



transitional urban enclave

an arrival space for rural-urban migrants in Windhoek, Namibia.



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Declaration and original Authorship

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



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Dedication and Thanks

I would like to thank our Father in heaven, who instilled within me all I need to complete this journey.
My parents, for their unconditional love, support and encouragement. Without whom I would be lost.

To Matumelo, for taking care of me in my darkest moments.

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This dissertation is dedicated solely to Cai, my little rock and inquisitive helper.`

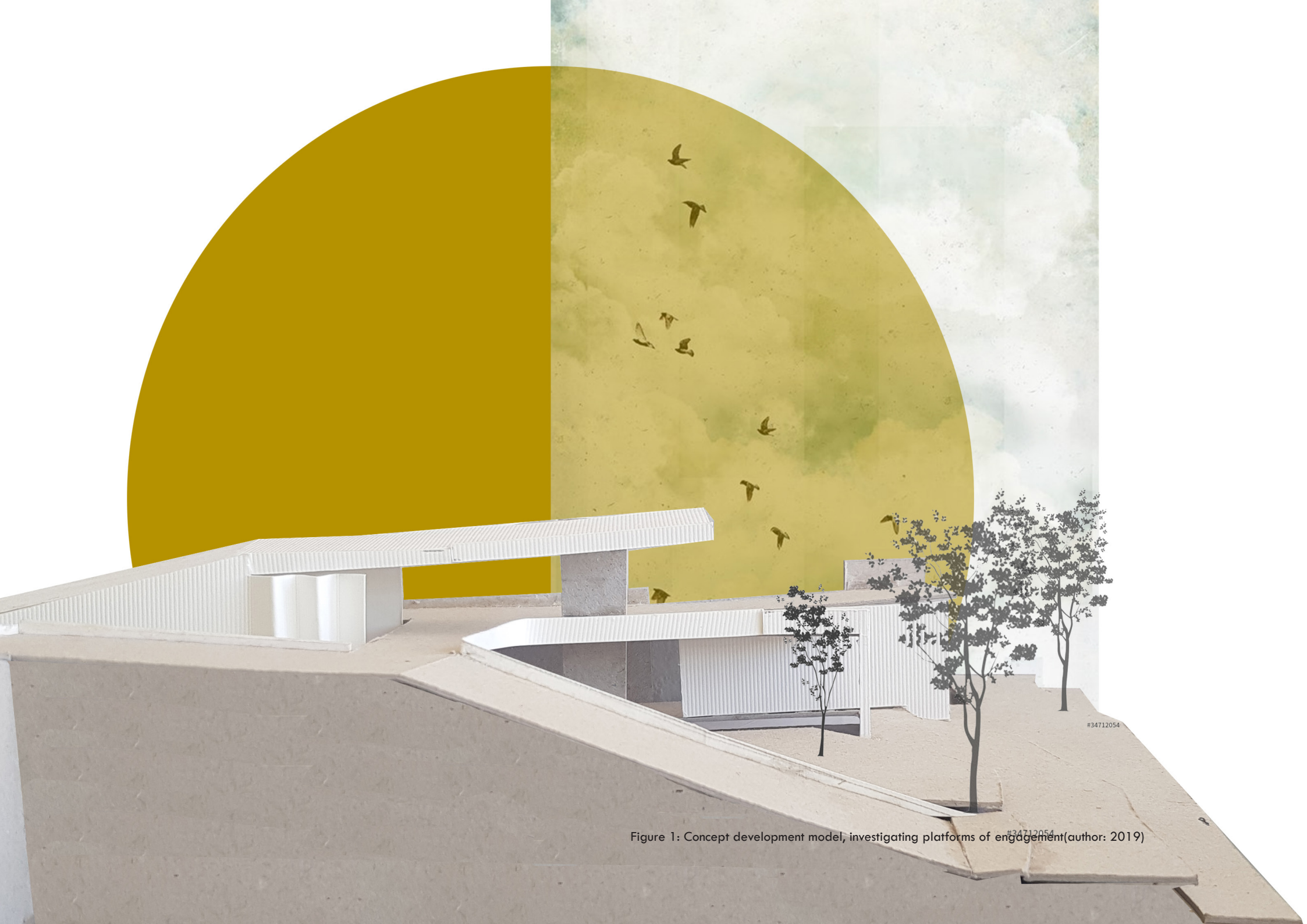


Figure 1: Concept development model, investigating platforms of engagement(author: 2019)

ABSTRACT

This dissertation stemmed from an interest in the homeless living within the city of Windhoek. Most homeless individuals in the city are rural-urban migrants; therefore an investigation into the creation of an architectural typology to counter the gap that exists between arrival and settlement within the city.

Cities are places of opportunity. People move from rural to urban areas for better socio economic conditions. Windhoek, being the hub of prospect in Namibia is a magnet for migrants. Though once individuals arrive, some experience immediate feelings of displacement and isolation, due to a lack of skills, education, income and security. They struggle to find employment, which adds to the unemployment statistics. This leads to some resorting to crime, alcohol, drug abuse or ending up homeless.

Due to the constant pull factors migration is an incessant practice, rendering urbanization timeless. Therefore this research document intends to counter this inclination through preparedness. It explores how architecture can be a catalyst which can receive, prepare, house and release migrants into the city.

The delimitation of the study is to avoid being “another homeless Centre”, but instead a liminal space between opportunist and opportunity. The site is situated within the dynamic Independence Avenue within the CBD of Windhoek, Namibia.

“...MIGRATION IS AN INCESSANT PRACTICE, RENDERING
URBANIZATION TIMELESS.”

1

ORIENTING THE PROJECT

INTRODUCTION
DOCUMENT FRAMEWORK
PROJECT SUMMARY
PROBLEM STATEMENT
RESEARCH METHODOLOGY

2

PART 1:

1.1 SITUATING THE PROJECT

- 1.1.1 Rationalising Migration
- 1.1.2 Ravenstein's Laws of Migration
- 1.1.3 Adapting the Great Migrations to the Namibian context
- 1.1.4 The Red Nomads of Namibia
- 1.1.5 Theorising Migration
 - The In-Between: Hybrid Communities within a migrant Society
 - Street as Threshold of Opportunity
 - Countering Exclusion: Theoretical Analysis of Arrival

1.2 TYPOLOGY

- 1.2.1 The Client
- 1.2.2 The User

1.3 TOPOLOGY

- 1.3.1 Introducing the site and its context

1.4 MORPHOLOGY

- 1.4.1 Influences on design resolution

1.5 TECTONICS

1.6 RESEARCH QUESTION

3

PART 2:

EXPLORATION AND GROUNDING

2.1. CONCEPTUAL DEVELOPMENT:

2.1.1 Touchstone

2.1.2 Concepts

2.1.3 Conceptual Framework

2.2 TOPOLOGY

2.2.1 Macro Site Analysis

2.2.2 Meso Site Analysis

2.2.3 Micro Site Analysis

2.3 TYPOLOGY

2.3.1 Client Profile

2.3.2 User Profile

2.3.3 Precedent Explorations

2.3.4 Accommodation List

2.4 DESIGN METHODOLOGY

4

PART 3:

DESIGN DEVELOPMENT AND TECHNICAL SYNTHESIS

3.1 MORPHOLOGY

3.1.1 Overview

3.1.2 The Shape of Migration

3.1.3 Hybridity

3.2.1 Design Approach

3.2.2 Design Iteration 1

3.2.3 Design Iteration 2

3.2.4 Design Iteration 3

3.2.5 Design Synthesis and Development

3.2.6 Final Design

5

PART 4:

REFLECTION

REFERENCE LIST

ADDENDUM

APPENDIX

INTRODUCTION

Interest in this topic arose from the impulse to design a space for the homeless. Most homeless individuals in the city of Windhoek are rural-urban migrants. Persons who have departed from their place of birth, in search of a better life. The project is therefore acutely rooted within the concept passage.

In the African context moving from one point of your life to the next, pertains to conversion. A ritual, initiating you into this next phase, marks this evolution. (Turner, 1967:94) When young girls get their period for the first time in Nama tradition, this signifies their transition from a girl to a woman. This event is inducted by separating you from the group, whereby you are then placed in an isolated hut where you are to stay until the first cycle of your menstruation has come to pass. Thereafter you emerge along with song and dance by the group, celebrating your coming of age and welcoming you back into society. (Goagoses: 2019) Optimistically one hopes for migrants to be welcomed into the urban society similarly, with inclusion and revel (figuratively) into their new home.

This ceremonial conversion contains the concept of rites of passage. Explained as, "... rites which accompany every change of place, state, social position, and age" (Turner, 1967:94). Passage into the city will therefore be explored in terms of liminality, how individuals move within this transient stage, changes/improves and emerges/departs prepared for the city.

When a traveler (migrant) leaves home they leave behind their families, social network, roots, their entire comfort zone and venture into the unknown (Figure 2). The excitement of this new beginning within urban areas quickly fades when confronted with feelings of displacement and isolation. The city is described as a cold and selfish place, one where you have to "eat as fast as you can so that you can get more than others eating from the same plate" (Watson, 2007: 67). An environment, which is fast-paced, full of competition, has no sense of mutuality or a warm welcome. Therefore, urban life is exemplar of individuality, paradoxical to that of rural areas, places advocating community.

This individuality creates isolation and displacement, leading to people scouring only to satisfy their own needs. With nowhere to go and unemployed, they resort to crime and alcohol abuse. Arrivals may find themselves worse off than before reaching the city in some instances, though too embarrassed to turn back home a failure, they stay and face the challenge ahead.

The proposed centre intends to offer a platform for growth and interaction with fellow migrants, creating a hybrid trans-community, where safety and security replaces feelings of exclusion, entrapment and anxiety. Functionally, it will house an information point, vocational skills training, a resource centre, community kitchen, and a transitional residence. The building in itself becomes the in-between, which frames, shelters and supports this state of transition. Although a liminal space, the building is anchored by a monolithic structure, suggesting its permanence. The lighter tectonic structure hovering over the central spine pertains to flexibility and lightness in concept, representing a typology for individuals in transition.

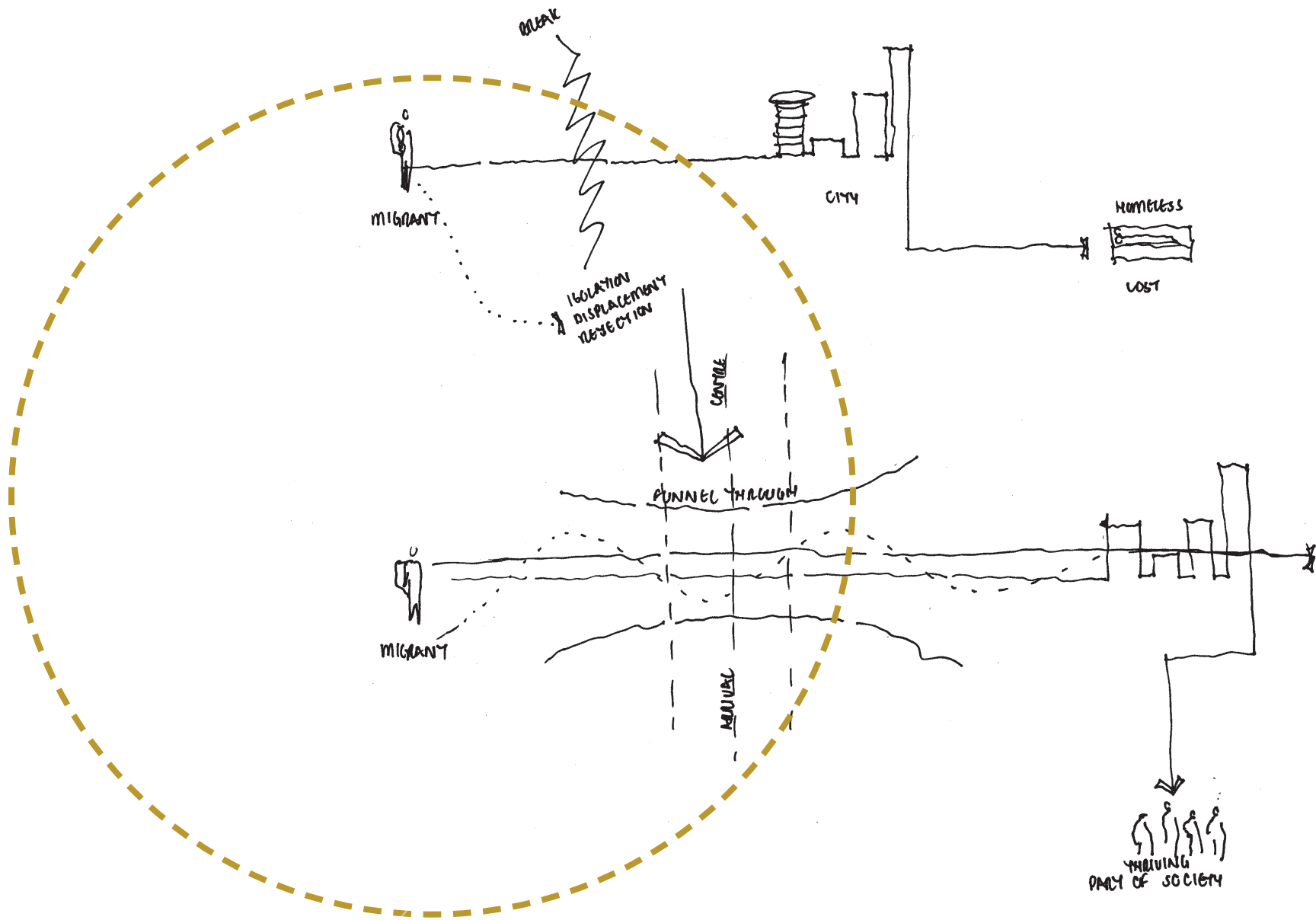


Figure 2: Sketch indicating project aims (author: 2019)

DOCUMENT FRAMEWORK

PART 1

SITUATING THE PROJECT

Part 1 demarcates the project rationale and background, by orienting the reader with migration, as the issue at large in the context of Windhoek, Namibia. Its causes, effects, benefits and drawbacks. We additionally look at theory relating to the practice of migration (Historical references etc) and its linkage/influence on design.

PART 2

EXPLORATION AND PROJECT GROUNDING

In this section the influence of site, context and its parameters are explored. By way of in-depth macro and micro site analysis. Here investigation into precedents and suited case studies are done as well as topic specific research which would serve to inform the design.

PART 3

DESIGN DEVELOPMENT

This section dives into the design process; it shows the synthesis of research conducted and the resolution of project aims in relation to topology, typology, morphology and tectonics. It documents every model, sketch, iteration, informant and idea which summates the final design.
(Rationalization/conceptualization of design development of parts 1 and 2)

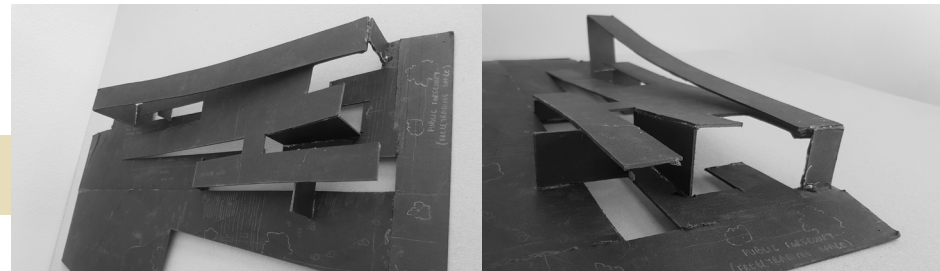
PART 4

REFLECTION

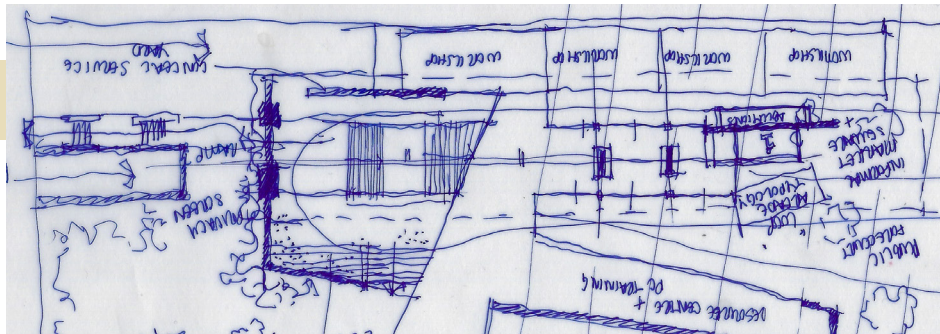
Lastly, an honest personal reflection on the project. Questions into whether the initial intent (aims and objectives) of the project was fulfilled, where shortcomings exist, how solutions were incorporated and the overall conclusion.



AIMS: GATHER AND GUIDE



AIMS: GROUND AND EXPRESS



AIMS: DEVELOP AND EXPOSE

AIMS: APPRAISE AND LEARN



Figure 6: *A Constant State of Migration* by artist Dustin Yellin (Bartunek, 2019: online)

1 SITUATING THE PROJECT

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Figure 7: Project summary collage (author: 2019)

PROJECT SUMMARY

Program:	Civic Service (Tourist Information) Public Space, Training Centre, Soup Kitchen, Resource Centre, Transitional Residency
Site Description (Location):	Independence Avenue, Windhoek CBD, Namibia
Site Coordinates:	22°34'11.22" S 17°05'03.25" E, elevation 1677m
Client:	Goshen Christian Group, Namibia Training Authority (NTA)
Users:	Goshen Staff, NTA Staff, Rural-Urban Migrants, Homeless living within the city, Tourists, Small scale traders, entrepreneurs
Architectural Theoretical Premise:	Investigating passage into the city with architecture as mediator/facilitator.
Architectural Approach:	Design of a public interface by way of a walkable platform which lifts user off the street and guides one using a rail (and facade, shared tectonic component) into the centre. The intent is to extend the street, filter, funnel and guide users, allowing them to transition and transform through their journey.

PROBLEM STATEMENT

The objective is to create an architecture of orientation and access. A space of transition, where architecture is the mediator between the rural and urban, bridging the gap of the in-between, whilst serving as the in-between. The shift of humans from rural to urban areas is a non-ending process, due to opportunities presented by cities. Urbanization is thus eminent. Failure to account for the influx and mismanagement of migrants moving into the city leads to resentment, rejection, and exclusion. As such people retreat to the peripheries. Here overcrowding, alcohol abuse, homelessness, and crime take precedent. This passage into the city is thus explored by way of readiness, preparation, and inclusion.

HYPOTHESIS

Migration manifests itself in the creation of a specific architectural typology, the same way this migration has shaped and created cities; it is hypothesized that it will formulate a specific architectural typology for a transitional urban space. This space is where great cultural and economic hybrid society will be birthed.



Figure 8: Ovahimba Migrants (New Era, online:2016)



Figure 9: Homeless evicted from the Museum (The Namibian, online:2019)



Figure 10: Countless faceless children on the streets (New Era, online:2018)

RESEARCH METHODOLOGY

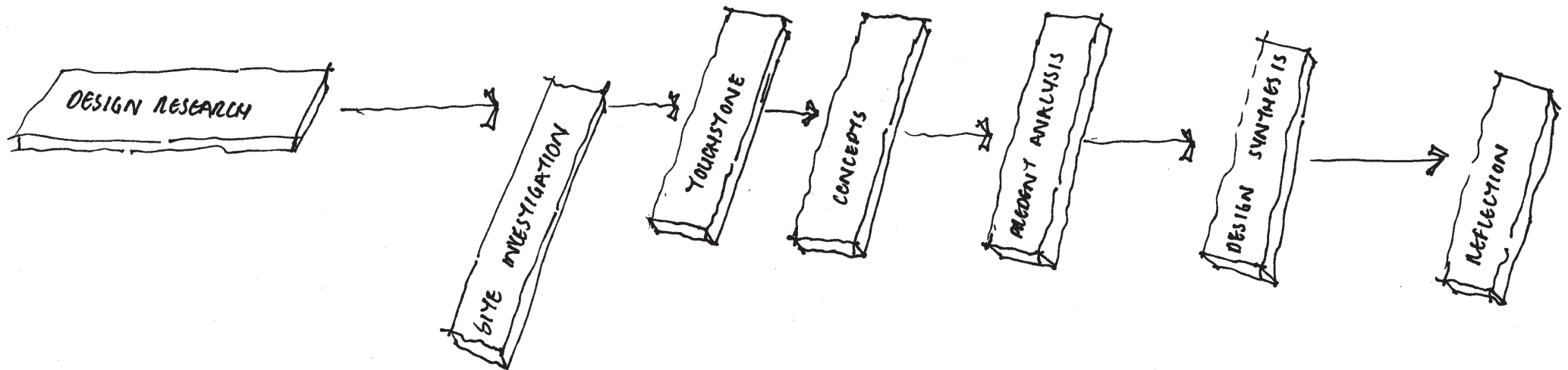
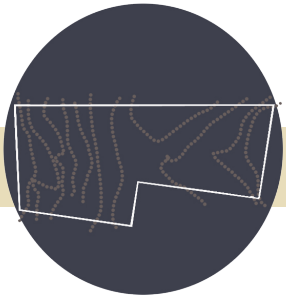


Figure 11: Research Methodology diagram (author: 2019)

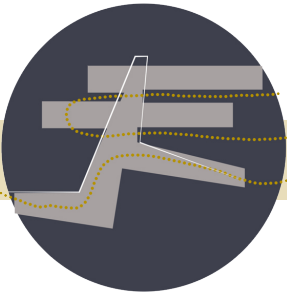
This document is compiled by way of four elements:



THE SITE

•Topography:

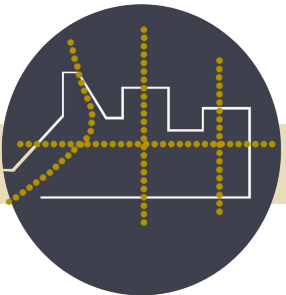
Pertaining to the physical site and its parameters. The tangible features, which presents opportunities as well as challenges.



THE FUNCTIONS

•Typology:

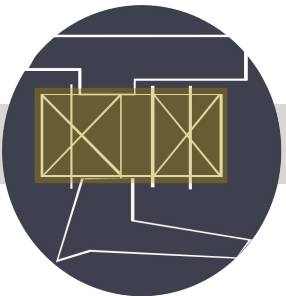
The amalgamation of these various functions housed within building. Creating space for the intended user, as best suited in accordance with aims and conceptual ideas. Exploring suited examples to inform the design



THE FORM

•Morphology:

Spatial formation (design synthesis) related to the topography as well as functional requirements of the building.



THE STRUCTURE

•Tectonics:

Physical manifestation of the conceptualized pieces of the building. A technical investigation into services, circulation, structure, detailing, sustainable intentions and material selection.

1.1: THEORETICAL EXPLORATION AND GROUNDING

In this section the influence of site, context and its parameters are explored. By way of in depth macro and micro site analysis. Here investigation into precedents and suited case studies are done as well as any necessary research which would serve to inform the design

PART 1: SITUATING THE INVESTIGATION (THEORETICAL PREMISE)

RATIONALISING MIGRATION

There is nature and there is man. Then there is man within nature, living harmoniously and thriving. In order to achieve the latter, man is to adapt to his surroundings. Survival means overcoming his environment by hunting and gathering plant substance for nourishment. Man lived on what he could hunt, plant or later farm, catering only to his direct needs and that of his family. When the resources were scant, they migrated, allowing the earth to replenish itself for future generations.

As human beings evolved, so did their needs. People continually relocated searching for cyclical available wild plants and greenery, where animals roamed to sustain themselves. Mobility was thus considered the most efficient practice for survival. This way of life is known as nomadism (Sneath, Humphrey, 1999:179).

Nomads are individuals who are always on the go, tracing movements of animals by foot, donkey or horse. Their housing structures were as such flexible and easy to move with. Migration, therefore, is one of the oldest practices for survival.

RAVENSTEIN'S LAWS OF MIGRATION*

1. Most migrants move only a short distance.
2. There is a process of absorption whereby people immediately surrounding a rapidly grown town move into it and the gaps they leave are filled by migrants from more distant areas, and so on until the attractive force (pull factors) is spent.
3. There is a process of dispersion, which is the inverse of absorption.
4. Each migration flow produces a compensating counter-flow
5. Long distance migrants go to one of the great centers of commerce and industry
6. Natives of towns are less migratory than those from rural areas
7. Females are more migratory than males
8. Economic factors are the main cause of migration

*Adapted Ravenstein's; Law of Migration. (online) Available from: <http://www2.harpercollege.edu/mhealy/migrat/xp/mgraven.htm>



Figure 12: Mapping Namibia's Urban centres, (*Political Map of Namibia (online)* edited by author)

ADAPTING THE GREAT MIGRATIONS TO THE NAMIBIAN CONTEXT

Lewis Mumford wrote about four great migrations. He explored how these movements of population created opportunity, and how to their rise was beneficial. (Mumford, 1925: 133) Below we investigate the great migrations in relation to Namibia.

As aforementioned, rural-urban migration leads to urbanization, and Namibia alike is urbanizing at an intensive scale. In 2011, the Census showed that 43% of the national population is now living within urban areas. Windhoek is the main core of this urbanization, as the city is occupied by 16% of the national population and 36% of all urban population (Pendleton, Crush & Nickanor: 2014: 193).

Most rural-urban migrations into Windhoek are from the northern parts of the country, still largely pastoral land. Before the country's independence citizens were not allowed to freely migrate within the country, due to controls enforced by colonialists and the apartheid rule. The black population specifically, was kept outside of the city, (Pendleton, Crush & Nickanor: 2014: 194) though when apartheid rule ended, an influx of rural-urban migration was set in motion, increasing the population from 96000 to 147000 by 1990 (Fig 13).

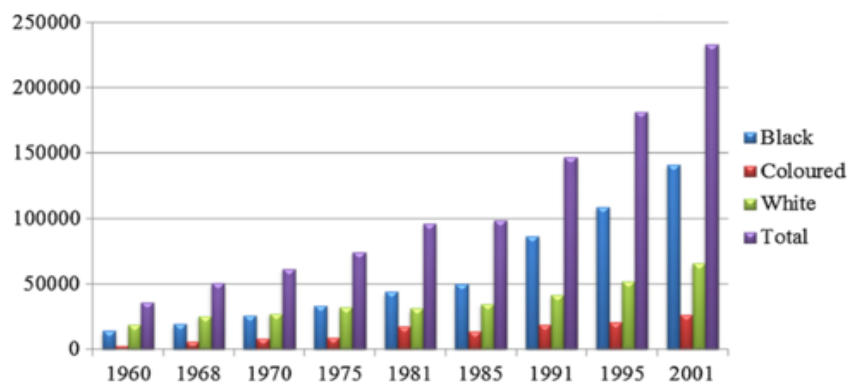


Figure 13: Graph of population density (Pendleton, Crush, Nickanor: 2014)

Windhoek is the country's economic core. Where half of the manufacturing occurs and 80% of finance and business exists. The city is made up of a thriving central business district, with office buildings, malls, and apartments. The north and south peripheries of the city are largely industrial (Fig 12). Architecturally, the city's aesthetic has traces of the German Colonial period as well as fragments of its apartheid history. The city is a blend of Africanism and post-colonialism.

Beautiful and clean, the city is afflicted by 60% of its population settling within informal settlements, on 25% of the land. These areas are overcrowded, with no infrastructure or sanitation. The negative effects of urbanization here are attributed to ill planning and mismanagement. These areas, however, are zones where potential new hybrid communities sprout; within the sight we perceive as chaos a certain order exists. Marginalization and stigma remain drawbacks, making development slow.

Migrants make up 60% of Windhoek's population, as per 2011 census (Pendleton, Crush & Nickanor: 2014: 194) Due to the capital city being the main centre of opportunity, migration for better circumstances is common. Everyone with skills or specific qualifications migrate to gain employment, live in better conditions and prosper. The marginalized unskilled also move but end up on peripheries, falling into less than adequate standards of living, while they too, moved in search of improved socio economic conditions.

People from towns and villages within the southern, eastern regions of the country, move to escape the poverty and racial inequalities instilled by both Germany and South Africa during their occupation of the country. These towns were created in order to support white commercial farming, with the inhabitants being used as cheap sources of labor for these farms. The areas remained undeveloped, even after independence, despite efforts from the government to improve infrastructure.

In addition to underdevelopment, drought and flooding is a major concern in rural areas, forcing people out of their homes toward the central areas of the country. Risk management systems have been installed however, to counter these disasters and upgrade living conditions within these rural areas (Olivier, 2015: 13).

The first great migration as highlighted by Mumford (Jaime, 2014: online) was by pioneers who settled on the continent. Still very much nomads, they slowly converted to pastoralism as they adopted farming. As technology improved, the second migration saw people leaving farmlands and migrating to nearby towns, in search of work, along with stable living conditions. Towns like Windhoek, Gobabis, Otjiwarongo, Walvis Bay and Oshakati experienced an influx of people moving inward. During the third migration, two main cores of the country experienced a population boom; Windhoek and Oshakati. Drawing people to their metropolitan centers, perceived as two financial cores of the country. Oshakati may not be as developed as Windhoek in terms of its planning and infrastructure, though in accordance with the business affluent, it serves as an attractive core.

Technological advancements catalysed the development of peripheries, bringing forth the fourth migration, where decentralization of Windhoek's great metropolis transpired. The population spread to the outskirts where gated community living became attractive, in areas such as Elisenheim, Finkenstein, Omeya, Harmony Centre and Herboth's Blick. Urban concentration was therefore minimized, causing the city to become a dead space after everyone retreats home for the day. That is until the "fifth migration" as coined by Robert Fishman (Fishman, 2005:360) presented itself.

The fifth migration predicts the re-urbanization of our cities, as living units are being built on infill spaces within the city or old apartment blocks are refurbished. (Fishman, 2005:360) The main force of this re-urbanization is from the pull factors of "endless possibilities" drawing immigrants to the city, densifying city blocks once again. Cities facilitate an exchange of opportunities, complex skills, information and social interactions, which are all attractive to rural dwellers. To conclude, we see how migration occurs several times over, for various reasons though all leading towards more urbanized spaces as opposed to rural. The effects of migration in Namibia indicates a shrinkage of rural population in relation to the fifth migration, and sees urban areas population increase from 43 percent (2011) to 67 percent in 2041. (Olivier, 2015: 14)

Migration empowers previously disadvantaged groups through skills transfer, access to health and education to previously disadvantaged groups. The practice of nomadism (migration) therefore became elusive as technological advancements provided the tools for building dense city centres or towns. This created spaces of security where one could settle long-term, create a home and build a family. However, once a drastic unfavorable event such as retrenchment occurs, a family may have to move elsewhere where better prospects exist. Nomadism as such never truly dissipates, but rather changes the mode in how often it may occur and under what means. Living arrangements in this type of setting becomes more semi-permanent, as properties are rented instead of own (economic temporality due to the volatile state of the economy), enabling one to pack up and move at any time. Migrants of this nature are labeled as "economic refugees" (Sassen, 2016: online).

The more people move into the city, the more development, even in small quantities. The renovation of multiple buildings along the dynamic Independence Avenue spine attributed to gentrification, limiting the urban experience to the wealthy solely. Juxtaposed to that of traders establishing themselves along with the planter boxes on the sidewalks. They make a sale to the middle-class user passing by. Here it is evident that even small-scale entrepreneurs have a space along the spine, in particular, small scale traders like the Ovahimba tribe's migrants.



THE 'RED NOMADS' OF NAMIBIA

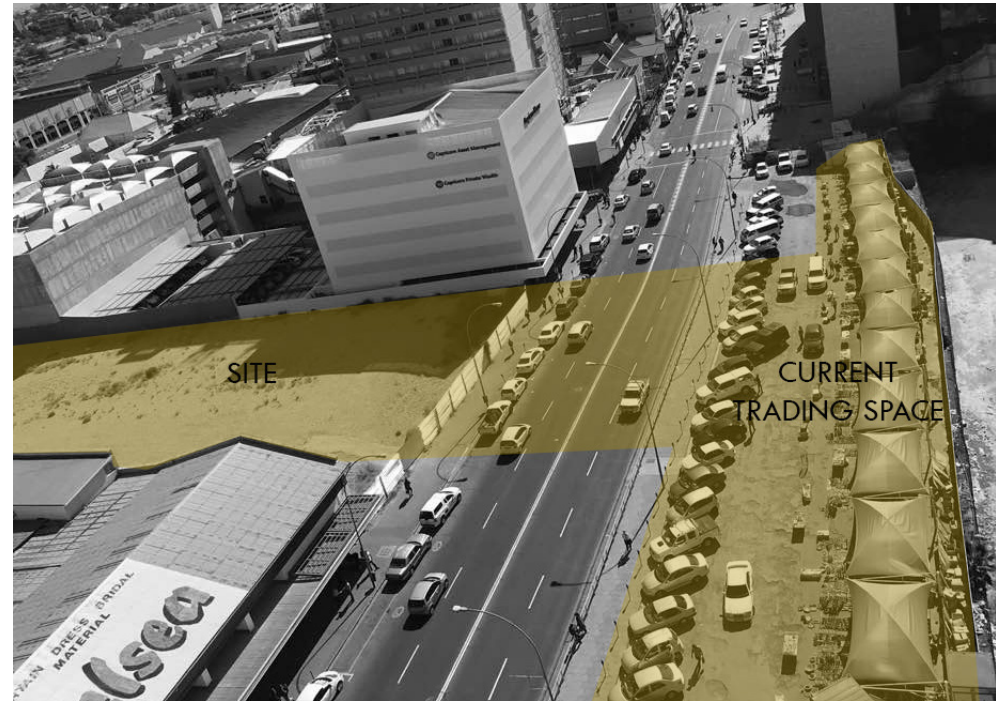
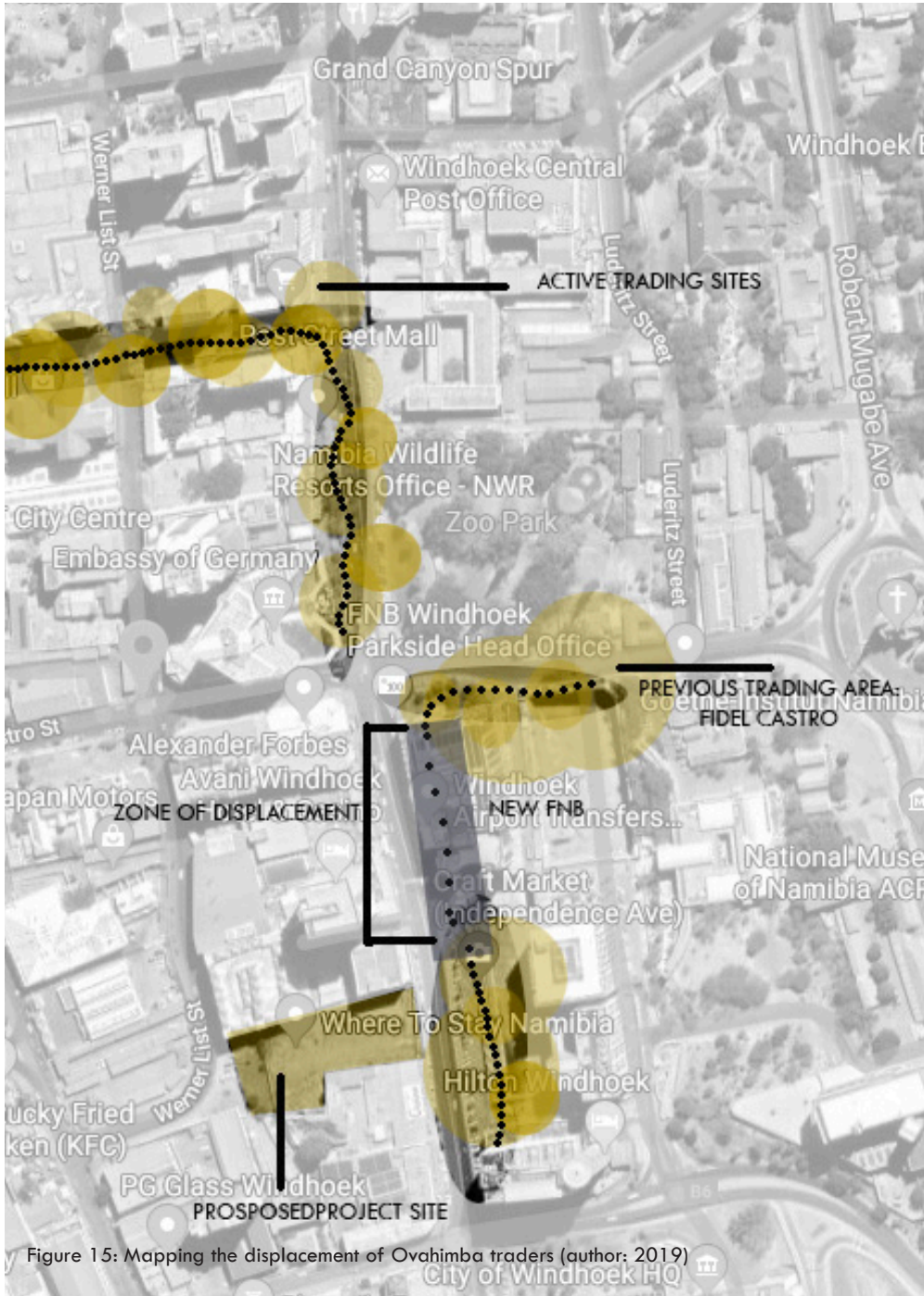
The Ovahimba (Himba) tribe of Namibia are semi-nomadic pastoralists who settled along the northwest in Kaokoveld. Traditionally the tribe lives on zero income, measuring wealth merely on their livestock. The tribe herds cattle; goat and sheep, plus additionally grow crops to sustain themselves. (Duerschmidt, 2019: online)

Himbas have successfully sustained themselves over the years and retained their cultural identity and way of life, uninfluenced by the modern world. This changed, however, when drought hit Namibia. During dry seasons, the domesticated animals would be taken to remote grazing grounds whilst part of the family stays behind, revealing their semi-nomadic lifestyle. A bigger drift of migration hit this group however when some of them moved to Windhoek in search of a better life. With no education or specialised skills training, most of them ended up as street vendors, selling crafts along Post Street Mall and Independence Avenue, which is a hotspot for tourists.

The main area they inhabited was next to a tourist information centre, in Fidel Castro Street, adjacent to Independence Avenue. They were displaced from this trading spot when the construction of the new First National Bank of Namibia commenced (Fig 15). The designers demarcated concrete benches to them, which they were to self-appropriate. Unfortunately, after the construction of the bank, restaurants opened next to this public space, swallowing up the entire zone for their use. Forcing the tribe to move down in Independence Avenue, occupying a parking lot in-between the bank and the Hilton Hotel. Here they trade on the harsh tar surface of dilapidated potholes. Construction of Freedom Plaza will once again displace them, therefore the proposed centre provides trading space for them to use.

The displacement of the Himba traders in this way is reminiscent of how migrants, regarded as "outsiders", are similarly pushed onto peripheries or mentally marginalized due them not belonging. Creating a space, which celebrates and provides orientation and passage would optimistically change this phenomenon.

Figure 14: Ovahimba Traders at previous trading settlement area (Flicker: online)



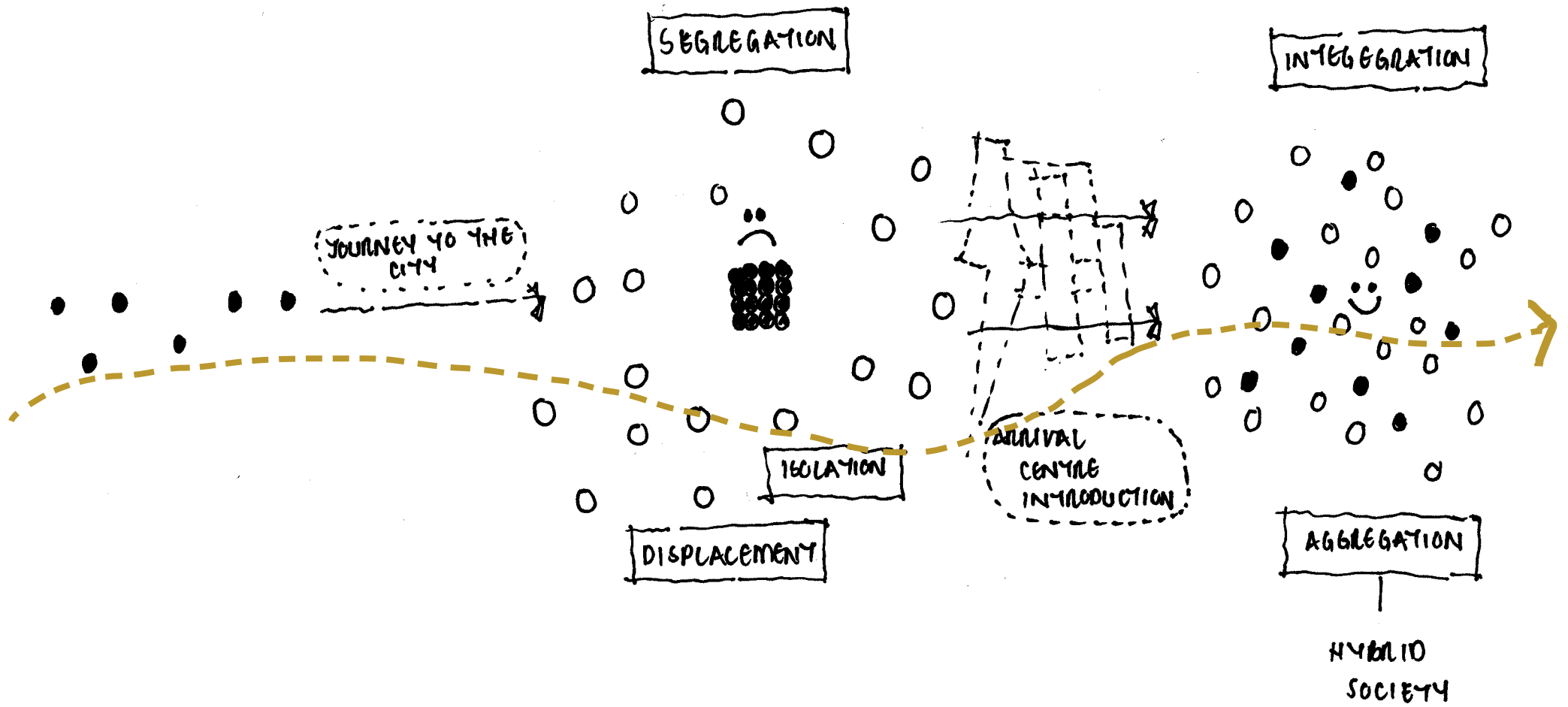


Figure 18: Diagram of diaspora integration-creation of a migrant society (author : 2019)

THEORIZING MIGRATION

Perceive a vast space in nature, one where as far as you can look, all you see is endless ground and vegetation. The sight can be overwhelming, have you feeling lost as there is no clear demarcation of here and there, or boundaries defining space. It is boundless and infinite. Without any marker indicating direction or framing a specific area, one has no way forward or backward. You are trapped and isolated in space.

Cities with no definite centers to receive new arrivals to the city appear as boundless wilderness to the newcomer. As more and more people arrive the influx leads to a multitude of lost individuals forced onto the peripheries where the cheapest accommodation exists within informal settlements. Within these settlements overcrowding, uprisings and sanitation issues affect the occupants. Raising more issues by the day, due to the failed treatment of arrivals into the city. This creates urban communities of individuals who feel trapped, excluded and resentful (Saunders, 2010:12).

Migration should not be dismissed as a background act, even where no understanding exists due to the refusal to face and counter it. A space where orientation and purpose can be found persists. Where migration can be understood, catered for and facilitated within a carefully bounded space.

This bounded space is expected to create a hybrid community for the diaspora, giving rise to a new diverse migrant society.

THE IN-BETWEEN: HYBRID COMMUNITIES WITHIN A MIGRANT SOCIETY

Man is continually in motion in order to overcome his environment, to gain triumph over his circumstances. In the same way that architecture has been instilled to overcome the natural by way of shelter (Eisenman, 1988:566). Architecture in itself does not only represent this triumph, but it is the triumph. We thus perceive architecture as the mediator, which creates a platform for the facilitation of overcoming the natural.

Overcoming the natural in this context concerns easing into the rural-urban transition. By way of a centre introduced within Windhoek's CBD that acts as a frame which shelters, supports and incubates migrants during their transition. An arrival space; bounded by clear edges, signifying evolution from unskilled to skilled, prepared individual.

Within this space social orders are blurred, the deconstruction of self is centre stage as one un-becomes who you are, in order to evolve. This transient humility of "modelessness" (no status), is where you shed what you are or once were, to become what you are to be. Shedding your previous identity during this separation from society whilst within the in-between.

Individuals are separated from society in order to evolve, suggesting discriminating factors of liminality. Why must one be separated from society and thereafter only aggregated? The intention is not label migrants as unworthy of being in the city, or to marginalize or isolate them, but to create a safe space of inclusion within the in-between. It aims to psychologize the change, which comes with separation from one's place of birth. The creation of the in-between where transition occurs mitigates psychic strain, allowing migrants to feel safe while negotiating routes back to the outer world. Much like the separation that overwhelms an infant once separated from its mother, entering the "depressive stage" of ego, where child recognizes himself as separate from his mother (Kite, 2003:177-188). Maturation of the infant from this stage occurs by way of a transitional object, something the baby can cling onto easing transition. Here the creation of a new world occurs for the infant, totaling maturation. It is therefore within transitional spaces that we are able to construct "the beginning of our personal worlds." (Kite, 2003:181)

Transitional spaces in tangible form, progress from womb-like spaces, indicative of envelopment, providing safety and security onto arcades, porticos and loggias. This archetype is a common form found in Windhoek CBD (see figure 17, Old Mutual building, Windhoek), creating a space where you are neither here or there, seeing and be seen, and where you hinge on the interaction.

between outside and inside. These in-between zones are places of shade and rest, designed for protection from the harsh Namibian sun. Users can securely perceive the city and experience it whilst within threshold space. The in-between is bounded space defined by the edges but these edges are not finite. They are merely frames demarcating sacred space, (as opposed to limits) allowing safe navigation (passage) between them. Edges are porous and so give out and take in, encouraging positive exchange.

Frames (the building) catalyze elements (migrants). They do not close off but open up possibilities (Casey 2008:6) for the migrant. The frames set forth transition or evolution, in a defined space. The **in (you are here) – between (but not yet) – space (there)** as such is the arrival space. A ritual space for the rites of passage into the city.

As aforementioned, many people arrive in the city and settle in peripheries, as these are the cheapest areas to live. These spaces marginalize its communities setting them apart from the city. The concept of being “beside” instead of “being within” the city renders discrimination. It is explained as being beside, simply occupying the vicinity (periphery, margins) (Casey, 2008:6), but not actually being part of the city. Therefore the need to select a site within the city arose, creating a tangible in-between within the city, providing arrivals with first-hand familiarity of the city.

**SITE EDGES* AS LIMITS < IN-BETWEEN (TRANSITION) > EDGES* AS MARGINS/
FRAMES
*EDGES=ARCHITECTURE**

Edges and architecture (the in-between) are active presences of each other. (Casey, 2008:6) The one cannot exist without the other, without the in-between (architecture) an edge would be defining nothing, it would be in isolation. Same way migrants find themselves lost and in secluded without an arrival centre, the one needs the other to define its existence. Lastly, two rules which concern to edges (Casey, 2008:7):

- There is no “edge to edging” – Therefore, no final edge exists where the migrant is limited to.

- Secondly, the in-between has an “...an un-ending depth of its own”
 - Just as in life, evolution, transition, change, self-improvement has no end. It will never exhaust itself. Change is therefore not bound to the arrival centre, as even once the migrant leaves the centre venturing on his own into the city, his evolution persists. The in-between (transition) here is seen as infinite. Man is not reduced to the arrival space, but it shows traces of them having been there. (See Figure 22: Centre as frame and functionality of its edges.)

Change and development of the migrant is therefore extended beyond the centre and engrained onto the streetscape, seen as the main threshold of opportunity. Especially since the African city’s streetscape is one of exchange and opportunity. It is on this platform where the majority of trade, social interaction and performance if everyday ritual occurs. Independence Avenue in particular is a dynamic spine of activity, where the bustle of vehicular and pedestrian traffic is on an ultimate high. This street-scape is the domain where the in-between begins. Serving as the “...connective tissue that binds the seemingly oppositional daily lives and functions together, developing a new typology of public space.” (Comins, 2013: 7)

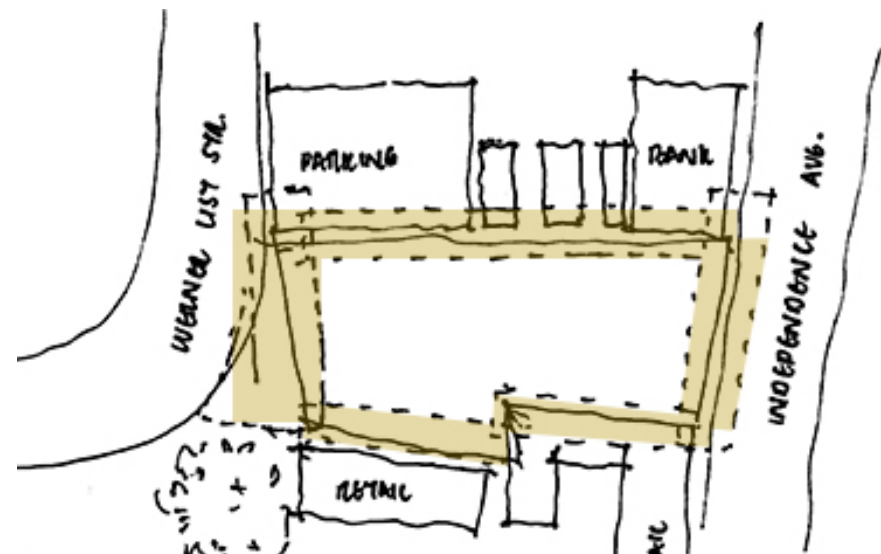


Figure 19: Edges of opportunity (author : 2019)

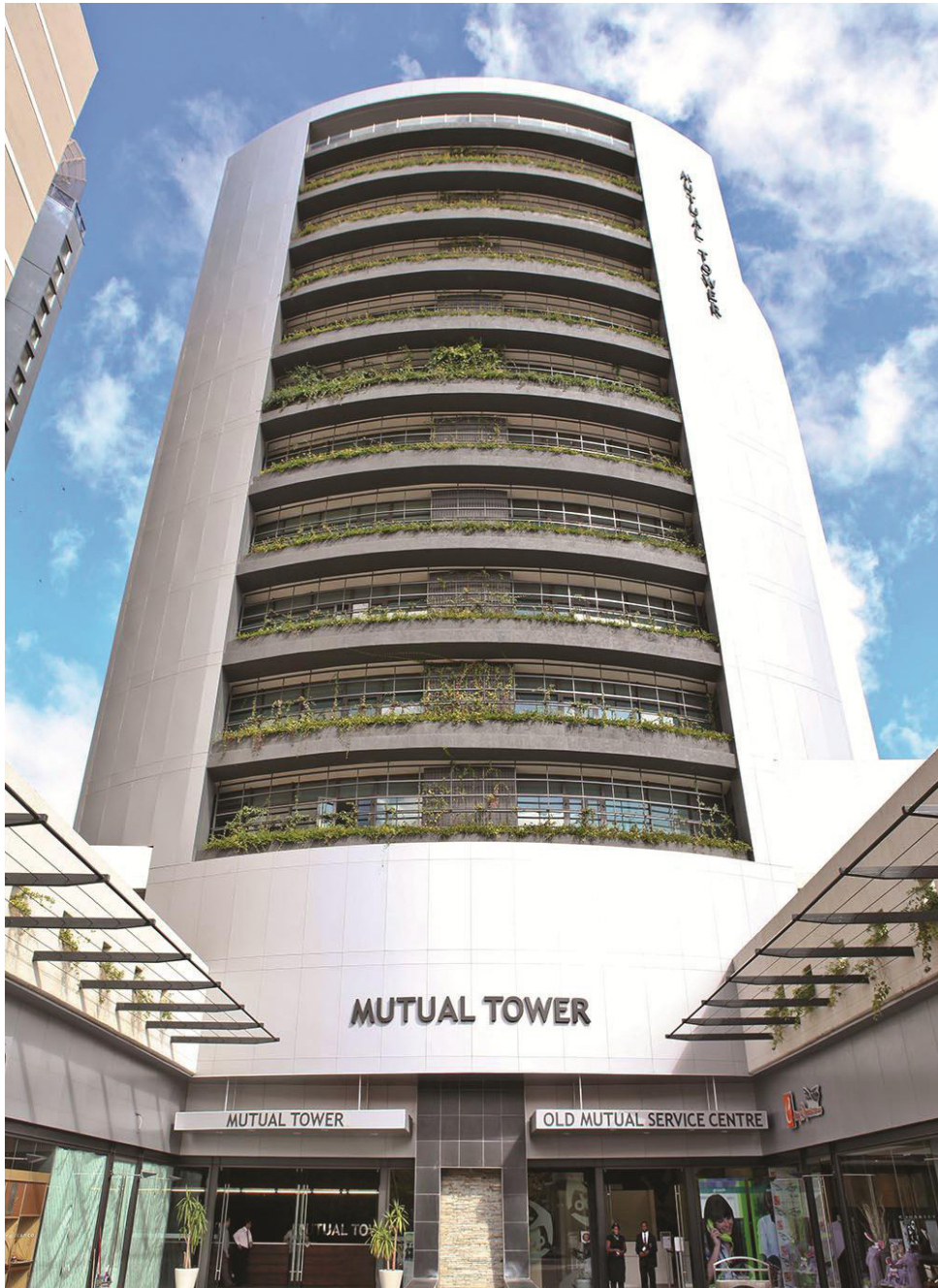
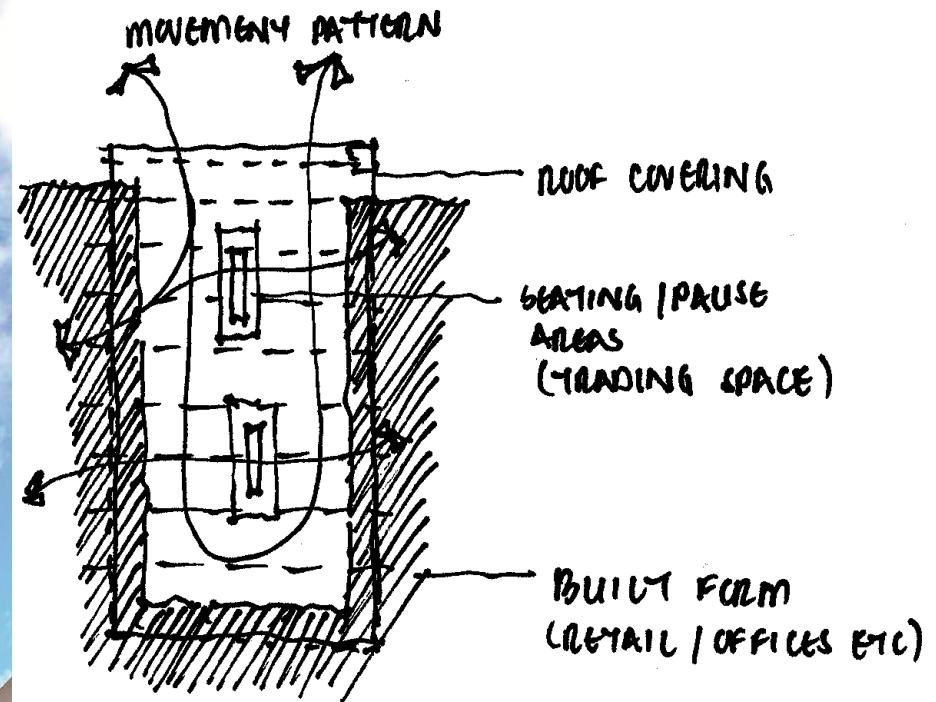


Figure 20: Mutual Tower Courtyard, Windhoek, Namibia (online : 2014)



'ARCADE' TYPOLOGY: SHADDED COURTYARD DESIGN —

- RETAINS COOL SPACE
- EYES ON "STREET"
- "LOOP" CIRCULATION

Above-Figure 21: Analysis of courtyard (author : 2019)

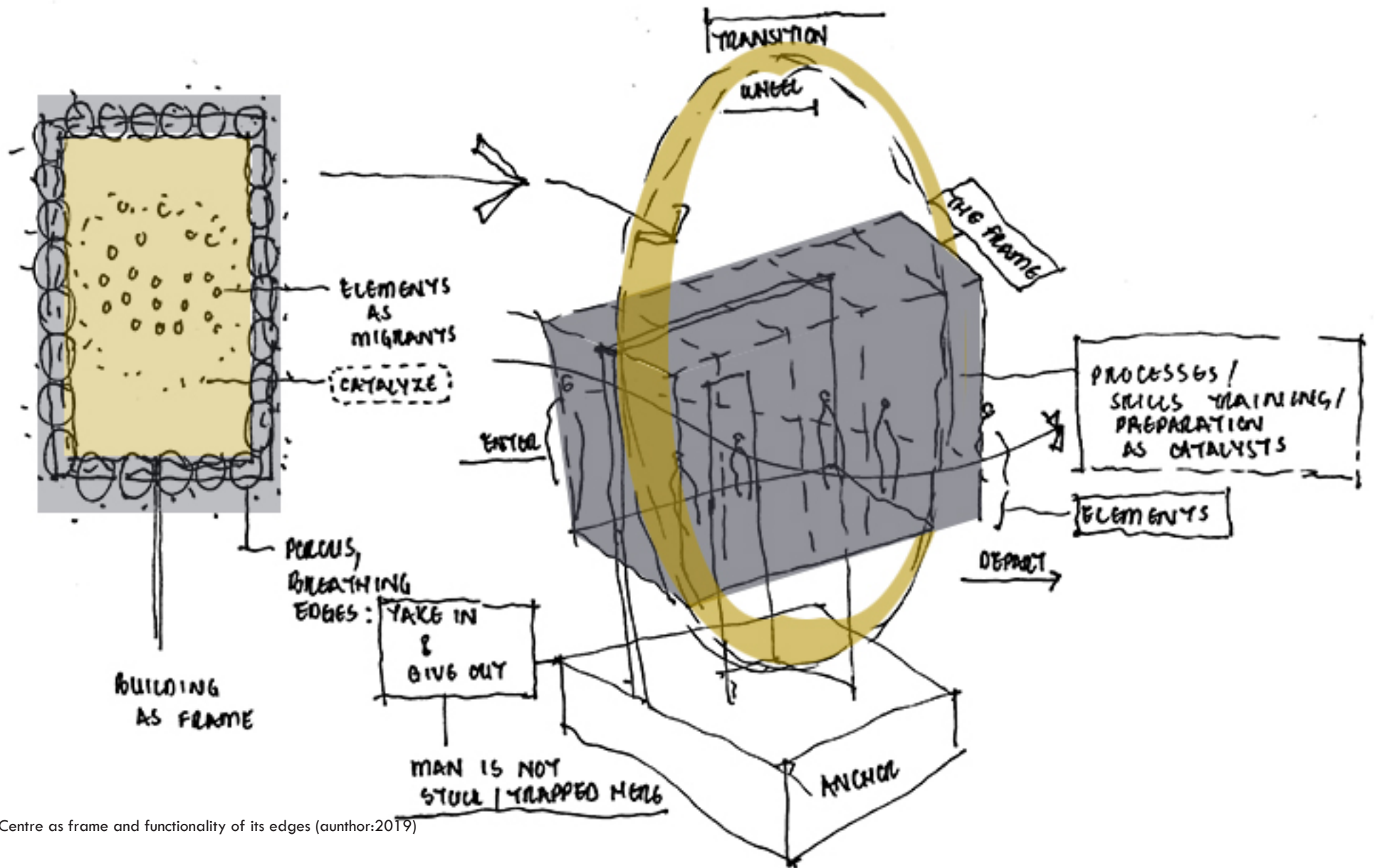


Figure 22: Centre as frame and functionality of its edges (author:2019)

COUNTERING EXCLUSION: THEORETICAL ANALYSIS OF THE ARRIVAL SPACE

Arrival spaces function as entry mechanisms. These spaces are usually found on peripheries where people settle and work their way into the city. Location in this regard breeds exclusion and a stigma of “us, and them”. An arrival space within the city grain thus geographically withstands this stigma and integrates itself and its users into the city. The space creates a network, which provides relationships, connection and security among fellow migrants and facilitators who aid transition. This network gives the enclave and its users an identity. (Saunders, 2010:39)

Additionally, the space serves as an entry mechanism as mentioned, providing cheap/free accommodation and assistance in procuring entry-level jobs. Thirdly, the space is an urban establishment platform; as it provides resources of skills, tools for entrepreneurship and fourth, a properly functioning arrival space provides a social mobility path. Into potentially permanently employed situations or incorporation into middle class or upper working class. An arrival space can thus be seen as a passage (corridor) into the city. Arrival space is a machine that transforms human, and if allowed to flourish, it can be the instrument that can create a sustainable world.

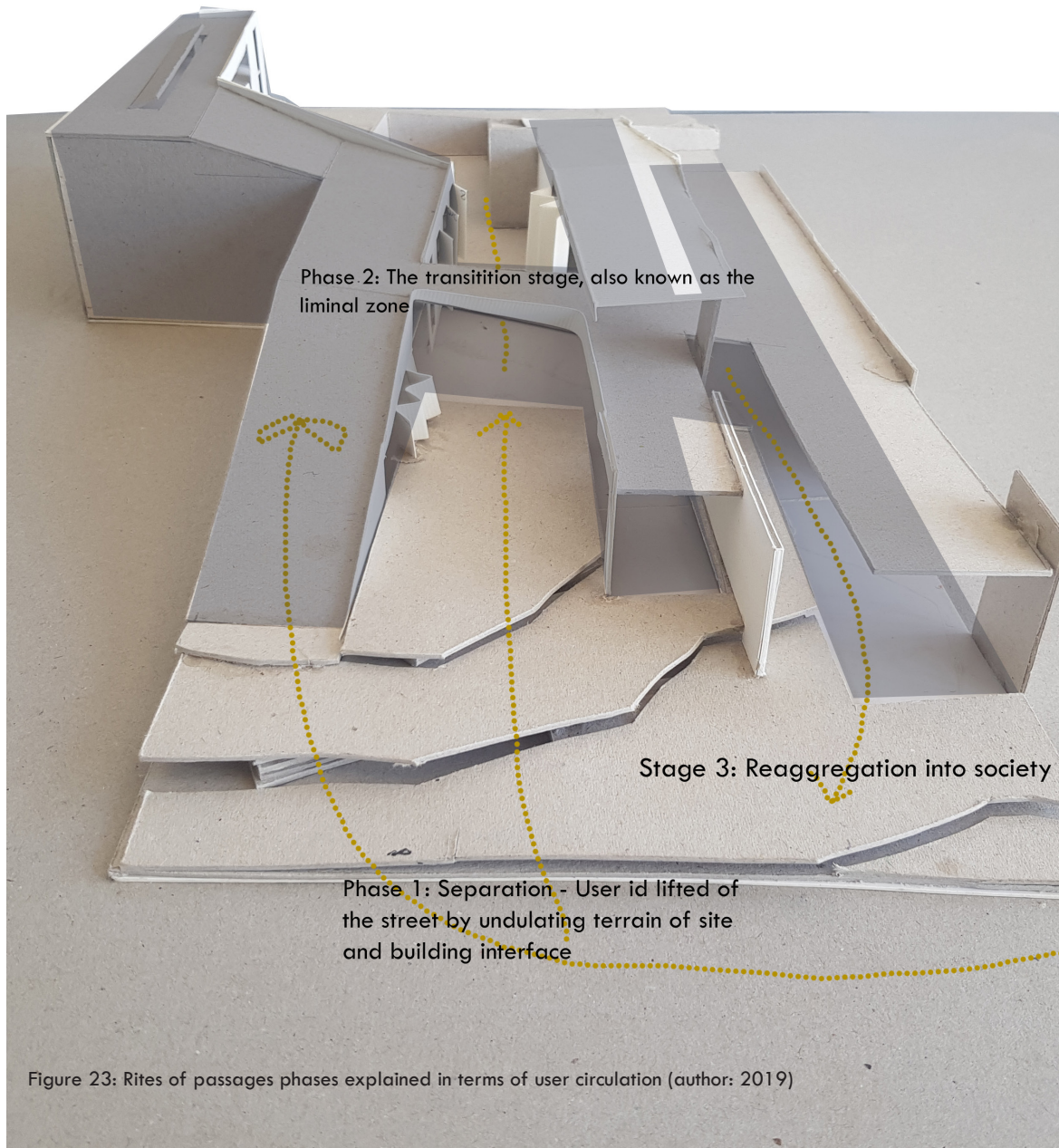
PASSAGE INTO THE CITY (EXPLORING RITES OF PASSAGE AND RITUAL THEORY)

When one moves from one event in your life to another, a change occurs. Rites of passage as defined by Van Gennep, are “...rites that accompany every change of place, state, social position, and age.” (Turner, 1966:94) Passage into the city set you in-between two determinate points as aforementioned, “being, yet not-being”. A ritual occurs which initiates you into this new chapter of your life.

“man’s most consistent and on the whole, his most successful attempt to remake the world he lives in more after his heart’s desire. But if the city is the world which man created, it is the world in which he is henceforth, condemned to live. Thus, indirectly, and without any clear sense of the nature of his task in making the city man has remade himself.” -Robert Park, (taken from, Right to the City, Harvey, D. 2008, p.1)

Rites of passage are sacred rituals; therefore their performance is formalised. This encounter can be seen as the training component of the centre, which are the skills transfer altering migrants (Fig 23). The space wherein this ritual of change occurs is sacred, and as such the space itself becomes the ritual. In the African context as opposed to Western ideals, all space is public, except that which is defined by a ritual, because all space has intrinsic symbolic values. (Van Rensburg, Da Costa, 2008:1) The centre retains a civic quality, rendering in-between spaces within the ribbons of transition, where the public is free to self-appropriate space for their use. Space is therefore occupied and conceptualized from within a dynamic position instead of a static one, symbolic of an ever-changing trading quality, drawing international visitors in to explore this hybrid environment.

The celebration of passage into the city is thus done on an urban stage (building platform), embracing new arrivals, and advocating “Ubuntu”. Sending a message to migrants that this is their home too. In our context, since all space is public, and owned by everyone, no one should actually be homeless. Yet due to colonialism, which encouraged segregation, a stigma of “us and them” persists. This is evident within the city planning (B1 highway separating poverty and wealth) and within man. Inferiority of this nature rejects those who are less fortunate; therefore this study intends to mitigate that. Moreover, everyone, irregardless of your social standing has a right to the city. Which not only projects access to urban resources but gives each of us the right to change ourselves, whilst changing the city. (Harvey, 2008: 6) The freedom to make and remake our world is a human right, not merely privilege.



Three phases in these rites of passage exist:

First, **Separation**, representative of a threshold. Here, users are separated from their previous (rural) identity. Users are lifted from the street upon arrival, by way of an undulating platform (ramp), extending the street, and plunged into centre.

Second: **Liminality** (transitional phase), the stage in-between two conditions, from where they departed and to, which they are to enter.

And lastly, **Re-aggregation/incorporation**, wherein the migrant is readmitted back into society along with their new "status" as city dwellers.

Figure 23: Rites of passages phases explained in terms of user circulation (author: 2019)

57% OF
NAMIBIANS LIVE IN
RURAL
AREAS

**BETWEEN 2001 AND 2011, THE URBAN
POPULATION GREW BY 49.7%**

**WHEREAS THE RURAL POPULATIONS SHRANK
BY 1.4%**



Summation of Migration statistics:
An estimated 57% of Namibians are settled within rural areas. Though by 2011 the urban population experienced a growth spurt of 49.7%, shrinking the rural population considerably. The urban population is expected to expand by 24% more in 2040 as compared to 2011.

IN 2040 **24%**
MORE PEOPLE WILL
BE LIVING IN URBAN
AREAS THAN IN 2011

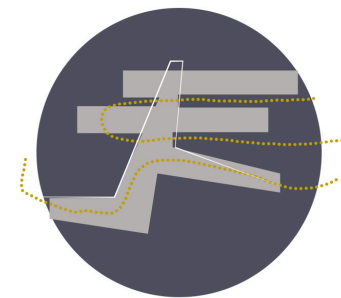
NAMIBIA'S POPULATION IS EXPECTED TO GROW BY **63%** BY 2040

**RURAL POPULATION
CONTINUES TO SHRINK**

Figure 24: Migration statistics adopted from Migration in Namibia Country Profile 2015 as per International Organization for Migration (IOM) (author:2019)

1.2 TYPOLOGY

Typology explores the functional aspect of the building. The investigation digs into a combination of various components: Information, training, residence and SME trading to configure a particular archetype.



THE FUNCTIONS

2.1.1 THE CLIENT

GOSHEN, also known as the Christian Community Development Organization is a non-profit organisation that was established under the Ministry of Poverty Eradication and Social Welfare, a ministry introduced in 2015 when President Hage Geingob was sworn in and had a cabinet reshuffle. The ministry has since developed components such as the Wealth Redistribution Blueprint, various poverty bettering projects such as the BIG Grant and recently the pilot of a project of a National Food Bank. In support of this, the centre will house a community soup kitchen which will serve 1-2 hot meals daily to the homeless and those residing within the centre.

GOSHEN advocates community advancement through skills training and entrepreneurial growth. The small medium enterprise trading component as well as co-working spaces relate to this. The NGO also does winter clothing and food drives to cater to those less fortunate with support from donors and sponsors.



Figure 24: Goshen Staff (Goshen 2017:online)

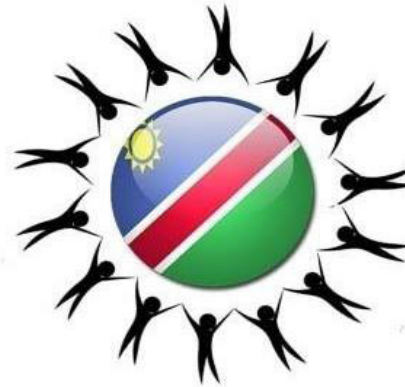


Figure 25: Goshen Logo (Goshen 2017:online)

2.1.2 THE USER

Goshen Staff, NTA Staff, Rural-Urban Migrants, Homeless migrants living within the city, Tourists, Small Scale Traders and Entrepreneurs



Figure 26: Ovahimba Traders in Windhoek (New era, 2018:online)



Figure 27: Homeless already living within the city of Windhoek (The Namibian, 2019:online)

PROBLEM STATEMENT RELATING TO TYPOLOGY

INITIAL BRIEF

Within exploring a typology fitting of the needs denoted by the brief, delimitations and aims, this generated a hybrid building; enveloping a community transition centre, entrepreneurial spaces, skills training, counseling spaces, and temporary residency. Community transition centre will house everything needed to transition onto a better life path.

DELIMITATIONS OF STUDY

The idea is to not design “another homeless”, as most homeless centres are created in response to a problem, this alternative typology intends to counter a problem before it expands. Challenges with homeless centres:

- Discrimination – for those with mental illness or the LGBTQ community. Or just because you are homeless you are stigmatised and some spheres considered expendable
- Fear of contracting parasites or diseases-sanitation
- Lack of space
- Operational hours and rules
- Invasive sometimes disrespectful check-in process
- Lack of accommodation
- Separation of families (teenagers separated from mothers due to gender, men and women, couples separated)
- Service dogs banned from entry
- Danger of theft
- Lack of privacy, control, and availability

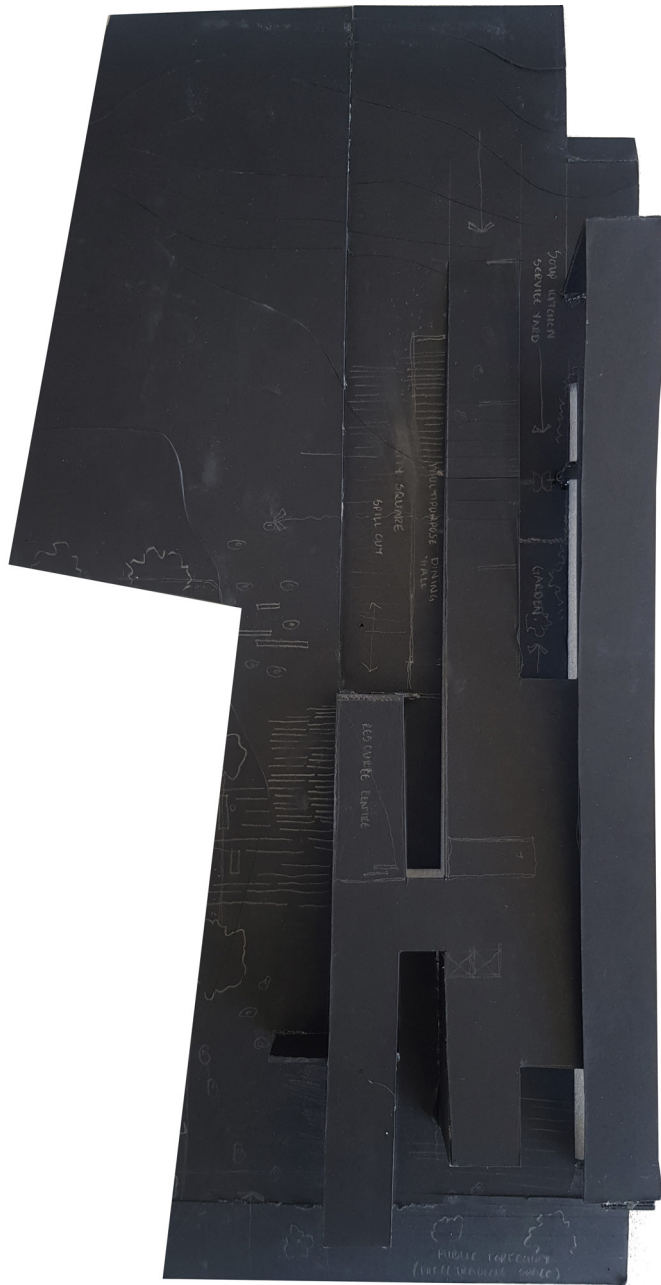
Therefore, a different typology, is considered:

- Community transition spaces provide temporary housing/residency solution
- Provides on-site training, counseling, life coaching, food, entertainment, computer training, daily programming, transportation, and community service workforce opportunities

- The intention is to encourage individuals to work their way out of poverty and ultimately homelessness and unemployment
- Homeless people actually want to be trained
- Space that helps arrivals see themselves in a positive light, through contribution to the community, help them overcome mental blocks
- Assist in community perception of the homeless, re-shaping how they are perceived
- Integrated work-live model, builds peer-based mentorship and support models

DESIGN CHALLENGES

As aforementioned, the intention is to incorporate multiple functions that in some instances would function in isolation of the other, but still remain conjoined by thresholds, visual and permeable connections. Soft skills training component, requires acoustic separation on upper volumes, where training on lower floors are loud and can be viewed by spectators visiting the centre. The market space will bustle as the exchange of money and goods take place on the ground floor and is divided from ground floor resource centre by wide outdoor arcade space and insulated paneling to counter sound.



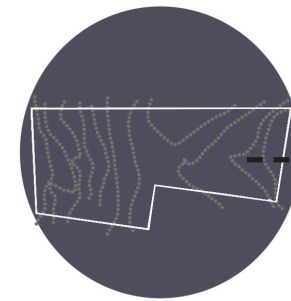
AIMS RELATING TO TYPOLOGY

The consolidation of uncanny elements is set in terms of hierarchy, along the east-west elongated ribbons. Functions are placed from the most public activities (market, information centre, resource centre) to the most private (community soup kitchen, training, residence). Insulation for sound will be explored by way of tectonics and interior-exterior transition zones.

Figure 28: Space Sculpting Model, exploring the planes of the site, coverings and spaces in-between (Author, 2019)

1.3 TYPOLOGY

introducing the site and its context



THE SITE



Figure 29: Bird's eye view of site (Author, 2019)

SITE SELECTION

Site selection was explored on three various sites in order to find the most suitable terrain for the proposed intervention. For the most part it would be sensible to pick a site for an arrival space on the periphery of the city, as this signifies a suitable entry point for new arrivals. Since settling on the edges of cities within marginalised zones is a commonality for rural-urban migrants. On these edges migrants transition from rural inhabitants to city dwellers, create the new middle-class society of the city by working themselves out of poverty (Saunders, 2010:11).

The problem with edges in Windhoek however, especially towards the north and west exits of the city where most rural-urban migrants settle, is that these informal settlements are sparsely located from jobs, education and health facilities. This is due to colonialism, which separated the city with the B1 highway, locating the well off parts to the east and south and pushing the black and poor inhabitants to the north and west ends. These informal settlements lack proper infrastructure, are overcrowded and as such are plagued by sanitation, health issues, and crime. (Pendleton, Crush & Nickanor, 2014:193) Regardless of the drawbacks however, there is richness of community within these spaces as mentioned and potential for well curated transition environment. Though the separation and marginalisation create a stigma, isolating new arrivals even more. The intention is therefore to choose a site within the CBD, where opportunity is within walking distance, and one can be incorporated into the city grain from your point of arrival.

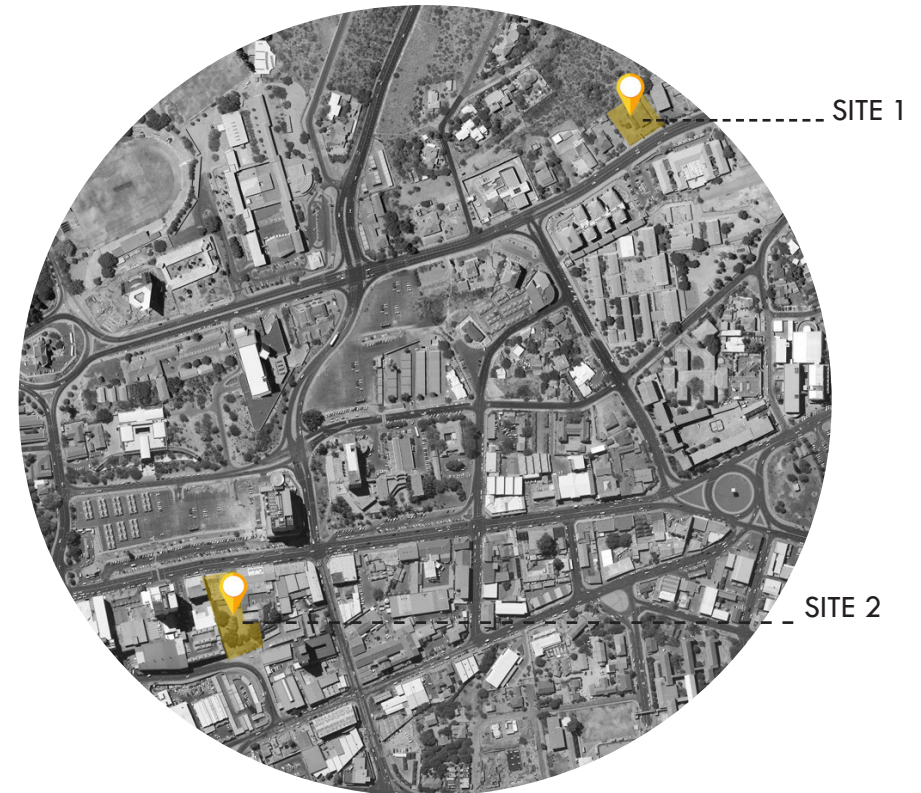


Figure 30: Site choices locations in relation to context (author, 2019)

SITE 1

Located in Robert Mugabe Avenue (see Fig 30 above), are the current offices of the client, GOSHEN. The building on site has been established as a heritage building therefore had to be kept in tact. The site is mostly accessible by car, and faces the busy Robert Mugabe Avenue. The neighbouring buildings are inclusive of an old unused government house and municipal flats on the south end. The back of the site faces open undeveloped land, and is the boundary between commercial and residential buildings within this area.

This site was rejected due to its accessibility and stringent design (Heritage building on site) restrictions.



Figure 31: Context map site 1 (Procured from City of Windhoek, edited by Author, 2018)



Figure 32: Site photos (Author, 2018)



Figure 33: Existing buildings on site 1 (Author, 2018)

SITE 2

The chosen proposed site is located in Independence Avenue Windhoek, Namibia. The opposite end bordered by Werner List Street, which mostly serves as a service road and taxi drop off area. Commercial and mixed-use buildings surround the site. To its north we have Bank Windhoek Capricorn branch, and Gustav Voigts Mall Parkade. Across the street we find Central City Apartments, Hilton Hotel, and FNB Main Branch. To the site's south boundary, commercial shops and bars are located.

This site was settled on due to its accessibility, particularly its pedestrian access. With the functions of the building in mind, the building's main entrance(s) will face Independence Avenue, a heavily pedestrianised edge, here perceived as the "threshold of opportunity". Whereas, towards Werner List Street, service oriented and more privatized spaces will be positioned. Due to its location the site is thus faced with an influx of noise, which the explored materiality intends to treat as well as with landscaping buffers.



Figure 34: Site context (Author, 2019)



Figure 35: Building typologies, scales and functions surrounding the site (Author, 2019)

PROBLEM STATEMENT RELATING TO TOPOLOGY

This site is located within the heart of Windhoek's CBD, making it high value land. The site topography slopes 9 and 4 m from opposite ends along an elongated terrain, presenting a unique challenge. At present parking in Werner list street and within Independence is an issue within the CBD. Parkades such as Gustav Voigts are used by visitors to the mall as well as government employees at Bastion 16 (behind the site) and overflow at times. Therefore the introduction of basement parking to cater to these shortfalls is deemed necessary. The parking can additionally generate income for the centre.



AIMS RELATING TO TOPOLOGY

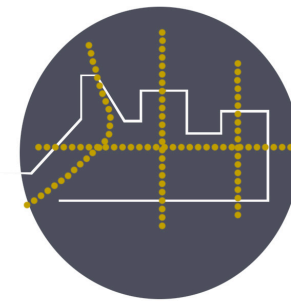
Within investigating the site and its context more in-depth, a suitable architectural solution for the building and its functions will be explored. Optimising the site as a safe space of transition and opportunity for its users and visitors alike. The intention is for the building to have a civic quality, welcoming any passer by to pause or retreat for a while from the busy city.



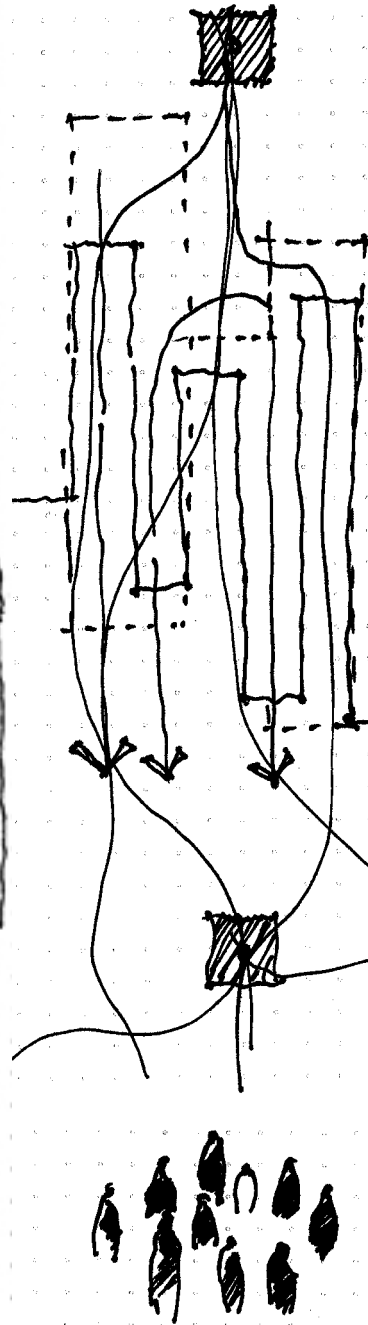
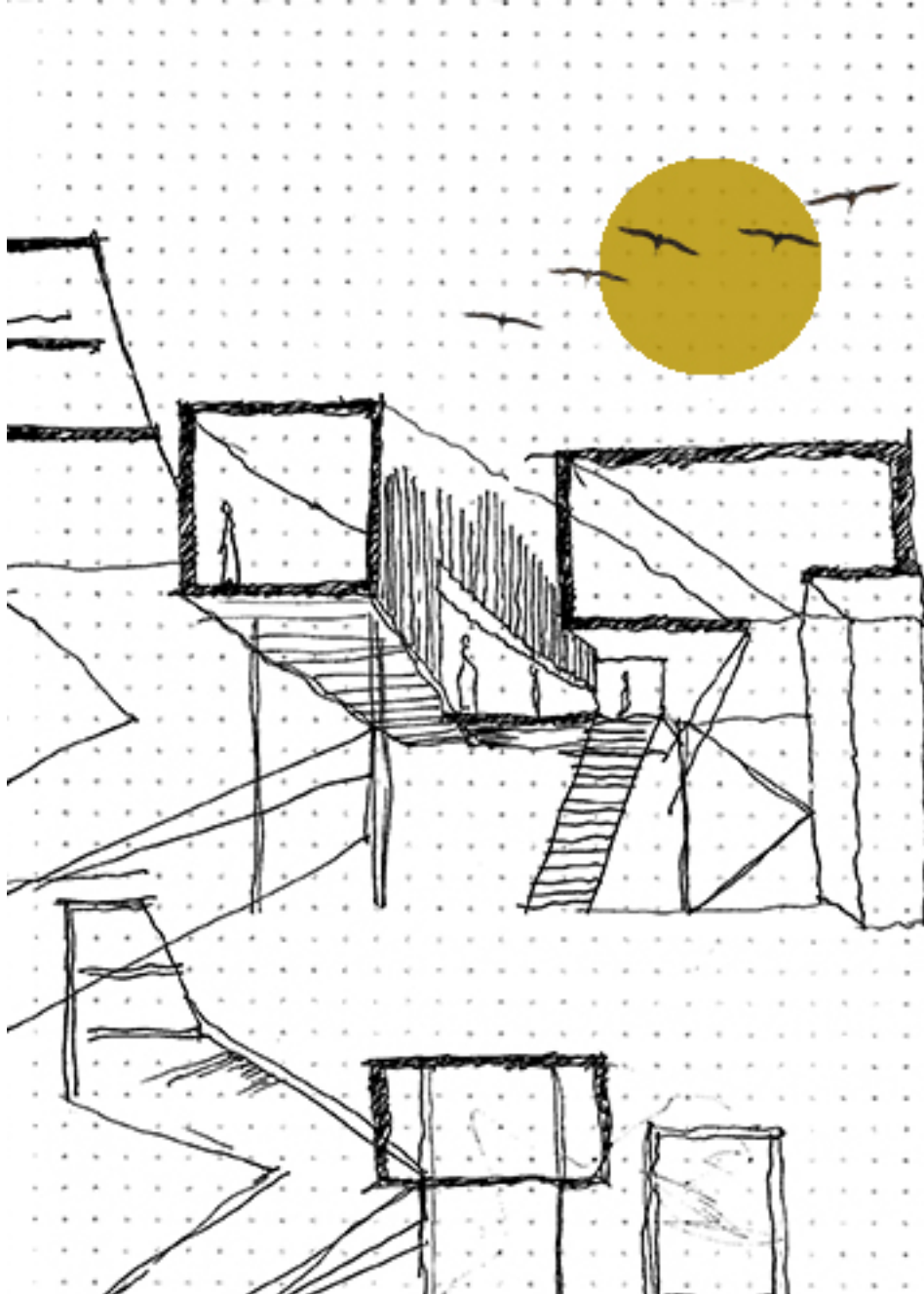
Figure 36: Panoramic collage of site and surroundings (Author, 2019)

1.4 MORPHOLOGY

introducing the site and its context



THE FORM



PROBLEM STATEMENT RELATING TO MORPHOLOGY

As an infill site, the site signifies a theoretical threshold. It simultaneously becomes an in-between cross over site between the prominent (and busy) Independence Avenue and a quieter service road mostly used by delivery vehicles, taxis, and those accessing the Gustav Voigts Parkade. How circulation is addressed will be discussed in detail within the design development chapter of this document.

The morphological solution is to address how space creation within the specific site topology can express the transition of users.

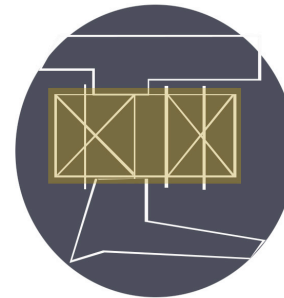
AIMS RELATING TO MORPHOLOGY

The creation of an arrival space within the CBD as opposed to the city's margins, generates a unique architectural solution. The morphology is expected to frame (merge) elements training, commercial/public market and housing, which produces a hybrid typology. This is achieved through insight into theoretical and physical transition spaces by way of understanding passage. Migrants are incorporated into the city by way of housing them in the city and facilitating their transformation. The homeless already living in the city will have a space where they can gain a hot meal and a shower daily, destigmatising the perceptions typically associated with the homeless (Fig 37).

Figure 37: Building as morphological frame, a public stage of transformation (Author, 2019)

1.5 TECTONICS

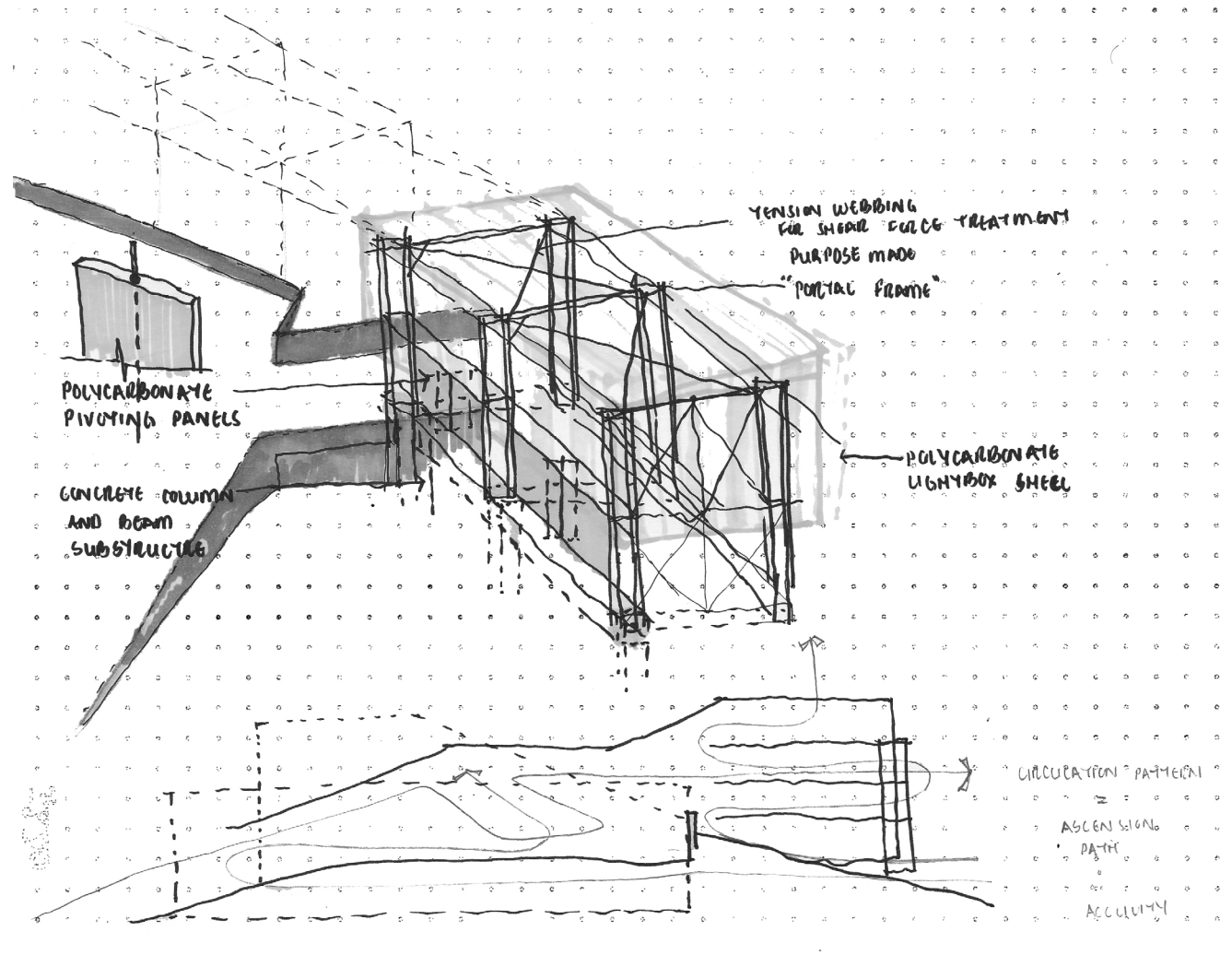
Structural resolution of all tangible elements constructing the building



THE STRUCTURE

PROBLEM STATEMENT RELATING TO TECTONICS

Due the hybridity of the building a combination of various construction solutions to address heterogenous parts of the building are explored. Ranging from a combination of shading, insulating, cladding and threshold surface treatment (Fig 38).



AIMS RELATING TO TECTONICS

The structural solution of the proposed centre aims to represent a lightweight box, reflecting natural light into its interior during the day and glow at night. However, the harshness of the Namibian does not allow an intervention of this nature. An alternative will thus be investigated, best suited for the contextual environment.

Figure 38: Tectonic solution considerations (Author, 2019)

RESEARCH QUESTION:

How can the transition of rural to urban be mitigated through an appropriate architectural typology of access and orientation?

ADDITIONAL QUESTIONS UNDER CONSIDERATION ARE:

What architectural typology exists for individuals in transition?

How can architecture be used as a receptacle to create relational spaces, which augments man and births a new hybrid society?

How can space equate mobility and security simultaneously?

And lastly, how can urbanism be made sustainable through preparedness and inclusion?



Figure 39: Migrating to the city from the village silhouette (Author, 2019)

2 EXPLORATION AND GROUNDING

In this section the influence of site, context and its parameters are explored. By way of in depth macro and micro site analysis. Here investigation into precedents and suited case studies are done as well as any necessary research which would serve to inform the design

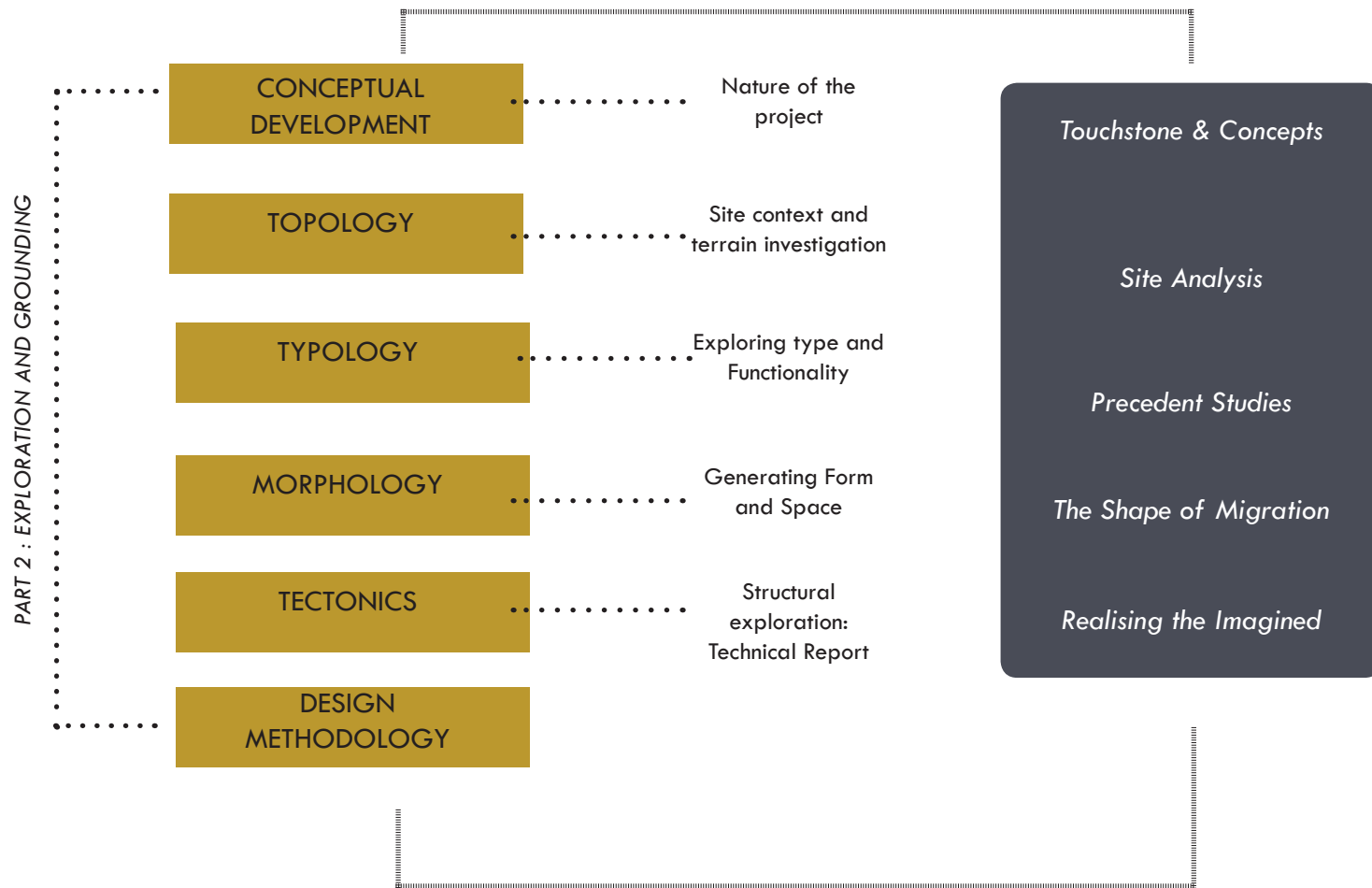


Figure 40: Diagram summary of part 2, The Exploration and Grounding (Author, 2019)

2.1 CONCEPTUAL DEVELOPMENT

Reducing the project to its bare essence

2.1.1 TOUCHSTONE

**a.melioration of life
adapt or die.**

“To adapt means to transpose from one medium to another. It is the ability to make fit or suitable by changing, or adjusting. Modifying something to create a change in structure, function, and form, which produces a better adjustment” (Dercksen, 2015: online).

Survival has been the key to human existence from man’s creation. We have witnessed studies being done on how the human body itself has evolved to adapt to an ever changing world, with the main aim being survival. Migrants from rural areas populate cities and towns in search of better living conditions, only to find that the urban environment requires a certain level of adaptation as well for survival. As this project intends to create a centre which will serve as point of orientation into the city, this touchstone is an abstraction of a compass, a device which provides both orientation towards your end goal whilst simultaneously informing you of where you are and which direction to take. This removes the wave of the uncanny of feeling lost and opens up the first tier of the amelioration of life.

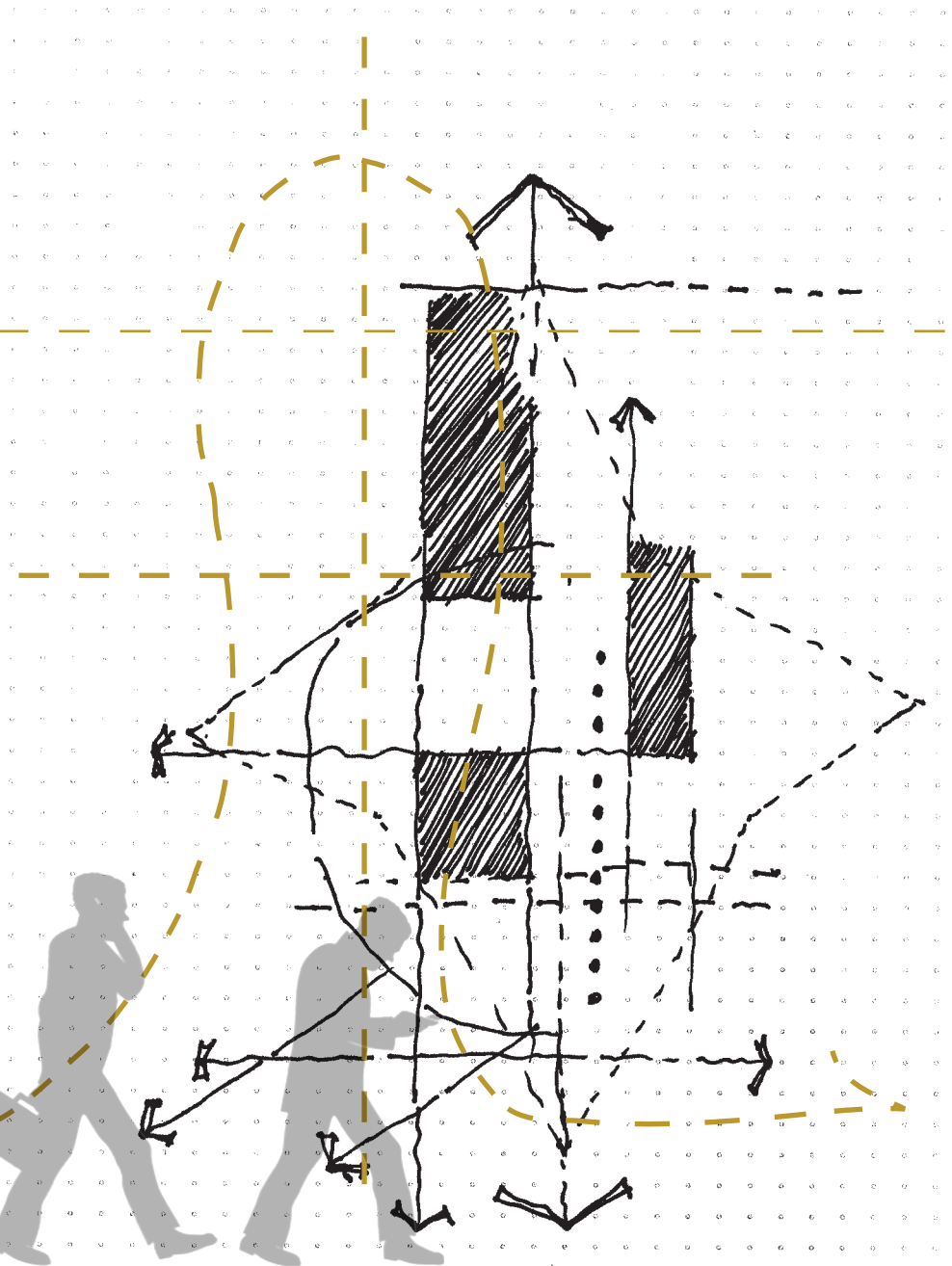
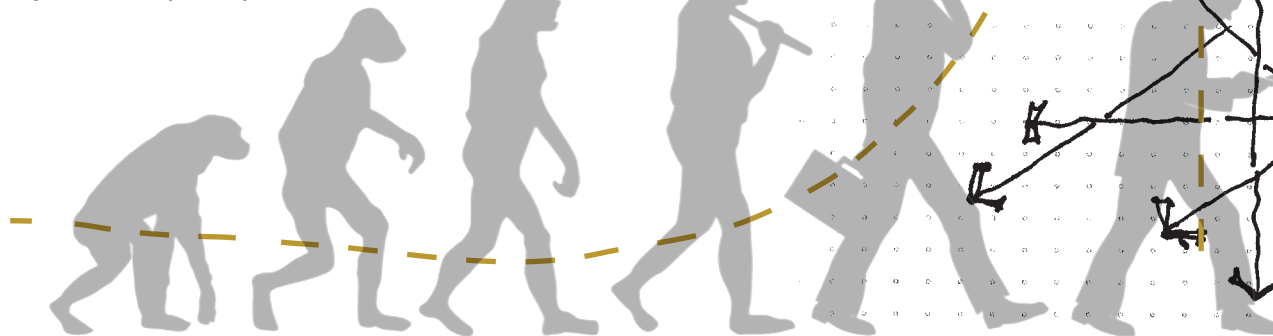


Figure 41: Touchstone Sketch (Author, 2019)

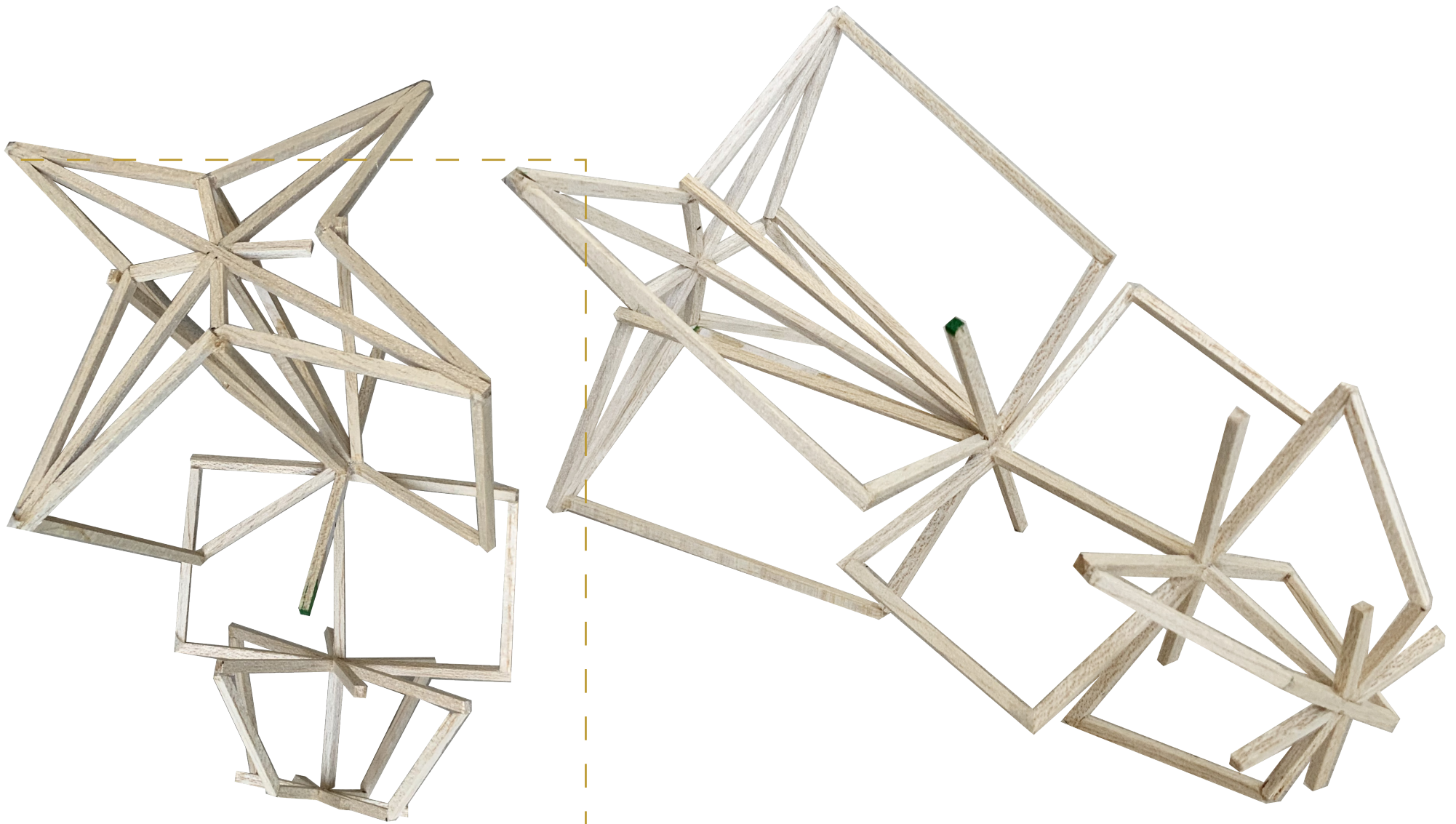


Figure 42: Images of Touchstone -An abstraction of a compass, representing orientation and direction
(Author, 2019)

2.1.2 CONCEPTS

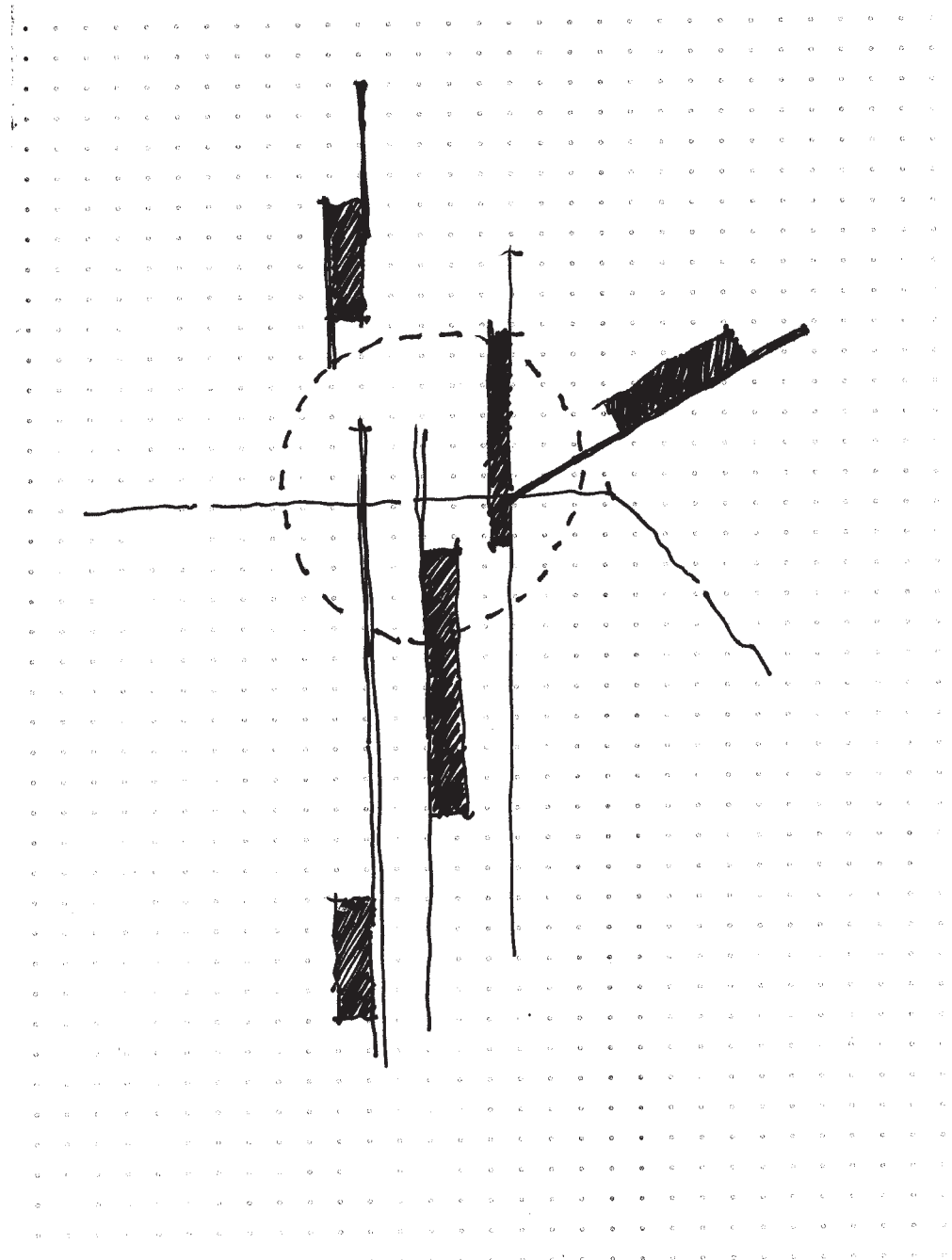


Figure 43: Sketching vectors of displacement (Author, 2019)

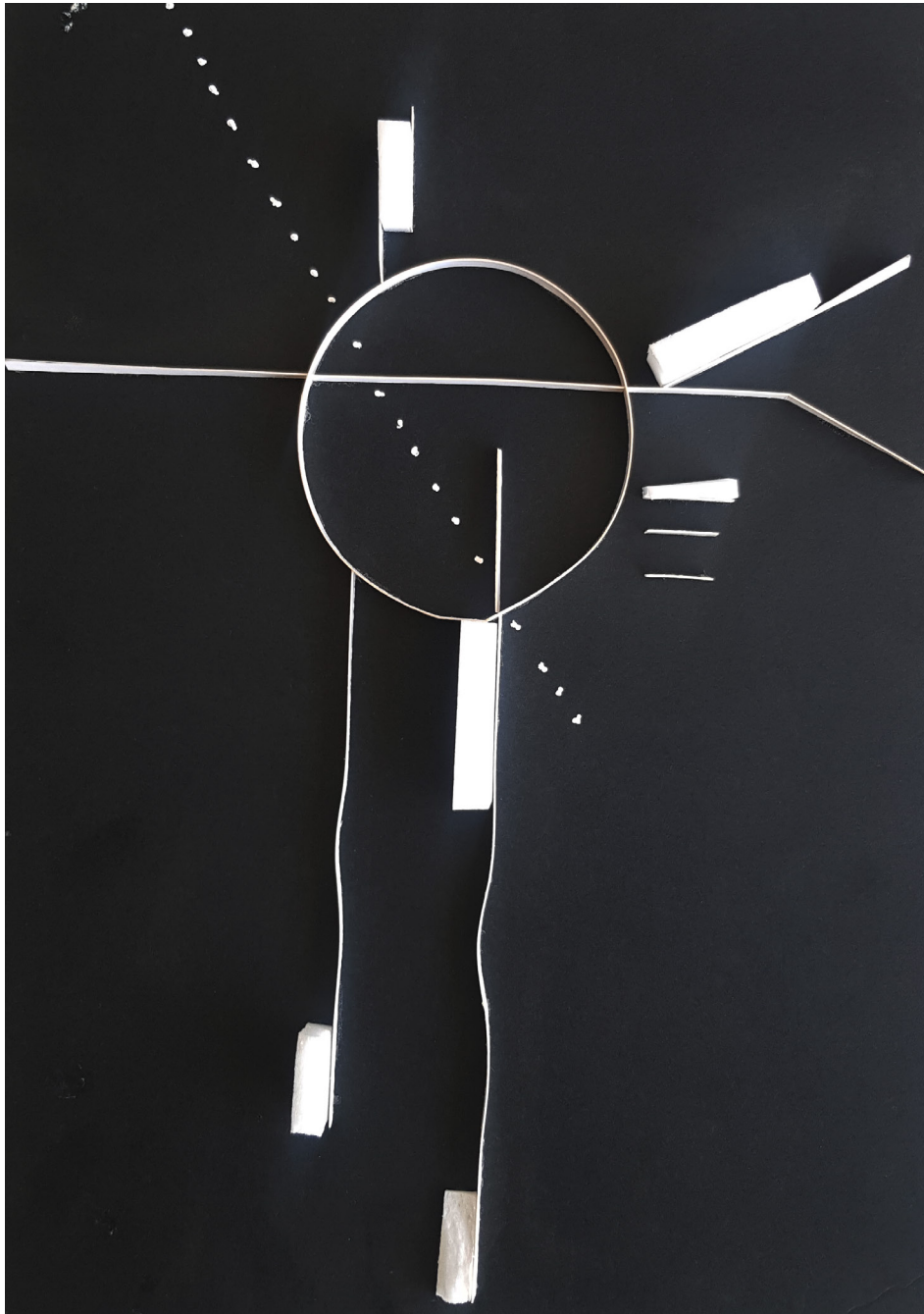


Figure 44: Model exploration of displacement (Author, 2019)

DESIGN CONCEPT 01: DEFYING DISPLACEMENT

Displacement is the action of moving something from its position or place. Considering the mental and emotional impact of migration on individuals, which in turn leads to the uncanny—a feeling of placelessness within the urban realm upon arrival. Only to be faced with poverty and stigmatisation. This concept seeks to explore a liminal vector space which provides orientation, incubates and creates a safe space (see Fig 43 & 44).

DESIGN CONCEPT 02: ACCLIVITY - BETTERMENT OF ONESELF

It is believed that horizontality intills a mental image of equality, removing the stigmatation that all drifters are misfits.

Can the same be achieved whilst elevating these individuals with skills training?

Skills Training = Improvement,
therefore acclivity, an upward slope of growth. Adopted from site topography.

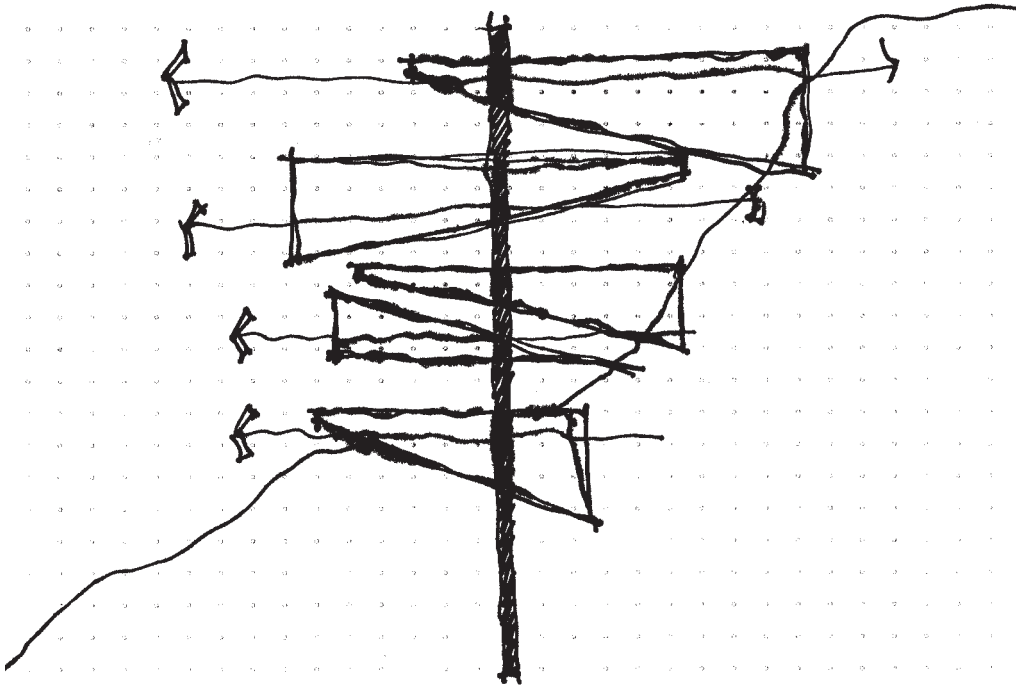


Figure 45: Acclivity and ascension, an investigation into the linkage of towering planes (Author, 2019)

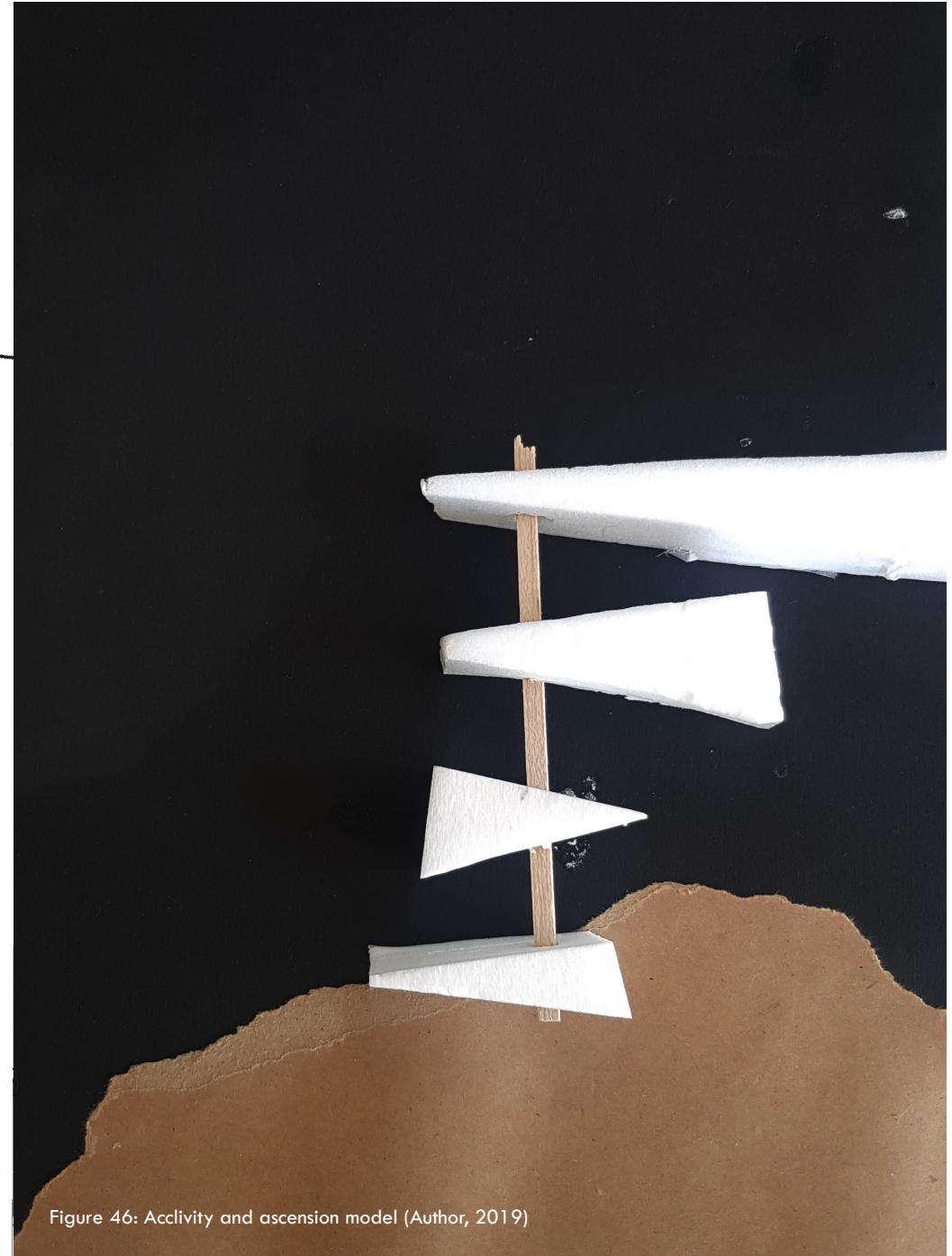


Figure 46: Acclivity and ascension model (Author, 2019)

DESIGN CONCEPT 03: TRANSIENCE

The proclivity of drifters to move from place to place in search of better, suggests an ephemeral quality, of the proposed center serving as a filter. Which intends to serve as a metamorphosis zone. A place which allows for rest, development, change and integration into the newly found city life. A wave which gently ushers you through.

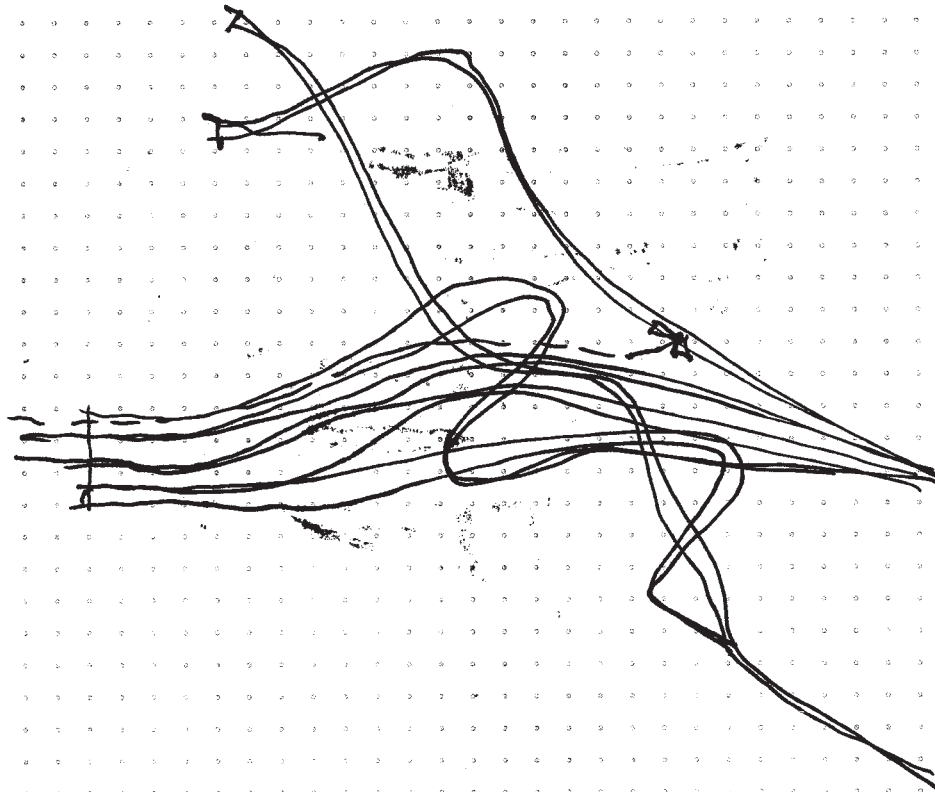


Figure 47: Filtering as means of transition and orientation (Author, 2019)

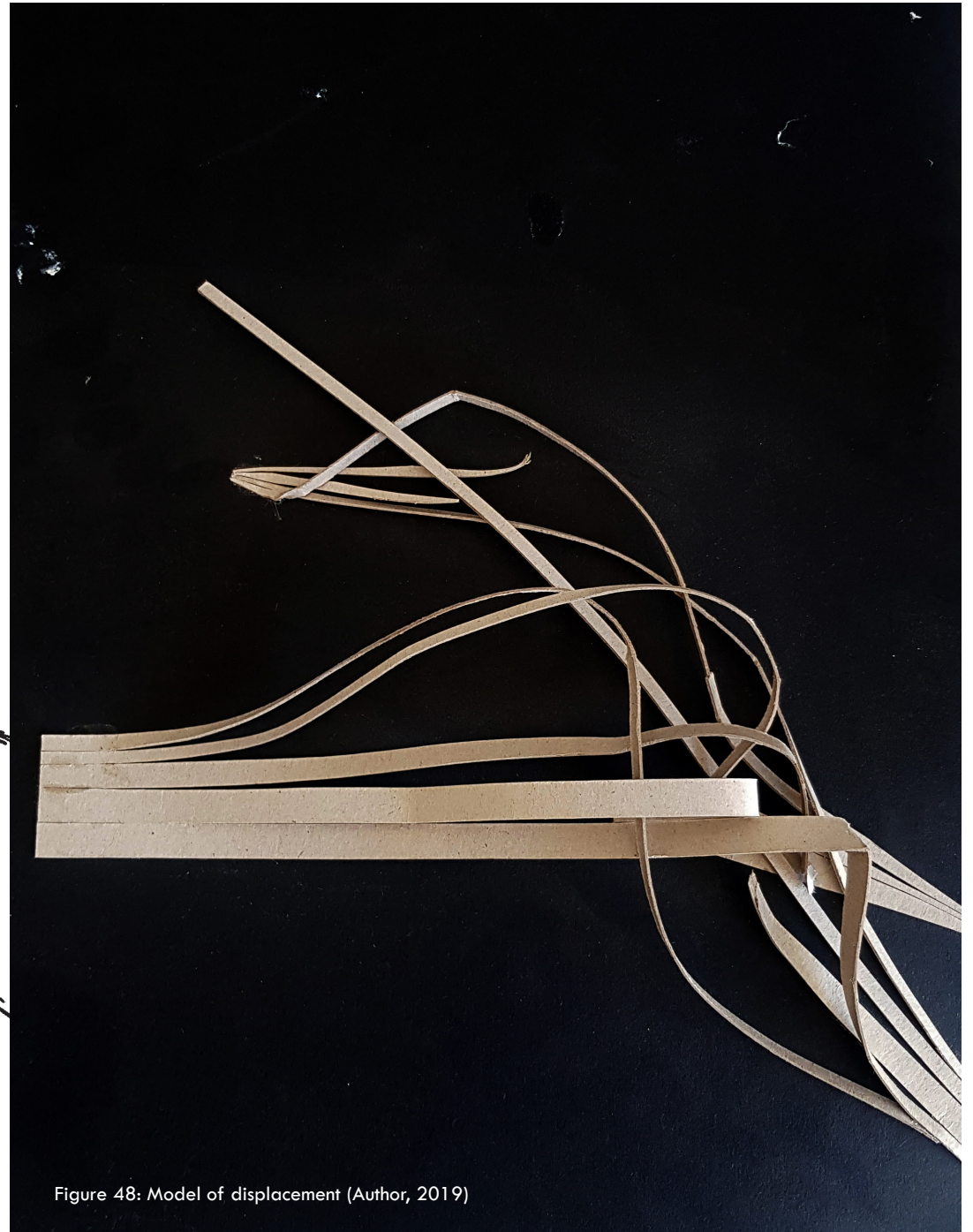


Figure 48: Model of displacement (Author, 2019)

2.1.3 CONCEPTUAL FRAMEWORK (SUMMARY)

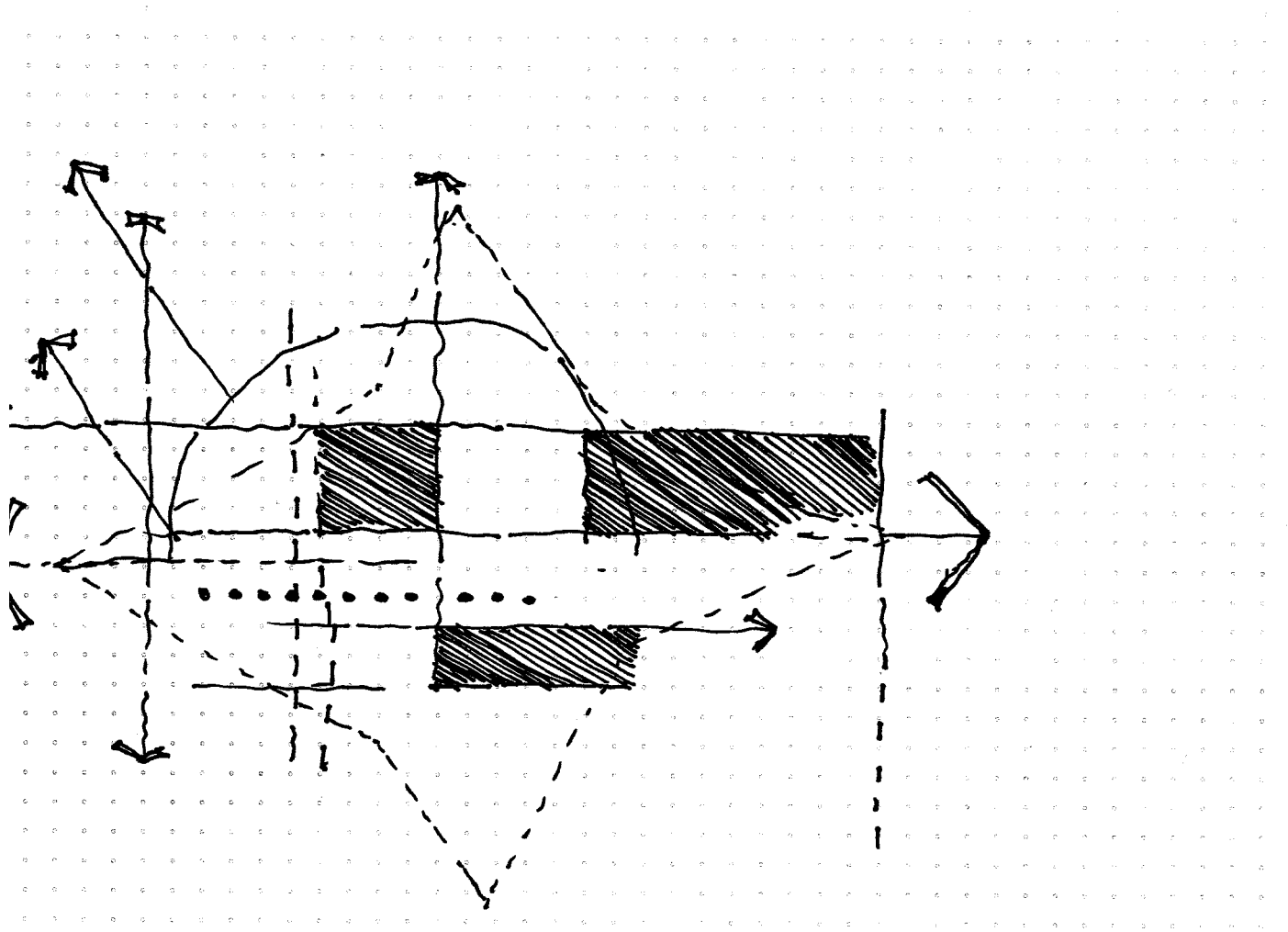
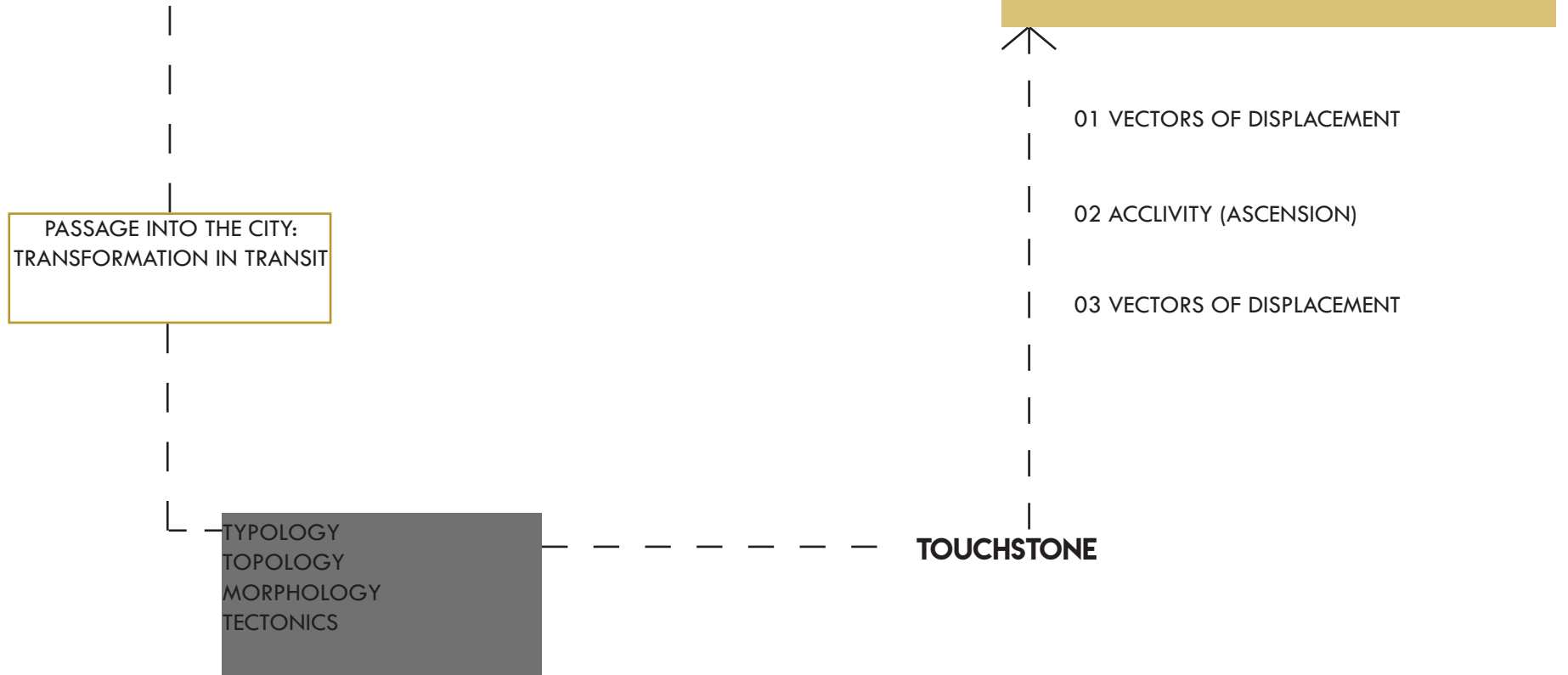


Figure 49: Touchstone Sketch (Author, 2019)

The conceived design defies the perception of a marginalised arrival space by inserting itself into the urban fabric where opportunity persists. It proceeds to merge three concepts and touchstone and additionally responds to the topology as appropriately as possible in expressing a specific hybrid typology.



2.2 TOPOLOGY

Exploring the site and its context



Figure 50: Site within its context (Author, 2019)

2.2.1 MACRO SITE ANALYSIS

The city of Windhoek lies along a valley within the plateau of the Gammams mountains, extending north south. This valley is bordered by mountains on its east and west edges, forcing a linear growth pattern along the north south axis (Kloppers, 2014: 35).

The CBD is situated within the centre of the valley, extending along this linear pattern as well, with more than 80% comprised of commercial development. The city is architecturally a combination of German Colonial buildings and variations on newer typologies.

Independence Avenue is the main route within th CBD where many prominent buildings and businesses are located (Kloppers, 2014: 37). This linear spine (see fig 46) is wherein many job opportunities are found, and high value land for commercial development is located.

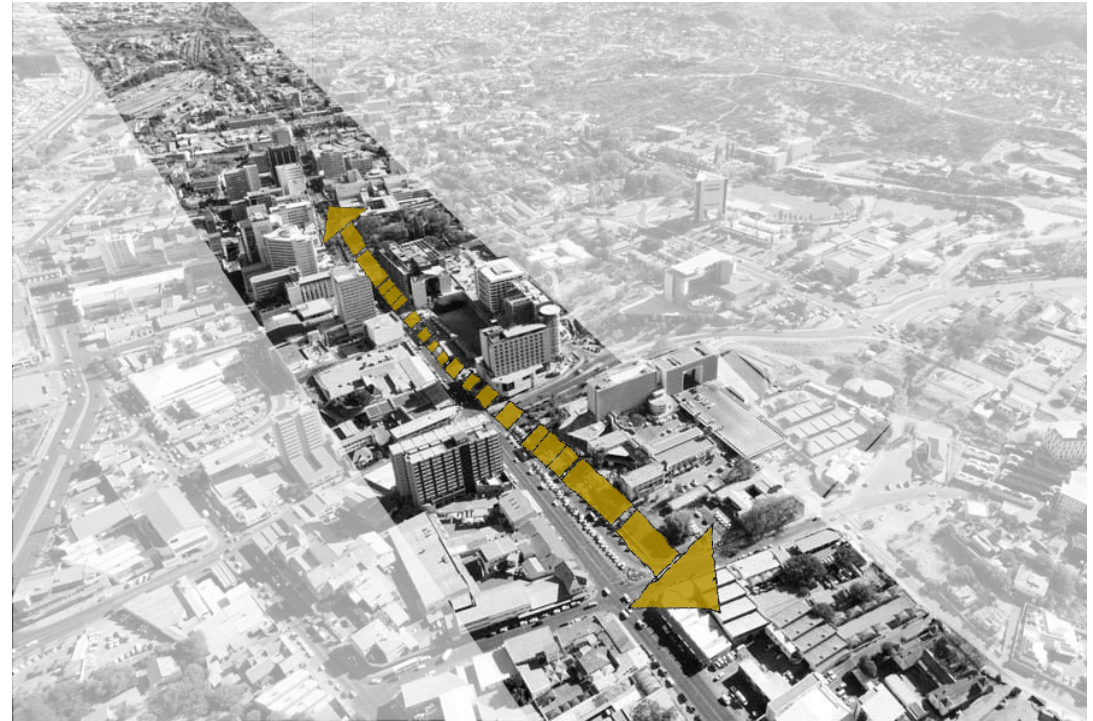


Figure 51: CBD dynamic corridor (author, 2019)



Figure 52: Mapping the geographical location (author, 2019)

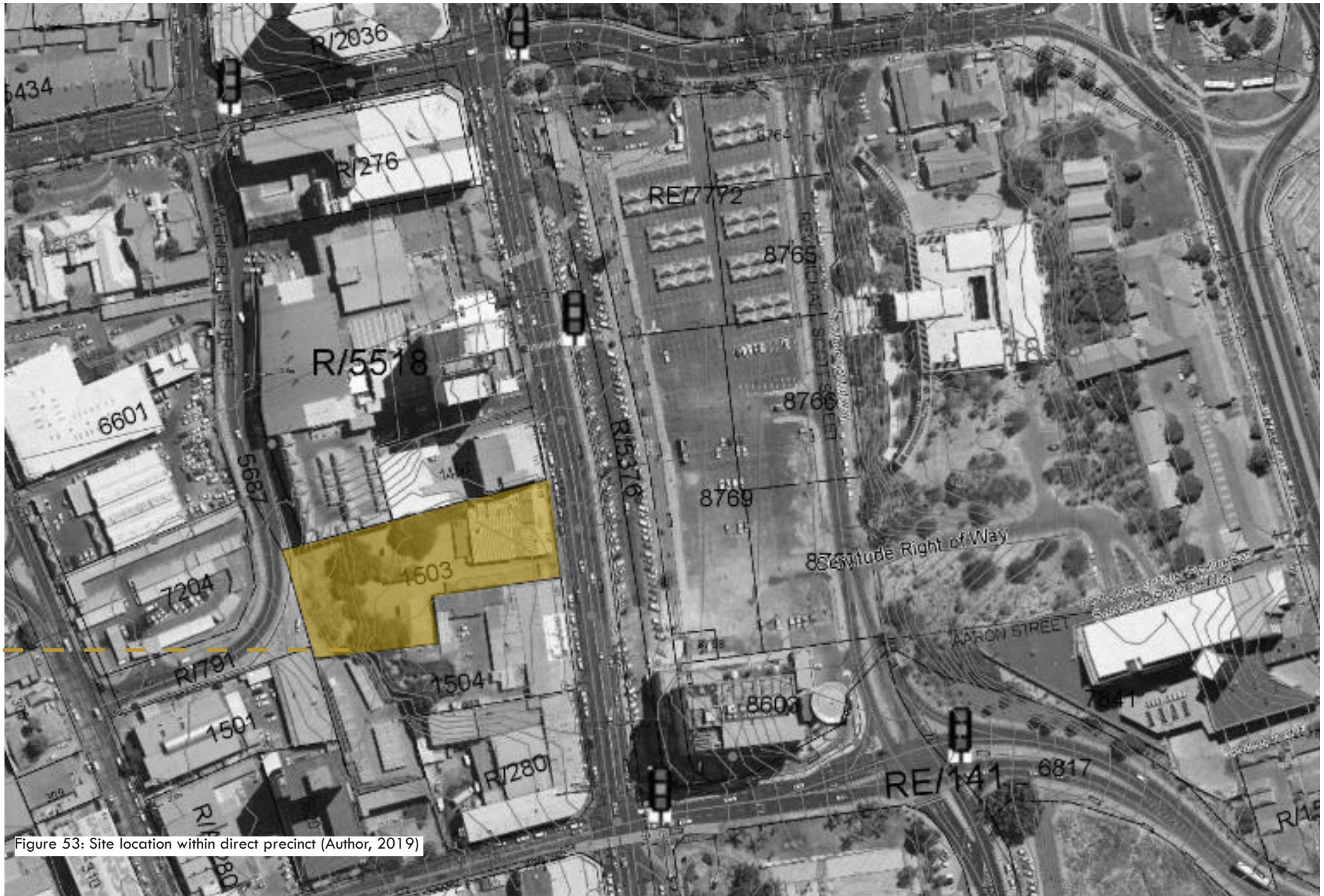


Figure 53: Site location within direct precinct (Author, 2019)

2.2.2 MESO SITE ANALYSIS

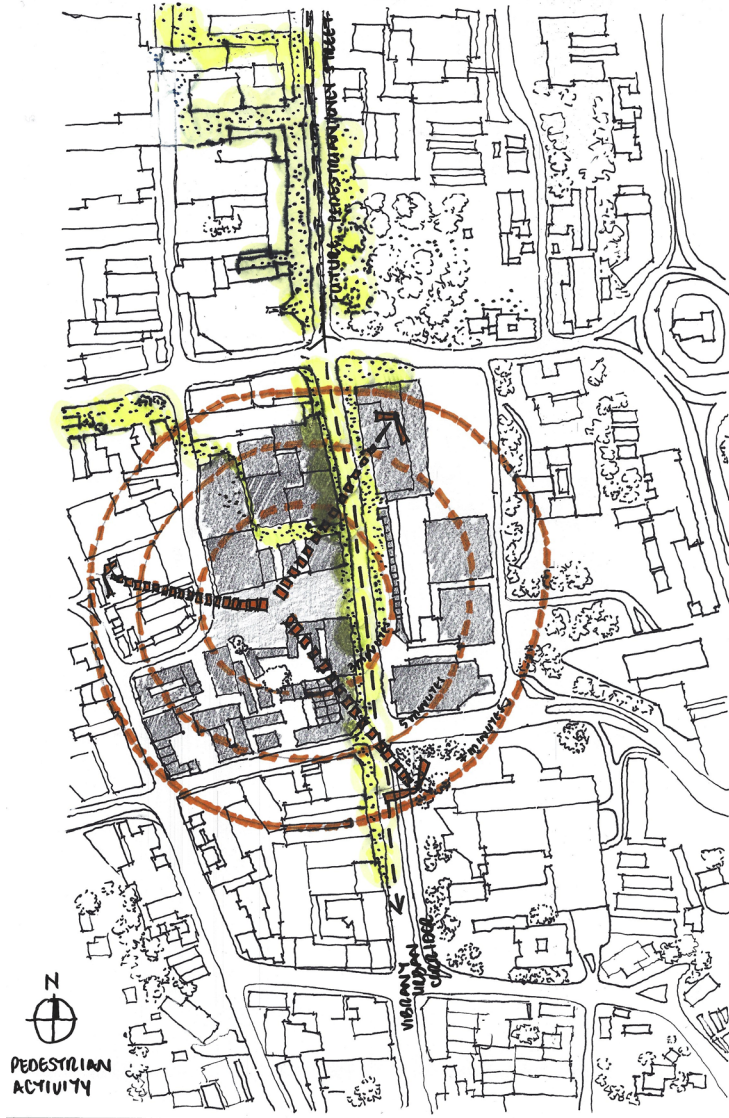


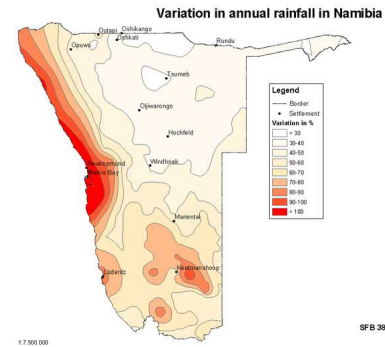
Figure 54: Pedestrian Activity: Walking radius (Author, 2019)



Figure 55: Vehicular movement (Author, 2019)

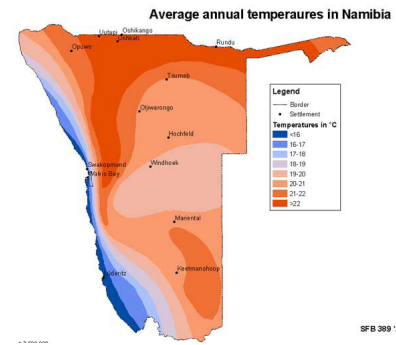


Figure 56: Climatic Analysis (Author, 2019)



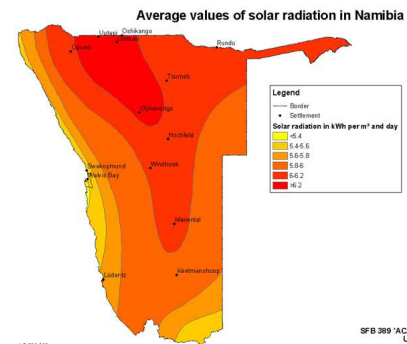
Map produced by SFB 389 'ACACIA', subproject E1 University of Cologne

Figure 57: Rainfall percentile in Namibia (online, 2016)



Map produced by SFB 389 'ACACIA', subproject E1 University of Cologne

Figure 58: Temperature Range in Namibia (online, 2016)



Map produced by SFB 389 'ACACIA', subproject E1 University of Cologne

Figure 59: Average solar radiation in Namibia (online, 2016)

QUALITATIVE ANALYSIS: WALKING THE CITY

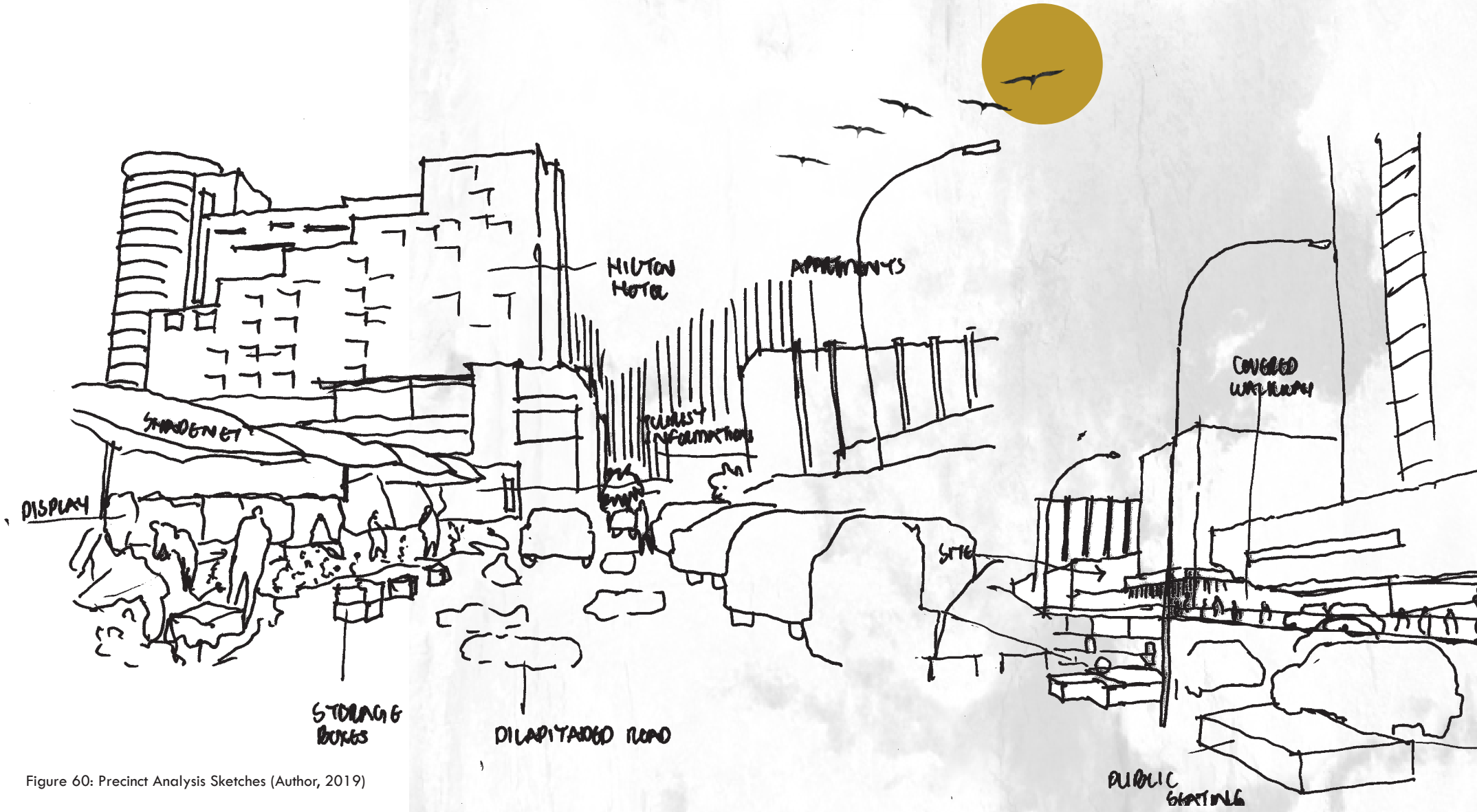


Figure 60: Precinct Analysis Sketches (Author, 2019)

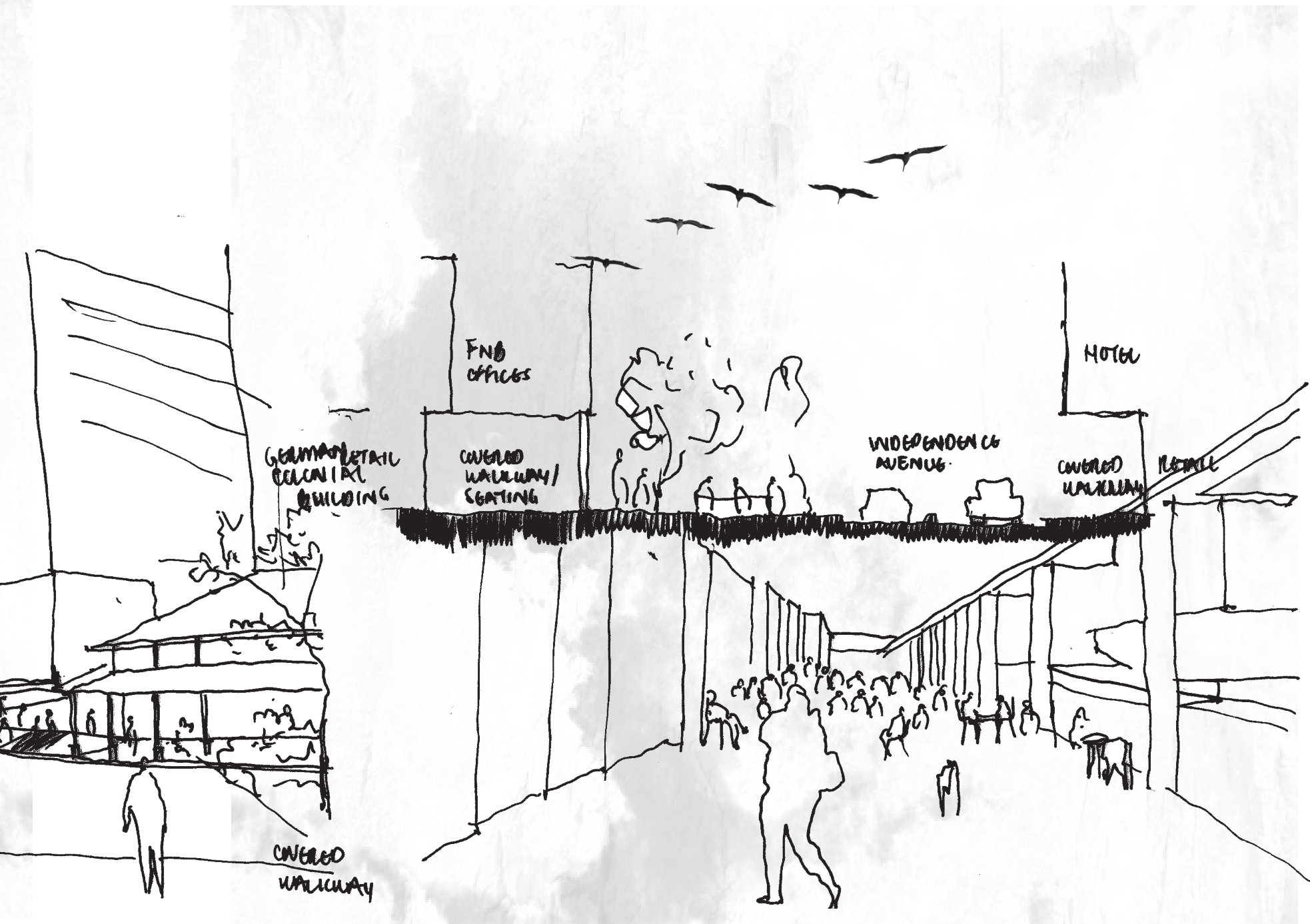




Figure 61: FNB Public Square (Author, 2019)



Figure 62: Independence Avenue Buildings adjacent to site (Author, 2019)



Figure 63: Ovahimba market & Freedom Tower (Author, 2019)

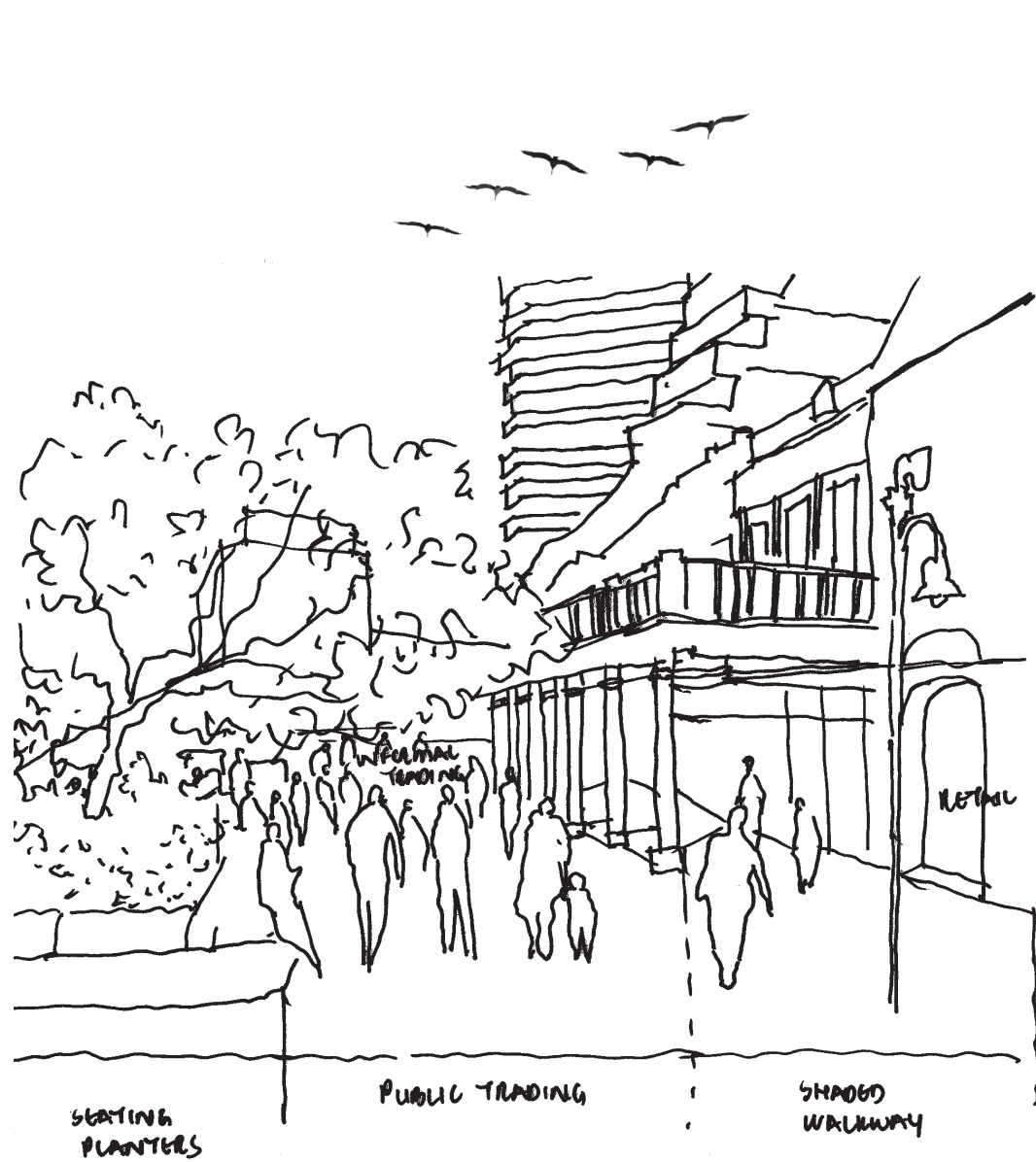


Figure 64: Pedestrian activity within precinct (author, 2019)

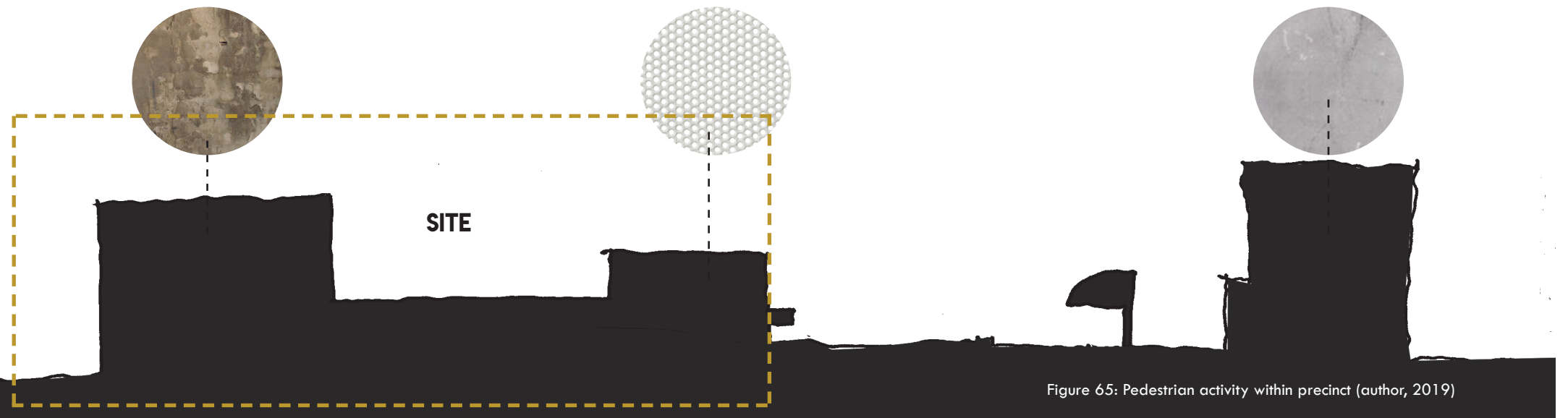
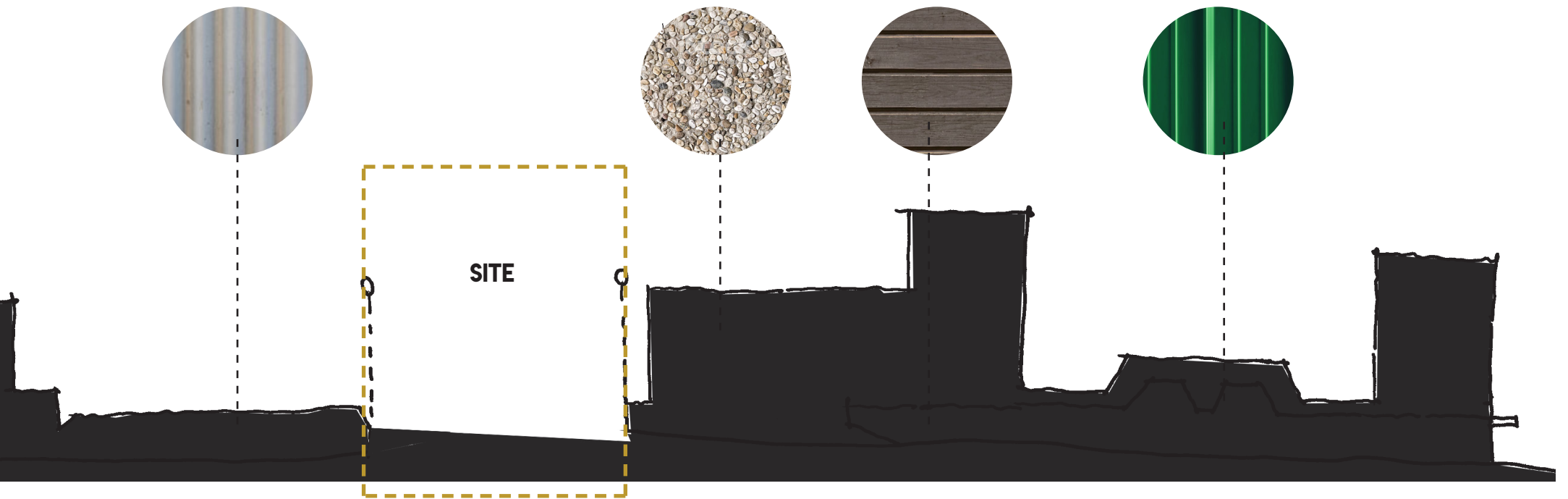
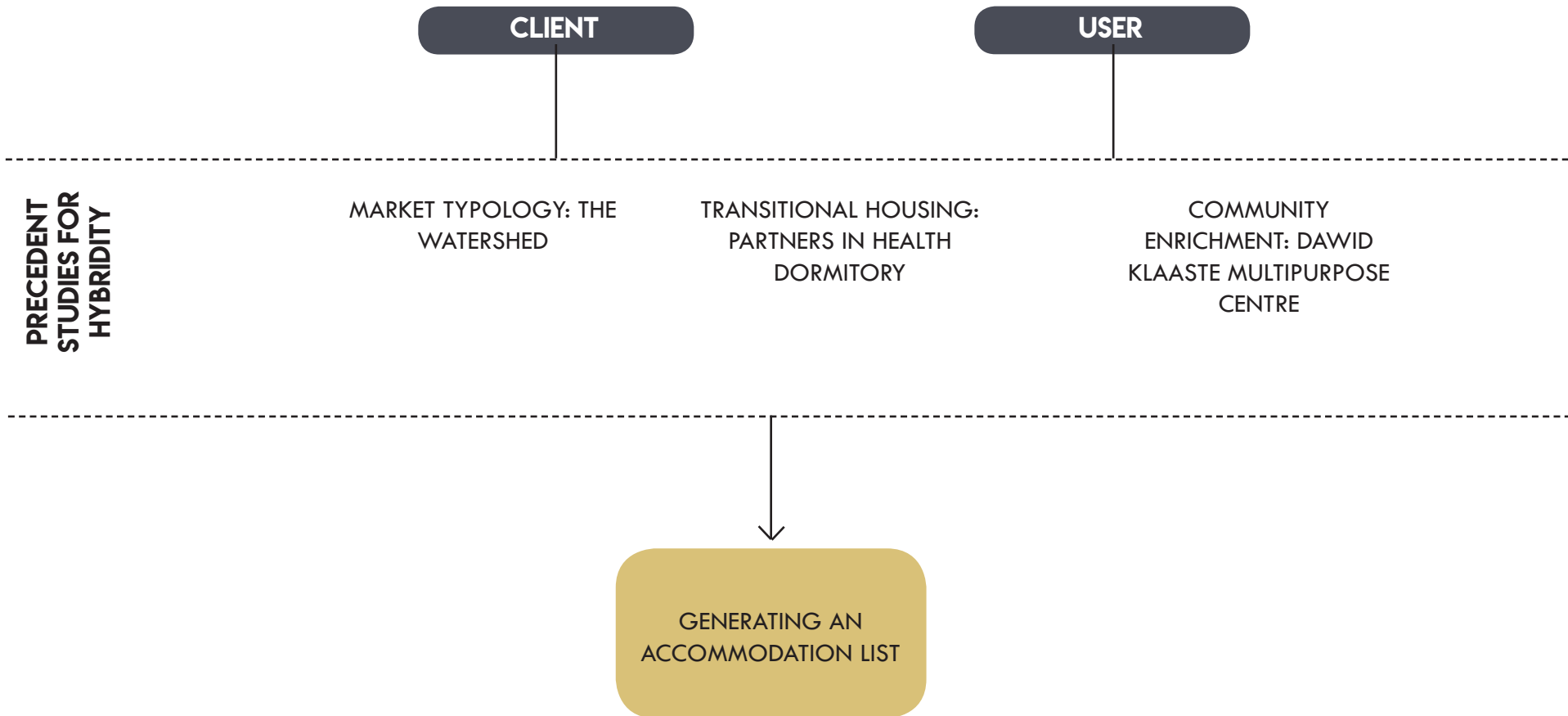


Figure 65: Pedestrian activity within precinct (author, 2019)

2.3 TYPOLOGY

Exploring form and function



2.3.1 CLIENT PROFILE

GOSHEN, also known as the Christian Community Development Organization is a non-profit organisation that was established under the Ministry of Poverty Eradication and Social Welfare, a ministry introduced in 2015 when President Hage Geingob was sworn in and had a cabinet reshuffle. The ministry has since developed components such as the Wealth Redistribution Blueprint, various poverty bettering projects such as the BIG Grant and recently the pilot of a project of a National Food Bank. In support of this, the centre will house a community soup kitchen which will serve 1-2 hot meals daily to the homeless and those residing within the centre.

GOSHEN advocates community advancement through skills training and entrepreneurial growth. The small medium enterprise trading component as well as co-working spaces relate to this. The NGO also does winter clothing and food drives to cater to those less fortunate with support from donors and sponsors.



Figure 24: Goshen Staff (Goshen 2017:online)

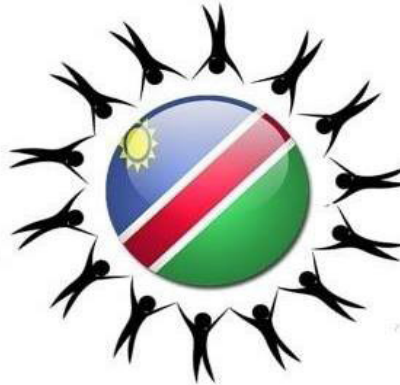


Figure 25: Goshen Logo (Goshen 2017:online)

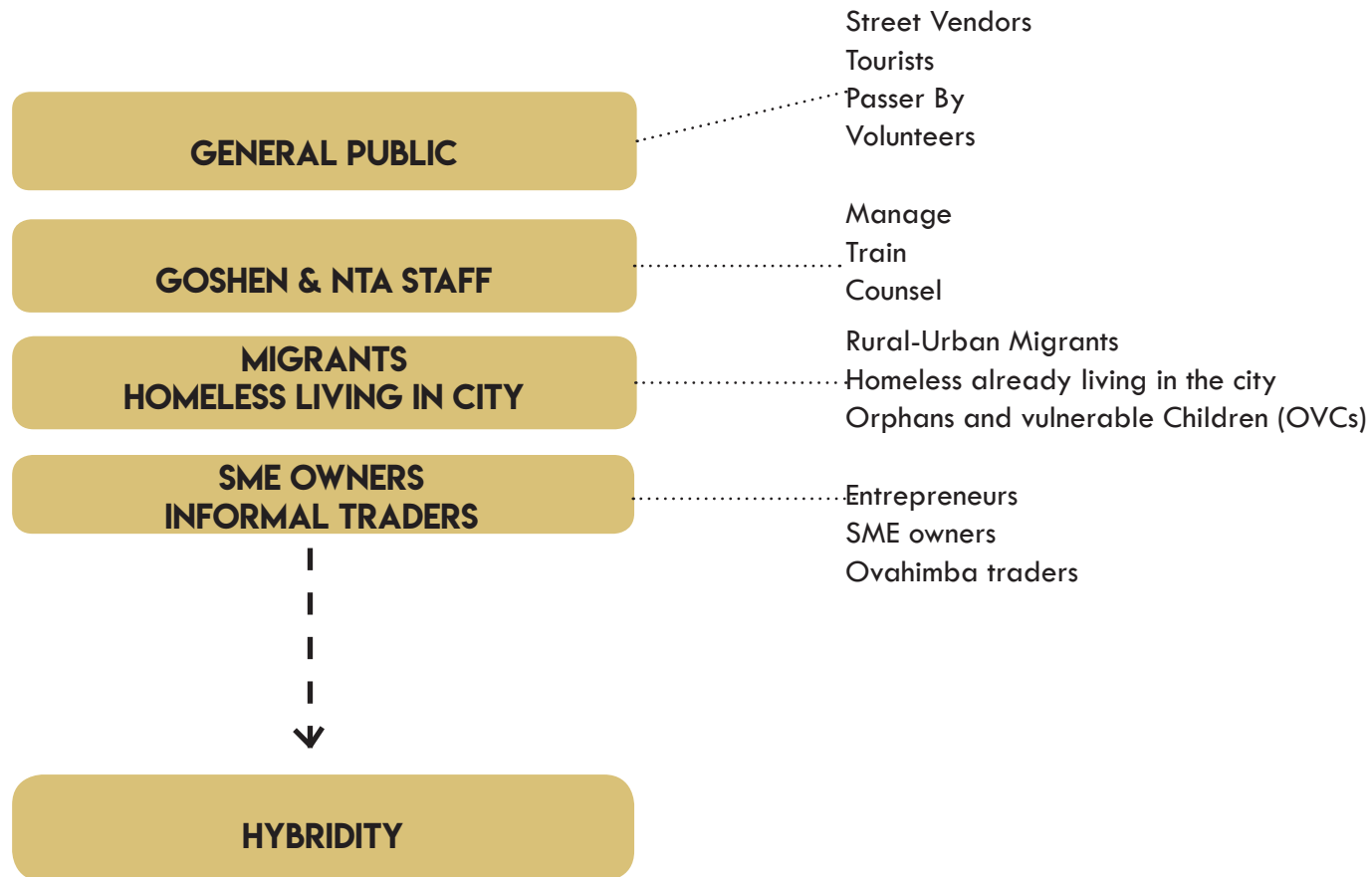
AIMS:

COMMUNITY ADVANCEMENT

ENTREPRENEUR INCUBATION

SOCIAL RESPONSIBILITY

2.3.2 USER PROFILE



2.3.3 PRECEDENT EXPLORATIONS

DAWID KLAASTE MULTIPURPOSE CENTRE

Location: Laingsburg, Western Cape
 Architect: CS Studion Architects
 Completed: 2005

The conversion of three shed-like structures on an old Rugby field site in Laingsburg, produced a structure merged by a large roof with wide overhangs on both access platforms. The steel structure supporting (see Fig 66) the roof is exposed and was crafted by members of the community. The refurbished roof sheeting of the existing shed was re-used as wall cladding, and the building painted a deep red, commemorating the flood the community endured in 1980, labeled as the “redbull” (Cs Architects, online:2008).

Additionally, an old train had been converted into a restaurant for the centre. A central axis links the service end of the building to the more public facilities and a windmill stands tall as a beacon in the community.

Lessons learned: Community Involvement
 Civic quality
 Iconic building created in a simplistic manner



Figure 66: Exposed steel aesthetic of the “Red Bull” (online, 2016)



Figure 67: Analysis of structure (Author, 2019)

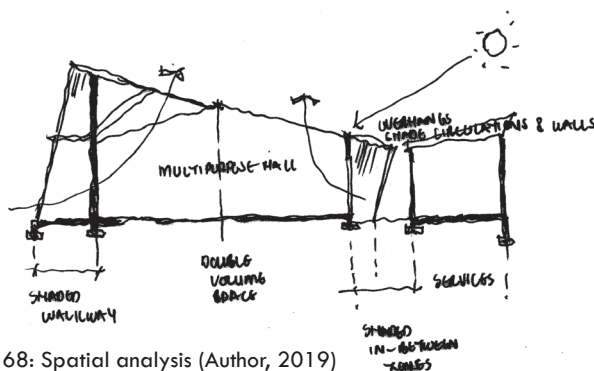


Figure 68: Spatial analysis (Author, 2019)

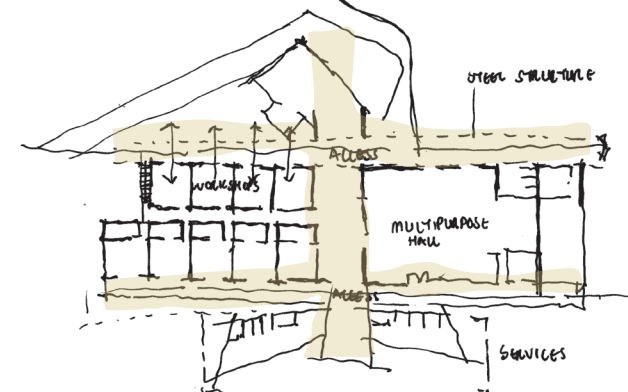


Figure 69: Layout axis connecting existing sheds (Author, 2019)



Figure 70: Street typology of the entrance at the Watershed (Wolff, 2017:online)

THE WATERSHED

Location: CAPE TOWN, Western Cape
 Architect: Wolff Architects
 Completed: 2005

The Watershed is refurbishment of an old industrial shed, into a vibrant business incubator, market, office spaces and exhibition venue. The layout internally extends outward onto the street connecting it to a larger urban network (fig 71). The openness of the shed provides a visual connection whereby business owners can interact and exchange ideas. (Wolff, 2017: online) The shed can be conceived as a stage to encapsulate the vibrancy of small and medium business owners, creating an economic community/village (see fig 72).

Lessons learned: Tenant Appropriation of space

Combination of business incubator and Market
 Shed structure frames economic activity and development



Figure 71: The shed as a frame for the market (Wolff, 2017: online)

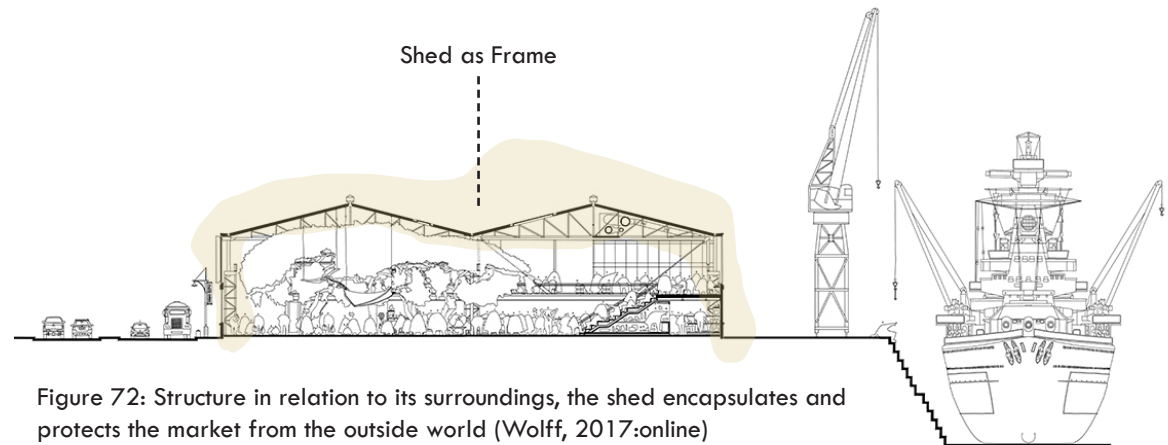


Figure 72: Structure in relation to its surroundings, the shed encapsulates and protects the market from the outside world (Wolff, 2017:online)

PARTNERS IN HEALTH DORMITORY

Location: RWINKWAVU, RUWANDA
Architect: Sharon Davis Design
Completed: 2015

The dormitory for Doctors living in the remote village of Rwinkwavu, responds to a hot and dry climate on site nestled along a slope. The budget for the project was quite low, therefore the architect went with low cost locally available materials. The load-bearing walls were built from locally handmade clay bricks and shading devices are composed of eucalyptus screens fixed to a lightweight steel frame. This eucalyptus screen additionally provides privacy, as it links the bedrooms, shared bathrooms and communal lounge (Fig 74).

The building has a ventilated cavity roof structure which is covered by clay roof tiles. The majority of the building's construction was done by locals with women making up a third of the workforce.

Lessons learned:

- Community enrichment through involvement
- Screened exterior circulation, creating interstitial space
- Use of low-cost sustainable material



Figure 73: Natural low cost material building envelope (Archdaily, 2016:online)



Figure 74: Screened circulation space (Archdaily, 2016:online)

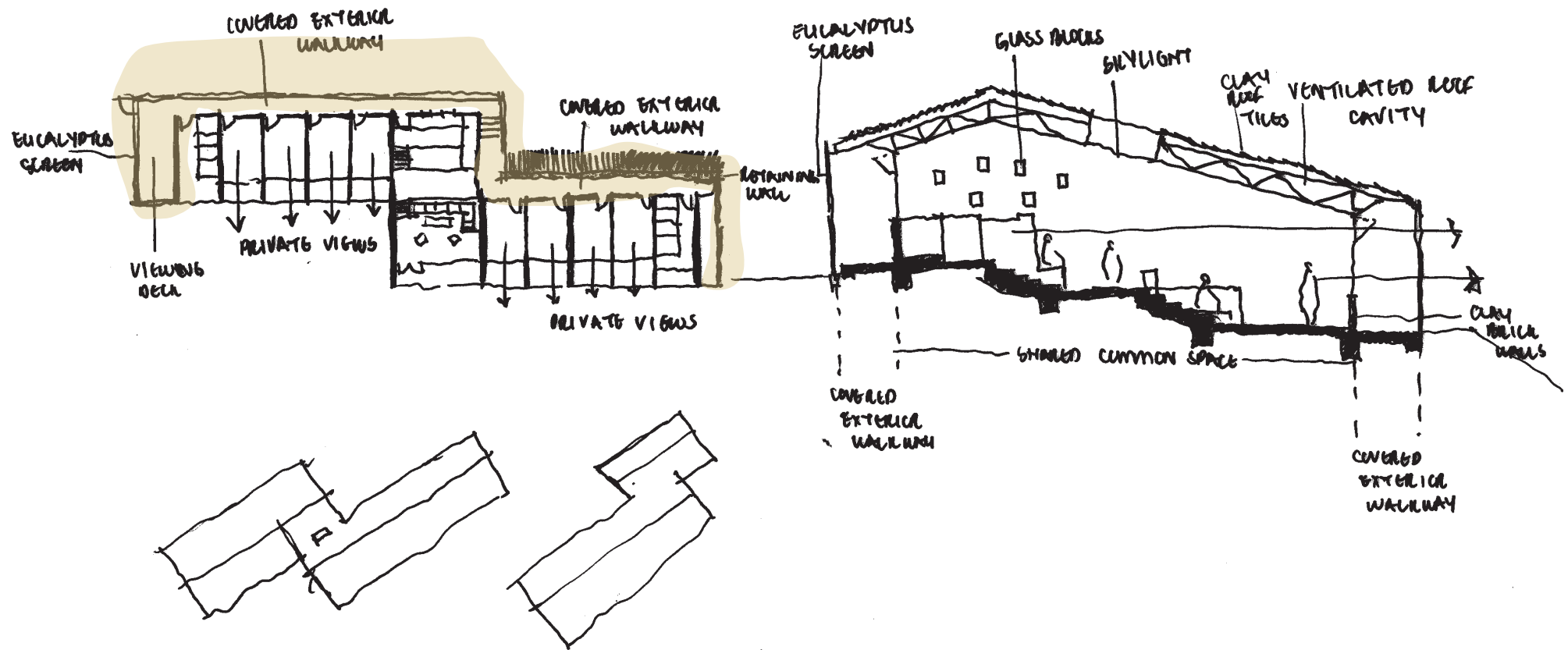
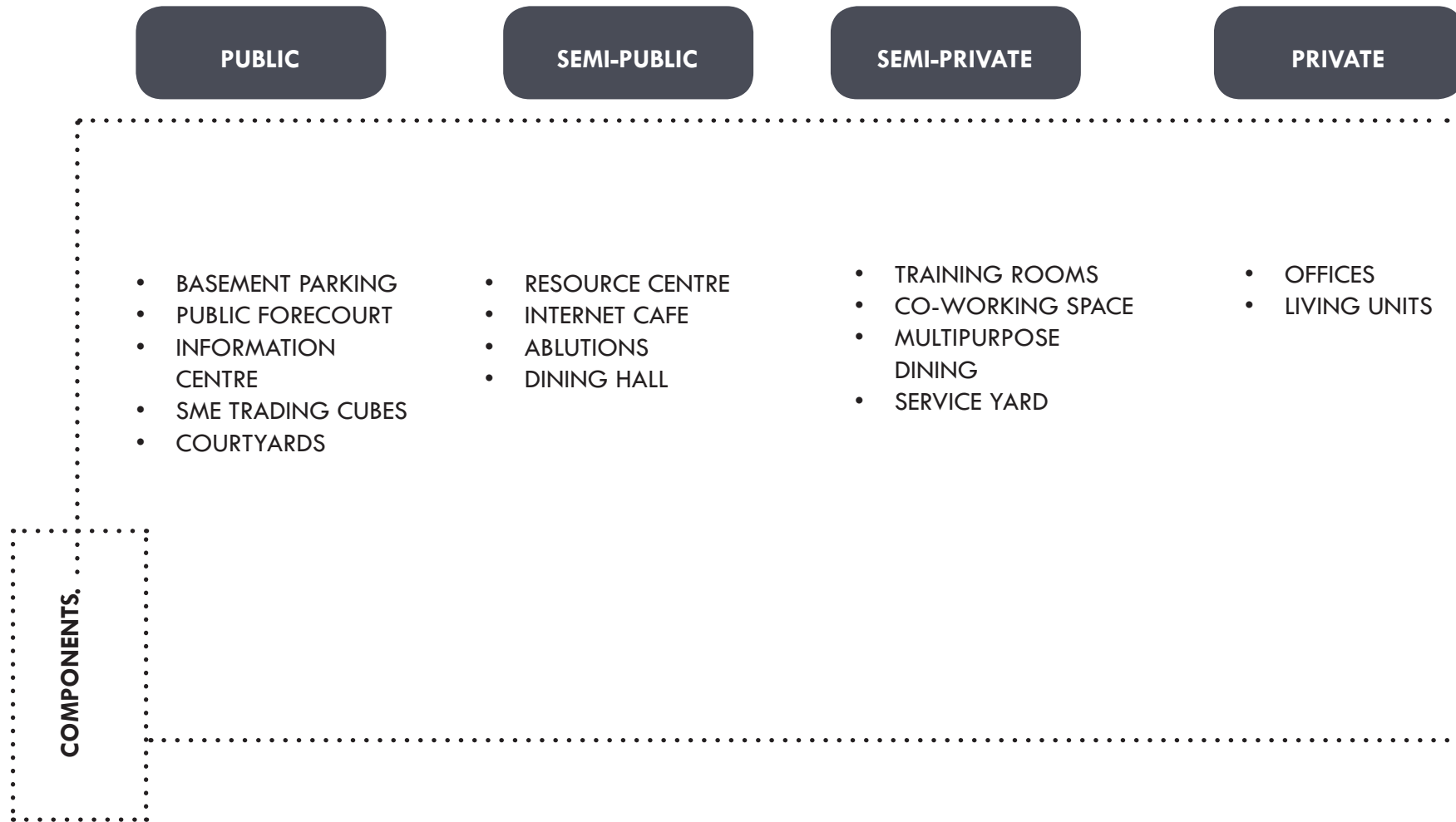
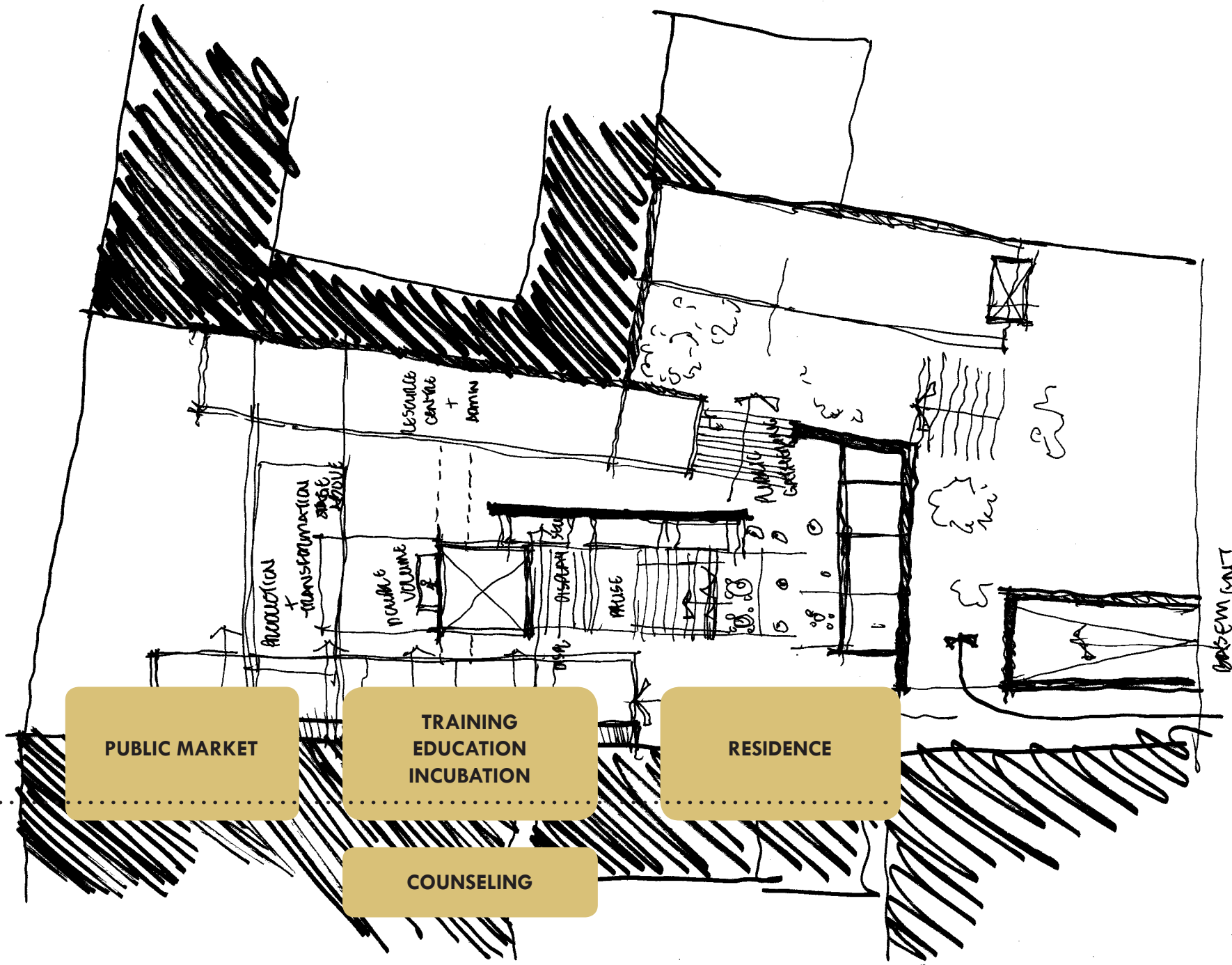


Figure 75: Building analysis (author, 2019)

2.3.4 GENERATING AN ACCOMMODATION LIST





PUBLIC MARKET

**TRAINING
EDUCATION
INCUBATION**

RESIDENCE

COUNSELING

ACCOMMODATION LIST

FUNCTION	QUANTITY	SIZE (m2)
BASEMENT		
Parking	98	980
Elevator Lobby	3	52
Stairwell	2	28
Generator Store Room	1	19
Storage Rooms	2	46
GROUND FLOOR		
SKILLS TRAINING		
Workshop	5	137
Store Rooms	5	43
Male Ablutions	3	37
Paraplegic WC	2	10
Female Ablutions	3	36
Reception and Information	1	54
Waiting Area	1	44
Lobby	1	33
SME Cubes	1	202
Covered Platform	1	39
Elevator Lobby	3	39

Stairwell	3	45
RESOURCE CENTRE		
Resource centre Reception	1	34
Resource Centre	1	88
Internet Cafe	1	22
Office	2	19
Co-Working space	1	26
COMMUNITY & RESIDENCE		
Community dining Hall	1	128
Kitchen	1	65
Kitchen Store	1	15
Staff Lockers	1	9
Manager	1	9
Auxillary	2	42
FIRST FLOOR		
SKILLS TRAINING		
Training rooms	5	219
Covered Walkway		
Self Study/Pause	2	33

SME Trading	1	105
Lobby	1	63
GOSHEN OFFICES		
Foyer	1	13
Reception	1	17
Boardroom	1	16
Director	1	13
Job Placement	2	12
Counselling	2	14
Open Plan Office	1	30
RESIDENCE DORMITORIES		
Female Dormitories	4	50
Shared Bathroom	2	36
Male Dormitories	5	50
Shared Common Space	1	46
Elevator Lobby	1	25
Stairwell	2	39
SECOND FLOOR		
RESIDENCE DORMITORIES		

Female Dormitories	5	50
Shared Common Space	1	46
Shared Bathroom	1	17
Family Living Unit	1	32
Elevator Lobby	1	28
Stairwell	1	18
THIRD FLOOR		
RESIDENCE DORMITORIES		
Male Dormitories	5	50
Shared Bathroom	1	17
Shared Common Space	1	46
Elevator Lobby	1	28
Stairwell	1	18

2.4 DESIGN METHODOLOGY

Tools for Design

THEORY

- THE SHAPE OF MIGRATION
- EDGES AND THE IN-BETWEEN
- RITES OF PASSAGE

TOUCHSTONE

- AMELIORATION
- ADAPT OR DIE

CONCEPTS

- DISPLACEMENT - REPLACED WITH ORIENTATION AND SOLACE
- ACCLIVITY - BETTERMENT OF ONESELF
- TRANSIENCE - TRANSFORMATION WITHIN TRANSIENCE

PRECEDENTS

- COMMUNITY EMPOWERMENT
- ENTREPRENEURIAL GROWTH
- SOCIAL INTERACTION

TECTONICS

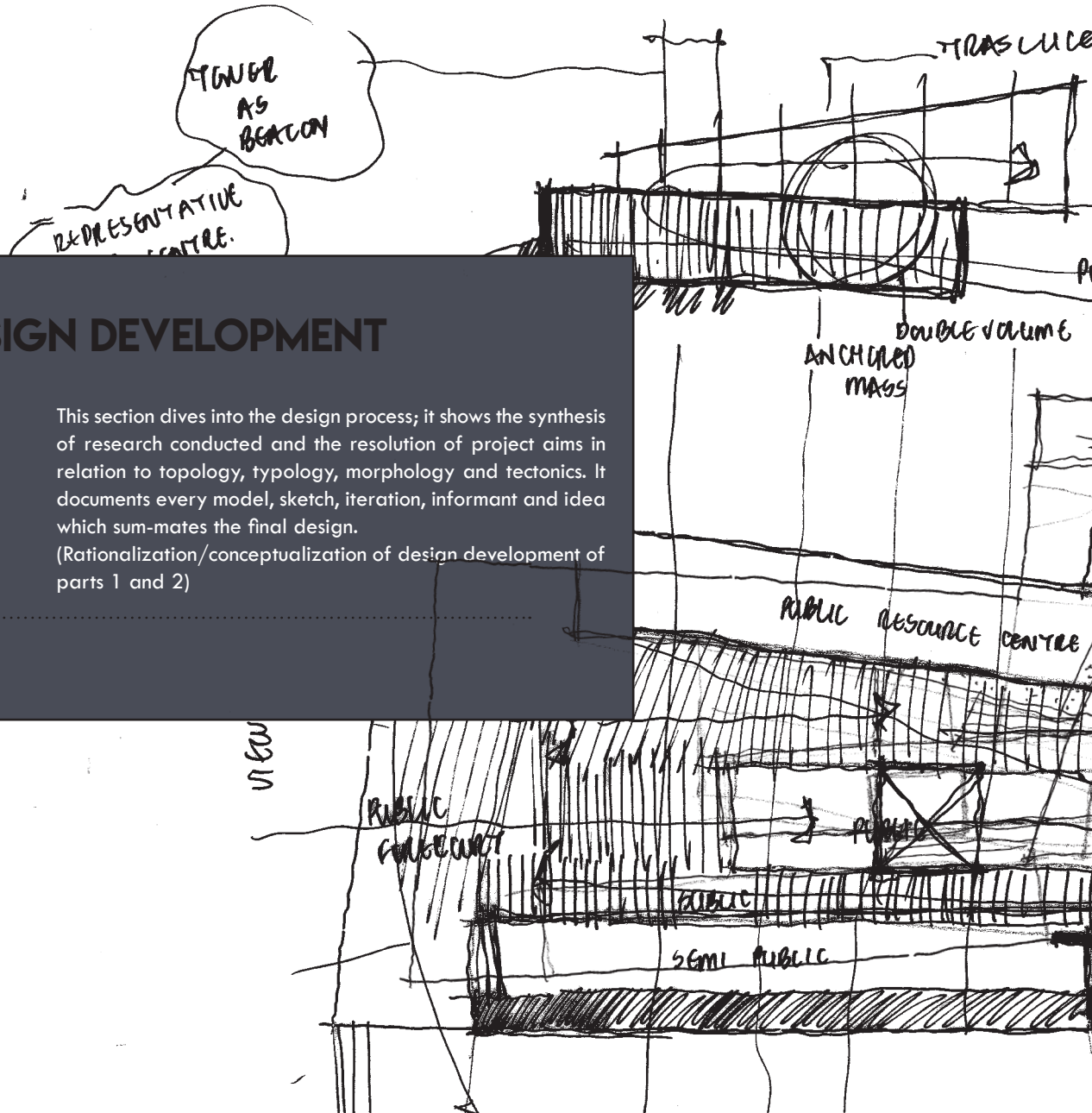
- FRAME
- INCUBATE
- FACILITATE
- STAGE

- CARVED STABLE ANCHOR
- POLYCARBONATE INCUBATOR
- SCREENS

3

DESIGN DEVELOPMENT

This section dives into the design process; it shows the synthesis of research conducted and the resolution of project aims in relation to topology, typology, morphology and tectonics. It documents every model, sketch, iteration, informant and idea which sum-mates the final design.
(Rationalization/conceptualization of design development of parts 1 and 2)



...NT, KEY ADDITION

TOWER AS BEACON

REPRESENTATIVE OF CENTRE.
PUBLIC RESOURCE
BEACON
W/ BATHHOUSE,
POINT OF ORIENTATION
PRIVATE HOUSE

TRANSLUCENT, KEY ADDITION

PUBLIC RESOURCE

THRESHOLD OF OPPORTUNITY

PUBLIC RESOURCE

MANUFACTURING

WORKING

WORKING

016 PUBLIC RESOURCE

MANUFACTURING

WORKING

LOWE'S CONCRETE
OPEN AIR GARDEN

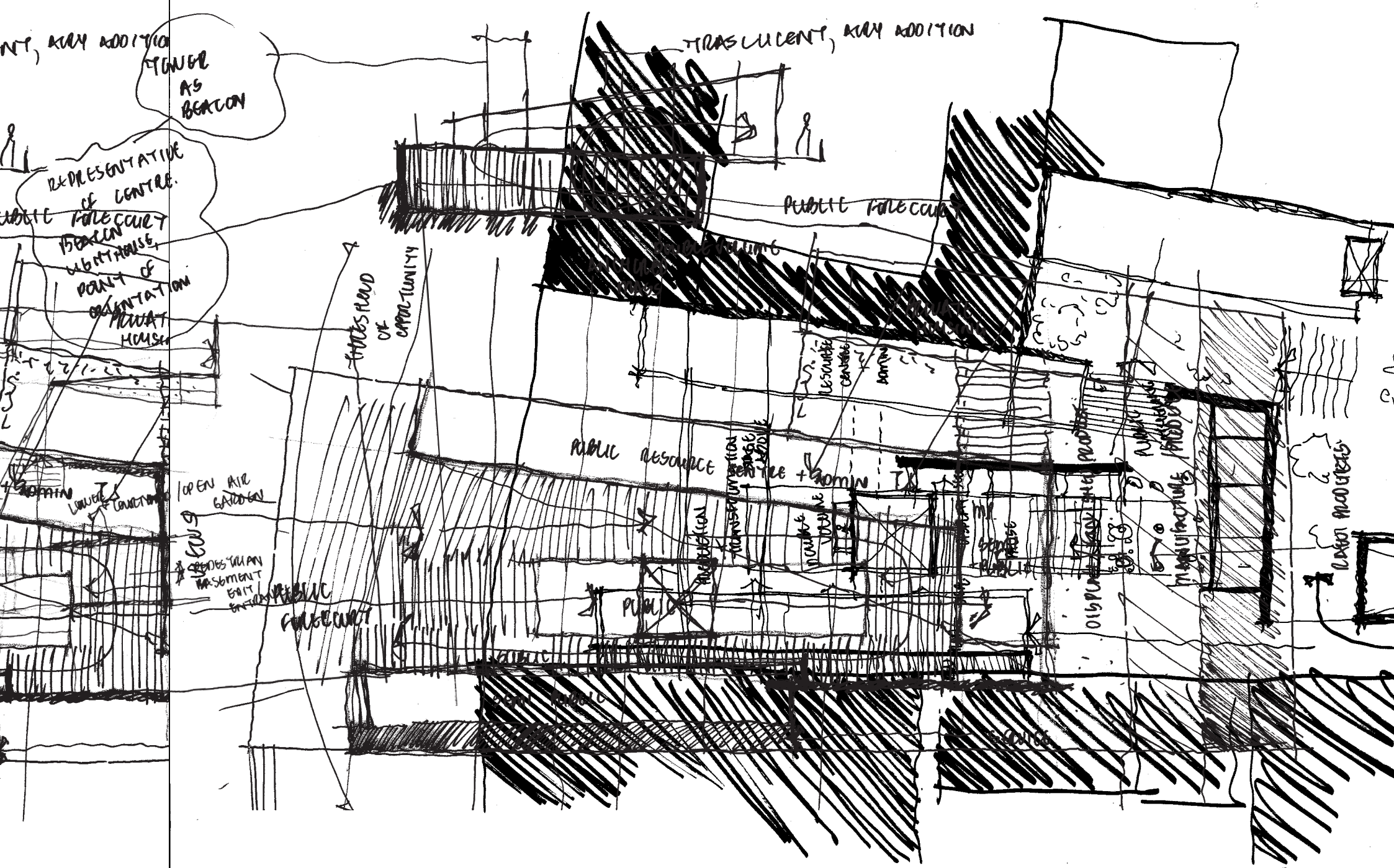
CONCRETE

CONCRETE

PUBLIC RESOURCE

PUBLIC RESOURCE

WORKING



SOFT TISSUE EXERCISE

Proposal explores the linear modules here perceived as life paths.
How these paths overlap, meet, affect, shape and leave the other.

This builds volumetric levels in imitation of the topography.

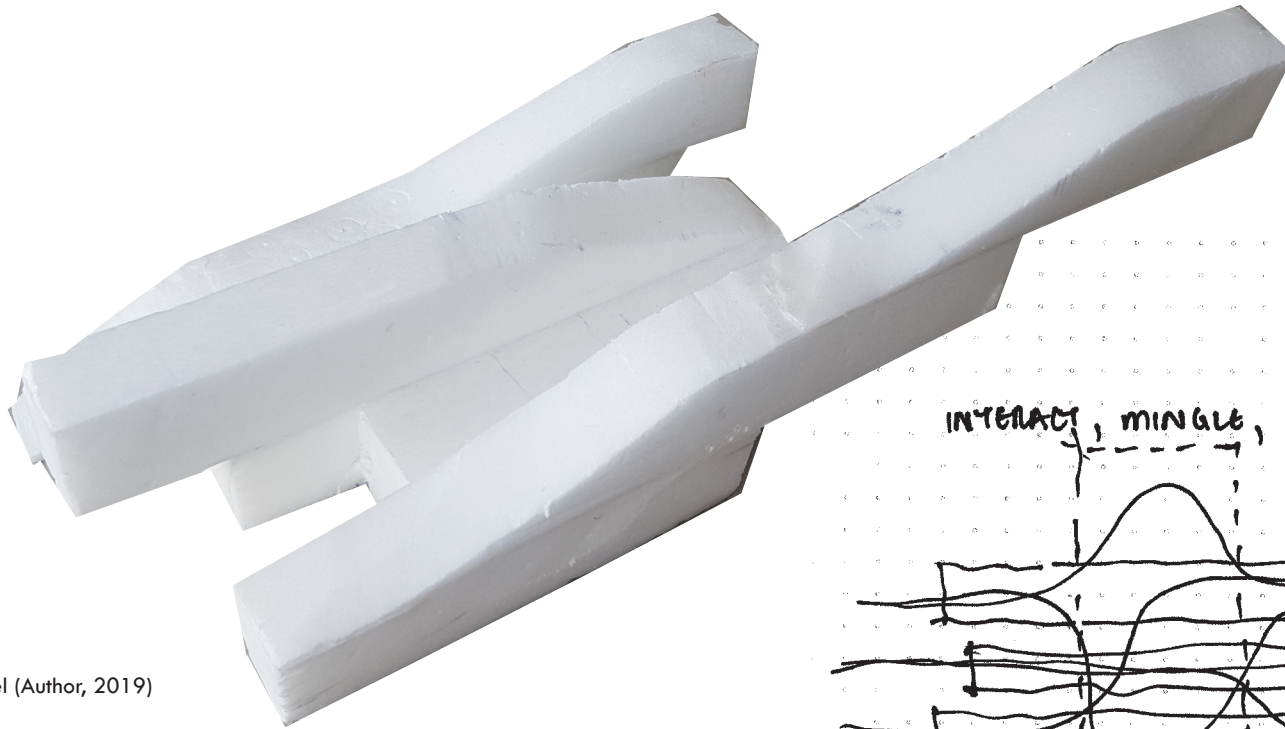


Figure 76: Soft tissue model (Author, 2019)

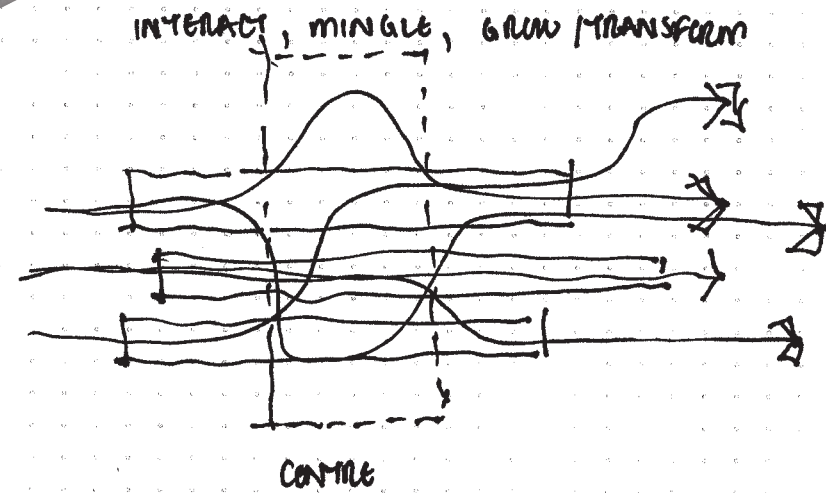


Figure 77: Investigation of soft tissue model (Author, 2019)

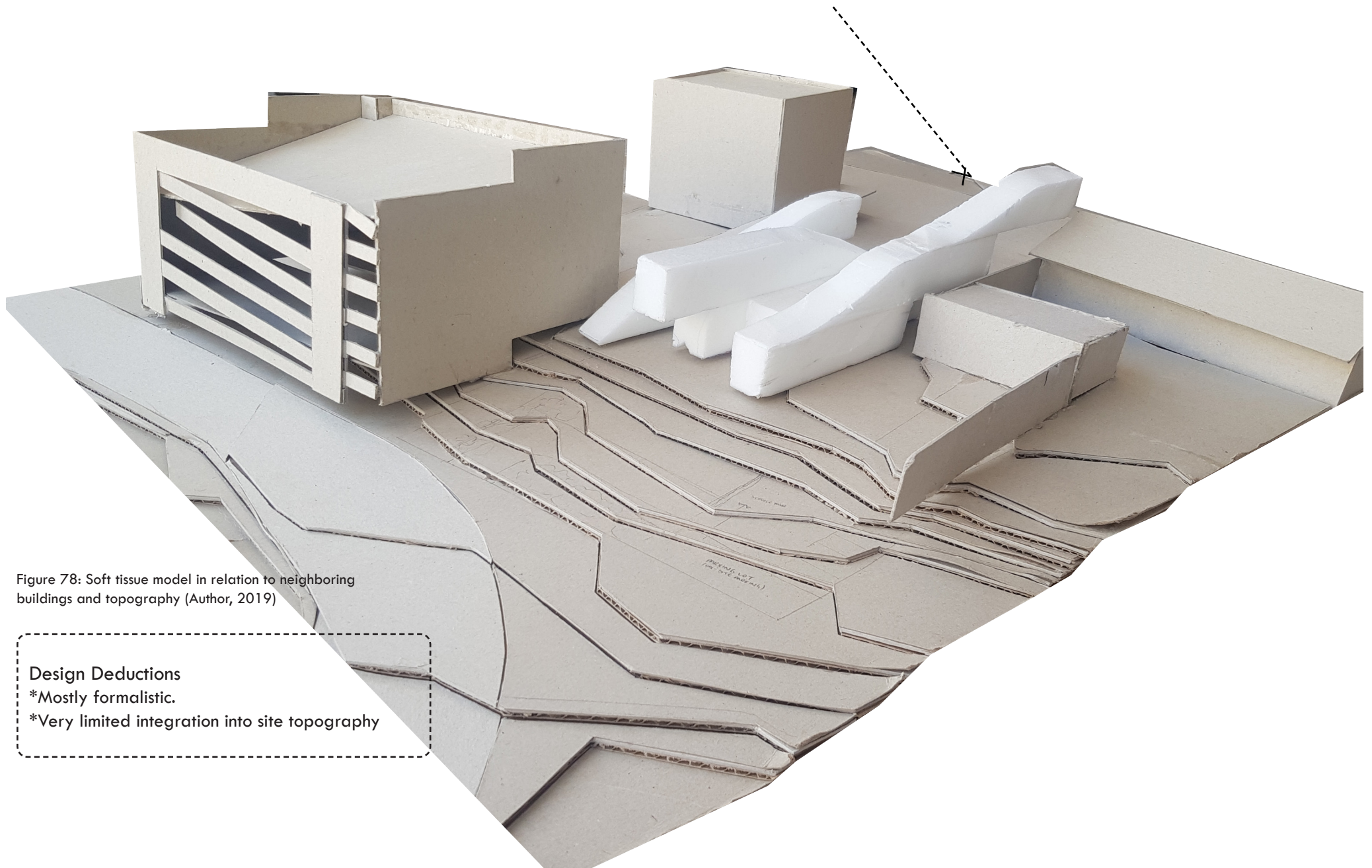


Figure 78: Soft tissue model in relation to neighboring buildings and topography (Author, 2019)

Design Deductions

*Mostly formalistic.

*Very limited integration into site topography

CARVING SPACE OUT OF THE TERRAIN

Space making exercise creating pockets of space within the volume of the terrain



Figure 79: Creating space within the ribbon planes(Author, 2019)

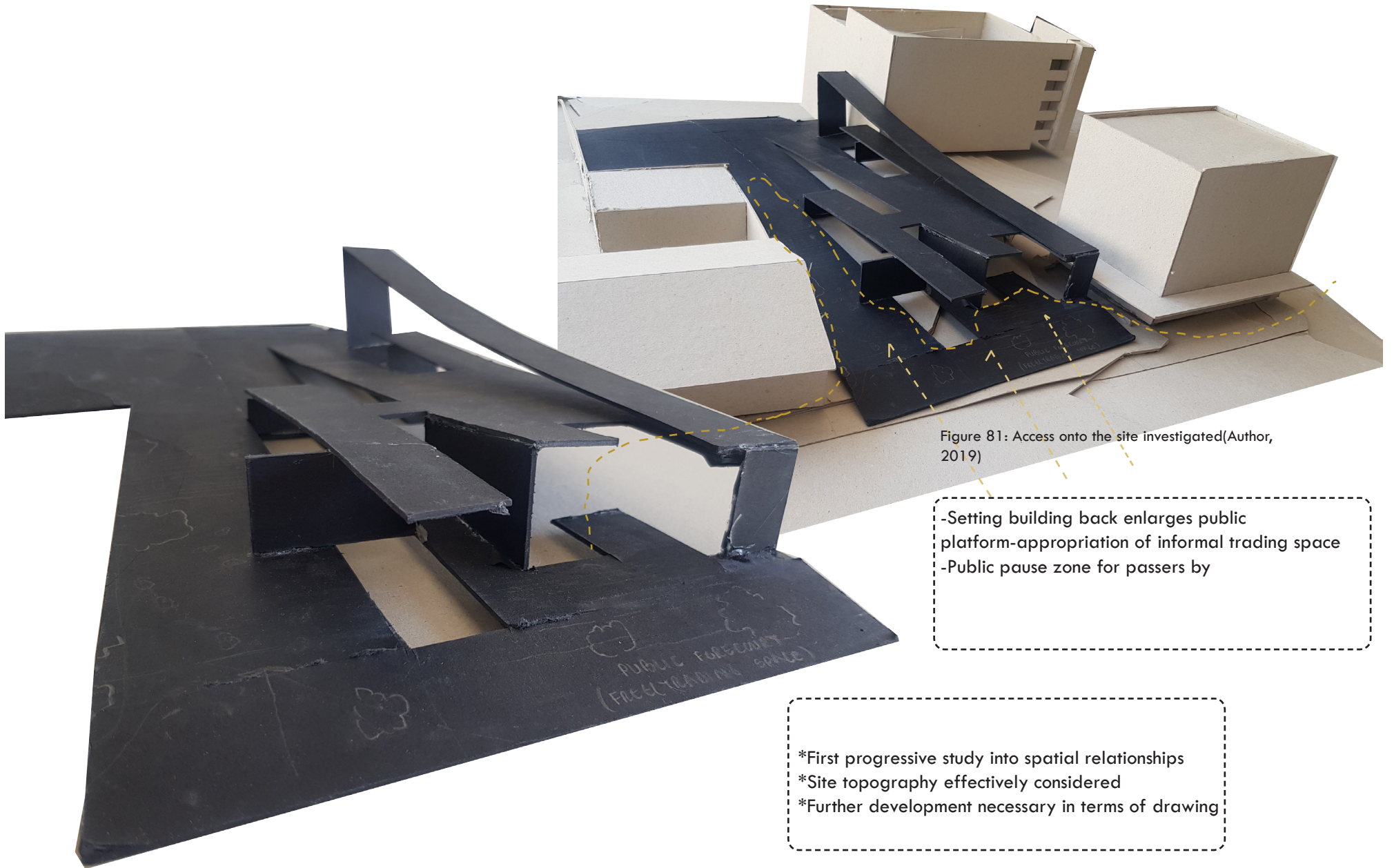


Figure 80: Exploring the volumetric extrusions of the planes(Author, 2019)

Figure 81: Access onto the site investigated(Author, 2019)

-Setting building back enlarges public platform-appropriation of informal trading space
-Public pause zone for passers by

*First progressive study into spatial relationships
*Site topography effectively considered
*Further development necessary in terms of drawing

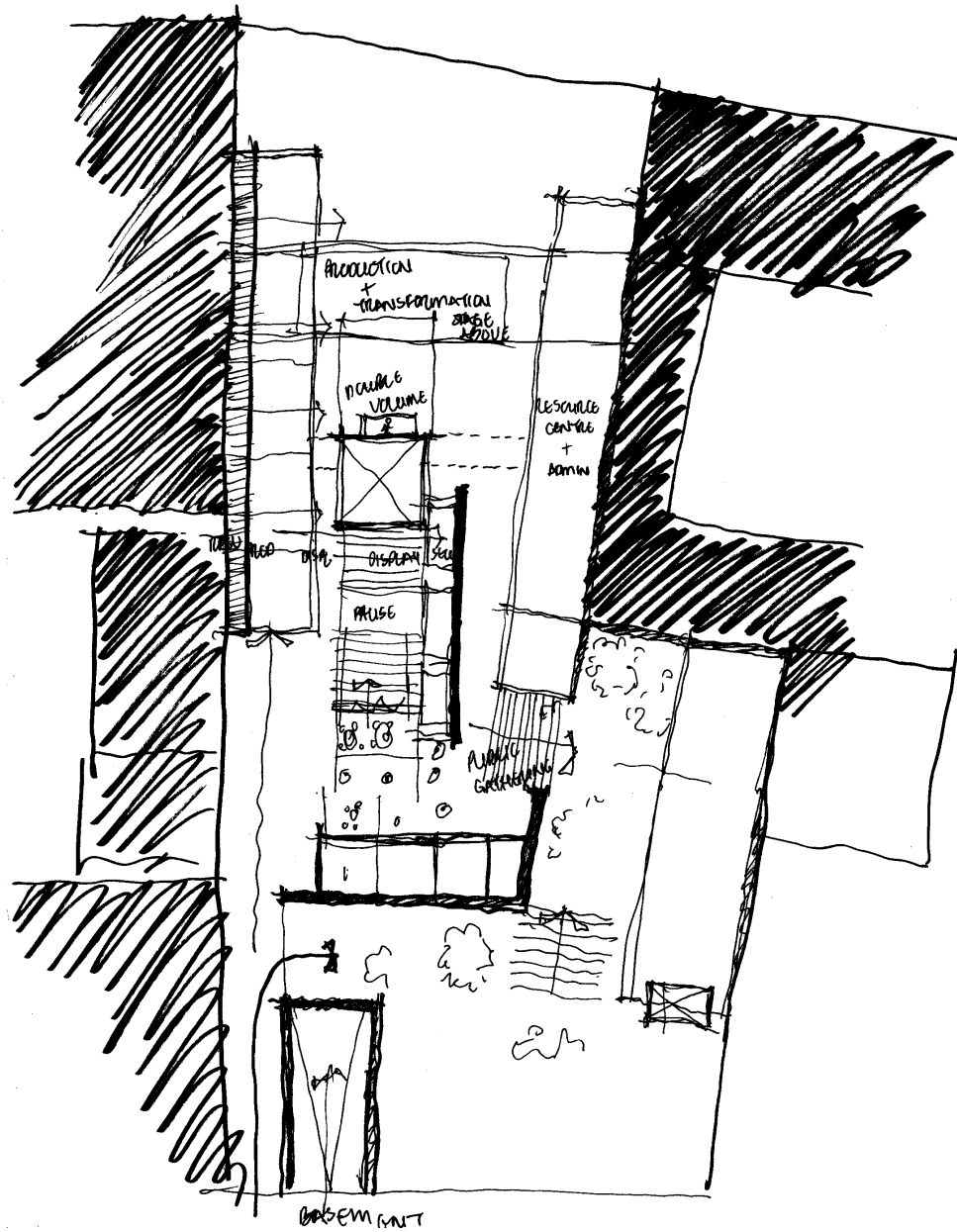


Figure 84: Plan development sketches continued
 (Author, 2019)

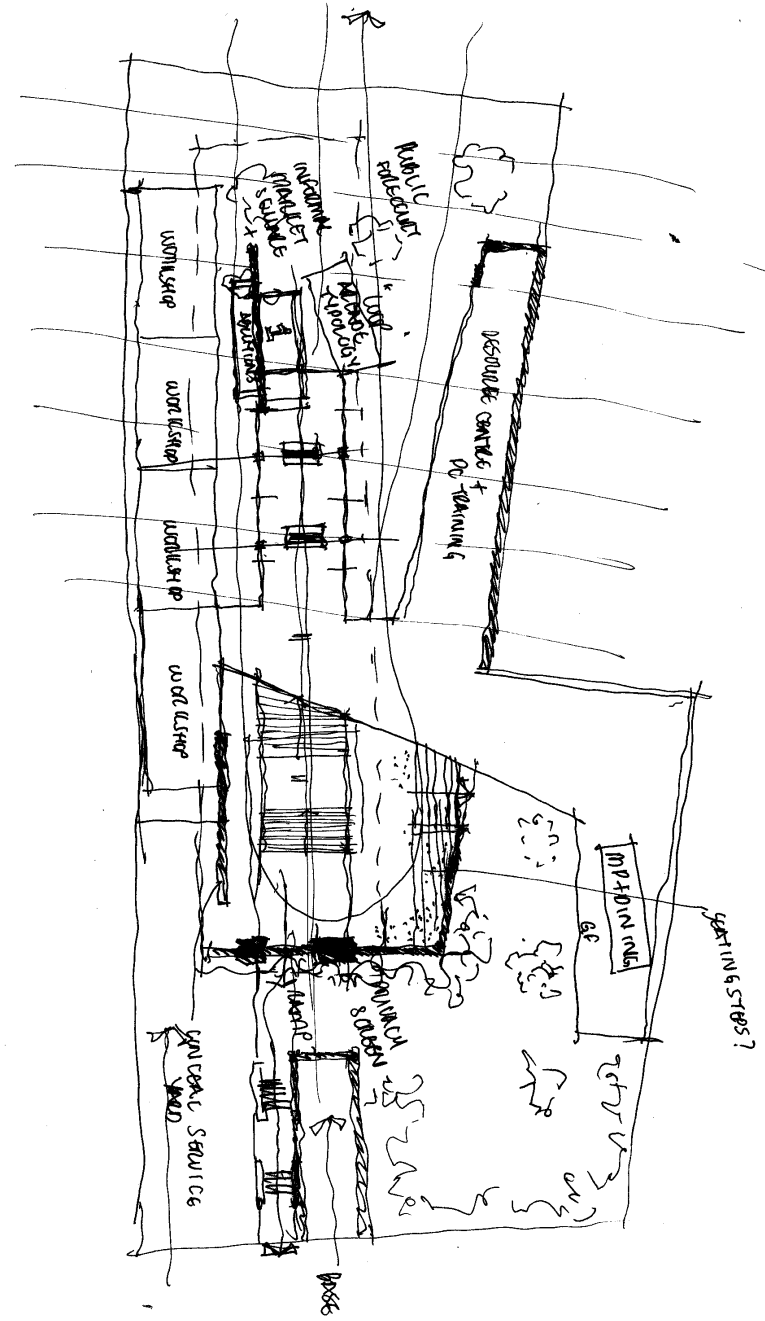


Figure 85: Plan development sketches continued
 (Author, 2019)

EXPLORING SURFACE PLANES

Volumetric development of plan

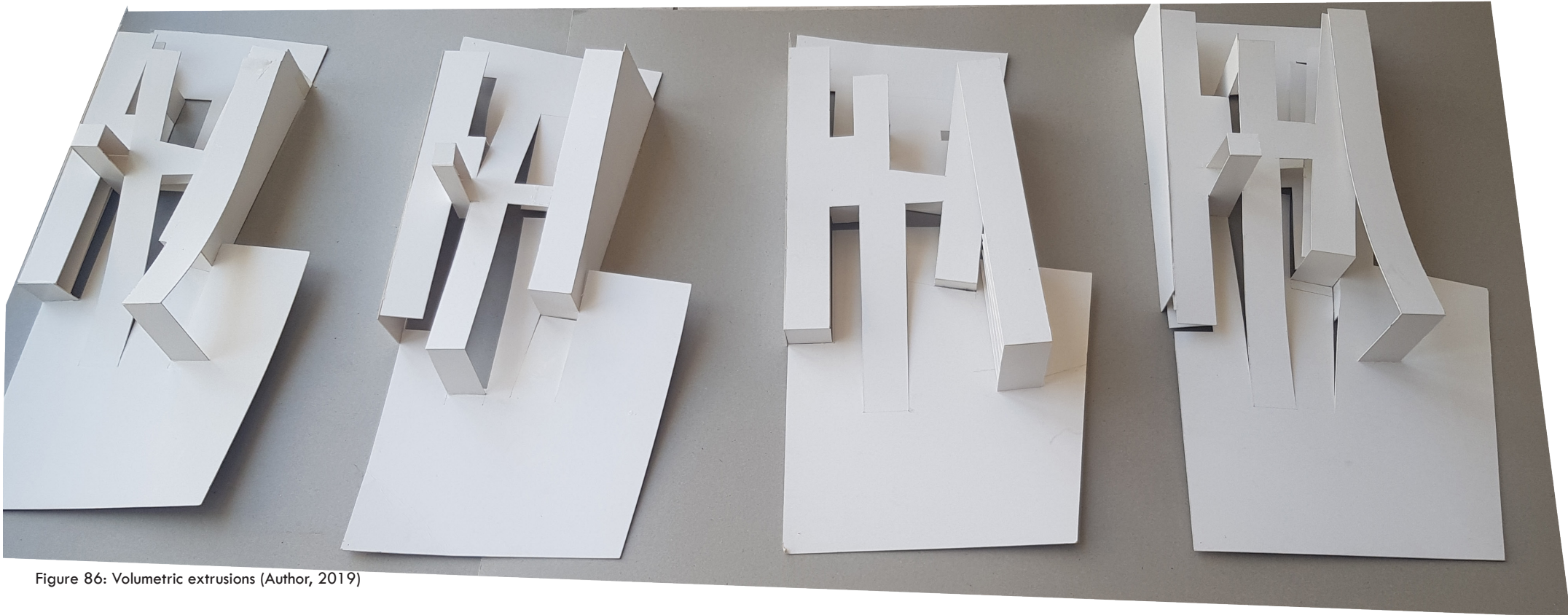


Figure 86: Volumetric extrusions (Author, 2019)

- *Monotonous repetition of same modular volume
- *Disconnected from previous idea

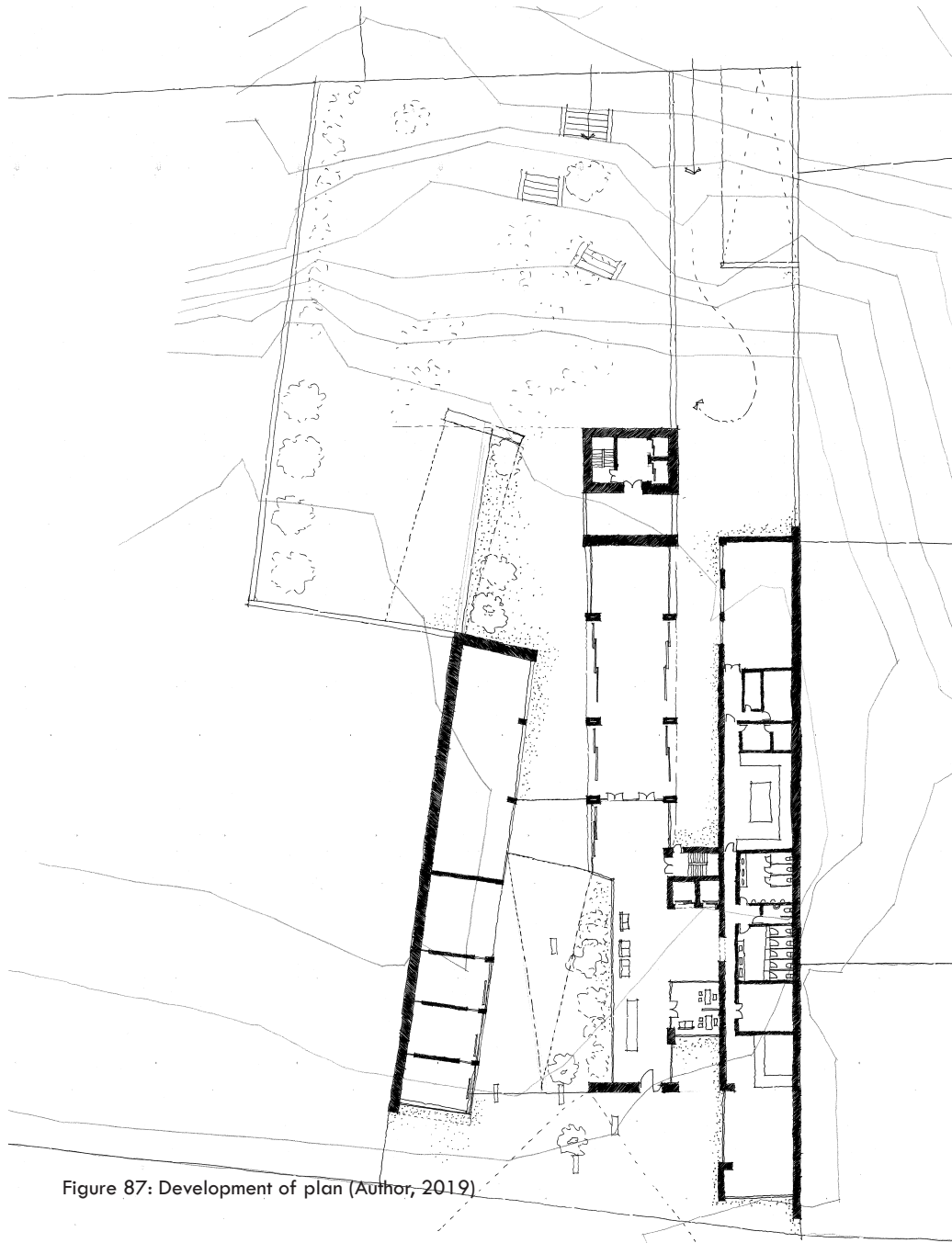


Figure 87: Development of plan (Author, 2019)

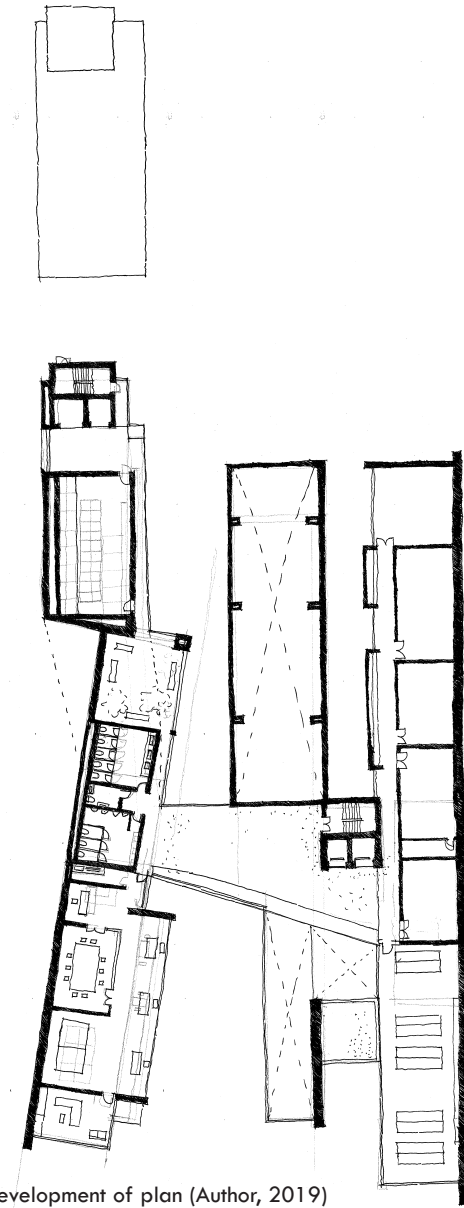


Figure 88: Development of plan (Author, 2019)

FURTHER DEVELOPMENT OF PLAN

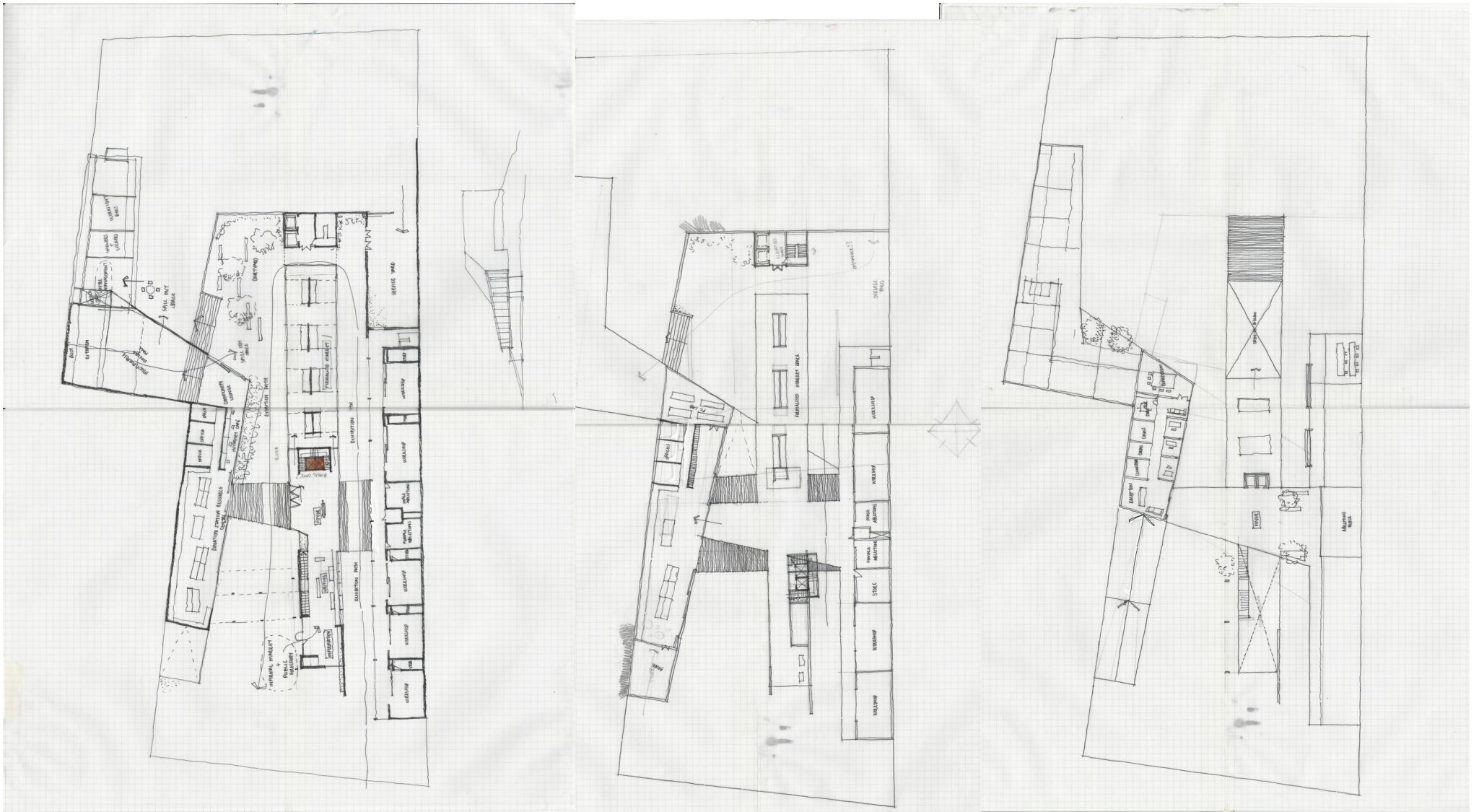


Figure 89: Development of various levels (Author, 2019)

DEVELOPMENT OF SECTIONS

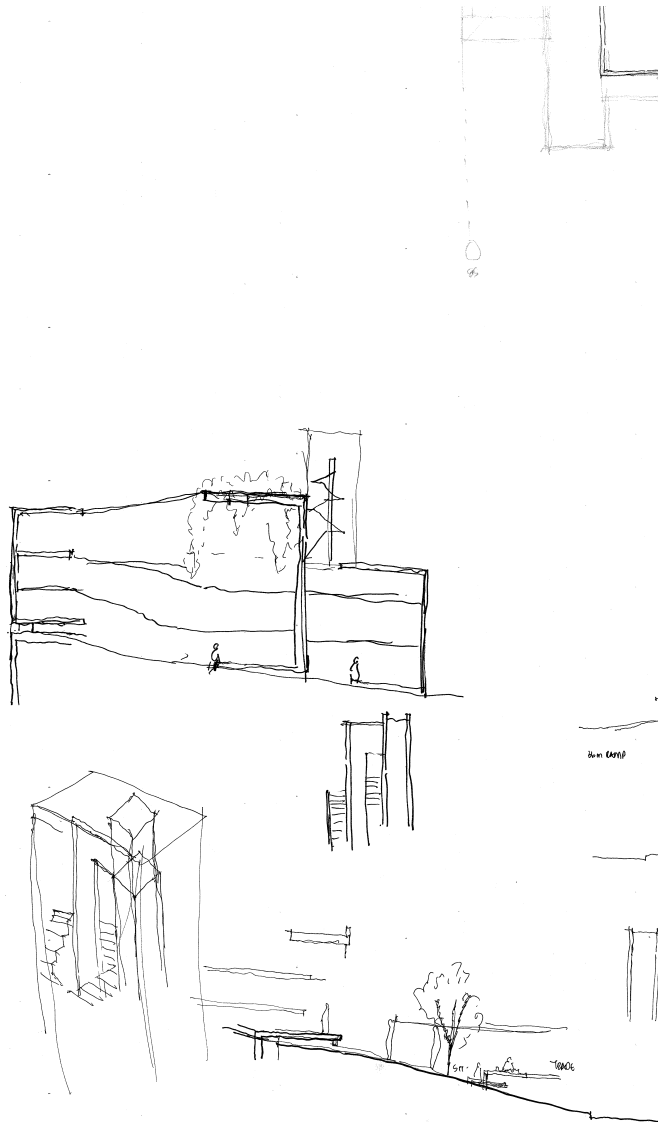
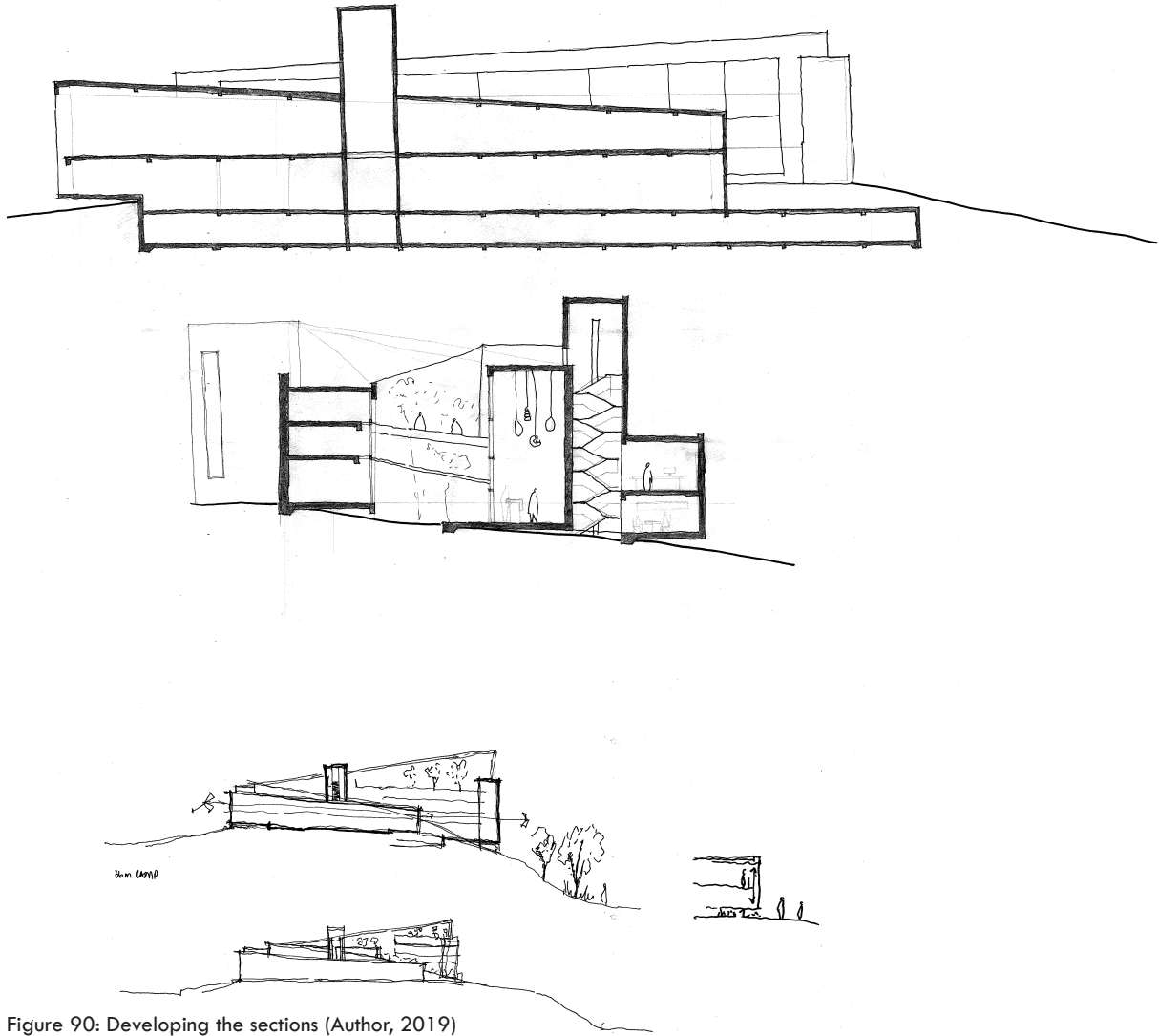


Figure 90: Developing the sections (Author, 2019)

DESIGN PROPOSAL 4

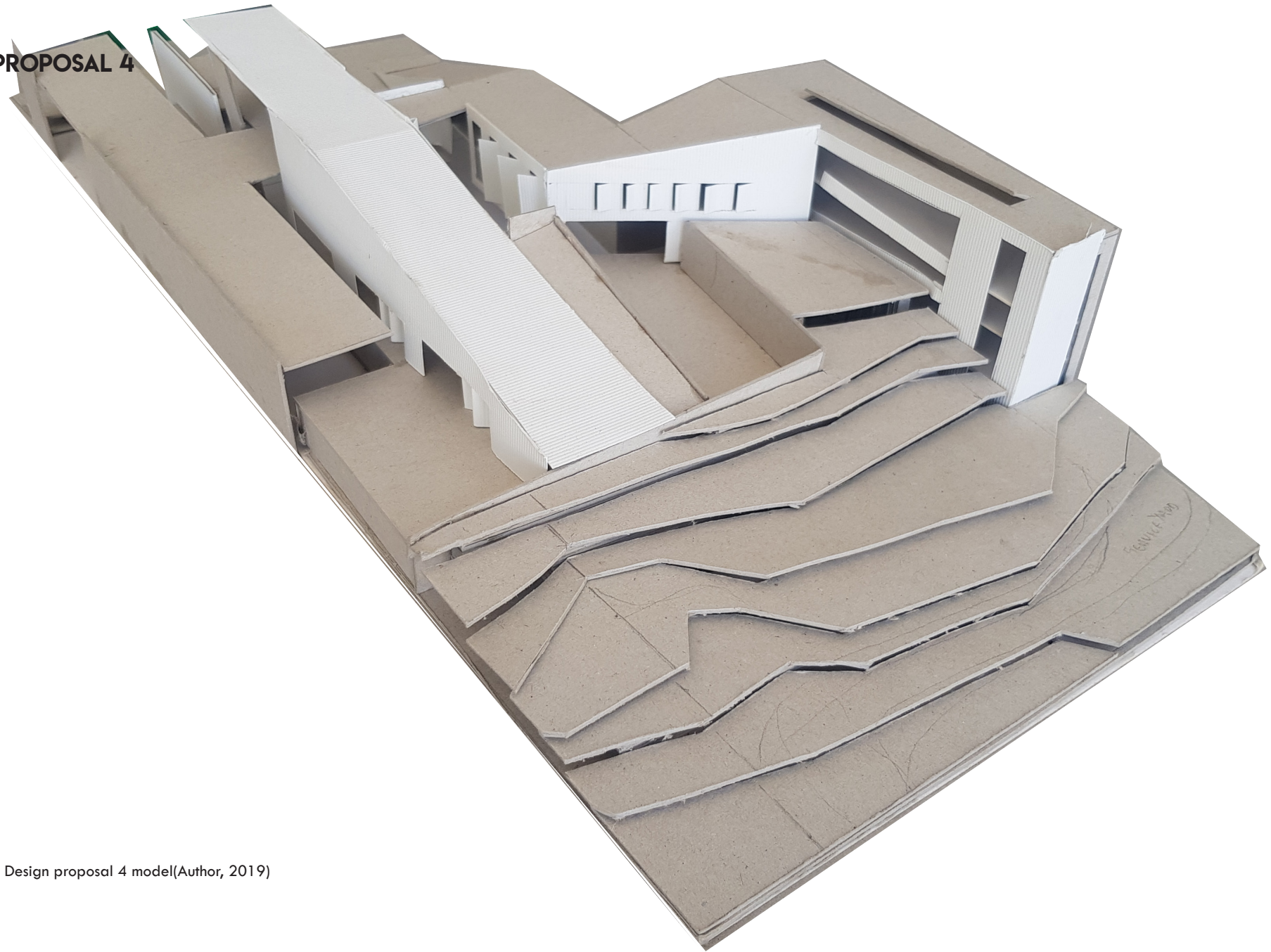


Figure 91: Design proposal 4 model(Author, 2019)

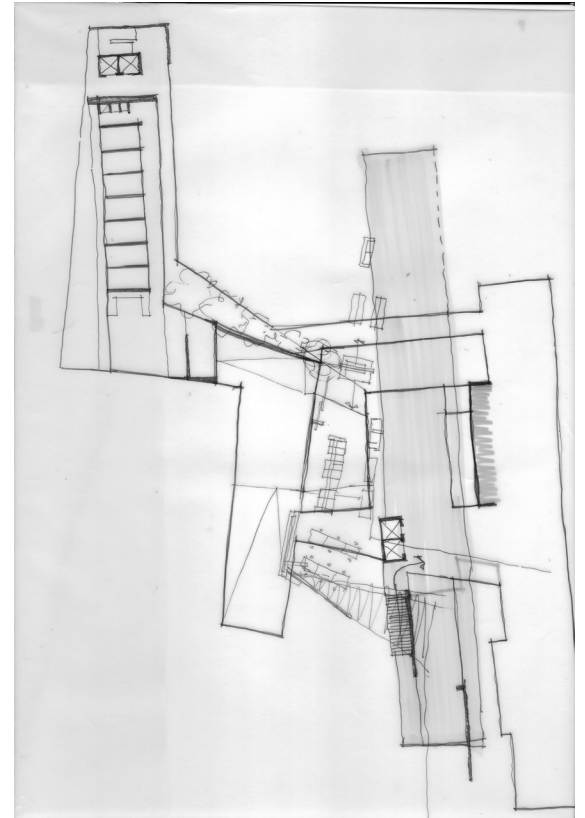
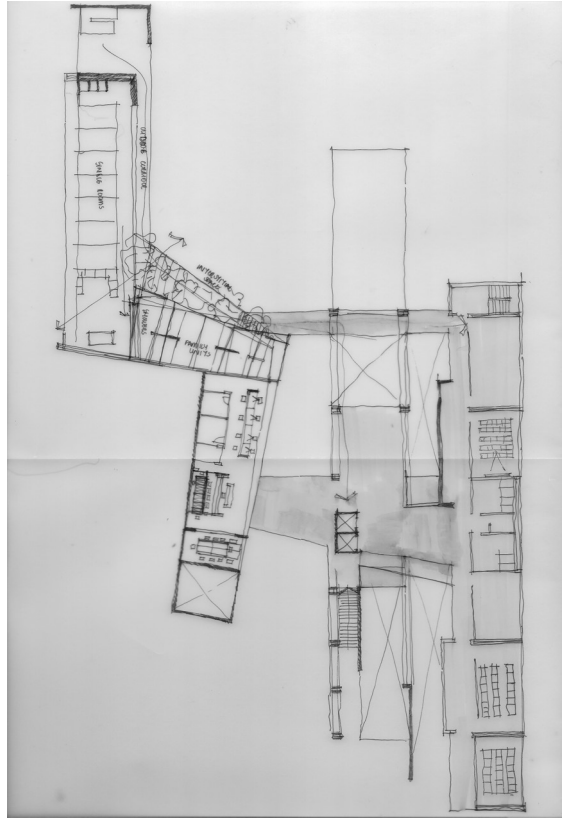
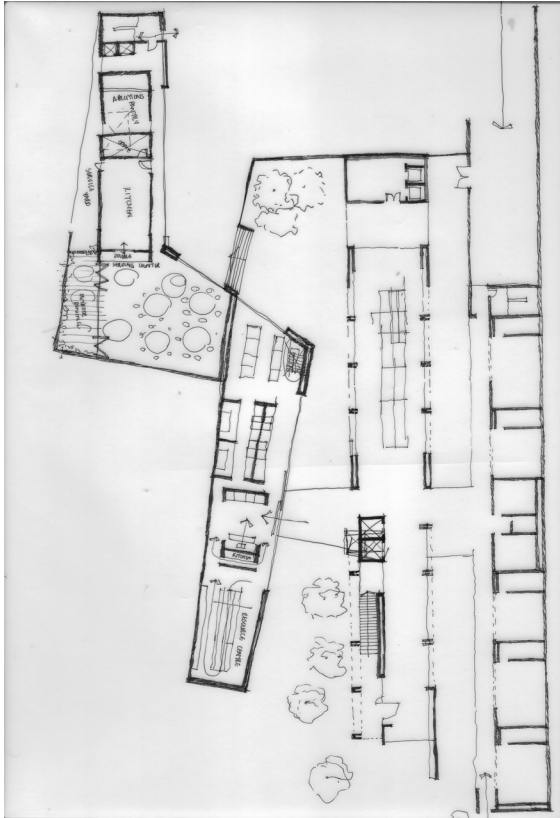


Figure 92: Design proposal 4 plan development(Author, 2019)

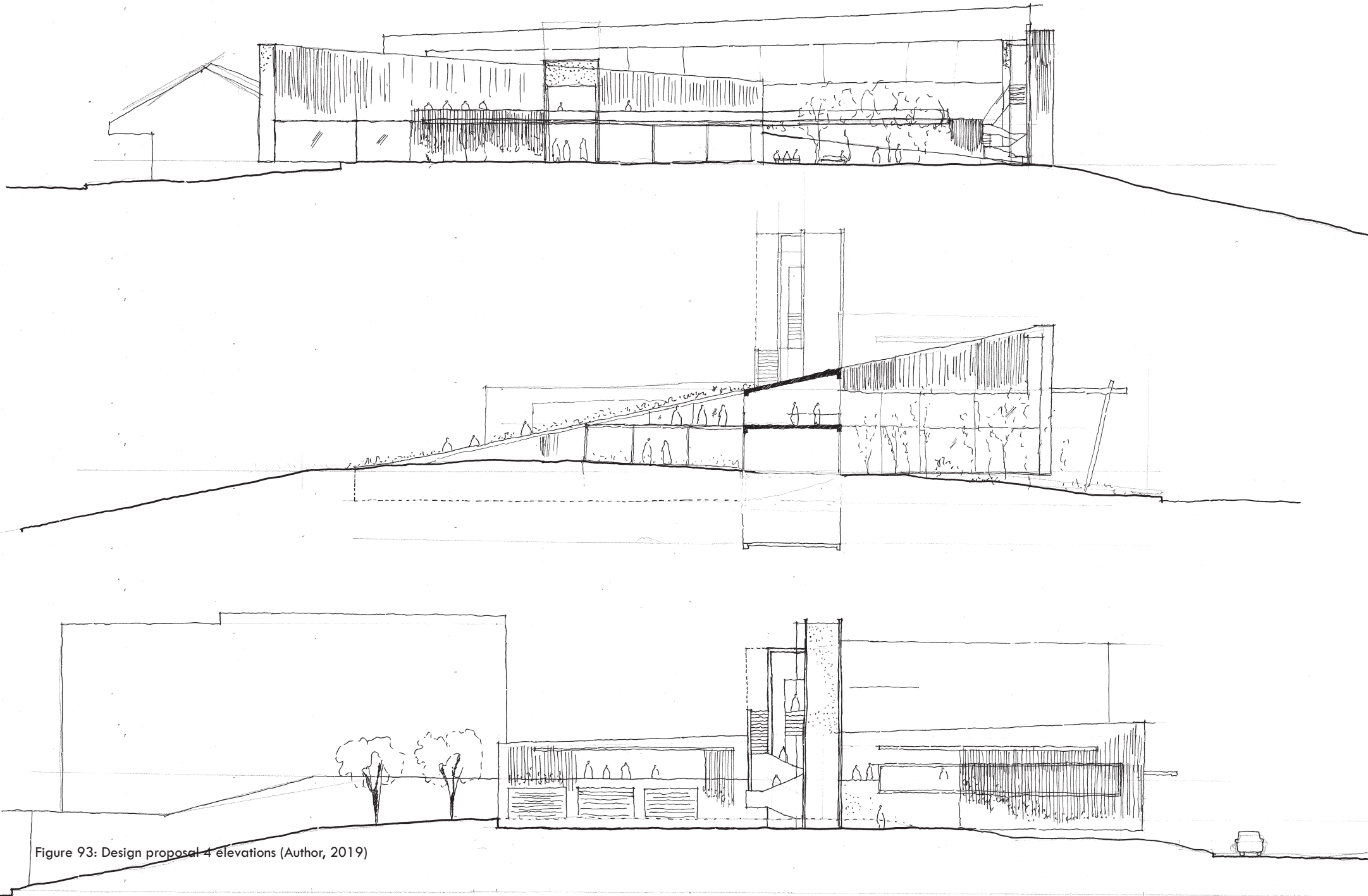
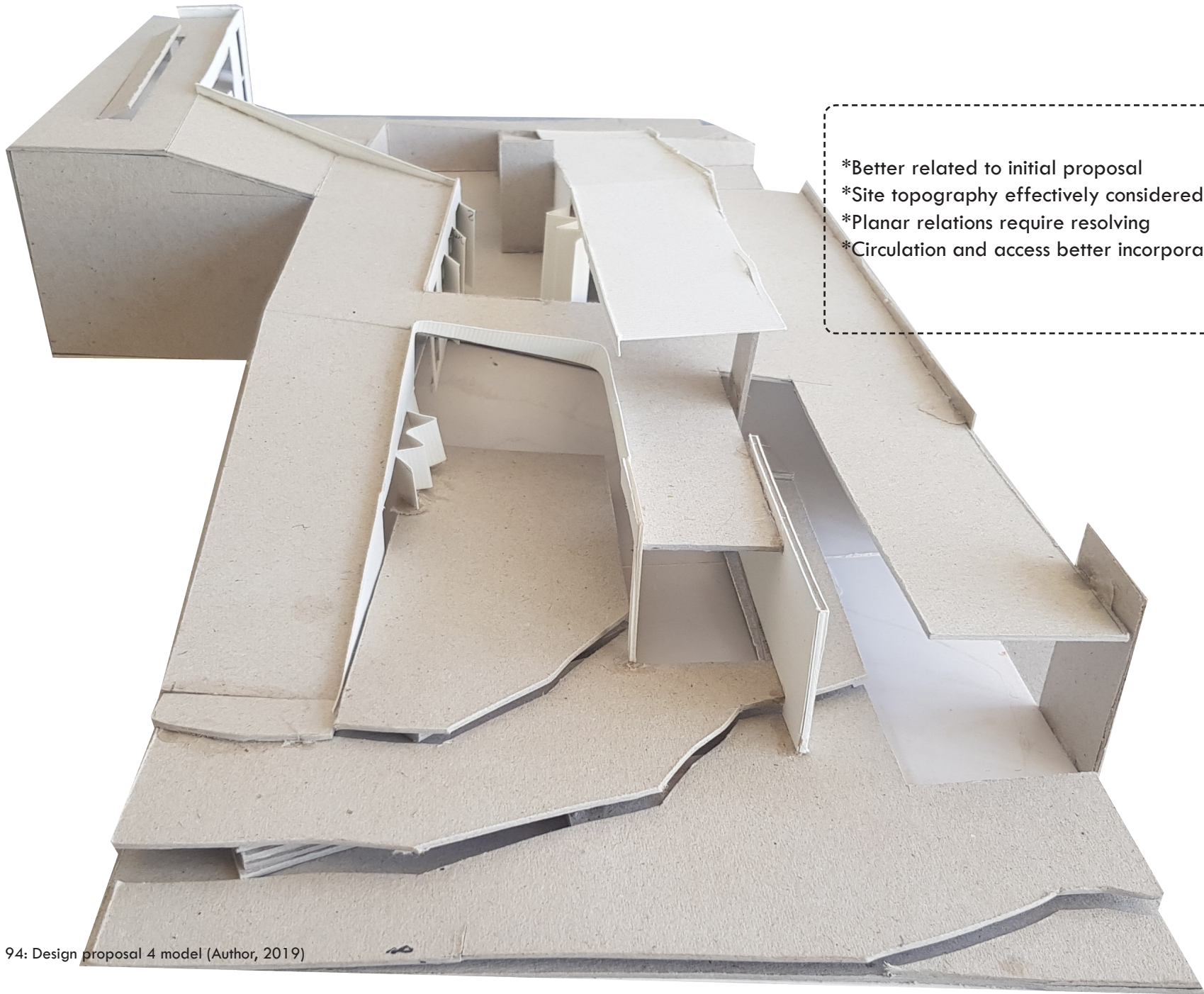
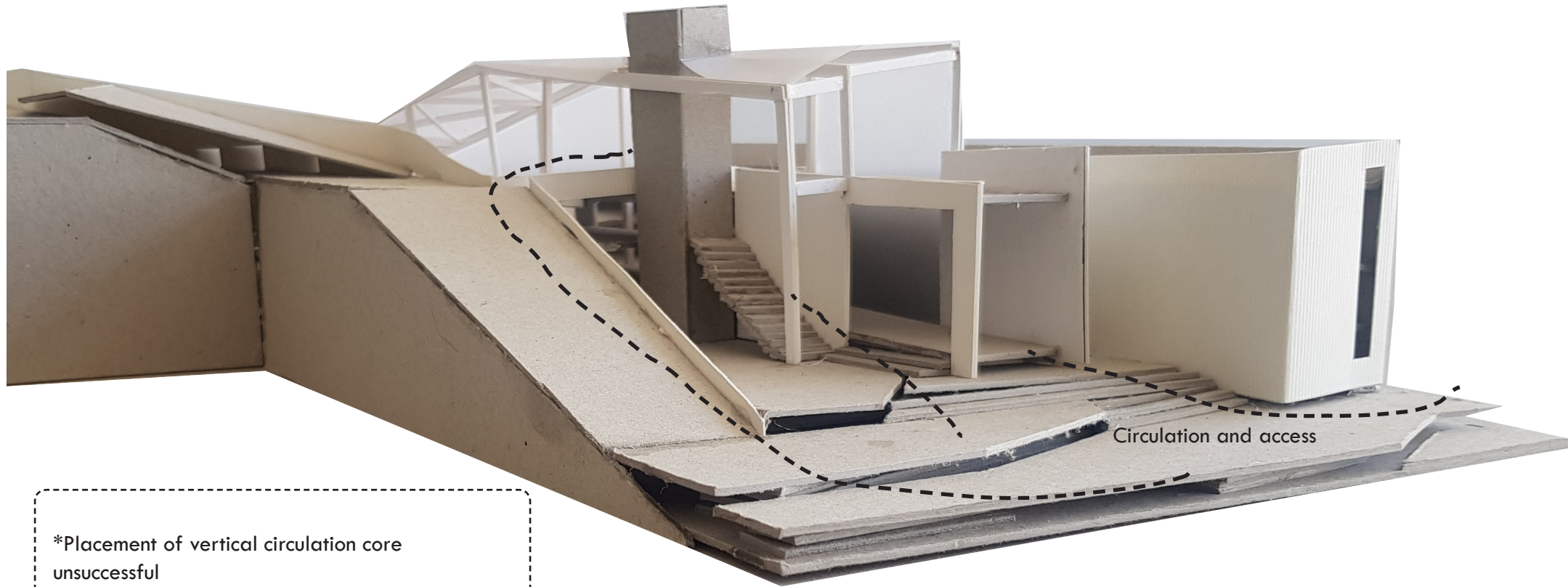


Figure 93: Design proposal 4 elevations (Author, 2019)



*Better related to initial proposal
*Site topography effectively considered
*Planar relations require resolving
*Circulation and access better incorporated

Figure 94: Design proposal 4 model (Author, 2019)



- *Placement of vertical circulation core unsuccessful
- *Polycarbonate shell inappropriate for Namibian climate
- *Structure inhabiting initial concept of pavilion roof

Figure 95: Design proposal 4 development model 2 (Author, 2019)



Figure 96: Design proposal 4 development model 2 (Author, 2019)



Figure 97: Basement floor plan (Author, 2019)



Figure 98: Ground floor plan (Author, 2019)



Figure 99: First floor plan (Author, 2019)

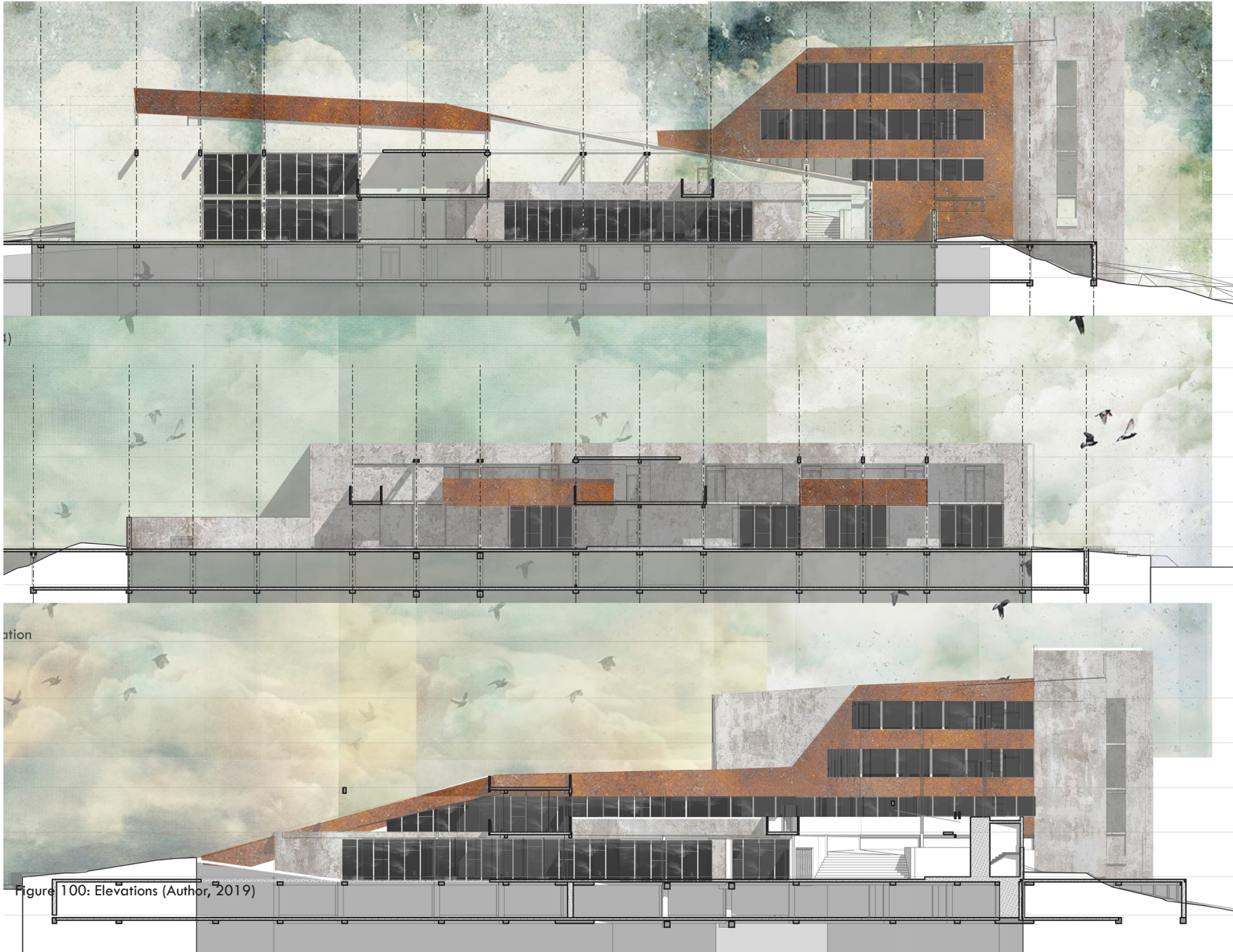


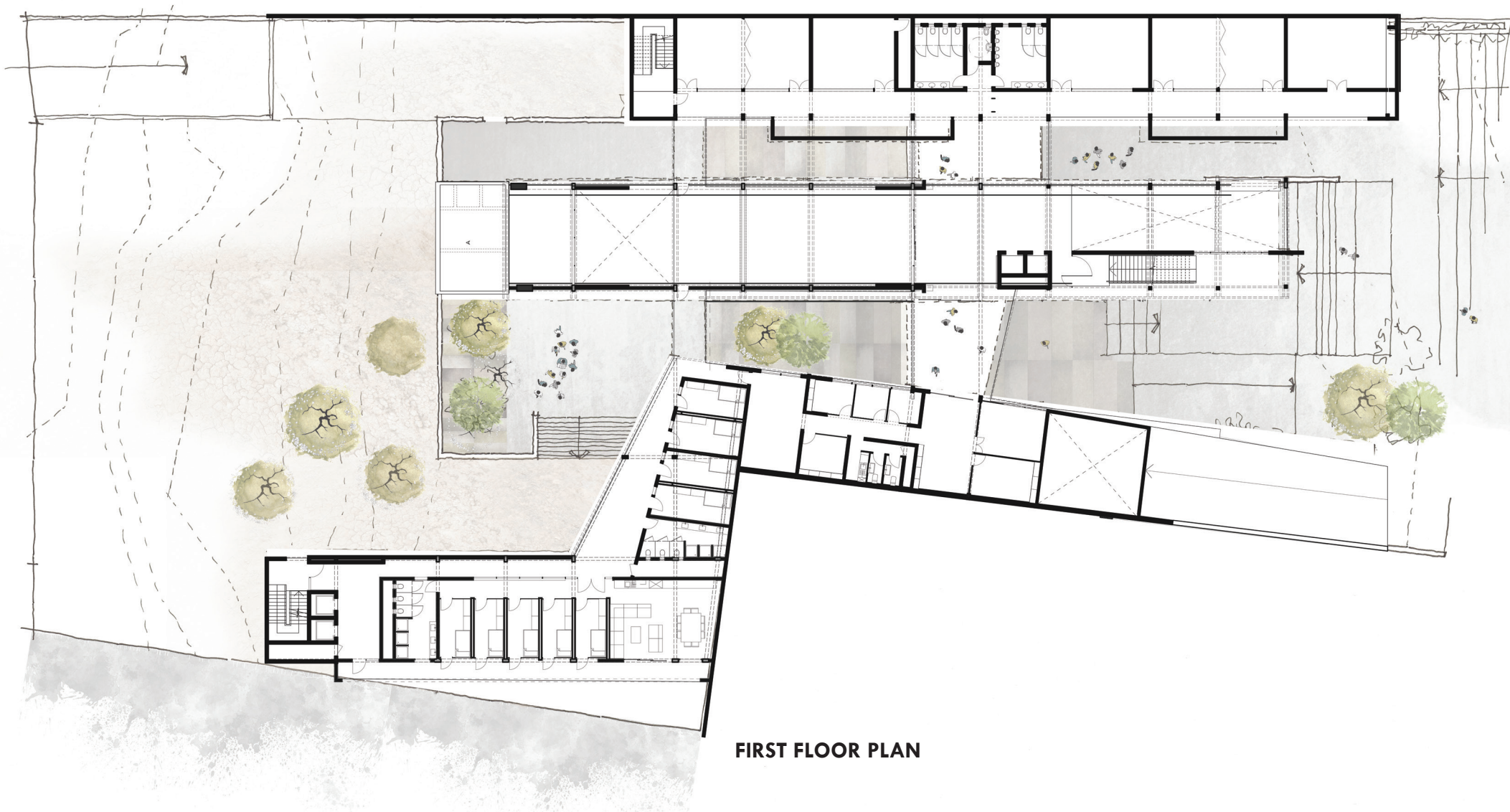
Figure 100: Elevations (Author, 2019)

TOWARDS A FINAL DESIGN

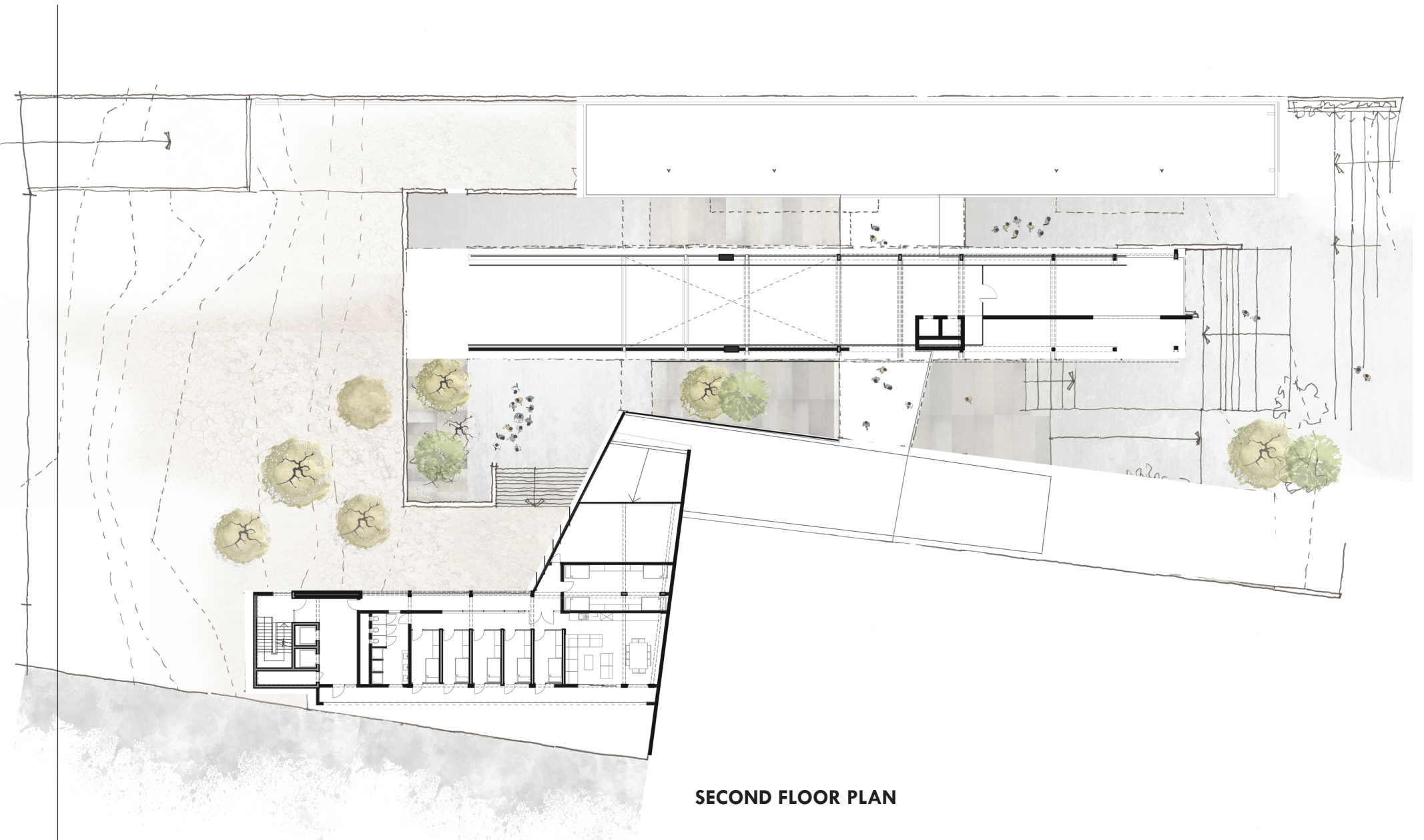




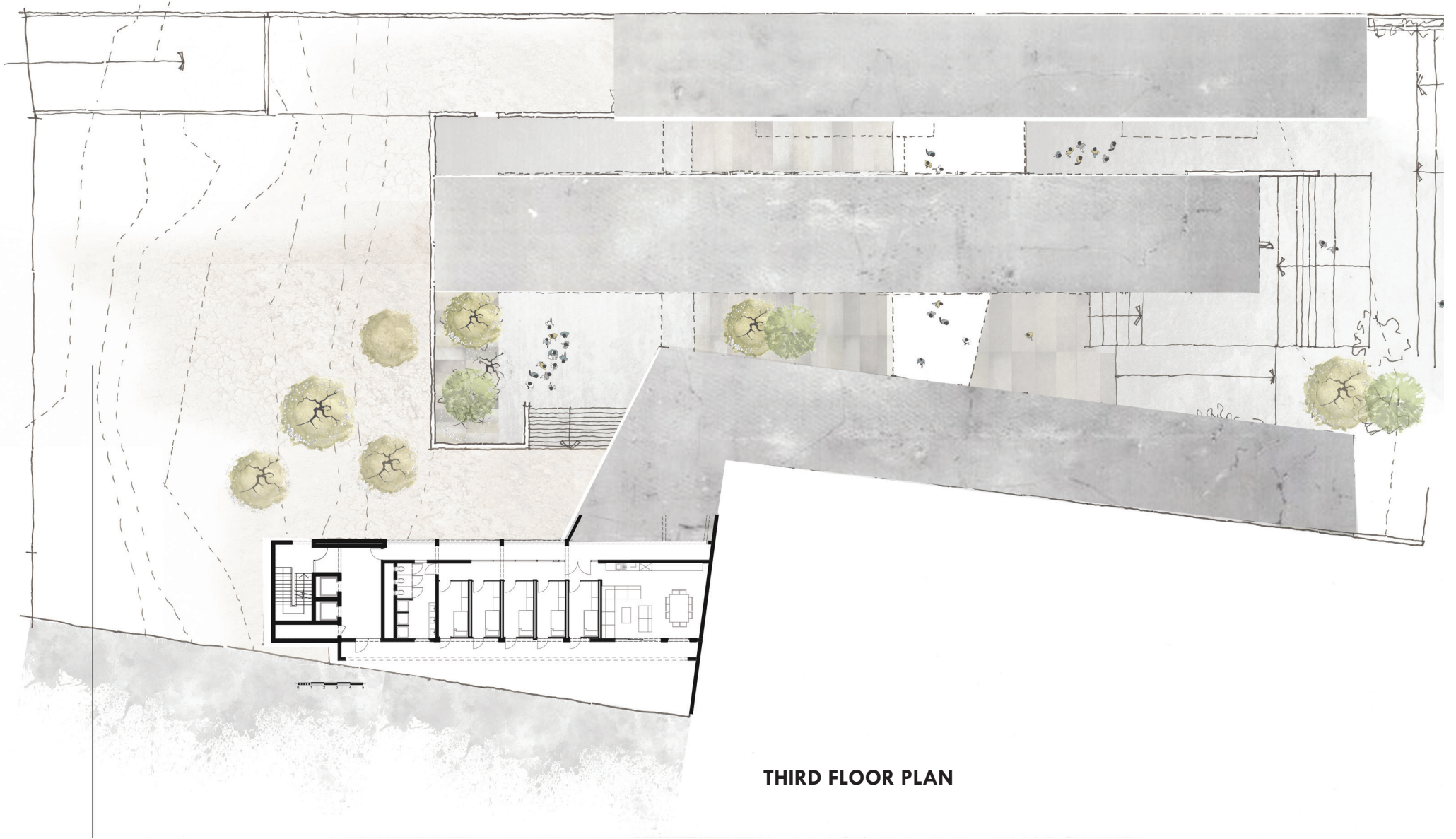
GROUND FLOOR PLAN



FIRST FLOOR PLAN



SECOND FLOOR PLAN



THIRD FLOOR PLAN



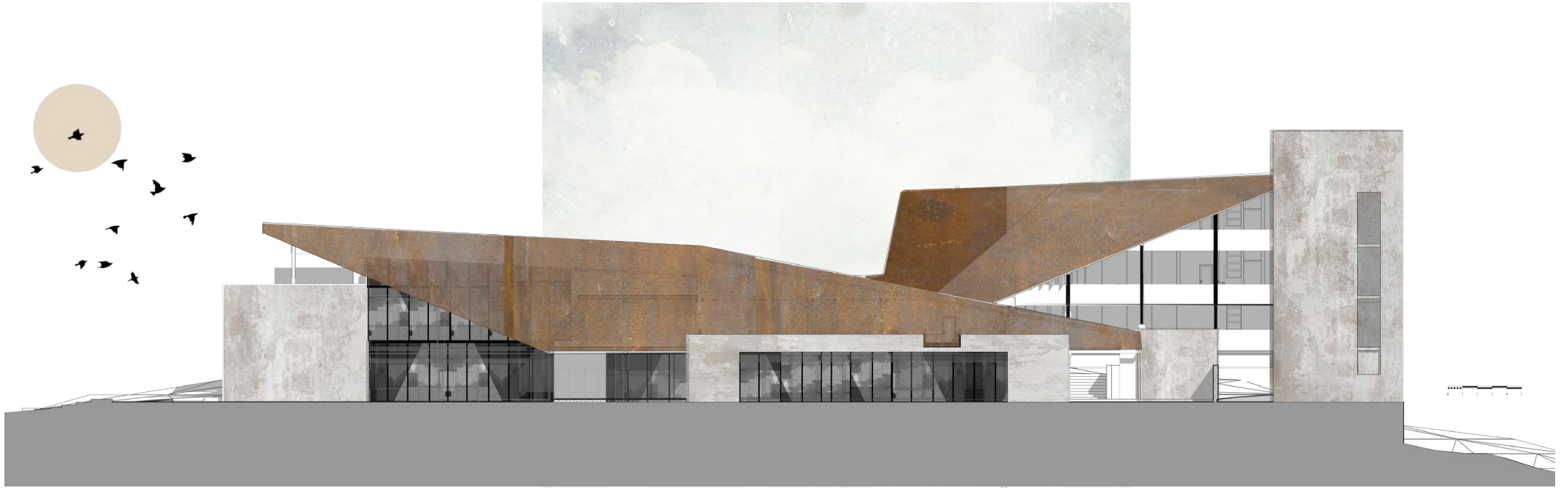
SECTION C-C



SECTION A-A



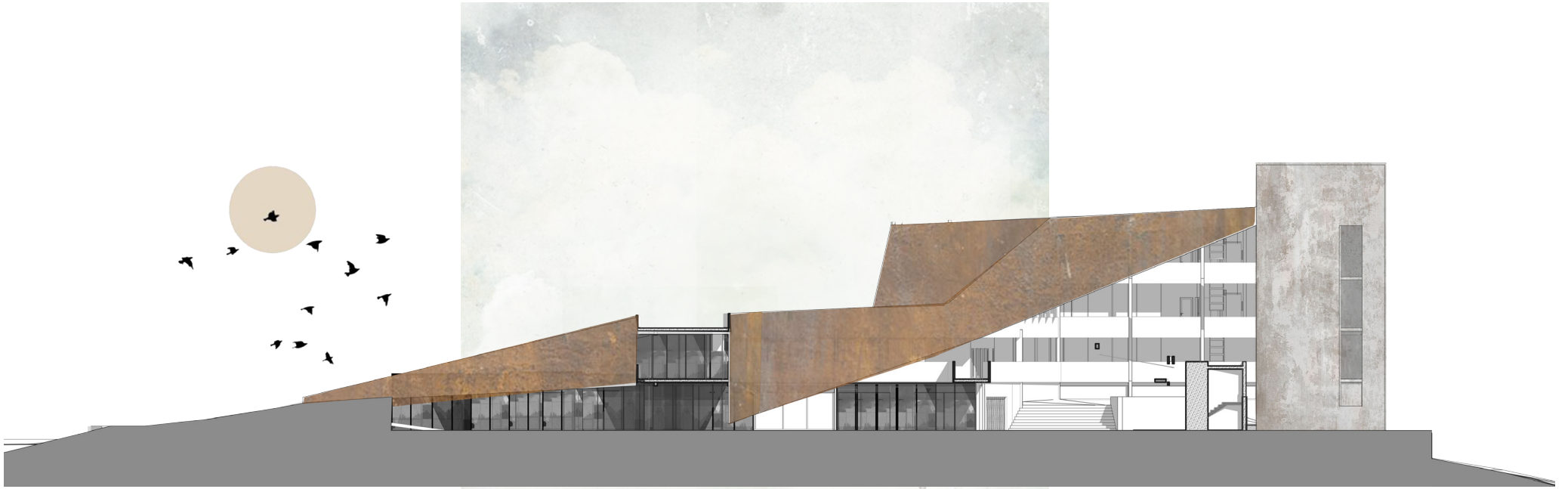
SECTION B-B



NORTH ELEVATION A



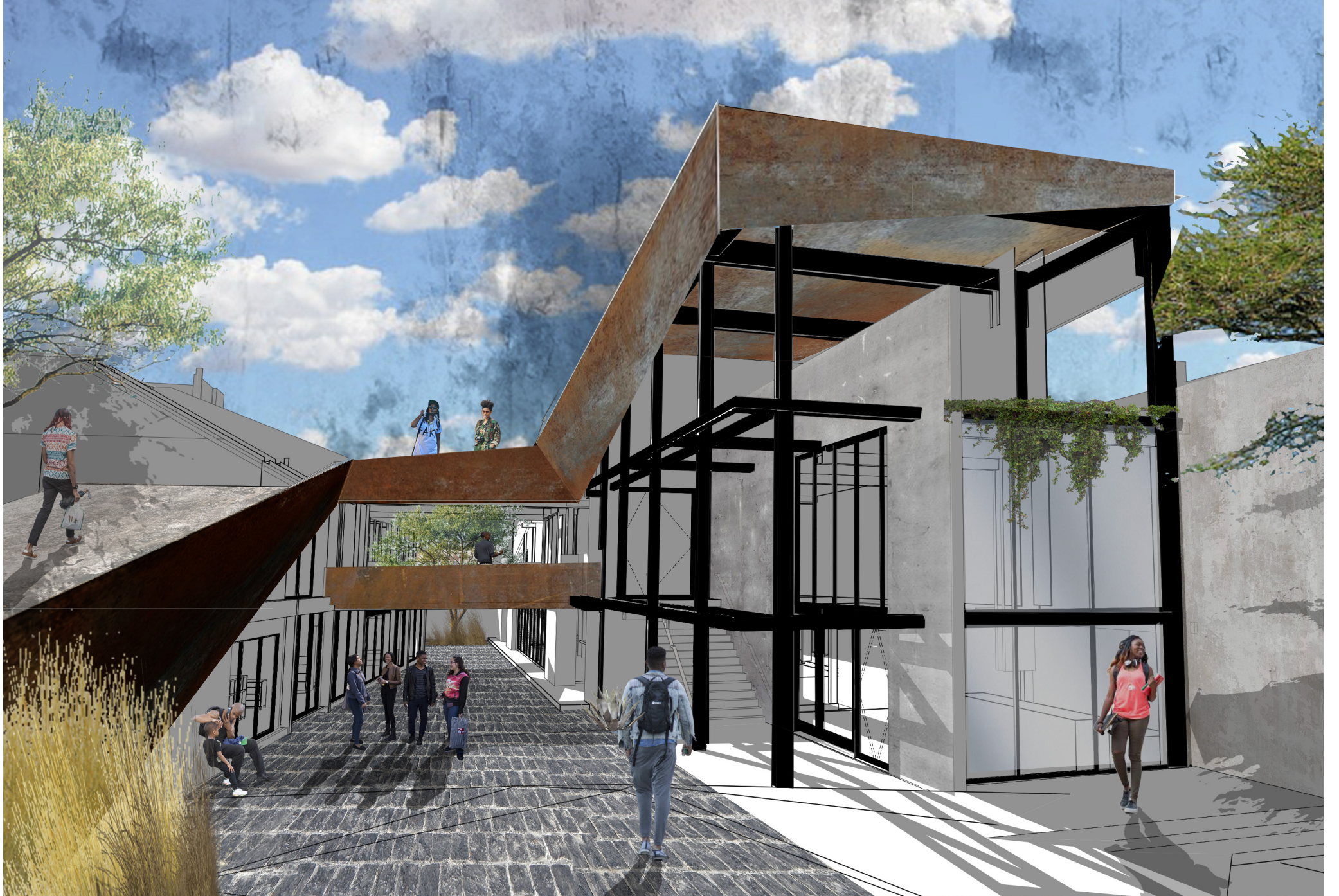
SOUTH ELEVATION B



NORTH ELEVATION B

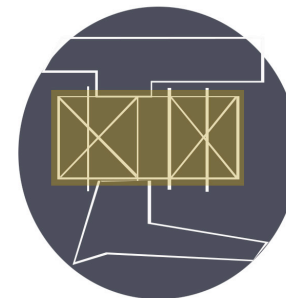


SOUTH ELEVATION A



1.5 TECTONICS

Structural resolution:
Physical manifestation of the conceptualised pieces
of the building. A technical investigation into
services, circulation, structure, detailing, sustainable
intentions and material selection.



THE STRUCTURE

Introduction

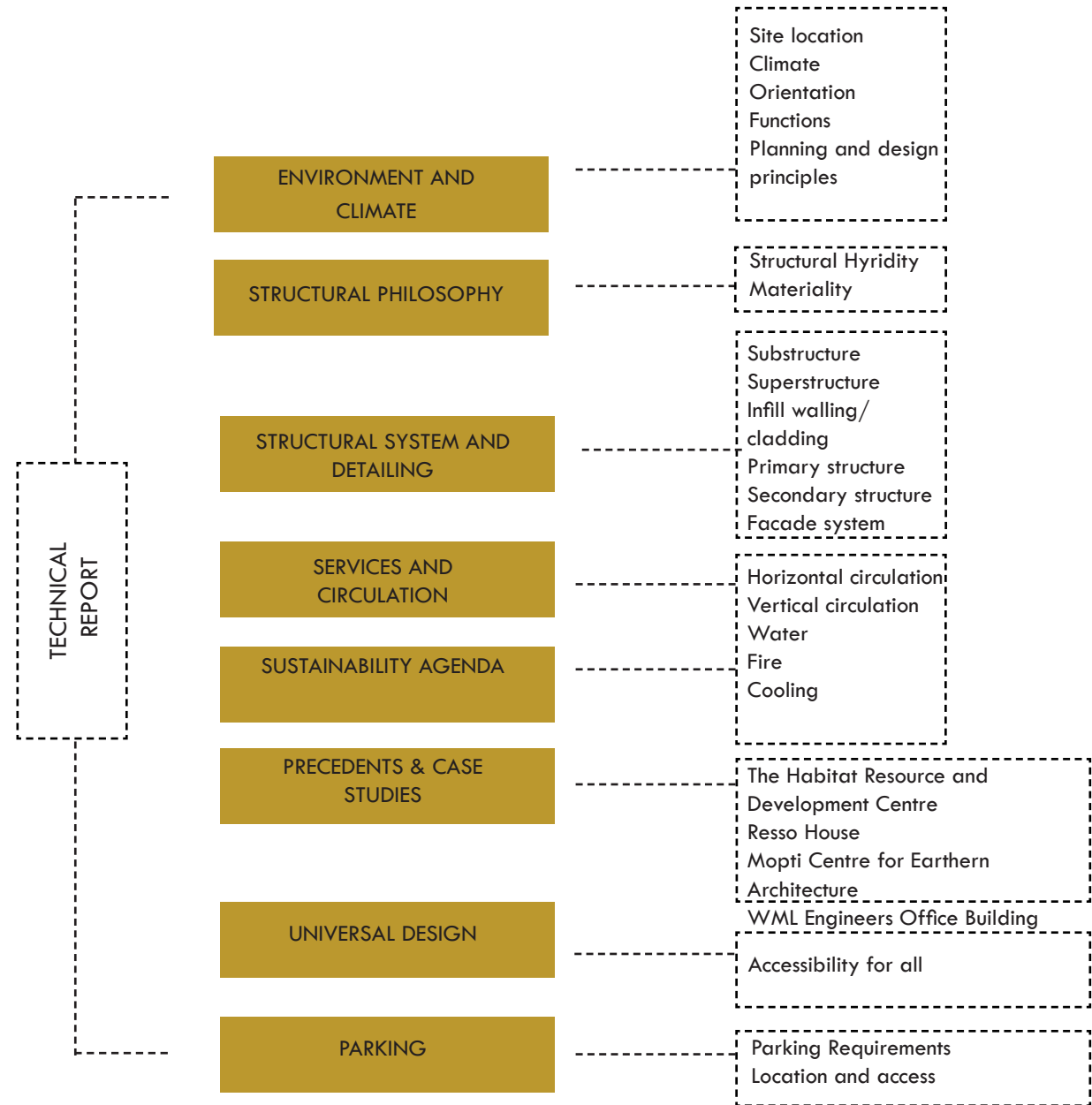
This technical report is a summation of tangible parts of the project: Transitional Urban Enclave: An Arrival Space for Rural-urban migrants in Windhoek, Namibia. The proposed project is a centre that serves as a point of entry and orientation into the city for arriving migrants.

The project aims to tackle the issue of urbanisation by proposing a center that accommodates and aids the adjustment of individuals moving to the city. According to enquiries made into the issue, one finds that for the most part these people lack formal education or specified skills. Therefore, they struggle to find employment and have nowhere to settle, which in turn leads to poverty and social problems. The intention is to welcome migrants within an arrival space, incubate, accommodate and equip them for the city at hand, and create a more successful urbanized society.

Functionally, the centre houses a skills training facility, resource centre, SME market and A transitional residence. The hierarchy of these spaces is organised in terms of the progression of access from public to most private. This is designated with the use of flooring materials, indicating where certain areas begin or end, as well with exposed structural elements, which frames, encloses or opens up various spaces.

Environmentally, optimal orientation and façade solution for natural light penetration has been selected, along with the implementation of insulation and shading strategies best suited for the context. Natural cross ventilation of indoor spaces is encouraged as well, and xeriscaping of outdoor areas to encourage cooler outdoor environment.

This report explores the above-mentioned structural, functional and environmental elements of the project and examines suited precedents.

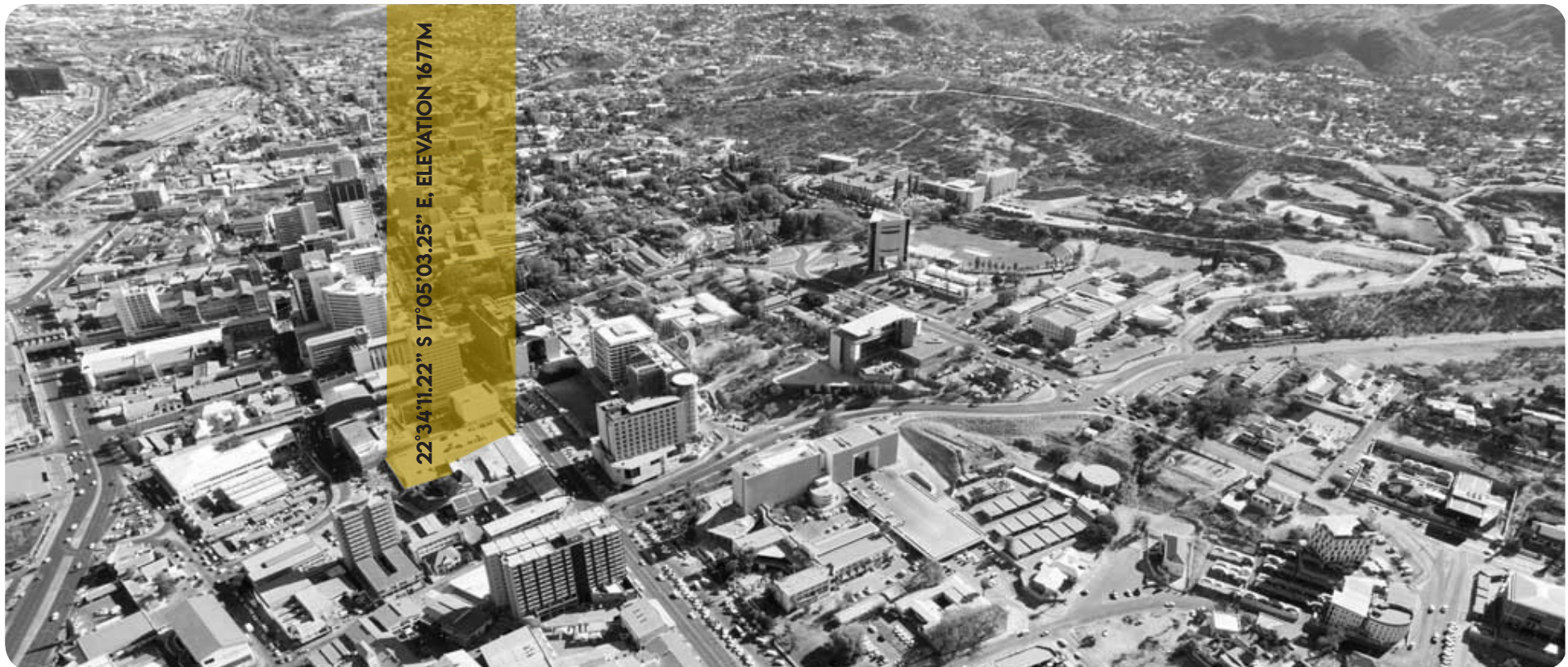


ENVIRONMENT AND CLIMATE

SITE LOCATION

The proposed site is located in Independence Avenue Windhoek, Namibia. The opposite end bordered by Werner List Street, mostly serves as a service road and a taxi drop off area. Commercial and mixed-use buildings surround the site. To its north we have the Bank Windhoek Capricorn branch, and Gustav Voigts Mall parkade. Across the street is Central City Apartments, Hilton Hotel, and FNB Main branch. To the site's south boundary, commercial shops and bars are located.

Considering the functions of the building, the proposed building's main entrance(s) faces Independence Avenue, a heavily pedestrianised edge, here perceived as the "threshold of opportunity". Whereas, towards Werner List Street, service oriented and more privatised spaces will be positioned. Due to its location, the site is confronted with an influx of noise, which the explored materiality intends to treat as well as with landscaping buffers.



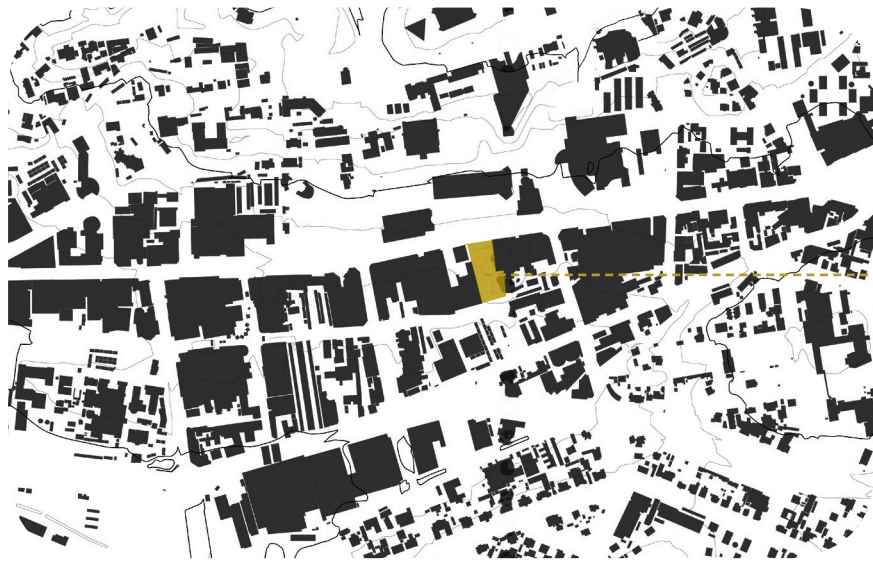


Figure 63: Site Locality Plan (author, 2019)



Figure 64: Precinct Site Plan (author, 2019)

CLIMATE

The climate in Namibia is influenced by two factors: the distance from the humid tropics and from the Namib Desert. (Bertam & Broman, 1999:3) Windhoek lies near the Tropic of Capricorn, which is the boundary between the tropics and subtropics. The city is located under 300kms from the desert, which affects the prevalence of rain. Since the Namibian climate is determined mainly by these two factors, the area of focus is dry and arid.

Due to the location of Windhoek in relation to the tropics and the Namib Desert, the city is fairly dry and hot with minimal rainfall figures as seen on the rainfall and humidity maps below.

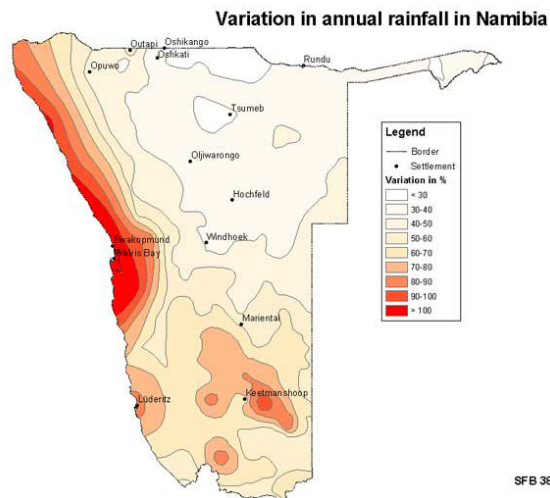


Figure 65: Annual Rainfall predictions Namibia (Ministry of Environment and tourism, 2016)



Figure 66: Climatic Study of site context (author, 2019)

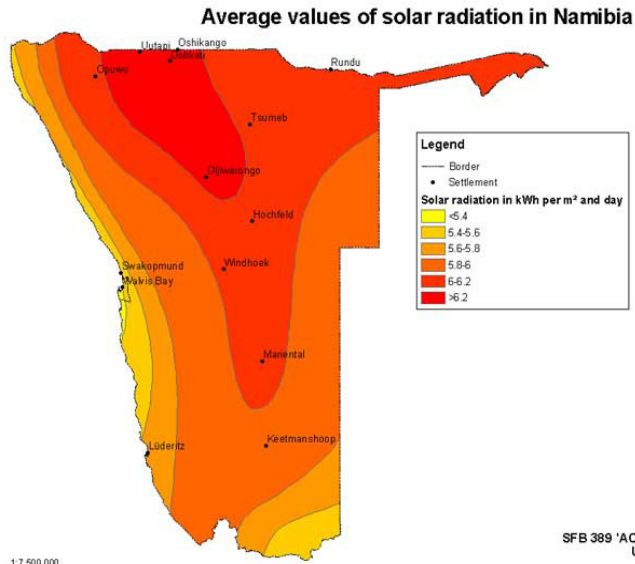


Figure 67: Solar Radiation summary Namibia (Ministry of Environment and tourism, 2016)

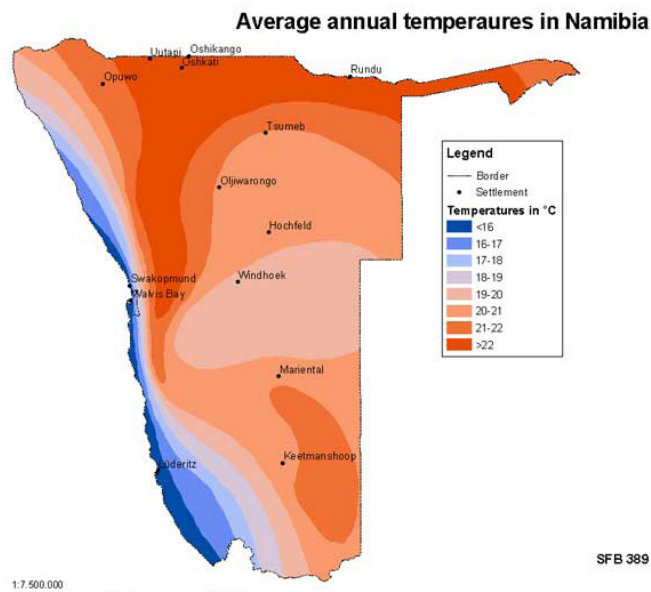


Figure 67: Temperature range study Namibia (Ministry of Environment and tourism, 2016)

CLIMATIC DESIGN PRINCIPLES

Considering climate in relation to site location, the following measures:

CLIMATE DESIGN PRINCIPLES

- Optimal Orientation for natural light penetration and cross ventilation
- Limit openings on western façade to avoid harshness of late afternoon sun in Windhoek
- Shade and insulate facades
- Insulate walls, floors, roof structures
- Xeriscape exterior areas to cool down the outdoor environment

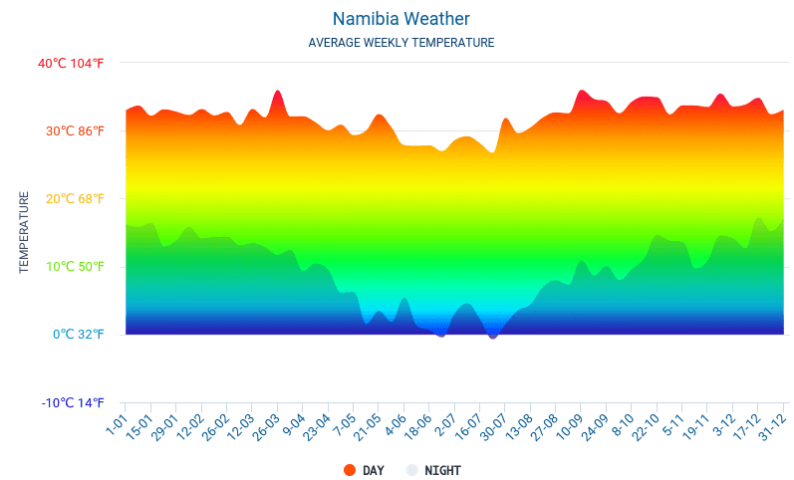


Figure 67: Graph depicting range in temperatures in Namibia (HikersBay, 2019:online)

SUSTAINABILITY AIMS

THE SUSTAINABILITY AGENDA

To preserve our current world for the future, one ought to design more sensibly. The proposed centre intends to function as a self-sustaining vessel. With a low maintenance building envelope and a building skin that guides, protects and illuminates. The final objective is to have passive cooling and heating systems in place, incorporating both shading and insulation for optimum building performance. As the building houses a residence, lower energy consumption measures will be explored in aims to limit or retain energy.

48% of all energy in the world is consumed by buildings, for their construction and operation. The construction industry is thus at fault of consuming the highest portion of energy. Thus, incorporating measures of sustainability is vital. "Sustainable architecture can be achieved by using the best of the old and the best of the new." (Lechner, 2014:22) For sustainability to function at its best, it should be incorporated considered from inception to completion. As elements like orientation, to façade treatment can offer an exciting aesthetic and solution. Some additional characteristics to consider for a low-energy building:

- Appropriate orientation in relation to site
- Building form in relation to climate and function (optimal daylight penetration, minimal west openings etc.
- Super-insulated walls, roofs and floors as shading alone is not sufficient in Windhoek
- Light coloured surfaces within interior to reflect natural light
- High-performance, properly orientated openings/windows
- Openings/Windows well shaded in summer
- Passive cooling and heating measures
- Solar domestic hot water as the sun is an abundant source
- High efficiency: appliances, electric lighting, heating and cooling equipment
- Photovoltaic on roof that produce electricity

ENVIRONMENTAL EFFECTS OF URBANISM

As this project serves to counter the negative effects of rural-urban migration by introducing an arrival center. This center intends to counter the negative effects of urbanisation while introducing a sustainable architectural solution to the ex-rural counterparts' new way of life. Thus, how can we make urbanisation sustainable through the introduction of a suitable architecture?

SUSTAINABLE PHILOSOPHY

Urbanisation is wholly perceived as an undesirable activity, as it leads to overcrowding in cities, which predictably leads to overconsumption of resources (and ultimately premature depletion), pollution, and where new arrivals settle in informal areas which lacks infrastructure these are zones of disease breeding, health hazards for people to live in. Generally, a low quality of life is foreseen as a direct result of urbanisation. (Torrey, B. 2014: online)

Energy consumption in urban areas are high due to more people living and moving there, we find more transportation, cooking, heating as opposed to rural areas. These centers thus create heat islands, altering weather patterns. Cities are thus warmer than rural areas therefore; more measures for cooling should be implemented, especially in dry and hot climates like Namibia.

They additionally affect water run off, as the rainwater collected has the possibility of being more polluted than that of rural areas. Not all urbanisation is negative, and in the long run it could be beneficial if expedited in the right way.

This document will explore existing and foregoing methods of sustainability. As well as explorations into indigenous methods used, and context specific precedents found.

CONTEXTUAL CASE STUDY

HABITAT RESOURCE AND DEVELOPMENT CENTRE (HRDC)

Location: Katutura, Windhoek, Namibia
Architect: Nina Maritz Architects
Completed: 2004
Client: National Housing Enterprise

This project was commissioned in order to facilitate, research and showcase sustainable housing focusing on environmental appropriateness. The location of the project is in the township of Katutura, on the edge of a main street, which connects smaller locations of Soweto and Okuryangava, This site was chosen with accessibility in mind, as opposed to the CBD enabling poorer sectors of the community visitation without hassle. The site slopes from north to south and as small housing units and a high school surround the building; it stands out and is visible from a far, evoking curiosity to passers by.

As the building functions as a research center into sustainable buildings methods, the building showcases these methods explored within its aesthetic by way of form, orientation, material usage and passive solar principles incorporated. Specific sustainable principles employed in the center are discussed below:

•PASSIVE SOLAR COOLING

Namibia is a dry, hot arid country. Air-conditioning is thus the go-to method in most buildings for cooling and mounting building maintenance costs. The HRDC was therefore designed to create a cool building, using only passive cooling methods, keeping comfort for winter in mind as well.



Figure 68: North West View of HRDC (Nina Maritz Architects, 2012:online)



Figure 69: Clerestory windows for optimal light penetration (Nina Maritz Architects, 2012:online)

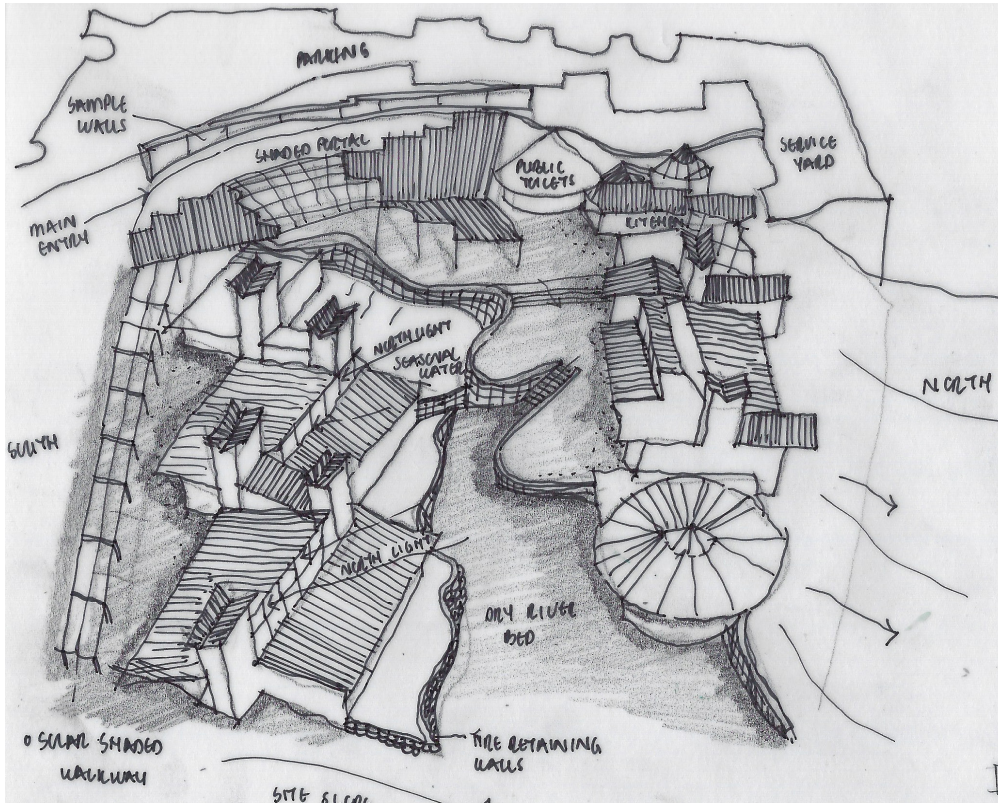


Figure 70: HRDC Orientation and placement analysis (Author, 2019)

•ORIENTATION

Buildings mass is elongated along the east-west access, lengthening its façade north south. The architect angled the office wing 25degrees northeasterly to allow solar gain on winter mornings. Although the building(s) is oriented north, the openings are narrow shaded vertical slits instead of strip ribbon windows as the north sun can overheat spaces. The walls are thus mostly solid, with minor openings and clerestory windows for maximum daylight penetration.

•NATURAL VENTILATION

In order to facilitate cross ventilation windows were positioned directly across each other, as in Windhoek "...wind speeds are low and oblique set openings do not work well." (Maritz, 2002:5, online)

•INTERIOR AND EXTERIOR SPACES SPATIAL QUALITY

Large overhangs shade the building, carefully designed to exclude summer sun whilst allowing for winter sun, shade the building externally. These overhangs are made of timber (Prosopis, a widespread Namibian tree species) laths rendering a lattice effect. Landscaping around the courtyards account for cooling of outdoor spaces through evapotranspiration.

•THERMAL CAPACITY

The building's envelope is comprised of compressed masonry bricks, with specifically placed openings as mentioned previously, floated exposed floors to provide additional cooling through "radiation effect" and services serve as "thermal buffers" to east and west facades.

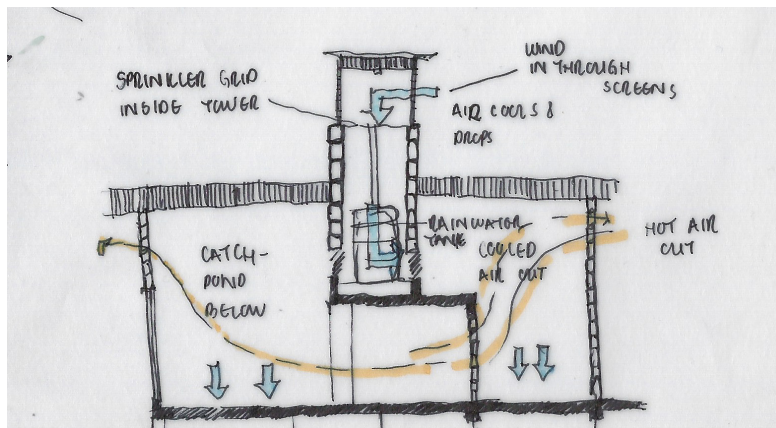


Figure 71: Cooling tower analysis (Author, 2019)

•ENERGY EFFICIENCY (Operational sustainable methods employed)

Since the building generates a small amount of electricity, more attention was paid to lower consumption instead:

1. Lighting

North orientation, window openings and additional clerestory windows account for equal daylight distribution, therefore little to no light daylight usage is required.

Low efficiency light fitting

Translucent curtains to limit glare on computers

2. Cooling

Evaporative cooling system installed within high-rise cooling towers

3. Appliances

Water in the kitchen is heated with a solar geyser and kept within an in-line boiler to retain the heat. All refrigeration used is highly insulated zero CFC eco-friendly fridges. The kitchen is equipped with a gas stove and traditional farm cooler for larger events.

4. Water Consumption and Sanitation

Water is a scarce resource, and the City of Windhoek is supplied by dams surrounding the city, as well as by a water reclamation plant, which successfully salvages and cleanses used water in the city for re-use. The HRDC thus uses waterless dry-composting toilets, has all taps fitted with water saving devices and grey water from sinks and basins are filtered for irrigation.



Figure 72: Energy Efficiency measures (Maritz, 2002:online)



Figure 73: Energy Efficiency measures (Maritz, 2002:online)

Additionally, there are rainwater collection tanks for water usage in the cooling towers and for landscaping, but since Windhoek does not receive ample amounts of rainfall, only a small amount is collected. The tanks are elevated within the cooling towers and shaded to avoid water loss through heat.

5. Landscaping

The center mostly has low maintenance indigenous plants. These are watered with the grey-water recycled onsite as well as overflow from air-cooling and rainwater collection.

6. Photovoltaics

At the time of building construction the HRDC was the first center to employ a grid-connection solar PV system. (Maritz, 2012:10) This system was expensive to install, therefore only a minute unit was installed for experimental purposes.



Figure 74: Sustainable building materials usage (Maritz, 2002:online)

•SUSTAINABLE BUILDING MATERIALS

Compressed cement bricks made on site using the Namibian invented Hydraform system. Cement was added as a binding agent because the soil used contained no clay. Additionally recycled cement bricks were used, as well as sun-dried clay brick.

The use of clay bricks are less feasible as clay sand had to be brought into Windhoek. Charcoal-fired clay bricks, rammed earth, tyre retaining walls and rubble filled gabions were also used on site. These different types of building materials used functioned as an exhibition to showcase the possibilities of natural sustainable building materials.



Figure 75: Sustainable building materials usage (Maritz, 2002:online)

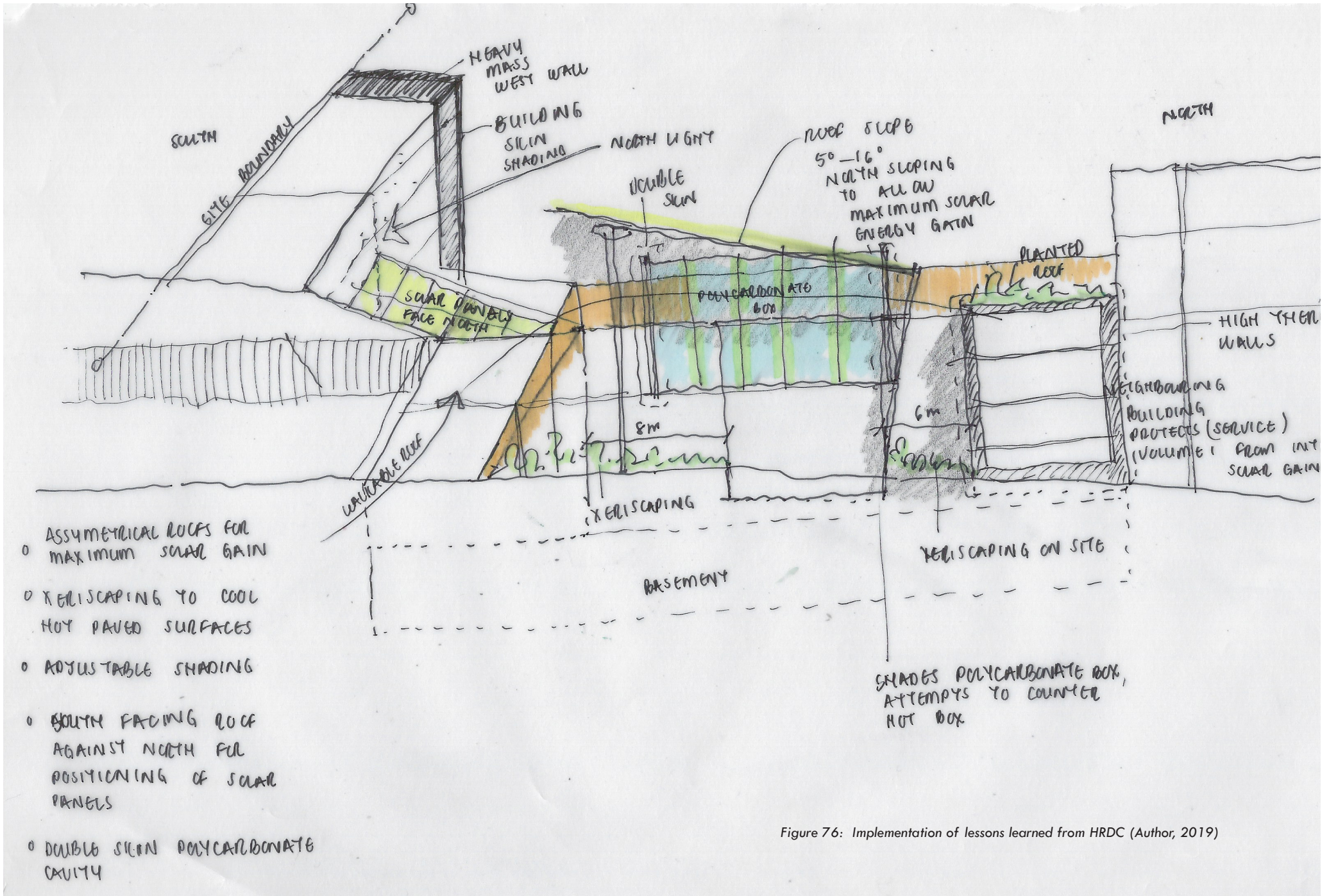


Figure 76: Implementation of lessons learned from HRDC (Author, 2019)

PRECEDENT STUDY

PRECEDENT

MOPTI CENTRE FOR EARTHEN ARCHITECTURE

Location: Mopti, Mali
Architect: KERE ARCHITECTURE
Completed: 2010
Client: Aga Khan Trust for Culture

The program for this building accommodates a multi-purpose civic centre, and headquarters for Komoquel. These functions are housed in three different blocks, shaded by two roofs. The building's envelope is composed of compressed earth bricks (CEB), left exposed in its burnt orange hue as to blend into its surroundings. These bricks have a high thermal mass thus regulating the interior spaces better, as it keeps the heat out. The building is thus well insulated. The generous roof overhangs wrap around further shade the building, keeping the sun out. Here we can see both insulation and shading incorporated, as hot climates require both when considering passive cooling techniques.

Apart from cooling, the roof extends the inside out, enlarging the building's footprint. Thus appropriating space for not only the visitor to the building but to the passer by who wants to pause for a while.

Lessons Learned:

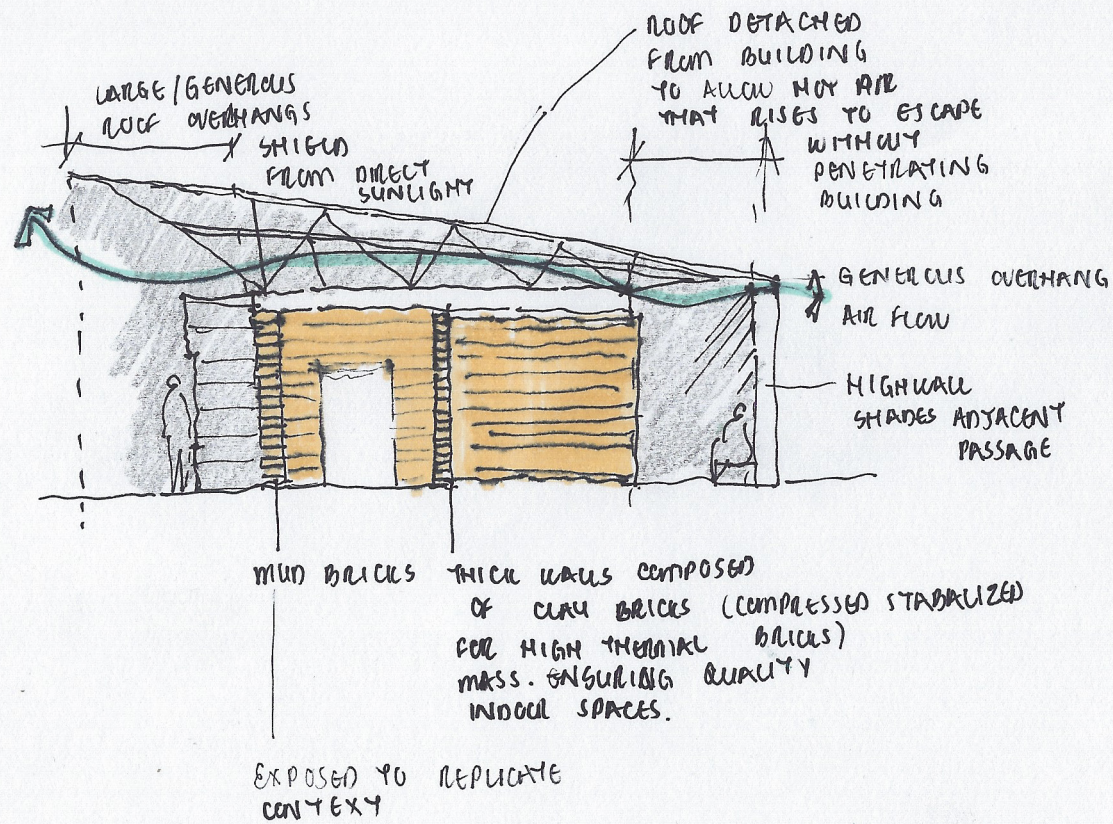
- Employing both shading and insulation is more effective for hot and dry climates
- Detached high roof system deals successfully with hot air
- Shading walls further cools spaces by ensuring the sun does not directly hit the walls



Figure 78: Large overhangs shade and keep walls cool, ensuring well controlled interior spaces (Archdaily, 2010:online)



Figure 79: Shade of building creates vast outdoor space (Archdaily, 2010:online)



- o INTERIORS PAINTED WHITE
- o SHADING & INSULATION EMPLOYED

Figure 80: Lessons learned (author, 2019)



Figure 81: Structural aesthetic of sustainability measures (Archdaily, 2010:online)

PRECEDENT STUDY

RESSO HOUSE

Location: Sant Muç, Rubí, Barcelona, España
Architect: Equipo ETSAV-UPC
Completed: 2014
Client: International Collegiate Competition Solar Decathlon Europe 2014

As part of their competition entry, the Equipo-ETSAV-UPC team designed a translucent polycarbonate box, “perceived as a sun-powered house”. The building was designed to spread a sustainable way of living. In itself the building is a house wherein various activities occur in relation to others which strengthens social relationships.

With flexibility at its core, the building’s structure consists of conventional scaffolding making the space easily convertible. All permanent elements are fixed within a perimeter ring, ensuring the central areas remain free for alteration at any time.

The house is efficient in energy performance, with solar panels feeding electricity, high insulation on the envelope and passive bio-climatic strategies. Its facades are covered in a polycarbonate double skin with cavity to treat hot air as it hits the surface. In winter the cavity is closed at the top to trap the heat instead.

Lessons Learnt:

- Treatment of polycarbonate material-cavity double skin
- Flexibility of space creation
- Natural light penetration
- Water conservation
- Concept of the active user: Leaving services exposed, therefore when using a plug one sees the wires connecting to the solar array, creating awareness.
- Sustainable use of space
- South Façade insulated with strawbale, the façade also has minimal opening to encourage cross ventilation but keep out extra heat.



Figure 82: Resso house Polycarbonate clad exterior (Archdaily, 2015: online)



Figure 83: Resso house south facade filled with strawbale for heat insulation (Archdaily, 2015: online)

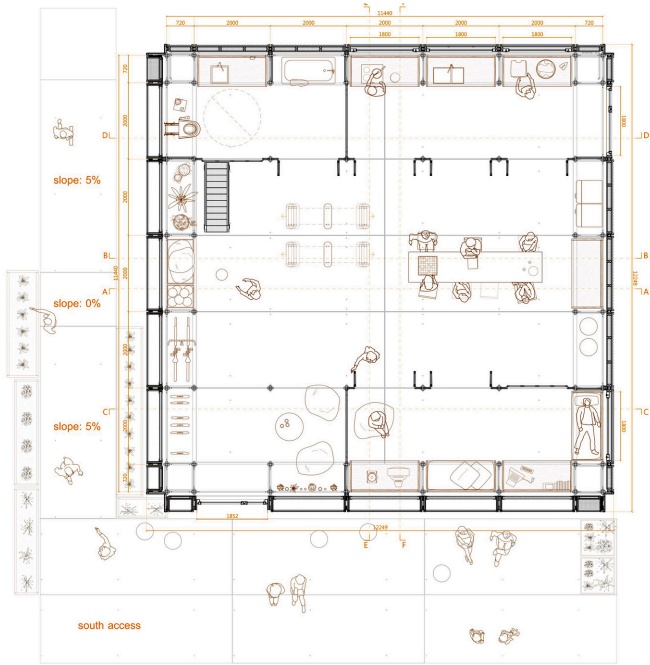


Figure 84: Floor layout of Resso house indicated freely appropriable space (Archdaily, 2015: online)

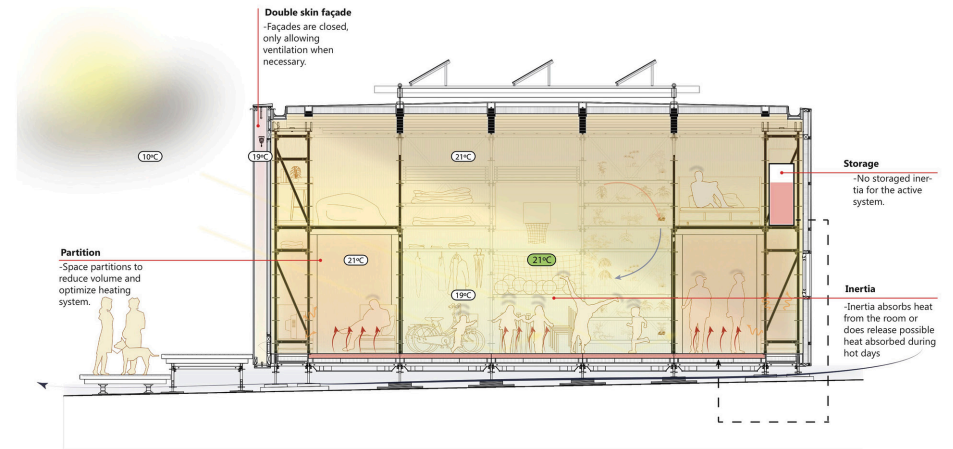


Figure 85: Winter's day heat entrapment methods (Archdaily, 2015: online)

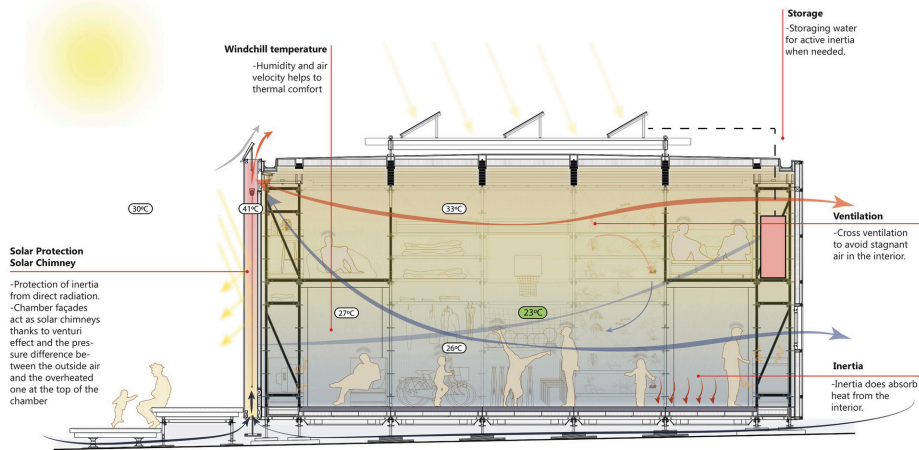


Figure 86: Summer's day radiation analysis (Archdaily, 2015: online)

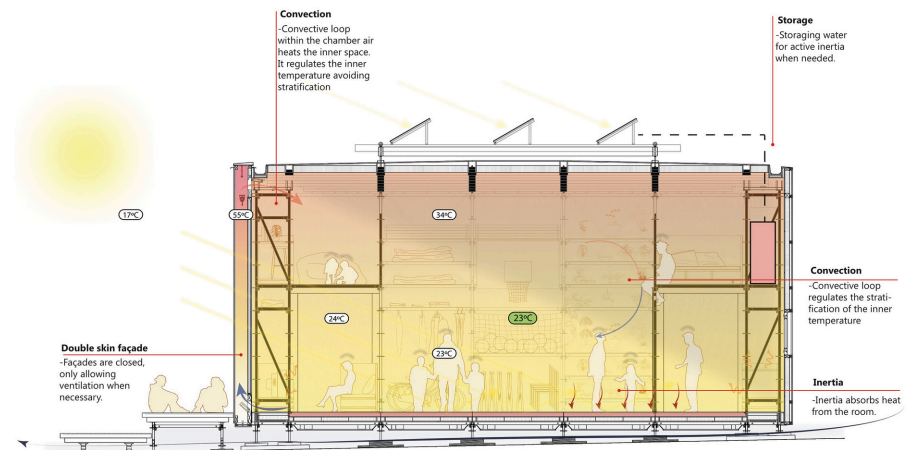


Figure 87: Winter's day radiation $<0.4kw.m2$ (Archdaily, 2015: online)

CONCEPTS OF SUSTAINABILITY EMPLOYED

The chosen site is within the urban realm; it was chosen as means to assimilate previously isolated groups. As many arrivals resort to settling on the peripheries far from employment and other opportunities, this site presents a linkage between opportunities and opportunist. Facilitating a more sustainable connection as opposed to creating more separation, between rural and urban areas. Housing, training (incubating) and preparing individuals here, eliminates the challenge of individuals having to struggle with transport to and from the city center. This process is temporal in nature, thus eventually users will have to face those challenges, though they would be better equipped for life out there.

A slope of 9m west to east from the service road of Werner List Street is engrained into the site. The site has a further slope of 4m from its opposite end of Independence Avenue, east to west. The topography as such forms a peak along an elongated site, with its stretched end facing north and south. This creates an excellent opportunity for optimal orientation, but as the site is an infill space, the existing adjacent buildings shadow parts of the site. Initially this would be troublesome, but as Windhoek is a hot and dry arid city, shade is where people gather or preferably settle, as majority of the time the sun is too harsh. The sun is mostly sought out during the winter season as a natural means of heating.

With the above findings in mind, the proposed design makes use of the elongated ends of the site, by proposing orthogonal spaces with intermediate “streets” (circulation spaces) of 5-6m wide, providing enough displacement for natural light to penetrate the next volumetric space. (See figure below)

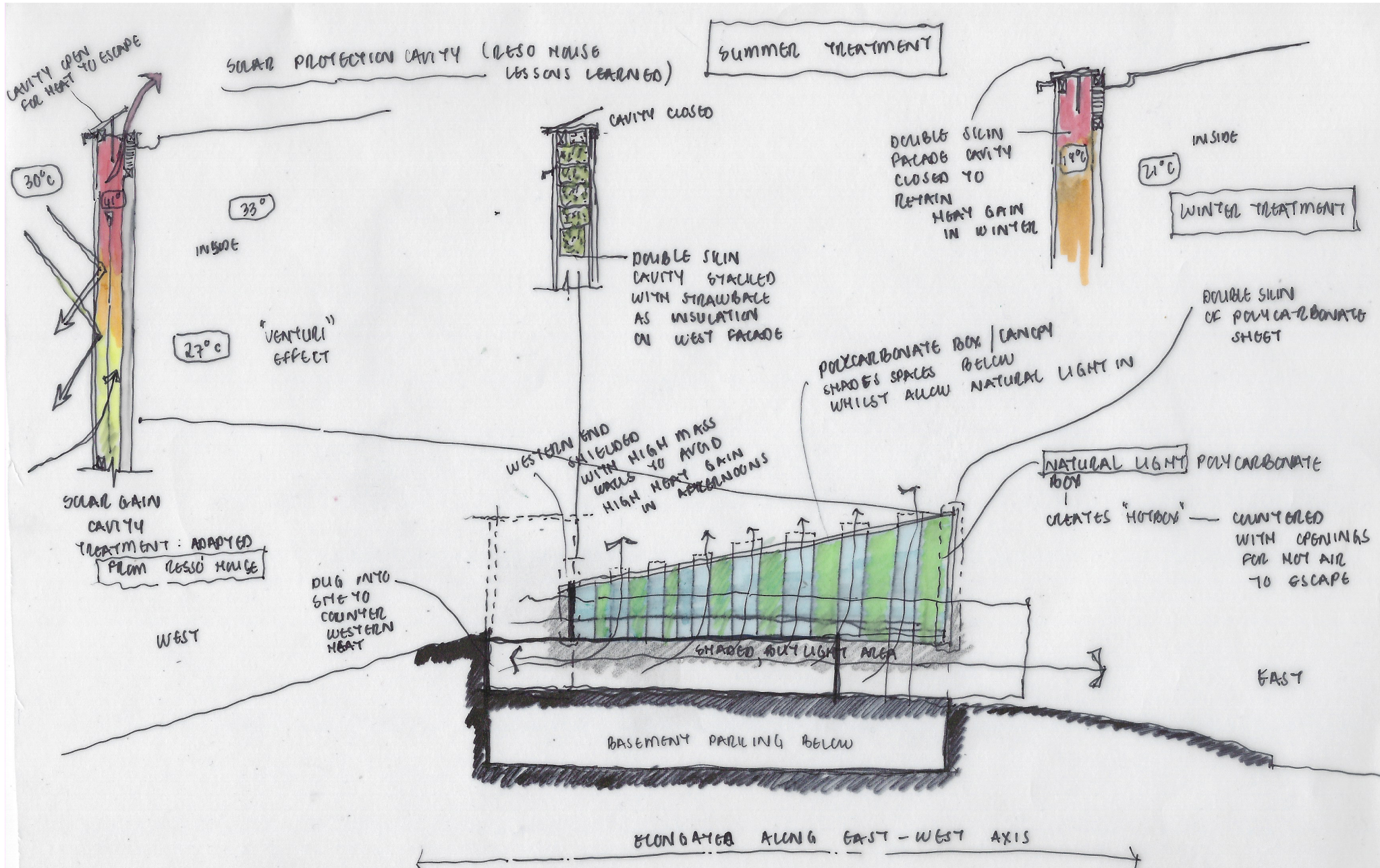


Figure 89: Polycarbonate cavity wall adaptation in accordance to design (author, 2019)

MATERIALITY

The chosen materials for this project is done in terms of their representation and functional attributes. Reinforced concrete, left in its off-shutter finish has been used for the primary structure for its strength and agility. The secondary structure is comprised of steel, which supports the building skin which is variants of untreated weathering steel and polycarbonate sheets.

POLYCARBONATE

Polycarbonate has been selected as a durable lightweight skin where light would filter through during the day and glow from the inside out at night to signify the building as a beacon. Similar to lighthouses that serve as navigators to those lost at sea, this building should serve as an urban lantern, optimizing the daylight, air quality and shimmering at night. Symbolically, a glimmer of light within darkness signifies hope. Scientifically, light is defined as electromagnetic radiation perceived by the human eye. Just as light illuminates dark spaces, light here “brightens” futures of individuals through training, improving knowledge and offering safety, eliminating feelings of isolation coupled with entering a new environment. Expression and thought occurs through light (Purdon, 2013:83), the positive traits of light inherently denote “...truth, enlightenment, honesty, cleansing, safety, innocence and purity.” Where light is not, we automatically feel unsafe, unsure and negative. Light is a guide, and as our main source of energy, and a product of the sun which creates and sustains life. The glazing panels considered for use is from a product known as Controlite. These sheets offer mechanical adjustable sheets inside its void allowing for panels to adjust themselves to allow for more or less light, as required. This allows the sheets to maximize on sunlight in winter and minimize where necessary, when it is hotter. The panels essentially have built-in louvres which automatically move to suit the angle of the sun’s rays.



Figure 90: Polycarbonate facade Resso House (Archdaily, 2015:online)



Figure 91: Weathering Steel Burmeister and partners (BP, 2018:online)

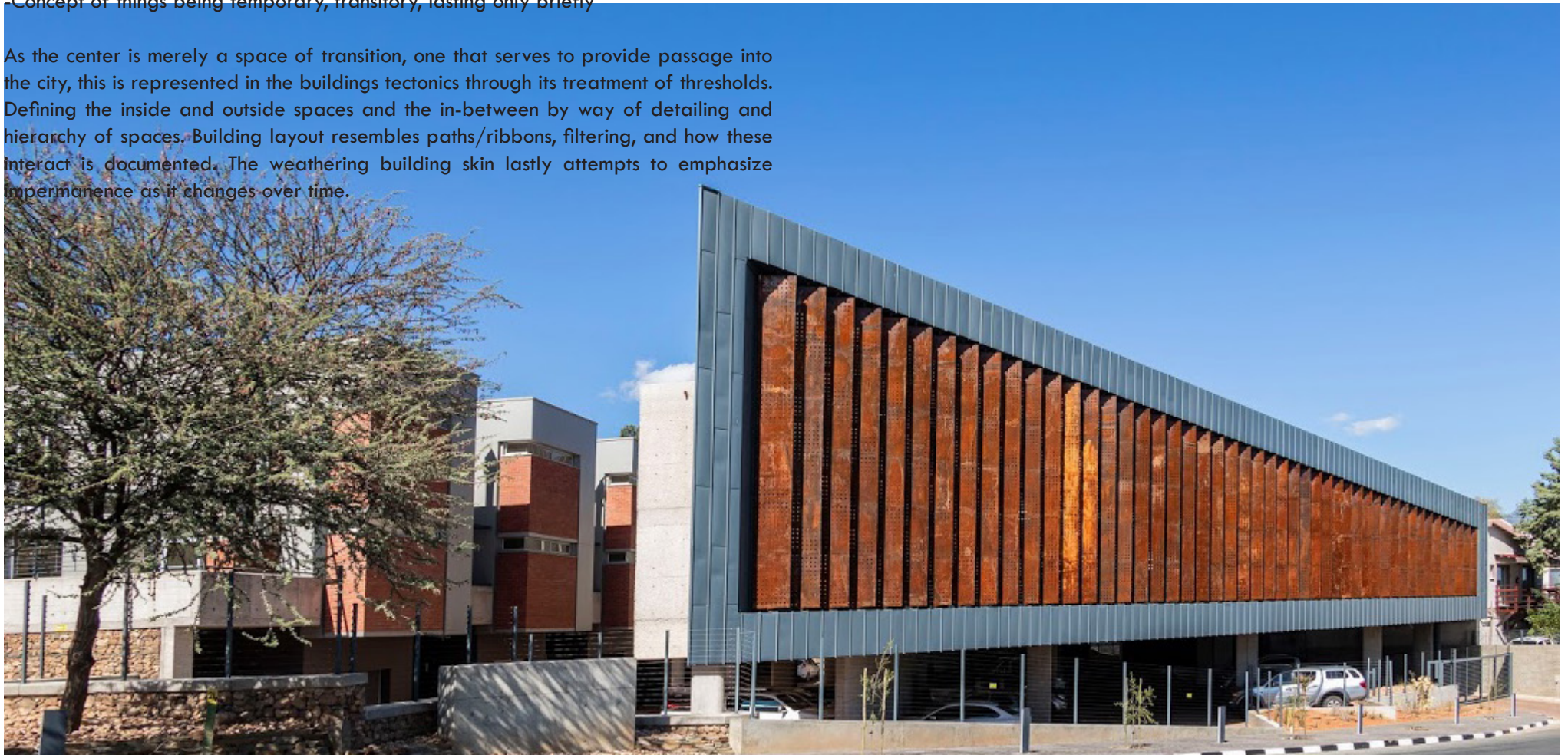
UNTREATED WEATHERING STEEL

Corten steel is comprised of a group of alloys used outdoors to eliminate the need for painting and maintenance. The steel is expected to rust and change naturally as it is exposed to the elements, creating a nostalgic warm façade. This material was chosen in regards to the concept of ephemerality, in order to have a physical representation of transition and change. Fixing, detailing and precedents are explored.

EPHEMERALITY

-Concept of things being temporary, transitory, lasting only briefly

As the center is merely a space of transition, one that serves to provide passage into the city, this is represented in the buildings tectonics through its treatment of thresholds. Defining the inside and outside spaces and the in-between by way of detailing and hierarchy of spaces. Building layout resembles paths/ribbons, filtering, and how these interact is documented. The weathering building skin lastly attempts to emphasize impermanence as it changes over time.



STRUCTURE

STRUCTURAL PHILOSOPHY

1. Building's structure is comprised of concrete column beam substructure system
 2. A lighter weight steel superstructure consistent of a purpose made portal frame
 3. A secondary steel structure supporting the building skin
 4. Metal cladding building skin: weathering steel metal sheets that start as a handrail at the lowest point of the building's undulating surface, guiding new arrivals from street level into the centre. The skin continues to serve as a guide, an usher and preserver all through the user's journey. Creating a rail as mentioned, pockets of space, shading devices and openings.
- Second skin: Self-supporting polycarbonate sheets materializing light-box

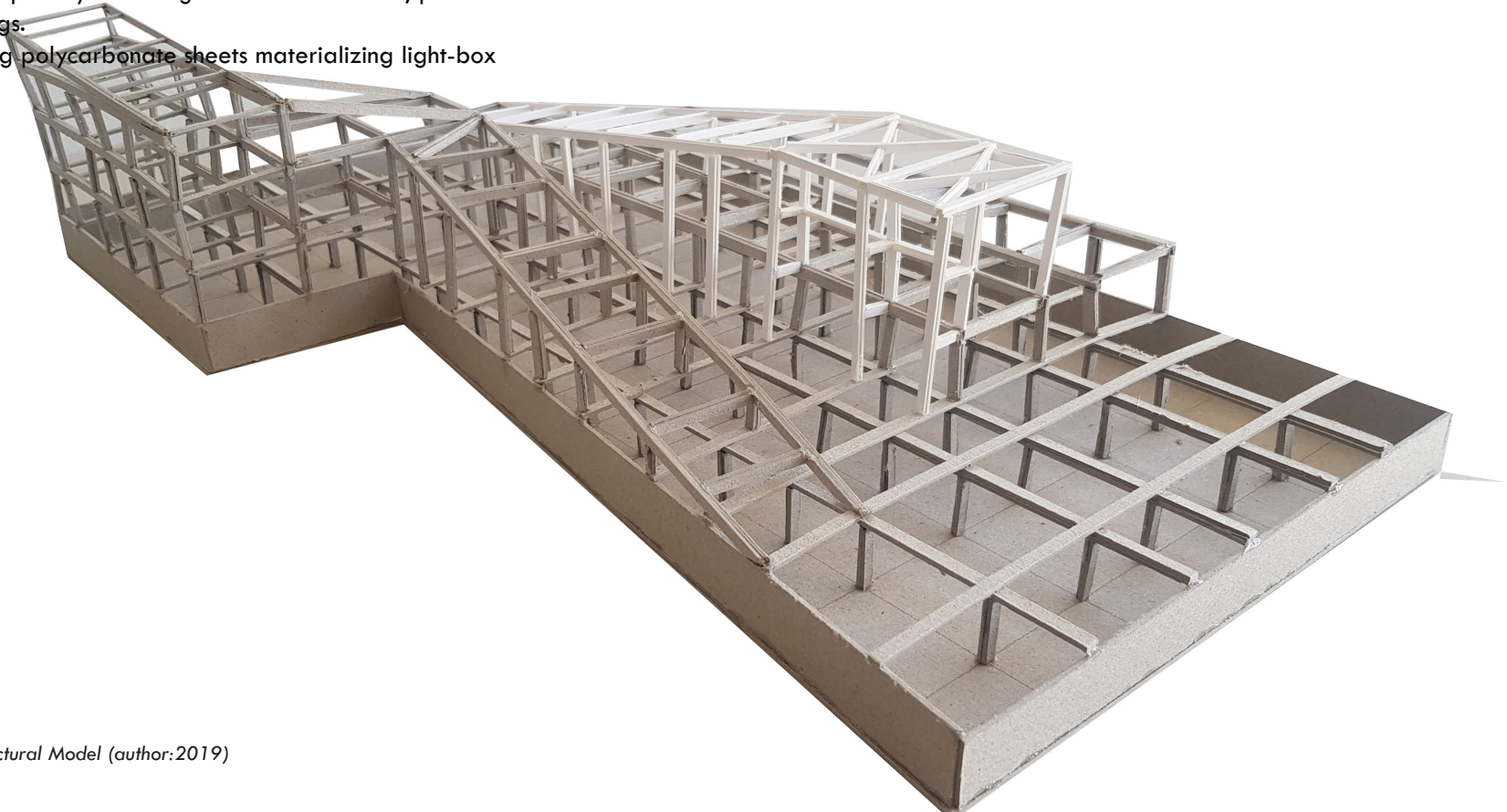
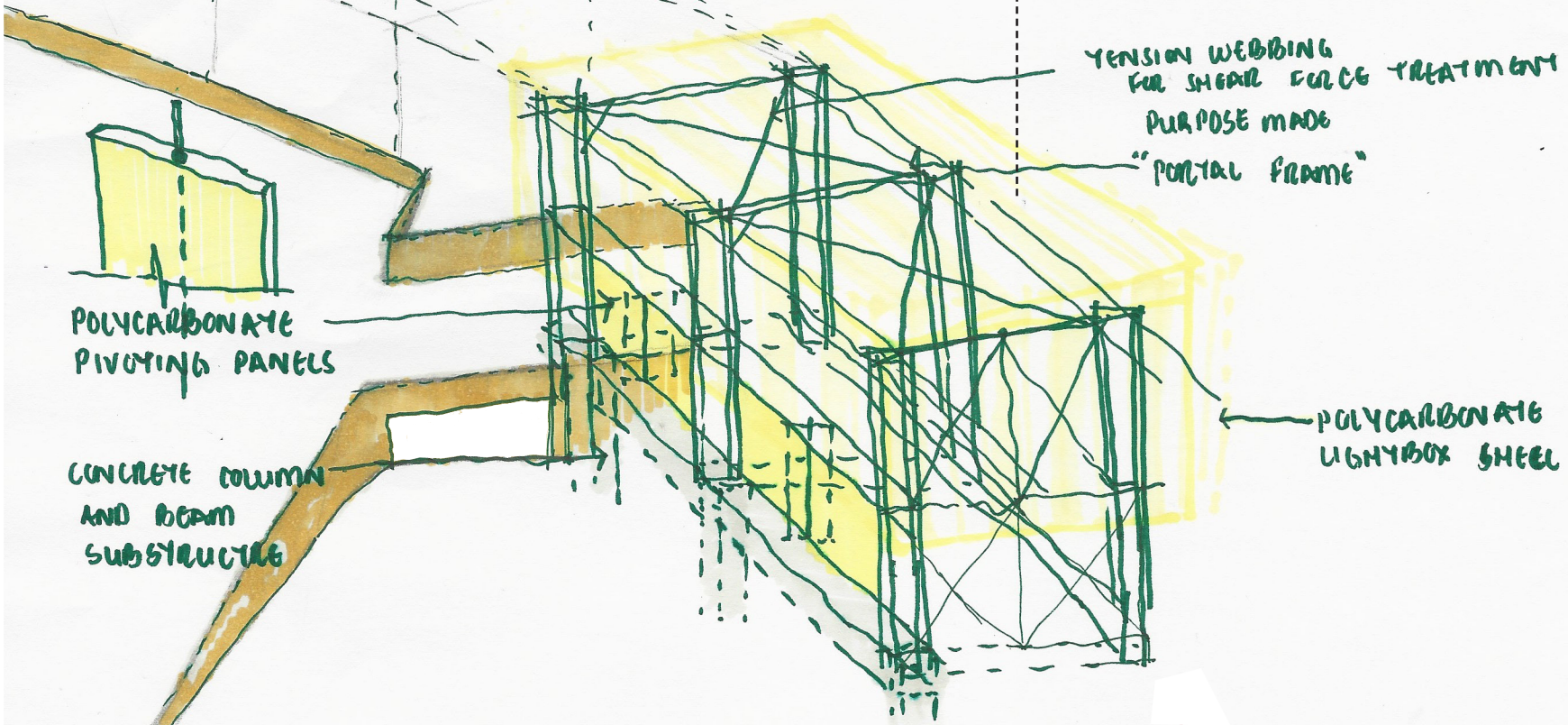
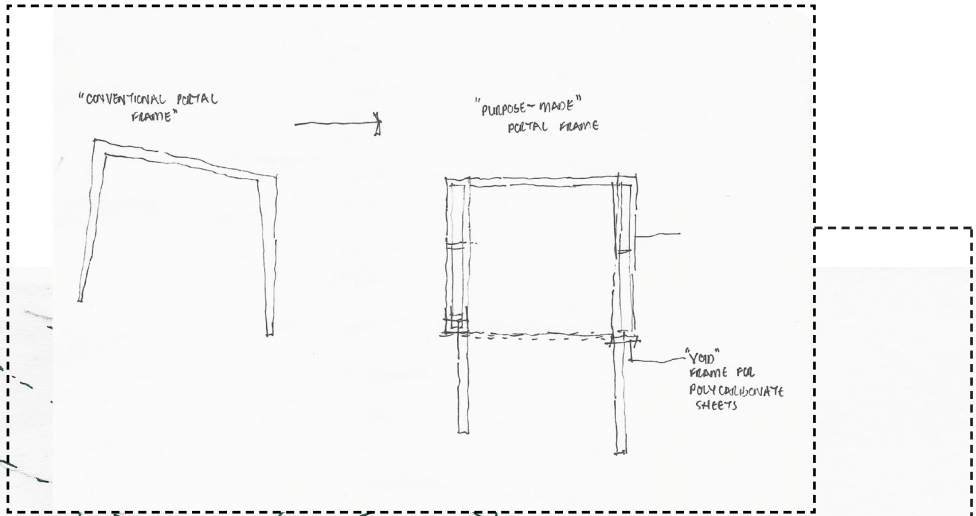


Figure 93: Structural Model (author:2019)



FINAL DESIGN



LOCALITY PLAN



GROUND FLOOR PLAN





FIRST FLOOR PLAN

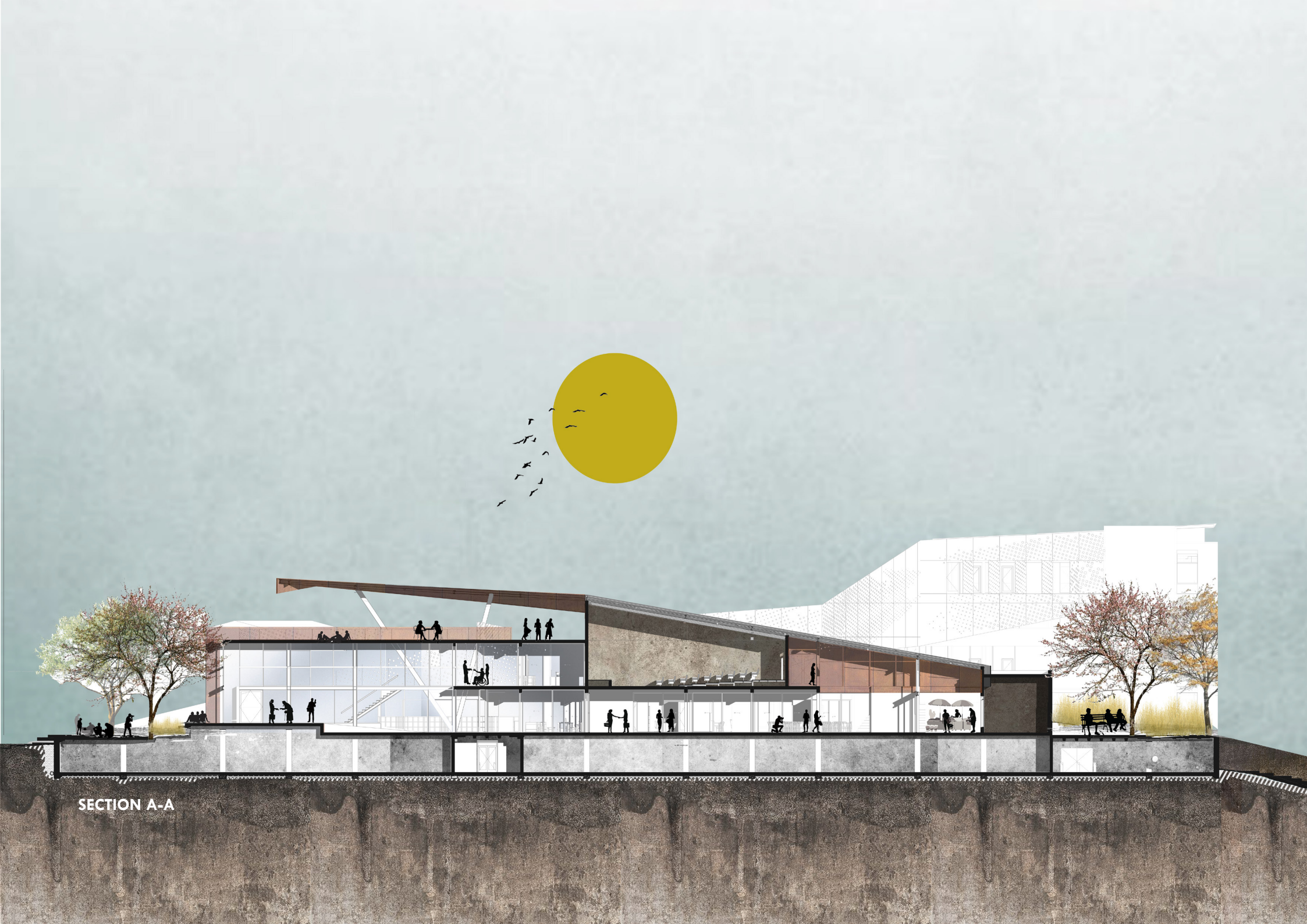
Chelsea



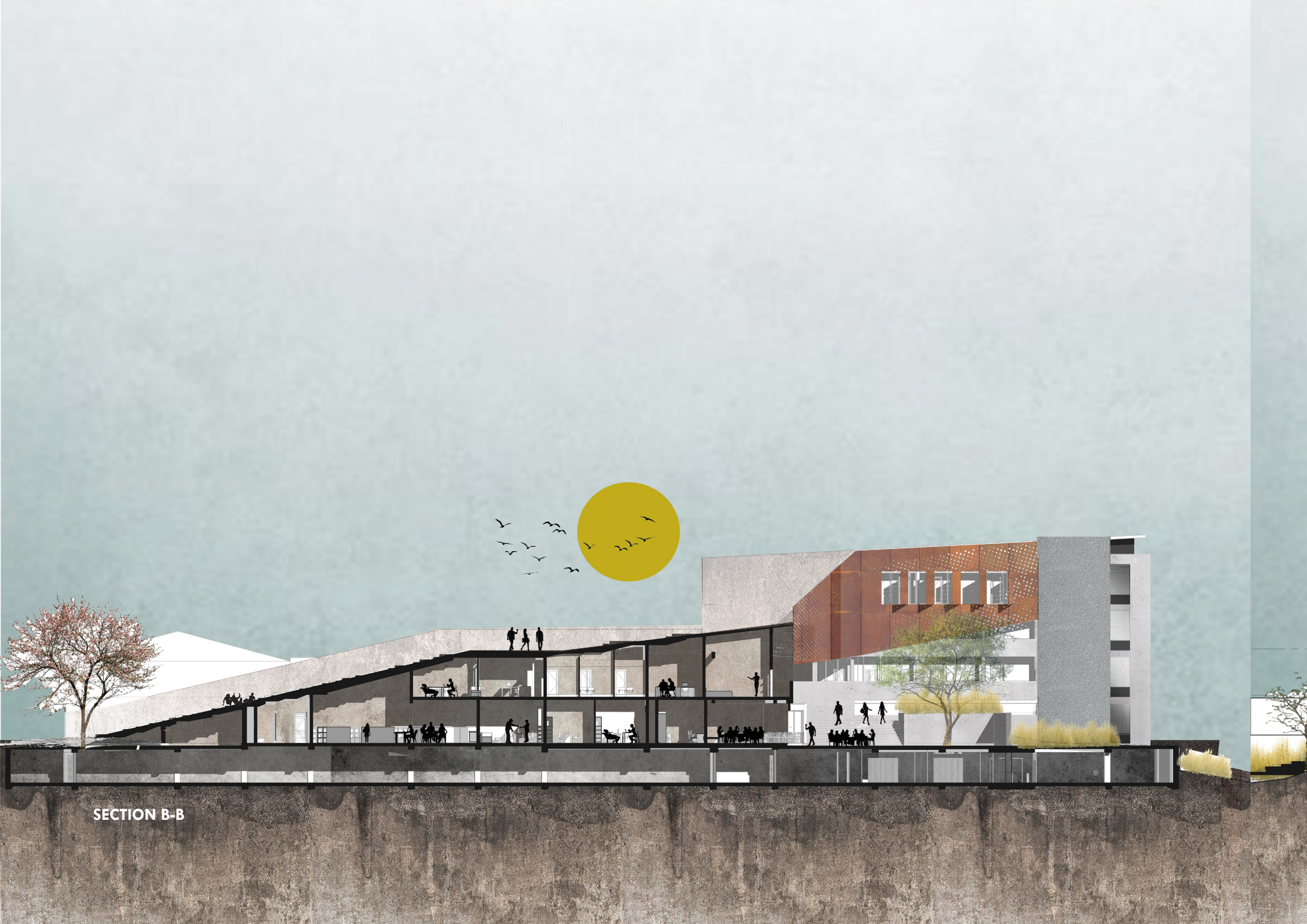
SECOND FLOOR PLAN



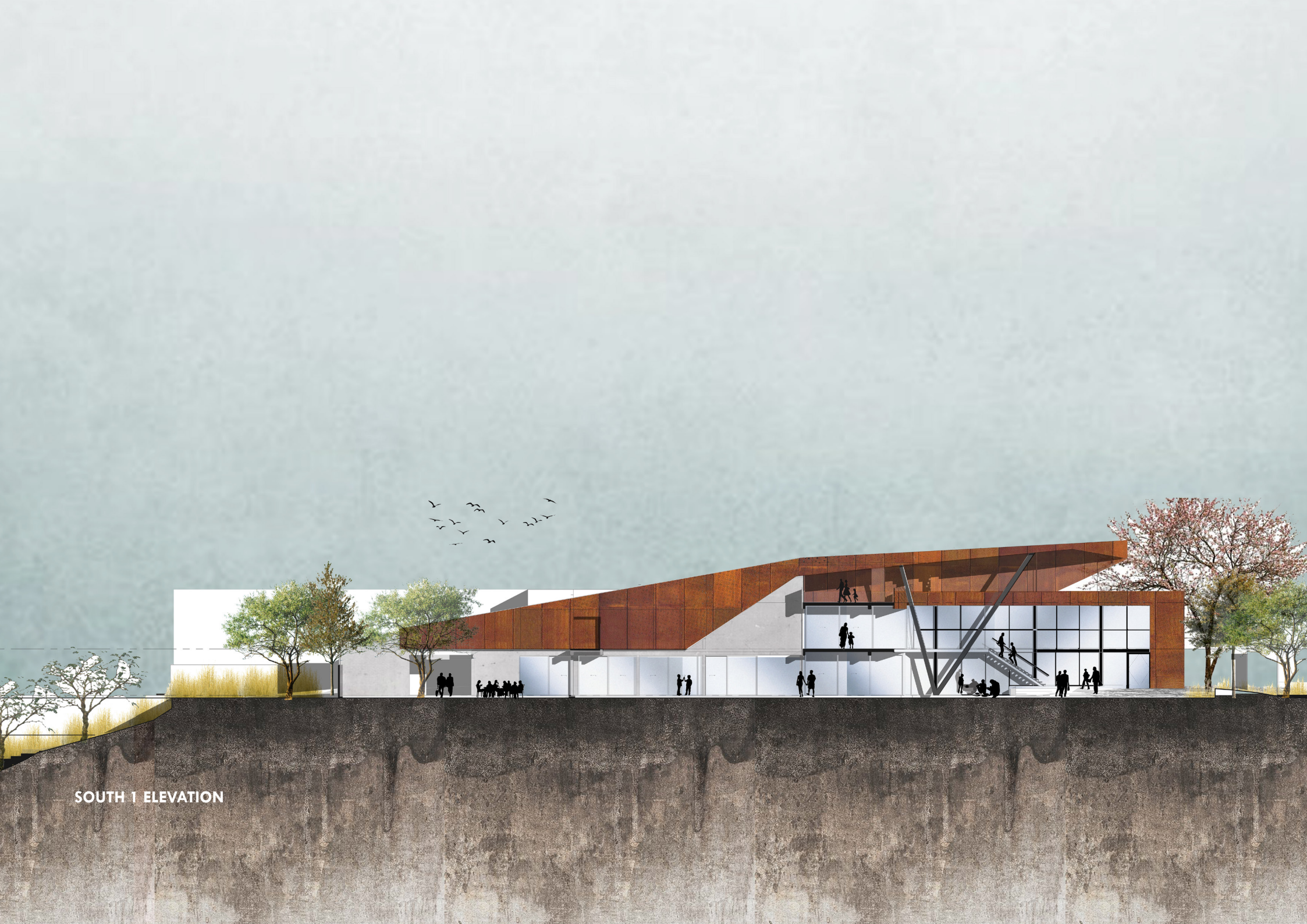
THIRD FLOOR PLAN



SECTION A-A



SECTION B-B



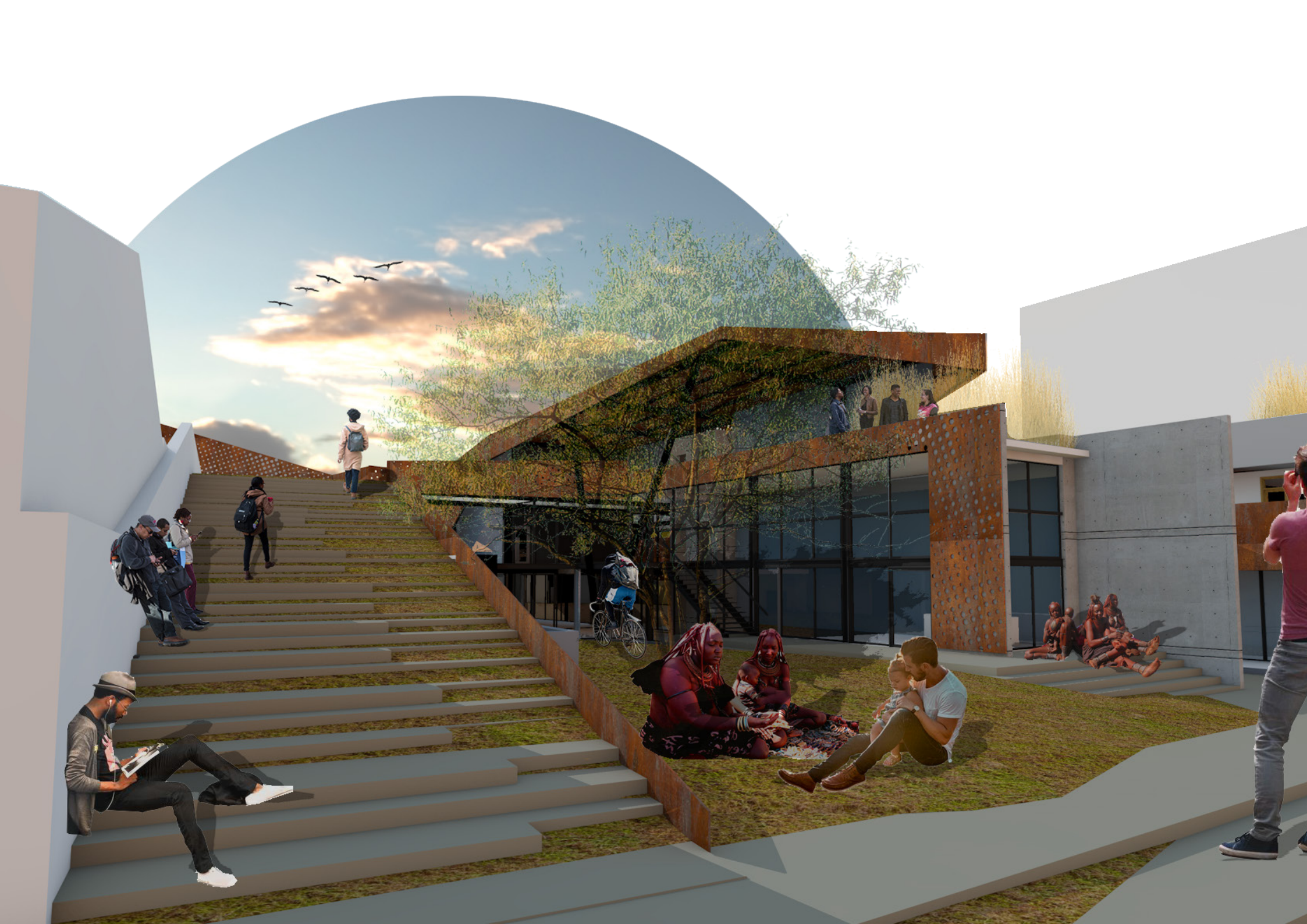
SOUTH 1 ELEVATION

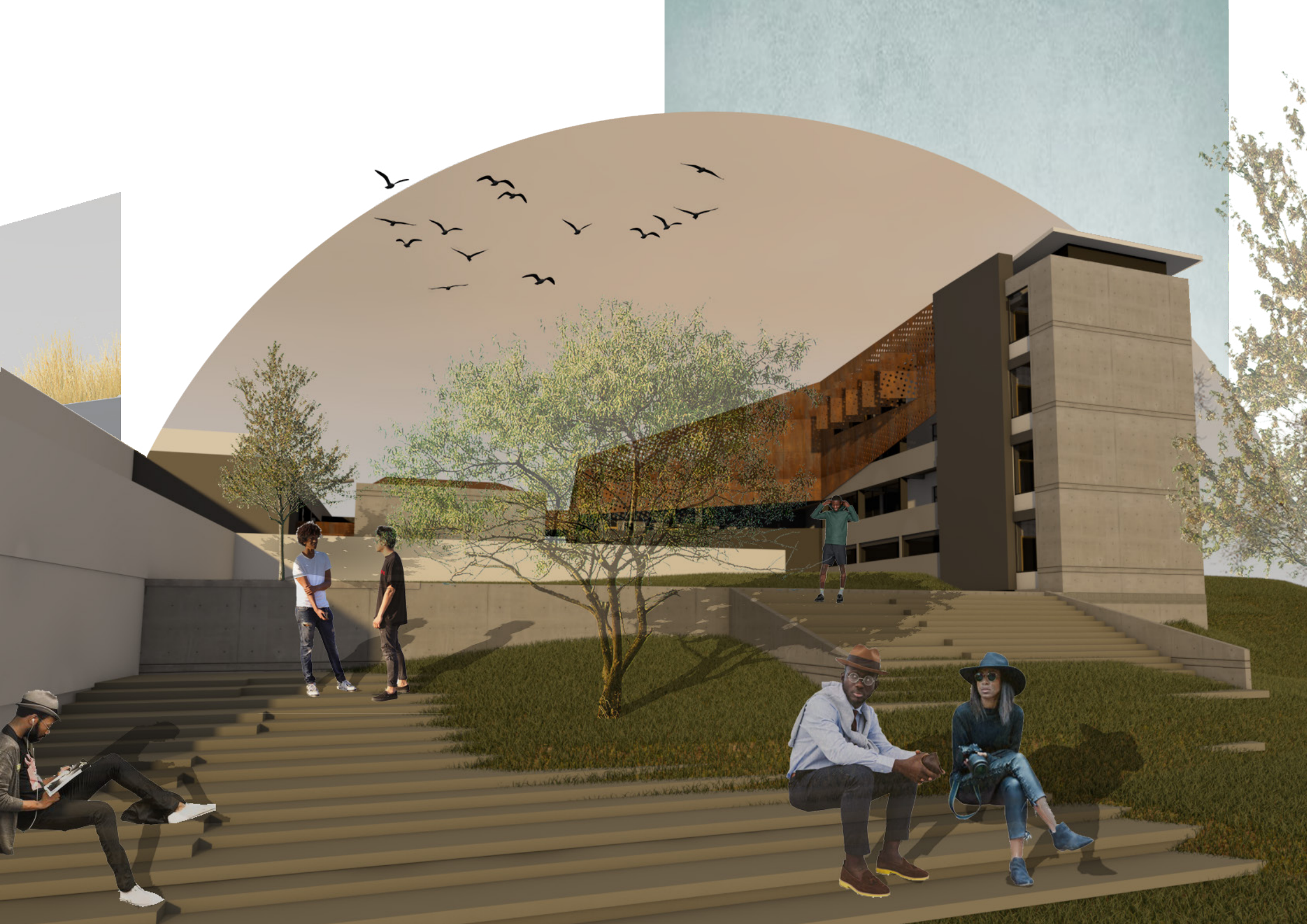


NORTH 1 ELEVATION SCALE 1:100
NORTH 1 ELEVATION



NORTH 2 ELEVATION







REFLECTION

In pursuit of a typology to mitigate the transition from rural to urban, a symbolic civic space was created. One which feeds from front to back and transforms individuals from initial arrival to departure. In regards to this aim, a successful building has been generated, though in terms of solving a larger urban problem, more research and mapping exercises of the city is necessary. Windhoek as the urban centre of the country is rich in culture and opportunity and better exploitation of these factors could have generated a more successful intervention and project as a whole.

In terms of sustainability aims and materiality of the centre, I wish I had ventured in deeper and found suitable solutions which would truly compliment the centre. The “back” of the building is formalistically too institutional, taking away from the perception that this centre has no back, and that for me is a let down.

On a personal level this project tackles an issue in our country which I care deeply about and I know I will continuously work on it to make it better.

APPENDIX

Comprised of a set of documentation drawings of the proposed centre.



LOCATION PLAN
SCALE 1:1000

GENERAL NOTES:

- All materials and methods are to comply with the NATIONAL BUILDING REGULATIONS (Act No. 103 of 1977), and amendments.
- All operative methods and specifications are to be in accordance with "THE MODEL PREAMBLES FOR TRADES" (1999 ASAS) and supplementary particulars unless otherwise specified.
- All materials are to be fixed and finished in accordance with the specifications of the manufacturer of such materials, unless otherwise specified.
- All dimensions are to be checked on site before any work is put in hand.
- Any lack of clarity or discrepancy is to be brought to the attention of the architect for rectification or clarification.
- This drawing is to be read in conjunction with engineer's drawings where applicable.
- Dimensions are not to be scaled from the drawing.

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DRAWING NOTES:



**DEPARTMENT OF ARCHITECTURE
UNIVERSITY OF THE FREESTATE
MAIN CAMPUS
NELSON MANDELA DRIVE
BLOEMFONTEIN**

SURFACE AREAS

TOTAL SITE AREA:	4647m ²
BASEMENT:	3684m ²
GROUND FLOOR:	1022m ²
FIRST FLOOR:	1770m ²
SECOND FLOOR:	346m ²
THIRD FLOOR:	304m ²
TOTAL SURFACE AREA:	11973m ²

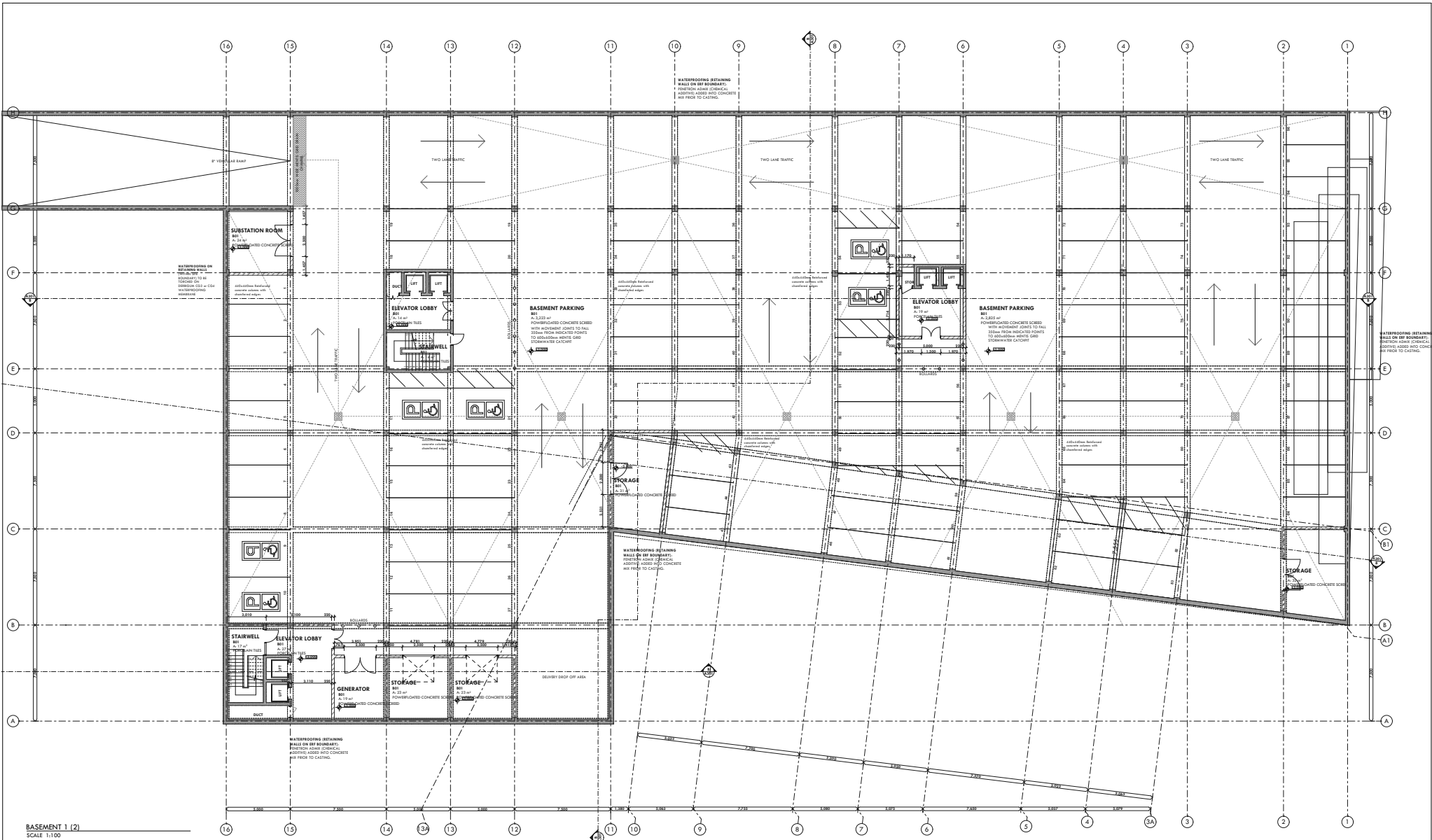
PROJECT TITLE: **NEW RURAL-RURAL URBAN MIGRANT'S TRANSITIONAL URBAN ENCLAVE**
ADDRESS: **ERF 1503 INDEPENDENCE AVENUE WINDHOEK CENTRAL BUSINESS DISTRICT NAMIBIA**

DRAWING TITLE: **LOCATION PLAN**
PRINTED SCALE: **1:1000**

DATE: **Friday, 15 November 2019**

DRAWN BY: **CARMEN BESSER**

STUDENT NUMBER: **2014053355**



BASEMENT 1 (2)
SCALE 1:100

GENERAL NOTES:

- All materials and methods are to comply with the NATIONAL BUILDING REGULATIONS (Act No. 103 of 1977), and amendments.
- All construction methods and specifications are to be in accordance with the SOUTH AFRICAN STANDARDS FOR TRADES (SANS) and supplementary provisions, unless otherwise specified.
- All materials are to be fixed and finished in accordance with the specifications of the manufacturer of such materials, unless otherwise specified.
- All dimensions are to be checked on the building work as it is laid.
- All work of laying or placement is to be checked by the architect or the engineer for verification or certification.
- This drawing is to be read in conjunction with architect's drawings where applicable.
- Dimensions are not to be scaled from the drawing.

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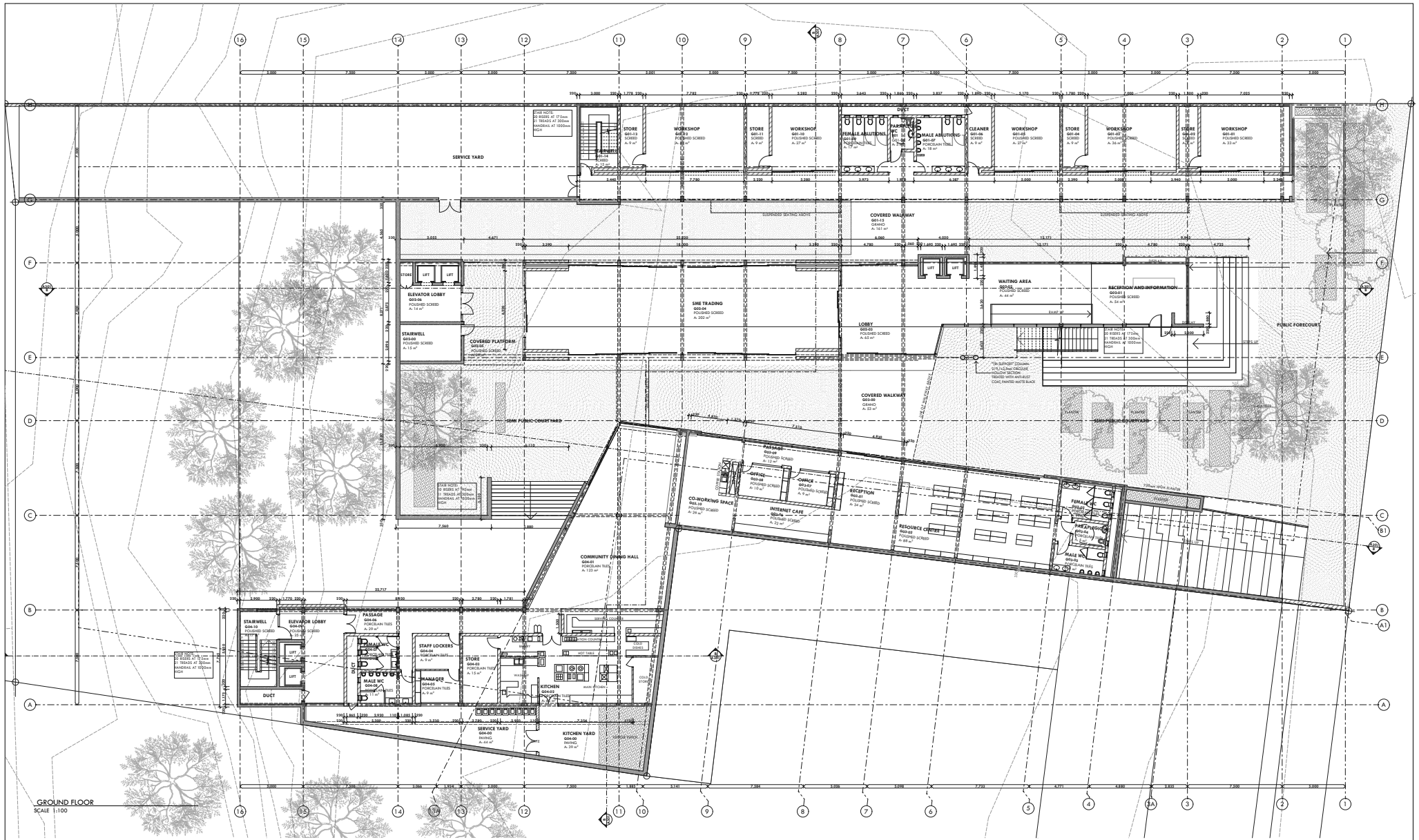
DRAWING NOTES:



DEPARTMENT OF ARCHITECTURE
UNIVERSITY OF THE FREE STATE
MAIN CAMPUS
NELSON MANDELA DRIVE
BLOEMFONTEIN

SIRFACE AREA	
TOTAL SITE AREA	4447m ²
LANDMARK	3886m ²
GROUND FLOOR	8936m ²
FIRST FLOOR	1726m ²
SECOND FLOOR	246m ²
THIRD FLOOR	286m ²
TOTAL SURFACE AREA	18932m ²

PROJECT TITLE	NEW RURAL-RURAL URBAN MIGRANT'S TRANSITIONAL URBAN ENCLAVE
ADDRESS	887 1003 INDEPENDENCE AVENUE WINDHOLK CENTRAL BUSINESS DISTRICT NAMIBIA
DRAWING TITLE	BASEMENT FLOOR PLAN
DRAWING NUMBER	ISSUE / R 20.01
DRAWN BY:	CARMEN BESSER
PRINTED SCALE	1:100
DATE:	19/11/2019
STUDENT NUMBER:	2018032152



GROUND FLOOR
SCALE 1:100

GENERAL NOTES:

- All dimensions and setbacks are to comply with the NATIONAL BUILDING REGULATIONS (Act No. 103 of 1977), and amendments.
- All construction methods and specifications are to be in accordance with the SANS (SOUTH AFRICAN STANDARDS) (SANS 1040) and supplementary provisions, unless otherwise specified.
- All materials are to be fixed and finished in accordance with the specifications of the manufacturer of each material, unless otherwise specified.
- All elevations are to be checked on site before any work is put to hand.
- All work of electrical, plumbing, and other services is to be done in accordance with the relevant regulations.
- This drawing is to be read in conjunction with engineer's drawings where applicable.
- Dimensions are not to be scaled from the drawing.

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SURFACE AREA	
TOTAL SITE AREA	4487m ²
BUILDING	3486m ²
GROUND FLOOR	3029m ²
FIRST FLOOR	1776m ²
SECOND FLOOR	546m ²
THIRD FLOOR	386m ²
TOTAL SURFACE AREA	11673m ²

PROJECT TITLE: NEW RURAL-RURAL URBAN MIGRANT'S TRANSITIONAL URBAN ENCLAVE

ADDRESS: 1001 INDEPENDENCE AVENUE WINDHOEK CENTRAL BUSINESS DISTRICT NAMIBIA

DRAWING TITLE: GROUND FLOOR PLAN

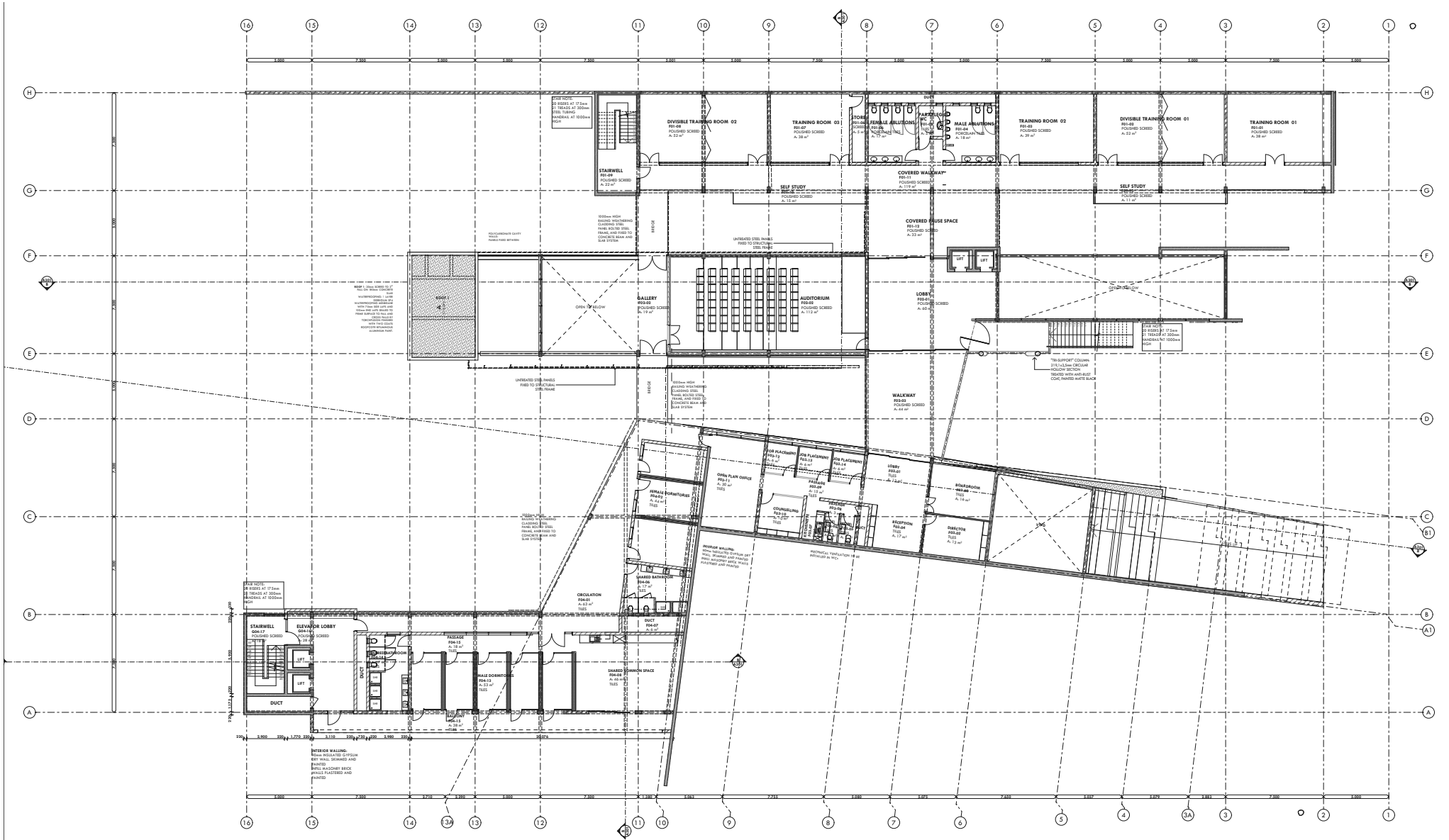
PERIOD SCALE: 1:100

DRAWING NUMBER: 1509E / J 0002

DATE: 15/11/2019

DRAWN BY: CARRIE BISSER

STUDENT NUMBER: 2019053225



GENERAL NOTES:

- All materials and methods are to comply with the NATIONAL BUILDING REGULATIONS (as No. 103 of 1977), and amendments.
- All construction methods and specifications are to be in accordance with THE CODES PRESCRIBED FOR TRADES (TYPE B) AND any supplementary provisions unless otherwise specified.
- All materials are to be fixed and finished in accordance with the specifications of the manufacturer of each material, unless otherwise specified.
- All dimensions are to be checked on site before any work is put in hand.
- Any lack of clarity or discrepancy is to be brought to the attention of the architect for rectification or clarification.
- This drawing is to be read in conjunction with engineer's drawings where applicable.
- Dimensions are not to be used from the drawing.

DRAWING NOTES:



**DEPARTMENT OF ARCHITECTURE
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MAIN CAMPUS
NELSON MANDELA DRIVE
BLOEMFONTEIN**

SURFACE AREAS	
TOTAL SITE AREA:	4467m ²
BASEMENT:	3286m ²
GROUND FLOOR:	10336m ²
FIRST FLOOR:	17926m ²
SECOND FLOOR:	5646m ²
THIRD FLOOR:	3846m ²
TOTAL SURFACE AREA:	119737m ²

PROJECT TITLE: NEW RURAL-RURAL URBAN MIGRANT'S TRANSITIONAL URBAN ENCLAVE

ADDRESS: ERP 1503 INDEPENDENCE AVENUE WINDHOEK CENTRAL BUSINESS DISTRICT NAMIBIA

DRAWING TITLE: FIRST FLOOR PLAN

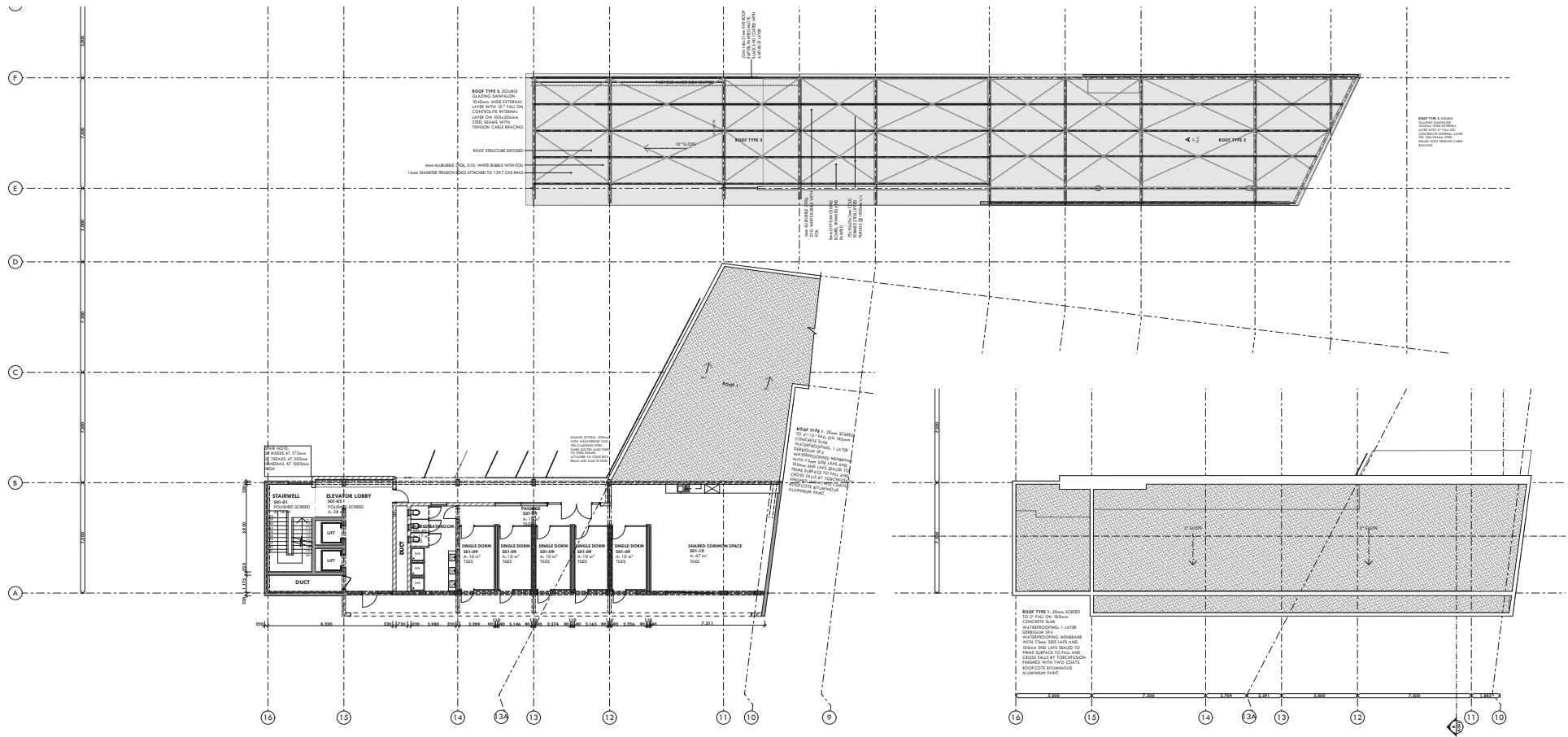
PRINTED SCALE: 1:100

DRAWING NUMBER: TSURE /A 20.03

DATE: 15/11/2019

DRAWN BY: CHARIN BESSER

STUDENT NUMBER: 2014033333



THIRD FLOOR LAYOUT
SCALE: 1:100

FOURTH FLOOR (ROOF)
SCALE: 1:100

GENERAL NOTES:

- All construction shall comply with the NATIONAL BUILDING REGULATIONS (Act No. 103 of 1977), and amendments.
- All construction methods and specifications are to be in accordance with "THE CODES RELEVANT FOR TRADE" (SANS AND equivalent) provisions unless otherwise specified.
- All materials are to be fixed and finished in accordance with the specifications of the manufacturer of such materials, unless otherwise specified.
- All dimensions are to be checked on site before any work is put in hand.
- All work of a nature or character to be brought to the attention of the architect for notification or confirmation.
- This drawing is to be read in conjunction with engineer's drawings where applicable.
- Dimensions are not to be scaled from the drawing.

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UNIVERSITY OF THE FREESTATE
MAIN CAMPUS
NELSON MANDELA DRIVE
BLOEMFONTEIN

SURFACE AREA:	
TOTAL SITE AREA:	4447m ²
BASINENT:	5886m ²
GROUND FLOOR:	10336m ²
FIRST FLOOR:	17726m ²
SECOND FLOOR:	2466m ²
THIRD FLOOR:	2866m ²
TOTAL SURFACE AREA:	18973m ²

PROJECT TITLE:	NEW RURAL-URBAN MIGRANT'S TRANSITIONAL URBAN ENCLAVE
ADDRESS:	ERF 1903 INDIPENDENCE AVENUE WINDROEK CENTRAL BUSINESS DISTRICT BA NUBIA
DRAWING TITLE:	THIRD FLOOR PLAN FOURTH FLOOR PLAN
DRAWING NUMBER:	15URE / A.20.05
DRAWN BY:	CARMEN BOESER
PRINTED SCALE:	1:100
DATE:	12/10/2019
STUDENT NUMBER:	3014633355

6.0-31
RETURNING ROOF FRINGE DETAIL

ROOF STRUCTURE
Unstayed steel roof sheets on
75x45x3.5mm C-section
2.5x1146.3mm R152 air cavity, with
support provided by 15mm dia steel
rod.

INSULATION
40mm ALUMINIUM
FIBRE INSULATION
with 100mm air gap

254x1146.3mm
R152 roof sheet
with 100mm air gap
with 40mm ALUMINIUM
FIBRE INSULATION

6.0-32
OUTSIDE WALL

CLADDING
Unstayed 1/2" thick
steel panels fixed
to structural steel

STRUCTURAL
50x100x10mm
Channels, or
equivalent, are
anchored to
12000x1700mm L
sections (see
PAGE 10)

CAPIVOTAL
Polyurethane
concrete sealant
fixed into steel
channel

PRIMARY
STRUCTURAL
FRAME
254x1146.3mm L
Sections spaced
254x254x20mm
concrete base

FLOORING
40mm POLYURETHANE
CONCRETE SEALANT
into steel channel

GLAZING DETAILS
100x100x10mm L
Channels, or
equivalent, are
anchored to
12000x1700mm L
sections (see
PAGE 10)

PRIMARY
STRUCTURAL
FRAME
254x1146.3mm L
Sections spaced
254x254x20mm
concrete base

GLAZING DETAILS
50mm x 25mm x 10mm
Reflective double glazing
on metal aluminium frame,
with 100mm air gap,
interlock. Note: Shop
flash.

75x38x2.5
Reinforcing steel
section

PRIMARY
STRUCTURAL
FRAME
254x1146.3mm L
Sections spaced
254x254x20mm
concrete base

GLAZING DETAILS
50mm x 25mm x 10mm
Reflective double glazing
on metal aluminium frame,
with 100mm air gap,
interlock. Note: Shop
flash.

75x38x2.5
Reinforcing steel
section

PRIMARY
STRUCTURAL
FRAME
254x1146.3mm L
Sections spaced
254x254x20mm
concrete base

GLAZING DETAILS
50mm x 25mm x 10mm
Reflective double glazing
on metal aluminium frame,
with 100mm air gap,
interlock. Note: Shop
flash.

75x38x2.5
Reinforcing steel
section

PRIMARY
STRUCTURAL
FRAME
254x1146.3mm L
Sections spaced
254x254x20mm
concrete base

GLAZING DETAILS
50mm x 25mm x 10mm
Reflective double glazing
on metal aluminium frame,
with 100mm air gap,
interlock. Note: Shop
flash.

75x38x2.5
Reinforcing steel
section

PRIMARY
STRUCTURAL
FRAME
254x1146.3mm L
Sections spaced
254x254x20mm
concrete base

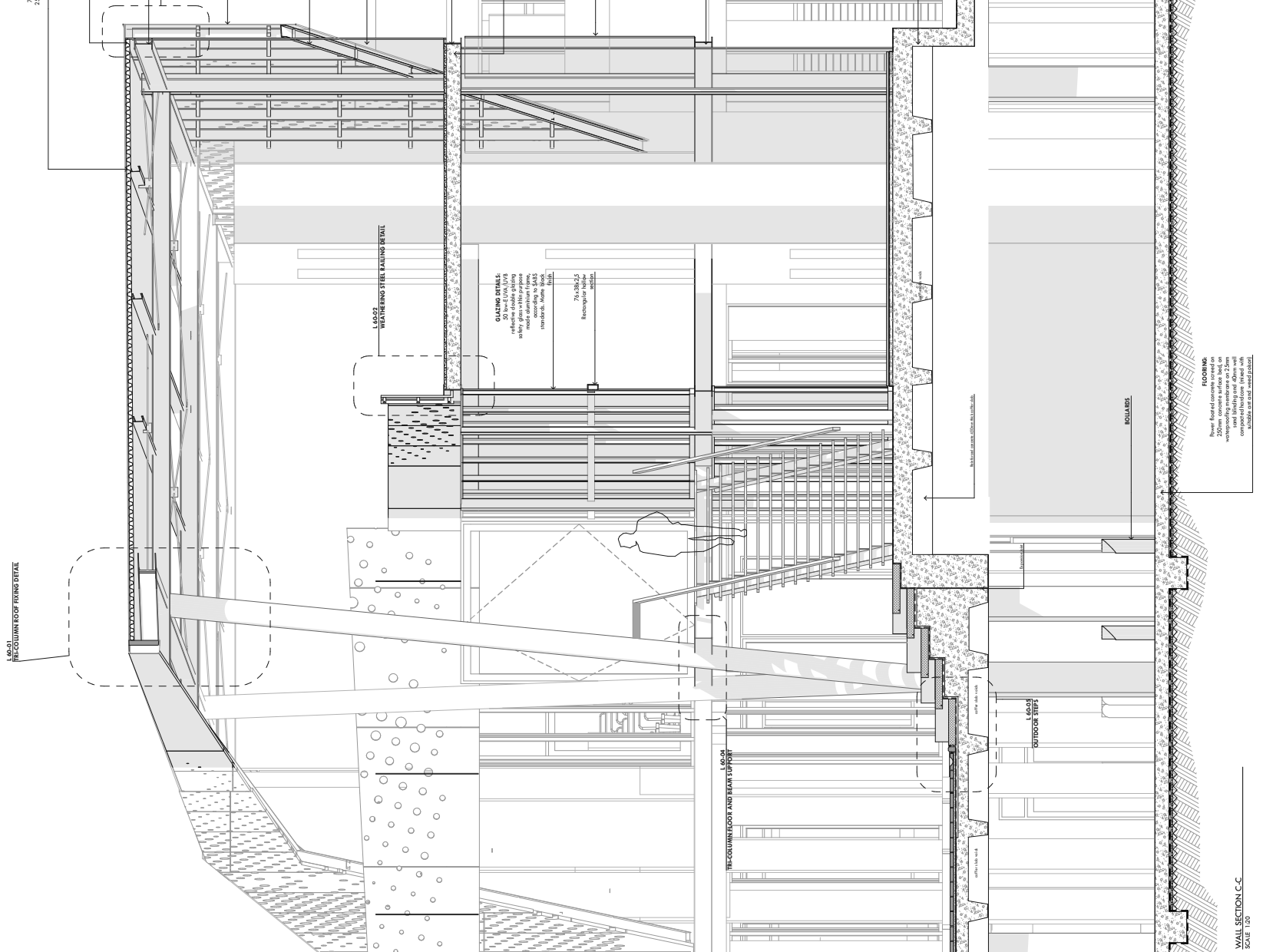
GLAZING DETAILS
50mm x 25mm x 10mm
Reflective double glazing
on metal aluminium frame,
with 100mm air gap,
interlock. Note: Shop
flash.

75x38x2.5
Reinforcing steel
section

PRIMARY
STRUCTURAL
FRAME
254x1146.3mm L
Sections spaced
254x254x20mm
concrete base

GLAZING DETAILS
50mm x 25mm x 10mm
Reflective double glazing
on metal aluminium frame,
with 100mm air gap,
interlock. Note: Shop
flash.

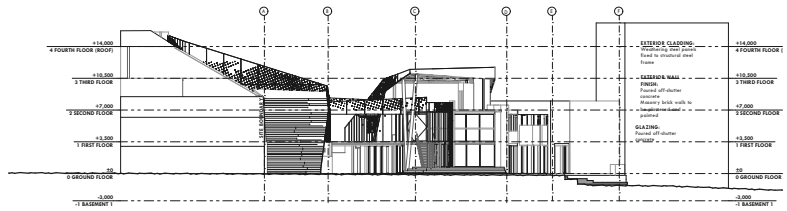
75x38x2.5
Reinforcing steel
section



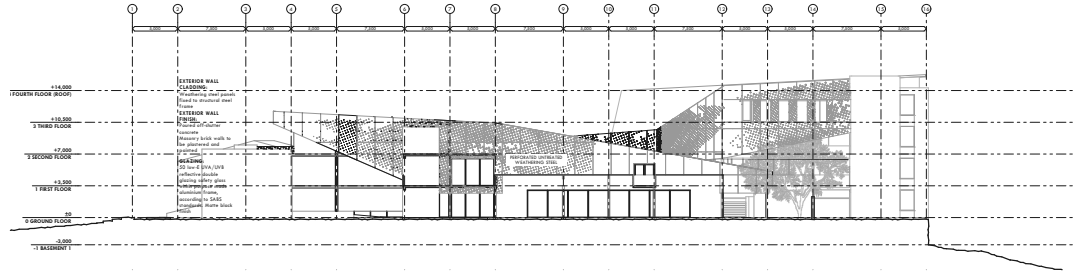
FLOORING
Reinforced concrete surface cast on
200mm concrete base on 100mm
waterproofing membrane on 100mm
compacted hardcore (filled with
blended sand and gravel) on
100mm compacted hardcore.

WALL SECTION C-C
SCALE 1:50

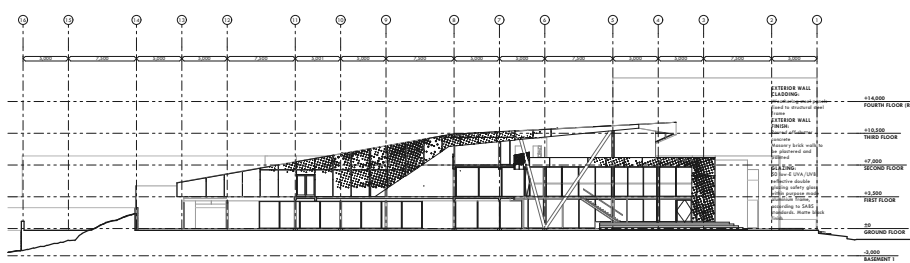
<p>GENERAL NOTES:</p> <ul style="list-style-type: none"> 1. All dimensions are in millimetres unless otherwise stated. 2. All materials are to be of the highest quality and to conform to the relevant Australian Standards. 3. The drawing is the property of the architect and is not to be used for any other purpose without the written consent of the architect. 4. The drawing is the property of the architect and is not to be used for any other purpose without the written consent of the architect. <p>COPYRIGHT RESERVED.</p>	<p>DRAWING NOTES</p>	<p>DEPARTMENT OF ARCHITECTURE UNIVERSITY OF THE FORESTATE NIELSON AND GILL DRIVE BLOOMFONTEIN</p>	<p>SPREAD AREAS</p> <table border="1"> <tr> <td>100% LAB AREA</td> <td>48.00%</td> </tr> <tr> <td>LABORATORY</td> <td>10.00%</td> </tr> <tr> <td>GENERAL LAB</td> <td>10.00%</td> </tr> <tr> <td>RESEARCH LAB</td> <td>10.00%</td> </tr> <tr> <td>100% LAB AREA</td> <td>17.00%</td> </tr> </table>	100% LAB AREA	48.00%	LABORATORY	10.00%	GENERAL LAB	10.00%	RESEARCH LAB	10.00%	100% LAB AREA	17.00%	<p>PROJECT TITLE NEW RURAL RURAL URBAN HOUSING</p> <p>ADDRESS REF 1000 WINDHOEK CENTRAL BUSINESS DISTRICT WINDHOEK</p> <p>DATE 15/11/2008</p> <p>PROJECT NO. SECTION 8 - 8</p> <p>DESIGNER 15/11/2008</p> <p>CLIENT DR. W. G. CARLSEN</p>
			100% LAB AREA	48.00%										
LABORATORY	10.00%													
GENERAL LAB	10.00%													
RESEARCH LAB	10.00%													
100% LAB AREA	17.00%													
<p>ARCHITECT NIELSON AND GILL DRIVE BLOOMFONTEIN</p>	<p>SCALE 1:50</p>													



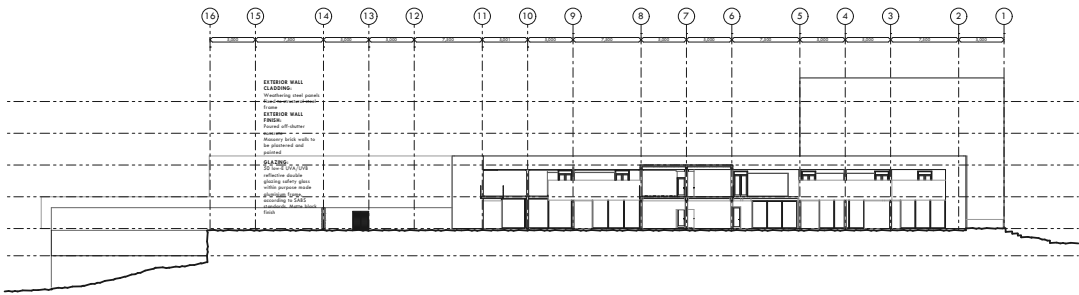
EAST ELEVATION
SCALE 1:200



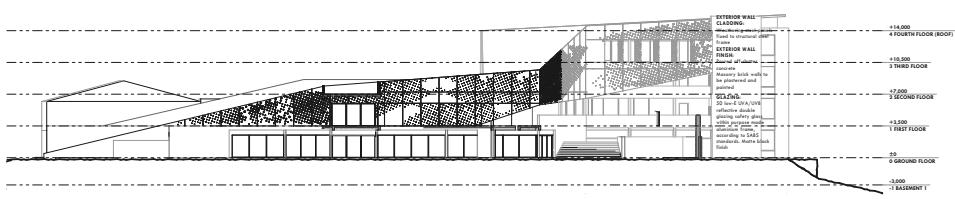
NORTH 1 ELEVATION
SCALE 1:200



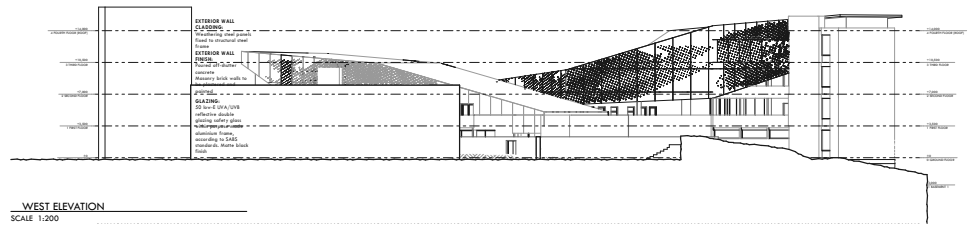
SOUTH 2 ELEVATION
SCALE 1:200



SOUTH 1 ELEVATION
SCALE 1:200



NORTH 2 ELEVATION
SCALE 1:200



WEST ELEVATION
SCALE 1:200

GENERAL NOTES:

- All materials and methods are to comply with the NATIONAL BUILDING REGULATIONS (Act No. 103 of 1977) and amendments.
- All construction methods and specifications are to be in accordance with THE CODES RELEVANT TO THE TENDERS (SANS STANDARDS) and supplementary provisions unless otherwise specified.
- All materials are to be fixed and finished in accordance with the specifications of the manufacturer of each material, unless otherwise specified.
- All dimensions are to be checked on site before any work is put in hand.
- The total of sheets in this drawing is to be brought to the attention of the architect for modification or clarification.
- This drawing is to be read in conjunction with the architect's drawings where applicable.
- Dimensions are not to be scaled from the drawing.

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DRAWING NOTES:



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UNIVERSITY OF THE FREESTATE
MAIN CAMPUS
NELSON MANDELA DRIVE
BLOEMFONTEIN

SURFACE AREA	
TOTAL SITE AREA:	6467m ²
BASINMENT:	2688m ²
GROUND FLOOR:	10226m ²
FIRST FLOOR:	1970m ²
SECOND FLOOR:	548m ²
THIRD FLOOR:	394m ²
TOTAL SURFACE AREA:	19739m ²

PROJECT TITLE	
NEW RURAL-RURAL URBAN MIXED-USE TRANSITIONAL URBAN ENCLAVE	
ADDRESS:	
887 1503 INDEPENDENCE AVENUE WINDHOEK CENTRAL BUSINESS DISTRICT NAMIBIA	
DRAWING TITLE:	PROJECT SCALE:
ELEVATIONS	1:200
DRAWING NUMBER:	DATE:
15URE (1.40.01)	15/11/2019
DRAWN BY:	STUDENT NUMBER:
CARMEN BOSCH	2019053333

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PLAGIARISM REPORT



Assignment Inbox

preferences

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Class Homepage

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