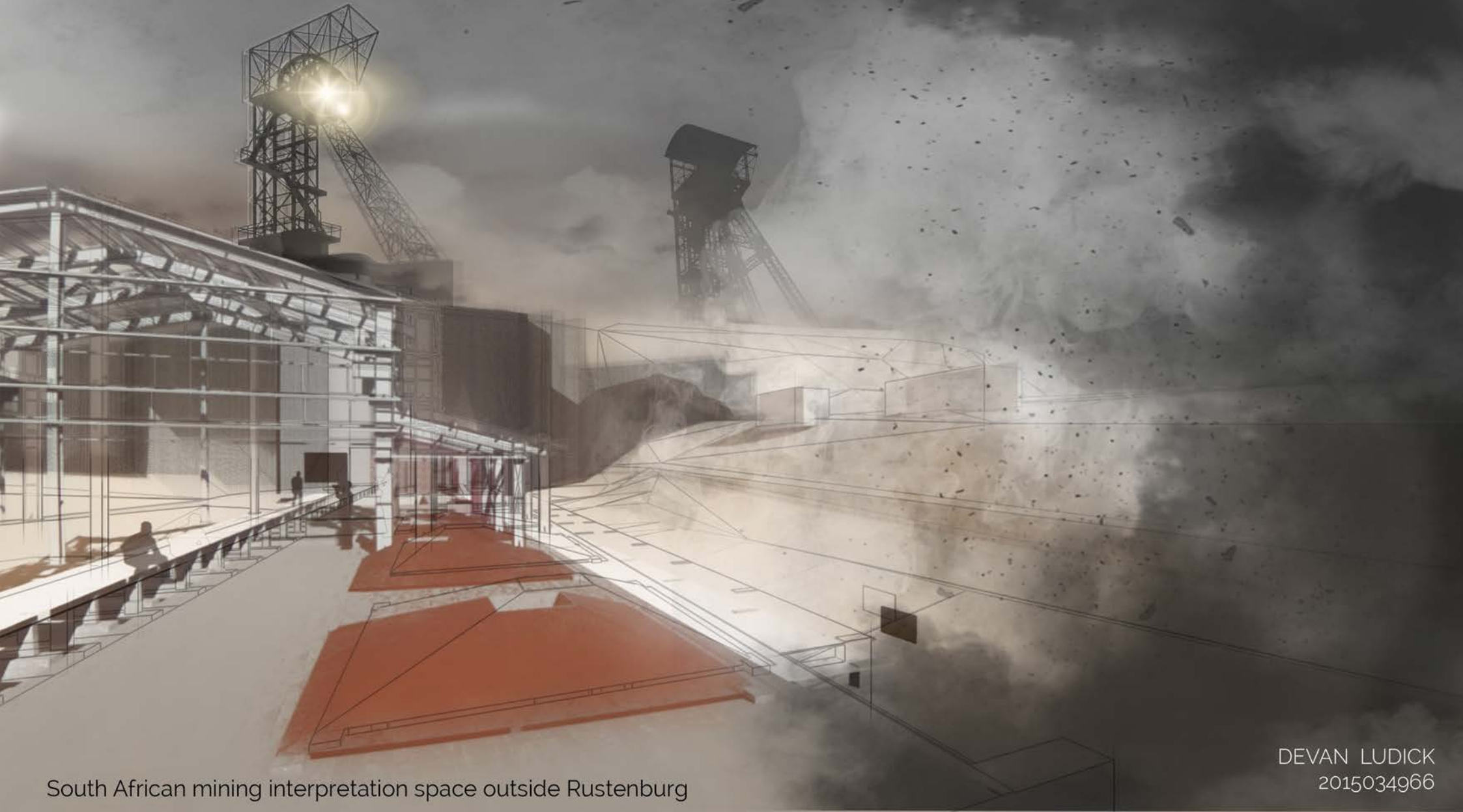


# MELANCHOLY OF THE MISCONSTRUED MINING MACHINE



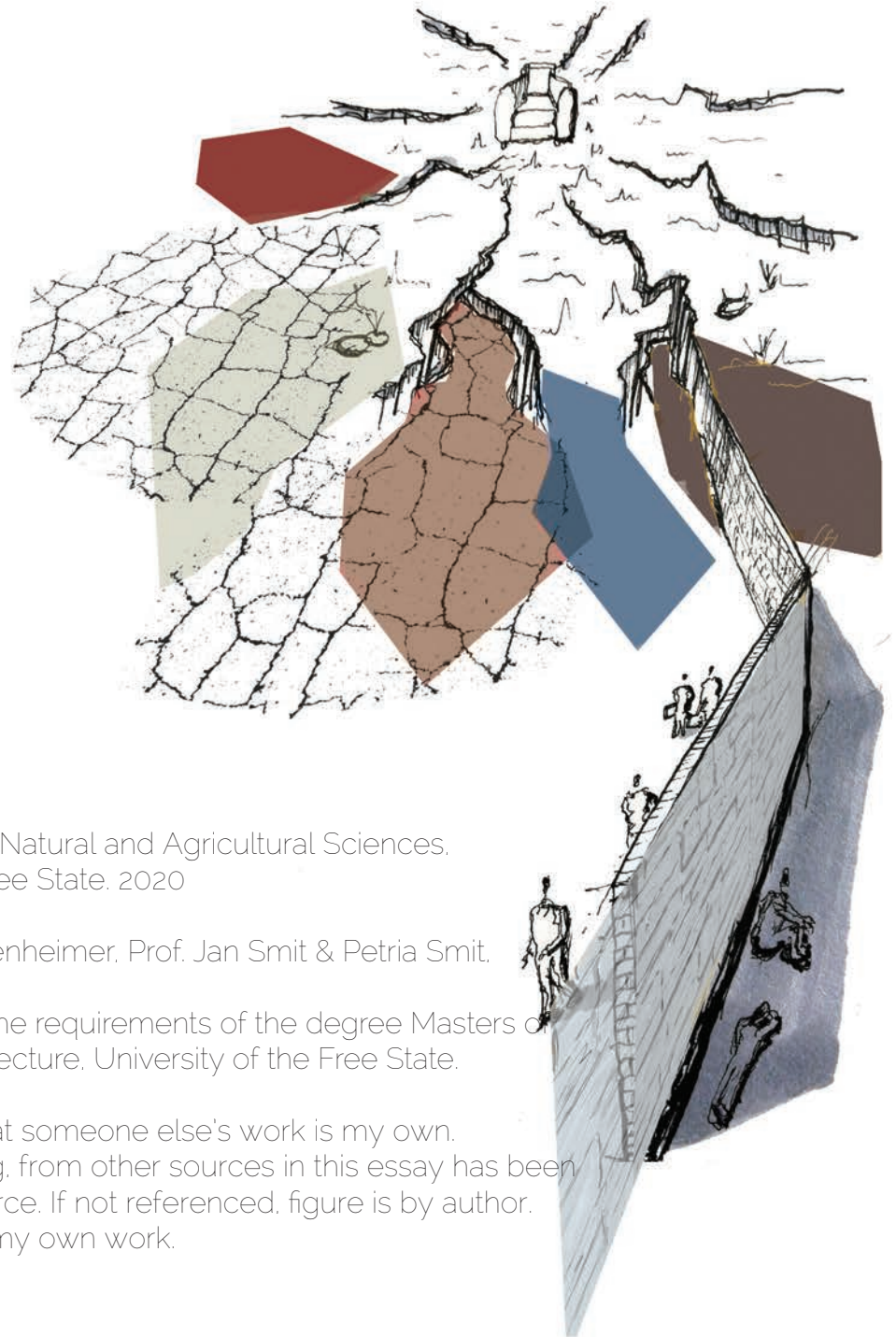
South African mining interpretation space outside Rustenburg

DEVAN LUDICK  
2015034966



"He has a mind of metal and wheels and he does not care for growing things, except as far as they serve him for the moment."

Tolkien (1955).



Department of Architecture, Faculty of Natural and Agricultural Sciences,  
University of the Free State. 2020

Supervisors: Dr. Hendrik Auret, Hein Raubenheimer, Prof. Jan Smit & Petria Smit.

This thesis is submitted as partial fulfilment of the requirements of the degree Masters of  
Architecture at the department of Architecture, University of the Free State.

Plagiarism is creating the impression that someone else's work is my own.

Every contribution and quote, photo and drawing, from other sources in this essay has been  
acknowledged and there is a reference and a source. If not referenced, figure is by author.

This document is my own work.



Devan Ludick  
2015034966



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# P R E F A C E

The existence of architecture that evokes defining moments of possibilities where its users are able to transcend the unseen tying threads of the system. Moments that create a new awareness to the narrative presented; the overarching segmented mining history of South Africa. Divulging the tragic and sanguine realities surrounding this controversial field, by exposing the tension that exists between mines, miners and the fragility of its support systems. Focusing on singular prominent examples throughout history, to convey a narrative by means of structure and spatial experiences. Leaving the conclusion of the narrative to the user. In hopes to help develop a better society by revealing truths and providing a home for initiatives that support objectives surrounding mine communities, polluted landscapes and sustainable new methods in these areas.

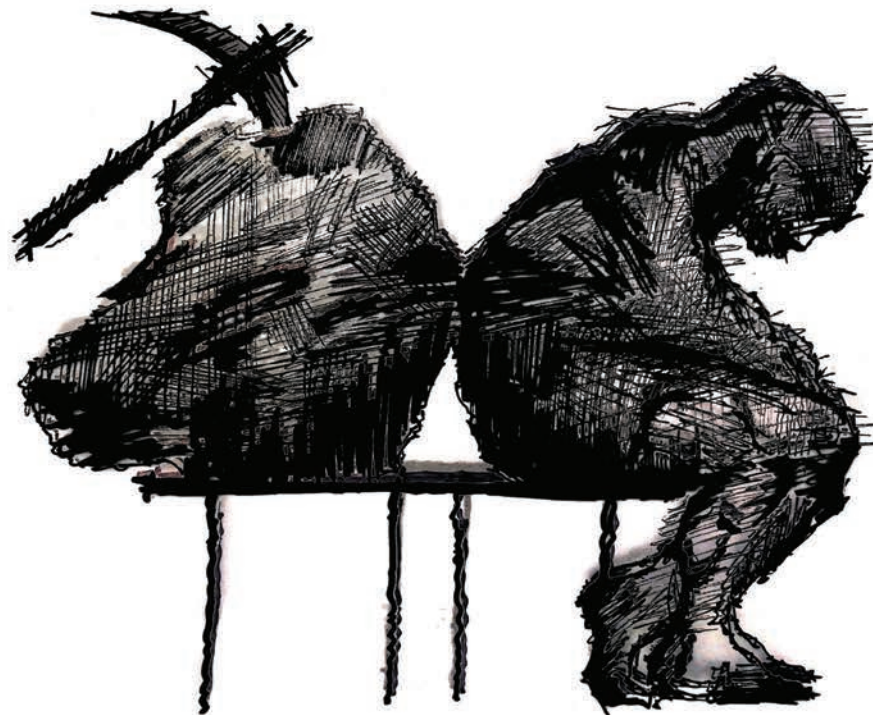
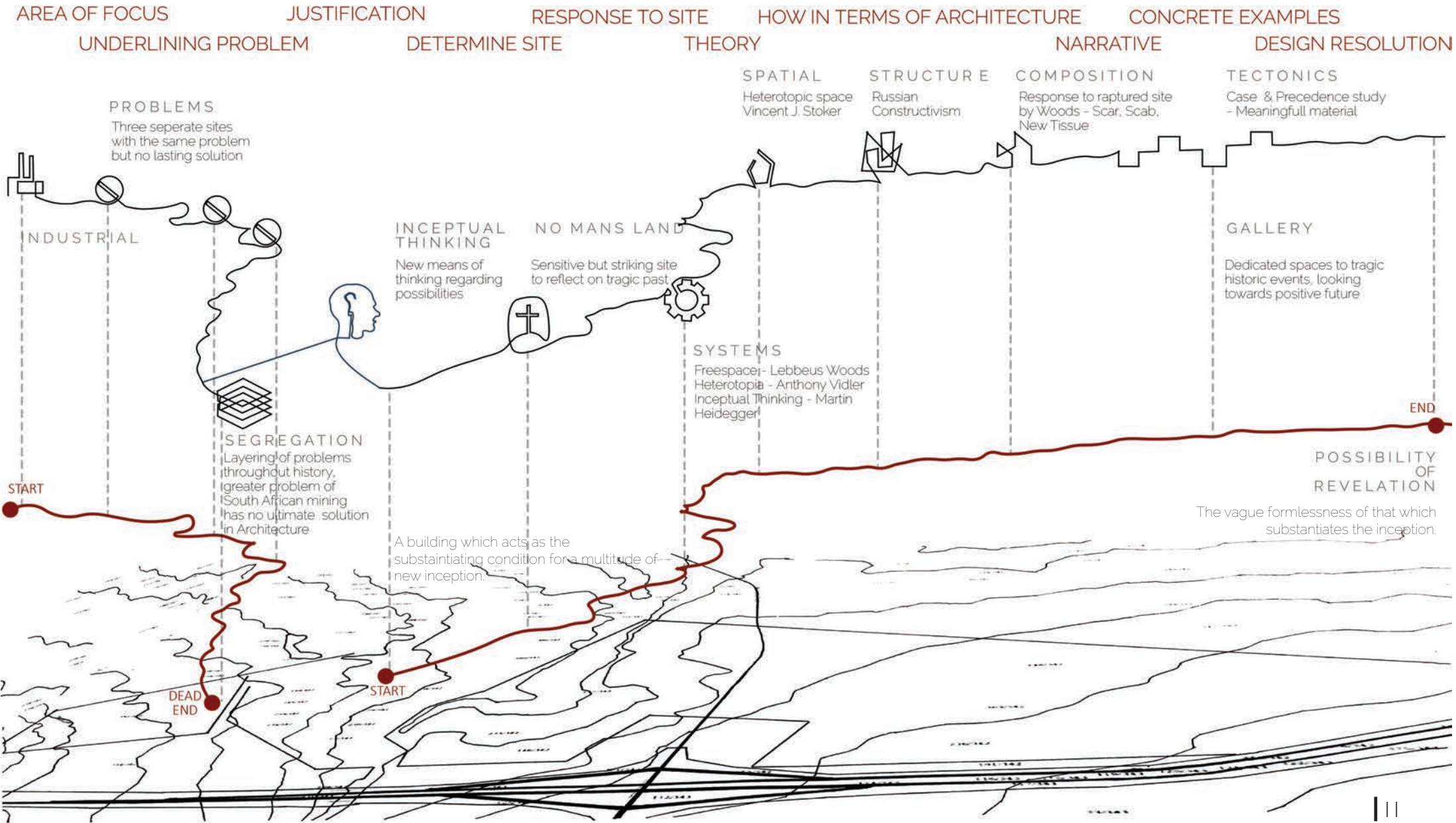


Fig 1: Groaning weight of stone against flesh

# RESEARCH METHODOLOGY



# INTRODUCTION

This document assumes the same mentality from the reader as expected of the everyday being of care that finds themselves confronted with such a building as proposed in this document. Regarding a preconceived notion on the realities of mining sites, based upon your own understanding of these primordial landscapes responsible for the employment of 457000 in 2018, making South Africa the worlds fifth largest mining economic power whilst in the same breath leaving barren toxic wastelands for communities in its wake (Ground Up, 2020. Online). Be it a view of: machines of malice, industrial remnants, pillars of society, means of minerals and money or that of historic and emotional significance, any view point really that lends credence to that of one's unique standpoint. A notion that is not at all influenced by the current social ethos, institutes of power or merely memories. The aim of this document and its methodology is to challenge the predispositions surrounding the field of mining. **A belief that gives way to the possibility of a moment that exists in architecture, a space outside the realm of the sway of systems.** Through investigations of themes such as Lebbeus Woods's '*Freespace*' and Martin Heidegger's '*Inceptual Thinking*', as a means to circumvent confronting issues within in a space.

A document / building which suggests that its given reader / user, when confronted with the reality and history of a situation, when reflected on in such a space, a new personal conclusion is reached purely based on emotion, morals and ethics. After which the subject in question is viewed from a different perspective, whilst the observer still finds him/herself in the same space. Giving rise to thoughts of new possible futures, hopeful outlooks and accompanying convictions for the experiencing user. This document aims to maintain an unbiased view when considering the messy intersections between industrial instruments, bureaucratic structures and labouring individuals. Instead of choosing sides, it is focused on the future of the whole and towards that aim revealing realities, evoking emotions and setting up such moments. Moments sustained in architectural form, substantiating future inceptions.

RESEARCH QUESTION:

Can Architecture through means of a unresolving narrative prepare for a decisive moment in a space, where perceptions of mining practices are made questionable?



PART

1

SURVEYING

# SEARCH IN VAIN

In the quest of 'surveying' potential sites, I sought to understand the lure of these Industrial skeletons, what intrigued me to pursue meaningful architecture in such a highly engineered and destructive realm.

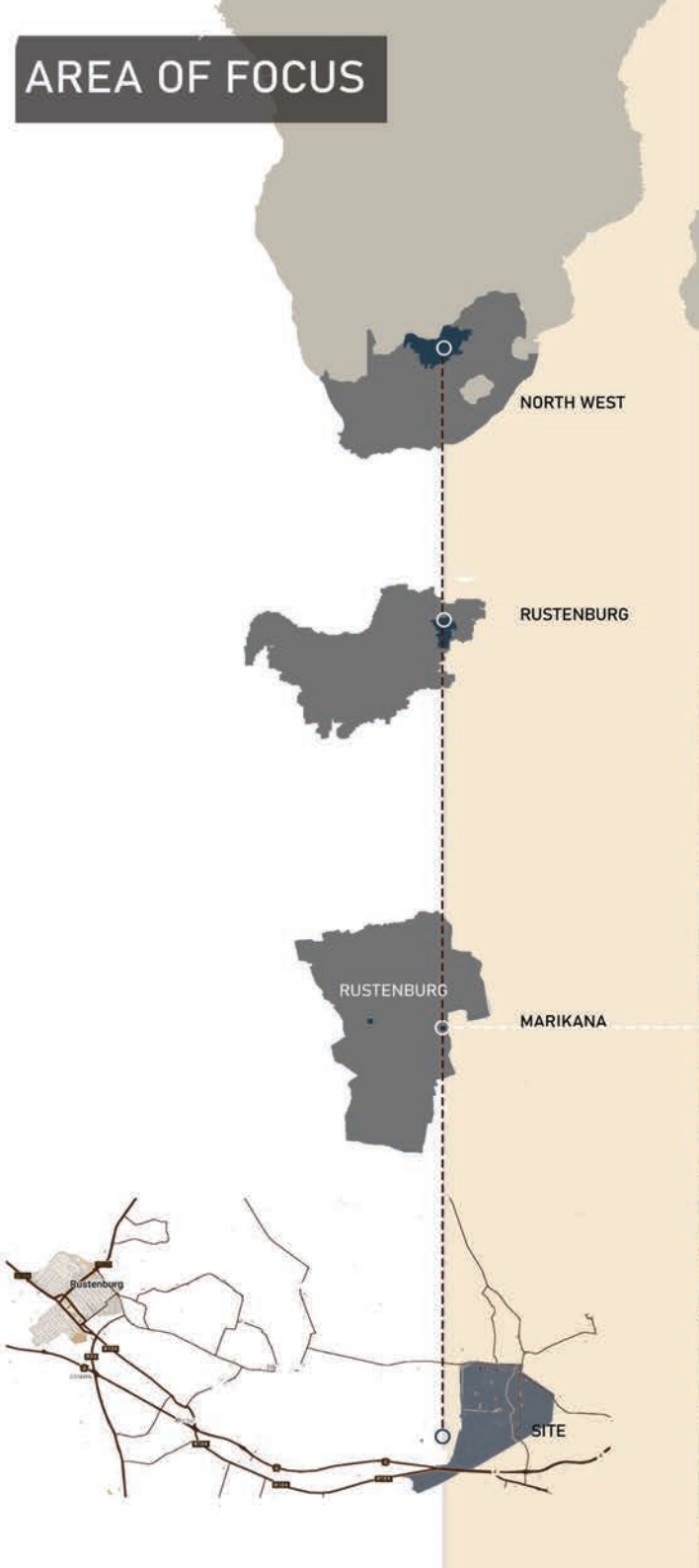
The realization dawned that this projects, origins are rooted in a vivid childhood memory. Driving across the No Man's Land of scarred landscapes and cataclysmic movements of land that surrounds Rustenburg. The soot spewing machines that only revealed themselves through glimpses between the man made black mountains.

These gardens of the post-industrial era, are no longer a shadow of their former self, once lush nature, now a prestige structure of destruction. They loom in the distance beckoning a repulsive, perpetual humming. Through the eyes of a child they appear as jungle gyms, yearning to be climbed. As age creeps in you become aware of the underground families that feed those flames. The communities and structural remnants that face the onslaught in isolation.

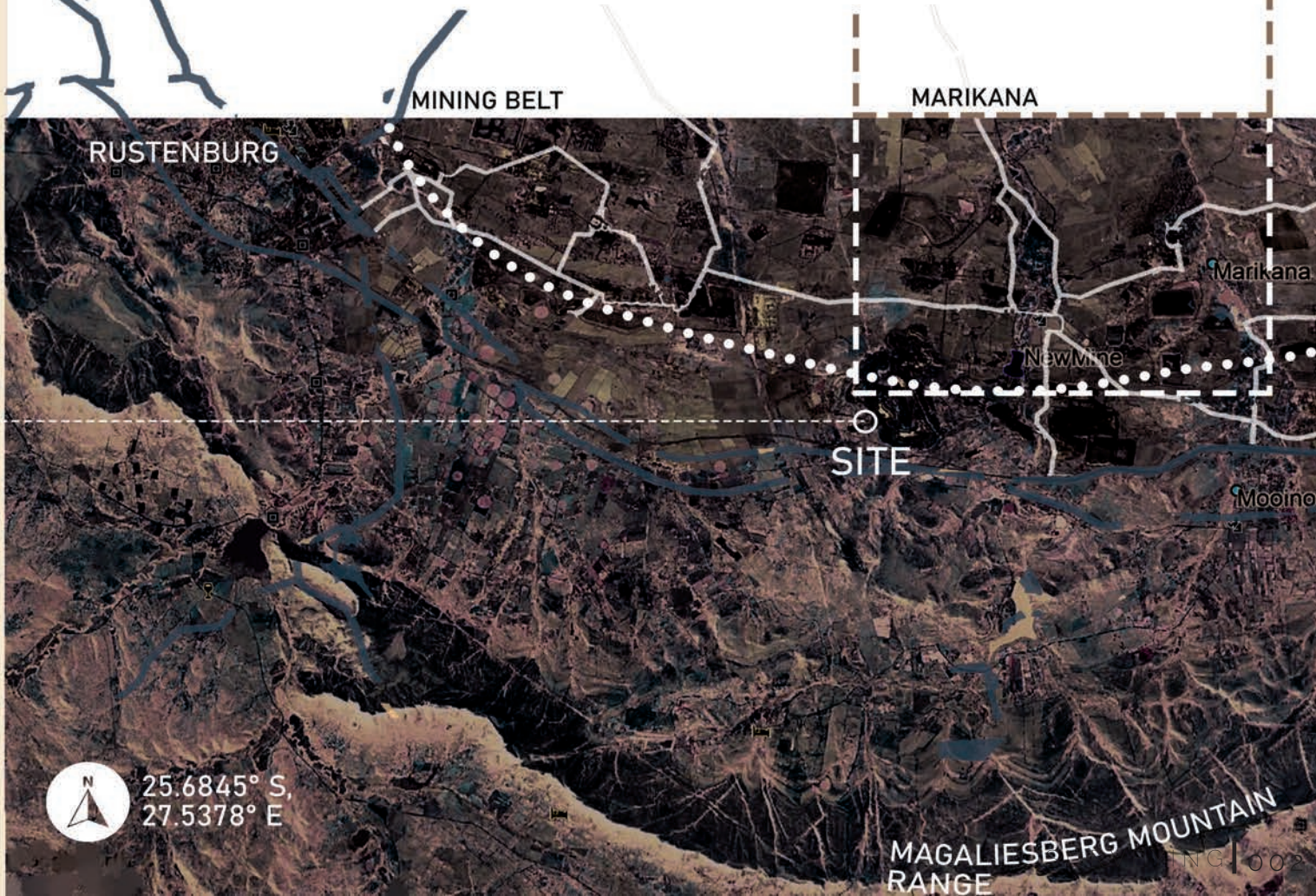
In particular, I remember the innocence of one defining trip, one without awareness of the greater narrative. A memory of accompanying my dad to these metal behemoths and mountains. Sliding down the side of these black mountains, carefree. Even now those mountains seem to grow smaller year by year, be that the deception of a youthful mind or the dulling imagination of age. These areas still retain a sense of nuance to this day, but are corrupted by the brutal realities and constant bombardments of what the systems in power choose to show us. Yet what the media chooses to show us is also saturated with its own bias, simplistic oppositions, plot lines, sub-intrigues. Thus personal nostalgia alone can not carry the weight of such a project, neither can cold hard facts. It needs an essence of humanity only revealed in certain moments. Found in spaces that questions the conglomerate, to reach unexpected open minded insights.

I strive to create a moment/s where the possibilities exist to grasp that fleeting experience free of external influences. Where dead matter comes alive with imaginative potential, where the nuanced richness of even the most overlooked lives shine luminously.

# AREA OF FOCUS



South Africa being rich in minerals, its landscapes are cluttered with mines as ore is one of the country's biggest exports. Platinum being the highest, boasting a production of 70% of the world's demands. (BizVibe, 2018. online). With Rustenburg as its centerpiece, housing two of the world's largest platinum mines and refineries. The city initially started out as a mining colony, and retains that heritage with more than 50% of the city's population engaged in the industry (Cio, 2019. online). Thus the outskirts of the city are scattered with scars and remnants of mines that exist to sustain the town. The city has seen a 400% increase in population over the past decade, largely due to the growth of mines, and their respective communities. A growth the city infrastructure struggles to uphold, as evident with the conditions of surrounding informal settlements.



 25.6845° S,  
27.5378° E

MAGALIESBERG MOUNTAIN RANGE

Having lived in Rustenburg most of my life, and my parents being reliant on the mining industry for work. The personal connection, access to information as well as the significance of the mining culture in the area convinced me to search the scarred landscape for a site that could facilitate a space of robust contemplation; a place to rethink the mining industry from the inside out.

What better place to bring awareness to unresolved narratives, than at the heart of a problem, the center of mining in South Africa. A problem later discovered, as with most in the realm of architecture, is much more perplexing than initially assumed. This served as confirmation to the crux of this document and building proposed: the destruction of assumptions surrounding the mining industry with the embrace of a receptive mind. This is a building for unpacking the conglomerates; a coarse thing comprising of a number of distinct parts or items that are compressed to form a singular mass. Such is the nature of scarred sites surrounding the explored area. A layering not merely restricted to the tectonics of earth. Rather the gradual layering of history, tragedies and relationships cultivated that has transpired on the soil. The composition is only grasped as a whole, a separation of singular entities will ultimately leave the user lacking. Therefore the mines, site and communities should be constantly be viewed as a whole.

Initially, the program, parameters and nature of such a place was unclear. The early work was therefore deeply exploratory in nature. Unsure of what that could be as of yet. The following are three potential sites investigated and their reasons why attempts at positive Architectural interventions would ultimately have failed, or at least only have served as means to temporary relief.

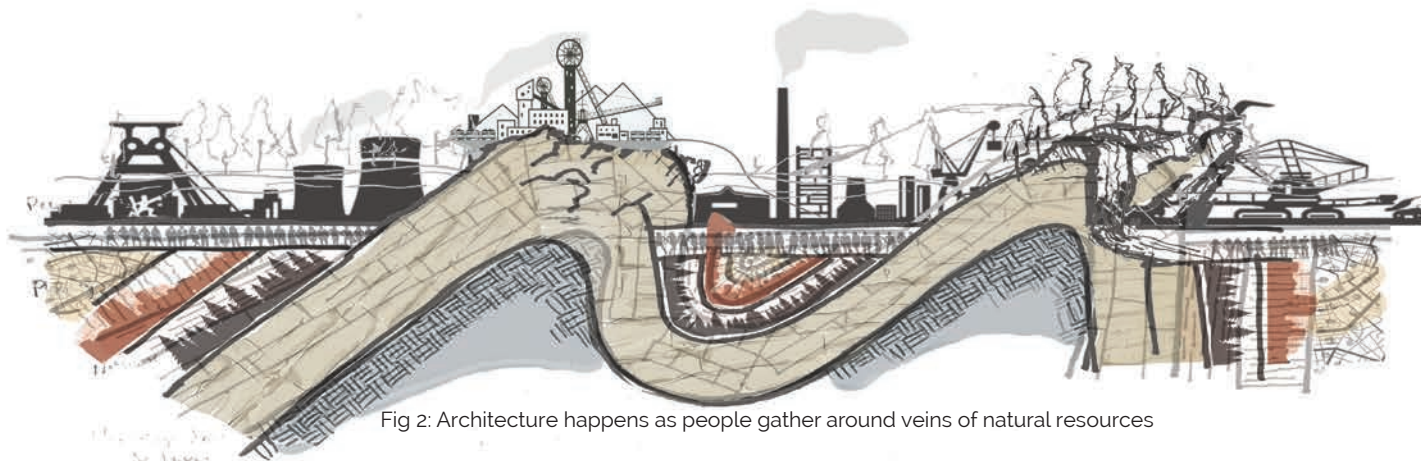


Fig 2: Architecture happens as people gather around veins of natural resources

01

# MARIKANA MEMORIAL



## MARIKANA MEMORIAL

Even living in Rustenburg I remained ignorant to the existence of Marikana and countless such communities. Until the events of the infamous Marikana Massacre in 2012. Up until which the trips often taken driving along the N1 to Pretoria was a reminiscent experience of memories staring out the window, somewhat naive and oblivious to the communities that lay beyond the mountains. Now those trips serves as tragic reminders.

Miners of Lonmin Mine partook in a 10 day strike (10 Aug 2012 - 20 Aug 2012) where they demanded a monthly salary increase of R6500 to R12500. Lonmin was unable to meet these demands during negotiations, leading to a violent protest. During such a protest atop 'Rooikoppie' 500 policemen were gathered to contain the violent nature of the protests. The result was the death of 42 people: 34 mine workers, 2 security guards and 2 South African Police service members ( Mpembe, 2020: interview).

Lonmin, the mine where the strikes took place revealed the plans to erect a memorial in remembrance of the fallen back in 2016, but in 10 June 2019 Sibanye-Stillwater completed the acquisition of Lonmin Plc. Leading to the memorial being scrapped. This created the opportunity to propose a Memorial as the driving force behind my Thesis document, as the tragedy still remains unaddressed.

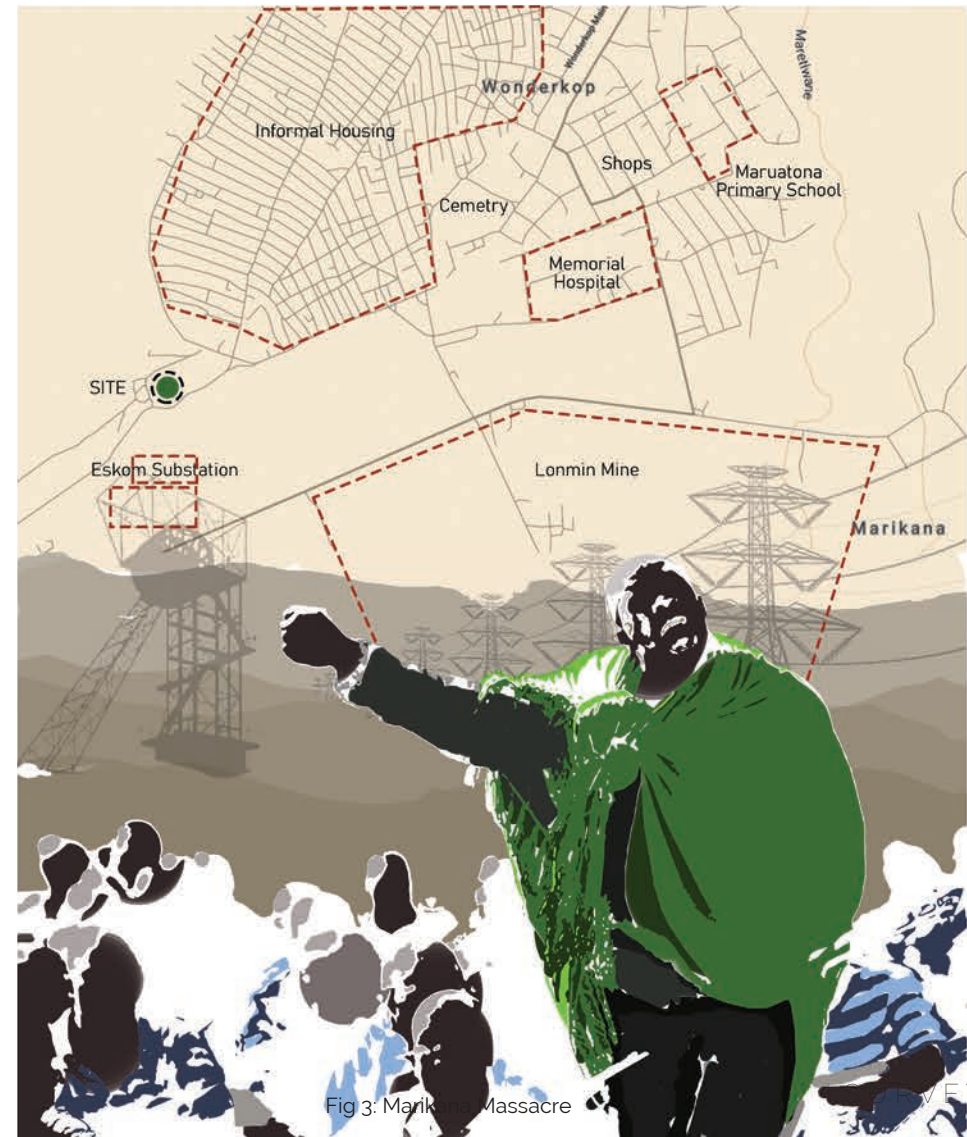


Fig 3: Marikana Massacre

## MARIKANA MEMORIAL

During the interview with former North West police commissioner Major-General William Mpembe. Who was in command of the police operations during the protest, now serving as head of security on the mine. We discussed the brutalities that transpired and the background that lead up to protests. It was then that I got the first indications of a much larger and deep-seated problem that the mining sector of South Africa was facing. The value of viewing both sides of a story, remaining neutral up until a conclusive moment.

During further communications with lecturers, it became all the more apparent how highly politically sensitive this topic was. As it would be hard for an architectural memorial to remain neutral, not to be observed as taking a stance in favor of either party involved. The wounds and tensions are still residual, there is a depth of ingrained emotions, where Marikana appears to be just the tip of the ice berg. Neighboring communities remain hostile to any action taken by the mine. Mpembe for safety reasons when taking us to the site had to hide his face in fear of recognition.

Rooikoppie now rightly labeled 'hill of sorrows' is considered sacred ground to the locals. The site itself is difficult to access for any tourists. As it would inevitably be unsafe, insensitive (in scale) and still has no clear client body who could act as custodians of the site.



Fig 4: Interview with Major W. Mpembe



# 03 TRADE MARKET

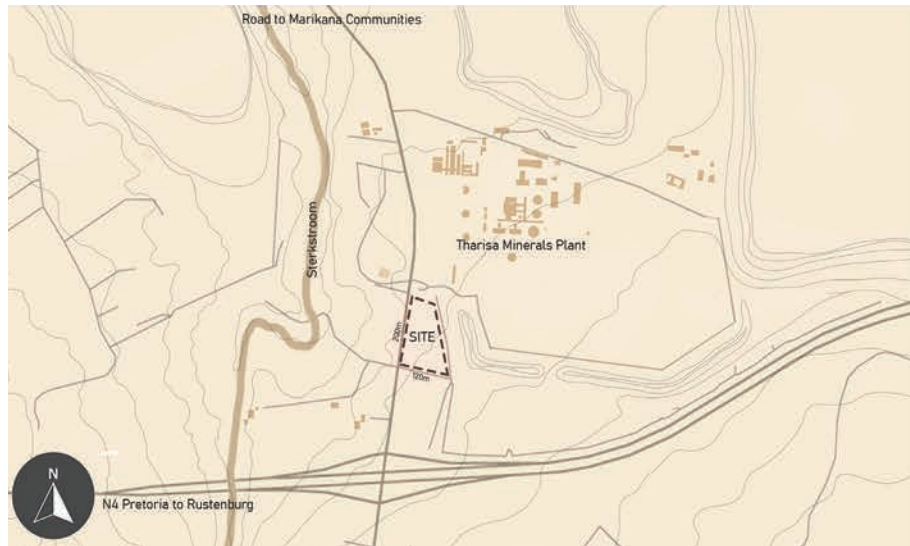
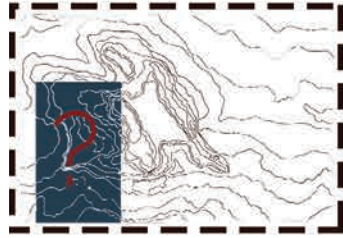


Fig 6: Site suggestion

## TRADE MARKET

In hopes to improve the lives of surrounding communities. The next proposed site was adjacent to the highway, serving as the main road that branched out to the communities and mines in the area. Its visibility from the highway made it the ideal site to draw attention and attract visitors. The aim of the building would be to serve as a node to the area visually and functionally. By providing opportunity for the culture and wares of the communities to be displayed. Providing some financial opportunities to the communities and acting as a gateway to the existence of these unseen communities just behind the hills.

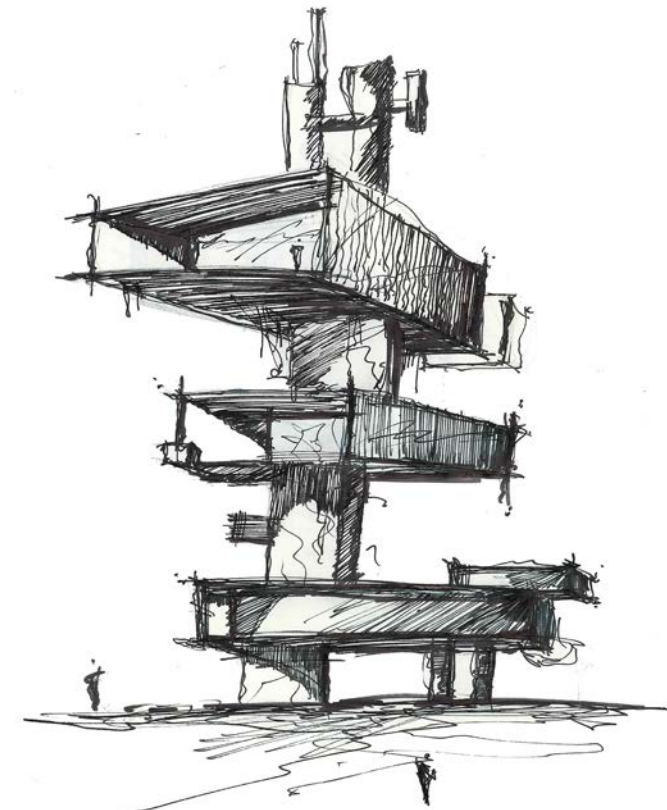


Fig 7: Visualization of beacon/node next to highway

Practically this would suffice, but in good conscience it would be wrong to leave the events that are brought to light during the research of this document unaddressed. In due time the mines will run dry, having exhausted the soil. They will eventually find new earth to excavate and the communities will be encouraged to relocate. Since most of these communities are migrants, and the housing provided or ground allocated in most cases are under ownership of the mine. The communities follow the machines as they slowly creep across the landscape. Leaving the market merely as a reminder to the events that transpired.



### 3 QUANDARIES

Having investigated three different sites, each with underlying problems, where architecture is only the means to a temporal solution. Each one's existence pointing to a fault in the system and the lack of awareness to the reality of mining in South Africa. The prospect of a single building. Being capable of resolving systematic issues that are so sensitively ingrained from the past and political in nature, started to diminish. As supposed ethical and emphatically designers, us architects tend to have misplaced faith or at least over estimate. The ability of a building, without first understanding the extent of the problem we strive to address. Foremost on that list are community centers. In which case the optimal outcome would only serve as a slight improvement to the quality of life in one community. In the vain hope to subdue the political unrest, a more wide spread solution is needed.

The ability of Architecture to take a political stance is evident in examples like the Apartheids Museum in Johannesburg. Yet the resolve to remain neutral and unimposing in such an approach would be difficult on a site stained with the blood of protesters. Rather the architectural response should be one, that creates awareness to the existence of the problems the area faces. One can not address the community but exclude the mining sector, due to their co-dependent, but pernicious relationship. Lebbeus Woods proposed an alternative, an architecture in the midsts of such conflict. As apposed to the addressing of either sector as an individual part in a building. Rather a space outside both, where both could be viewed as an objective entity. A concept he referred to as 'Freespace.'

The same applies to Marikana, in viewing it as a singular incident. The result is a insular view of the truth. A belief capable of changing at the whim of media influences. Rather than seeing Marikana as what it is, merely a singled out tragic consequence of a larger narrative. A coarse and blood red grain, that makes part of the conglomerate, that is the South African mining industry. The mining industry that served as the inception for the tears shed in Alan Paton's stirring novel Cry, the Beloved Country (1948). It is a complex story sharing many moments of interception with the history of our country. The architecture would no longer have Marikana as a focal point, rather in remembrance as part of the narrative as a whole. A building capable of stirring the emotions of people so hardened by the tragedies our country faces on a regular basis. A building that reveals the history as it is, free of obscurities. In hopes a being of care rises to the occasion, of new understanding and intervenes on behalf of the struggling.

A museum would allow for the conveying of an historic narrative, but the surrounding area calls for something more. Its architecture should be a space of seeking new insights to a problem. Insights Heidegger referred to as '*Inceptual Thinking*'. In order for the eventual Architecture to achieve such a space. The design process itself should follow this train of thought. First and foremost the underlying problem should be understood, in order to nurture a new mindset.

- Its function should strive to assist and bring awareness to multiple mining communities.
- It should be a spectacle for both the, underground mine worker and the corporate body of the mines.
- Focus on the mining narrative in general, albeit in close proximity to Marikana.

A CASE  
FOR TYPE

Fig 8: Apartheid Museums (Stafford, 1018: online)

Since the dawn of civilization, minerals have shaped cultures, communities and economies. Across the globe, mining has witnessed unprecedented growth as an industry, generating wealth, employment, and opportunities for growth. What remains a concern however, is how the mining sites are abandoned and left to degrade after mineral extraction is terminated. 5600. Such remnants are scattered across South Africa, according to Mikes Davis's 'Dead Cities, 2005'. The aftermath of such a mining excursion and its abandoned quarries will reflect on the tortured landscape for hundreds of years. The ruin of these landscapes extends further than that of the visible destruction.. Dangers lie in toxic dust blown to neighboring informal settlements, a noxious unseen cloud that ravages crops and lungs.



Fig 9: N. Overly, Abandoned Coal Mine South Africa (online.)

A study done by the South African Medical Research Council in 2013 indicates an estimate of 1.6 million live in conditions close enough to mine excavations to be influenced. These communities showed increased cases of asthma and lung diseases, a group that historically tends to be marginalized and, in the main, poor (Nkozi, 2018. Online). Leading to sites of potential calamity that are waiting for the grip of rust, to look like promising temptations for grave robbers from neighboring communities, who won't let sleeping giants lie. Poisoned gas lies and waits in chambers of earth for those willing to risk the abandoned tunnels for buried treasure. Architecture could hope to reclaim or salvage these industrial skeletons, in an attempt to cleanse and repopulate these plateaus of earth by applying the holistic approach of landscape architects. Will that really solve the problem?



## UNDERLYING ISSUE

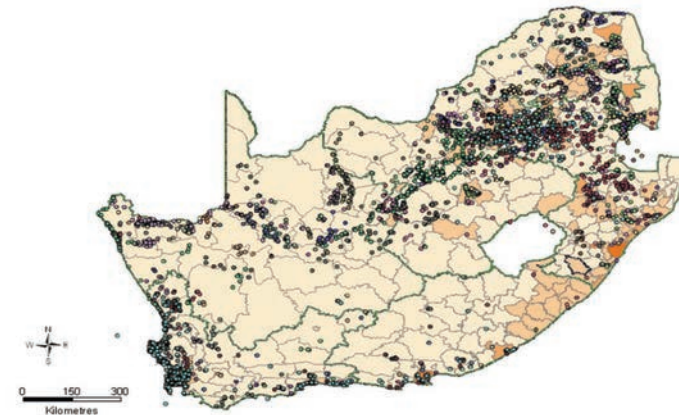
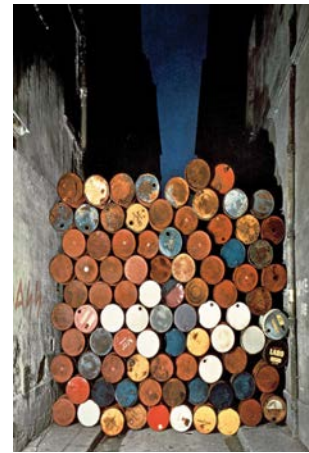


Fig 10: Abandoned mines within the vicinity of South African settlement areas, from Auditor General South Africa, 2009 (online).

These scenarios are spread far and wide, with these ramifications not only limited to coal and platinum mining which Rustenburg predominantly is. Areas like Johannesburg's gold mines, account for a fair share of contributions to the crisis. More than a century of gold mining has left towering piles of bleached mine waste, known as "tailings," all over Johannesburg's landscape. Discovery of gold in the region in 1886 led to the township's founding and transformed a small, isolated farming community into South Africa's largest city. The extraction industry has been part of Johannesburg's identity ever since. The mountainous mine dumps have been a feature of the city for so long, most locals will see them as just part of the 'natural' backdrop of the city, no longer as man made. The online journalist Pete Brook, refers to them as 'toxic time bombs,' rather than scenery.

The gold mines form such a significant part of South Africa. Thus the building's narrative can not be bound by the area it is engrossed in. Due to the scope of the struggle it aims to expose. Out of necessity it should include any relevant past. Be that the unquestionable positive role the mines played in Johannesburg's upbringing. As well as its abandonment of its people for capital. The mining boom brought riches to some, but its aftermath is now a harbinger of woe for many. The tailings surrounding Johannesburg contain uranium, lead, arsenic and other heavy metals. While these elements occur naturally, they have been brought to the surface and in a much higher concentration than it would have naturally (Brook, 2014. online). Rainfall then filters through the metals, cyanide and acids to form in concentrated pools near communities. Something which no building besides relocation or restoration can rectify.

Currently, monitoring of the environmental problems outweighs remediation. The fall of Apartheid and the establishment of democracy in South Africa brought with it more accountability and stricter regulation, but the cost of large-scale clean up is a burden no group wishes to take on alone. Former mining corporations, newer land owners, and regional and national governments are in constant disagreement about who should foot the bill. This unanswered socio-economic inequalities yielded its soil to a group known as Zama Zama's. As a direct by-product to the bunker mentality of society. The term Zama Zama in Zulu means 'taking a chance', given to illegal miners brave enough to enter the abandoned labyrinths in search of gold. A vigilant group mostly not really given an alternative choice in means of living. Yet another group with no durable solutions, with an unbeknownst existence to the general public. Society needs to know of both the positives and negatives caused by mining. To address struggling groups like the Zama Zama phenomenon. A paradigm shift is required among industry stakeholders, the general populous and the government in particular. Although unrelated the following images served as the catalyst to a response to the distress.



. 'The Iron Curtains' (Visconti, . 1962. online)



. Unsealed shaft, Blyvooruitzicht Gold Mine (Olade, 2017. online)

The idea of a linear narrative driven building, with a sudden and stark confrontation at its end. The stacked oil barrels was the response of two artists who felt the need to have his voice heard by the government. The barrels are the asseverations of Christo and Jeanne-Claude. It was a retaliation to the disruptive nature of the Berlin Wall's construction during the Cold War, The Wall of Oil Barrels commented on the politics of space, freedom, and mobility under increasingly divisive governmental policies throughout Europe (Visconti, 1962. online). A space capable of stirring the hearts of individuals enough to intervene. Their interventions served as a cry on behalf of the people, to the government. The installation did manage to attract the authorities, if only to remove the barrels. Nevertheless countless such small gestures could surmount to a revolution. The guilt of such conditions in our country, can not only be laid at the feet of careless mining heads. As fellow moral humans we must aim to assist. The proposed building only serves as a means to inform people. With architecture striking enough, to unearth some buried emotions.

## FAILING TO DELVE DEEPER

The Marikana Massacre of 2012 that caused the loss of 42 lives, is just the latest of known events in a series of unresolved tragedies throughout South Africa's history between communities and mining sites. Caused by the lack of awareness of these monumental struggles and the tension that exists, since the first miners were separated from their families and forced underground in pursuit of the earth's storehouses. An architectural intervention in such a case could be to propose a Memorial for Marikana, but what happens to that community when the earth deposits are depleted and the mine relocates. There are regulations in place for the rehabilitation of such sites, not always adhered to, but there are very little regulations regarding the community left behind. For such a case the architectural response would be to recommend a Community Centre. Solving the problem, or a bandage on an infected patient?

The reality is there is a co-dependency that exists between the mining industry, and that of the miner and his community. There are pitfalls embedded in endeavors to succour these areas, without addressing it in its totality. These areas are usually not dealt with properly, if at all, in a highly engineered realm that caters for nothing more than functional requirements. Thus the relationship between these systems are purely out of necessity. By introducing an awareness the human element in these systems one could alter the composition.

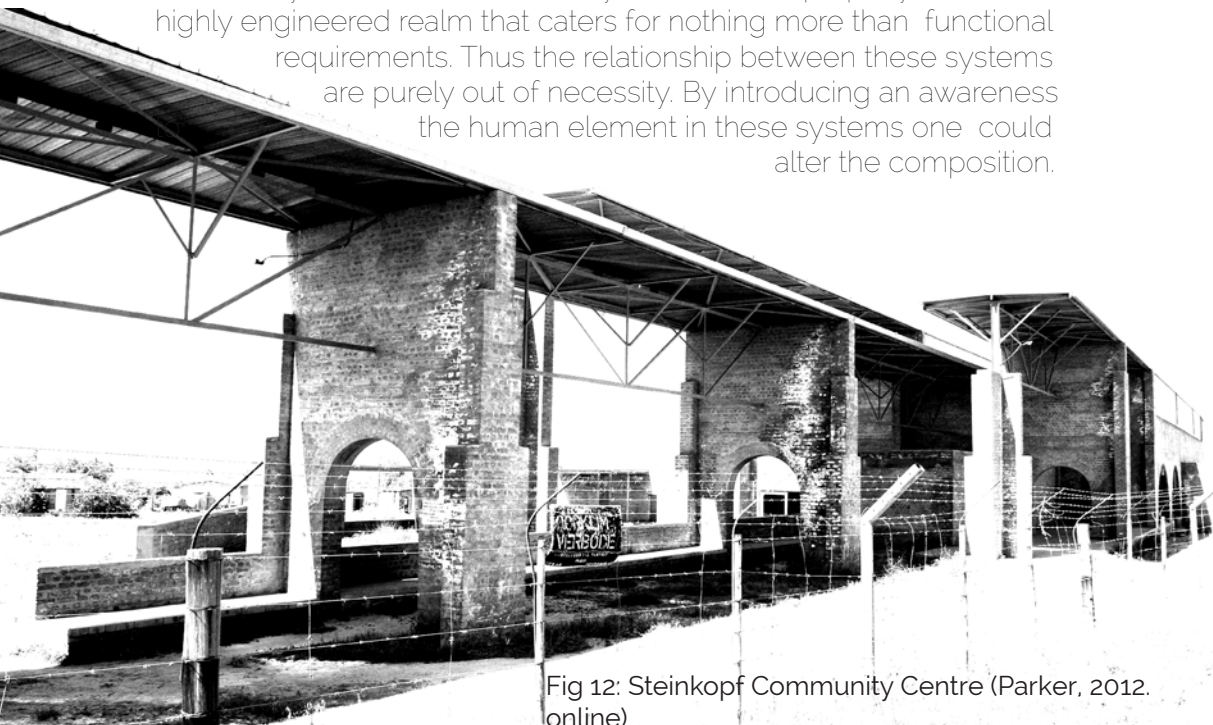


Fig 12: Steinkopf Community Centre (Parker, 2012, online)

"No one seems to want to analyse this deeply, and consider issues such as migration that built this country's mining industry – it's like a diamond rush. This is a problem that can be resolved." Says Michelle Goliath a well known activist, who focuses on empowering women mine workers (Todd F, 2019, online). Examples of sensitive architecture, albeit with good intentions have succumbed to overwhelming social systems, producing the opposite of the intended effect. Such attempts at solving complex issues with works of architecture, when not addressing the underlying issues, result in more beautiful built ruins like Roelof Uitenbogaardt's Community Centre in Steinkopf. Where the architects failed to appropriately engage with the real concerns of the community, while simultaneously dealing with a problem that is to far-reaching and intrinsic to solve with Architecture.

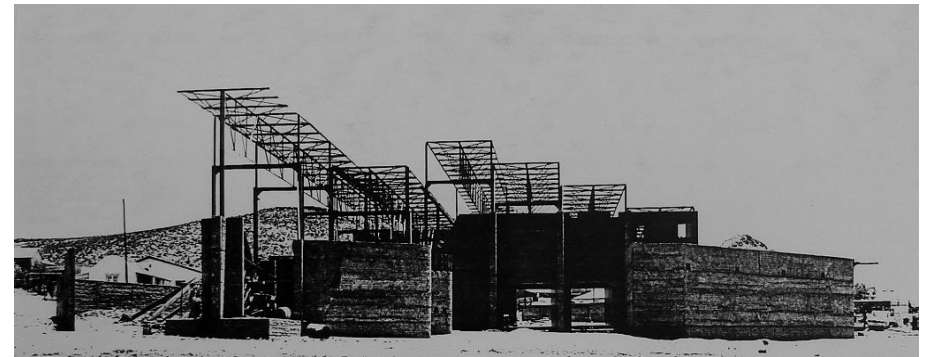


Fig 13: Steinkopf Colonnade under construction (Flicker, 2012, online)

Possibly requiring some means of integration in phases or supporting systems prior to its opening to the public to ensure longevity and interaction. As a result of the tensions between the two realms, the architecture could easily feel imposed as just another system, ultimately adding to the lack of ownership and care found in these scenarios. Lebbeus Woods addressed similar situations of systematic power struggles, stating: "Resist the idea that architecture is a building. Resist the idea that architecture can save the world." (Woods, 1993, 21). Thus a new approach should be considered, as a means of stepping back and looking at the entirety through a thematic lens with the aid of architecture. In order too approach the multifarious tragi-sanguine aspects of mining from a new perspective.

"We live in a world where there is more and more information and less and less meaning" (Baudrillard, 1994; p. 79).

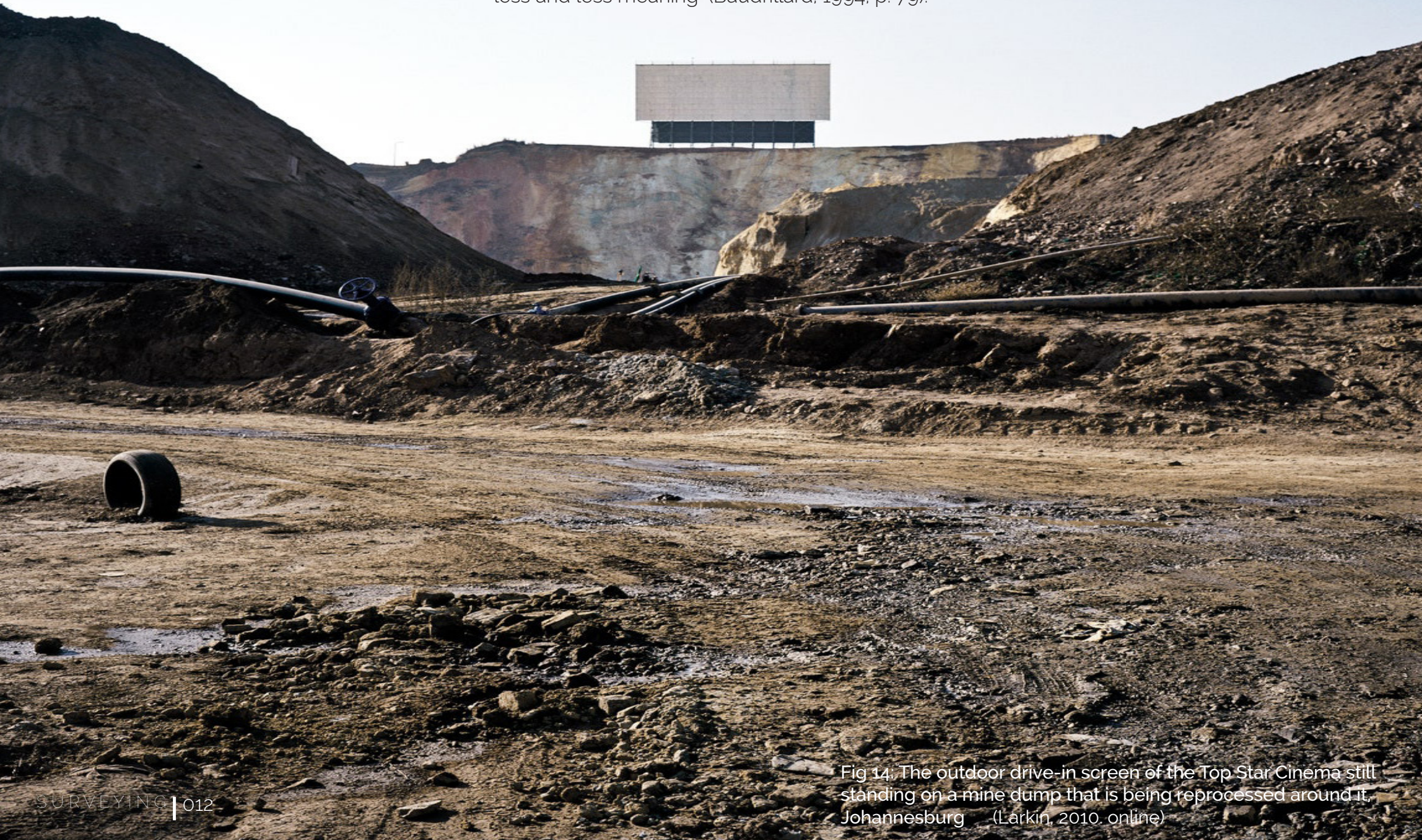


Fig 14: The outdoor drive-in screen of the Top Star Cinema still standing on a mine dump that is being reprocessed around it, Johannesburg (Larkin, 2010. online)

# TOUCHSTONE

Touchstones were more commonly in use during a bygone age. Referring to a hard dark siliceous stone, that was used to test the quality of gold and silver. From the color of the streak they produced on the surface of the stone (Collins English Dictionary, 2005). In essence it is a way to check the quality of something. In this case, the measure by which the validity and merit of a concept can continually be tested against. The visualization of the underlying issue that most mines around the Rustenburg face. The initial ethic that will direct the golden thread all throughout the design process. It serves as the test to which all other ideas are collated with, to establish that the design does not deviate.

Physically each visual element is emblematic to situations commonly found around mines. The wire shaft represents the intimidating mine structures, looming over the valleys and man made mountains. They serve as constant reminders too connotations an individual has attached to such a Typology. The black gravel represents the excavation of soil. Whereas the wire silhouettes are the communities, seemingly oppressed by the structure. It seems certain that some great trial of strength impended between the two. The gravel is funneled out between the two concrete blocks, when the strip is pulled. This simulates the slow process of the mines uprooting the communities.

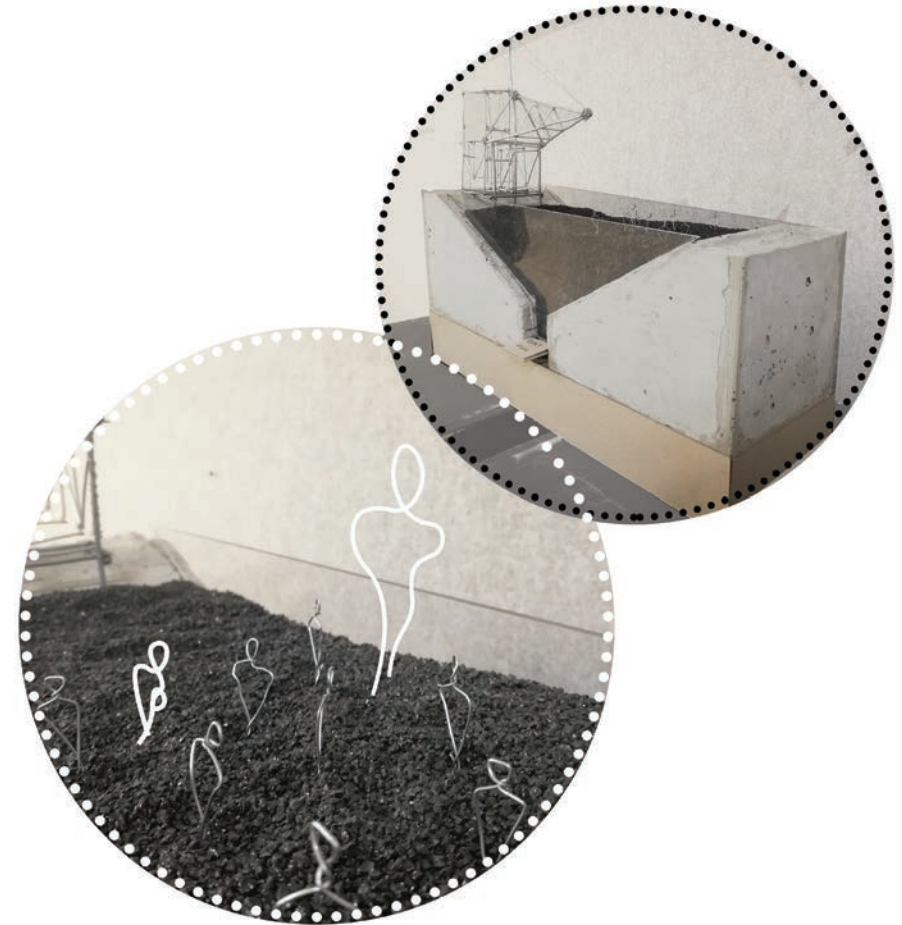
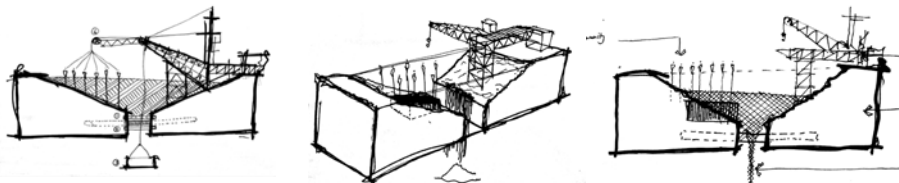
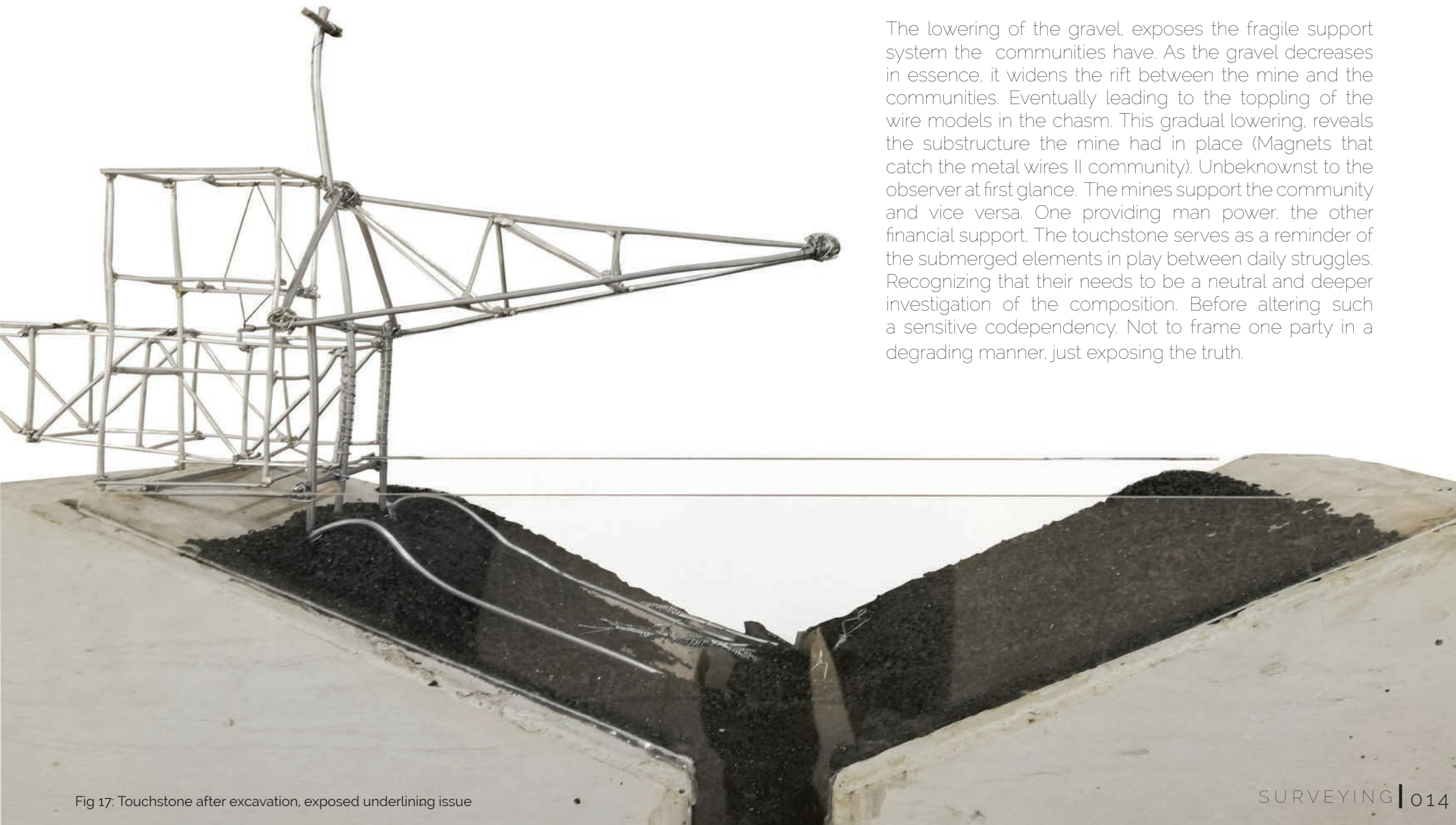


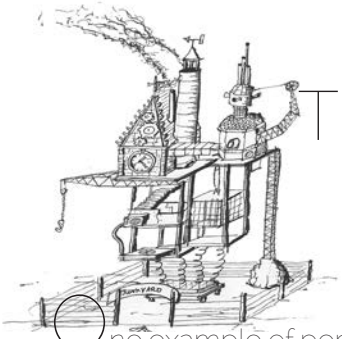
Fig 16: Abstract Thought Touchstone





The lowering of the gravel, exposes the fragile support system the communities have. As the gravel decreases in essence, it widens the rift between the mine and the communities. Eventually leading to the toppling of the wire models in the chasm. This gradual lowering, reveals the substructure the mine had in place (Magnets that catch the metal wires || community). Unbeknownst to the observer at first glance. The mines support the community and vice versa. One providing man power, the other financial support. The touchstone serves as a reminder of the submerged elements in play between daily struggles. Recognizing that their needs to be a neutral and deeper investigation of the composition. Before altering such a sensitive codependency. Not to frame one party in a degrading manner, just exposing the truth.

Fig 17: Touchstone after excavation, exposed underlining issue



# THE MACHINE MENTALITY

One example of perspectives that could change, is the premise that technology excludes meaningful design. That its nature is inherently and exclusively functional. Thus it has been found lacking in its support of architecture, such as the modernist movement that was deemed a failure. An argument could be made for the necessity in its inclusion in a design approach such as this. Rather a machine's nature is to strive towards a new future, thus the framework should allow catering for a machine like appeal.

Historically, technology is studied in terms of context or content, a seemingly inevitable consequence of social forces and need. Evans (1998) proposes a third perspective based on understanding technology as a cognitive function driven by spontaneous creative inspiration. This approach describes the moment at which a new idea is born. Ideas, once formed, cannot be thought out of existence. They are there, and it is impossible to re-imagine the mindset before a particular mental problem was solved.

An analogy may be drawn between the spontaneity of new ideas and the indeterminate nature of architecture. How architecture is understood and used is ultimately beyond the control of the architect, however well intended the design may be. It is this spontaneity that is of importance to this project as it points to subconscious mental processes. To work in the spirit of 'techne', would then require an attempt to uncover, and proceed to amplify these hidden processes (Evans, 1998). To assist in ultimately resolving the current fundamental flaws in our mining systems. The spirit of techne in and of itself has no origin, it developed as the need arose, such a time as this. Techne is a poetic attitude to making. Through it, technology becomes a vehicle for existential contemplation. The Inceptual thinking.

The construct of architecture that embodies a machine, that in essence receives humans, and it exists to create new beings. Following a narrative, engaging the body physically, the architectural mechanism mediates between fluid imagination and environmental experience, in effect giving physical expression to ideas and desires. Techne, at the architectural scale, highlights our primal curiosity to understand.

The end of such a technological truth, should confront a person with a decision to take a stance for self-destructive atrophy with its war, pollution and lack of care for fellow man and , or the need for evolution. A confrontation for man has always lead to technology to remedy it. For architects, this ambiguity creates the ideal condition for spatial experimentation. In striving to produce a miscellaneous machine that evokes this response.

Particular care should be taken in its attention to detail, as you reach a point where it can no longer be experienced, only operated (McCarter, 1987; p. 9). It is an opportunity to probe uncertainty and walk on this knives edge to risk glimpses of the unseen. Such architecture refuses a single reading, but allows participants the opportunity to re-assemble their own destinies. In other words, to recognize oneself in something else is startling, but invariably breeds new thought-processes. This quest for discovery is completed in the true spirit of techne.

Lebbeus Woods embraced working in the spirit of *techne*, the aim is to think through one's hands and an activated subconscious. Participation becomes the process of writing yourself into the world. A creative dialogue between man and technology is set in motion, driving the evolution of thought in his drawings. He was considered an architectural visionary. Describing a radically experimental world built on the principles of heterogeneity a belief that, in the current era, Architects have a responsibility to face the historically unprecedented problems confronting people everywhere today. Unfortunately very few of his drawings made it past the conceptual stage. If that feeling could be sustained into built form, a sense of permanent impermanence may mediate the world of imagination with material reality (Manolopoulou in Borden et al, 2006; p. 260). This type of spatial experience necessarily requires participation. The participant is invited to become part of the creative process, to complete it psychologically, according to personal strategies.

"[...] the unformed drawing is 'alive' and changeable. It forms questions as much as answers..." (Manolopoulou, 200, p:19)

With their commitment to the total situation of architecture, architects should be the leaders in the reconstruction of human landscapes that have been transformed by violence in its worship of the machine (Stewards, 2018.online). Yet Woods uses that very same machine to embody the chaotic spirit of the new age as a remedy, although in a very abstract and questioning manner. Needless to say the systematic machine of today is not necessarily bad, its systems emplaced in the mining environment are partly responsible for all the strife made in this field as well as the rising interest in social responsibility over the past decades towards the environment and communities. These systems do a far deal greater for its communities compared to its predecessors, where members of families were forcefully removed and shoved underground in pursuit of shiny rocks.

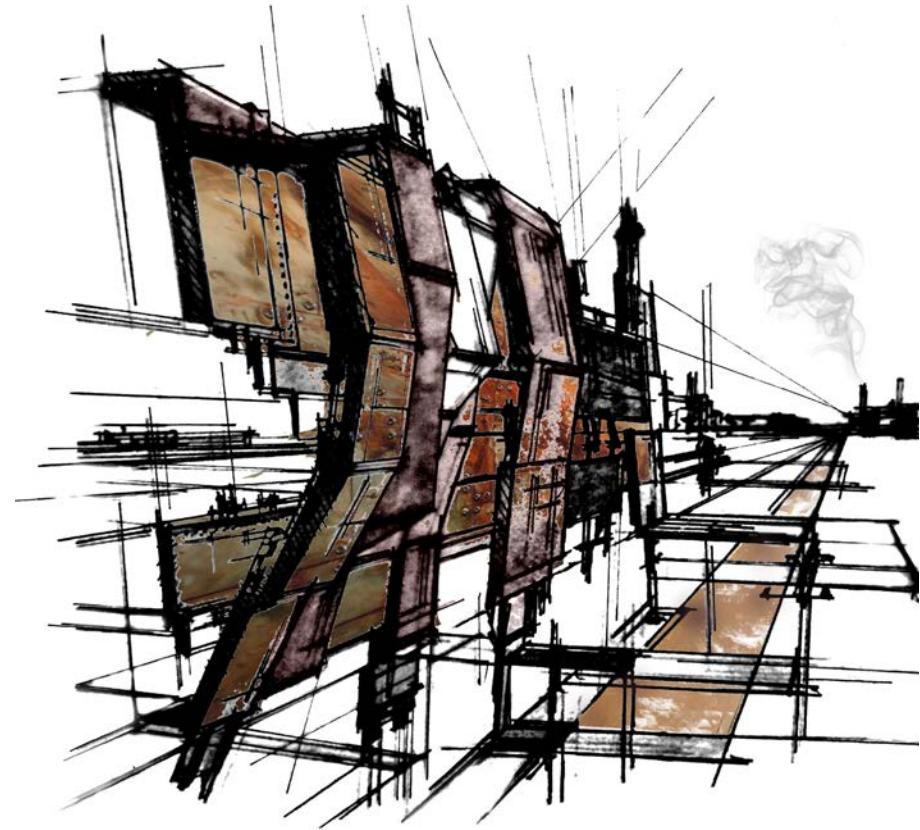


Fig 18: Drawing in spirit of *Techne* experiment

"In a century or two, or in a millennium, people will live in a new way, a happier way. We won't be there to see it, but that is why we live, why we work. It's why we suffer. We're creating it. That's the purpose of our existence. The only happiness we can know is to work toward that goal. .. - Anton Chekhov - Three Sisters, Act 2

On the opposite side of the spectrum the mines provide housing, infrastructure and support to its communities. As is the case with the Mmaditlhokwa RDP housing project in Rustenburg. A informal community adjacent to the site, that was relocated due to safety risk and mining rights. The mines in these cases provide the basic infrastructure and housing for the community. Due to a belief and sense of injustice, some only cling to the violent past served on the opposite scale to the communities. Never acknowledging the good mines do. Such a regard of dwelling in the past can not serve positive outlook of the future, as it may that the past systems have harmed its user. As the system has in these cases let down the employer and the employee.



Fig 19: Latz + Partner, 2017: Landschaftspark Duisburg-Nord (online)

Architecture can not rectify or condemn this past nor change the systems currently at work, merely reflect the past and acknowledge the system whilst pointing towards the future. Neither Heterotopia nor the idea of freespace: areas that will be delved into later in the document, are in opposition to its systems. As it too is reliant on its concealed existence. Merely an enactment of scenarios, were the systems different or fictitious. Neither are they perfect, but an awareness brought on by a new architecture and 'beings' could be the catalyst the system needs. The Landshaftspark serves as a good example of a system with a destructive past, now in harmony with nature. Insinuating a possible new future.

This cybernetic existence is a double-edged sword. On the one hand it is easy to despair, mourning the loss of meaning amidst economic and environmental uncertainty. On the other hand it contains a message of profound optimism to the future, although we might not live to see it. 'Yet, human existence is meaningless if it is not open to its own mortality'. (Mackeith 2006: 20). In a manner technology reminds us of our finite existence. The ever growth of it, Yet its parts will rust and be replaced. So too do we form part of the rhythmic system. The singular component will never know the extent of its contributions. Unless it steps outside for a timeless moment, and perceives the system as a whole.

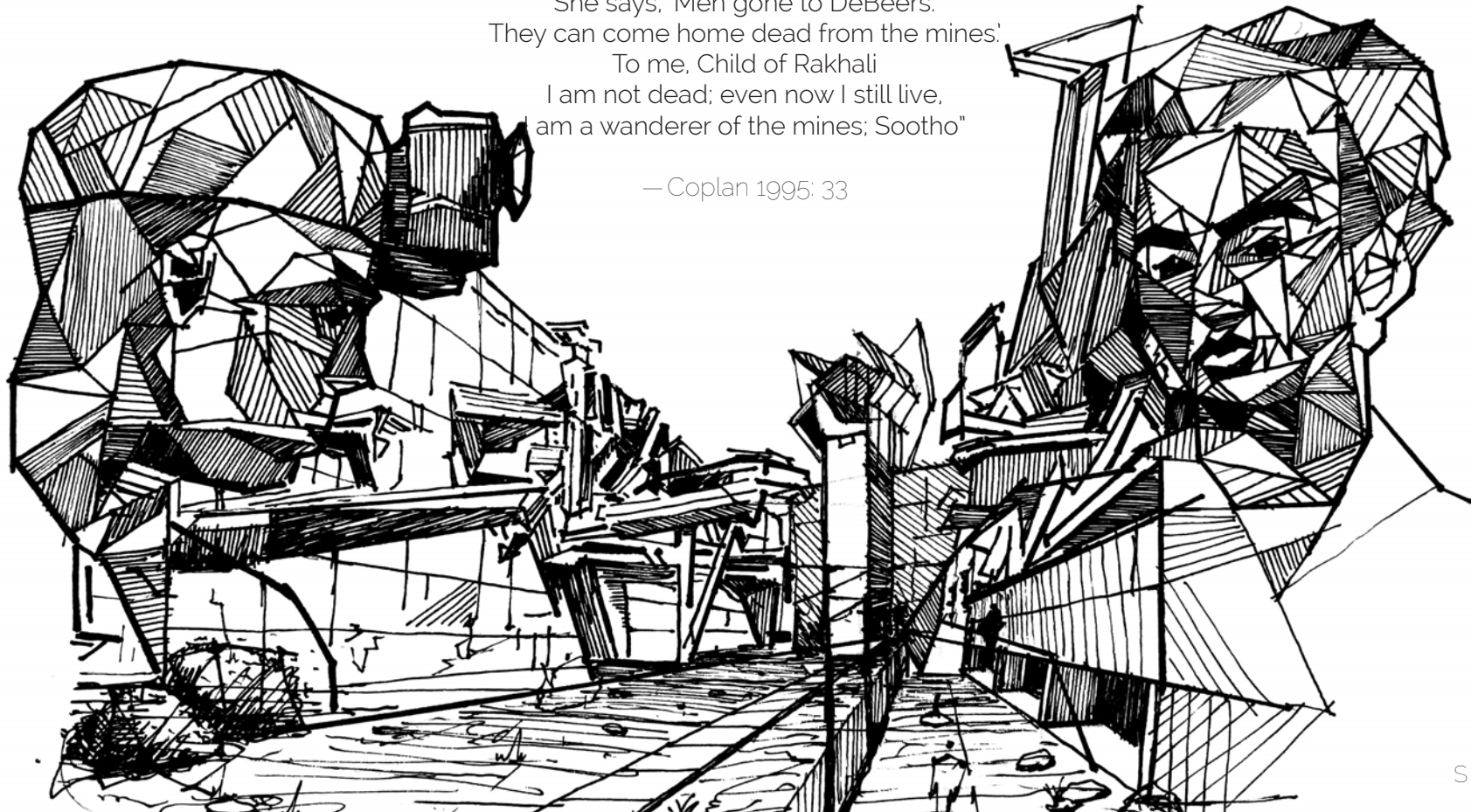
Knowing the motive behind the machine-like aesthetic, the building itself requires a site, program and function. Bernard Tschumi argues: " ... there is no architecture without program, without action, without event." (Tschumi, 1994; p. 4). This anfractuious means of designing in the spirit of techne. Ultimately will result in moment of conflict, to serve as the event and its architecture the action. In this sense, architecture is defined as the resultant friction between spaces and events, rather than meaning inherent to form itself. I agree with Tschumi's assertion and suggest that new juxtapositions of form and associations are a key to inspiring exciting new types of program to combat the system. Through inceptual thinking and conducting form experiments, I am searching for a process of arriving at program, rather than predefining it.



"Death does not choose; famine chooses.  
I was going to my mother quietly:  
'Mother, take a letter for me,  
I am going to DeBeers (*Kimberley mine*).  
Scarify me with qetella pele  
*['finish first' medicine],*

So that these multitudes should follow my lead!  
Other men's villages are not entered freely,  
Lad, the day I'm going, I mount to ride away,  
A woman of witchcraft was already hard at work;  
I saw her early going to the graveyard,  
She puts on a string skirt fastened with knots,  
She takes the arm of the corpse and waves it,  
A mouthful of blood, she spits into the air,  
She says, 'Men gone to DeBeers.  
They can come home dead from the mines.'  
To me, Child of Rakhali  
I am not dead; even now I still live,  
I am a wanderer of the mines; Sootho"

— Coplan 1995: 33



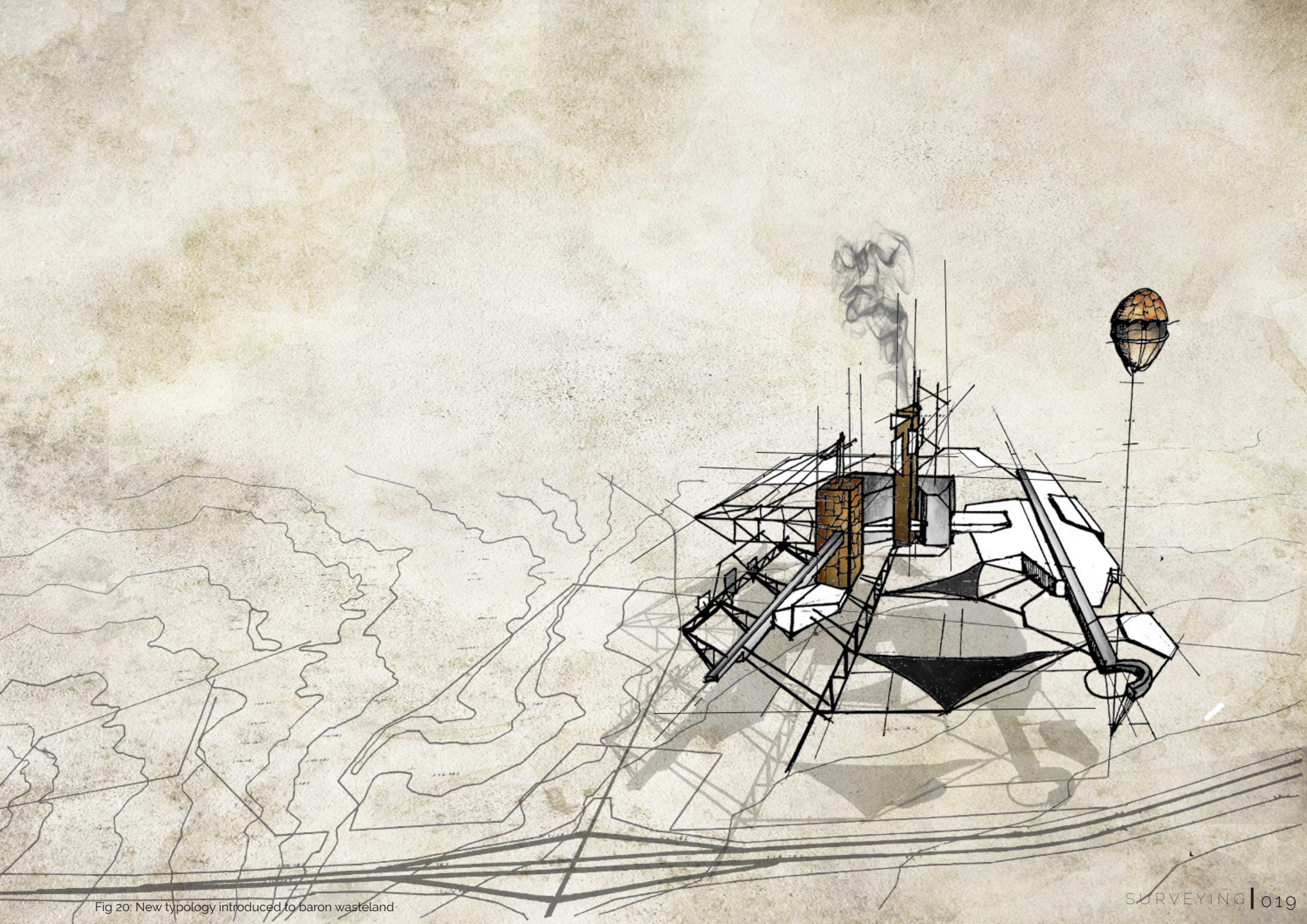


Fig 20: New typology introduced to baron wasteland



# PART 2: EXTRACTION

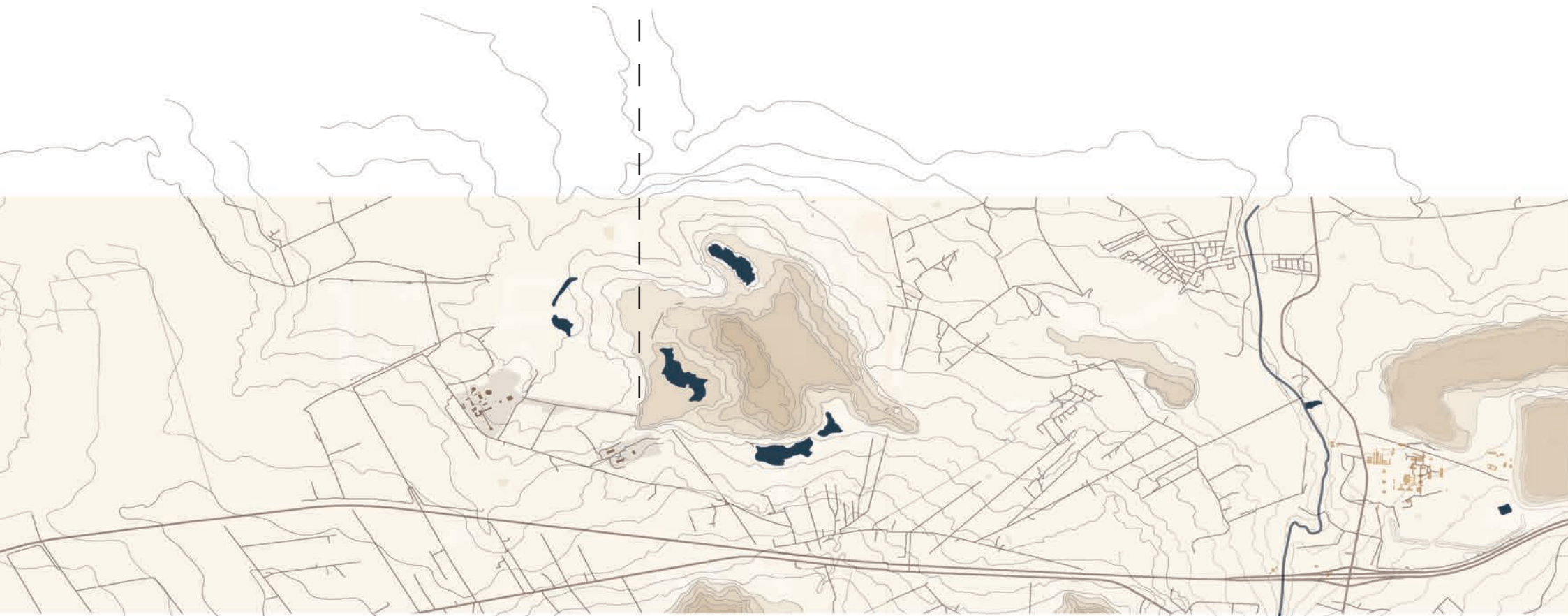
'Extracting ore from the ground || Fathers from families'



SITE II aim

!... the bringing together of apparently  
irreconcilable opposites was the  
condition of poetry itself !.."

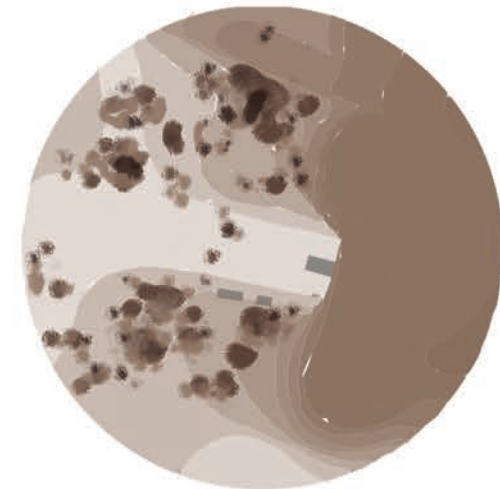
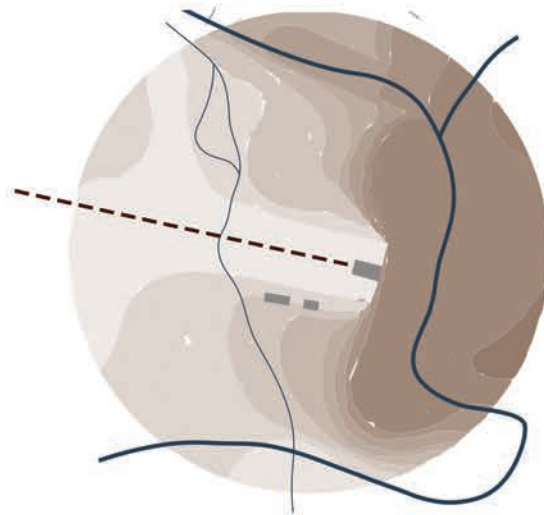
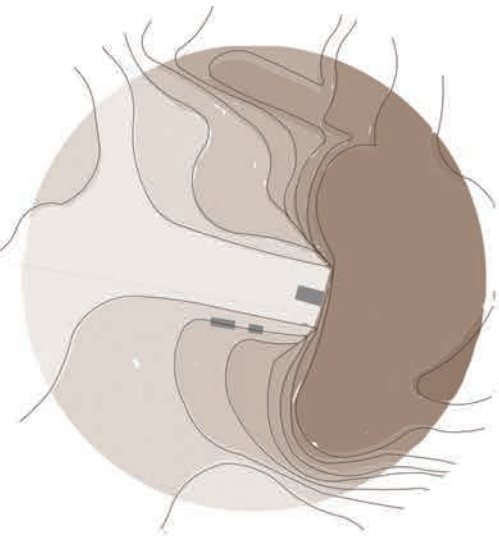
(August Strindberg in St. John Wilson  
2007: 99)

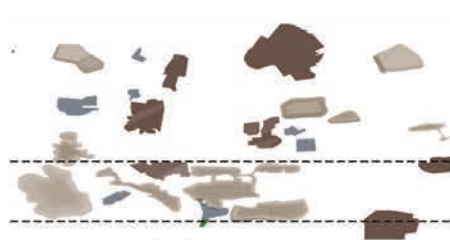
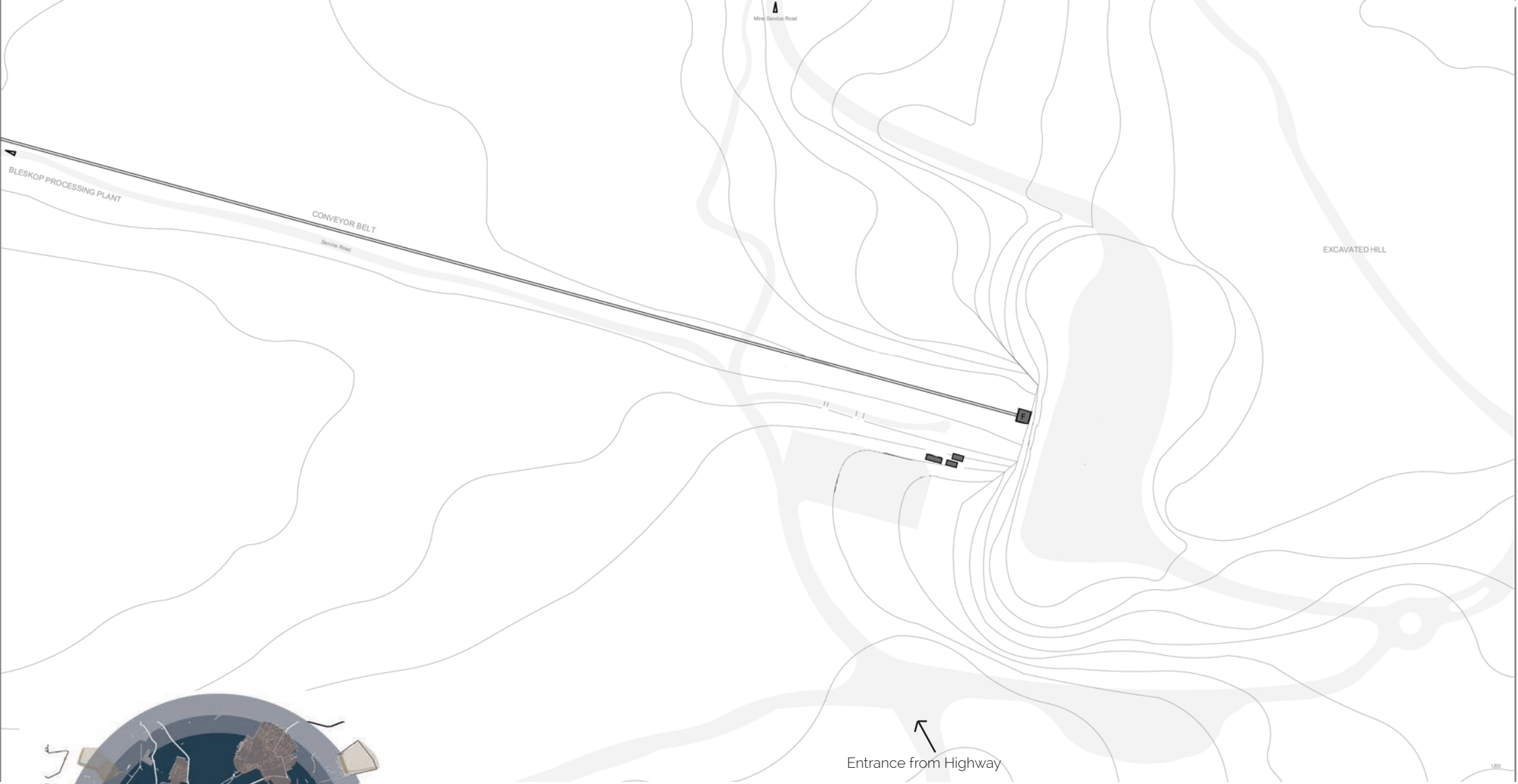


# SITE ANALYSIS

The search for a site dramatic enough to play host to such a conflict. That challenges the status quo, right in the midst of the struggle. Was a strenuous endeavour, with the difficulty of gaining access to these areas. The site finally revealed itself in June. It is an unrehabilitated slag heap of excavated earth, on the outskirts of Rustenburg alongside the highway to Pretoria. The hill has an abandoned mine shaft clinging to its side. The shaft served as a crusher, having been stripped of all its mechanical parts for safety reason. What remains is the empty concrete shell. Trucks would dump their unrefined rocks down the shaft. Where it would be crushed fine enough to transport along the conveyor belt. The 1.3 km conveyor belt that fed the processing plant on the other side of the axis. Has been removed with only the foundation plinths remaining. The area is rich with minerals and has therefore also been the focus of mining groups. The result is a landscape with scattered scars, industrial skeletons and dependent communities. Making it the ideal site to reflect on a much larger situation which resonates amid numerous historical, social and political tremors.

Heidegger proposed that "spaces receive their being from locations and not from 'space'" (1951a: 152). This implies that architectural space can also be understood as an interpretation derived from the particularities of its place..





The man-made hills obstruct almost any view of the communities and mining structures from the highway. This metaphysical boundary in a sense conceals their existence. There is one entrance from the highway that branches off and connects the area. This entrance also connects a bridge over the highway. To the ATKV Buffelspoort Resort that maintains a steady influx of holiday goers year round. Along with the highly traveled road will provide plenty potential visitors to the site.

- Mine Heaps
- Communities
- Industrial Mines

# SITE

West View



# SITE

East View

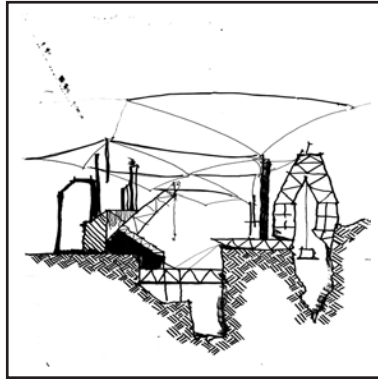


The concepts strive to capture the spirit of the struggles in built form. It shows of a set of relationships between factors that are believed to impact or lead to a target condition. It defines theoretical entities. In this case the problem faced is not site specific, but its traces are still evident on similar sites.

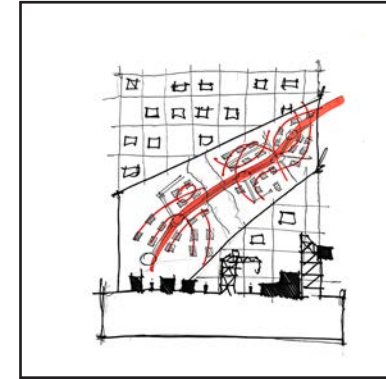
MOMENT



TENSION



NARRATIVE



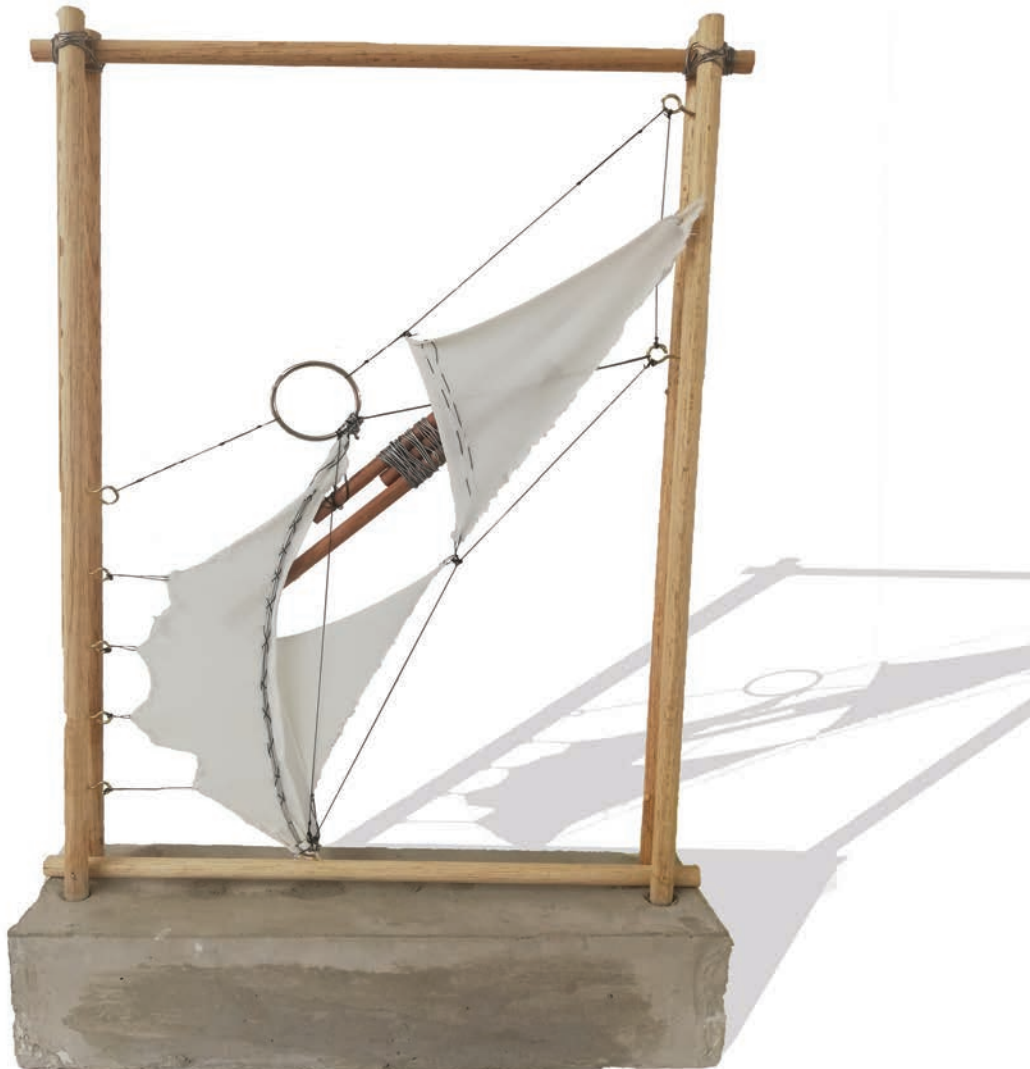
# CONCEPT 1



## MOMENT\_

When people think about mining, especially in the context of history. Almost universally the image of a pickaxe comes to mind. The sweat on the miners brow, the dark tunnel with a glimpse of light at its end. The overhead swing of the pickaxe, as miner arching himself preparatory to committing to the swing. The moment before the downward swing is what intrigues me. A timeless pause where the pick is caught in a moment of decision, at the whims of its user. Where the miner will choose to pledge himself to the fluent motion or withdraw from the action. Knowing full well the strain the impact of the pick with stone, will cause on the users hands. The shards of stone breaking apart from the connection. The concept does not necessary inform the structure of the building. Rather the importance of the moment at its pinnacle.

## CONCEPT 2



### TENSION

The ambiance of these already mined areas, should be that of a quite mourn or awe. Instead the sites still pertain a distinct aura of tension from past experiences. Be that the tension between nature and the remnants of structures who lay claim to the site. Although, overtime nature will win the titanic clash. The question and cause of tension is, how long can the man made resist its onslaught.

The tension that exist between the people and the mine. The Zama Zama scavenging for survival and the security officer merely doing his job. The canvas although strung under tension, the material is still flexible. The industrial landscape is a harsh sight, with sharp fragments and broken edges everywhere. The canvas can still envelop it, softening the landscape. In so doing it also connects all the disjointed fragments. The tension does not diminish, its just more palatable and defined. The main sources of tensions are capable of piercing the canvas. The architecture then, giving more emphasis to that area.

# CONCEPT 3



## NARRATIVE\_

The narrative does not only follow the mining revolution and its impact across time-lines. What give this project a concrete foundation is the reality of people caught in the system. The names who have been forgotten, the replaced part, the nameless one considered as a number in the work force. The mines go to great lengths to aid its employees, beyond what is expected of them from the state. So not undermining the importance of the mine, but the meaning lies within the individual. Who formed part of a community, who lived out his own narrative. The daily rituals and regular faces, making ripples in an ocean. Despite the system pitted against them. All the above mentioned concepts should be found within the end result of the design. Working in unison to extract the most amount of emotion from a person in a space.

# PART 2: EXTRACTING



## CONCLUSION

- Having revealed the underlying issue why the expected architectural approach won't suffice.
- Established a guiding ethic by means of the touchstone.
- Appealed for a machine like aesthetic.
- Concluded on a site dramatic enough, and in terms of architecture.
- Identified the concepts that are to be embedded in the core of design solutions. Encapsulating the generic characteristics already, constraining and conveying the form of possible specific solutions. Abstract enough to prevent early commitment to a specific design solution. Thus they still facilitate a exploratory reasoning (inceptual thinking) towards design and function.
- Having no function as of yet, further study is done on Heidegger's Inceptual Thinking. As the means to reach this line of thinking through engaging with architecture.
- In the hopes an emotion and truth seeking function will reveal itself.

Martin Heidegger, the German Philosopher, introduced the 'inceptual thinking' approach to this document. Thinking inceptually served as a way to question past approaches proposed to remedy the tensions between mines and communities. By attempting to bring a realization to the reader as well as the user of the Mining Interpretation centre, of the existence of a state of mind. That is prior to the conception of trains of thought, regarding solutions. Inceptual thinking creates the conditions for a particularly revelatory state of mind; a realm preceding both the transcendental power associated with imagination and the capacity for intuition ensconced in the Being of beings (Iyer, AA, 2009, 40). In so doing possibly revealing a new approach more in tune with the mortal man, awareness of being and the totality of the mining history rather than a narrow minded temporal objective.

The habitual approach would follow 'conceptual thinking', defined as the ability to recognize the 'big picture' resulting in somewhat of an understanding of the context. Allowing us humans to predict and hypothesize, perceive and imagine, and to conclude and reflect. With the understanding how interplaying parts work as a coherent system (Jarrard, 2012, Online). According to Heidegger it was the transcendental power of imagination that was prior to this conceptual thinking and forged the horizon within which knowledge of beings became possible. The act of thinking is interpreted as a means of being for Heidegger, thus beings come to be. An interpretation that could not have been made were there not possibilities that were pre-existing. Thus the process of creation, the sense of a causing something to be through the act of thinking is not a physical process, rather a hermeneutic process of something being interpreted as something. Beings are not spawned out of nothing just by thinking of it. Neither are these possibilities preordained by empty, abstract or free-floating thoughts with no material substance. Rather they are concrete possibilities that are revealed and localized at a site. Such a revelation on the concrete possibilities are referred to as be-ing (Seyn), giving rise to the inception of history by opening up one self (Iyer, 2009, 43).

## INCEPTUAL THINKING

The inclusion of history in the undertaking of this document and the Mining Interpretation Centre is a necessity to reach such an understanding, not the inclusion of just one historic event but an idea of the greater narrative. By moving into this realm of thinking we reach closer to overcoming conceptual thinking. This is due to the preternatural power of the imagination, by participating in active thinking surrounding our being of beings origin, enables us to only think of the being of beings in terms of categories, rather as truly a non-conceptual thinking of be-ing in its uniqueness. As is the case with inceptual thinking.

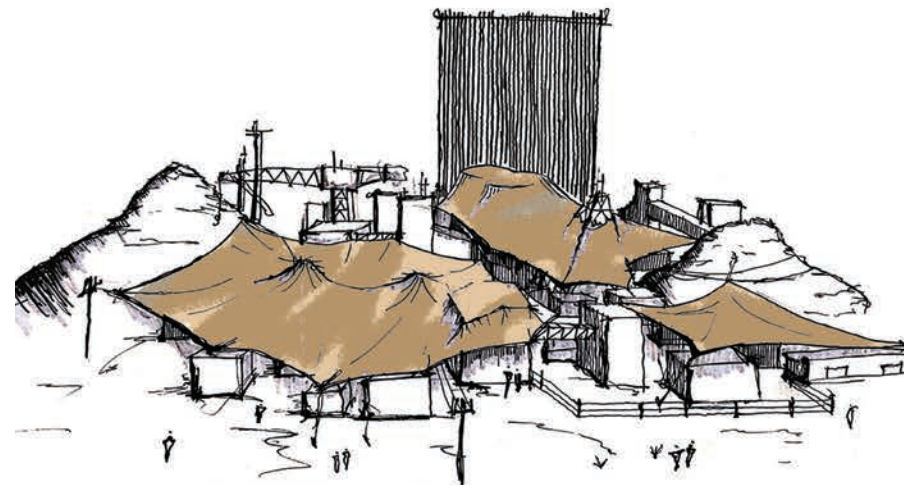


Fig 25: Vale of authoritative systems

In opposition to the systematic thinking based on "the correctness of derivation and of fitting into an established and calculable order", inceptual thinking has to establish an arrangement (Fügung) in the first place (Parvis, 1999, 46). This line of thinking diverges in investigations of architectural attempts that stood in opposition to the Institutional systems imposed on society such as categorization, ideal and order that brought a unique awareness to its users. To assist in generating the design through an inceptual thinking approach. This systematic thinking represents a given certainty, passively to the public, whereas inceptual thinking works through actively joining together an arrangement. This joining together is not an arbitrary or wilful human act. It is, on the contrary, necessitated by the call of Be-ing itself (Iyer, 2009, 53).

The rigor of inceptual thinking lies in hearing this call and being sensitive to the necessity of responding to it. A cry and celebration that echoes from across the timelines of mining history, that is only truly heard with the awareness of sound hindering institutes (media and governments). The extent to which we are able to recognize the limitations imposed on us by being, through thinking, has always been a measurement of the rigorousness inherent in mortal thinking. To be rigorous is to be able to account for the way things are so that our thoughts correspond to the way things really are (Iyer, 2009, 53). Scientific thinking, for example, is said to be rigorous because it strives to account for the way things are. The mining narrative will likewise aim at invoking a rigorous thinking response through acts of spurring on the brutal honesty in emotions, in its purest and untamed form, be it remorseful coldness, unexplainable sanguine thoughts or anything in between. Brought to fruition in possible moments of revelation.

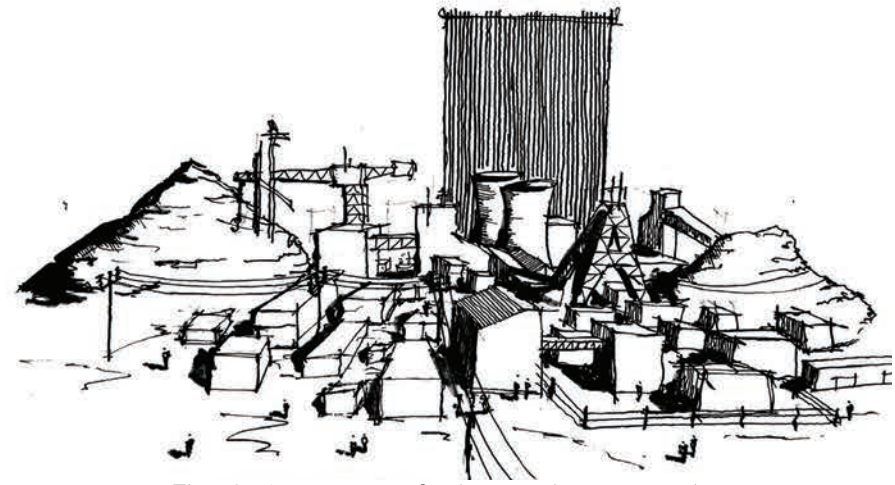


Fig 26 . Awareness of vale reveals some truth

Heidegger suggest that every revelation of a discovery, naming or understanding is accompanied with a wealth of hiddenness, implying that there are marginalized aspects that have been forgotten in the process. This obscurity is what he refers to as the 'abyss' (Auret, 2015: 22). Every substratum holds the potential for revelation, as well as loss. Heidegger understood this "shakeable foundation" – a "ground that gives way" (Kisiel, 2010: 28) – as an abyss: not only as void, but as "a withholding that holds sway throughout the history of metaphysics" (Warnek, 2010: 163). Poets to Heidegger are ones who are most often able to "reach sooner over the abyss" (Heidegger, 1946: 115-116) and grasp a certain revelation due to their more venturesome tendencies. Architecture could in theory assist its user in means of temporal bridge across the abyss through moments of understanding, but can no sooner enforce inceptual thinking than to sustain it throughout the narrative. Every personal and unique denouement reached of a narrative such as the tragedies and opportunities surrounding South Africa's mining history. Will be unique but its veracity will in a sense be withheld by the possibilities of unseen historic threads, the rational and institutional upbringings. This is not a dwelling on the unseen but an acknowledgment of it.

This means of thinking, are in essence attempts to grasp the "withholding" and "uncertainties" as attributes regarding the abyss, with an awareness of the fascination in the existence of Beings at all. An awareness that comes from a meaningful space, where our mortal minds are emplaced in a region of concern. The meaningfulness of such a space through architecture is not defined by its ability to gather the significant aspects of their world, such as the historicity of mining or its authenticity to its typology. Their wonder lies in poetic moments of disclosure, granted to those willing to endure the silence that pervades dwelling near the "source" (Heidegger, 1946: 118). Rather such a space engages a way of thinking appropriate to our concerned mortal being-in-the-world.

Where we as mortals now form an intricate part of this mining narrative, being placed in a region of concern through either mindful or active engagement. We are imbued with silent uncertainties, experienced by our capacity to "receive," "await" and "save". As the shackles are loosened an opportunity arises where we may allow our emotions to subconsciously engage previously unexplored possibilities. From a mining perspective we become prospectors of the moment. The mortal engages with this happening as a mystery by being aware of the equally mysterious chance of the unique experience that is 'letting-be' that which is. In this "rigorousness of restraint" (Heidegger, 1938: 64-65/52) the accuracy of inceptual thinking is revealed as the "creative withstanding of the abyss" in a manner that is applicable to human life, i.e. a way of thinking appropriate to our concerned mortal being-in-the-world (Auret, 2015: 16). To experience this radical transformation is to think inceptually.

Thus the inceptual thinker is able to advance a whole other way of conceiving beings, producing a radical change in creating such a space of possibilities that other actualities or beings can come to the fore (Anantheswaran, 2011: 70). Inceptual thinking is not a product of capricious willing and cannot occur in a vacuum, it is always attuned and can be experienced most forcefully in those moods which Heidegger saw as grounding attunements: terror, reservedness, deep awe, intimating or deep foreboding.

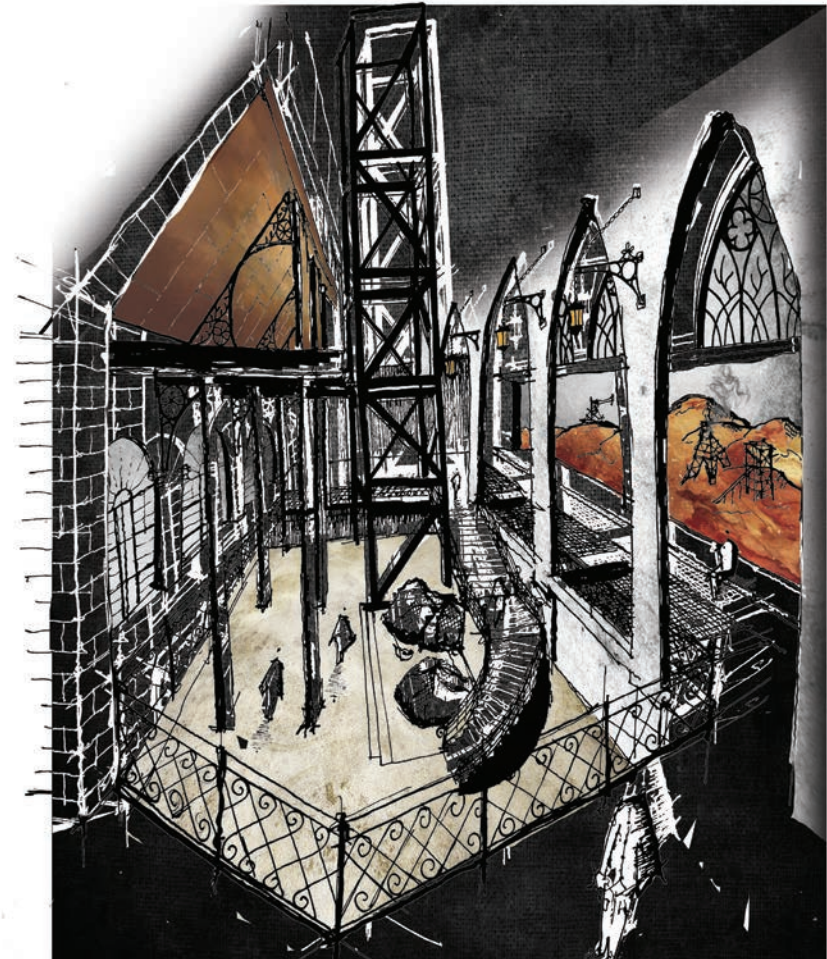
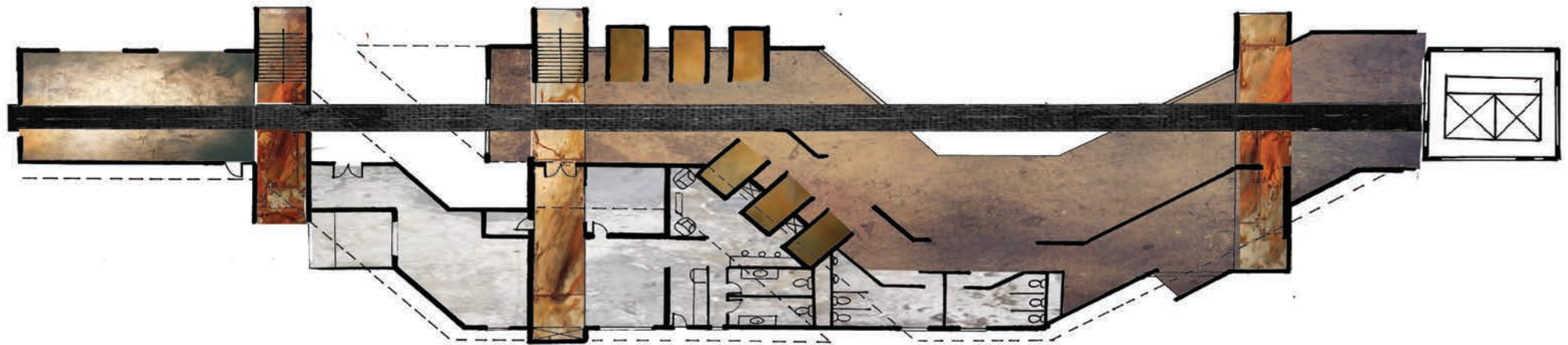


Figure 27: Terror, reservedness, awe, intimidating or deep foreboding experiences of coaxing Inceptual thinking

These are all unique experiences that can be evoked through architecture memorializing positive and negative historic mining events that are imbued with these characteristics. Creating a rite of passage if you will. This means of thinking cannot be evoked at will, however, one can prepare for it to be recognized. Architecture has no modus operandi in achieving this, but Lebbeus Woods and Heidegger attained possible methods in increasing the likelihood of such a revelation. Due to each user experience being unique in its approach to the narrative with a preconceived understanding.

This awareness of Being could be nurtured across a narrative spatial experience as a result of being constantly confronted with South Africa's mining past and legacy, both as a source of wealth and sustenance, yet never far from the grim mortal existence of miners and the effects on their communities. In the proposed building, all is a linear process, inhabited by an ensemble of moments which break the seemingly inevitable lure of progress towards a conclusion. The moments break the spell of inevitability, allows our thinking to leave the trace of the conveyor belt, rendering the 'freespace' free, and offers the potential for a heightened state of awareness.



The inceptual thinker's decree seems to emphasize an emotion driven experience, with momentary confrontations of truth. Where the user is presented with a mere moment to relinquish his tethers. In so doing, ensuing a new possible future. Rather than a linear museum like narrative of South African Mining History. The narrative outlets should merely impart the facts, be that bitter or joyful; *the nail in the coffin*. Where as the buildings should convey the intended emotion as the *hammer*. All leading to a pinnacle moment. The scope for such a structure could better be defined as a Mining interpretation Centre. Leaving plenty of room to explore different spaces. The drawing above was the first attempt at a linear narrative allowing for multiple spatial experiences along the conveyor belt / axis.



# CASE STUDY

## JOHANNESBURG HOLOCAUST & GENOCIDE CENTRE

*tectonic\_study\_*

Project budget: R20-million  
Architect and Project Manager: Lewis Levin  
Area: 4 000 sqm

### Type

Johannesburg Holocaust & Genocide Centre (Museum. Memorial) (JHGC) stands as an immovable testimony to the memory of human suffering endured under the most barbaric acts of violence and oppression, and as a reminder that the built environment is not neutral, but is imbued with history, culture and intent. The client brief for the Centre sought to take awareness of past atrocities beyond memory. In conceiving a design, Is it possible to represent such a terrible part of humanity with a building?

### Topology

Is the study that relates to the terrain in the urban setting, the site. This refers to more than the meta-physical conflict shrouding the site. With topology being the focus on the context, the building should be careful not to draw its identity from it. Rather the building should bring to light what was and is already there, in a spatial embodiment between the earth and sky. The building introduces a sensitive awareness to the mostly residential surrounding, quite appropriately. As the intention is to strike at the heart of people close to home. In a larger urban setting or city centre the site would be lost in the urban fourfold, but this building manages to capture a curiosity when driving past, due to its out of placeness. The road itself is well traveled and adds to its luring of visitors. This method in its approach towards the topology produces a similar desire as intended in the proposed building of this document. Introducing a foreign object, that adds and reveals an experience to the surrounding grain, its sensitive choice in material and architecture yet manages to do this in a non-imposing way.

Fig 28: Entrance of Centre (May, 2018 :online).

## Typology

Relates to the classification of the type of building. In essence the building is an awareness centre with complex layers, creating a building that would help to develop a better society by providing a home for initiatives that support these objectives. Alongside providing a space for initiatives, the building serves as a memorial museum with temporary and permanent exhibitions. With the essence of the building shown in the structure it does not adhere to any strict typology suggested by its function, solely based on craftsmanship and meaning. The proposed building likewise will convey an overarching narrative through its composition not necessarily complying to characteristics the museum typology suggests.

*"The visitor's experience of the building is direct and uncomplicated. Unlike so many of the other holocaust memorials, the architect here does not 'force' the message onto the viewer. The architect also does not force a specific emotional response onto the visitor. In this building, the visitor is treated as a responsible adult who would be able to form a personal opinion about both the building and the meaning of the exhibits. The building is simply there, and it tells its story to those who are inquisitive enough to want to hear it." - Professor Paul Kotze*

## Morphology

The study that relates to the form of a building and how it is influenced. The layout of the building is clearly legible for visitors and optimizes the available space on a relatively tight site. Visitors then enter a transparent, double-volume foyer, which serves as a bridge between the two wings of the building. The division reflects the interior as the two main focuses in the larger tragedy that is genocide. There is a permanent exhibition that takes visitors along the history of the Holocaust and other forms of genocide through the two World Wars and the rest of the 20th century Holocaust to the left and the 1994 genocide in Rwanda to the right. Both forms appear heavy in mass, as is the reality of the subject. From the view of the road the heavy structure is elevated to represent a positive and uplifting future 'Piano Nobile'. These are all architectural cues that could be applied to the proposed building to help shape the structure around the focus of the interior spaces yet having the outside convey the same meaningful message.

## Tectonics

Talk of the poetics of construction. Concerned with the general circumstances of a building, not merely with regards to the material choices but the composition of structure. Explaining the generic layers that make up a building and the depth behind it. The building, combining a representation of modernity and progress with oppression, destruction and suffering, is constructed of hard, industrial elements – rock, concrete, brick, steel, granite and glass. The structure has a strong motif: The railway infrastructure of Europe. Trains and railways, once a symbol of industrial progress in the eyes of 20th century. The forests surrounding the holocaust and the accompanying industrial imagery of railway cars and concentration camps, were the primary informants of the Centre's architectural language, form, most important material choices and detailing, the language of the railway car was dismembered and reassembled as a facade facing the busy street, using steel members and wooden slats (Eicker, 2018. online).

This second building is enveloped in a rock and concrete skin with grooves and ridges that incorporate the railway lines themselves. The primary material choices and textures were informed by the symbols that evolved from conversations with genocide survivors and were assembled with infinite care and respect. English Bond brickwork, the oldest and strongest form of brick bonding popular until the late seventeenth century, has been paired with large-scale sculptural surfaces of concrete, steel and stone, detailed with a high degree of craftsmanship (JhbHolocaust, 2020. online).

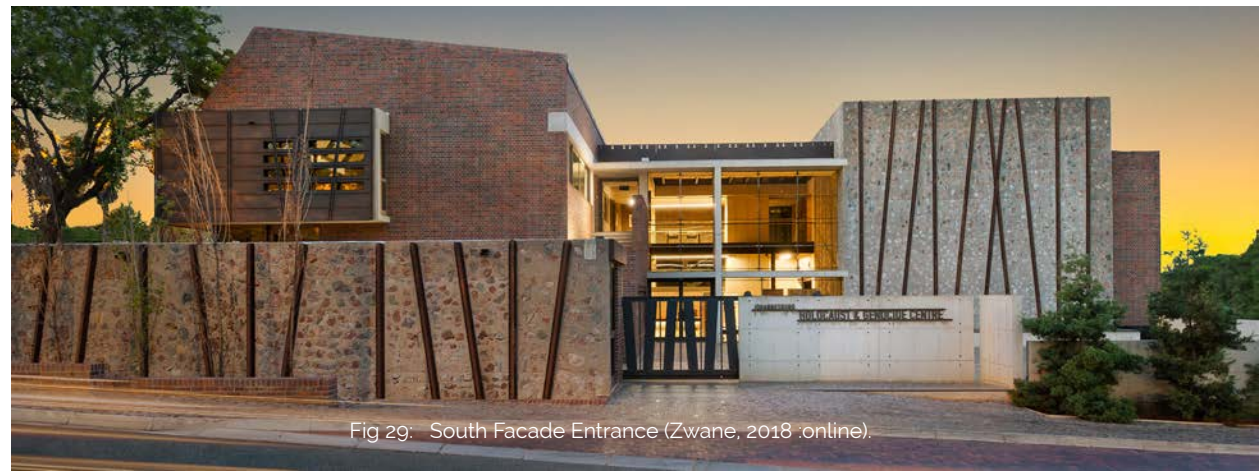


Fig 29: South Facade Entrance (Zwane, 2018 .online).

- One of the most successful elements running through the building is the way that glass and steel come together in the facades, balustrades and office partitions. This was done by connecting the steel supplier and glass cutter to eradicate, as far as possible, wastage of materials and mark-ups from contractors. Working with the industry standard sizes of raw steel as far as possible, a puzzle of components was developed that clip together, resulting in both clever detailing and small quantities of waste.

- The boundary wall on Jan Smuts Avenue and portions of the exterior facade feature scrapped railway lines. A pile of over-burnt bricks were used for the roads and walling without plaster. And the cobbled floor of the entrance forecourt was made by a supplier in Rustenburg from tombstone offcuts.

- The flooring and ceiling designs and textures were similarly defined by the need to source affordable materials. Making use of Redundant timber, 'Emaculata', which is too hard for paper and too soft for structural timber. It was cut into small strips and fixed with profiled laser elements, giving a subtle texturing to the building's horizontal planes. No surfaces were painted except for the exterior steelwork, which was properly prepared and painted in water-based paint so that it can easily be wiped down and repainted. Not only were materials optimized by creating as little waste as possible, but a lot of the building was made of waste.

- Similarly, thoughtful use of sponsored LED strip lighting meant that accent and ambient lighting is achieved in complete congruence with the architectural language by using structural I-beams, aluminium lips and balustrades as cable trays for LED tape, thus eliminating the need for costly light fittings (May, 2018. online).

The building was designed according to available materials using locally available trades meant that much of the building emerged through the construction process. Levin says: "Labourers became craftsmen through the creative process of building." The approach entailed building with care, understanding the properties of materials, recycling, sustainability, using the strengths of people and materials, and being intelligent in their application. The way the building was put together conveys a story, similarly the proposed structure should not only be a means to a story but should speak of an embodied narrative through its structure (Eicker, 2018. online).



Figure 30: Foyer Space (May, 2018 online).



Figure 31: Temporary Exhibition on First Floor (May, 2018 online).



Figure 32: Permanent Exhibition on Ground Floor (May, 2018 online).

## Spatial Enhancement

The challenge was to design a memorial that simultaneously faces the fast-moving traffic along Jan Smuts Avenue, addresses the residential neighbourhood of Forest Town, and contains quiet interior spaces that allow for reflection and introspection offers relief and a final message of upliftment. It's very difficult to find symbols for the horrors, and yet provide an uplifting message but through sensitive material use and connections the building produces thought-provoking content in these spaces. A memorial garden, located between the two wings at the back of the building, is sensitive in its landscaping with a tall, planted screen that reflects the forests of the holocaust and provide a quite means of escape and reflection.

Glass and steel come together in the facades, balustrades and office partitions of the double volume entrance foyer these open spaces provide a sense of relief from the oppressive topic. Where the visitor is faced with choices of direction to explore, there is a clear distinction in material, light and height that serves as thresholds between these spaces. Not one space is without intent for the visitor experience, I will aim to apply the same archetypes to provide each space a unique experience, as the building will have separate rooms focusing on specific tragedies during the overarching narrative of Mining in South Africa. The space calls visitors to ask themselves: "What am I missing that is happening in the world today?" (Caldeira, 2019, online).

Structure Consist mainly out of a concrete framework with brick infilling for the exterior structure. To increase the thermal mass shutter systems were built with train track grooves to pour in concrete and cobbles to provide the finished rough textures. The interior structure grid is built of steel I-beams and fragile connections with glass and wood to contradict the harsh exterior. The light Saw-tooth roof profiles rest on exterior walls to create an open interior space

## Function

The precedent provides some direction in possible functions and inner workings for the proposed design, not only structure. It houses a coffee shop, gift shop, accommodates two lecture rooms on the ground floor that can be combined into one space, with administration offices upstairs all in the east wing, facing towards the quieter Forest Town. This building not only provides possible construction solutions but also exhibition examples. The aim of the museum is to awaken its visitors to the dangers of apathy, the deep-seated threat of silence in the face of unfair treatment. To that extent the gallery shows the history of the Holocaust and genocide in the 20th century through a thematic lens.

Visitors explore history and moral choices through the personal voices of various role players – victims, perpetrators, resisters, rescuers, bystanders and others. The exhibition urges visitors to reflect on lessons from these histories and apply them to their own lives. The exhibition includes collections of photos, testimonies, films, multi-media and unique artefact's from the Holocaust and the 1994 genocide in Rwanda, with generous contributions from survivors and families based in Johannesburg. The relating exhibitions are split between permanent on the ground floor and temporary on the mezzanine, yet all within the same space.

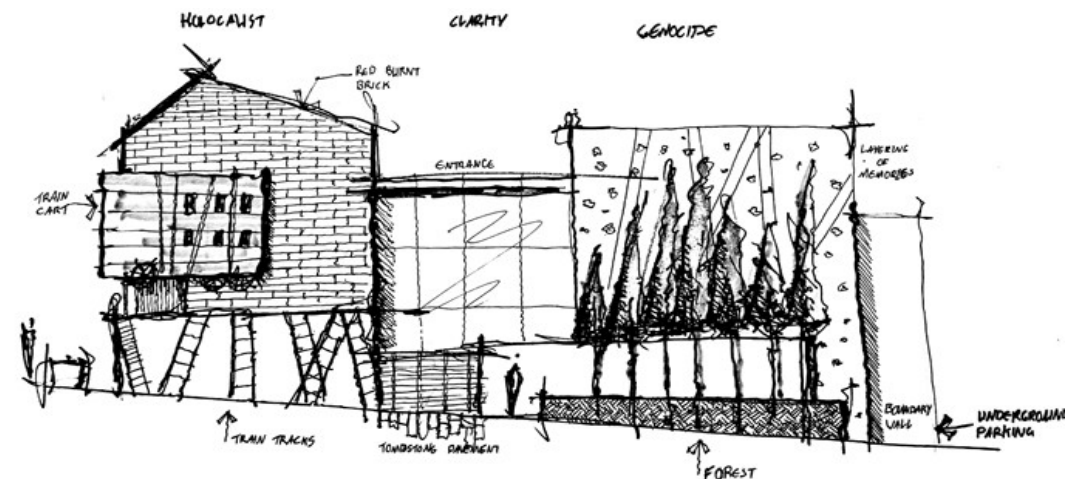


Fig 36: Drawing of building composition

# PRECEDENT STUDY

## REDESIGN OF THE ROMAN QUARRY, Disposed Opera Festival

Disposal Opera Festival

*aesthetic\_study\_*

Location:

Austria

Architects:

AllesWirdGutArchitektur

Completion Date:

2008

This precedent is a good example of an architectural response to a post-mined landscape. The use of material, predominantly the use of corten steel to create an experiential walkway. Seamlessly rests and reacts to the slope of the site is the main takeaway. The choice of material remains true to the industrial heritage of the site. Nothing is imposed yet the narrative builds up to a pinnacle at its end. The stage where the opera will be performed. Creating a sense of arrival to reflect upon the journey.

The choice of an opera venue seems peculiar, but in reality the surrounding rock face actually improves atmosphere when beautiful sounds are added to this unlikely site. Where sounds of machine against mountain are expected to be heard. This approach shows the receptivity a site that has lost its identity is open to. The Architectural additions brings a new optimism to a site, where none was expected to be found.



Fig 37, 38: Redesign of the Roman Quarry (Hurnaus, 2008: online).

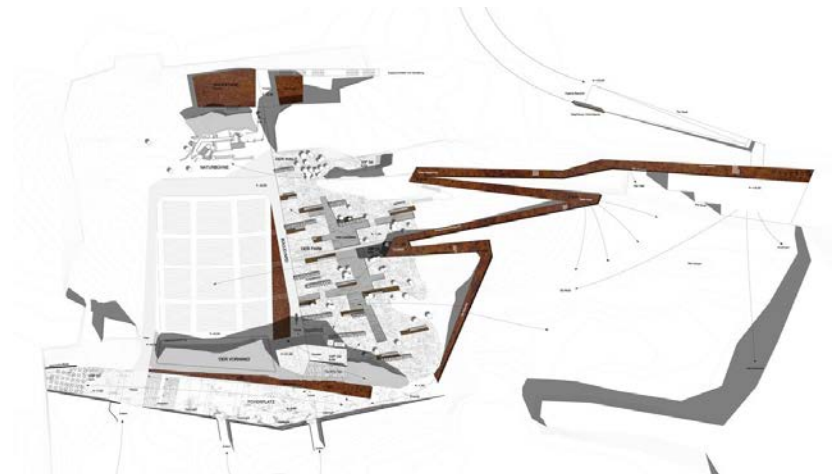


Fig 39: Plan (Archdaily, 2008: online)

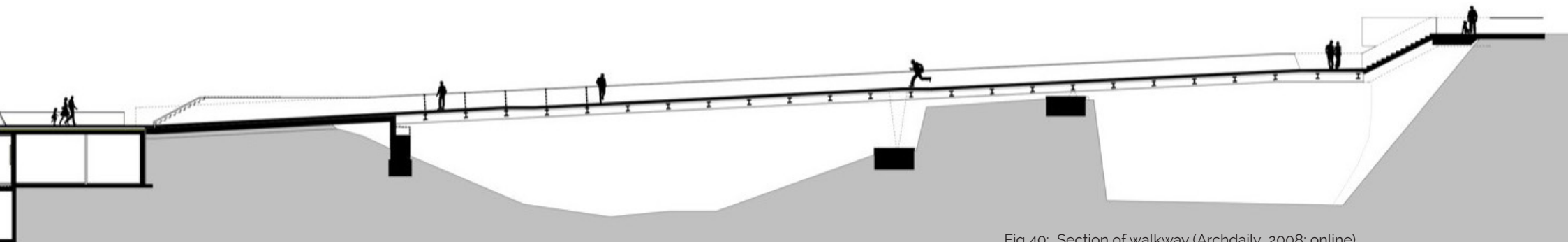


Fig 40: Section of walkway (Archdaily, 2008: online).



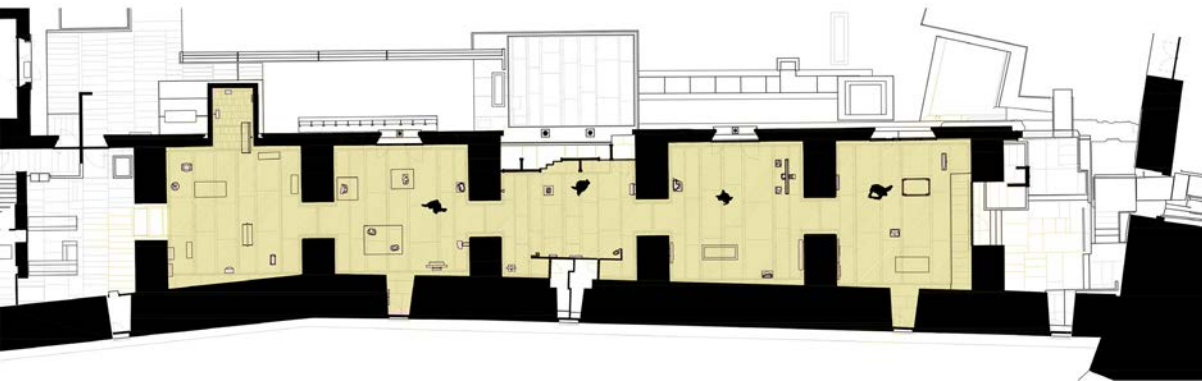
## CARLO SCARPA OF CASTELVECCHIO

Narrative of the Sculpture Gallery

*narrative\_study\_*

The Carlo Scarpa through the narrative sequence of the Sculpture Gallery found in Castlevicchio. Wonderfully explains the mounting tension (and ultimate resolution) between the linear (axial) unfolding of the plot (line of tension) through the five archways (from right to left). The application of such a linear narrative very applicable to the site. As the conveyor belt creates a strong axis and serves as a tension line between the two levels, with the shaft forming a connection between earth and sky. This proposed interpretation centre will follow a similar spatial narrative along the conveyor belt, as with this gallery.

The narrative will be a series of spatial experiences, each dedicated to events throughout South Africa's mining history. Forming part of a larger narrative that builds up to the shaft, then ultimately a freespace. Whereas the conclusion to the narrative has yet to be made, and is up to the visitor. The "opposite forces" in each of the rooms (each acting as "narrative agents") and the architectural details emplotted in each. After the main room – resting and transitory space – we enter the fourth room, which represents the emotional peak of the whole sequence (Bricolo, 2010. online). The architect choreographed spatial experiences that developed spatial empathy in the person.



Narrative emplotment draws close heterogeneous events, people, places and concerns. narrative totality accommodates both concordant (synthesis) and discordant (heterogeneous) moments. Then emplotment becomes a verb with 'architectural content': a methodology of spatial choreography in which discordant and concordant moments (details) may be united in the same architectural narrative. The series operates on the model of the narrative structure of a tragedy. The natural laws which inevitably conclude the cycle of life with death make the circle the motive for tragedy. We can struggle, fight to be beautiful, strive to become someone, maybe ourselves, the noose is closing. But the fall only describes the descending semi-circle of existence, it is up to the spectators to close the tragic loop by imagining the glorious youth of the place, the tragic fall in everything and in oneself. The aesthetic of loss, in tension towards the pure absence of form, participates in the narration of the tragic outcome of the series.

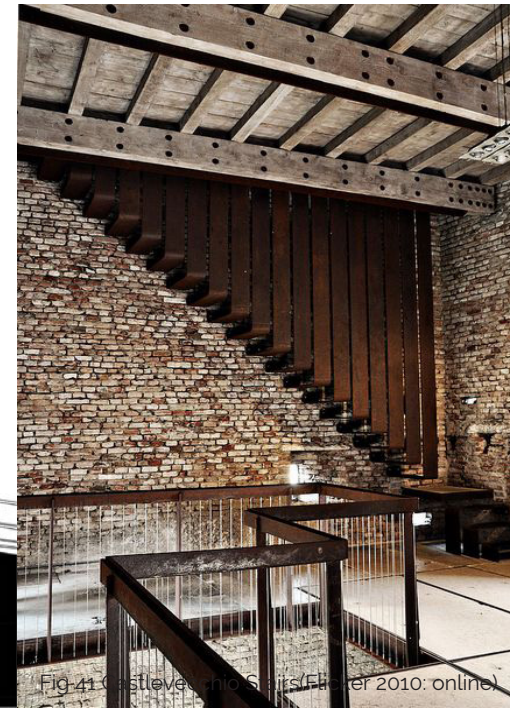


Fig 41: Castlevicchio Sculpture Gallery (Flicker 2010: online)



Fig 42: Vertical interplay (Flicker 2010: online).

# LEBBEUS WOODS

## NO MAN'S LAND

Lebbeus Woods created concepts that could be applied to the situation in aiding with an appropriate design response and a spatial experience that encourages a new approach. His idealistic response was a direct result of the circumstances of his time, where he was trying to envision new ways of living in a time of turmoil, war and oppressive institutional systems. In areas such as Terra Nova (Korean Dematerialized Zone), Underground Berlin and Havana, all areas where buildings and people were previously ravaged by war, yearning for architecture with new identities as the existing were succumbed to the visual reminders of a tragic history. The vision was, new parts of the surviving buildings should belong to the present, not the past and to the future, which could not be remembered. Woods refers to these sites with such turmoil as No Man's Lands, and described these zones as living and working spaces where: People do not see themselves as a member of an established and secure social group. They cannot identify with the space. Creating a void where there was a community, livelihood and meaning.

Much as the situation of a community once dependant on work from a mine now closed, with only the remains of once dominating structure left, often leaving the community without identity or purpose. These abandoned structures open the mind's eye to the giant iron curtains, steampunk skyscrapers and soot spewing machines that could have been there. It is in such a manner that Woods envisioned his creations, stating "Maybe I can show what could happen if we lived by a different set of rules." (Woods, 2015; online). With the functions of these structures lost, they become empty echoes, they retain an out-of-placeness in their isolation. This links with the 'unhomely' and the lack of 'homecoming' for contemporary beings experienced in the world, unveiling the deep part of human life which consist out of brute meaningless force. (Lingwood: 2002: 109-112).

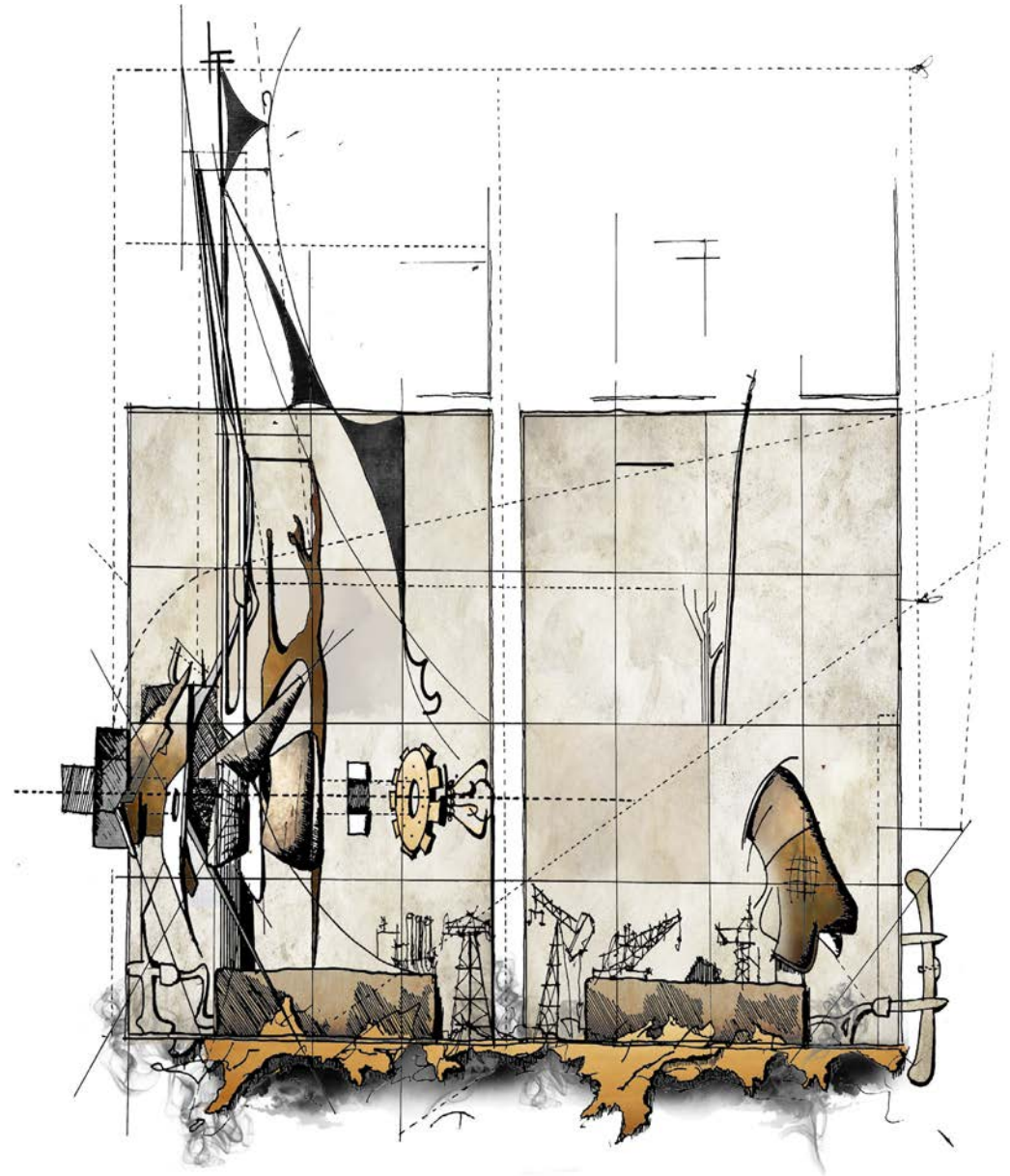


Fig 43: Introduction of foreign object, to two existing communities and a scarred landscape.

A IBA SEE open-cast mine in the town of Welzow was once a No Man's Land associated with dust, noise, mining and ruin, but once again serves a purpose in the eyes of society through tours. As Kuhn (cited by Hunger 2005:4) explains, "the transformation of landscape begins in our minds. How we judge and change landscapes depends on our perceptions of them". The inevitable decay of such ruin comes with a certain romantic enigma that only those who are aware of it can understand. One cannot help but wonder what was before, this provokes an imaginative response that could be greater than that of the grim mortal reality.

If society's or an individual's perception of a post-mining landscape is negative, how can we change a collective or one's perception? Architect Karsten Feucht believes mine tourism, is key to changing perceptions and attitudes towards post-mined landscapes. In 2002 the IBA SEE began offering 'Experience Strip Mining' tours. As Feucht (2012:70) explains it as is a paradox as nowhere else have humans reformed their surroundings as significantly as mining sites. The tours help people discover a place in an authentic way and as there are no wrong or right perceptions there is truth to how people see the landscape. People decide the reality of the place. The mine itself is unable to tell us whether it is ugly or a thing of surreal beauty. It is people's perceptions that decide.

"One person says 'cool, it sort of looks like Mount Etna'. Another says, 'this is awful!' while a third person comments, 'we extracted 300 million tons of coal with machines right here'. And a fourth person has tears in her eyes, 'about right here is where our village and church must have been'. People are able to interpret and discuss the landscape in their own way allowing others to see it through their eyes assisting to discover the worth of the place."

(Feucht 2012 p.72)



Fig 44: Moment where individual could reflect, looking back at the undertaken journey. With a newly broadened understanding of the narrative as a whole. To envision a new denouement.

# LEBBEUS WOODS

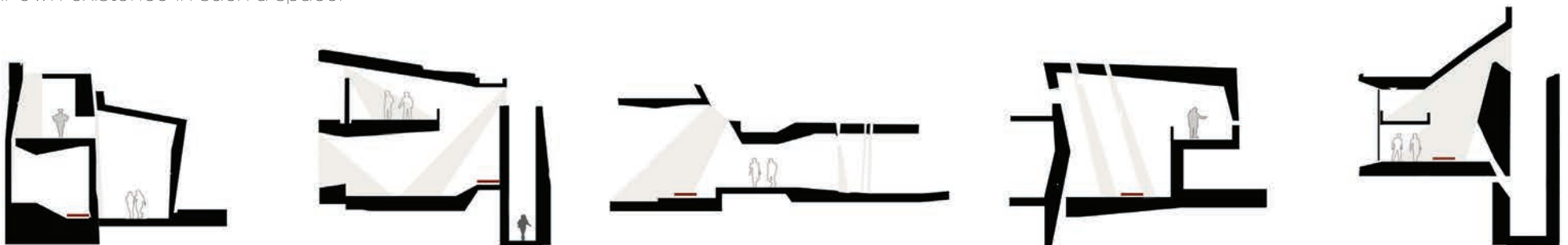
## FREESPACE

Woods Woods makes a distinction in such a No Man's Land, between Place and Non-place: Place, where something can be seen about the relationship human beings have with their own history, natural environment and with one another. Non-Place: A space of unrootedness, where people don't recognize themselves in it, such as people finding themselves in such a community or experiencing such an industrial ruin. This is a very personal experience where some people might experience the place whilst others might not. This led to a term formulated by Woods, freespace (Stewart, 2018.online). Architecture that lacks programmatic content and exists only as a primordial landscape, leaving nothing but the current experience. In doing so it forces inhabitants to rethink their way of living.

Freespace aims to assert a non-functional space, which harbour the possibility for any event free of preconceived value, use or meaning. They generate a conceptual study, by harbouring the creation of new thinking and social-political forms. Apart from this, Woods also attains characteristics to freespace, it is a space that is "difficult to inhabit; intended for those willing to invent ways to inhabit them." This invocative way of using ones mind, relying on your own discretions, past experiences, current emotion and new found information surrounding the state of South Africa's mining history to formulate your own existence in such a space.

Freespace forces occupants to meander aimlessly by exploration, until a revelation is grasped through personal and historic reflection or ultimately abandoned, in either case the narrative continues, never ceasing. The mining interpretation centre will make use of this idea in a series of freespaces along the linear narrative of the conveyor belt. Each providing a space for the becoming of being and its possibility to produce a momentary inceptual thinker. The existence of one such thought could aid in discovering new ways of living in a country that needs help rectify the mining crisis, if indeed you deem there to even be a crisis. The use of architecture should spur on the emotional wandered through such spaces as he is eventually placed back in reality atop the conveyor belt to join the greater narrative until the next possibility of a revelation.

Woods sees architecture as a Political Act; "As long as society is dominated by institutions of authority that require a basis external to themselves for their existence, monumental architecture is required to embody objective knowledge. Whether it will be a pleasant or unpleasant experience; exciting or dull; uplifting or merely frightening; inspiring or depressing; worthwhile or a waste of time is up to the user." (Woods. Architecture and Resistance. 2009)



This experience is unique to its user, its pursuit of knowledge and awareness of institutional power gives the user an opportunity to question the norm of the social systems and create a personalized perception. Woods rarely associated with the physical implications of architecture, that resulted in him often being referred to as a 'paper architect'. Although he did assist in one building and a installation namely; the Light Pavilion. Stating that the perception of the architecture, cannot be determined in advance by the fulfilment of our familiar expectations, because we can have none, never having encountered such a space before. In order to determine a behavioural pattern, the space should be experienced by the individual perhaps a couple more times. In order to comprehend it and even then the experience might be different compared to the previous (Woods. *A Space of Light*. 2011). Thus each of our experiences are in a sense guided throughout the proposed building by the architecture, and that of the choices of historic displays, but it will be personal and unique to each individual.

With there being very little physical examples to draw from. I searched for other unconventional architectural examples that questioned the institutional power of the system with views of alternative perspectives of the future with the pursuit of knowledge that could assist in this design dilemma.

Something more than a symbolic gesture, something less than a complete dwelling, a temporary space installed in a more permanent landscape. Consolidation between the need to be alone and the need to be together can only occur in the no-man's land between entrenched notions of the public and private, the very space created by an architecture deeply questioning both (Brandt, 1984). Architectural examples of such a questioning calibre are more in the realm of fictional thoughts such as Heterotopia. A field that works in accordance with Woods's design principles, of architecture that speaks about what really happened, or is happening. Structures and freespaces dedicated to acknowledgement of people and forces that that are otherwise invisible (DaWeese, 2009, Online). The success of this scheme lies ultimately in its ability to coax the mind and haptic senses towards an enlightened way of thinking. Heterotopia possibly offers a few ways of achieving this questioning mindset.

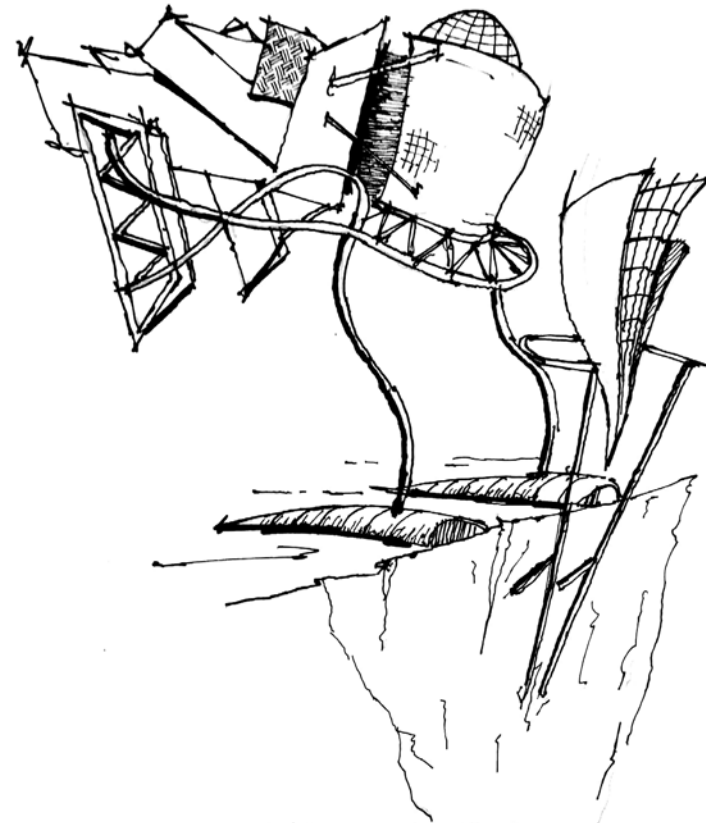


Fig 45: Attempt at Lebbeus Woods's war series like sketches

"Architecture and war are not incompatible. Architecture is war. War is architecture. I am at war with my time, with history, with all authority that resides in fixed and frightened forms. I am one of millions who do not fit in, who have no home, no family, no doctrine, nor firm place to call my own, no known beginning or end, no 'sacred and primordial site' (Woods. *War and Architecture*. 1993) .

# PART 3: SEGREGATING



separating mineral from the ore // echelon'



Fig 46: Spirit of techne' exploration on site.

# HETEROTOPIA

Hetero: the other, otherness.

Topos: the place

The architecture of this scheme although somewhat in the experimental realm should articulate its character in both mind and matter, heterotopic architecture being no exception. The challenge was finding applicable examples that likewise reached for the vague but was ultimately drenched in reality, that lead to the findings of Anthony Vidler and Vincent J Stoker. Their radical attempts to subdue the established power structure embedded in institutional spaces by inventing other spaces, alternative heterotopic forms to contest those already existing (Vidler, 2014, Online). In that sense heterotopia is the architectural equivalent of a riot, disturbing the system of establishment. Institutes show power by making us exercise their will, as a result, a person is unaware of all the limits emplaced on his/her own thinking. In essence restricting freedom capacities, is the modus operandi of all modern institutes. Systems that are subverting our capacities to think outside the system, their power lies in manipulating our capacity to gain knowledge. Vigour of the system breaks down when we become aware of the restrictions.

The architecture of Woods and his freespace stand in opposition to these systems. As freespace exists in a realm outside of these limitations, and inceptual thinking serves as a catalyst to the being, producing an awareness of these powers, allowing an opportunity to grasp the knowledge. Its architecture is one of forms that achieve a dimension of autonomy. Allowing it to stand against the very social order with which it is complicit, whilst striving to produce combative, agonistic architecture that are of the system, yet against it (Hays, 2010:6). A Heterotopic space produces a becoming-awareness open to the kinds of possibilities, revealed and hidden by our 'episteme'.

The term, which Michel Foucault introduces in his book *The Order of Things*, where he refers to the orderly 'unconscious' structures underlying the production of scientific knowledge in a particular time and place. It is the 'epistemological field' which forms the conditions of possibility for knowledge in a given time and place (Clare, 2005:145). Referring to the way knowledge and power interacts in our time, that we may find ways to venture beyond the cohesive limitations imposed by the powers of our time. Enabling us to view something perceived as an inevitable outcome, merely and momentarily a condition of possibilities (Auret: 2020). This shift of power in our thoughts will cause new ideas of possibilities to emerge, this is the desired penultimate awareness that should transpire in the Freespace.



Fig 47: The tragic fall (Stoker, 2013: online).



Fig 48: Heterotopia, ruin (Stoker, 2013: online).

The spaces above are of a series of images photographed by Vincent J. Stoker titled: *Heterotopia, the Tragic fall*. Where he endeavours to capture the harmony between the ruin of nature and architecture to create new challenging spaces. Nature strives to channel forces that that flatten everything, thus architecture is already always unknowingly working against the inviable systems given to it, due to the frustrating nature of architects in creating ascending shapes. The series shows this eternal struggle that even monuments end up losing. The history of these places is the history of our crises, the history of the failure of utopian projects. They, the places reveal the dark hidden parts and cast doubts on autophagous systems that let destroy what they have built themselves (Humanendeavour, 2011. Online).

His work is to bring remembrance to those mistakes, the forgotten short comers of history . Giving voice to those, the majority of society disregard, former monuments supporting great expectations. These spaces give the same exhilarating feel as atop a skyscraper, the impression of a void and the momentary possibility of falling when we look down. This play of perspectives allows to introduce, as a theme, the movement of the fall, and that is crucial to this work, exactly because these places are fragmenting, losing their structure. Nature and time crush, erode, flatten. It is that confrontation, that very battle, which comes into play in the architecture, which we can observe in these images. That tangible moment when we wonder which of these forces shall win this struggle.

These heterotopic space can be argued to produce the same space found in the idea of freespace, and serve as the most tangible way to articulate such a space. As Woods's images are mostly crude drawings depicted from outside the space and its reaction to the No Man's Land, rather than depictions of the users experience. These spaces feature a similar moment as that found in the proposed freespace. A last moment which Stoker refers to as the 'tragic fall', this is a cognitive happening that could trigger the leap of faith from merely being to Being. He explains it as a rupture, more or less violent, precipitates the existence of the place from one phase to another, this separating moment he calls the 'dramatic pivot' (Stoker, 2011. Online).

## KEY CHARACTERISTICS

- Impression of plunging in them.
- Symmetrical
- Conflicting space
- Function-less
- Timeless struggle
- Void
- Inspire a moment / revelation



Fig 50: A venture at Stoker's Heterotopic freespace (Main Gallery)



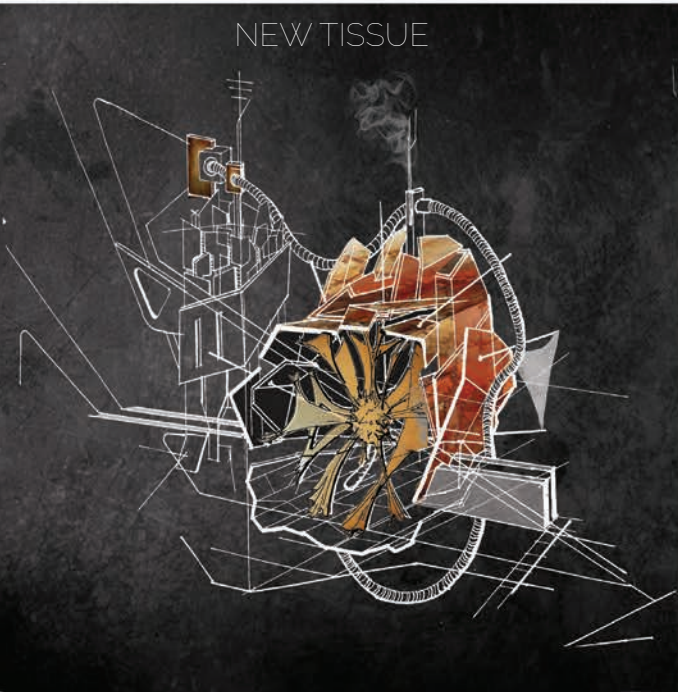
Fig 51: Experimental Heterotopic freespace (Miners Experience, Subterranean)

# CONSTRUCTIVISM

## FORM GENERATORS

Having identified the intended response to the spatial experience, of the proposed series of freespaces within the building by means of Stoker's Heterotopic space. Constructivism could offer insightful ques to the response relating to the exterior structure, as examples of architecture that questions the norm of its time. Mainly Russian Constructivism as it was focused on introducing a new spatial prototype to orientate the citizens of Russia towards a new image of life. This impetus is used as a basis to create a new icon of time. The rich history of the mining industry that essentially formed the city of Rustenburg cannot be erased but should rather be celebrated, by retaining a mining identity for the site. Constructivism approach can be used in establishing a new identity, node, indicate an icon of active participant of social and political transformation on the industrial landscape. Like a primordial landscape, alien in material and form imposed on the site in attempts expand or transcend the existing systems. The architecture will let you question the norm of buildings while the galleries will question your preconceived beliefs the truth to them and the influence the institutional propaganda has on them. If nothing else will assist in identifying an architectural language more real than that proposed by Woods. When working with a site that has experienced some historic trauma, he identified three layers of architecture that needs to be applied for the site to heal.

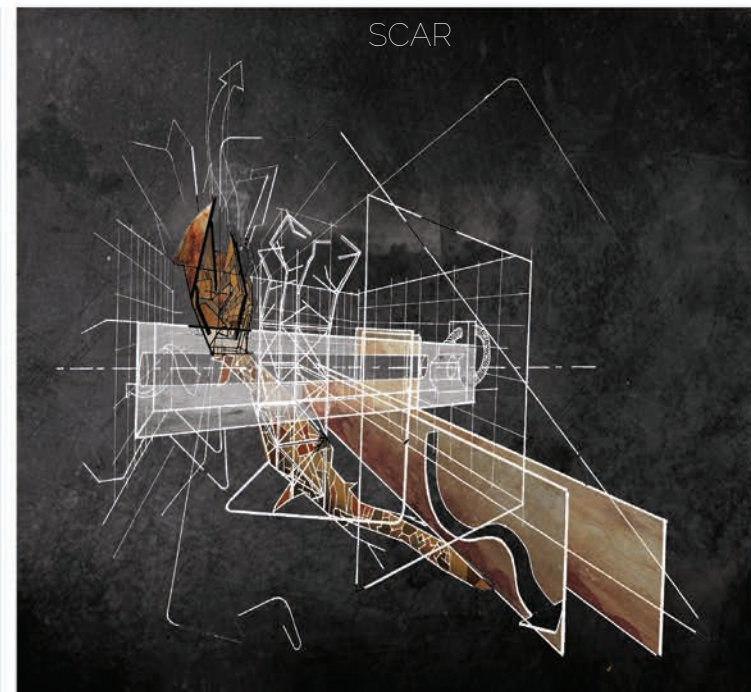
NEW TISSUE

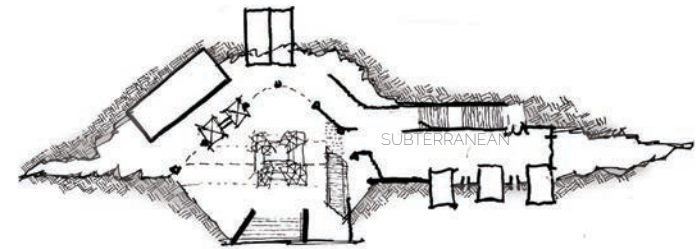
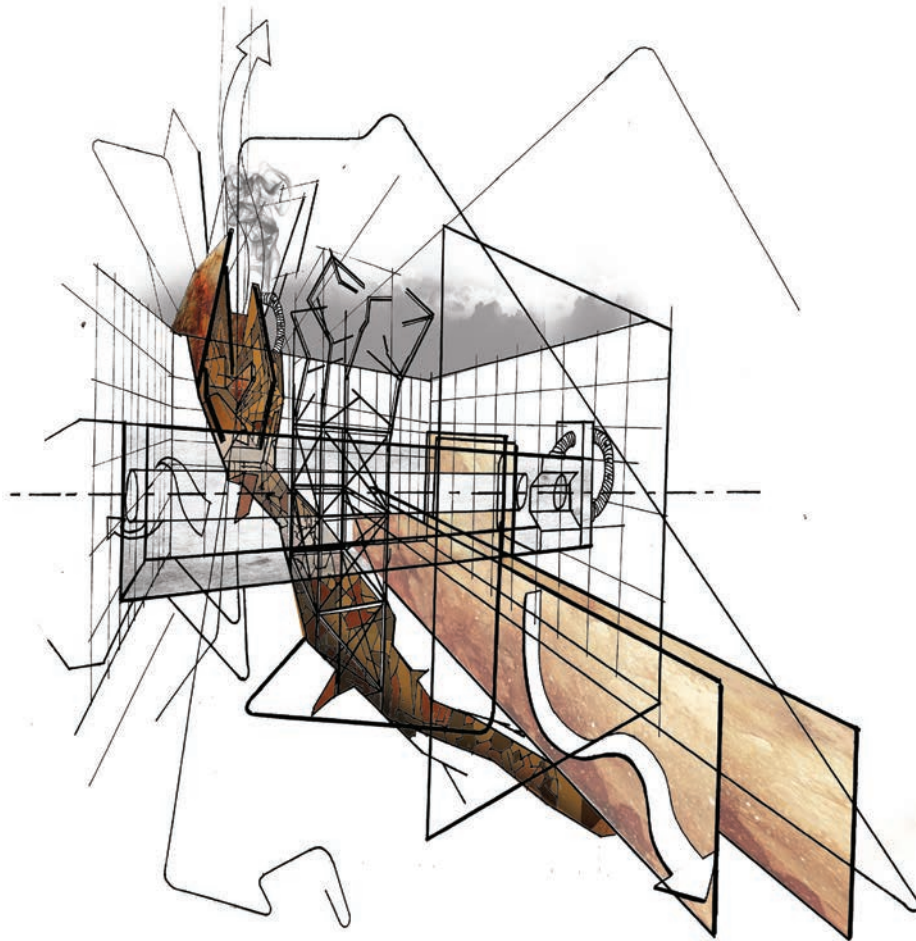


SCAB



SCAR



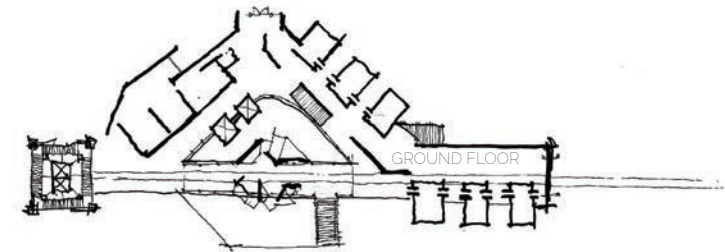
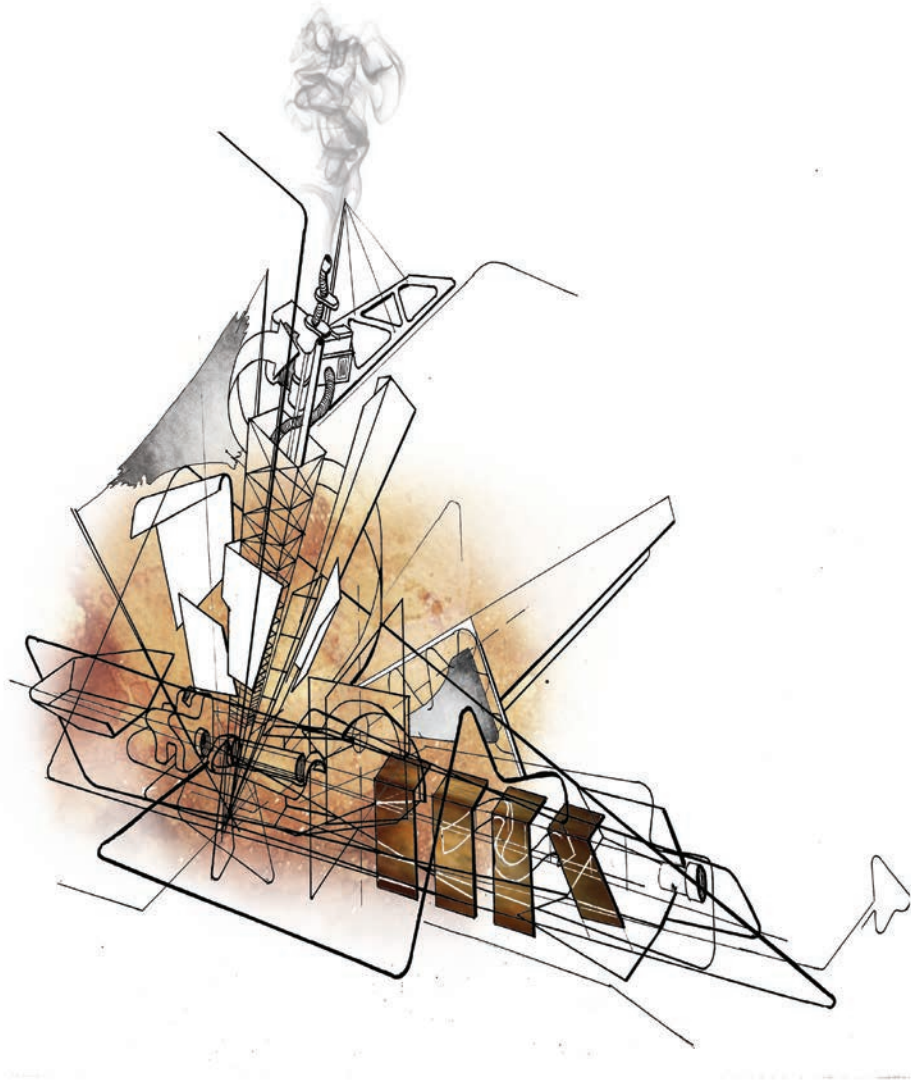


## SCAR

"The scar," Woods states, "is a mark of pride, and of honour, both for what has been lost and what has been gained." It is the most explicit and the most permanent reflection of the experiences, therefore, it critically functions for the "acceptance of existence." The scar is the very fundamental reason that the conflicted site should avoid an overall renewal. With this regard, architecture challenges the destruction and violence by eventually transforming them into a "new form of knowledge," not just a memory (Woods. War and Architecture. 1993:31).

Heidegger's grounding attunements likely to trigger inceptual thinking; terror, **reservedness**, deep awe, **intimating** or deep foreboding. Reaped along a linear narrative.

The scar serves as a subterranean, permanent and intimidating spaces. The heavy concrete sub structure carries the physical and emotional weight of structure. Its walls carry a sense of reservedness, holding back the trauma inflicted on site.

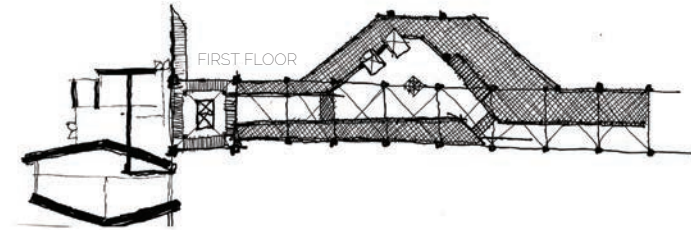
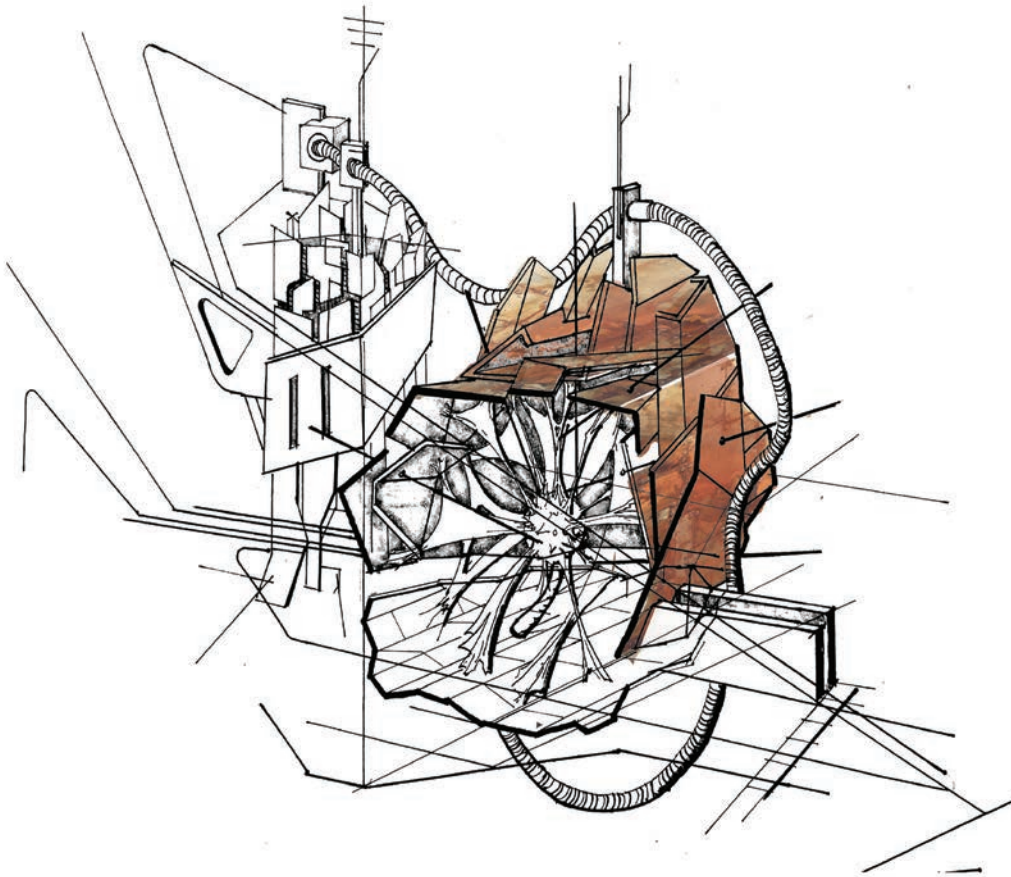


## SCAB

"The Scab" defines the "first layer of new construction shields an exposed interior space or void, protecting it during its subsequent transformations." (Woods. War and Architecture. 1993:24)

Heidegger's grounding attunements likely to trigger inceptual thinking; terror, reservedness, deep awe, intimating or **deep foreboding**. Reaped along a linear narrative.

The scab is the most important part during the healing. The healing of South Africa's tragic yet encouraging mining past. A very vulnerable and sensitive state. Within it the user will be exposed to uncomfortable truths and spaces. Its fragile interior frame, will expose the vulnerability of the structural composition. Whilst its narrative spaces will reveal the vulnerability of the users emotion along the conveyor belt. The spaces will build a up a sense of deep foreboding; a strong inner feeling or notion of a future misfortune.



## NEW TISSUE

The "New Tissue" that emerges within this ground, will exist in a fluid context. It has all the capacities that architecture has; it narrates a story of violence, yet resists to be tied up. On the other hand, it yields to the conventions of architecture; it is rough, barbaric, disorganized, and unauthorized, yet gives hope and belongs to everyone (Woods. War and Architecture. 1993:21).

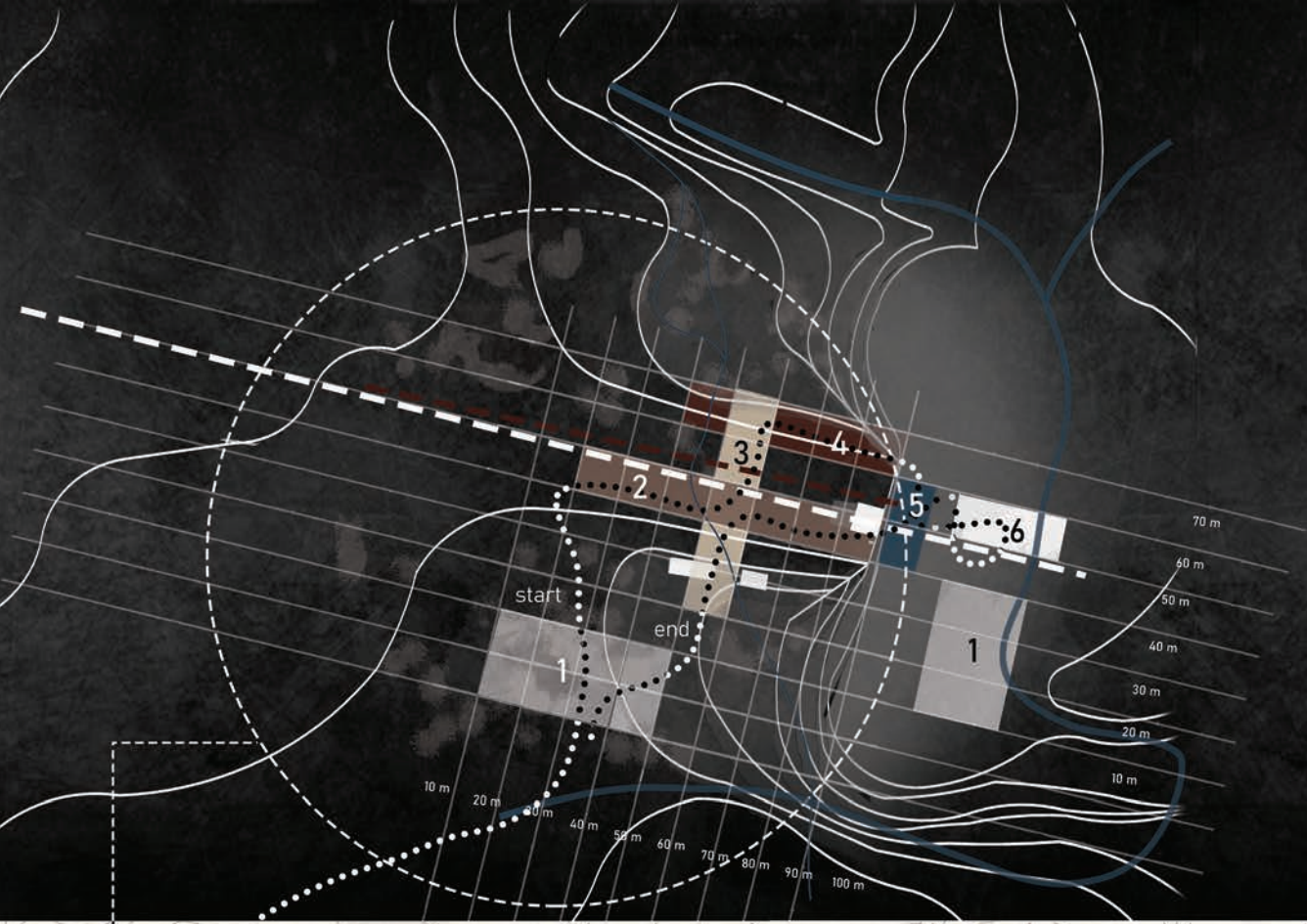
Heidegger's grounding attunements likely to trigger inceptual thinking; **terror**, reservedness, **deep awe**, intimating or deep foreboding. Reaped along a linear narrative.

Where the ground floor leaves its user uncertain about the future. The new typology introduced will shock and confront its user, leaving them with an optimism for the future. With experiences where its user would be encouraged to use the railing. Architecture that excites and frightens. A heightened sense of awareness, that embeds the narrative subconsciously.

# LAYOUT OF COMPOSITION ON SITE

- 1 PARKING
- 2 SCAR (UNDERGROUND)
- 3 SCAB (TEMPORARY EXPOSING STRUCTURE)
- 4 NEW TISSUE (NEW TYPOLOGY)
- 5 FREESPACE
- 6 USER CONVINIENCE

25.6845° S,  
27.5378° E



1

# CONCEPT ARTICULATION

Intent: The giving of form to abstract ideas. Helping to envision how the final design could react to the site, regarding scale and material.

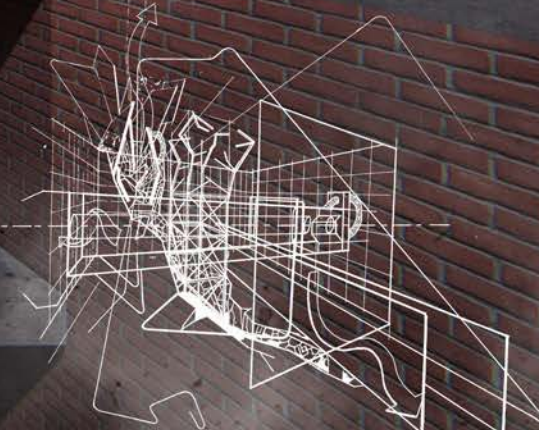
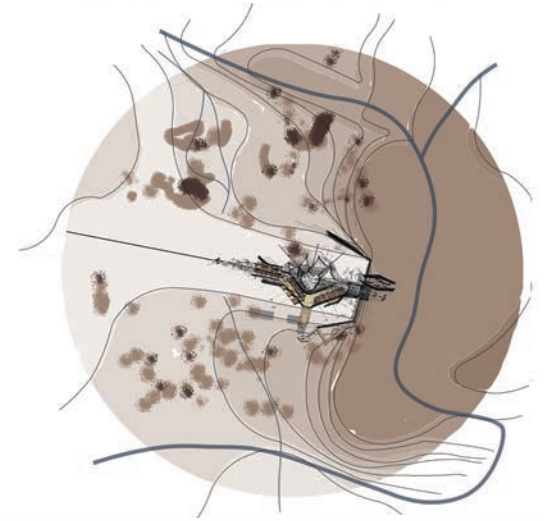
Final Freespace: Conclusion to the narrative, a void where its user can reflect on the narrative. Most likely space to produce an inceptual thinker, when confronted with the situation in its entirety.



2

# CONCEPT ARTICULATION

Defining the three levels of interplay, as distinctly separate entities, yet encompassed in one structure.



# 3

# CONCEPT ARTICULATION

Exploration with the new typology to site (*New Tissue*). Whether to have the visual tension. Between the old and new, as confrontational. Alternatively having the conflicting spaces within the structure. With architecture that celebrates the old shaft.



Investigation of 3  
spaces in one, scar,  
scab & new tissue.



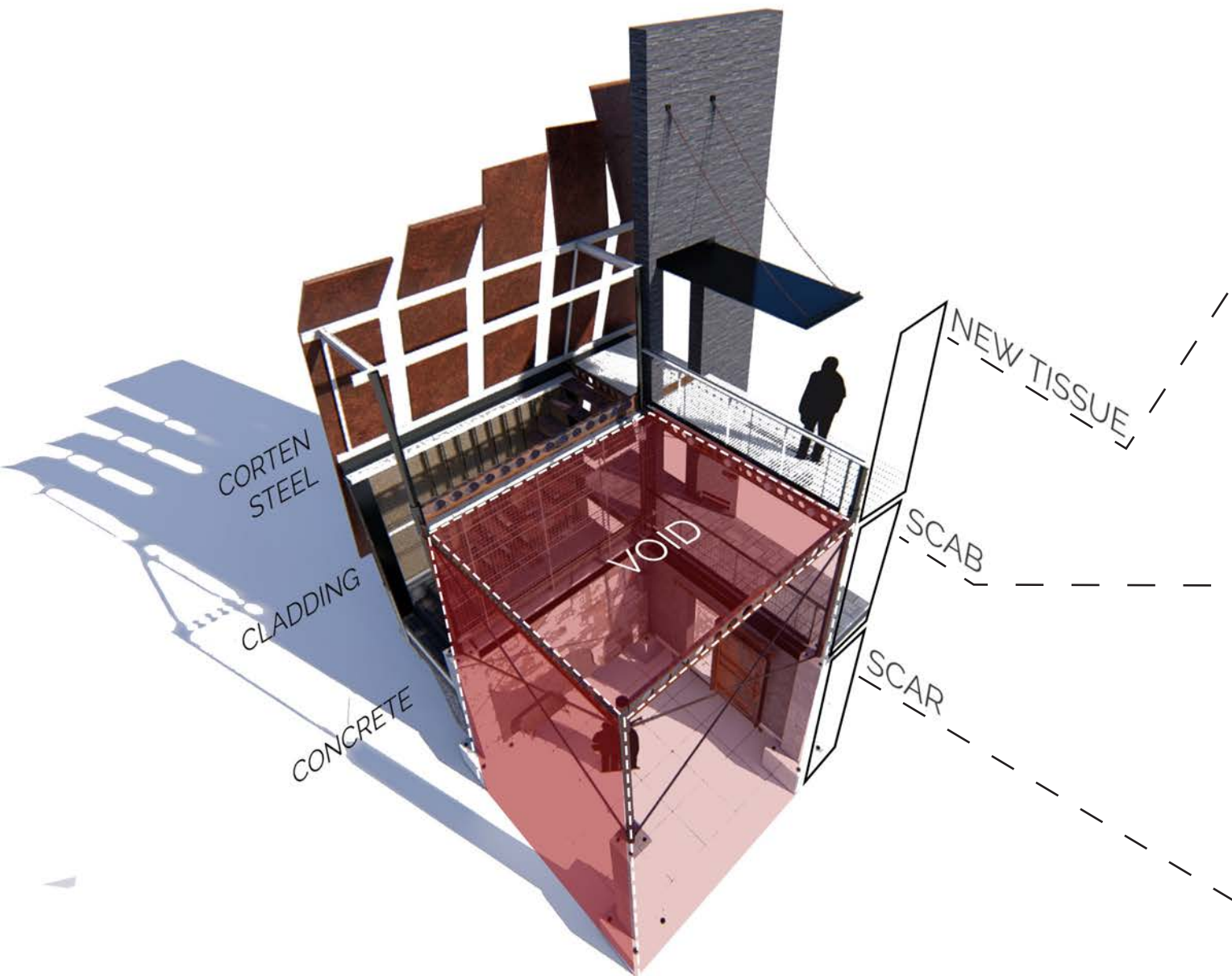
# TECTONIC TOUCHSTONE



Highly industrialized systems



Moving parts under tension



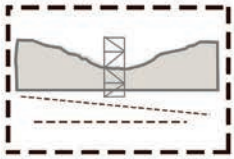
**Foreign Envelope:** New lightweight identity, that only provides momentary protection from the elements. Will eventually rust away, having hopefully given the exposed interior enough time to heal from South Africa's past. Temporary structure; temporary exhibitions that positively point **towards the future**. From people who work towards healing of these scars. *Terror & Deep awe*

**Steel:** Weak to time and will weather without proper treatment. The 5 narrative serves as a means to coat and protect the already exposed people with **knowledge of the past**. *Deep foreboding* (Looking at the past, inspires an anticipation of what will happen next and become part of the past.)

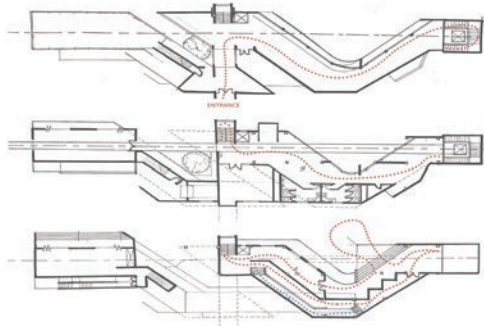
**Concrete:** Lasting material, heavy in meaning. Carries the pain of miners. The rest of the materials will rust and deteriorate while the concrete scar will remain. Permanent exhibition and **experience**. *Reserved & Intimidating*

An investigation of material and means towards the composition of the structural system. A system that revolves around the exposure of material in spaces such as voids / freespace. Where the separation of material is clearly defined, from heavy concrete (scar), to lighter scaffolding support structure, encased within a tensile lightweight structure (new tissue). With a visual anchor connecting the three distinct layers.

The cast concrete columns will serve as the footing for the structure. Attached with a steel base plate, bolted to the concrete are the I beams, as scaffolding wont be able to carry the load of the checkered plate walkway and roof. As the symbolic new layer that heals scars.



# PROGRAMME & PLAN //



## MINING INTERPRETATION CENTRE

A plan formed by similarities found in the overlaying of Scab, Scar and New Tissue. The central circulation spine follows the conveyor belt along the axis. Hosting a gallery on the three separate floor levels. The building breaks away from the axis to create outside or double volume pause spaces. Along the continuing narrative, to encourage reflection. Leaving all services of the central spine. Either end of the axis has significance, knowing whatever function placed on the edge will be emphasized.

### Accommodation List:

- Reception
- Foyer
- Gallery: Temporary Exhibition
- Permanent Exhibition
- (5 Narratives)
- Hall of Remembrance

- Social Functions: Lecture Hall
- Multi-functional Venue
- Coffee Shop / Restaurants

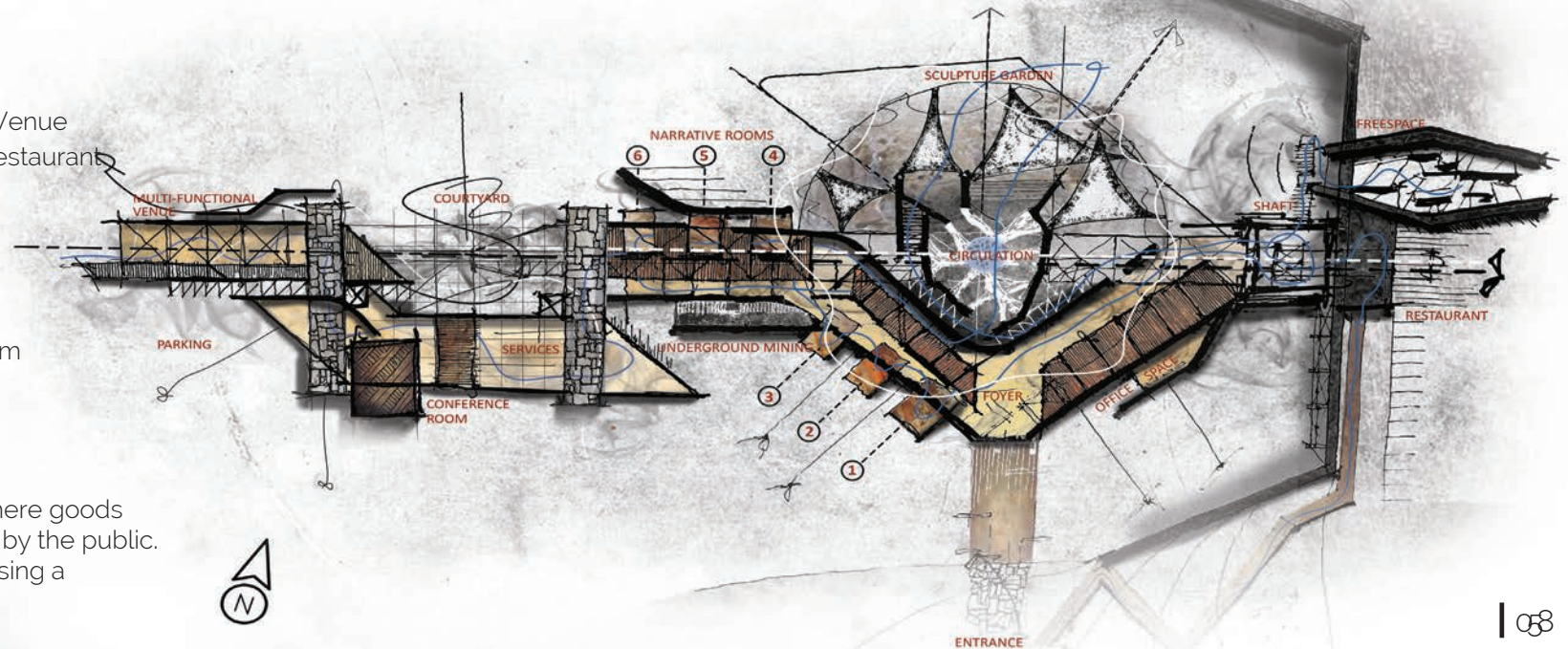
- Other Services: Mechanical
- Janitorial

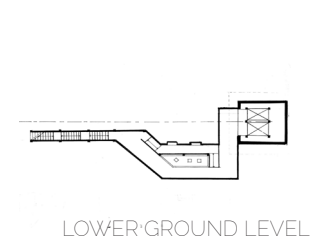
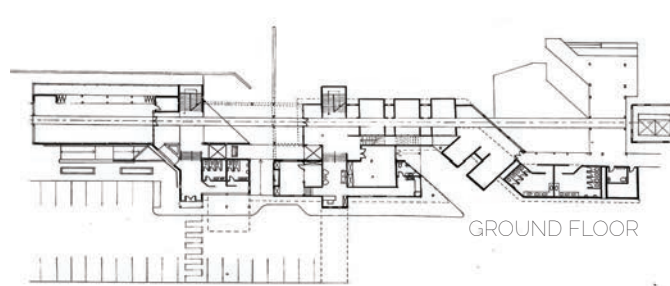
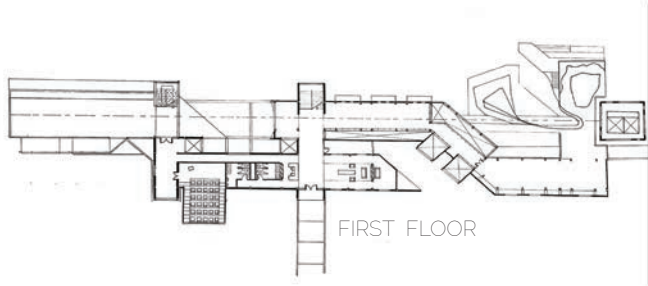
- Ablutions: Disability x 2
- Bathroom x 3

- Offices & Administration
- Storage / Reserve Collection Room
- Service Entry: Delivery Bay
- Public Entry: Parking

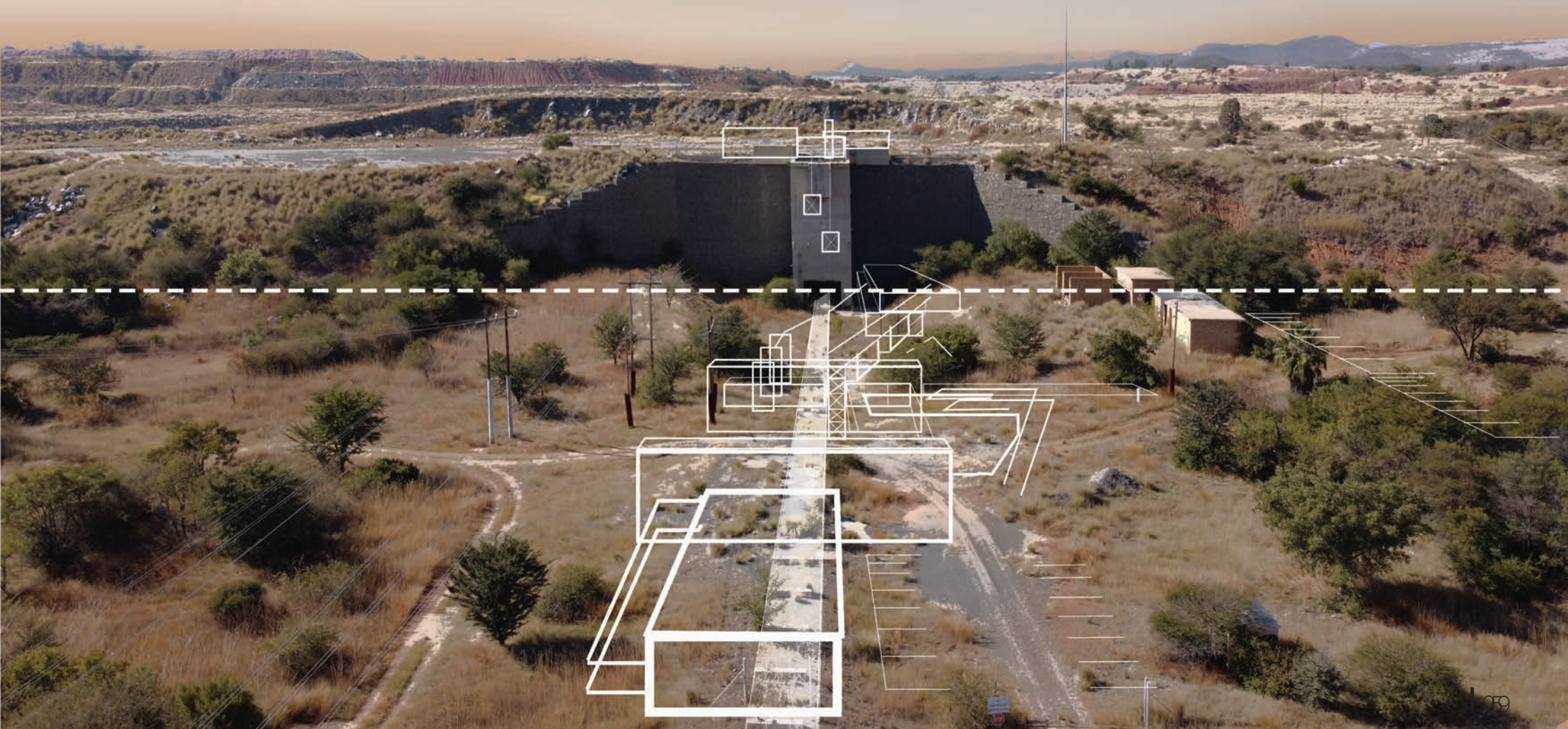
### Building Classification:

- C1 - Exhibition Hall: Occupancy where goods are displayed primarily for viewing by the public.
- C2 - Museum: Occupancy comprising a museum, art gallery or library.





"[...] our gestures become brutal and precise, without deliberation or civility. We are 'processed' through the moving walkway, the revolving door, the escalator - the simple opening of a door to enter a room - is becoming obsolete." (McCarter, 1987; p. 9)



These images are the first attempts at developing the interior ambiance of the structure.



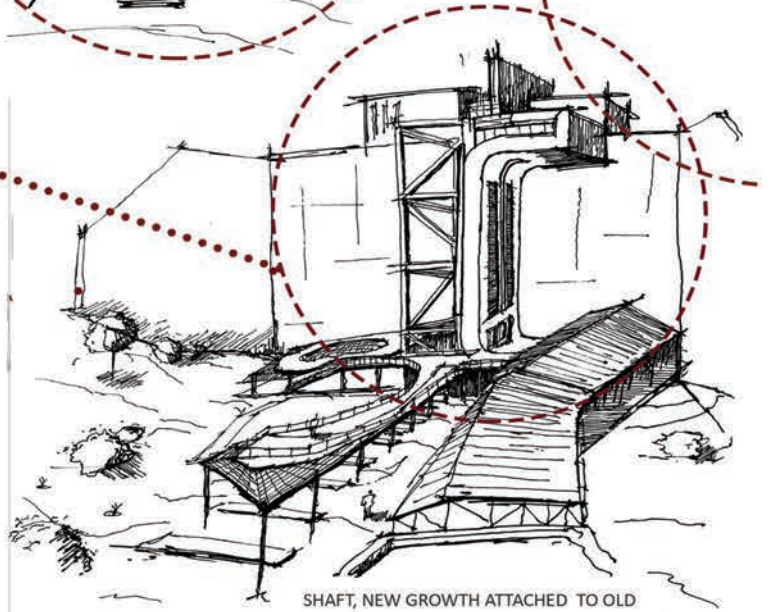
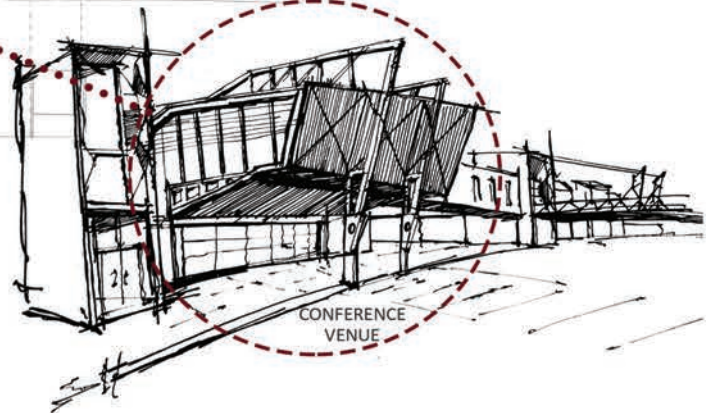
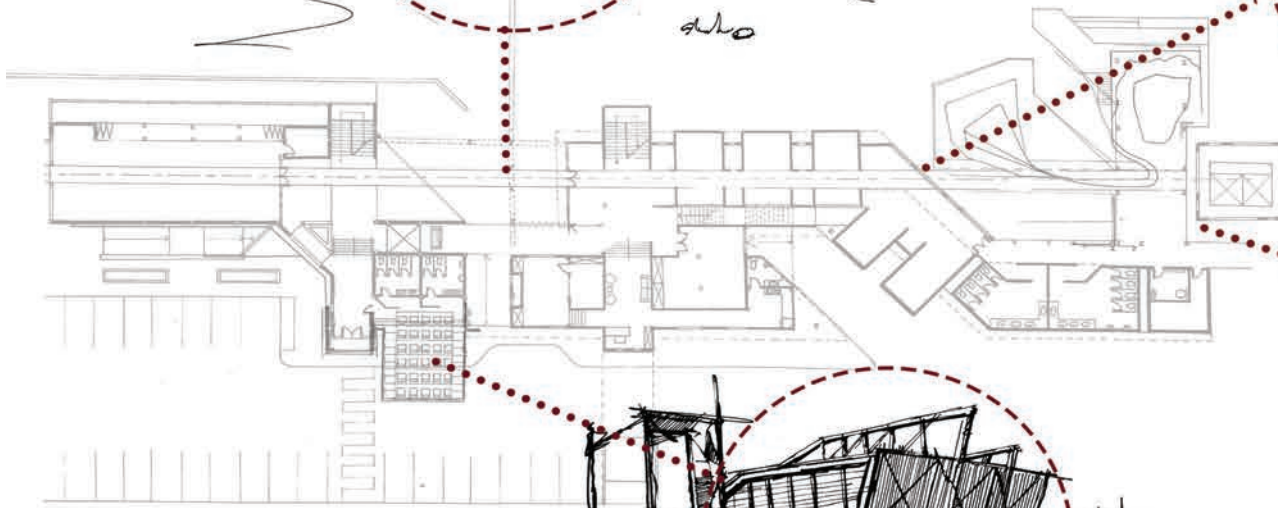
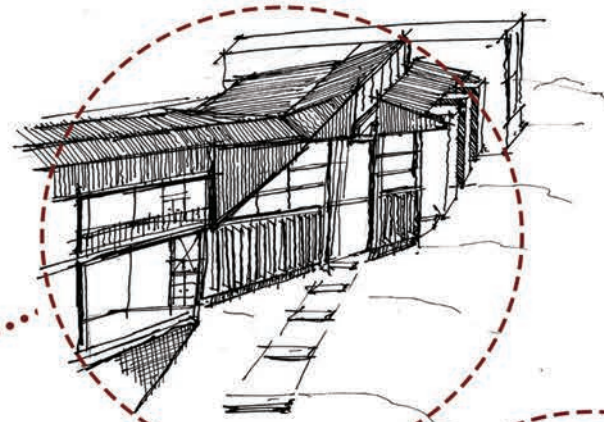
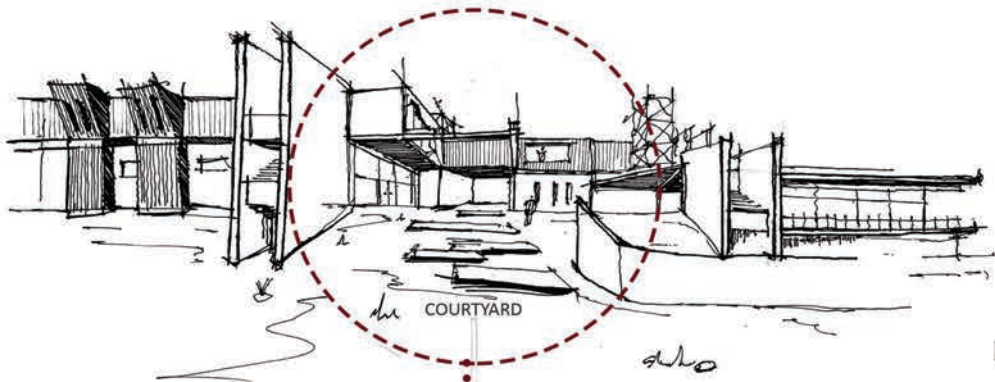
SHAFT: New proposed stairs in existing shaft. Constant transition between steel stairs (fragile) and concrete (trustworthy). To maintain heightened senses up to the freespace. .



SCAR: Miners corridor, underground experience. Glimmer of hope with light at the end of the tunnel. Forces you through narrow corridor to somewhat experience surreal feeling of miner



Momentary pauses along linear narrative. void space.





Freespace



Conveyor Belt Walkway

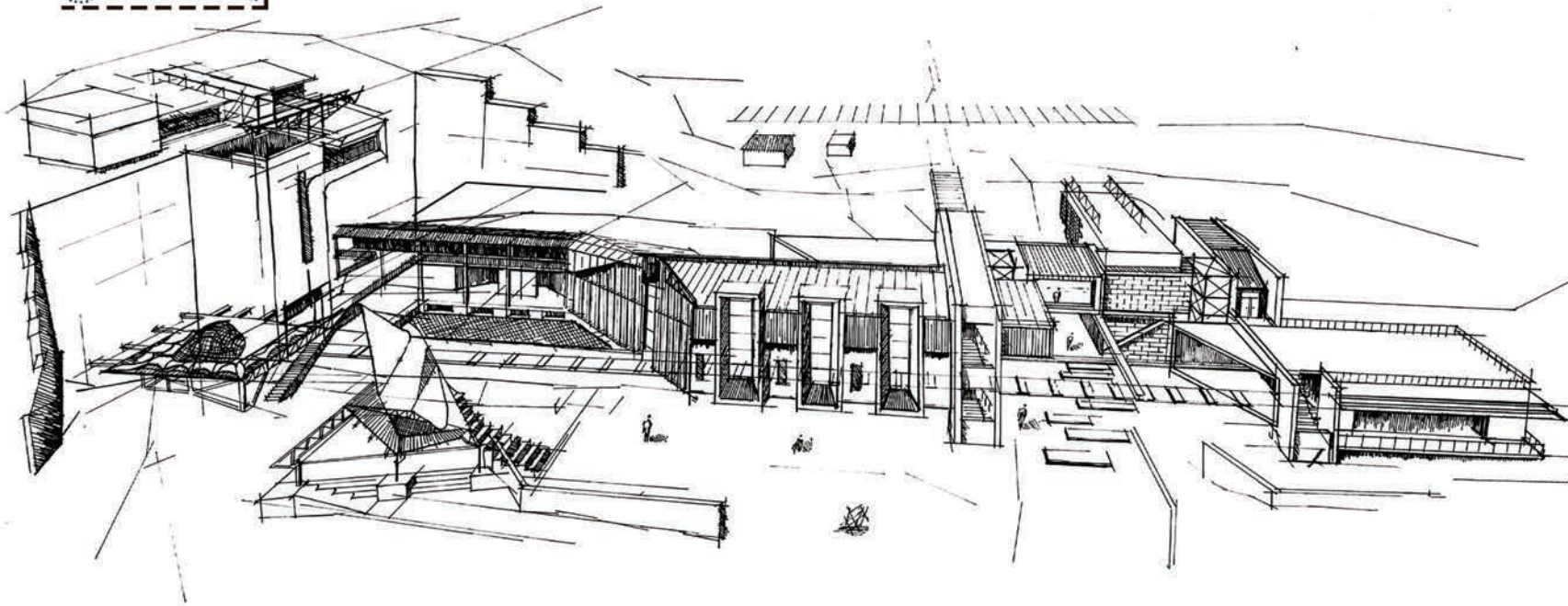


Narrative Chambers

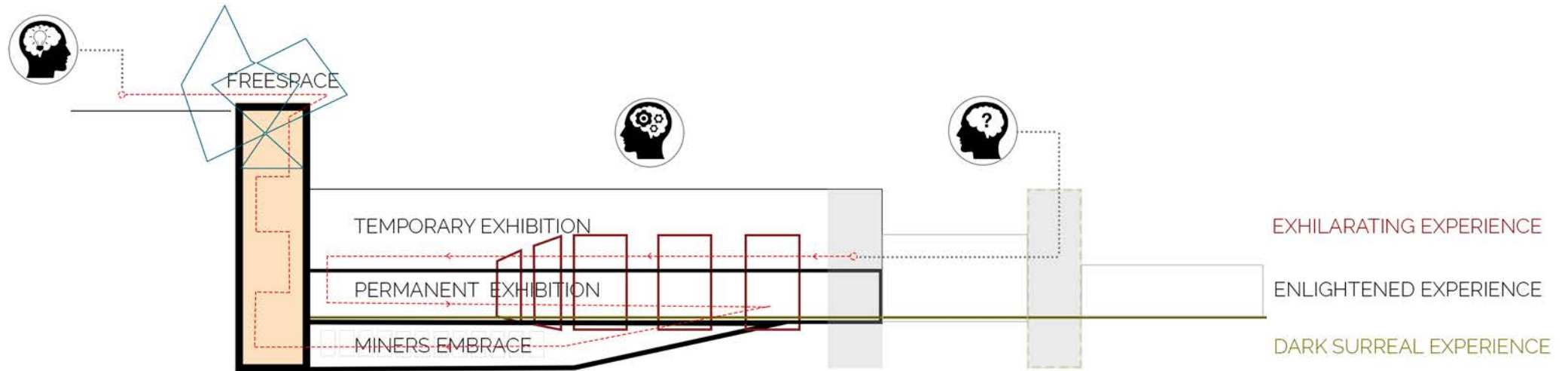


# DELINEATION OF DESIGN

## *THE MINER MAKING MACHINE*



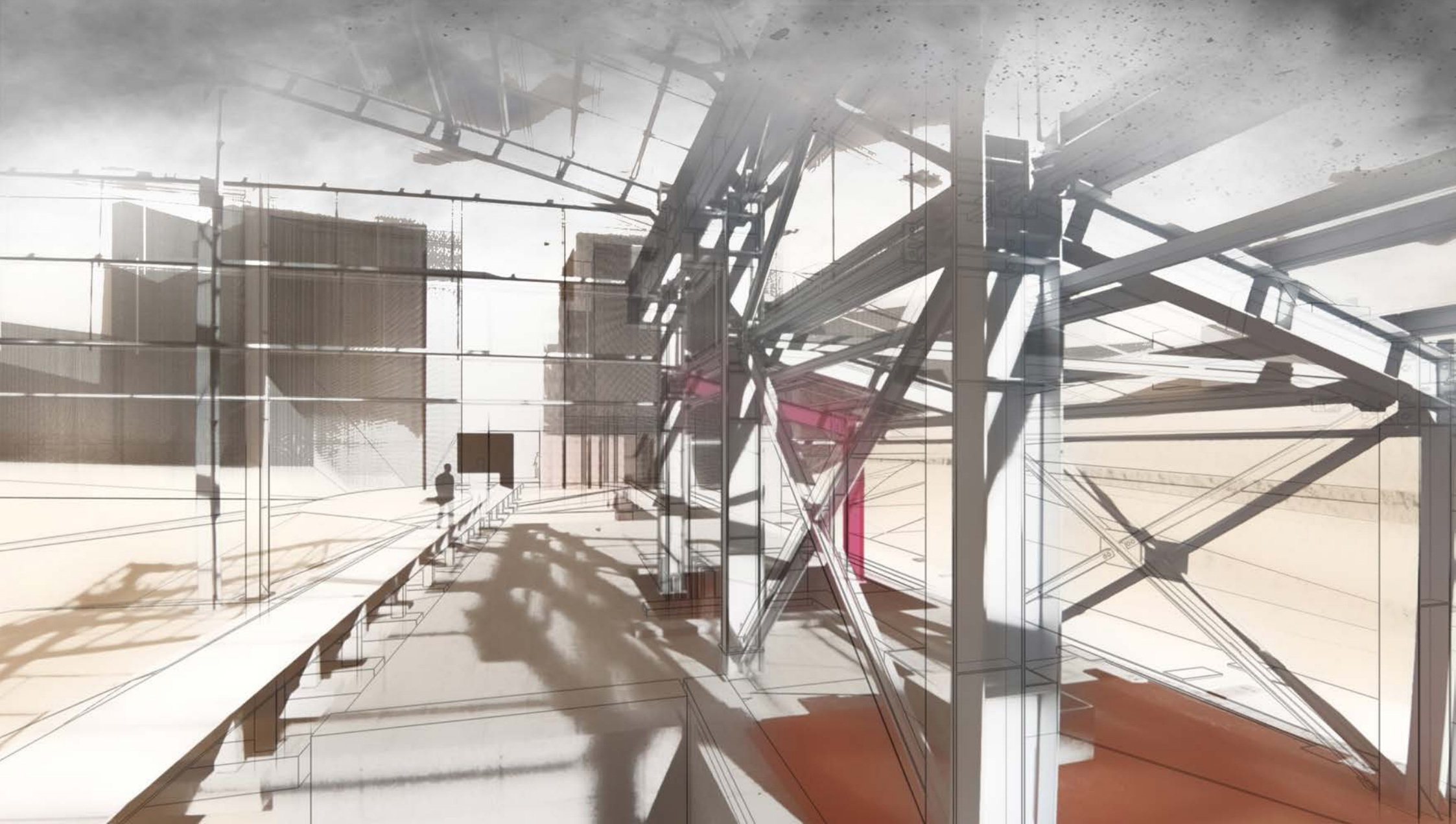
This proposal was still very much in the exploration stage of the design. With heavy emphasis on the machine like appearance. Where the visitor gets processed along the conveyor belt through different components of the machine. Components all working in unison to achieve a desired outcome. To produce a newly cultivated mind towards mining. The design itself lacked a unified language. With shallow responses to the ends of either axis and three distinctly different identities visible on the fourfold.





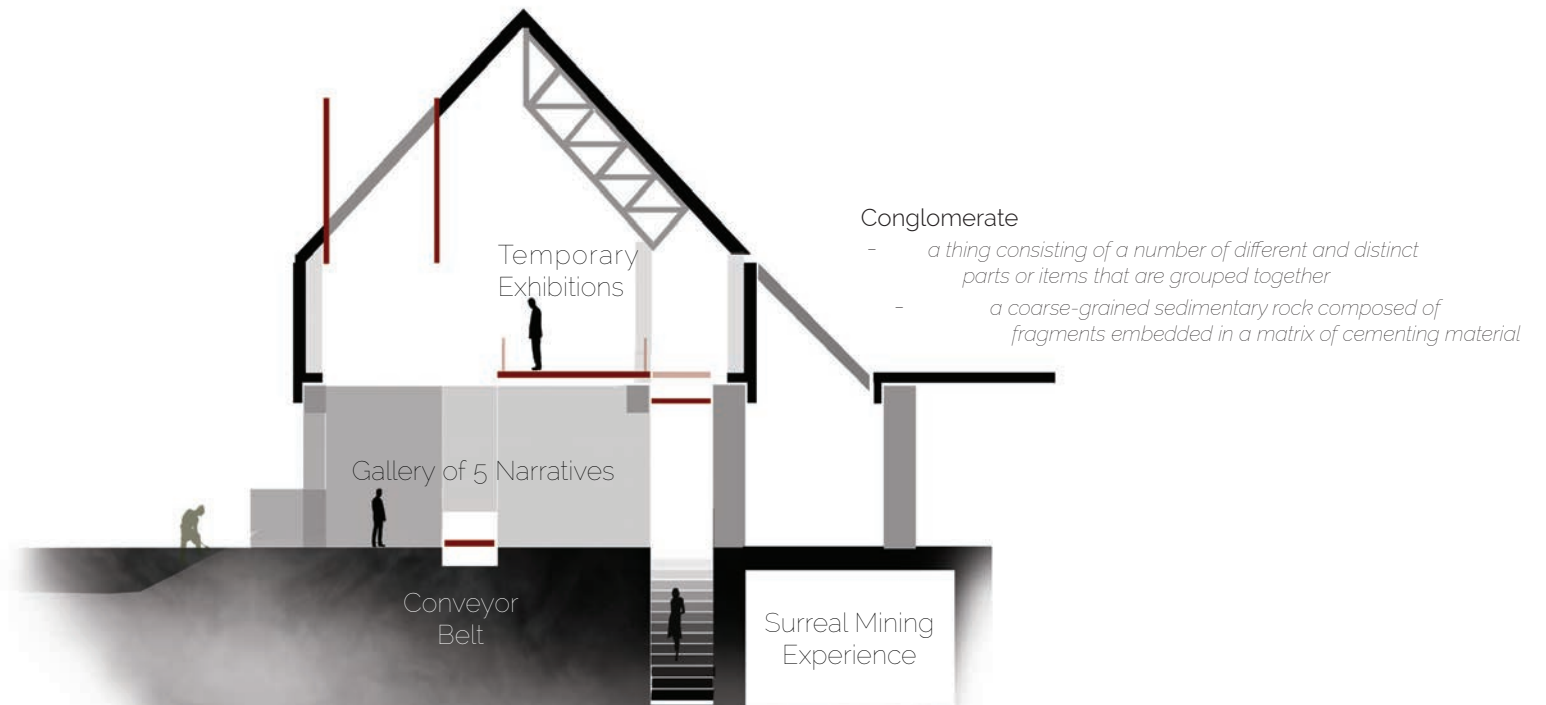
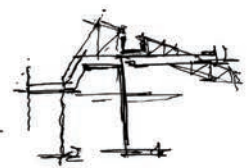
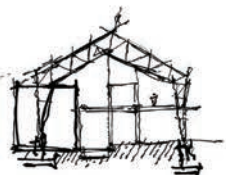
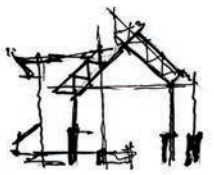
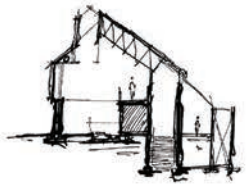
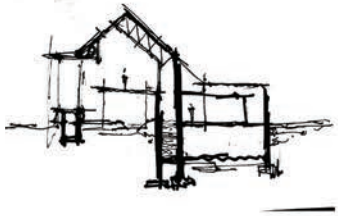
# PART 4: REFINING

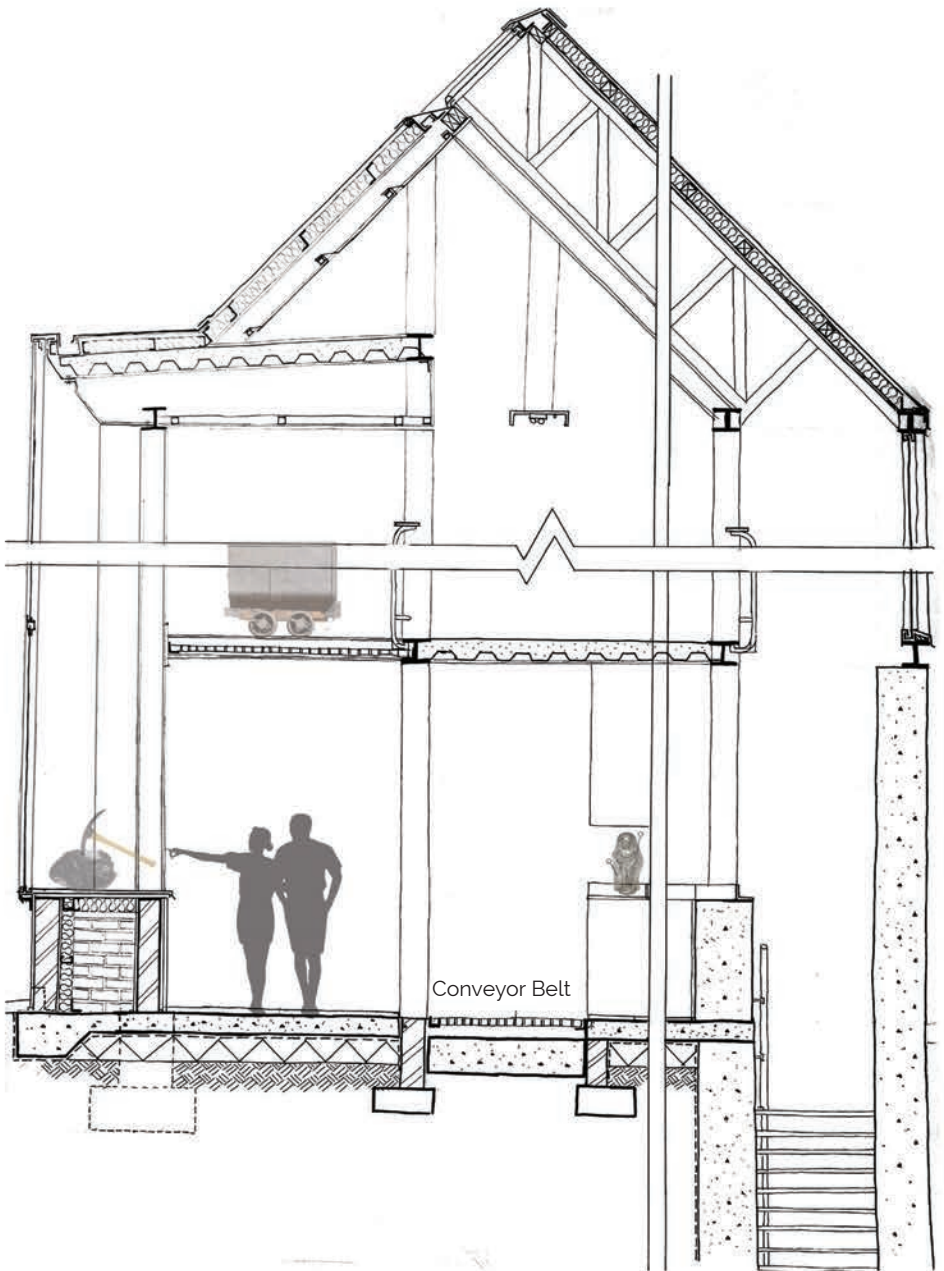
'Cleaning the mineral II Painful exposure but ultimately enlightening experience'



# CONGLOMERATE UNPACKING

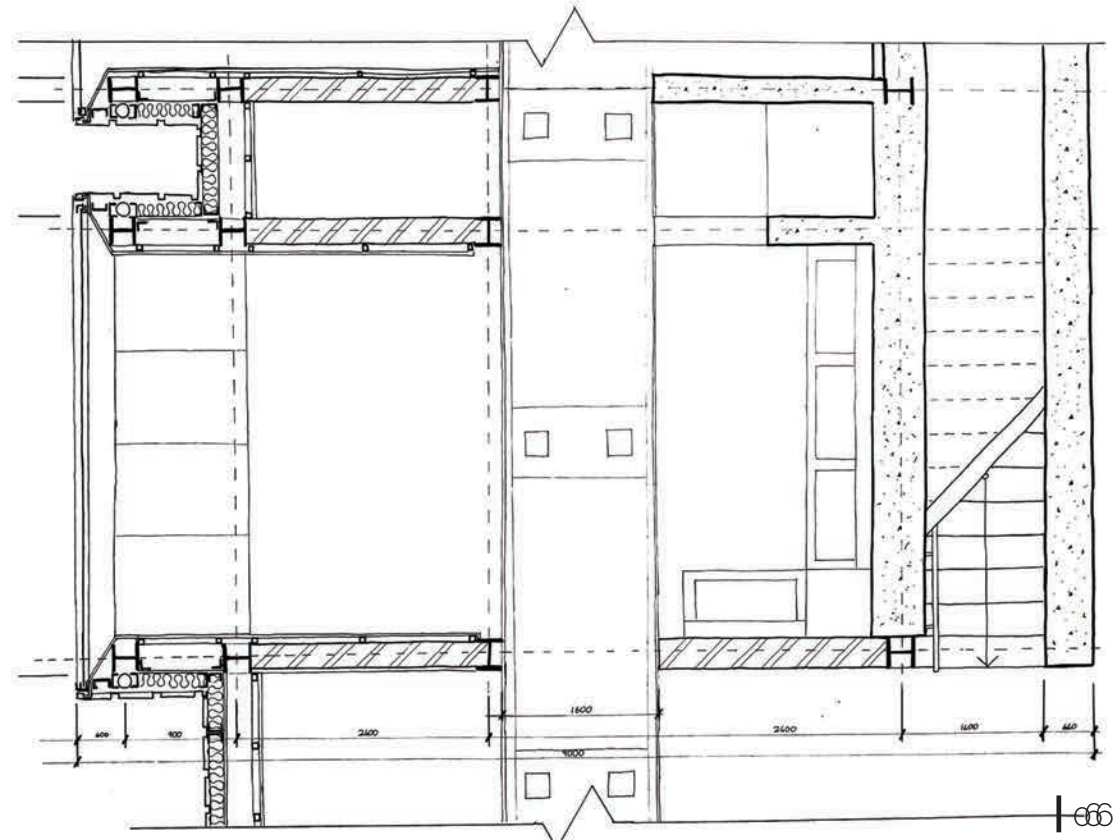
Initially, with the industrial realm predominantly consisting of prefabricated steel parts and pre-cast concrete. The idea was to work with these materials in standard sizes. Such as the portal frame, resting on the supports provided by the underground scar. The previous stages of technical development made it evident that the standard portal frame limited the difference spatial experiences throughout the building. This led to experiments with different roof structure configurations, where I opted rather for 45 degree steel roof truss to elevate the black IBR roof sheeting and allow light in.

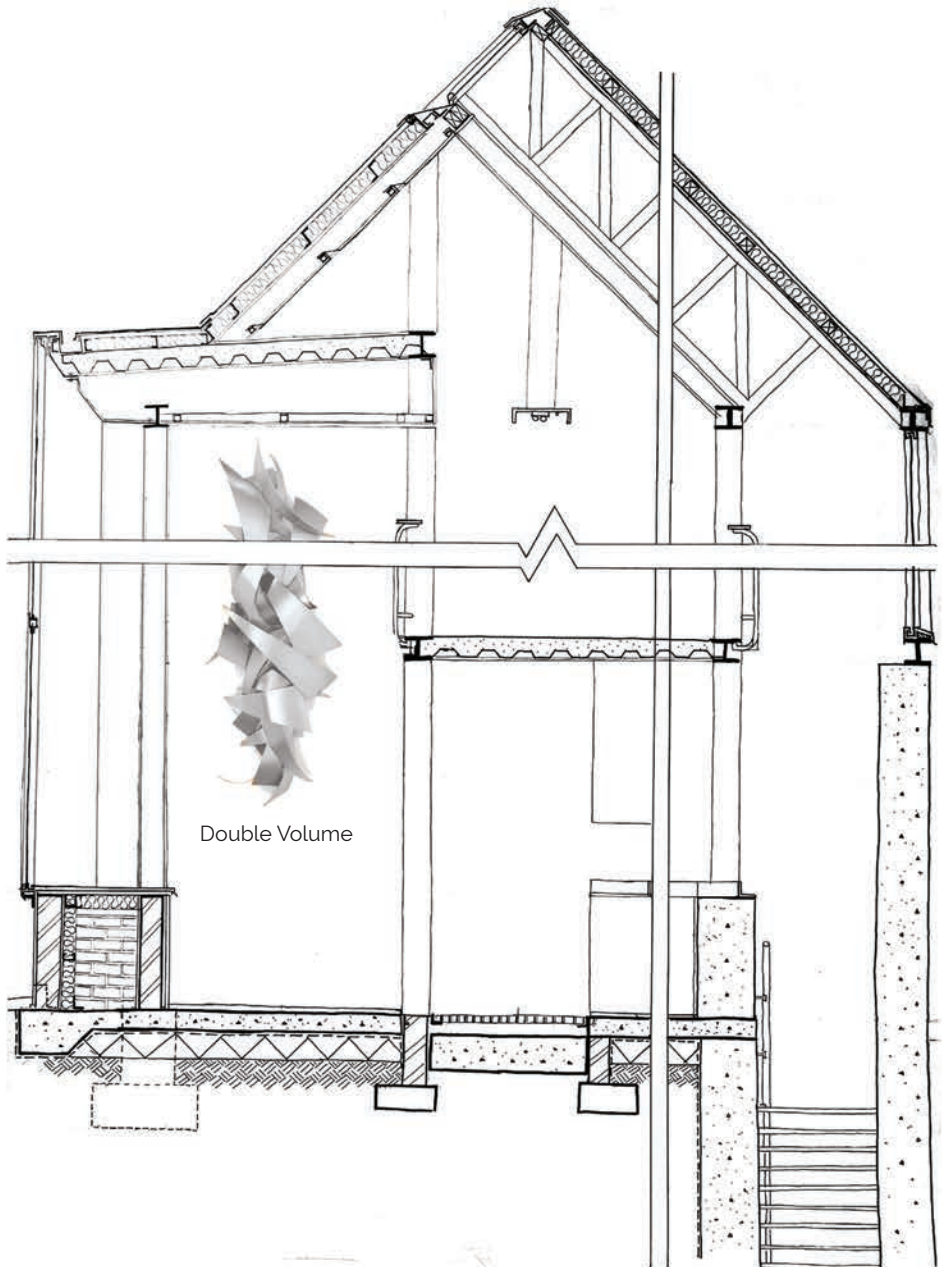




## GROUND FLOOR

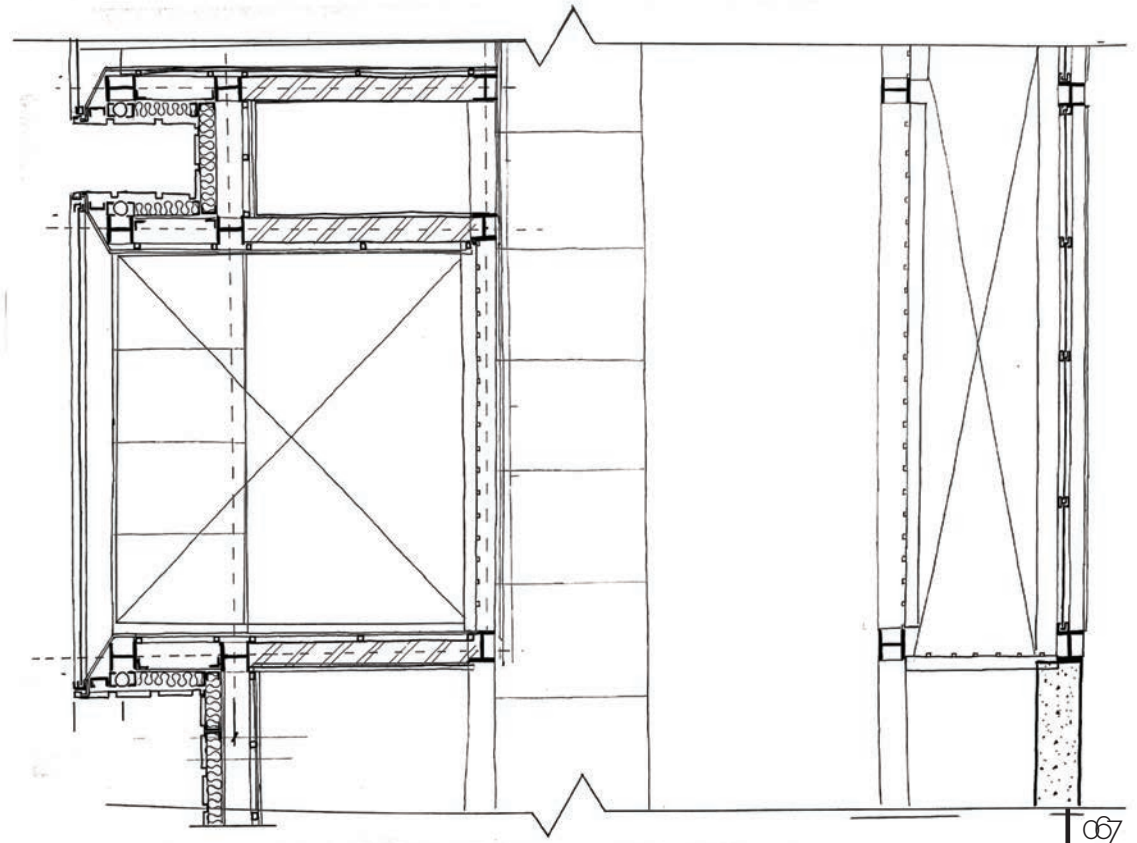
Corten Steel Narrative Chamber

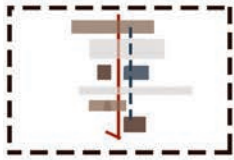




## FIRST FLOOR

Corten Steel Narrative Chamber





# NARRATIVE // Exhibition Spaces

Development of the over arching narrative within gallery spaces.

A narrative follows choices and beliefs, but can they truly be traced to a decisive moment or source. Even then are they not already influence by countless invisible threads, threads that have been unfolding before we were born. When does a war begin, is it the moment it is declared or is that just a consequence of a story, that has already begun much earlier? Where does our stories begin, and just as important, end? Narratives are defined around perfect moments. Moments that mark a definitive event in our stories. The South African mining narrative has many such stories. Different events across miles and time measured, the first discovery of gold, the first protest and the first Marikana massacre. These are moments very traceable, but do these moments encompass the entirety of the narrative?

Romantic movies often end with such a traceable moment, where the couple's final scene is left with a kiss to make up and the camera pans away. This is not the end of a conflict or any future conflicts, such a narrative, leaves it up to the viewer to decide the outcome of such a relationship. The elusive happily ever after. Such is the end goal of this design, to leave the verdict with the viewer after hearing about some truths behind the miner's narrative.

The first mine constructed in what is now South Africa began in 1852, a copper project that would go on to form the cornerstone of the town Springbok (Casey, 2019, online)

1852

First Diamonds discovered in Kimberley in 1871, where 50,000 miners worked to excavate the deepest hole ever dug by hand (MIA, 2017, online). This economic surge with the development of trains sparked a revolution.

1871

1886

The discovery of gold in South Africa in 1886 triggered the development of eGoli (City of Gold), which is the name in Zulu for Johannesburg

1886

Over five thousand black workers were admitted to a local hospital with diseases over the course of the mine's life, due to poor conditions.

1946

The African miners' strike was one of those historic events that, in a flash of illumination, educate a nation, reveal what has been hidden and destroy lies and illusions. The strike transformed African politics overnight, 119 separate unions were established to represent their interests in politics (South African History, 2011: online).

1913

On 12 August 1946 African mine workers of the Witwatersrand went on strike with 60,000 downing tools in demand of higher wages, 1,248 Workers were wounded, with police braking up the protest by killing 12 of the strikers (South African History, 2011: online).

1976

Soweto started in 1930, its people then could only apply for a status of temporary residents. Serving as the workforce behind Johannesburg, with the majority of its people reliant on gold mines, The largest township in South Africa began to riot against authority systems in 1976. Where 176 striking students were killed and 1,000 injured (Brand South Africa, 2014, online).

2012

The Marikana Massacre where 42 people died.

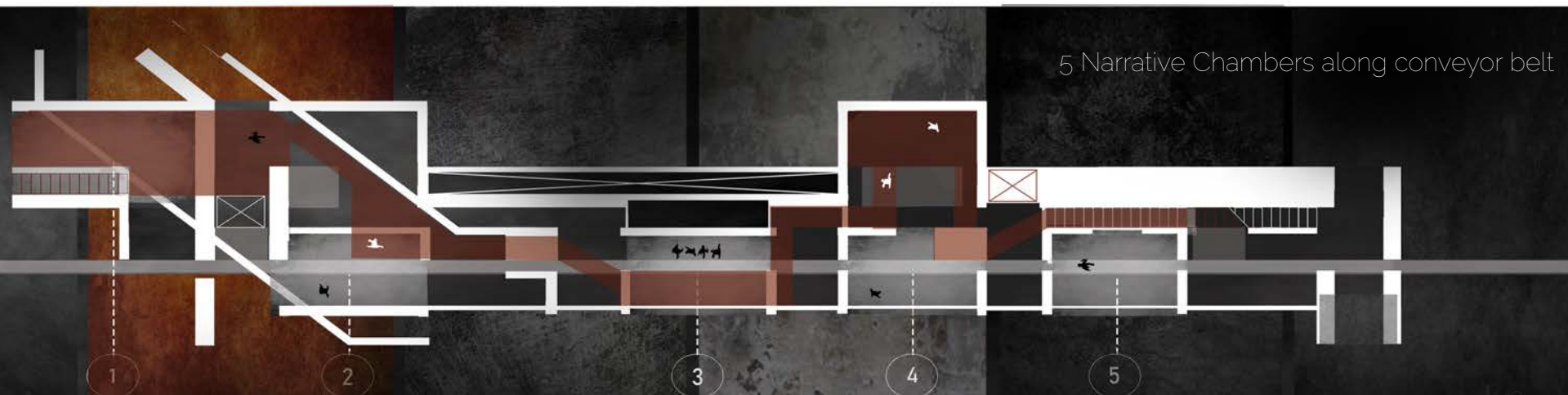
Yet to see any repercussions in the greater narrative. Maybe the building will serve as a reminder and spur things along.

These narratives often contain plot twist, where threads of chaos and confusion suddenly come together in a weave (space) of clarity. Defined by singular moments, especially those we experience as such while they are happening. Moments celebrated in spaces such as the Freespace. Historically we can identify certain milestones in hindsight. Events have dates given to them as they reach their conclusion, but the people living them probably had a hard time figuring out when the dust finally settled. Even our current pandemic; Covid 19 will not have clear end that threads out of existence. It is not perfect but its real. The narrative that cuts through the structure (Conveyor belt) is real, it does not pull punches. It exposes the good and bad.

We may create some momentary understanding of things over time, but what is this really if just a temporary vale of wisdom over what really is fundamentally unknowable, a brief moment of stillness in what remains an ever-changing story. The continual build-up of unanswered stories, over time forming a sedimentary. Thus the reason for an inceptual thinker to evolve from this building, to momentarily remove the vale imposed by dogmatic systems of authority. Is a fully formed or resolved story nothing more than an ideal forever out of reach, continues narration without conclusion. Do the people of South Africa not deserve some sort of closure?

The series operates on the model of the narrative structure of a tragedy. The natural laws which inevitably conclude the cycle of life, with death. Make the circle the motive for tragedy. We can struggle, fight to be beautiful, strive to become someone, maybe ourselves, the noose is closing. But the fall only describes the descending semi-circle of existence, it is up to the spectators to close the tragic loop by imagining the glorious youth of the place, the tragic fall in everything and in oneself. The narrative aims to pull the spectator into the narrative. By making them aware of what events transpire behind these asphalt mountains. In a moment, then inspire them to envision a new future. To partake in making that future a reality through programs and awareness events hosted by the Mining Interpretation Centre.

The aesthetic of loss, in tension towards the pure absence of form, participates in the narration of the tragic outcome of the series of 5 distinct narratives across South Africa's History (scab). The stories of people never heard (scar), and the future optimism of the temporary exhibitions (new tissue). Provides a narrative exposition when viewed and experienced in its entirety. It is the insertion of background information within the narrative of South Africa's vague mining past. Information be about the setting, characters' back stories, prior plot events and historical context.



# GROUND FLOOR EXHIBITION

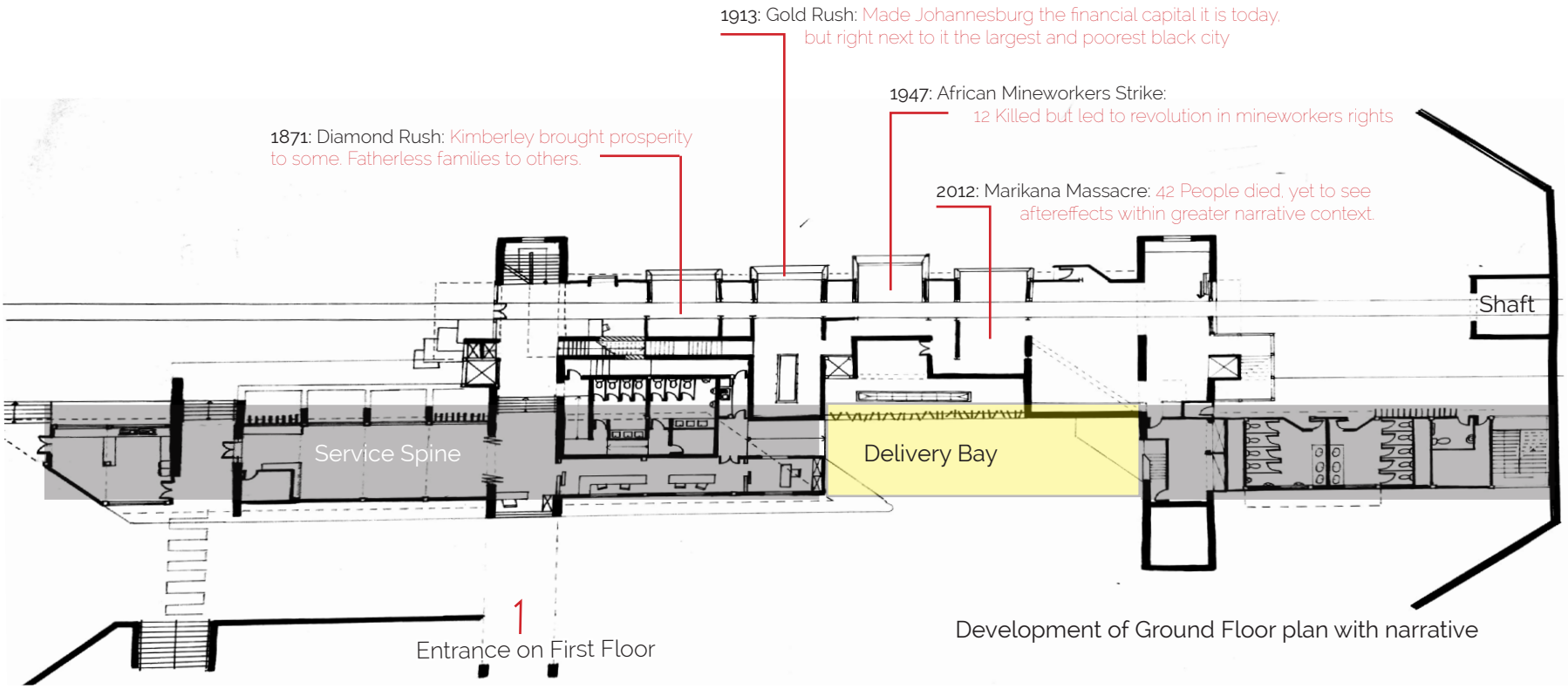


Figure 6: The Coal mine series (Hegen, 2019, online)

## LOWER GROUND FLOOR EXHIBITION



Admi, 38. Recycles scrap of mine dump, turned rubbish dump. Averaging R150. Johannesburg (Larkin, 2010. online).



"This is very dangerous work," says Fix, draining a quart of beer for courage. "But there's a lot of money down there." An informal gold miner / zama zama (Swingler, 2019. online).



Rethabile Mokwena, serves as a broker for local zama zamas, struggles with lung problems caused by the hazardous process of refining gold dust into amalgam (Swingler, 2019. online)

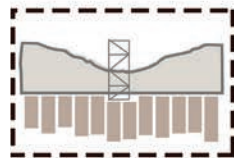


Zaia Mugabe, panning for latent gold from an abandoned mine dump. Krugersdorp (Larkin, 2010. online).



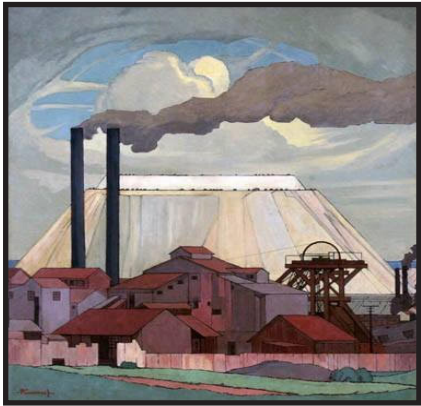
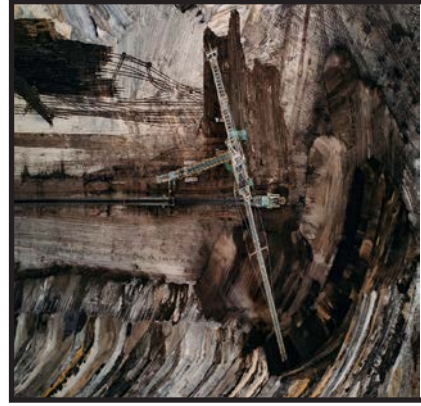
"This work is very hard. It's not a good job," says Elizabeth, showing her calloused palms. "But in Zimbabwe things are worse, so we have no choice. Employed as a rock crusher in the abandoned mining town; Durban Deep (Swingler, 2019. online).

## UNTOLD STORIES OF THE DEEP



"There is no other work," says Thabo Dikgang, a burly local zama zama whose earnings support a wife and five children. "Even if someone dies inside those shafts today, someone else will be there to take his place tomorrow." (Clarke, 2019. online)

FIRST FLOOR EXHIBITION // *temporary installations examples*



Series of thirty two commissioned paintings of the South African landscape done by J.H Pierneef. It encourages the viewer to try and see these landscapes through the artist eyes. (Pierneef, 1932. online)

The Quarry series by Hegen, portrays the simplistic and symmetric beauty found in some of the mines. Paints a new picture for the viewer. (Hegen, 2019. online)

The artist Mohau Modisakeng, has a wide collection of art drenched in political meaning of mines in South Africa. Particularly his Endabeni series (Modisakeng, 2015. online)

The Coal mine series, destroyers or painters of landscapes. New way of looking at mining structures. (Hegen, 2019. online)

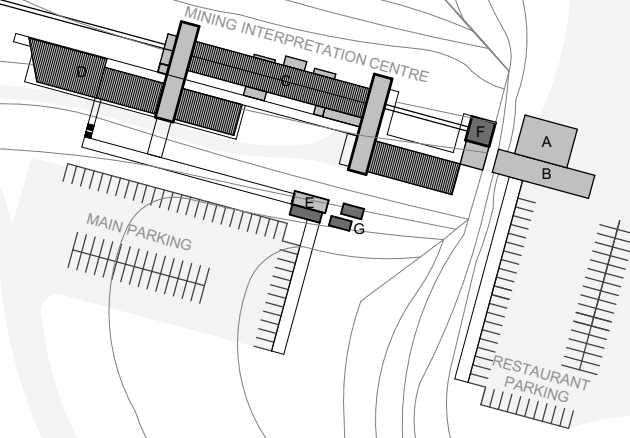
The Gutehoffnungshütte 1969 compared to 2012. A series of before and after photos of previously scarred landscapes. To encourage future outlook. (RVR, 1969 & 2012. online)



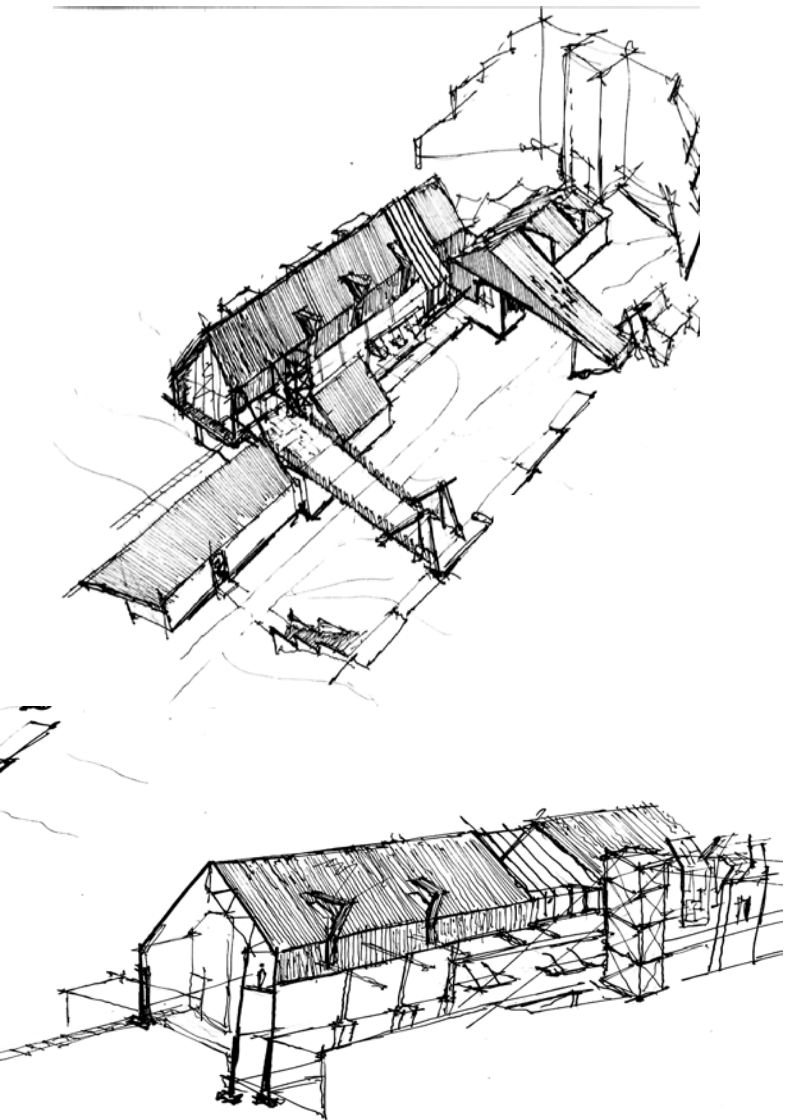
# PART 5: SMELTING

'combination of minerals to produce new alloy  
ll person who allows engagement, will differ prior to arrival'

CONVEYOR BELT  
Service Road



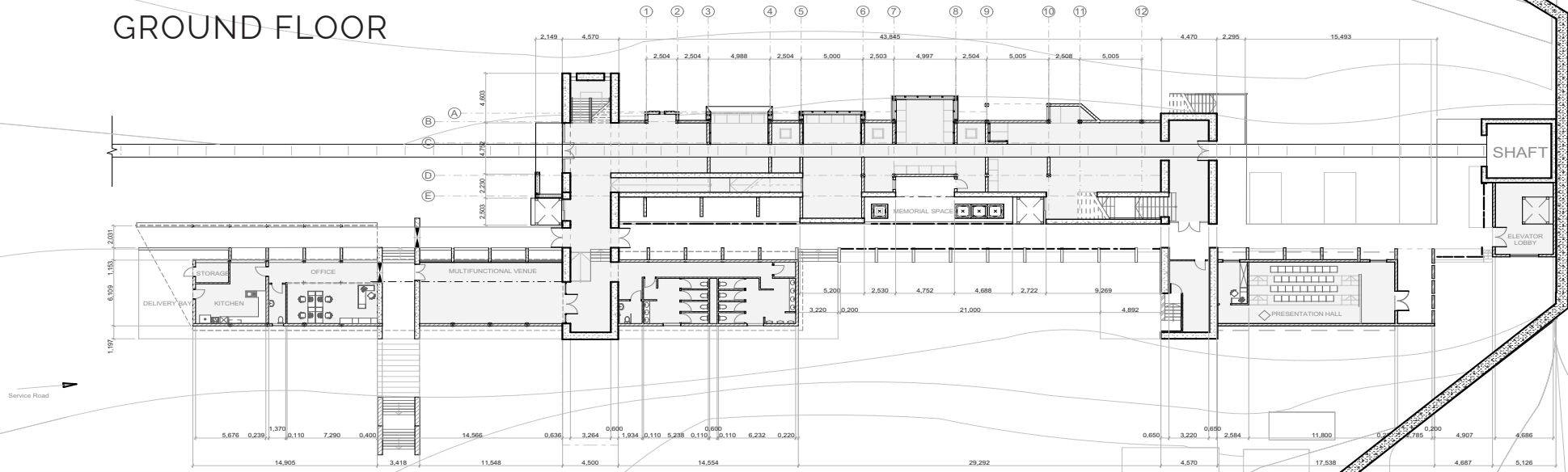
EXCAVATED HILL



Underground surreal experience



# GROUND FLOOR

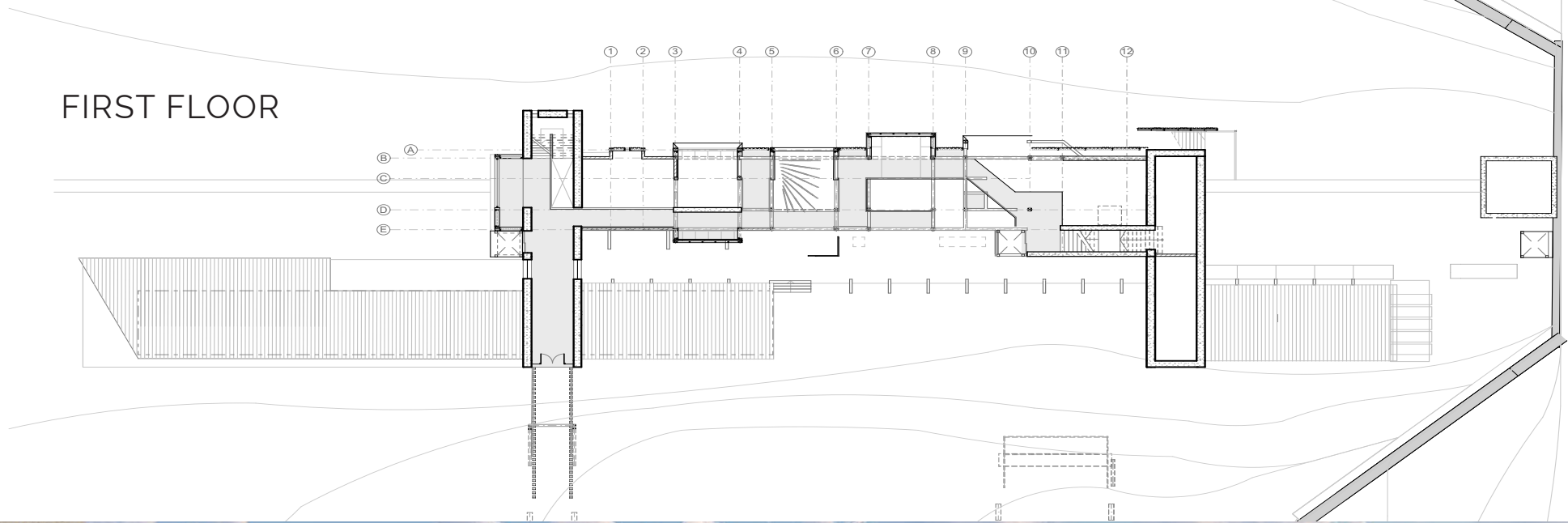


## *Design Deterrent*

It was at this stage, to my detriment where I realized how far I strayed from the initial ideas. The design had become 'safe' and generic, with no conflicting elements. Where the decision was made, that the problem fundamentally had started with the plan. That addressing the facades would not be enough to extract the remnants of scattered ideas across the structure.



# FIRST FLOOR



Infill Walls



Walkway



Load Bearing



The black IBR roof sheeting should rest lightly on the structure. With the corten steel memory boxes cutting through the through the roof to reveal the sensitive interior structures. The sizes of the boxes changed to bring more of a variety between the spaces and their narrative.



SECTION

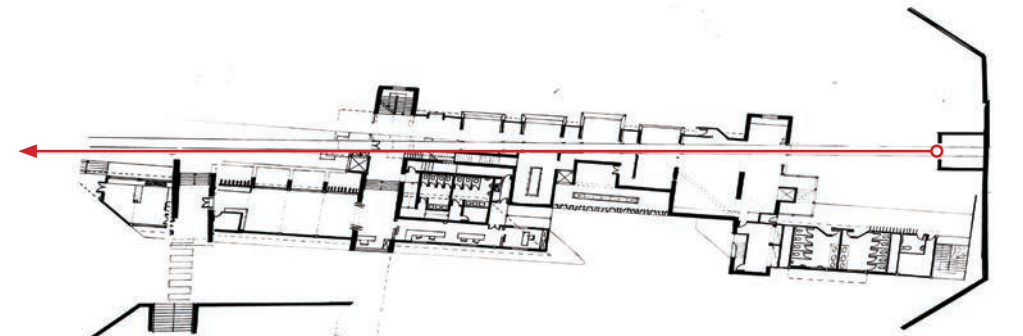
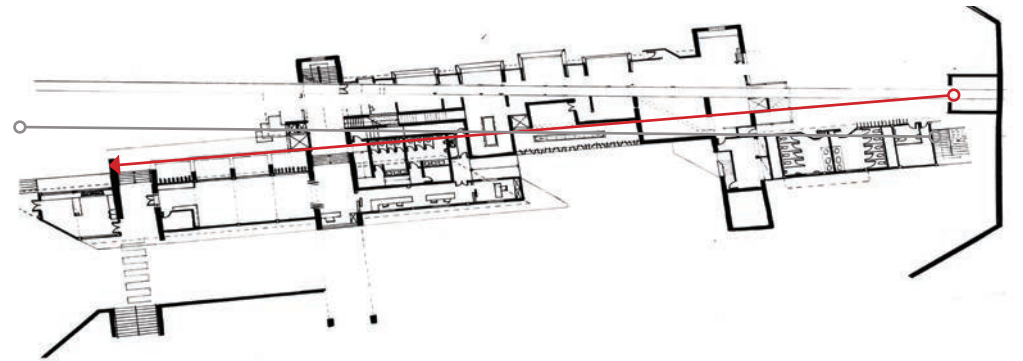
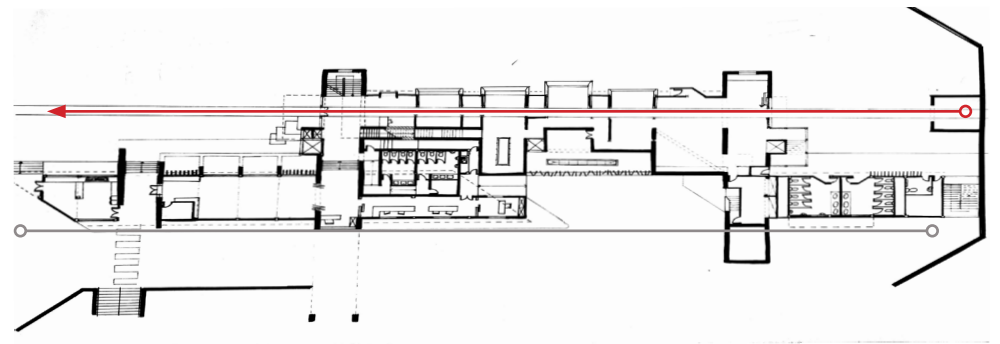
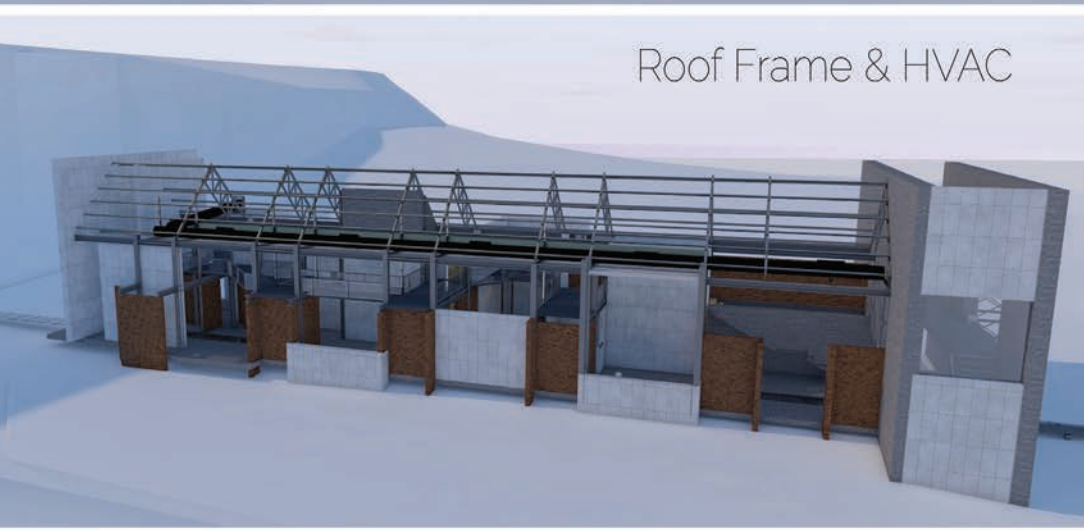
Roof Sheeting



Corten Steel Chambers



Roof Frame & HVAC



I played around with different variations of the plan. Due to the building as it was, having no visual elements of tension (second concept). That the plan itself should confront its users with awkward spaces. With the believe that such a change to plan would carry over to the three dimensional development as well. By changing the angle an immediate confrontation happened where the two axis converged. Emphasizing the conveyor belt narrative more, whilst the new angle points to a new axis. Which fundamentally is the aim of the building. To make people aware of the past yet point them to a new positive future

BLESKOP PROCESSING PLANT  
CONVEYOR BELT  
Service Road






EXCAVATED HILL

MINING INTERPRETATION CENTRE  
PARKING

EOSTRA PLANT HIRE  
Truck Depot

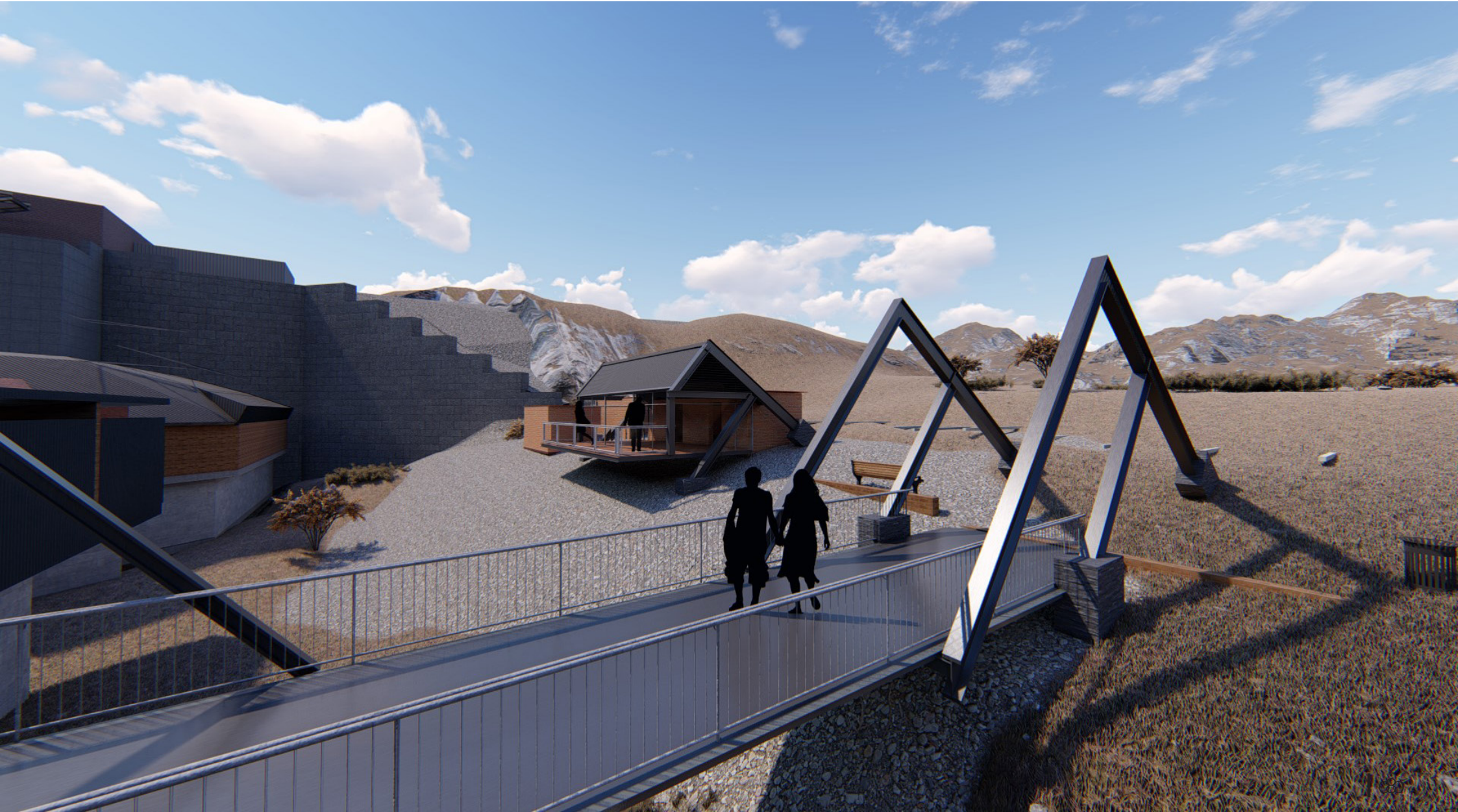
GRAVEL ROAD FROM  
HIGHWAY

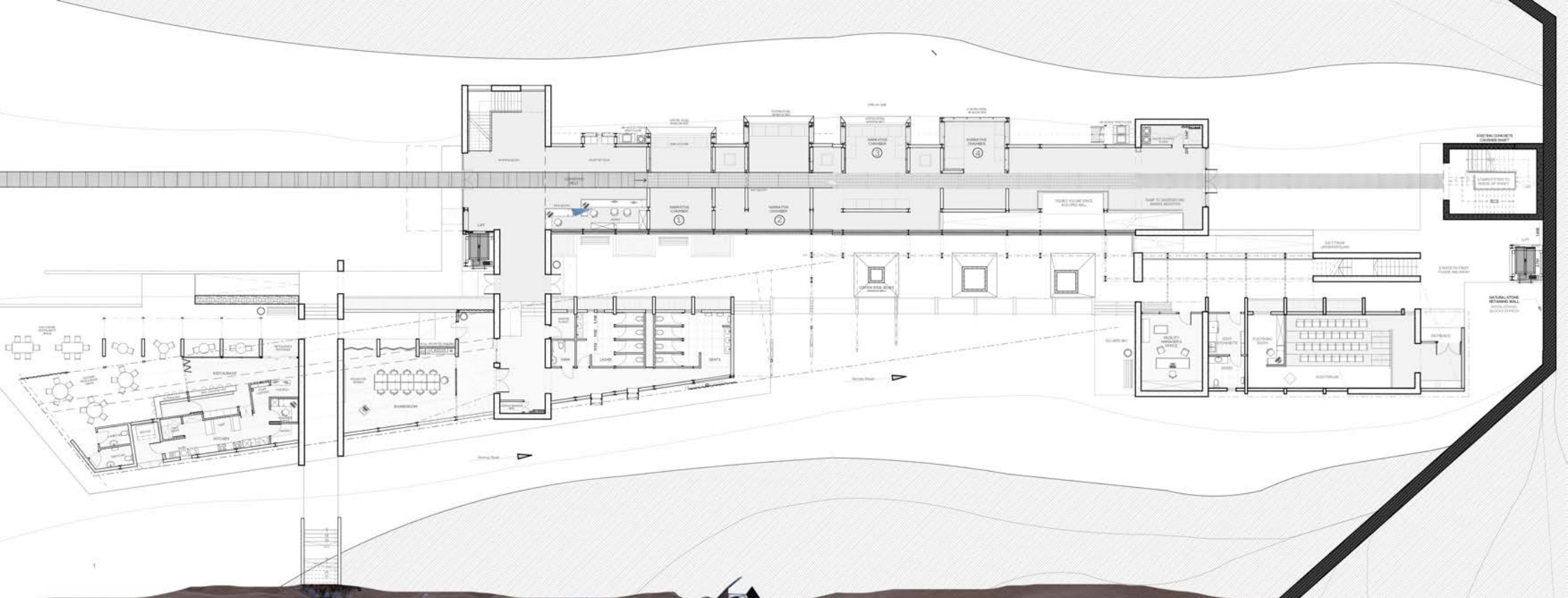
 LOCALITY PLAN  
SCALE 1:1000

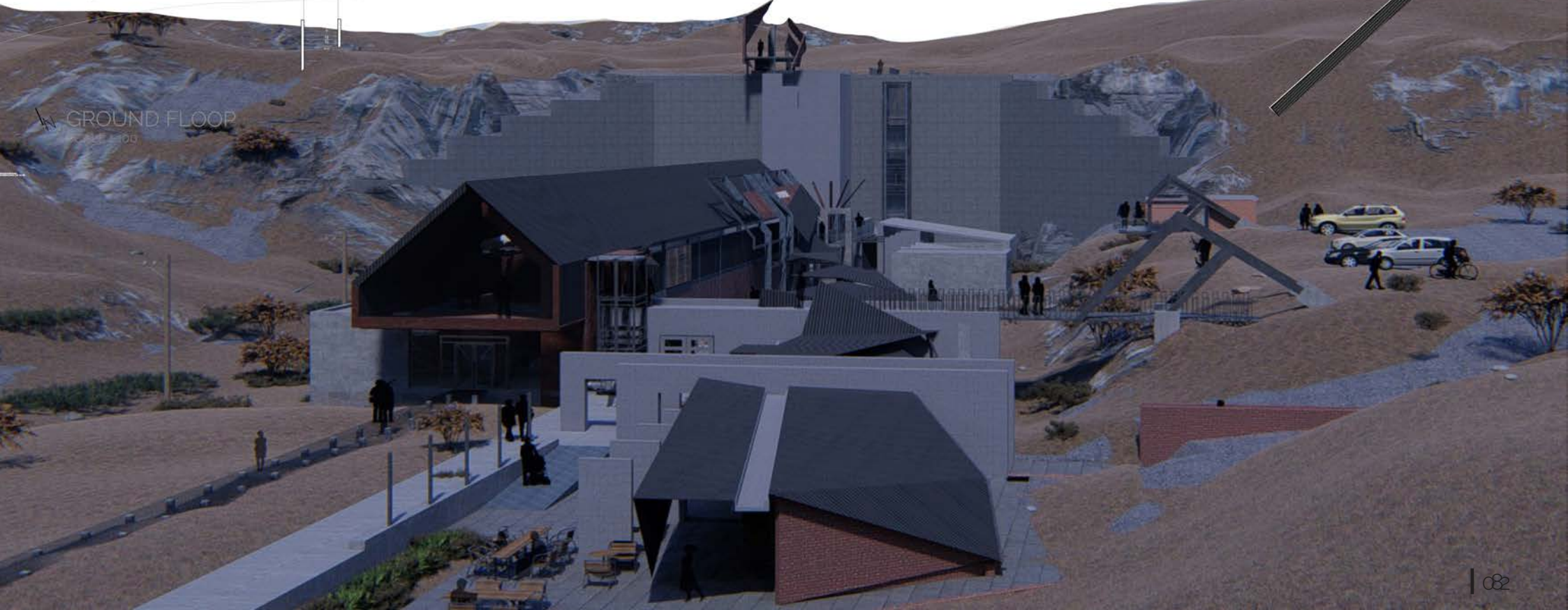
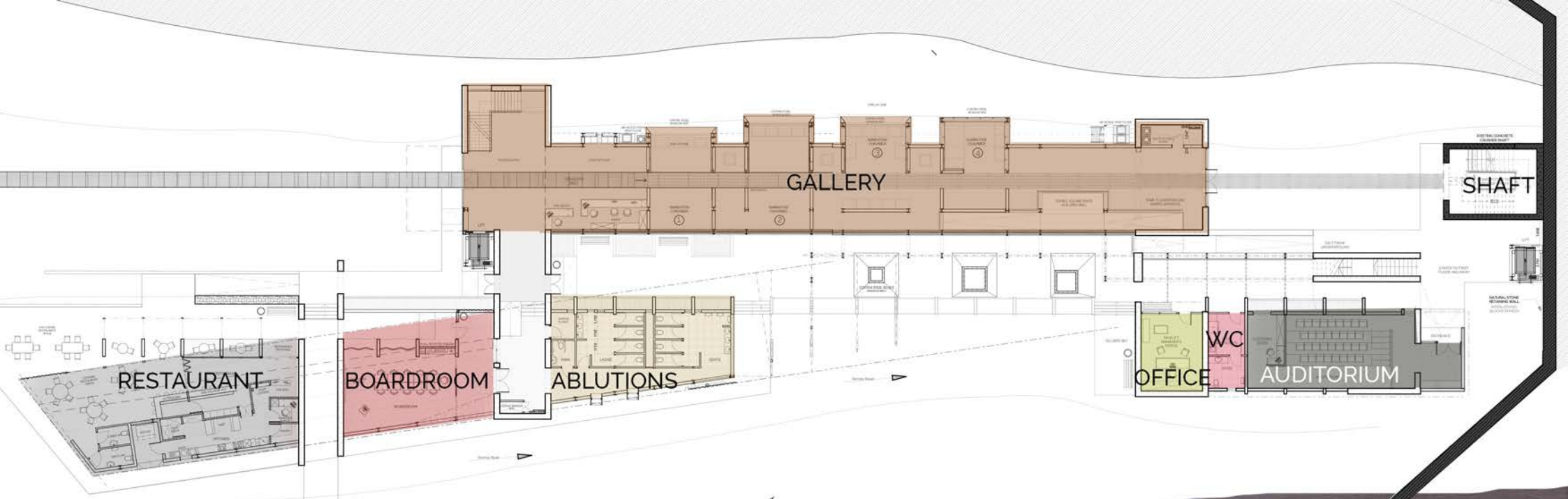
-  DIRT SERVICE ROADS
-  PROPOSED NEW DEVELOPMENT
-  EXISTING STRUCTURES



Entrance from parking. Kept the original structure that held the generator and mechanical controls for the crusher shaft. Expanded on it, now the guard house.







GROUND FLOOR  
SCALE 1:100

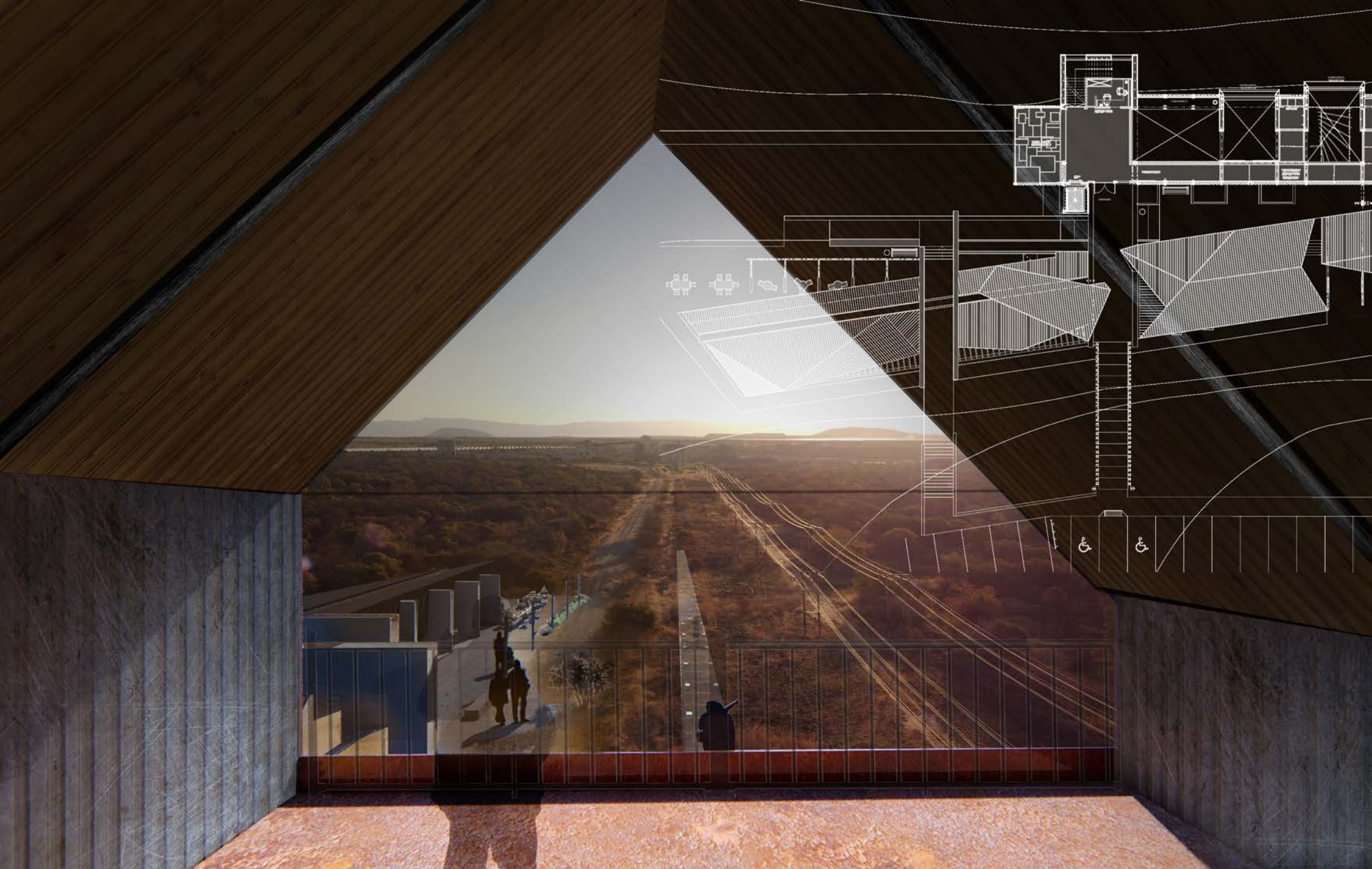
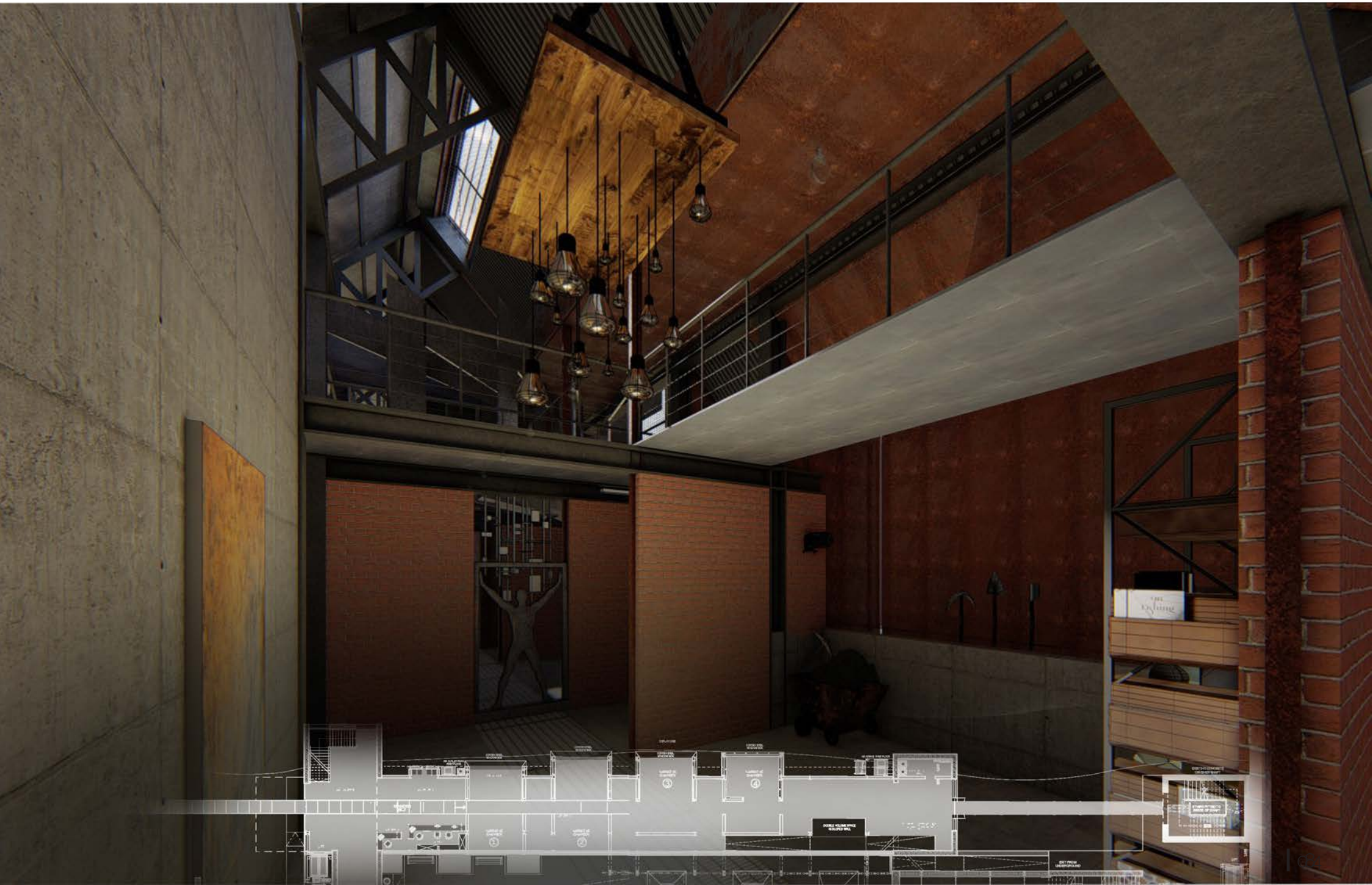
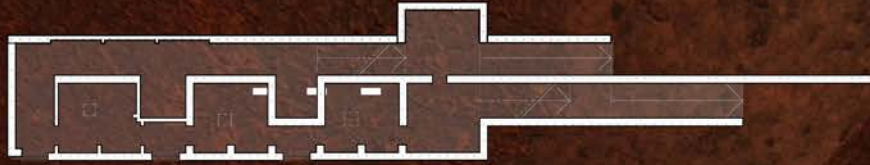
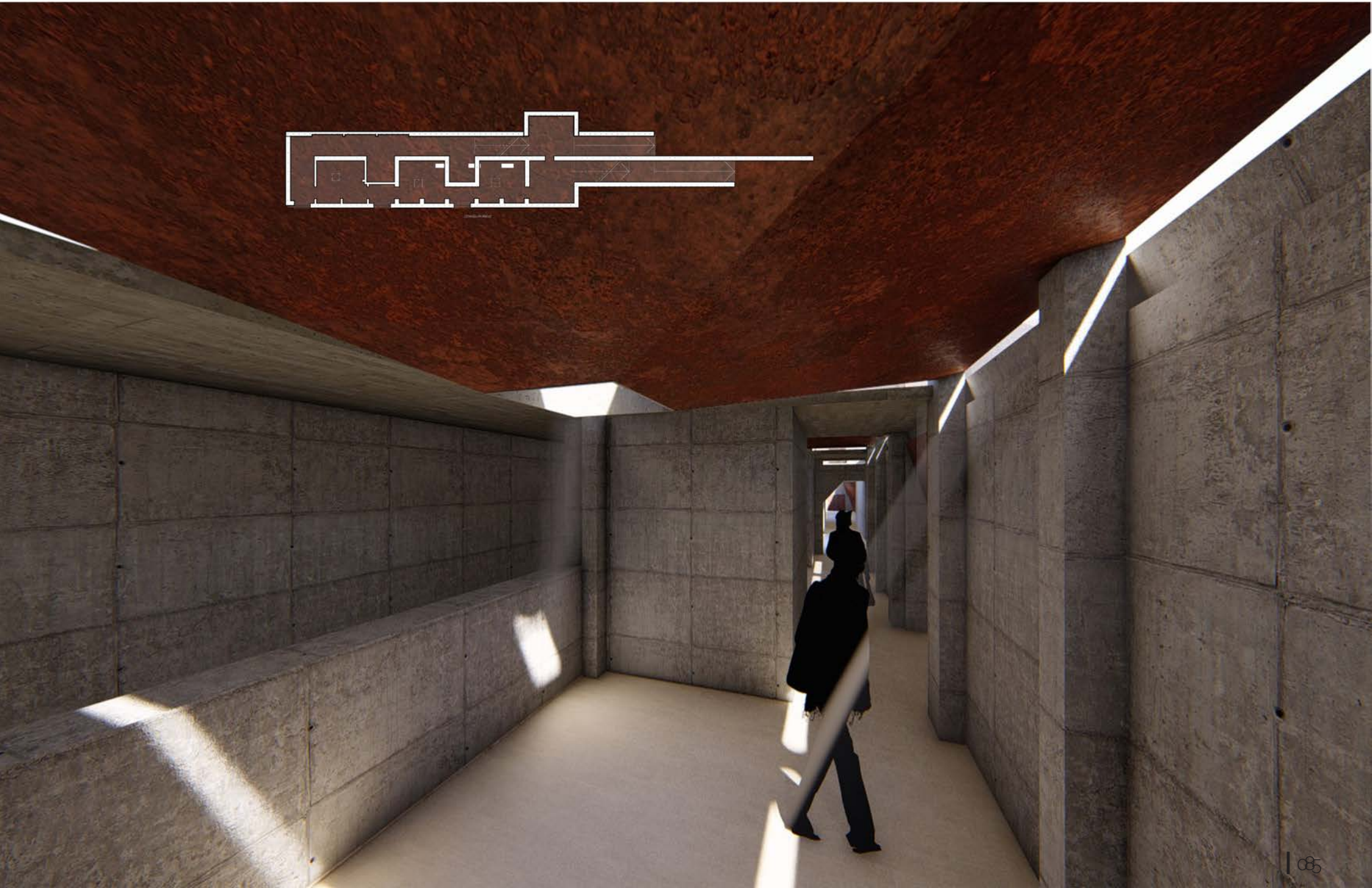
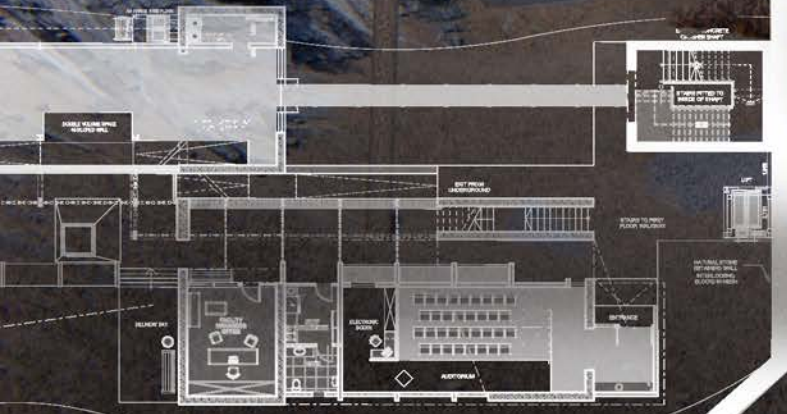


Fig 80: Waiting area, lobby







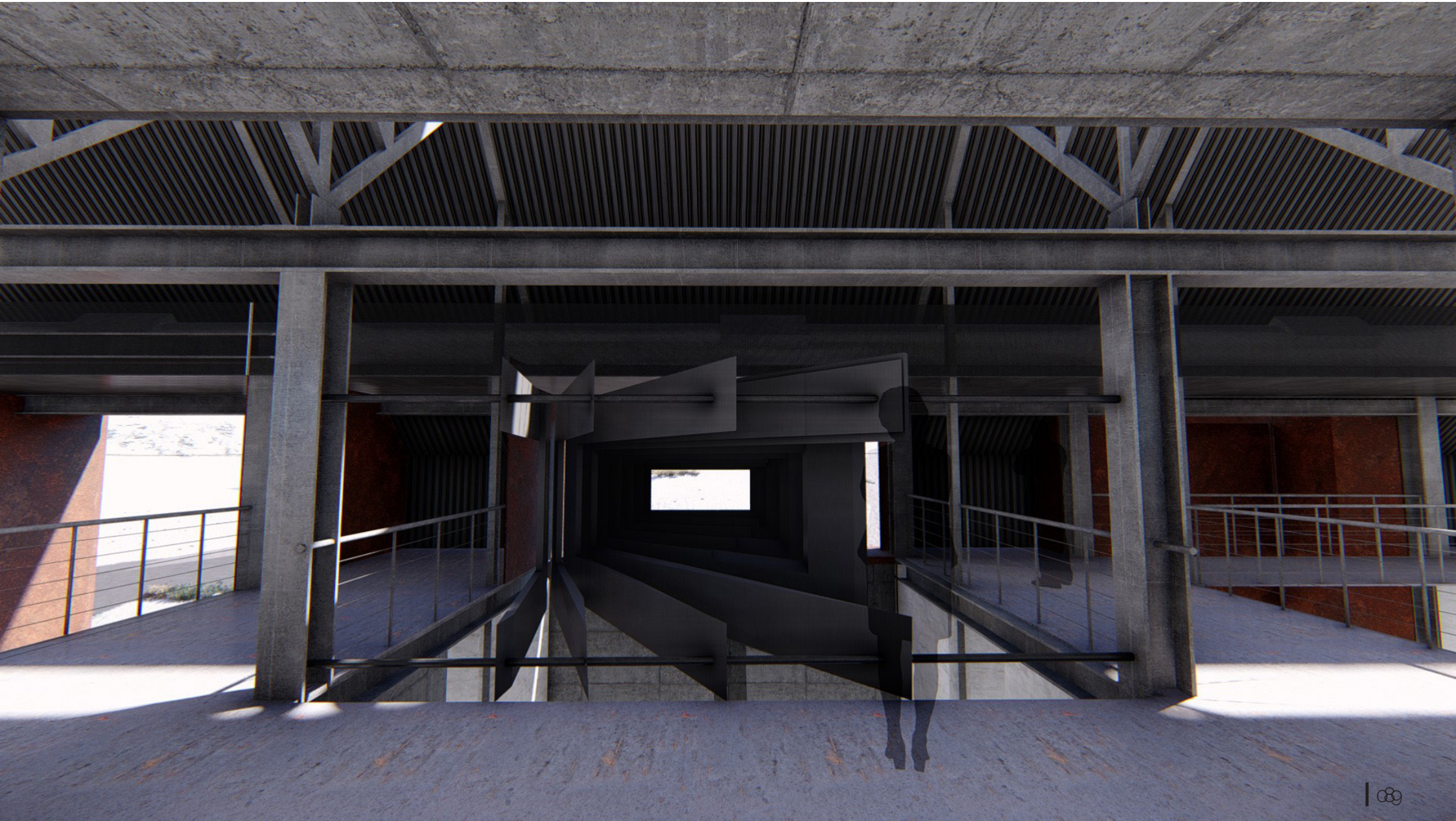
First Floor walkway along temporary exhibitions.

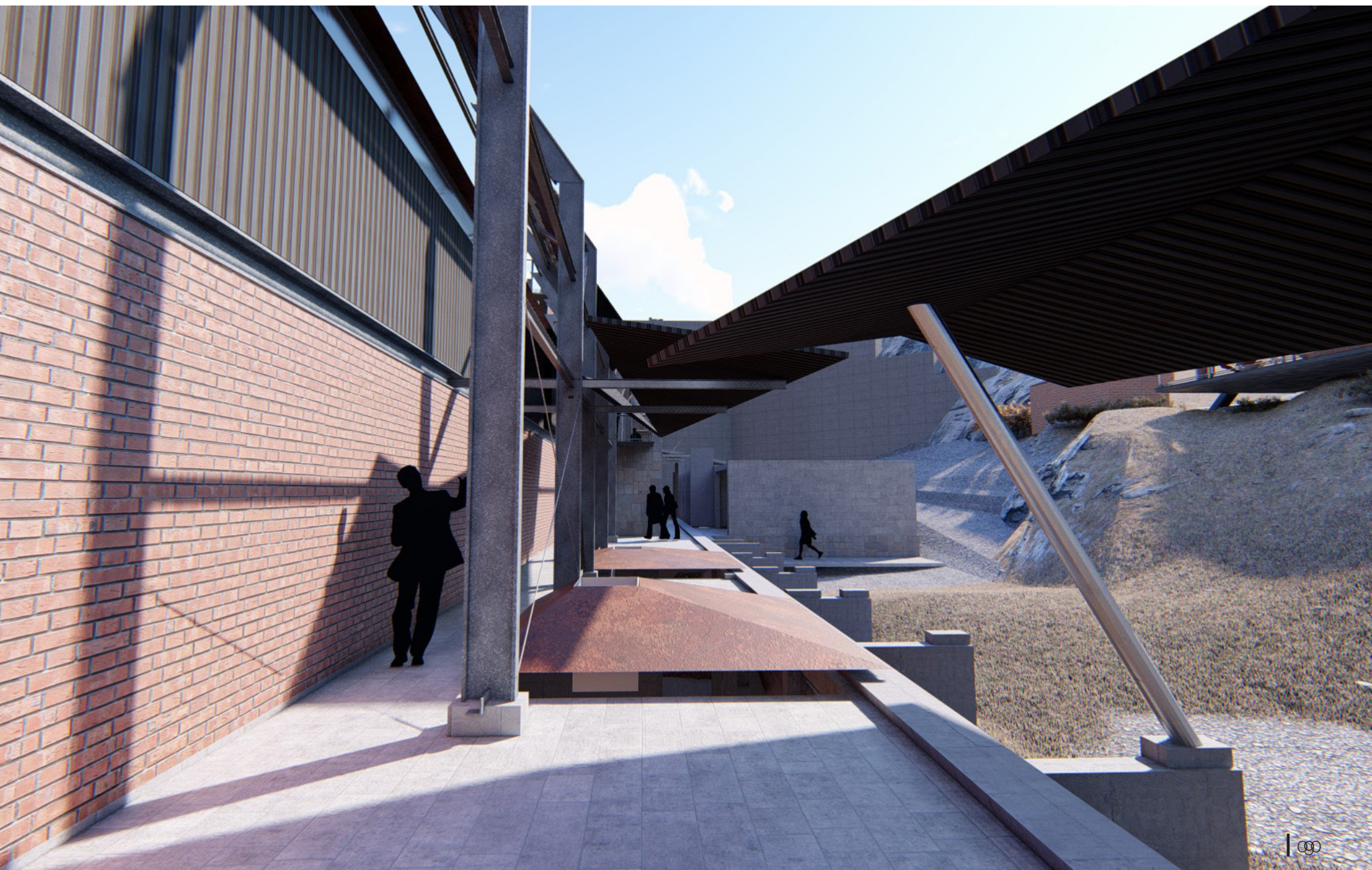


First Floor walkway along temporary exhibitions.



Momentary pause and possibility of plunge.





# WEST VIEW

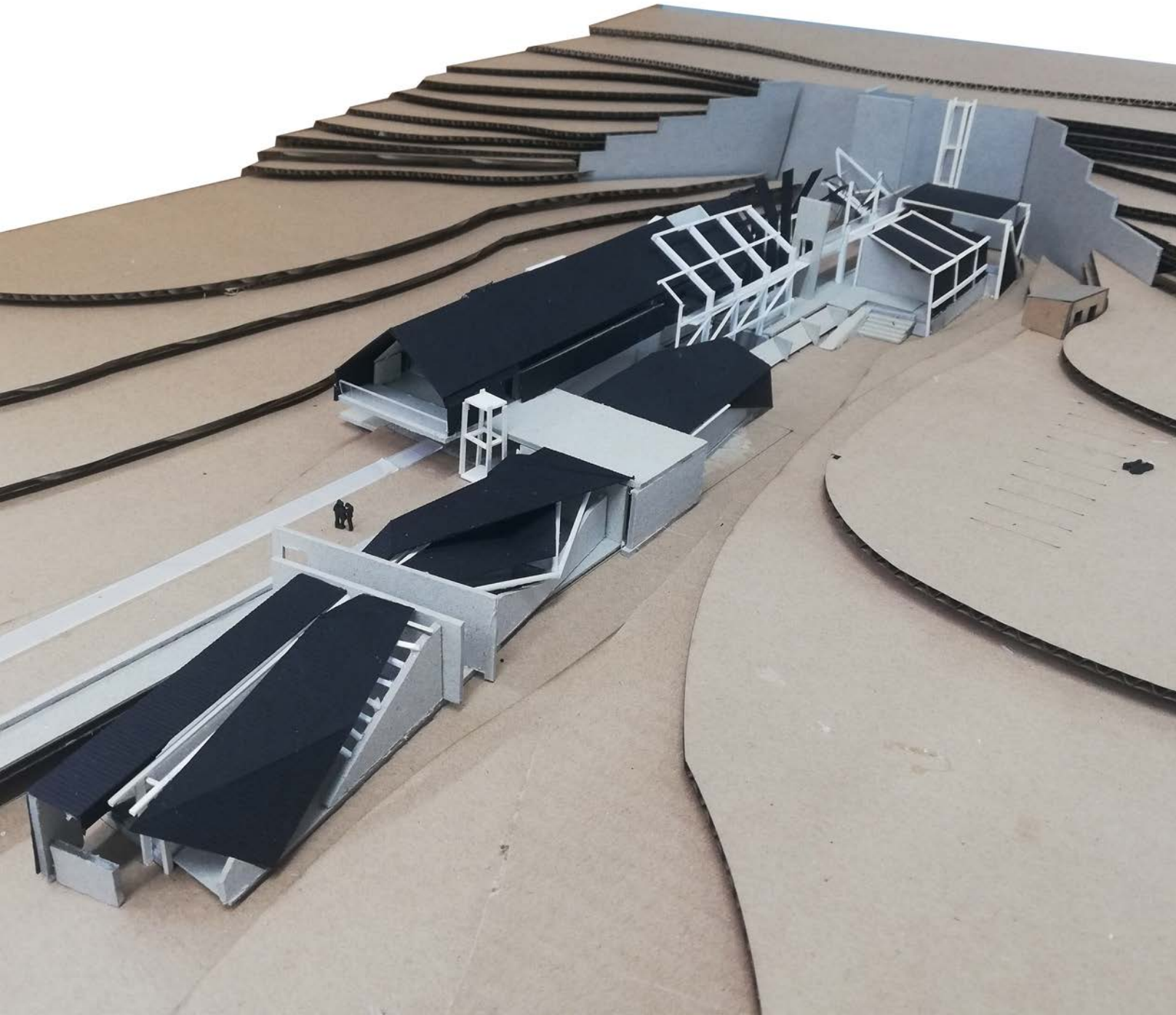
10:32

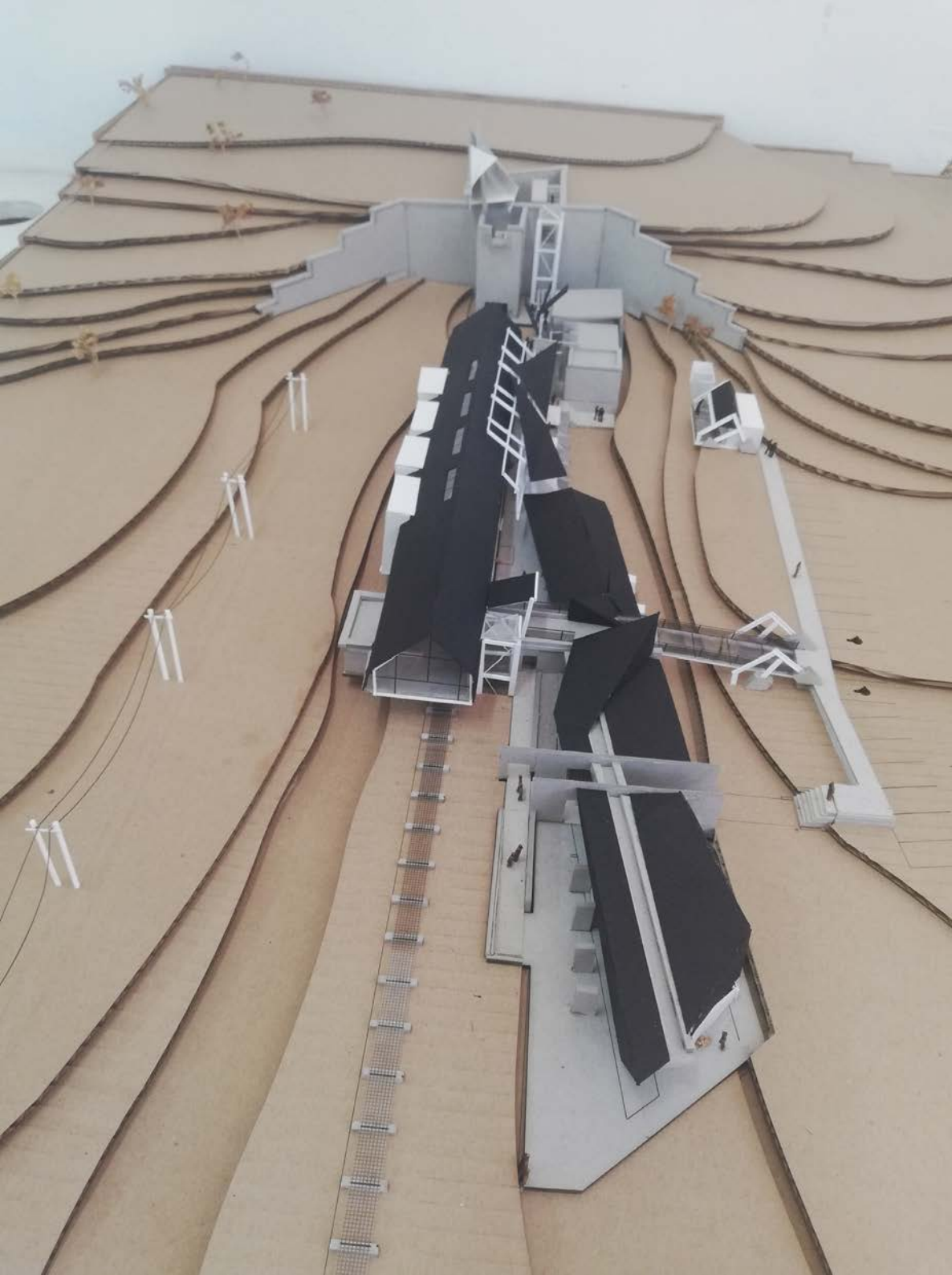


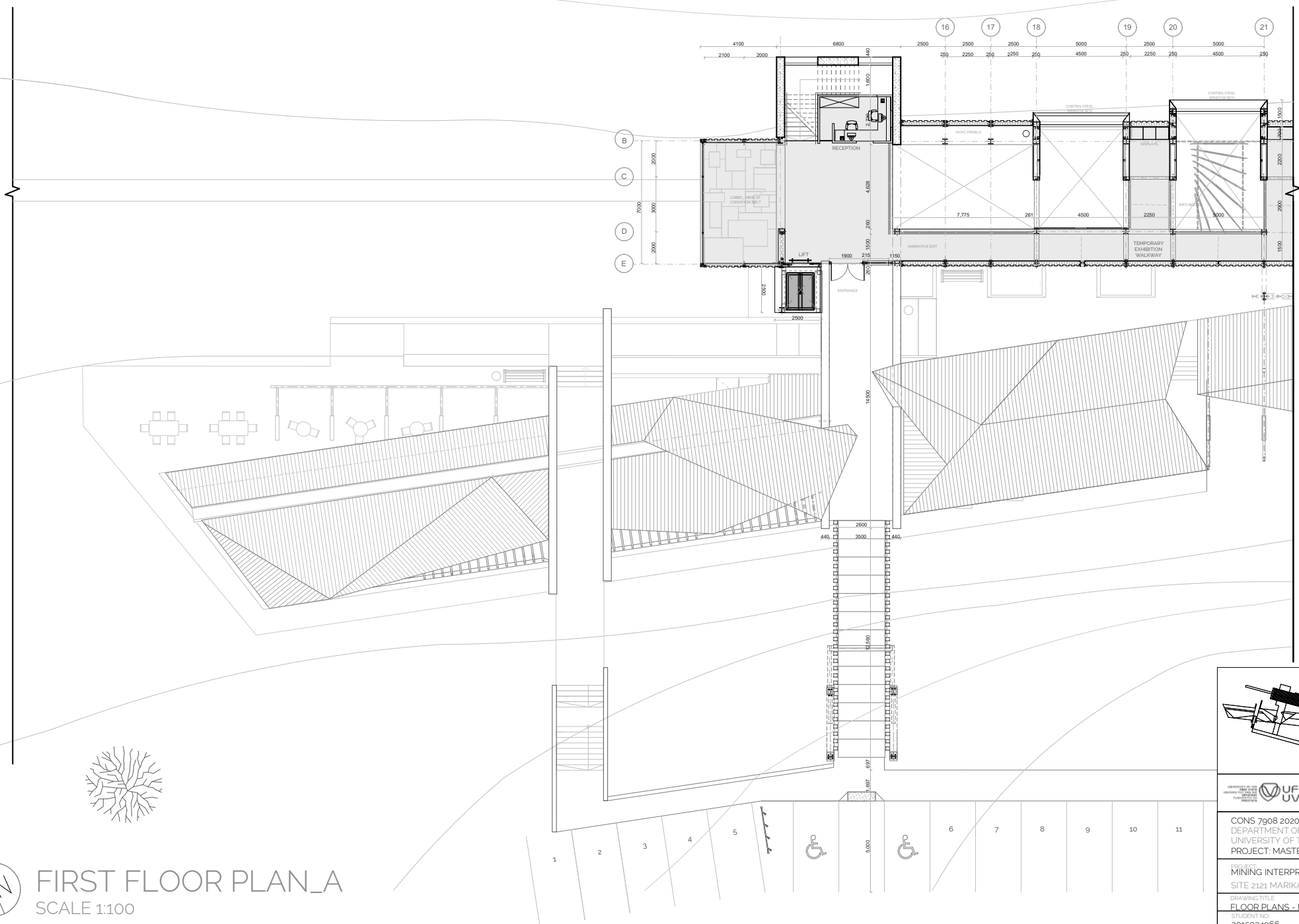
# EAST VIEW

17:45

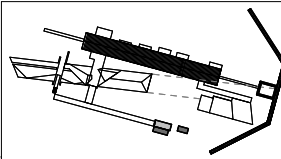




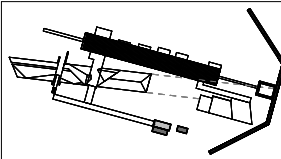
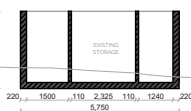
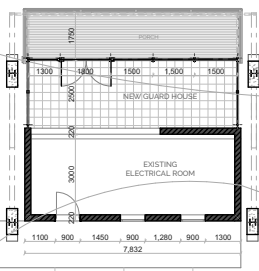
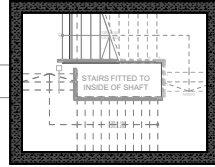
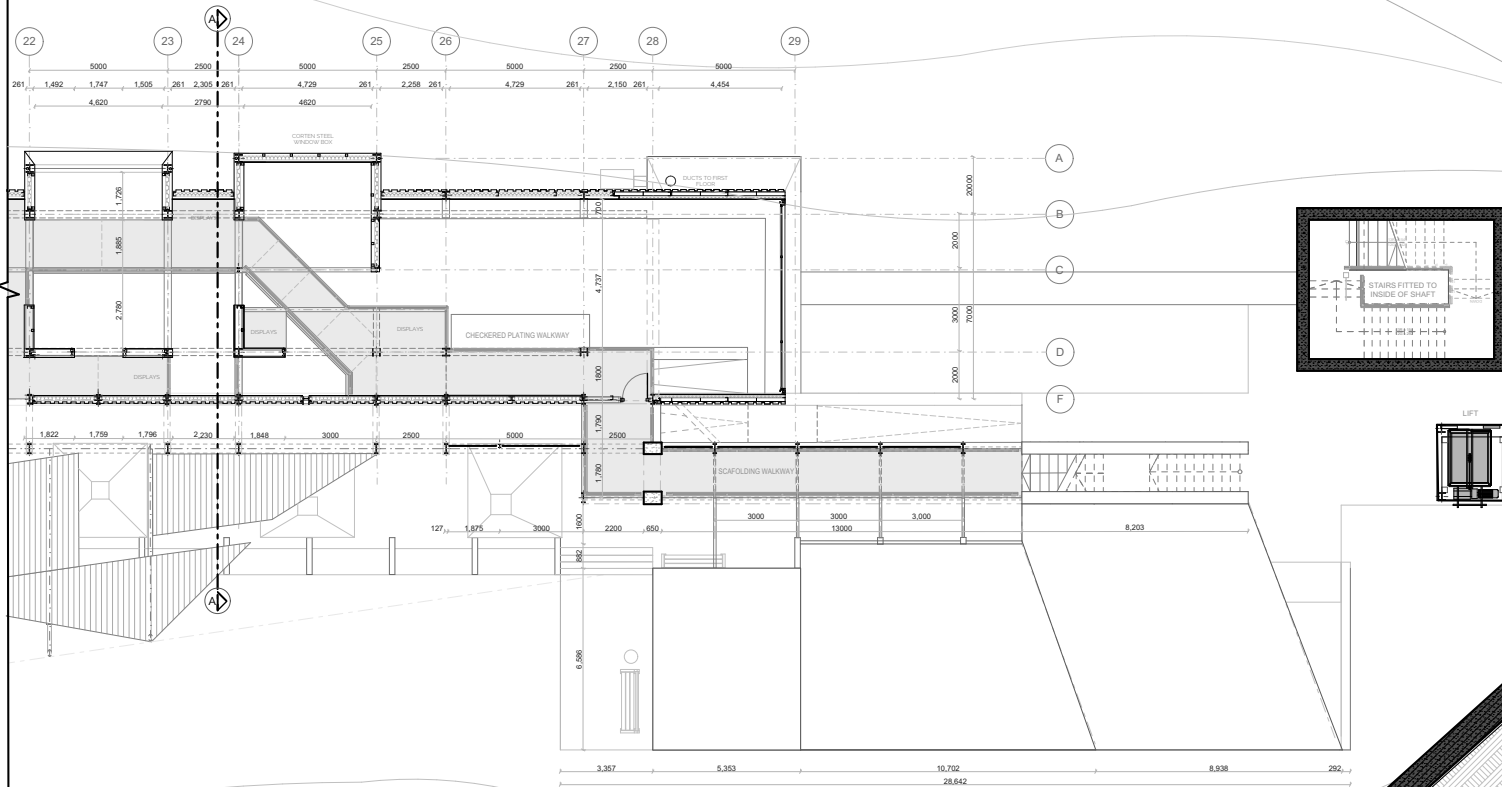




FIRST FLOOR PLAN\_A  
SCALE 1:100



CONS 7908 2020 DEPARTMENT OF ARCHITECTURE UNIVERSITY OF THE FREE STATE PROJECT: MASTERS DISSERTATION	
PROJECT: MINING INTERPRETATION CENTRE SITE 2121 MARIKANA	
DRAWING TITLE: FLOOR PLANS - FIRST FLOOR A	
STUDENT NO: 2015034966	DATE: 20 Nov 2020
SERVICE NO: A201 / 3-4 P	1005
SURNAME: LUDICK	INITIALS: DL



CONS 7908 2020  
 DEPARTMENT OF ARCHITECTURE  
 UNIVERSITY OF THE FREE STATE  
 PROJECT: MASTERS DISSERTATION

PROJECT:  
 MINING INTERPRETATION CENTRE  
 SITE 2121 MARIKANA

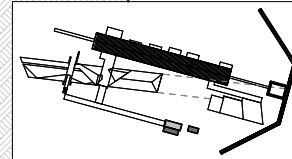
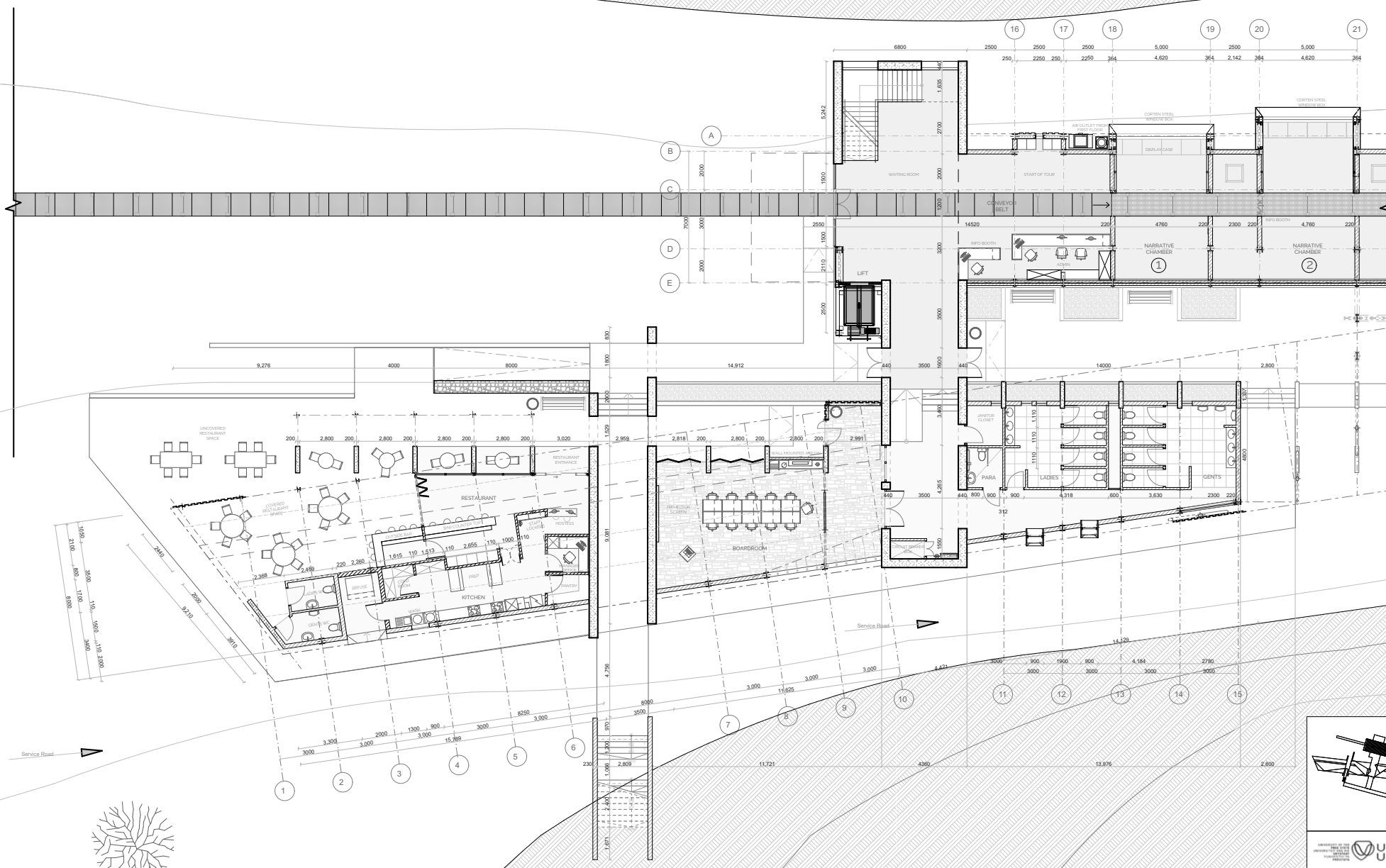
DRAWING TITLE:  
 FLOOR PLANS - FIRST FLOOR B

STUDENT NO: 2015034966	DATE: 20 Nov. 2020
SERVICE: A201 / 4-4 P	SCALE: 1:100
SURNAME: LUDICK	INITIALS: DL



FIRST FLOOR PLAN\_B  
 SCALE 1:100

12 13 14 15 16 17 18

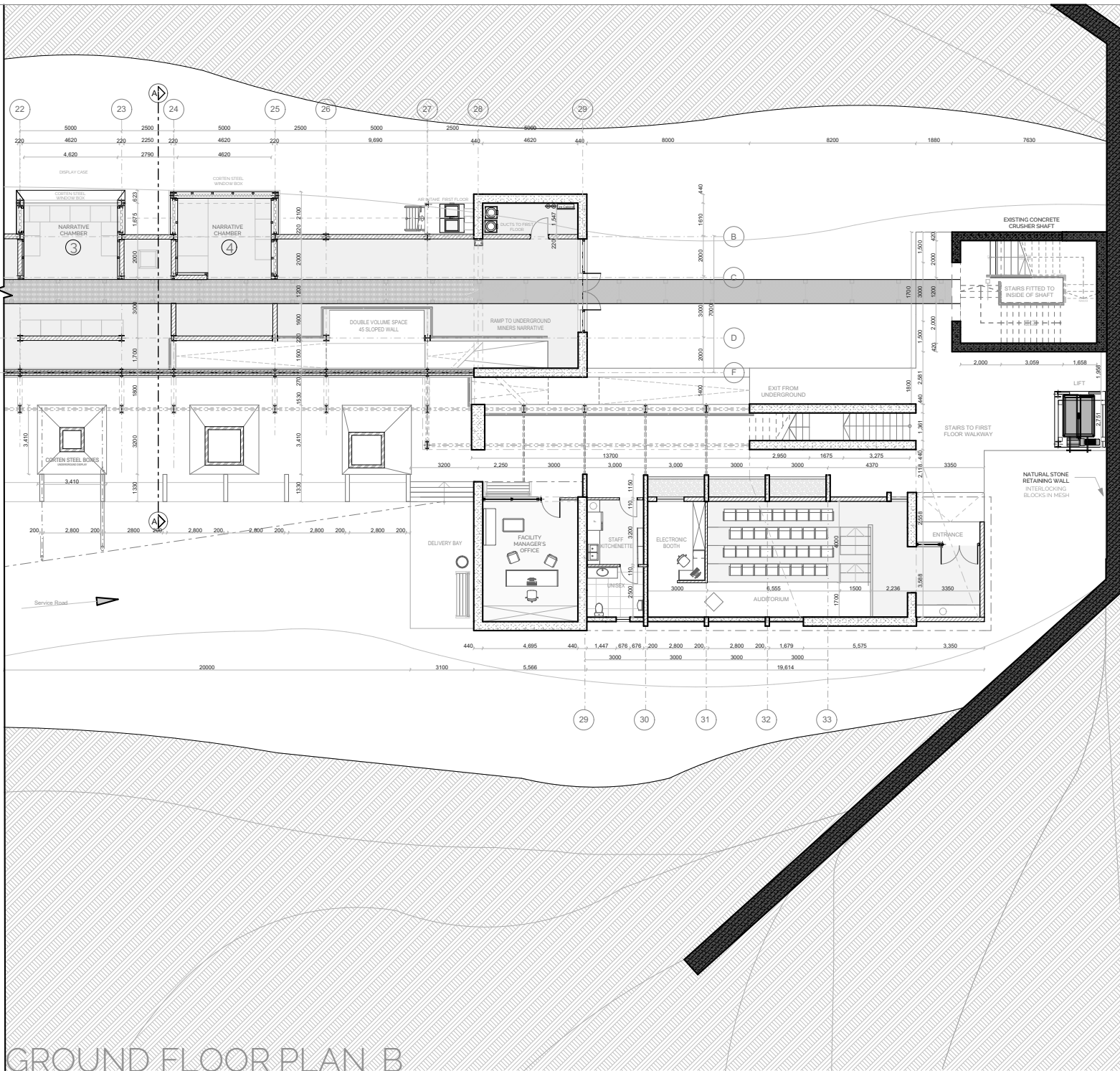


CONS 7908 2020 DEPARTMENT OF ARCHITECTURE UNIVERSITY OF THE FREE STATE PROJECT: MASTERS DISSERTATION	
PROJECT: MINING INTERPRETATION CENTRE SITE 2121 MARIKANA	
DRAWING TITLE: FLOOR PLANS - GROUND FLOOR A	
STUDENT NO: 2015034966	DATE: 20 Nov 2020
SERVICES: A201 / 1-4 P	
SURNAME: LUDICK	INITIALS: DL



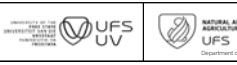
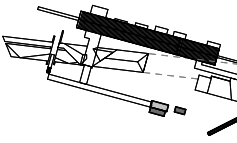
GROUND FLOOR PLAN\_A  
 SCALE 1:100





GROUND FLOOR PLAN\_B

SCALE 1:100



CONS 7908 2020  
 DEPARTMENT OF ARCHITECTURE  
 UNIVERSITY OF THE FREE STATE  
 PROJECT: MASTERS DISSERTATION

PROJECT:  
 MINING INTERPRETATION CENTRE  
 SITE 2121 MARIKANA

DRAWING TITLE:  
 FLOOR PLANS - GROUND FLOOR P  
 STUDENT NO:  
 2015034966  
 DATE:  
 20 Nov 2020  
 DRAWING NO:  
 A201 / 2-4 P  
 SCALE:  
 1:100  
 PROJECT NO:  
 108



BLESKOP PROCESSING PLANT

CONVEYOR BELT

Service Road

EXCAVATED HILL

MINING INTERPRETATION CENTRE

PARKING




EQSTRA PLANT HIRE  
Truck Depot

Vehicular Entrance from N4

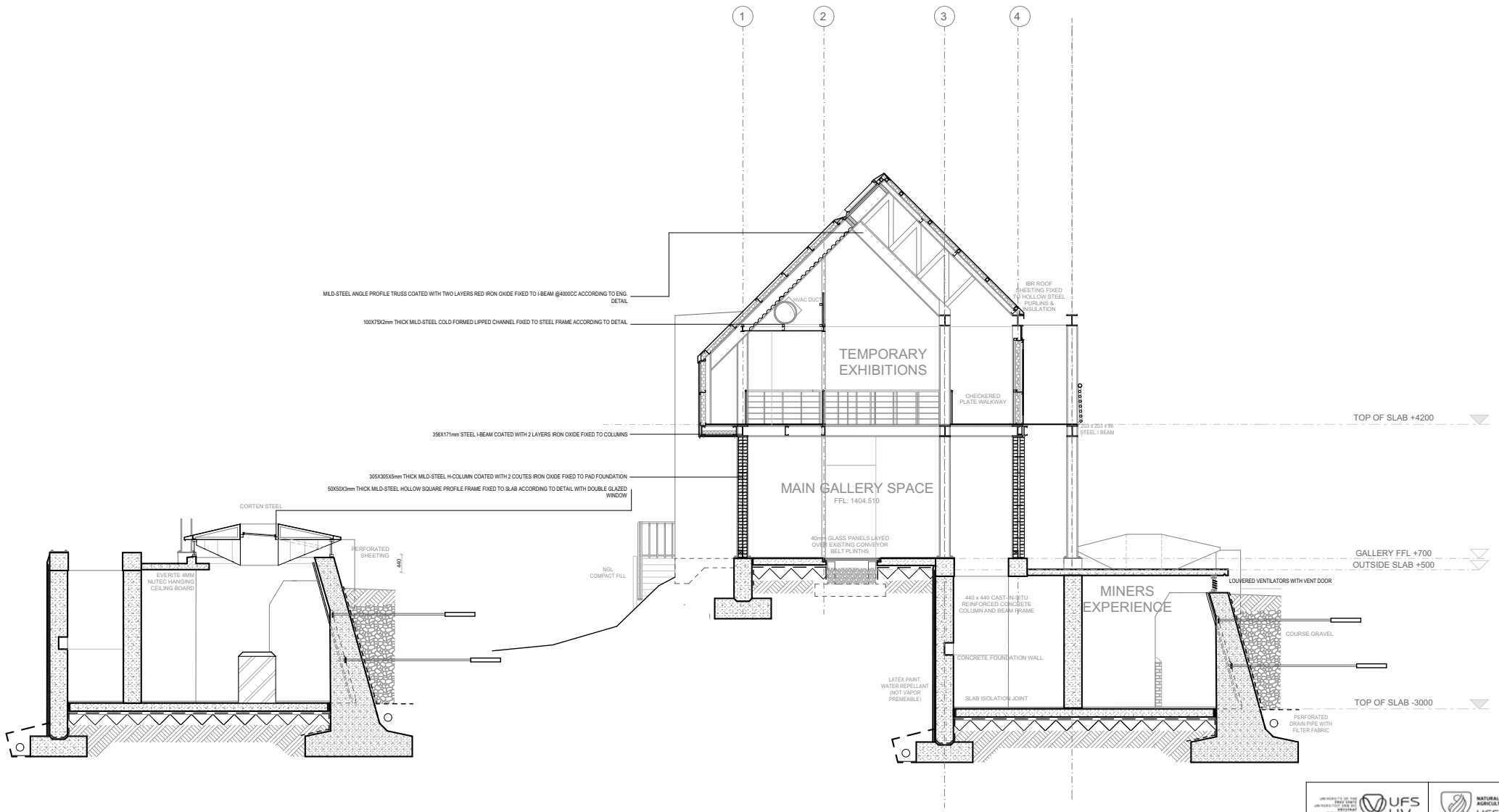


# LOCALITY PLAN



SCALE 1:1000

-  DIRT SERVICE ROADS
-  PROPOSED NEW DEVELOPMENT
-  EXISTING STRUCTURES

	
CONS 7908 2020 DEPARTMENT OF ARCHITECTURE UNIVERSITY OF THE FREE STATE PROJECT: MASTERS DISSERTATION	
MINING INTERPRETATION CENTRE SITE 2121 MARIKANA	
DRAWING TITLE	
LOCALITY PLAN	
STUDENT NO:	DATE:
2015034966	20 Nov 2020
SURVING:	SCALE:
A201 / 0 P	1:1000
SURNAME:	INITIALS:
LUDICK	DL



SECTION AA  
SCALE 1:50

 	
CONS 7908 2020 DEPARTMENT OF ARCHITECTURE UNIVERSITY OF THE FREE STATE PROJECT: MASTERS DISSERTATION	
PROJECT MINING INTERPRETATION CENTRE SITE 2121 MARIKANA	
DRAWING TITLE SECTION AA	
STUDENT NO: 2015034966	DATE: 20 Nov 2020
DRWG NO: A201 / 6 A201 / 5-6 P	SCALE: 1:50



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Figure: Swingler, S. 2019. Local zama zamas dealer Rethabile Mokwena [online]. Available At: <https://www.theguardian.com/cities/2019/oct/24/theres-a-lot-of-money-down-there-the-deadly-cities-of-gold-beneath-johannesburg>

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