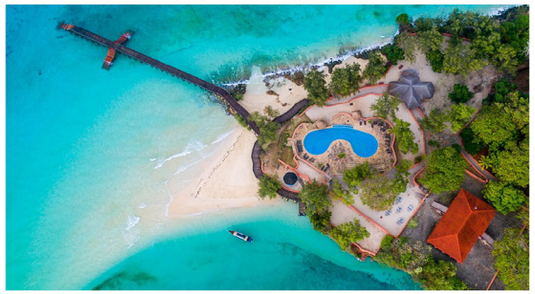
1. Limestone walls of prison.
2. Image of Changuu Island Hotel from above.
3. Corroding edge of island
4. Home of the Giant Aldabra Tortoise
5. Image of proposed site
6. Wooden doors located all over Zanzibar (iconic elements)
7. Ablutions of prison carved away by erosion
8. Traditional Arabian Dhow at Changuu Island
9. Image of the hotel located on Changuu Island
10. Image of blue wooden doors located within prison courtyard
11. Image of Changuu Island dock
12. Image of Changuu Island limestone walkways

See list of figures for sources

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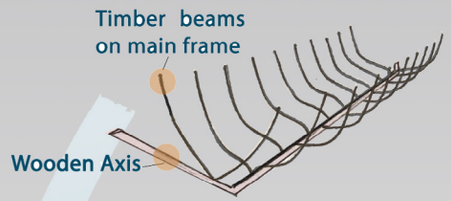
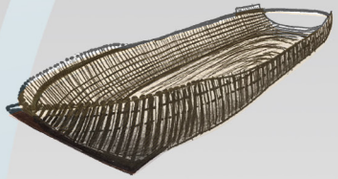
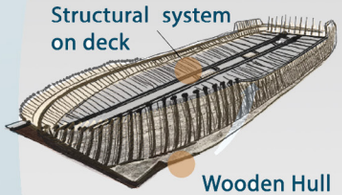


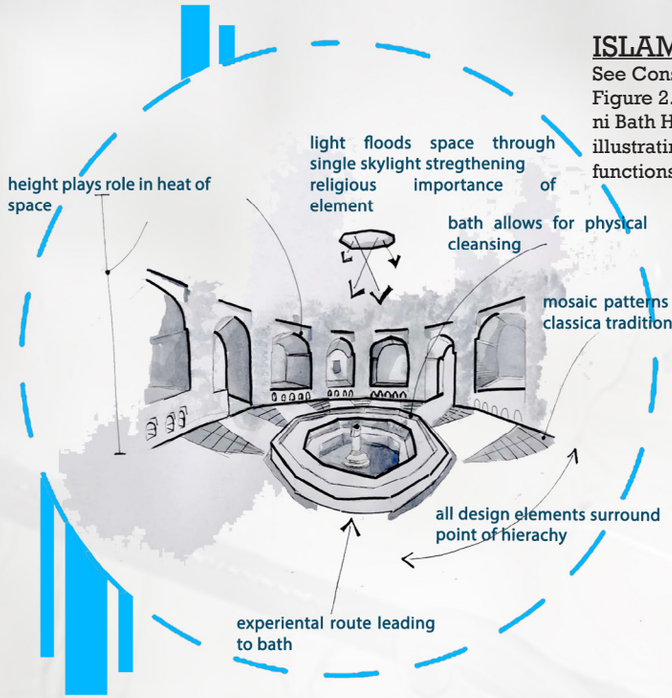
Figure2.22 : Dhow analysis as the structure developed (Sanches, 2005) edited by author.





[4] 'dhow' - A lateen-rigged sailing vessel with one or two masts, used especially along the eastern coast of Africa (YourDictionary, n.d). In this specific case crafted by hand out of mangrove timber.





ISLAMIC BATHS

See Construction precedent analysis (p.143- 146)

Figure 2.23: Sketch of public Hammani Bath House in Stone Town Zanzibar illustrating the bath and surrounding functions

Influence of Dhow on Design

The traditional Arabian Dhow[4] was the catalyst in the East-African trade. These historical ships travelled the seas to share different spices and fragrances with other countries and continents. Through this process, the single mast became an iconic eye-catching element that brought with it the excitement of travellers and goods.

The design approach will therefore focus on re-establishing this iconic element. The mast will now become an indication of physical presence or attendance on the Island and will utilize the south eastern winds allowing a mist to cast over the visitor, which will act as a cooling mechanism.

Changuu Island is protected from strong waves and currents by the surrounding sand embankments. The island has a fringing reef that shows evident signs of damage inflicted by boats anchoring as well as overfishing, which leads to the degrading of the natural reef. The reef has a ten-meter slope up to the shoreline and consists of medium coral cover, soft coral cover, which has has a unique structural complexity.

Monsoons:

The northeast monsoon winds blow from anytime in November to March.

The southwest monsoon winds blow from June to October.

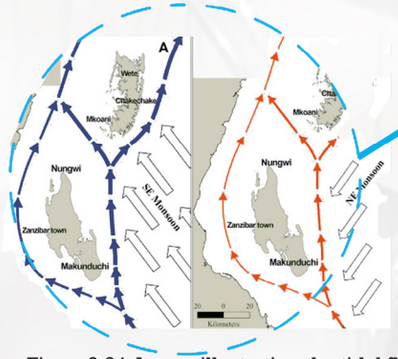
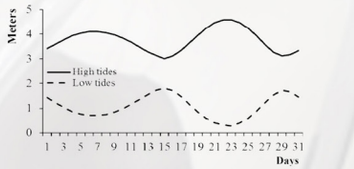


Figure2.24: Image illustrating the tidal flow during monsoon season

Seasonal Fluxuations in Tides



2.2.1 Changuu Island Nodes



Figure 2.25



Figure 2.26: Neglected environment.



Figure 2.27: Tortoise Sanctuary

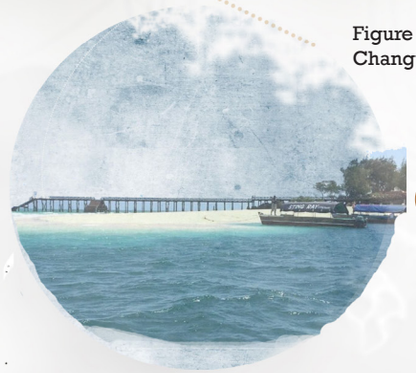


Figure 2.28: Image of boat traffic at Changuu Island.

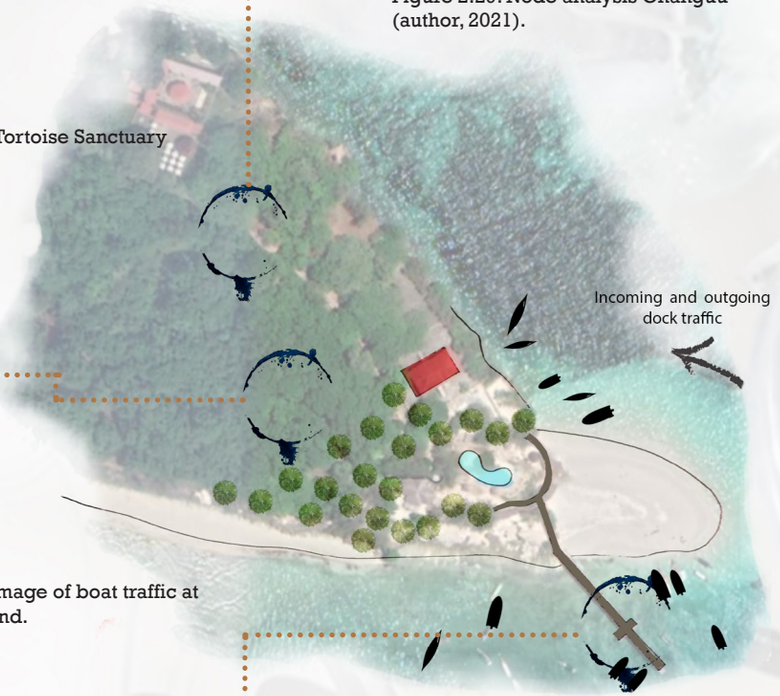
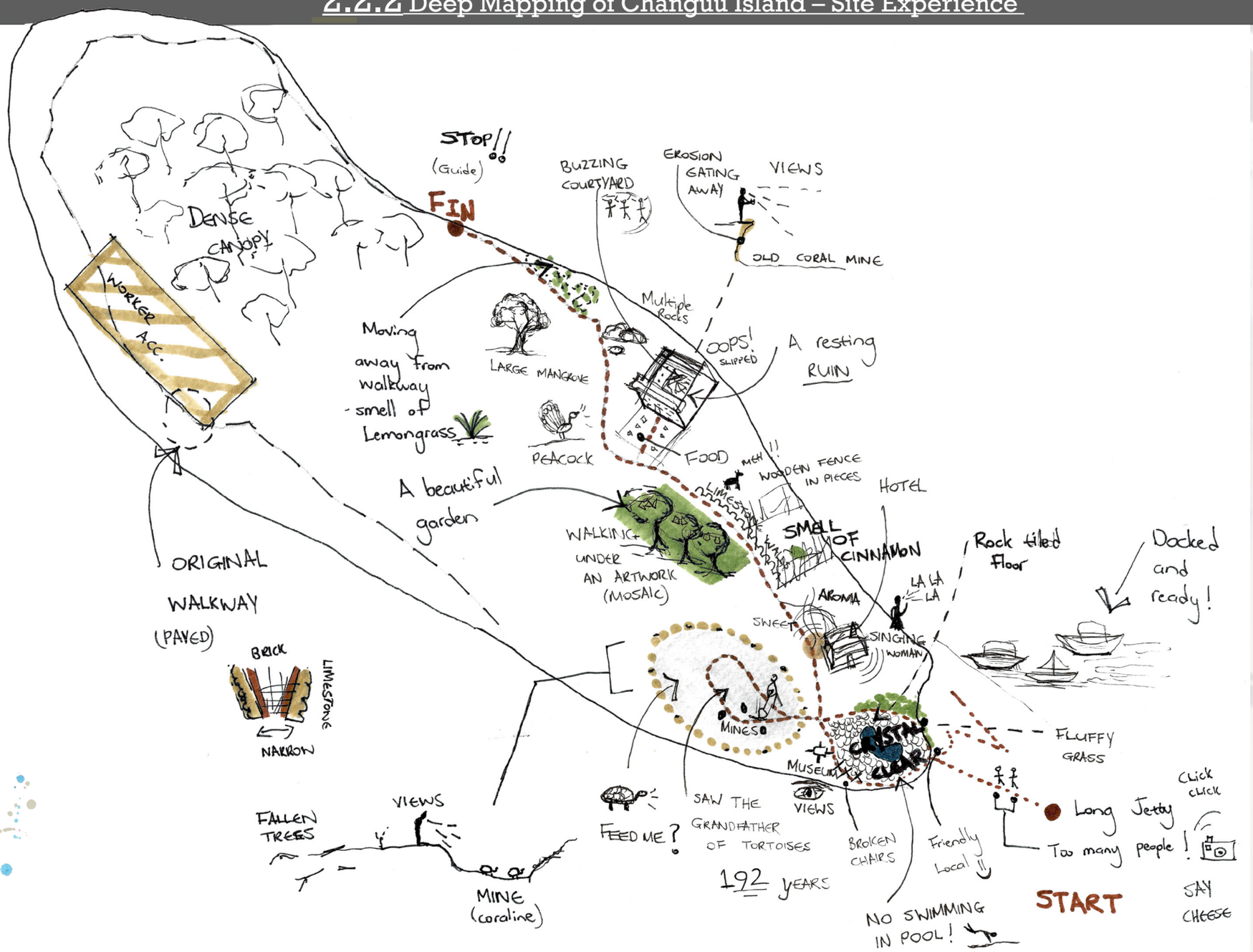
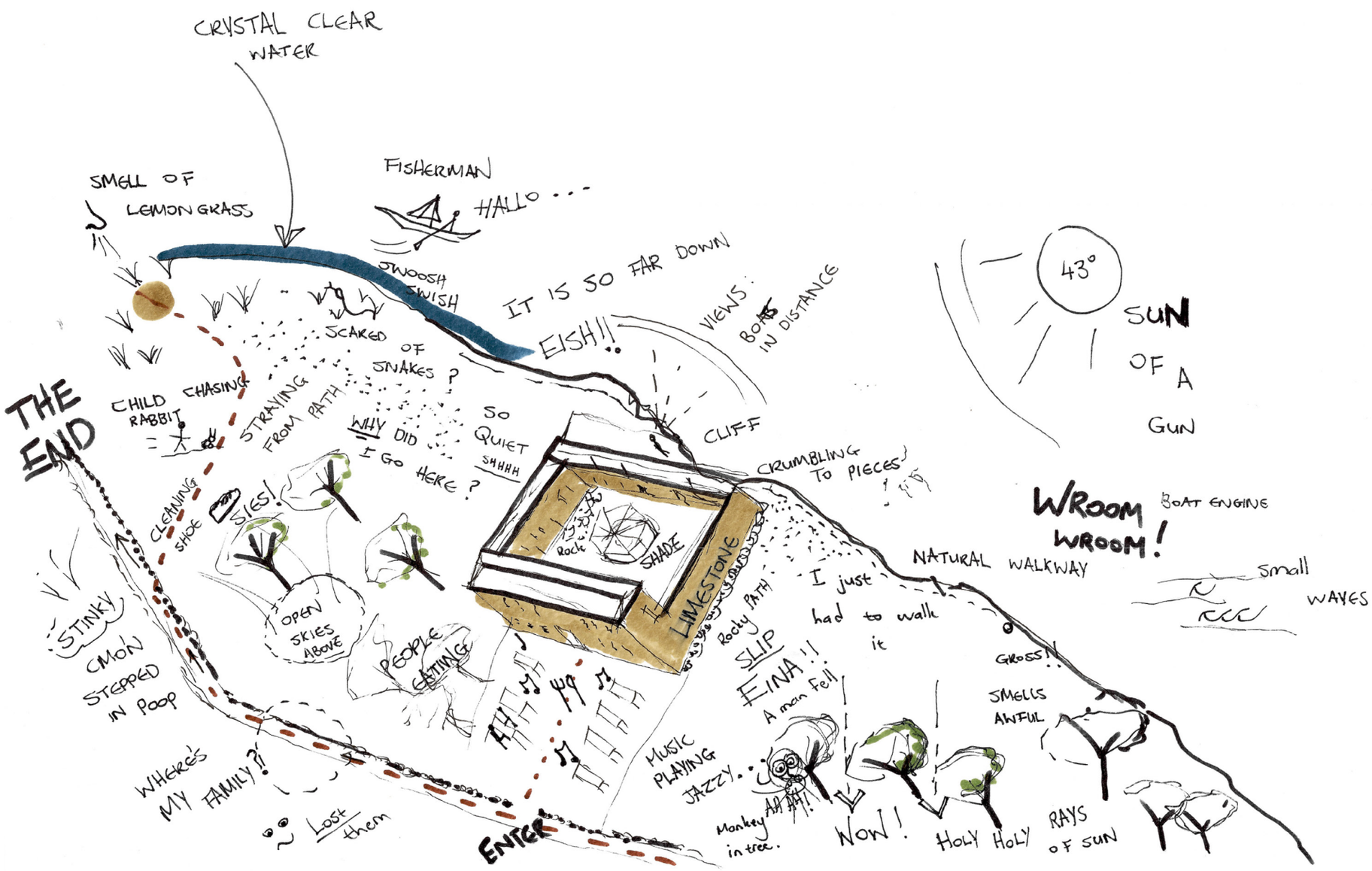


Figure 2.29: Node analysis Changuu (author, 2021).

2.2.2 Deep Mapping of Changuu Island – Site Experience



2.2.3 Deep Mapping of Changuu Island – The Sensory Experience





Theoretical
Expoloration and Grounding

Part 03

Part 3: Theoretical Expoloration and Grounding

3.1 Design Inception Phase

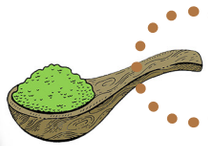
This semiotic key is used to indicate the structural classification of each section in the theoretical exploration:



Topology



Typology



Morphology

Each time a specific color of incense (symbol) is visible, the section relates to either one of the mentioned methods of investigation.

3.1.1 The touchstone serves as an introduction to the development of the Changuu Island Fragrance Boutique. The model in an abstract fashion proposes the desired outcome and captures the significance of a sensory experience.

3.1.2 A visual expression is used to showcase both materiality and consciousness towards the proposed design. The 3 concepts portray the opportunities the island of Changuu has to offer. By incorporating the vernacular architectural style of Zanzibar; new possibilities are created, which in essence led to the development of the proposed design.

3.1.3 The construction touchstone explores the structural identity of Zanzibar. This abstract model incorporates the sensory character displayed in the touchstone and the materialistic quality of the concept models. This construction touchstone places emphasis on the topographical identity of Changuu, which contributes to the approach displayed in the concept models.

3.2 The Sensory Experience

Narrative

This section of the document becomes a sensory narrative; as a sensory experience is shared to connect the reader to the space. The use of a narrative or telling a story, can in essence allow the reader to relate to the author's experience.

TOPOLOGY



3.3 The site: Prison Island Zanzibar

This section focuses on reinforcing the analytical site analysis conducted in part 2 (p. 52-57) of the document. As a means to further the topological understanding of the context of Changuu Island, it is discussed from a personal perspective. The aim of this section is to place the reader within the journey and make him/her walk in the footsteps of the author.

3.4 Site: Reasoning behind the site and design

This section explores some of the advantageous outcomes the proposed design may inspire. Together with this a short insight is given into the current conditions of Changuu Island.

3.5 The history of fragrance and its significance within the Islamic culture

The historical significance of fragrance is brought to light with the aim of orientating the reader on the background surrounding the use of fragrances in the Islamic culture of Zanzibar. This section explores the different rituals connected with fragrances and serves as the introduction for the section **(The identity of fragrance within Zanzibar)** that follows.

TYPOLOGY

UNDERSTANDING HISTORY



3.6 The identity of fragrance within Zanzibar

This section focusses on the way in which fragrances communicate. The quality of fragrance is discussed and how specific fragrances as used within the Islamic community of Zanzibar to convey specific religious or cultural expressions. The way this section is approached again focusses on the authors personal experience, as a means of connecting the reader with each aroma.

3.6.1 Theoretical Identiy (framework)

3.7 The significance of the East African coastal trade

For the island of Zanzibar trade is one of the main sources of income. This section focusses on the significance of Zanzibar's trade history and why trade plays, such an important role in the identity of the 'Spice Island''.

MORPHOLOGY



3.8 The traditional Arabian Dhow

The traditional Arabian Dhow[4] , is a catalyst in the morphological development of the proposed fragrance boutique. For this iconic hand-crafted structure to show it true historic colors this section investigates the origin, use and materiality of the vessel. As discussed, in **section 3.12 of the theoretical discourse**, elements of the dhow are stripped from its original functionality and refamiliarized to illustrate the significance of the vernacular craftsmanship of Zanzibar.

DISCOURSE:
GROUNDING FOR SENSORY DESIGN



3.9 Introduction

3.10 The theoretical underpinning of fragrance in Zanzibar

3.11 Critical Regionalism and its Significance towards an Islamic Island design

3.12 The Sandscape of Changuu Island

3.13 The smellscape of Zanzibar

3.14 Linking fragrance and form within Zanzibar

3.15 Theoretical precedent study and design materiality investigation

Fin

Part 3: Theoretical Expoloration and Grounding

3.1 Design Inception Phase

The inception phase of the document implements the results and information gathered in previous sections of the document to establish a theoretical framework based on the issues and goals established in this document. This framework will aid the development process as multiple theoretical stances and perspective will be formulated to manifest the design methodology.

3.1.1 Tantalizing Aromatic Observance

The essence of the touchstone provokes the historical and cultural qualities associated with the significance of fragrances within the Islamic culture.

By integrating the historical and mythological use of Islamic architecture - and utilization of the spiritual qualities associated with fragrances, a new introduction to the architectural approach within Zanzibar arises. One that arouses the sensory organs and evokes a sense of interaction within the dweller. The proposed design will thus focus on underpinning fragrances in the development of a sensory boutique, where the user will learn to understand and reminisce in the quality and meaning of aromatics.

The touchstone, therefore, creates an abstract, symbolic representation of the proposed fragrance boutique and how the island plays the catalyst in the stimulation of senses.

The conceptual expression of the complexity of Changuu and its heritage allows us to comprehend how Sight, Sound, Smell, Taste, and Touch are interconnected to create an optimum understanding of the importance of culture and the heritage that has accumulated throughout the years.

A physical experience acts as an educational tool.



Figure 3.1: Abstract image illustrating the fuctioning and history of Changuu Island (Author, 2021).

A poem for Changuu

A mass of land, a spot of soil

Within my roots I start to boil.

My history unfolds through a whiff or smell

Leaving the dweller with a story to tell

...

A tiny seed he dared to sow,

Little knowing how culture would grow

However, it appears to the naked eye

The heavy architecture covers the sky

Shadows collide with water and soul,

Allowing the mind to filter the flow

With a crank of the pipe and a crack in the earth

The essence of fragrance commences rebirth

...

What lies in its wake is pleasant odour

A scent from the past portraying the rotor
(Interested in being of service to other)

From a drop of its brawn to splatter of expression

This marks the tale of an infatuated fragrance regression.

Figure 3.2: Image of touchstone (Author, 2021).



3.1.2 Concept Models

Introduction

The conceptual stage of the document serves as a guideline in structuring the main issues of the proposed development of a fragrance boutique.

How this part of the project aims to aid the development of the design, is purely conceptual. This conceptual understanding or underpinning of the issues then gathers influence from historical principles in Islamic architecture to justify the final conceptual approach.



Figure 3.3: Sketch of local man on traditional hand-crafted fishing vessel (Author, 2021).



Figure 3.4: Concept 1 -The quality of the sensual experience (Author, 2021).

The concept model manifests the significance of the sensual environment of Changuu. This dramatic concrete bridge, illustrates the subtle stereotomic quality of the coral reef in contrast to the romantic canopy, as a subtle breeze filters through its midst. As a means of expressing the quality of the sensual experience, the model relates back to the traditional Islamic dhow, which functions as the catalyst in the design development stage. This iconic dhow, with its lateen sails, creates a visual depiction of the movement and the power that wind possesses. As wind filters through a sail, it creates the opportunity to move more than just the passengers on the ship.

These sails can now transport the Islamic fragrances in between spaces, to portray the history and significance of fragrance in the Islamic culture.

Conceptual illustrations:

1. The sensory and historical essence of fragrances.

The quality of the sensual experience.

A smell can influence or alter any situation. It encapsulates the past and gives us hope for the future. The concept of fragrances establishes an opportunity to unlock the past through the different smells and scents that make up the identity of Changúu Island. These fragrances are embodied within the natural landscape and can be utilized to develop a sensory architectural style that connects the user to the past. Fragrance, therefore, unlocks the latches of our memory banks to create a nostalgic experience that assists the body to ease into the surroundings. The terms, dispersion and diffusion also relate to fragrance as it creates possibilities for the design to work from a central space and spread or distribute over a wide area, to generate and display the different functions.

Fishing sinker – as tides move up and down the sinker pulls the sails
(When sinker drops - more exposure to wind)

Connection of materials – illustrating the significance in joining materials as coconut fibre is used in Zanzibar to articulate the connection.

Mangrove timber – historical significance and structural quality

Lateen sail – refamiliarized to serve alternative purpose

Arches in bridge – depiction of coral mines located on Changuu Island

Floating bridge – initial approach towards suspended walkways



Figure 3.5: Concept 1 -The quality of the sensual experience analytical review (Author, 2021).

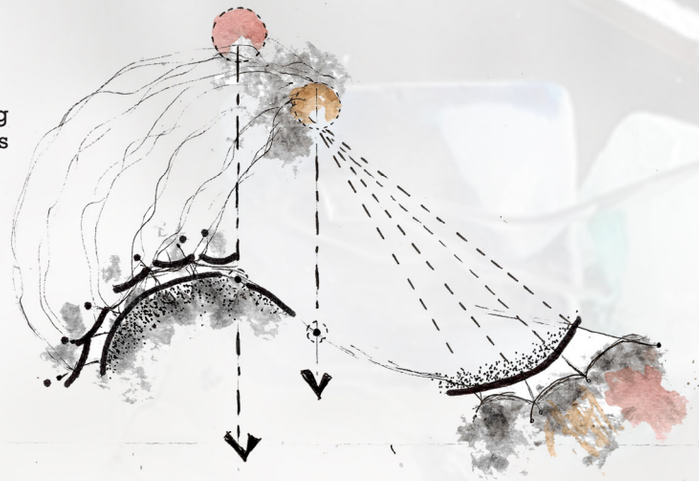


Figure 3.6: A sketch illustrating dispersion/diffusion which is an important part of how fragrances conquer thresholds (Author, 2021).

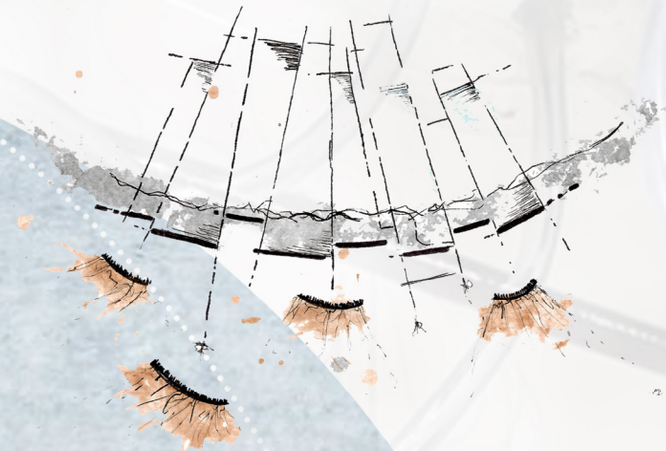


Figure 3.7: A sketch illustrating the unlatching of memory (Author, 2021).

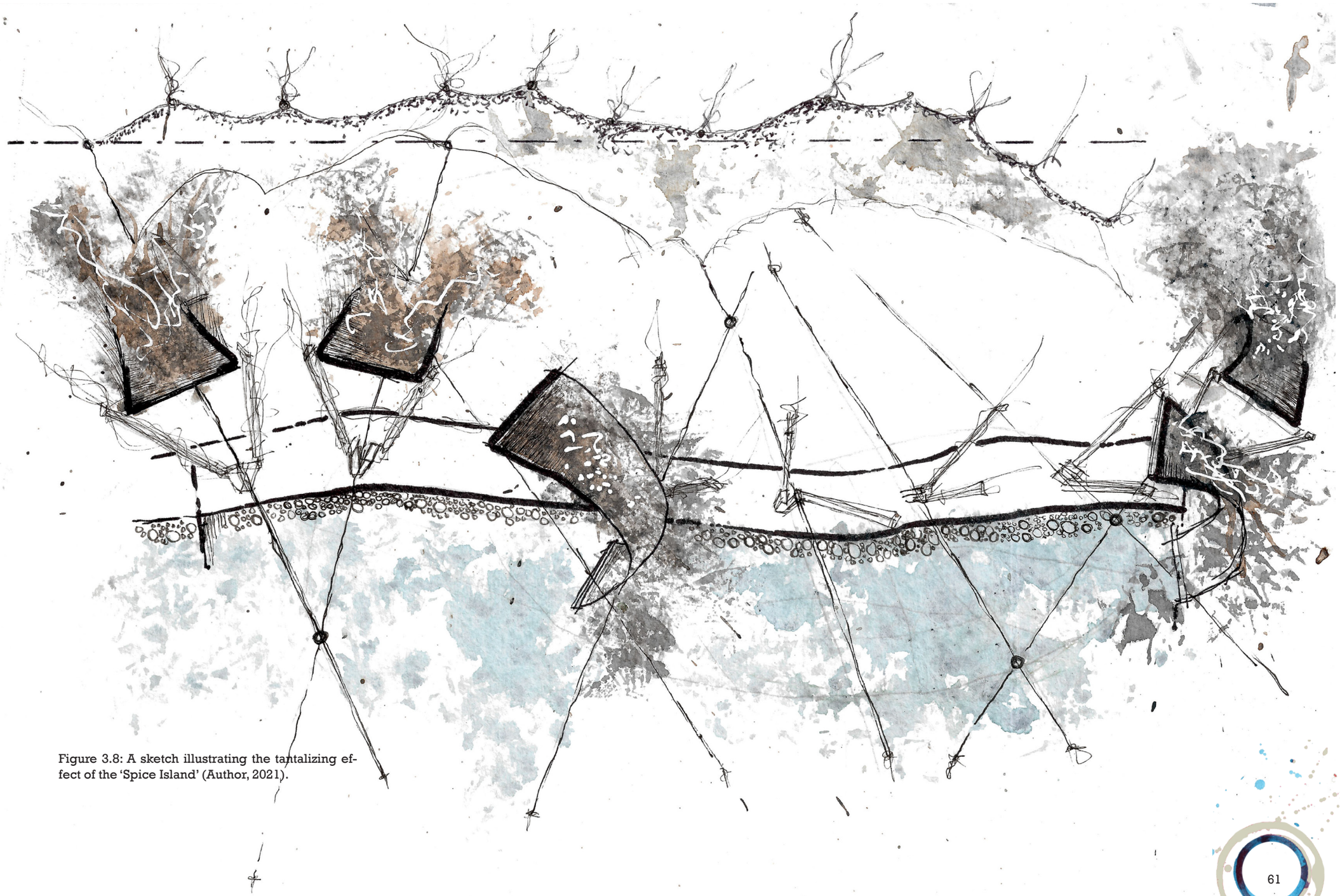


Figure 3.8: A sketch illustrating the tantalizing effect of the 'Spice Island' (Author, 2021).

2. Bath, Mosque, Garden.

The progression of ritual.

The Islamic culture of Zanzibar plays an important role in the development of its architecture. Progression through ritual, therefore, allows the proposed design to be grounded within these cultural pillars.

The ritual of Bath, Mosque and Garden plays an important role in progression as they are separate actions, which in due course merge into one entity. The theme focuses on emphasizing the larger-than-life experiences or grandiose delusions -to connect the spirit of the place and the user, which will leave the user with a sense of belonging.



Figure 3.9: Abstract depiction of the Bath, Mosque and Garden ritual implemented on site. (Author, 2021).

Sculpted in the image of traditional Arabian Dhow

Reinterpreting the **vernacular** to attain a contemporary intervention to display cultural significance

Cracks – symbolic of water and aroma combining as a means to transport cultural fragrances

Bridge – the proposed location for the design (corroding edge of Changuu Island)

Copper wire – illustrating the process of mining as island served as a coral mine

Figure 3.10: Concept 2 – Bath, Mosque and Garden illustrating the progression of ritual (Author, 2021).

This conceptual model illustrates the intricacy of Islamic architecture as derived from my experienced in Stone Town, Zanzibar. The model does not only focus on the aesthetic quality of the building, it also emphasizes the structural quality that the materials possess. The structural quality is defined clearly within the construction documentation segment of the document, but from a conceptual perspective, these materials allow a sense of progression to develop on the conceptual model. The model illustrates how ritual plays an important role in the progression between different thresholds to enhance the experiential quality of the user.

Figure 3.11: A sketch illustrating grandiose delusions (Author, 2021).

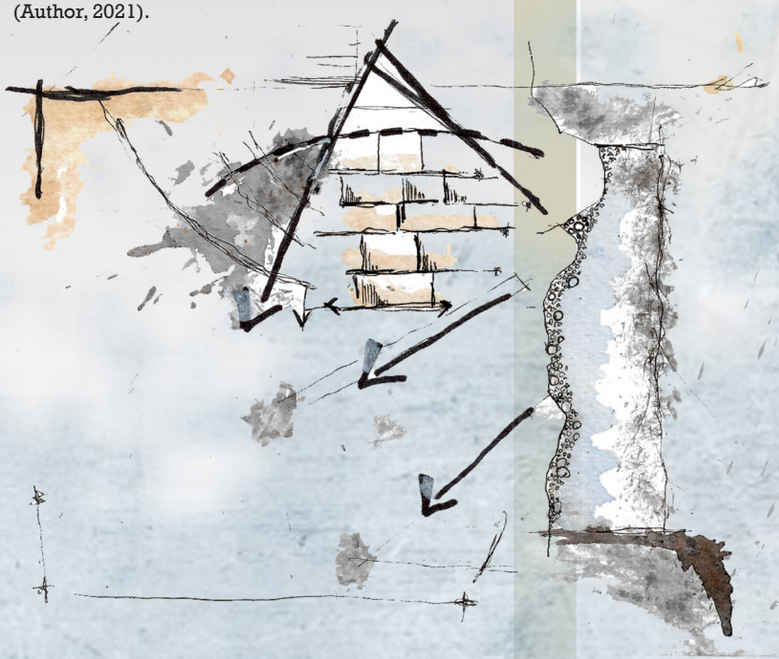


Figure 3.12: A sketch illustrating progression (Author, 2021).



3. Perceptual Constancy through Tessellations

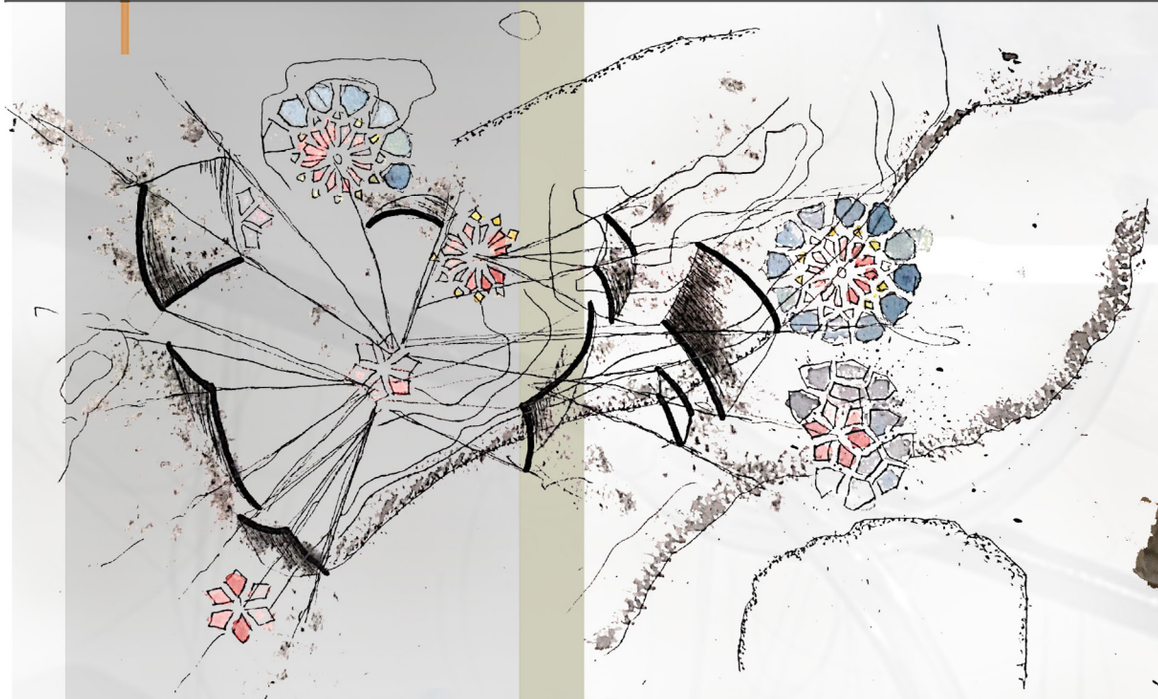


Figure 3.13:
Abstract illustration of how the island becomes a mosiac when connected to the different exisiting patterns (Author, 2021).

Tessellations are elaborate interlacing patterns formed of standardized shapes. This form of art was developed in the 15th century and has become an ornament in the decorative design methods of the Islamic culture. The island is renowned for its mosaic-like canopy, which allows light to subtly penetrate its midst. Together with this the island previously functioned as a coral farm. Coral has its unique reoccurring pattern that also becomes a mosaic (Bonner, J.F., 2016).

This theme focuses on interconnecting the site with the evident patterns, through the utilization of different levels to experience the interwoven patterns from different perspectives.

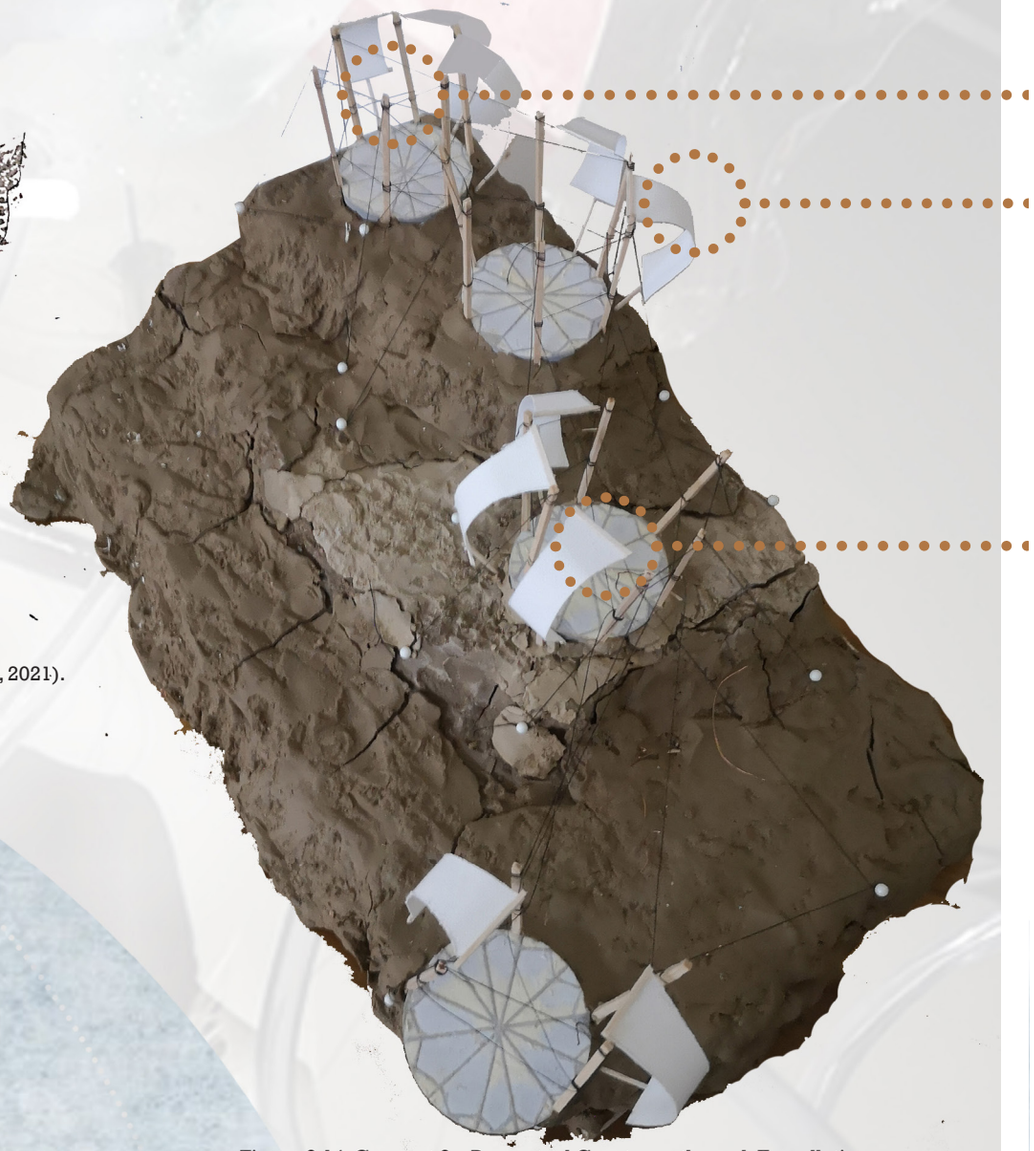


Figure 3.14: Concept 3 – Perceptual Constancy through Tessellations (Author, 2021).

Connection of materials – illustrating the significance in joining materials as coconut fibre is used in Zanzibar to articulate the connection

Lateen sail – refamiliarized to serve alternative purpose – provide shading

Patterns – Islamic patterns on floor of limestone

Conclusion

The conceptual approach serves as a basis in the developmental stage of the design process.

This part of the design structured the foundations of form giving as it becomes visible throughout the design development stage and inevitably anchors the final design proposal within the roots of the Islamic background it strives to portray.

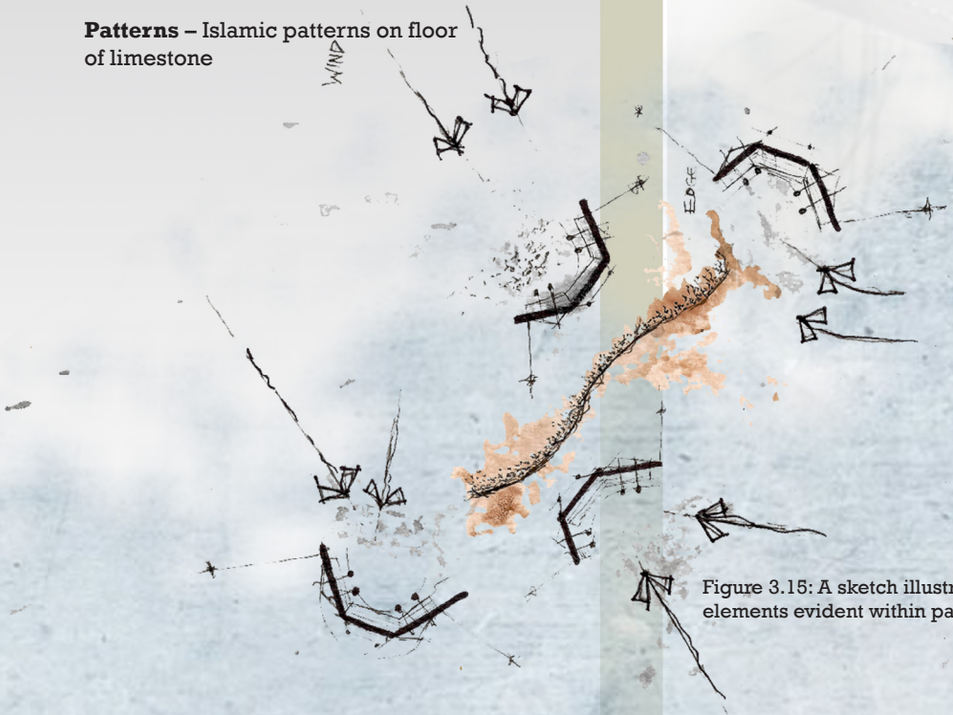


Figure 3.15: A sketch illustrating the mimicking of elements evident within patterns (Author, 2021).



Figure 3.16: A sketch illustrating the resting fossilized pattern of the coral reef (Author, 2021).

3.1.3 Construction Touchstone

Zanzibar has a unique architectural style with an array of sculpted elements contributing to the elegant identity of the 'Spice Island'. For structural purposes the three conceptual models are reinterpreted as one entity. The new model evokes the essence of the materialistic quality of Zanzibar, in a manner that expresses both the intricacy of connecting elements and the harmonious flow between different thresholds. This section elaborates on specific Islamic architectural elements within the heart of Zanzibar in order to develop a conceptual structural approach that will transpire into the final design.

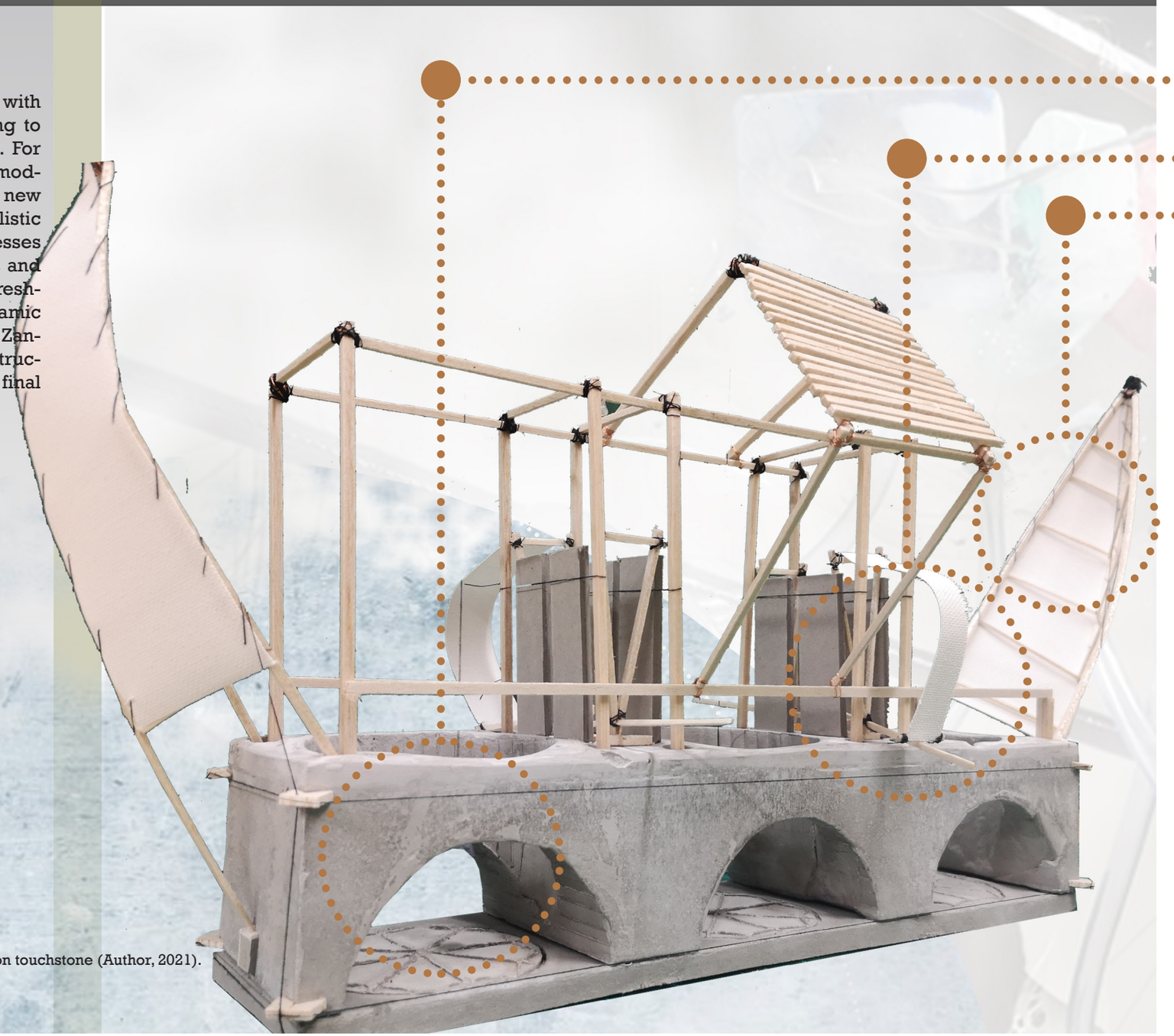


Figure 3.17: Image of construction touchstone (Author, 2021).

Figure 3.18: Image illustrating the patterns of the coral reef below the proposed site (Author, 2021).



Figure 3.19: Image illustrating the intricate connections of the masts and sails (Author, 2021).

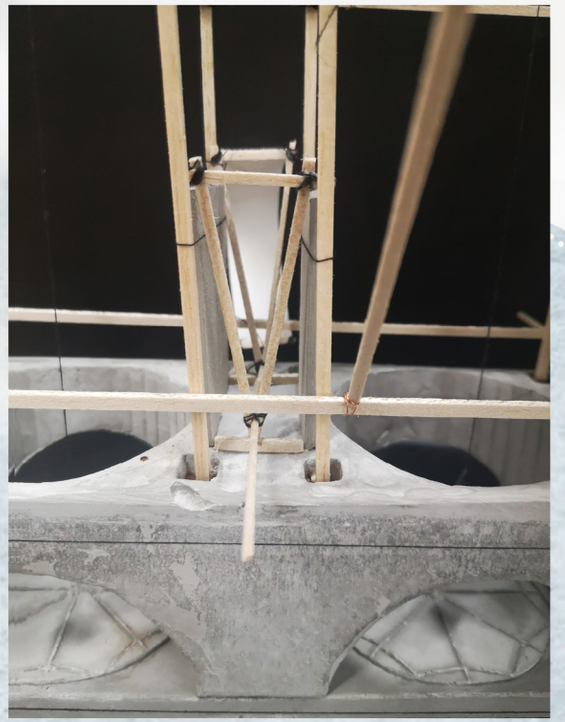


Figure 3.20: Image illustrating the use of coconut fibre to connect the sails to the mangrove timber (Author, 2021).

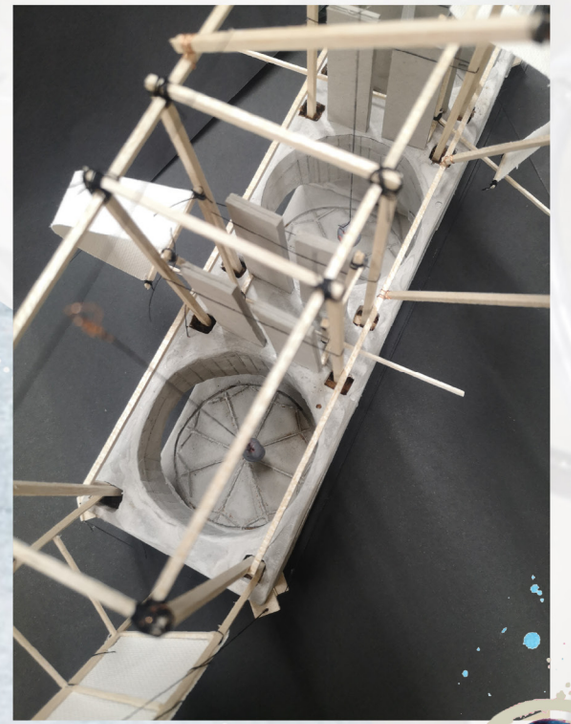
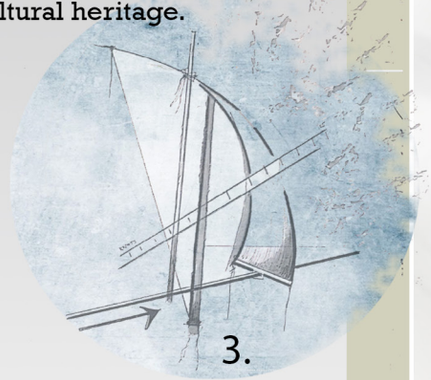
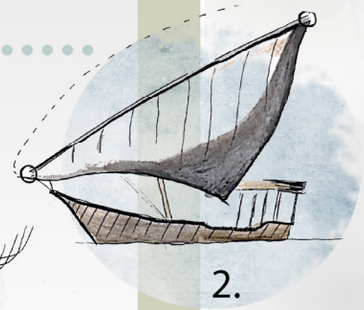


Image 1 and 2 show how the sails on the touchstone is derived, through the study of the skin and construction of the Arabian Dhow, together with the single mast structure. This led to the development of image 3 in figure 3.21, located below , which is a combination of the characteristics of the Arabian Dhow. Figure 3.21 now symbolically represents how the tides and wind will become the catalyst in casting fragrance over the Island and leaving the user with a lesson on Zanzibar's cultural heritage.





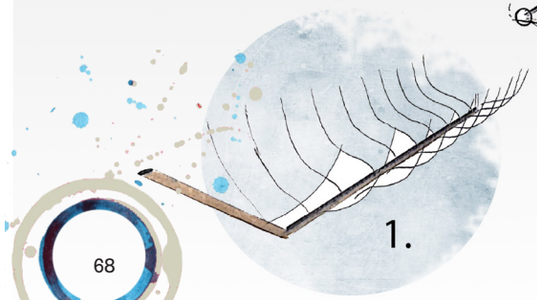


Figure 3.21: Sketches illustrating utilization of elements from dhow to generate structural form giving of touchstone (Author, 2021).

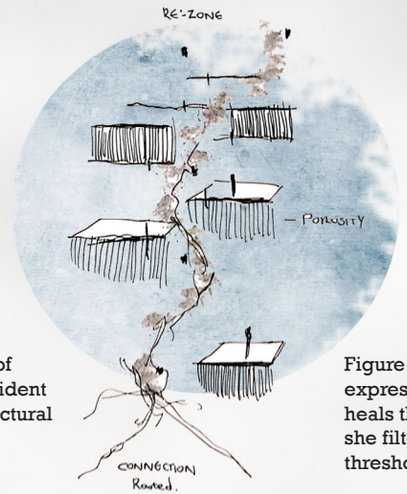


Figure 3.22: Sketch of narrow corridors evident in Zanzibar's architectural style (Author, 2021).

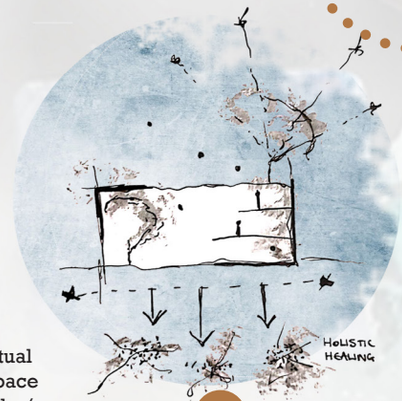


Figure 3.23: Conceptual expression of how space heals the dweller as he/she filters between thresholds (Author, 2021).

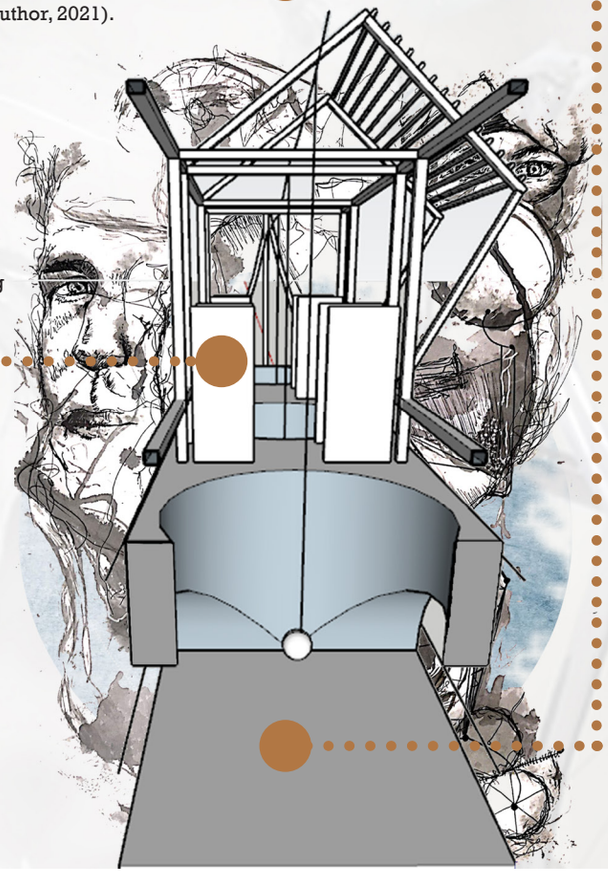


Figure 3.24: Section through construction touchstone to illustrate the weight hanging within the coral (Author, 2021).

Islamic architecture is renowned for its narrow corridors, which lead into heavenly (beautiful) courtyard spaces. The design will make use of loadbearing coralline ragstone walls, leading to open courtyards lined with mangrove timber, embedded within a thick limestone mortar. In addition to the loadbearing walls a lightweight wooden structure will be connected by means of nut and bolt or planted within the walls. The roofing of the proposed design will be constructed using thatch and will be supported by CCA treated gum poles.

Methods of construction will primarily be influenced by the traditional Arabian Dhow, which was of crucial importance in East African trade. The Dhow was originally built with mangrove wood and tied down with coconut fibre. This method will be utilized in the designing of wooden structures in the proposed design and will incorporate multiple elements of the Dhow, such as masts and sails to help with ventilation and to allow the smells and scents to travel effortlessly between different thresholds. The sails on the construction touchstone illustrate how the tides will determine the raising or lowering of the masts and according to the water level (illustrated by the anchors dangling within the arches) these masts will then be raised or lowered allowing wind to scoop the sails and blow the strongly scented odor of the sails (sails will be drenched in specific fragrances according to the designed spatial function) through different spaces. These structures will also be tied down or connected using coconut fibre since the local community believed magnets under the ocean will suck the nails from the vessels (Africa Geographic, 2016).

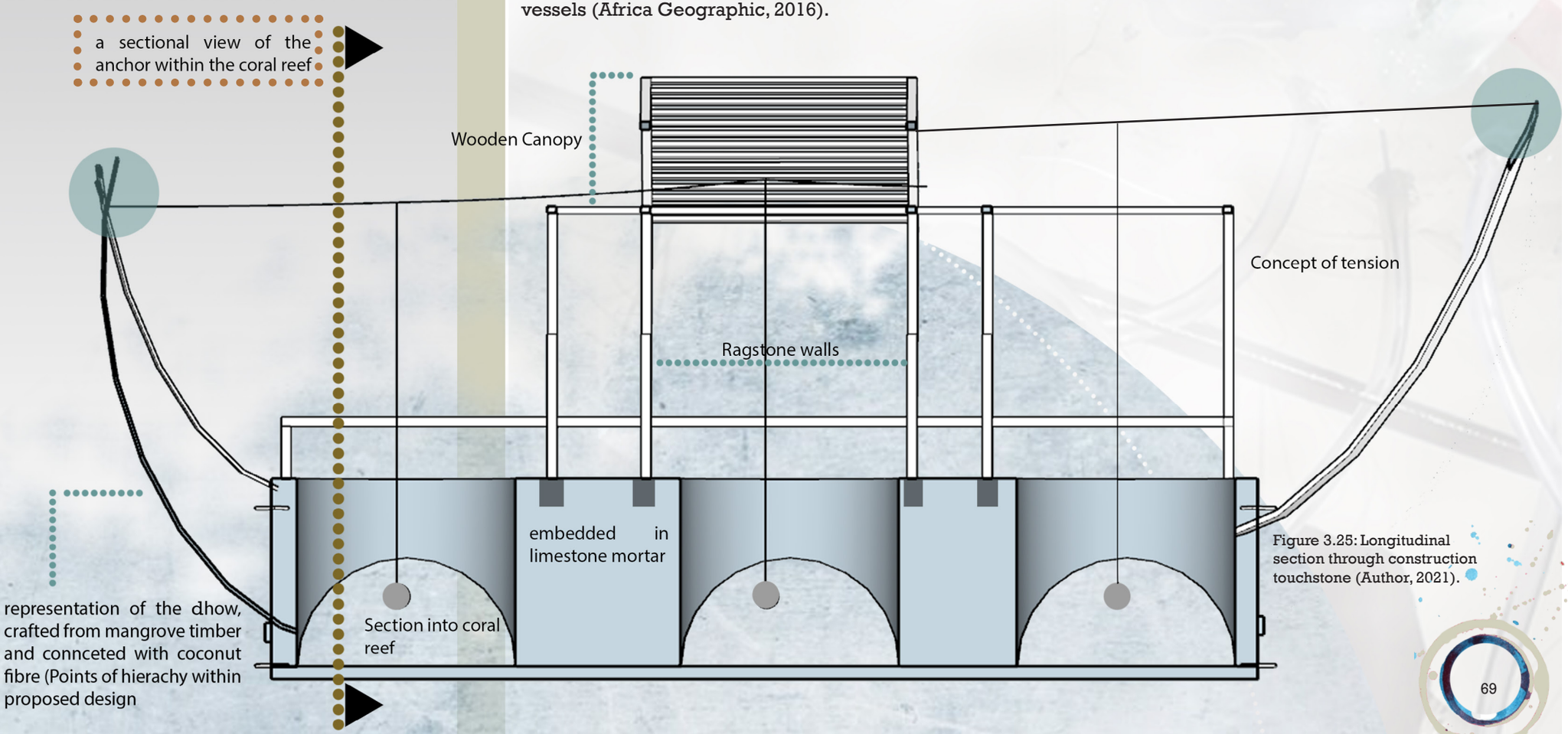


Figure 3.25: Longitudinal section through construction touchstone (Author, 2021).

Experiencing Changuu Island

NARRATIVE

The subtle creek of the timber bunk bed washes me from the arms of Morpheus. Before I get to open my eyes, the musty smell of the thatched roof places me within my surroundings, in my home away from reality, the 'Struisbaai[1] Vissershok'. The sun piercing through a slit in the curtains floods the room as its rays bounce off the chalky white walls. As my feet touch the cold quarry tiles, I already smell the salty sea breeze blowing through the corridor. I hear the toing and froing movement of my mother in the kitchen as she begins her day with a cup of Joko tea. On my way to the kitchen, I hear the squeaking and creaking of floorboards above. Undeniably my father's heavy footsteps, as I can clearly distinguish the sound from any other member of my family. As I move outside the sun caresses my neck, raising Goosebumps on my skin. In the distance, I hear the crackling of guinea fowl in the fynbos...

As I walked along the limestone path, through the dense mosaic-canopy on Changuu Island, it transported me back to Struisbaai[1] in the Western Cape. Most certainly the quality of light and the texture of the pathway played a role in my subconscious awareness, placing me within the context of our beach house. Above all the trigger unlocking this childhood memory was the smell of the soil and the timber.

The power of sensory experiences is something that has fascinated me for many years. The ability to relive a scene from the past is mesmerizing, be it pleasant or unpleasant. As a child, I struggled from a very young age with my eyesight. I was diagnosed with astigmatism at the age of three and amblyopia caused my vision to decrease even further. Due to this, I have always been attentive when it comes to caring for my eyes. There is so much to be grateful for when it comes to the ability to experience our surroundings. The experiential quality of space is a truly amazing aspect that makes every moment different. Our emotional responses towards our environment would never have such a euphoric essence without the addition of our senses.

[1]Struisbaai, a small coastal village on the East Coast of the Western Cape, South Africa.

In the blink of an eye, time passes. It is therefore a matter of utmost importance to establish meaningful connections and make the most of every moment because we never know when time turns this moment to dust. My goal is to propose a space, where immediate and memorable connections between dweller and space can be established. A design that connects the individual to the surroundings in a way that he or she can develop lasting memories through the utilization of the senses.

What a better way to do this than to focus on the sensory attribute that is directly related to emotion and memory. Smell or olfactory[2] is transported to our limbic system where our emotional responses are formulated ("The limbic system - Queensland Brain Institute - University of Queensland", n.d.).

Smell may be a very important sense when it comes to the creation and the recalling of memory, but how is the significance of smell relevant within the proposed design?

To understand the magnitude that smell within architecture bestows, the site and its unique history need to be understood.

[2]Olfactory, is a manner in refering to the sensory organs dealing with smell. The system used for smelling

3.3 The site: Prison Island Zanzibar

Located off the mainland of Tanzania, the island of Zanzibar appears to be a completely different realm. The inhabitants have their unique history and culture, which stems from the Portuguese, Omani and raiders, who settled over the centuries (“Prison Island”, 2018).

Tradition forms a large part of Zanzibar’s cultural heritage as multiple cultural groups make up the archipelago. Zanzibar has over one million inhabitants across Unguja and Pemba, which are the main islands. The majority of the inhabitants follow the Islamic religion, therefore making Zanzibar predominantly Muslim (Boswell, 2008).

The muezzin’s call to prayer resonates from dawn to dusk. Zanzibar becomes a celebration of the Islamic culture. Community members celebrate the coming of Eid and Ramadan together with the enthusiasm amongst the youth to learn more about this unique culture (Boswell, 2008).

It was a humid morning on the 7th of July 2016, when we embarked on an adventure to explore the unique paradise known as Changuu Island. The clattering pebbles underneath the tires of the old van, together with the smell of petrol took me back to the flight from Dar es Salaam to Zanzibar, where we flew with a small mail aircraft, with its rattling single propeller. This was enough to get my heart racing as multiple gusts of wind played a game of tug of war with the frail machine.

Upon arrival at the Stone Town harbour, multiple opportunistic street vendors came barrelling down on us to sell their hand-crafted goods. However, exciting this may seem we were clearly instructed by Solomon, our tour guide to watch out for pickpocketing, as it soon became clear these street vendors are not as innocent as they may appear.

There she was, the vessel I’ve been so eager to see. The traditional Arabian Dhow, one of Tanzania’s most iconic contributions to the East African trade. In modern-day times this hand-crafted vessel is used on the coast of Zanzibar to conduct fishing excursions, as well as transport tourists along the picturesque coastline to explore gems like the island of Changuu (Lowman, 2014).

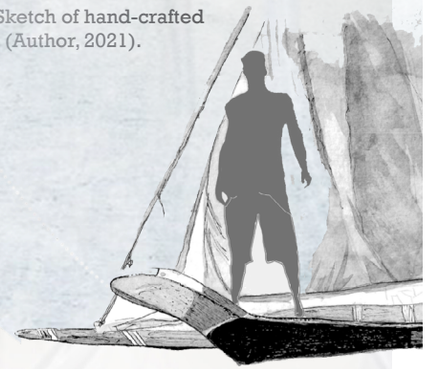


Figure 3.26: Sketch of hand-crafted fishing dhow (Author, 2021).



The Dhow carved through crystal-clear water sailing towards Changuu Island, an archipelago incredibly unique and diverse in marine and plant life. Located 5.6km northwest of Stone Town this mass of land covers around two hectares and is about 800m in length and 200m in breadth (Lowman, 2014).

To me what imakes this site so unique is the prison located on its eroding edge. This site was initially designed to serve as a prison, but was never used for this purpose as it was used for a place to quarantine people suffering from yellow fever before they were allowed to access the Island of Zanzibar (Lowman, 2014).

This is however not the only reason we came to explore this wonderful dreamland. Changuu or Prison Island is also well renowned for the giant Aldabra tortoises. These tortoises are among the longest-living animals on the planet, with some of these reptiles exceeding the age of 200 years (Lowman, 2014).

These majestic beasts first came to Zanzibar in the year 1919, as they were gifted to the Sultan of Zanzibar at the time, by the British governor of Seychelles (Lowman, 2014). These creatures rule the island. With their teasingly sluggish movement, they patrol the ruins of old coal mines.

Besides the numerous tourist attractions Changuu has to offer, the site grants a breakaway from the hassle encountered within Stone Town and allows the exploration of a variety of plant life used to create the different fragrances that make up the Islamic culture.

The Covid-19 pandemic has led to the space being neglected and as time passes the financial income gained through tourism disappears. During the lockdown reports from multiple sources stated that the island is being neglected as litter is becoming a major problem and the health of tortoises is at risk.

A Fragrance Boutique will therefore create the opportunity to support the local community through the creation of multiple jobs. These jobs will range from the planting of different flora species to making perfumes and cosmetic products to enrich the cultural and/or religious experience, for the locals together with those exploring the beauty of the island (Boswell, 2008). A fragrance boutique will emphasize the religious connection between fragrance and culture as 90% of the inhabitants of Zanzibar form part of the Muslim community.



Figure 3.27: Image of giant tortoise (Knowlton, 2020).

3.5 The history of fragrance and its significance within the Islamic culture

As previously stated, fragrance and different odours play a significant role within the Islamic culture (Eschenmoser, n.d.). A fragrance is a distinctive medium, which is created through an intricate blending of flowers, stems, and barks. A smell can unlock a million memories and has a miraculous impact on how we experience our surroundings. Originally scents were associated with powerful gods. In multiple religions, such as Christianity and Islam, angels and martyrs are described to have a holy scent (Evans, 2002). Scent is an important method of communication which, on a religious level, allows a stronger connection to be established between a being and deities (Eschenmoser, n.d.).

Religious traditions such as gatherings and offerings are renowned for the burning of incense or the spray of perfumes, which is a symbolism of respect for the holistic entities.

Avicenna, the Arabian physician, was able to make a breakthrough in the study of smell as he successfully managed to extract floral smells. These smells he managed to maintain through alcohol distillation.

Scents also aided in diagnosing illness, as well as the application of fragrances to battle infections. It was only in the late 18th century where fragrances became a popular medium in aesthetics. Fragrances became a trend for women to emphasize natural body odour through the application of fragrances like musk[5] (Drobnick, 2000).

Sensory use plays an important role in the understanding of the past. Muslims make use of a variety of different aromatic products when performing religious rituals. These products initially consisted of musk, ambergris, and saffron, but later the focus shifted to a variety of other fragrances as the use of aromatic products became a part of everyday living (Thalal, 2020).

As the popularity of different smells and odours rose, the demand drastically increased. This led to a vast export of products such as, frankincense and myrrh, which possess the functional quality of removing unpleasant odours and repelling insects (Thalal, 2020).

[5] 'musk' - is a fragrance used in the Islamic culture. It symbolized the perfection of a human into an incorruptible, immortal form (King, 2017).

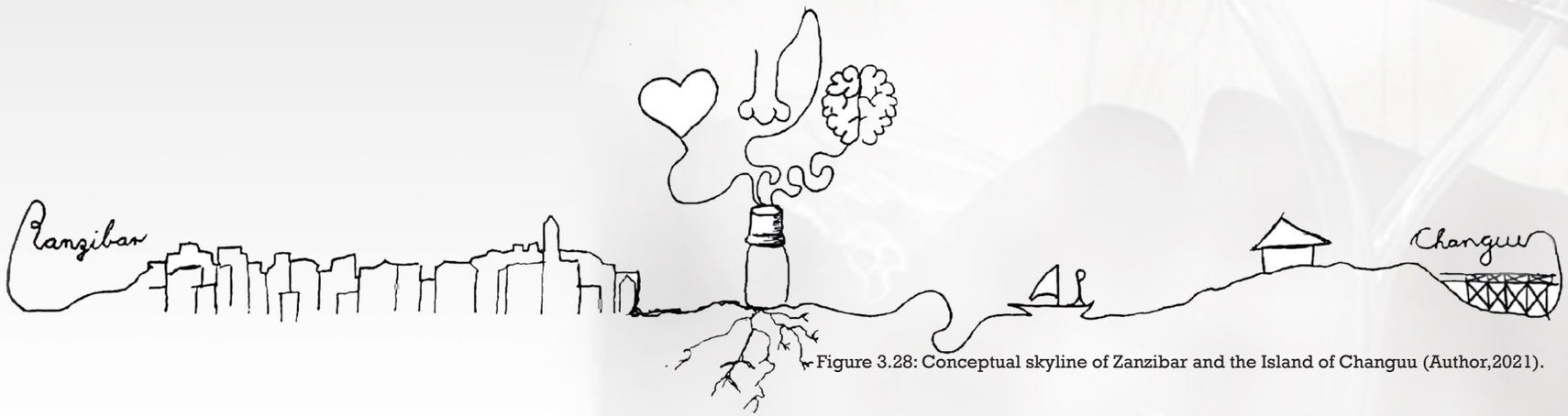


Figure 3.28: Conceptual skyline of Zanzibar and the Island of Changuu (Author,2021).

Fragrances have been a part of the Islamic culture for as long as man can remember, but the true significance of aromatics was only incorporated when Muhammad PBUH (“peace be upon him”) reached prophethood. Muhammad incorporated the importance of fragrances within his principles. Fragrances served both a hygienic and therapeutic purpose, because of the ability it possesses to build and develop the sensory capability. Together with this fragrance was incorporated within the principles of Islam to establish the dominance of gender, as well as, the ability to distinguish the Islamic religion from other religions through the power of specific smells. These aspects allowed Islam to have a unique identity within the cultural realm (Thalal, 2020).

Along with the religious identity, each aroma is also connected to time-specific use and practice. The most iconic and important fragrance within the Islamic culture goes by the name of musk. This is due to its purity and its religious connections. Musk identifies as one of the most valuable items within Islam, as mentioned in the Qur’an, and is said to be a reward given to a Muslim when entering paradise (Thalal, 2020). This fragrance is said to hold the power to increase one’s attractiveness and charm and is used by males, especially on a Friday when going to the Mosque to attend prayers (Thalal, 2020).

The importance of cleansing one’s body was a critical part of performing the ritual of prayer. All members of the Muslim community are required to clean and wash their bodies if they want to attend prayer or any formal gathering. With the act of cleansing, Muslims are required to wash their bodies, together with the application of perfume, as well as wear their best garments as a symbol of respect for Muhammad and cultural values (Thalal, 2020).

There was a clear distinction between the role of the male and the female within the Islamic principles as a female was prohibited to wear any strongly scented aroma, due to its ability to evoke desires and emotion from the opposite sex. Women were therefore required to incorporate colour, rather than smell as men were allowed to wear strongly scented perfumes.

“The perfume used by men should have fragrance but no colour, and the perfume used by women
should have a colour but no odour.”- Prophet Muhammad (Thalal, 2020)

Within the early Islamic period, fragrance and religion were inseparable. The fragrance has the power to connect spirit and body, in a process that allows any Muslim to connect with their cultural values on an elevated level (Boswell, 2008).



Figure 3.28: Conceptual skyline of Zanzibar and the Island of Changuu (Author,2021).

3.6 The identity of fragrance within Zanzibar

Zanzibar is the paradise of fragrance, with a plethora of aromas stemming from across the world. The East African Island is a complex organization of tantalizing aromatics, encapsulating the identity of Islamic Zanzibar. Fragrance roots Zanzibar to its historical importance of aroma, which is evident within, identity and social norms.

Within the Islamic culture, fragrance serves more than just the purpose of giving smell to a place or scent to one's body. Fragrance in Islam creates purity and provides a form of communication. Aromatics, therefore, honour rituals, portraying an idea of the individual status. It gives clarity to social interactions and shows solidarity (Boswell, 2008).

For a short period, fragrance communicates one's identity, age, and gender. Furthermore, fragrance addresses religion, one of its main purposes on Zanzibar Island. It allows a connection with the spirits of Islam and serves as a barrier or guarding method in removing evil or unwanted spirits (Thalal, 2020).

The proposed design focuses on important Islamic occasions as they are interlinked with a cultural ritual. These rituals incorporate the use of different fragrances to enhance the experiential quality of each event, allowing the participant to form a stronger connection to his or her surroundings.

The first cultural event investigated is the wedding. Weddings in the Islamic culture celebrate the togetherness of family, as well as prosperity. As a girl matures and develops, she is exposed to numerous fragrances and cosmetics. With the help and guidance of a female family member, she is educated on menstruation (Boswell, 2008). This occurrence is deemed to be an impurity on a spiritual and physical level, therefore prohibiting the girl to fast during the month of Ramadhan and to partake in prayers. As a way to remediate or to cleanse this monthly occurrence, the girl is allowed to make use of 'udi'. This fragrance is solid, and consists of ingredients such as sandalwood, sugar and lemongrass (Boswell, 2008).

For this investigation, lemongrass is the main ingredient, as its quality to cleanse and perfume impurities contribute to the narrative in the proposed design.



3.6.1 Theoretical Identity (framework)



Changuu Island

Concepts

The sensory and historical essence of fragrances.

Bath, Mosque, Garden.

Perceptual Constancy through Tessellations

The Story of Stone Town and traditional craftsmen

The Sensory Experience

The Stone Town of Zanzibar - Conservation of a difficult heritage

Cinnamon

1.

Lemongrass

2.

Ylang-Ylang

3.

Critical Regionalism and its Significance towards an Islamic Island design

The traditional Arabian Dhow

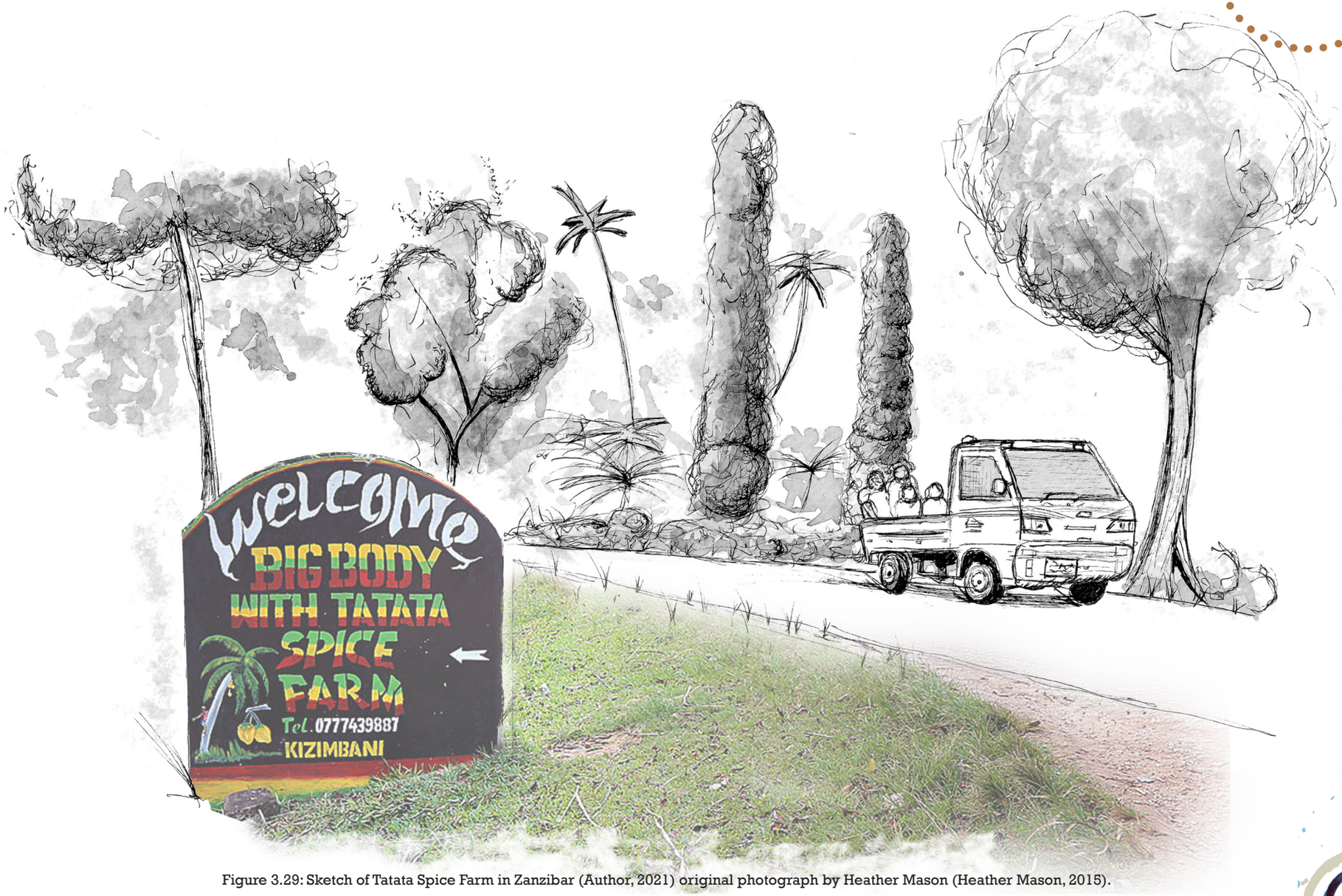


Figure 3.29: Sketch of Tatata Spice Farm in Zanzibar (Author, 2021) original photograph by Heather Mason (Heather Mason, 2015).

Lemongrass

It was a cloudy afternoon on the 9th of July 2020, when we arrived at 'Big Body with Tatata, Spice Farm' on our way to Stone Town.

At first, I did not expect to learn much, as this 'farm', as it can be referred to as such, appeared to be a farrago of flora planted on a patch of soil. What followed, was probably one of the most euphoric sensory experiences of my life. This seemingly chaotic land told the tale of a celebrated spice trade, which brought together cultures from all walks of life.

Mohammed, our spice 'connoisseur', as he called himself, educated us in comprehensive detail. This man, whose powerful voice appeared a mismatch for his slender body, spoke with such fluency and knowledge, explaining the East African trade in a manner that made me feel like I was part of it. He started off with the significance of lemongrass. Mohammed said to me; "Young fellow, you look a little sweaty man, come here". He gave me some long leaves and said; "Soap, my friend". He then started rubbing his hands together and told us how this plant is used for its pleasant smell to cleanse the body. Lemongrass is made into bars of soap and also perfumes, incense and medicine. In Zanzibar, the soap from lemongrass is called uvumba (Boswell, 2008). As I rubbed the leaves together Mohammed poured water over them. A foam started developing and a strong citrus smell graced my nostrils.



Figure 3.30: Sketch of lemongrass plant and products (Author,2021).

Cinnamon

We continued walking through the tree canopy in search of cinnamon. Along the way Mohammed explained to us that, when a child is born their bodies are of its purest form (Boswell, 2008). In the Islamic culture it is therefore of the utmost importance to protect the child from any forms of impurities and evil spirits that may seek to hinder this vulnerable child. The bodies of children are sprayed and perfumed as a means to retain such purity. Perfumes used on babies contain rosewater and in certain cases hints of cinnamon, as mentioned by Mohammed. This perfuming of a baby's body is subtly done, due to the perfume's ability to project purity and holistic qualities (Boswell, 2008).

Another use for cinnamon is for the performing of massage therapy. Cinnamon is used in massage oils to help with the circulation of blood and also serves as incense in these massage spaces or parlours - to evoke pleasant emotions and to create a relaxing environment for patients (Boswell, 2008). As Mohammed finished his intriguing explanation, we arrived at the cinnamon tree. "Cinnamon, the queen of the spices my friends", Mohammed said. He told us that the entire tree is used and each part has its unique function and carries a smell different from other parts of the tree. The leaves of this tree are used especially during the month of Ramadan in Zanzibar. Before breaking the fasting, tea is brewed, which makes use of crushed cinnamon leaves. The bark, he went on to explain, is used to create cinnamon sticks. These sticks are important ingredients when preparing meals, to give food a sweet-smelling aroma. Therefore, cinnamon is used as a seasoning to add flavour to meals. Lastly, Mohammed pointed towards the roots of the tree. "Here in Zanzibar, we use the roots of cinnamon as medicine"; he said. One of his companions came around and presented us with a piece of a root. He then instructed us to close our eyes and to take a whiff. " Vicks VapoRub. Yes, my friends here in Zanzibar we have our own natural Vicks VapoRub", said Mohammed. As I recall he went on about its qualities to help to relieve cough and chest irritation if boiled and inhaled.



Figure 3.31: Sketch of cinnamon sticks (Author,2021).

Ylang-Ylang

As our tour came to an end Mohammed took us into an opening in the tree canopy. A divine light broke through the densely populated plantation. The humming of insects became louder and louder. From a small hand-crafted veranda three men came bearing gifts for men and women. Mohammed smiled and said; "Welcome to your dream Zanzibar wedding".

A wedding in the Islamic culture as previously mentioned is an incredibly memorable occasion and is, therefore, an event to look forward to. This event is renowned for all the different smells that make up a singular event. In Islamic culture, the woman wears brightly coloured garments, which are perfumed and smell like sandalwood, cloves coconut oil, etc. (Boswell, 2008).

At the venue, strong smells of rosewater, and cloves are noticeable. The different array of spices is also one of the many things to look forward to at an Islamic wedding (Boswell, 2008). The array of sugars and spices will set your tastebuds off on a sensory journey, which becomes an experience of its own.

Mohammed held in his hand a small yellow flower. According to him, this flower is a smell all of the ladies adore. His companions then continued to give every male member of our group a tie weaved of bamboo leaves and every woman a small handbag of the same weaved leaves. He then chose the bride and groom for the occasion as they received woven crowns and they were perfumed with a fragrance called, Ylang-ylang.

Mohammed asked; "Friends, who knows the perfume the rich refer to as Chanel no. 5? Well, this (holding up a small vile) is Zanzibar's very own Chanel no. 5, but we refer to it as Chanel no. 0 as it is hundred percent natural." he continued to explain how its identical scent is used to perfume the body when attending events.

In modern society where our experiences are usually visually dominated, the significance of smell can easily be neglected. Zanzibar in essence places emphasis on stimulating our sensual experiences, through the utilization of fragrance within everyday life. The island is an expression of our interwoven relationship with our senses and allows the dweller to experience the holistic temptations of the power of a smell.

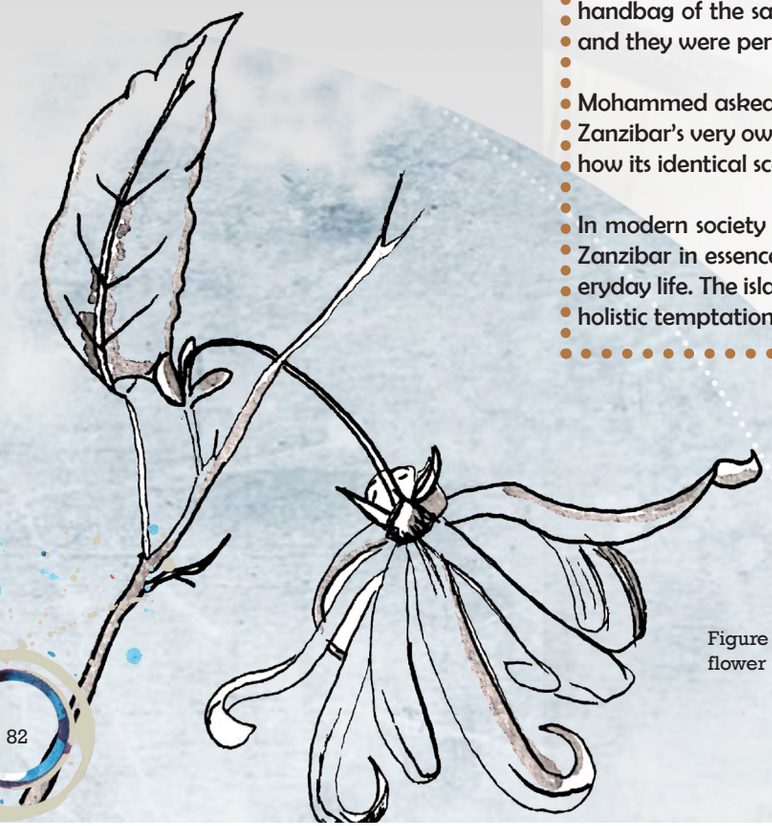


Figure 3.32: Sketch of Ylang-Ylang flower (Author,2021).

3.7 The significance of the East African coastal trade

Zanzibar is nestled within a well-established mercantile civilization, which consisted of multiple coastal cities and islands across East Africa. The trade ranged from the Somalian coast back to the mouth of the Zambezi River. This prominent trade route sustained within the Indian Ocean served as the channel for merchant's vessels to conduct the prolific trade. The trade attracted many adventurers and pirates from India, Persia, Arabia, Japan, and Russia (Boswell, 2008).

The merchants arrived on Zanzibar's coastline at the start of the monsoon season which varies between the southwest monsoon (December to March) and the northeast monsoon (April to November), making this wind dependent trade possible. Merchants quested after trade goods, such as perfumes and oils, ivory, and slaves, which were exchanged for metal tools, weapons and jewellery (Boswell, 2008).

The coming together of cultures during monsoon seasons led to the development of languages and art. The East African trade led to the development of a unique race, namely the Swahili (Boswell, 2008).

Islam politically and legally connected merchants to the Islamic world, which during the 19th century was considered a global powerhouse all across Europe and Asia. The established connection allowed merchants great access to a functioning system which brought commercial advantages by providing the Swahili people with a written alphabet (Boswell, 2008).



Figure 3.33: Image of different spices relating to East African trade (Iwuoha, 2014) adapted by author.

Zanzibar became a rich trading community through the importing of raw materials, such as ivory, iron, wood and the slave trade. These items were exchanged for luxury items from abroad, which included silk and pottery.

The Swahili merchants and sultans possessed many treasures and skills but did not possess enough natural materials, such as stone to erect the desired infrastructure. This shortage in resources led to the exploration of alternative building methods and materials. They, therefore, studied the coral reefs, which led to the development of skills in crafting with quarried coral (Boswell, 2008). It steered them towards the mining of coral reefs (Boswell, 2008). The significant number of coral reefs lining the coastline of Zanzibar are the fundamental source of building material for infrastructure such as mosques, palaces, and castles.

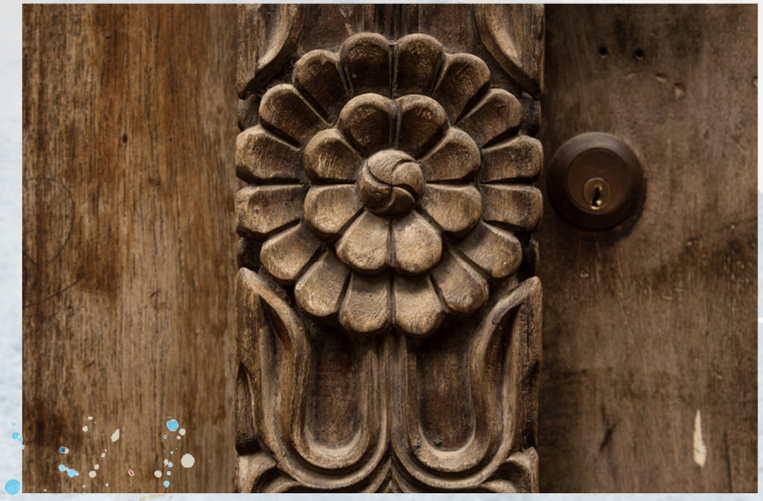


Figure 3.34: Image of hand-crafted mangrove doors in Stone Town (Heck et al., 2015).



Figure 3.35: Image of fabrics sold in Stone Town (Heck et al., 2015).

The buildings are decorated with carved inscriptions, minted silver coins and Syrian perfume bottles. Mosques and personal dwellings have stone lintels, patterned wall niches, plasterwork friezes and stone latticed windows (Boswell, 2008).

They used decorative arabesque patterns on walls and ceilings, or abstract depictions of Islamic verses, rather than direct renderings of people and animals (Boswell, 2008).

Buildings were erected using fossilized coralline held together with a limestone mortar. The roofing of most dwellings is crafted using mangrove timber, which is further thatched with Makuti leaves (Boswell, 2008).

Islamic architectural planning is renowned for its large porches wrapped with Baraza benches. These features are used by men to address visitors, for sheltering the privacy of the woman. One of the most iconic architectural implementations visible in Zanzibar is the famous carved Zanzibar doors. Numerous dwellings and buildings Incorporated handcrafted mahogany doors with brass studs imported from India. The outer edge of the door is lined with a rope, which banishes any evil spirit wanting to intrude.

The traditional Islamic architecture focused on narrow corridors leading into wide open courtyards, and living and sleeping areas. These quarters were specifically recessed to allow only the closest family members to access these private spaces (Boswell, 2008).



Figure 3.36: Dwelling in Zanzibar with a handcrafted mahogany door (Heck et al., 2015).

3.8 The traditional Arabian Dhow

The traditional Arabian Dhow can be described as the catalyst in the East African trade. This magnificent hand-crafted structure provided the necessary form of transport, with the ability to forge through the torturous winds, in search of exotic trade goods.

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The crafting of an Arabian dhow is considered a form of art, which developed approximately 600 BC and is still in use today. The construction techniques of these vessels are passed down from generation to generation to preserve the ancient identity of dhow crafting. Even with modern materiality and equipment to the disposal of craftsmen, original materials and tools are still in use. This illustrates the respect the local community has for its ancestors' inventions ("THE ARABIAN SHIPS | Visual.ly", n.d.)

These vessels provoked excitement amongst community members of East Africa as the single lateen ragged mast of mangrove timber and coconut timber appeared on the horizon. This iconic sighting the arrival of new materials, cultures and cuisine all carried on-board a perfectly crafted vessel. The sails of the dhow, or elegantly woven together from the most durable coconut fibre and palm leaves. However, as the trade progressed, cotton was imported from India, which soon became the preferred material. The flawlessly calibrated mangrove structure is stitched together with coconut fibre, believed to protect the ship from magnets under the ocean, said to remove nails from the vessel. Lastly soaked cotton laid in coconut oil is stuffed in holes, which expand as the water tests the integrity of the material. As the water is absorbed by the cotton it expands preventing the springing of leaks (Hideaways Africa, n.d).



Figure 3.37: Photograph of tourist dhow at Changuu Island (Author,2016).



Figure 3.38: Sketch of craftsman building a traditional dhow (Author,2021).

3.9 Introduction



A smell can connect a person to a place. Smellscapes are depictions of our understanding of place, established through the sense of smell (Xiao, 2020). As a means of understanding the importance of place-making, the individual exposed to the new environment, needs to come to terms with his/her surroundings, together with the way the body responds to the context. This will allow an analysis of the human sensory capabilities to be established, further contributing to our emotional response to the space we occupy.

Silverman (2014), refers to space as being a non-binding, empty and three-dimensional collection in which place-related events and functions occur (Sen and Silverman; 2014:2). A place is described as a physical location, which can be real or a collection of the imagination. When referring to the works of Martin Heidegger and his concept of Dasein, we can mention our existence or 'being' as dependent on our relationship with our surroundings. This meaning neither one can exist independently, because existence in this world is interdependent to one another (Silverman, 2014:3).

A smell is an invisible element, which comes and goes. A smell is temporary and allows an identity to attach to it, concerning the context it is experienced within. Identity of place, therefore, arises as people connect emotionally to spaces where a smell is experienced. This connection can be either negative or positive, as a smell can directly be interpreted through its physical scent. A smell can be heavenly pleasant or a foul odour. On the other hand, a smell can connect an individual to an experience - Therefore, recalling either a positive or negative memory associated with and connected to a smell, rather than the smell itself is seen as positive or negative. These connections create a place, as smellscapes are spatially structured from materials (Henshaw, 2013). The body responds through movements that are related to the reaction provoked by the environment.

Research Question

How does the historical significance of fragrance allow an ambrosial tropical island to develop into a sensory narrative, expressing the essence of the Islamic culture?

The environment and the smells encountered within that space create an emotional response, which can be love, hate, joy and pain, etc. (Porteous, 2006). Smells can limit our movement within or along with space as it creates invisible borders. For example, avoiding an unpleasant smell, which indirectly creates a border within the mind (Eschmoser, 2020).

Smells within the environment can also alter moods (Lehrner et al, 2005; Goel and Grasso, 2009). Smells become inseparable from the environments they are experienced within, leading to a connection of place through memory. As a smell can be experienced in one location, as well in others as memory is built, therefore linking place through re-experiencing similar smells over time.

Modern architecture still struggles to interpret the essence of smell, as buildings and designed spaces tend to be visually dominant. Architects rely on a visual language to create place, rather than designing for the non-representational qualities of space (Lefebvre, 1991).

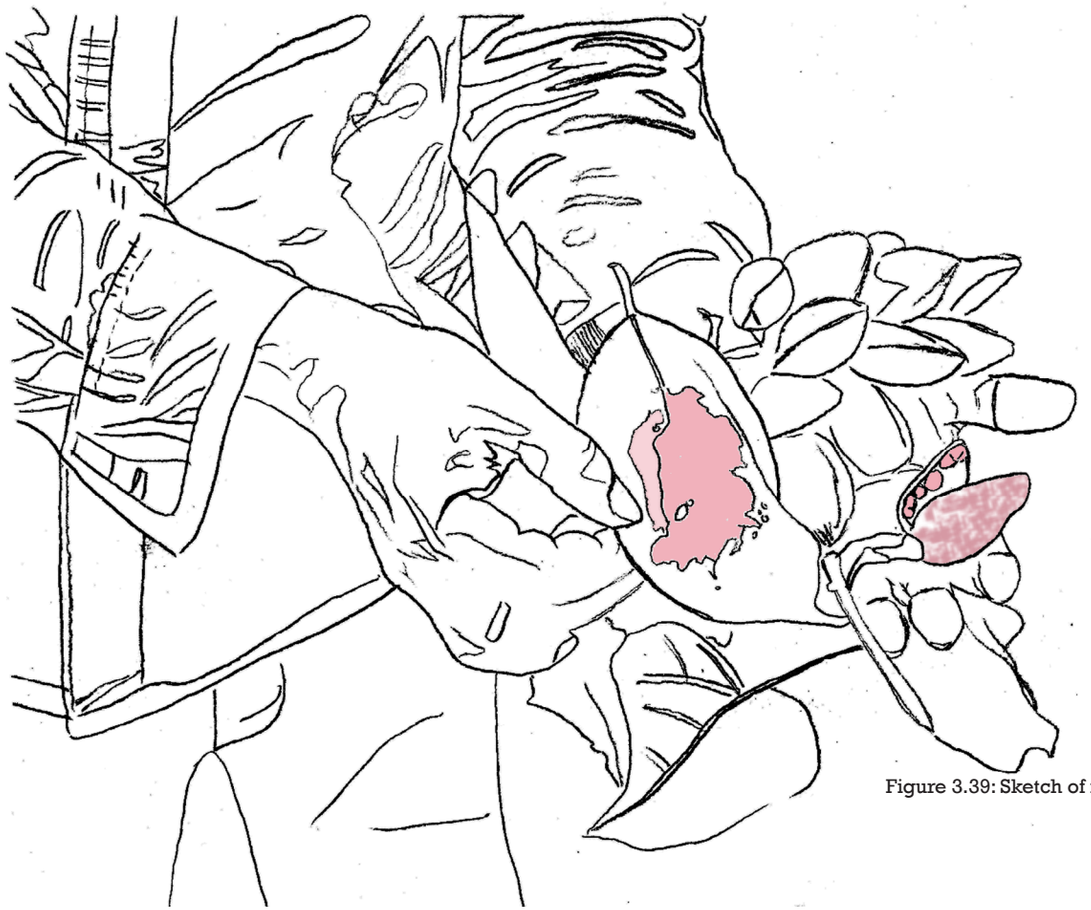


Figure 3.39: Sketch of natural lipstick as seen at Tatata Spice Farm, Zanzibar (Author,2021)

A sensory experience I so fondly remember from our trip to Changuu Island was linked to our arrival on the Island. Through the cloud of perfumed travellers, my nose caught a whiff of a seemingly familiar smell. At first, I thought it was just my mind playing tricks on me, but as I progressed this subtle smell became clearer with every step. In the distance, a man was sitting on a small stump. In his hand, he held a wooden pipe. As he pulled deeply, filling his mouth with a puff of smoke, I was dragged away by a childhood memory. The smell of tobacco brings with it the memory of my uncle on my grandparents' porch. Hi Chappo; he says still to this day. Inside I can smell my grandfather boiling his homemade jams. Apricot, strawberry, quince, you name it, he made it. Behind him is a picture of Donald Duck cooking in a white apron.



Figure 3.40: Sketch of memory linking to a smell (Author,2021).

In the passage, I can hear my grandmothers' shuffling footsteps get closer and closer. A smell of ginger fills the air as she opens a tray of cookies on the glossy 'geelhout' table. "Koek en tee iemand?", she asks.

The cold white tiles feel like needles under my bare feet. I move to the back door where a ray of sunshine is creeping in. Outside I hear my grandfather's budgies singing and chirping.

"Muller, Muller"! A hand falls on my shoulder.

It is my father telling me to stop wandering off as the group wants to move on. I quickly bounce back from my childhood daydream and continue moving deeper into the tortoise sanctuary.

A growing understanding of the senses needs to be incorporated to develop a functional synesthetic design, which displays the importance of all the bodily senses. The design will attempt to display the importance of the senses through the utilization of smell, which will contribute to attaining a thorough understanding of the inhabited site.

When designing a building or structure in foreign surroundings, it is immensely important to understand the functioning of the environment and the inhabitants that reside within that specific area.

Juhani Uolevi Pallasmaa mentioned in his works, 'The Eyes of the Skin' that the architect essentially designed for the perception or the perceptible quality of the building, rather than incorporating all senses as coequal. Pallasmaa (1994: 29) *"The architecture of our time is turning into the retinal art of the eye. Architecture at large has become an art of the printed image fixed by the hurried eye of the camera."* Regarding the above, Pallasmaa's statement accentuates the underlying issue in developing a sensory design, therefore motivating the investigation into exploring and understanding the sensorial realm that architecture bestows.

Pallasmaa (2011, p. 595): *"Spaces, Places, and buildings are undoubtedly encountered as multisensory lived experiences. Instead of registering architecture merely as visual images, we scan our settings by the ears, skin, nose, and tongue."* He also writes that: *"Architecture is the art of reconciliation between ourselves and the world, and this mediation takes place through the senses"* (Pallasmaa, 1996: 50; Böhme, 2013).

The project challenges the approach to a multisensory design as it incorporates functionality and memory to reinterpret the proposed site in such a manner that the dweller explores the cultural values through the interaction of the senses.

The design should therefore embed the cultural values of Islam within its functionality, by portraying a message through the implemented design methods and experiential qualities. The Island of Changuu needs to function as a catalyst in the perfume trade and allow the architecture to memorialize the significance of fragrance through the incorporation of the senses (Relevance and benefit).

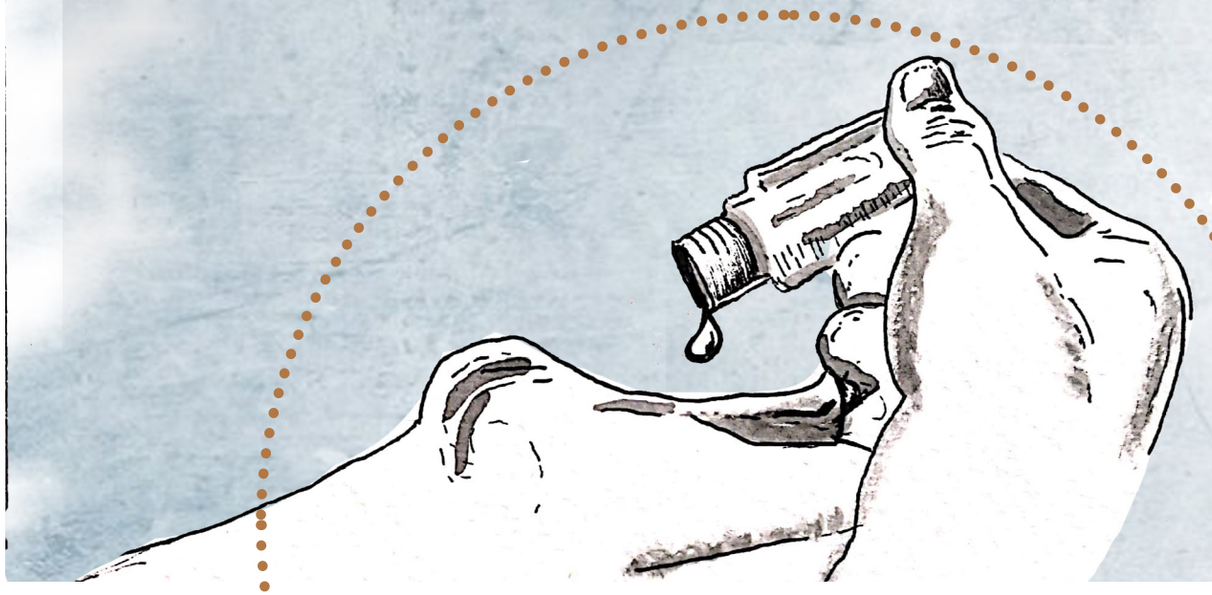


Figure 3.41: Sketch of memory linking to a smell (Author,2021).



Figure 3.42: A smell can bring back past memories (De Freitas, 2021).

3.10 The theoretical underpinning of fragrance in Zanzibar

Fragrance is portrayed in multiple connections in the past, such as the smell associated with worship (Atchley, 1909), the smell of sexuality and pornography (Block, 1934, Drobnick, 2000), the smell of memory (Camdau, 1995) and the smell associated with the identity (Claasen, Synnott and Hewes, 1994).

It was however only in recent years that the importance of fragrance in history was revealed as this element was previously neglected, for it often being associated with evil connotations (Grasse, Boillot and Holley, 2004).

Fragrance is an intangible element, but in a way, we still feel the expression of smells (Bouchenaki, 2003). Fragrance allows us to enhance a specific experience as our body encapsulates emotion experienced at a specific time, where a smell is present. A fragrance in terms of architecture is a smell of scent associated with a specific materiality or function of a space. Fragrance identifies with space, rather than being a space. Preserving a fragrance becomes a challenge as for something to be classified as heritage it needs to be physically monitored or protected (Bouchenaki, 2003).

To protect a fragrance the origin of the specific smell needs to be identified. For Zanzibar, this would mean a thorough investigation of trade routes, to establish where a scent originated. Simultaneously, the actual significance of fragrance needs to be identified and incorporated within the materiality of Zanzibar. Cultural significance or heritage will allow fragrance and its importance to be established for a specific region. Identifying these key elements will allow us to distinguish between a scent in one place in relation to a similar counterpart in a different setting.

Fragrance becomes a multicultural product with a variety of uses. Each smell is ethnically connected to its ritual or form of use, which allows a specific fragrance to sculpt its identity. A smell, therefore, connects us to our roots and allows heritage to form a foundation within our sensory memory bank.

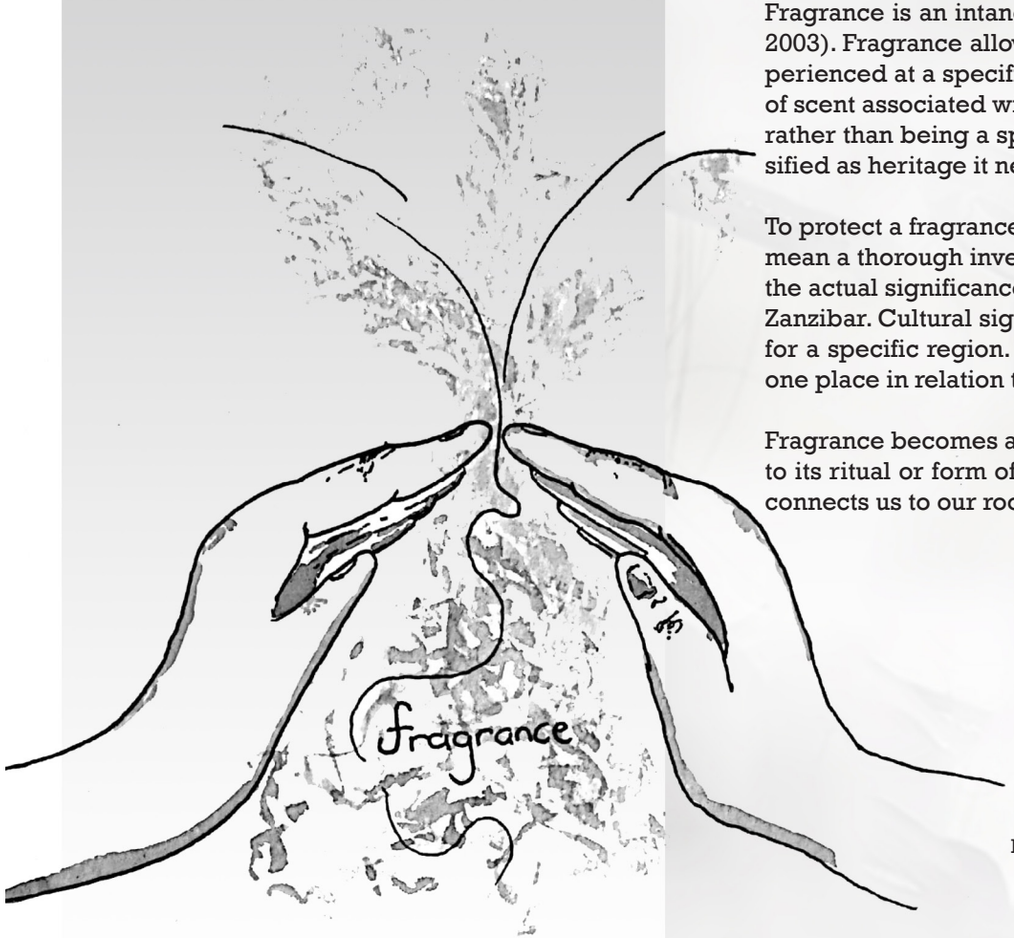


Figure 3.43: Sketch illustrating the need to preserve fragrances (Author,2021).

3.11 Critical Regionalism and its Significance towards an Islamic Island design

Critical regionalism can be defined as a method that takes a more sensitive approach to a region's traditional values, both cultural and architectural. This form of architectural expression allows the local and individual identity of architecture to flourish within the given context. Critical regionalism, therefore, contests against universal norms or methods of design, as well as the abstract architectural forms that neglect identity of cultural significance (Frampton, 1973).

As architecture is an ever-developing art form, Critical regionalism strives towards the incorporation of contemporary methods of design, without setting aside the significance of tradition. This is however no simple task as Kenneth Frampton discusses, in *'Six Points for an Architecture of Resistance'.* Frampton mentions that for any new form of architecture to develop, new connections between the architect and the user have to be established. A new development in terms of the programme is therefore required, to allow architecture to develop alongside regional factors – one that places emphasis on architectural growth, rather than all spiritual matters (Frampton, 1973).

According to Frampton (1973), architecture of this kind should incorporate a focus on critical self-consciousness. Architecture should adopt the phenomenological aspects of place such as awareness towards climatic conditions, the impact of natural light, the topography, as well as the tactility and tectonics of the specific place. He focuses specifically on the significance of tactile and tectonic quality within architectural design (Frampton, 1973), as these elements allow a designed space to evoke the senses of the dweller, rather than being purely functional.

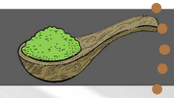
Figure 3.44: Image on vernacular streetscape of Stone Town, Zanzibar (Author,2016).



Frampton (1973) emphasizes the properties of Critical regionalism as a means to suppress the universalization of architecture, which inevitably leads to a site detached from its user and the region in which it is erected. Frampton (1973) stresses the use of environmental conditions to establish the design skeleton. Critical regionalism allows an adaptation of tectonic architecture, also describes as universal methods of design, to be celebrated. Thus, searching for methods, which allows commercialized tectonics systems of the modern era to express form and function without resulting in 'placelessness' as described by Frampton (1973) (Baranyi, 2019).

The adapted tectonic systems now surpass, what was initially described as visual architecture: an architecture developed catering to the eye of the beholder. This new and specific architecture is rooted in the local site conditions and conquers the superficial aesthetics evident in postmodern architecture (Szacka, 2019).

According to Tzonis and Lefaivre (1990: 23 – 33), the critical regionalism method of design upholds the individual and local features evident within a regional architectural style, to prevent the loss of place (Wu, 2006). Modern architecture deems to prevent the humanitarian qualities of architecture to express the purity of the designed space.



The architectural methodology this dissertation implements, is one of 'defamiliarization'. This method of design requires the utilization of selected regional or vernacular elements evident within local architecture and reincorporating these elements in order to establish a sense of place. These defamiliarized elements, now embody an aesthetic quality similar to the designs of Tadao Ando, as each element articulates the significance of the designed structure through the utilization of light and context (Wu, 2006).

As for the topographical element of Critical regionalism, Frampton's (1973) inspiration explored the alternative approach of Postmodernism in a European context. A type of architecture caressing the earth, remaining true to the senses. This topographical insertion allows cultural significance to be articulated, through landscaping. This is especially evident in the work of Italian-Argentine architect Clorindo Testa (Szacka, 2019). Frampton's (1973) critical regionalist approach communicated with the environment (Wu, 2006), allowing a seamless dialogue to take place between his design and the site it occupies.

Critical regionalism allows the design to evoke and emotional responses from its user. In a sense this allows participation to take place. As participation can be explored from various angles, the predominant goal is to create a cultural experience (Baranyi, 2019). A form of authenticity is created, which allows the experience of a local to differ from the experience of the tourist. When a tourist is exposed to a cultural experience, he or she might misinterpret the essence of the experience. This experience can be deemed to be inaccurate to some extent, which renders it as a form of entertainment (Baranyi, 2019).

As a means to combat this occurrence, a design should allow the tourist to experience the cultural qualities without limitations, therefore taking the tourist outside their comfort zone. This will allow them to place themselves within the context of the explored culture and creates the opportunity for him/her to understand the values and inner workings of the experience culture, to broaden their understanding. Critical regionalism allows this process of interactive learning to take place through the allocation of space within the designed program. These dictated spaces allow participation to take place, which allows the tourist to experience the essence of the culture within the region from which it stems (Baranyi, 2019).

The proposed design focuses on creating awareness of materiality and cultural history, but simultaneously must take into consideration Frampton's stance towards being sensitive towards the site and the surrounding conditions (Szacka, 2019). The design should evaluate the current conditions as well as its future implication towards ground occupation as signs of natural erosion is an ever-present factor, which may affect both the site conditions and the proposed spatial development during a later period.

Walking along the brick-paved path, we arrive at the ruin of a prison - A building proclaiming its authority as it becomes a beacon within the landscape. The structure is of such significance, a whole island is renowned for it. Yet, never truly living up to its name. I stand gazing at the thick limestone walls, with their barred windows. The contrasting colours make my eyes jump from window to window in search of any irregularity. On the outside, I fail to find any blemish, but the washed walls with the sun gleaming through the entrance passageway lures me into its midst. As I enter my eye catches an opening on the right side of the open courtyard. The remains of a structure? Its purpose is still unknown, but I proceed to inspect the dilapidating walls. As I wipe my hand over the surface the red chalky texture follows my fingers, leaving my mark on history. This space with its dominant exterior, but deteriorating from within will in time turn to dust.

Critical regionalism allows multiple possibilities to sustain the cultural significance of this structure. The design needs to uphold the significance of the Islamic materiality and local craftsmanship, not only through built form but also through the incorporation and sensitivity towards the surrounding context (Szacka, 2019).



Figure 3.45: A sketch Cyrus Kabiru, the man who inspired defamiliarised objects for parts of this dissertation (Author,2021).



Figure 3.46: Cyrus Kabiru finds trash on the streets of Nairobi and gives it new purpose (Designboom, 2015).

This is possible through careful analysis of climatic conditions and light quality, as the dense canopy allows light to subtly grace the interior courtyard and facades. As for restoring the structure, the best manner to express the true essence and quality of space is to utilize the climatic factors, together with the already dilapidating façade to rejuvenate a space. The implementation of local craftsmanship and materiality such as mangrove timber and lateen sails will allow a new entrance to be established on the north-western façade. This adaptation to the existing will emphasize and further aid the narrative of fragrance and its importance within the Islamic culture. The prison will become a part of the storyline, rather than remaining a ruin. However, it will still serve its current functional quality as a restaurant. The prison will allow tourists and locals to experience the quality of construction methods utilized many moons ago, as well as contemporary adaptations towards the use of materials within the environment.

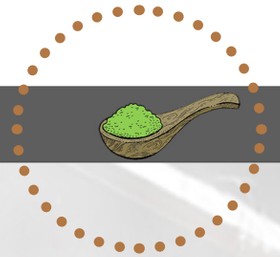
Closely connected to this theoretical approach is the incorporation of the different 'scapes' as investigated in the document. These scapes namely, the 'smellscape' and 'sandscape' of Changuu Island emphasize the relevance of a Critical Regionalist approach towards cultural significance (Jacobpep, 2017).

To further stress the importance of Critical Regionalism as expressed by Kenneth Frampton, the document incorporates the work of Juhani Pallasmaa (1996). In this explored theory we come to terms with the visual aspect of a design in relation to the tactile, as investigated by Frampton in "Towards a Critical Regionalism: 6 Points for an Architecture of Resistance". Pallasmaa structures his investigation on the impact a sensory experience has on the dweller and the significance of the experiential quality of space (Jacobpep, 2017).



Figure 3.47: Photograph of ruin inside courtyard of Changuu Island prison (Planet Zanzibar, 2019).

3.12 The Sandscape of Changuu Island



"Is it about the idea that within its minuteness a grain of sand encapsulates greater things, that it is a metaphor for a grander scale, that it has a story to tell?" (Welland, 2009:2)

The Zanzibar soil, together with its diverse range of flora establishes the connection between the temporality of sandscapes and the making of place. The connection between the coral rag landscape and the red-clayed soil in relation to the erected infrastructure gives meaning to place. Norberg-Schulz (1980:8) states that place is subjective to location and that the essence of place is not determined by the price of land, but rather through the expression of occurrences or heritage which develops the identity of place.

The spirit of place or genius loci as addressed by Norberg-Schulz (1980), is influenced by both landscape and infrastructure. Changuu Island can be described as an ever-changing landscape, through the natural elements such as tides, rain and wind having a large impact on the experiential quality of space. The sun connects people and places, as it transgresses borders and thresholds (Woodward, 2005). It also provokes the senses, through sensory qualities, such as touch and smell (Brace and Geoghegen, 2010: 284). Sand creates a distinctive sense of place as its socio-cultural qualities, provoke multi-sensory and emotional responses, stemming from cultural as well as its physical characteristics. Thus, integrating the body within space to create a phenomenological experience of place.

Sand allows Changuu Island to experience constant change as its rhythmic natural movement is altered on a daily basis. This occurrence takes place due to changes in environmental conditions (Arnall, 2019: 306).

The sand is constantly washed by waves, northern currents and tides, to sculpt different boundaries of the existing edge, through the altering of size, shapes and formations of sand. For example, during monsoon season certain parts of the Island's landscape are cloaked by the ocean, where this part of the land would, on a normal basis be visible to those who set foot on the soft sandy borders.



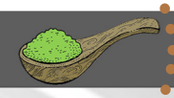
Figure 3.48: The eroding edge of Changuu Island (Eco Culture Zanzibar, 2021).

Sand is however not the only changing factor or element on Changuu. The fringing coral reef around the island grows directly outwards from the shore, which serves as a habitat for a variety of tropical life. As mentioned earlier the natural environment over time takes its toll in changing of the landscape. Besides the ever-present impact of the erosion currently experienced on Changuu due to the natural vegetation struggling to source water, together with the movement of tides, mankind has also affected the landscape. The island, previously being utilized as a coral farm shows large scars of mining. The effects of mining, however, aided in the making of place, as the quarried ragstone became a historical material in the identity of Changuu and Zanzibar.

The identity of Changuu now faces the threat of coastal erosion as the historical infrastructure, of the prison is slowly being consumed as the outline of the island shifts. Is the best way to encapsulate the temporality of Changuu's natural landscape, by fixing its naturally eroding edge? Human intervention would minimize the temporality of the island landscape, which creates another issue of the human impact transforming the size and structuring of Changuu, but would in essence preserve the historical prison over time.

In conclusion, if the identity of place is characterized by its natural and man-made components, it would be best for those interacting with and developing the space, to focus on the making of place for the current time, rather than predicting the future through intervention (Arnall, 2009).

3.13 The smellscape of Zanzibar



Zanzibar's heritage is captured within the materiality of space. The building materials are symbols of past life, which is incorporated in a modern fashion to illustrate the significance of the meaning of place. The key, however, is the medium or materiality used to construct space, as these materials reconnect social and spatial relationships, between smells, people and cognitive understanding. Spatial ordering and structuring, allow the dweller to experience a sense of embodiment as he or she identifies with place through memory. The spatial organization of a building will thus be a crucial factor in creating place in the proposed design.

Our bodies, in relation to space and smells are the reasoning behind how we interpret or relate to space and how we interact with space. Zanzibar smells are connected with many traditions and rituals, which ultimately take shape within the ordered environment. These organized spaces together with the sacred use of scents formulate the grounding of identity, as the experienced environment is interpreted and stored as memory Henshaw (2014).

Organization as referred to by Norberg-Schulz, is the structured geometry, allowing us to experience space (1984; 20). These design spaces create nodes of interaction, where our cognitive attributes guide our reactions. The path as referred to by Norberg-Schulz (1991:23) influences our experience by means of nodes. These paths in relation to Changuu Island will be historically orientated establishing a narrative of heritage.

Social and cultural factors contribute to the enhancement of the multi-sensory experience, as stimuli of sensory organs provoke memory. Smellscapes can however be interpreted in multiple distinctive ways, according to the individual's relationship with place. For the locals the materiality and orientation of the designed environment might portray common beliefs, values and heritage. The tourist on the other hand, experiences a sense of togetherness, through gathering spaces. The way in which locals and tourists react in a physical as well as an emotional sense to the identity of place, illustrates the significance of how religious and cultural ideals and elements are distributed - together with the way in which humans make peace with different cultural heritage (Eschenmoser, 2020).

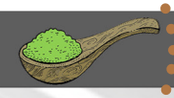


The mind can recall memories fossilized through smell connected to our emotional understanding of space. However, the intangibility or fleetingness of a smell's existence creates different narratives for different individuals, even with the route or path being identical. Smellscapes, therefore, are representations of an individual's imagination or identification with place (Henshaw, 2013).

In essence, architecture should provide identification through the understanding of space (Nesbit,1996:429). Architecture creates the possibility of orientation within place, capturing the meaning of our surroundings (Nesbit, 1996:429). Smells function as the catalyst in identifying the environment and reacting our response to our specific surroundings through sensorial stimuli as explained in 'Heidegger's Thinking on Architecture'.

Figure 3.49: Man in streets of Zanzibar sitting on a barazza and taking in his environment (author, 2021).

3.14 Linking fragrance and form within Zanzibar



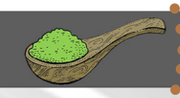
Architecture in Zanzibar incorporates both the physical and mental form, which interprets as a sensory whole. This holistic experience allows all the senses to be interpreted within a multi-sensory design, rather than isolated encounters with each element. Much like the design of Falling Waters, by Frank Lloyd Wright (Ngwia, 2020), where the forest, colours, textures, and volumes all identify with place. This spiritually portrays a collective understanding of the designed space. This specific design by Frank Lloyd Wright, is defined by the concept of Biophilia. This term accentuates the tendency of man to relate to nature and their surroundings. This is made possible through physical interaction with the environment, which acts as a stimulus for the person's sensory organs (Ngwia, 2020). This physical interaction holds many benefits as it has been proven to improve cognitive performance and reduce stress levels (Ngwia, 2020).

Similar to the prison on Changuu Island, Wright makes use of locally sourced sandstone to construct the walls of the dwelling. Wright also connects the dweller with the surrounding environment, much like Ando and Frampton (Ngwia, 2020) by leaving the natural environment seemingly untouched, as a ledge rock protrudes unhindered through the living room of Falling Waters. In addition to this Wright saw beauty in the surrounding landscape and did not want to interfere with the serene Pittsburgh landscape. He made use of materials and colours sourced from the surrounding environmental colour palette to harmoniously underline the graceful surroundings. Wright included rock patterns from the waterfall, within the design of the outdoor terraces (Ngwia, 2020). This dissertation takes inspiration from this specific design element as patterns play an important role in the Islamic culture across the world. In multiple ways the Island of Changuu already incorporates patterns within its flesh, as the mosaic-like tree canopy and the coral reef have unique patterns contributing to its identity. This dissertation aims to seamlessly incorporate these patterns within the materiality of the architectural development and to utilize the natural sandscape, without hindering the environment.

Architecture within the East African trade community, creates a sensory realm in which the dweller can explore multiple framed forms of memory, portrayed through the historical materiality of buildings. This experiential narrative creates a memory. The achievement of built memory is dependent on the person experiencing the place. Steven Holl states, our memory capacity would be deemed meaningless or impossible without a body memory (Holl, 2005:45).

Specific mediums in Zanzibar, as well as the proposed site of Changuu, display materiality, that evokes sensory stimulation. One of these materials is Coraline ragstone, which is mined on the island and therefore identifies with place. This identification links heritage and materiality. Natural landscapes of the white sandy beaches, together with the smell of stone and ocean combine to create a realm of fantasies and dreams, creating a memory.

This is however not the only means by which the heavy Coralline walls are interpreted. Heavy, load-bearing walls are iconic design elements within Islamic architecture. Historic walls cast prominent shadows, creating a sense of solidarity.

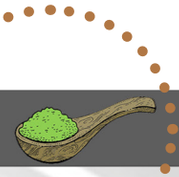


The Island's infrastructure is anchored in the earth, but as time passes by the landscape slowly engulfs the echoes of a past life (Holl, 2005:52). Time and place are interconnected elements, which allows us to comprehend the passing of history. Changuu becomes a museum, illustrating the past life, in a present time.

Conclusion

A narrative arises allowing our intervention with time and place to connect us through our senses with memory. Without memory capacity and the presence of the body with the environment to witness or experience this heritage captured within a modern timeframe, this history would cease to exist. This is the theoretical understanding portrayed within the work of Steven Holl (Holl, 2005). Through this understanding of memory, it becomes clear that without the interdependent link between man and the surroundings a memory turns to dust.

Memory is created by our interaction with this historic realm. A smell of space forms experiences allowing us to revisit a past life within a space, which was deemed completely forgotten by a disconnection of focus. As our smell connects with our memory bank, it unlocks feelings and emotions, allowing us to remember to re-enter a seemingly forgotten place (Pallasmaa, 2005).



1.

WHAT IS A MOMENT?

A moment has the potential to allow a brief or a split second of intense sensual experience within the ephemeral world. The Yarbus experiment (Fig. 51) is another way in which the beholder can engage in the game through which the picture invites or allures him/her into participating. The experiment has to do with picture perception where the observer is searching for visual and pictorial clues for meaning. In his experiment (Fig. 51) the saccades or jumps of the human eye in search for clues in the painting the unexpected visitor (Fig. 52) by Repin is shown. The saccades are shown in a graph as seen in Eye movement and vision (Fig. 52) which are also called 'eye work' or 'playing eye' (Fried, 1980: 92).

In relation to the proposed building, this theoretical concept will allow the user to explore space through enticing elements catching the eye. These design elements incorporate texture, smell and colour to allow the saccades of the eyes.

HOW DOES THIS EXPERIMENT TRANSLATE TO A FORM OF ARCHITECTURE?

- In terms of architecture, this theory will focus on how the human eye searches for elements within the space that will evoke attention as well as create movement towards or away from the source
- Physical elements, such as a stair extending adds an extra step in creating awareness and curiosity, thus falling into the path of the user to create a reaction
- Materiality is used in a distant space, which catches the eye and initiates action or movement towards different thresholds

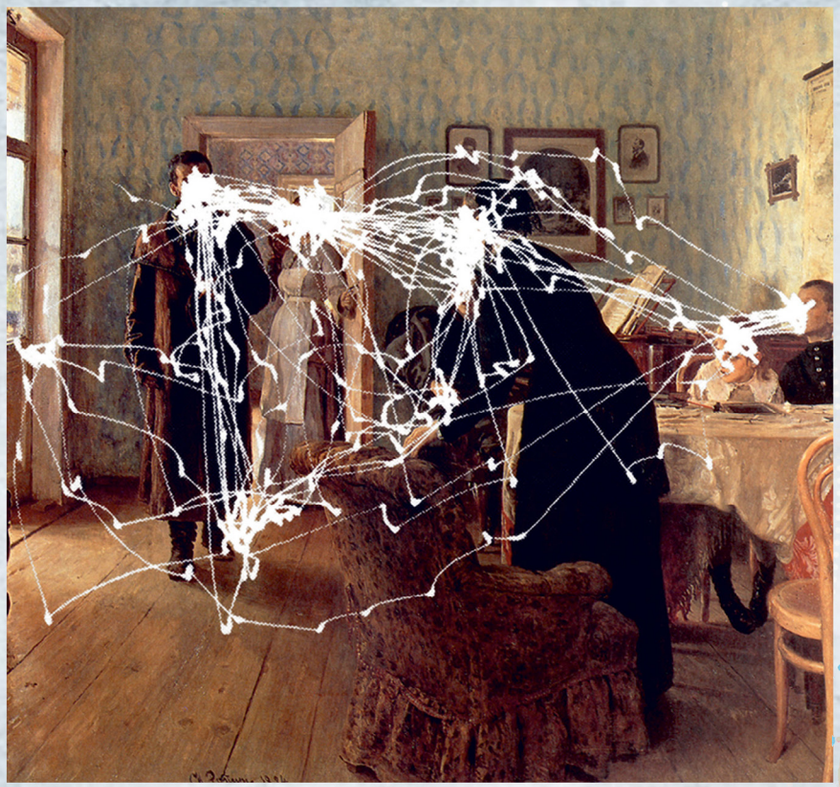
How does this concept link with fragrance?

As a holistic understanding of space, the individual makes use of all the sensory organs in order to derive an understanding of the explored space. In terms of fragrance, a designed space can attract or repel an individual through different smells. For example, as the user walks along the path he or she is visually stimulated by concrete elements such as patterns and textures, but alternatively, different smells or fragrances can attract the individual to enter or explore the source of such as smell. This method creates a similar pattern to the jumps of the human eyes, as explained through the theoretical precedent, but rather than it being the movement of the eye, it becomes a movement of the body and the mind. The body moves in the direction of the scent or even away from it, whilst the sensorial nervous system jumps between memories of the past being unlocked through the journey.

Figure 3.50: Eye movement and vision (Archibald, 2008).



Figure 3.51: Movement of the eye (Archibald, 2021).



2.

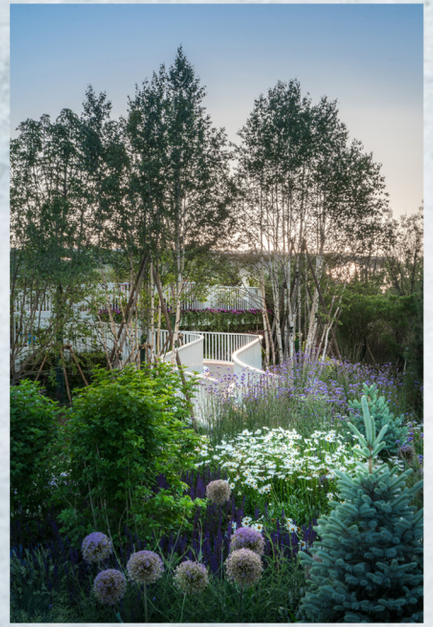
THEORETICAL PRECEDENT: Shanghai Garden, the Beijing Horticulture Exhibition 2019 by, Arcplus Architectural Decoration & Landscape Design Research Institute

The Shanghai Garden, located along the Gui River, can be described as a multi-sensory realm. This space is dependent on its narrative route to educate the user on the qualities of its different spheres or landscapes. These sensory realms allow the user to experience different landscapes from different perspectives, each with its own floral and cultural significance. Evidently, the focus of architecture leans towards the significance of scent or smell as each sphere allows the user to appreciate and explore the different aromas of Shanghai ("Shanghai Garden, the Beijing Horticultural Exhibition 2019 / Arcplus Architectural Decoration & Landscape Design Research Institute", 2019).

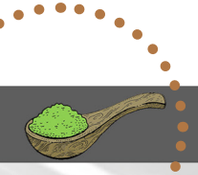
This display of cultural horticulture encapsulates smells through the colour and textures of beautiful plant life. These gardens portray traditional Chinese gardening techniques, thus displaying heritage through smell ("Shanghai Garden, the Beijing Horticultural Exhibition 2019 / Arcplus Architectural Decoration & Landscape Design Research Institute", 2019).

Figure: 53,54 & 55: Images of the garden exhibitions and how the route tells a story of heritage and culture (Cui, 2019).









Relating the Shanghai Garden to Changuu.

In a similar manner, the proposed design on Changuu Island will focus on creating a narrative route. This route or pathway becomes a narrative of the Islamic heritage- displayed through multiple fragrances emanating from different nodes as a progressive pathway portrays the Islamic ritual of bath, mosque, and garden. From a theoretical perspective, the narrative on Changuu Island and Shanghai Gardens, both incorporate the theory 'The Spirit of the Place' by Christian Norberg-Schultz. These separate entities, both create place through the interdependent relationship between man and the environment.

The purpose of the space is to provide the user with orientation and to allow the user to identify with the space. For Norberg-Schultz (1991), place making allows the designed space to create a totality or a holistic experience as thresholds between public and private sections of a design disappear. This would allow the space to mean something, rather than just to be something. As the experience of the user is of such importance, genius loci allow human identity to flourish within the explored environment.

The space is dependent on human interaction, where stimulation of the senses is required to generate an opinion or understanding surrounding space explored. Through this exploration memories are created, because without the activation of the senses, the colours, objects and scents will not be fully understood or connected. If this connection is successfully established, a space develops a character. This connection can allow man to gain an existential foothold (Nesbi t, 2005: 412).

3.15 Analytical Precedent study

Analytical Precedent study

The proposed design follows a simplistic approach, as the aesthetic quality of materials are investigated to develop a design that allows the dweller to progress without any obstruction. Such a design will allow the user to move effortlessly between different thresholds, for the sensory experience to run continuously as the body eases into the surrounding environment.

Precedent: Jean-Marie Tjibaou Cultural Centre

Location: Nouméa, New Caledonia

Architect: Renzo Piano Building Workshop

Client: New Caledonian government

Size: Area: 8550 m^2

Completed: 1998

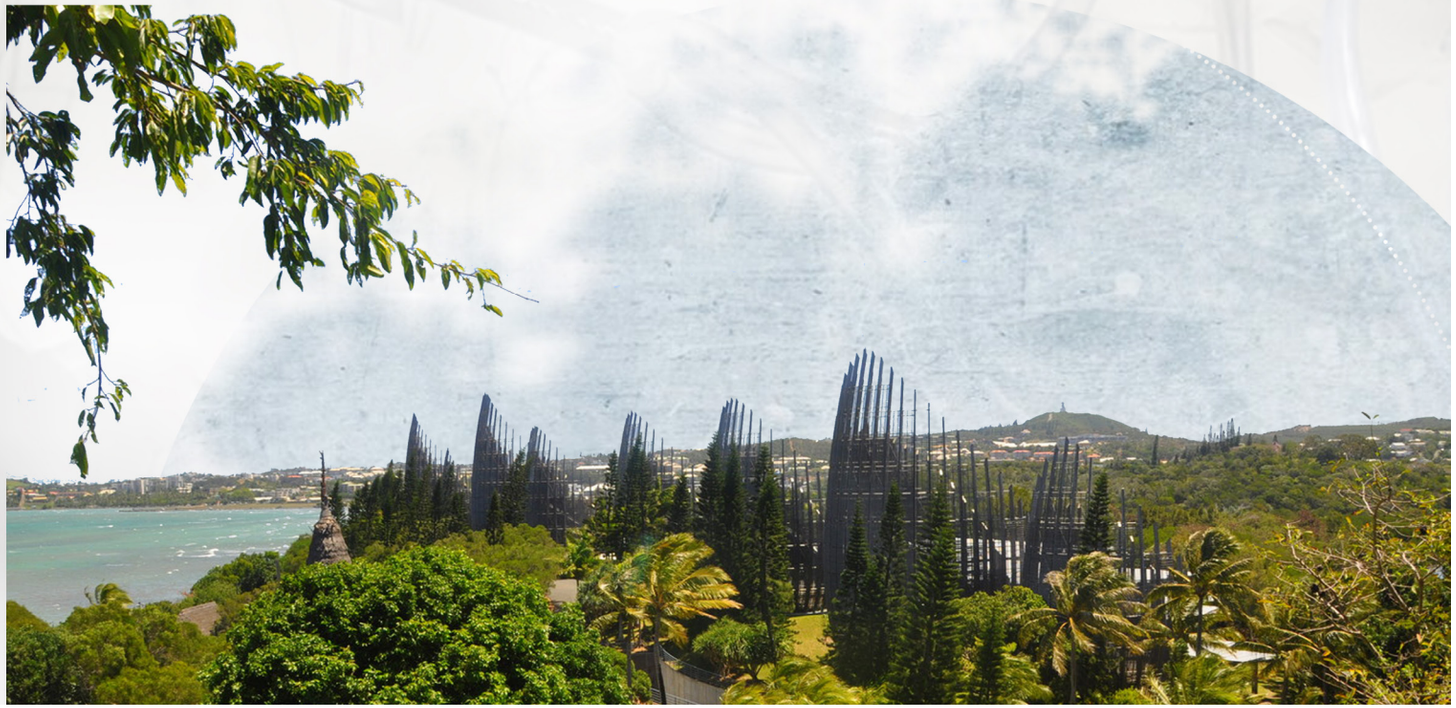


Figure 55.1: Image of Cultural Centre by Renzo Piano (Langdon, 2021).

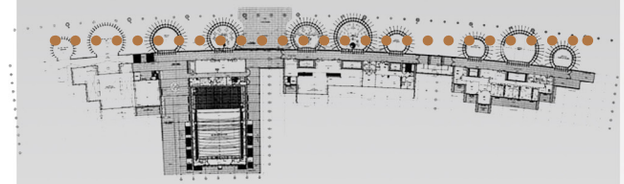


Figure 55.2: Floor plan of Cultural Centre by Renzo Piano (Langdon, 2021), adapted by author to illustrate axis.

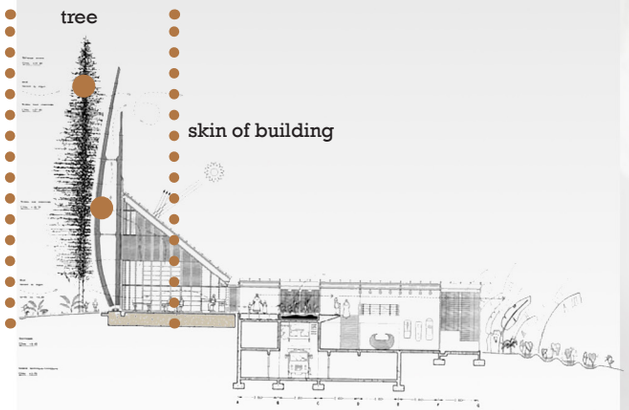


Figure 55.3: Section of Cultural Centre by Renzo Piano (Langdon, 2021), adapted by author to illustrate how a story comes into play between the building and nature.

This sensitive approach towards Kanak tradition, accentuates the surrounding landscape in order to generate a performance. Ten tremendous shells are placed along the hillside. These rounded shells vary in heights, ranging from 20m to 28m. Nestled within these monumental structures are intricate museum spaces. The result is a dance with nature, as the building blurs the threshold between interior and exterior (Langdon, 2015).

Staying true to the Kanak vernacular, Piano's conceptual interpretation focused on incorporating the site and its heritage within the design. This is evident in the form of the shells as these designed spaces incorporate a dematerializing style to showcase the surrounding quality of the tree canopy (refer to figure: 55.3). Another element, which relates back to Norberg Schultz theory of placemaking can be seen in the manner in which the plan of the design and the walls allow the building to amalgamate with the surrounding environment. A relationship is established between the design and the site as the user or inhabitant can identify with both vernacular and context (Langdon, 2015).
The design further articulates Kanak tradition as there is a seemingly beautiful incompleteness to the shells, almost as if the project is still developing. The incompleteness of these shells illustrates the ever growing and developing Kanak culture, as the culture's historical roots are ever adapting to the new challenges the world has to offer (Langdon, 2015).

Inspiration gathered for the development of this dissertation:

Morphological inspiration

This cultural Centre by Renzo Piano, served as a basis in developing the fragrance pods. Although the form of the fragrance pods is strongly connected to the design done by Piano, it derives inspiration from the traditional Arabian dhow. The development of the fragrance pods also draw inspiration from the use of vernacular elements as they are similarly to this precedent study, defamiliarised and reinterpreted to create a sense of belonging for the user. The morphological order of this precedent played a major part in developing the fragrance pods as the open design quality of the precedent is carried over to the dissertation, where the pods make use of the edge of the island as a barrier (refer to figure: 55.2).

Typographical inspiration

The typography of Paino's Cultural Centre influences this dissertation through its arrangement of space (refer to figure: 55.2). As Piano focused on the historical quality of Kanak architecture to allow a performance to take place. The result was an interplay between man and nature (refer to figure: 55.3), which allows a story or history to be experienced as the user filters through the space. The proposed development makes use of a similar design style in order to convey a narrative. The spatial allocation along the edge of the island is similar to that illustrated in the design of Piano. This dissertation makes use of a linear axis, to create a coherent flow of events, where the Islamic traditions of Zanzibar become a lived experience as materiality, orientation and form tell a story.



Design & Technical
Synthesis

Part 04

Introduction

The development of the Changuu Island Fragrance Boutique can be explained to have happened in stages. To initiate the project multiple development stages contributed to form giving, which led to the incorporation of function. As it may appear to be a structured process, multiple obstructions obscured the quest towards a final design. Thus, after the initial development stages, an alternative precedent study to the study within the construction section of the document had to be conducted. This process or study aligned with multiple theories investigated throughout the document, which cleared the path towards the final design proposal.

4.1 Design and Technical Synthesis

4.2 Spatial Development of Proposed Fragrance Boutique

Fin

4.1.1 Development Stage 1 – Splinters of a Layout

1.

The initial design approach towards Changuu Island and the proposal of a fragrance boutique gathered inspiration from a visual perspective rather than investigating a theoretical grounding. As the aesthetic quality of a design is very important to convey a message, more research had to be conducted to aid the proposed form giving. As this was only the projects inception stage, the major impediments emerge through a lack of available documentation of Changuu Island. Regardless, this hurdle was concurred, allowing a thorough investigation of the site to commence. This process involved spatial analysis, scale analysis and materiality to guide the initial structural and visual development.

What took form was a conceptual development illustrating possible massing of the proposed design. The volume of the proposed development, raised multiple questions as the surrounding landscape accentuated a harmonious coherence in relation to the existing infrastructure. This was due to the materiality of the concept or massing model reading as heavy loadbearing structure, rather than the subtle insertions they aim to become.

The output deemed to light up many possibilities to further the design process. What was derived from this initial conceptual exploration was:

1.

A perception of scale on both the buildings and the landscape of Changuu Island.

A basic knowledge was gained through investigating multiple sources, which included fishing maps to understand contours and different height perspectives as experienced on the Changuu Island, together with first person video footage to comprehend the shear craftsmanship. Although I have experienced the quality of Changuu Island in 2016, not much has changed. However, sights of dilapidation and neglect are evident.

2.

Morphological underpinning of Changuu.

The vernacular experience of Changuu becomes an ornamentation of the Islamic architectural style of Zanzibar. This architectural style or expression, reflects the quality of craftsmanship seen all across Stone Town, and also conveys the quality of dhow craftsmanship.

3.

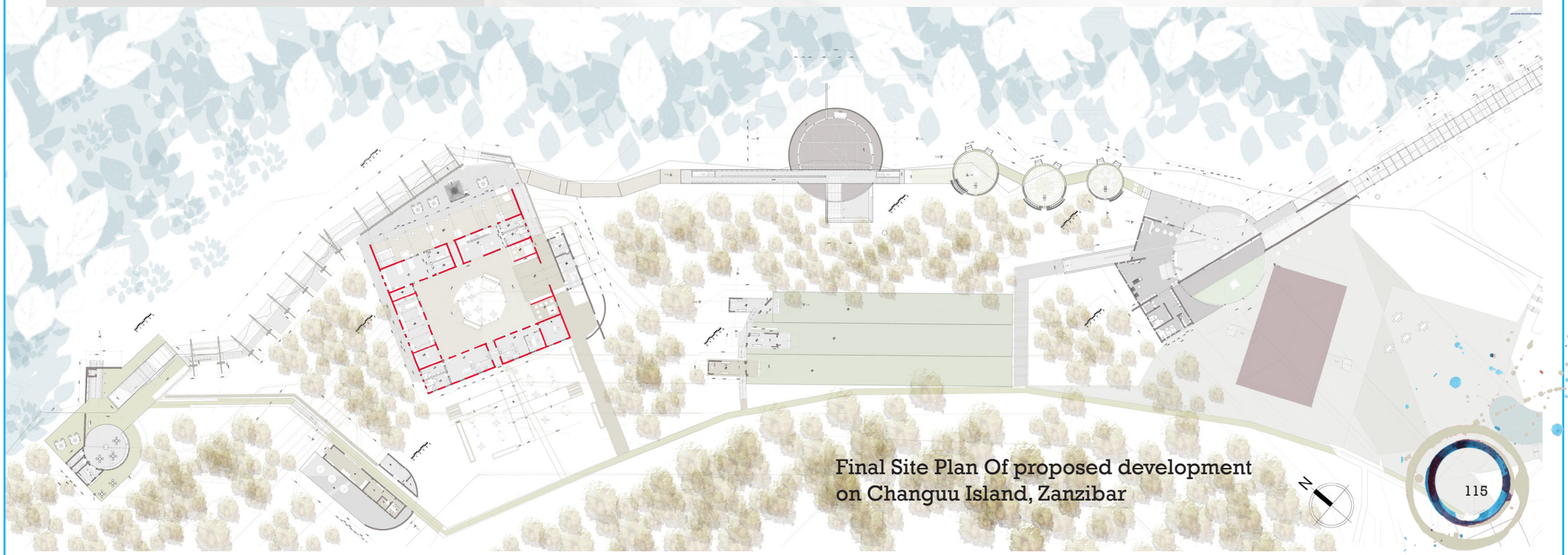
Establishing a theoretical route

Presumably the most influencing factor of the initial design development was incorporating Norberg Schultz's theory of Genius Loci (The Spirit of Place) as discussed in the theoretical section, 'The Sandscape of Changuu Island'. This perspective of theoretical understanding, allows a link to be established between memory and the corroding edge of Changuu Island.

Towards an Ambrosial Island: Development that remained evident until the very end

One of the key design elements that remained, was the axis visible on the northern edge of the design. This axis followed the corroding edge of the island and acted as a threshold between a classical and romantic landscape as discussed in the final design section.

The first conceptual design development generated multiple volumes or structures. Some of these volumes remain as placed in their original location, but have since been altered in scale. These include the reception; all three fragrance pods and the contemporary Islamic bath.



Final Site Plan Of proposed development
on Changuu Island, Zanzibar

4.1.2 Development Stage 2 – Node evolution

2.

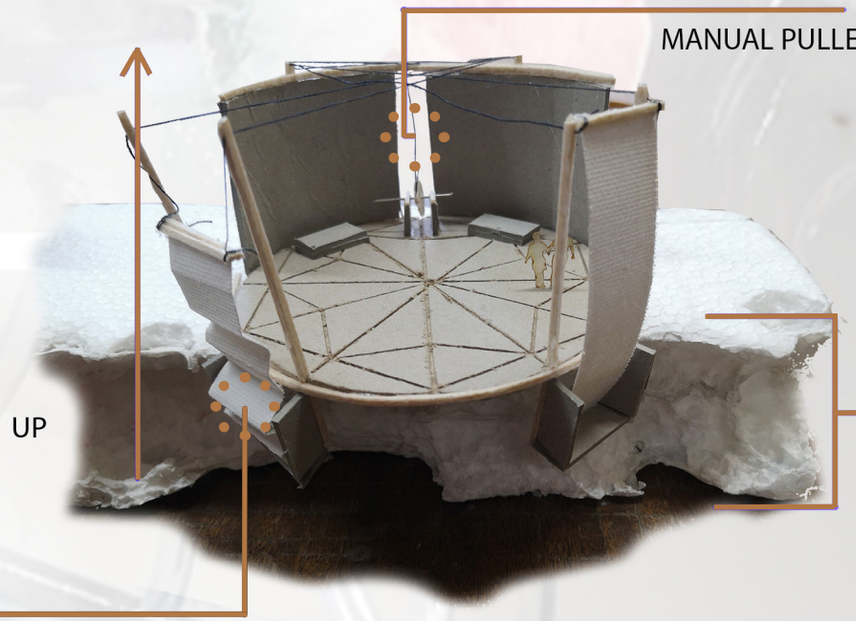
As the heading suggests, this stage of development focused on developing a fragmented floorplan, rather than pursuing the narrative or holistic expression of the design. The reason behind this approach is testified though the theoretical research of placemaking of Norberg-Schultz, as explained in the theoretical precedent study on the Shanghai Garden **(p. 106-107)**. A major influence also inspiring this approach was the work of Kenneth Frampton and Tadao Ando, as they utilized the art of connecting the dweller to the surrounding environment by means of 'defamiliarization'. This design technique focused on extracting local materiality and elements, such as the lateen sails and wooden hull of the traditional Islamic dhow.

This development stage led to the designing of four different nodes that may appear to be of a separate origin, but due to their historical connections to both materiality and form giving, a connection is established - moulding a channel for the dweller to connect and understand the significance of the explore space.

1.

Node 1 - Fragrance Pods

The three fragrance pods draw inspiration from the mangrove timber construction evident in architecture across Stone Town, Zanzibar. These pods each portray a different Islamic tradition but function as a whole by incorporating materials of significance within Zanzibar's architectural language, such as coral ragstone and mangrove timber.

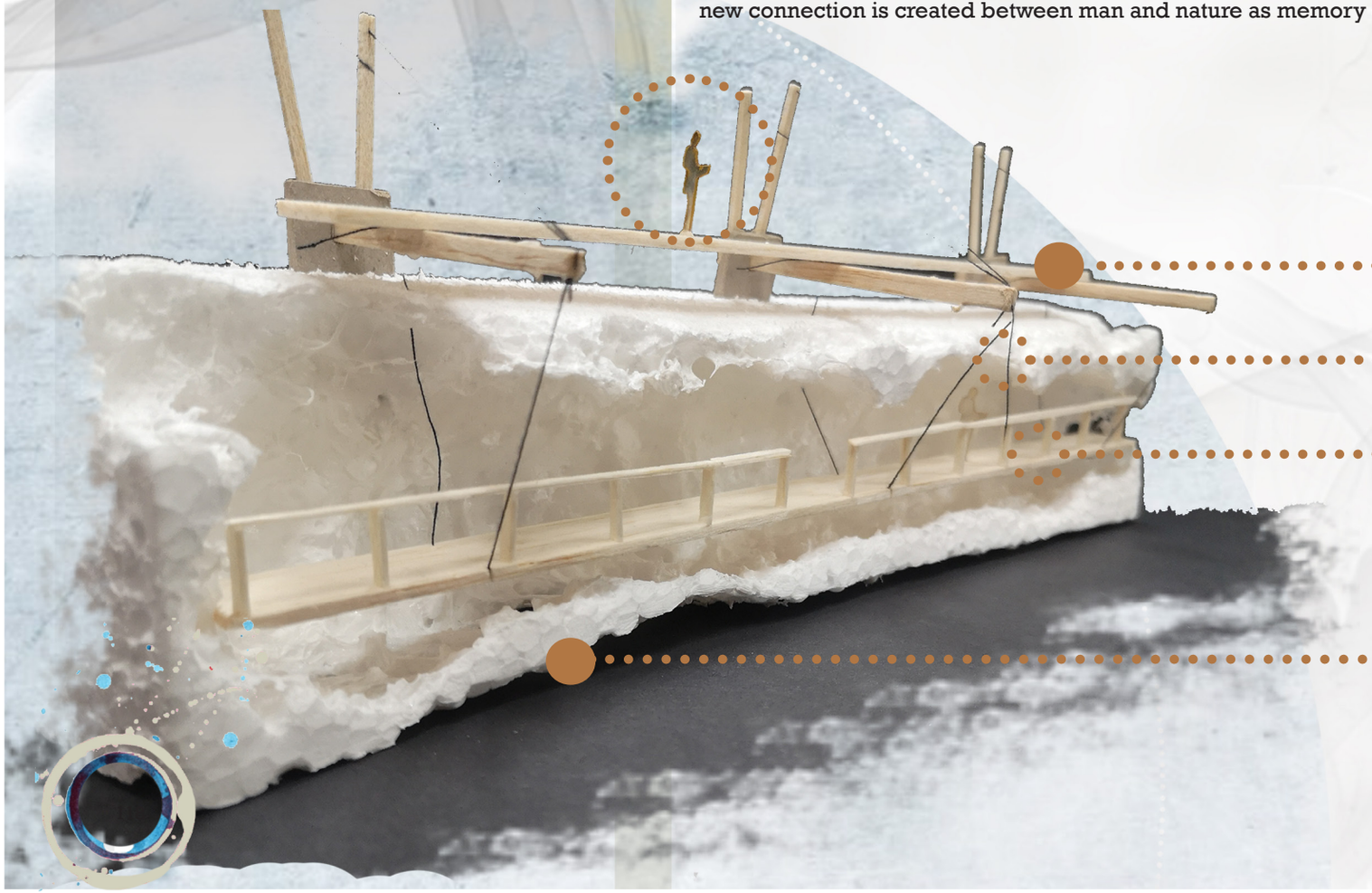




2.

Node 2 - Coral reef walkway

This proposed walkway runs along the edge of island and is mimicked in the eroding coral reef below. The walkway is to be constructed from mangrove timber with a foundation of reinforced concrete, which allows it to cantilever over the landscape. The cantilevering effect, is crucial for the development phase as the aim is to create a route for the dweller to walk in the footsteps of those before him/her, as the ground below is slowly being carved away by soil erosion. What is left of a previous walkway is merely a memory, but through this a new connection is created between man and nature as memory can be preserved.



3.

Node 3 - New dock

A new dock is proposed on the northern edge of the site, as a means to directly connect the dweller or explorer to the narrative. He or she can now directly embark on an experiential journey, without the trouble to orientate themselves. This dock acts as the introduction to the island as it portrays a message of both the past and present. The newly proposed dock, built of mangrove timber with lateen sails, pays tribute to the traditional Islamic dhow, as well as makes use of the sails of the iconic boat to cool the dock. This is made possible by the drenched sails raising from the water as the dhow comes to a halt. This wet lateen sail is now aided by the wind, to cast a cloud of moisture over the dock, cooling the visitor.



Lateen Sail

Manual pulley system for raising of sails

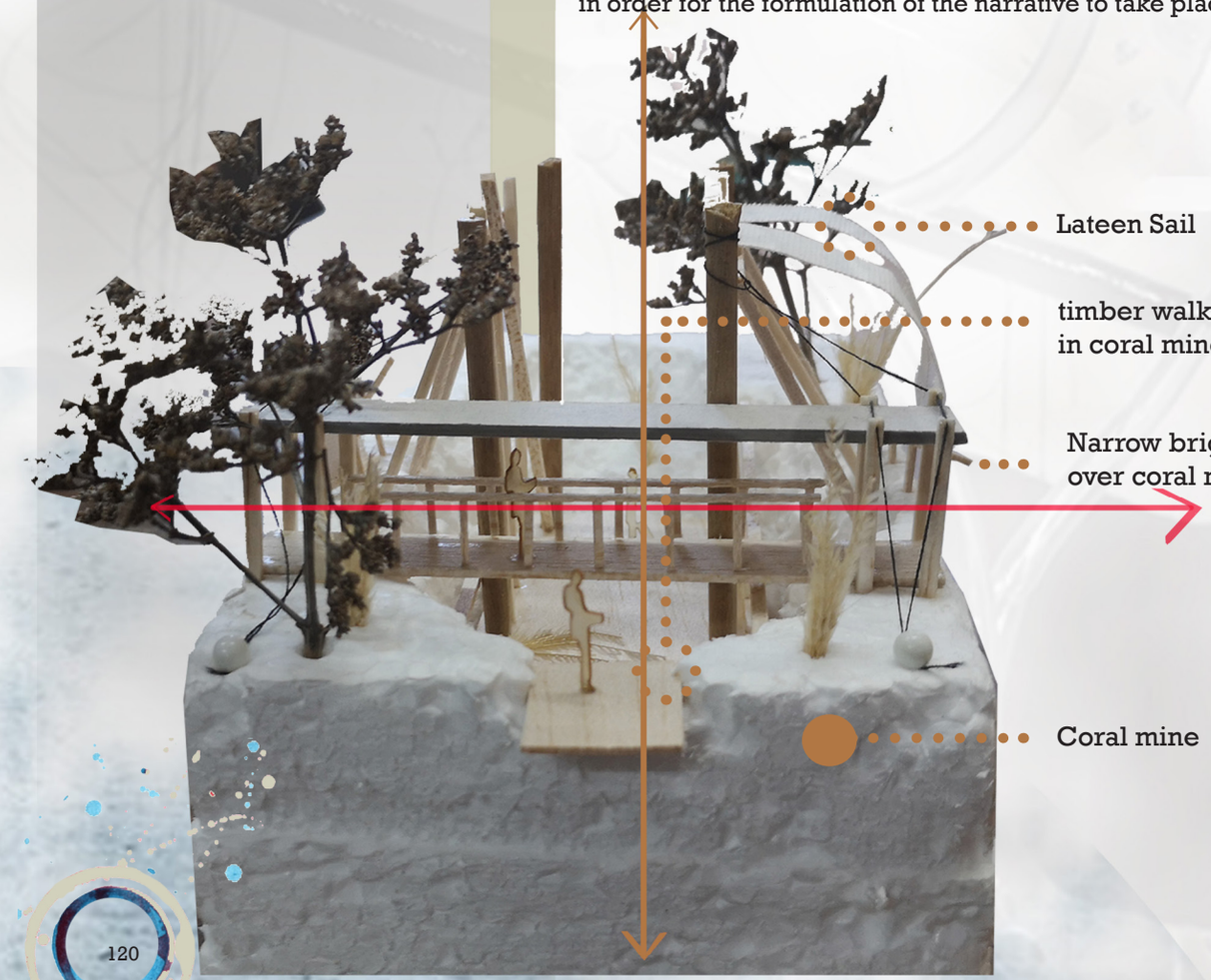
Mangrove columns

Mangrove decking

4. Node 4 - Tortoise Sanctuary Meditation Space

This node developed in terms of structure and scale, but due to the route allocated for the progressive narrative, it remains an idea. This space is to be constructed of mangrove timber beams, which are sunken into the coral mines located within the tortoise sanctuary. This method of design will allow the user to experience the coral mine from an alternative perspective as well as reminisce in the quality of the quarry as it now lays dormant.

These nodes and their purposes are elaborated upon within the final design document. Development stage two can however by deemed a crucial phase within the design process. All the proposed nodes become significant elements within the design in order for the formulation of the narrative to take place.



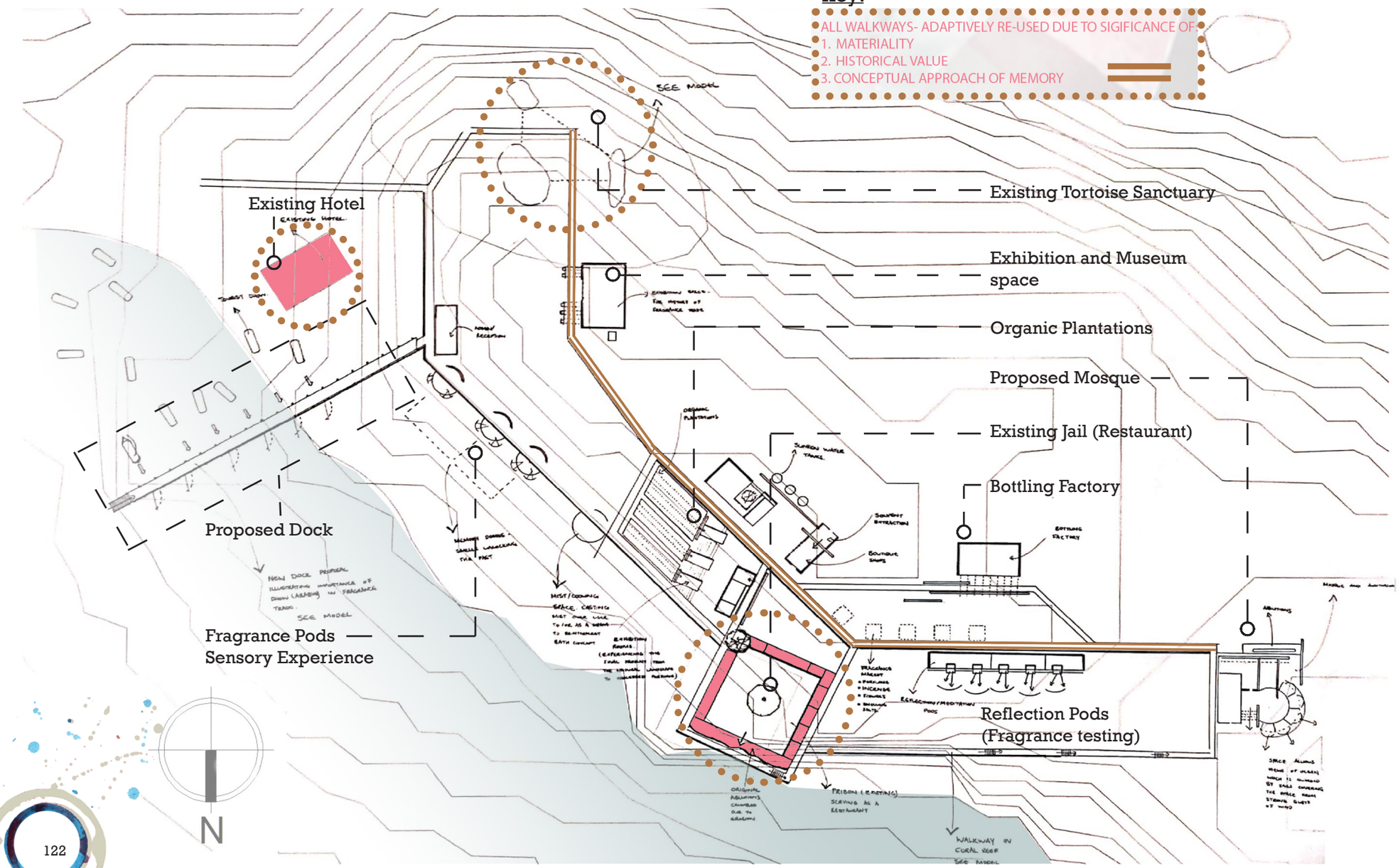




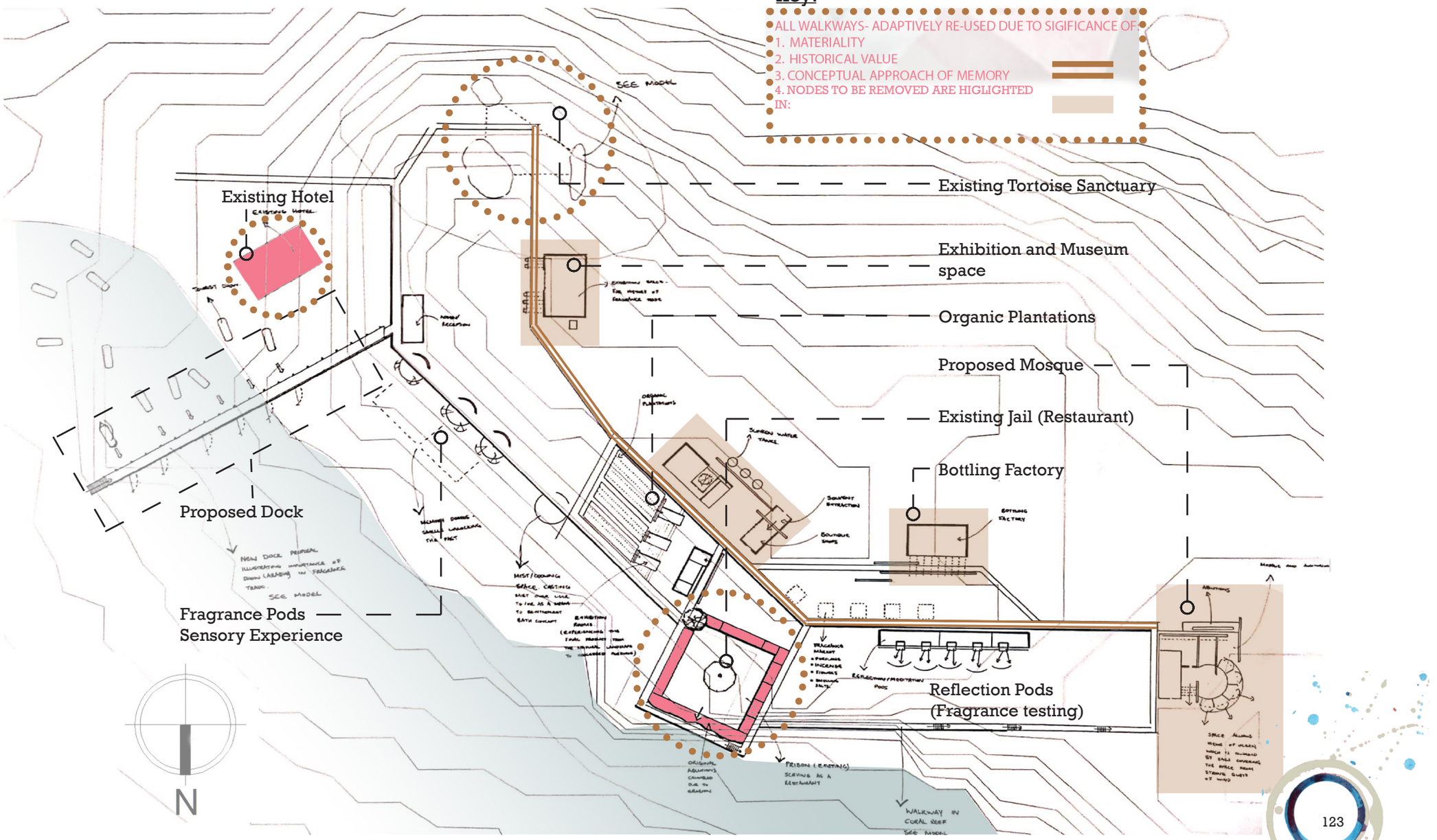
4.1.3 Development Stage 3 – A linear Adaptation

In this developmental stage of the design process the morphological orientation of the design had to be composed. Previous stages of the design process allowed the vernacular identity of the proposed design to develop in a manner that created a new identity as defamiliarised elements are reintroduced. Although the establishment of nodes in the proposed design contributed to the essence of Zanzibar's vernacular architecture, a disconnectedness still exists in fulfilling the sensory narrative.

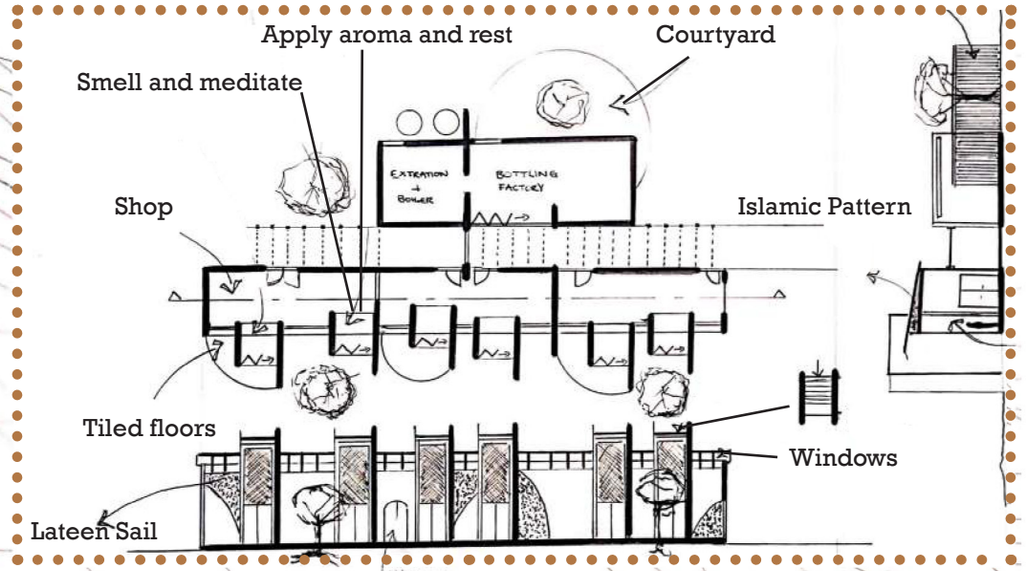
A solution towards this disconnect is to provide an alternative route, which adheres to the principal Ando and Frampton (1973) implement to connect body and nature and not to remove or intrude when designing within a natural landscape. The alternative route that developed is one that abides by the axis identified on the edge of the island. The proposed development will not stray from the identified route but will rather make use of its contrasting classical and romantic landscapes to cohesively articulate the defamiliarised elements, as a means of connecting man and nature. These articulated elements are further emphasized on a structural level as tradition leads to blurring the rough bolt and nut connections. This is done by covering or tying the structure together in the case where the mangrove structure is non- loadbearing. The coconut fibre used to make this structural connection has been used for many years as it stems from Zanzibar. As mentioned in the theoretical section of this dissertation (The Traditional Arabian Dhow), coconut fibre was used to protect the ship from magnets under the ocean.


Key:
ALL WALKWAYS- ADAPTIVELY RE-USED DUE TO SIGIFICANCE OF:
1. MATERIALITY
2. HISTORICAL VALUE
3. CONCEPTUAL APPROACH OF MEMORY
Existing Hotel
Existing Tortoise Sanctuary
Exhibition and Museum space
Organic Plantations
Proposed Mosque
Existing Jail (Restaurant)
Bottling Factory
Proposed Dock
Fragrance Pods
Sensory Experience
Reflection Pods
(Fragrance testing)
N

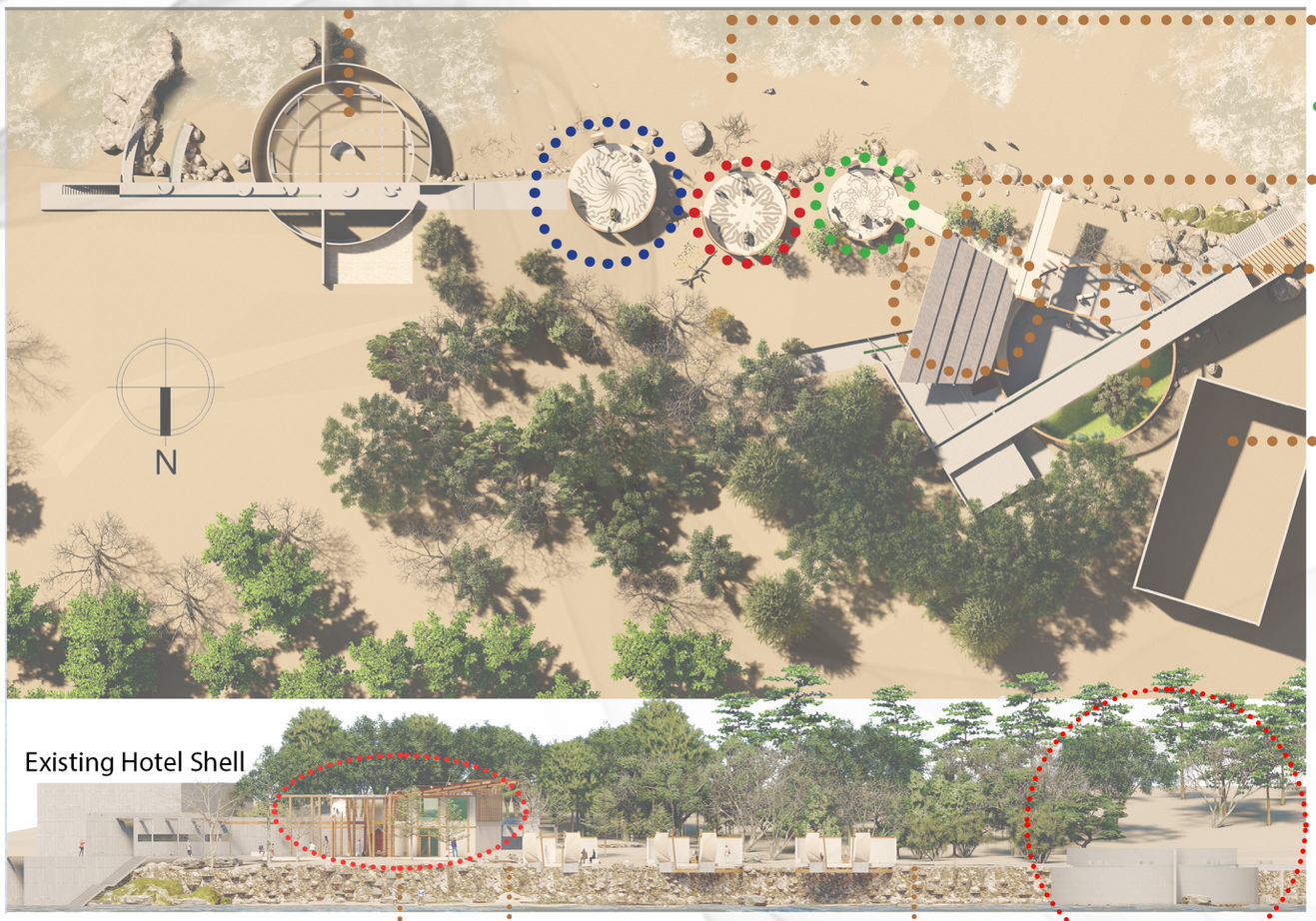
4.1.3 Alterations to achieve linearity



4.1.3 Spatial Development of Proposed Fragrance Boutique



4.1.4 Linear Spatial Development of Proposed Fragrance Boutique



KEY:

- Islamic Bath proposal
- Fragrance Pods
  - Cinnamon
  - Lemongrass
  - Ylang-Ylang
- Reception (ground floor)
- Courtyards
- Existing Hotel Shell


N

4.2 Spatial Development of Proposed Fragrance Boutique



Figure 4.1:(Author, 2021).


1.


2.

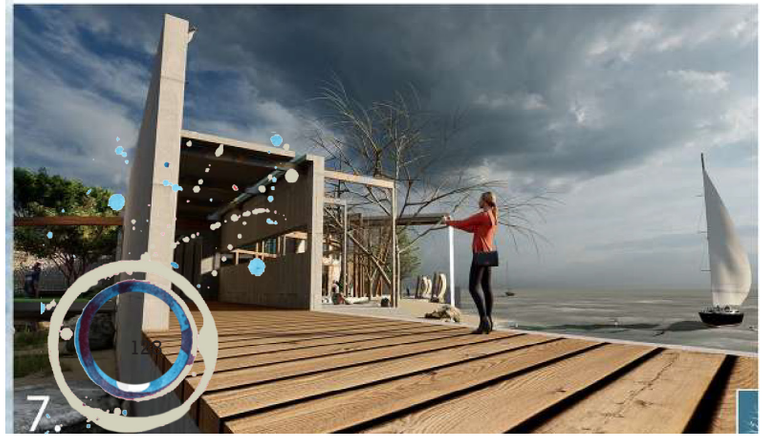


3.


4.


5.


6.


7.


8.


9.

Figures:

1. Entrance from new dock (north west)
2. Exit from reception approaching plantations
3. Fragrance Pods with pattern floor finish
4. Perspective of reception waterfall (north)
5. Limestone walls of Fragrane Pods
6. Cinnamon Fragrance Pod
7. Entrance from new dock (north west)
8. Fragrance Pod with lateen sails raised to enhance sensory experience
9. Exisiting Jetty

4.2.1 Programme Development

Accommodation List:

Sanctuary transition from tortoise sanctuary to fragrance sanctuary – fragrance boutique – cultural centre

Designed spaces (Tortoise Sanctuary):

- Tortoise shelters
- Veterinarian Station
- Vegetation garden (stable source of nutrition)

Designed spaces (Fragrance sanctuary and boutique) & Planted gardens -Harvesting shed

- Bottling room
- Multisensory space
- Exhibition space
- Smell garden
- Meditation gardens
- Seed storage
- Storage
- Offices
- Boutique Shop & Incense Shop
- Museum
- Designed spaces
- Existing Restaurant
- Existing bar

(Cultural centre) Reception

- Gathering space
- Museum
- Ablutions
- Courtyards
  Internal and external (green) Courtyard

(Cultural centre) Narrative Route

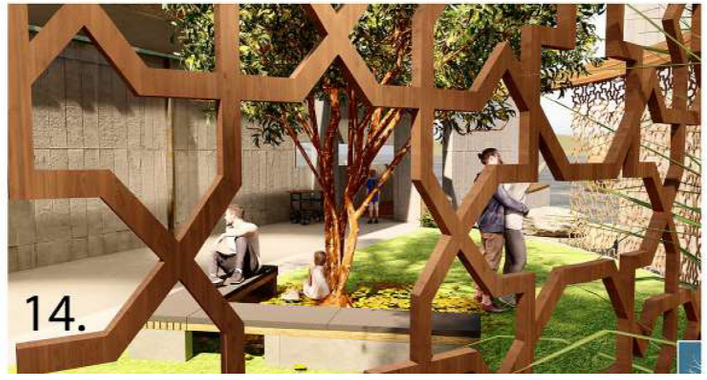
- Fragrance Pods (3 pods)
- Islamic Bath House
- Coral Reef walkway


11.


12.


EXISTING HOTEL
N
FARMING
EXISTING PRISON
FRAGRANCE NODES
RECEPTION AND CULTURAL MUSEUM


13.


14.

Development Images

Figures:

10 Proposed layout perspective

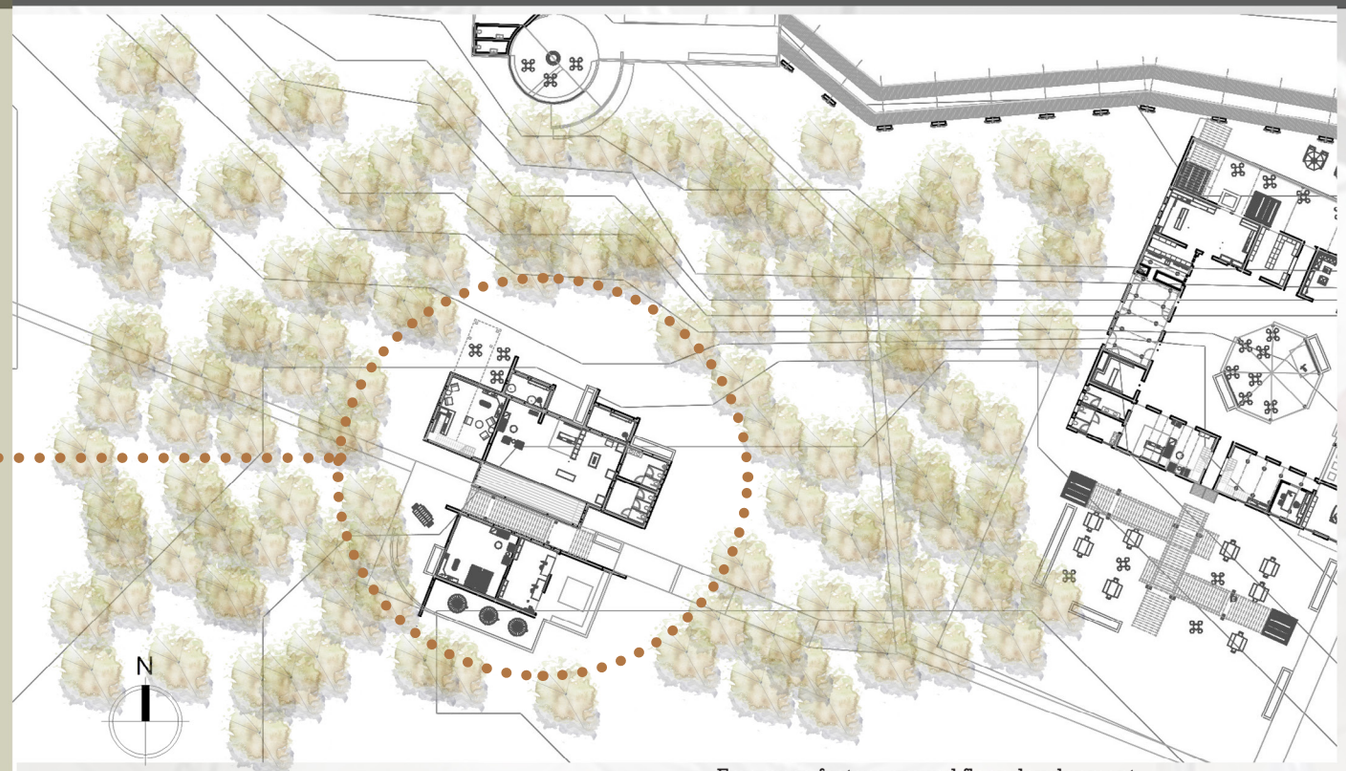
11 Fragrance Pod of Mangrove timber (structural support)

12 Perspective (north west) Entrance to reception

13 Cinnamon fragrance pod as experienced leaving reception

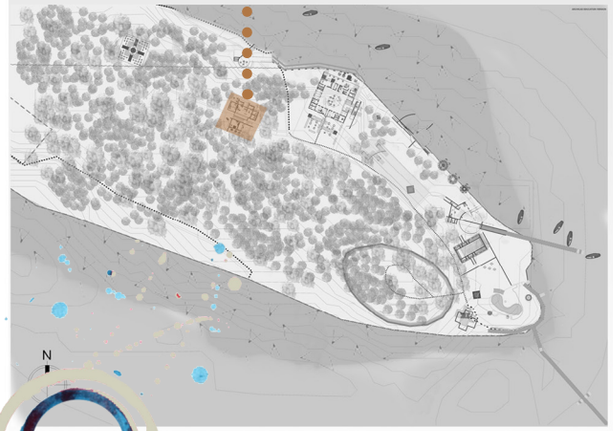
14 Green Courtyard at south western elevation of reception

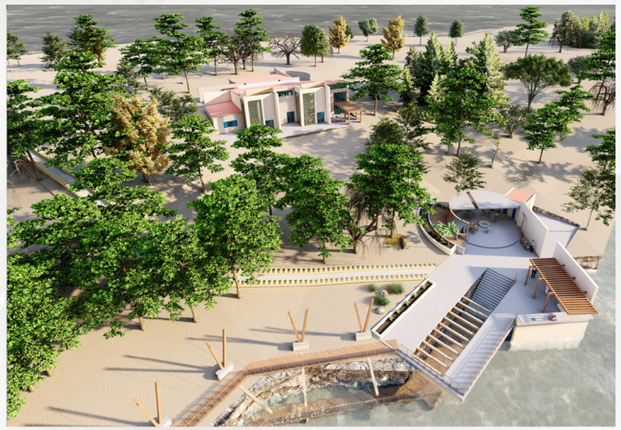
4.2.2 Initial Spatial Development of Fragrance Boutique



Fragrance factory ground floor development

Initial Site Plan





Fragrance factory on top of hill behind fragrance boutque shop .



Fragrance factory resonating chambers with Islamic patterns of mangrove timber.

Initial Spatial development section of factory



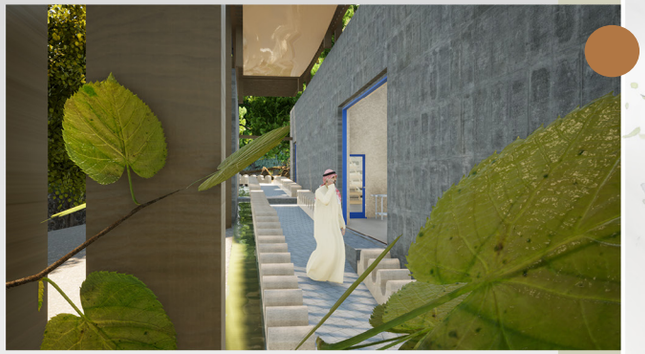
Initial Spatial development section of factory museum and resonating pods



Spatial development phase 2 of Fragrance Factory



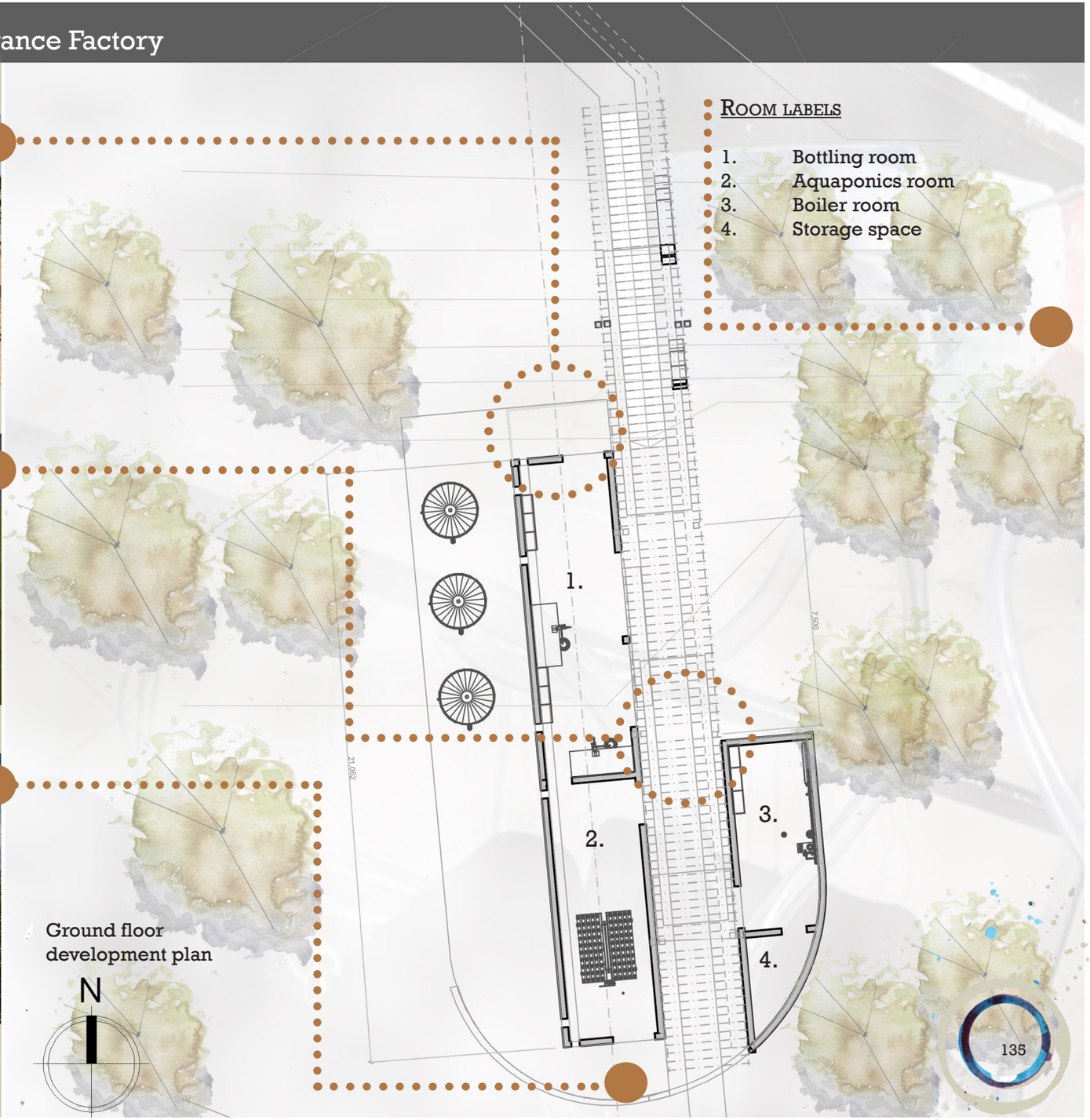
Image of Fragrance factory from north eastern perspective



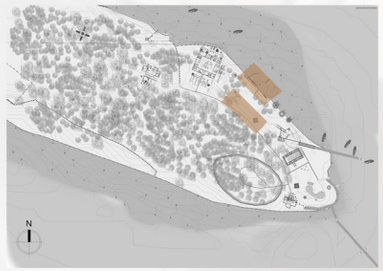
Perspective of corridor through fragrance boutique, utilizing original limestone walkway to enhance cultural experience.



Southern entrance to fragrance boutique.



Farmlands and Traditional Islamic Bath 4.2.3









Room labels: Plantations

1. Cinnamon
2. Lemongrass
3. Ylang-Ylang

Ground floor development plan





4.2.4 Spatial development of Boutique Shop



Viewing platform at rest area located at the end of walkway

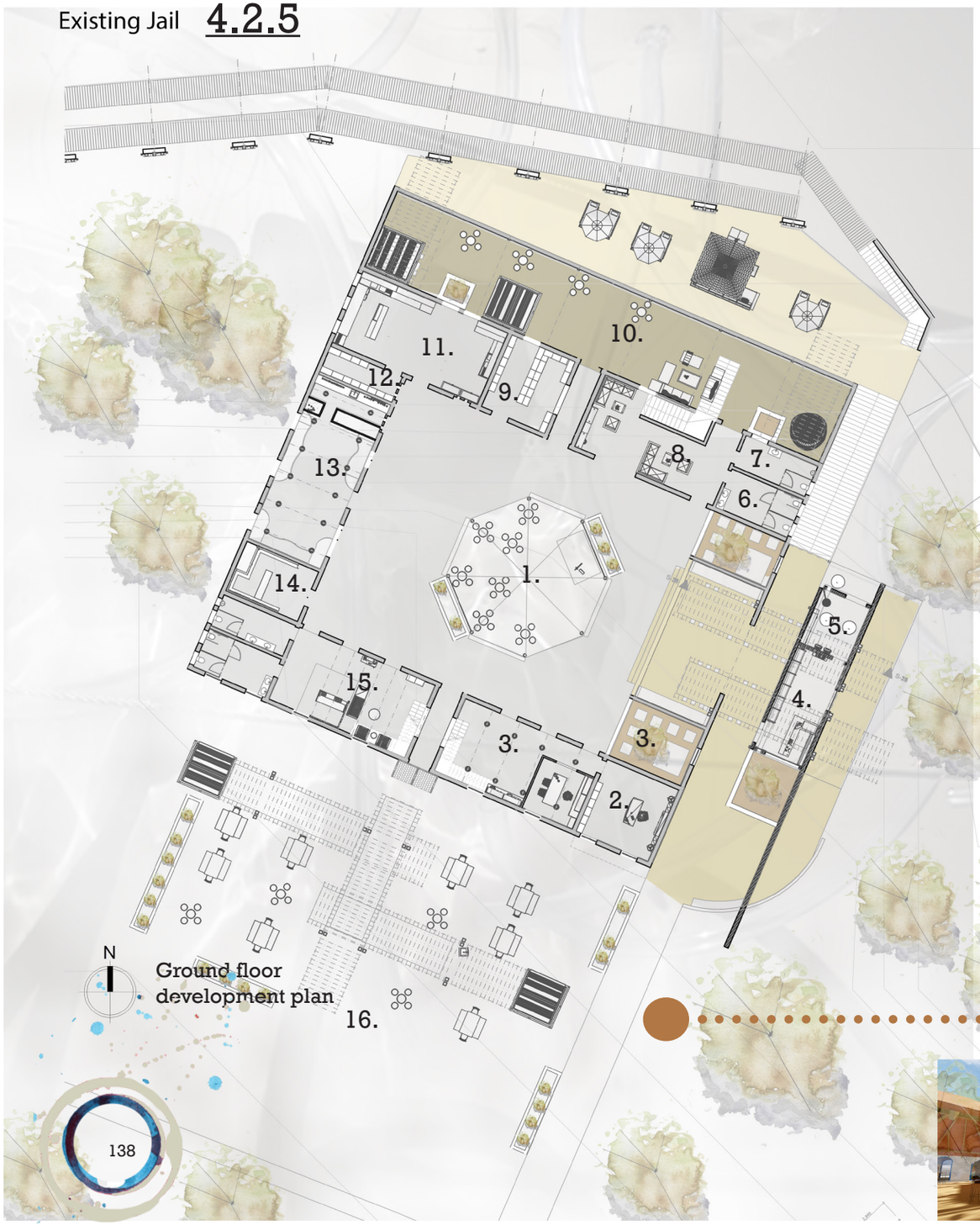


Mangrove timber walkway suspended over coral reef



Boutique Shop Perspective

Existing Jail **4.2.5**



Ground floor development plan

North western perspective of renovated jail/restaurant

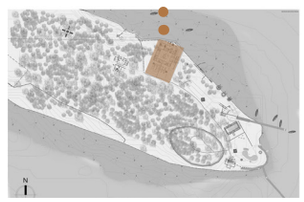


North western perspective of renovated jail/restaurant with coral reef walkway.









Space Allowcation (Changuu Island Historical Prison)

Key:

1. Central seating
2. Directors Office
3. Green Space
4. Incense Shop
5. Testing Room
6. Female Wc
7. Male Wc
8. Visitors Lounge
9. Cold Storage
10. New Restaurant Seating
11. Restaurant Kitchen
12. Dry Storage
13. Existing Bar
14. Fragrance Shop
15. Reception
16. Exisiting Restaurant seating (Renovated)

4.2.6 Construction Precedent Study towards the design implementation on Changuu Island

The focus of the precedent study is to conduct a thorough analysis of possible solutions towards the design process. I am currently investigating different systems, which could possibly compliment my conceptual approach. These systems possess characteristics that the proposed design on Changuu Island can benefit from.

Precedent 1: Structure analysis of The Suspended House, Milad Eshtiyaghi

Introduction

The first study investigates the temporality of Changuu Island's 'sandscape'. The Zanzibar soil, together with its diverse range of flora establishes the connection between the temporality of sandscapes and the making of place. The connection between the coral rag landscape and the red clayed soil in relation to the erected infrastructure gives meaning to place. Changuu Island can be described as an ever-changing landscape, through the natural elements such as tides, rain and wind having a large impact on the experiential quality of space. Sand allows Changuu Island to experience constant change as its rhythmic natural movement is altered on a daily basis. This occurrence takes place due to changes in environmental conditions (Arnall, 2019, 306). The sand is constantly washed by waves, northern currents and tides, to sculpt different boundaries of the existing edge, through the altering of size, shapes and formations of sand. For example, during monsoon season certain parts of the Island's landscape is cloaked by the ocean, where this part of land would normally be visible to those who set foot on the soft sandy borders.



Figure 4.2: Sketch of a birds nest (Author, 2021).

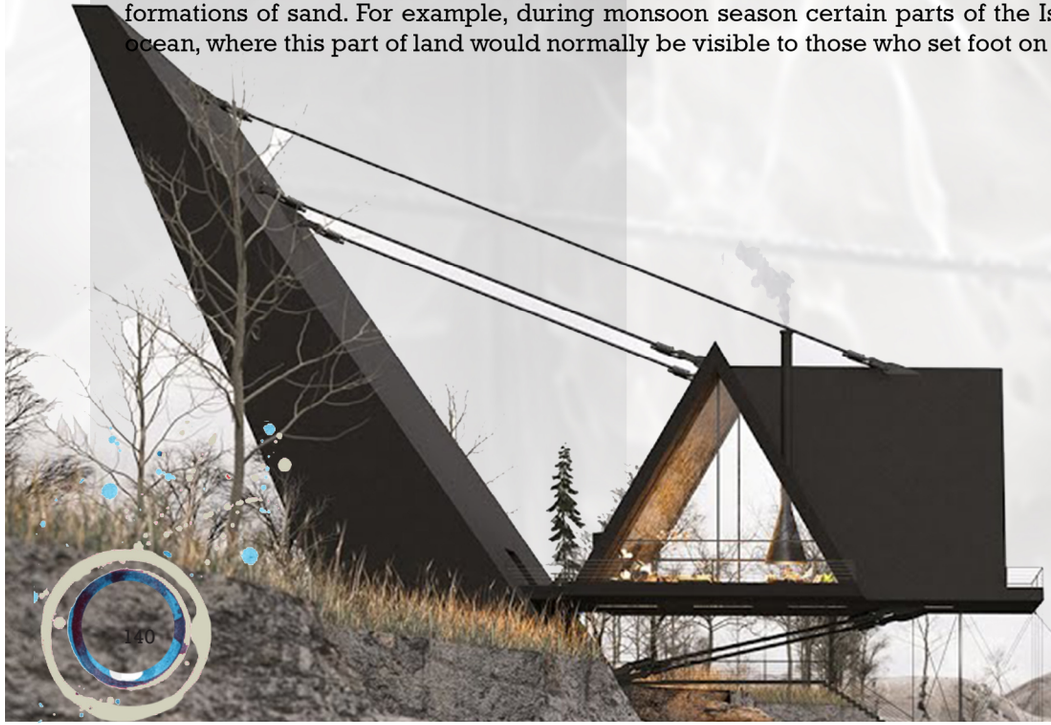


Figure 4.3: Image of the analysed Suspended House(Arnall,2019).

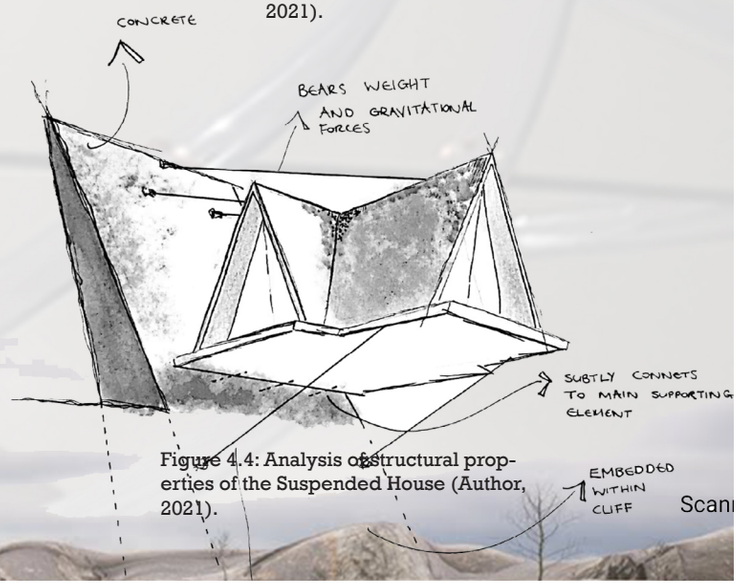


Figure 4.4: Analysis of structural properties of the Suspended House (Author, 2021).

The Suspended House, Milad Eshtiyaghi

A precedent study of Milad Eshtiyaghi's, 'suspended house' is conducted, in order to establish the importance of suspension and tension as design elements. This conceptual project, serves purely as a suggestion, towards minimizing the design footprint, whilst simultaneously allowing the design to create new perspectives and levels for the user to explore. This design celebrates the mountainous context, through the subtle insertion of a structural concrete mast. This element, together with steel tension cables connect to the dwelling, allowing it to cantilever over the edge of the cliff.

In relation to the suspended dwelling by Milad Eshtiyaghi, a swallow nest is investigated to further explore the qualities of suspension and tension. The same characteristics that allow a swallow nest to flourish is also visible in the suspended house. The role of gravitational forces and pressure become important factors, in both examples. In the case of the Suspended House, the house counteracts these forces, through different steel supports and cables. In the case of the swallow nest, the nest counteracts the natural forces, through orientation as strong winds blow these elegant structures. When constructing these nests, a swallow orientates, the nests' opening against common wind directions. The method allows the minimizing of egg loss and provides protection from the elements.

Design Implementation

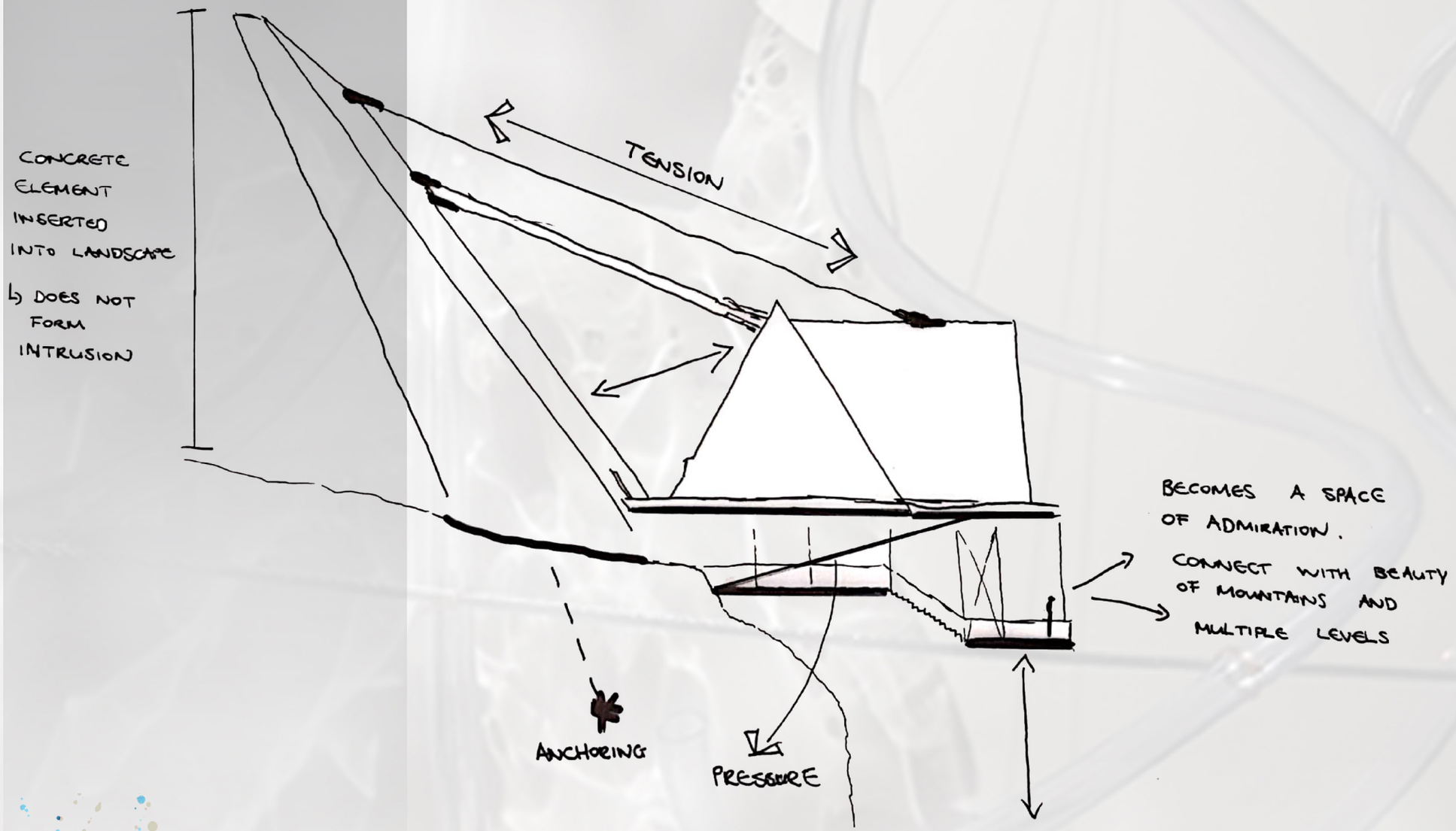
The fringing coral reef around the island grows directly outwards from the shore, which serves as a habitat for a variety of tropical life. As mentioned earlier, the natural environment, over time takes its toll in changing of the landscape. Besides the ever-present impact of the erosion currently experienced on Changuu Island due to the natural vegetation struggling to source water, together with the movement of tides, mankind has also affected the landscape. The island, previously utilized as a coral farm, shows large scars of mining. The effects of mining, however aided in the making of place, as the quarried ragstone became a historical material in the identity of Changuu and Zanzibar. The identity of Changuu now faces the threat of coastal erosion as the historical infrastructure of the prison is slowly being consumed as the outline of the island shifts. Is the best way to encapsulate the temporality of Changuu's natural landscape, by fixing its naturally eroding edge?





Figure 4.5 & 4.6: Images of the Suspended House (Arnall,2019).

Figure 4.7: (Author, 2021).



Tension and Compression Analysis

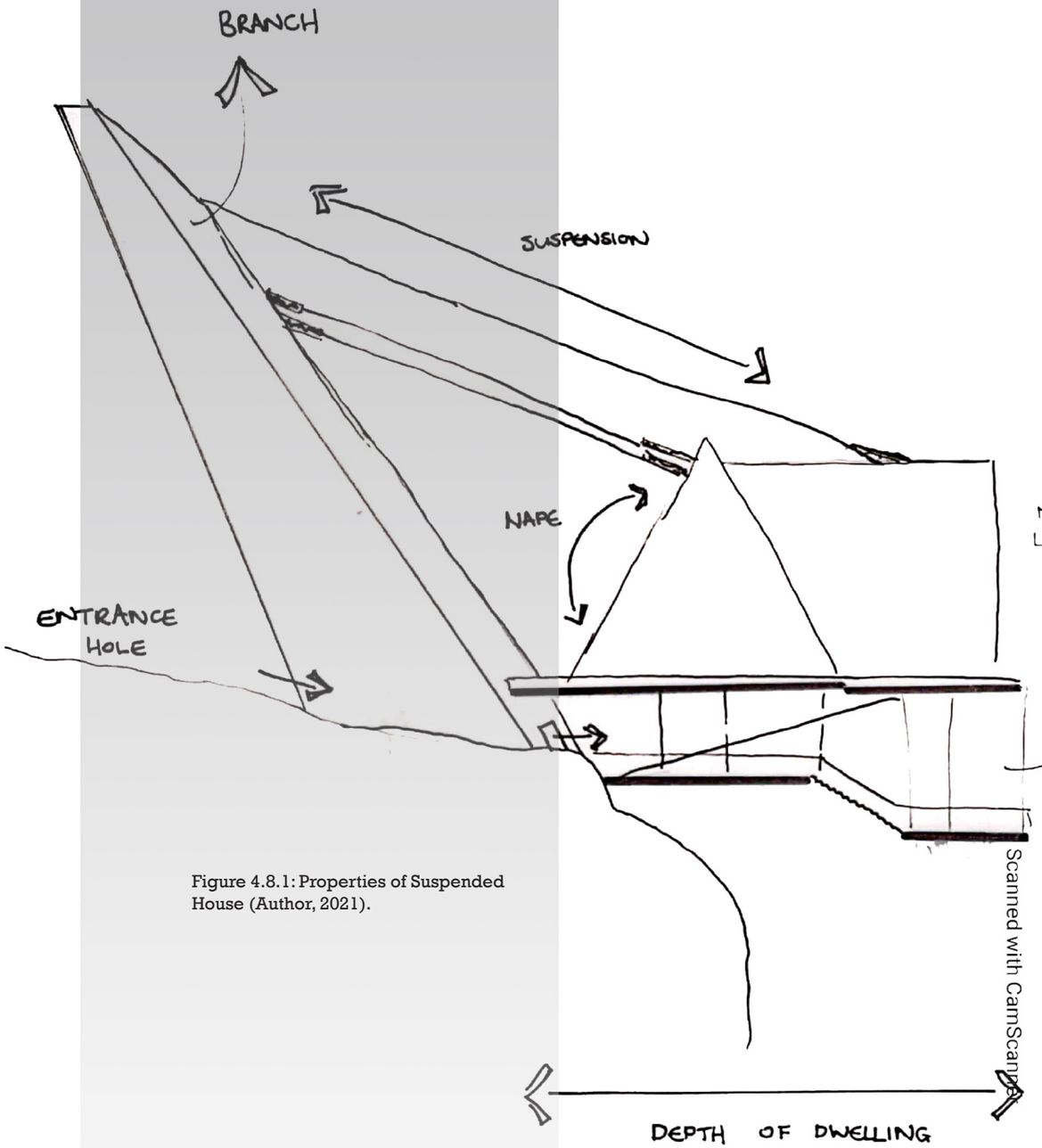
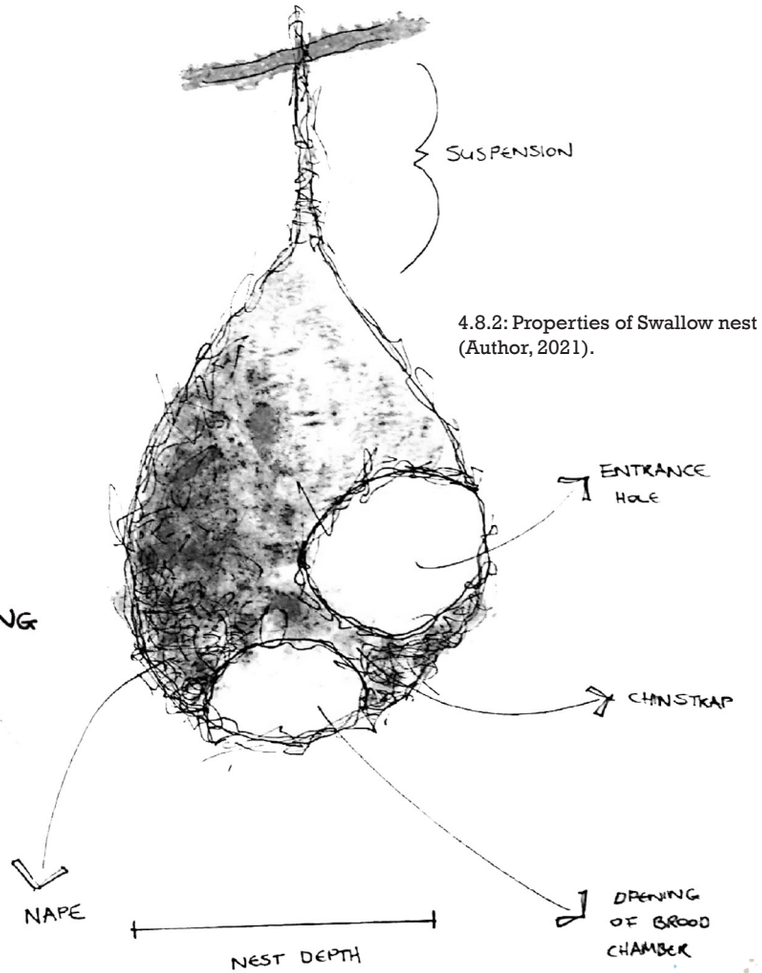


Figure 4.8.1: Properties of Suspended House (Author, 2021).



4.8.2: Properties of Swallow nest (Author, 2021).

Supsended house comparison to swallow nest

Scanned with CamScanner

The following image is a construction model for the proposed solution towards the erosion of the island's edge.

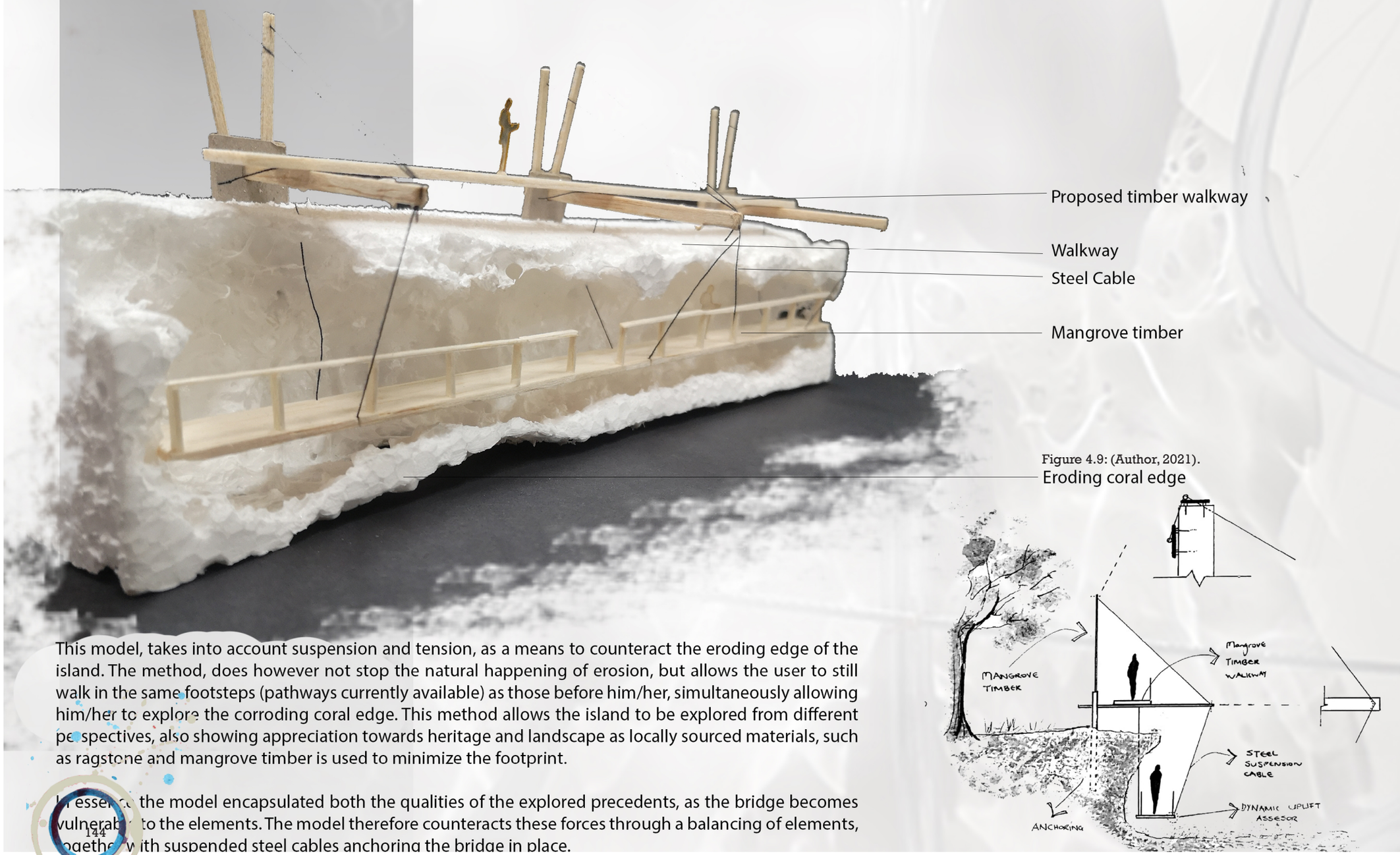


Figure 4.9: (Author, 2021).

This model, takes into account suspension and tension, as a means to counteract the eroding edge of the island. The method, does however not stop the natural happening of erosion, but allows the user to still walk in the same footsteps (pathways currently available) as those before him/her, simultaneously allowing him/her to explore the corroding coral edge. This method allows the island to be explored from different perspectives, also showing appreciation towards heritage and landscape as locally sourced materials, such as ragstone and mangrove timber is used to minimize the footprint.

In essence, the model encapsulated both the qualities of the explored precedents, as the bridge becomes vulnerable to the elements. The model therefore counteracts these forces through a balancing of elements, together with suspended steel cables anchoring the bridge in place.

Precedent 2: The Stone Town public hammam, a study by Simon Farsi

This public bathhouse was established in 1888, by Sultan Bargash. The precedent is an example of how form follows function, as each room or space is assigned a specific function according to the spiritual process of bathing. For example, the fountain in the cool room, where the washing of feet takes place.

Construction

The construction of the Stone Town hammam, was planned and executed by skilled Persian craftsmen and a master builder. This structure is constructed of coralstone rubble, which makes up the majority of the walls and arches of the original structure. The thick vaulted domes, make use of a technique where large slabs of stone are placed and sculpted to form this dome-like shape. These vaulted domes have a thickness of around 80cm and make use of a construction method also used to shape the arches within the building. Another culturally significant material evident within this building is the use of lime mortar, which is the layer beneath the plaster and has a burnt Pieces of lime are plastered evenly in a mixture of sand. Within this mixture particles of coal with a size of 0-5mm are also visible (Farsi, 2016).

Roofing

The roof slabs are constructed of mangrove timber, which relates to other historical structures or traditional buildings in Stone Town. The spacing of these timber poles are approximately 30cm, which acts as the supporting mechanism for the roof slab, which is between 40cm and 60cm thick. These slabs are constructed of marine coral, together with a lime concrete (Farsi, 2014).

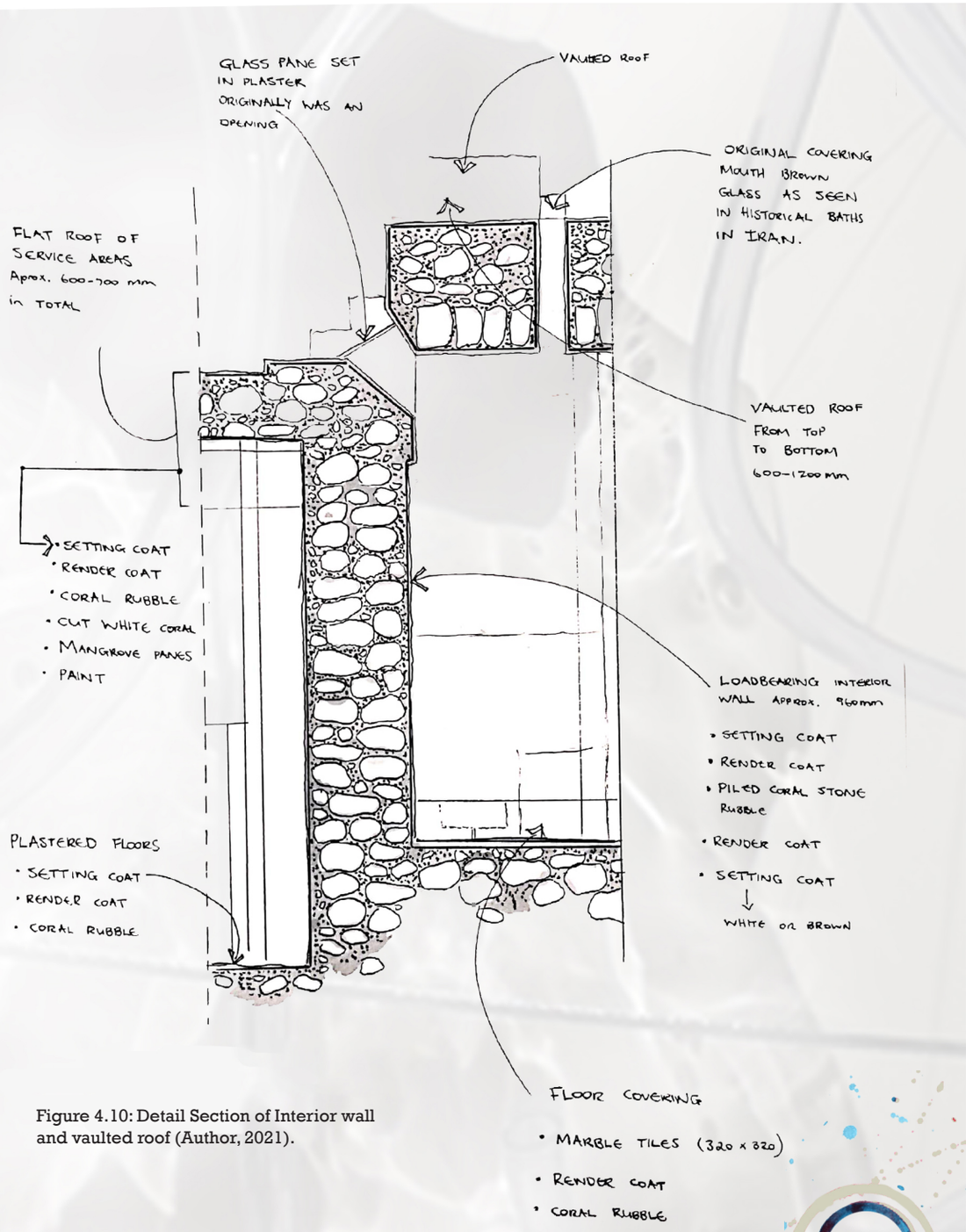


Figure 4.10: Detail Section of Interior wall and vaulted roof (Author, 2021).

Pattern

The floors of the structure are layered with black and white marble tiles. These tiles express a unique pattern, differing according to spatial allocation. This decorative method was carried over from the Ottoman traditions and has become a significant characteristic within Islamic architecture. In a similar way the proposed design of Changuu will incorporate the cultural expression through patterns or tessellations, as described in the concepts. Patterns and sizes of tiles differ according to the scale and size of space, as this specific feature is iconic within bath house architecture (Farsi, 2014).

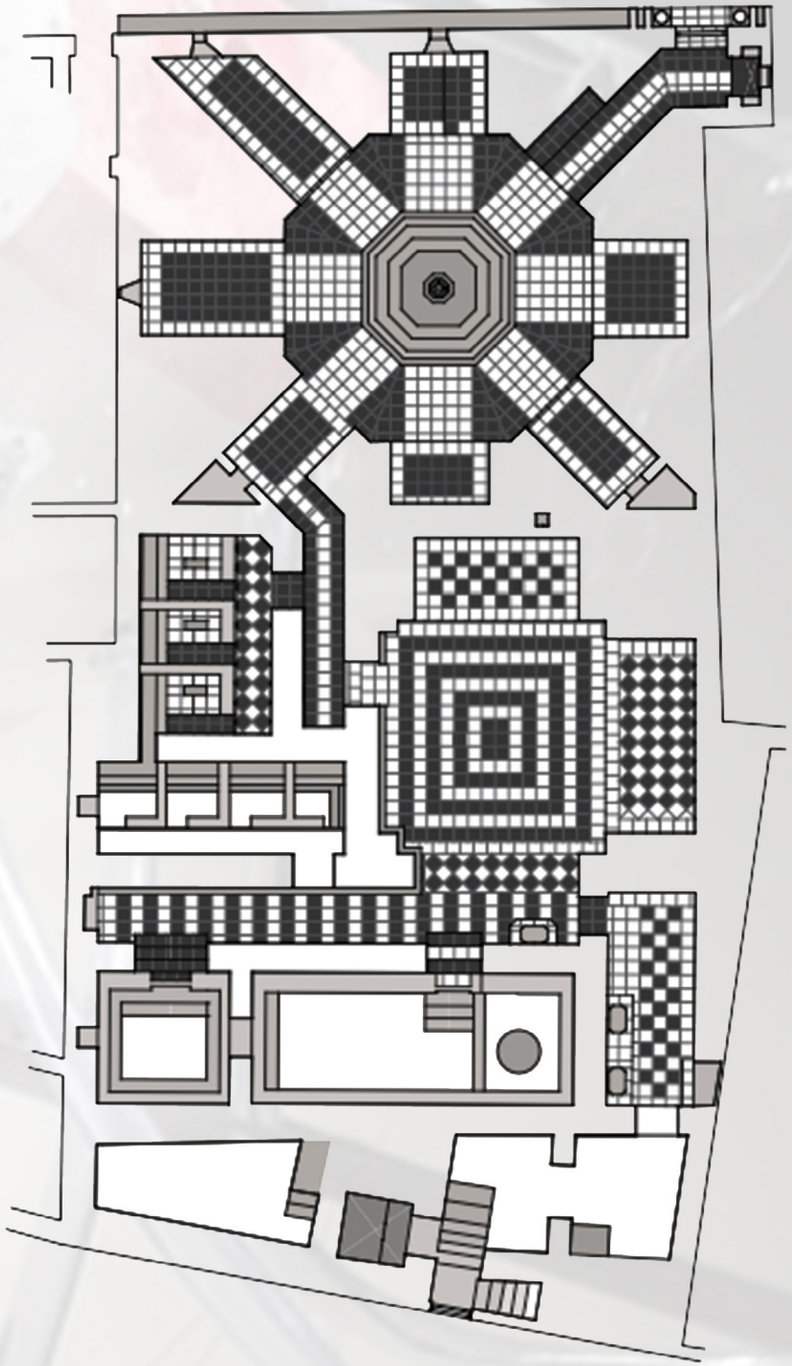


Figure 4.11: Tile layout of Zanzibar Hammami, image by Farsi (2014), adapted by author.

Lighting

Dramatic natural lighting flood the internal spaces. Larger spaces or evenly lit, through openings in the walls and room, make the use of space, comfortable from early morning. The smaller spaces capture light reflecting off walls and tiles to assist in illuminating spaces such as corridors and passages. However, these spaces are traditionally dimly lit to place emphasis on the significance of larger functions (Farsi, 2014).

Layout

The layout of the bath house is a finely sculpted formulation of spaces, which focusses on the temperature of each room, together with the normal duration time of a function. The narrative-like route allow the user to enter & fulfil the spiritual cleansing journey. The designed spaces also rely on reflection of identity as the user retraces the same initial route, in order to leave in the same manner as they have come. The journey relies on the temperature of space, as the outside world is seen as a cold detached space. As the user flows deeper into the building, the temperature rises through heated doors, warm rooms and a hot plunge pool located on top of the furnace (Farsi, 2014).

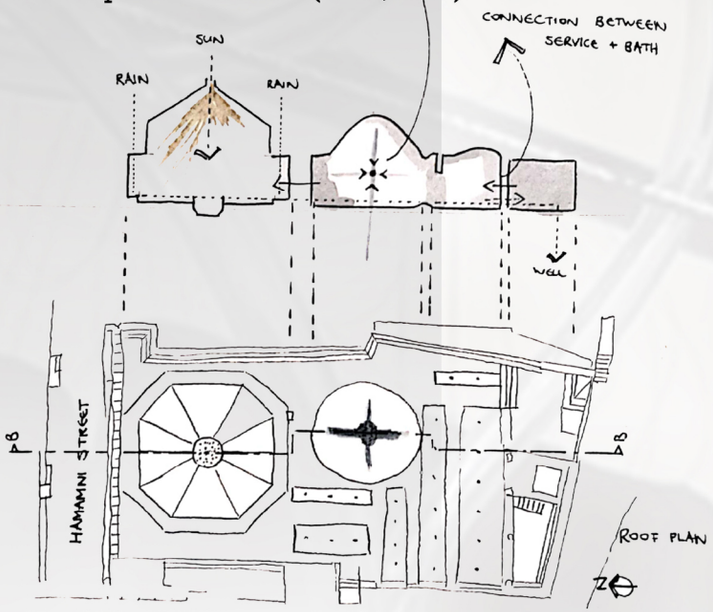
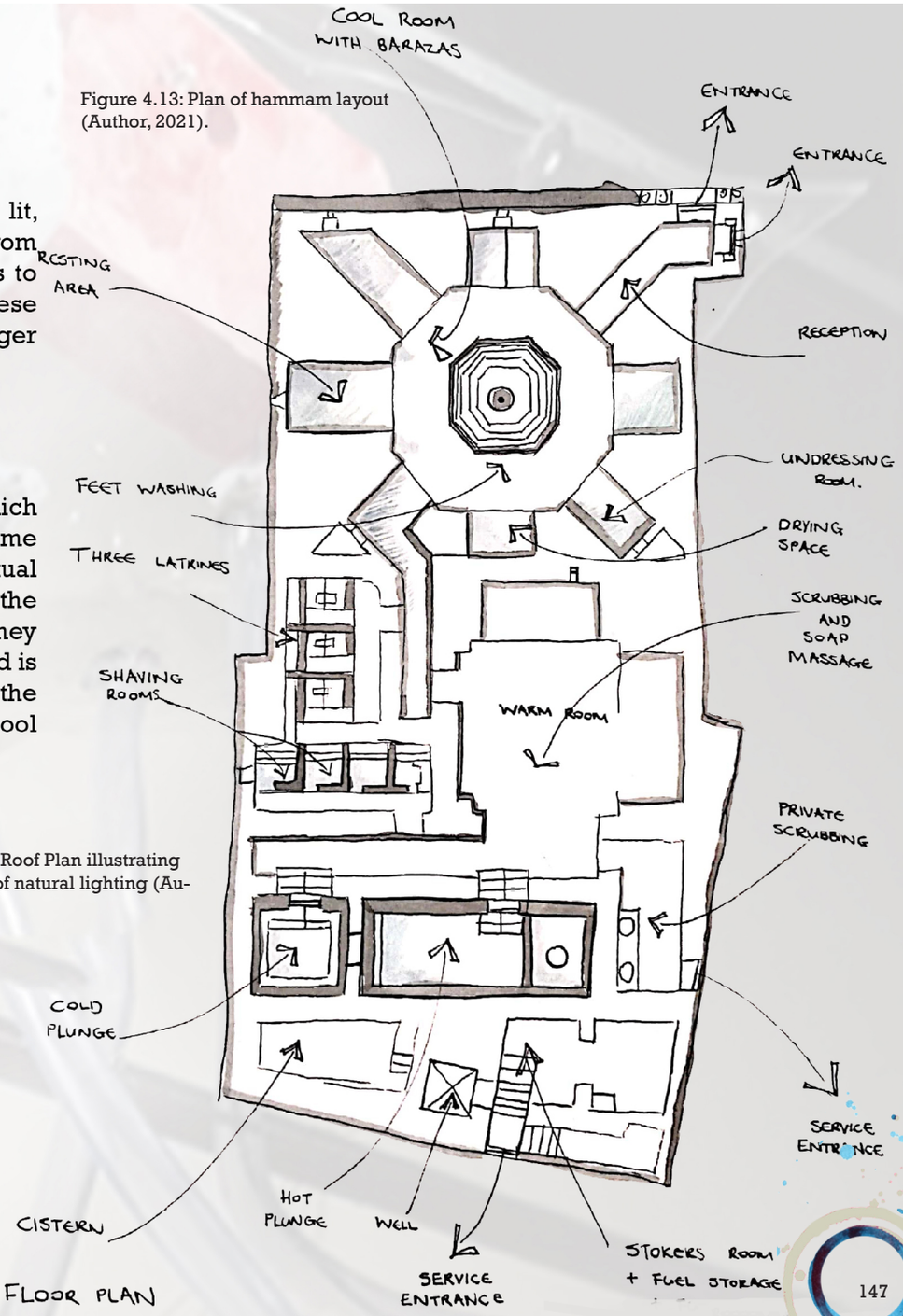


Figure 4.12 & 4.13: Roof Plan illustrating sectional analysis of natural lighting (Author, 2021).

Figure 4.13: Plan of hammam layout (Author, 2021).



Relevance towards proposed design

As there are few buildings focusing on the significance of fragrance to portray cultural heritage, the next best step would be to analyse the concept of bathing. This concept relies on the cleansing of the body in order to progress between different thresholds. This form of progression allows the Islamic culture to honour traditions. In a similar manner the bath ritual will be incorporated within the exposed coral reef of Changuu Island. The narrative route becomes part of a spiritual progression, allowing the dweller to adhere to the tradition of Bath, Mosque and Garden. This precedent assists indirectly with layout of the fragrance function of the project, but directly with how the bathing aspect will be addressed. From a fragrance perspective, the layout of the hammami is erected in a similar fashion to much of Zanzibar's historic architecture, with specific functions being assigned to each space. This layout of the bath house can possibly assist in establishing, the importance of each function of the proposed design to create a narrative route leading up to a climatic node, or point of hierarchy. In contrast with the retracing of steps, history of ritual will contribute in developing a route that allows the dweller to explore the whole island. This aspect addresses the Garden element of the ritual as the body is purified and needs to spread its purity across the fertile landscape of Changuu.

In terms or materiality, the proposed fragrance boutique will incorporate materials such as coral ragstone, lime mortar and mangrove timber. This allows local community members to identify with space in order to make place. Along with this, the importance of pattern will be implemented, allowing a space to become a contemporary expression of history. These patterns will depict functionality and significance through size and shape, as a later study of patters will still be conducted.

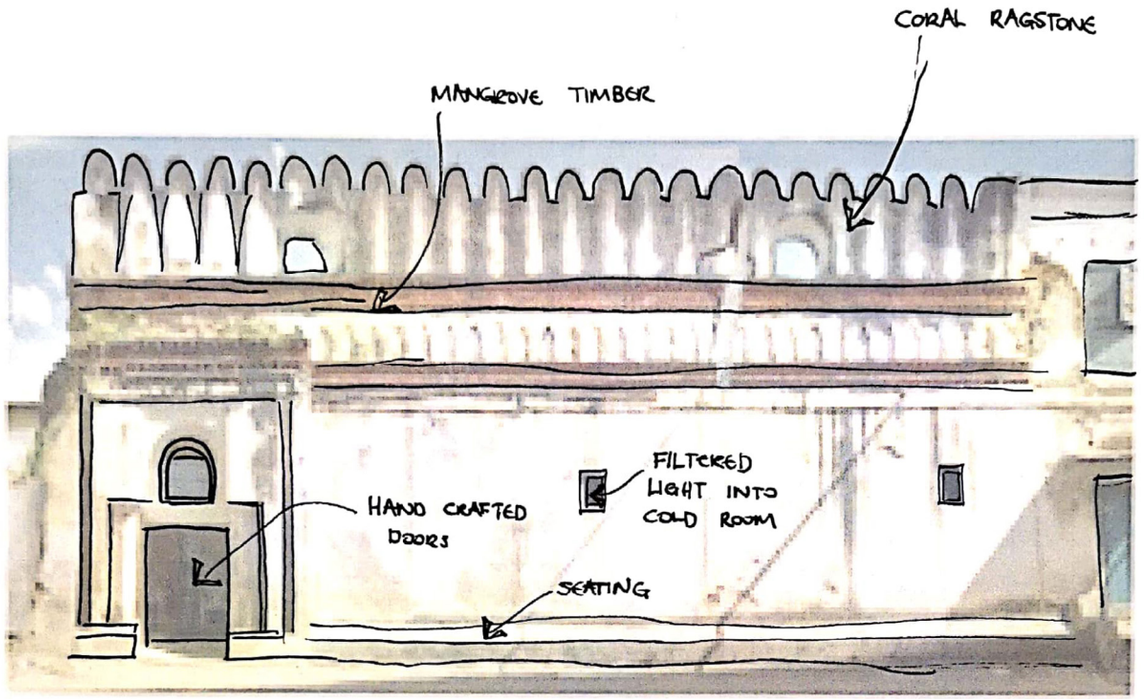


Figure 4.14: Image of Zanzibar Hamami by Farsi. (Analysed by Ferreira, 2021).

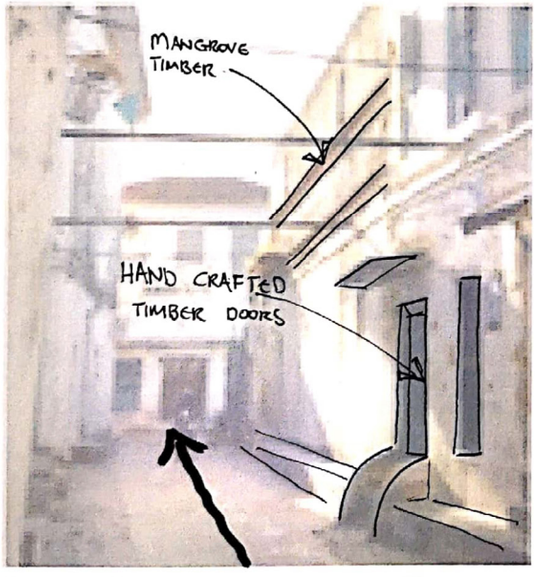


Figure 15 : Hamami street before morning traffic (Analysed by Ferreira, 2021).

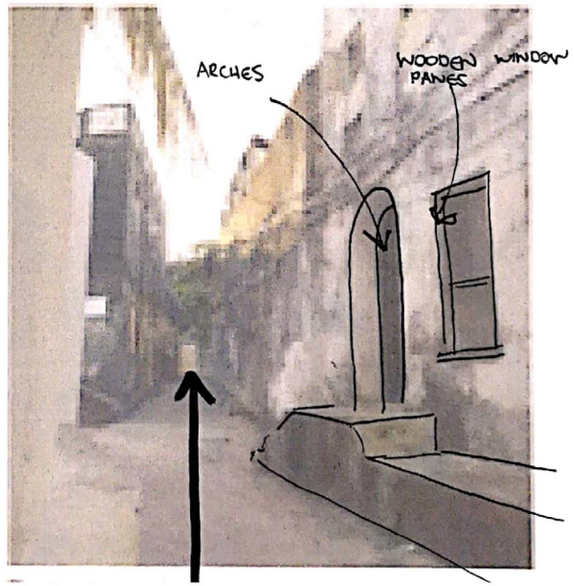


Figure 16: Hamami back street (Analysed by Ferreira, 2021).

Precedent 3: Lamu by Samuel Pellissier, 'An Architectural investigation of time and place' in relation to the significance of the Arabian Dhow.

The traditional Arabian Dhow

The traditional Arabian Dhow can be described as the catalyst in the East African trade. This magnificent hand-crafted structure provided the necessary form of transport, with the ability to forge through the torturous winds, in search of exotic trade goods.

The crafting of an Arabian Dhow is considered a form of art, which developed approximately 600 BC and is still in use today. The construction techniques of these vessels are passed down from generation to generation to preserve the ancient identity of dhow crafting. Even with modern materiality and equipment to the disposal of craftsman, original materials and tools are still in use. This illustrates the respect the local community has for its ancestors' inventions.



Figure 4.17: Sketch of traditional Dhow (Author 2021).

Lamu design by Samuel Pellissier

1. The town scape becomes a labyrinth to move through, revealing open and closed spaces.
2. The sail on the water becomes a silhouette, gathering wind, revealing a force of nature.
3. Dhows on the shoreline are naturally spaced by tides, revealing the buoyancy of these vessels.
4. The geometric spacing of the zidaka shelves reveals the scale of the interior.
5. Knowledge of shipping is hidden in the symmetrical structure which is revealed through the creation and decay of dhows.
6. Geometric patterns respond by shadows which reveals the light quality of the topology - Samuel Pellissier (2019).

The above points are extracted from Samuel Pellissier's thesis. These points reveal the importance of the dhow in the designing of his building, as it becomes more than just a physical expression. The incorporation of the dhow allows the design to express the cultural qualities of Islam, together with the construction methods used to craft these magnificent structures. The dhow, now becomes an expression or identify within the developed space and adds to the quality of space. The establishing of a dhow factory, allows the significance of craftsmanship to live on amongst community members, as well as taking into consideration the importance of the environment as modern use of materials, such as fibreglass can lead to a decay of the environment. Mangrove, which is the traditionally used material, is both environmentally friendly and allows one to work with heritage Samuel Pellissier (2019).

Together with this, the sail incorporation provides a shading mechanism and a cooling mechanism for the design as the sail catches winds and works in correspondence to the tides, allowing the sails to raise and lower, creating different atmosphere according to the natural sequence of the ocean.

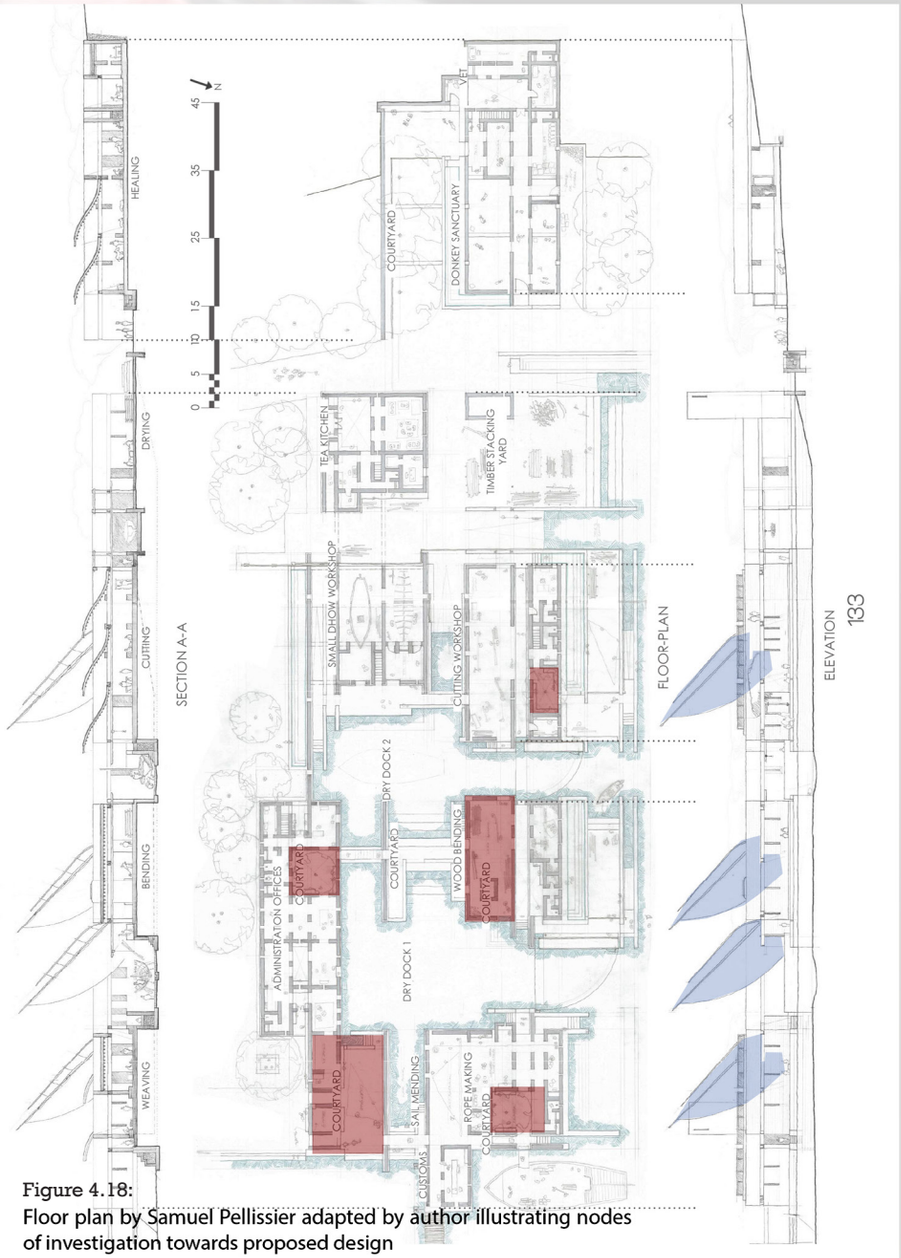


Figure 4.18:
Floor plan by Samuel Pellissier adapted by author illustrating nodes of investigation towards proposed design

Implementation towards the design on Changuu Island

The way in which the investigated thesis emphasizes the filtering between thresholds is a method the proposed design wishes to implement. This is done by utilizing narrow, dimly lit corridors as seen in traditional Islamic architecture. These narrow corridors lead into open courtyard spaces lined with the functions of the building. This way of designing is explored in detail in the theoretical essay. This method was implemented to allow only the family members to have direct access to the private functions of the dwelling. In the proposed design the layout will derive inspiration from the Lamu thesis, as these corridors focus on pattern and light quality, through the implementation of both construction methods derived from Islam, together with the shadows cast by the lateen sails of the dhow.

The functions portrayed in this design, may not be relevant, but the manner in which spatial layout is orientated together with the shape and scale of spaces, will be considered as history places an important factor in this design. Although the thesis is only analyzed in terms of its plan, an investigation will still be launched into Samuel Pellissier's heritage president studies to give more clarity on the matter.

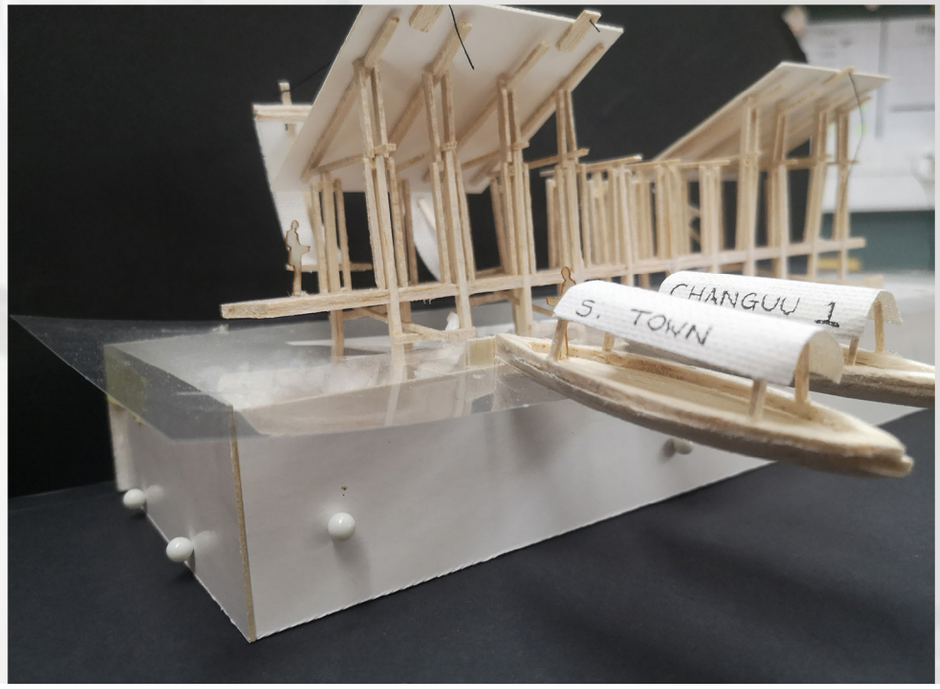


The proposed design will thus develop natural courtyards centered within the functionality of space. It will also incorporate, lateen sail mechanisms as a cooling mechanism, allowing the humidity of Changuu to fade. Together with this, the sails will be drenched in different fragrances. These sails will be raised by means of human intervention, to evoke the senses of the dweller, also contributing to the quality of space and the making of memory. This method will allow the user to experience traditional fragrances extracted from plants, such as cinnamon and lemongrass, each with their own implementation towards religion and cosmetic use (explained in theoretical essay).

The construction model in the images below express the significance of the dhow. This model becomes an expression of the traditional Arabian dhow, as modern dhows used to transport tourists do not incorporate the iconic mast and sail as used in the past. The modern-day tourist dhow focusses on protecting the tourist from natural elements, such as the sun and rain. The proposed design allows this contemporary tourist dhow to evoke the same reaction of excitement amongst island locals and tourists, as it will become an indication of presence and treasures (East African trade, brought goods).

In terms of construction mangrove timber will be utilized to create a new dock for these tourist ships. The dock will have a trigger system, allowing each small dhow to press up against a bumper when docking, which raises a sail from beneath the dock. As these sails will be dangling in the water, they will emerge soaking wet. The sails will then scoop up South Eastern winds, acting as a cooling system for the dock as a mist is cast over the visitor. Along with this a spiritual connection can be attached as the visitor is cleansed in a similar fashion as explained in the second precedent.





4.2.7 Towards a Tantalizing Sensory Boutique on Changuu Island, Zanzibar

In this section of the documentation the final design proposal will be explained from a first-person perspective. Each developed space will also be discussed, according to their materialistic and aesthetic quality. The aim of this section is to orientate the user on the significance of the proposed design to portray a holistic expression and to create a narrative that in reality might be a realistic expression of the Changuu Fragrance Boutique.

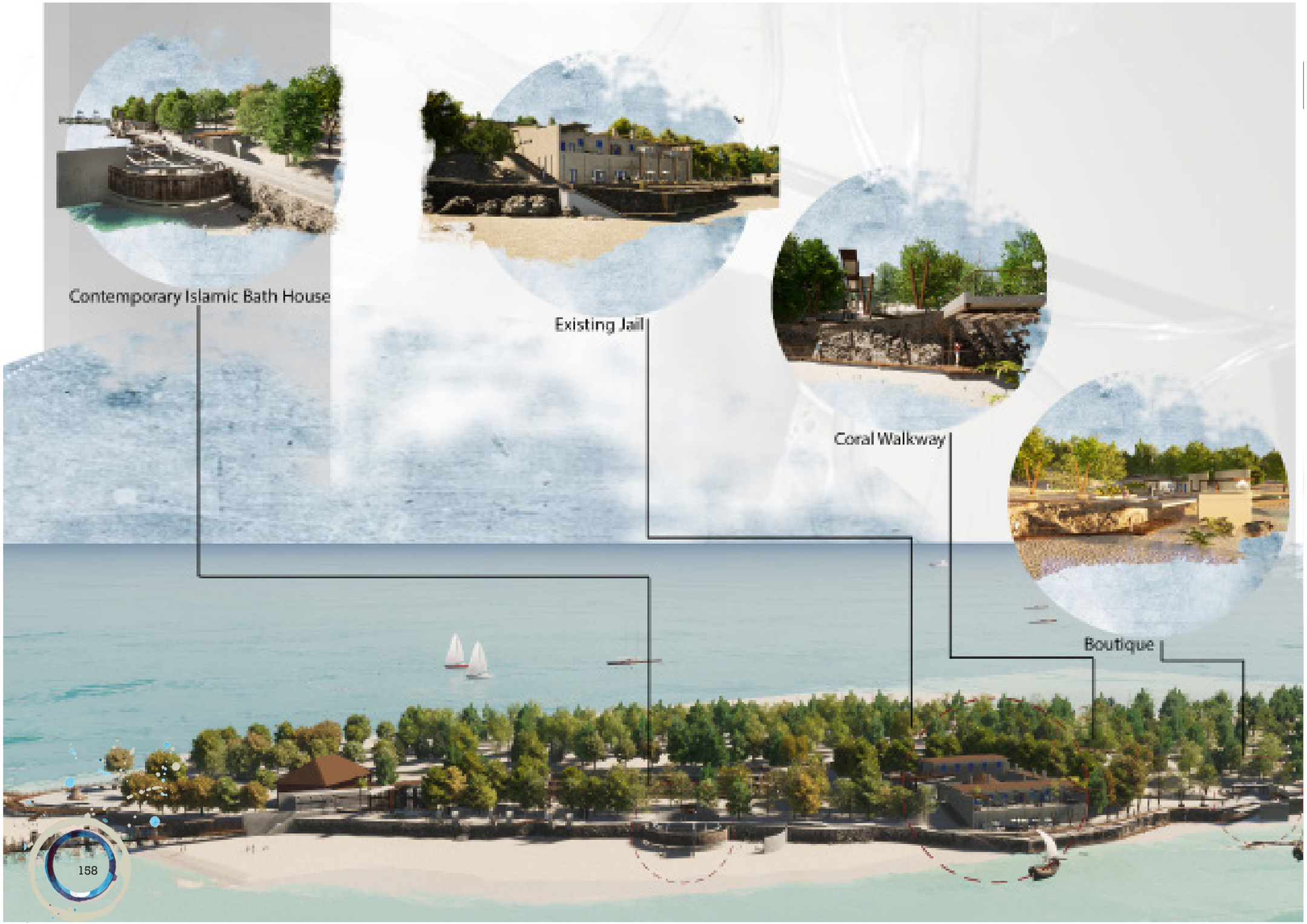


Ground Floor Plan

See Addendum A

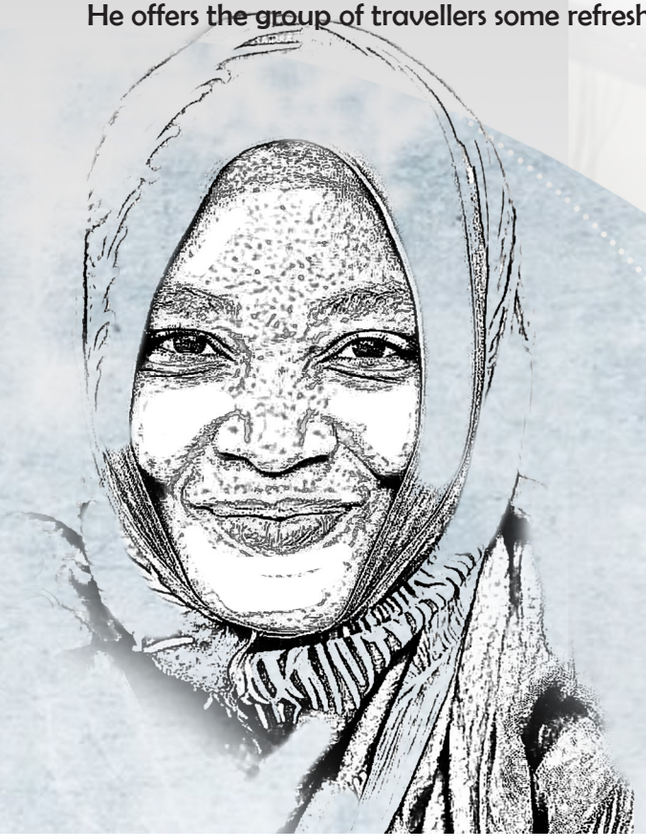
First Floor Plan

See Addendum A


Contemporary Islamic Bath House
Existing Jail
Coral Walkway
Boutique

The mangrove deck below my feet whistles a creak as I take my first step off the dhow. Next to our tourist vessel arrives another. With a gentle nudge their dhow raises the lateen sail hidden below the mangrove dock. The sail pierces past the western edge of the dock, blocking the harsh sunlight. This intervention takes the strain off my eyes as the path towards land becomes crystal clear. Suddenly the wind picks up and a cloud of mist is cast over the dock, cooling me from head to toe. Exactly what was needed as the humidity of the east African sun made the day almost intolerable.

At the end of the dock awaits a staircase. It feels like I am being guided through a cattle crush, as my body senses the change in materiality. The pure density and appearance of the walls alter my mood. Suddenly I feel as if I am trapped on the island (The design technique implemented is used to make the user feel captured as if they were going to prison, which directly relates to the prison on Changuu Island). As my head surfaces above the 'brig', my skin is greeted by radiating rays of sunshine filtering through the tree canopy. I pass through a tranquil courtyard, whilst listening to the chirping of birds and the crackling of leaves. Passing under a wooden arch, the atmosphere changes once more as I find myself within a limestone quad - The space reverberating from the waterfall cascading down on the verge of the building. At my feet a forgiving steam of water runs within a channel, leading me into the reception. I am welcomed by a man named Jackson. What a pleasant individual. He offers the group of travellers some refreshments, as he chatters on about the Island.



I find myself climbing a bending staircase towards the first floor, where we are taken on a tour through the island's new museum. On this level I feel as if I am nestled within the brushy treetops of Changuu, as the slits in the roof embraces the greenery on the outside.

Exiting the reception, I now walk along a limestone pathway leading towards the fragrance pods. I step onto a slab and suddenly feel as if I am back on the dhow. To my left stands portions of a limestone wall folding like arms around the pod. The perforated wall allows nature to creep in through a set of curved mangrove fins spanning across the opening. These mangrove fins mimic the materiality of what lies directly behind them, as well depicts the harmonious craftsmanship in creating the dhow. I find myself staring at these wooden shells, when suddenly a whooshing sound of a sail catches my attention. Despite its visual quality it is the smell that leaves me baffled. I now smell the story as it is being told by the tour guide. It is a process of interactive learning that stimulates my sense of smell and makes me understand the true significance behind cinnamon in the Islamic culture.

(Author, 2021).

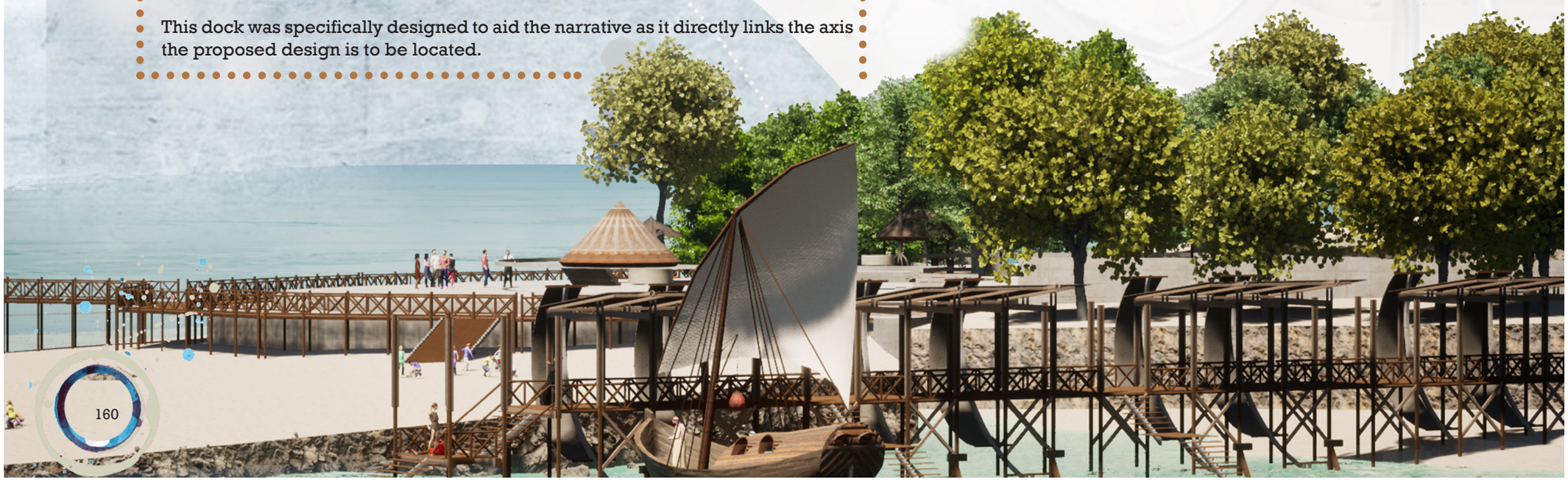
As the journey through the pods come to an end, I now understand the purpose of cinnamon, lemongrass and ylang-ylang and how they apply to Zanzibar's Islamic heritage. Oh, and how pleasant it was.

The next space is an adapted way of experiencing the traditional Islamic bath house. I descend down the concrete staircase into the 'bath'. The heavy structure rests within the reef, but allows walls to showcase the textural quality of the coral as erosion is timeously playing its role. The powerful structure swallows me as my feet touch the floor. The guide starts to explain the meaning of the space and tells us more about the use of this particular space. The sand covered surface is not just mere makeup as it serves a purpose of cleansing the body when the tide does not rise in time. Alternatively, the body can be cleaned by using sand, similar to the Islamic method of cleansing the body with sand when water is scarce.

THE DOCK

This designed space gained inspiration from the traditional Islamic dhow as the vessels' form and materiality led to the development of a 'bow-like' mast, mimicking the action of hoisting a sail. This mast will raise from below the dock as the dhow applies force to a buffer when anchoring. Along with this the mangrove timber used to construct the hull of the dhow, which is also a material visible on the original jetty, influenced the construction of the newly proposed dock.

This dock was specifically designed to aid the narrative as it directly links the axis the proposed design is to be located.



On this day, I find myself standing in this space with water rushing in over my feet as small waves wash over the surface. A slit at the bottom of the curved surface, summons the water to enter. As time passes, I notice the play of light occurring within the bath. The sun becomes the artist as the columns on the internal skin play the brush. Silhouettes paint the old wooden hull exterior of the bath as the sun keeps at its daily path.

The coral walkway, is a mesmerizing space. I stare in admiration of its natural beauty as the walkway gifts me the opportunity to experience the island from a completely different perspective. This space becomes the essence of Changuu. A tingling sensation rushes down my spine as I breathe in the fresh sea breeze blowing through this coral cove. Patterns flow past as I walk on the mangrove planks with the ocean also laying speechless. To the top I hear naked footsteps pass by. Another walkway, another angle. The top walkway is one that raises goosebumps on my skin. It evokes emotional qualities, by locking away footsteps of past generation. To think before my time people were able to walk here. Now simply a memory. Mother Nature has dealt with the edge of the island, and the result is solely dramatic.

My journey comes to end as I reach the top of the staircase at the end of the coral walkway. At the top of the hill, I catch a glimpse through the leaves and branches of the factory. This space is a sensory realm, where the nose is constantly experiencing an array of tantalizing fragrances. A mangrove pergola stretches out over the hill, taking my hand, almost as if it is luring me towards the space. At the top smells overwhelm me as I set foot into the boiler room. Here I am given the opportunity to extract my own perfume. Next to the boiler room runs a steam of fragrance guided by water towards the boutique shop. A worker catches me looking at the stream of water and explains why the stream smells like perfume. The excess from the boiler room is pumped down to the ocean, generating a pleasant smell for those visiting the fragrance boutique shop at the bottom of the factory.

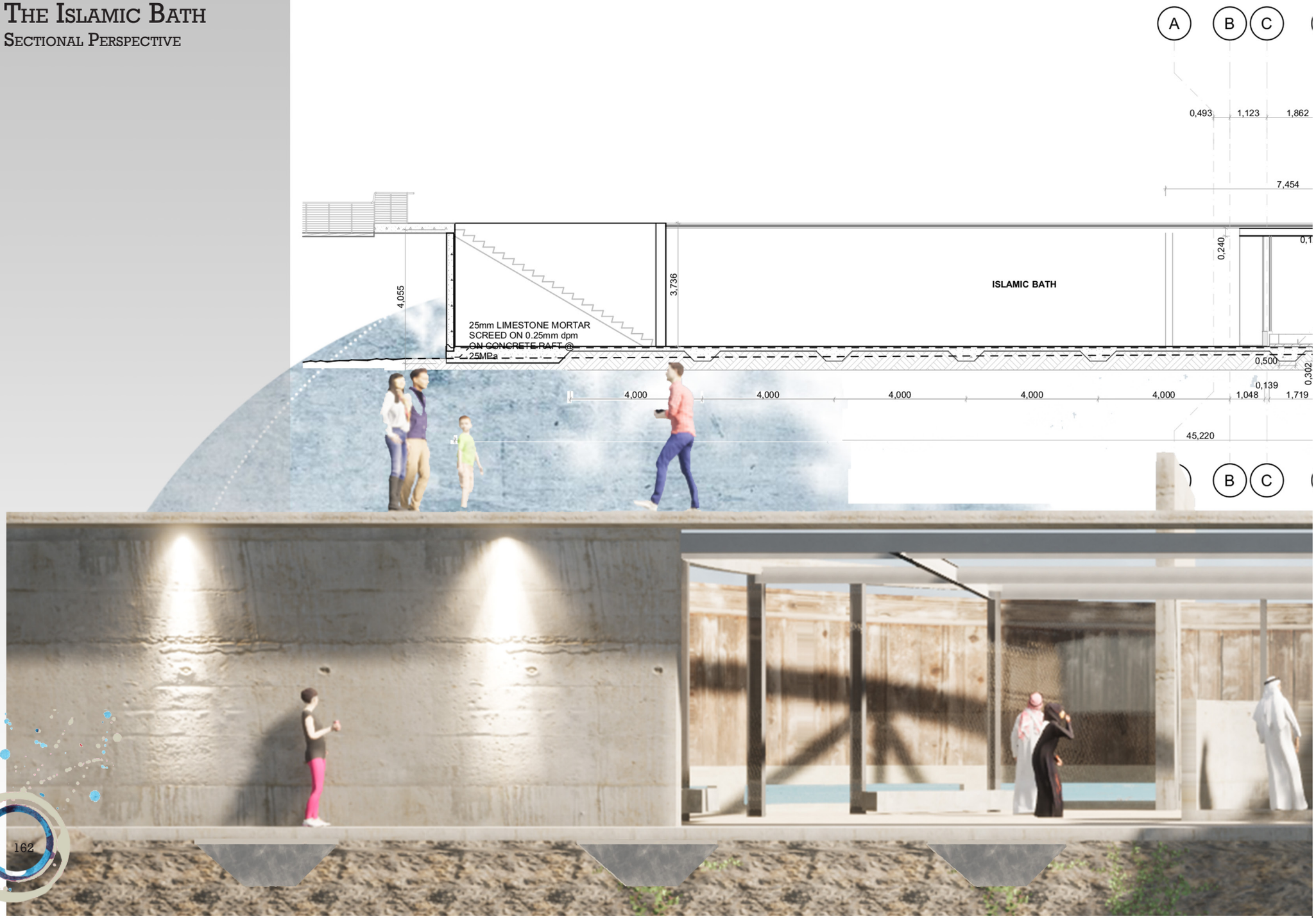
On my way back to Stone Town, I sit leaning over the side of the dhow. I monitor my reflection as the wake created by the boat casts a wrinkly image of myself. I look back in the direction of Changuu Island. A broad smile stretches from ear to ear as I come to terms with the true quality of what I had experienced.

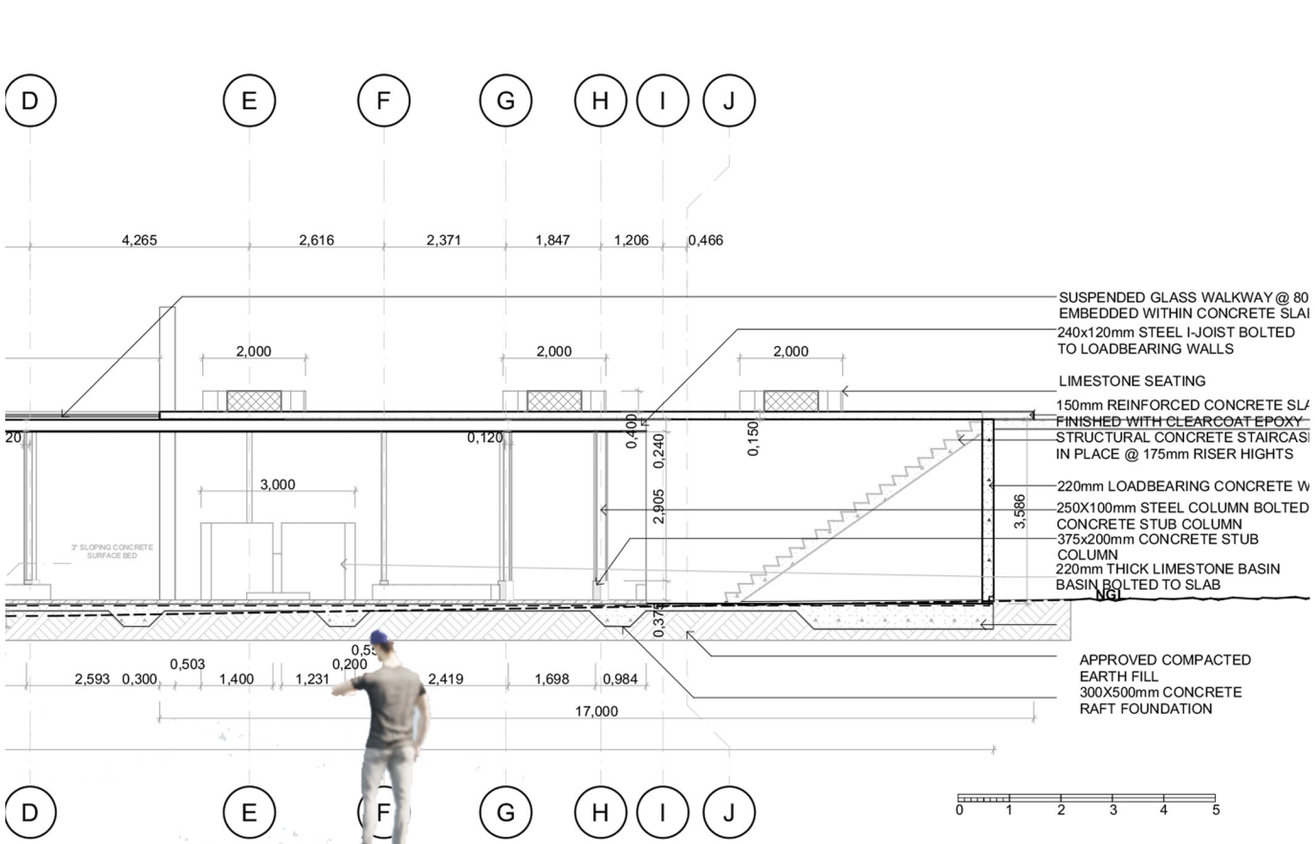
For me a smell is more than a whiff or an odour, it is who we are and where we come from. A smell can illustrate the significance of heritage...

Reception and Museum

At the end of the dock lies a monolithic staircase leading up to the foyer of the reception area. The foyer is split into two separate courtyards. The first of the two invites the natural landscape into its midst as the wall of Islamic tessellations unites man and nature. This strategy is derived from the work of Frampton and Ando (refer to p. 108-109), as an element true to Islamic architecture within the Zanzibar context is removed of its original use (artwork) and now becomes reinstated to sculpt the playful quality of sunlight on the interior facades. A mere skin (wall) away lies a ponderous courtyard expressing the significance of the coral mines located on the island, as the floors and walls are plastered in a rough coral ragstone screed. The reception and museum space plays the role of being the initial gathering space. From a cultural point of view this space does not initiate the identity of the culture. Rather it acts a collective node for all people of all places and cultural backgrounds to be seen as one. The space expresses Zanzibar's architectural style through the use of a mangrove timber structural system, filled in with a coral limestone wall construction.

The Islamic Bath
Sectional Perspective




D
E
F
G
H
I
J
4,265
2,616
2,371
1,847
1,206
0,466
2,000
2,000
2,000
3,000
0,120
0,400
0,240
0,150
2,905
3,586
0,375
3' SLOPING CONCRETE SURFACE BED
SUSPENDED GLASS WALKWAY @ 80
EMBEDDED WITHIN CONCRETE SLAI
240x120mm STEEL I-JOIST BOLTED
TO LOADBEARING WALLS
LIMESTONE SEATING
150mm REINFORCED CONCRETE SLA
FINISHED WITH CLEARCOAT EPOXY
STRUCTURAL CONCRETE STAIRCAS
IN PLACE @ 175mm RISER HIGHTS
220mm LOADBEARING CONCRETE W
250X100mm STEEL COLUMN BOLTED
CONCRETE STUB COLUMN
375x200mm CONCRETE STUB
COLUMN
220mm THICK LIMESTONE BASIN
BASIN BOLTED TO SLAB
NGL
APPROVED COMPACTED
EARTH FILL
300X500mm CONCRETE
RAFT FOUNDATION
0,503
0,200
2,593
0,300
1,400
1,231
2,419
1,698
0,984
17,000
0
1
2
3
4
5

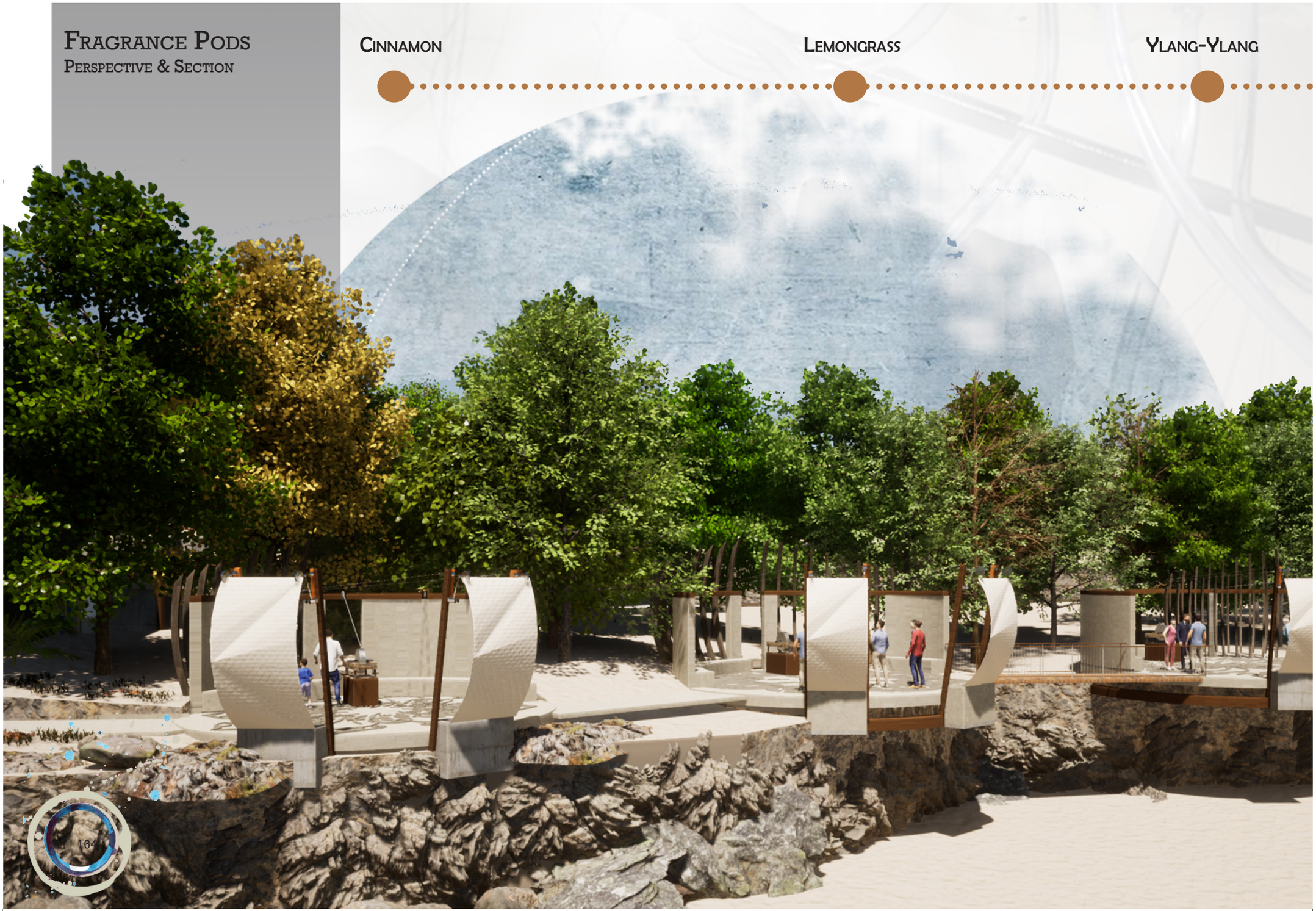
Fragrance Pods

Perspective & Section

Cinnamon

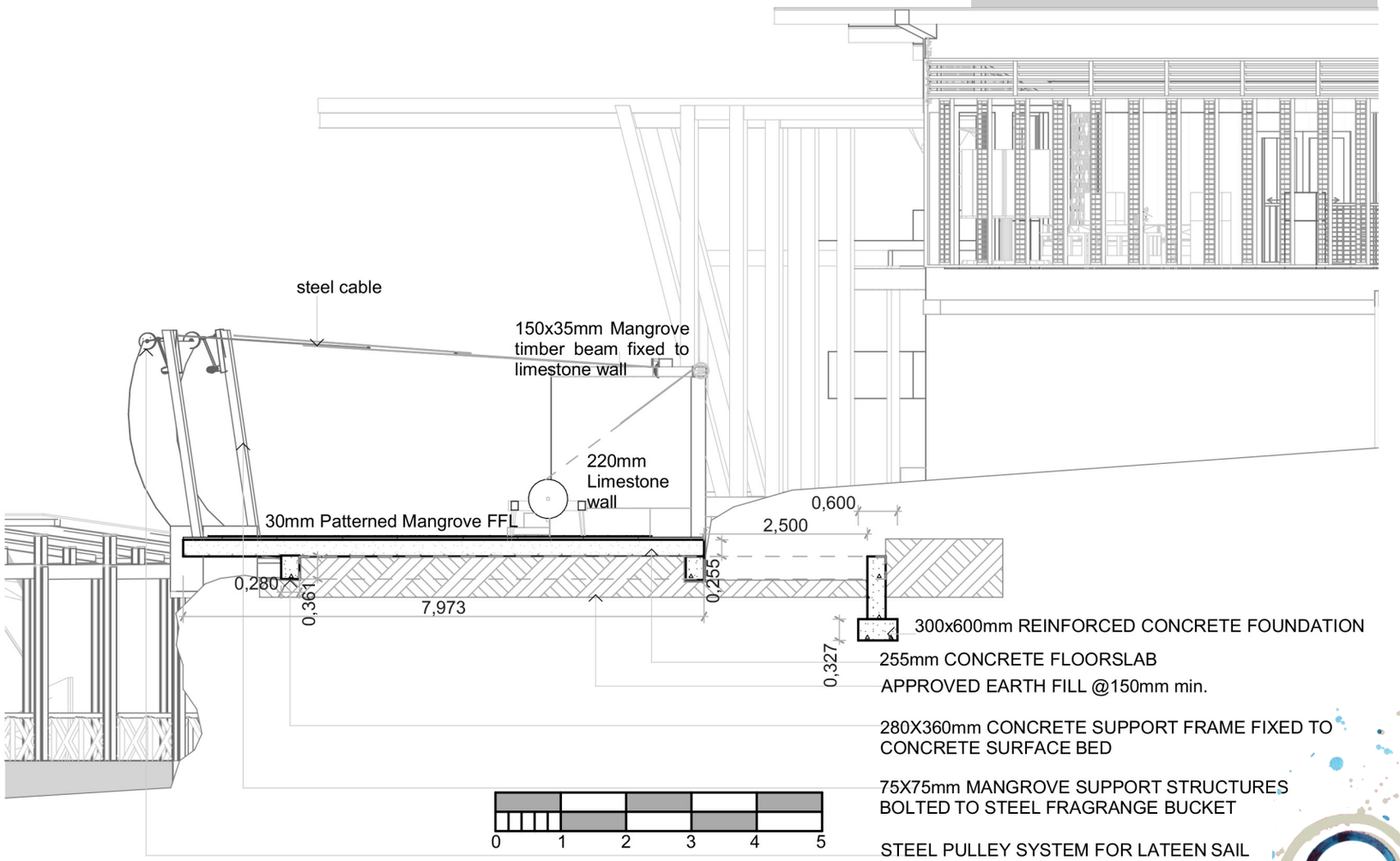
Lemongrass

Ylang-Ylang



Expressing the significance of Fragrance:





Overview connecting Fragrance Pods, Islamic Bath and Fragrance Farm

Fragrance Pods

Whilst a guide explains the significance of each smell, the user simultaneously experiences the fragrance as lateen sails are raised from perfume buckets. These smells are helped on by offshore winds, which blow the drenched sails and casts the smell over the designed space.

This project aims to explain the significance of different fragrances in the Islamic culture. The initial step in this process will expose the user to these different smells in a walk through the Fragrance Pods, where they will learn the historical background and religious significance of each smell. Together with this the user also has the opportunity to engage with each smell, as it becomes present in each space. This process allows a smell to be connected to the place it is experienced as well as the information surrounding the fragrance (creating of memory).

This part of the journey is also directly linked to the precented study, Jean-Marie Tjibaou Cultural Centre, Nouméa, New Caledonia.



Islamic Bath

The Islamic Bath connects the user to the Muslim tradition of cleansing before entering a sacred space. This process connects to the conceptual aspect of the project and allows the flow from the bath, to the mosque, to the garden. The Islamic bath is expressive of the works done by Tadao Ando (refer to p. 108-109). The space strives towards connecting elements extracted from the vernacular architecture in Zanzibar, such as the dhow and The Stone Town public hammam.

Elements reinterpreted from traditional Islamic dhow:

Wooden Hull that will deteriorate over time to reveal the ocean. This will gain a similar expression to the fragrance pods.

Elements reinterpreted from Stone Town Public Hammam:

Ragstone walls, as a means of anchoring the bath within the reef. Creating a connection with materiality as both the reef and walls are of limestone.

The concrete stub columns and steel columns, which are used in Zanzibar to reinforce structures and to raise a structure in preventing moisture damage. In this case these elements serve as sculpting mechanisms to play with light quality. This form of defamiliarization is used to portray the romantic quality (the sculptural quality) the tree canopy has to offer within the Islamic bath, which is located on the classical edge of the island. This classical and romantic contrast is blurred through incorporating these sculptural elements.



Fragrance Farms

The garden aspect of the design or the farm, allows the user to see the origin of the smell. After walking through these farms, the user now witnesses the final product, which in this case is the bottled fragrance extracted from the land (refer to p. 136).

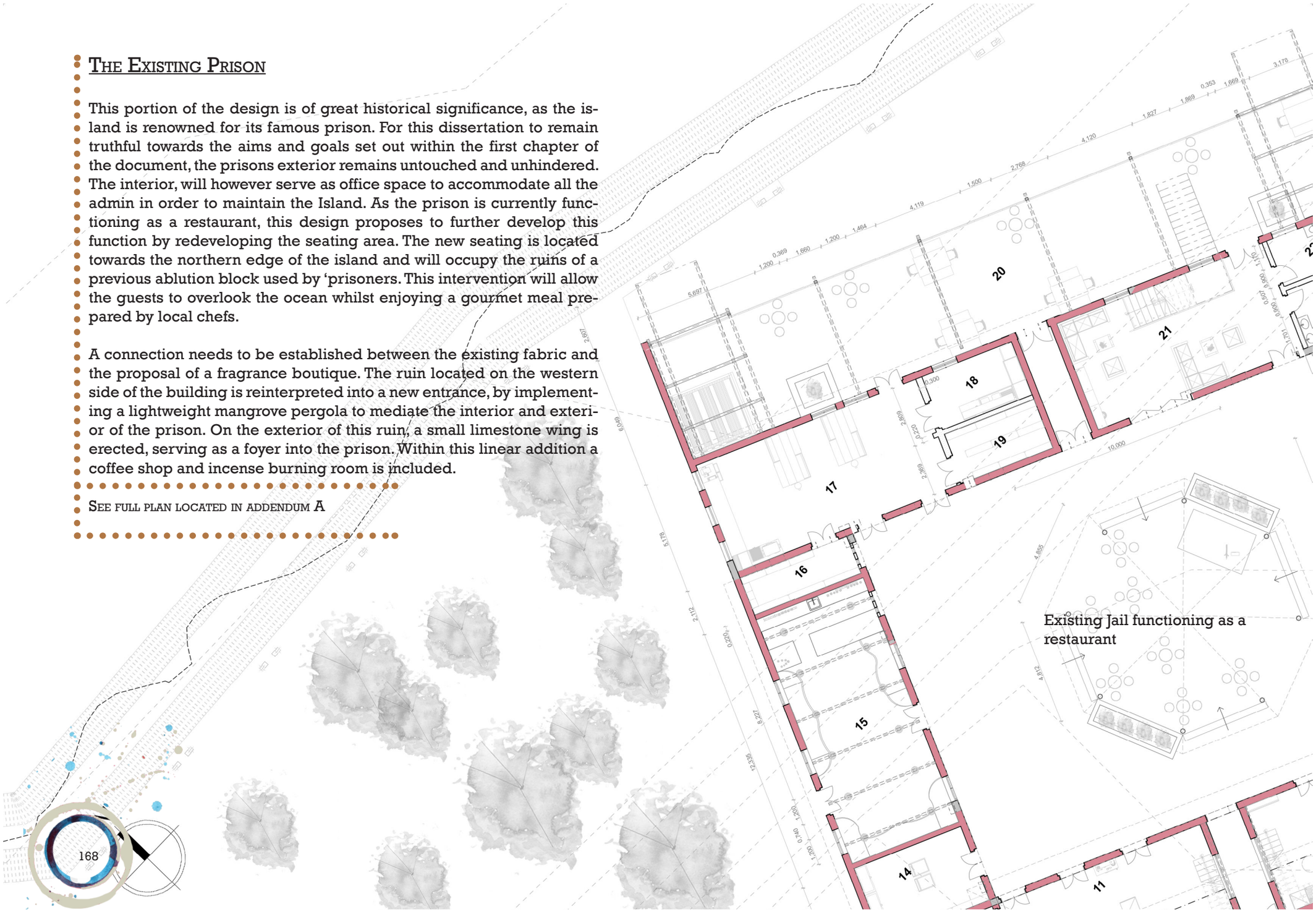


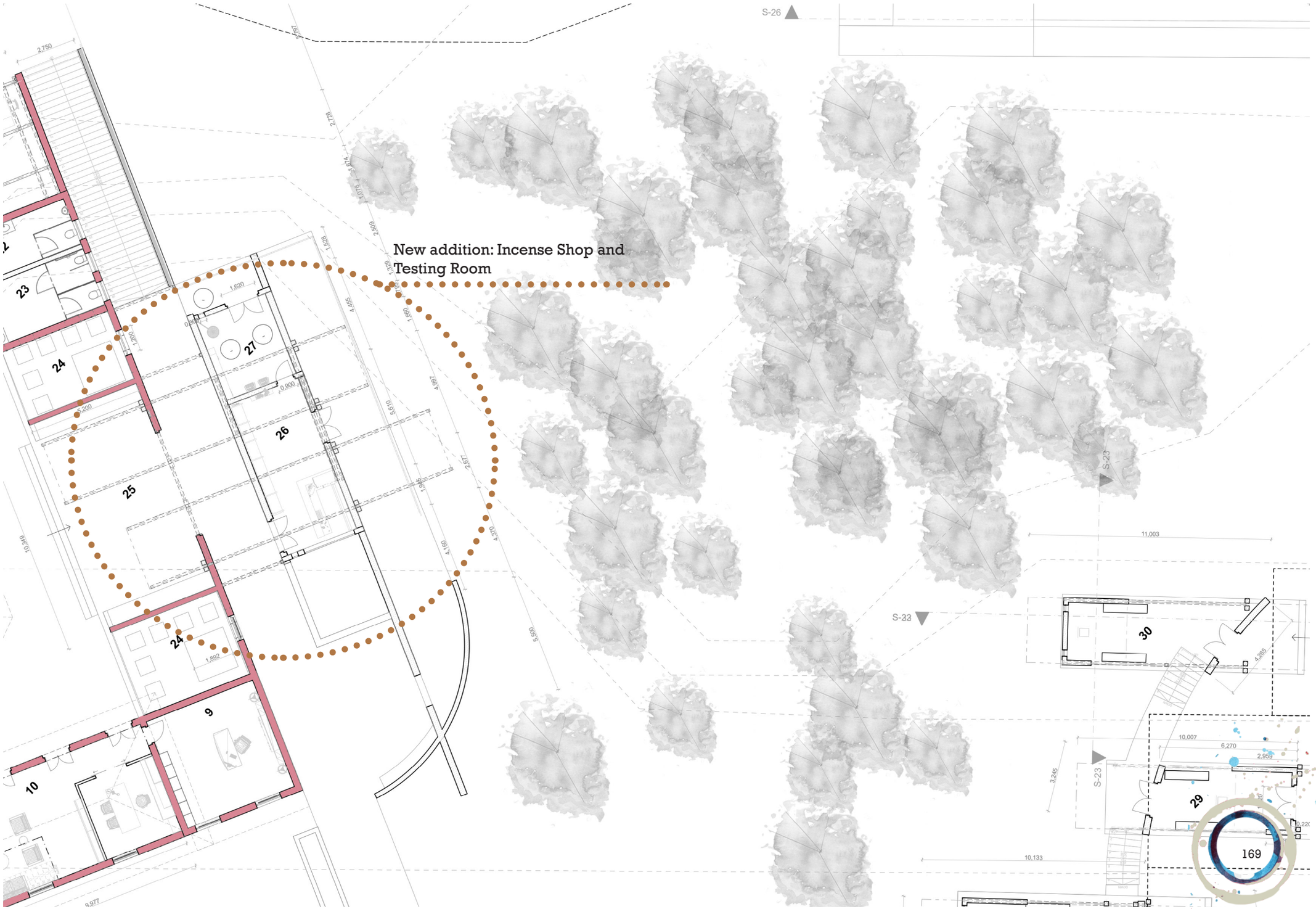
The Existing Prison

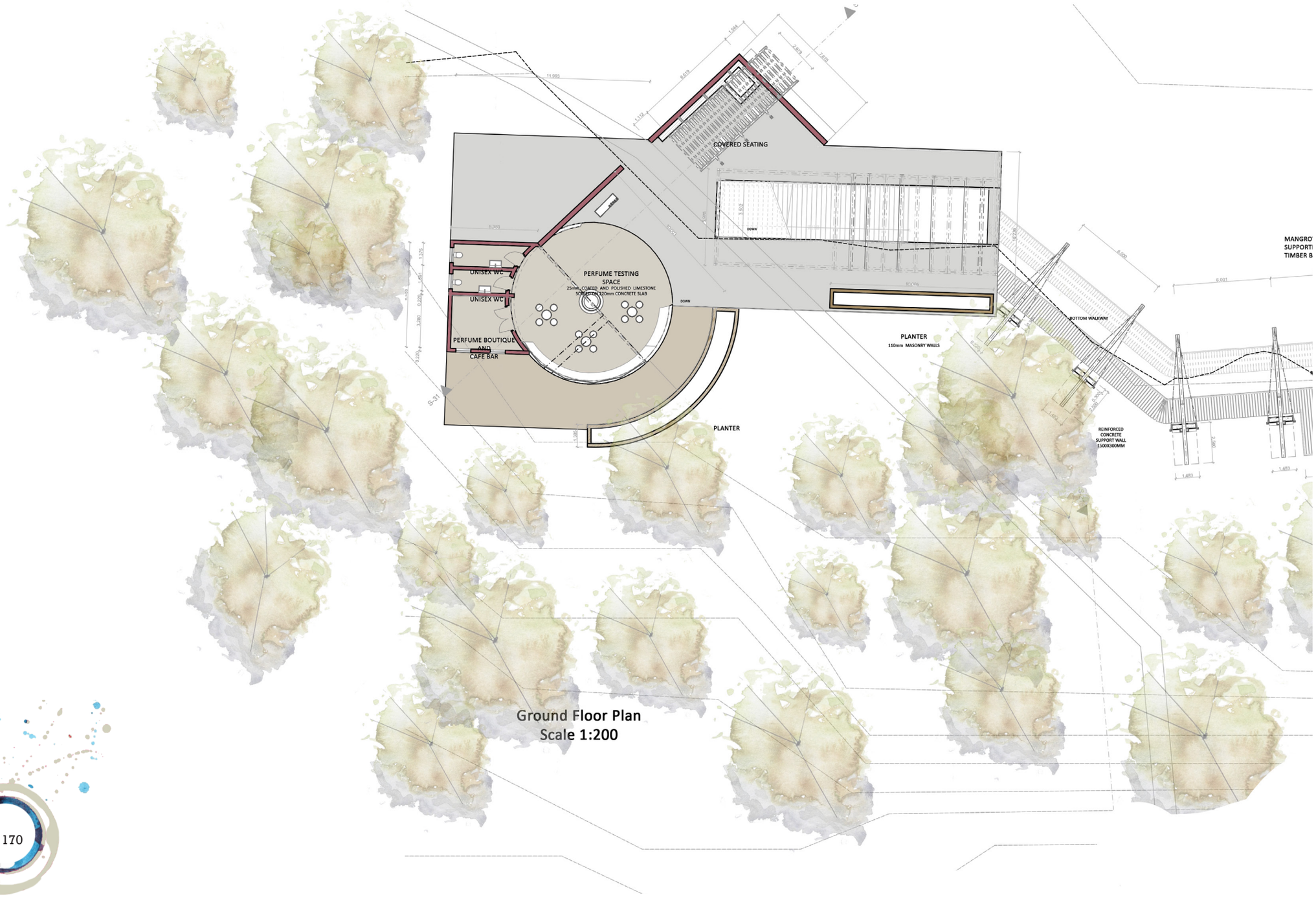
This portion of the design is of great historical significance, as the island is renowned for its famous prison. For this dissertation to remain truthful towards the aims and goals set out within the first chapter of the document, the prisons exterior remains untouched and unhindered. The interior, will however serve as office space to accommodate all the admin in order to maintain the Island. As the prison is currently functioning as a restaurant, this design proposes to further develop this function by redeveloping the seating area. The new seating is located towards the northern edge of the island and will occupy the ruins of a previous ablution block used by 'prisoners. This intervention will allow the guests to overlook the ocean whilst enjoying a gourmet meal prepared by local chefs.

A connection needs to be established between the existing fabric and the proposal of a fragrance boutique. The ruin located on the western side of the building is reinterpreted into a new entrance, by implementing a lightweight mangrove pergola to mediate the interior and exterior of the prison. On the exterior of this ruin, a small limestone wing is erected, serving as a foyer into the prison. Within this linear addition a coffee shop and incense burning room is included.

See full plan located in addendum A




New addition: Incense Shop and Testing Room
S-26
S-23
S-22
S-23
23
24
25
26
27
24
9
10
30
29
11,003
10,007
6,270
2,959
10,133
169



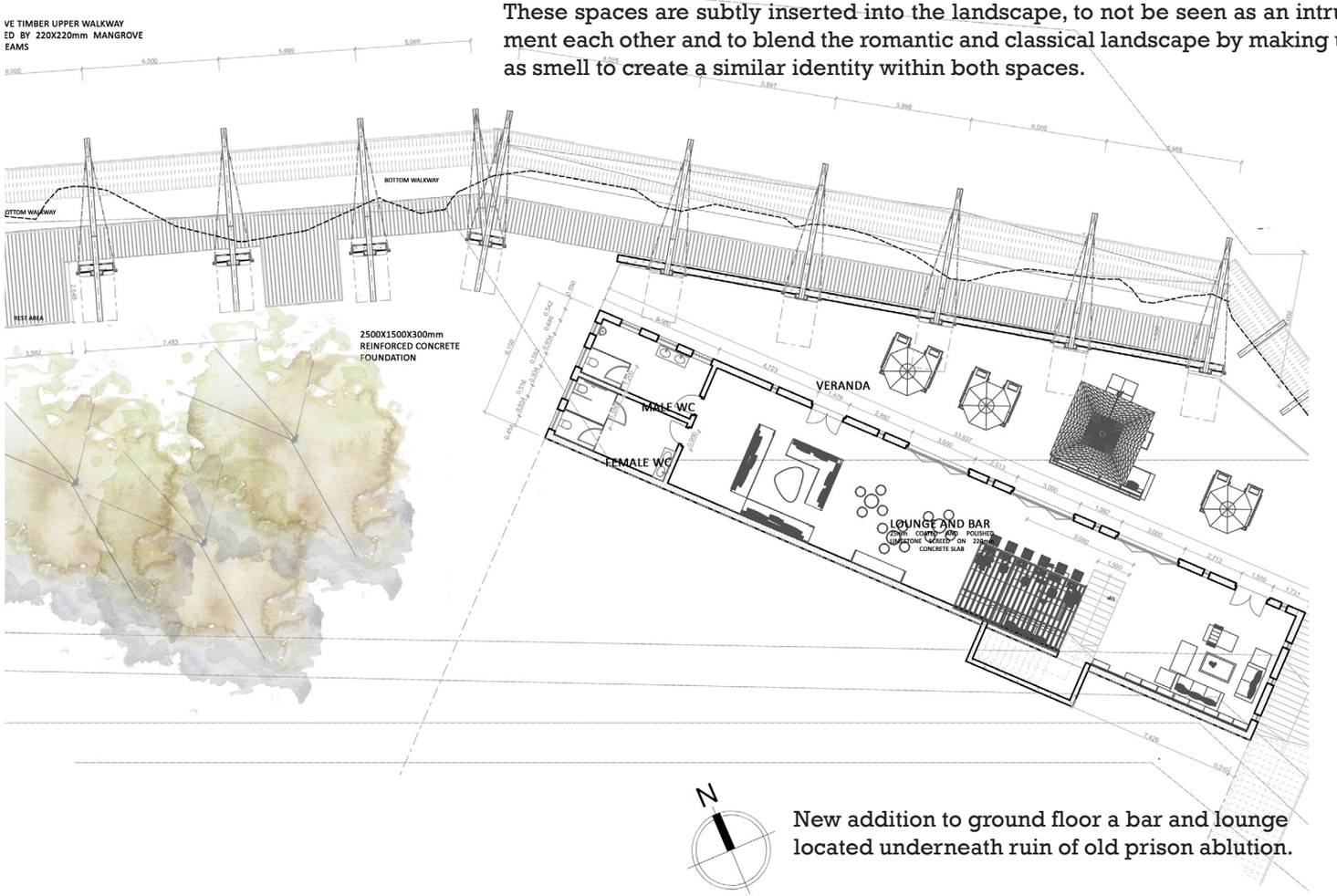
Ground Floor Plan
Scale 1:200

Fragrance Factory and the Fragrance Boutique Shop

The fragrance factory and the boutique shop would not be possible without each other. The factory makes it possible for the bottled fragrance that is locally produced on Changuu to be sold on the island. The factory gives the user the full bottling experience and simultaneously includes them within the process of making and bottling their own perfume.

The boutique shop provides the user with multiple fragrances to choose from. The user can test all the different fragrances Changuu Fragrance Boutique has to offer here and can enjoy a cold beverage and relax in the shade whilst taking in the picturesque landscape.

These spaces are subtly inserted into the landscape, to not be seen as an intrusion. Their purpose is to complement each other and to blend the romantic and classical landscape by making use of vernacular materials as well as smell to create a similar identity within both spaces.



New addition to ground floor a bar and lounge located underneath ruin of old prison ablution.



Reflection

Part 05

5.1 Reflection

The Changuu Island Fragrance Boutique has been a hair-raising recollection of memory. This dissertation serves its purpose by exploring the vernacular quality of Zanzibar's Islamic architectural style, whilst simultaneously enhancing the meaning of space through the incorporation of different fragrances. I believe this dissertation has followed a successful route in accentuating the importance of a regionalist architectural presence.

The solution derived throughout this intricate investigation illustrates endless functional possibilities for the proposed fragrance boutique. Apart from being an iconic tourist attraction, Changuu Island now encapsulates the cultural identity of Zanzibar within its materiality. This dissertation is therefore an augmented resurgence of cultural significance, acting as a supplementary source of income for the existing tortoise sanctuary and educating both the local and the tourist community on the significance of our sensory capabilities.

Although the corroding edge of Changuu Island posed many issues, the design follows a progressive route in establishing a seamless narrative that in reality may be a truly euphoric experience.
At this dissertation lowers its masts and comes to anchor, I am left with a sense of jubilation as I now comprehend the grace of Zanzibar's Islamic architectural style. Pride washes over the white beach of Changuu Island as the sun sets blazing its salutations.

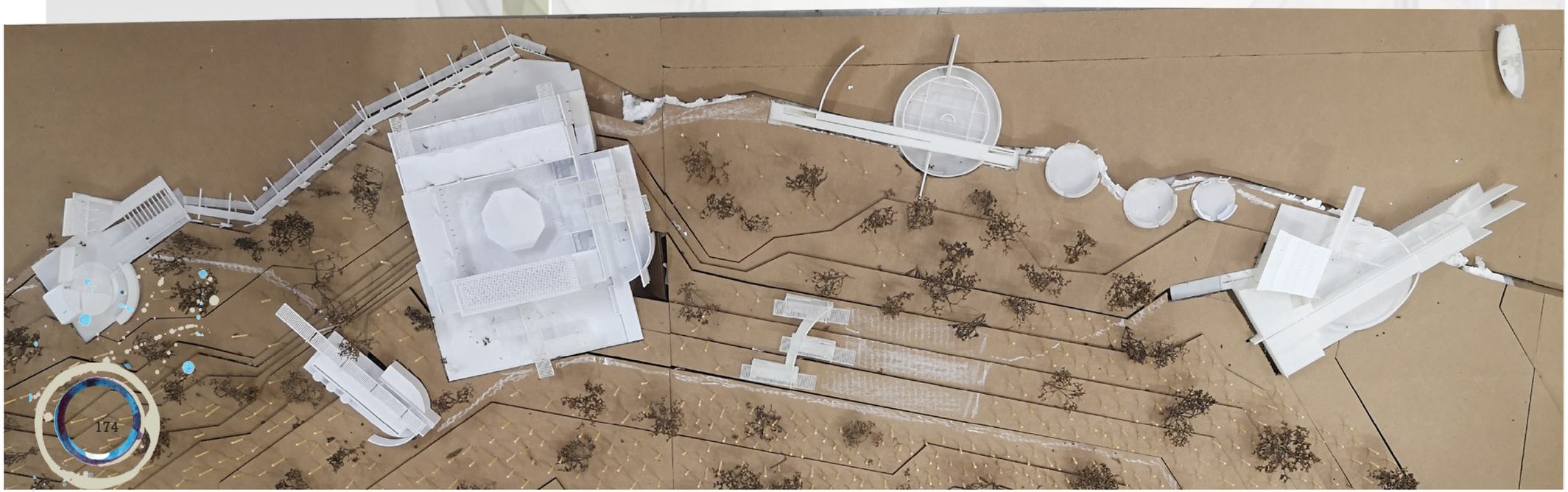


Figure 5.1: Image of proposed development, built for Changuu Island (Author, 2021).

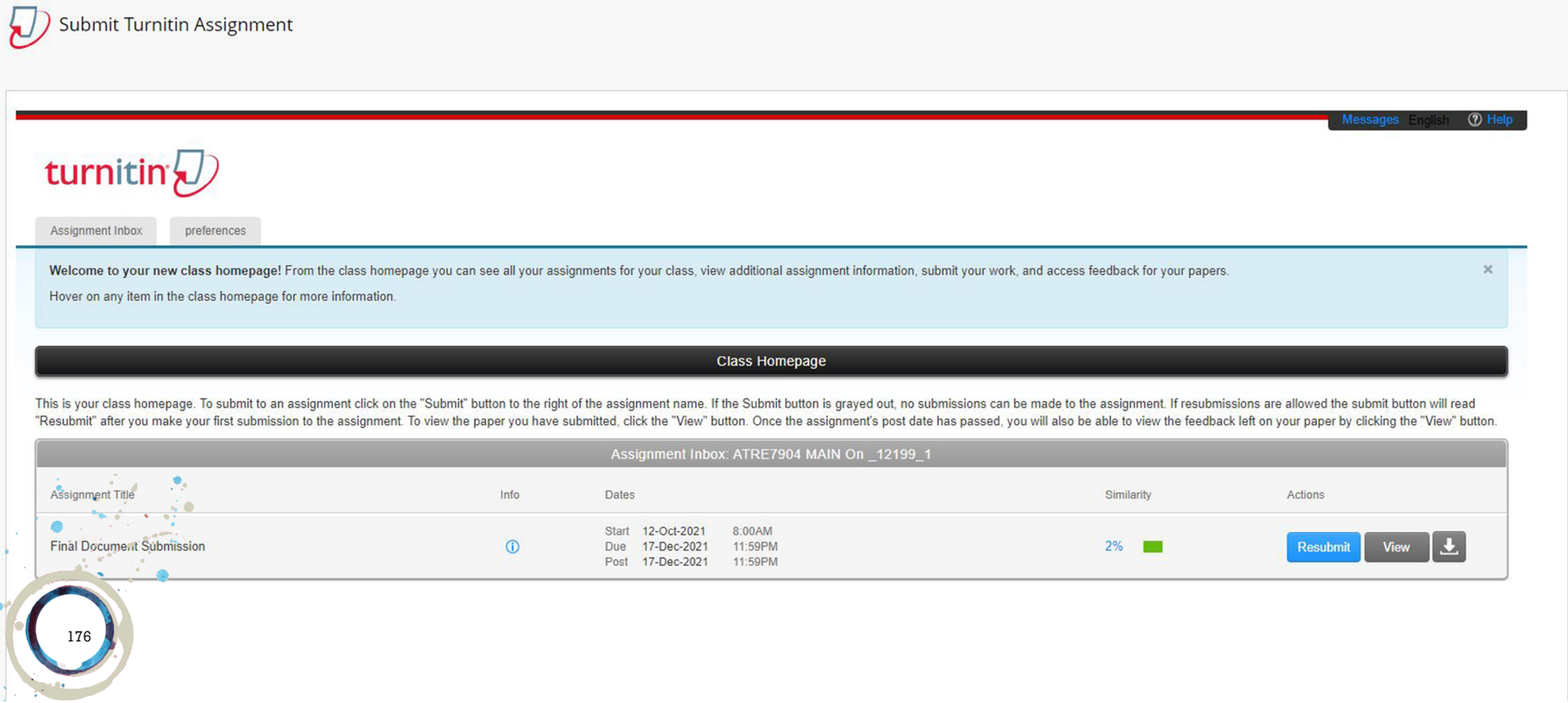


Figure 5.2: Image of proposed additions to existing jail/restaurant (Author, 2021).



Figure 5.3: Image of proposed fragrance boutique captured from June/July model (Author, 2021).

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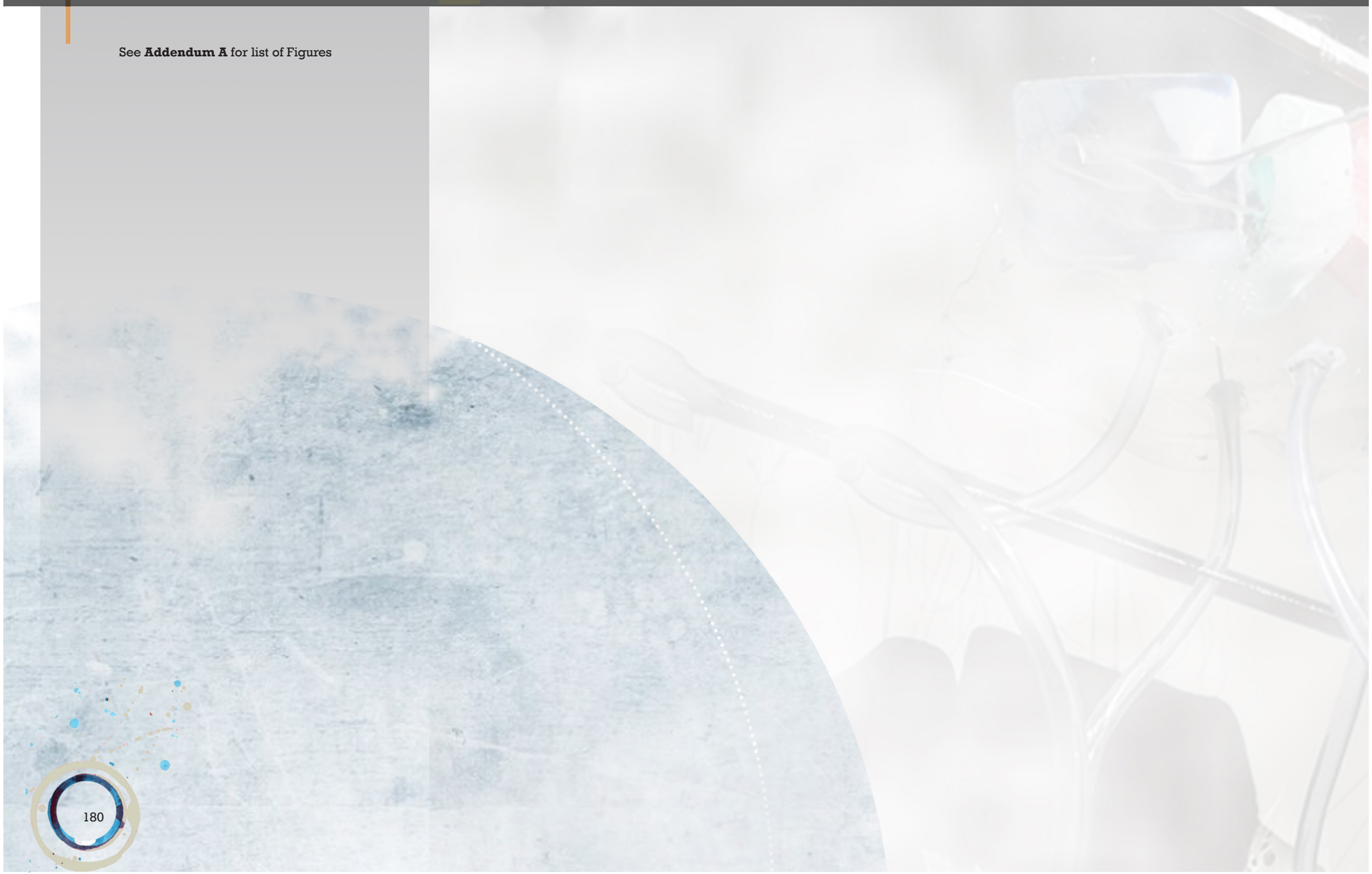
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See **Addendum A** for list of Figures



Presentation Renders



Render of proposed reception area

Render of proposed Fragrance Pod



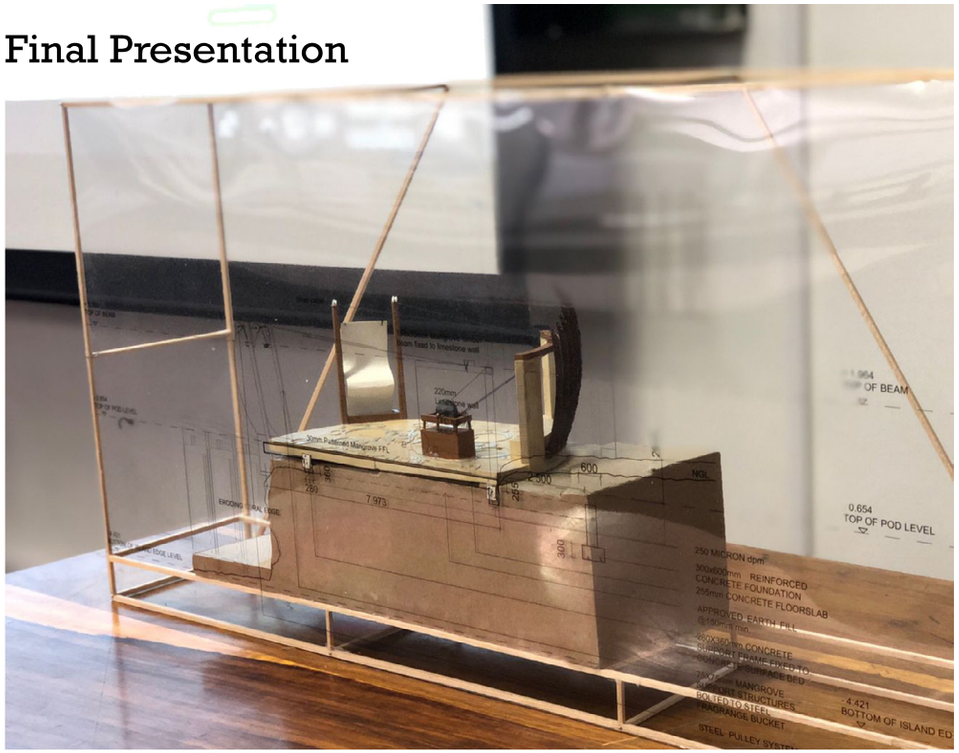


Render of proposed Reception entrance
(based on Zanzibar vernacular)

Render of proposed Fragrance Farm



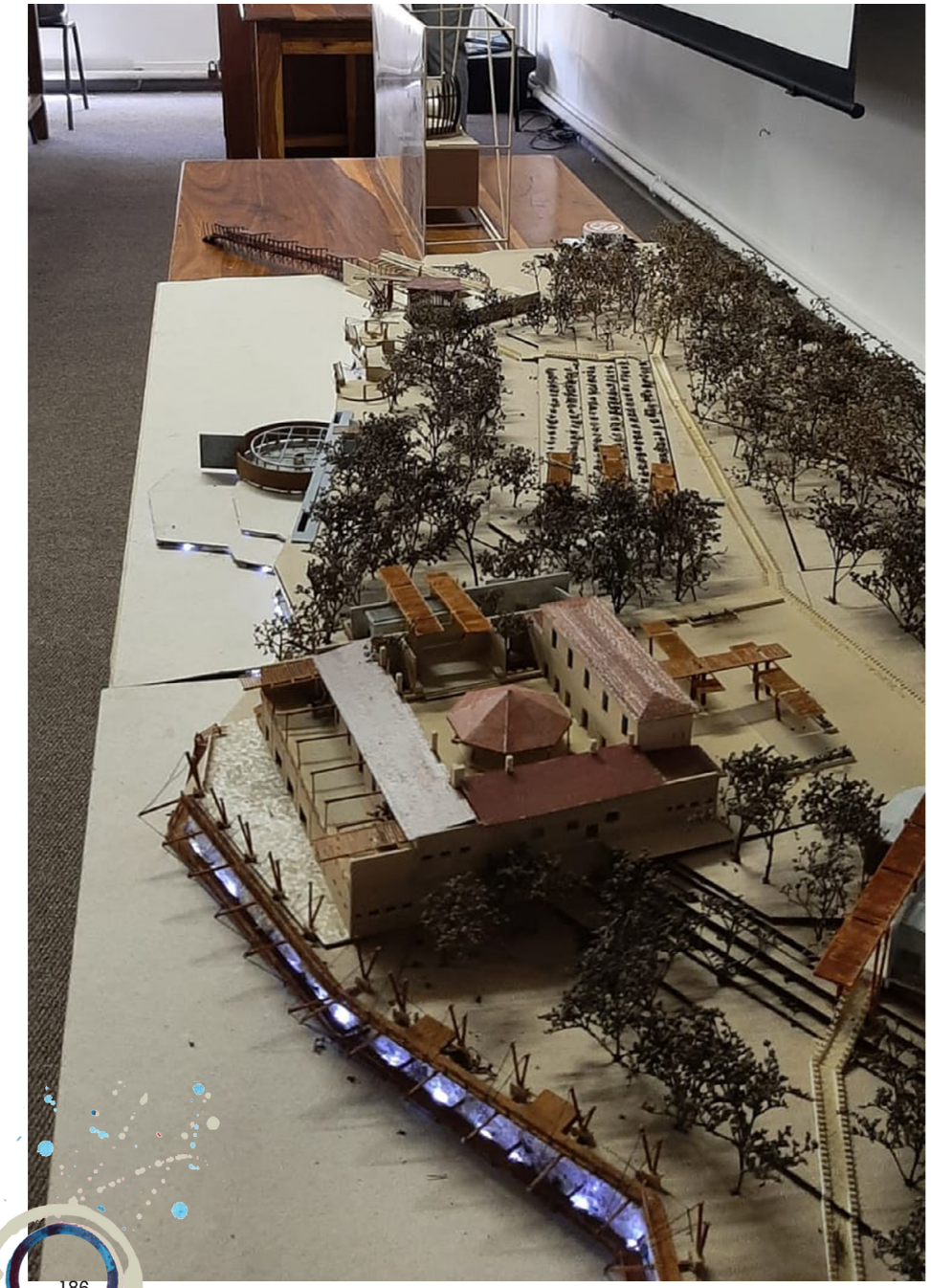
Final Presentation



Section model of fragrance pod.



Development models for construction.



Final Model

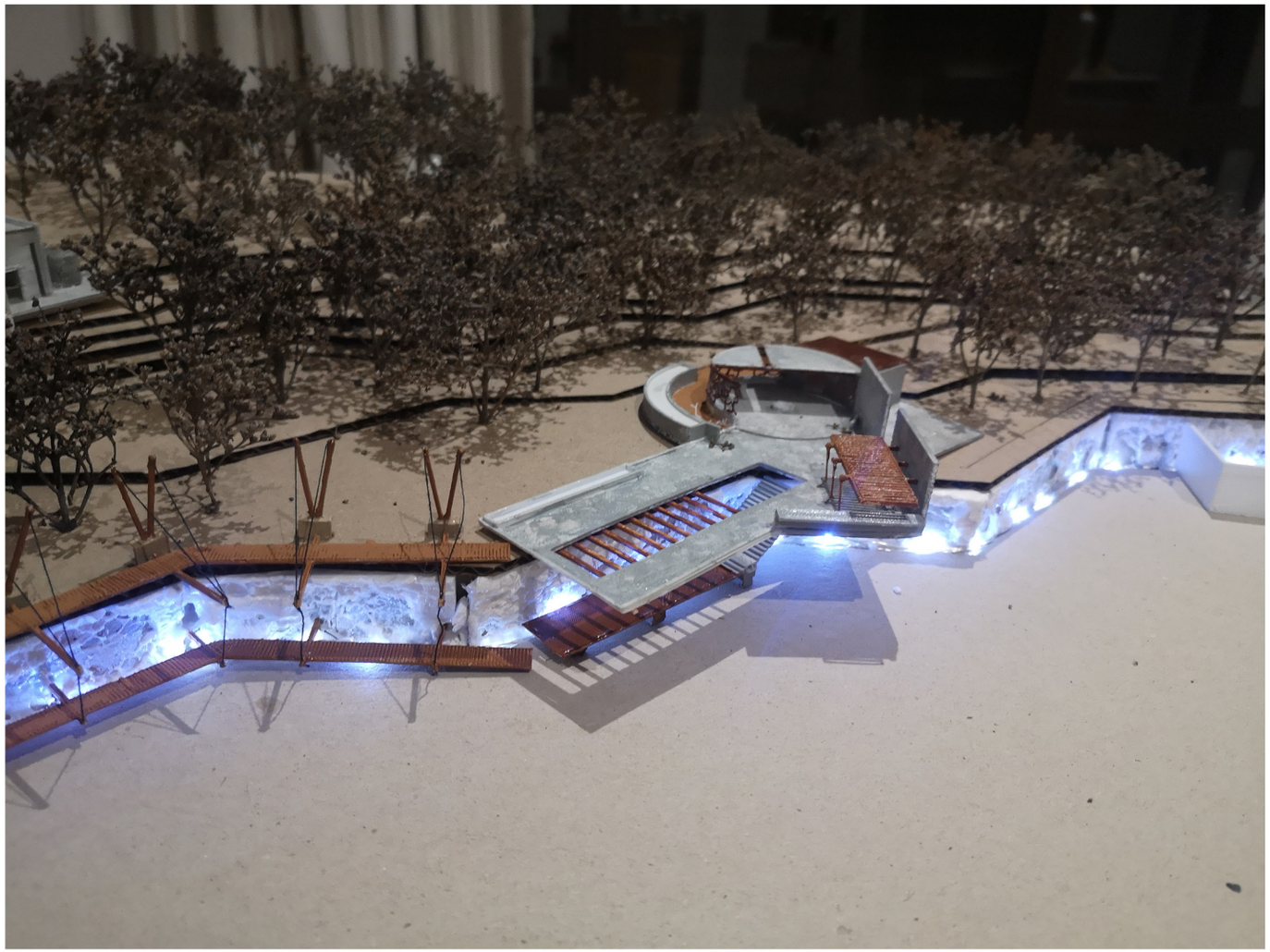
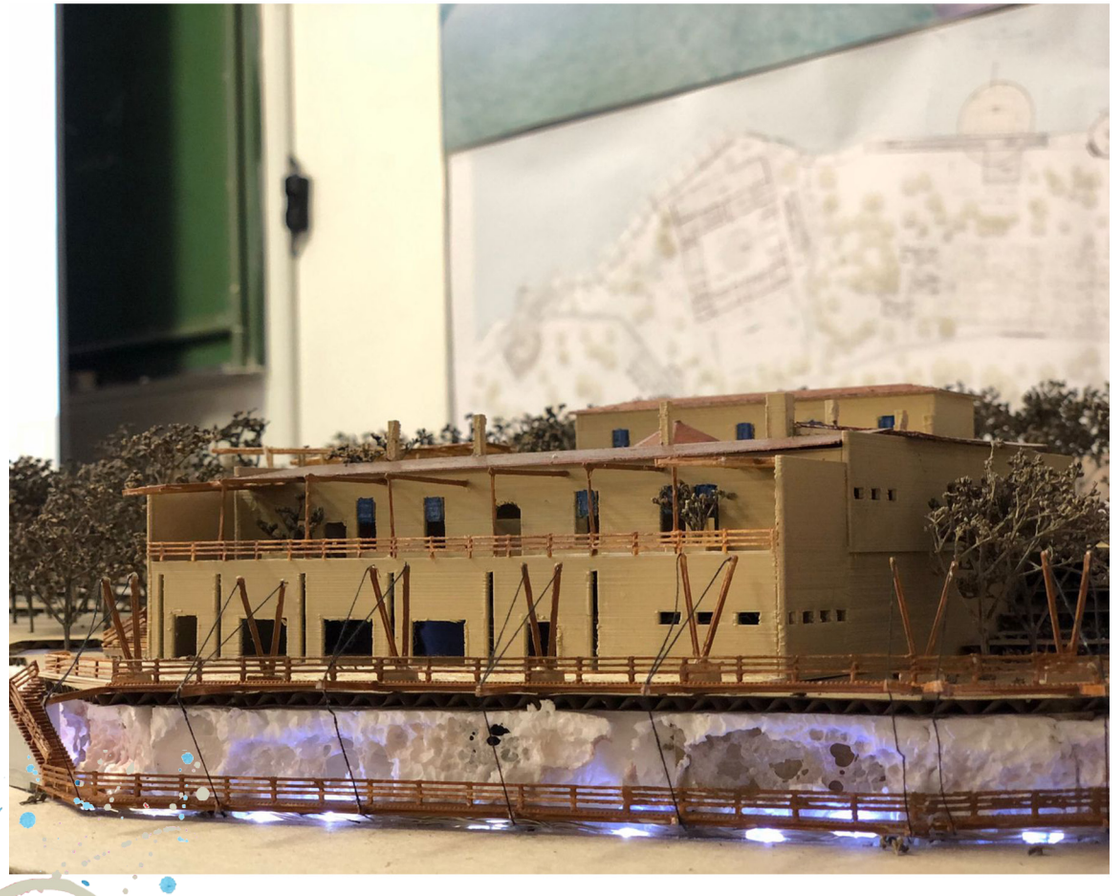


Image of boutique shop and coral walkway.

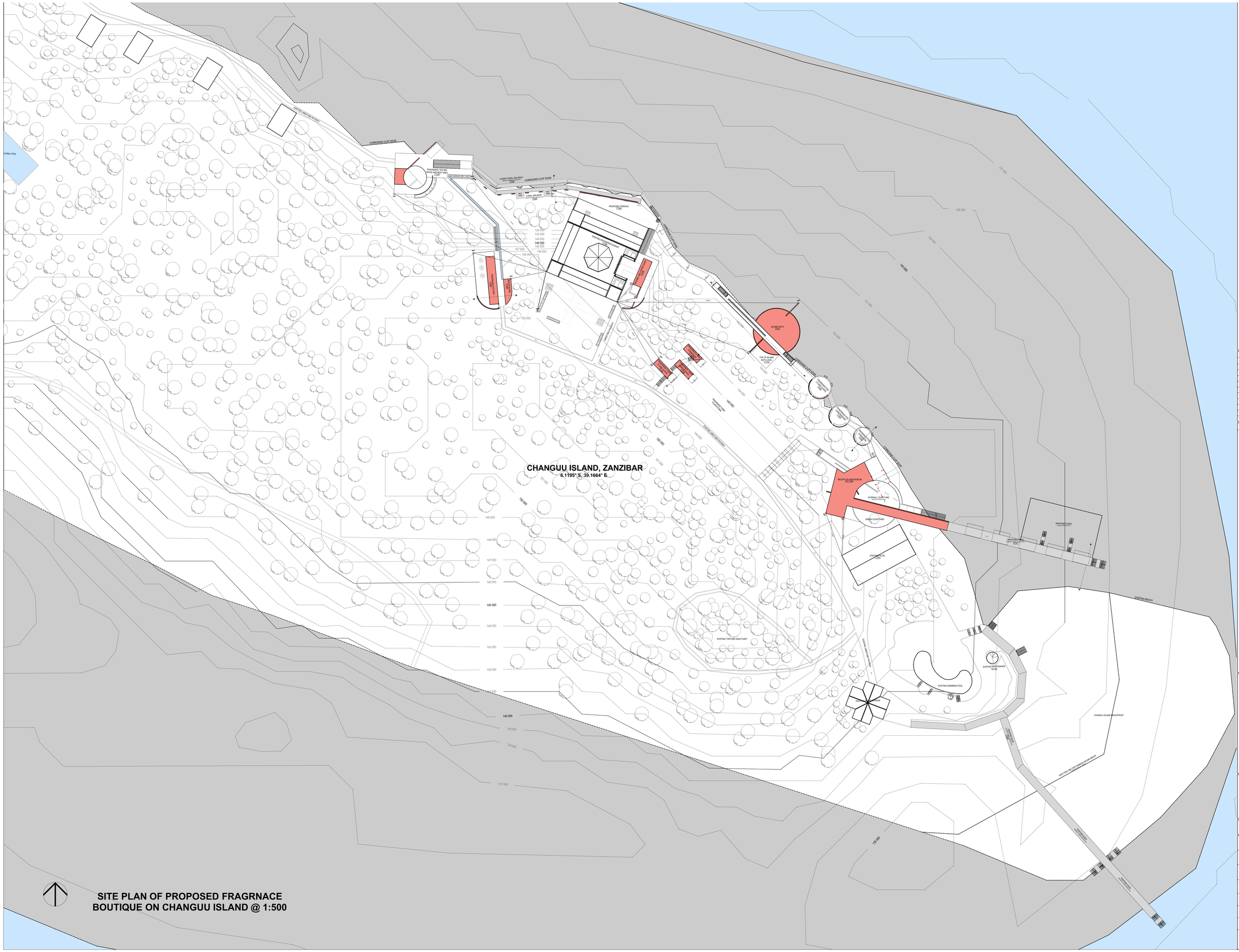


Final Model and Presentation

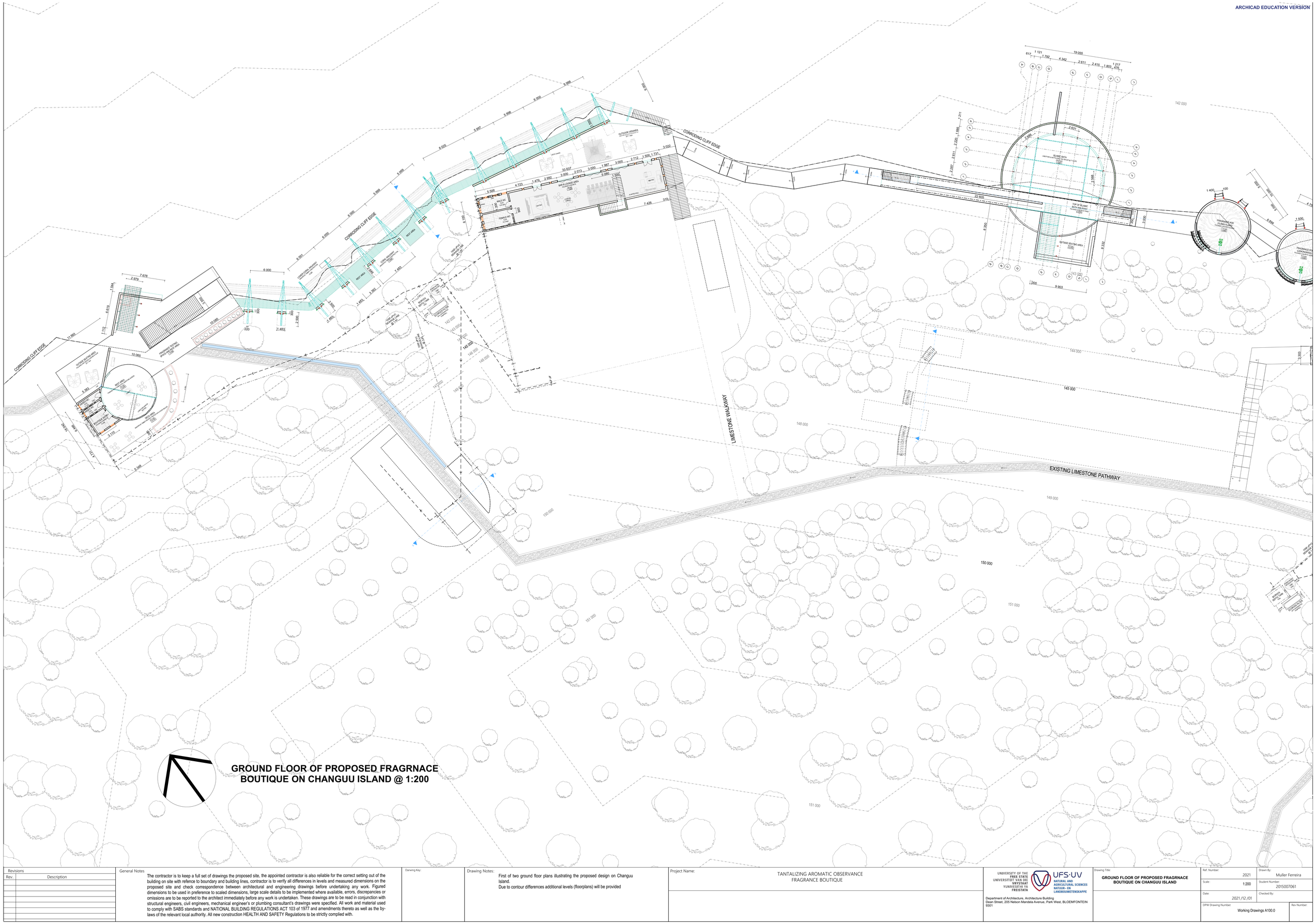
Image of renovated jail/restaurant.






CHANGUU ISLAND, ZANZIBAR
6.1195° S, 39.1664° E
EXISTING NATURAL POOL
EXISTING NATURAL ROCKS
CORRODING CLIFF EDGE
FRAGRANCE TESTING SPACES AND REST AREA 110m²
PROPOSED WALKWAY
LOWER CORAL WALKWAY 120m²
UPPER CORAL WALKWAY 120m²
PROPOSED TERRACE 124m²
EXISTING NATURAL ROCKS
EXISTING ROCKS
EXISTING NATURAL ROCKS
EXISTING NATURAL ROCKS
EXISTING NATURAL

ARCHICAD EDUCATION VERSION



GROUND FLOOR OF PROPOSED FRAGRNACE BOUTIQUE ON CHANGUU ISLAND @ 1:200

Revisions	
Rev.	Description

General Notes

The contractor is to keep a full set of drawings the proposed site, the appointed contractor is also reliable for the correct setting out of the building on site with refence to boundary and building lines, contractor is to verify all differences in levels and measured dimensions on the proposed site and check correspondence between architectural and engineering drawings before undertaking any work. Figured dimensions to be used in preference to scaled dimensions, large scale details to be implemented where available, errors, discrepancies or omissions are to be reported to the architect immediately before any work is undertaken. These drawings are to be read in conjunction with structural engineers, civil engineers, mechanical engineer's or plumbing consultant's drawings were specified. All work and material used to comply with SABS standards and NATIONAL BUILDING REGULATIONS ACT 103 of 1977 and amendments thereto as well as the by-laws of the relevant local authority. All new construction HEALTH AND SAFETY Regulations to be strictly complied with.

Dianwing Key:

Drawing Notes:

First of two ground floor plans illustrating the proposed design on Changuu Island.
Due to contour differences additional levels (floorplans) will be provided

Project Name:

TANTALIZING AROMATIC OBSERVANCE
FRAGRANCE BOUTIQUE

UNIVERSITY OF THE FREE STATE
UNIVERSITEIT VAN DIE VRYSTAAT
YUNIVESITHI YA FREISTATA

UFS·UV
NATURAL AND AGRICULTURAL SCIENCES
NATUUR- EN LANDBOUWETENSKAPPE

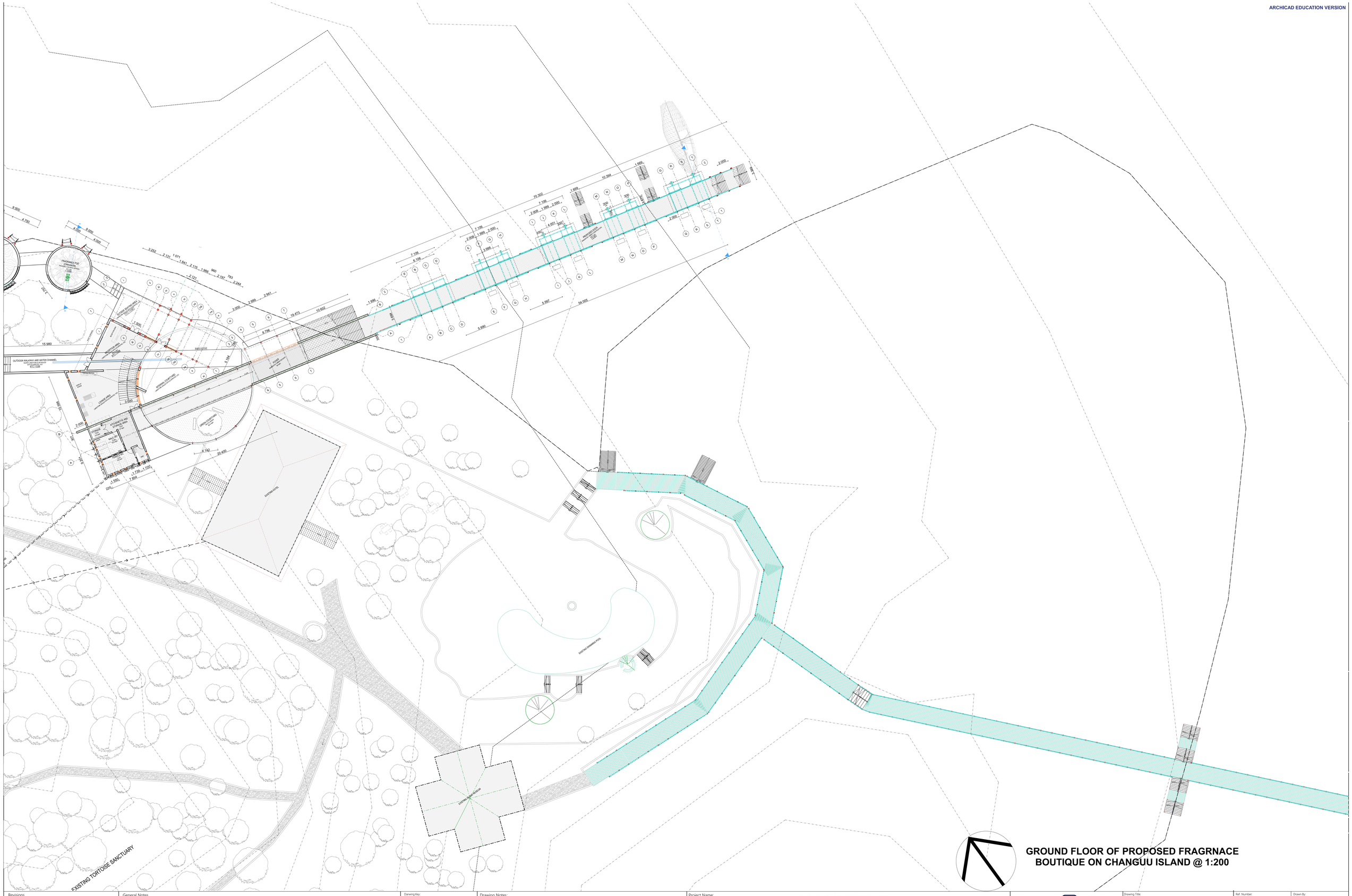
Department of Architecture, Architecture Building
Dean Street, 205 Nelson Mandela Avenue, Park West, BLOEMFONTEIN
9301

Drawing Title:

GROUND FLOOR OF PROPOSED FRAGRNACE BOUTIQUE ON CHANGUU ISLAND

Ref. Number: 2021	Drawn By: Muller Ferreira
Scale: 1:200	Student Number: 2015007061
Date: 2021/12/01	Checked By:
DPW Drawing Number: Working Drawings A100.0	Rev Number:

ARCHICAD EDUCATION VERSION



GROUND FLOOR OF PROPOSED FRAGRNACE BOUTIQUE ON CHANGUU ISLAND @ 1:200

Revisions	
Rev.	Description

General Notes

The contractor is to keep a full set of drawings the proposed site, the appointed contractor is also reliable for the correct setting out of the building on site with refence to boundary and building lines, contractor is to verify all differences in levels and measured dimensions on the proposed site and check correspondence between architectural and engineering drawings before undertaking any work. Figured dimensions to be used in preference to scaled dimensions, large scale details to be implemented where available, errors, discrepancies or omissions are to be reported to the architect immediately before any work is undertaken. These drawings are to be read in conjunction with structural engineers, civil engineers, mechanical engineer's or plumbing consultant's drawings were specified. All work and material used to comply with SABS standards and NATIONAL BUILDING REGULATIONS ACT 103 of 1977 and amendments thereto as well as the by-laws of the relevant local authority. All new construction HEALTH AND SAFETY Regulations to be strictly complied with.

Darwing Key:

Drawing Notes:

First of two ground floor plans illustrating the proposed design on Changuu Island.
Due to contour differences additional levels (floorplans) will be provided

Project Name:

TANTALIZING AROMATIC OBSERVANCE
FRAGRANCE BOUTIQUE

UNIVERSITY OF THE FREE STATE
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YUNIVESITHI YA FREISTATA

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NATURAL AND AGRICULTURAL SCIENCES
NATUUR- EN LANDBOUWETENSKAPPE

Department of Architecture, Architecture Building
Dean Street, 205 Nelson Mandela Avenue, Park West, BLOEMFONTEIN 9301

Drawing Title:

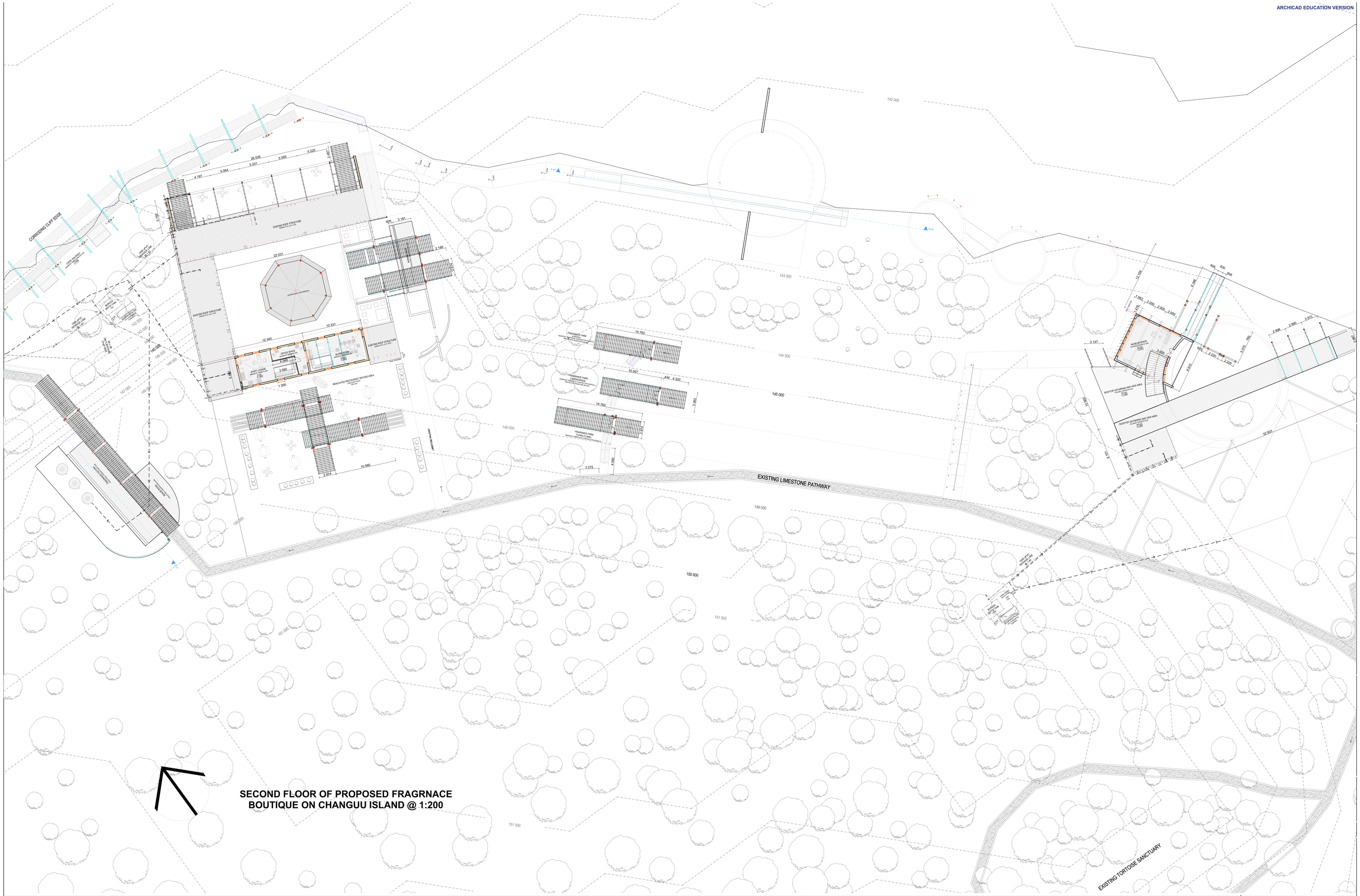
GROUND FLOOR OF PROPOSED FRAGRNACE BOUTIQUE ON CHANGUU ISLAND

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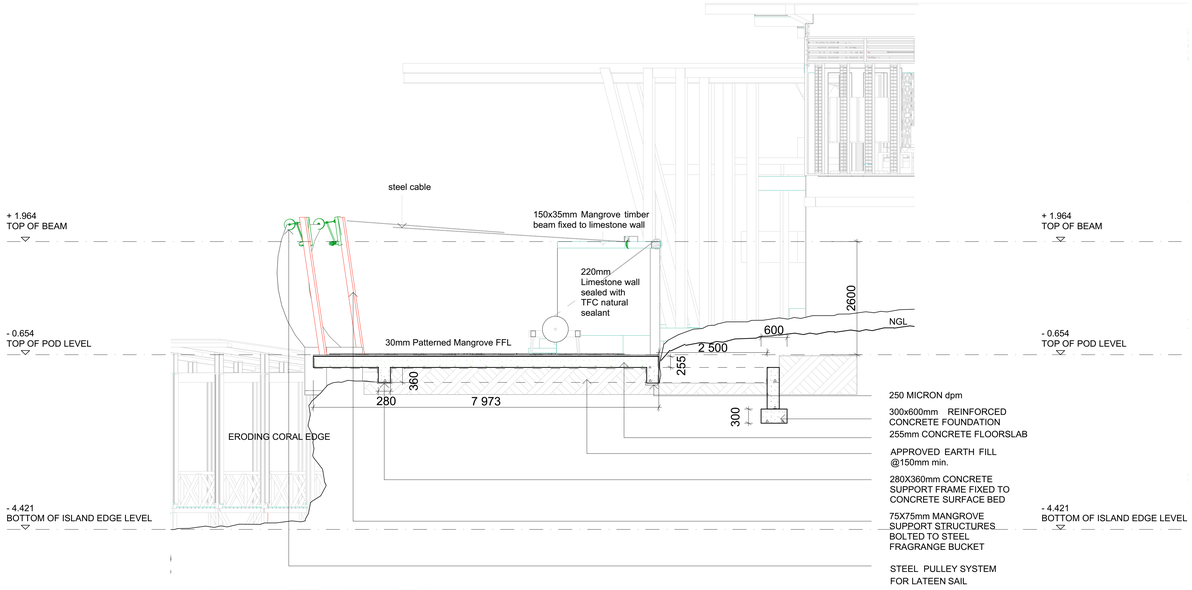
ARCHICAD EDUCATION VERSION


CORRODING CLIFF EDGE
EXISTING LIMESTONE PATHWAY
142 000
143 000
144 000
145 000
146 000
147 000
148 000
149 000
150 000
151 000
151 050
RENOVATED KITCHEN
KITCHEN DRY STORAGE
COLD STORAGE
LOUNGE
MALE WC
FEMALE WC
GREEN SPACE
EXISTING BAR
TOILET STORAGE
EXISTING PERGOLA
EXISTING INTERNAL COURTYARD
PROPOSED RESTAURANT RECEPTION
CONSULTATION SPACE AND SEATING AREA
DIRECTORS OFFICE
GATHERING SPACE
RENOVATED RESTAURANT SEATING AREA
OUTDOOR RESTAURANT SEATING AREA
LOWER AND SEATING AREA
FRAGRANCE FARM (CINNAMON)
FRAGRANCE FARM (LEMONGRASS)
FRAGRANCE FARM (YLANG YLANG)
KITCHEN ROOM
STORAGE ROOM
ABLUTION
ENTRANCE
RECEPTION
OFFICE
STORAGE
ABLUTION
KITCHEN
LOUNGE
BEDROOM
BATHROOM
STORAGE
OFFICE
RECEPTION
ENTRANCE
ABLUTION
STORAGE

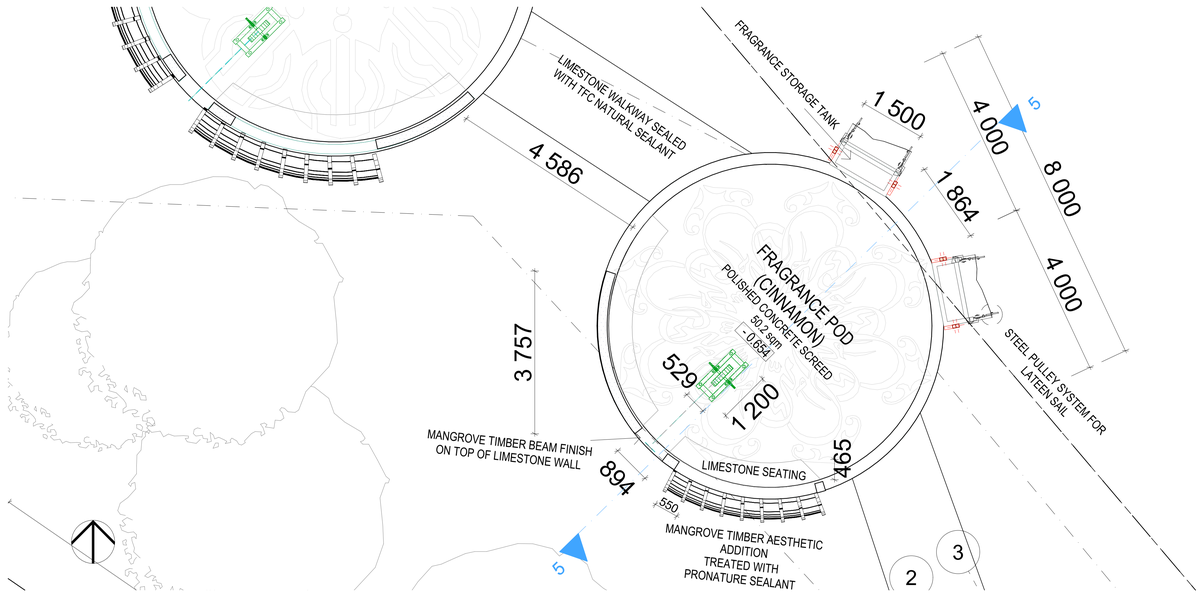
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CORRODING CLIFF EDGE
EXISTING ROOF STRUCTURE
EXISTING ROOF STRUCTURE
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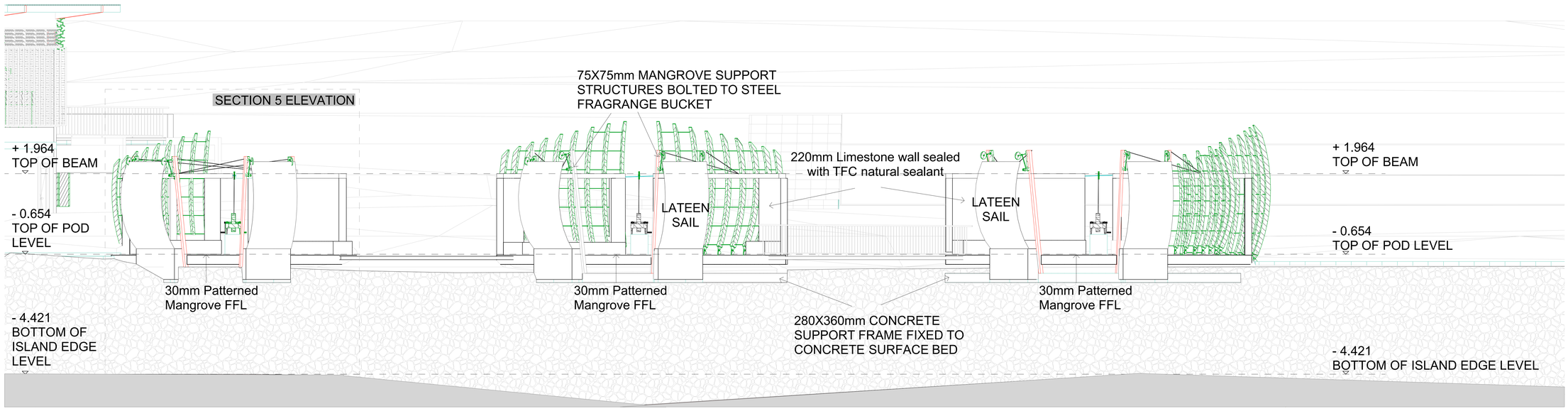
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SECTION 5 (CINNAMON FRAGRANCE POD) OF PROPOSED FRAGRNACE BOUTIQUE ON CHANGUU ISLAND @ 1:50



GROUND FLOOR PLAN (CINNAMON FRAGRANCE POD) OF PROPOSED FRAGRNACE BOUTIQUE ON CHANGUU ISLAND @ 1:50



NORTH-EASTERN ELEVATION OF PROPOSED FRAGRNACE BOUTIQUE ON CHANGUU ISLAND @ 1:50

Revisions

Rev.	Description

General Notes

The contractor is to keep a full set of drawings the proposed site, the appointed contractor is also reliable for the correct setting out of the building on site with refence to boundary and building lines, contractor is to verify all differences in levels and measured dimensions on the proposed site and check correspondence between architectural and engineering drawings before undertaking any work. Figured dimensions to be used in preference to scaled dimensions, large scale details to be implemented where available, errors, discrepancies or omissions are to be reported to the architect immediately before any work is undertaken. These drawings are to be read in conjunction with structural engineers, civil engineers, mechanical engineer's or plumbing consultant's drawings were specified. All work and material used to comply with SABS standards and NATIONAL BUILDING REGULATIONS ACT 103 of 1977 and amendments thereto as well as the by-laws of the relevant local authority. All new construction HEALTH AND SAFETY Regulations to be strictly complied with.

Darwing Key:

Drawing Notes:

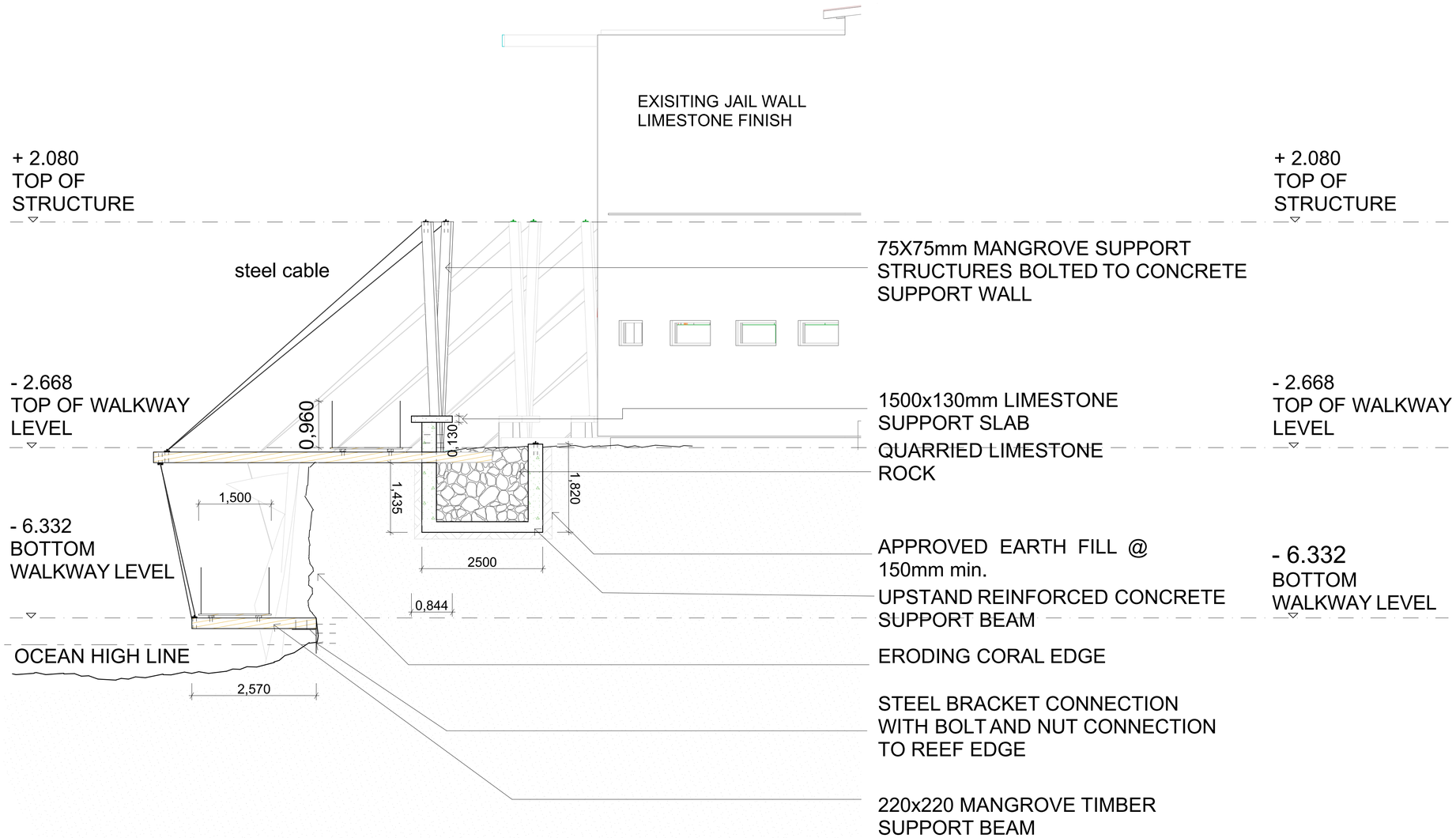
Project Name: TANTALIZING AROMATIC OBSERVANCE FRAGRANCE BOUTIQUE

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Dean Street, 205 Nelson Mandela Avenue, Park West, BLOEMFONTEIN 9301

Drawing Title: CINNAMON POD SECTION WITHIN PROPOSED FRAGRNACE BOUTIQUE ON CHANGUU ISLAND

Ref. Number: 2021	Drawn By: Muller Ferreira
Scale: 1:50	Student Number: 2015007061
Date: 2021/12/01	Checked By:
DPW Drawing Number: Working Drawings A400.1	Rev. Number:

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Revisions	
Rev.	Description

General Notes

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Darwing Key:

Project Name: TANTALIZING AROMATIC OBSERVANCE FRAGRANCE BOUTIQUE

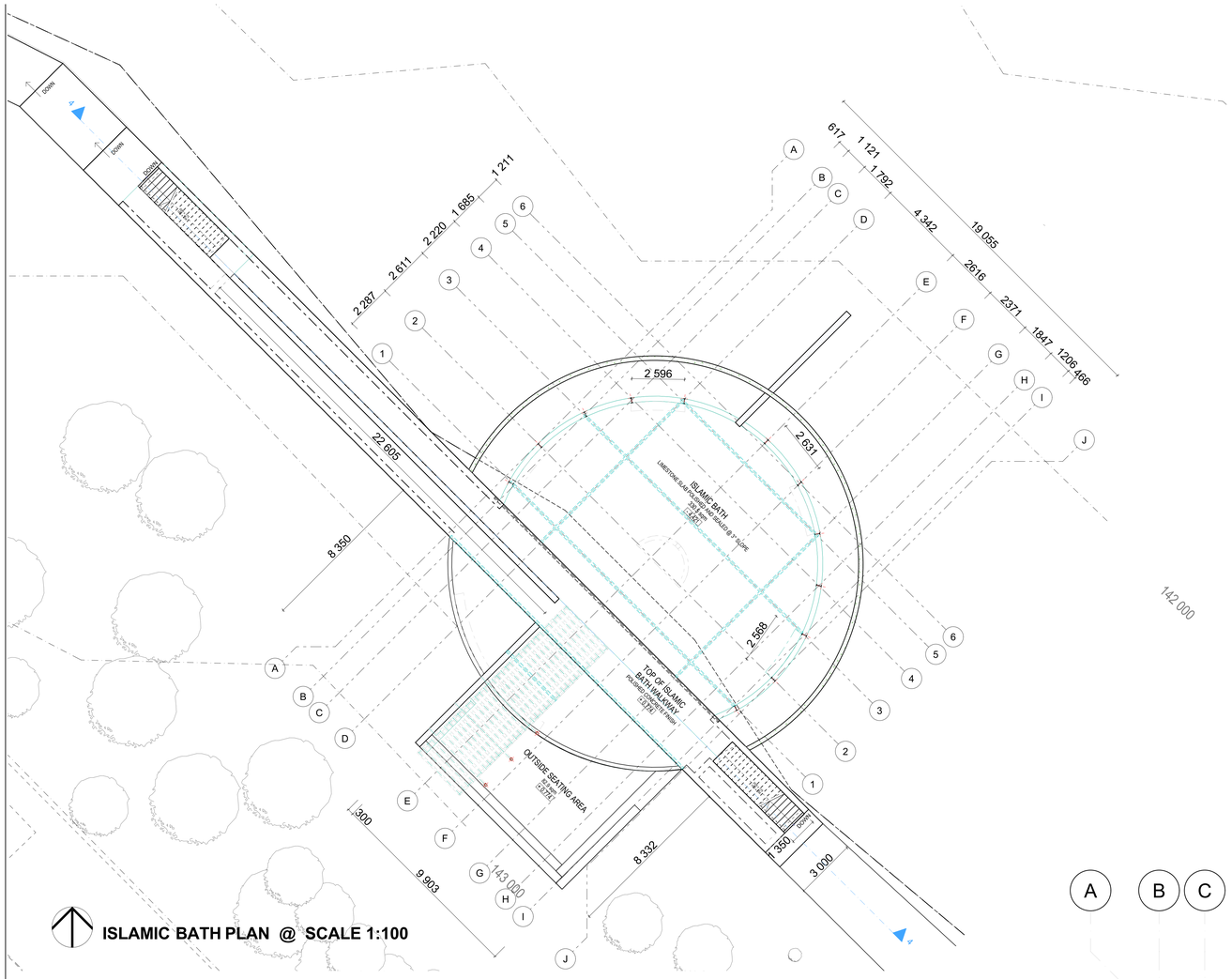
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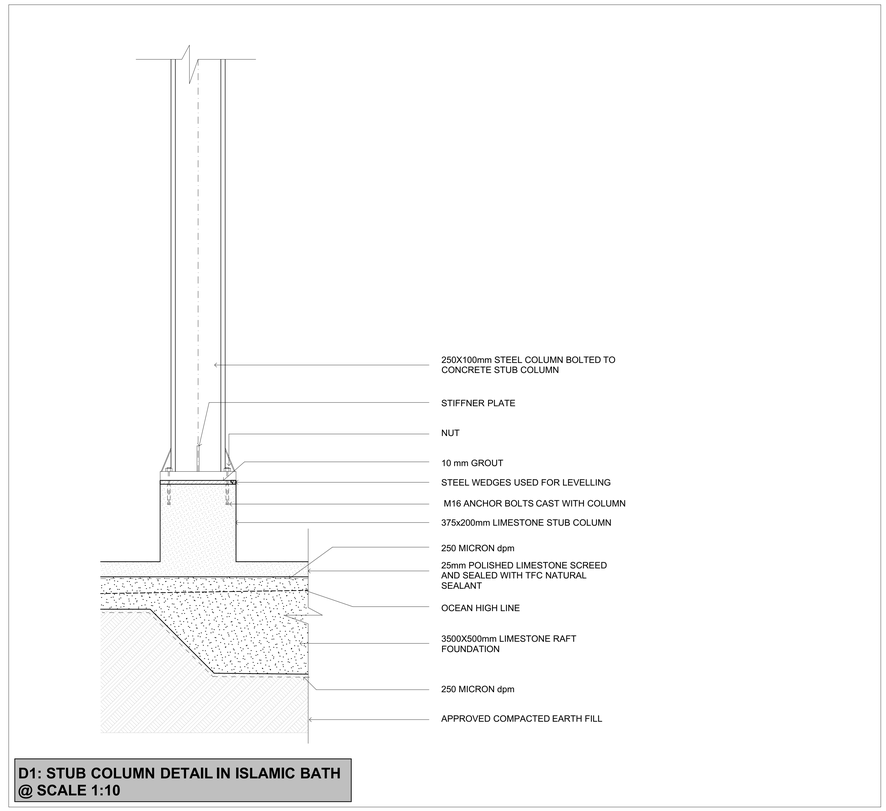
Drawing Title:
CORAL REEF WALKWAY SECTION WITHIN PROPOSED FRAGRNACE BOUTIQUE ON CHANGUU ISLAND

Ref. Number: 2021	Drawn By: Muller Ferreira
Scale: 1:50	Student Number: 2015007061
Date: 2021 /12 /01	Checked By:
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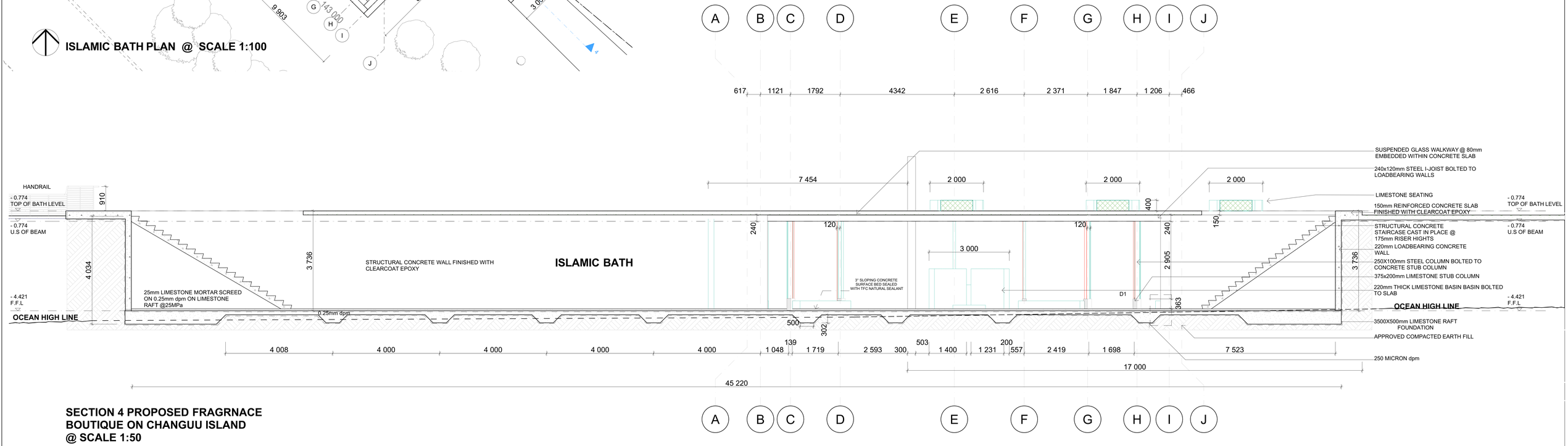
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ISLAMIC BATH PLAN @ SCALE 1:100



D1: STUB COLUMN DETAIL IN ISLAMIC BATH @ SCALE 1:10



SECTION 4 PROPOSED FRAGRNACE BOUTIQUE ON CHANGUU ISLAND @ SCALE 1:50

Revisions

Rev.	Description

General Notes

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Darwing Key:

Drawing Notes:

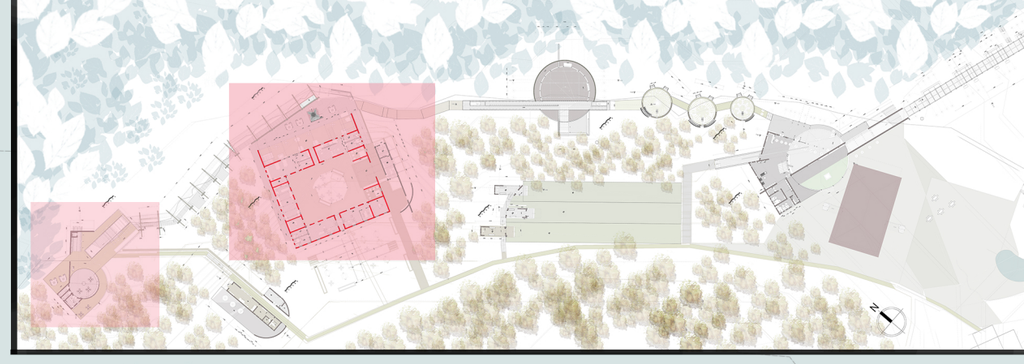
Project Name: TANTALIZING AROMATIC OBSERVANCE FRAGRANCE BOUTIQUE

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Drawing Title: **ISLAMIC BATH SECTION WITHIN PROPOSED FRAGRNACE BOUTIQUE ON CHANGUU ISLAND**

Ref. Number: 2021	Drawn By: Muller Ferreira
Scale: 1:50	Student Number: 2015007061
Date: 2021/12/01	Checked By:
DPW Drawing Number: Working Drawings A400.0	Rev Number:

Location on Site Plan



Key:

Fragrance Boutique shop

1. Unisex wc
2. Unisex wc
3. Fragrance Boutique Shop and drinks bar
4. Outdoor rest area and fragrance testing area
5. Outdoor seating area (Mangrove timber decking)
6. Reception and drinks area
7. Sitting area and viewpoint
8. Existing limestone walkway

Renovated Restaurant/Jail

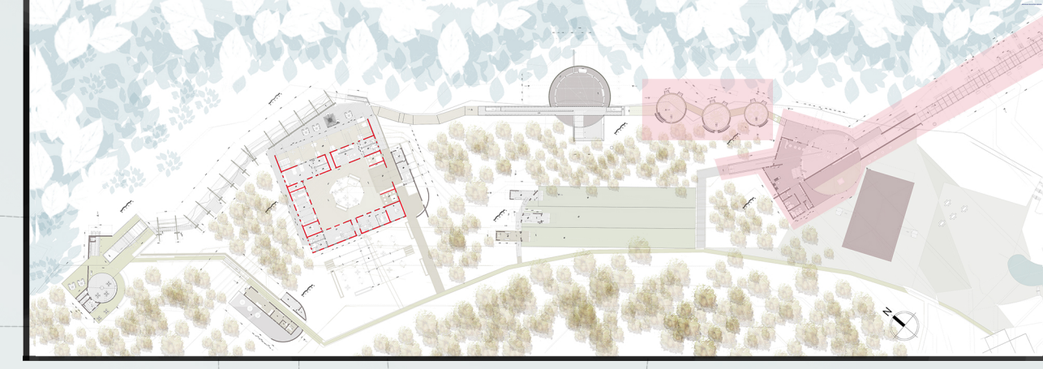
9. Directors' office
10. Sample room and fragrance testing space
11. New reception
12. Male wc
13. Female wc
14. Trolley storage facility and storage space
15. Existing bar
16. Dry storage space for kitchen
17. New kitchen
18. Kitchen washing facilitates
19. Kitchen cold storage
20. Newly proposed restaurant seating area
21. Guest lounge and rest area
22. Male wc
23. Female wc
24. Courtyard greenspace
25. Reception/entrance threshold with baraza seating (existing ruin)
26. Incense shop and coffee bar
27. Aroma testing/meditation space
28. Ylang–Ylang pod within farmland
29. Lemongrass pod within farmland
30. Cinnamon pod within farmland
31. Breakaway area located on upper walkway
32. Bottom walkway located within coral mine
33. Male wc
34. Female wc
35. Seating area and lounge
36. Lounge area
37. Outdoor veranda (threshold space before embarking on mangrove walkway through coral mine

Existng Jail as seen on page 170-171 of document (Part 4).

N

Partial Ground Floor Plan

Location on Site Plan



Key:

44. Lemongrass Fragrance Pod
45. Cinnamon Fragrance Pod
46. Outdoor veranda with barazas
47. Waterfall off building roof
48. Reception area
49. Lounge area
50. Courtyard (Interior)
51. Courtyard (green space)
52. Foyer
53. Storage Room
54. Male wc
55. Female wc
56. Kitchenet
57. New dock

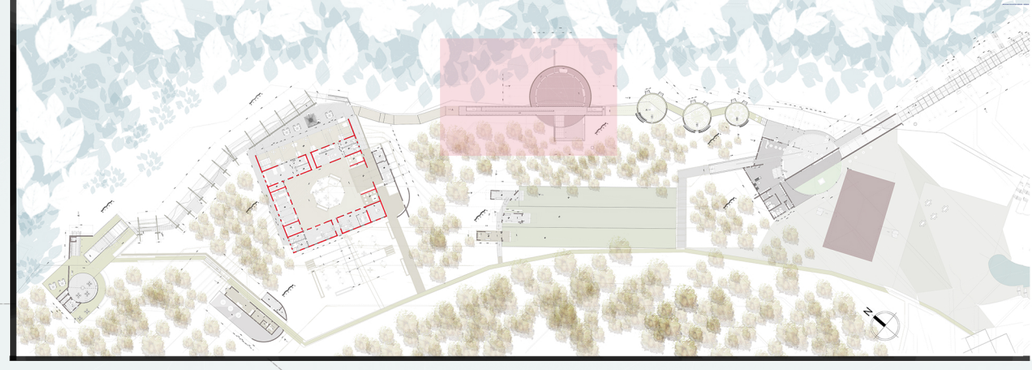
0 1 2 3 4 5

Outline of Existing Hotel

N

Partial Ground Floor Plan

Location on Site Plan



38.

39.

Islamic Bath

40.

41.

42.

42.

S-20

S-21

S-22

S-23

S-24

0 1 2 3 4 5

Key:

38. Limestone walkway
39. Bridge across Islamic Bath
40. Prayer and cleansing space
41. Seating area
42. Ylang-Ylang Fragrance Pod
43. Farmlands

N

Partial Ground Floor Plan

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CHAPTER 2

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