

Building a Change

-New atmospheres for the women of Kazalas.

JULIA ARONSSON



CHALMERS
UNIVERSITY OF TECHNOLOGY

Department of Architecture
CHALMERS UNIVERSITY OF TECHNOLOGY
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Department of Architecture
Chalmers University of Technology
SE-412 96 Göteborg
Sweden

Cover: A figure ground map over Addis Ababa
tryckeri: Type and Tell
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Abstract

Building a Change

New Atmospheres for the Women of Kazalas

We experience architecture with more than our eyes, yet most architecture today is designed to please the eye. The tactile materials affect our experience as well as the sounds bouncing off them. This thesis is aimed to explore how materials and light can help us experience architecture, and how these factors can create healing atmospheres.

Kazalas is an organization located in the heart of Addis Ababa (Ethiopia). The organization is working with women that have been victims of prostitution. They educate and inspire these women to help them start a new life and find a better way to earn an income. The main core of this organization is to make these women feel loved and secure, so that they can start believing in themselves and in a brighter future.

Light is a topic well discussed and researched especially when it comes to how it affects our wellbeing. It's proven repeatedly

that we need light, and the right kind of light to keep healthy. (Sternberg, E) But what happens when you're in a country where heat is a problem? Letting daylight sipper into the building, but keeping the heat out is a big challenge. Different materials are also proven to affect us differently, one example is natural material which are said to reduce stress, we can read them, know their age, and see what they've been exposed to. (Pallasmaa, J)

This thesis is carried out by a method of sketches and discussions. The research is shaping the building together with other boundaries such as local craftsmanship and economy. The result is new environments for these women with a focus on healing atmospheres, to create a safe haven, a calm yet inspiring environment where they can start building a new life.

JULIA ARONSSON
Department of Architecture
Chalmers University of Technology

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Reading instructions

This master thesis is organized in a order of research followed by the project. The project can be reed separately, but the methods of how to work with the light and materials are reasoned in the research part.

The three point that are most important in the project are the program in the building, the material and the light, so these part shouldn't be skipped.

For further understanding look at the table of content.



Summary

ETHIOPIA/ADDIS ABABA

Addis Ababa is the capital of Ethiopia and located at a altitude of 2355 m above sea level. The city is rapidly growing and it's also experiencing a change were all the slum areas are pushed out to the borders of the city.

KAZALAS

Kazalas is an organization in Addis Ababa that is working with women that have been victims of prostitution. The organization helps these women to get a new trade by learning the crafts of sewing, weaving and embroidery.



PROJECT

The project consists in a new building for the organization, Kazalas. To design this building with good and healing atmospheres for the women the two factors light and material are considered in all parts of the design process.



CONCLUSION

A question that has been hard to balance are the two focus points, they stand on a solid ground when it comes to the fact that they do influence both our experience and our health, but the measurements of these are hard to interoperate, how much light is too little and how much is too much light.





Purpose

Being able to help one single person in their journey toward creating a new life would make all this hard work worth it, but this project makes it possible to reach many.

Kazalas is a help to self-help project that helps the women learn a trade. Helping them learn a trade and making it possible for them to create a new life. However, if they're going to be able to start a new life they also need be built up mentally and Kazalas is doing a great job with this, but their facilities are making the work harder. The hope is that these new facilities can help them and open up for options. The goal and purpose is therefore to create an environment which can help these women to heal, an environment which can give them what they need and more. A good learning environment and an environment in which they can get a fresh start.

This project also has a second purpose and it is to explore how colors, materials and spaces affect us. Diving in on how the brain reacts when we see, touch, hear, smell and maybe taste architecture.

Method

To create good environments for the women this project will look at light and material and how they affect us. To reach these two topics there will also be a discussion on how we experience architecture with all our senses. To be able to apply these factors on the building workshops and model sketches will be made. The workshop will be made with the students and their teachers, this to understand their needs and their organization, but also to understand the women. Model sketches will mainly be done to discuss the light and how to discourse about it. Materials will be chosen due to their effect on the human mind and body, but also due to economy and building traditions. Even though this master thesis has a focus on how material and light affect us, it's still important to make the building buildable in its context.

The result of the workshop will be a foundational part in understanding the program. The program and the functionality of the building is an important part so that the organization can flourish and develop. The method of research by design will be used to develop the plans and its function. Sketching and developing will end up in a functional distribution.



KAZALAS



Kazalas

You know the feeling of walking through the doors to a hospital, and immediately you feel sicker? What if you could reverse that effect and immediately when you walk in to a building you feel happier, healthier and like you're able to do anything. The women of Kazalas deserve this feeling. They need to be empowered and they need to know how much they're worth and how beautiful they are.

Kazalas is an organization that works with women in capital of Ethiopia, Addis Ababa. These women have all been forced in into prostitution due to many different reasons, but they have been pulled out and now they're attending classes at Kazalas. At Kazalas they learn how to sew, weave, make embroidery, baking and cooking. This so that they in the future could get an employment or maybe even be able to sell their crafts or food themselves. Underneath all of this lies an intention to give the women a sense of worth and empower them to start living their lives to their full potential and just make them feel loved. These women have been mentally and physically abused, the body might have been healed, but it takes a whole lot longer to heal the soul and the mind. The goal of this project is to make a building where the organization, classes and architecture can simultaneously help these women heal, making a safe haven where the architecture together with all the senses create a safe, caring, happy and energy giving environment.



"My happy place is here at Kazalas and this compound, I like the greenery and the people."

-A student

Anita Fållsten is a Swedish missionary that's been working in Ethiopia on and off for many years. She is now staying there for half a year at a time, together with her husband Gert. Anita is a devoted and energy giving person and she keeps on pushing this organization forward even though she retired a couple years ago. The Organization started off in '76-'77 and has grown into what it is today. In the beginning they educated women in sewing skills, hygiene and childcare, but in the early 1990s the board decided that the class should be made up by 2/3 of women from the street and 1/3 by women that were living under poor conditions. Around '95-'97 they then decided to only admit women from the street, and that's where they are at today. They welcome about 24 students every year, the women stay in the program for 20 months and they make sure that the women stay off the streets by providing them with a smaller contribution so that they can pay rent and afford food. Another important matter in keeping the women off the street is making them feel valuable and loved and this is a point the Kazala program puts a lot of value in, and maybe this is why they have such good statistics on how many women actually stay off the streets and how many return.

So where does the name Kazalas come from? Kazala is actually the name of a woman that has been involved in the project since the beginning. She is the "mother Theresa" of this project as Anita Fållsten expresses it. She is so important to the project that the organization decided to name it after her. It started off just because she was leading the project, so it was Kazalas project. The full name today is actually Kazalas, Women Rehabilitation and Training Program.

As many other aid organizations it's financially difficult to keep the project running, but the work is so important and with the increasing rate of women on the streets it's becoming even more important. To make it easier for the organization financially they actually have their own shop where they sell their handiwork.

Unfortunately, this shop is located on their compound and it's only people visiting the project that actually buy from it, but they have customized the shop so that it fits these kind of costumers, therefore there are a lot of big Christmas table cloths, with Santa, holly and mistletoe for sale. Another thing they're actually doing is running a café. This café is however located along the street at the compound, which makes the café well visited by visitors to the project, and people passing by. A third source of income is the guest house on the compound. It's a big house with a couple of rooms, it's self-catering so there is also a big kitchen. It's mainly used by friends of the organization and Fållstens, but it is located on the same compound as the project and this helps giving publicity and understanding to the project. These three things are however far from being the main source of income. The majority of the support for this organization is coming from Erikshjälpen, but since this is still not enough so there is also money coming in from different private donors.

So what does the future look like for Kazalas? Weaving is one of the crafts which is still not implemented. They have the equipment, but still no room for it, so this is the first step for them. Another new subject they are planning to introduce is housekeeping. Housekeeping is something that is well implemented in Ethiopia, everybody who can afford has a housekeeper, and frankly it's a little bit weird if you don't. This class will have its practical training in the guest house and help out with that, so it's a win win situation.

"When I'm on top or high up in bigger buildings so I can look out over the view and see what's happening, that is when I feel happy."

-A student

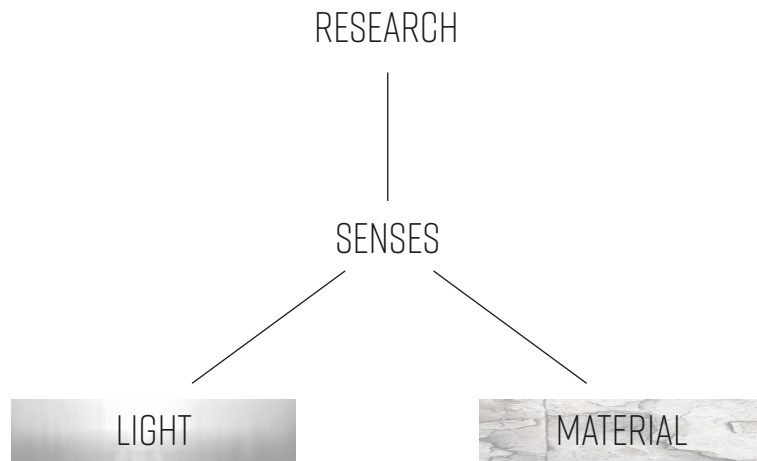


A photograph of a gravel-covered slope, likely a landslide area, with a house and trees in the background. The word "RESEARCH" is overlaid in a white box.

RESEARCH

Research

The research will be divided into three parts. To start up the discussion about how we experience architecture with all our senses will reason the choice of working with the following two parts which is material and light. The research on our senses proves how our senses are involved in both our physical and mental health and through working with the material and light in a conscious way to make sure you experience the architecture with more than your vision, you'll end up with a building that supports your health. So by working with these two factors, material and light, in the design the thought is to reach a better and healthier environment for the women of Kazalas.



-A walk through a forest is invigorating and healing due to the constant interaction of all sense modalities..... The eye collaborates with the body and the other senses. One's sense of reality is strengthened and articulated by this constant interaction.

-Juhani Pallasmaa (Pallasmaa 2005)

Architecture and the senses

-Every touching experience of architecture is multi-sensory; qualities of space, matter and scale are measured equally by the eye, ear, nose, skin, tongue, skeleton and muscle. Architecture strengthens the existential experience one's sense of being in the world, and this is essentially a strengthened experience of self. Instead of mere vision, or the five classical senses, architecture involves several realms of sensory experience which interacts and fuse into each other.

-Juhani Pallasmaa (Pallasmaa 2005)

We experience architecture with all our senses. As in all cases when the senses are involved you add layers of experience by adding layers of senses. For example, when talking about food one can clearly feel a difference when excluding a sense or if one of the senses have a bad experience the other ones do too. The same goes for architecture, you can look at pictures of a house, but when you're physically there the experience of the architecture changes, maybe because the material doesn't absorb the sound or maybe the light is too poor. When talking about architecture and the senses it's a lot about the choices, the materials, the light, and the shapes. When all the senses get a good experience, that's when you just get that wow effect or as Peter Zumthor writes in his book *Atmosphere* "the magic of the real". (Zumthor 2006)

Seeing architecture

The beauty of architecture is something we observe every single day, knowingly or unknowingly. Historically vision has always been ranked as the most important of our senses, but as time has passed by it's been understood that by putting our visual communication on a pedestal we suppressed the other senses, or as Pallasmaa expresses himself in his book *"The eyes of the skin"*:
"..modernist design at large has housed the intellect and the eye, but it has left the body and the other senses, as well as our memories, imagination and dreams, homeless.

(Pallasmaa 2005)

Today we design for a seeing world, but as mentioned previously we get a wider experience of the architecture when we involve the other senses as well. Remarkably our brain can remember and create the feeling of the other senses, for example if you see a wall, the brain can analyze the shadows and the contrasts so that you will know that it's a rough wall, you would know the feeling without touching it, and this might cause you to walk further from the wall, or closer if it's a smoother wall. The eye can therefore cause you to walk differently depending on the light, materials, and spaces. The previous statement is also applied when talking about way finding. What makes you feel lost or anxious in a maze is the fact that you can't see or hear clear sounds. These two senses are the ones that help you orientate yourself. (Sternberg 2009)

The sound of architecture

Sounds is one of the things that can change a person's mood in a matter of seconds. Just imagine being grumpy and irritated and suddenly hearing your favourite song, it kind of flips a switch in our mind and sets the focus on something else, suddenly you're not so irritated on that person and whatever made you grumpy doesn't seem so bad.

-What is it about mazes that trigger anxiety and the stress response? Two important features are responsible and they involve the senses that are most important in finding your way: vision and hearing.

-Esther Sternberg (Sternberg 2009)

- *If a note were assigned to each heart-rate interval, Goldberg wondered, would the music that resulted from these patterns be calming or jarring?...They produced two CDs of softening music based on healthy rhythms of the heart. The rhythms of sick hearts produced jarring sounds. Once again it seems that when we are in sync with patterns that exist in the nature, whether visual or auditory, we feel peaceful and calm.*

-Esther Sternberg (Sternberg 2009)

The same thing applies to hearing nature. Today it's hard to actually hear nature because we've made up so many noises that cover it, but if you listen, hearing the birds or maybe water moving does something with your mind, puts you in another state of mind and most people would say that it relaxes you. So why does sound have such effect on us? Sound effects the nervous system, the nerve chemicals and hormones flowing from the emotion centers and this in turn affect our immune system. (Steinberg 2009) Other sounds that we don't really think of also affects us, and we notice them depending on several different factors. One example is the acoustics in a room. Depending on the materials and furniture, the fabrics and the finishes the sound will bounce differently, giving off hard sounds and soft sounds.

When talking about sounds you also have to mention silence. What is really silence, and where could we find it? And is there such a thing as silence within architecture? In the book healing spaces, Esther Sternberg (2009) expresses exactly this thought by saying:

-Silence. Is it really emptiness? Is it nothing? When you listen to the silence around you in a quiet place, what you really hear are all the tiny sounds that are usually drowned out by background noise.

-Esther Sternberg (Sternberg 2009)

To sum up it's important to think about the sounds when designing good environments, it's also important to understand how much sounds affect us. The brain receives all these different sounds and tries to analyze them and that is why we so easily get tired in an environment with too much sound. By reducing the sound levels, you can create a much calmer environment, or maybe you want to create an active environment in which case a louder environment might be good?

The smell of architecture

All people may not have experienced this feeling, but if you have, imagine yourself in a deep forest walking on a small dirt road and you pass a pile of newly cut down timber, you know the smell that hits you, the resin and wood smell which makes you take a long, deep breath. That smell can create so many feelings for people, but the question is can the smell of a building, the smell of architecture create the same kind of feelings? Depending on the materials architecture can give off a fragrance. Not all materials smell, but reactions between materials could also create smells, and even if the smell doesn't come from the materials and the architecture, smells that origin in other things can influence how you feel about a room or a house.

The chemical structure of a fragrance can also be much more precise than the texture you feel or the sounds you hear, it's another layer of information about the building. (Sternberg 2009)

Fragrances are also historically used to heal patients. Florence Nightingale for example used lavender oil on wounded soldiers, and lavender is known to have a relaxing effect. The question is then if the smells of and in architecture can have a similar effect on people. (Sternberg 2009)

Touching architecture

-The skin is the oldest and the most sensitive of our organs, our first medium of communication, and our efficient protector... Even the transparent cornea of the eye is overlain by a layer of modified skin... Touch is the parent of our eyes, ears, nose and mouth.

-Juhani Pallasmaa (Pallasmaa 2005)

You know that cold chill running through you when leaning against a cold metal column, or the smooth, rounded plaster wall you just must run your hand against, these are some things that we clearly can see influence us, by touching architecture or its materials, but we touch architecture much more than that each day.

There has been little research made on how the tactile features of architecture affect us, however we know that the only sense that needs to actually come in direct contact with the materials is touch. You need to touch a surface to feel its roughness or smoothness. Once you've experienced the material by touching it your memory will relate to that experience next time you see the material; in a way, you can then feel the roughness without touching it. This is also what causes you to move in different ways depending on materials. As mentioned before a rougher wall tends to keep you at a distance but a smoother wall brings you closer.

In the book "Healing spaces" Esther Sternberg (2009) writes about a research project made on how we read objects by touching them. They had two groups of people, one of the groups containing only blind people and the other group people with good vision. They made the groups see or feel an object and then draw it. Remarkably the drawings were pretty similar with harder contours and so on. This proves the strength of touching. (Sternberg 2009)

Probably the most important thing to think about when designing for the sense of touch is what places you actually come in contact with and how you want them to feel. Do you want them to be smooth and warm so people walk closer or do you want them to be rough and cold so that people keep their distance?

Architecture today is mainly based on the visual, but looking at these two senses, sight, and touch, one is a sense of distance and separation, because the eye can see at a distance while the other, touch, is a sense of intimacy and direct contact, you need to be close so the skin can have an impact from the material, you need to walk up to the brick wall to feel it's roughness. (Pallasmaa 2005)

Summary

The way we experience architecture with our senses can have both positive and negative effects, some effects are even healing. The following paragraphs point to how important right material choices and light executions are to create healing atmospheres, but also to create atmospheres in which you can experience the architecture with all your senses.



Architecture and material

There is research proving that wooden materials in interior spaces gives a positive effect. It calms people down, and makes people more alert. In a study on elderly, conducted by Dr. Wallenius of University of Tampere, Finland, it was clear that wood affected the behavior of elderly people favorably. An unexpected notice in this study was that the wood made the residents more aware and made them interact much more. (Timberdesignmag 2014)

“Wood has [positive] psychological effects on people – a similar stress-reducing effect as nature.”

-Dr Marjut Wallenius (Timberdesignmag 2014)

If wood has this positive effect on us as humans, what is it in the wood that makes us react like this? Maybe the clue is in the fact that we do react similar to nature, it's a material which reminds us of nature, and it's well known that nature has a positive effect on us. Or maybe it is as Pallasmaa expresses in his book “the eyes of the skin”

“Natural materials - stone, brick and wood - allow our vision to penetrate their surfaces and enable us to become convinced of the veracity of matter. Natural materials express their age and history, as well as the story of their origins and their history of human use. All matter exists in the continuum of time; the patina of wear adds the enriching experience of time to the materials of construction. But the machine-made materials of today - scaleless sheets of glass, enameled metals and synthetic plastics - tend to present their unyielding surfaces to the eye without conveying their material essence or age. “

-Juhani Pallasmaa (Pallasmaa 2005)

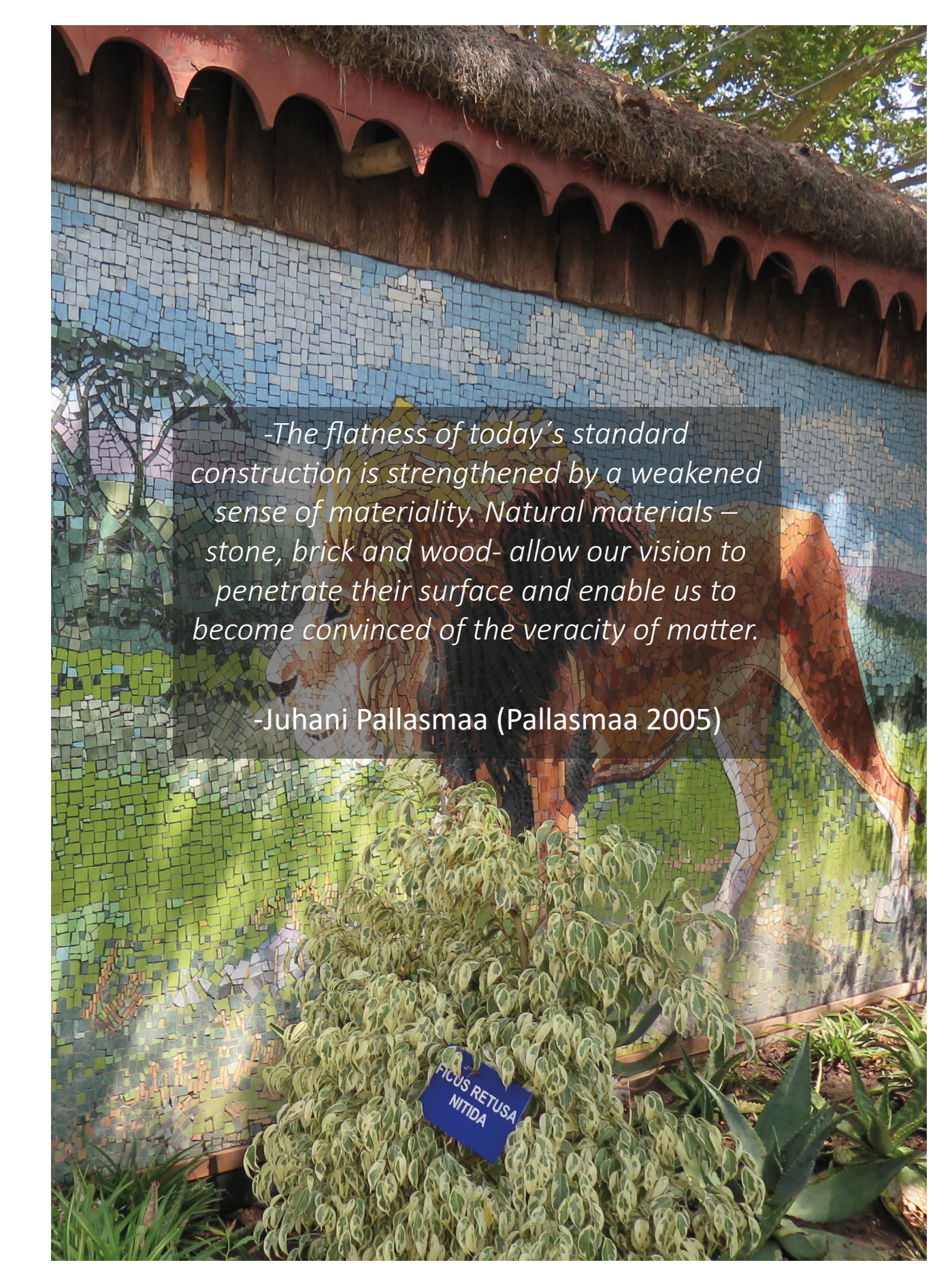
Wood has a story and it can tell us so much more, because it's a living material and it changes over time. For example, if wood has been exposed to water for a longer period you can tell and the same goes with it being exposed to sun. So, what conclusions can we make from this regarding other materials and their effect on us? One can easily assume that all natural materials will have the same effect on us, since they all remind us of the nature, but how are we effected by the tactile, the soft and warm wood and the hard and cold rock does give us different feelings. Rammed earth is a natural material and one could say that it's a soft material that has been processed into something hard. The soil used for this type of material can differ in color and that is what makes it such a beautiful material. These different colored soils are also an evidence of what is hidden in the ground, a story and a hint of what's in the ground. So even though the research on this material and it's effects on us is lacking the assumption on natural materials and their effect on us is present and in many studies like the ones mentioned, the result is often positive due to the fact that the material reminds us of the nature.

Another factor that affects us positively is the color of the materials, There has been a lot of research done on how colors affect us, for example there is a study on how the colored light makes us interact differently with one another. The results of a study made on this showed that people in a room with blue light spent more time standing around the perimeter, in the yellow room people were more interactive with one another and they were walking around a lot more. The red room made people feel hungry. If colors affect us this much, the color of the materials must also influence us.

Concrete is one of those materials which has been heavily used, and maybe used in the wrong way. It has become a dark and boring material to many people, a material you must do something with to make it feel alive. But if you look at architects such as Peter Zumthor and Louise Kahn they work a lot with concrete, and their buildings have a soul and an atmosphere, so what is it then that all the “regular” concrete buildings miss? Both of the mentioned architects are also architects that work with the details, they take care of the meetings of materials and spaces in an almost philosophical way. They care about the smallest element. And maybe this is why their concrete architecture differs from a normal apartment block or a school on a small budget.

As talked about before, you experience architecture with all your senses, and what would happen to a building which is missing the tectonic features? It becomes dull. Since we also have such a big bank of memories concerning the material it’s also harder to substitute those grey and harsh feelings. So is it possible to create good atmospheres within a concrete building? Yes, it’s only a question of how you work with the material, how the details are made.

To sum up the material choices we make is effecting most of our senses’ perception of the architecture. It’s also influencing how we move, feel, and interact.

The image shows a large, colorful mosaic wall. The top of the wall features a row of dark, arched openings, resembling a traditional thatched roof. The mosaic itself is composed of many small, irregular tiles in various shades of blue, green, yellow, and brown. In the foreground, there is a large, bushy plant with variegated green and white leaves. A small blue tag is attached to the plant, reading "FICUS RETUSA NITIDA".

-The flatness of today's standard construction is strengthened by a weakened sense of materiality. Natural materials – stone, brick and wood- allow our vision to penetrate their surface and enable us to become convinced of the veracity of matter.

-Juhani Pallasmaa (Pallasmaa 2005)



Architecture and light

It is well known that daylight affects us humans in many ways. Our day rhythm is affected by it and our immune system is also influenced. Our relation to the sun radically changed 100 years ago, when Tomas Edison invented the light bulb. He introduced a 24-hour society in which you with the flick of a switch can have light. (Hobday 2006) Before the electrical light, all architecture was designed after the sun. The importance of light indoors has always been a key factor, but after the electrical light appeared, we seemed to forget the importance of actual sunlight. A bulb can not replace the sun , because the sun is so much more to us than a light source.

“Light has been proven to affect not only the mood of office workers and shoppers, but also the length of hospital stays in patients with depression, even if the form of depression was not a seasonal affective disorder.”

-Esther Sternberg (Sternberg 2009)

Esther Sternberg writes in her book “Healing Spaces” about how light affects both our mood and out mental wellness. She then goes on talking about how it actually affects our immune system. There is also a difference between daylight and sunlight especially concerning healing and the immune system. For the body to produce vitamin D you need direct sun rays (sunlight). Ordinary daylight isn’t enough in this case. The biggest problem when it comes to

letting the sun and its rays in is the balance of the climate created inside. A neither too warm or a not too cold inside environment is on the other side of the scale. Another problem concerning this topic is the increasing heights of buildings today. These heights cast long shadows which makes it harder for adjacent buildings to let in light. This results in yet another high building. The orientation of the building is also neglected. This often results in the wrong kind of light for the wrong room. Traditionally rooms for relaxation and rest were located in a westerly orientation, this is because the evening sun helps you to relax and prepares you for night time. Morning sun on the other hand is proven to be more effective when it comes to healing mentally ill people in a hospital. (Sternberg 2009)

Light and the ways of letting it in to a building can influence our energy and our health. We lost the knowledge of how to design according to the sun, but once again it's proven to be important, especially in today's 24-hour society in which we spend most time inside a building.

ETHIOPIA



Tradition

Ethiopia is a unique country in Africa due to the fact that they never actually were a colonial country. They are a proud people with much of their old culture still intact.

One thing that is well known in the western world about the Ethiopian culture is their amazing coffee culture with well-known bean such as the Zedamo bean, but one thing that's not so well known is their execution of this tradition. You see for an Ethiopian coffee is more than a cup you grab on your way. Three times a day they take the beans and start by roasting them on an open fire, you then pound the beans so they almost become grinded, after this you boil it in a very traditional earthen, so you see it's not something you do in a hurry, but it's tradition and the typical set for this tradition is still found in most homes in Ethiopia. It's a tradition that is somehow similar to the Swedish tradition of "fika" it's a social thing, but instead of having the sugar next to the coffee in a form of a cookie or cinnamon bun, they have all the sugar in their coffee cups. Another thing you notice as a tourist is their traditions in food. These traditions are also becoming more known to the western world due to some elements that interest people that in one way or another is trying different diets. For example, they have Injera, which is a bread type made from Teff flour. Teff, unlike other grains do not contain any gluten so Injera is safe to eat for everybody with gluten intolerance. Injera is also a given factor in almost all Ethiopian meals and it's also used to eat with.

The technological development is making the gaps between rich and poor more obvious, depending on your wealth but also your priorities you live in a certain way. This is something that needs to be well considered when building in countries like this, they might have the knowledge, but very few people are able to access it.

Climate and geography

Once again due to their diversity the traditions in building techniques differ a lot, from the low lands to the high lands, but also from the north to the south. About 90 % of the population is living on the high lands, due to the defensive strategies of history.

The altitude that differs highland from lowland are about 1400 meters above sea level, so everything on 1400 meters and below are low lands. Another characteristic feature of Ethiopia is that the Rift Valley runs straight through the country, creating even more differences in altitude. The Rift valley is an active valley with shifting plates making the area a risk zone for earthquakes.

If we then start to look at the different building techniques in the country starting from the north, you have a tradition of stone carving. Traditionally they are building their huts in stone. Moving

down to the central regions you find the tradition of building with wood as a construction and then mud as the covering and isolation material. In the south they are famous for their fabrics, and this is kind of reflected in their buildings, you see, they build with bamboo, but then they make what looks like a weave of the bamboo leaves to make a finish. These traditions are still used in the countryside, but they are really rare in the cities. Addis Ababa

which is the capital of Ethiopia is a rapidly expanding city and as in all fast growing developing cities they have a problem with space. The capital is only 125 years old and were founded because of a disagreement between the emperor and his ambassadors.

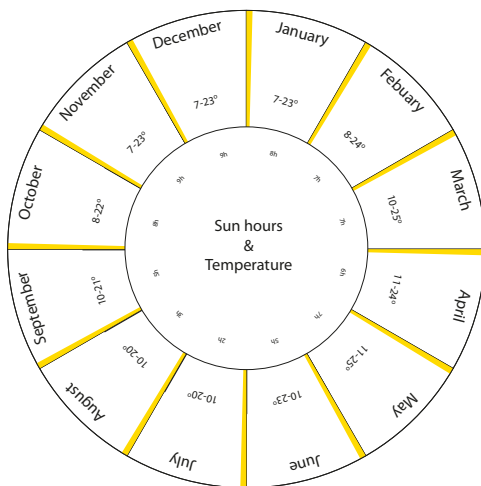
When Addis Ababa was founded the emperor decided to import a fast growing tree, since there was a lack of this. He imported the Eucalyptus from Australia. The Eucalyptus is therefore not originally an Ethiopian tree, but today you can find them in large amounts in the central parts of Ethiopia. Maybe it was a good solution at the



time to start planting this fast growing tree, but since it is such a fast growing tree it's also a strong tree, and it kills all other trees close by due to its large amount of water consumption. Eucalyptus however is not a developed building material, it's used for many other things such as construction posture or fencing, but not as a building material. The most common building material in Addis Ababa is of course concrete, there is some production of cement in Ethiopia, but with the rate everything is built, it's not enough.

Construction materials is actually the second largest import to the country, and it's mainly due to the concrete consumption. It's mainly cement, but also the iron to reinforce the concrete which is being imported.

The most common structure in Addis Ababa is actually the framework structure made out of concrete. The frames are filled with hollow blocks to create the exterior walls. This kind of construction is both cheap, and effective if an earthquake were to hit.



SUN HOURS AND TEMPERATURE



THE RIFT VALLEY



A photograph of a narrow alleyway between buildings. On the left, there is a corrugated metal roof and a wall made of corrugated metal sheets. On the right, there is a building with a light-colored stucco wall and a stone wall. A concrete path runs along the right side of the alley. In the background, a building with a window and a satellite dish is visible. The text "THE ASSIGNMENT" is overlaid in the center of the image.

THE ASSIGNMENT

The assignment

The Assignment consists of designing a new house for the organization Kazalas. The assignment also includes making a building fitted to the situation, both according to how you build in Addis Ababa, but also according to the economy and the site. One can say that this is a pre-study on what is needed in a new building for this organization, it is therefore important to follow the program and make it work, of course minor adjustments are made due to the site, but the importance is that it should work as planned.

Program and plot

The program and plot was developed by Kazalas, these are their needs and what they want to be able to develop their organization. The discussion about building their own house has been up for a while. Today they are renting a compound, which is not a secure investment, and neither can they rebuild or adjust the compound after their needs. The plot is located at a compound not far from the old one. It's on a compound which belongs to a church that is involved in the organization, and it's good for Kazalas to strengthen the bounds to a supporting actor. This plot is one of two possible locations and the one most convenient at the moment.

The program and the needs were then discussed and analyzed together with the organization, but also to fit the plot given. Some important things to understand about the program is their need for an extra income, which is answered by a café and a guest house. The guest house is also located on site to give some publicity to the organization. People traveling through and see what they are doing, might want to get involved.

The children's department is also an important addition. In Ethiopia you start kindergarten at 3 years of age and up to that the family either hire a nanny or the child has to come with the mother, and since the organization is working with poor women it's important for them to have someone who can take care of them.

PROGRAM

Staff room	30 m ²
Reception/Office	10 m ²
Office	15 m ²
Washing/ Ironing	20 m ²
2x Preparation/Storage	20 m ²
Storage for Shop	4 m ²
Counseling room	8 m ²
Aula	40 m ²
Sewing room	40-50 m ²
Embroidery room	20-25 m ²
Weaving room	20-25 m ²
Teaching kitchen	25-30 m ²
Children's department	30 m ²
Guest house Kitchen	20 m ²
3x Single room	10-12 m ²
1x Family room	20m ²
Café kitchen	10-12 m ²
Café	20-25 m ²
Shop	10 m ²
Stairway/elevator	15 m ²
Garbage room	4 m ²
6x Toilet	8 m ²

PEOPLE AND USAGE



Teachers



Students



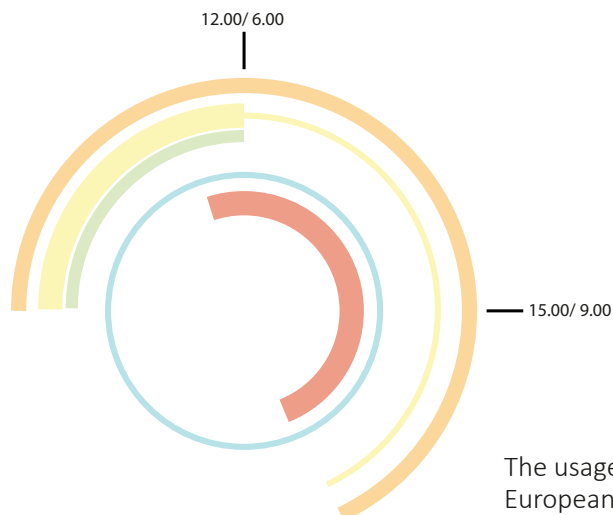
Children



Traveling Guests



Café Guests



Statements

These are some of the stand points made to regulate how to work with Light and material.

-All rooms shall have access to direct sunlight.

-All communication shall occur outside. (As is today)

-The program is at high priority, it should not be changed due to other factors.

-You should always walk toward light. (For guidance)

-The materials should be chosen with both economy and availability in mind.

-The classrooms should be located to the east. (The women are only there until noon.

Frames and connections in the program

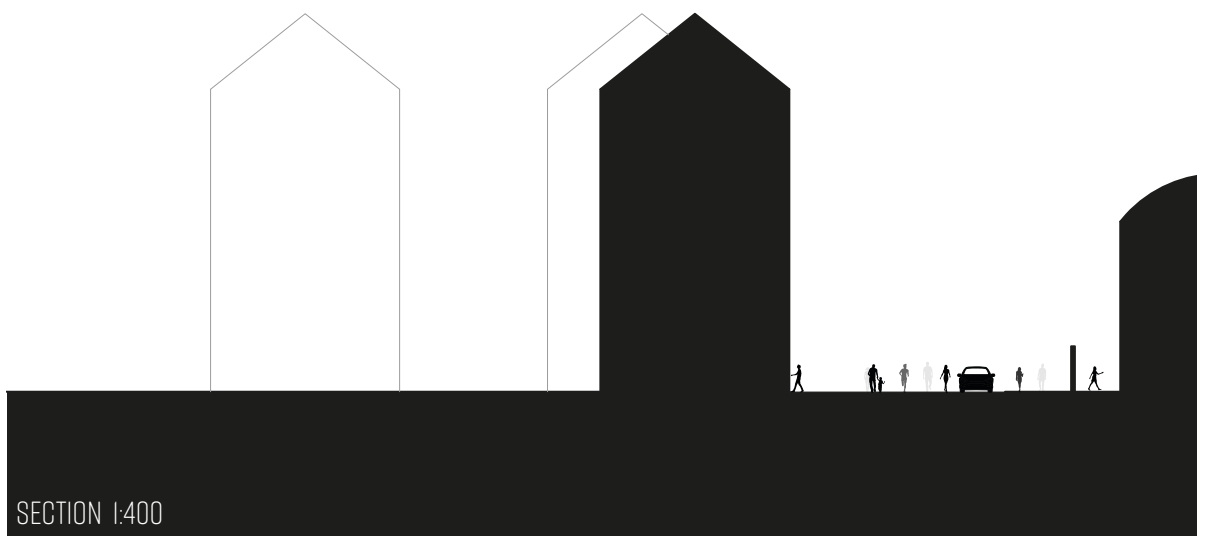
These are some of the stand points made to regulate how to work with the program and connections.

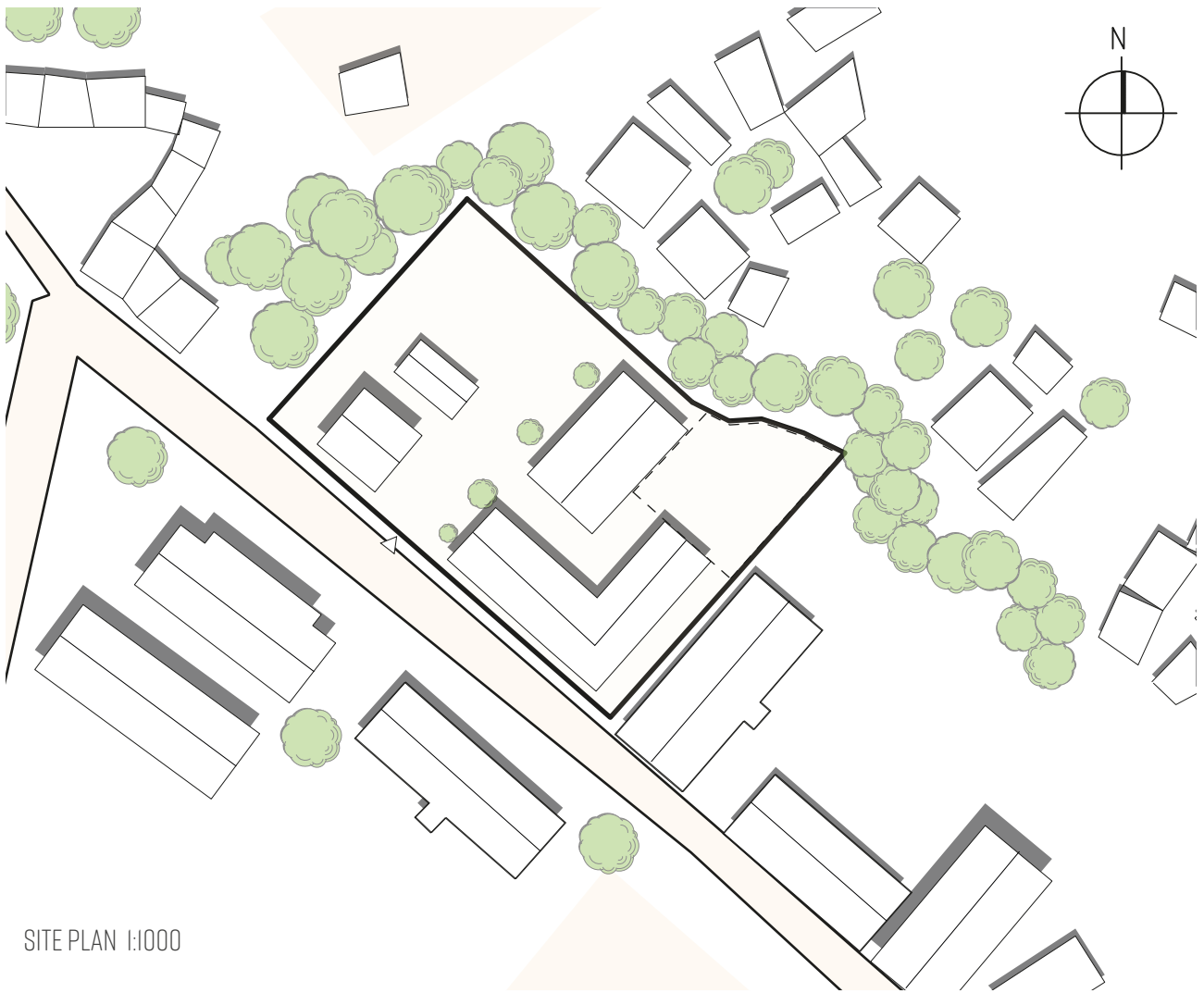
- *The mothers and the children should be in separate floors so that the women can work undisturbed.*
- *The children should be close to the staff areas, in-case help is needed.*
- *The guest house should be at the top floor for the highest privacy.*
- *The floors with classrooms should also contain a separate storage.*
- *All floors should have bathrooms.*
- *The café kitchen and the teaching kitchen should have a clear connection.*

Kazanchis

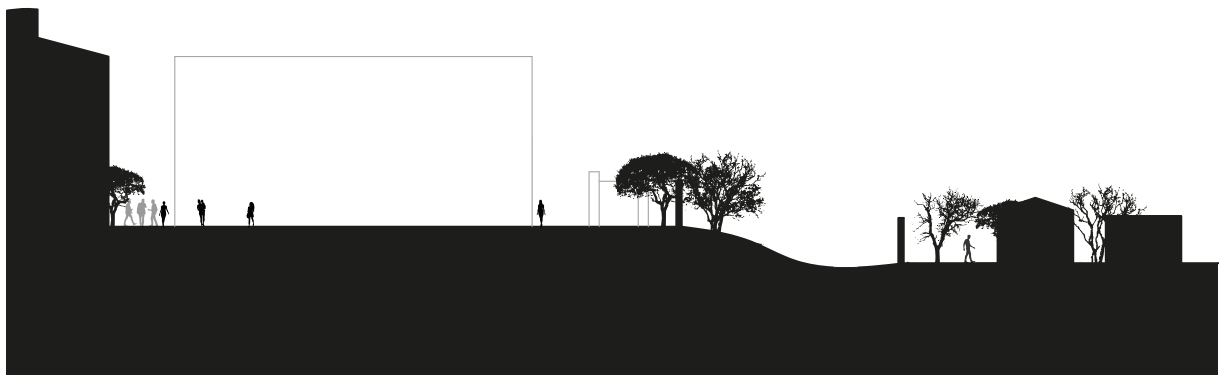
Kazanchis is the area in which the compound is located. It's an area quite central in Addis Ababa. This specific part of Kazanchis can in some ways feel like a backstreet, the big road running only a couple hundred meters away, but then you make a turn and suddenly you are in a slum area. You walk past a couple of houses and then there it is, this compound, but if you continue just walking by the big apartment houses you're back in slum area. The problem of slum areas in Addis Ababa is big, so big that the government started to tear some of the areas down, driving people to other places or even homelessness.

In all areas throughout the city you can find these small stores, or you can't really call them stores, because it's just a hole in the wall, but they have about everything you need. These stores are also at this street, but there are also bakeries, butchers and other small convenient stores.





SITE PLAN 1:1000



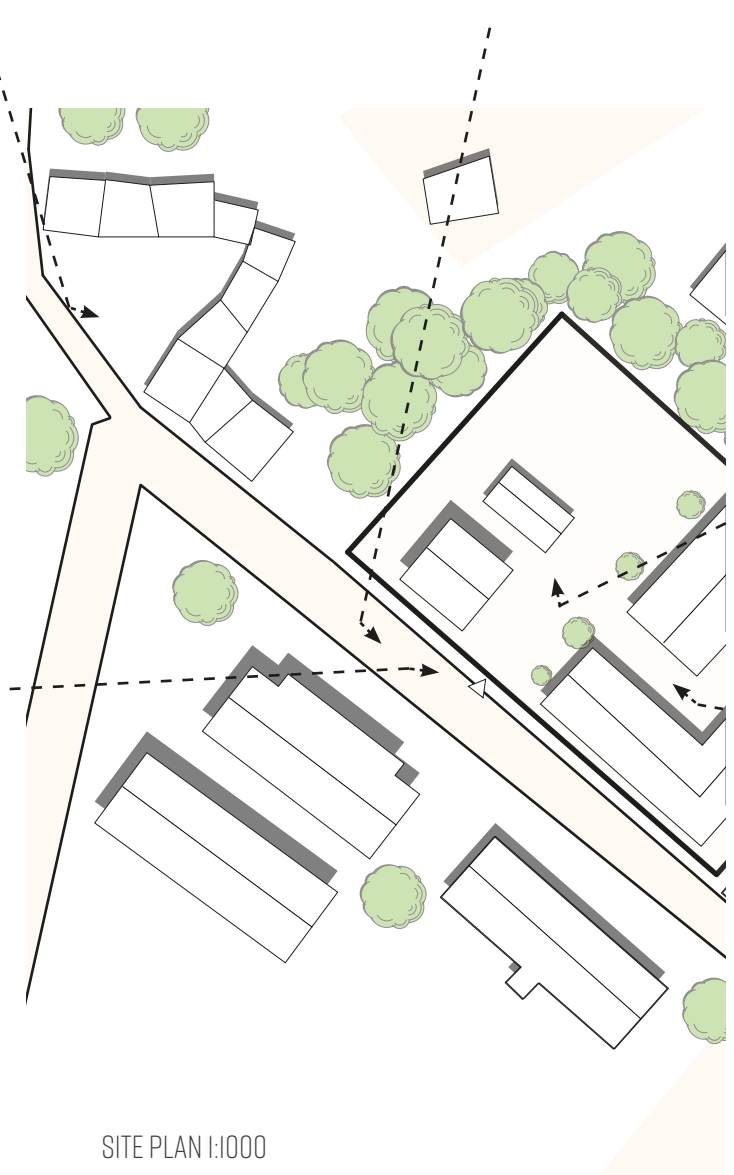
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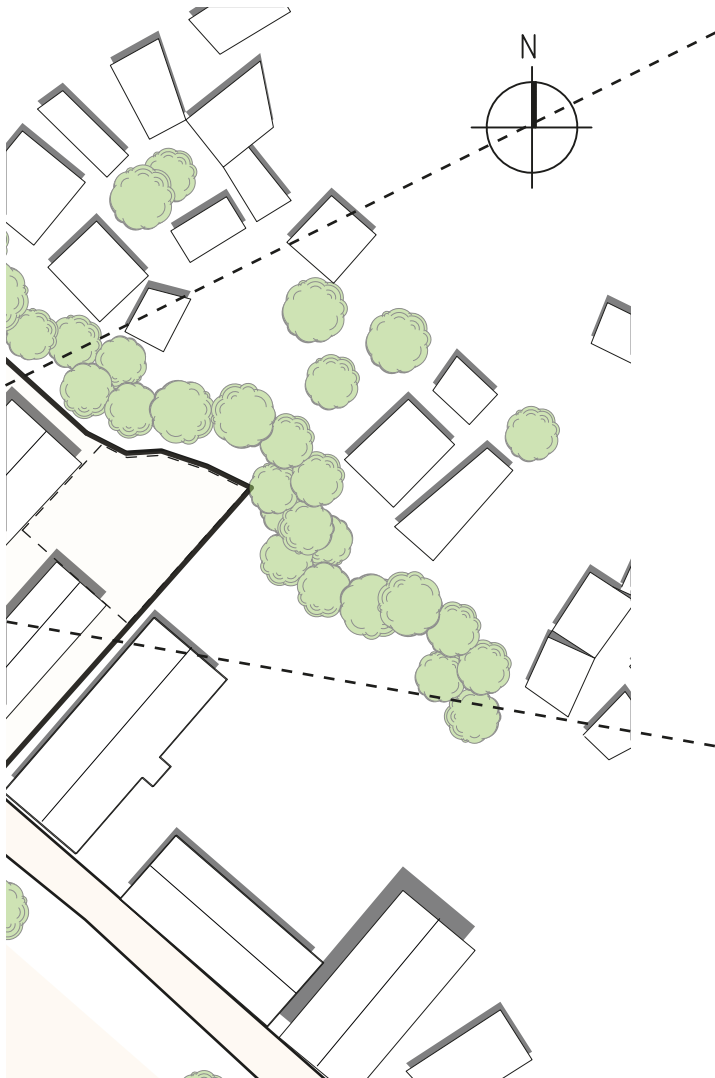
The slum areas of Addis Ababa can be found in almost all parts of the city, and also here. The small sheds surround the compound and makes the contrast more obvious in this area.



Most compounds are surrounded by a gated wall. The gate is then guarded 24/7 by an employed guard. He also makes sure there are no break-ins. This form of employment, especially the night guard are often a complement to your daytime work.



Just outside the gate
you can also find these
apartment houses, a type
of house you can find in
many places in Addis Ababa.
Maybe you can compare
it to the Swedish million
project buildings, a way to
make many new homes
quickly.

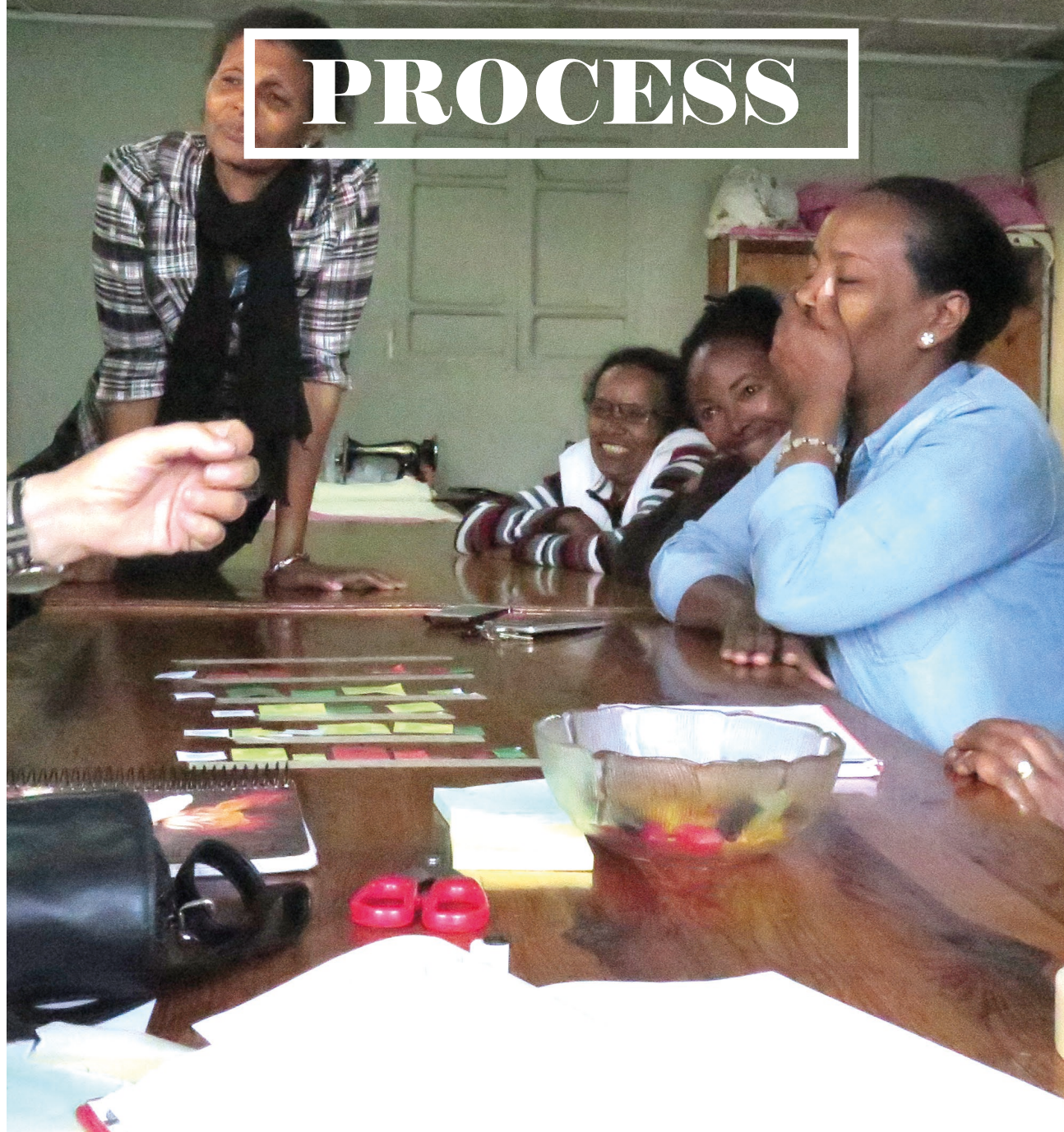


Since the compound is owned by
a church and do contain a Bible
school there is also a small chapel
on site.



The small paths between the
houses creates an environment
which feels safe and guarded.

PROCESS



The process and the women

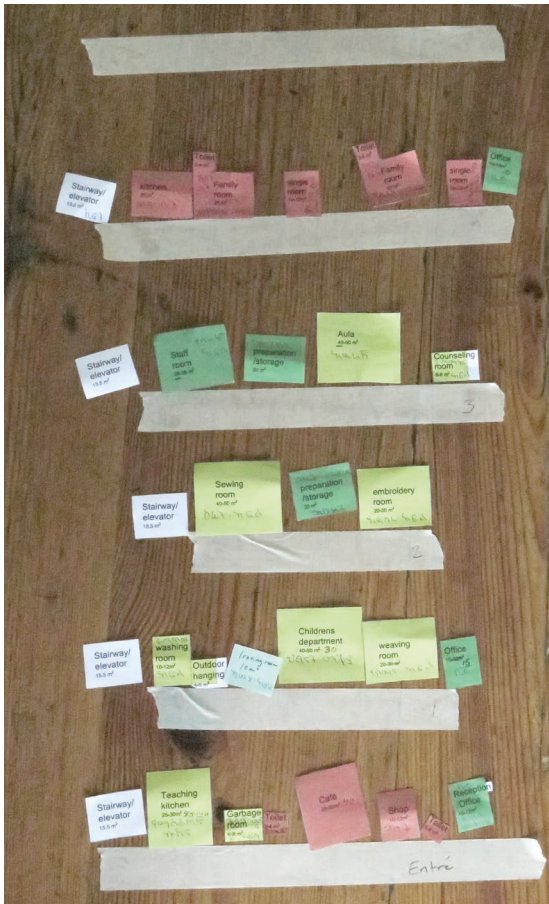
Early on in the project workshops for the students and staff were carried out. These workshops were held to understand the needs and the dreams of both the women and the organization. A simple flow and connection workshop was held with the staff to understand connections and cultural thoughts and in an attempt to understand their view on different materials a workshop with feelings and materials was conducted with the students. The students were also asked to describe their happy place or what made them happy.

The challenge of getting the women to express their first thought when they see a picture of a material was hard, and it did not give as much as expected, but it showed the differences among the women and some questions on where they came from made the understanding deeper. This workshop was also to help the staff and administration, even though they know them already they still learned from that workshop.

On the following page you'll see a summary of the workshops.

The workshops

Below are pictures from the workshop with the staff. Their assignment was to organize the functions in the building, their limits were 120 m²/ level and 7 levels. They decided to take it down to 6 levels and organize it like you can see in the picture. The color scheme is organized in three categories, staff, students and other. Staff being the green, students are yellow and other, red. The discussion that came out of this made the understanding of what they really want increase. It also made them realize they might need more.



My happy place

Question:

-Describe your happy place or what makes you happy?

My happy place is in Bobogaya, by the beach.

My happy place is in the church, where I can pray.

My happy place is in a mountain church (Managcha) it's a church carved out of a mountain of sandstone.

My happy place is in the middle of a farm, in the crops. I feel at home; I grew up on the countryside.

My happy place is when it's Epiphany. (a holyday)

My happy place is in Hayat (a village) it's neat.

I feel happy in a park with many different flowers.

When I'm on top or high up in bigger buildings so I can look out over the view and see what's happening, that is when I feel happy.

A building which would look like picture nr4. It would make me feel calm and happy

Playing with my children

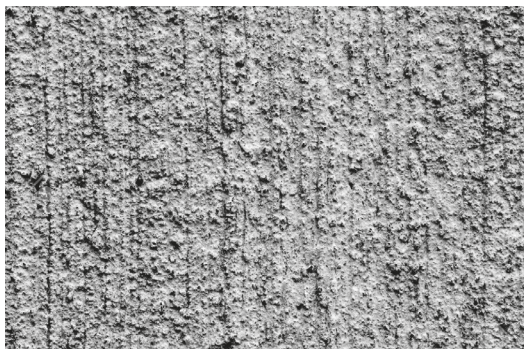
Kazalas and this compound, I like the greenery and the people.



Material workshop

Question:

-What is your first thought when you see these pictures?



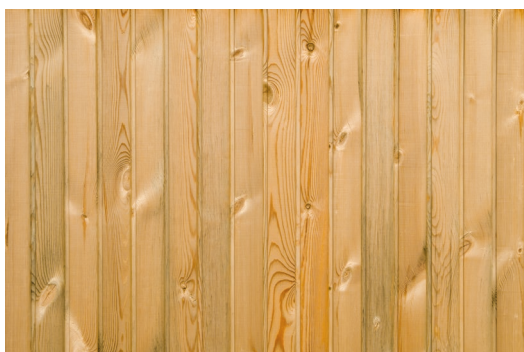
- Rope
- Sand
- Carpet
- Sand
- Stone wall
- Blackboard
- Landscape with sand
- Door color
- Oil asphalt
- I like it a lot, looks like a wall
- Reminds me of the teacher's dress
- Reminds me of a grenade
- I love it



- I would love my house to be in this color
- Like the color
- Like it, could be a nice textile or carpet
- Beautiful for building a house
- I would choice it for an exterior purpose
- Looks like cable stone
- Would be a nice flooring or carpet
- Looks like brick so I'm thinking brick
- I wish I had it in my house
- I don't like it.



- Well designed, I like it
- Not comfortable with it
- Not attractive
- I like the design
- I'm thinking stone designed for floors
- Beautiful
- Don't like the color
- Would have loved it if it had a darker color maybe black and white
- I'm just thinking of a soccer
- Not attractive
- I would have used it for interior floor or exterior walls



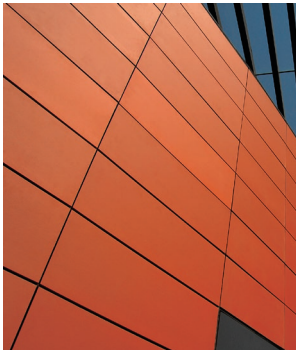
- Not attractive
- Nice as fabric
- I like wood
- Nice on doors
- I would have chosen it for a ceiling
- Would be nice to use as tiling
- Would have loved it as a wall
- Good for a table, looks nice
- I would have liked it as a floor
- Parkette flooring



- Uncomfortable, to dark, maybe if it was lighter
- I Love it, wish I had that
- Would be great to have, but I would have liked it more if it was more like silver color
- Very dark. It's scary, I wouldn't see people coming
- I don't like darker colors, better with brighter colors
- Don't like it
- Better used outside
- Don't like darker colors, there is no reason to like dark
- Would have loved the design if it was combined with white colors
- Like it
- Excited about the design, would love to stay the whole day in the stairs
- Like the design not the color



- I'm thinking of Shiro (Ethiopian food)
- Beautiful as an exterior color
- To bright
- Like it
- Not attractive at all
- It's not a good interior color, but works outside
- Not external, rather internal
- Good color for a carpet
- Love the combination of white and yellow/ brown
- Good for larger houses



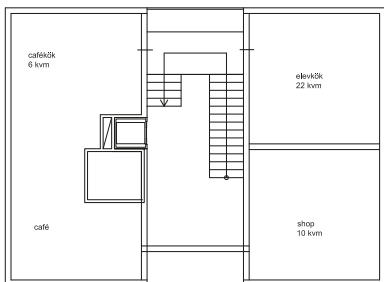
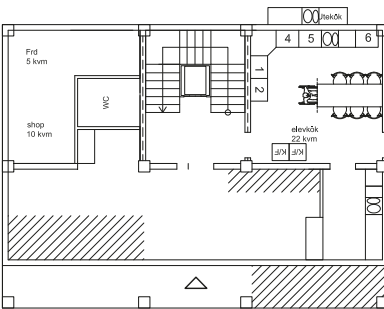
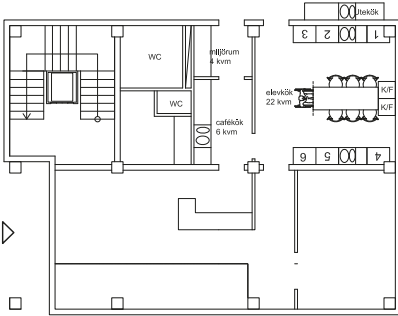
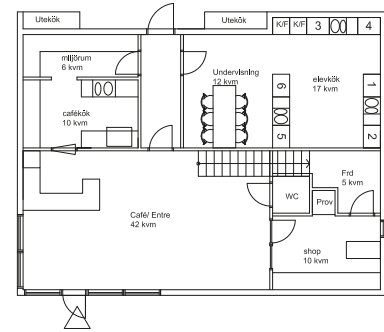
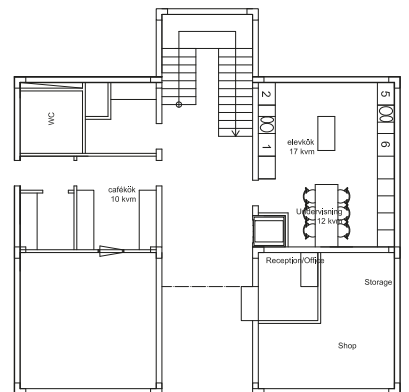
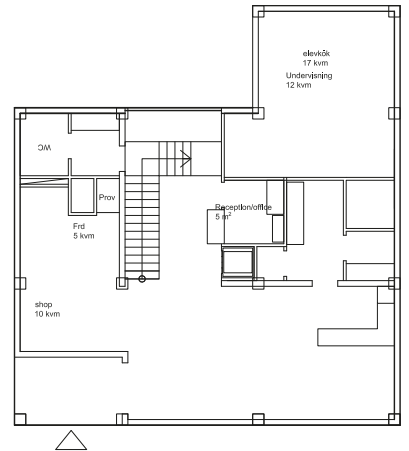
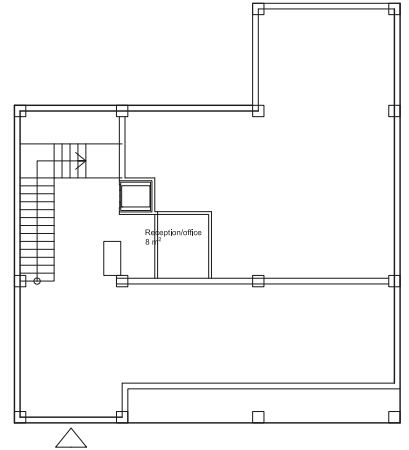
- Would make a nice floor
- I would have used it for a ceiling
- Not a bad color, but I would have used it outside
- Love the color, maybe good for a carpet
- Parkette floors maybe
- A good color for a roof
- It looks a little bit like wood, would have used it for floors and ceiling
- I wouldn't use it inside, but maybe outside on a bigger building

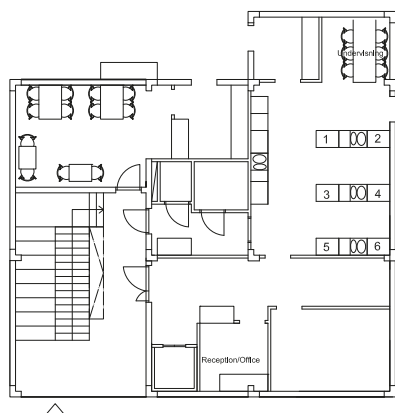
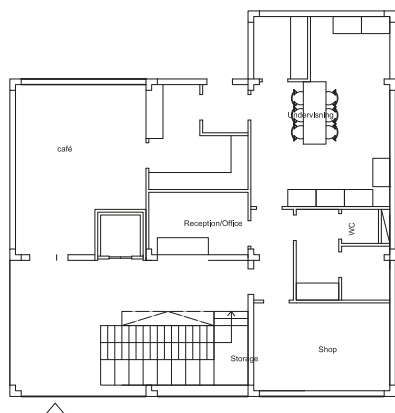
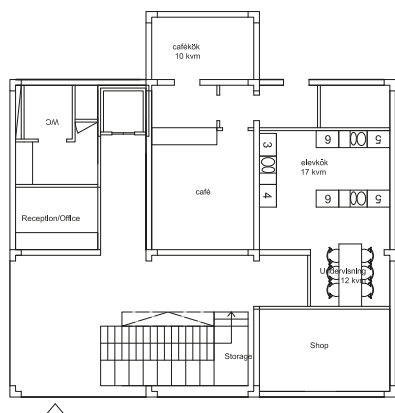


- Nice pattern for clothes
- I'm thinking of a river, the reflections
- Not bad enough to hate, but almost
- Looks like an ocean
- Looks like an explosion, I don't like it
- I don't like it
- Nice color
- Looks like hammered stone
- Makes me hesitate
- Confusing because of the colors
- Like the color
- It's so sad, not happy at all

The process and the plans

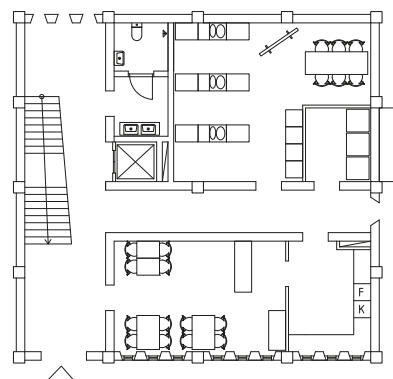
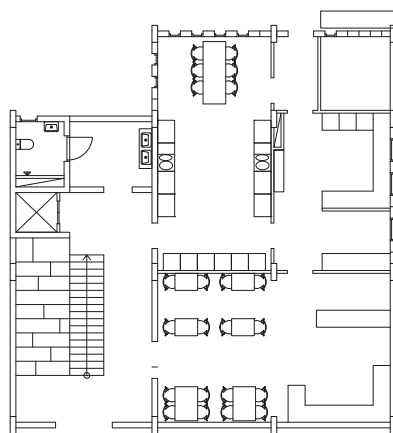
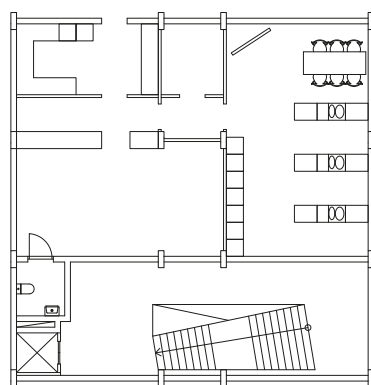
As mentioned before, the plans have been an important key in my project. The functionality is important so that this organization can work in a good way while helping these women. Early in the sketches the main concern was the entrance and café situation, to meet the building in the right way and invite people in. The second step became the stairs. The stairs needed to be more than just stairs, because they took up so much space on each level they needed more than this function. The problematics that follow the stair was the connections between functions such as teaching kitchen and café kitchen. The functional connection and the usage of the stair was then developed and researched, would it be possible to have a so called social stair or should the social room be in connection to the





stair. The decision to let all communication be outdoor, both to meet the functions on the existing compound, but also because the women like to be outside and this quality will give a natural ventilation to the building, this decision unlocked many problematical connections and made the connection easier to work with. The open staircase then ended up in the north-west corner of the building. This is the corner you meet and the corner that closes of the square between the buildings. The development of this staircase also made it open by moving the bathrooms in to the closed parts.

After the staircase had fallen into place, the next step was to pinpoint how open the closed parts should be, both with glass or without.

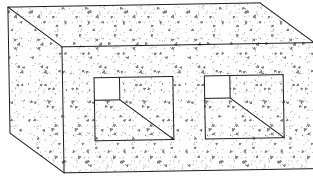


The process and the material

In the beginning of this project the thought was to work with a building system well known in Addis Ababa. A pillar construction with hollow blocks as a fill in, but the grey cement blocks did not meet the demands in the research. The decision to change the “fill-in” material to rammed earth was a natural development for the project.

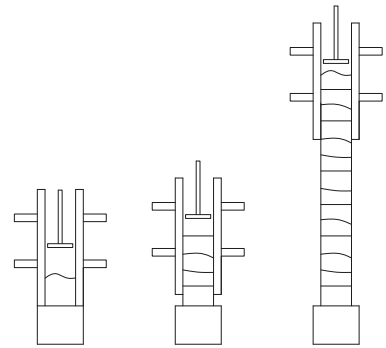
Rammed earth is a natural material with many positive aspects. The decision to work with rammed earth in this building came from the will to work with a natural material, and a material that is present in Addis Ababa. The nice colors and the tactile material also gives an aspect to how you experience the architecture, it's both visually beautiful it has a nice feeling to it and it's both good for the sound and it helps to regulate the temperature. The mass of the wall makes heat and cold travel slower, it can therefore store heat during the day and release it during the night and vice versa.

Depending on the soil you're using you can create good looking contrast and movements in a wall, it will feel like a living wall and it could also offer some recognition for the women in Kazalas, from the traditional clay huts.

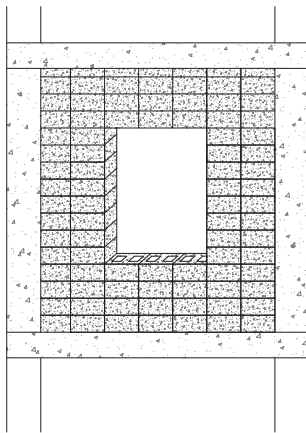


Hollow block

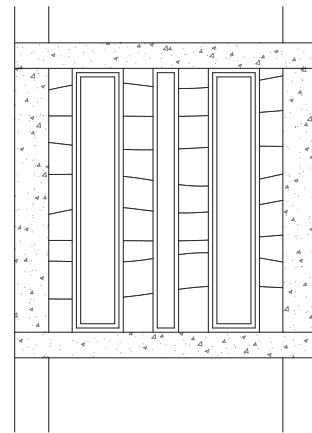
From prefabricated
to rammed on site.



Rammed earth



From the hollow
block fill-in system to
the rammed earth.



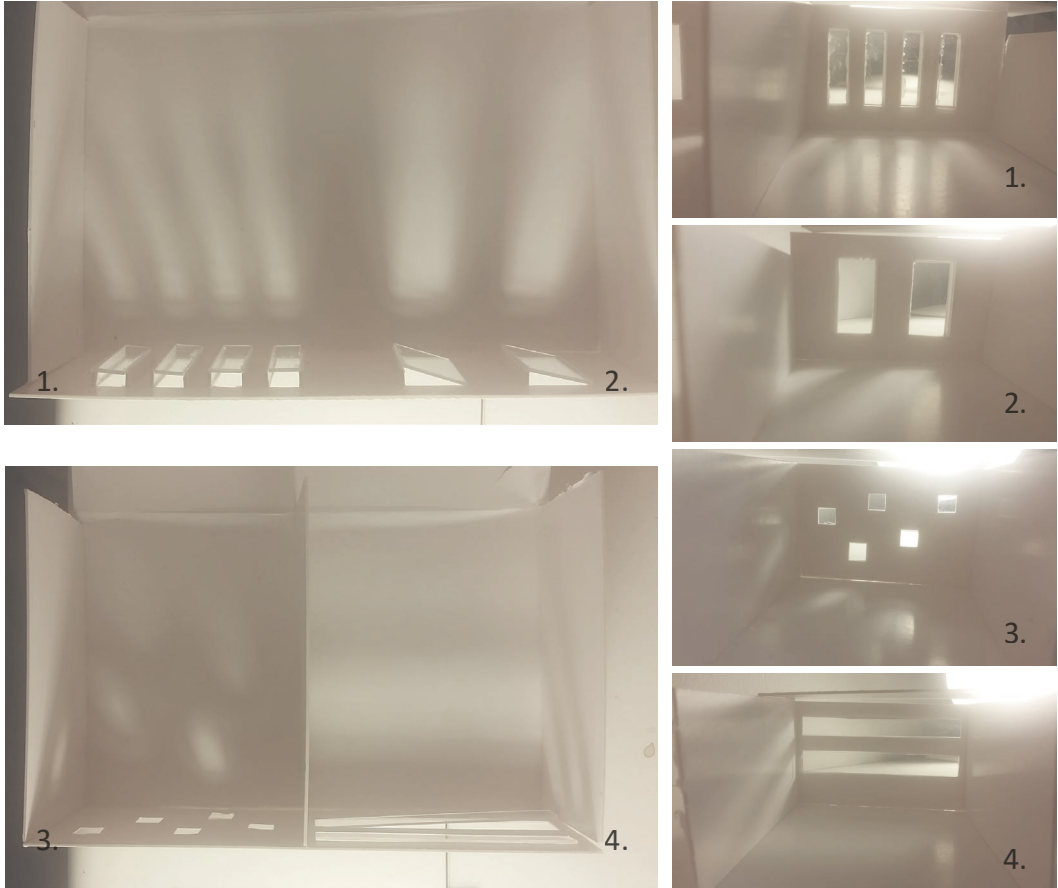
Hollow blocks

From dull and grey
to color.



Rammed earth

The process and the light



Since light is one of the important factor in making beautiful yet functional areas for the women this is one of the things that was elaborated early on. This was in the beginning made by model building. The pictures above show different kind of windows and what kind of light they would give, from narrow long windows to long striped of windows. The conclusion made from these models was to continue working with small and long windows because of the beautiful and striping light fall they give.



SINGEL WINDOW PER FRAME



TWO WINDOWS PER FRAME



THREE ANGLED WINDOWS PER FRAME



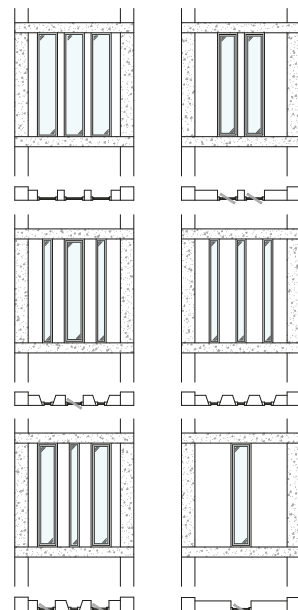
THREE WINDOWS PER FRAME (ANGLED & STRAIT)

COMPOSITION OF WINDOWS

Further on in the process the decision to work with a number of compositions of windows came naturally. To pick up the so called “fill-in” technique, which will be explained in the building system. These simple illustrations you can see here on the side is a representation of the effects of the different window compositions. One can see how the amount of light clearly increases and how the light striped on the floor. These pictures are made as a representation of the embroidery room on the third floor located in the east. This room is one of the most important rooms when it comes to light, this is where the women will spend most of their time and it’s crucial that they have good light.

In the first picture one can see that putting more windows on one façade is not enough to get good light, it takes more than one window in each gap, and another crucial point is the possibility to ventilate, and there for at least one window, preferably two or three needs to be openable.

Below you can also see the different compositions that is being used in the building.

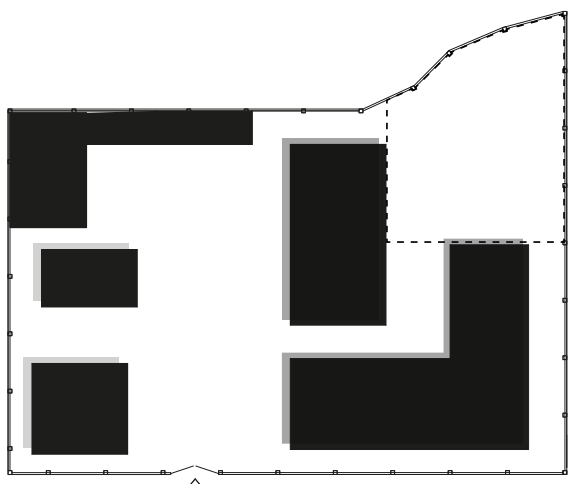




The image shows a modern building facade. On the left, there is a grid of vertical wooden slats in a light brown color, set within a concrete frame. To the right, there is a balcony with a metal railing featuring a diamond pattern. Below the balcony, there is an arched entrance. The ground in the foreground is paved with large, light-colored square tiles. The text "Design proposal" is overlaid in the center of the image.

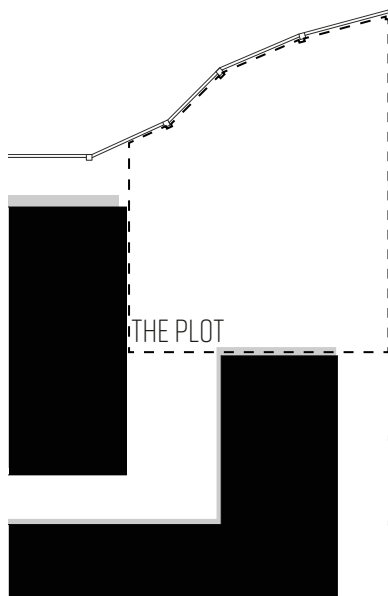
Design proposal

The site and conditions



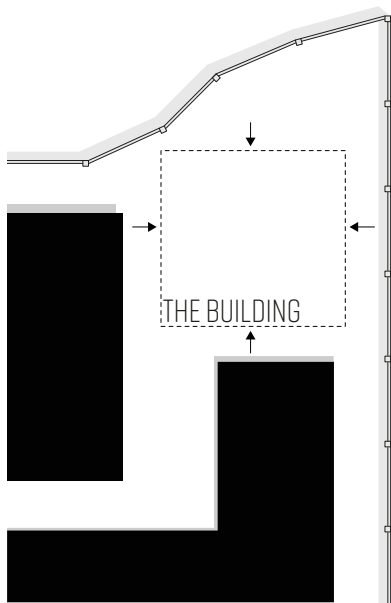
THE COMPOUND

The house is planned to be built on a compound close to where the organization is located today. The compound is surrounded by a over 2 meter high wall and is guarded 24/7.



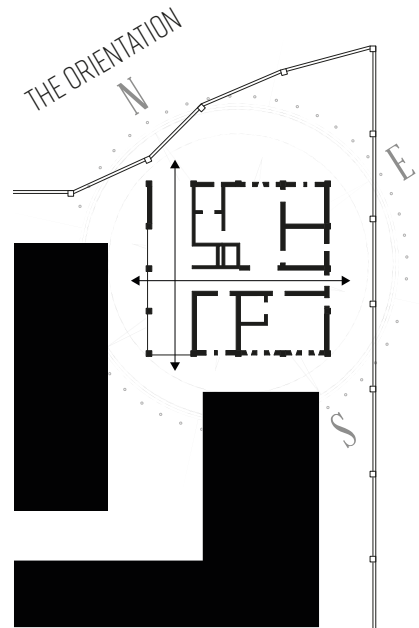
THE PLOT

The plot is a small plot on a compound. The compound belongs to a Church which the organization collaborates with. The surrounding buildings are a dorm room and a bible school.



THE BUILDING

To keep some distance to the neighboring buildings the shape is pushed between 2 and 3 meters on all sides.



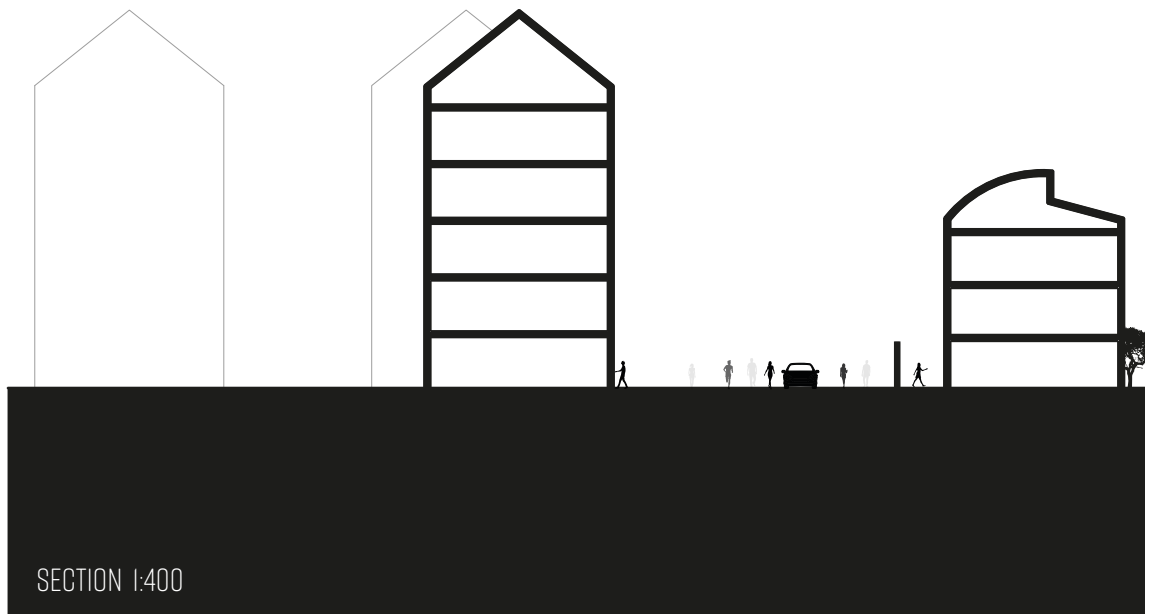
THE ORIENTATION

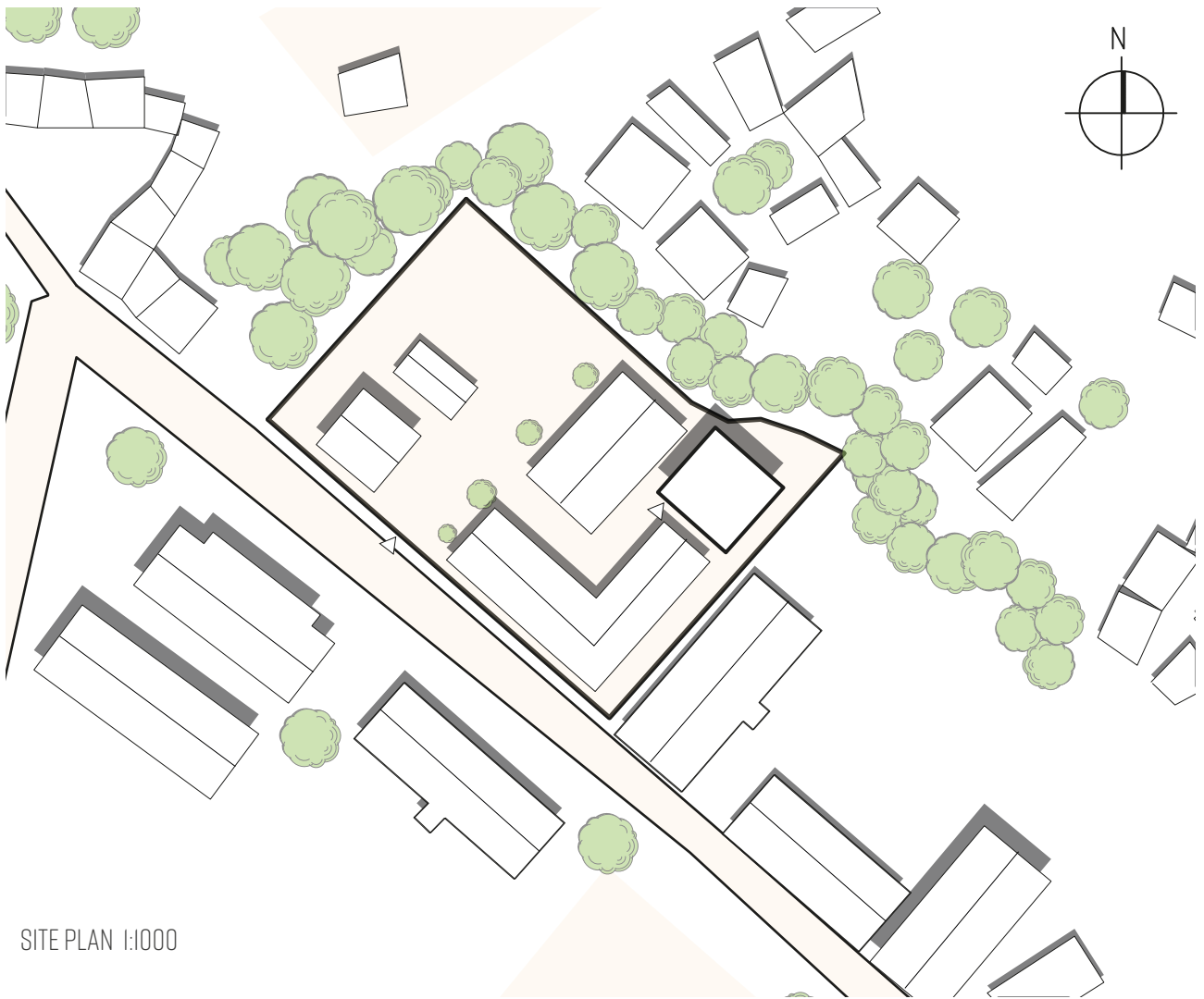
All communication is placed in outdoor environments and goes through the building in all quarters. This so that the light will be able to enter all hours of the day.

The building and the surroundings

The new building sticking up from this compound will give a nice appearance to its surrounding. The height is meeting the heights of the apartment houses around the compound and you would be able to see a glimpse of what's happening inside the compound.

The new building also offers a new café to the people spending their day at the compound. It also gives the women a more careful way of interacting with people, in a secure and smaller context.





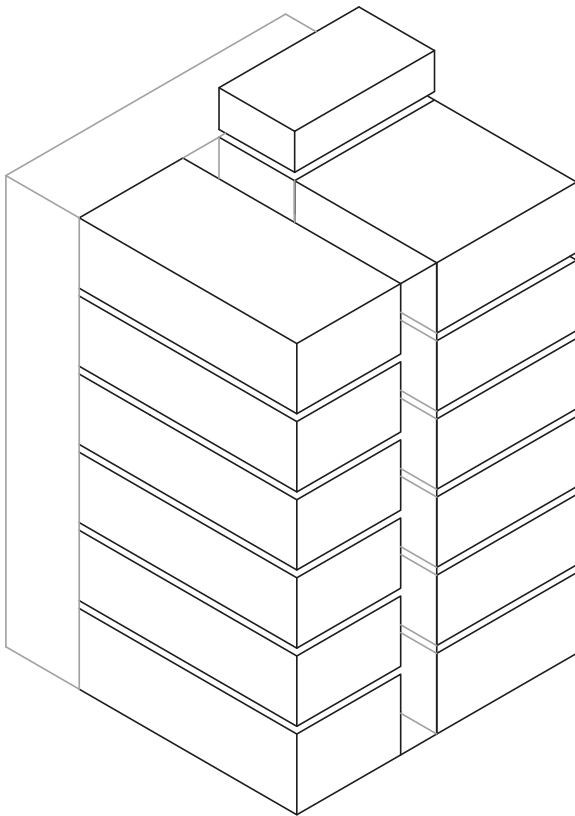
SITE PLAN 1:1000



0 5 10 15 m 63

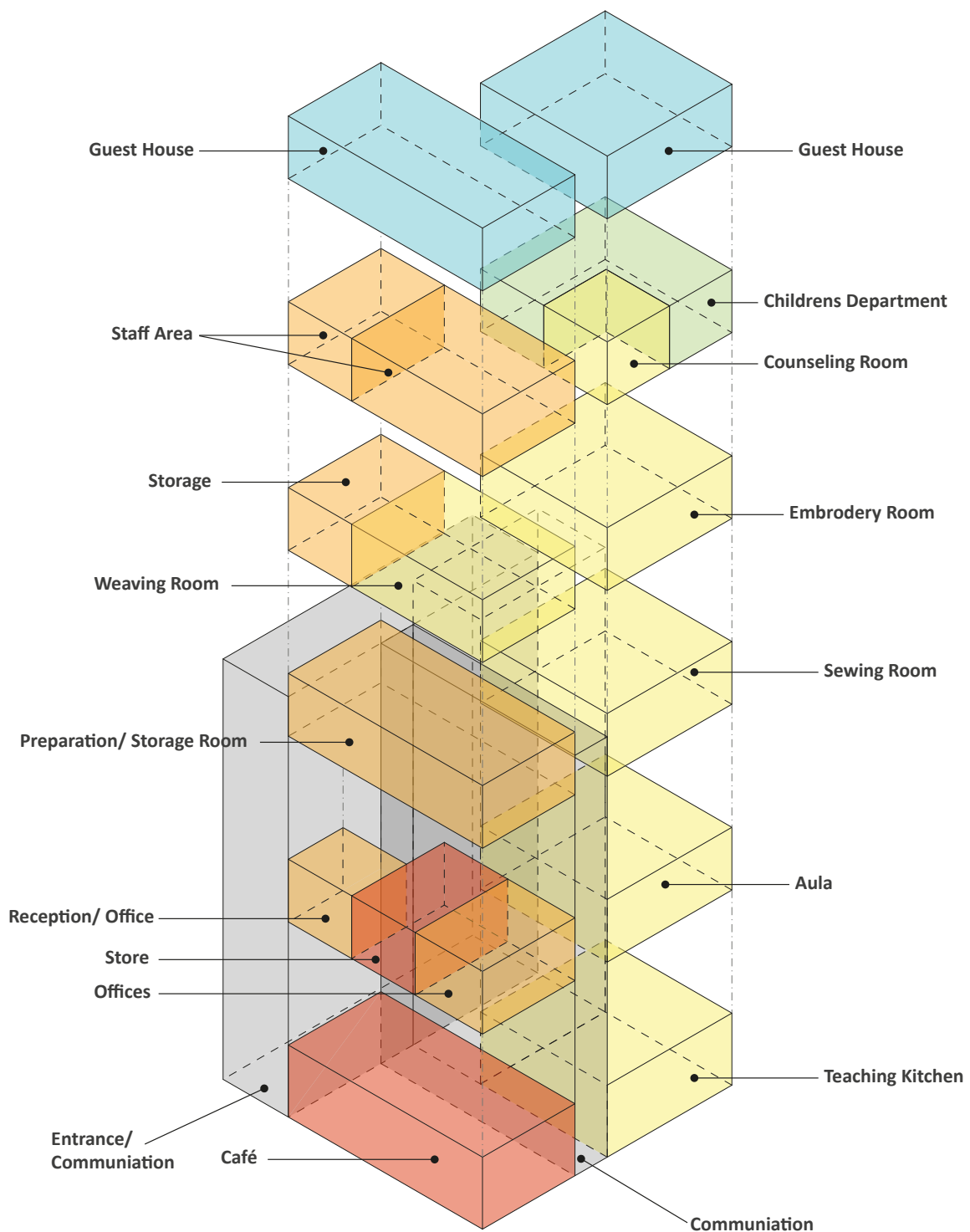
Mass and distribution

The distribution of the house is simple. On the first floor, you have the café and it's kitchen, this kitchen is connected to the teaching kitchen. On the second floor, you have a semi-public floor. It contains the aula and the store and offices and a reception to make it more secure. On the top floor you have the guest house and on the floors in-between you have the students and teachers.

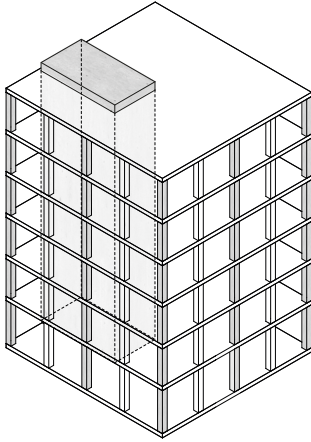


THE VOLYM

The volym contains of 6 Levels. This to be able to fit the entire program, but still not make it to high.

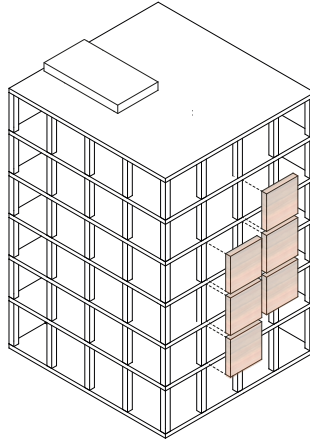


Building system



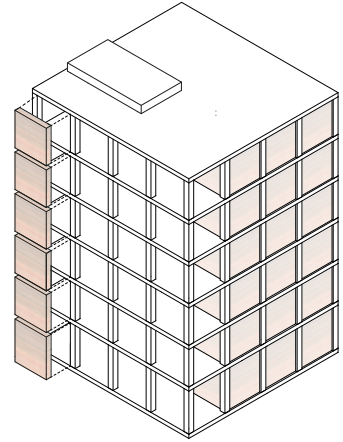
CORE

The core, slabs and pillars is made out of precast concrete.



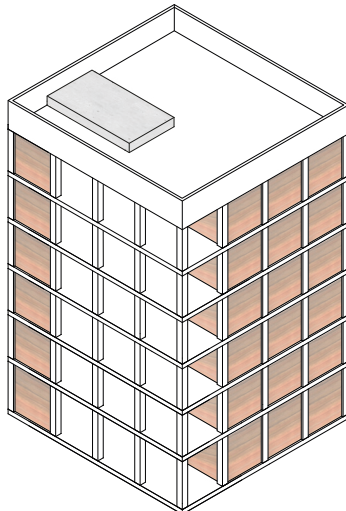
FILL-IN

When working with a pillar structure one gets a clear hollow structure. These empty squares are the filled-in with the second material of this building, the rammed earth.



STAIR

All communication is located in outdoor environment, but to get the tactile feeling of the rammed earth, one wall is being placed there.



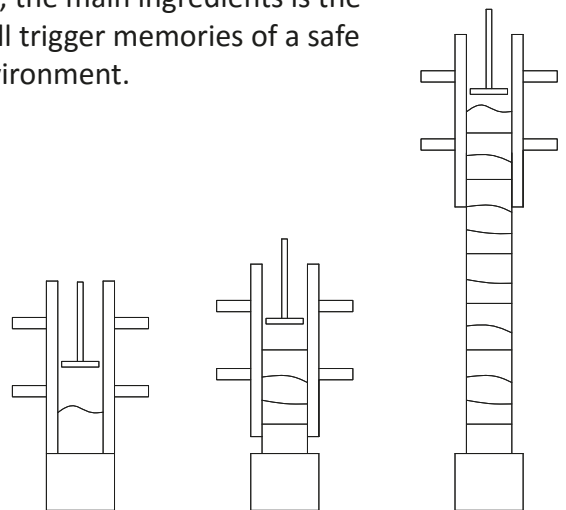
A systematic sketch over the building

Material choice

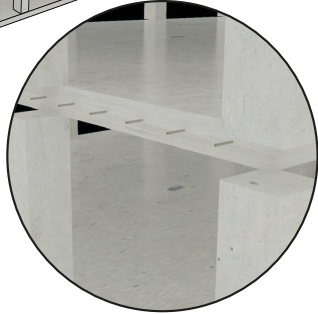
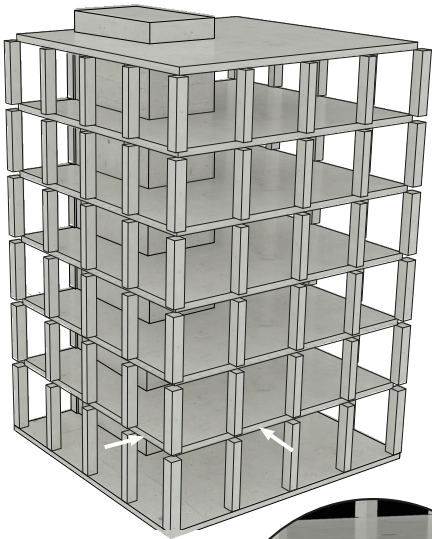
Ethiopia is a country with a rich culture of clay houses. Unfortunately, the tradition doesn't follow the development. With the demand on building higher buildings to house both more people and more functions it's easier to lean on old systems of concrete even though the cement must be imported.

With demands on keeping down the costs, but at the same time create good environments, this project will contain three main materials. Concrete as a bearing structure, rammed earth as the walls and wood for the smaller elements such as doors and windows. Rammed earth has many good qualities and it's a material in which all elements can be found locally in Ethiopia. The compressed earth almost becomes as hard as concrete and the density and thickness of the wall makes both heat and cold travel slower through the wall and create a more even temperature during the day. The high density is also good for sound reduction.

The solid wall helps to keep noise from entering and that will create a calmer environment within the rooms. It's also a non-toxic material with beautiful colors and finally it's a material well known to the local people. Many homes are made clay, and even though the process is different, the main ingredients is the same and hopefully this material will trigger memories of a safe and home like environment.

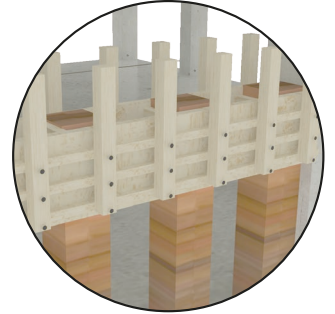
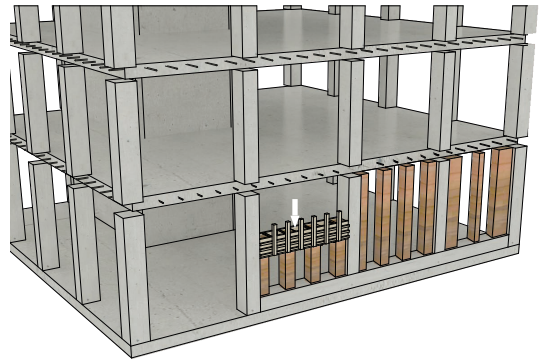


Step by step



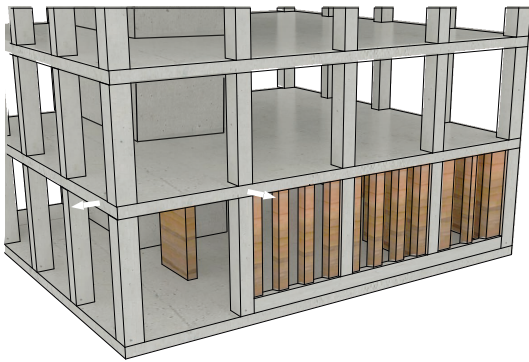
STEP 1

Cast pillars and slabs on site, but hold back the slabs to make room for ramming of the earth walls. Let the reinforcement stick out so the rest of the slab can be anchored. Leave out room for ramming of the interior walls as well.



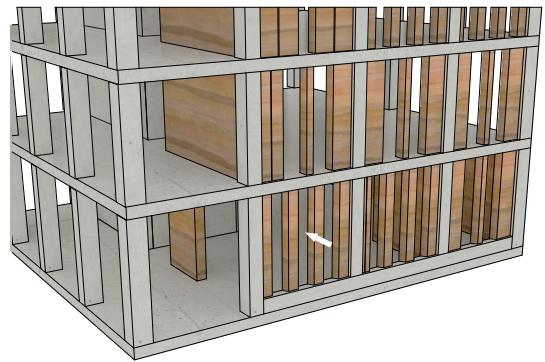
STEP 2

Ramm the earth walls in place exterior and interior. To do that you need a wooden frame to ram in.



STEP 3

Cast the slab over the rammed walls, protect the walls so they do not get concrete on them. After it has set, ram the next level.

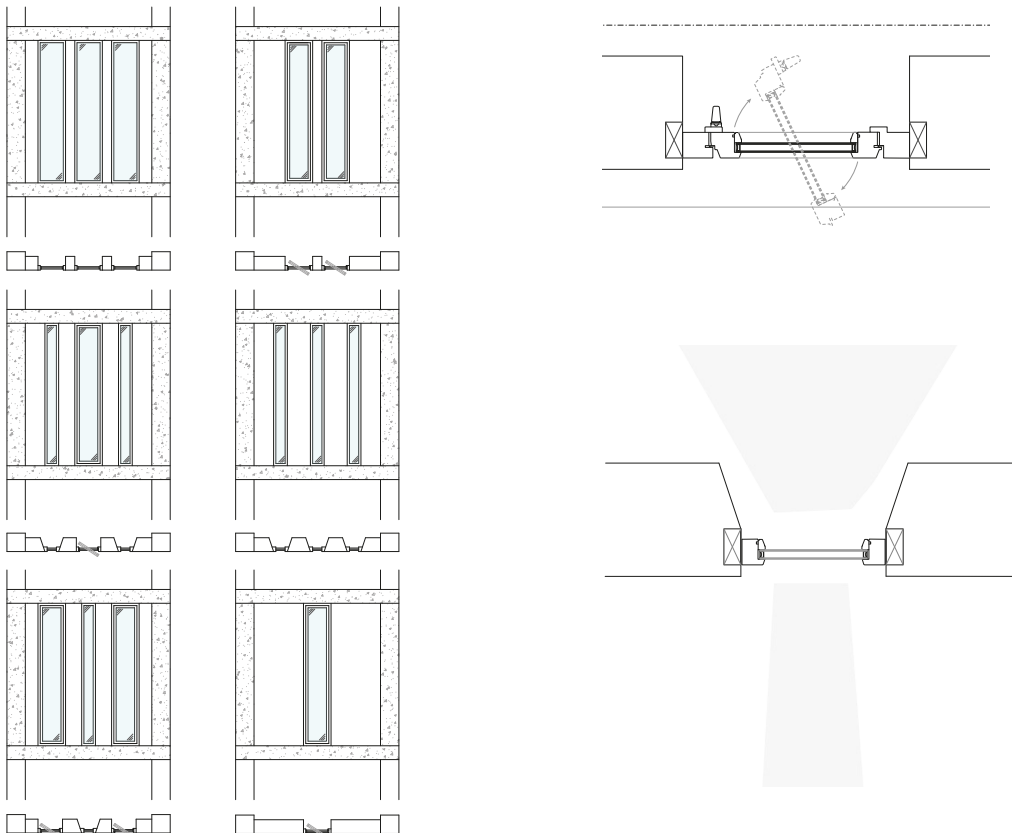


STEP 4

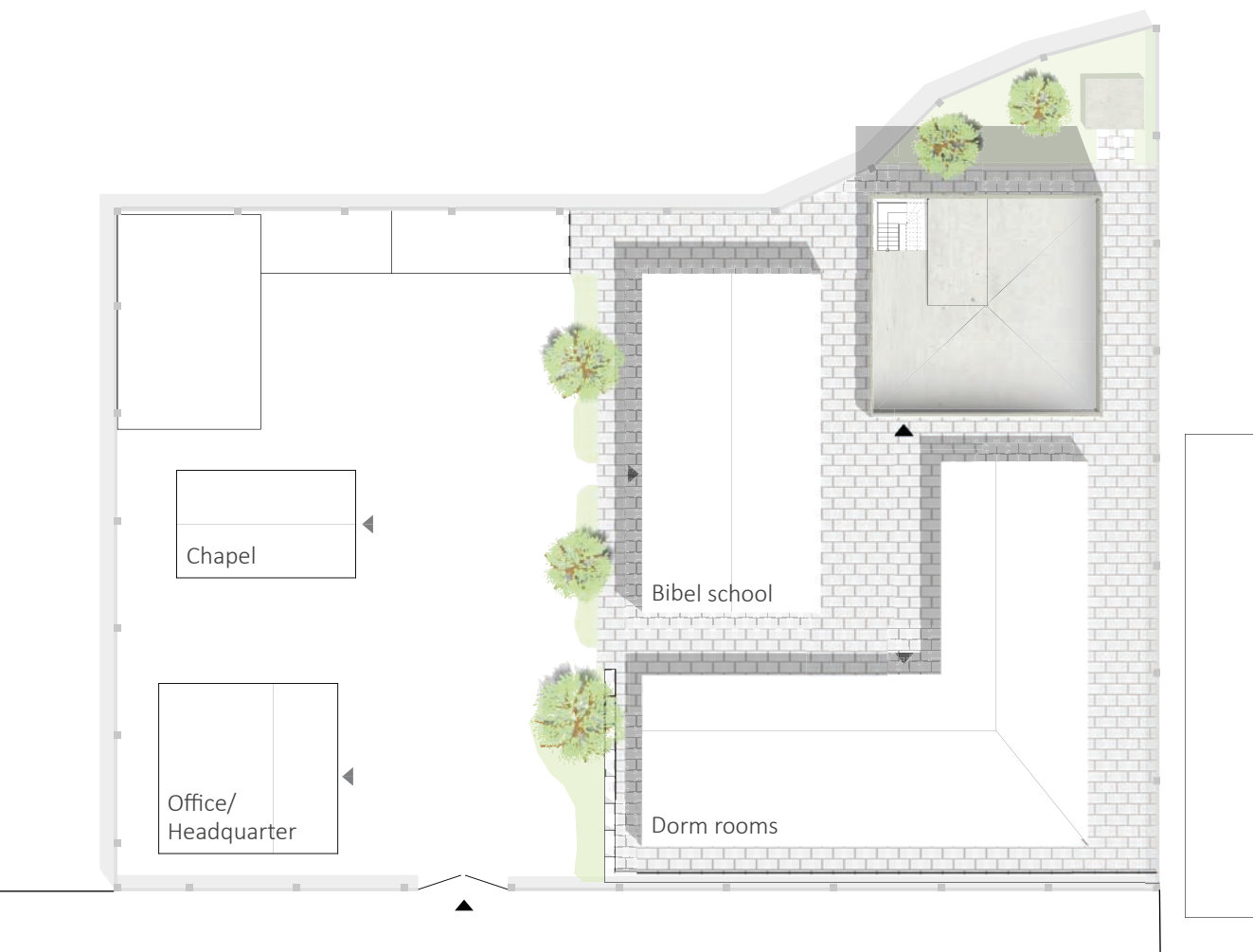
After all levels are rammed and cast windows and doors are installed.

The light

The biggest problem when it comes to light in Addis Ababa is the lack of electricity. The unsecure power supply makes the access to daylight even more important. Another problem is the heat, Addis Ababa is located at 2355 meters above sea level, and even though that makes the temperature comfortable it also makes the sun rays stronger. It's as mentioned previously a balance to let in light, but not the heat. Bellow you can see the 2 kind of windows chosen for this project. They are chosen both due to how they let in the light, but also due to ventilation and a beautiful atmosphere. You can also see the different ways of composing the windows that has been used in this project. They are composed after what is needed in the rooms, but also due to ventilation and aesthetics.







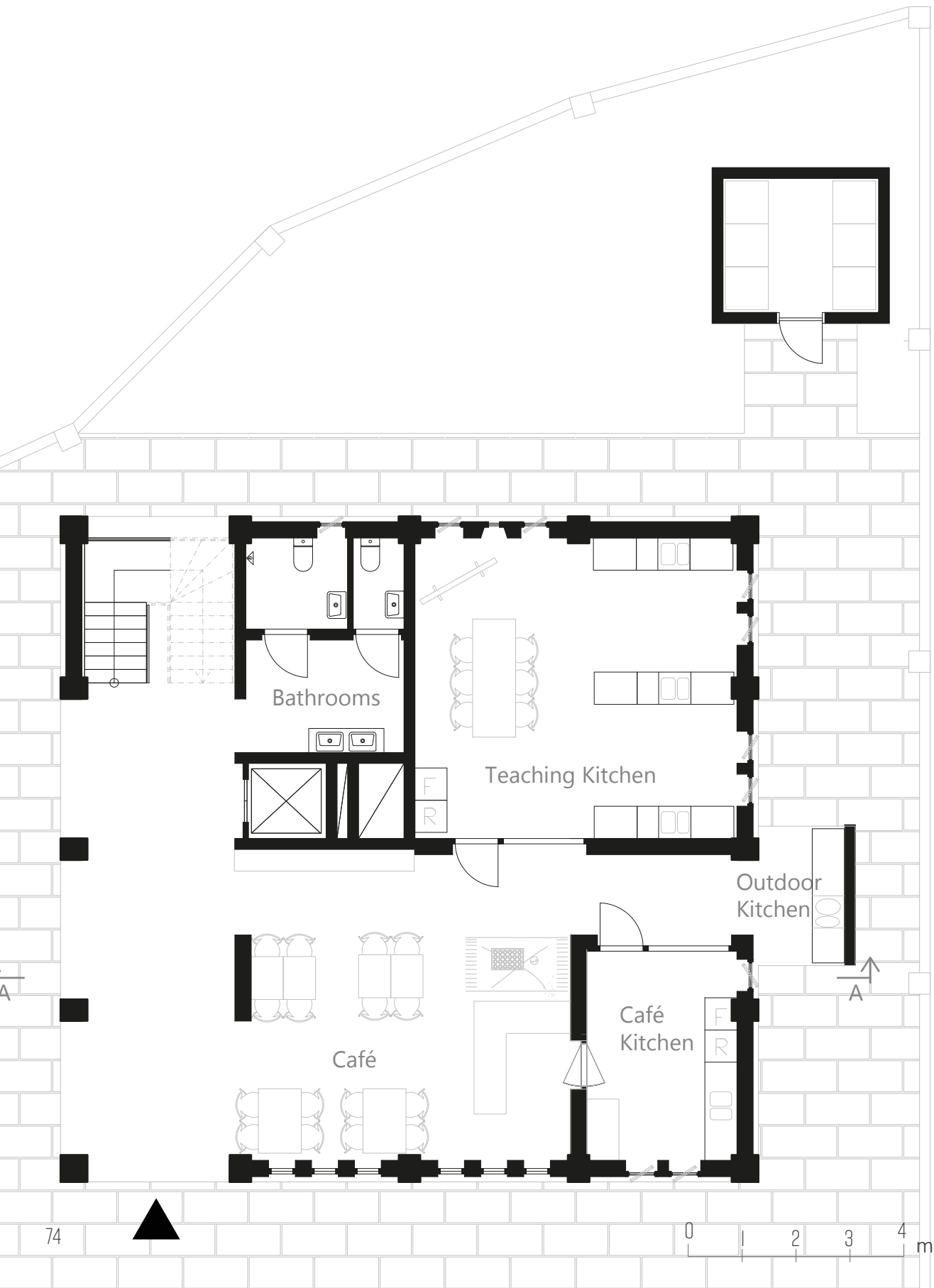


The compound

There's quite a few people moving on the compound during the day. Just when you enter to the left you'll find the headquarters for the administration of the church and the bible school. Next to that building is a small chapel. In the north end of the compound you'll find parking all the way along the wall up to the corner of the bible school. The bible school is a 2,5 stories high building with classrooms and a big library. Some of the students live on the compound, the building in the south corner is both dorm rooms and a big lunch area for them.

The small passage leading in between the dorm rooms and the bible school create a feeling of safety and when you exit the passage an open space in between the buildings create a kind of social square. This social square then leads you on toward this new building. It's openness invites you in, and the smell of coffee lingers out towards you.

Behind the building is a quiet green area where people can sit in the shadow and socialize. It's a hidden space but you can still see people moving in the stairs and you can get a glimpse of the activity going on inside.





Entrance level

When you walk in to the building you meet an open yet clear foyer.

This foyer then blends in to both the cafeteria and the staircase. The separating wall between foyer and café is a rammed earth wall on about one and a half meter, it gives both the foyer and the café a more distinct room, both keeps them clearly connected.

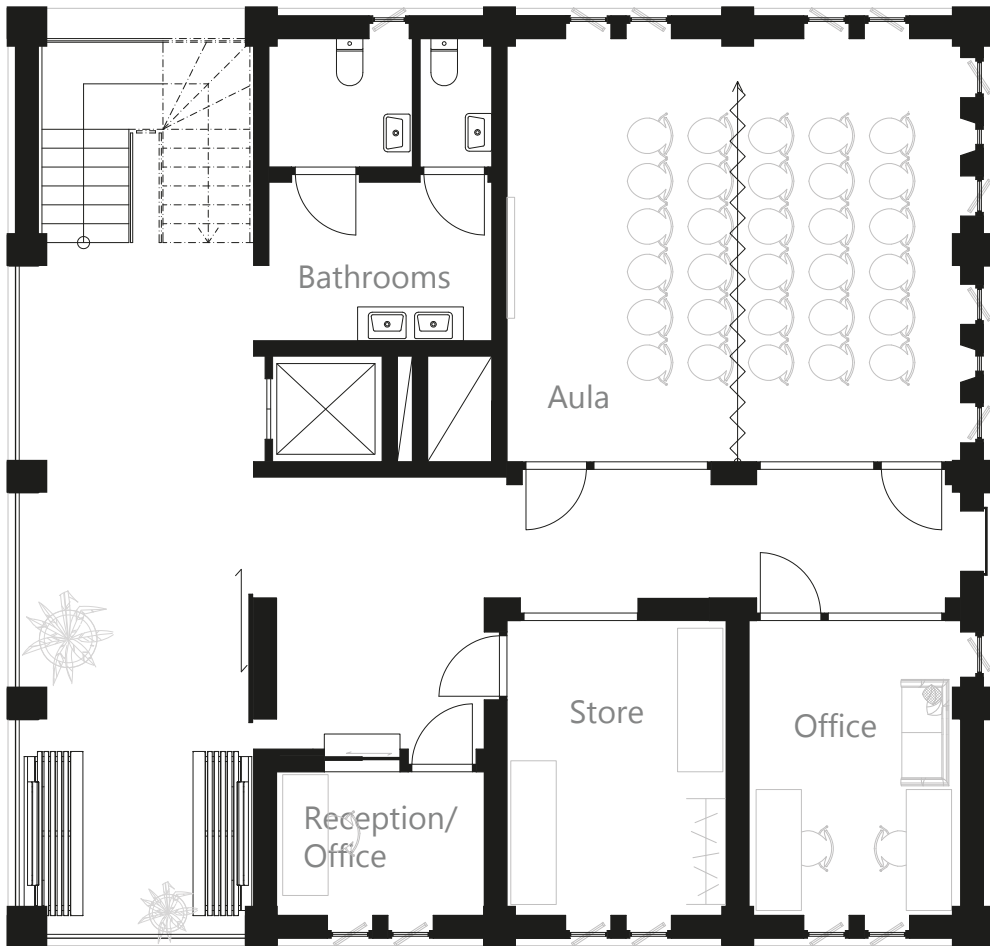
The cafeteria is both a place for lunch and snacks, but also a place for the traditional Ethiopian coffee ceremony. The beans are being roasted outside in the back over an open fire and which you might be able to glimpse from the café and if you can't glimpse it you'll certainly smell it. After the beans are roasted they are being minced by hand with something that we would compare to a pestle. The grinded beans are then brought in to the ceremonial coffee making place. It's then boiled in a traditional crock and served in small cups at your table. When boiling the coffee, it's also tradition to burn incense, so it's a tradition for both your nose, eyes, ears and tongue.

The café is an open semi-indoor, semi-outdoor place with many windows overlooking the area in between the buildings, this to connect the building to the outdoor spaces and so that the guests can see people coming and going. In the back of the building you'll find the teaching kitchen this is a kitchen were the student will learn how to bake, cook and some hygiene in the kitchen. The window facing the café also makes the interaction between guests and student more natural, the guests can get a glimpse of the activities in the building and the students can see some movement in the building.





Level 1

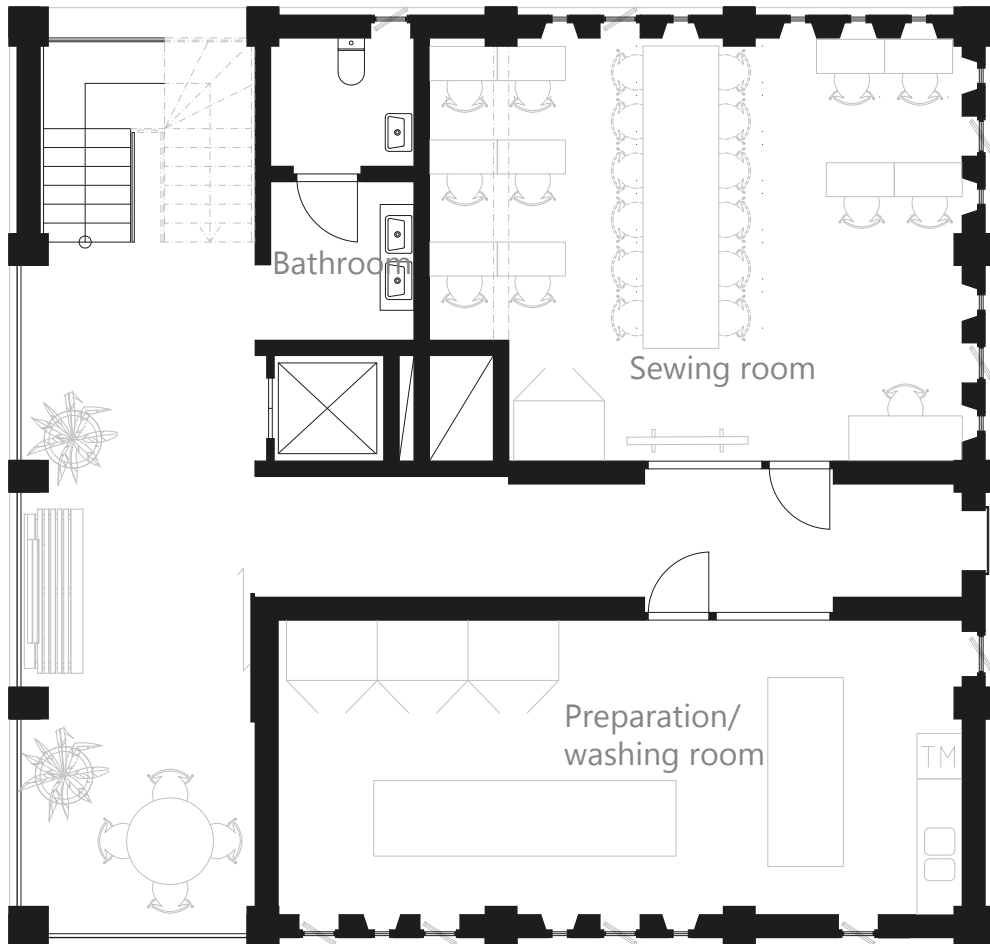


The first level is a level for bigger gatherings, a level somewhere in between the public and the private. When you walk up the stairs, along the rammed earth wall, you meet and open room, a room for interaction and breaks. It's an outdoor environment with a view over both the area in between the buildings, but also the poor areas behind the compound.

The corridor is an open with big windows in to both the store and the aula, but even though it's a lot of glass you'll still get small complements of the rammed earth.



Level 2



On the second level you'll find two big indoor rooms. They look closed when you're entering the level but when you follow the open corridor and the beautiful rammed earth walls they'll open up and invite you in. This is the first level which is closed off for others then students and teachers, and as you more up the building the privacy increases.

The sewing room is a room with a lot of windows. This is a classroom and sewing do require good light, but it also requires inspiring light and glimpses through the windows, a creative space.



ILLUSTRATION OVER THE EMBROIDERY ROOM



Level 3

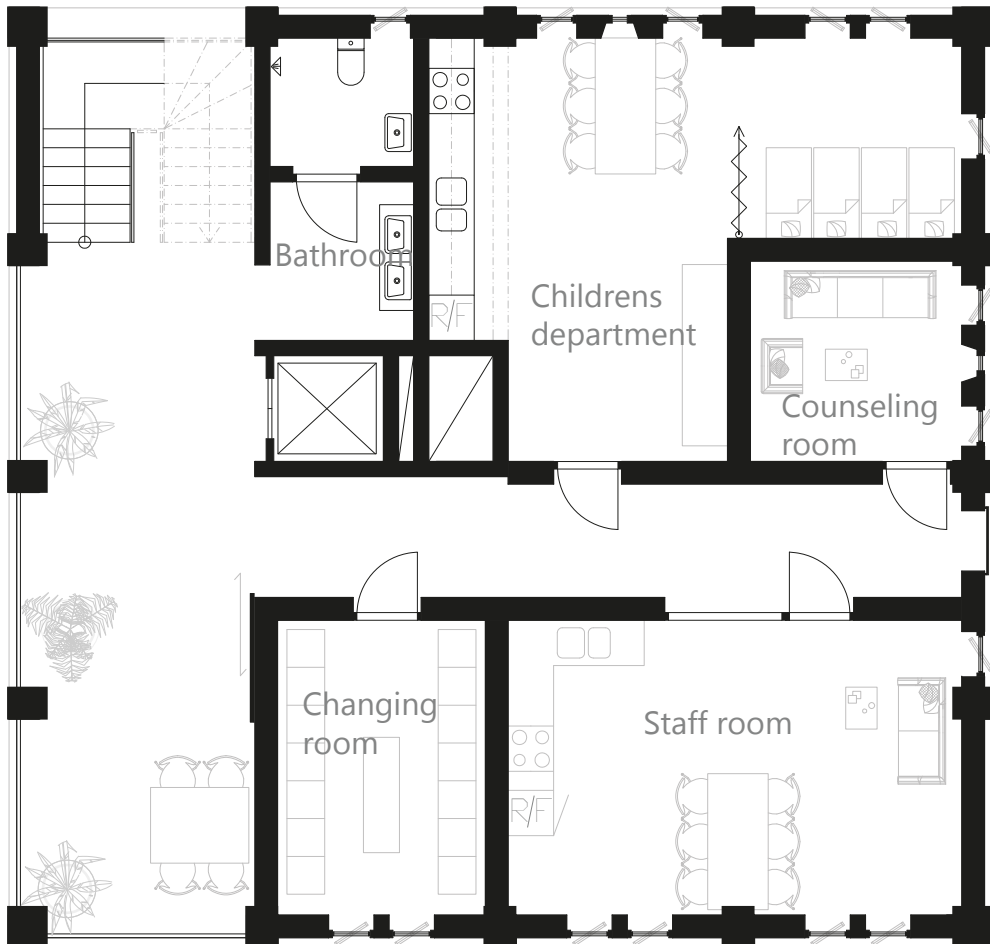


Level 3 is the second level of classrooms. This level is like the previous one more closed by the staircase and the social areas, but opens up when you walk along the corridor. The social space on this level will probably be used more frequently by the women. It's more private and two out of four classrooms are located on this level.

The classrooms are just like the previous one also equipped with many windows, both pivoting windows and angled window flannings.

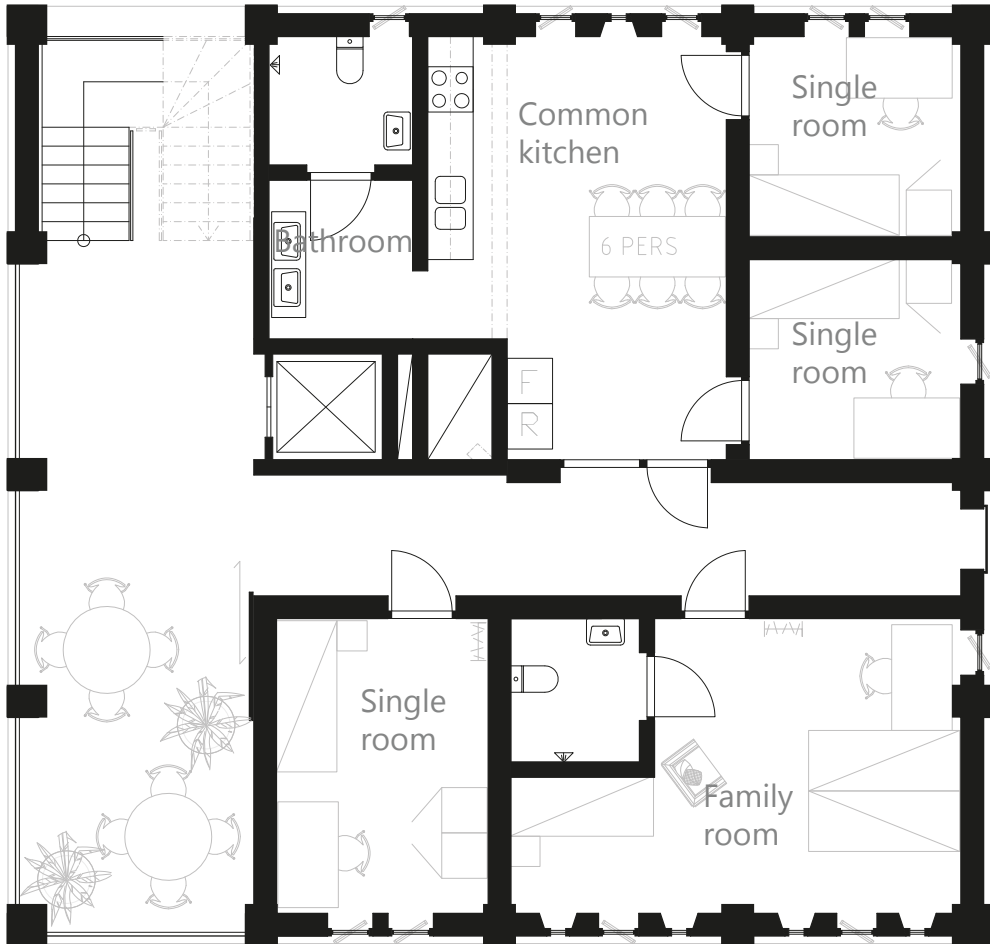


Level 4



Now you're above the other buildings in this part of the compound your view is stretching to the apartment houses outside the compound and the office located on the compound, and if you turn around you'll have an even more majestic view over the eastern parts of Addis Ababa. This level is a level for the children and the staff. These two functions are being located close to each other so that the staff can help out with the children in case it's needed. The children department has 3 main functions, play, eat and sleep, to organize these a folding door is installed, this so that the sleeping area can alter between play and sleep.

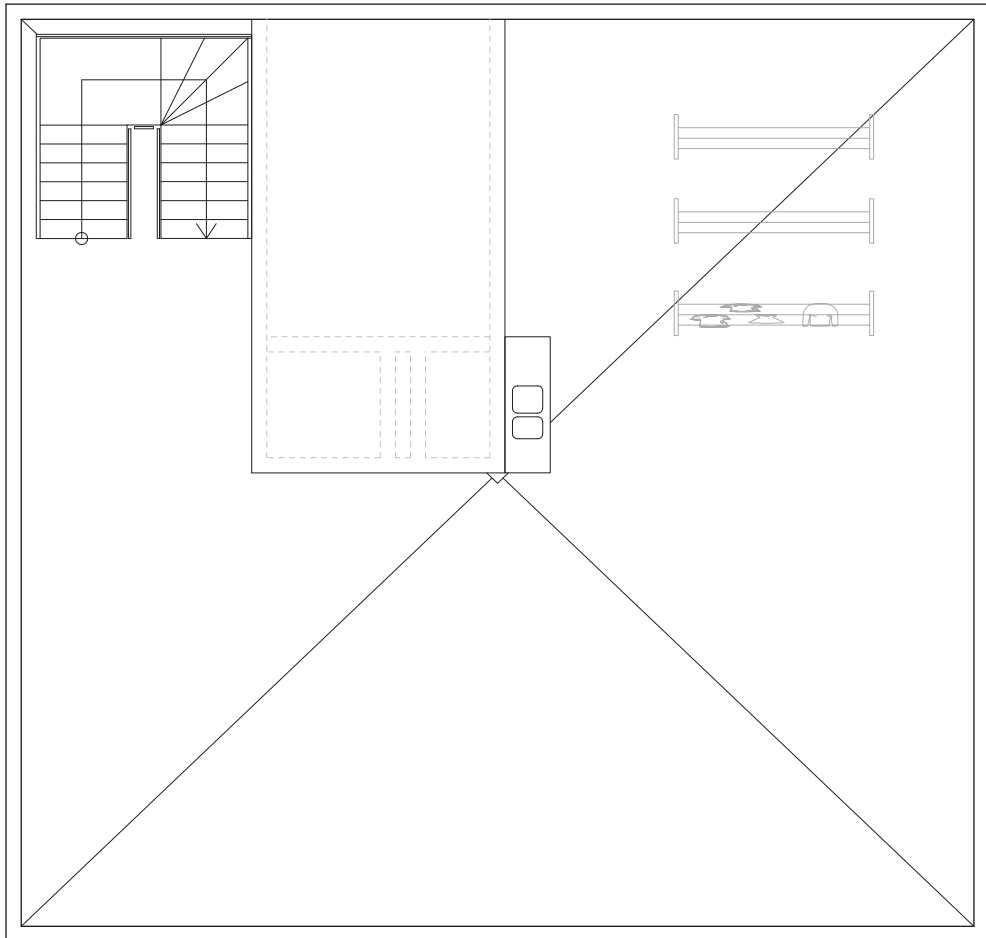
Level 5



The top floor is the most private floor and the floor for the traveling guest, passing through or visiting. The guest house has two big common areas, a kitchen and the social space by the staircase. The corridor is closed and not that open to the functions in this case. This to give privacy to the guests. Since the corridor is lacking glass it will be a darker corridor, but with sun coming in from both east and west and the beautiful rammed walls will stand out and create a beautiful environment.

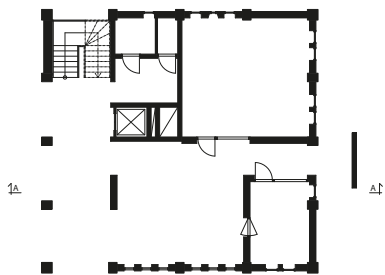


Roof level



Since most traveling guest are from Scandinavian countries the building does have to offer the possibility of exposure to the sun, and this is made through a roof terrace. The terrace is also equipped with a sink and drying racks for the possibility to wash your clothes. This can also be used by the staff.

Since electricity is a lacking factor in many cases the Ethiopians mostly put their water tanks on the roof to create a pressure, so even in this case.



Section

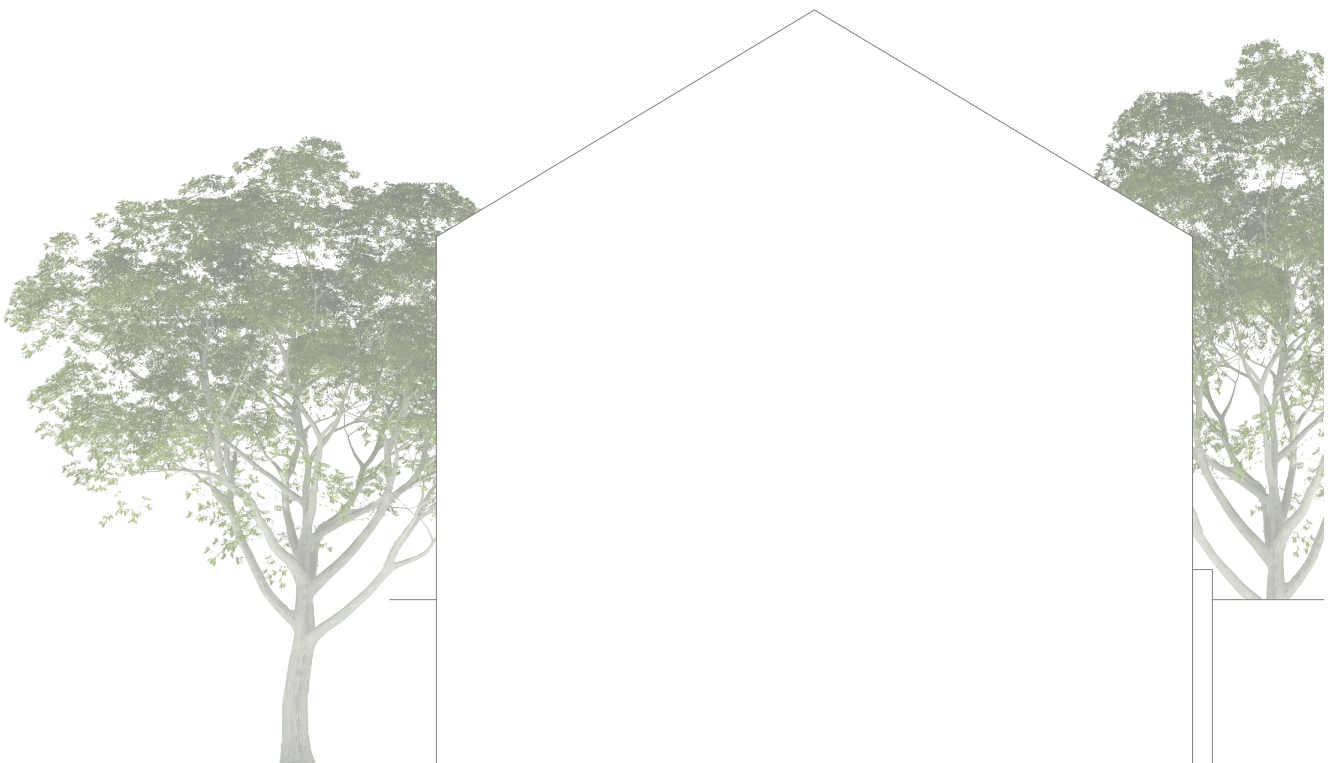


SECTION A-A 1:100

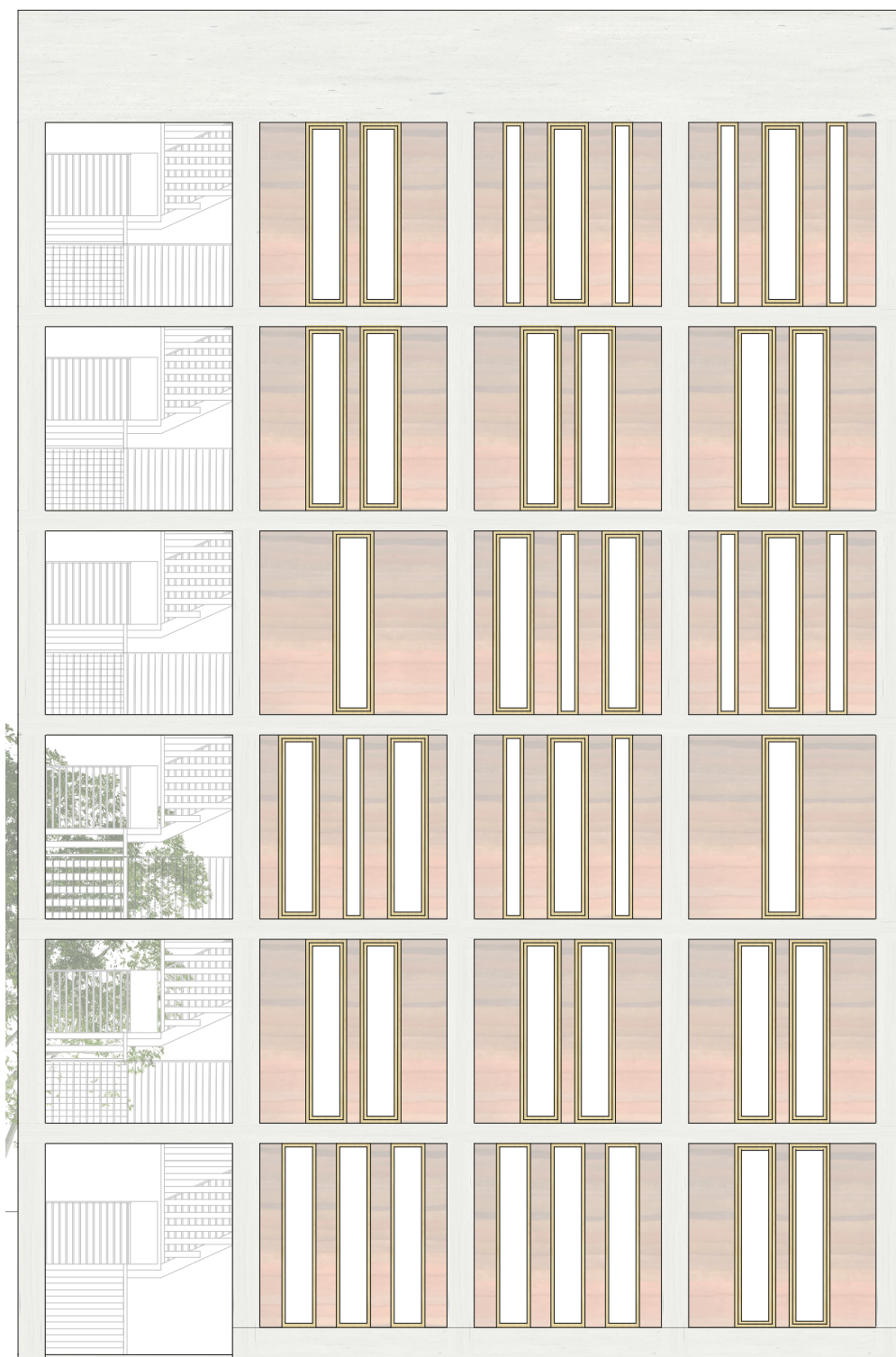
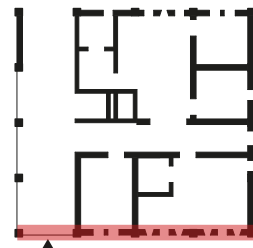


South West facade

The entrance facade has an openness meeting you, it's a corner which closes the square between the buildings, yet keeps it visually open. You get a glimpse of the café and you can see people moving and interacting in the staircase.



SOUTH WEST FACADE 1:100

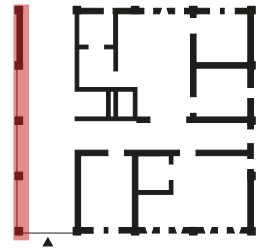


0 1 2 3 4 m 89

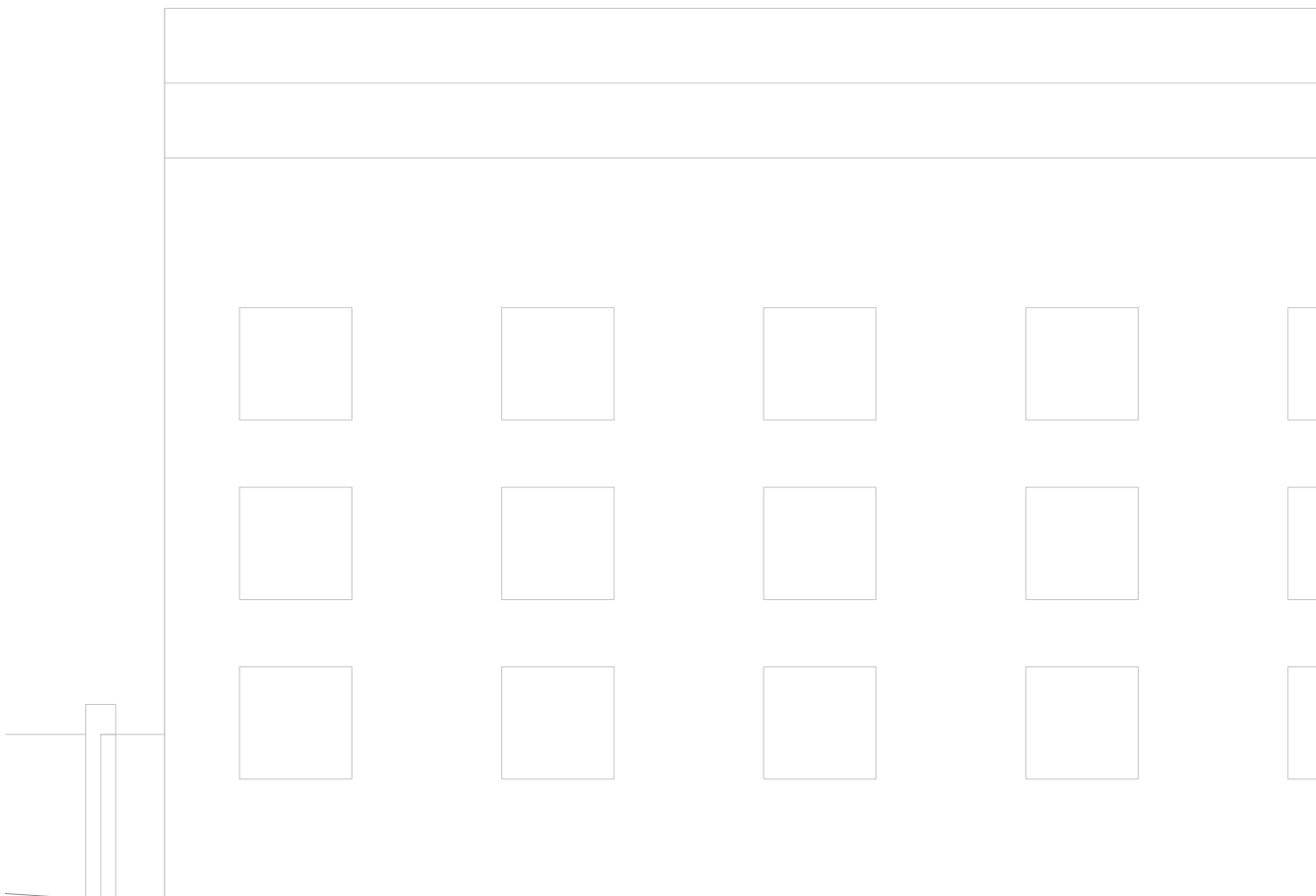


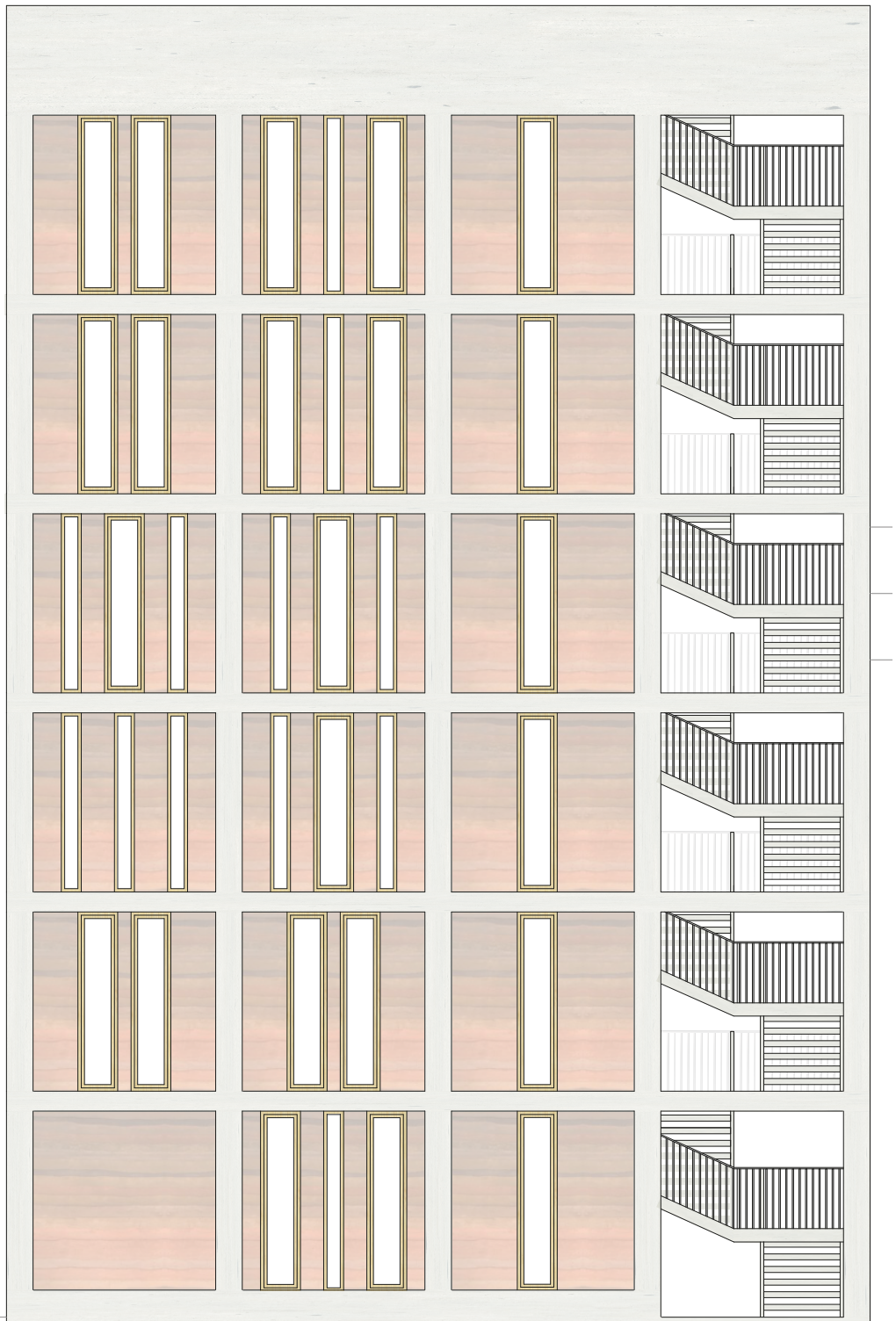
NORTH WEST FACADE 1:100

North West facade



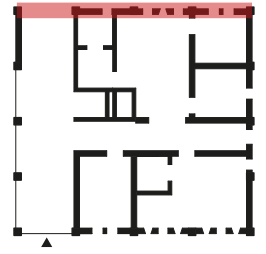
The north-west facade of the open facade of the staircase. To give some materiality to the stair this facade does contain one wall giving some shelter to each floor.



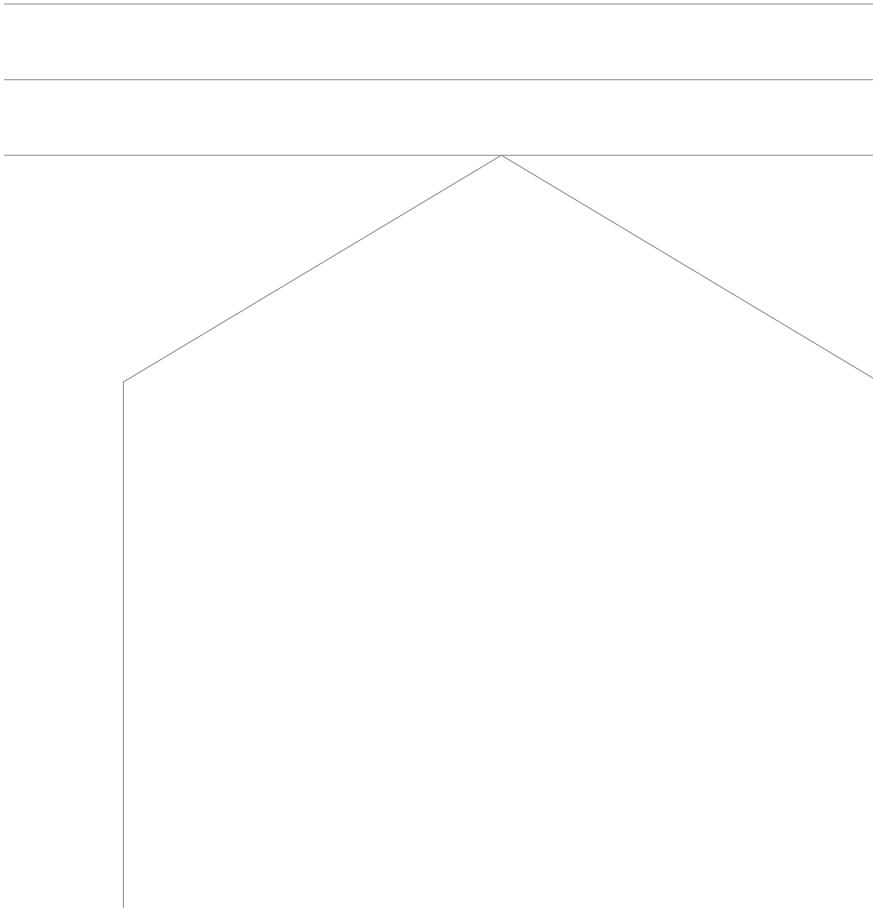


SOUTH WEST FACADE 1:100

North East facade



North east is the backside of the building, but it's also the side that is visual to the areas north east of the compound, the wall covers the first level but the rest is visual. This side contains many windows both due to the comfortable light from the north east, but also for the visual connection between the two areas, being able to see movements and activities for the neighbours and the students get a glimpse of the surrounding area.

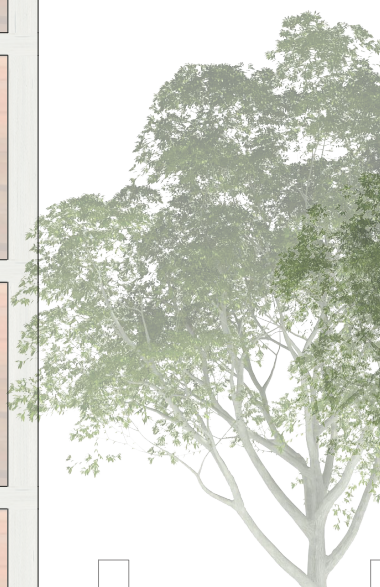
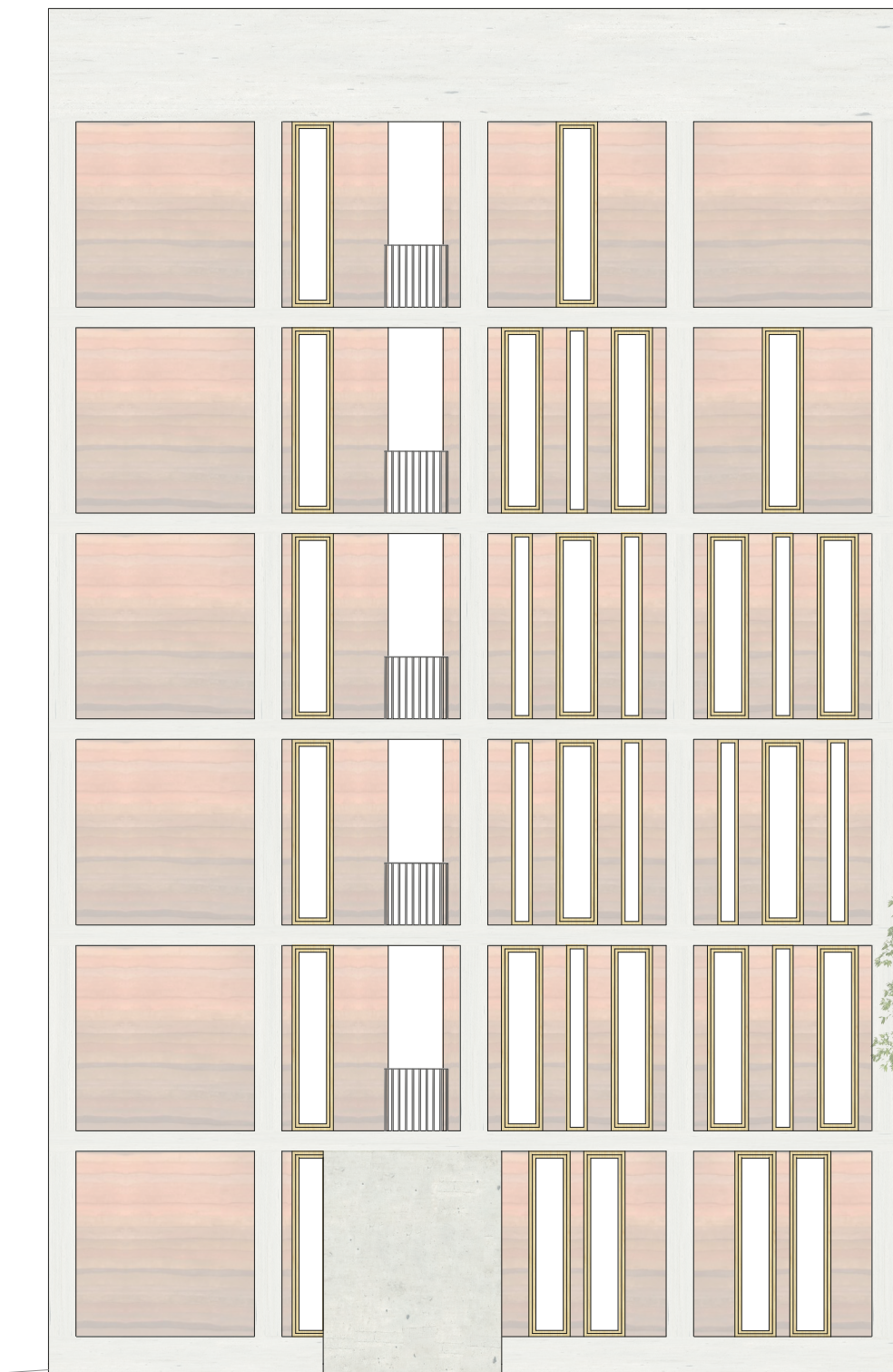
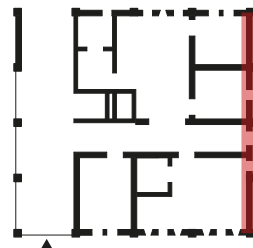


South East facade

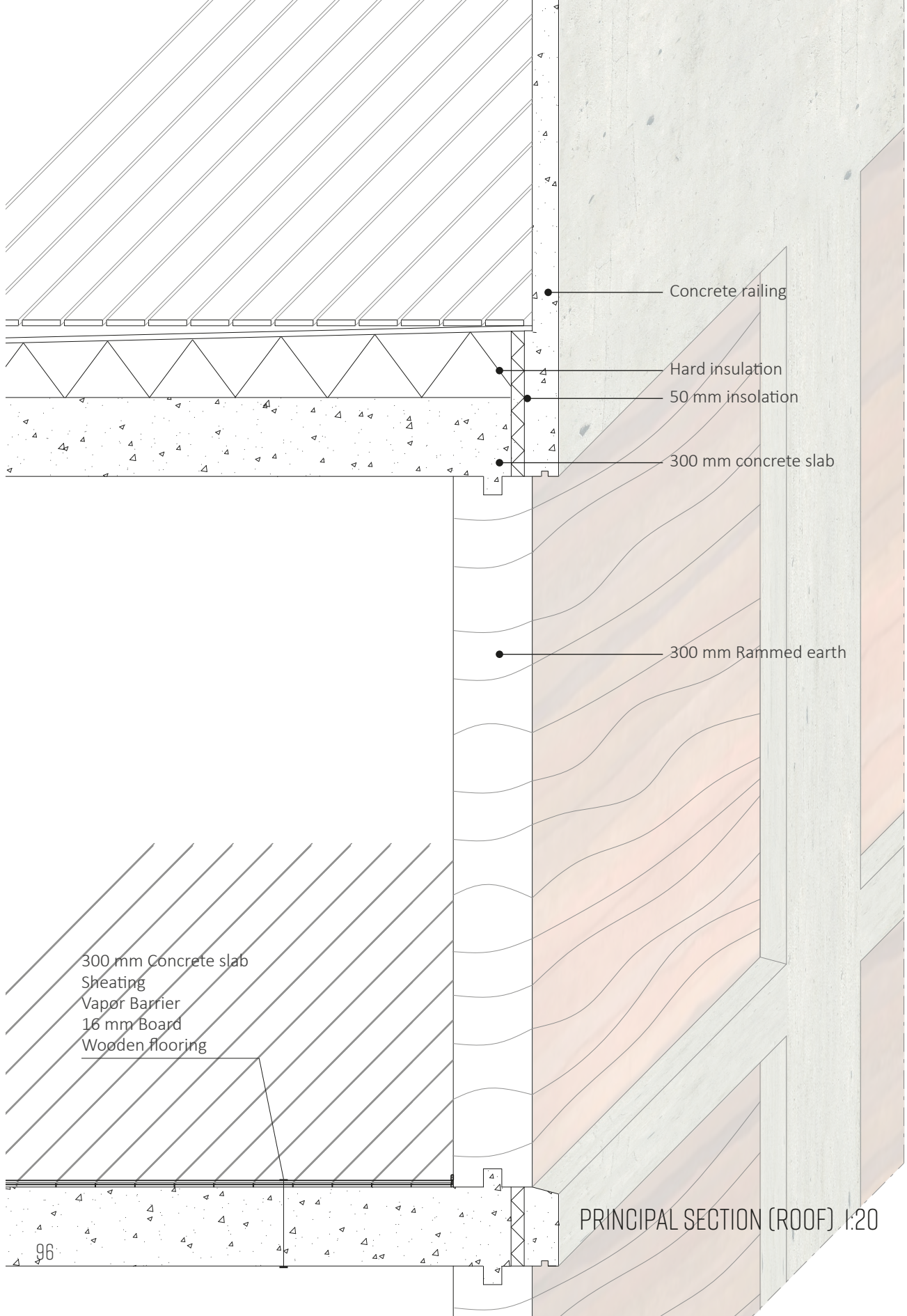
The south-east facade is the facade closest to the wall. This is where the outdoor kitchen is located and it's being sheltered behind a wall. This to separate the flows of people walking by and the people using the outdoor kitchen.



SOUTH WEST FACADE 1:100



0 1 2 3 4 m 95



Concrete railing

Hard insulation

50 mm insolation

300 mm concrete slab

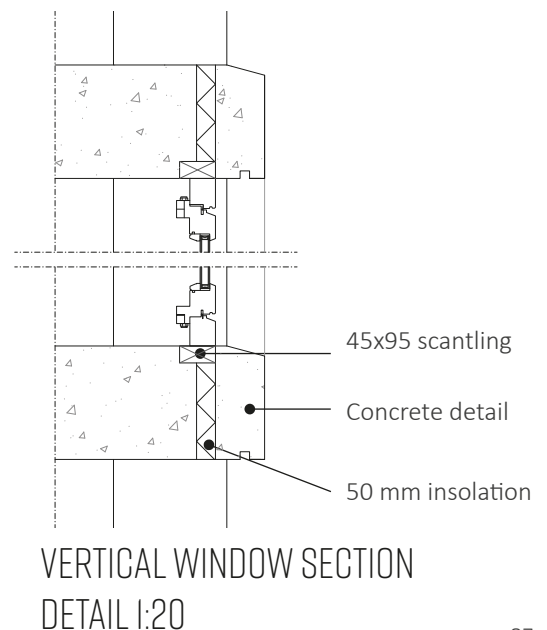
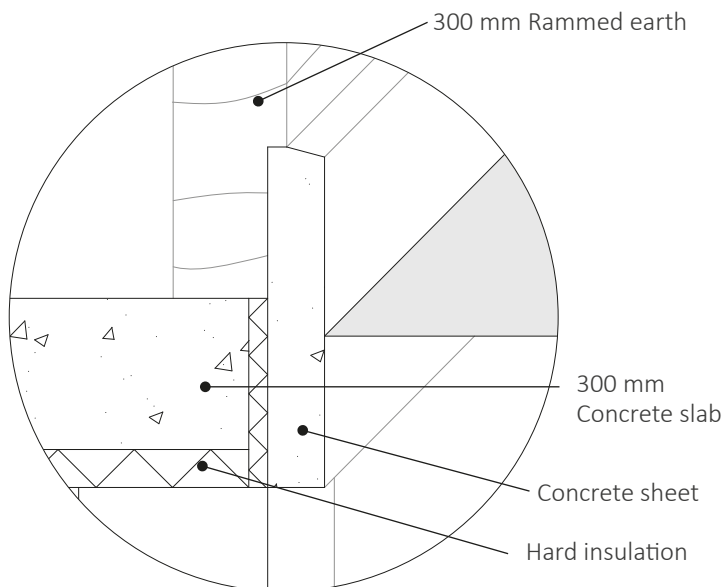
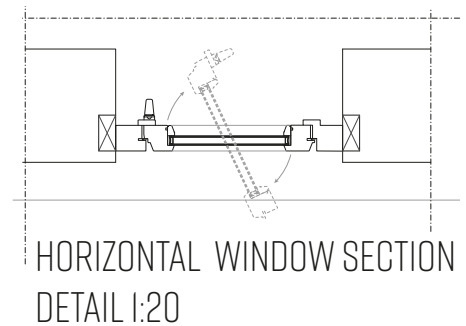
300 mm Rammed earth

300 mm Concrete slab
Sheating
Vapor Barrier
16 mm Board
Wooden flooring

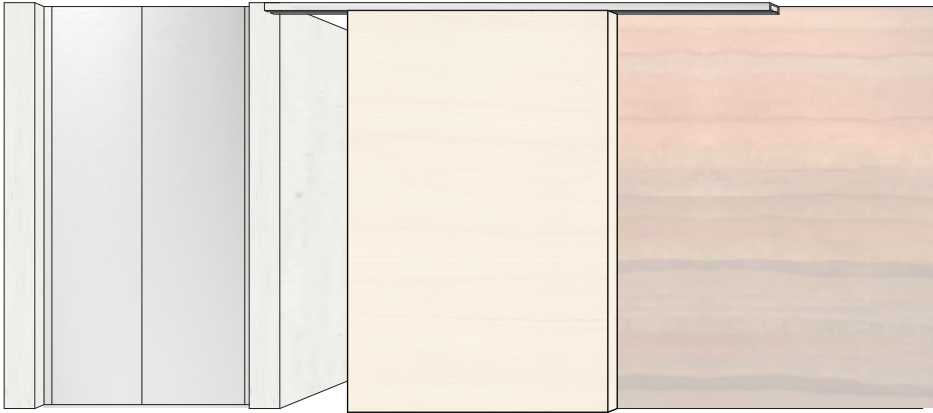
PRINCIPAL SECTION (ROOF) 1:20

Details

Following you can find details over how the building meets the ground and how the window is placed in the walls, you can also see a detail on the previous page on how the slabs and the roof are though upon. The thought was to make a simple structure so that it would be easier to understand and build, but also so that more focus could be put on the rammed earth.

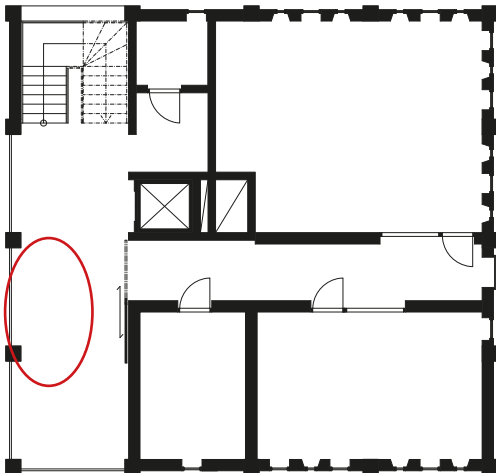


Smaller designs



SECURITY AND SHELTER

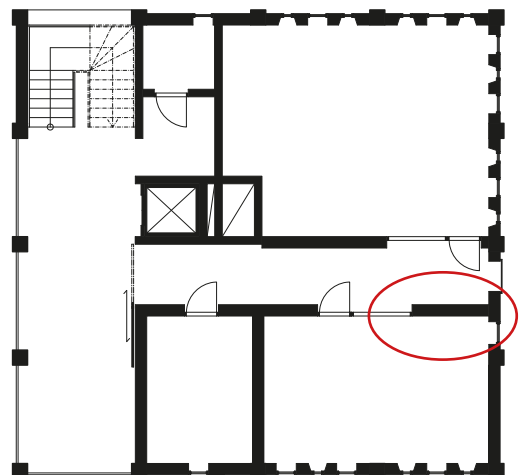
On most floors there is a door between the staircase and the corridor. it's there for two reasons the first is for the security, even though we are on a guarded compound there is still more people moving around in the compound. The second reason is to be able to stop the corridor from becoming a wind tunnel.





DOORS AND WINDOWS

All doors and windows are from floor to ceiling, this to avoid a beam over the object that would carry the wall on top of the objects. This solution also offers cleaner details and more light to the rooms.

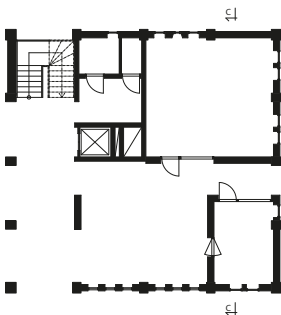
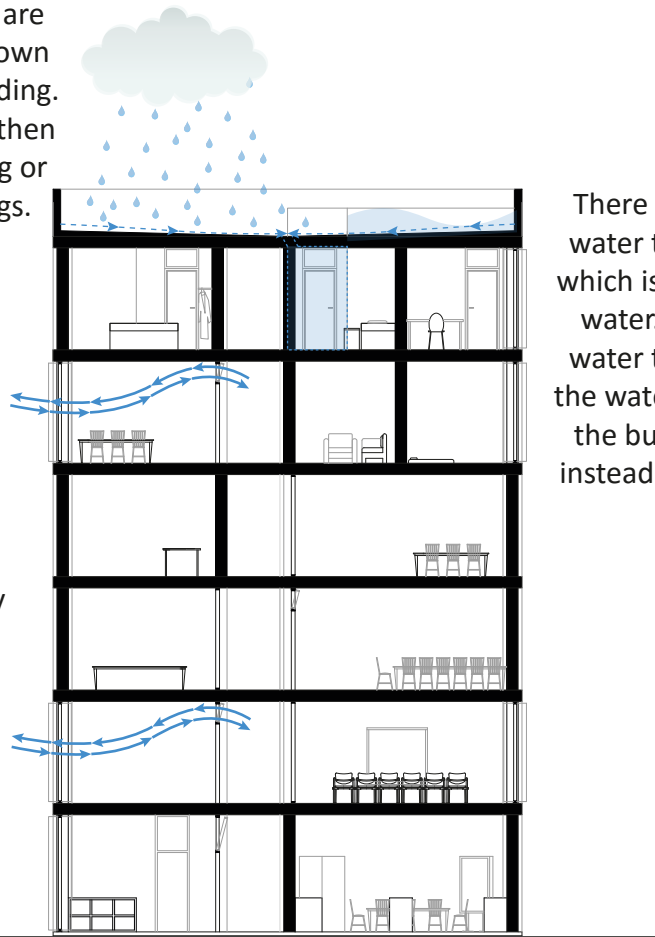


Wind and water

The rain water is collected on the roof and led to a water tank. The overflowing water are then led out and down the back of the building. The rain water can then be used for flushing or other similar things.

The rotating windows and the small windows above the doors can be opened, this to create a cross ventilation. An easy solution to keep the air flowing.

There is also a second water tank on the roof which is filled with clean water. By placing the water tank on the roof the water can flow down the building naturally, instead of mechanically.



SECTION C-C 1:200

Conclusion

The project has been developed in a studio focused on the building and its details and since the project is mainly focusing on the women and their health the development has been pulled in two directions. Another question that has been hard to balance are the two focus points, they stand on a solid ground when it comes to the fact that they do influence both our experience and our health, but the measurements of these are hard to interoperate, how much light is too little and how much is too much light.

The development of the program in the building has been an interesting development. One in which the understanding of the organization and their needs have been stronger throughout the process. The understanding has also made it easier to form the program, but also develop how they work and this might have been one of the strengths of this project.

The next step for this project would have been to develop the usage of glass in the building, maybe involve someone who understands the heating situation in Addis Ababa and could optimize this. Another step would be to take this to an Ethiopian architect or engineer to develop the building process.

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