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The Manifestation of Healing

**a therapeutic retreat for police
officers, Bainsvlei, Bloemfontein**

This dissertation is submitted as partial fulfilment of the requirements of the degree: Masters of Architecture at the department of Architecture, Faculty of Natural and Agricultural Sciences, University of the Free State. 2020

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Chapter 1

Introduction

My interest in this design dissertation developed concurrently from a deep seated concern for police officers suffering from repetitive work-related trauma and a personal discovery of solitude in a pocket of nature just beyond the urban periphery of Bloemfontein. Amongst the unadulterated performance of the elements within the site, I felt connected, my own performance with nature responding the elements and systems which were already present on site. As an initial response, I entrusted that victims of trauma would share my experience of refuge, retreat and self-reflection.



Fig. 1.1 Pocket of Nature(Author, 2020)

Interdependence and Collaboration

My design dissertation is sited on a forgotten piece of land in Bainsvlei Bloemfontein, on the periphery of a suburban neighbourhood amongst once agricultural small holdings. Close to the cultured environment, yet far enough to be removed from the city, the site is the product of a series of natural and left-behind human phenomena, mutually influencing each other. Here, undisturbed and reciprocal interactions befell the site, producing a pocket of nature between the vast Free State sky, a small stream surviving domestication and cultivated nature, and a series of non-indigenous willow and eucalyptus trees, which were introduced years ago and left to flourish natures means into a little 'forest' on the surrounding stretching plains. These favourably conditions make it possible for seemingly individual elements to establish a symbiotic relationship that can sustain life. This is in essence the same formula that the design approach will aim to respond to and ultimately attempt to recreate.



Fig. 1.2 Romantic Site Conditions (Author, 2020)



Fig. 1.3Cosmic Views (Author, 2020)

The site is a thriving Romantic (Norberg-Schulz, 1991) pocket of flourishing romantic landscape seemingly picked up from somewhere else and placed in the middle of the expansive Free State plains and amongst its dark hills. The connection to the dominant classical sky is all but lost within the 'forest', except when glimpses of it appear through the lush vegetation. In *Genius Loci*, Christian Norberg-Schulz suggests that a classical type of landscape (alike the landscape found in Greece or amongst the Free State hills) fosters a "human fellowship"; whilst a Romantic landscape (the pocket of 'forest' found on the site) aids an intimate relation to the earth (Norberg-Schulz, 1991, p. 42).

The natural order created in classical landscapes should prevent the individual from being swallowed by the totality of a desert landscape nor cause them to seek the intimate shelter of the forest (Norberg-Schulz, 1991). However the typical mode of inhabitation of classical landscapes encourage "true gathering" as opposed to romantic landscapes that become places of refuge. (Norberg-Schulz, 1991, pp. 45,46) The latter form of dwelling would be beneficial to a healing space which reaffirms the choice of site and programmatic function of this design project.

Whether the culmination of a stream was the precursor to growth, or it merely conformed to the landscape manipulated by mature eucalyptus trees planted in rows is irrelevant. Whatever initiated the development is by now far less important than the value of the organism as a whole and the ever expanding possibilities it spawns. Similarly, my intention with this project is that the architecture should remain modest in its role as initiator of new systems. Remaining cognisant of the fact that the built insertions are first and foremost resultant of the existing habitat, it becomes clear that it should be generated in accordance with the existing fabric.



Fig. 1.4 Vertical Clearing (Author, 2020)

The stream that bursts its banks after any considerable rain is crucial to the existence of the harmonious habitat, creating a tangible dependence on the environment. A reprieve from the dense impenetrable foliage is created by waterways frequently eroding certain pathways. The site already consists of a series of clearings (gathering space), dense shrubbery (barriers), and beautiful ornamental trees such as Willows (focal points). As before mentioned, Fig. 1.3 shows how the internalised forest landscape frames certain views outward (predetermined vistas).

As an initial reaction I set a first parameter for the design intervention: reacting to the clearings which are already present on site. To my mind, and in the classification of landscapes by Norberg-Schulz the clearings create ideal spaces to encourage the premise of community and unity. In contrast the secluded atmosphere created by the dense vegetation provides a tone of escape which will aid the process of personal reflection.

The largest and oldest eucalyptus trees on the site provide a less harsh environment under its canopy, encouraging new growth through the nourishment of its shade and decaying leaves. These veteran inhabitants graciously provide for others while simultaneously benefiting from the richness of the soil they cultivate. The architecture can similarly only exist due to the necessity of a treatment facility whilst acting as a catalyst for healing and performing the important task of removing unwanted pollution from the water, healing the site of its human introduced trauma.

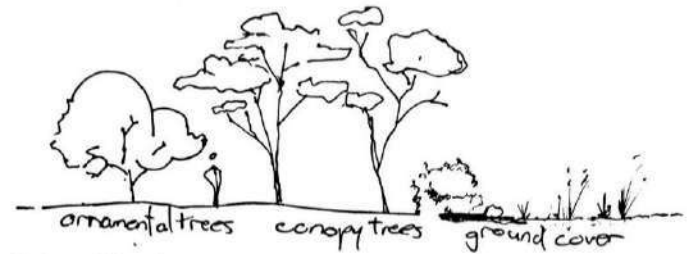


Fig. 1.5 functioning Habitat (Author, 2020)



Fig. 1.6 Central Clearing (Author, 2020)



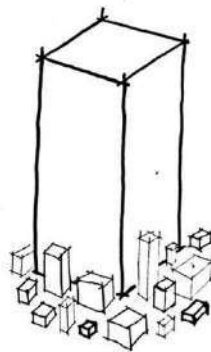
Fig. 1.7 Flooding Debris (Author, 2020)

Accommodating the User

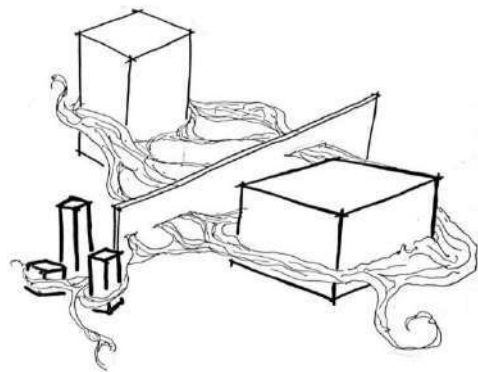
The intended clientele (SAPS) provides a very interesting social construct to accommodate within the composition of design influences. The very nature of police work gradually conditions the law enforcer to become sceptical of their fellow human, since they are exposed to a disproportionate amount of unjust behaviour. When pairing that with the fact that they are then obliged to reprimand these trespassers and defend the vulnerable, it causes a rift between the protector and those they serve. This separation and detachment is further exacerbated by the extremely rigid pecking order under which the police force functions. This clearly established system of hierarchy comes in stark contrast with the communal aspects of healing which the design will attempt to capitalise on. The very word community instils a sense of equality, empathy and collaboration. These notions relate a lot more to a rhizomatic organisation than the purely hierarchical and structured approach employed by the police force.



Community



Hierarchy



Collaboration Fig. 1.8 (Author, 2020)

By accommodating these two polar opposite influences the richness of the design performance is actually enhanced rather than ruined. By severing the habit of separation in favour of collaboration these contrasting elements can facilitate interesting interactions between the two that culminates in a product greater than any one of its individual parts. This is supported by the inclusive and interactive world views of Barad (Barad, 2007) and Gamble (Gamble, Hanan, & Nail, 2019) that all matter is always both shaping and shaped by its context in the performance of life.

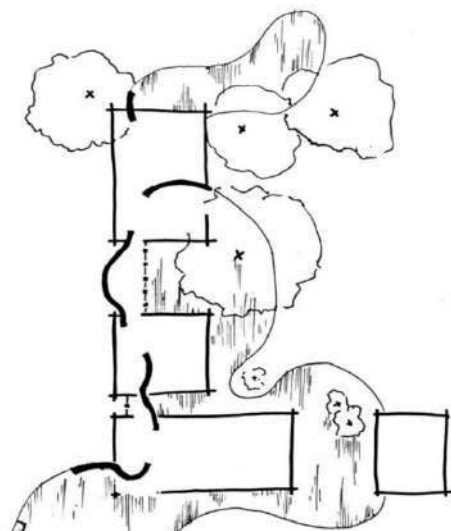


Fig. 1.9 Performing bodies (Author, 2020)

Bringing the Site and User Together

First Site Experience

Inception

The story of the original set of influences that led to the cluster of forest

Encounter

The intrigue it sparked in me to investigate and interact with the site due to its

Lost/ Disorientated

Under the canopy you can't navigate by the shadows anymore and it becomes hard to tell one tree from another

Order/ Navigate

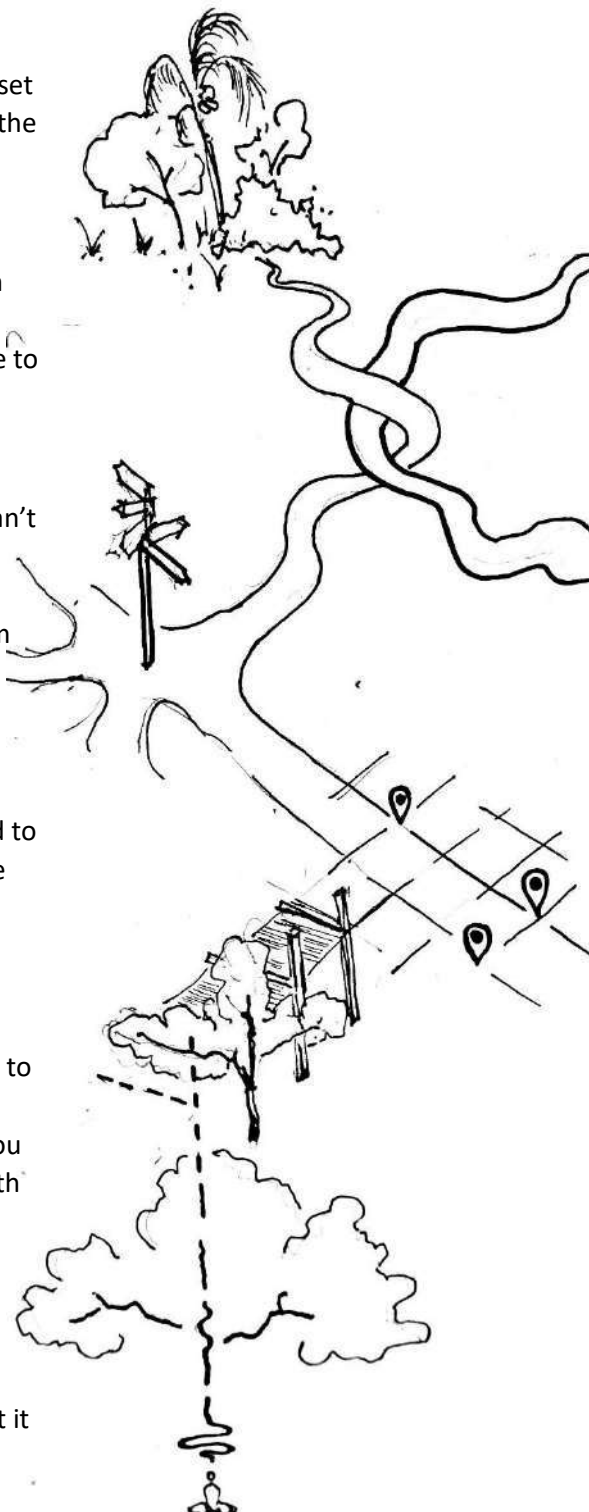
Certain mental axis start forming that can be used to navigate through the site

Associate/ Familiarize

Certain areas resemble recognizable archetypal spaces and one can start to understand the environment and how you are meant to interact with it.

Healing Through Nature

You finally stop to appreciate nature then realize the calming effect it has had throughout the whole process.



Design Reaction

Inception

Systematic build-up of scarring from stressful and traumatic environment.

Encounter

Traumatic event or turning point prompting decision to seek treatment.

Lost/ Disorientated

Curving pathways do not clearly show exactly where they lead and contribute to the feeling of being further removed from the trauma.

Order/ Navigate

The buildings are located along 2 main axis which were determined by 2 initial factors that created the site.

Associate/ Familiarize

Physical comfort and security must first be established before psychological healing can be attempted.

Healing Through Nature

Therapy spaces are designed to maintain connection with nature and accommodate biophilic healing and refuge.

Research Objectives

Primary Aim:

To accommodate a series of buildings within a pocket of naturally significant landscape in the optimistic anticipation that the therapeutic aspects of nature aid the healing process of distressed police officers.

Implied aims:

- To create a sanctuary providing reprieve from the space within which trauma occurs.
- To ensure orientation and identification of the patients with nature through architecture.
- To functionally (relate to planning and construction) and meaningfully (relate to theory: performative relationship) accommodate the patients in a close performative relationship with nature.
- To keep limit harm to the natural environment to a minimal in the pursuit of the goals set out above.

Setting Out Approach

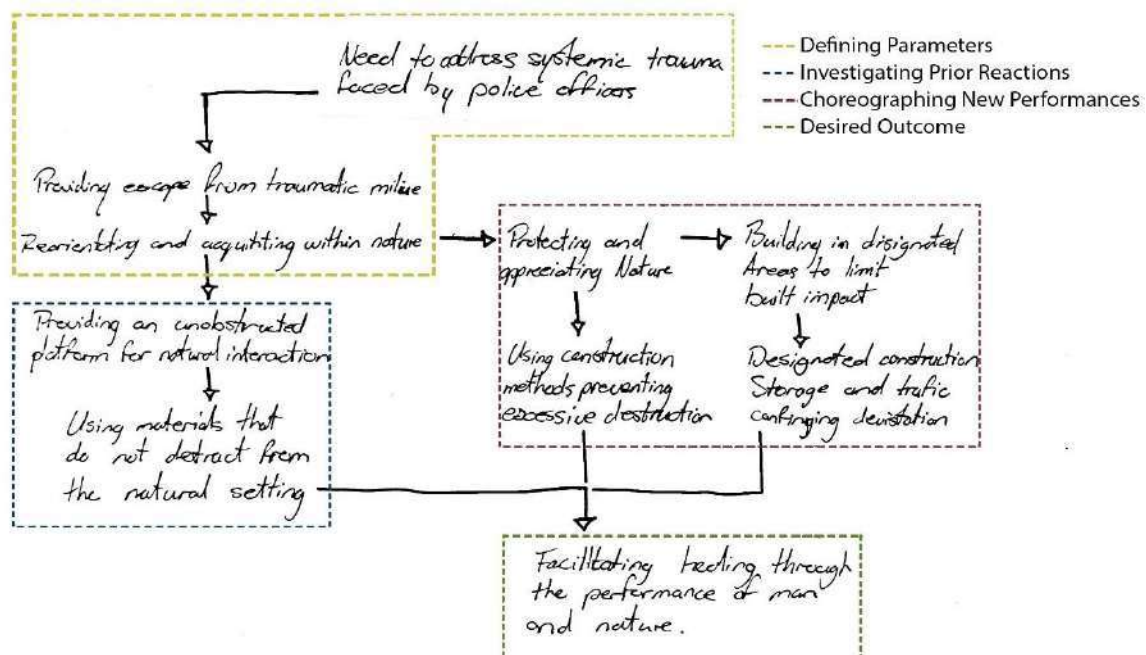


Fig. 1.10 Research Model (Author, 2020)

Research Question

How can a pocket of nature in Bainsvlei, sustainably accommodate and inform the treatment of the complex performative relationship between the psychological and physiological effects of trauma on members of the police force?



Chapter 2

Site Analysis

Scale 1:500



Fig. 2.2 Qualitative Site

Scale 1:500

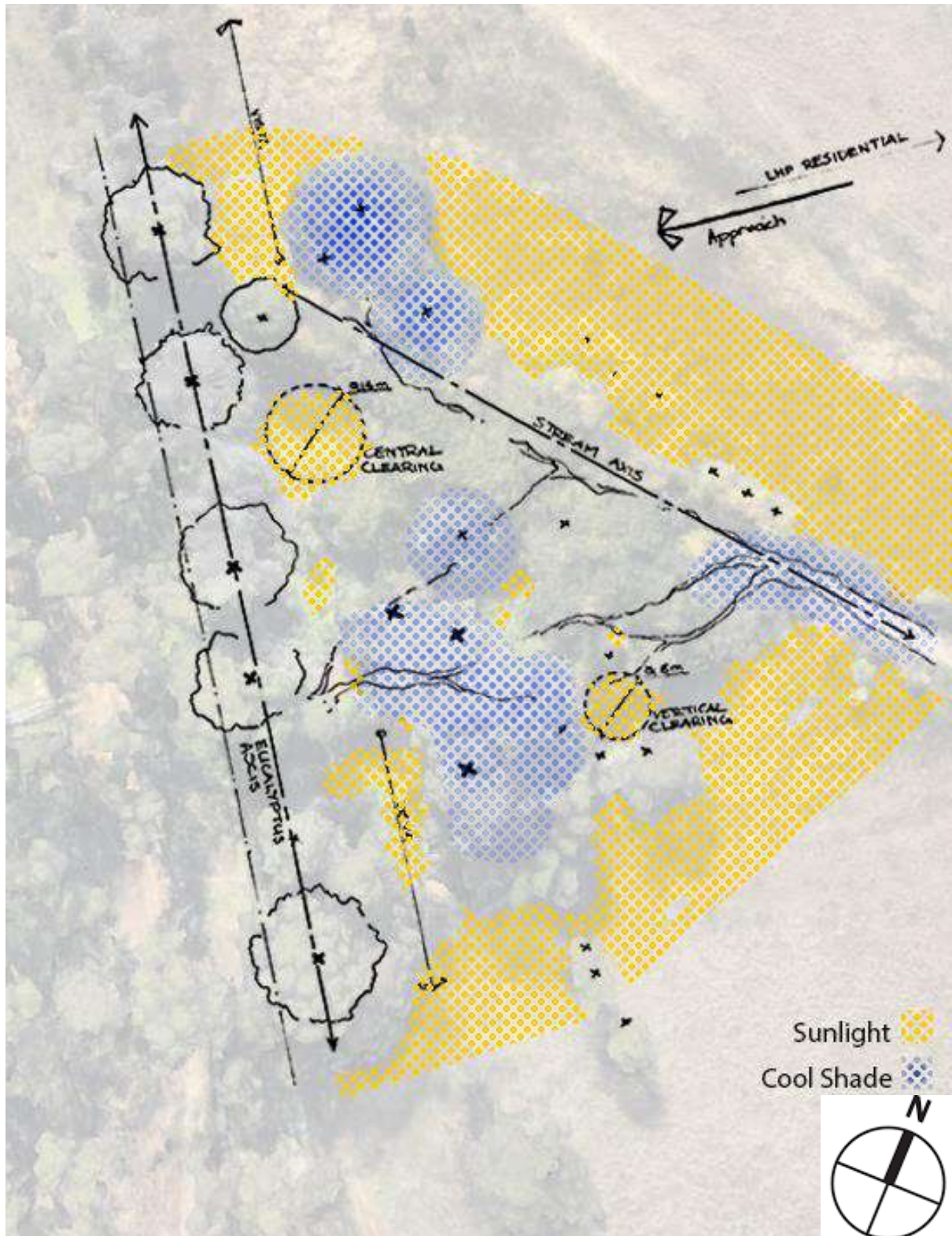


Fig. 2.3 Abstract Site Model

Scale 1:500





Chapter 3

Conceptual Approach

Introduction

To set the design process in motion and establish certain parameters by which the design process could be informed I identified three concepts encapsulating my initial reactions to the issue at hand. I defined the three guiding principles of my journey toward design as escape, community and natural interaction.



Fig. 3.1 Concept Model

Model Visual Cues

The smooth concrete base draws **inspiration** from the vast bloemfontein **landscape** emulating its trademarked hills **and** platos with water collecting at the lowest elevations just as it does on the proposed **site**. Therefore, it is crucial that the concepts are suspended above the water just as the building would probably have to be. As reaction to the solitary character of the site these concepts were isolated in clear cases with no direct connection to the landscape that is so crucial to our most fundamental states of being. The **communal** theme is depicted as masses drawing our interactions inward whilst the escape theme is characterised as much more tectonic **element** jutting out from a rigid core. The final concept of natural interaction is however not shaped by any implaced **additions** but rather manipulated in itself by a **shift** in orientation. It is also the only one of the three that reformed a connection to the landscape by the threads extending out of the landscape through the water and into the display.

Community



Escape



Natural Interaction



Escape

The notion of escape stemmed from the need to create a safe space away from the trauma police incur. The term evokes not only the urge to leave but also clearly defines a thing from which to leave, thus inspiring an architectural response of having a spine onto which other elements connect. The immediate reaction of escapism is to create separation through distance but for practical reasons such as proximity to the city and the compact confines of the site this is problematic. This separation can then rather be achieved by moving into something (the isolated pocket of nature) than out into empty space

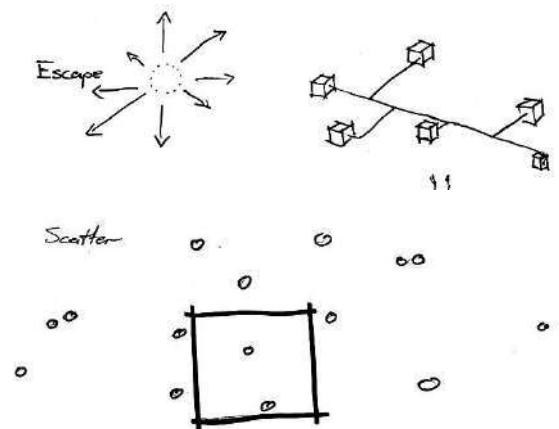


Fig. 3.3 Analysis of escape (Author, 2020)

Community

Due to the clearly distinguished character of police work and the processes of training and initiation a strong sense of police community is already fostered. Communal gathering is also focused inward **towards** a fixed point and establishing a community one also inevitably creates a barrier between those included and those excluded from the community. This suggests an internally focused mass as special response, yet that would be jarring in the natural context. Luckily, the site already provides space to gather in the form of a central clearing that reads as an island within the forested surrounds.

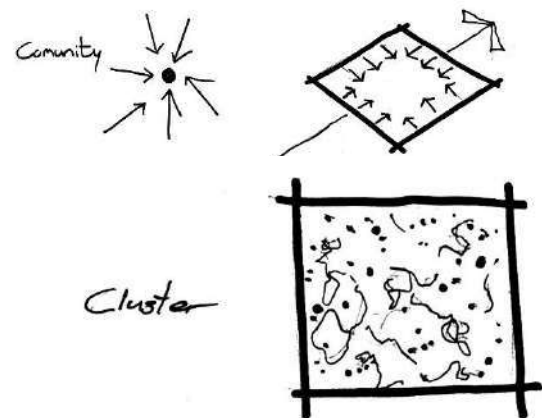


Fig. 3.4 Analysis of community (Author, 2020)

Natural interaction

This notion is founded on how we have been seemingly disconnected from our natural roots and caged up within concrete jungles as is also described by Lewis and Sturgill (1979) in the theoretical underpinning. It encourages us (and the design to reconnect with nature) in a way that will nourish our primal nature. It promotes unobstructed visual connection to nature at all times and places to find rest in the environment.

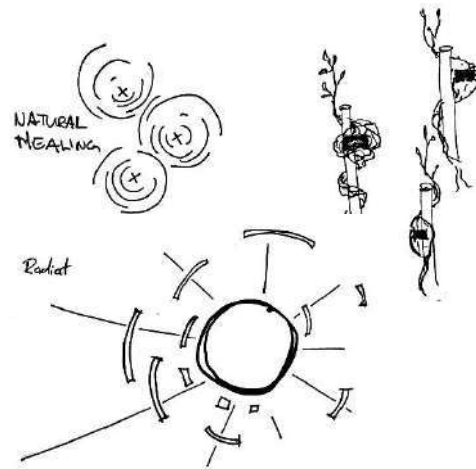


Fig. 3.5 Analysis of natural interaction (Author, 2020)

Conclusion

These three concepts each have merit in determining the character of the project but also represent some challenges to the design process. After the model exercise I briefly investigated these concepts overlaid over site photos (Fig: 3.6-3.8) yet quickly moved away from such a top down approach in favour of allowing the conditions on site to determine the programmatic layout.



Fig. 3.6-8 Concepts on Site (Author, 2020)

Construction Touchstone



Fig. 3.9 Construction touchstone (Author, 2020)

Permanence

The notion of seemingly cleansing or repairing has by this point been established as a key element of the project and as such the architecture should provide the ideal conditions for this to thrive. In investigating the methods of which to start assembling these elements to accommodate this process it became evident that a certain substance and durability is required as a foundation from which the more sensitive and temporal aspects of can develop. This not only ensures the longevity of the building (and the therapy carried out there) but also ensures that the care and reverence extended to this pocket of nature will also endure even if the surrounding area starts to develop.



Fig. 3.10-11 Permanence of Healing (Author, 2020)

Adaptability

Neither natural conditions nor the disposition of the clientele can be distilled to singular ideal that can be implemented unanimously throughout the scheme, so some flexibility is required. By establishing a definite framework, it is possible to accommodate less rigid elements that can more easily adapt to promote or prohibit certain interactions as desired by the occupant. Fig. 3.10 Depicts the adaptability of the model to slide elements across to bridge gaps or raise others up creating seclusion.

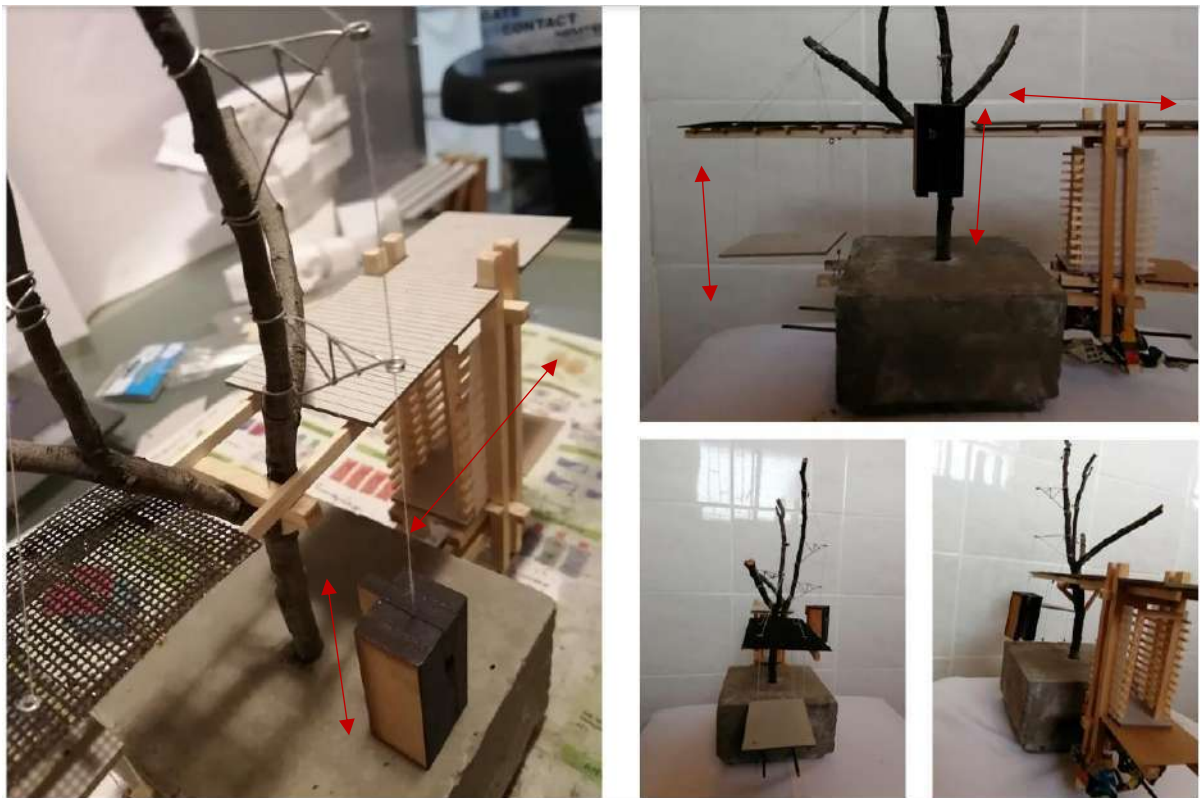


Fig. 3.12-15 Lowered counterweight (Author, 2020)



Chapter 4

Precedents

Bowali Visitor Centre
Kakadu National Park,
Northern Territory, Australia

Glenn Murcutt

(Morphology, Topology)

Informs spatial development,
 materials, atmosphere



Fig. 4.9: Bowali Visitor Centre Covered Walkway (Australian Institute of Architects, 2010)

Introduction

The Bowali Visitor Centre lies at the edge of the Kakadu National Park and is a wonderful example of Glenn Murcutt's uncanny ability to blur the distinction between inside and outside. Here a series of detached buildings allows one to experience the beauty of the Australian bush without sacrificing any of the creature comforts we have become accustomed to.

Climate

The Northern Territories of Australia are very warm and maximum temperatures hover around the mid thirties throughout the year (Climate-Data.org, 2020). It can become very humid in the summer months when there is extreme rainfall but there is at least some reprieve between May and September when it is dryer and temperatures dip slightly. It becomes clear that not only will the building have to deal with immense amounts of rain but also the scorching heat.

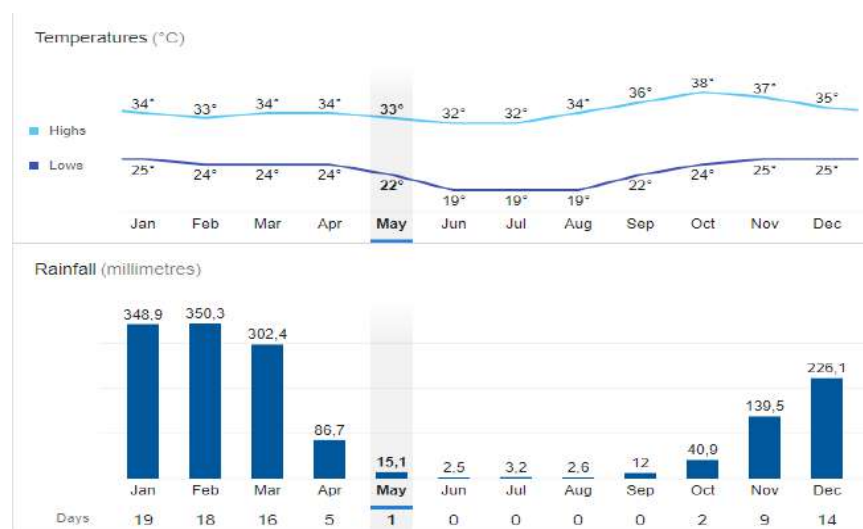


Fig. 4.10: Jabiru temperatures and rainfall (Climate-Data.org, 2020)

According to Climate-Data.org Bloemfontein falls under the interior plateau climatic zone meaning it is relatively dry year-round although the majority of rainfall occurs between November and March in the summer months (Climate-Data.org, 2019). The nights and winters are cold and summer temperatures often soar above 30°C as depicted in the charts below (NOAA, Bloemfontein, 2019). The specific site in Bainsvlei will have to address the same water runoff issues as the precedent but instead of only extreme heat, the winter chill will play a role in the design.

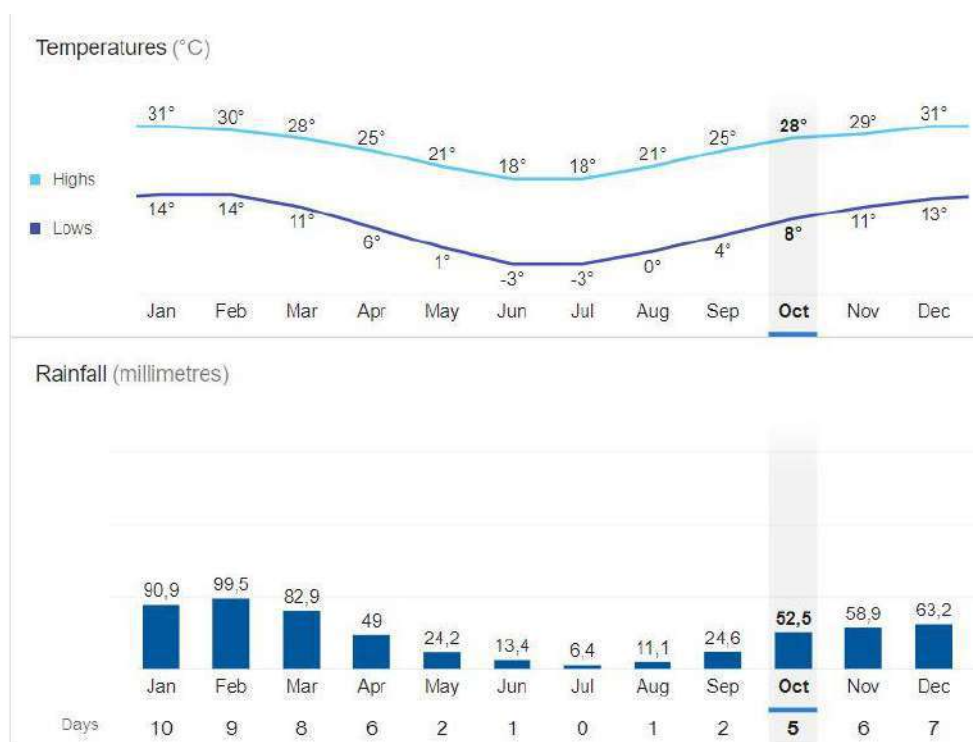


Fig. 4.11: Bloemfontein temperatures and rainfall (NOAA, 2019)

Site Accessibility and Material Availability

The site is situated on a slightly remote piece of land, just outside of the Jabiru town. The vastness of the country and relatively small size of the town could have been problematic in the sourcing of materials but Murcutt sought the aid of the local Aboriginal Djabulukgu Association to help with the sourcing of local timber and soil for rammed earth walls (Lee & Ball, 2009). Not only is this an extremely responsible and efficient approach but it also instilled a wonderful sense of authenticity to the project.



Fig. 4.12: Bowali Visitor Centre Timber Walkway

Landscaping

The landscaping for this project consisted less of creating or emplacing elements but rather exposing certain areas of the natural landscape such as in the image above. Rocks and tree stumps found on the site were also placed as decorative pieces throughout the building. The photo below makes it clear that nature is thriving since the building has been placed here and its inhabitants have cared for the environment surrounding it.



Fig. 4.13: Satellite photo of site (Google Earth, 2020)(Adapted by Author, 2020)

Circulation

The image above shows how one approaches the building from a diagonal angle from the parking on the northern side. This is to pay homage to the traditional diagonal approach when moving into Aboriginal sacred spaces. As depicted below visitors can travel along the spine of the building leading straight through the building and culminating in the admin block, or meander in a more organic way through and past the buildings. Although the walkway delicately blurs the threshold between inside and outside it does remove the occupant further from the landscape by creating islands within the envelope. For the purpose of my design however this would be detrimental to the healing process since nature should ideally envelop patients at all times.

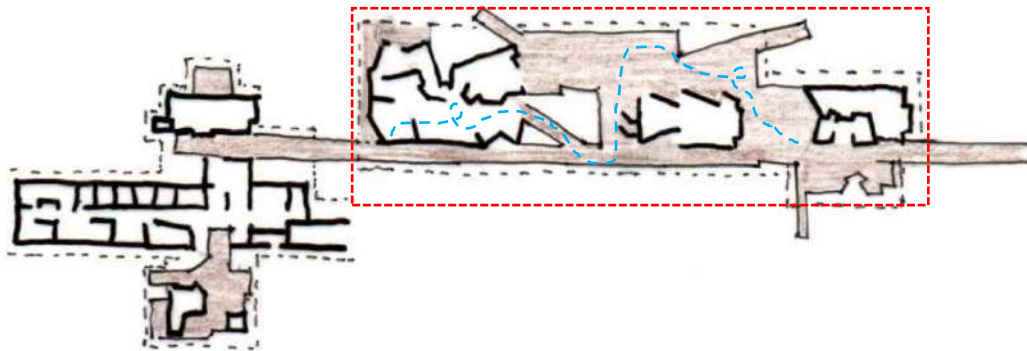


Fig. 4.14: Ground Floor Plan (Author, 2020)

Spatial Enhancement

The image below is one of Murcutt's early explorations and beautifully captures the essence of the promenade-like character of the project. The light floating roof binds everything together seamlessly without breaking that crucial connection to the environment. The **formgiving** itself derives from the caves and escarpments present throughout the park. Murcutt takes this concept even further by allowing water to filter through the gutter in certain areas just as it would in the natural caves that inspired it. This water not only sets a calm tone but fulfills a practical role as well by cooling the air that flows through the space.

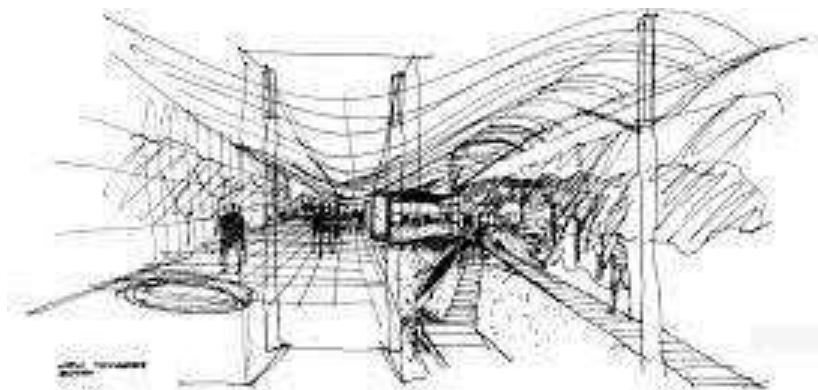


Fig. 4.15: Concept Sketch (Murcutt 1993) from (Australian Institute of Architects, 2010)

Structure and Details

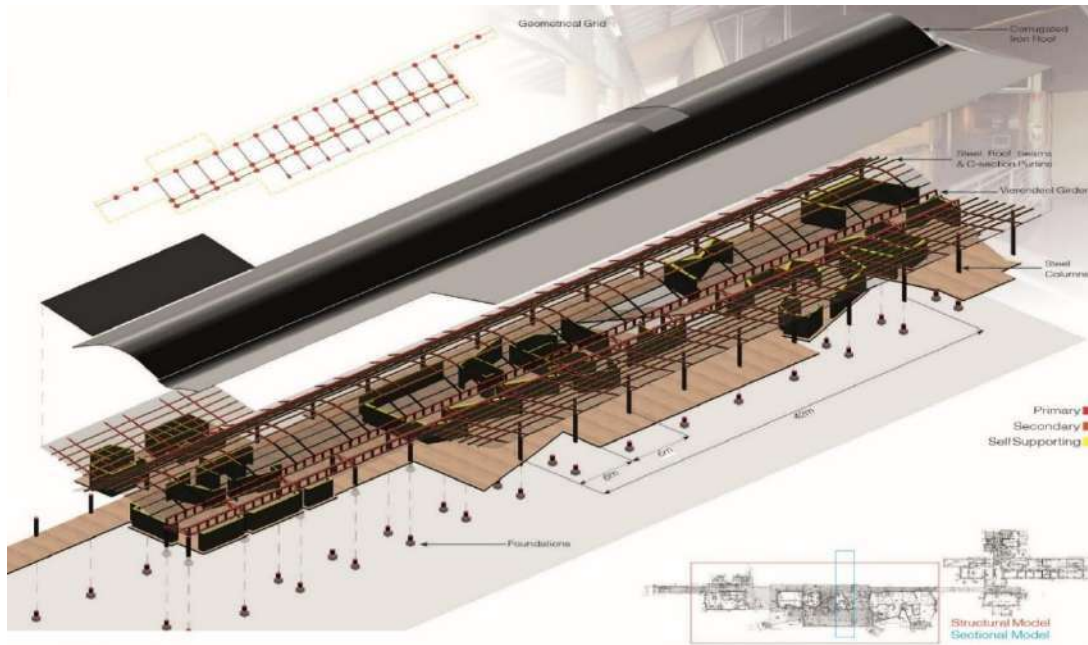


Fig. 4.16: Structure Axonometric (Lee & Ball, 2009)

The project basically consists of a uniform column and beam structure carrying a lightweight steel roof under which a series of rammed earth buildings are placed. These more stereotomic red rammed earth masses are meant to resemble the series of termite mounds ever present in the Australian bush (Lee & Ball, 2009). Even the structure that supports the roof starts of thick and sturdy at the base then elegantly branches of before it meets the canopy, just like the surrounding trees do.

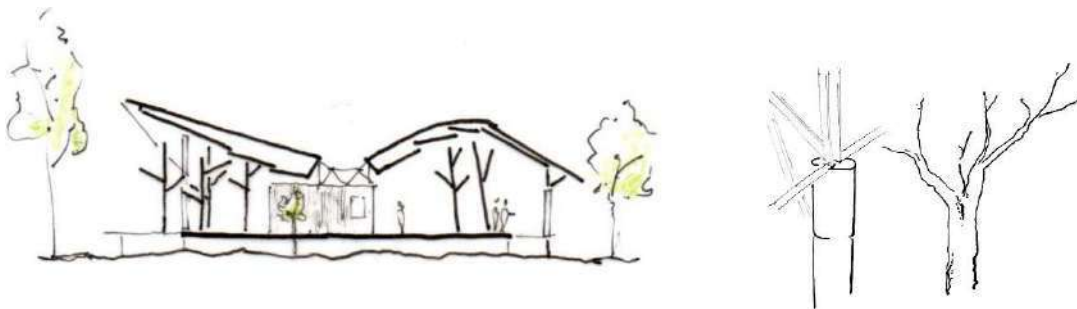


Fig. 4.17: Section and details; (Author, 2020)

Conclusion

The Bowali Visitor Centre is a beautiful example of how one can sensitively engage with the environment whilst creating a comfortable space that is still sheltered from said environment. Glenn Murcutt has elegantly incorporated a host of local ideas or technologies creating a space that truly belongs to the environment from which it is constituted. I believe that by taking cues from the subtlety and authenticity of this project it will lead to an appropriate development of a Nature emplaced Police trauma centre

Proyecto Hombre Rehabilitation Centre

Santiago de Compostela, Spain

Elsa Urquijo Arquitectos

(Topology / Typology)

Informs typical functions, spatial order, scale



Fig. 4.1: Proyecto Hombre Courtyard

Introduction

The building is the headquarters of the Proyecto Hombre initiative that works to identify social issues that contribute to addiction and by promoting autonomy and responsibility they aim to reintegrate individuals as active members of society (Archdaily, 2012). The restorative as well as pre-emptive nature of treatment provided at this facility makes it ideal as a precedent informing function and organisational elements. The urban European setting of the project however inhibits its ability to inform suitable architectural responses in a natural setting in Bloemfontein.

User requirements

As mentioned above the brief required both preventative and curative treatment. As such the building is designed to accommodate not only treatment facilities but also educational functions. Although some of the patients reside at the site for the duration of the treatment provision was also made for outpatients commuting to the facility. The condensed program accommodates the following functions: (Archello, 2012)

- Administrative area
- Residential area
- Outpatient therapy area
- Workshop area
- Sports area

Circulation

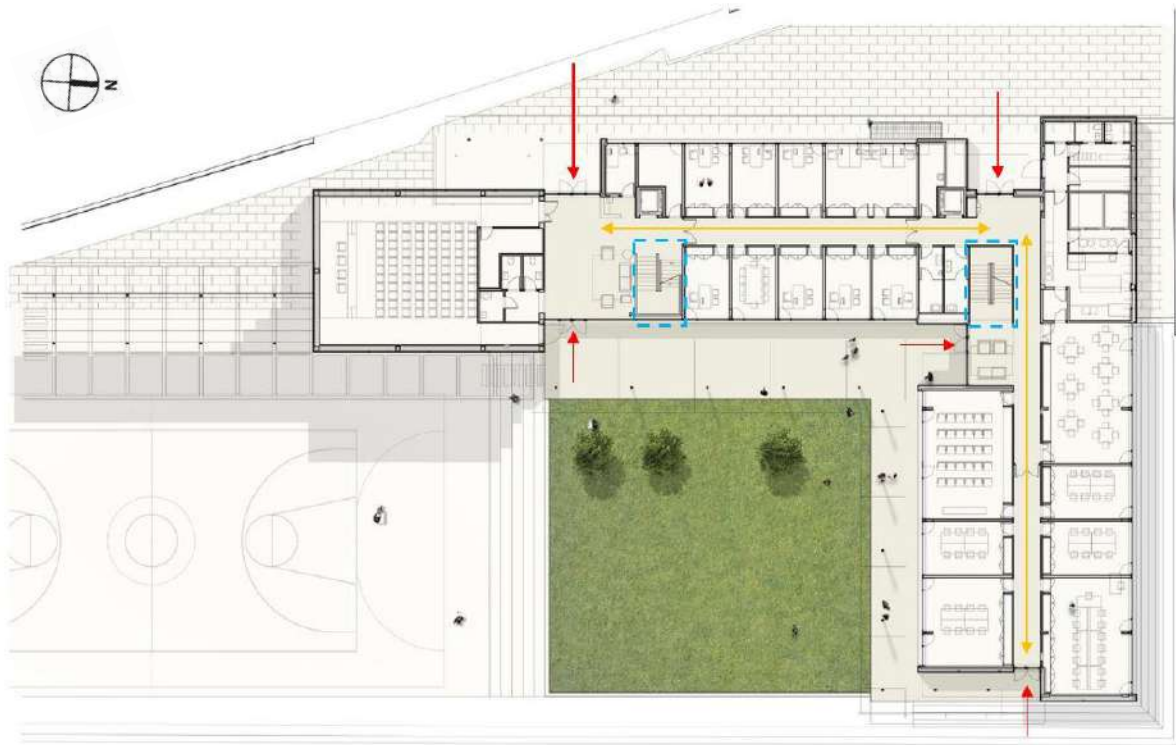


Fig. 4.2: Ground Floor Plan (Archdaily, 2012) (Adapted by Author)

As shown above, vertical circulation takes place along two long axes created with the aim of providing a secluded courtyard. Vertical circulation in the form of two staircases are placed on either end of the western corridor that houses most of the admin and treatment facilities. One can also enter the buildings near these staircases via either the main entrance on the South Western corner or the entrance exclusively for stay in patients located at the North Western side. As depicted in the image below, the main entrance is not very pronounced due to the fact that the building is so internally focused, however this does subtract from the buildings curb appeal and does not instill a welcoming feeling.



Fig. 4.3: Proyecto Hombre Entrance (Archello, 2012)

Services

The majority of services are confined to ground floor with the exclusion of the residential ablutions. There are eight bathrooms in the western wing of the ground floor, of which three conform to South African standards for bathrooms that are accessible to persons with disabilities. They comply with the 1,8 x 1,8m minimum dimensions and their doors open outward as depicted in the image below.

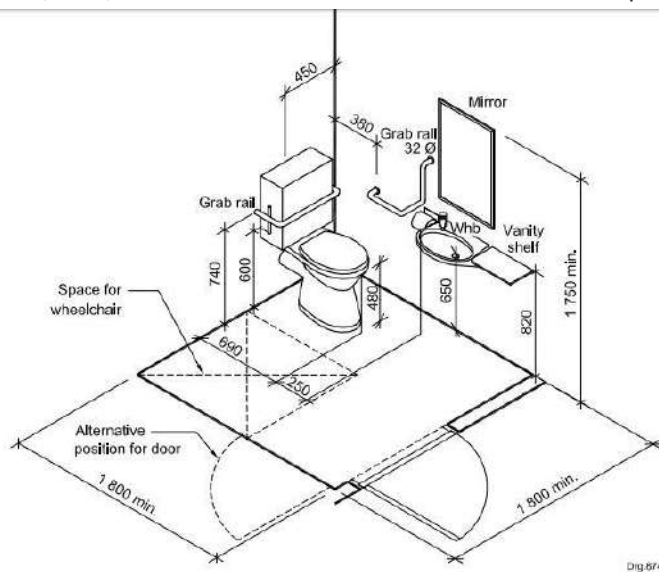


Fig 4.4: Bathroom for persons with disabilities (SANS, 2011)

Site and Accessibility

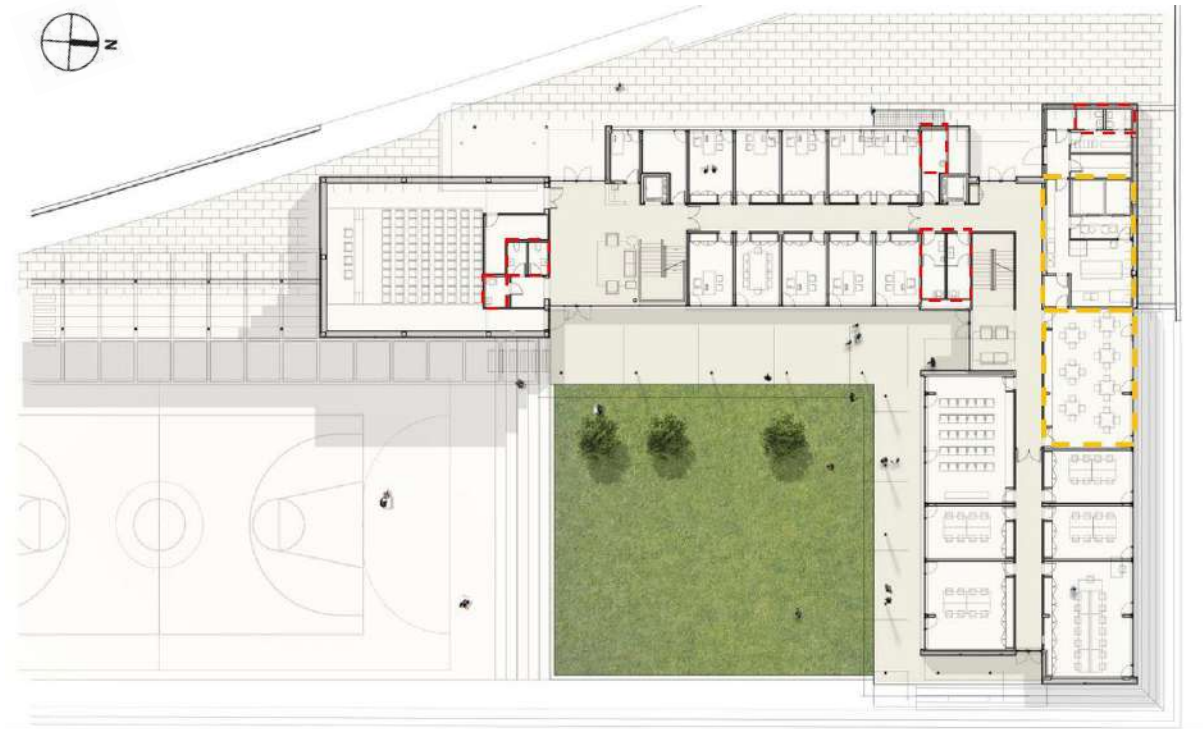


Fig. 4.5: Ground Floor Plan (Archdaily, 2012) (Adapted by Author)

As shown in the figure above, the food preparation and dining facilities are also on ground floor in the northern wing right underneath the bedrooms. Parking is located on the southernmost side of the site but is also supplemented by public parking on the side of the street. From the parking throughout the whole ground floor there are no drastic level changes making almost all of the functions except for the residential and exercise facilities accessible to all. The image below illustrates that the architects actually quite successfully used these few level changes to create more privacy for these functions that require a bit more separation. The isolation of these spaces, although only vertically removed due to site constraints, are still very relevant to suitable organisation of spaces for a site with more room to create distanced privacy.



Fig. 4.6: East Elevation (Archdaily, 2012) (Adapted by Author)

Form and Function

The architects tried to create a space focused on the individual but in their attempt to accommodate and shelter the individual the building harshly shuns the public. The project has a very clean appearance since the creators envisioned a “serine” space, however I am of the opinion that the word sterile would be more fitting. The cold detached nature of this building is part and parcel of the motivation to create a more humane, nature emplaced treatment centre.



Fig. 4.7: Proyecto Hombre Conference Room (Archello, 2012)

Conclusion

The project is an ideal example of a suitable program with similar aims and the organisation of public and private spaces is very successful. On the other hand, though the cold aesthetics perfectly exposes the shortfall of modern healthcare facilities and their lack of care for the individual.

Tree House

Constantia, Western Cape,
South Africa

Malan Vorster Architecture Interior
Design (Morphology)

Informs local materials and contraction
methods



Fig 4.18 Tree House in context (Letch, 2017)

Introduction

Tree House is a small 117m residential unit in constantia situated on a site where Malan and Foster have previously been commissioned to work on a collection of buildings tailored to resemble a contemporary take on the traditional Cape Werf (ArchDaily, 2017). The buildings appearance is largely inspired by the natural greenery that envelops it.

Spatial Engagement

The composition of pure geometric masses was derived from the works of Horace Gifford and Kengo Kuma as well as Louis Khan while the detail are reminiscent of Carlos Scarpa (Malan Vorster, 2017). A central square is subject to directionality and is thus used to orientate the occupant northward as depicted in Fig: 4.19 below. The circular shapes however, are free from directional influence and accommodate to the surrounding natural environment (World Architecture, 2019). The verticality of the structure also affords residents further views from between the trees.

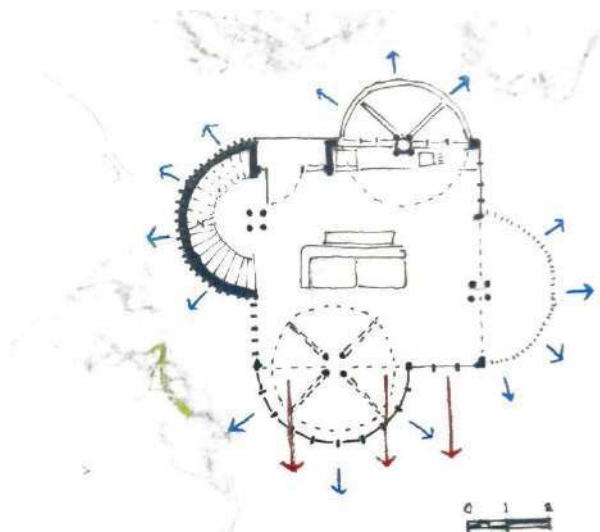


Fig 4.19 Directionality on First Floor Plan (Author, 2020)

Materials

The building is placed lightly on the ground by the use of four round **Corten** steel columns suspending the bulk of the structure above ground similar single trunks carrying entire trees. These four columns as well as the circular steel framework upon which the timber is mounted are constructed by laser cut **Corten** steel folded into the desired shapes (Dezeen, 2017). Timber floors supported by exposed beams resembling tree limbs are then constructed on the steel frame as seen in fig: 4.19 below (Malan Vorster, 2017). The timber cladding consists of Western Red Cedar and are not treated with the intention that they age gracefully alongside the natural trees and begin to disappear into its surroundings (Malan Vorster, 2017).



Fig: 4.20 Interior branch-like structure (Letch, 2017).

Conclusion

Tree House is not only a wonderful example of how to sensitively place a building within the natural landscape but also how to appreciate it. The material usage provides a wonderful tactile atmosphere that praises its surroundings and the craftsmanship on display is marvellous. The application of Western Red Cedar is quite successful and can be ideal for use in my envisioned project.

Caracal Cabin

**Montagu, Western Cape,
South Africa**

Drew Architects (Morphology)

Informs local materials and contraction
methods



Fig: 4.21 Rendered Perspective (Drew Architects, 2020)

Introduction

Caracal Cabin is a three suite cabin located on the 175 hectare Cabine du Cap luxury “off the grid” retreat within the breath-taking Klein Karoo landscape (Cabine du Cap, 2020). The project faced the daunting task of situating a building on a mountain ridge to provide expansive views of the vast Landscape. Construction is currently still underway but due to the exiting nature of the project both architect and client have already produced a multitude of promotional material.

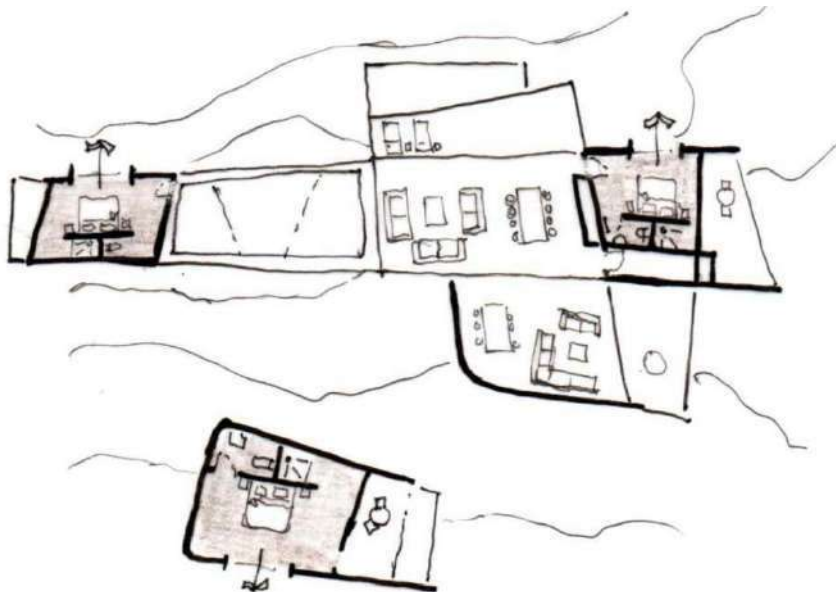


Fig: 4.22 Floor Plan (Author, 2020)

Formgiving

The restraint shown in the cabins form does not dominate the landscape yet there is beauty in the elegant rectilinear shape slightly tapering to the west as shown in Fig: 4.22 above. The suites are connected by a series of stepped platforms creating a wonderful vantage point from which to experience the surrounding mountains. Engagement with the landscape is further exemplified in Fig 4.24 that depicts a bay window which is present in all of the suites, adorning the sculptural surroundings.



Fig: 4.23 Patio and Pool (Drew Architects, 2020)



Fig: 4.24 Bay Window (Drew Architects, 2020)

Structure and Materials

To deal with the tricky undulating terrain the building was raised above it by a series of (IPE) section columns mounted on concrete stub columns. These steel sections were further used to create the basic structure and where the span became too large for the IPE beams to span lightweight steel trusses were used, as seen in figure 4.23 below. The rudimentary skeleton is then braced by hollow rectangular steel sections to accommodate windows and then filled in with standard SA Pine. The skin of the building consists of Plywood on the interior while the exterior is clad with Siberian Larch to weather the conditions (Cabine du Cap, 2020).

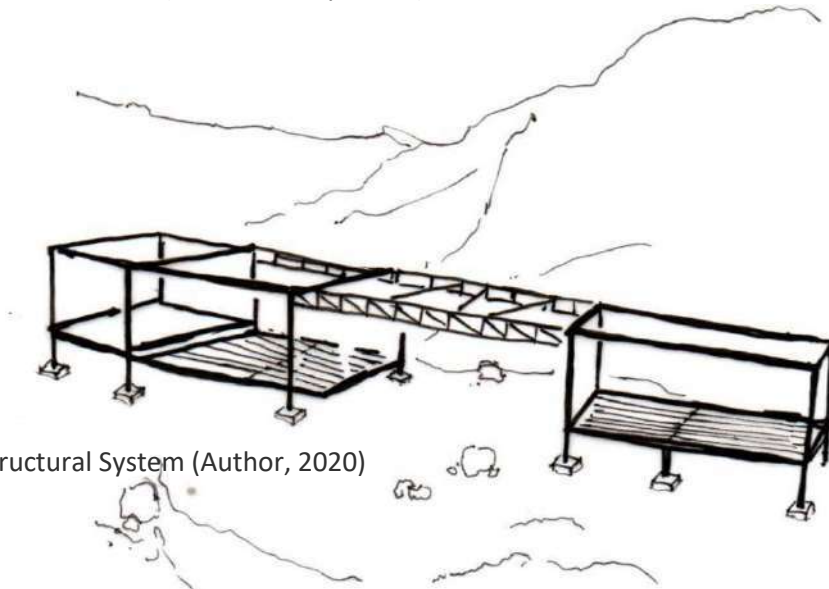


Fig: 4.25 Structural System (Author, 2020)

The timber infill is not only light and easily built on sight but also allows for easy addition of insulation within the panels. Another advantage to this construction method is that the timber provides structural support and rigidity to a frame without cross bracing.



Fig: 4.25 Structure (Drew Architects, 2020)



Fig: 4.25 Infill (Drew Architects, 2020)

Conclusion

The Structure is cost effective and easily assembled on sight without the need for extremely specialised construction workers. The frame is however not strong enough to cover two or three stories as is the case in my proposed project so the steel profiles will have to be bulked up.

Bloemcare Psychiatric Hospital

**Bloemfontein, Free State,
South Africa**

(Topology / Typology)

Informs typical functions,



Fig: 4.21 Bloemcare approach

Introduction

Bloemcare is a premier psychiatric hospital located in the Langenhoven Park suburb only a 3km drive from the proposed site for the proposed new Police Trauma Centre which does not aim to replace but rather supplement the existing facility.

Facilities

The hospital consists of 13 consultation rooms occupied by psychiatrists and psychologists and 7 for group therapy spaces. It can accommodate a total of 116 patients and provides care for any mentally distressed citizens in Bloemfontein. The consultation and group therapy rooms are thus approximately 10, and 5% of the maximum capacity (11.2% consultation; 6.03% group therapy).

Thus, by relating that back to the estimated capacity of the proposed trauma centre is suggests that 5 consultation and 2-3 group therapy rooms are required to accommodate 50 people at any single point in time.



Fig: 4.22 Group therapy (Bloemcare, 2020)



Fig: 4.23 Bloemcare Lounge (Bloemcare, 2020)

Unfortunately, Bloemcare is a prime example of the current stale clinical conditions of modern healthcare as it discards the valuable healing component of nature (which is not easily monetised). The concept of quantity over quality is employed to maximise profits whereas a governmental facility not dependant on funding from its clients is rather encouraged by effective results, rehabilitating their “assets” more efficiently. This leads to the conclusion that a less densely occupied site providing more specialised and biophilic aided therapy would be preferable.



Fig: 4.24 Clinical Accommodations (Profinder, 2020)

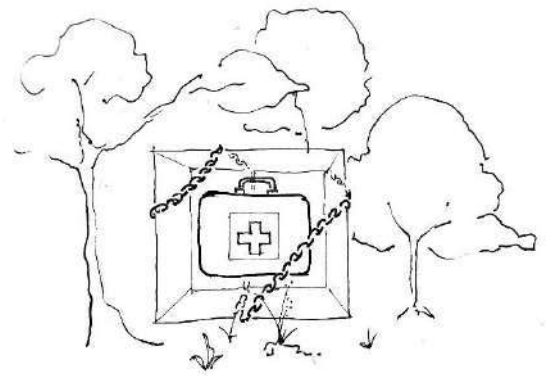


Fig: 4.25 Isolation of Healthcare (Author 2020)

Conclusion

Bloemcare is crucial in establishing what facilities are required but serves better as an example of issues to remedy in the care of the psyche rather than a guide in execution. By catering to a smaller clientele, it is possible to provide a more beneficial setting for the treatment of trauma and stress.



Chapter 5

Theoretical Consideration

Introduction

The police force fulfils its role as buffer selflessly protecting communities from undesirable elements that might seek to jeopardise the harmony within these very societal compositions. Such valorous acts are however not without cost. By constantly being exposed to the darkest tendencies of society and witnessing the worst we are capable of these very protectors become the vulnerable ones. Not only do these public servants bare a psychological burden but physiological wounds as well. The Performative New Materialist approach of Karen Barad in *Meating The Universe Halfway* (2007) is used as a tool to evaluate these interrelational connections between physio- and psychological stresses faced by law enforcement officers. Barad's arguments questions the binary separation of cognitive experiences (psychological) apart from embodied experiences (physiological), blurring the distinction between the two and relinking the inter-responsive nature between mind and body.

In the pursuit of a physiological remedy a biophilic approach to healing spaces is explored once again with reference to an inter-connected Performative New Materialist framework. Whilst the psychological aspect is best addressed through treatment, New Materialist and Biophilic supporters (Gamble, Hanan, & Nail, 2019), (Ulrich, 1984) hold that aspects such as location, setting and experiential context can strengthen the effectiveness thereof. Tidball's (2012) views on cultivating resilience also contributes to a preventative treatment of the psyche.

Impact on Police

Due to the persistent nature of the harmful experiences faced by police it becomes apparent that police officers gradually become hardened by the work they do. Our guardians have adopted a coping mechanism that is partially successful at mitigating the initial effects of trauma, that is, at face value at least. For accurate quantitative statistics pertaining to this phenomenon an Australian study on national mental health and wellbeing of police and emergency services, "Answering the Call" will be used (Beyond Blue, 2018). Although it is not regionally relevant, it is one of the most comprehensive studies available since more than 21 000 current and former employees took part. The study is ideal since it also compares other high stress occupations to the police and the findings are generally in agreement with a similar South African study (Boshoff, Strydom, & Botha, 2015) that criticises the nonchalance with which police trauma is treated.

The shocking truth is that 39.4% (which is highest of the three groups surveyed) of Australian Police servants have been diagnosed with a mental health condition, such as anxiety, depression or PTSD, by a doctor or mental health professional (Beyond Blue, 2018). In a similar British study, the Warwick-Edinburgh Mental Wellbeing Scale was used to determine mental health (Scholes, Boniface, & Fat, 2016). The test was calibrated to accommodate 15% of the population in the low mental wellbeing bracket and 15% in the high mental wellbeing portion. However when law enforcement officers were tested only 6% of them placed in the high wellbeing zone whilst 32% of them were classified as having low mental wellbeing (Scholes, Boniface, & Fat, 2016). Furthermore 11% of Australian police suffer from Post Traumatic Stress Disorder (PTSD) in comparison to 8 and 9 percent of F&R and ambulance services (Beyond Blue, 2018).

The hardened and enigmatic behaviour of police is further clarified by the fact that 68% of the Australian public show signs of low psychological distress compared to only 39% of police members (Beyond Blue, 2018). On the other end of the scale however only 4% of the population experience high psychological stress while 10% of police deal with these levels of stress. It is not absurd to find that 41% of police have admitted to being deeply affected by a traumatic event at work, with ambulance and F&R services sitting at 38.1%. However in contrast 19.6% of them reported such an event occurring away from work whilst only 17.1% of police experienced this (Beyond Blue, 2018). This proves that even though law enforcement officers are dulled to stressful events during their day to day lives they can't escape the extreme horrors they are exposed to in their line of work.

A disheartening statistic indicates that 12% of police never or seldom consider their work to be meaningful whilst Fire and Rescue along with ambulance only show figures of 4 and 5% respectively (Beyond Blue, 2018). The number of police force members that consider suicide is more than twice as high as the civilian standard, however, when it comes to actual attempts civilians are twice as likely to attempt suicide. All of these statistics contribute to an image of a police force that is systematically worn down and tormented thus becoming tempered to tolerate these traumatic experiences without necessarily resolving them.

A similar study in South Africa titled *An assessment of the need of police officials for trauma intervention programmes - a qualitative approach* (Boshoff, Strydom, & Botha, 2015) found that in South Africa such traumatic experiences often goes unacknowledged by management as well as the community at large. Due to the fact that stress is such a regular occupational hazard for police work it is often hard to grasp the psychological and physiological effects are much more complicated than other professions (Boshoff, Strydom, & Botha, 2015). The study also mentioned Bonanno, Westphal and Mancini's findings that if the psychological damage brought on by trauma is not addressed it could bring on serious health complications (Bonanno, Westphal, & Mancini, 2012, p. 190).

All of the above information makes it clear that the state of police officials' mental health is not paid close enough attention to which conditions the individual to adapt and form coping mechanisms of their own. Unfortunately, these studies show that those are often not healthy, not to mention insufficient. The aim of the proposed institution is to educate officers on healthy tools to address these ailments yet the callus nature of the patients makes it hard to do successfully.

Nick Couldry's (Couldry, 2003, p. 9) views on anthropological rituals could uncover possible ways to surpass this. The three rituals he discussed are:

Habitual Actions - Repeated patterns not always connected to particular meaning, as work has become for some officers.

Formalised Actions - Repeated meaningful patterns such as the maintenance of mental health

Actions involving transcendent values - Direct contact with the metaphysical, often religious, in this case nature.

These transcendent rituals can create an escape from the unsympathetic reality that can be a hindrance to the healing process. Thus, by creating a temporary escape more substantial progress can be made.

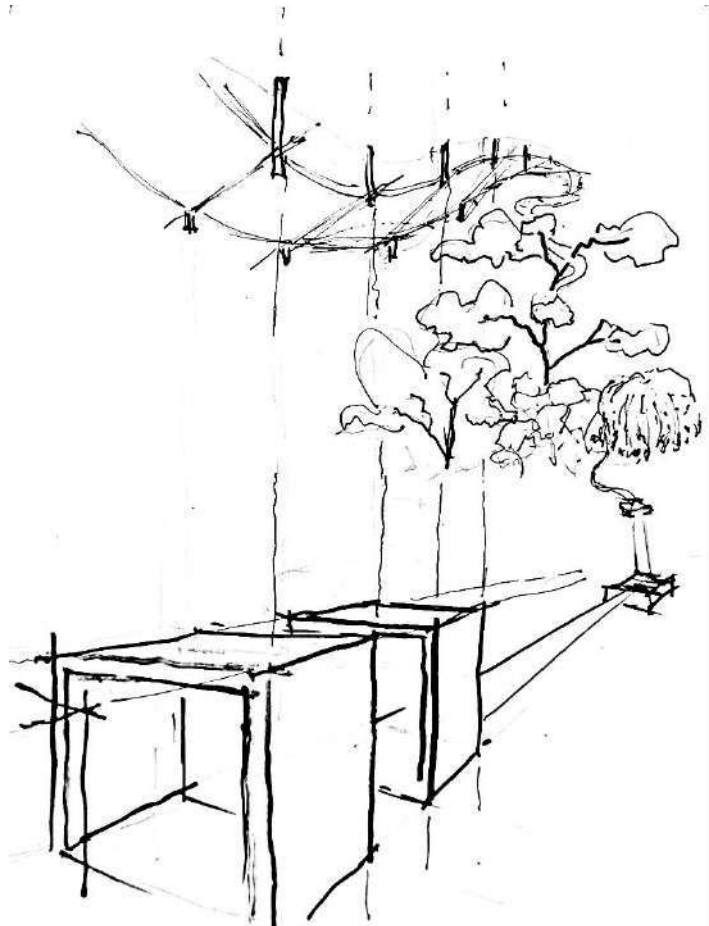


Fig. 5.1 Escape to healing (Author, 2020)

The Performance of Physiological and Psychological Health

In an investigation of 62 PTSD studies on the correlation between PTSD and physical health as well as quality of life there was conclusive proof that psychological strain does influence physical well-being. The study found that people suffering from PTSD were more prone to pain, cardiovascular and gastro intestinal issues along with heightened general health complaints (Pacella, Hruska, & Delahanty, 2012). This relationship between the unseen emotional side and the tangible physical state is an interdependent one where, improvement or decay on either side will probably lead to a similar movement on the other side. Thus, we find that trauma is not only retained as disembodied consciousness but also in our physical bodies and actions.

This bilateral relationship is aligned perfectly with the interdependent interactions that constitutes the nature of all matter according to a Performative New Materialist approach. This notion can be effectively summarised with the view of Gamble that *“Entities simply do not determinately exist apart from the particular, physical measuring apparatuses that constitute them one way to the exclusion of others.”* (Gamble, Hanan, & Nail, 2019). Barad goes further to propose that in reality no observations ever only disclose pre-existing properties or values but rather inevitably has a role in constituting them (Barad, 2007). One of the main focuses of this particular branch of theoretical discourse is to problematise the ontological and epistemological division present in the majority of earlier works. It refuses to view these as two independent and isolated concepts but rather “co-implicated, mutually constituting” ones (Gamble, Hanan, & Nail, 2019).

Barad argues that humans can never truly objectively view the universe as if separate from it. Her work comes to the conclusion that humans are always partly constituted by the things they observe while simultaneously constituting it in turn (Barad, 2007). When looking at the way in which humans inhabit the earth and shape our environments, by which we have already been moulded, one can start to notice the clear resemblance between such theory and the practical way in which we dwell. She goes further to stipulate that no property of any thing that is discernible, including physical features, thought and agency, completely precedes or remains entirely unchanged by encounters with other things.



Fig. 5.2 Metaphysical performance of physical material (Author, 2020)

When taking into account the constant adaptation and transformation of matter it can be hard to pin down, however Barad simply says matter is what it does, or how it moves (Barad, 2007). This indeterminate view of matter means that there are no ultimate, unchanging possibilities, thus diverging from anthropocentric presumptions of the meaningless and passive state of matter. This view of intra-active performances however, can not be criticized for the same “naïve realism” of the Vital Materialism that Bennett proposes that effectively eradicates the organic and inorganic distinction (Gamble, Hanan, & Nail, 2019). If one is to accept this doctrine, then the possibilities and probabilities are constantly reconfigured. This suggests that the architecture facilitating and participating in our interactions with nature should be able to adapt as well.

Biophilic Performances

Lewis and Sturgill (1979) referred to the duality of our existence in two worlds where: *“within the envelope of our skin is a biological entity which, through evolution, has been tuned for survival in natural environments ... [yet] around us lies not the green world in which we learned to survive and carry forward our species, but rather a world of our own creation, built of inert materials.”* This statement can be seen as a summary of Performative New Materialism in action. Although our architecture has partially been developed by our interaction with the natural environment it has unfortunately become something that obstructs all exposure to nature., some at the expense of natural interaction.



Fig. 5.3 Human-Nature (Author, 2019)

The aim of this research is not to propose that we should start artificially mimicking nature, but rather to create an unobstructed platform that facilitates interactions with nature. Additionally, the nuanced influences that led to the development of contemporary architecture should not be thrown by the wayside, but reconfigured once more to accommodate the biological environment.

The positive influence of nature on the individual can be illustrated by an experiment by Mind where 71% of people reported feeling less depressed after a green walk, and an astonishing 94% claiming that outdoor exercise improved their mental health. Although these results can be seen as anecdotal due to the fact that they are only opinions, it is important to note that even merely the perception of healing can prove crucial to patients suffering from psychological distress. Luckily, we do not have to rely on perceptions and opinions alone since there is tangible, quantifiable information supporting this hypothesis.

In his extensive study of patients at the Pennsylvania hospital between 1972 and 1981 Dr Roger Ulrich investigated the difference in health between patients with a view of nature and patients with a view of the brick wall of a neighbouring building. The results clearly indicated that patients with a view of nature not only had significantly shorter postoperative staying times but requested less pain medication and received fewer negative behavioural notations from nurses (Ulrich, 1984). In a Later study he also found that after test subjects were shown a stressful video ones that were shown natural environments experienced faster and more complete recovery from the stress than those who were shown an urban environment afterwards (Ulrich, 1991).

Cultivating Resilience

K.G. Tidball believes that nature can not only play a reparative role but also a proactive or preventative one by cultivating resilience to trauma. In his article on urgent biophilia he claims that:

“The affinity we humans have for the rest of nature, the process of remembering that affinity and the urge to express it through creation of restorative environments, which may also restore or increase ecological function, may confer resilience across multiple scales.” (Tidball, 2012)

He goes on to explain that interactions between humans and nature represent a series of adaptations we have already made to survive hazards or disasters. Interestingly though he does not attribute all the beneficial attributes of nature to being in the presence thereof but in actively caring for and cultivating it.

This sentiment is shared by others like Templeton that believes a person can simply be placed in the perfect environment and find bliss but the act of caring, and taking care of, your environment actually contributes to achieving prosperity (Templeton, 2019). This is echoed by Fredrickson in *What Good are Positive Emotions in Crisis?* That not only supports Tidball by saying that positive emotions act as a buffer for resilient people but also ties into Templeton’s theory. In his study of emotions and resilience after the 9/11 terrorist attacks he concluded that:

“efforts to cultivate and nurture positive emotions in the aftermath of crisis pay off both in the short-term, by improving subjective experiences, undoing physiological arousal, and enhancing broad-minded coping, and in the long-term, by minimizing depression and building enduring resources, the hallmark of thriving.” (Fredrickson, 2003)

Comforting Spaces

Something as simple as the location of your site can already set the tone for healing and comfort before a single building is constructed. In *Genius Loci* Christian Norberg-Schulz suggested that classical landscapes (like Greece or Bloemfontein) fostered a “human fellowship” whilst romantic landscapes intimately relate to the earth (Norberg-Schulz, 1991). The meaningful order created in classical landscapes should prevent the individual to be swallowed by the totality of a desert landscape nor cause them to seek the intimate shelter of the forest (Nes, 2003). However the typical mode of inhabitation of classical landscapes encourage “true gathering” as opposed to romantic landscapes that become refuge (Norberg-Schulz, 1991). The latter form of dwelling would be beneficial to a healing space whilst the classical context could cultivate resilience through a sense of community.

Although a general connection with nature and the need for adaptability have all but become prerequisites to the design, there are still some traits that inspire comfort. Running water in any form is ideal for spaces intended for rest, healing and contemplation according to *Healing Gardens: Therapeutic Benefits and Design Recommendations* (Barnes & Marcus, 1999). Fortunately, there are a series of streams flowing through the site but they are however seasonal so it might be beneficial to incorporate more permanent sources of water on the site. Hertzberger mentions the kangaroo ideal when talking about comforting spaces and compares them to kangaroos and the pouches were

joeys' shelter (Hertzberger, 2008). This suggests that these spaces should be protected rather than completely enclosed thus creating a vantage point from where one can venture out and explore. Bachelard supports such notions by saying: "The exterior spectacle helps intimate grandeur unfold." (Bachelard, 1969). Here he mentions how the exterior world can trigger thoughts memories and emotions to come forward. He however says that this grandeur does not stem from the witnessed spectacle but rather draws from "the unfathomable depths of vast thought" (Bachelard, 1969). This once again ties in with the work of Tidball that not only praises the presence of nature but the memories and creativity that it inspires.

Design implications

The celebration of the natural performance has been quite successfully handled by Glenn Murcutt for the Bowali Visitor Centre Kakadu National Park. By simply raising the structure above the billabong, one is placed on a viewing platform thus exalting the natural surroundings and making them the main focus. By placing occupants above natural ground level their gaze is often drawn down whilst at the same time placing low hanging tree branches at eye level encouraging the viewer to appreciate their intricacies.

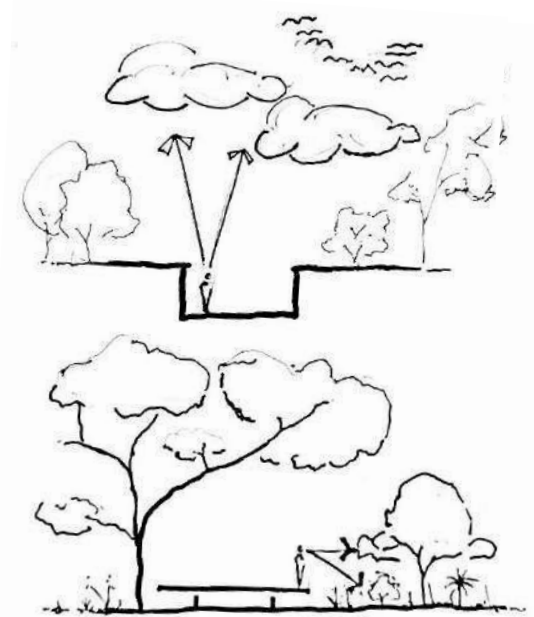


Fig. 5.4 Directing Focus (Author, 2020)

This method of place making also allows one to define a space without closing down to nature, similarly a design reliant on biophilic healing should then start dissolving the boundaries between inside and outside. An argument can however be made for a centre dealing with the sensitivity and fragility of trauma to incorporate more thresholds creating the illusion of separation and seclusion. It then becomes clear that a high frequency of thresholds are needed to slowly assure patients that it is safe to lower their guard, with the only condition being that it does not separate them from nature.

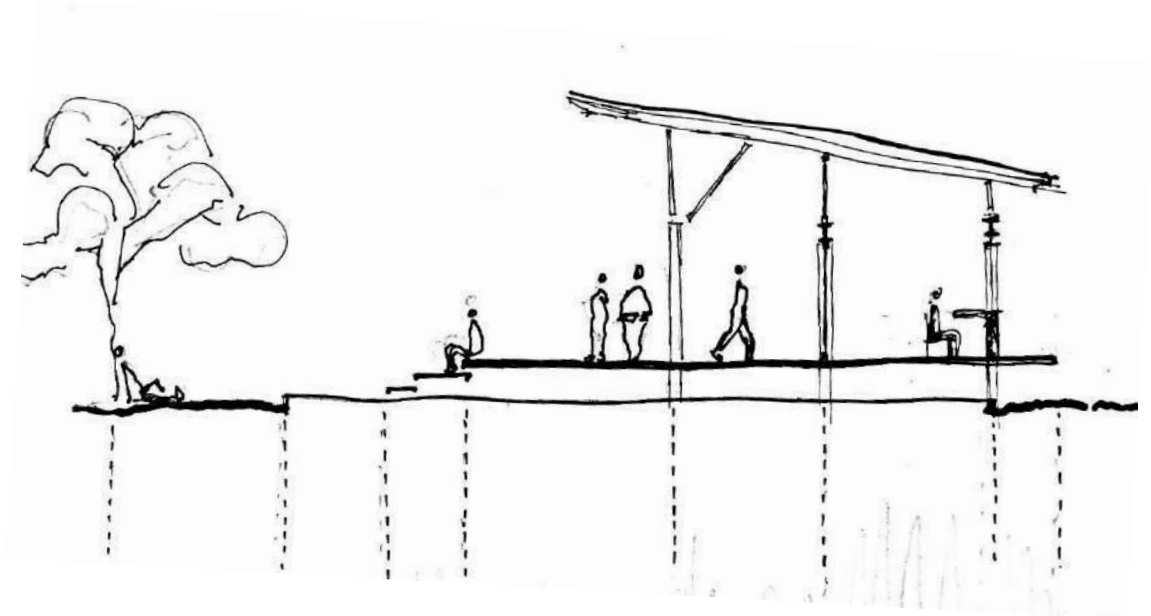


Fig. 5.5 Softened thresholds (Author 2020)

To emphasize the shift of mentality and vulnerability when entering therapy spaces the most substantial threshold separates these spaces in the form of a rammed earth wall. The thick, heavy wall becomes a porthole into another space, where one is welcomed with a large wall of nature on the other side. The compacted soil also brings patients back into contact with the earth from which they have been removed up to this point as a grounding tool.

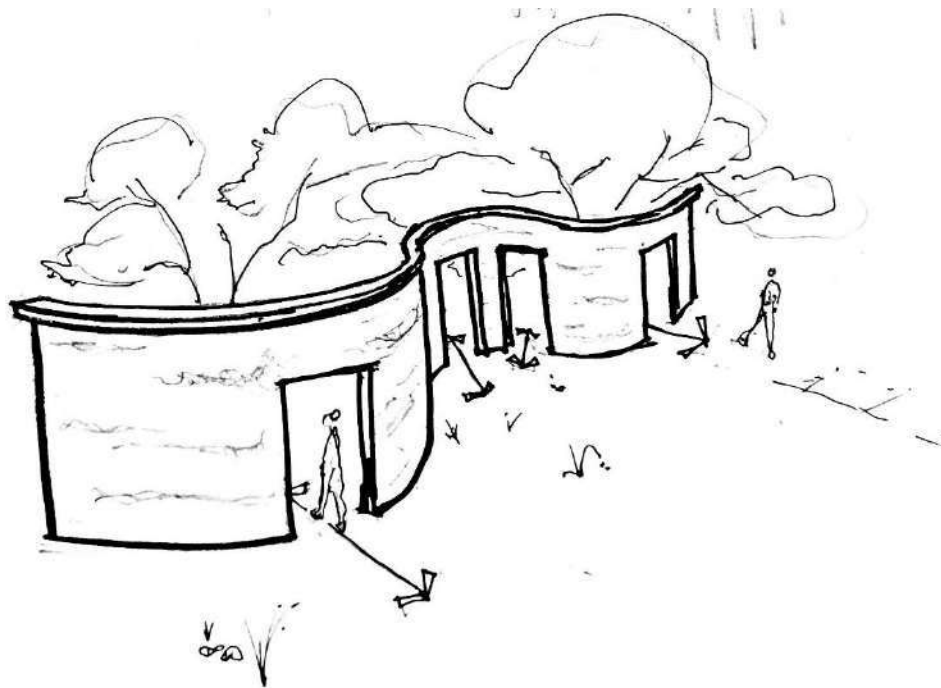


Fig. 5.6 Defined thresholds (Author 2020)

Conclusion

The effectiveness of nature in the healing process is not only proven factually in its proficiency at aiding physiological wellness but also in the restorative and precautionary psychological benefits. Furthermore, it forms part of the ever changing performance in which we participate and as such demands similarly adaptive architecture that can accommodate us in the specific set of influences present throughout the day. As mentioned previously this does not call for bio mimicry at expense of cultural and traditional developments in the built environment, only a receptiveness and accommodation of nature.

If these guidelines are implemented successfully the project should be able to accommodate nooks and crannies where traumatised law enforcers can soothe their interwoven physio and psychological stress from the comfort of nature.



Chapter 6

Choreographing Human Interaction on Site

Alterations to site

The site is so unique within its context that it was all but inevitable to me that a likeminded individual would discover the same affinity to it and aim at sharing it with others. This has since proven to be true since the owners have since started developing the site in the second half of the year.

This is made crystal clear in the way which the current owners scarred the landscape in July by diverting the stream, that forms part of the lifeblood of the site, around it. The property owners endeavoured to create a recreational facility with a pop-up coffee stall and a food truck with benches scattered throughout the wooded area. The venue opened in September 2020 and was so aptly named “INNI BOS”. The sad reality however is that the name could become shrouded in irony if the bos disappears.



Fig 6.1 Diverted stream (Author, 2020)

The “issue” that had to be taken care of was that the stream that leads into the site before filtering into the earth, creates a delta-like environment during periods of heavy rain which is less than ideal for human traffic. The simple solution to this problem however was to carve a new scar in the earth just before the stream enters the forest thus leading all that pesty water past the site. The ground that was carved out was dumped where the stream splits up into the site to push the stream further

back. Just for good measure some sand was trucked in for pathways to ensure that no occupants ever had to deal with the discomfort of moist soles.



Fig 6.2 Backfilled stream (Author, 2020)

The shame however is that the willows that came to call this site home are notoriously fond of water and only time will tell if they remain as well maintained without such a crucial component. The general health of the entire site comes into question when considering that not only will every single organism in that environment have to adapt to dryer conditions, but those that are unable to acclimate will die out. The loss of some of these older formative trees also means that they stop providing the smaller sub-habitat that makes it possible for countless other living things to thrive. The repercussions of such a cavalier could become far reaching and extremely detrimental to the environment.

The fact that such drastic measures were taken to address the water that is only present for less than half of the year also re-affirms the decision taken very early in the design process to raise the buildings and walkways above the ever changing terrain. Further reassurance comes from the complete coincidence that one of the first structures erected on site (a more permanent coffee shop) very closely resembles the structural approach that I have employed.

The new coffee shop is a 3x5m lightweight steel structure that is elevated by 75x75mm hot rolled square tubing mounted on concrete stub columns. The structure only touches the earth on its 4 corners thus minimising the disruption to the terrain and completely removing the need for elaborate water proofing in such a wet environment. By the owners own account the buildings outer appearance will be largely determined by monetary constraints and materials already available. The exterior will be clad in corrugated sheet metal already in their possession.



Fig 6.2 New coffee shop on site (Author, 2020)

The structure is as simple as it gets and is conceived through a purely functional approach to address the challenges humans face to inhabit these special pockets of nature. Currently the building is the perfect embodiment of how architecture shelters us from the environment but should more time, funds and care be included into the design process, it could become a tool that not only shelters but connects us to the landscape. Something as simple as a mono-pitched roof for instance provides a directionality to a space drawing the gaze outward whilst a pitched roof is internally focused and does not capitalise on the grandeur of the environment at its doorstep.

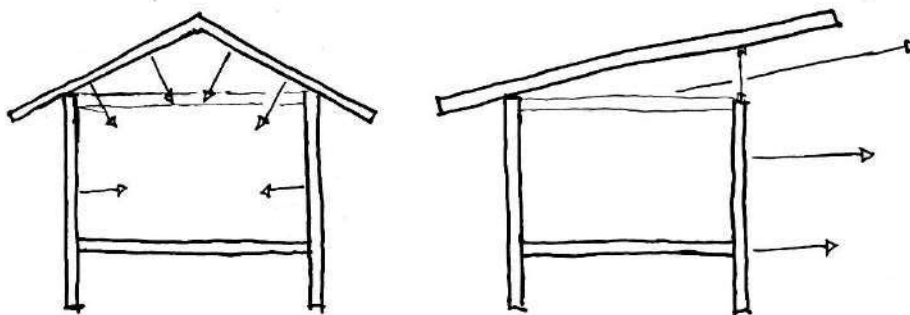


Fig 6.3 Interior and exterior focused spaces (Author, 2020)

Accommodating the site

One of the facets of this design process that has remained very close to my heart from the outset is an element of mutual care and respect fostered between the environment and its occupant. By taking a moment to become still and acclimatise to your surroundings, the forest around you starts to reveal new characteristics of itself to you. Only once the chirping birds resume their playful antics and you become aware of the gentle breeze caressing the trees does the true healing power of nature become fulfilled. This relationship is one that we as humans sometimes neglect in order to solve simple obstacles without taking the effort to do so without harming the environment.

In striving to inhabit these extraordinary spaces it is all but impossible to make it not only suitable but comfortable to human presence without affecting them. Unfortunately, the construction process is one that requires a fair amount of substantial heavy lifting and hard impacting procedures. Instead of shying away from sturdy lasting structures for this reason I rather saw it as an opportunity to re-evaluate the assembly process of these individual components in a way that makes them part of the performance of caring as well.

A small consolation is that the works completed during the year gave me a very clear image of how human presence on the site can harm it and inspired me to create certain pathways and storage areas to which construction workers should be confined. The harm to the grassy areas and small shrubs around the site were extensive after the trucks had passed through but can quickly recover within a single year. Should the larger trees be harmed however the repercussions will be of a far more permanent nature. I thus identified three entry points into the forest whilst the majority of traffic then occurs around the periphery of the site. Material storage facilities will then be located outside each of these entry points with only a single central storage yard provided on a grassy clearing to minimise the amount of times materials have to be trafficked through the site.

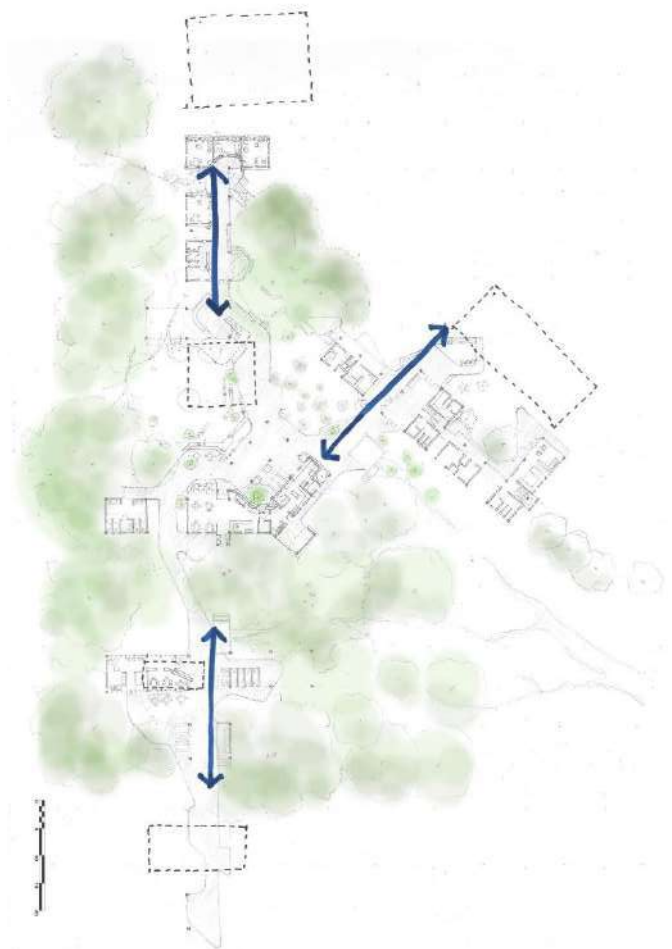


Fig 6.3 Site Access (Author, 2020)

Once the transportation and storage of materials are resolved the issue of how to join them together in the least intrusive manner still remains. Steel sections can be notoriously heavy and difficult to manoeuvre without the excessive use of cranes that can be quite destructive in an environment like this. However, these steel columns and beams can each be brought together in a way that makes it possible for them to act pro-actively in aiding as unintrusive construction process as possible. The columns of single and double storey structures can thus be mounted on a pivot at the base of the stub columns and pulled upright via winches or small forklifts (or a combination of the two) when physical labour is insufficient. By minimising the need for cranes these individual elements no longer become purely passive objects dropped in but active participants in their own creation.

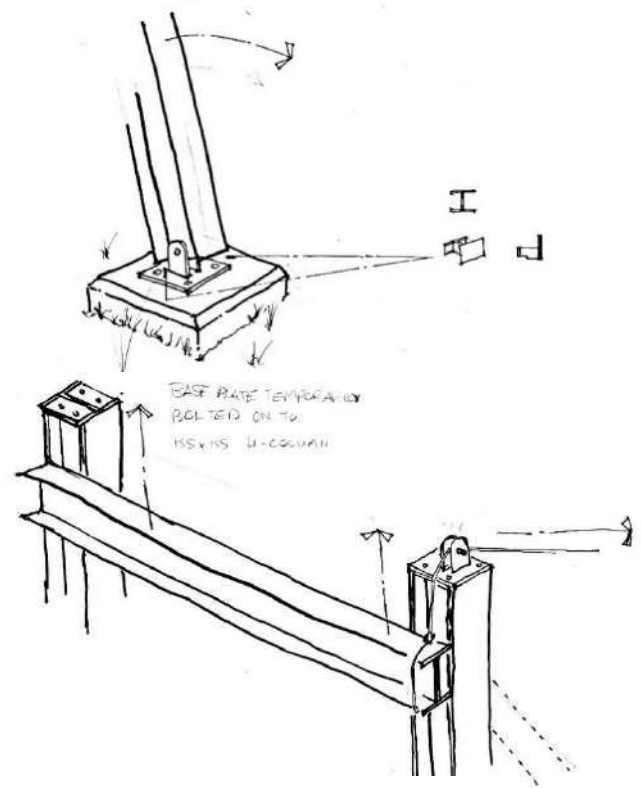


Fig 6.4: Column Assembly (Author, 2020)

Once the steel frame is assembled it creates a sturdy scaffold upon which the rest of the construction can be applied. The pivot points on which the timber roof trusses will be mounted to the steel beams can also act as pulleys via which the materials used to construct the roofs can be lifted up before being assembled. In so doing these parts not only participate in their own assembly but also assist in the joining of others to it, thus bringing the performance full circle and initiating co-dependence between all the parts of the whole. Only then is the facilitation of interaction that was initially envisioned between individual and environment become a theme drawn through from the buildings endorsement of nature, to the walkways binding buildings, and the environment shaping the walkways, down to the smallest constituent members in the form of column base plates aiding conservation.

By only using transient timber as a cladding fixed to much more enduring steel structures, one allows for the buildings to remain part of the temporal spectacle unfolding all around it whilst excluding the possibility of total decay in a relatively short timeframe. The rigidity of the steel framework ties back to not only the strict hierarchy of the police force but also the benefits of setting concrete personal principles that will not allow the individual to be pushed beyond the point of collapse. The perishable nature of timber however demands continual care and maintenance, which if done consistently is very successful, it also acts as a reminder of the attention and protection the surrounding environment requires. Similarly, the sustained endeavour to maintain healthy lifestyle can cultivate a happy and resilient person.

Orientation on Site

The approach to the SAPS Trauma Centre is warped diagonally and although the Bowali Visitor Centre is also approached diagonally out of reverence for sacred aboriginal sites it does not carry the same significance in South African culture. Rather it is born from the lay of the land as well as the simple task of disorientating the occupant.

The admin block is purposefully placed to act as a boundary to the site acting both as a tool to aid seclusion and creating a visual threshold that needs to be crossed in order to enter, thus further separating it from the outside world. The perpendicular approach to such a wall like element becomes very direct and clearly establishes the pathway that will be taken. The first doubt in this certainty is initiated when the stairs placing one on the walkway is jarringly different from the expected route. This seemingly random orientation is however the first clue to understanding the true order of the site as well since it is aligned with the prevailing axis within the site.

Navigating the admin block however is made very simple since the main circulation axis is depicted clearly in front of all the buildings ordered to tie into the rational nature of activities executed within. This same axis acts as a portal projected overhead, defining the threshold that signifies a move away from the everyday whilst still pointing directly to the healing space. Once you move thru this entryway however the disorientation takes full effect in the shape of the apparently haphazardly orientated walkway refusing to be confined to these definite directional axes although still being influenced by them. The intended route of travel toward the central communal space is still clear to the first time user but it disguises the alignment of spaces beyond the immediate focus. The kitchen and dining areas envelop the communal space as a rampart separating it from the residential area and also orientating visitors toward the therapy area.

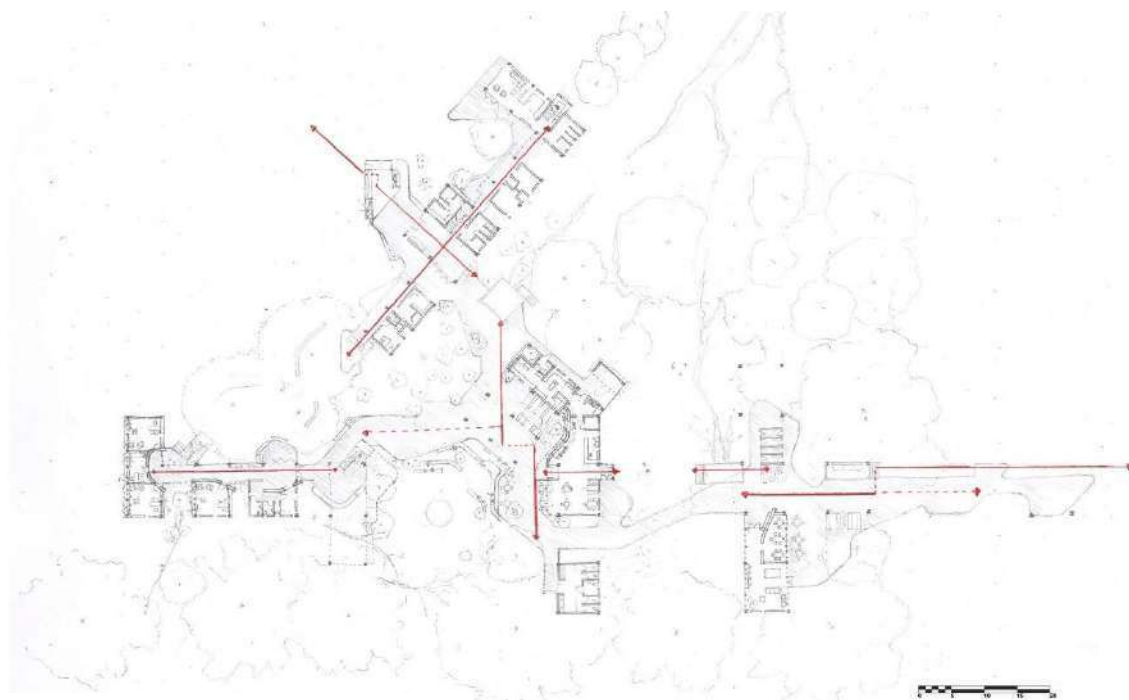


Fig 6.5: Site Axes (Author, 2020)

The many nooks, corners and alternating directions present in the walkway encourage occupants to meander through the site giving them time to absorb the richness of the natural environment around them instead of providing restrictive demarcated circulation spaces. All of these disorientation tools are meant to firstly create a feeling of being lost that not only is true to the way the site is experienced without architecture but also to further remove the clients from the milieu of their trauma. The occupant is however not left to fend for themselves since there is a very basic order to the structures that can easily be used as navigation tools once the user has acclimated to the site. By allowing the occupant to gain a general understanding of the layout on sit and making it familiar to them they can then attach more significance to this newly defined destination further isolating them from all other external (worldly) spaces.

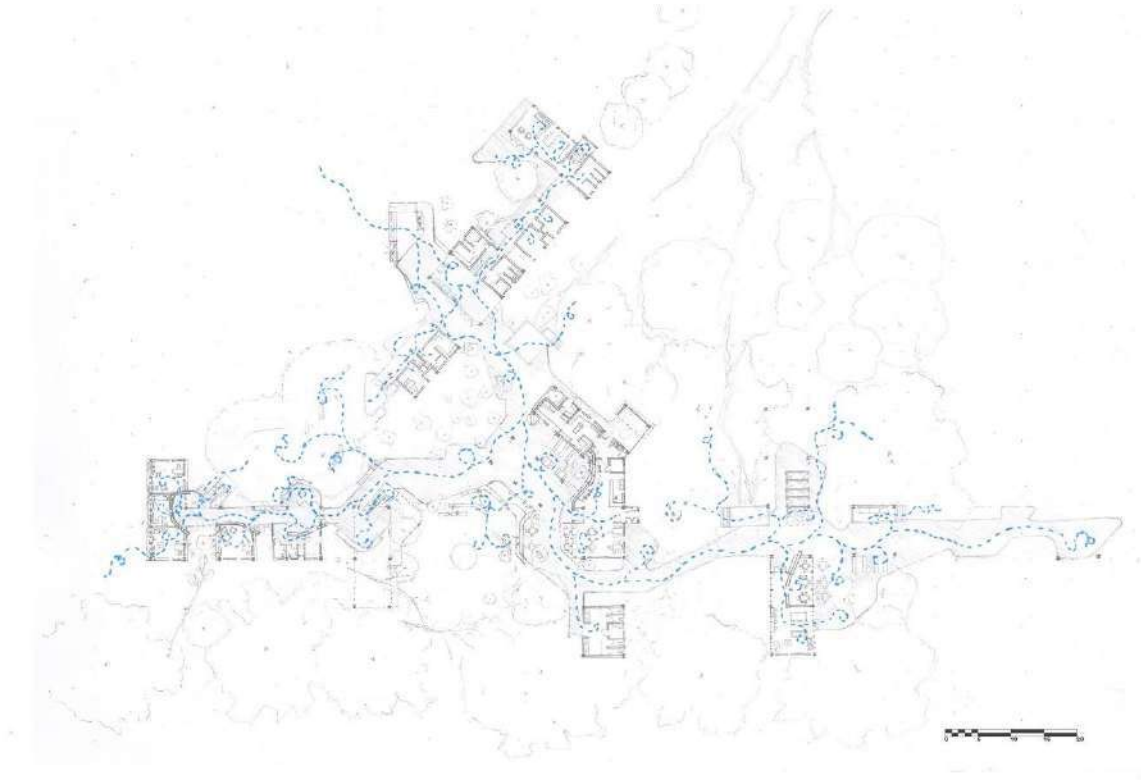


Fig 6.3: Meandering Pathways (Author, 2020)

Symbolic importance

The rhythmic element of these multiple repetitive shapes placed along the axes is symbolic of recurring nature of trauma faced by law enforcers. The added benefit of the two axes is that they both culminate in the therapy space as an encouragement to seek the necessary help that many of many blunted police officers believe to be unnecessary due to their lack of perspective. In contrast to the order and rationality of the structure, and strict police protocols, the dynamic walkway intertwined with these structures is symbolic of the multiple interactions that aid healing. The interaction between man and nature, interaction between fellow comrades and the interactions between buildings and the site.

Conclusion

The site itself is almost an oasis transporting you out of the expected Bloemfontein context and promoting a disconnection from stresses faced outside of it. Inspired by this the architecture attempts to capitalise on and enhance this natural phenomena in order to create a space where traumatised SAPS members can feel comfortable enough to lower the tempered guard they have constructed to cope with the hostile environment of the outside world.



Chapter 7

Design Development

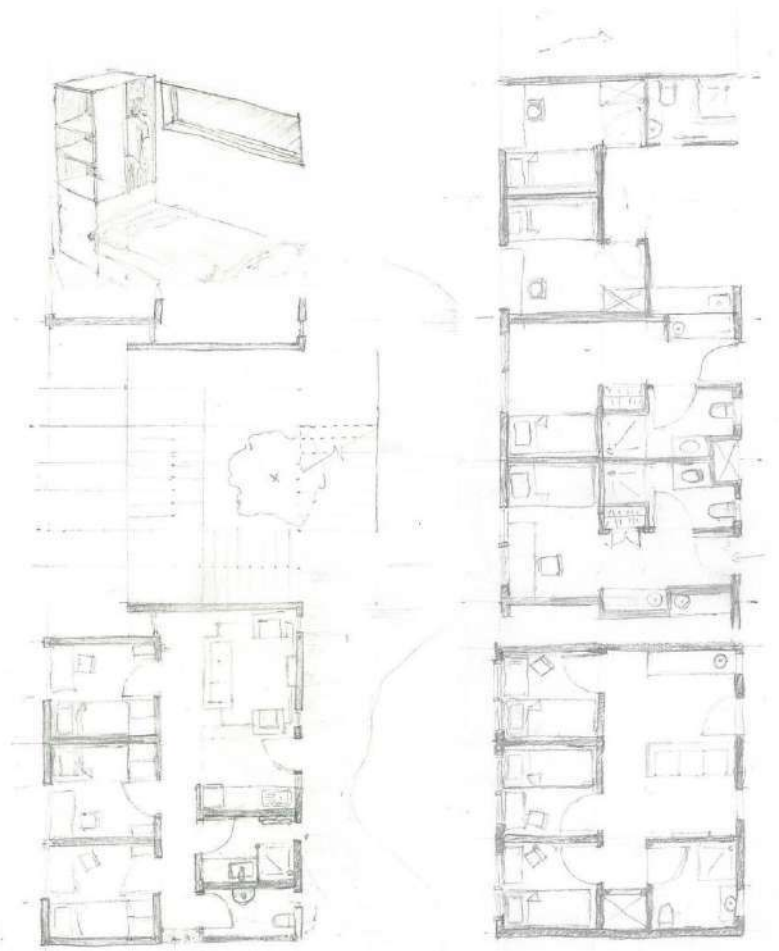




Ground Floor Plan
Scale 1:500

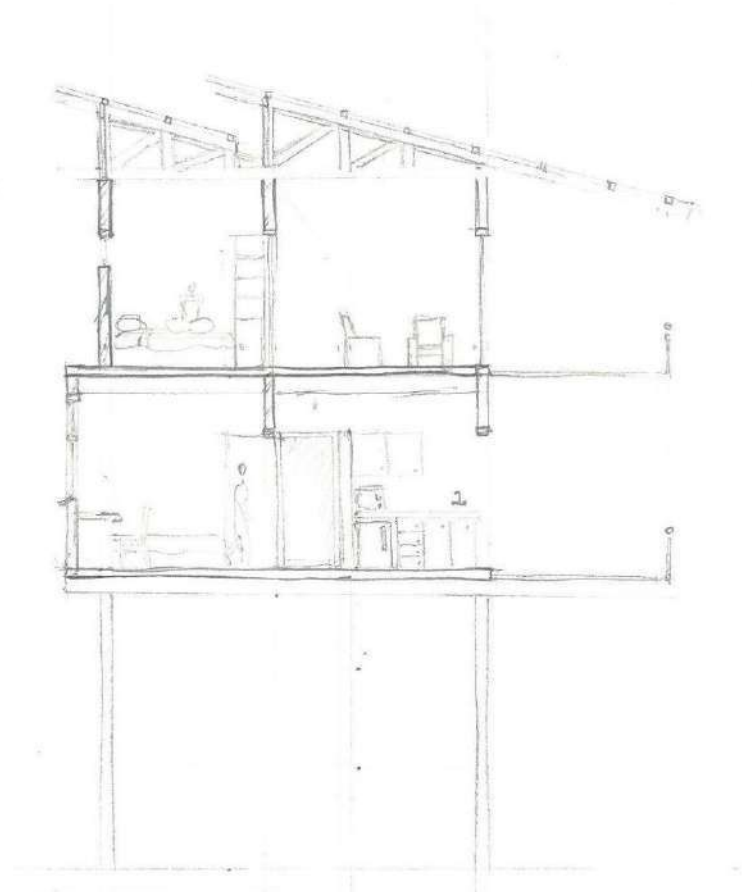
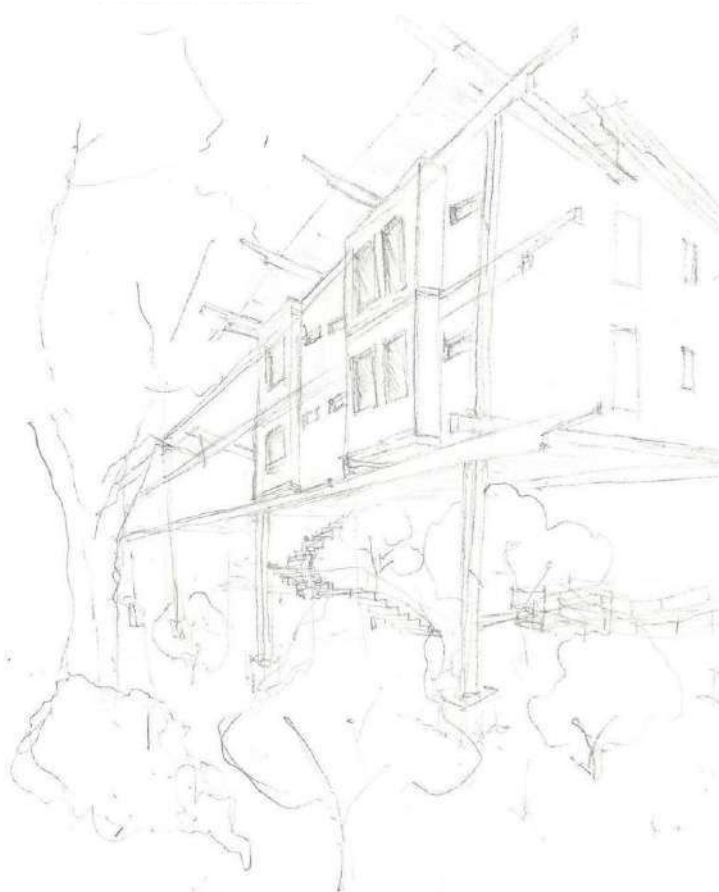


Accommodation

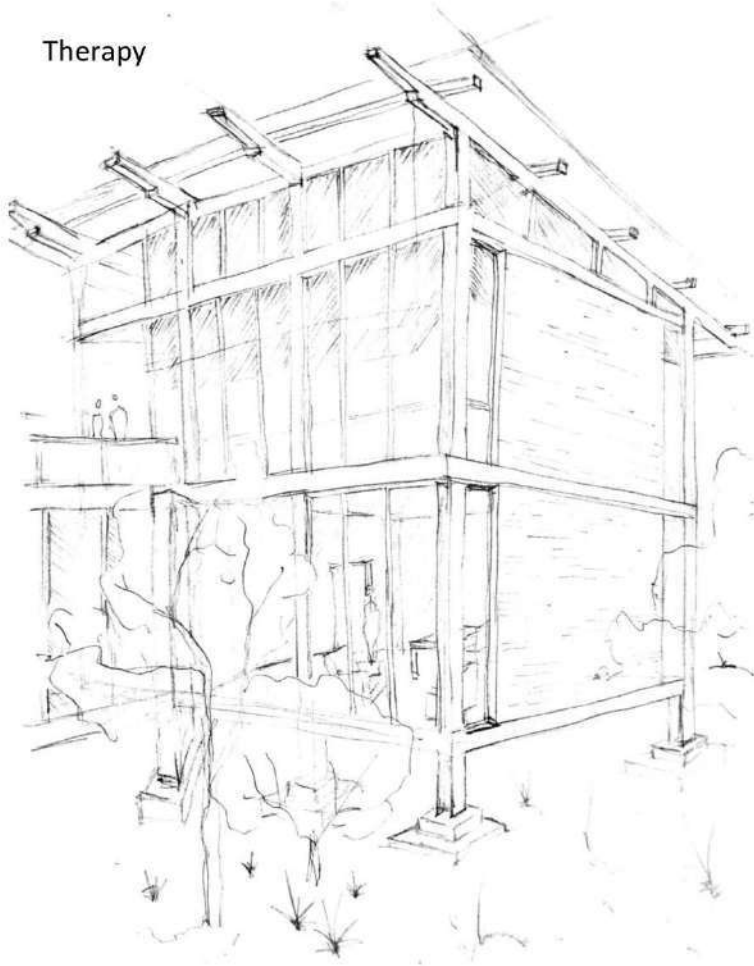


First Floor 1:100

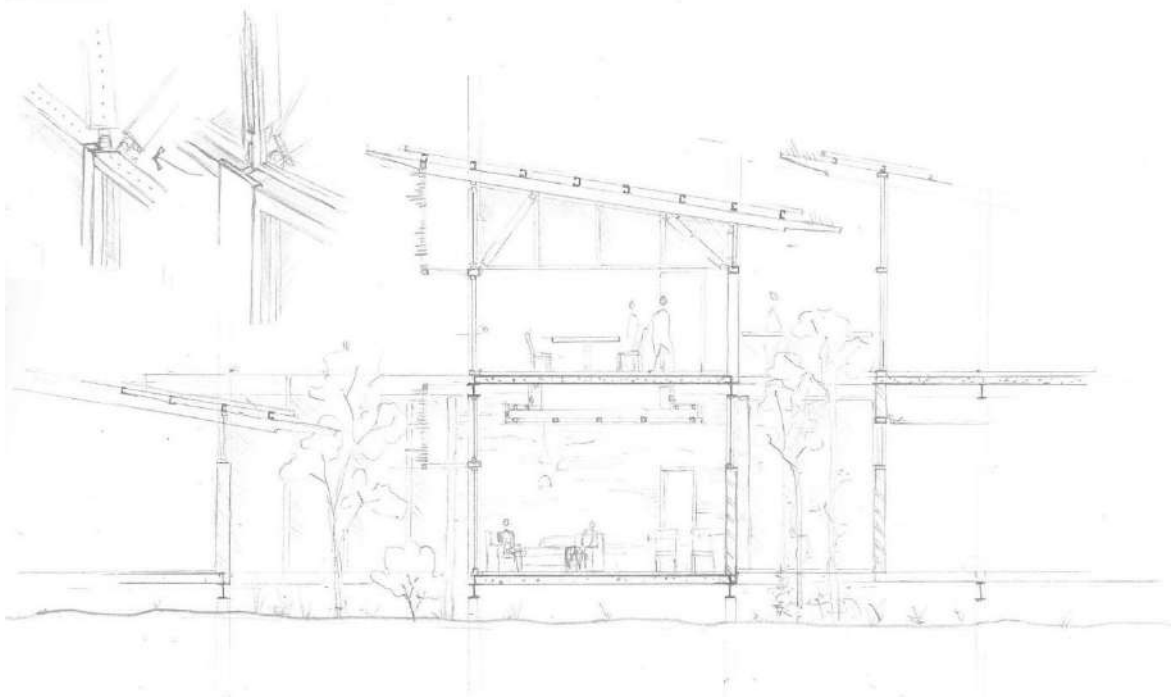
First Floor 1:100



Therapy



Section C-C



Therapy

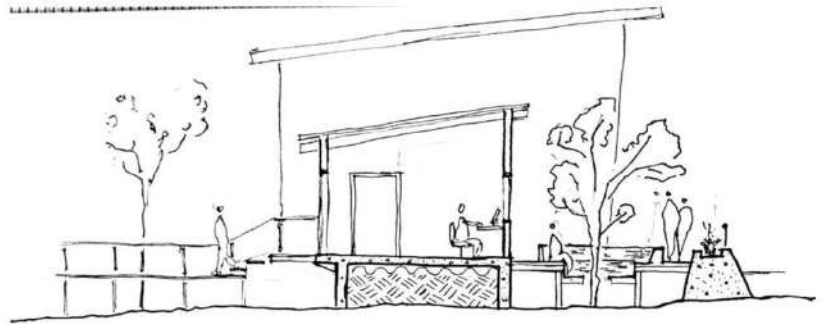


Section Model 1:100

Section 1:100

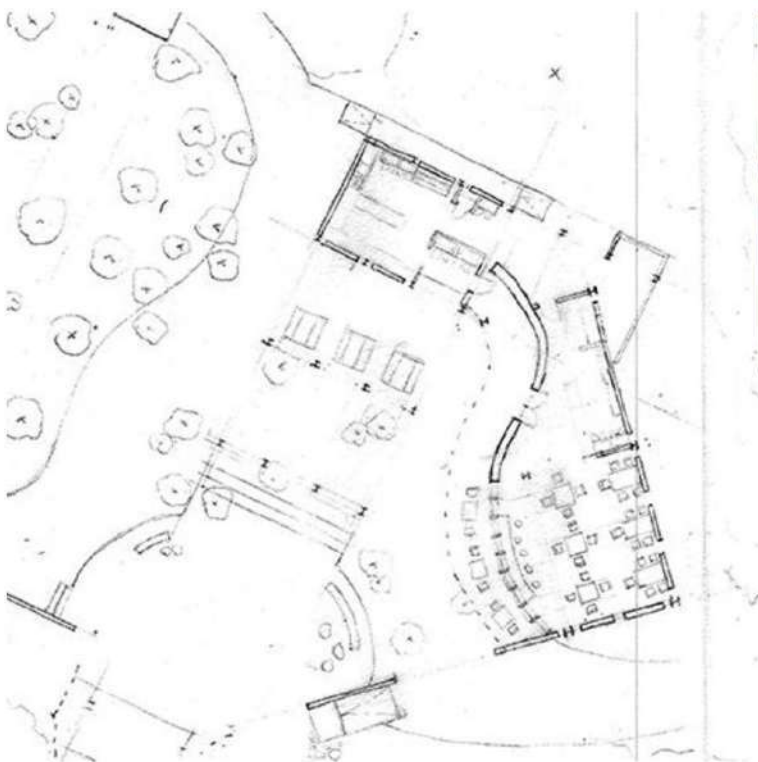


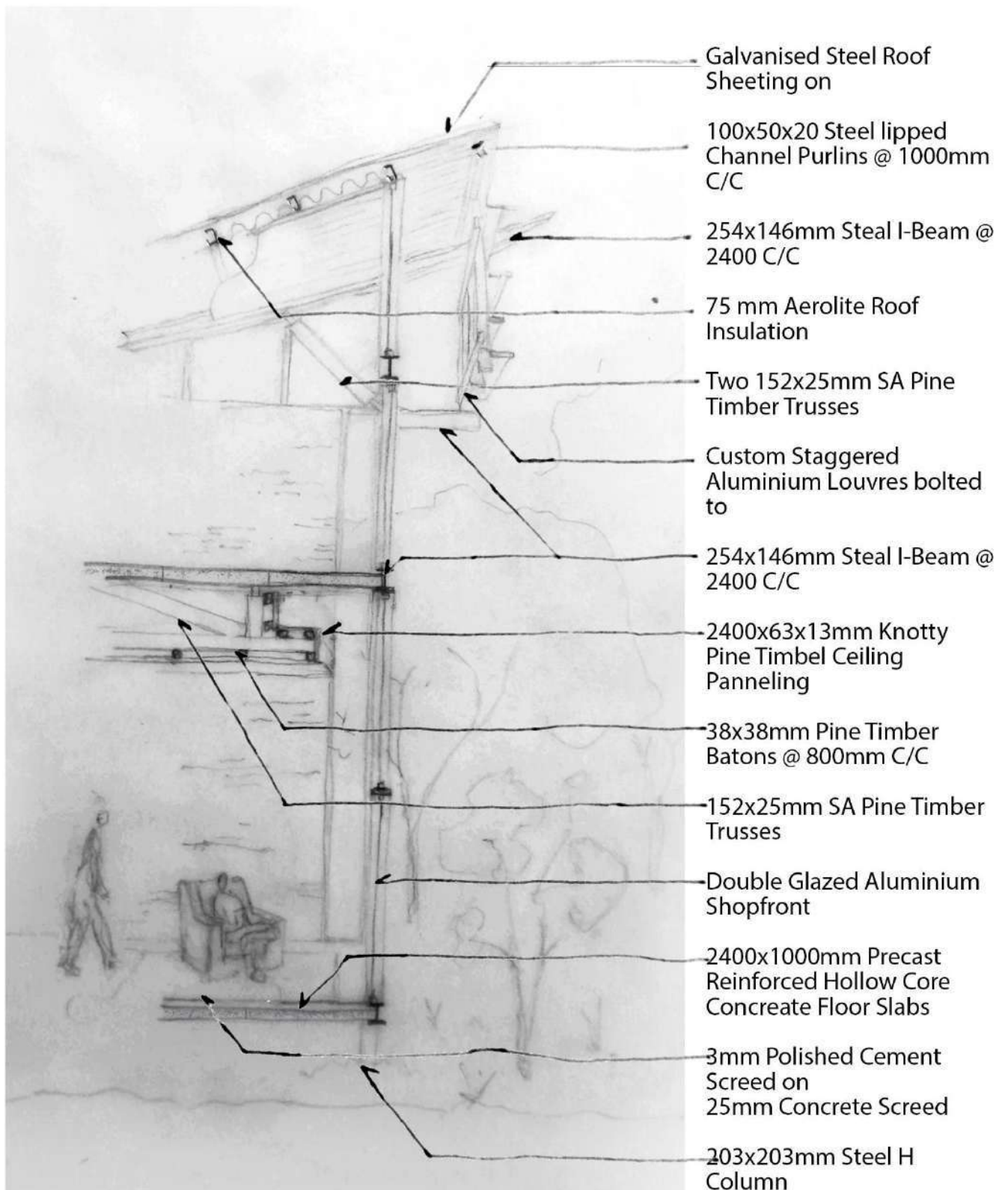
Admin Block



Section 1:100

Restaurant





Sectional Perspective Scale 1:50





Chapter 8

Design Resolution

Admin

- 1 Reception; Filing and Storage
- 2 Admin and Head of Facility
- 3 Staff Lounge
- 4 Dispensary
- 5 Consultation Room (Evaluation)

Therapy

- 6 Reception and bathrooms
- 7 Psychologist office (Preventative care)
- 8 Psychiatrist wing (Treatment)

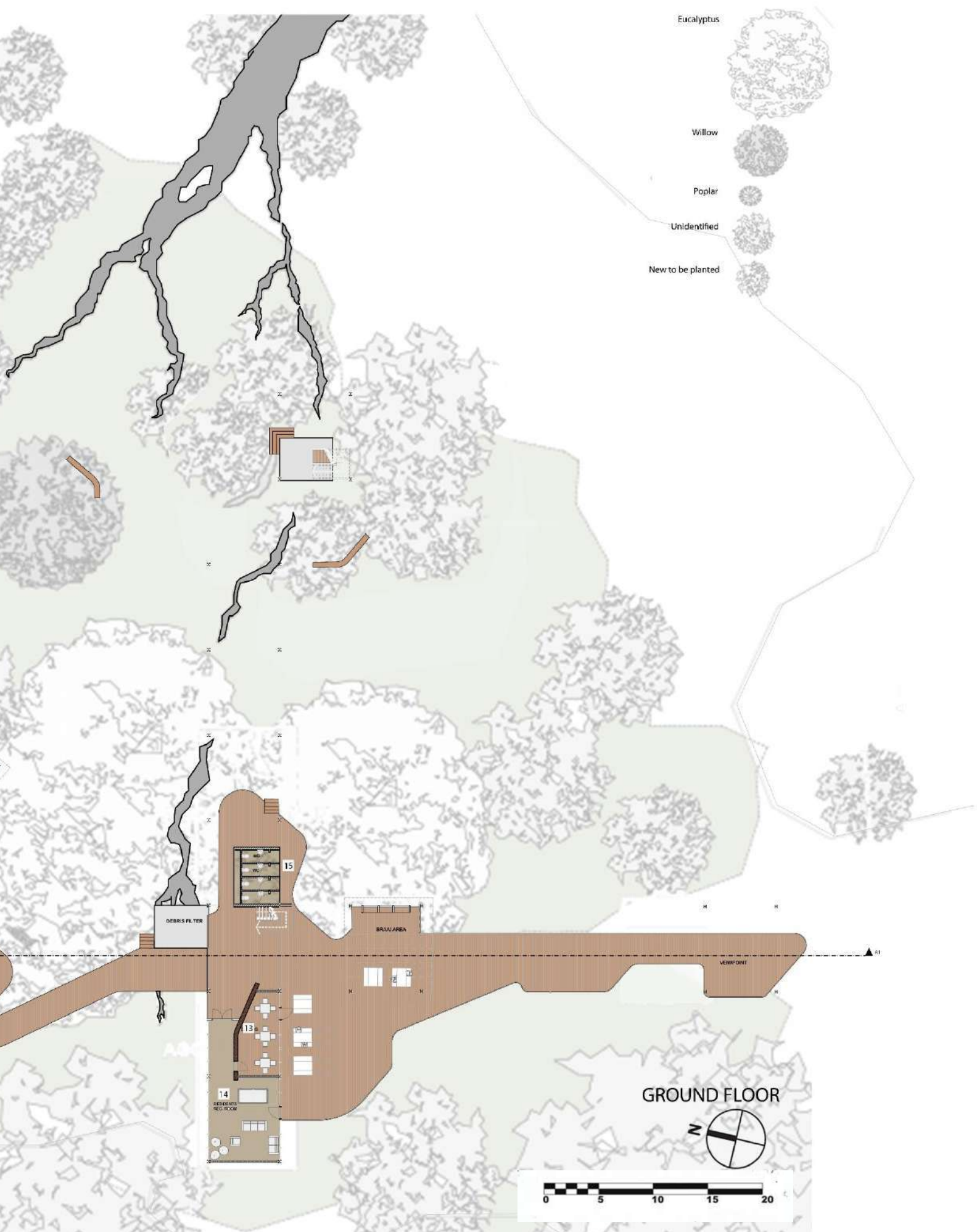
Communal Space

- 9 Kiosk
- 10 Kitchen
- 11 Health Bar and Cafe
- 12 Refuse / Storage

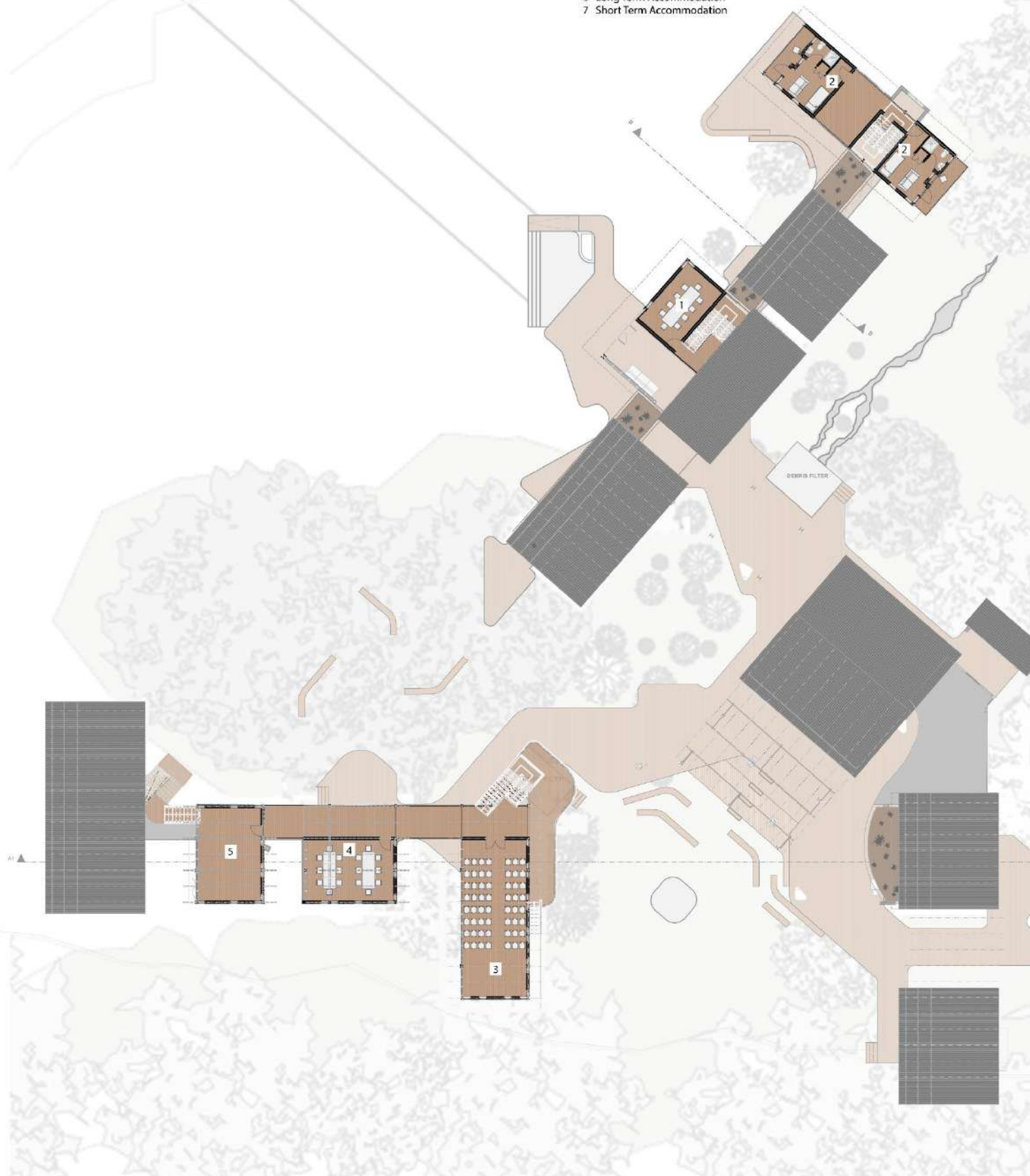
Accommodation

- 13 Dining Room
- 14 Residents Lounge
- 15 Bathrooms

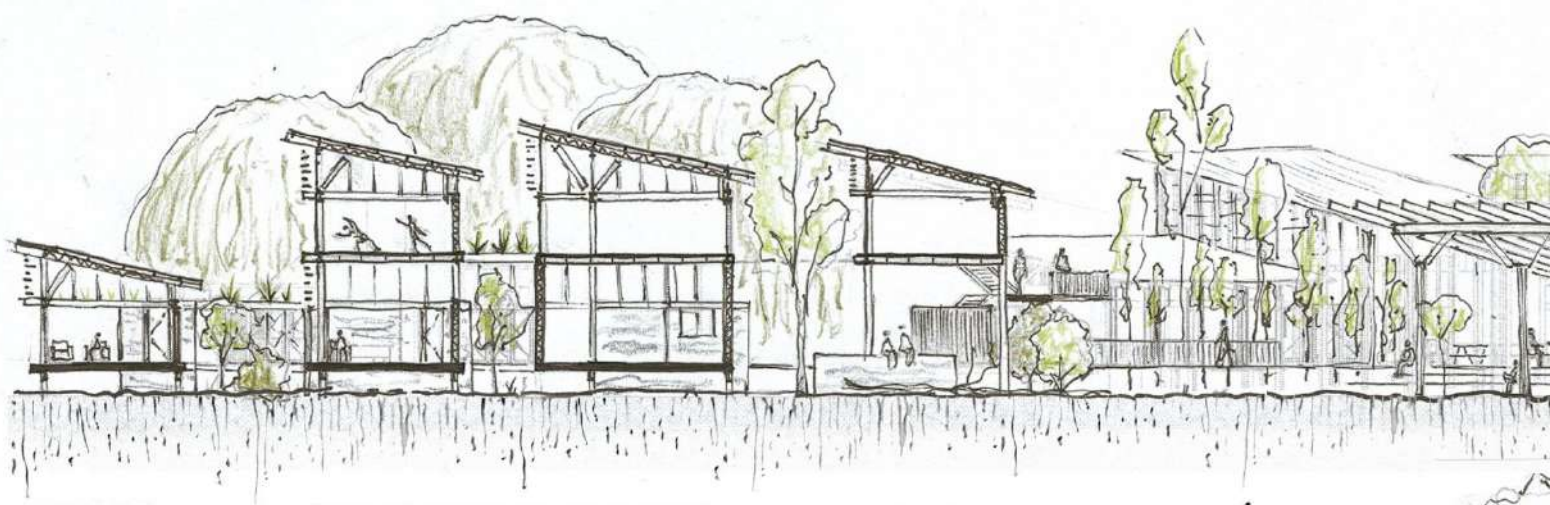




- Admin**
 1 Boardroom
 2 Staff Overnight Accommodation
- Therapy**
 3 Multi-Function Space
 4 Group Therapy
 5 Yoga Studio
- Accommodation**
 6 Long Term Accommodation
 7 Short Term Accommodation





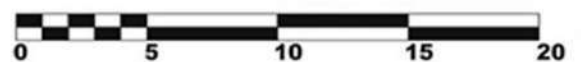




Section A-A

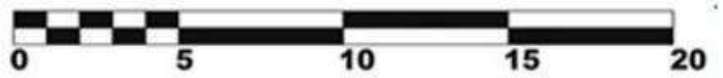


North Elevation





Section A-A



View toward Therapy



Clearing Communal Gathering



Café Sectional Perspective





Rammed Earth Seating Nook



Therapy Block Perspective



Therapy Block Interior



View from Multifunction Space





View from communal clearing to Therapy Block



Short Term Accommodation



Long Term Accommodation



Residential Block Perspective



Residential Block Courtyard



Short term residences interior



Short term residences and staircase nooks





Therapy Space in Context



Entrance and Admin in Context

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Reflection

Throughout this document the relationship between man and nature, and architecture as facilitator thereof, has been praised with a reverence that stems from a deep-seated compassion toward the sanctuary found within this engagement. The views of many other researchers, (Ulrich, 1984) (Tidball, 2012), (Scholes, Boniface, & Fat, 2016), (Lewis & Sturgill, 1979) have bolstered this ephemeral atonement **I have experienced on site**. This suggests that the underappreciated trauma of police officers will benefit from such a setting and as such elevate the physio- and psychological stresses they face (Barad, 2007), (Gamble, Hanan, & Nail, 2019).

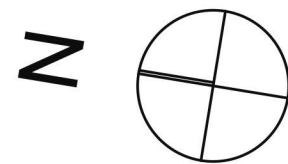
It is however crucial to remember that it is not architecture in and of itself that heals. Rather by simply tackling the daunting task of first understanding the complex environment, then envisioning the ways in which humans may inhabit it, one makes it possible for architecture to become part of this performance. Architecture then becomes a tangible manifestation encouraging the noticing and interaction with nature whilst also creating added incentive to protect it to avoid the purging of our natural habitat.

It is my belief that even though the environment might undergo temporary bruising in the construction process it's recovery will be rapid (as it has already started recovering after the alterations). My hope is that the result will be a longer lasting beneficial interaction between the biological entity within our skin and the natural world which tuned our survival skills (Lewis & Sturgill, 1979).

We need to rediscover how to move from being apart from nature, to becoming, a part of nature.

Sir David Attenborough, A Life on Our Planet

Fin.



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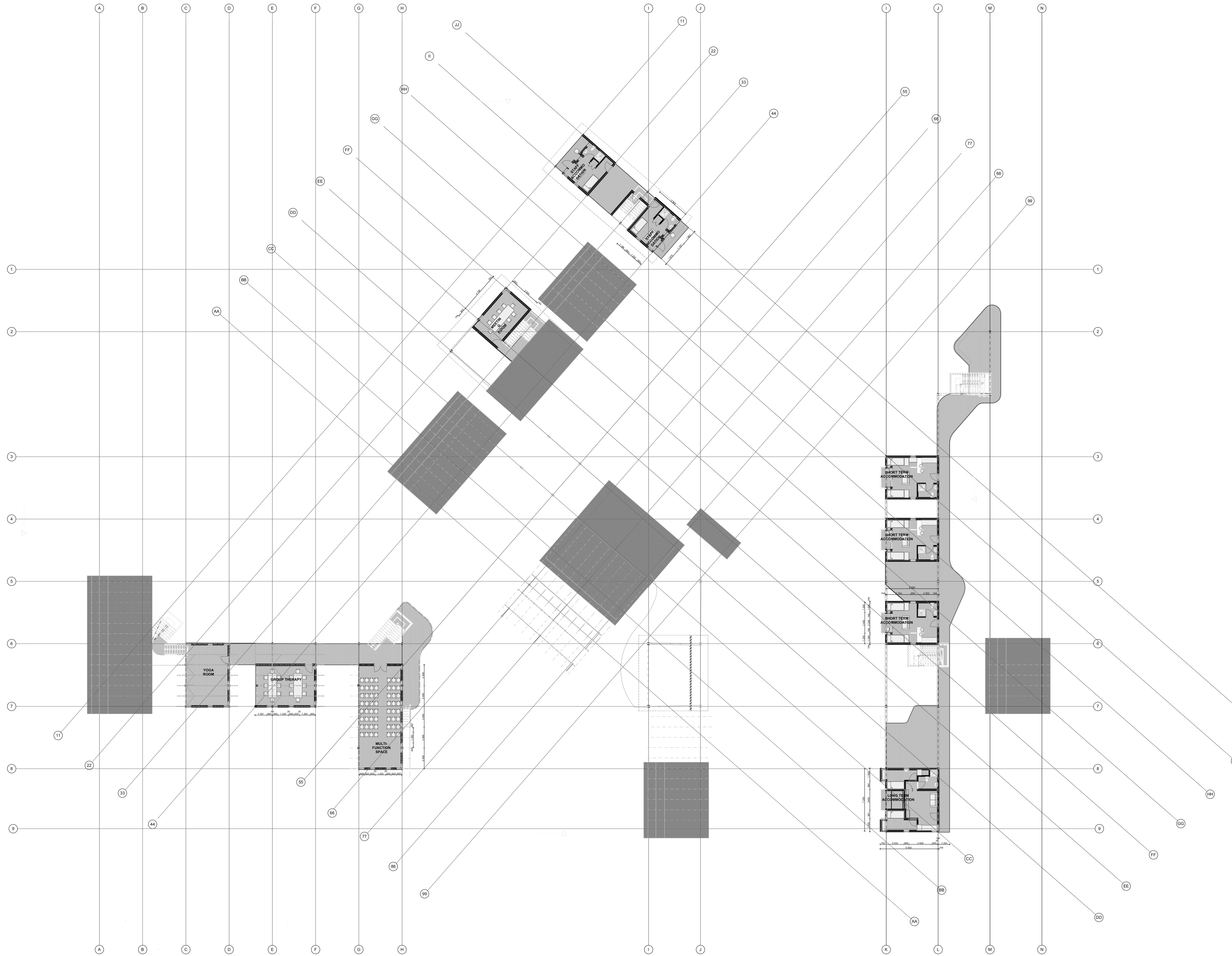
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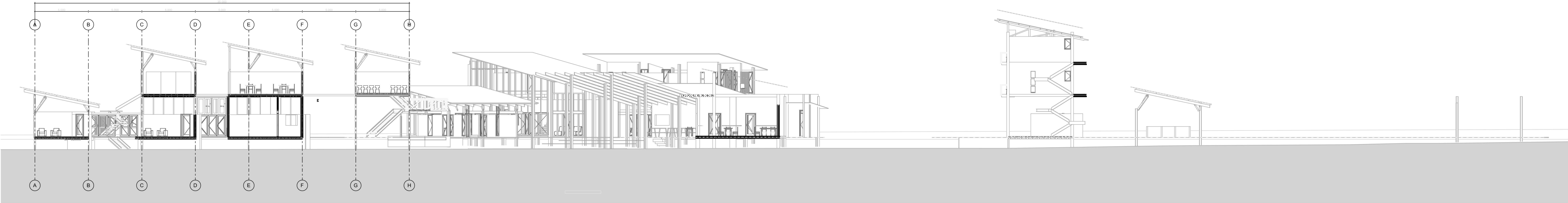
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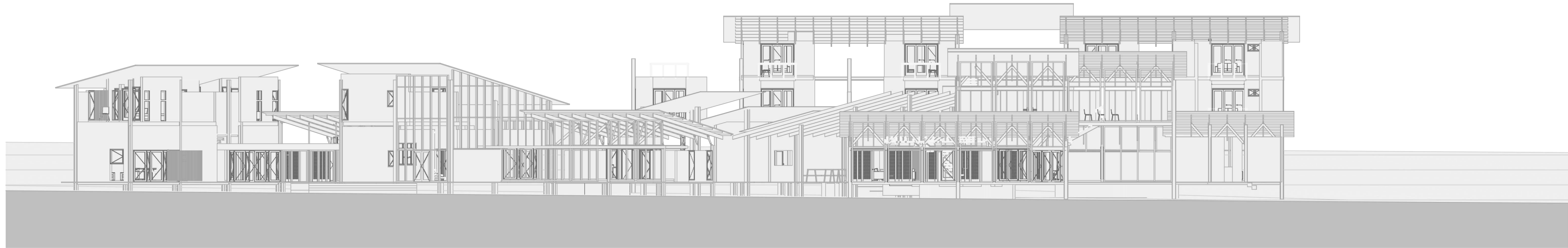
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SECTION A-A
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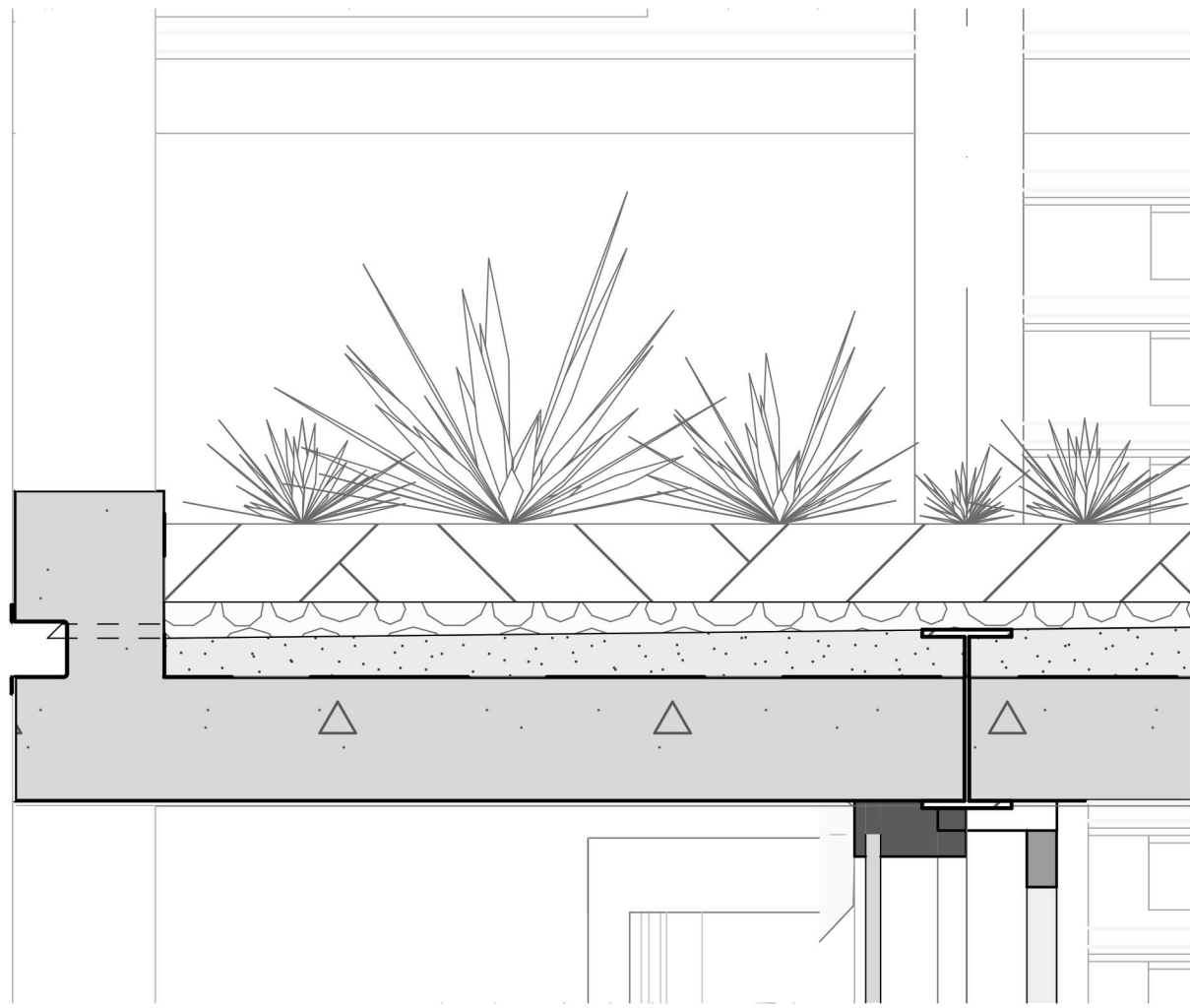
NORTH ELEVATION
SCALE 1:200



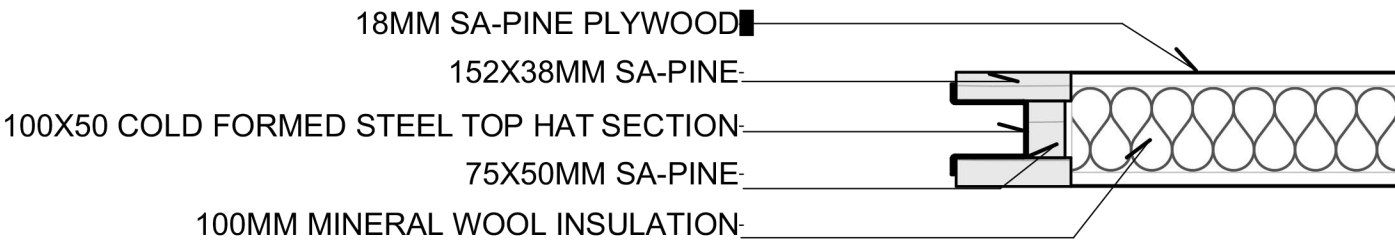
BUILDING IN CONTEXT
(North Perspective)



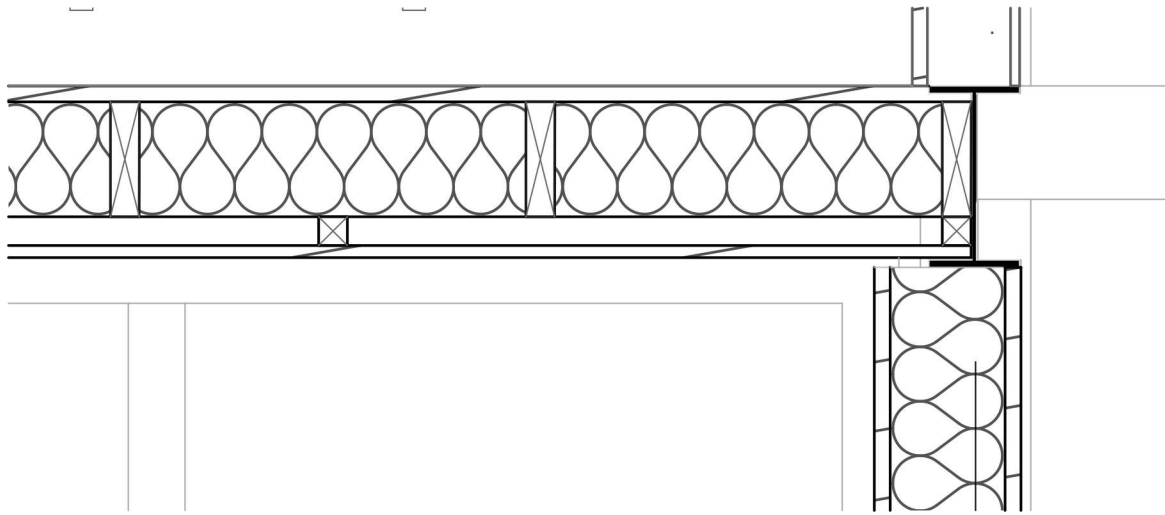
BUILDING IN CONTEXT
(East Perspective)



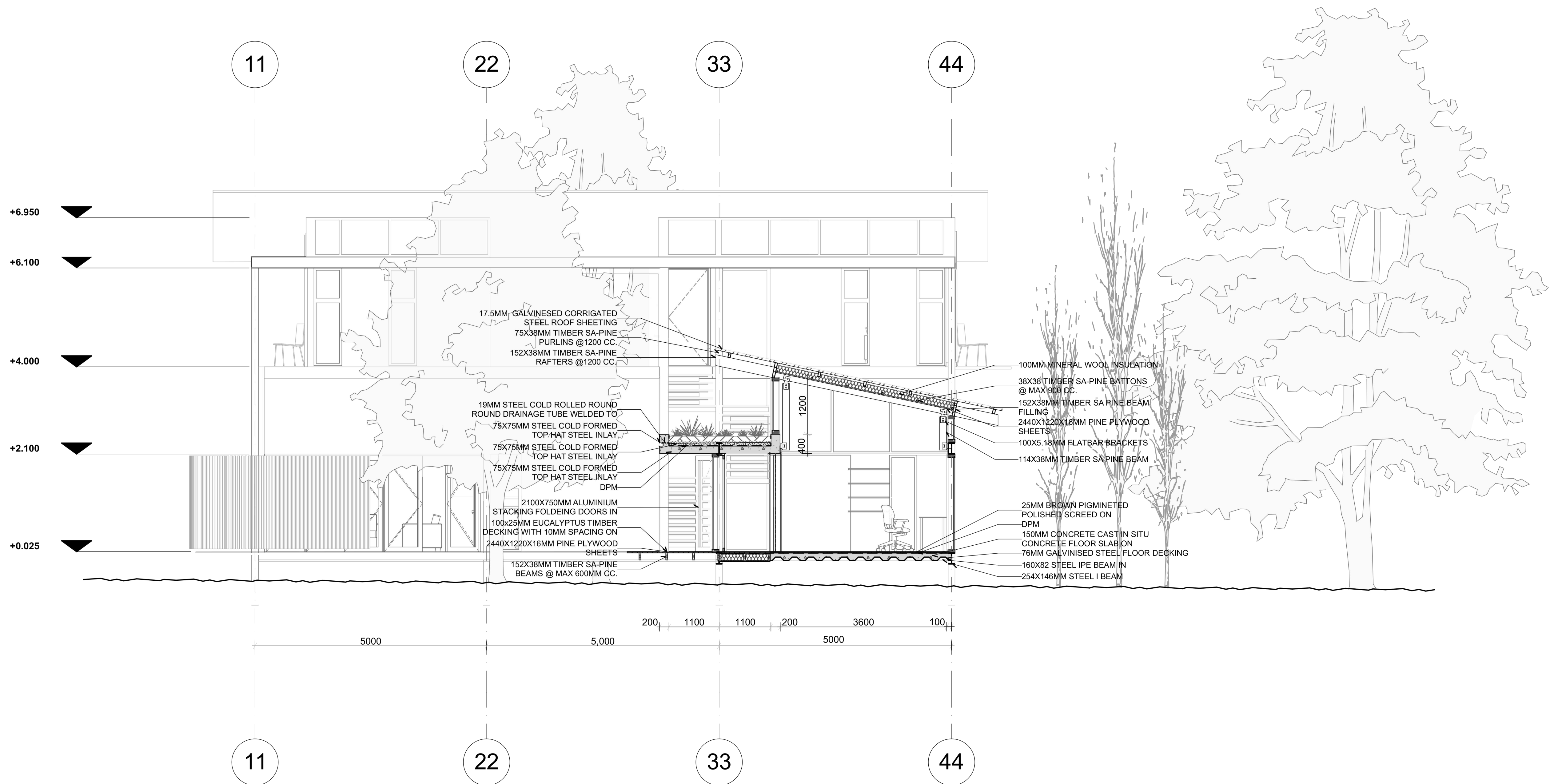
GREEN ROOG DETAIL
SCALE 1:10



SECONDARY COLUMN ASSEMBLY
SCALE 1:10



TYPICAL FIRTS FLOOR CONSTRUCTION
SCALE 1:10



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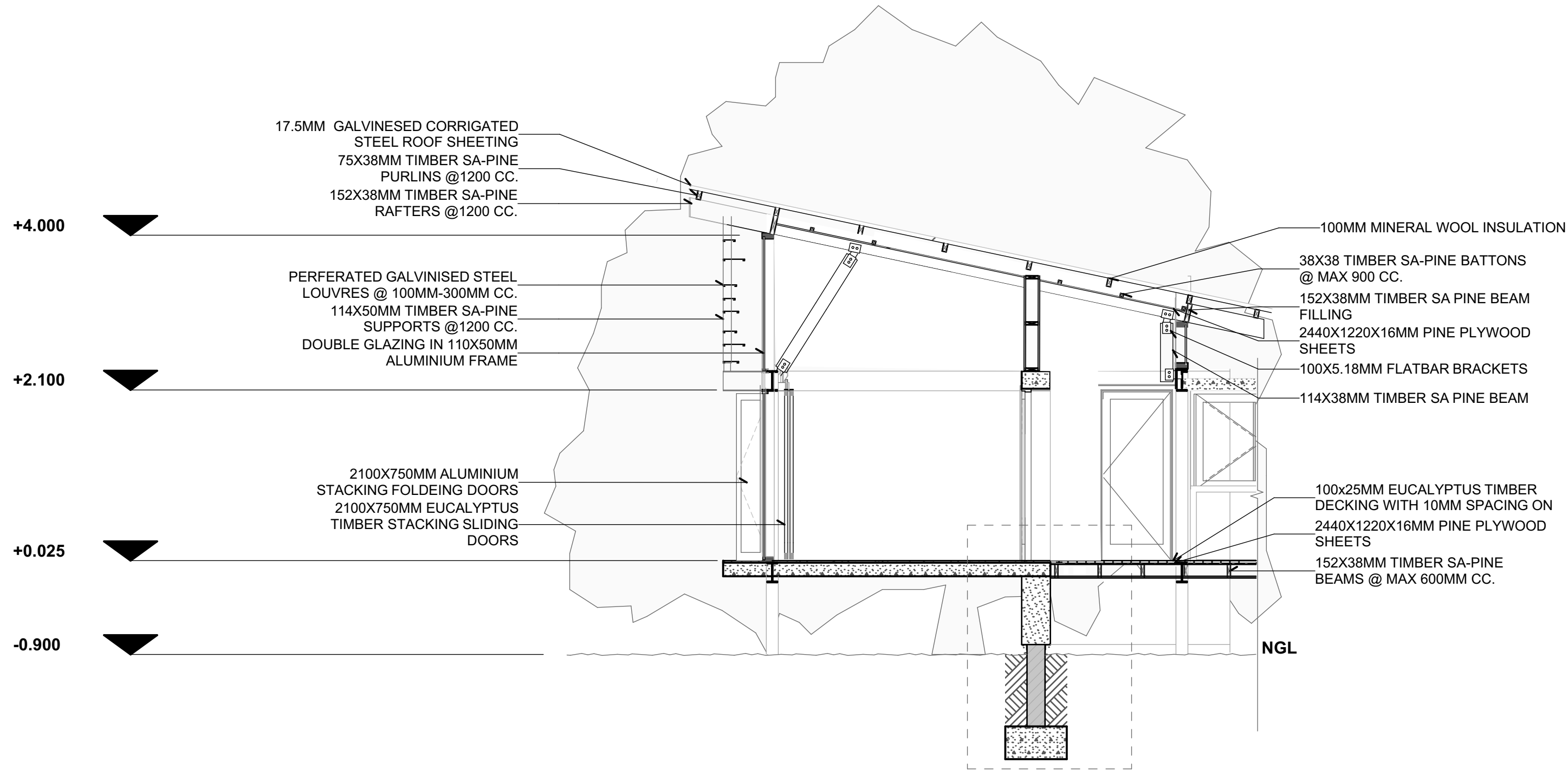
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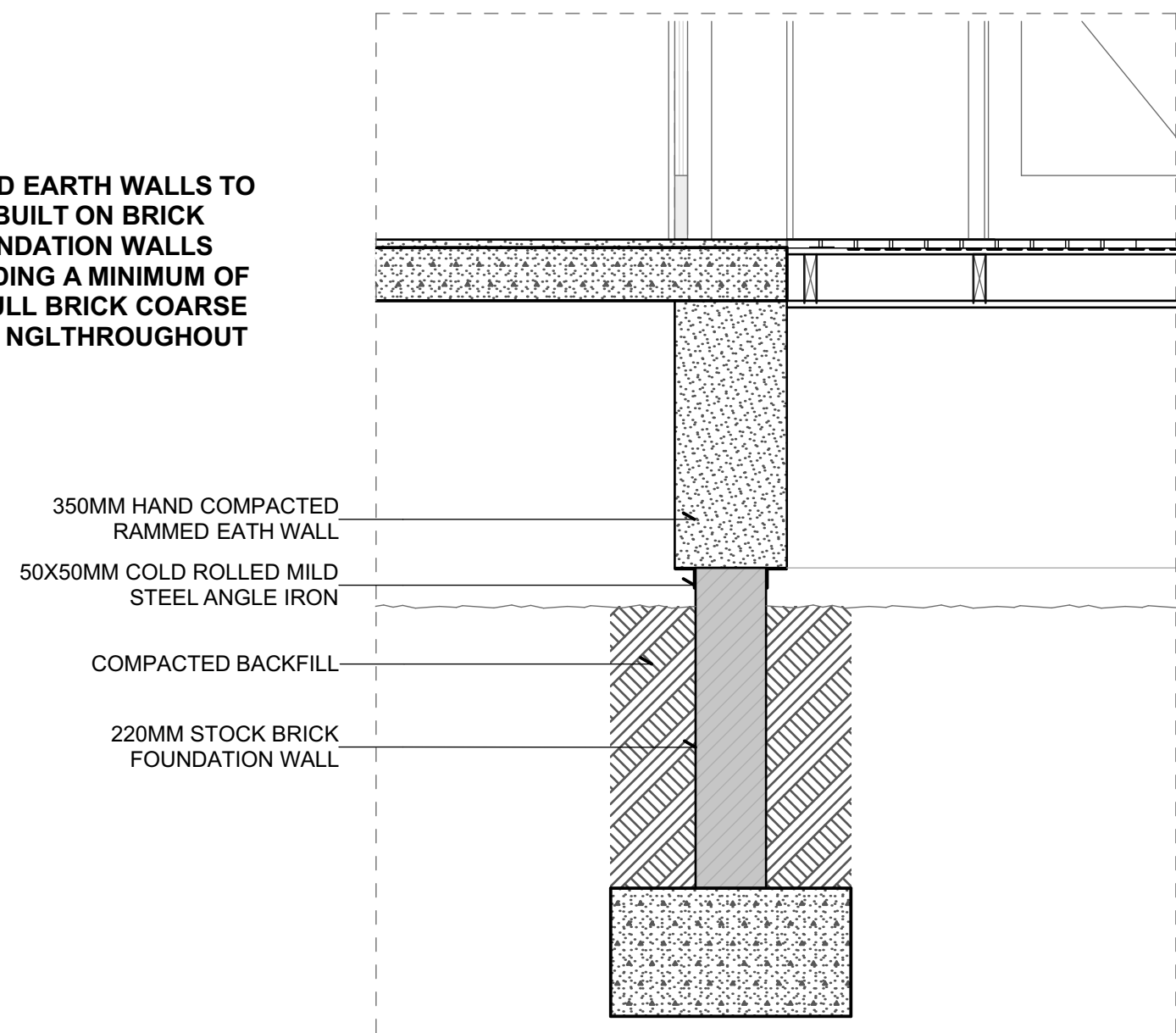
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Revision
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RAMMED EARTH WALLS TO BE BUILT ON BRICK FOUNDATION WALLS EXTENDING A MINIMUM OF ONE FULL BRICK COARSE ABOVE NGLTHROUGHOUT



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