

Up the Guts

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Up the Guts

by

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When anyone runs diagonally across the field my coach loves to highlight, that the fastest way to the try line is straight up the guts. This no-nonsense thinking is exactly the intent of this architectural proposal. Straight up the guts of the issues the proposal addresses, the neighbourhood, the hillside and the existing traditions of the context.



Acknowledgements

Firstly, my family. Thank you for supporting this journey over the years, not only through studies but throughout my early years of creative discovery. I rely on you to ground my lifestyle and thinking, reminding me to be proud and humble of where I am.

Secondly, Sam Kebbell. Your continual support through the Seoul Biennale, Flash exhibitions and this thesis has been equally challenging and gratifying. Your unconventional thinking has inspired me to be bold and honest in my approach to architecture, I will forever value these lessons as I move into practice.

To my stream comrades, Ariana and Eleni. I achieved this year because of you two, every feat, whether personal or collective is thanks to you.

To my fellow mates, in studio and outside. Thank you for making the past five years an untradable experience.



Abstract

Like many contemporary green field developments, Hataitai started in the twentieth century as stock grazing land and was slowly taken over by low density suburban housing. This organic development resulted in roads following the contours, making Hataitai difficult to walk in the neighbourhood and from the city to sea.

What kind of architecture emerges from a more walkable Hataitai and how does my creative process affect that architecture?

This project begins with the seemingly humble intervention of a pedestrian path, connecting from one traversing road to another. The design component of this research zooms into one path within a wider urban scheme to investigate the architectural possibilities and conflicts a single path could generate.

The research is in the work itself. I reflect on my creative process and how it starts to reveal a certain kind of architecture through my recognised inclinations, hunches and triggers. I primarily draw out the ideas on paper with pencil, using observation drawing, messy digital modeling and exhibiting work. Drawings form the raw data for this research. I analyse the drawings to extract my tacit knowledge so I form a dialogue between my creative process and the kind of architecture produced.

This research demonstrates the tension between designing complexity or legibility and explores how this could affect city-making for more places than the Hataitai hillside.

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Introduction

At the beginning of this research my supervisor, Sam Kebbell posed the question, how do you work? I answered with, “I use a mixture of analogue and digital processes from concept through to developed design”. He followed with, yes but, how do you actually work? What are your tendencies, fascinations, traps and networks you use to navigate the work?

Instead of trying to understand the richest source of data we have access to, which is our own creative process and tacit working knowledge, we often research ideas detached from us and based in theories far removed from our tangible ways of working. To make my tacit working knowledge explicit, I explore how the way that I draw affects the way I see work, make models and iterate the design. I then ask if this is connected to the way visual artists produce their work. Progressively these questions zoom out from my personal processes to the project, to the neighbourhood that project sits within and then to the discipline the neighbourhood is designed by.

To investigate my creative process, I develop an architectural response to Hataitai's challenge of transitioning from a low-density, car-oriented suburb to a more walkable city. Like many contemporary green field developments, Hataitai started in the twentieth century as stock grazing land and was slowly taken over by low density suburban housing. This organic development resulted in roads following the contours which make Hataitai's walkability difficult within the neighbourhood and from the city and sea. With Wellington's expected population growth of 50,000 to 80,000 in the next 30 years (Research, 2019, p. 3), Hataitai as a suburb close to the city, will be forced to transition from a suburb to a city, and part of that will require improved walkability and connection. Hataitai's urbanisation is not considered in the 2019 Wellington City Council Planning for growth conversation, but it won't be able to hold onto its suburban morphology forever. This research develops an architectural proposal which actively puts down systems to support Hataitai's expected transition rather than continuing the current organic development and reacting to the problem. I respond to Hataitai's walkability and density challenges with a seemingly humble intervention of a pedestrian path, connecting from one traversing road to another. The project acts as the primary design experiment and my drawings form the raw data, overlapping to reveal the intersection between how I draw and what architectural language is produced.

This research follows the investigation into creative practice research exposed to me by my supervisor, Dr Sam Kebbell. He completed his PhD by Practice at RMIT under the supervision of Professor Richard Blythe. The ADAPT-r programme asks, 'what if design mattered and is researched?' rather than looking to external sources for data, theory and validation the model believes that design practice contains bodies of knowledge that can be uncovered through design itself (Fraser, 2013, p. 67). This line of enquiry matters for architectural designers, design practice and the built environment produced from it. (Fraser, 2013, p. 53). Revealing how I personally work is not necessarily transferable but perhaps the methods developed are transferable to another designer, to analyse their specific process is transferable. Creative design professions play a critical role in enriching and speculating the way neighbourhoods evolve.



Line of Enquiry

What kind of architecture emerges from a more walkable Hataitai and how does my creative process affect that architecture?

How do I work?

How does the way that I draw affect the way that I see the work and subsequently make decisions?

How does this connect to the way that visual artists produce their work?

What are the similarities and differences?

How do the drawings that I create affect the kind of digital models I produce? And vice versa

How does this process affect the kind of architectural language that I produce?

How does that architecture affect the neighbourhood?

How could it affect city-making?

How could this affect the discipline?

The site of this proposed path is chosen to test the research because it highlights challenges central to the problem of the proposal. The path crosses through an 800m suburban block where walkability is the most problematical. It is also situated in upper Hataitai, where the topography is steepest, and density is the lowest. The complexity offered by the Hataitai hillside allows for many fruitful conversations to begin with existing suburban traditions and provides a rich foundation for my creative process to be tested.

Design Methods

This research follows a design-led structure where I shift between experimenting, documenting, discussion and reflecting. I primarily reflect through dialogue, whether that is between people, tools, drawings, art theorists, architecture theorists, or experiments.

- 1 Close observation of my own design processes, by documenting and consciously reflecting on my work. I also follow 'Nigel Bertram's position that I must learn how to see before I can design (Bertram, 2013). I immerse myself in Hataitai through drawing and photographic on-site studies.
- 2 I investigate the intersection between art and architecture to reveal overlaps which might transfer into my creative process. I engage in cross-disciplinary discussions with three Wellington based visual artists, Wayne Churcher, Billy Wilson and Grant Adam. The discussions are organic, happening on university campus, at local galleries, architecture site visits and even at a bar with a drink in hand. The site of our meetings and the loose agendas allowed for a fluid form of conversation. Leading us into rich debates on tensions between art and architecture which we were all trying to unpack. I try to understand how I view my work, by breaking down how I view visual art such as Gordon Walters' Koru painting. I explore why I engage it or not, to understand if my design is viewed similarly or differently.
- 3 I oscillate between analogue drawing methods and digital modelling processes to navigate my design around the tension between complexity and legibility. I critically reflect on my process through dialogue by producing experiments and continuously asking, what have I done? how is it operating? What is it doing?

- 4 I look at case studies addressing hillside transport systems, hillside patterns and houses designed as small cities. I included local studies which address similar contextual issues as my Hataitai site. The Athfield house is the most significant case study as it integrates all the issues listed above, as it creates a public pathway within the hillside and imagines the whole building as a small city overlooking Wellington from the Khandallah hillside.
- 5 I participate in the curation of three public exhibitions, where each exhibition enables reflection of my work and dialogue with others and their work. The three exhibitions cover varying levels of from personal to global scale.

All of these methods produce dialogue for reflection where I am able to do something then compare that to my previous work and reflect on my creative process, ultimately developing iterative design research. Iterating allows me to navigate my own process and constantly redefine my architectural position on emerging tensions. Throughout this close observation and reflection of my own process, I recognise triggers which pertain to shifts or changes in the process (Verbeke, Heron, & Zupancic, 2017, p. 80). These transformative triggers occur within any moment of the earlier described methods (Holder, 2015), whether that is a conversation at an exhibition or during the scanning of a drawing. Recognising triggers have made my tacit knowledge of how I work explicit with the aim of understanding how the way I work affects the architectural outcome.

Scope of research

The scope of this research is limited to the selected suburb of Hataitai, Wellington. The selected site is part of a larger urban scheme that proposes an urban scale pedestrian network to integrate into the existing transport infrastructure. The pathway scheme is limited to the suburb of Hataitai and the tested design site is between 44 Marewa Road and 54 Rakau Road, forming one vertical connection within the scheme. The data and information used in the research is limited to what is available to the public. Property ownership, cost and structural feasibility, are beyond the scope of the research. My research does not propose a solution to nationwide pedestrian infrastructure but speculates beyond the scope of my site to reveal opportunities to connect and densify other similarly formed New Zealand hillside neighbourhoods. I acknowledge any number of pedestrian networks, architectural languages and design processes could be possible beyond the scope of this site and within Hataitai. This research is limited to a close observation of my specific creative design processes but the methods of analysing my design process is transferable to any field of creative research.

Thesis Structure

To summarize, in chapter one I describe the project, chapter two, I describe and reflect on my creative design process I use to navigate the design, chapter three, I describe how the way I work starts to reveal a certain kind of architecture and how this fits into a larger theoretical conversation. Each chapter has a 'talking point' to conclude the chapter, through the form of an exhibition relative to the scale of the chapter, these are distinguished as green text. Exhibitions progressively zoom out to a wider architectural conversation.

Chapter one: Path- *What I did.*

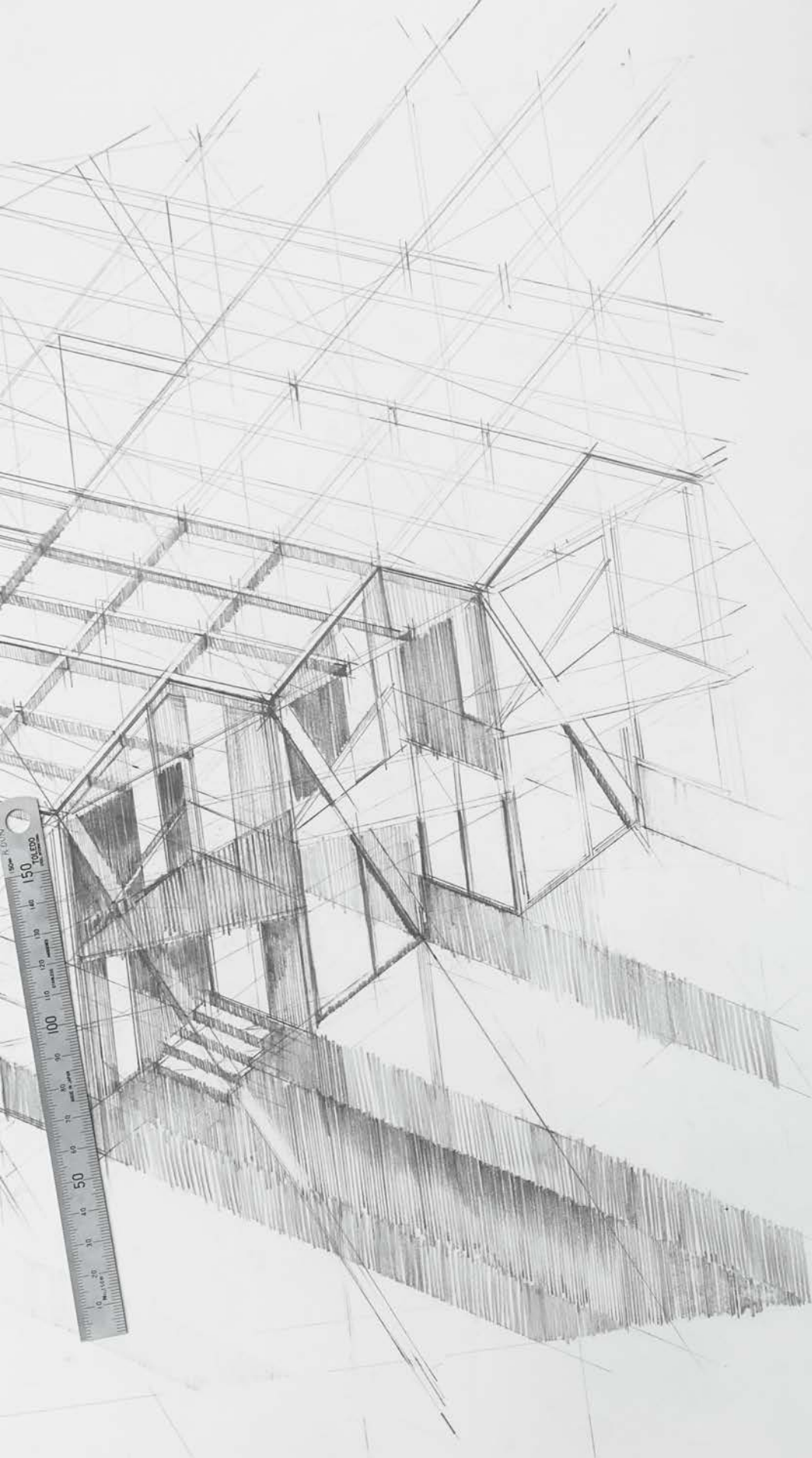
This chapter introduces the physical context of the research. I begin by introducing Hataitai and the potential implications of a response to the neighbourhood's transition from suburbia to urbanity. I describe my proposed pathway scheme and introduce case studies of hillside transport systems that address similar topological circulation challenges. I close with the local Hataitai Bowling Club Exhibition talking point which enabled the project level discussion and engagement with the neighbourhood.

Chapter two: Drawing it out- *How I did it.*

Chapter two starts to uncover how I work. Explaining my investigation into the intersection between art and architecture. I reflect on my discussions with visual artists Wayne, Billy and Grant. I develop drawing experiments which oscillate between analogue and digital processes to navigate the design through the tension of complexity and legibility. I reflect to reveal transformative triggers, inclinations and traps I approached during the creative process. I close this chapter with my Flash exhibition talking point which enables reflective dialogue with the public, collections and my processes to exhibit work.

Chapter three: City making- *How it fits in.*

This chapter zooms out to an urban scale to explore how the discoveries on complexity and legibility, developed in chapter two, are positioned in a conversation about the city. I look at local and international hillside case studies to understand patterns at an urban scale. I also analyse the Athfield house, Claude Megson and the Tolo House case studies with the developed lens of complexity or legibility. I reflect on the design I developed in chapter two by reintroducing complexity into the form through granulating the legible zigzag. I unpack my 'erasure' drawing to reveal my most significant transformative trigger of the research, where I shift my thinking towards formal dialogue between complexity and legibility rather than a balance of one or the other.



What I Did:

Chapter One: The Path

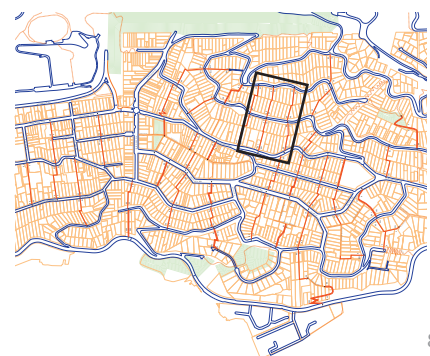
This research develops through design, in chapter one I will describe the project's proposal and physical context it sits within. This chapter aims to describe the project in the same way that it establishes, from human scale to urban scale. Proposing that the path can start dialogue with many existing traditions. To do this, I have described the path scheme and the existing suburban fabric it crosses over, using observation methods. I reflect on existing local and international hillside transport solutions to understand the potentials of integrated transport networks in my proposal. I close the chapter with a reflection on the Hataitai Bowling Club Exhibition used to connect with the neighbourhood.



Path

Fences between properties are both a sign and material barrier to mark private land. Children's understanding of public- private spaces can be blurred, jumping fences into neighbourhood kids houses, or kicking balls across properties. Taking shortcuts and jumping fences has become less common as New Zealand suburbs become more privatised and developed. Children's naivety of property lines exposes the opportunity to improve pedestrian culture by softening the public-private boundary in Hataitai. Hataitai properties commonly have a fence or private staircase to the front door. Unless you are that naïve child retrieving your ball, New Zealand trespassing laws and normalised private culture sets precedents to not cross private property. As a result, pedestrians must traverse along the long Hataitai blocks to get to the next street, one block even reaching 800m. Yet the distance between blocks if you crossed directly through private land is 70-100m.

The path project seeks to investigate the flow-on effect a small idea can have on councils, central government, urban planners, and public-private development. Forming an example of how small idea can challenge existing traditions at many levels and scales, such as political, material, social, environmental, and cultural. This project begins with the seemingly humble intervention of a pedestrian path, connecting from one traversing road to the upper road. Linking two private staircases into a public pathway. The path facilitates the transition from a car-oriented suburb to a walkable city by adding a vertical connection in the pedestrian network.



8

Figure 7. A2 1:500 pencil drawing of Upper Hataitai with paths between houses and secondary path along back of sections

Figure 8. Hataitai reference map



1:5000

Oriental bay

Mt Victoria

Town belt

Mt Victoria

Town Belt

Mt Victoria
Tunnel

Hataitai

Hataitai Centre

Hataitai

Evans Bay

An abstract line drawing on the left side of the page, consisting of numerous thin, black, vertical and slightly diagonal lines of varying lengths, creating a dense, textured effect that resembles a stylized hillside or a map's topography.

Hataitai

The suburb of Hataitai is on the eastern face of Wellington's, 200m high Mt Victoria. On the western face, the suburb of Mt Victoria developed for housing workers as part of the 1840 plan by New Zealand Company Surveyor William Mein Smith (Council, 2018, p. 77). The 'town belt' intended to divide the central city from the 'country sections' used for farming. The belt runs along the ridge of Mount Victoria between Mount Victoria and Hataitai. Mount Victoria is within the 'town belt' so planned as a city development with small houses in an orthogonal grid road layout. Conversely Hataitai was on the outer side of the belt so was the 'countryside' used for stock grazing and large country villas dotted over the hillside (Kebbell & Ombler, 2018).

New Zealand urbanised rapidly when European settlers started arriving in masses around 1850s, causing challenges for outer suburbs such as Hataitai. Land on the outskirts of cities began to be subdivided into 'lifestyle' blocks so people could still attain the New Zealand ideal, a quarter acre with a standalone house in the centre. Hataitai's farmland soon became desirable to fulfil this ideal vision as Wellington city began to sprawl (StatsNZ, 2001). Hataitai's road network developed a lot more organically than the neighbouring Mt Victoria. Farm tracks developed into roads following the contours of the steep hillside compared to the rigorously considered urban grid of Mt Victoria (Kebbell & Ombler, 2018). The road network presents long suburban blocks that are more functional for cars than pedestrians. The



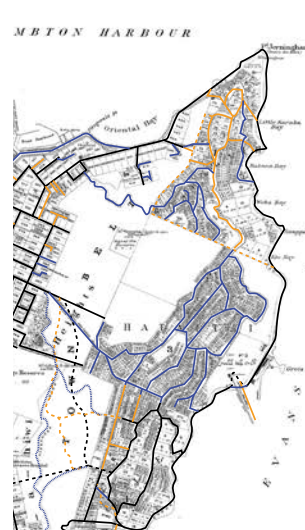
1800

10



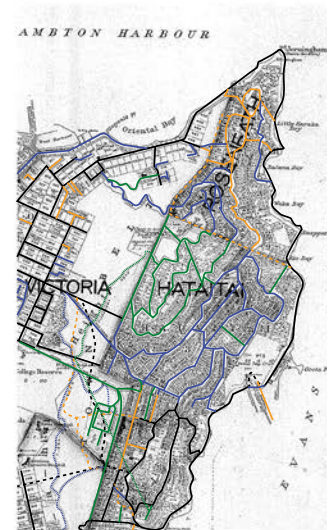
1888

11



1915

12



1925

13

figure above illustrates the organic growth of Hataitai's road network from 1800 to 1925 . Low density stand-alone housing began to move around Roseneath and the lower accessible areas of Hataitai. Plans show the upper areas of Hataitai were the last to be developed. Hataitai like the most of New Zealand was urban rather than rural by 1920s (StatsNZ, 2001). this trend of urbanisation is expected to continue with Wellingtons' expected population growth of 50,000 to 80,000 in the next 30 years(Research, 2019, p. 3). What will happen to the in-between space, the area that comprises characteristics from both rural and urban, the suburbs? Hataitai as a suburb close to the city will be forced to forget some of its rural roots and move towards urbanity.

The road network is currently the dominant transport infrastructure forming connections within the suburb and to other communities. Roads follow the hillside contours only occasionally cutting across the contours to create vertical connections. Some of the long traversing blocks have pedestrian paths linking through but are discontinuous. Only supplying one or two blocks worth of vertical connection before you must traverse along another long block. Hataitai tram tunnel was the first direct connection to the city in 1907. The Mt Victoria traffic tunnel then opened in 1931 which is now part of State Highway 1 (Howman & Lindsay, 1981, p. 16). Most people walked in the early days along farm tracks and over the town belt to get to the city. Today, pedestrians and cars move over the hillside in the same tracks people once used but the tracks are more developed, and people rely on the cars more often. The car is now the most popular way to get to work with 36.5% of Hataitai Residents commuting by private vehicle, compared with 27.5% by bus, 14% who walked and 7.2% who bike (Council, 2018b). In 1898, William Mclean of Wellington imported the first motor vehicle to New Zealand. Hataitai was developing during around the time the car became popular in New Zealand. By 1929 there were more than 150,000 motor vehicles on the road (Pawson, 2010) . The timing effected the heavily car-centric transport infrastructure controlling the suburb. Reliance on the car is a challenging culture to break, but one that a suburb only 1-2km from the central city should be able to do by developing a more multimodal transport infrastructure which makes a pedestrian movement the primary focus.

Figure 10.

Edited 1800 map

Figure 11.

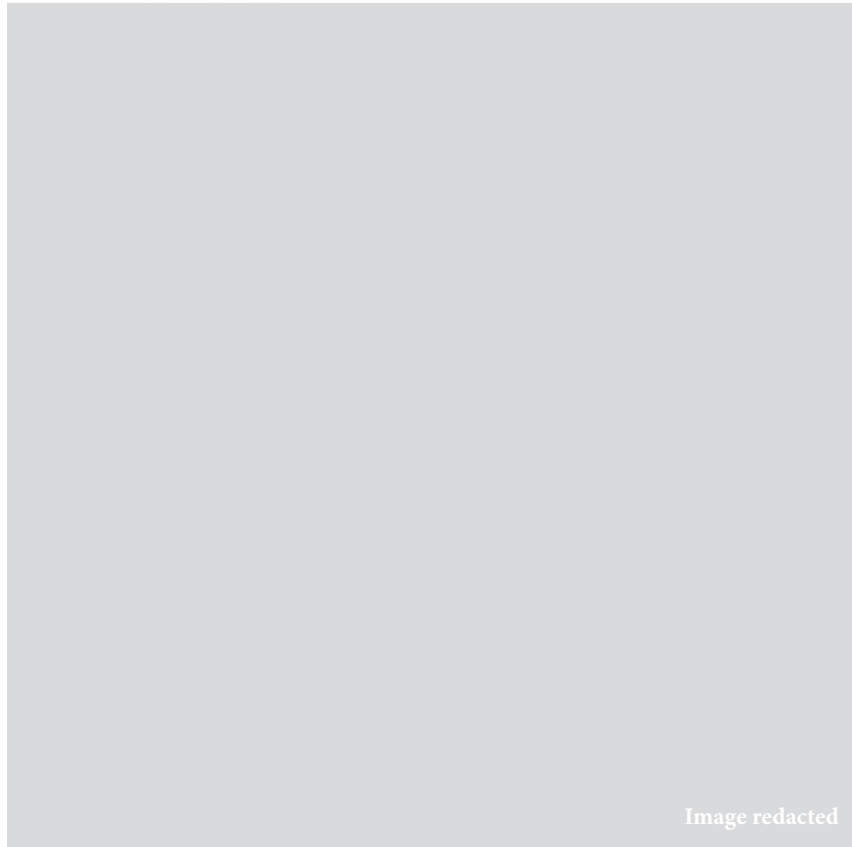
Edited 1888 map

Figure 12.

Edited 1915 map

Figure 13.

Edited 1925 map



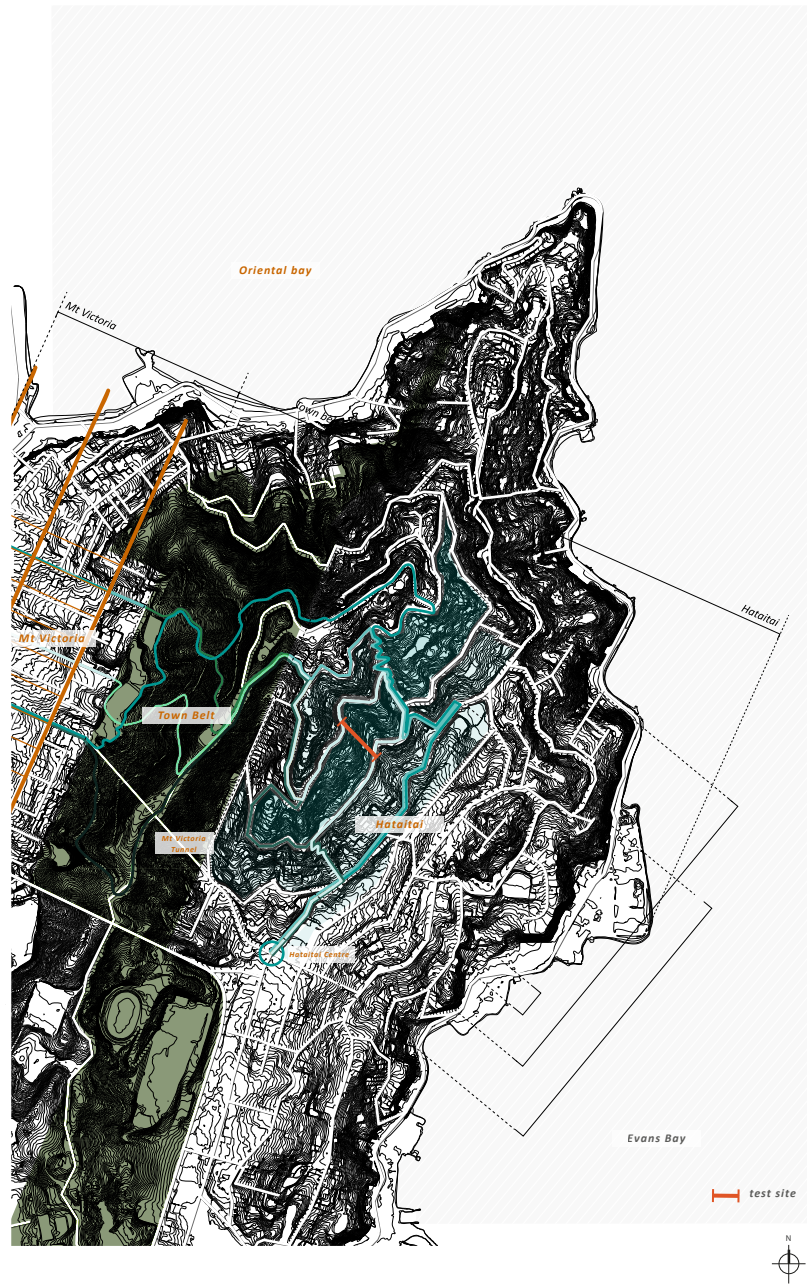
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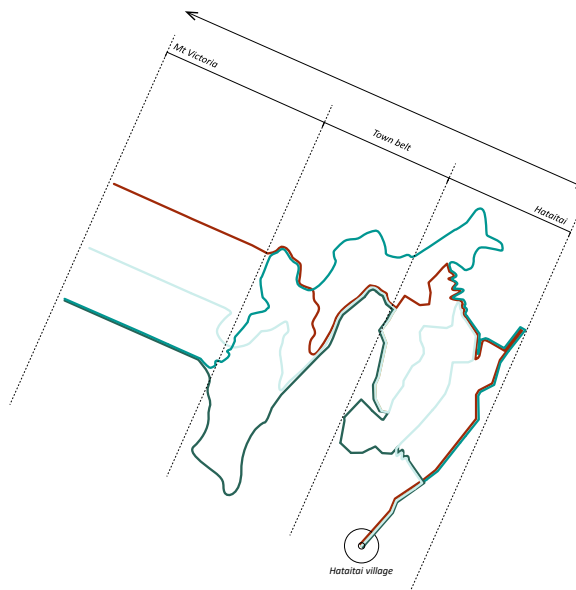


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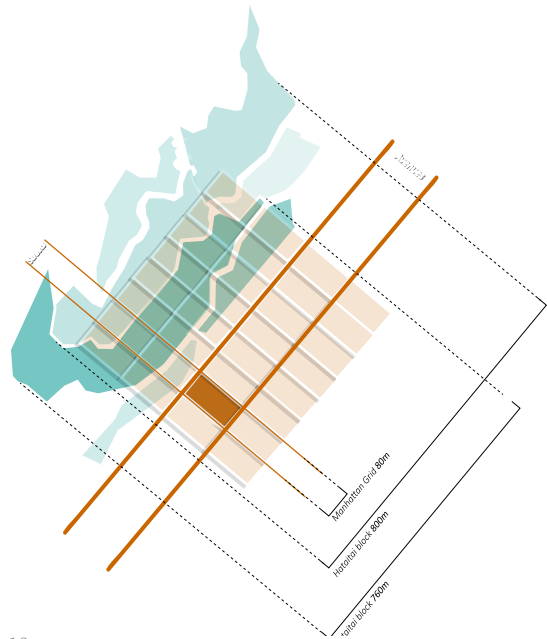
Figure 14.
Figure 15.

1930 Scenic road on the Town Belt Mount Victoria
Excavation for the tram tunnel, photo overlooking Hataitai





17



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Countryside to city-scape

One of the major drivers and effects from improved walkability in Hataitai would be increased density. Currently Hataitai's density is 33pph (Council, 2018a). Compared to Mt Victoria's 43pph on the other side of the hillside (Council, 2018c). Density promotes interaction between people and programs, not only localised implications but at a bigger scale, sharing facilities, amenities and public space (Aplust, 2015, p. 12). As well as the connection to the city, Wellington city dwellers might start using Hataitai as a hub of activity and business.

To put density into perspective, the Manhattan urban grid is overlaid on the Hataitai blocks, showing the scale and formal difference. In the Manhattan grid, 80m is a common distance between streets, compared to Hataitai's 800m block between Marewa and Rakau Road. Manhattan has a density of 258pph ("Manhattan Population 2020," 2020) and Barcelona has a density of 350pph ("Barcelona Population," 2019) compared with Hataitai's 33pph (Council, 2018a). Meaning that Barcelona is about ten times denser than Hataitai, of course there are many factors contributing to the differences, but this comparison highlights the potential growth Hataitai could accommodate.

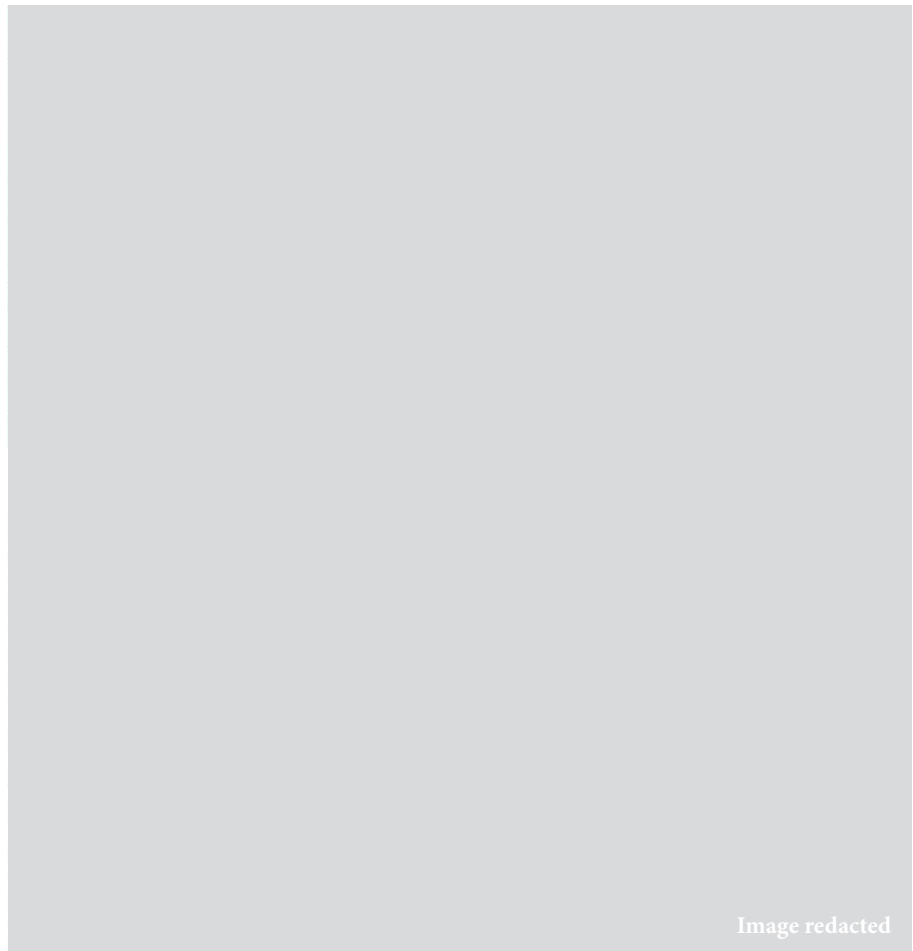
- Manhattan grid
- Current Hataitai blocks

Figure 17.

Diagram of routes over Mt Victoria from the city to Hataitai

Figure 18.

Diagram of Manhattan grid overlaid on top of Hataitai blocks

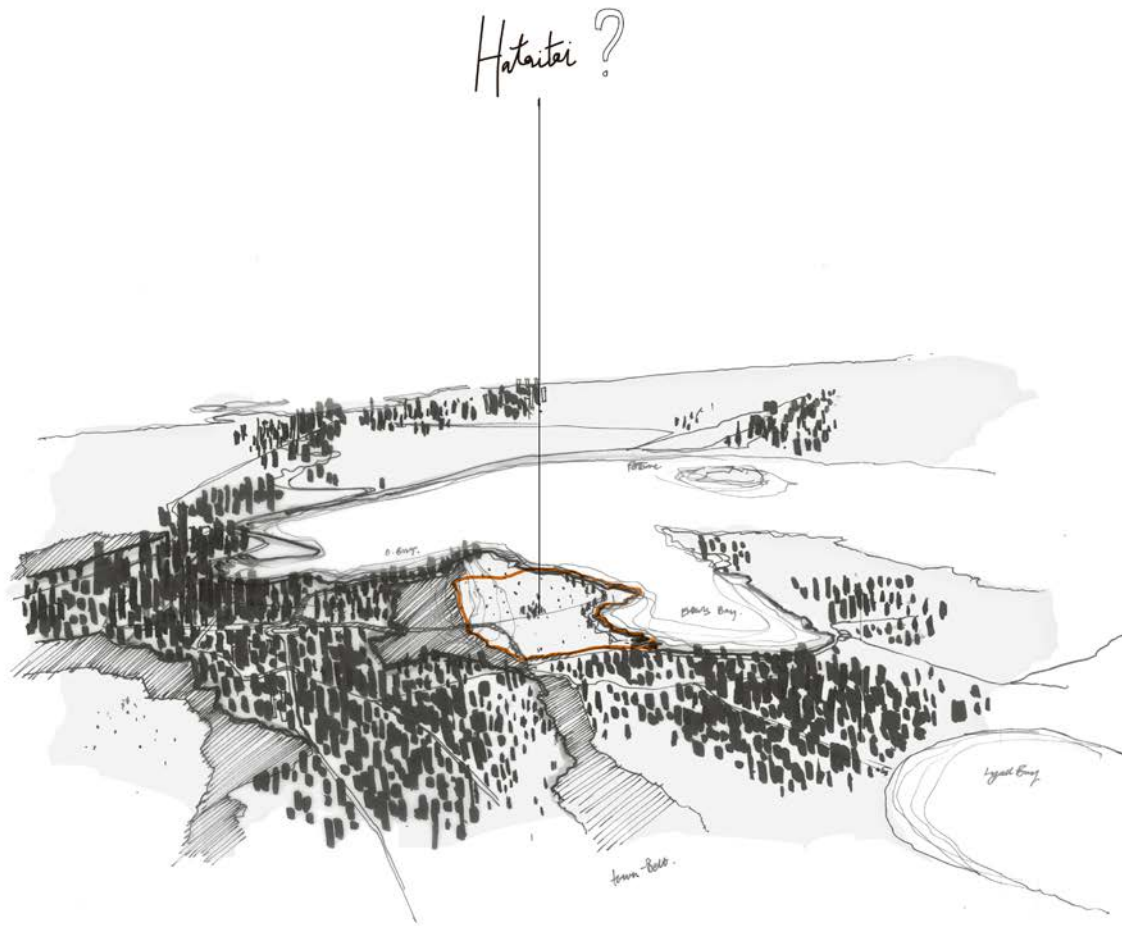


Wellington City Council

Planning for Growth Scheme

Wellington's Planning for growth scheme in 2019 is an interesting example of recent perspectives on density from the public and council. Between 8 April and 17 May 2019, the Wellington City Council asked the public their view on four growth schemes.

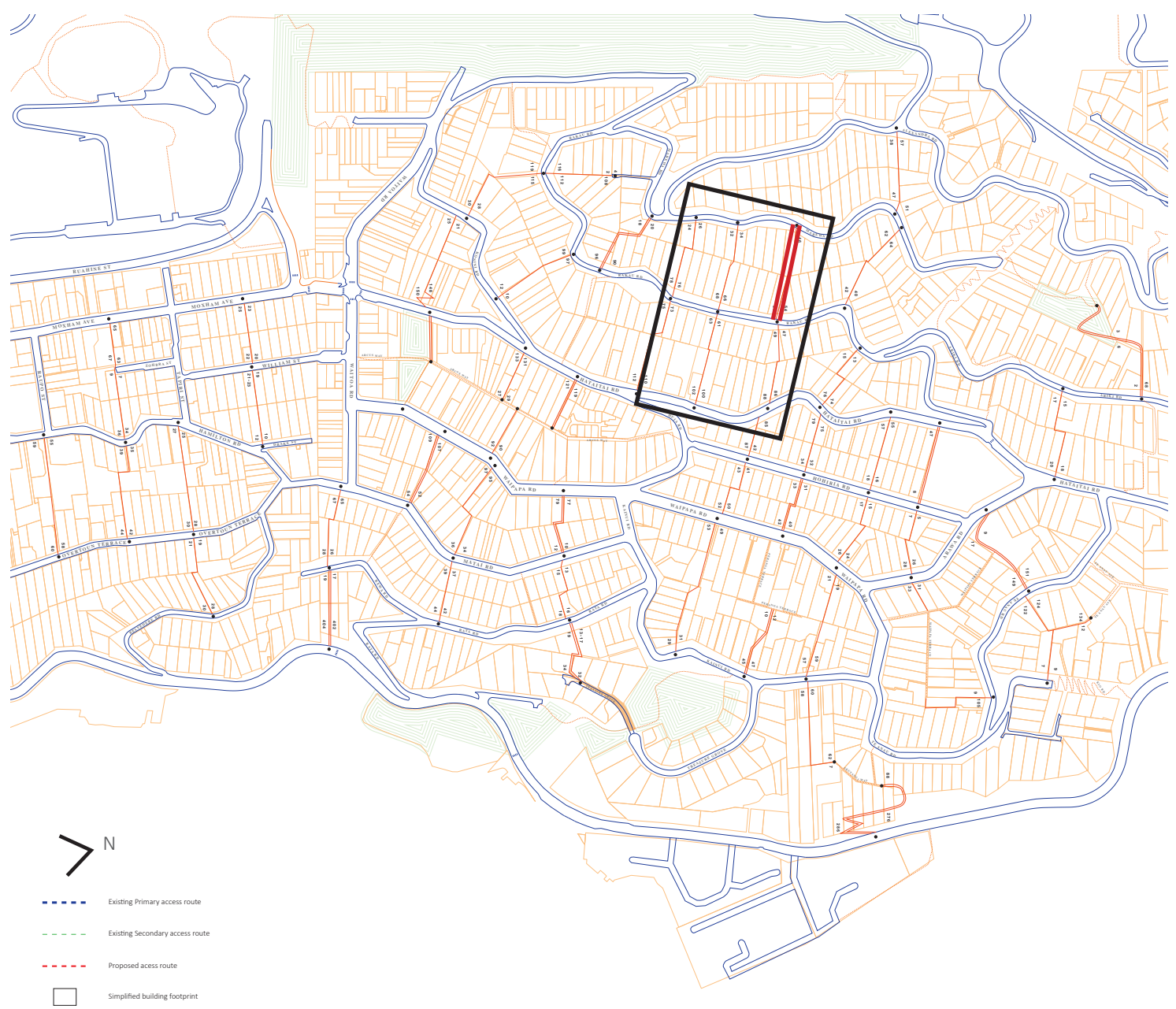
- a. Inner city focus with more high rises and density
- b. Suburban centres with more town houses and low-rise apartments on the main public transport routes
- c. New suburb in Ohariu Valley
- d. Extending into Takapu Valley, Horokiwi, and Owhiro Bay



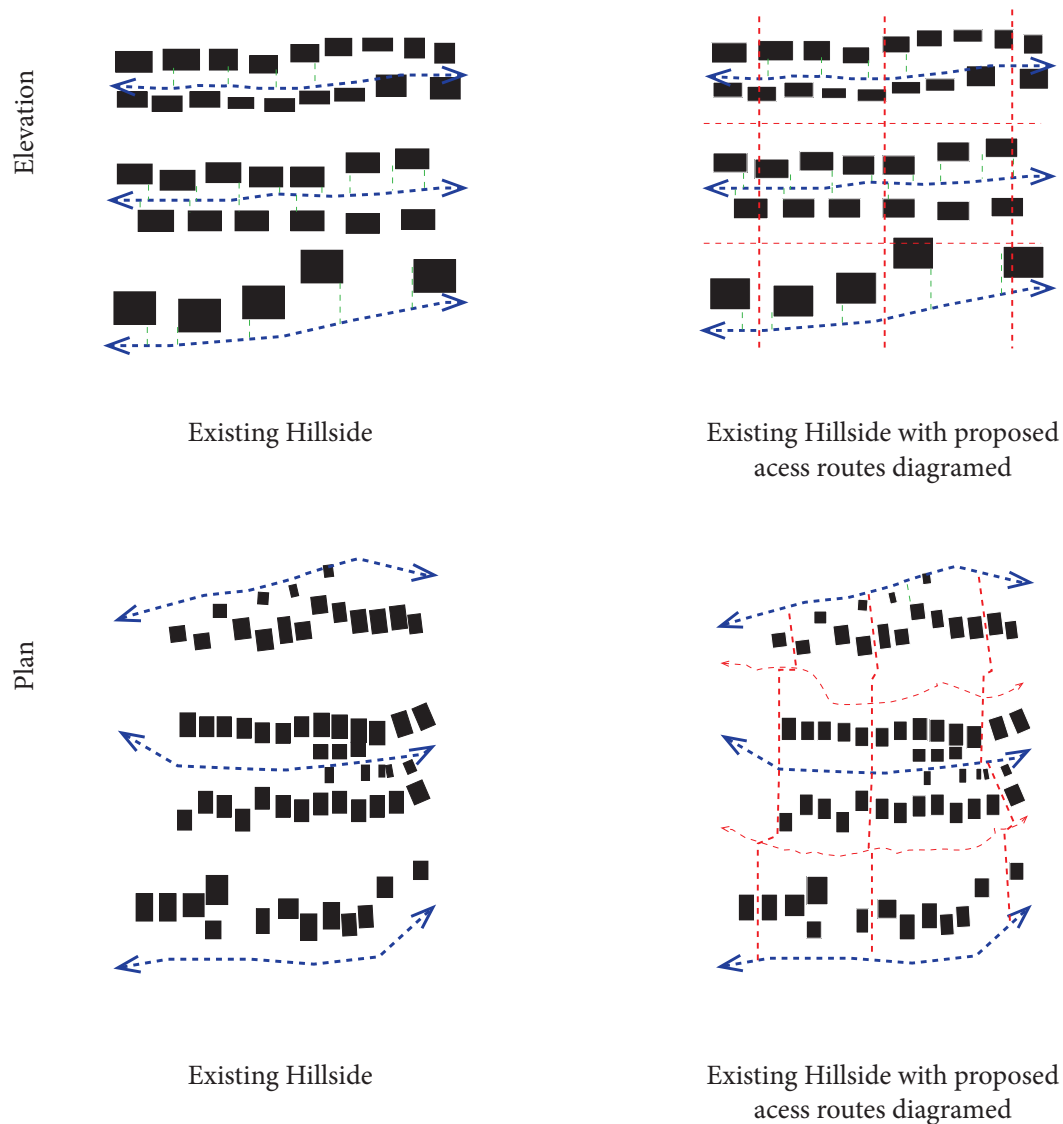
66% of people said they agreed, or strongly agreed, that scenario two, with its focus on suburban centres was the best option for supporting Wellington's expected population growth (Research, 2019). Hataitai is 1-2km from CBD and not presented as an opportunity for medium density residential development. As the city's population grows the suburb will look increasingly more appealing to dwellers and there will inevitably be an increase in density.

How will Hataitai support this growth? How can Hataitai actively lay out system to support the growth rather than react to growth?

Urban Scheme



20 **Figure 21.** Hataitai Pathway scheme with existing and proposed pathways (developed with Ariana and Eleni)



Expanding the humble path into an urban network of pedestrian paths opens the entire suburb to internal and external connection. Walkability over Mt Victoria to the city, the sea, hillside houses, businesses, and uninhabited land. The scheme presents a pedestrian network that will integrate with the existing transport infrastructure in Hataitai and shift the neighbourhood networks to be pedestrian focused. This scheme developed collaboratively with Sam Kebbell and stream members, Ariana and Eleni.

The scheme proposes pedestrian pathways about 70m apart, extending existing discontinuous pedestrian paths and proposing new threads between houses. A combination of the existing organic road network and

the proposed pedestrian network results in a transport infrastructure more reflective of a functional urban grid with even horizontal and vertical links. The upper Hataitai diagrams (fig 22) show the proposed scheme and its relationship with the existing transport networks and built environment. Diagrams of the hillside in elevation and plan illustrate positive and negative space, highlighting the vast amount of unused land.

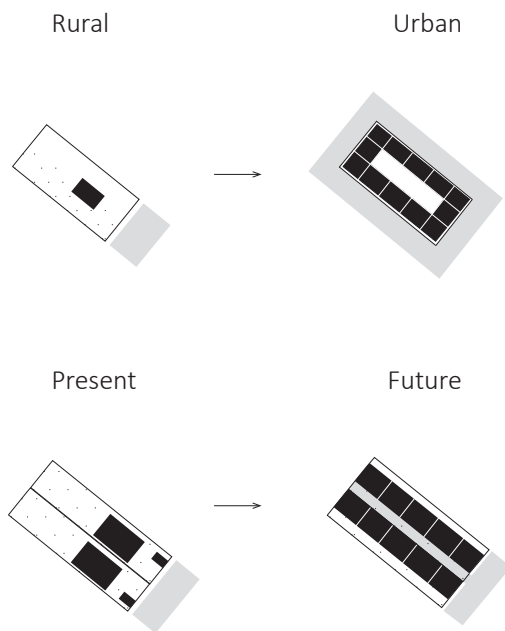
The pathways themselves could offer so much more than walkability. The design component of this research zooms into one pathway to investigate the architectural possibilities and conflicts a single path in the scheme can generate.



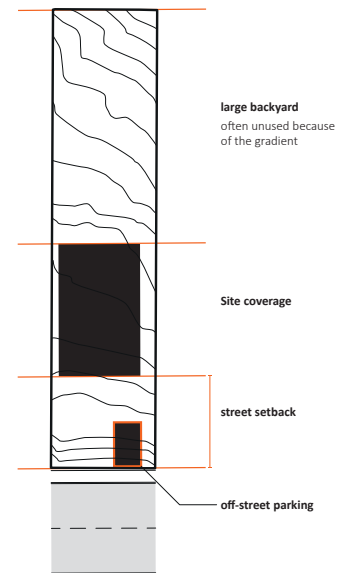


Figure 23.

Satellite image of selected site with diagram of potential path proposal



24



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Transition

Most of the residential houses in Hataitai are standalone ‘villas’ at around 200m² spread over multiple storeys and located in the centre of large sections, indicative of the countryside beginnings. The construction of the Mt Victoria tunnels enabled access to abundant land. Villas were spread over the hillside allowing for the convenience of low-density living which supported the attainment of the New Zealand ideal, standalone house on a quarter acre section.

**How do you transition from countryside to city-scape?
From a rural to an urban morphology?**

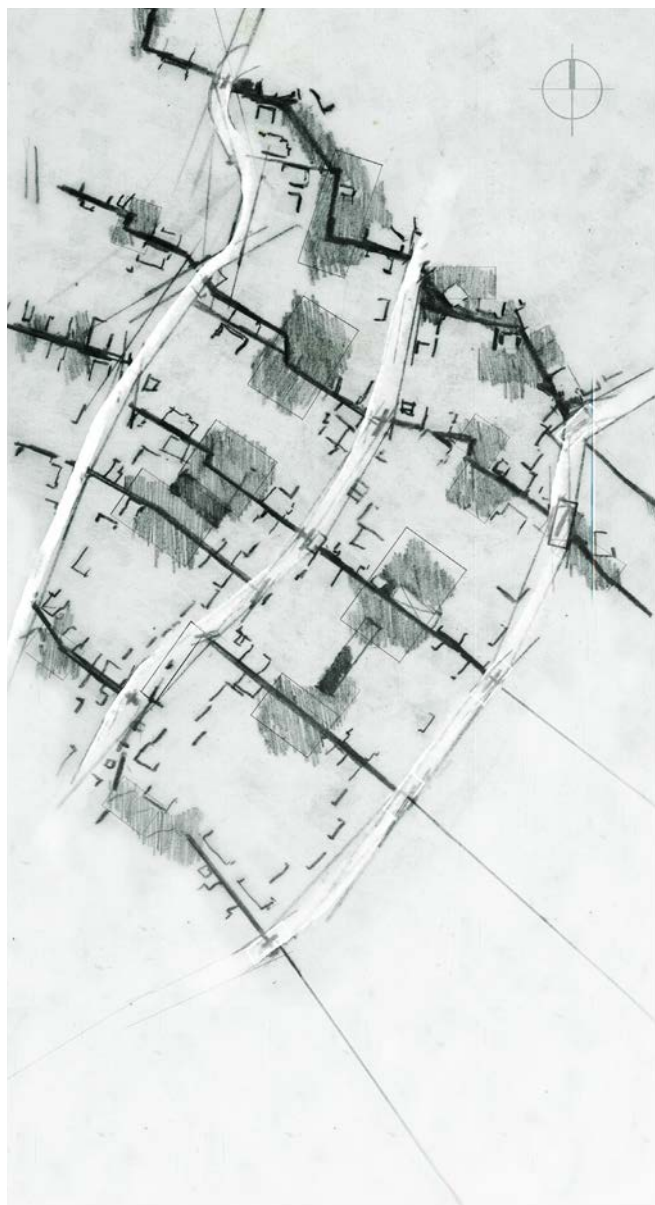
The combination of Hataitai’s countryside roots, steep topography and the current Wellington City Council regulatory environment creates rigid parameters to transition to a neighbourhood that supports population growth. To implement the path scheme and use it as the facilitator for density would rely on the commitment of many landowners and council regulators to participate in the new vision of Hataitai.

The Wellington City Council’s Residential Design Guide includes many constraints that this proposal would have to break. The guidelines intend to “facilitate new residential development that is of good design”(Council, 2014, p. 2), but this research needs to question these guides to speculate new design solutions. This scheme questions the general guidelines on consistent residential character, site planning and building design.

Observation

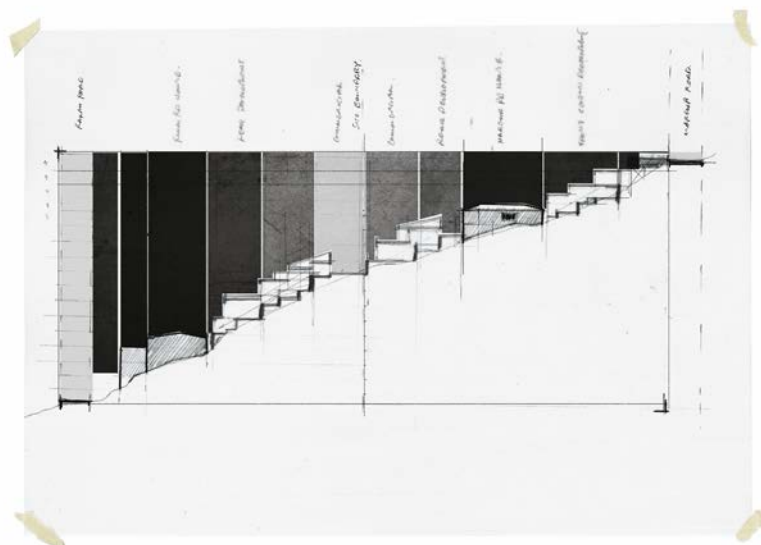
Observation is the first design method I use to understand how I learn about design and the ideas that make architecture. Melbourne based architect Nigel Bertram presents the book 'Furniture, structure, Infrastructure: Making and Using the Urban Environment', with a design methodology that uses "observation as a design tool and design as an observation method" (Bertram, 2013, p. xxiv) . Bertram explores strategies for developing the skill of seeing before designing. He follows the position that everyone can look, but not everyone can see. Before I can draw a design, I first must be able to see.

Immersing myself within the neighbourhood was key to understanding the Hataitai happenings. I took many site visits to draw, document, video and photograph the neighbourhood. The central experiment was a photographic study of the potential pedestrian paths. Photographing every possible and existing link. While undertaking the experiment I was able to document my observations of the neighbourhood's peaceful nature, large amounts of flora, wandering quality provided by the organic roads, lack of long visual sight lines and parallax effect while walking around. I selected my design test site out of the wider scheme after the photographic study.





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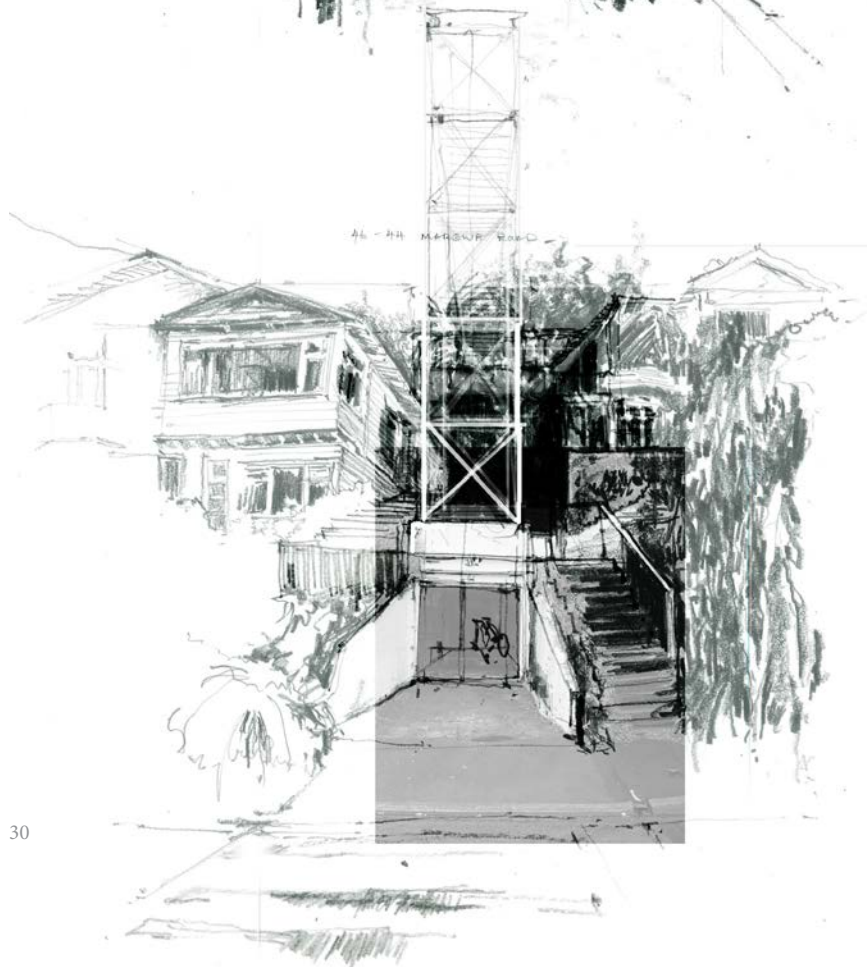
Figure 27.
Figure 28.

Early observation sketch of house on Hataitai Road
Early conceptual section after a site visit

29



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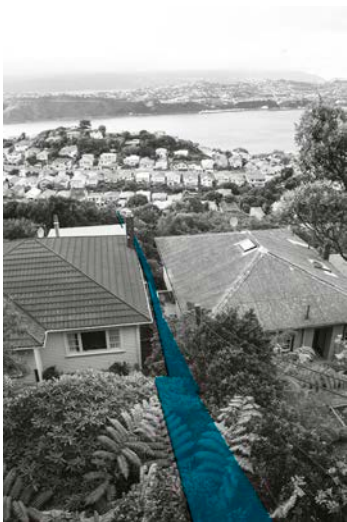
32



Figure 31.
Figure 32.

Existing Hataitai pedestrian path, Hataitai road
House along Marewa Road, Hataitai

Photographic study



st no. 44



50



54



34



19



28



30



26

Marewa Road



Figure 34.

View down the proposed path, 50 Marewa Road



st no. 62



74



88



17



21



43



42



47

Rakau Road

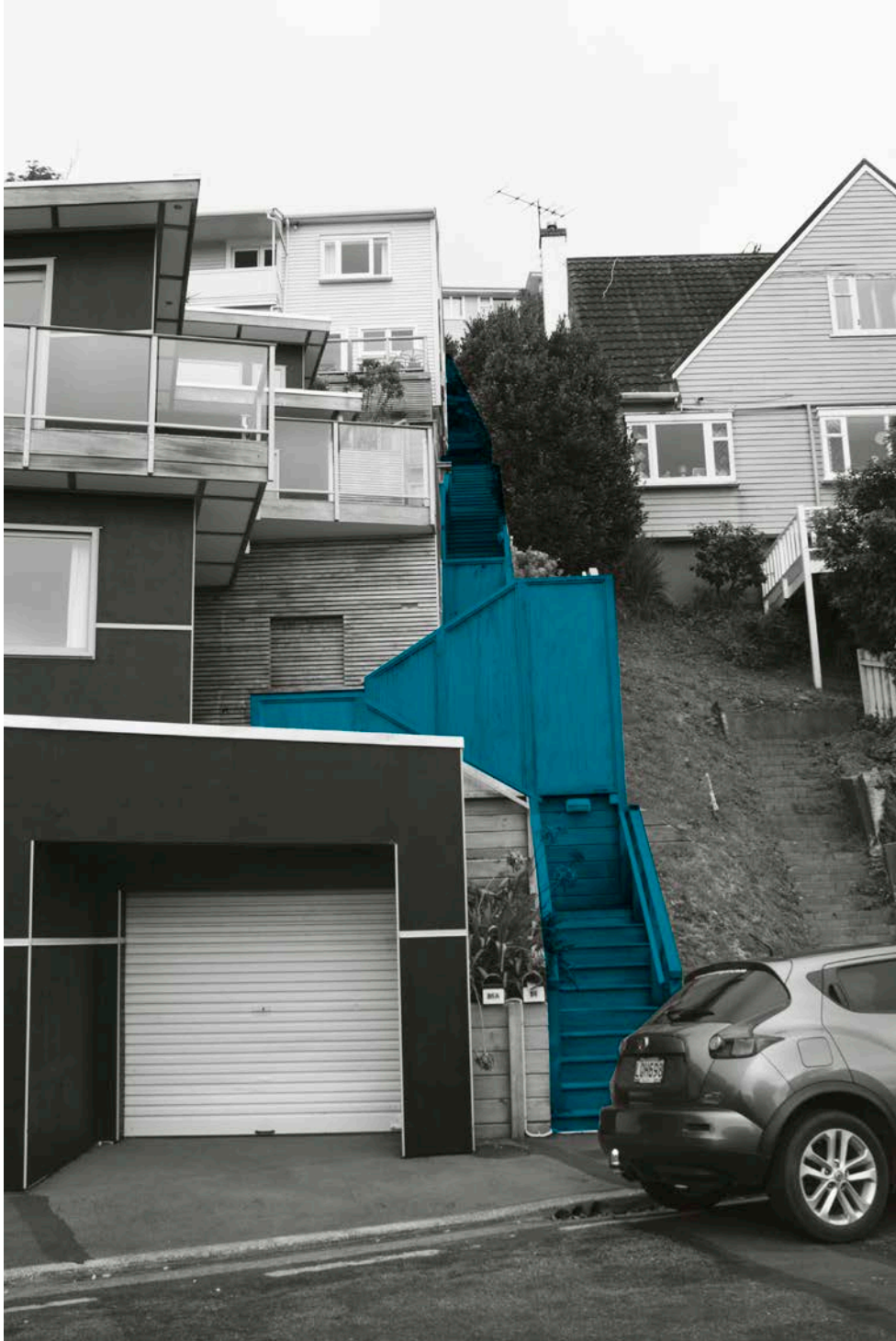


Figure 36.

Complex building and private staircase, 88 Rakau Road



st no. 78



86



86



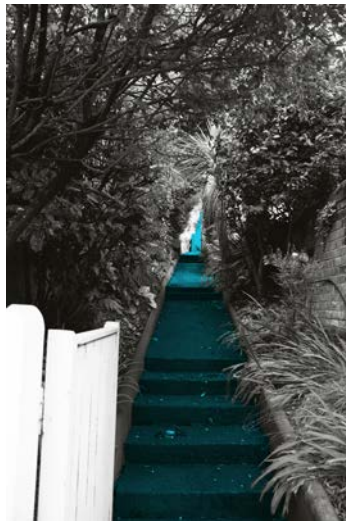
74



110



110



102



100

Hataitai Road



Figure 38.

Proposed path, 74 Hataitai Road



Case Studies-

Hillside transport Systems

The purpose of the sloped transport case study is to explore existing projects that address hillside transport systems. Examine the possible mechanised systems and the formal qualities that come with the certain solution.

Wellington Cable Car

Site: Wellington, New Zealand

Designer: Original concept by James Edward Fulton (Daisley, 2014, p. 16)

Date: Opened 1902

The cable car system has played and still plays an important role in Wellington's social heritage. The car was a significant feature to expand the city beyond Thorndon and Te Aro, into Upland farmland, now known as Kelburn (Daisley, 2014, p. 7). The Wellington Cable car is still used today by tourists and locals (p. 6).

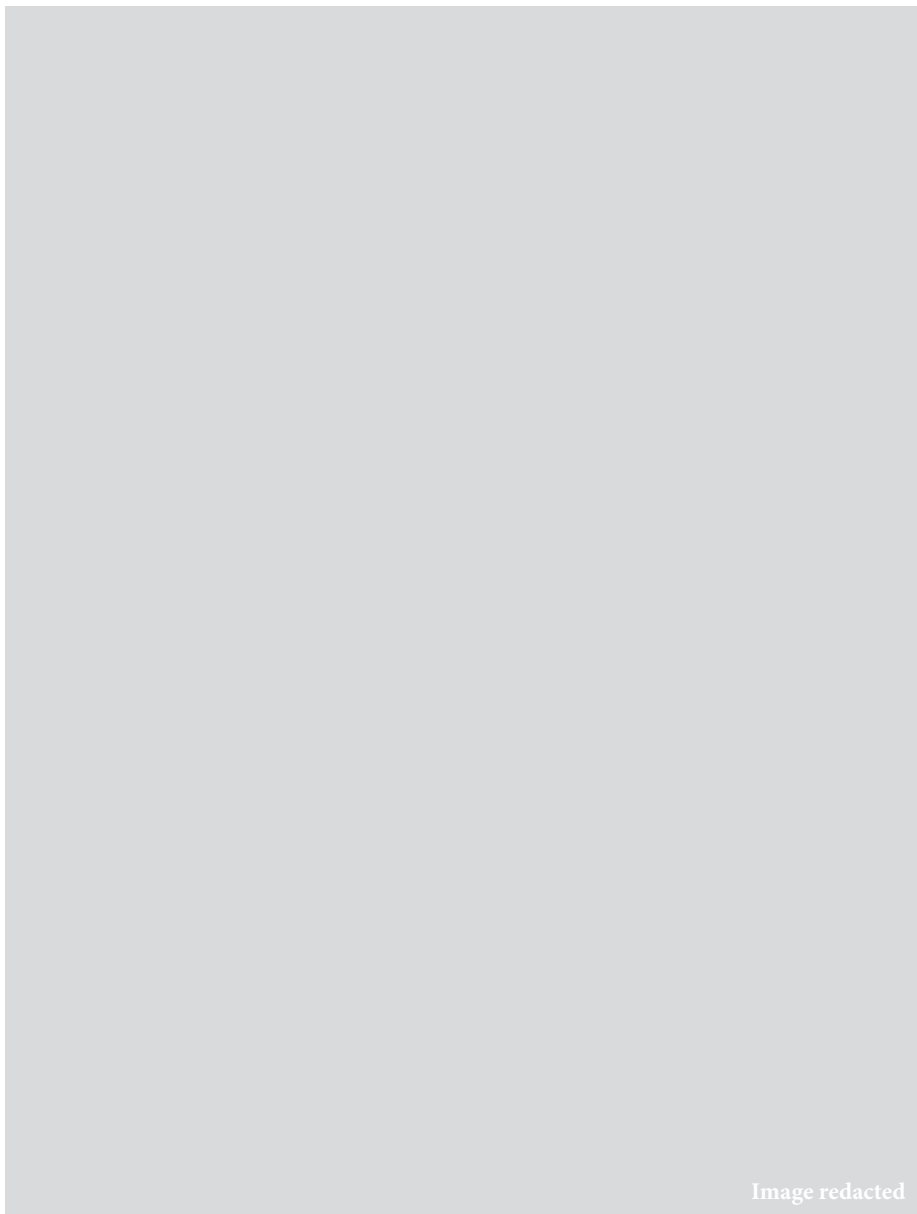
There have been many changes and technological advancements to the cable cars used over the years. The current cars are swiss-made and unlike the original cars they are enclosed and controlled by a computer system.

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Urban Elevator

Site: Galtzaraborda,
Errenteria, Spain
Architect: Vaumm
Date: 2015

In the 1960's a sudden increase of labour was needed for the Galtzaraborda area, which led to new neighbourhoods developing quickly on the hillside next to the city. between the new developments and the city was a 'void' which disconnected the hillside residence from transport stations, community facilities, education and workplaces. The urban elevator spans this void to connect the suburb with the city. The elevator shaft is constructed from a steel truss structure encased in glass to allow visibility (grieco, 2011).



Medellín Escalators

Site: Medellín's Comuna 13,
Columbia

Date: 2012

Once known for crime poverty and gang violence, Medellín's comuna 13 is now recognised for its urban transformation through new governance but also intense urban planning and transport interventions (Franz, 2017, p. 65). Electric escalators are installed over the hillside to connect the suburb and city. The escalators span 384m over the hillside, cutting a walk which was previously 35-minutes up step unsafe stairs, down to a 6-minute free escalator ride that is monitored by guards (Strange, 2011, p. 32).

Image redacted

Hong Kong Mid-Levels Escalator

Site: Hong Kong, China
Date: 1993

The Hong Kong Mid-Levels Escalator is the longest outdoor, covered escalator in the world at 800m. It is composed of 19 separate escalators which combine to an overall height increase of 135m (Waters, 2013, p. 263), (for comparison the top of Mount Victoria is 200m high). The escalators intensify the urbanisation of the area, with 30,000 people using the route daily. Social and economic implications have emerged from the implementation as businesses see the area as prime development land now. The escalators are enclosed in a legible glass and steel tube structure, which shelters inhabitants from the elements (Kiang, Liang, & Limin, 2010, p. 111).

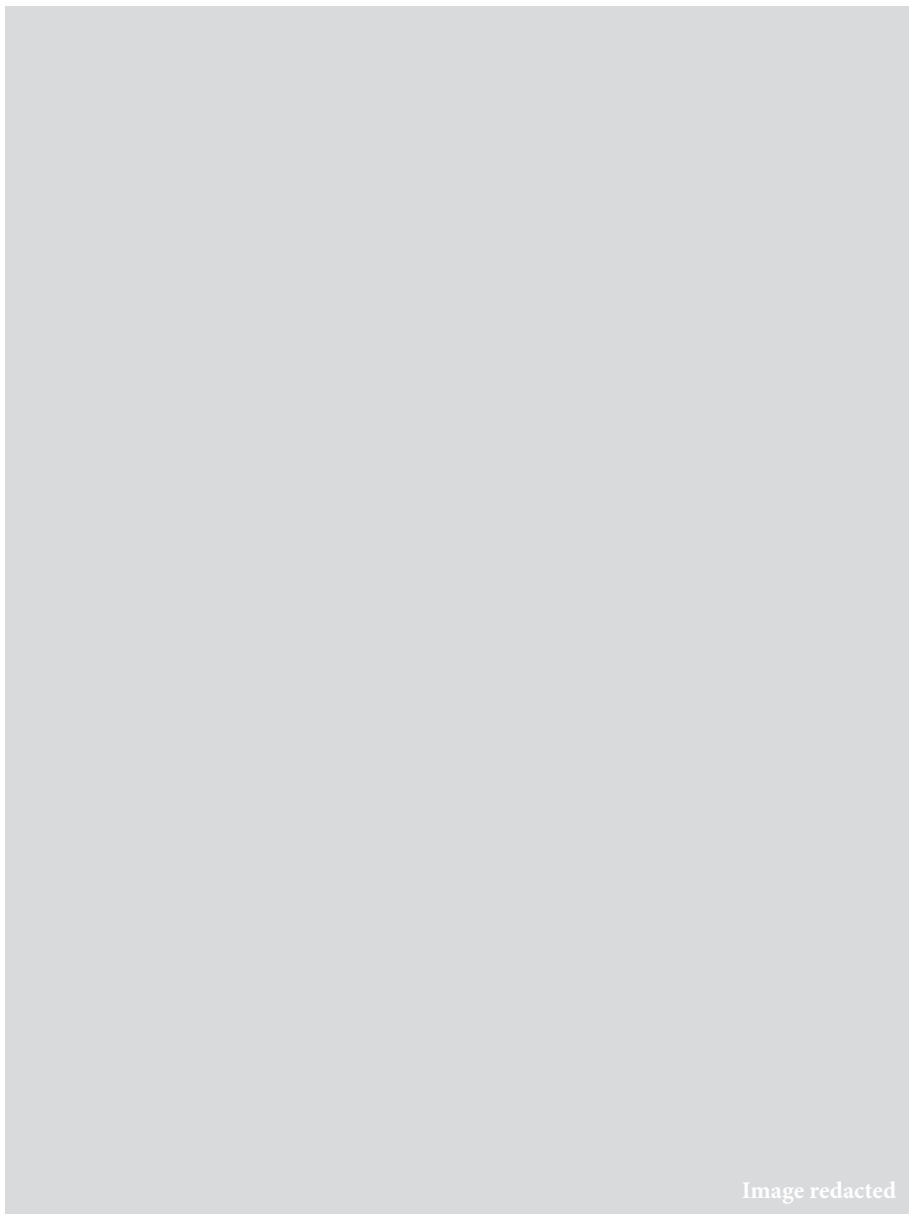


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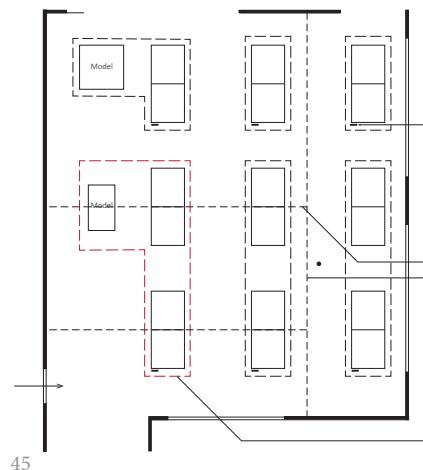
Hataitai Bowling Club

‘The hang’

The mundane Bowling Club building presents a challenge to create an exhibition that complimented the space and created some form of dialogue between the architecture and the exhibition inhabiting it. The challenge to compliment the space was overcome by having a complex installation which reflected the lowbrow nature of the Hataitai Bowling Club space. We used a 3 x 3 grid layout of the clothes drying racks (fig 45) to exhibit past and present ‘Art and Architecture’ students work.

Feedback

The exhibition allowed us to emerge ourselves in the Hataitai community, creating a foundation for starting conversation and hearing opinions of locals. Majority of the viewers were excited by my line of enquiry. People were excited to be able to locate their own houses and see the implications of a vertical connection, on the diagrammatic urban model show in (fig 46). One woman explained how she used to jump the fence to use her neighbours’ path, however the neighbours have recently sold, and the new residents aren’t open to her crossing their property. Conversely, a few locals expressed their concern over losing their beloved quarter acre sections and how this speculative proposal can’t happen. Showcasing how many New Zealanders are resistant to transition to higher density and if this proposal was to be implemented a change in mindset needs to occur.



DAVE SYNNOTT LOUNGE

Hataitai Bowling Club 1910

CHAMPION FOUR	CLUB FOURS	OFFICERS	ADVICE	ADVICE	ADVICE	ADVICE	ADVICE	ADVICE	ADVICE
1. [Name] 2. [Name] 3. [Name] 4. [Name]	1. [Name] 2. [Name] 3. [Name] 4. [Name]	1. [Name] 2. [Name] 3. [Name] 4. [Name]	1. [Name] 2. [Name] 3. [Name] 4. [Name]	1. [Name] 2. [Name] 3. [Name] 4. [Name]	1. [Name] 2. [Name] 3. [Name] 4. [Name]	1. [Name] 2. [Name] 3. [Name] 4. [Name]	1. [Name] 2. [Name] 3. [Name] 4. [Name]	1. [Name] 2. [Name] 3. [Name] 4. [Name]	1. [Name] 2. [Name] 3. [Name] 4. [Name]





How I did it:

Chapter Two: Drawing it out

Chapter two asks how do I work? It aims to look at the work itself, reflecting on the creative process and how this process starts to reveal a certain architectural outcome. To do this, I primarily draw out the ideas on paper with pencil, using observation and conceptual sketches, conceptual drawing, messy and reductive digital models and precise drawings to work through the design. Drawings form the raw data for the research. I analyse the drawings to extract tacit knowledge of techniques and inclinations in my design process.

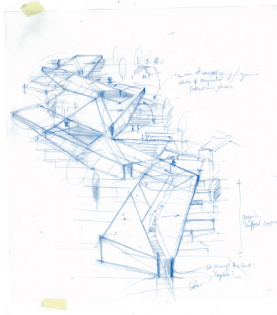
While reflecting on these drawings, I identify moments where I became aware of traps and transformative triggers, through observed shifts and changes in the design. I explain how I rely on the dialogue between my hand, eye, and tools to explore formal and pragmatic connections, imagination, and decisions. I close this chapter with my Flash exhibition talking point.

Intersection of Art and Architecture

This research explores the intersection between visual art and architecture through my creative process which involves drawing, discussing and exhibiting. My research creates work that reaches across the disciplinary divide between art and architecture, while continually preserving my architectural background. During the creative process I repeatedly refer to architectural traditions and recognise that the artwork is not the final product, but a step towards the architectural outcome. I record my processes to recognise what overlaps I am unconsciously exploring.

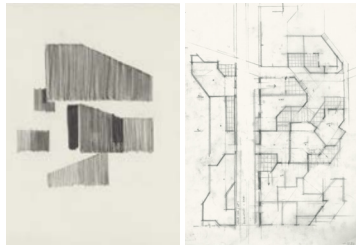
Rosalind Krauss's essay 'Sculpture in the Expanded Field' acts as a catalyst for this research's art and architecture investigation. The essay addresses sculpture's inclination to reach across traditional boundaries of the discipline. Although not from within architecture, the concept of Krauss's enquiry offers an alternative framework to critique and understand what architecture discipline is and could be. More recently, Anthony Vidler (Vidler, 2004) in "Architecture's Expanded Field", takes Krauss's discussions one step further by examining architecture's tendency to also reach across disciplines. Reaching across the architecture discipline into visual arts during my design process could continue to expand my understanding of the field of architecture.

Types of A & A Overlaps



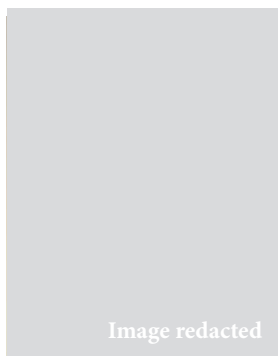
47

- 1 **Drawing pictures of buildings**
most common type



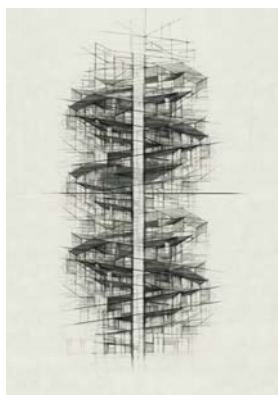
48

- 2 **Visual language that straddles Art and architecture dialogue**
The visual language developed through an art process transfers into the architectural language



49

- 3 **Bodily experience of art and architecture together**
the artwork sits within an architectural space and create a dialogue between the two



50

- 4 **Formal operations that traverse art and architecture**
Both art and architecture have terms specific to their discipline. Those same terms can be understood differently in each discipline. –'cut'

Figure 47.

Drawing of my zigzag form

Figure 48.

Experimental drawing and plan

Figure 49.

Billy Wilsons painting at his exhibition

Figure 50.

My drawing experimenting with the 'cut'

How does it work?

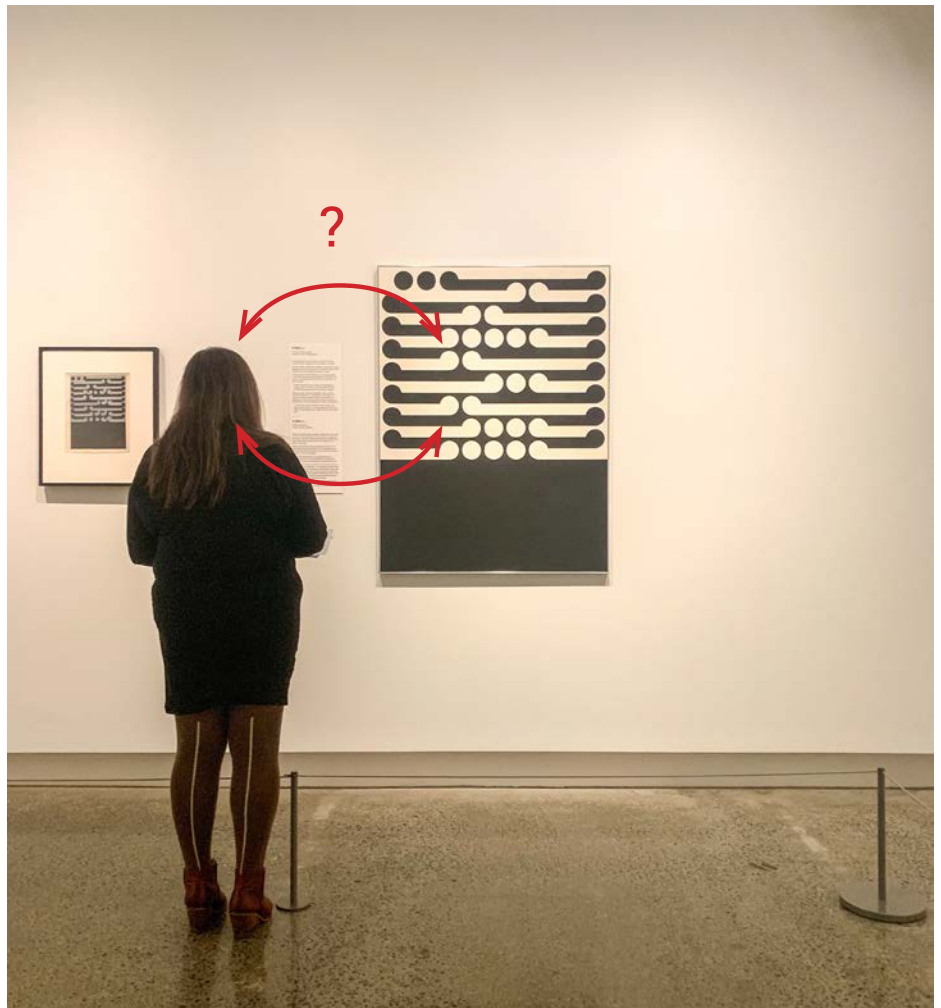
A fundamental component of my creative design process is understanding how we view art. Throughout this research the art and architecture stream has been involved in fortnightly collaborative discussions with three visual artists. We discuss each other's work, go to art exhibitions, review readings and visit architecture. Key to having productive discussions, was understanding that we, as students from the architectural background, are not trying to become artists but are learning how visual art traditions could begin to inform the architectural discipline.

Every session was rich with cross disciplinary discussions, however the most influential learning for me was understanding how we engage in art. When viewing the visual art, the visual artists are continuously asking "is it working", "what is the job here", "how does it operate?", "what is working?" Referring to the conventional definition of operation is the easiest way to articulate how the artists use the term.

Operate: to work, be in action

Operation: the way that parts of a system work together

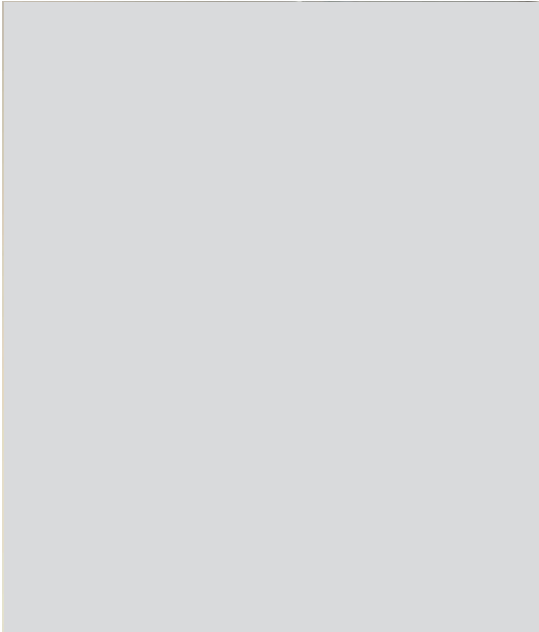
The artwork operates when it successfully engages the viewer, and the operation is the specific formal strategies the work uses to engage the viewer. Examples of operations are pushing, pulling, curving, cutting, wrapping around, moving over, across or under. The artists were able to explicitly articulate why and how a work was engaging them due to their visual art background which exposed them to this skill. Conversely, I struggled to put my finger on and articulate what specific formal strategy engaged me.



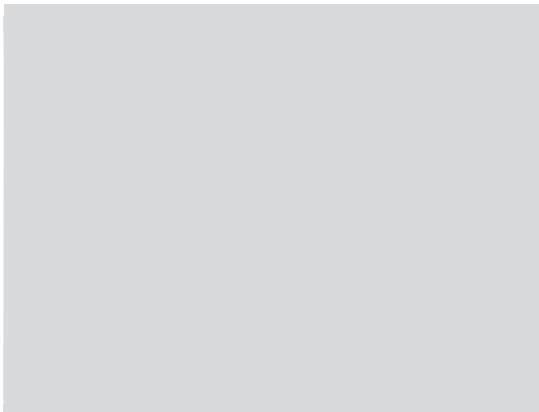
Dialogue-

creating a conversation

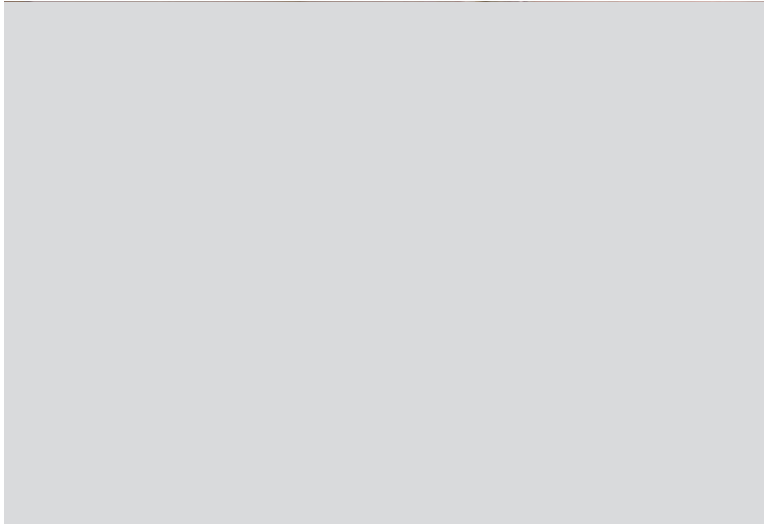
Dialogue is everything in this research. I rely on dialogue between my hand, eye, and tools to explore formal and pragmatic connections, imaginations, and decisions. I use dialogue between the Hataitai community, artists, my supervisor and my peers to work through my design. I similarly explore the notion of dialogue to understand how I engage in art. As viewers, the concept of a two-sided conversation is the clearest way to identify what engagement in operating artwork is. The viewer is invited to start a conversation with the operating work, not literally, but a mental conversation, where you start to ask questions of the work. For example, you could be asking, Is the form pulling the other form? Am I looking out or into the work? Is the blue bending around the yellow? An operating work starts a dialogue which provides the opportunity for further thought and enquiry, rather than a full stop, the work has a question mark on it. Work that provides a full stop instead of a question mark isn't operating, there is no further conversation to be had, the viewer understands the image and that is that.



52



53



54



55

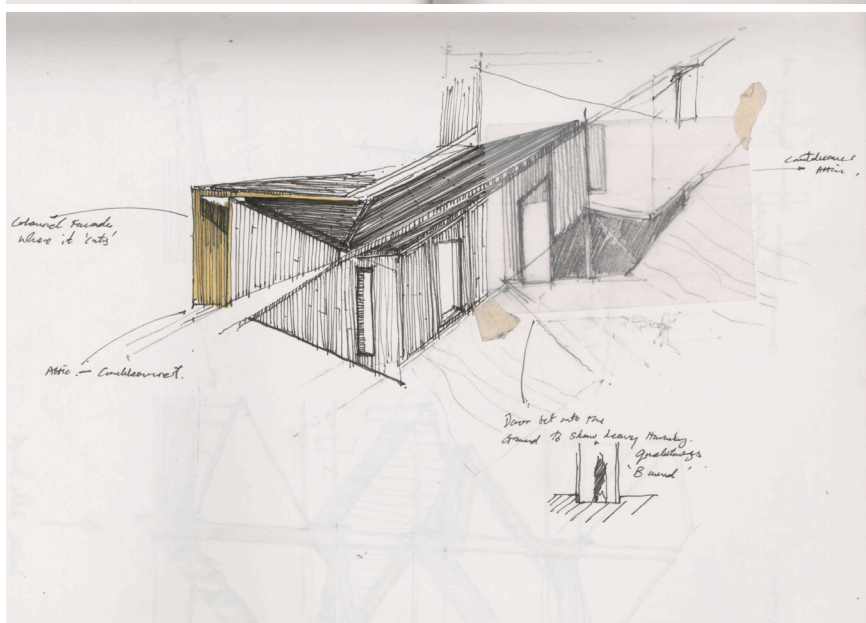
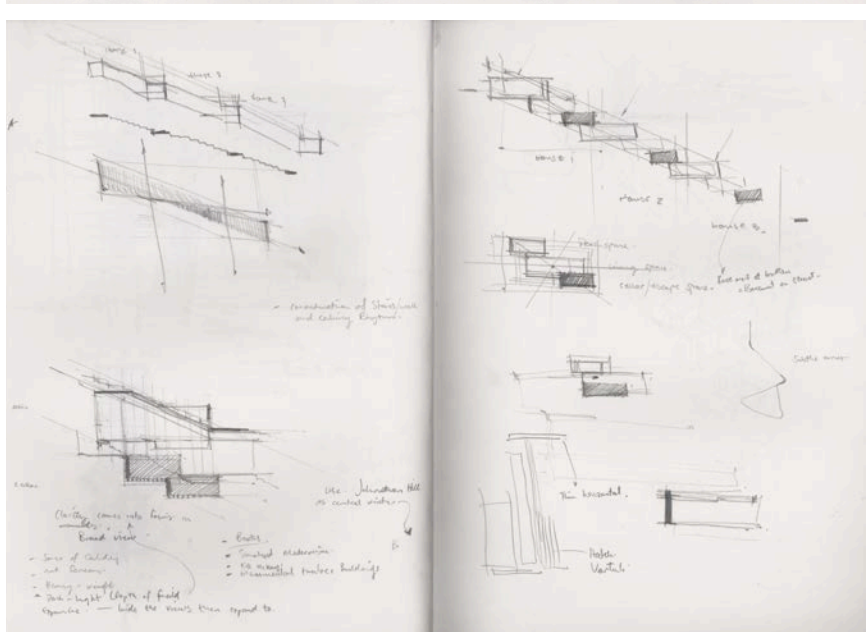
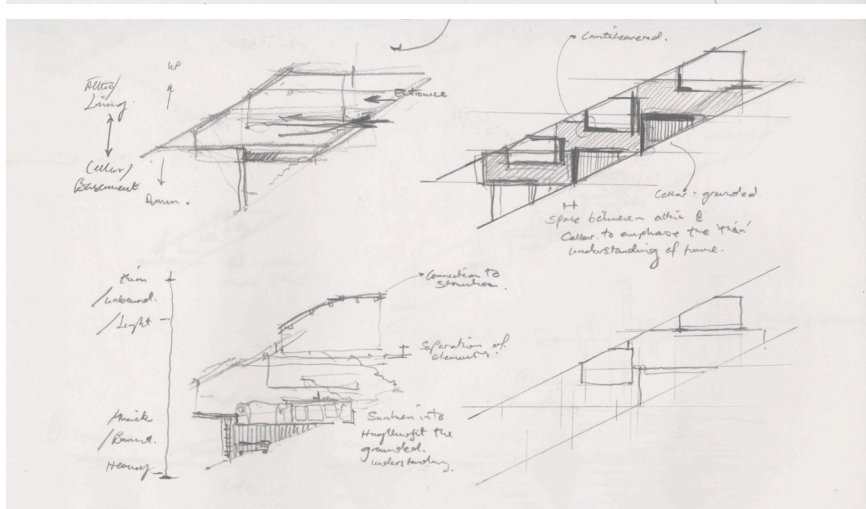
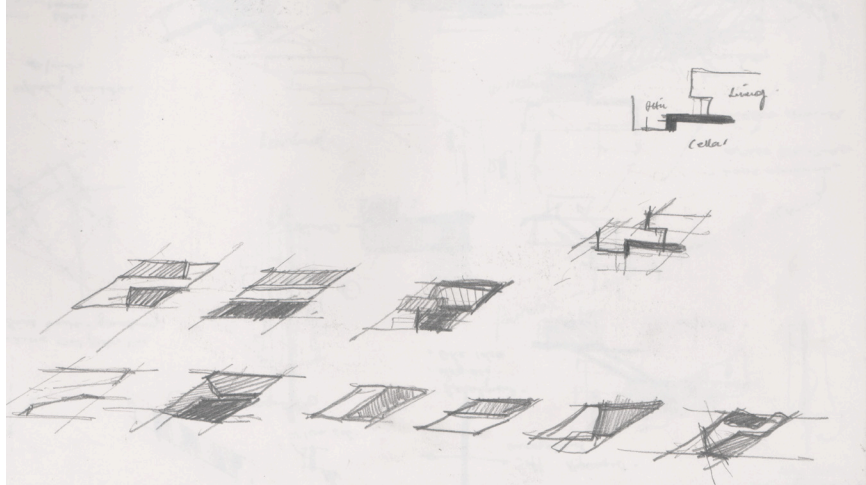
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Billy Wilson's Exhibition

One of the visual artists involved in the collaborative discussions is Billy Wilson, a Wellington based artist who explores the formal possibilities of stretching paper. One of our fortnightly discussions was led by Billy at his 'thick and thin' exhibition. Billy is particularly interested in the bodily experience of art and architecture together, hanging the work was pivotal in creating the stretch operation. He hung the work to create a dialogue with the space, the formal strategies started a conversation with the walls, doors, floor and lighting. For example, fig 52 engages you in the stretch over the wall, almost pulling you over the top of the wall. Making you ask why the frame is not falling forward? Is the paper holding or bending the frame?

Wayne Churcher's Exhibition

Wayne Churcher's exhibition "Revolution" was a pivotal session for me because I experienced the engagement we had continually discussed. Wayne explicitly talks about the work being 'unresolved' and how the work asks the viewer to resolve it themselves. Resolving the work is when you engage in thought and you eventually gain some meaning and answers as you unpack what the work is doing. Wayne's work operates by never resolving. The conversation is endless because you can't clarify your uncertainties around the processes and formal strategies. I was endlessly searching for meaning of depth, transparency, layers and colour.



My toolbox

Why do I draw?

The pencil drawing process is one that I personally enjoy and have always explored. I appreciate the honesty and modesty of the hand and pencil process, as you are connected to every mark on the page.

Pencils

I use 2b, 4b and a 6B pencils, the range of soft and hard pencils gives for more depth in the tone and line work. The tone ranges from 6B graphite to paper which enables the drawings to communicate black and white. The mechanical pencils role is to give structure and precision to the work. Softer graphite often facilitates a loose line drawing or shades a drawing.

Using a scalpel to sharpen my pencils is vital in creating line weights and shading angles on the graphite tip. Sharpening with a blade creates an inconsistent tip that allows for more line techniques when drawing.

Rulers

loose lines and hard lines.

15cm metal ruler

50cm metal ruler

30cm plastic ruler

Eraser

Mark-making and mark-removing equally generate design discoveries. Partial mark-removal can be just as productive as the mark itself, allowing discarded ideas to linger on the paper which can lead to a new thought process that I hadn't expected. The moment I erase something, is the moment a design decision occurs, it is when I decide to take a different direction with the design.

Sketchbooks

Sketchbooks play a crucial role in facilitating my conceptual sketches. I use an A5 vinyl covered sketchbook, an A4 rough white paper sketchbook and a 250mm x250mm rough off-white paper sketchbook. Each sketchbook takes on its own role during the design process. Size of the book influences the type and precision of the drawings. The rougher the sketchbook is the more experimental I am with the drawings. The smaller book is convenient to sketch while thinking through a problem on the computer or away from my desk.



57



58

Legibility

The visual art discussions around operation often led to talking about work that is unresolved and how unresolved work offers the opportunity for dialogue, to engage a viewer to resolve it. I interpret the visual artist's terms, 'resolved' and 'unresolved' into the operational lens of legibility. From the collaborative discussions with Sam, Ariana, Eleni and the visual artists, I discovered I was engaged by Wayne and Billy's work because it had a sense of complexity and ambiguity, causing me to doubt and speculate.

Does legibility operate the same in the art and architecture disciplines?

Bjarke Ingles' 8 house (fig 57) and Andy Warhol's Marilyn Monroe screen print (fig 58), communicate as single legible projects. Both the architecture and visual art projects intend to be 'one-hit' projects which

are absorbed instantly by the masses. Ingles and Warhol intend to create commodities of consumer culture so the object can be passively absorbed. If the projects required the viewer to actively engage in dialogue, they wouldn't have the same response of mass consumption. Perhaps, legibility does operate the same.

Should the design be legible object or complex composition? Or, can the design be both complex and legible?

I continue to navigate this emerging tension between complexity and legibility, through analogue drawing and digital modelling in the following section.

Figure 57.

Bjarke Ingles' 8 House 'one-hit' form

Figure 58.

Andy Warhol's prints which are seen as commodities

Path Legibility

I started the creative process by searching for legible forms that made sense out of the complex site conditions. The complexity of the steep topography, large site, existing houses, and organic road network was daunting to approach, so I applied a legible form to help me comprehend the project in front of me. However, I intuitively develop areas of complexity to add 'interest' and variation to the form. I work through drawings of routes which have a varying number of points of decision, corners and sight lines. Although I develop areas of complexity, the complexity is constrained to a legible grid that divides the path lengths into segments, often using repetition and alignment. I would constantly take two steps towards introducing complexity then one step back to legibility. I constantly wrestle my inclinations, hunches and fascinations between the formality of repetition and the informality of irregularity.

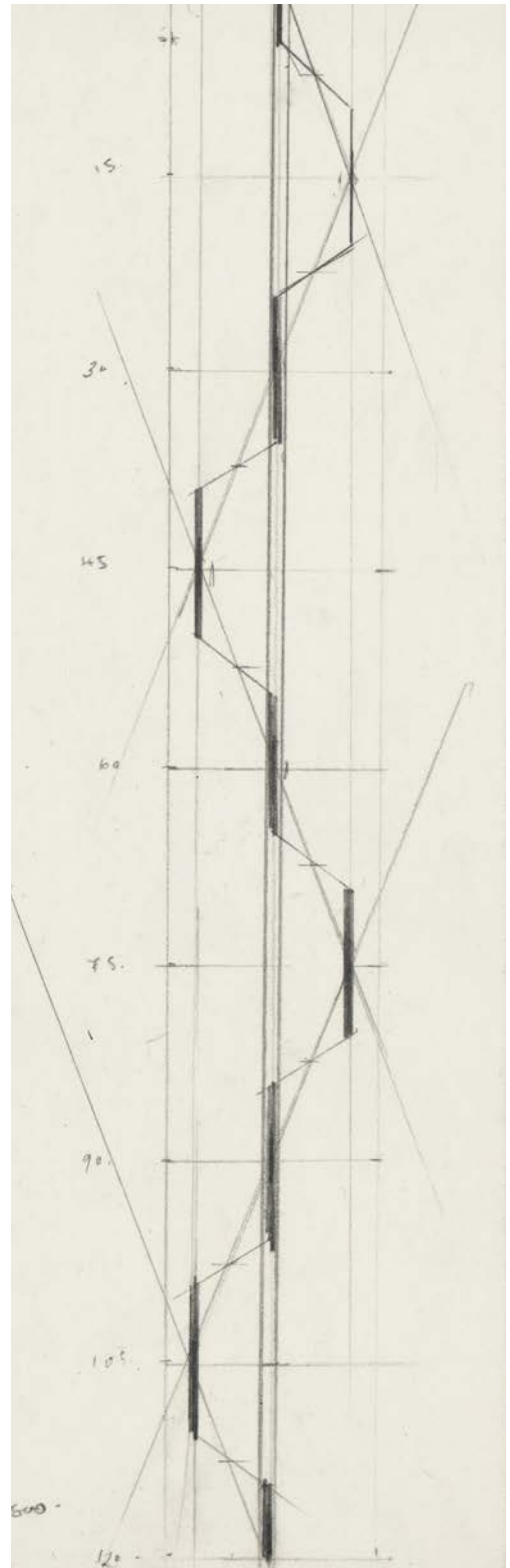
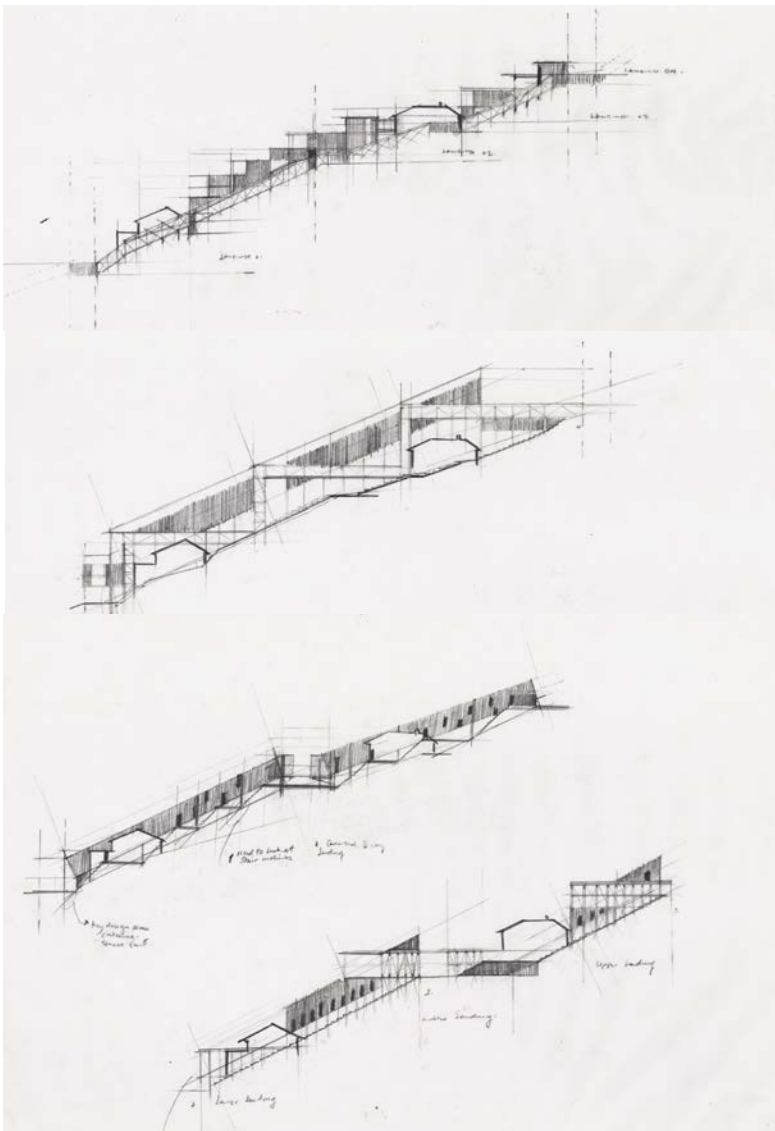


Figure 59.

Pencil drawing where complexity is introduced but is still constrained to a legible framework, symmetry or repetition 55



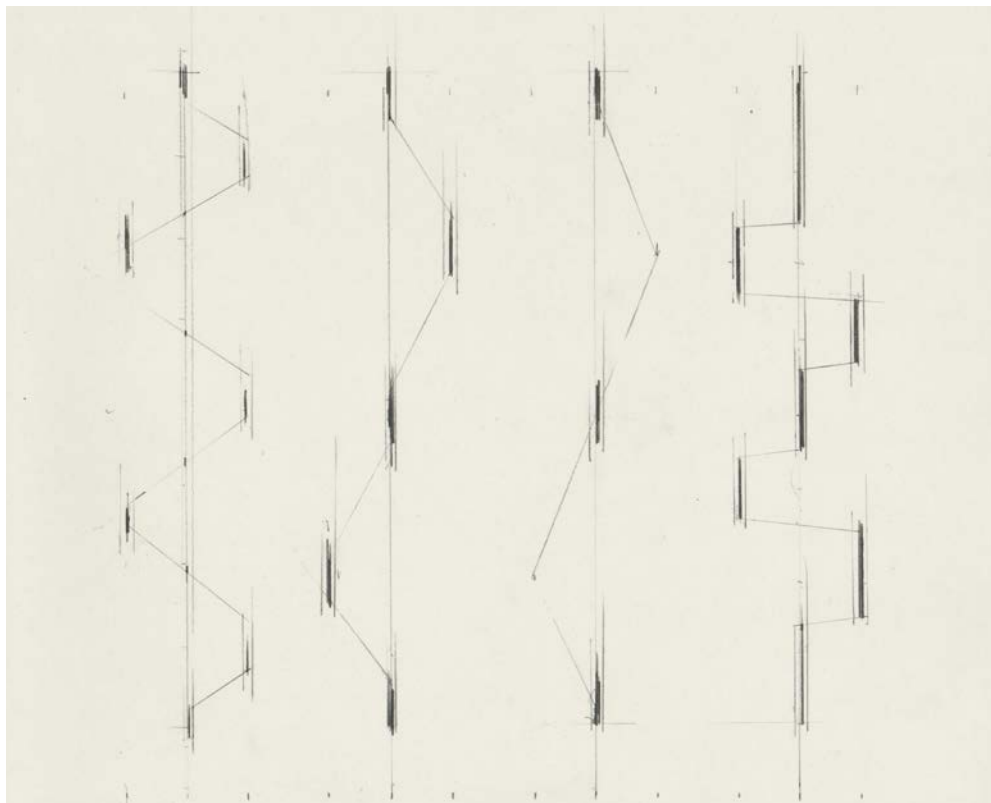
60



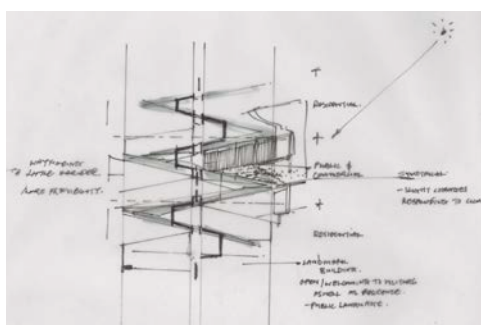
61

How might you occupy the path?

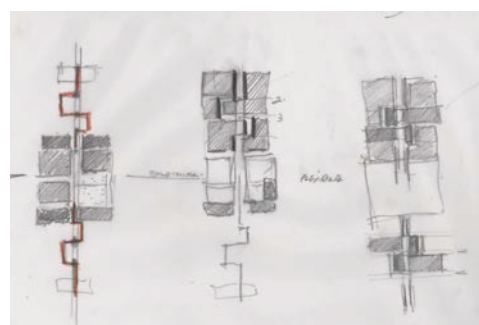
Other than a pedestrian network what else could the path facilitate? The path gives access to large sections of undeveloped hillside, providing the opportunity for increased density. Like the nineteenth-century Parisian arcades, the path could encourage social interaction, activity, and circulation, becoming a threshold to move through and a destination to go to. It integrates transport systems, dwelling and business into a hybrid laneway.



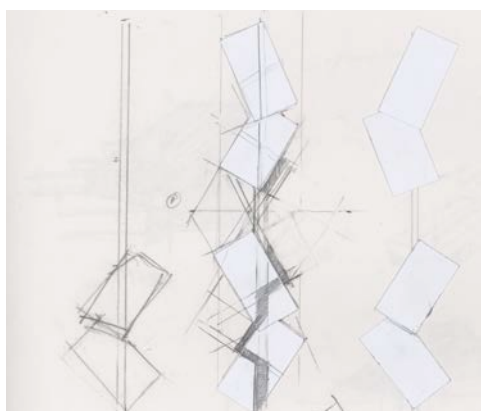
62



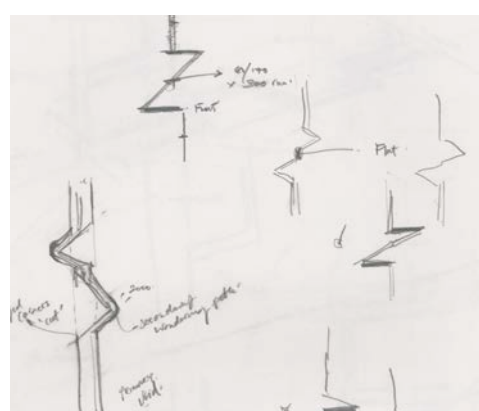
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65



64



66

Figure 62.

Iterations of path routes, all restricted by the framework

Figure 63.

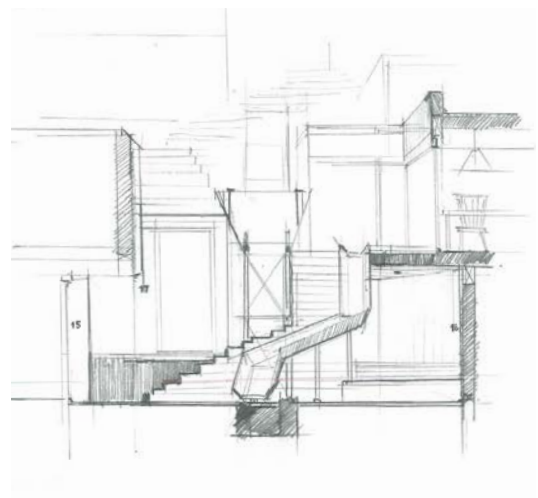
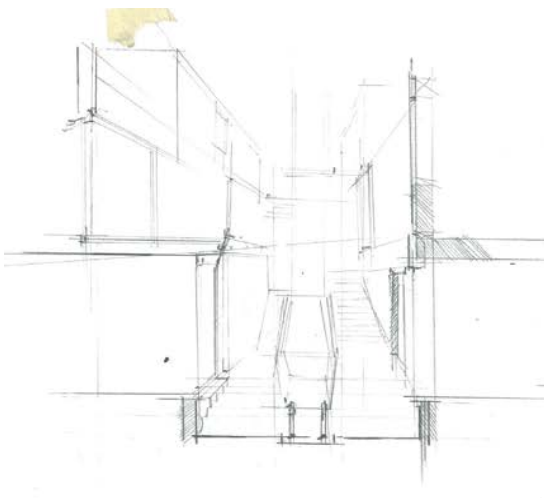
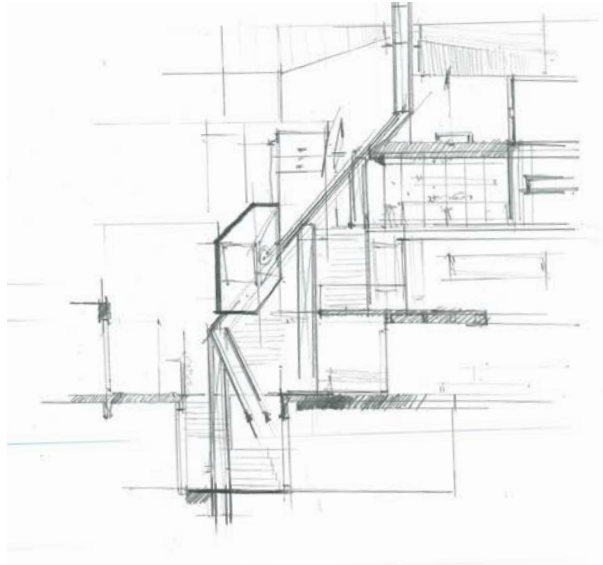
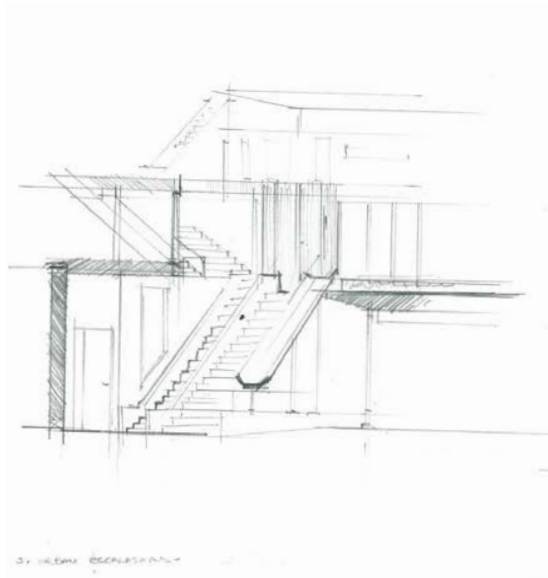
Concept that applies the same path framework to the buildings

Figure 64.

Iterating the path to building relationship

Figure 65.

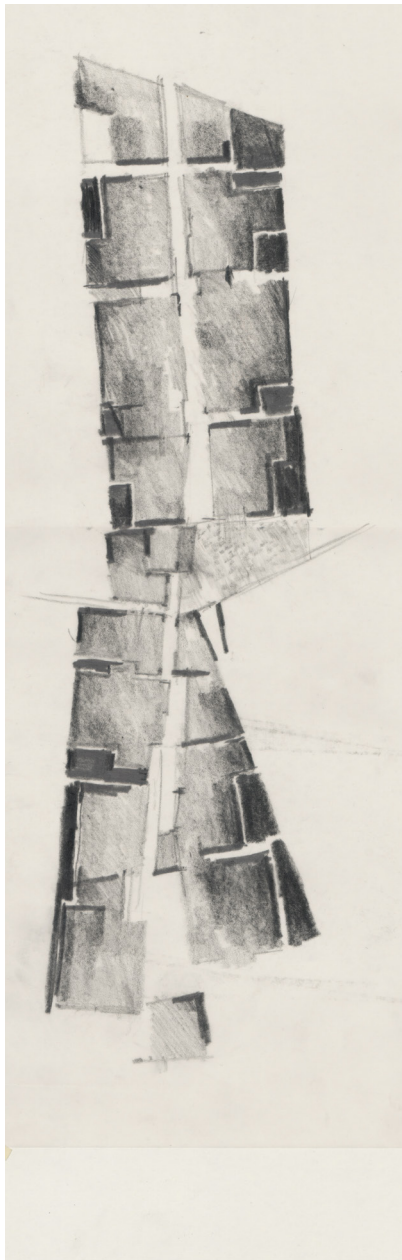
Figure 66.



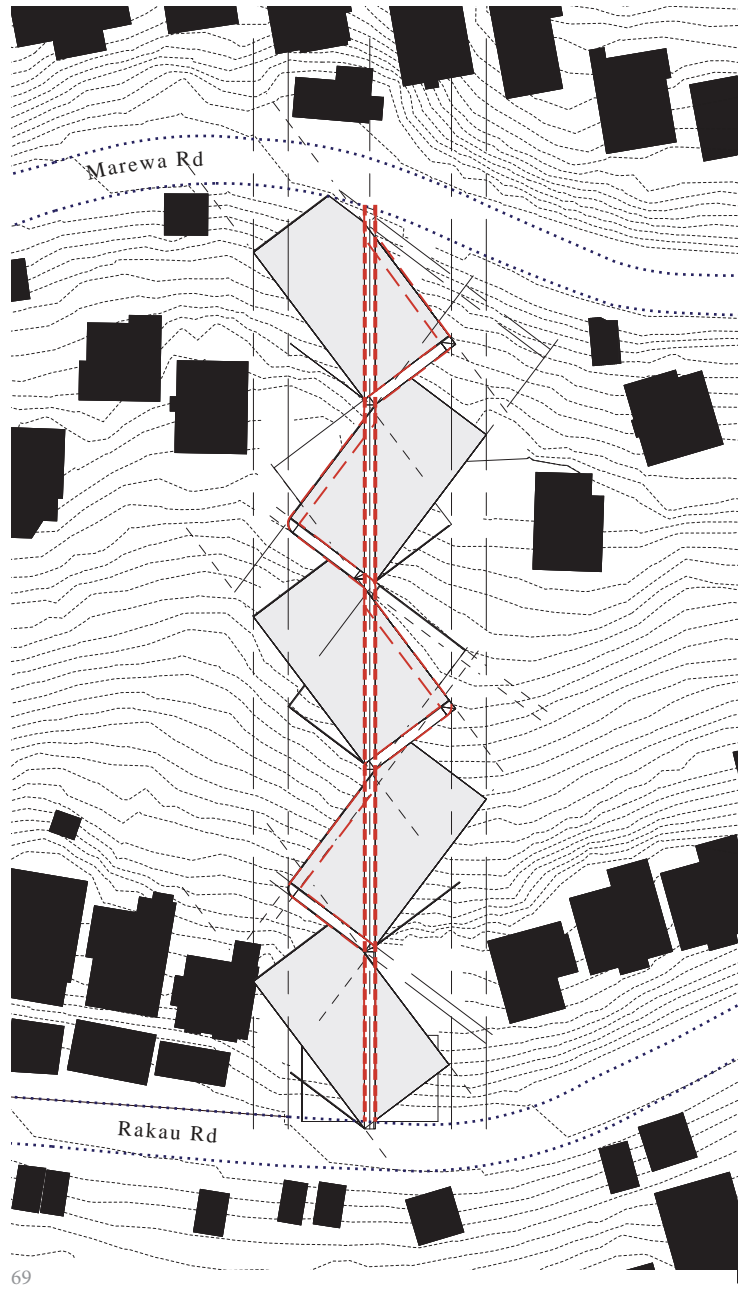
What transport system?

Stairs, gondolas, escalators,
slides, lifts, flying fox or slides

I sketch 'moments' where transport, residential, commercial and structural systems converge. After imaging the possibilities where these systems converge, I move into analogue and digital processes to divide the program over the site. When zooming out to an urban scale, how can I hold on to the complexity developed in static moments when thinking about the urban plan? Obviously, the scale reduces detailed complexity, but can I carry the small-scale complexity through to the urban scale?



68



69

1:1000



Figure 68.

Pencil sketch plan dividing space. Darker tone illustrating private and light illustrating more public

Figure 69.

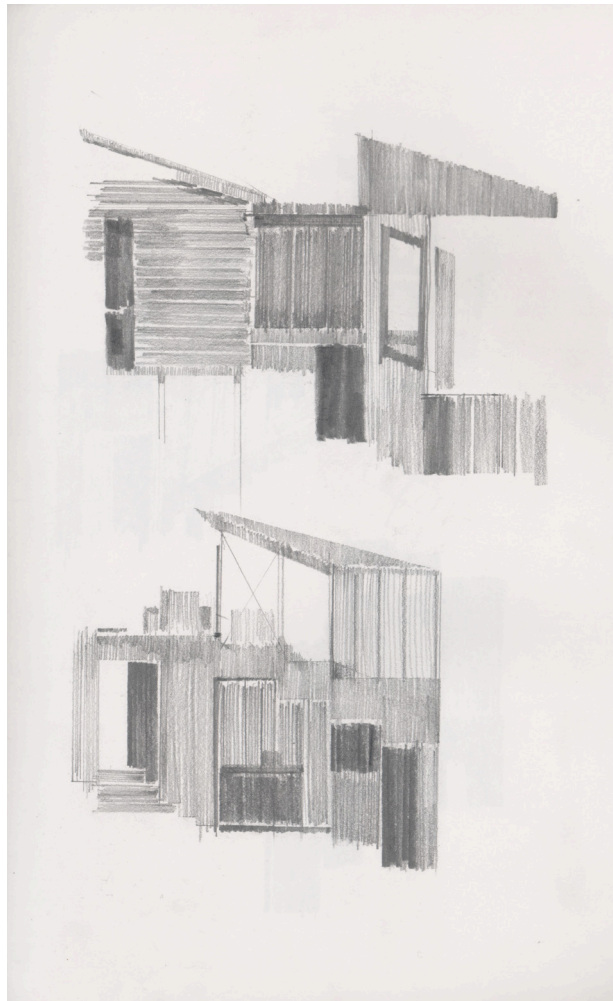
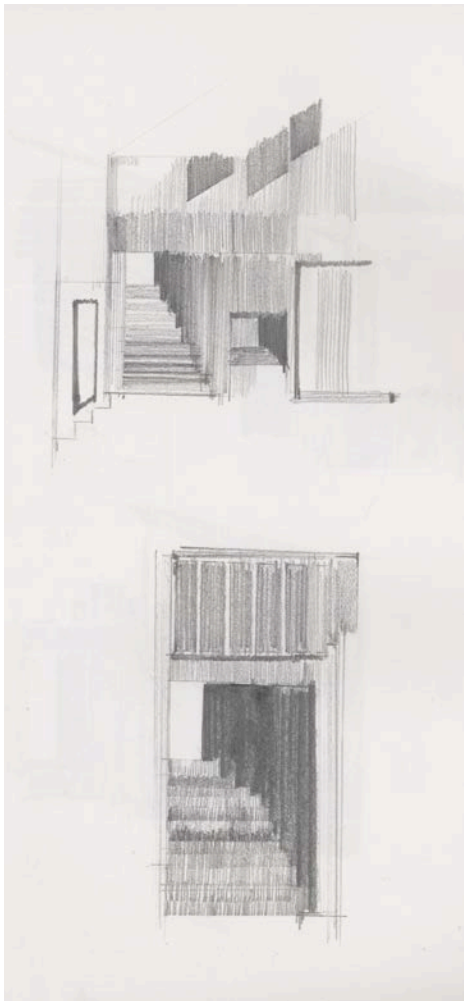
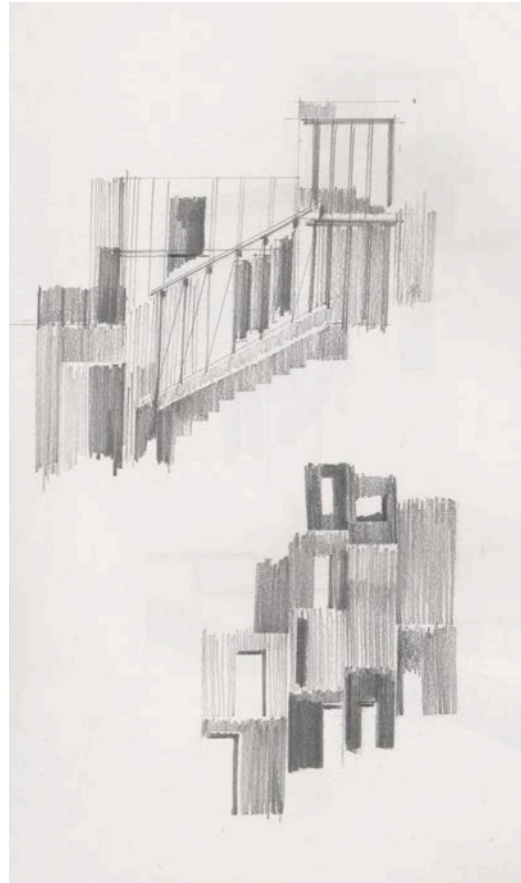
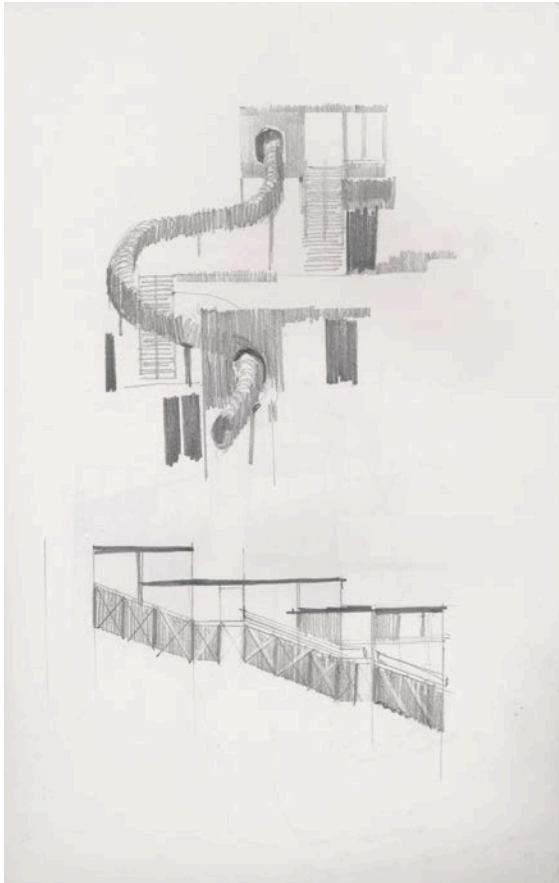
1:1000 site plan of design with primary and secondary paths. Although I have attempted to introduce complexity with the secondary path, both the primary and secondary paths appear legible

Zooming into Complexity

Catalyst Drawing Series

In the following 'conceptual drawings' there is more purpose and thought in each line compared to the previous conceptual sketches. The beginning and end of each line is held steadily, compared to the loosely pushed around marks in a sketch. Once moving into the design phase I was unsure of the geometry so avoided single lines. Single lines communicated as a fixed element, just like in a construction drawing a single line can suggest a beam. While I was hesitant to commit to form, I started drawing multiple pencil lines to create tonal blocks. Each block of lines communicated as an individual plane rather than an assemblage of construction elements, creating a sense of solidity and verticality. This creative drawing process soon evolved into the pivotal design technique to develop an architectural language.

I arranged pencil works into smaller series depending on how they formally operated. Grouping the drawings into series, enabled patterns to emerge. I document my intentions of the drawing and what the result is under each drawing.



Series 1



Figure 71.

Drawing 1.1

first drawing.

After my early site observations. This experiment breaks up the elevation into separate panels which overlap and intersect.



Figure 72.

Drawing 1.2

Began to think about the circulation integrated into design. Other than depth created from the hidden staircases and line weight variation, the work is flat and static. Stairs lead you vertically up the image.



Figure 73.

Drawing 1.3

The drawing lost a sense of ambiguity and does not engage the viewer. Bringing angles into the design to respond to the existing slope. I defaulted to predictable architectural forms such as the mono-pitched roof.

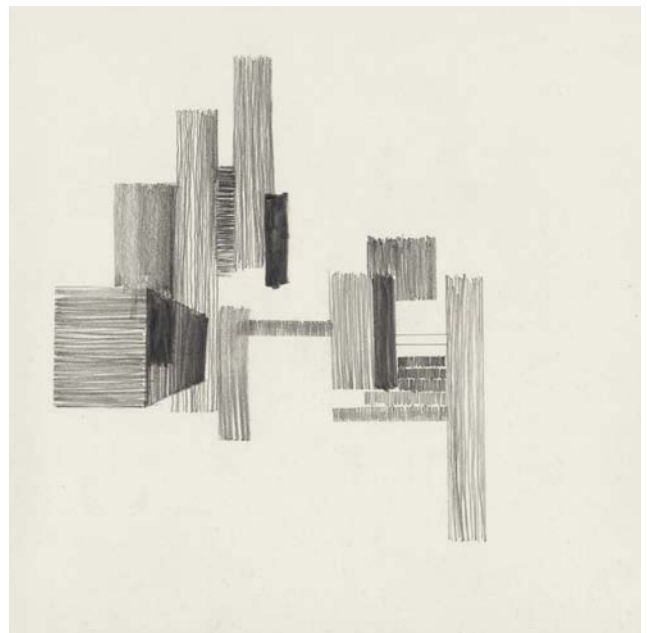


Figure 74.

Drawing 1.4

The inaccurate and loose line strokes compromise the operation of the work. The imprecision gives away the scale of the drawing.

Series 2



Figure 75.

Drawing 2.1

Experimenting with the connection between new and old built forms. I incline towards previously understood architectural forms. Too many things going on, so the drawing has lost the essence.

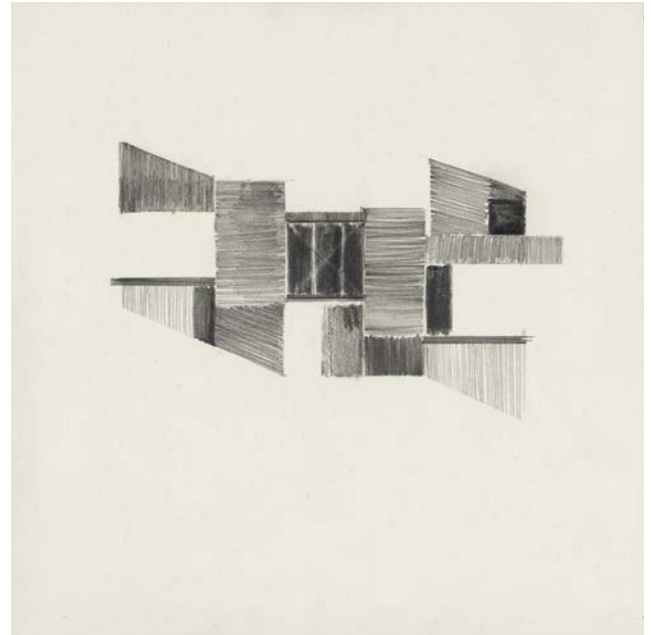


Figure 76.

Drawing 2.2

Multiple separate elements and angles. The inaccurate line strokes compromise the push and pull operation of figure-ground, as the viewer becomes focused on line weights and the mark marking process.



Figure 77.

Drawing 2.3

Experiment with axes- perpendicular, parallel, 0, 90 degrees to slope. I default to predictable architectural forms.

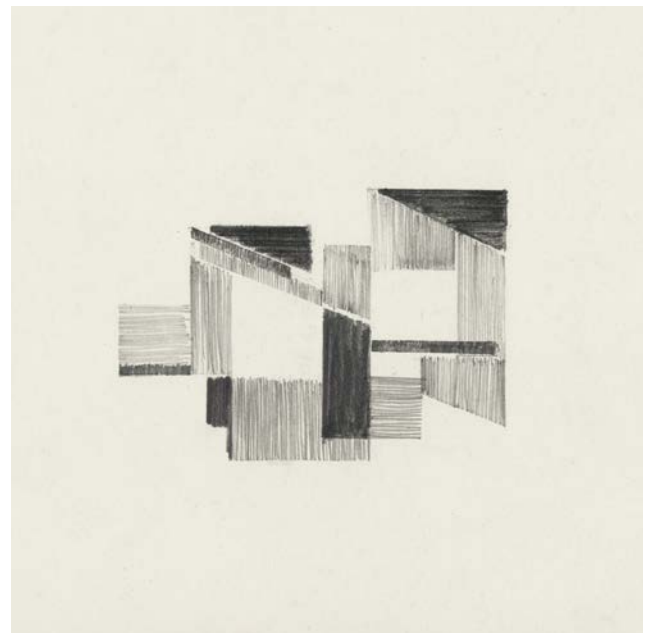


Figure 78.

Drawing 2.4

Experiment with repetition but again incline towards predictable architectural forms.

Series 3

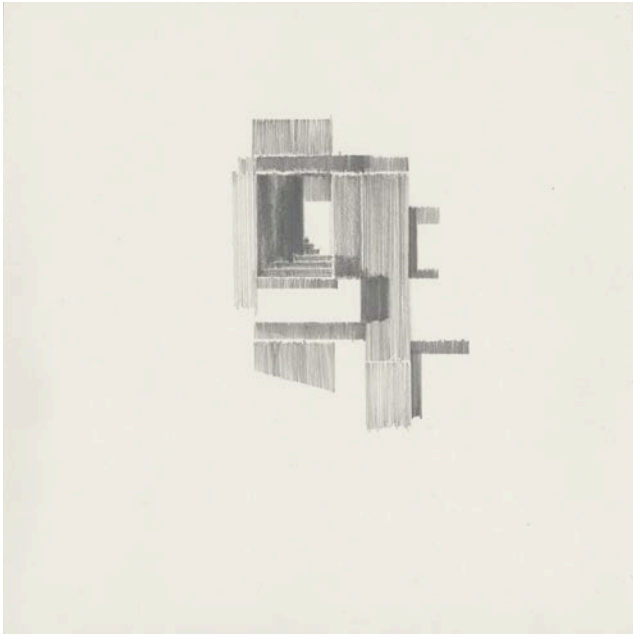


Figure 79.

Drawing 3.1

Sense of solidity as vertical lines ground the work, pulling you down the composition. Small horizontal bands cut/wrap the forms. Stairs wrap around the corner increasing the depth of field and pulling your eyes to ask what else is around there.



Figure 80.

Drawing 3.2

What is around the corner?



Figure 81.

Drawing 3.3

Leading on from the earlier work, this series looks at one-point perspective

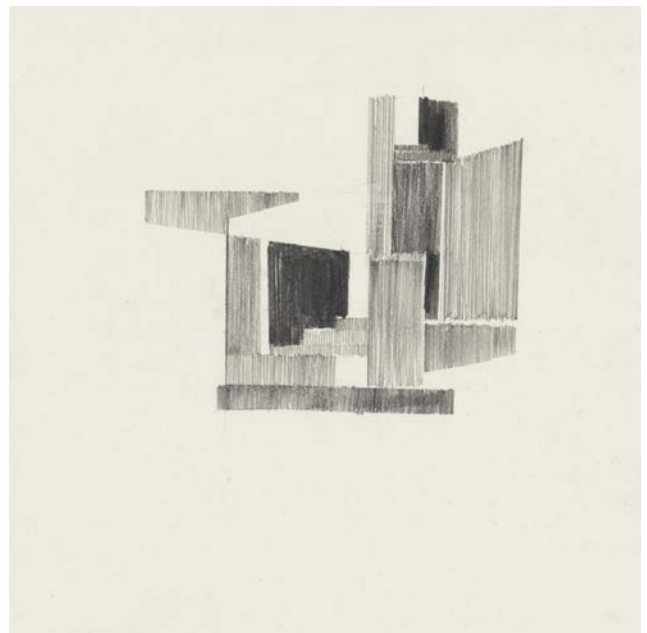


Figure 82.

Drawing 3.4

The depth of field is ambiguous, you're unsure when elements overlap or intersect, resulting in figure-ground alternating roles. The negatives jump into focus at times.

Series 4

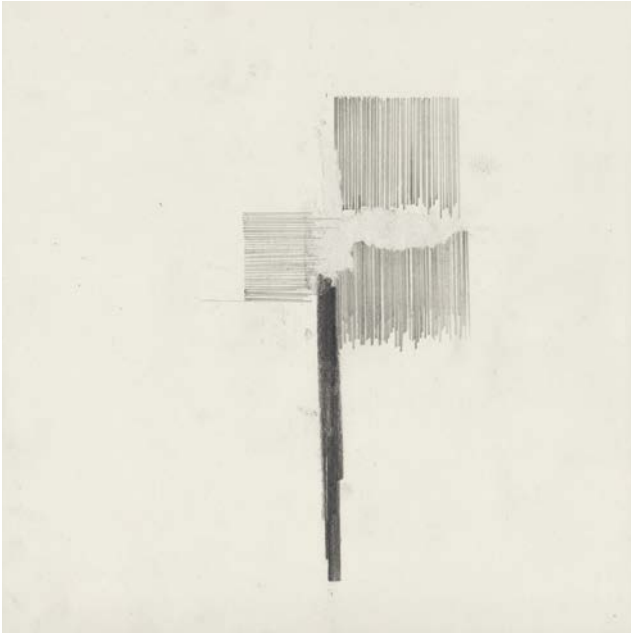


Figure 83.

Drawing 4.1

Communicates as a plan of the pathway. This drawing is based more in the art realm and removed from the architecture realm, therefore it less productive as a tool for architectural design.



Figure 84.

Drawing 4.2

Communicates as the corner of a building, from a low angle perspective.

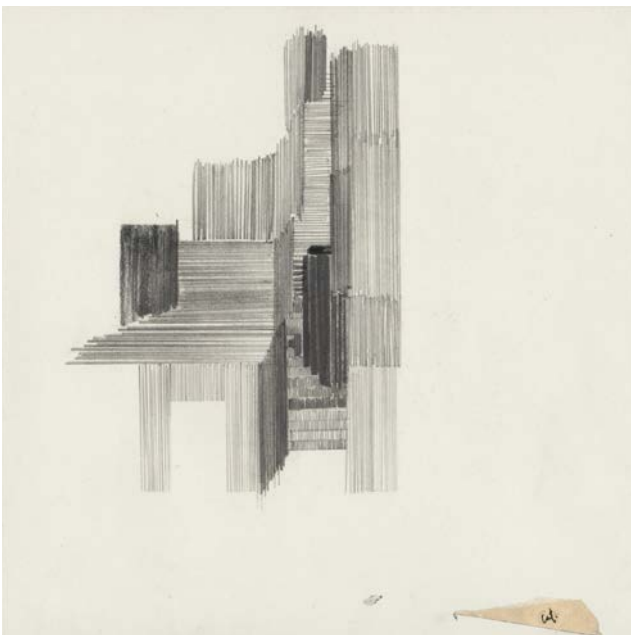


Figure 85.

Drawing 4.3

Experiment with 'cutting' the path out of the mass.



Figure 86.

Drawing 4.4

Combination of conceptual sketching and drawing, depth is less ambiguous and more about form.

Series 5

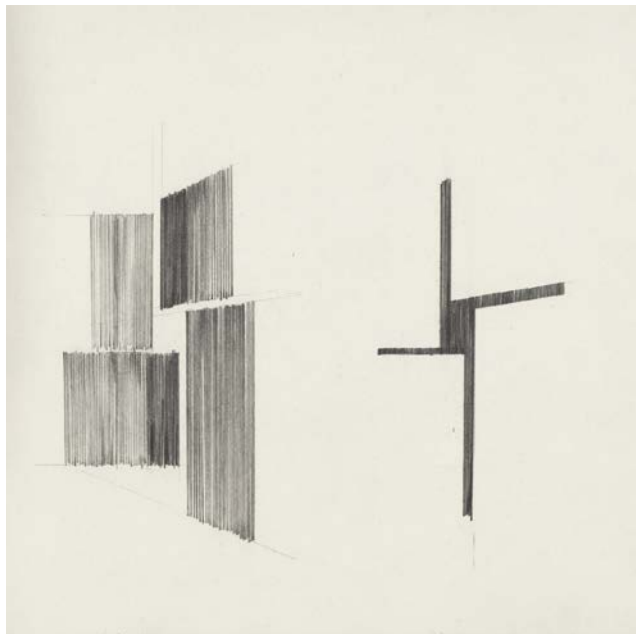


Figure 87.

Drawing 5.1

Verticality of the line strokes grounds the form. The figure ground switch, where the building becomes ground and void becomes figure.

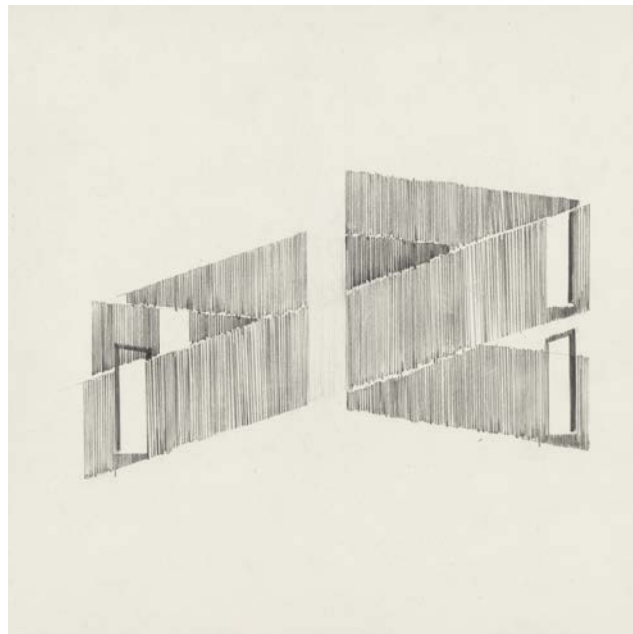


Figure 88.

Drawing 5.2

Flatness is reintroduced. This drawing explores the 'cutting' of angles and complexity through a legible negative line.



Figure 89.

Drawing 5.3

Explores line weights perpendicular to the slope. Look like the rectangle is falling down the slope.



Figure 90.

Drawing 5.4

The variety of angles creates a more dynamic image which is 'tumbling'. Small rectangular window and stairs subtly give reference to scale of the building being a landmark.

Series 6

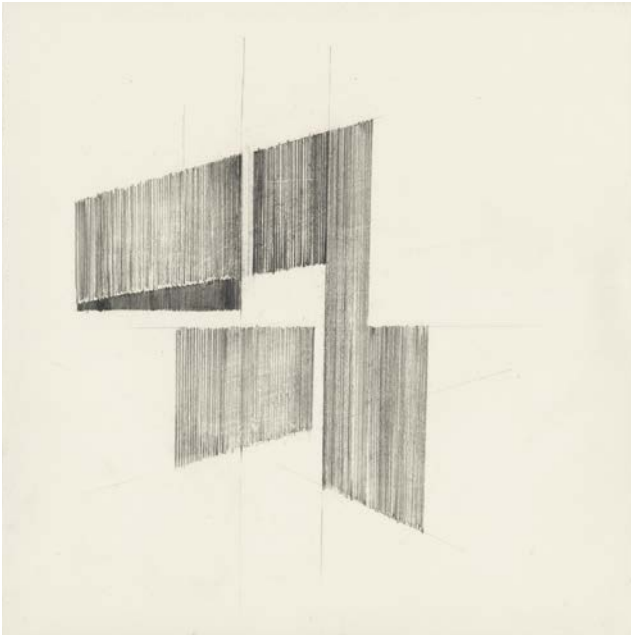


Figure 91.

Drawing 6.1

The drawing communicates through perspective; negative in the centre and the bottom converging angles. Ambiguity created around depth, as it is hard to distinguish which surfaces are in front.

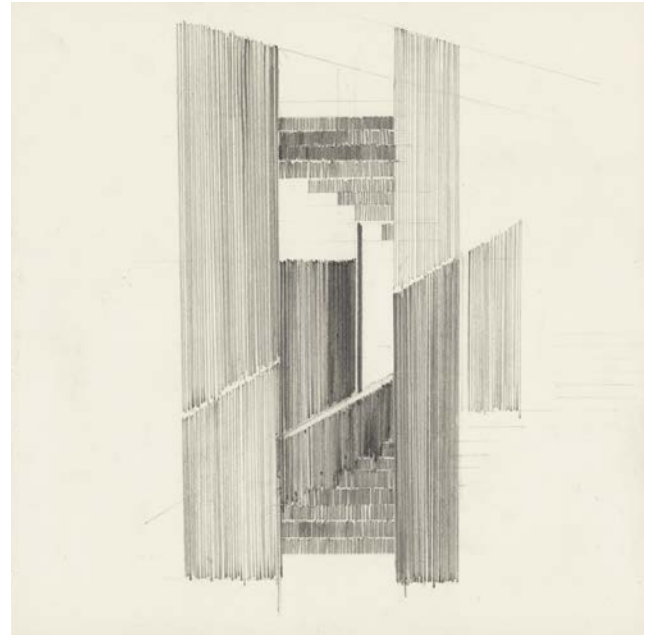


Figure 92.

Drawing 6.2

Glimpse down the path, giving you reference to the whole design.

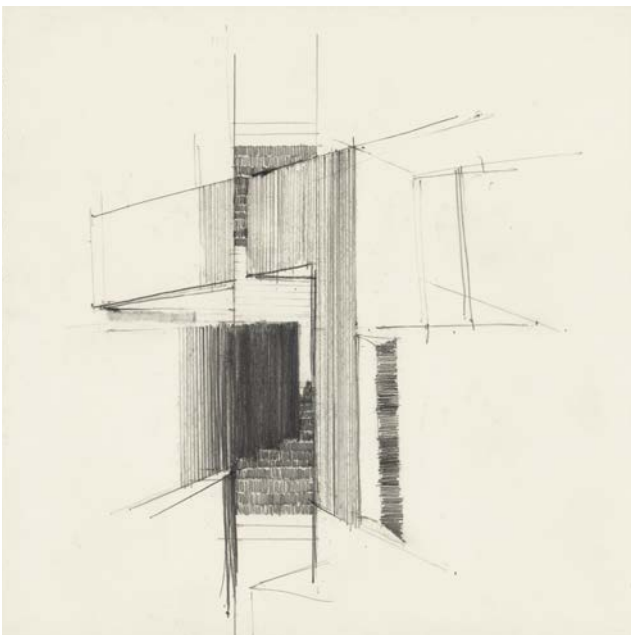


Figure 93.

Drawing 6.3

Attempt at pushing 6.1 from art to architecture realm, but the sketch lines and staircase form loses the unstable figure-ground relationship.

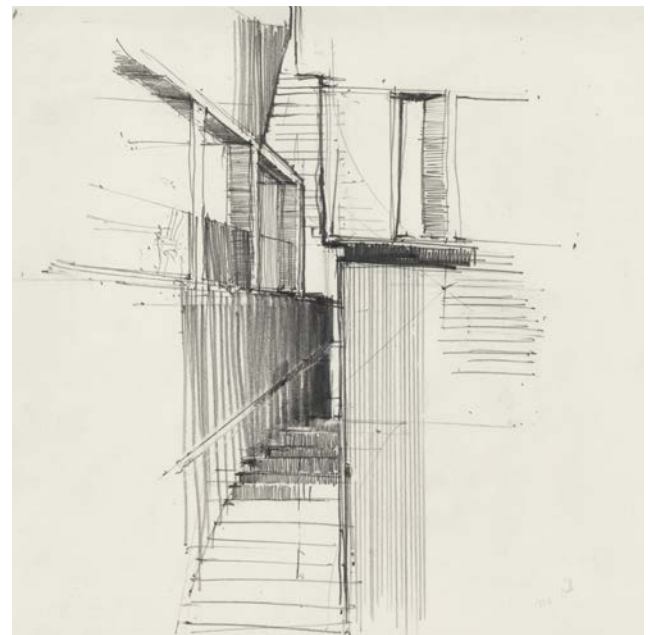


Figure 94.

Drawing 6.4

Attempt at pushing 6.2 from the art to architecture realm. Using earlier techniques of introducing familiar architecture objects but the work becomes too legible and fails to engage me.

Series 7



Figure 95.

Drawing 7.1

Again, pushing the art experiments further into architectural language. Working in elevation, vertical strokes transfer into cladding.

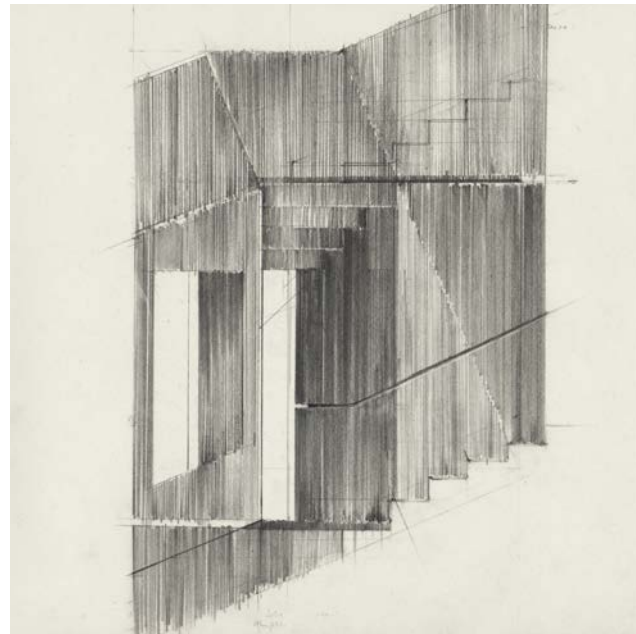


Figure 96.

Drawing 7.2

Elevation exploring voids in solids- stairs above give a sense of compression.



Figure 97.

Drawing 7.3

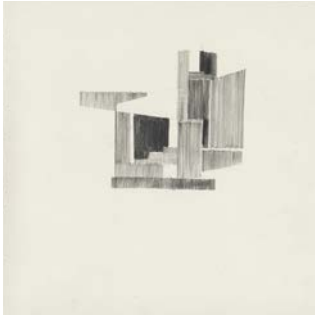
Stairs wrap around planes; however, image is legible as stairs and rails suggest depth



Figure 98.

Drawing 7.4

Experiment with roofline weighted or floating.



Drawing 3.4



Drawing 6.1



Drawing 6.3

Oscillation

I am engaged more by the drawings that are positioned deep in the art realm but still have some reference to architectural qualities, such as drawing 3.4 or 6.1 (fig 82, 91). When I attempt to move the language closer to the architectural realm such as drawing 6.1 into 6.3 (fig 91, 93), the drawing loses its ambiguity and complexity. Although, the expressive pencil marks of drawing 6.3 appear complex, the refinement and composition of 6.1 is much more complex. The complexity and ambiguity pulls me into the paper making me ask what is around the corner. This experiment revealed my inclination to fall back into designing legible architectural forms, as soon as I started thinking about tangible structures (fig 78). I experiment with the degree of formal complexity in the drawings and forms, then find myself defaulting to legible designs during the drawing. On paper my drawing series was experimenting with legibility, by building up tone and communicating as figure-ground images. **How do I preserve the engaging qualities developed in the drawings when I transition to designing the site-specific architecture?** Translating this architectural language into three-dimensional space was daunting and challenging to even begin. Depth is ambiguous in the 2-dimensional static images and promotes speculation about what plane is in front, behind, cutting, masking, receding or advancing. But we don't experience architecture as static moments instead we experience it as a sequence of moments. **Would I lose the figure-ground complexity when I shift the drawings into 3-dimensional space?**

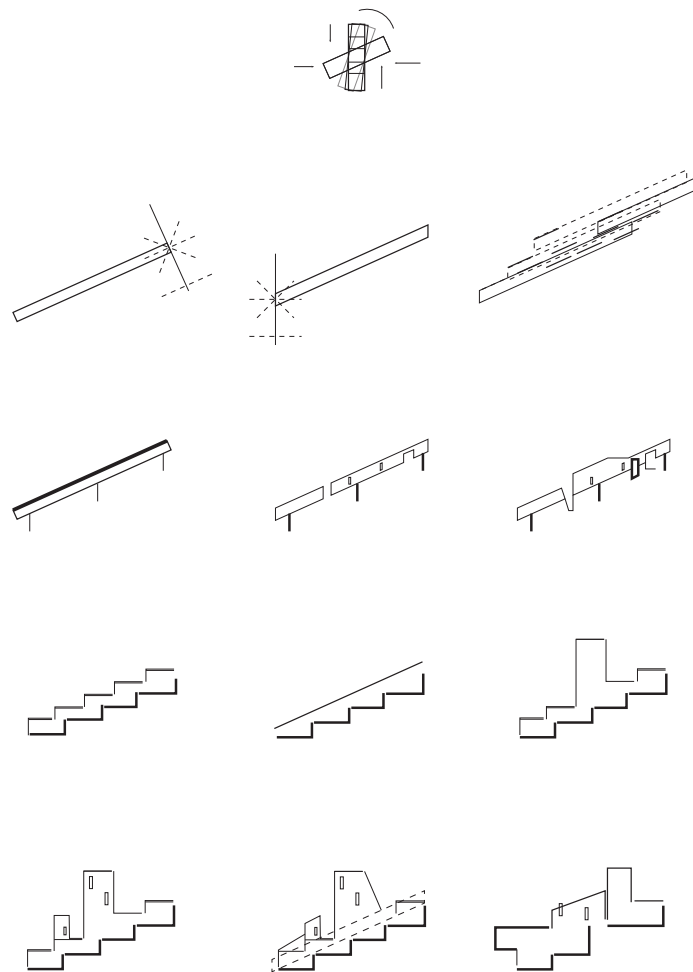
I was hesitant to move from my trusted pencil to the mouse. I had resisted the transition from analogue to digital processes for as long as I could - until the analogue process was limiting my designs response to the complex topography. The early drawings took an average line of elevation for the slope rather than the exact topography. This process was trapping me into taking the design on a direction that wasn't site specific, so I introduced a digital mode. Pencil drawing is my primary creative process and digital modelling supports the process by adding accurate elevational information and enables me to comprehend the scale of the building and complex angles. This is all I demand from the digital model, which means that during the formal exploration, the digital model is messy, reductive and simplistic. I model the minimum number of planes to communicate form then analogue draw the complex information into it. This enables me to move quickly through experiments. I use the two processes to complement one another as I am aware that each process has strengths and weaknesses alone. Digital models are a tool for me to develop preciseness and legibility and alternatively analogue processes allow me to introduce complexity into the composition to make it more 'interesting'.

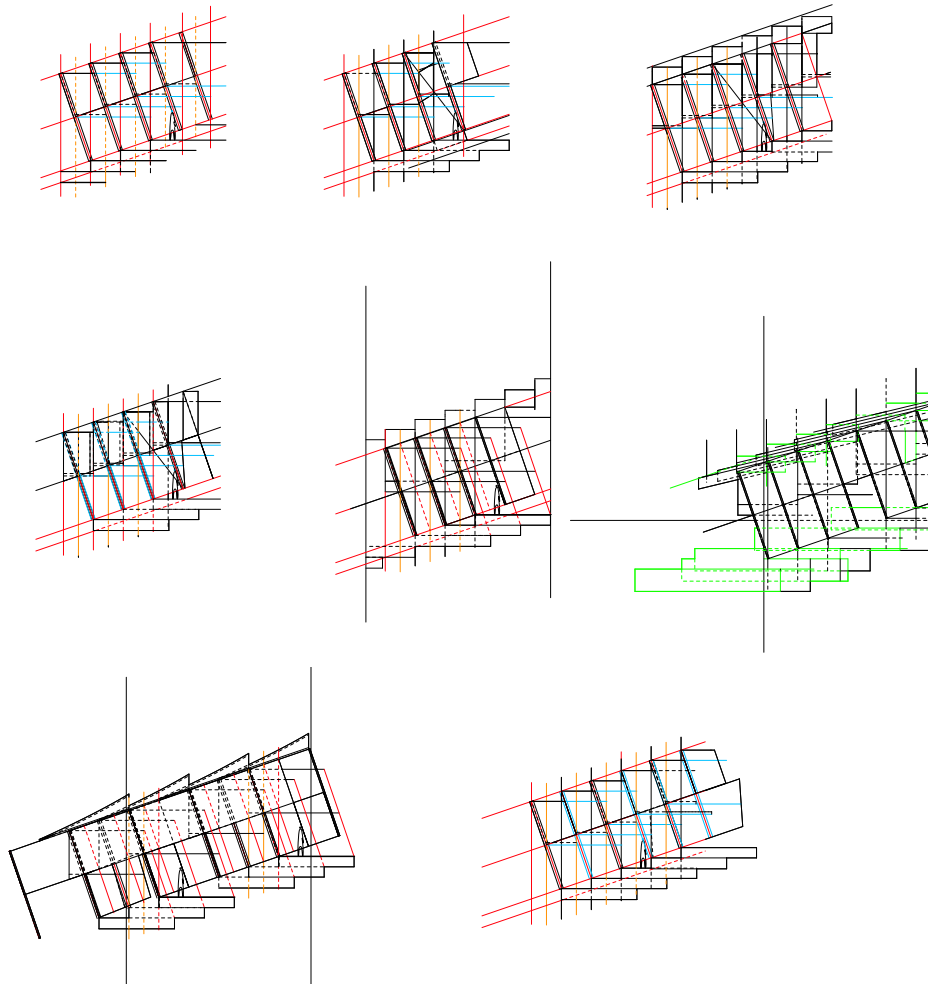
Hillside dwelling

Right from the beginning, through Hataitai observational studies, I imagined the hillside houses like a high rise, with each level stepped back into the hillside. I Imagined my proposal as a 46m (vertical displacement between Rakau and Marewa Rd) tall building with a pathway that accommodates a mechanised inclining transport system instead of a central elevator.

The gradient of the hillside has the potential to reduce or enhance the design depending on how it imposes, conforms or learns from the existing geomorphology. I work through various relationships and configurations of the roof, walls and floors, although this experiment is

extremely pragmatic and reductive it is valuable in stimulating my initial thoughts on hillside construction. The slope is a parameter that is constant, there is no changing it, the design is responding to the existing constants. The diagrams in (fig 99) investigate how the design can rest on, perch over, cut into or extrude from the hillside like how hillside construction research often lays out reductive 'toolbox' options. I developed an axis framework from these discovered possibilities, which includes geometry vertical, horizontal, parallel and perpendicular to the slope. This framework enabled me to comprehend the scale and complexity of the proposal. Again, I find





myself seeking validation from legible frameworks to manage my formal complexity, just like my framework developed to control the pathway route. I have a desire to design complexity, yet I deny my desire by restricting it to a ridged framework. Having a consistent framework to work off makes does allow me to clearly recognise my design experiments, as it highlights when I challenge the parameters such as pulling form outside of the guides. Like a child's colouring book, the frame sets the boundary to conform to or break, but either way facilitates rigid

Figure 101. Compressive-
bunkering- heavy



Figure 102. Expansive- unbound- light

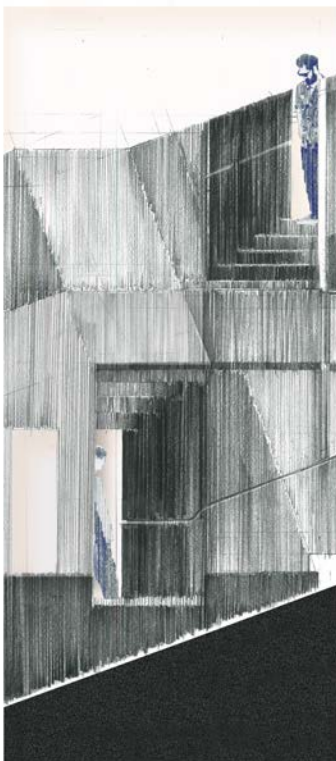
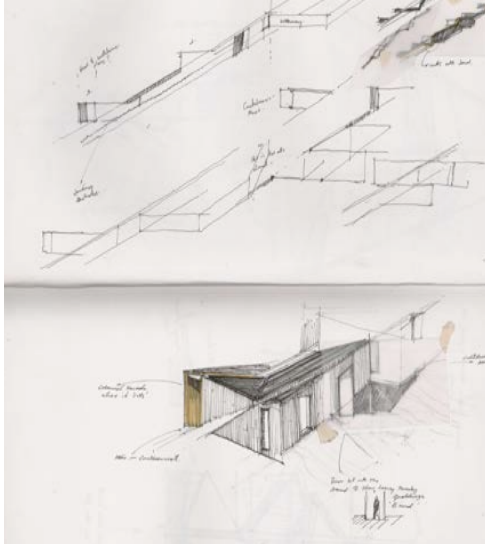


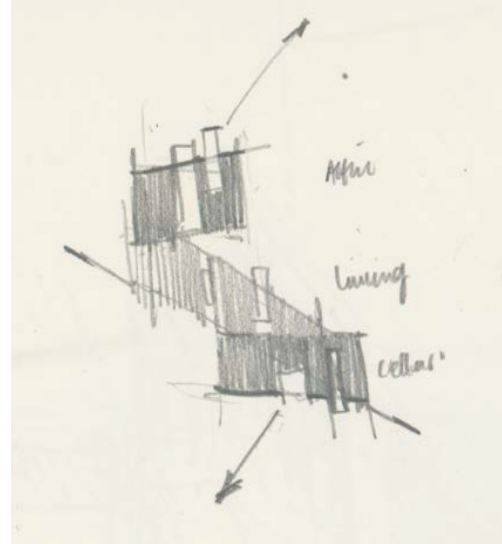
Figure 103. Combination of both expansion
and compression

solutions which only have complexity within prescribed parameters.

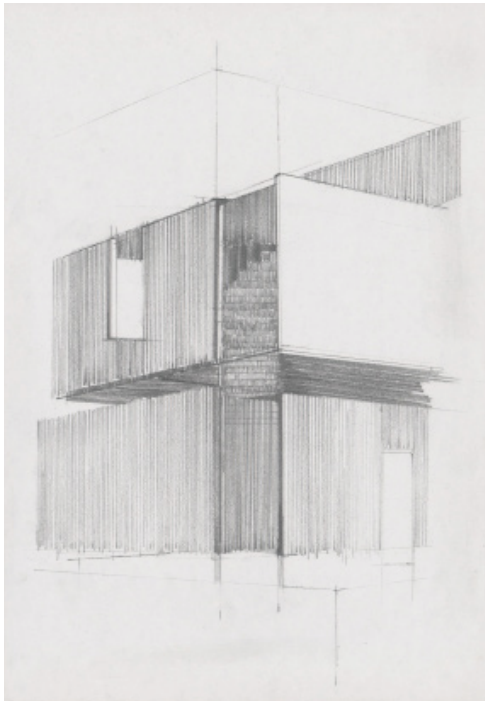
Thinking of the building as a vertical being led me to notions of home and my inclination towards designing a sloped roof. Bachelard's theory that home appeals to our consciousness of verticality and centrality heightened my imaginations of the hillside path being a vertical building. He states that "verticality is ensured by the polarity of cellar and attic" (Bachelard, 1994, p. 17). I also recognised my drawing experiments explore ideas of expansion and compression (fig 101-103), when the height of the void pulls you out or pushes you into the paper. I saw the potential in the roof providing complexity and the ground producing legibility and security. The floor plates must be stable elements for the users to walk on whereas the roof has the potential to be a symbol of speculation, complexity and ambiguity.



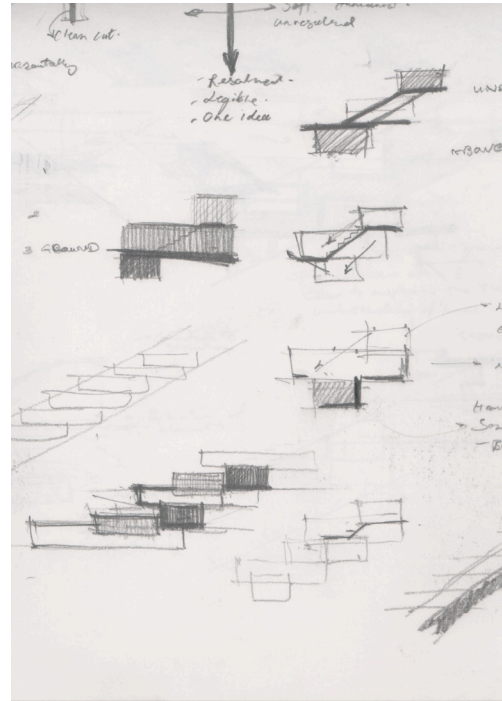
104



106



105



107

Figure 104.

Process

Figure 105.

Begins to look like blocks with missing slice

Figure 106.

Basd of Bachelards attic and cellar concepts

Figure 107.

Process





109



Elevation experiment

Original size: A2

Paper: off white drawing paper

Tools: mechanical 2b, 4b, 6b

pencil. 3 rulers, hard eraser and putty eraser

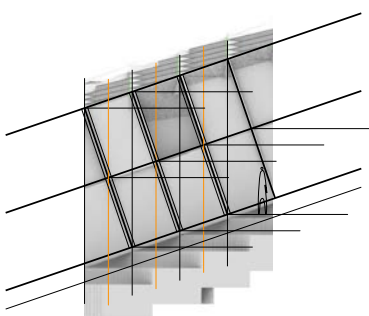
Time: 4-6 hours

The line framework derives from a digital model made up of minimal planes and lines, created before the precise drawing. The digital illustrations allow me to visualize the assemblage of structure, voids, and solid surfaces in 3 dimensions. At one level the precise elevation drawings are used to represent a preconceived moment in the design and on another level, the drawing begins to teach me more than the previously projected lines. New and unexpected ideas and dialogue emerge during the 4-6hr drawing process that stimulate further discovery. I document the process I use in each drawing to make explicit when transformative triggers and design decisions occur.

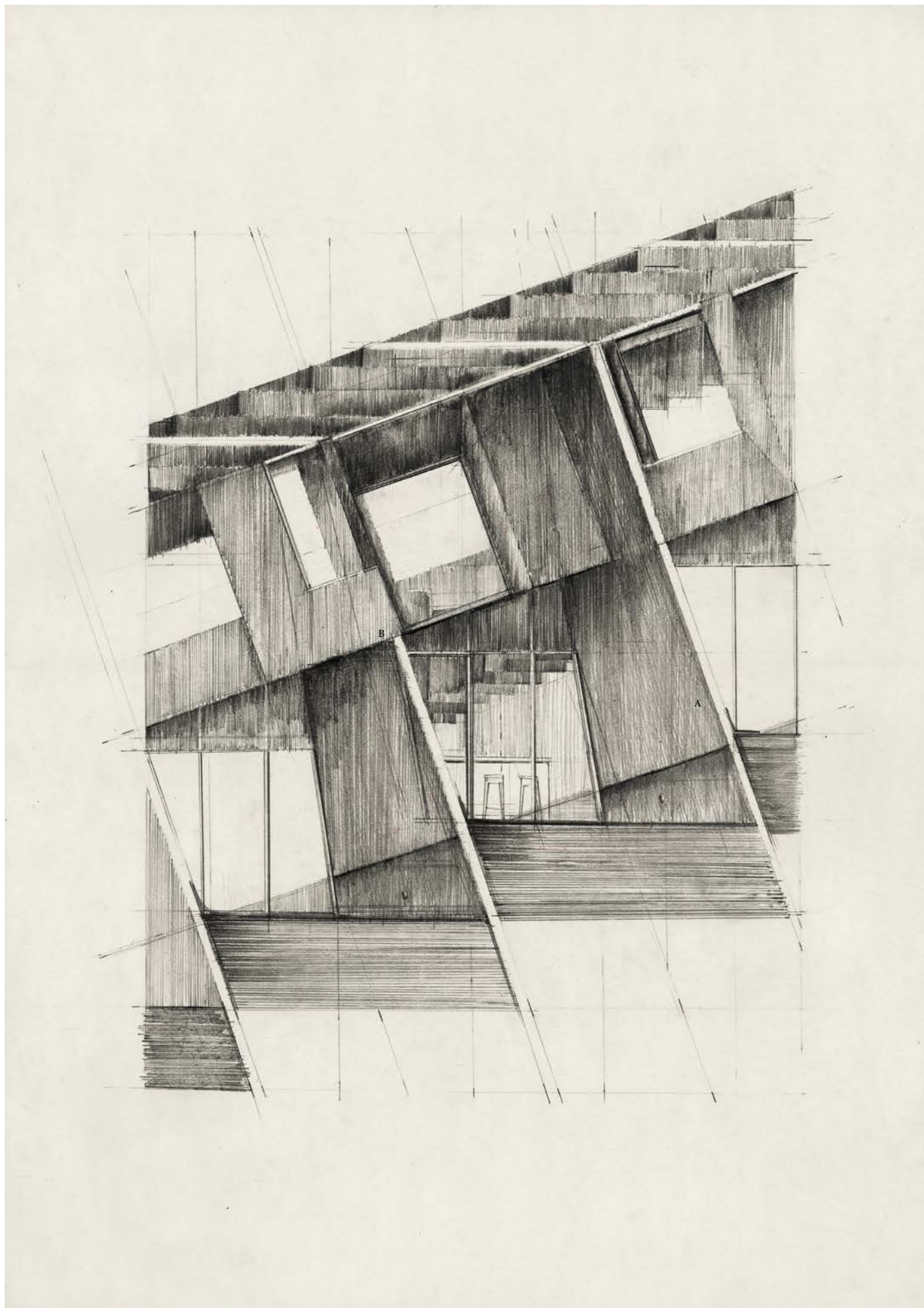
1/3

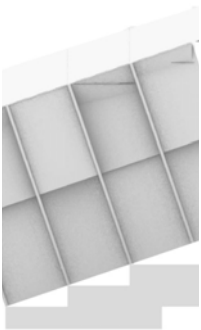
Markers A-B indicate where I have decided to push the vertical structure behind the solid panels. Initially the vertical grid structure was left as a negative the full height of the building. During the drawing process of adding and subtracting tone, I discovered that an ambiguous operation was created when the slanted and vertical structures push and pull from the paper. Understanding in figure-ground perception that black recedes and white pops out of the visual, I experimented with the vertical and slanted columns. Using a 6b I was able to add tone next to and on the slanted column to push or pull the form from the paper. The vertical columns control the ground floor operation, and the slanted columns control the first-floor operation.

Markers 1-3 indicate moments of erasure, moments I decided to extend the voids outside the primary framework (fig 108). Extending the voids past the line splitting the stories creates dialogue between the upper and lower floors, operating by creating a sense of compression and expansion. 'Compressed' when the void is sunken past the first storey line (3). Expands when the void draws to the roofline (2). It is where the void breaks the predictable framework and dialogue is created between the slanted and vertical axes. This drawing has the most ambiguity around depth in this elevation experiment.



110





2/3

There is a tension created between angled and vertical geometry, which isn't ambiguous but instead conflicting. Conflicting because the upper storey appears as a separate element perched on top rather than integrated with the first floor. Most evident when the angled wall extends from ground to roof and reveals its structural makeup (A). Less so when the angled geometry overlapped and intersected (B). The upper storey appears to have more depth and ambiguity around which elements pop out or pushes in, whereas the lower storey is legible using conventional glazing and repetition.

Should the strokes be vertical or on the angled? Does this suggest cladding? This indecision is illustrated by half-erased marks staying present under the dominant vertical strokes, when I change my mind part-way through the production.

111

Figure 111.

Two digital models leading to 2/3 drawing. I doubled the length between angled columns between models

Figure 112.

2/3 1:30 pencil elevation drawing





113

3/3

Commitment to the perpendicular angle controls the composition as pencil strokes and all exterior forms follow the angle. This results in a legible image which appears much more static and flatter than the first and second. There is less ambiguity around which solids and voids overlap and intersect, instead I can absorb the composition clearly. When looking at the drawing I feel the need to speculate further, therefore, this drawing's operation is less successful than the other two elevation.

Figure 113.

Digital model leading to 3/3 drawing. Same model used for 2/3 but shift to drawing in a completely different way. Showing the models can generate multiple lines of formal enquiry

Figure 114.

3/3 1:30 pencil elevation drawing

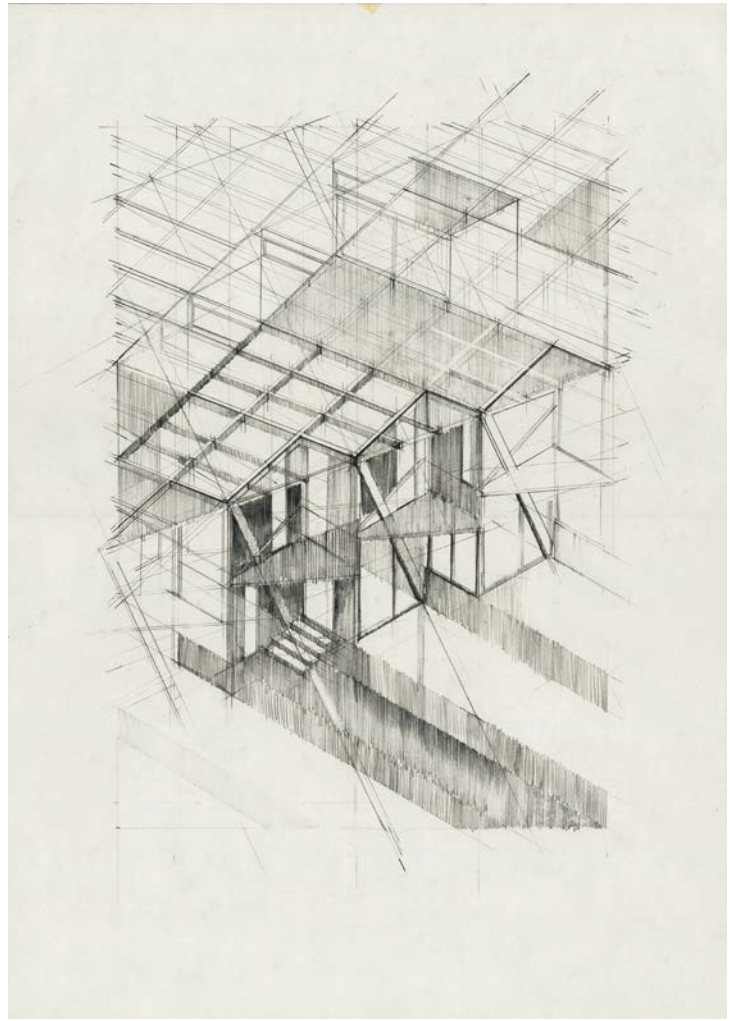
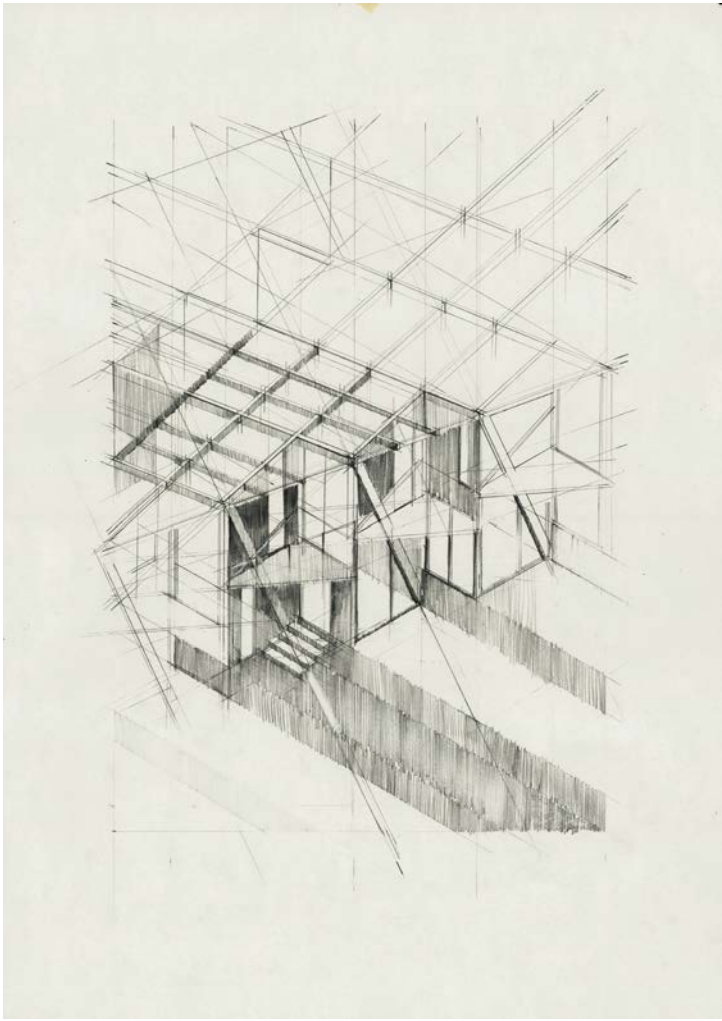


Figure 115.

A3 axonometric drawings based off previous elevation experiments. 2 scans

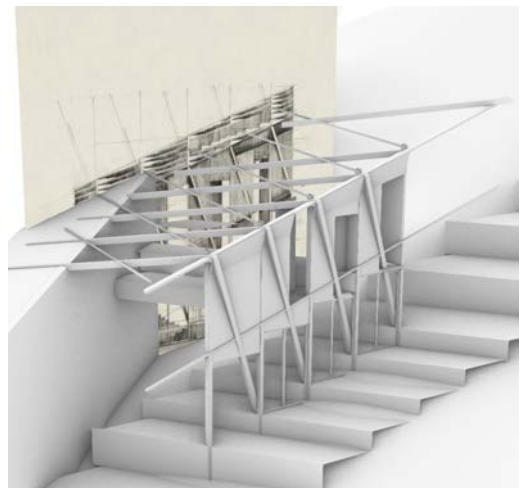
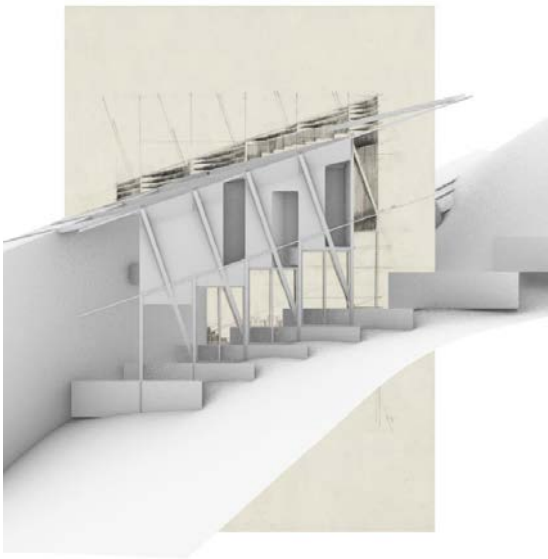
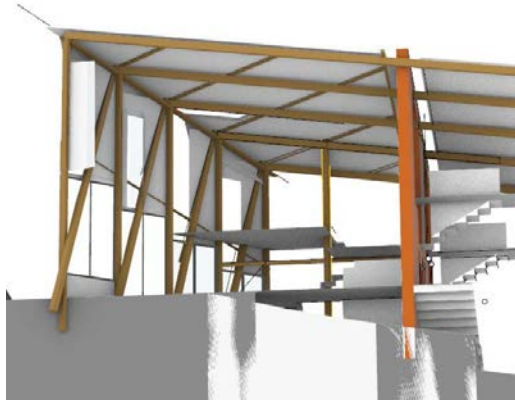
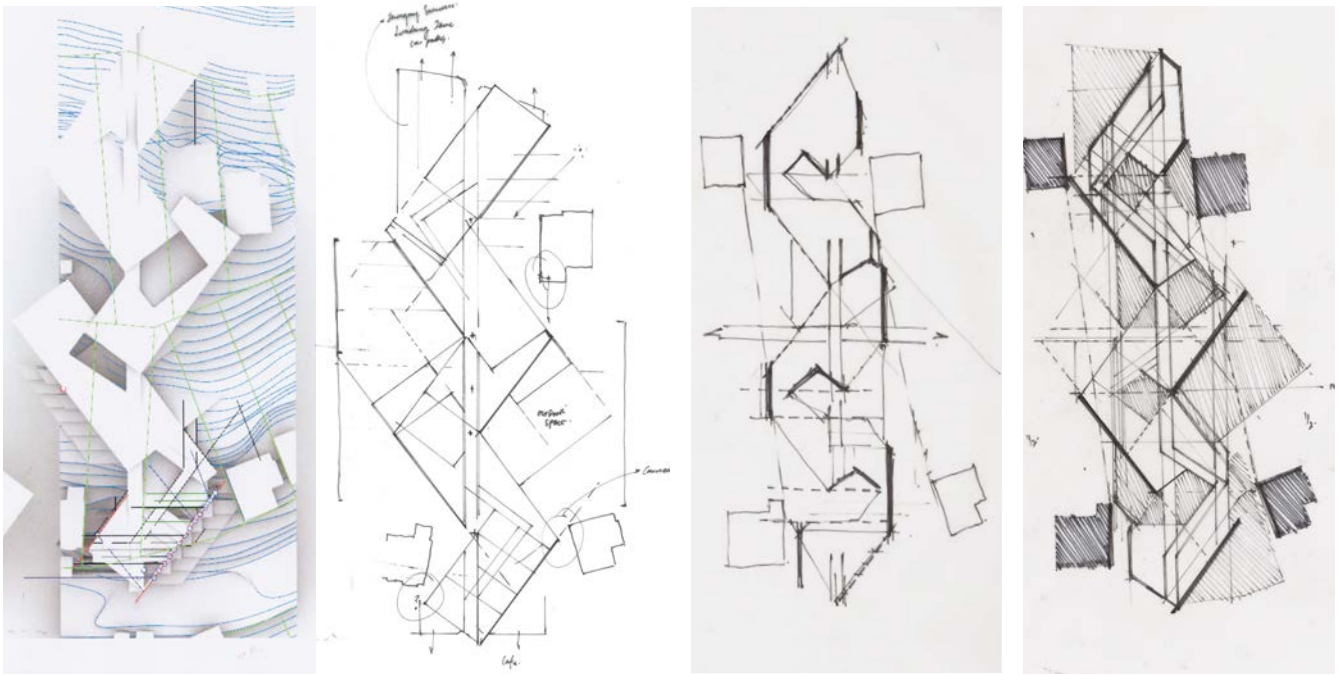


Figure 116.

Experimented with shifting 1/3 elevation into the digital model



Zooming out to Legibility

The earlier catalyst drawing series explores the possibility of the architectural language being complex at a human scale. This section zooms out to consider what relationship complexity and legibility has to the complete scheme. I work through plan, perspective, elevation drawings and models to navigate this tension. I connect the roofline that follows the gradient of the slope to be the unifying element of the design. The roof tied the architectural masses into one cohesive project. My dedication to this concept stemmed from the roofs formal relationship to the topography, from elevation the roof is soft on the existing fabric as it repeats the same slope, connection to the concept of 'attic' and the scheme is legible from a distance. Repeating and rotating the angled roofs intended to soften the forms visual impact on the hillside by echoing the hillside slope and blurring the large scale of the proposal. Upon

reflection and discussion with my peers and supervisor, I realise neither the zigzag nor void forms are soft on the landscape, instead they appear as one large legible form which stands out from the context.

I found that I create complexity in the earlier drawing experiments but lose sight of the complexity as soon as I zoom out to the whole scheme. Maybe, the complex drawing experiments were only ever moments or sections within the design, it trapped me into creating an untransferable level of complexity? Or perhaps my use of a reductive and somewhat banal base digital model to work through the whole scheme leads me towards a legible form? When I zoom out to the whole scheme, the focus is drawn to the legible model while in the earlier elevation experiment, I zoom in, and it shifts the focus away from the banal digital model and



Figure 118.

How should the building meet the street?

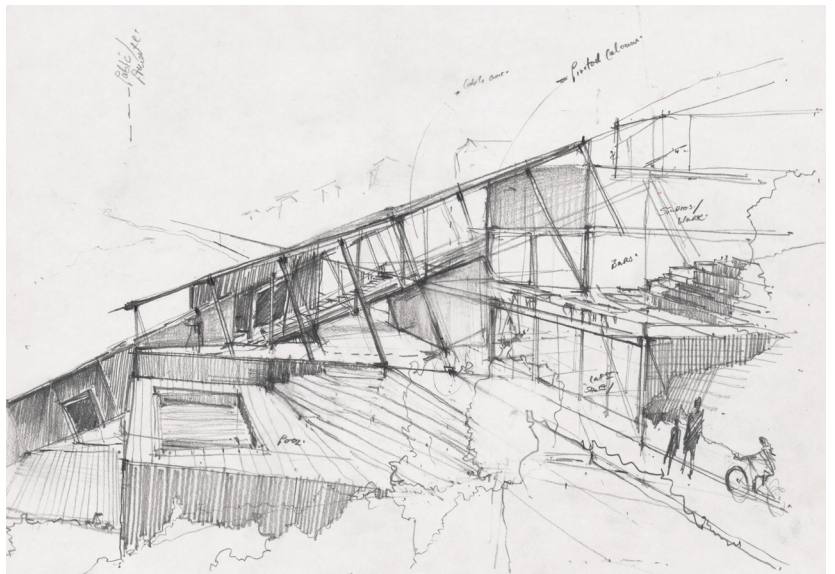


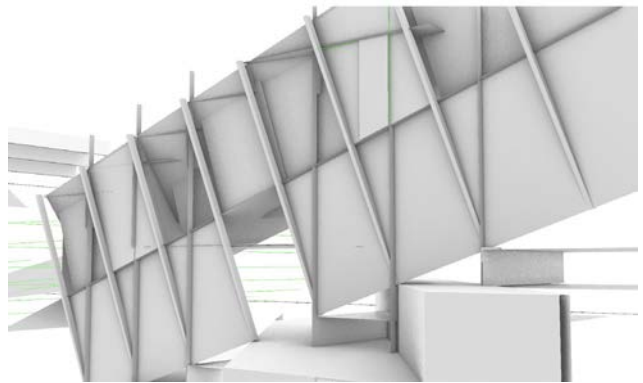
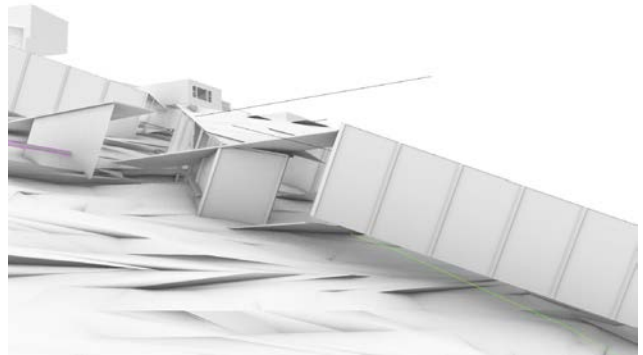
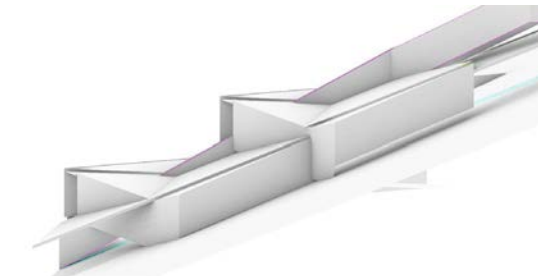
Figure 119.

The commercial and public area half-way up the path creates a back section secondary pathway, where I can imagine locals using the tracks for running, biking, getting to their neighbors or popping to get a coffee



Figure 120.

There is a disconnection between masses and they appear like separate blocks



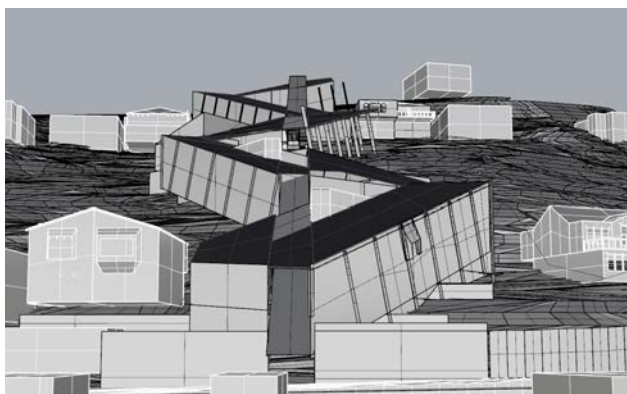
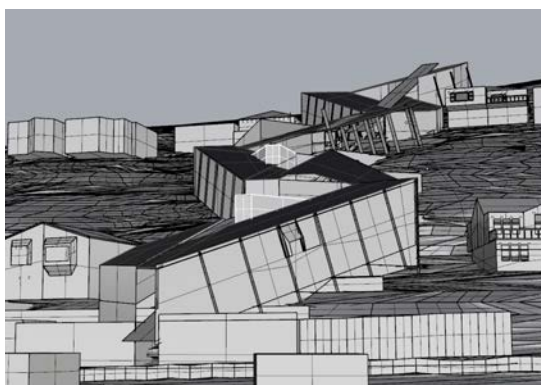
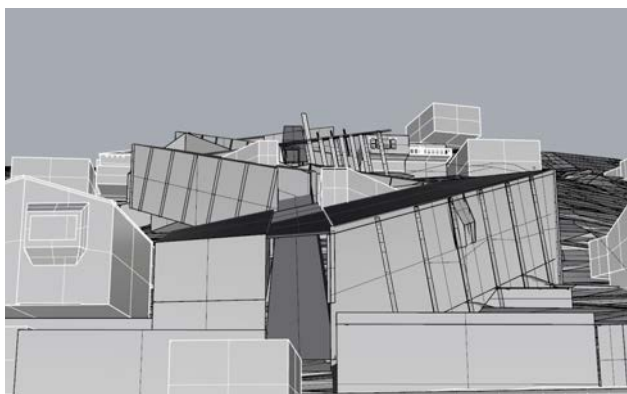
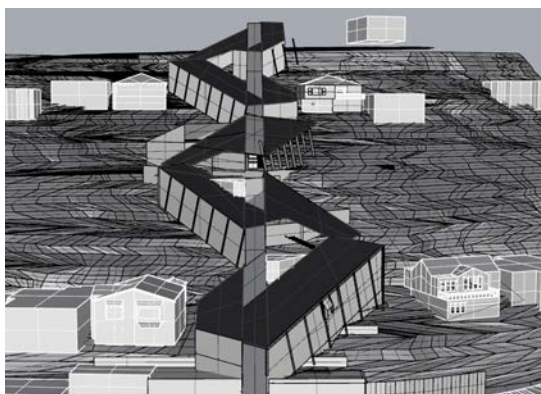


Figure 122.

Four screenshots from the same model at different angles to the legible zigzag



Figure 123. View from a secondary path running along the back of existing section. The architectural language is inconsistent, with some vertical and angled geometry creating a conflicting image

250mm sketchbook



Figure 124.



Figure 125. I intended to create an ambiguous form with a consistent architectural language but the repetition and scale of masses appear legible

250mm sketchbook

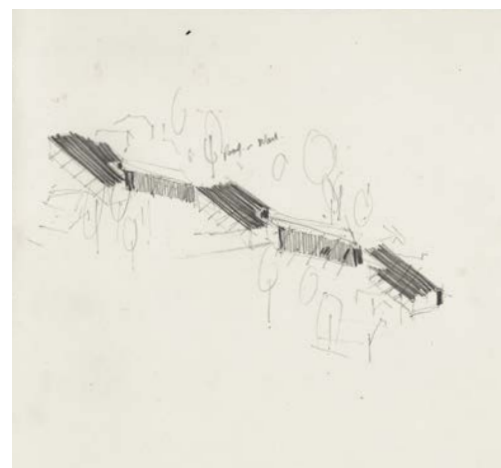
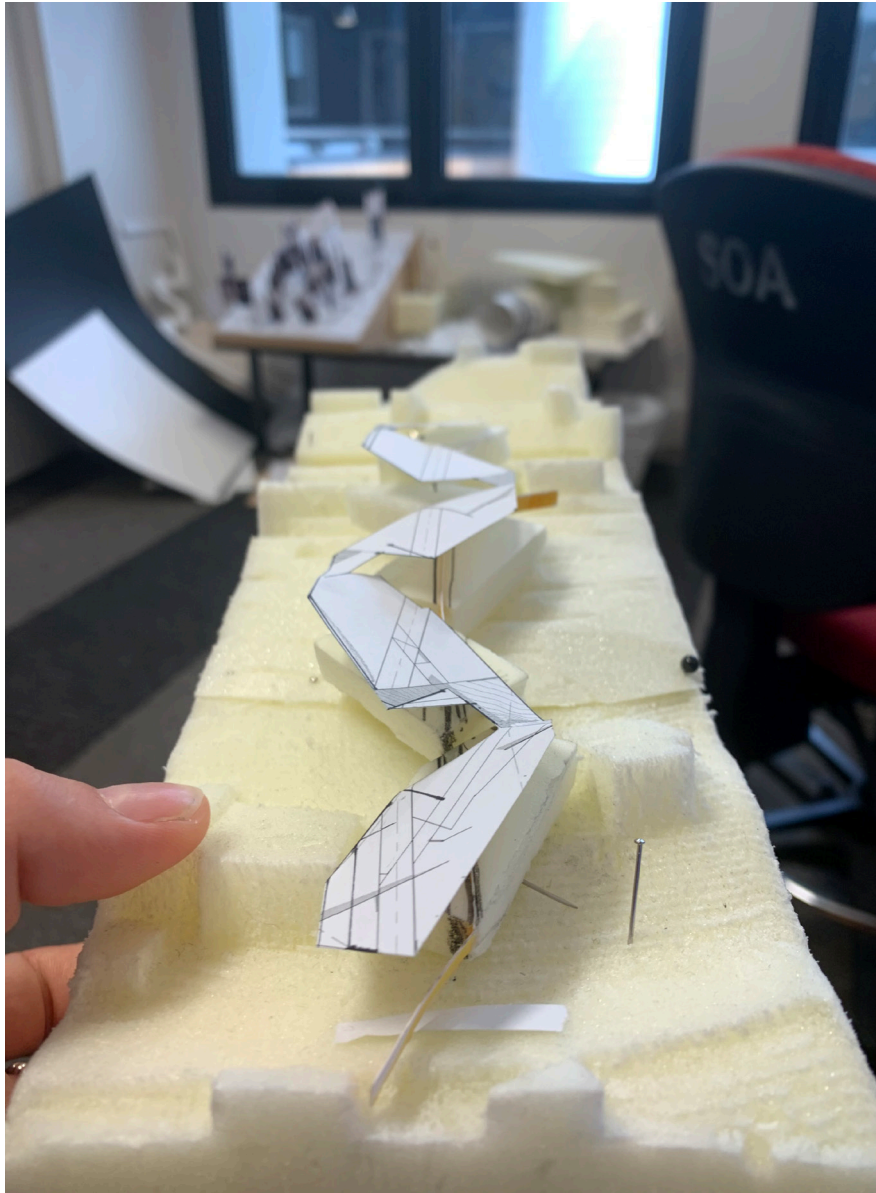
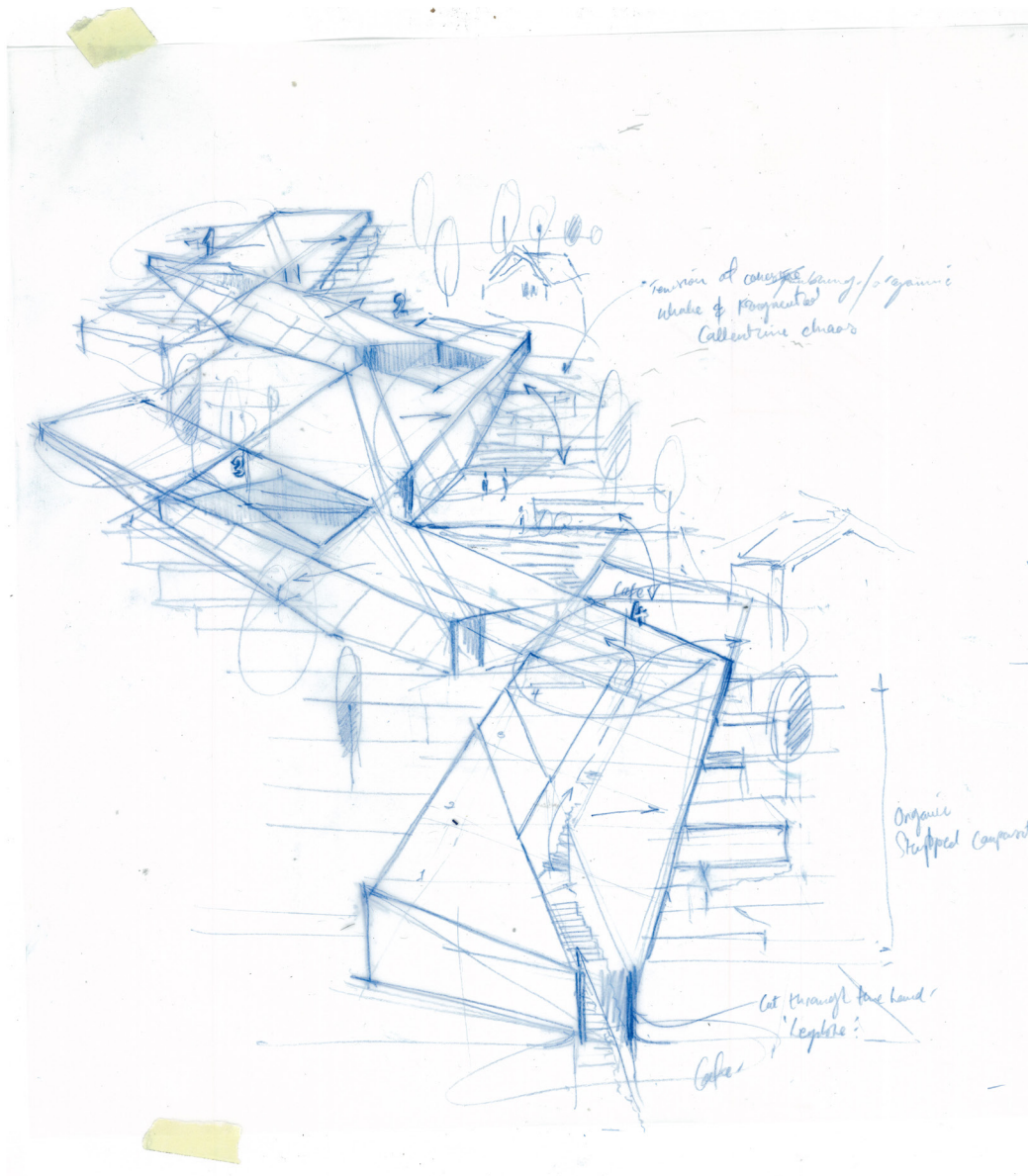


Figure 126.





to the complex pencil process. It is a tradeoff, where I can create complexity with pencil processes in small scale experiments but when I zoom out, the legible model progressively becomes more dominant over the formal language.

Although in my earlier drawings I experimented with varying degrees of complexity and ambiguity to present the opportunity for the viewer to engage in the work, my processes and inclinations led me towards a legible zigzag form. The complete scheme presents both the buildings and the path as equally legible elements, which together position the design in a compromised zone where the design is 'not too' legible and 'not too' complex. Providing moments of complexity at a human scale and legibility as a unified form.

Design tricks and traps

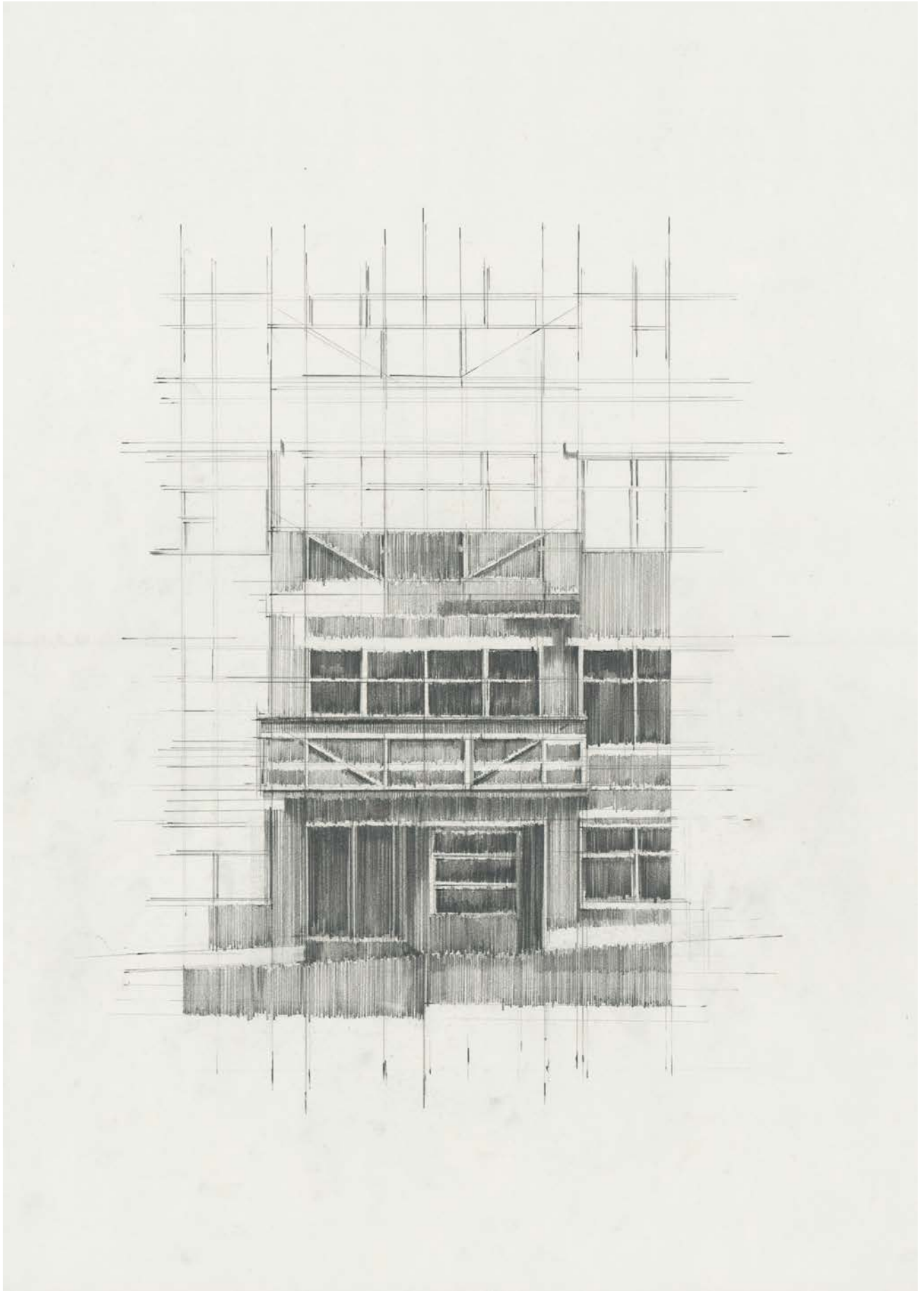
Part of developing my creative practice research, is recognizing my design traps, and how I can prevent or counteract them. What did my creative process trick me into doing or thinking? (Lawson, 2006). Traps could start a whole disciplinary discussion on representation, but I have singled out the traps that have affected my research.

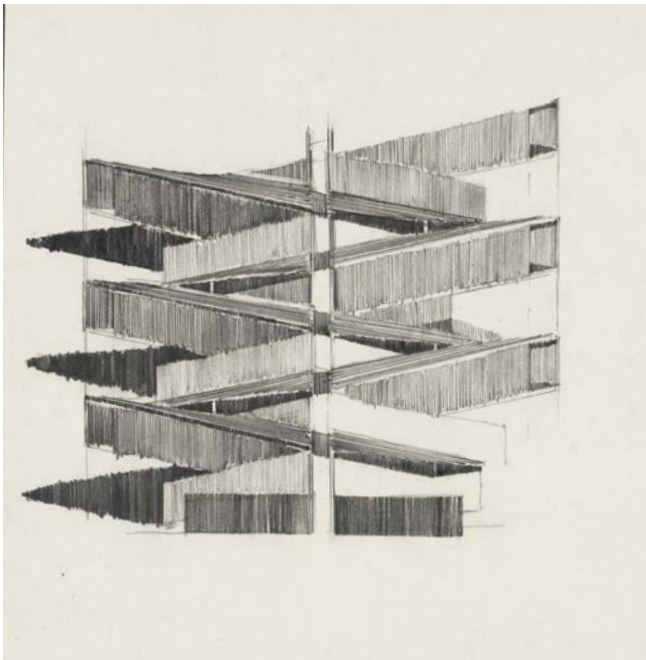
Icon Trap



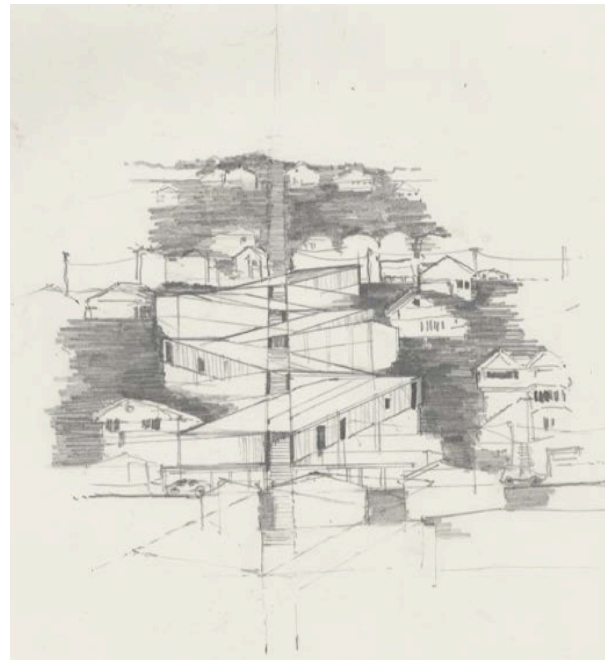
130

The 'icon trap' is the first and most significant trap I was victim to (Lawson, 2006, p. 229). An architect's final product is a set of working drawings that are instructions to construct the final product. Inevitably there is this disconnection between the designer and their built work. Artists can be completely committed to the process as it is the product, but architects are continuously searching for methods and mediums to get closer to their product, but never get close enough to touching it. The drawing itself is a trap for me as I use it to get closer to the building but possibly become more interested in the visually compelling process drawings rather than what it represents. I recognise that majority of my pencil drawings are of a section of the design as an isolated drawing, composed in the centre of white paper. Isolating the drawing removes the complexities and dirtiness of reality from the design. My drawings have an emotive quality that can trick me into believing that this quality will transfer into the built product. Is it just a working as a drawing but not in the built reality? To reveal this trap further, I flipped the relationship of the drawn and built. I experiment with drawing a 'bad' building in the same isolated pencil composition to reveal the vulnerability of producing my emotive drawings. One strategy I implemented to mitigate this trap effect was continuously scanning a drawing during the production and leaving a drawing when I stopped learning from it. This helped me to recognise the importance of the process and what I was trying to represent, more than the drawing product.





131



132

The second strategy to mitigate the icon trap is oscillating between drawing isolated sections of the design to then drawing the whole design with context added. For example, the left A2 elevation (fig 131) was drawn into context in the right (fig 132) and it revealed that the large forms which intend to be 'soft' on the landscape, are not when illustrated next to the small villas.

The third strategy I use to separate myself from the drawing, is reducing my commitment to the production of the drawing. Perhaps using pencil as the chosen media is a trap within itself. The pencil drawing creative process that I use is slow, demanding me to invest myself in every mark. Consequently, I hold onto architectural design decisions developed in a drawing for much longer than I should. To detach myself, I strategically use drawing techniques that demand less time, size, and resources. I use quick and dirty drawing techniques on sketchbook paper. I move quickly through decisions to get momentum heading towards the next phase of design. Sustaining momentum was important for me to keep motivation when making a significant decision as I put myself in a strange state of doubt and grief. Momentum helped me quickly find confidence and stable ground to then explore deeper in the new development direction. Maybe, this state of doubt is where design happens?

Flash Exhibition

At John Mills Architects
Friday 13th September

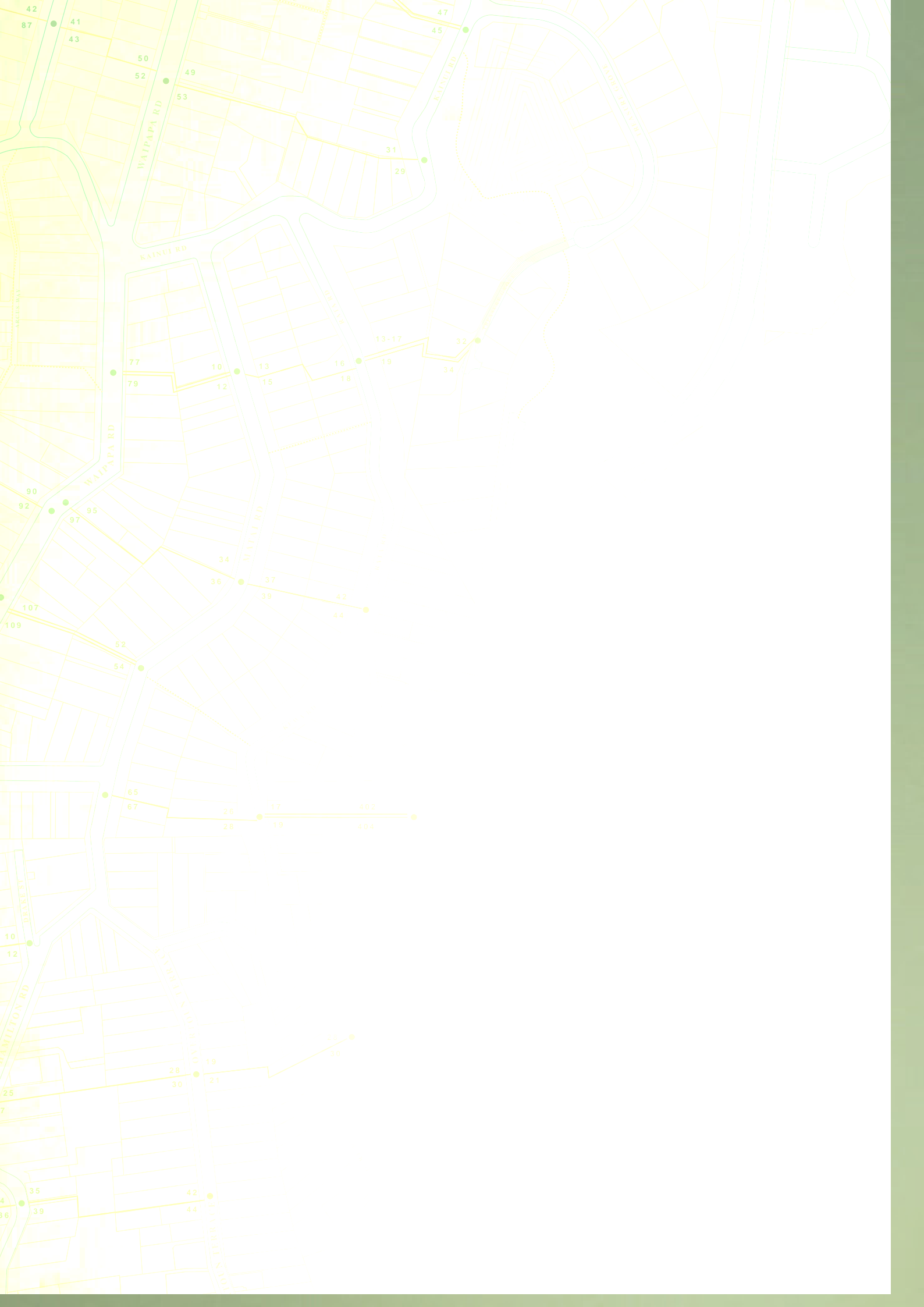
How should an architect present their design process?

I noticed that when many architecture students exhibit their work, they strip away any sign that their work is in progress and instead present the work like art products. The work would be cleansed of any 'mistakes' such as graphite smudges, paint splatters or annotation and reprinted on artist quality paper. Printing the work on this artist quality paper suggests that it is a 'final' product rather than a moment within a process that leads to a built form, this decision highlights that many architecture students fall into the 'icon trap'. In some ways this presentation decision purposes that an architect is also an artist. This decision also displays architect's tendency to mystify the design process rather than reveal the reality behind their workings.

An obstacle I have approached during my design process is feeling hesitant about ruining a drawing because I am considering how the drawing looks as a 'final' product. This results in my creative process being limited as I restrain from experimentation. However, when I draw on bad quality paper I often carelessly draw and miss the opportunity to recognise design discoveries. A solution for me is to draw in sketchbooks that have quality paper. This relieves the pressure of producing a 'final' drawing and gives me freedom to experiment as I have already accepted that the drawing could fail, and if so, I just turn the page.

My flash exhibition included my drawing series produced in the 250mm square sketchbook. I cut the pages out of my sketchbook to present the work as a collection. This experiment allowed me to pause and group my work to recognise inclinations through curation the work and reflective discussions with my peers and the public.

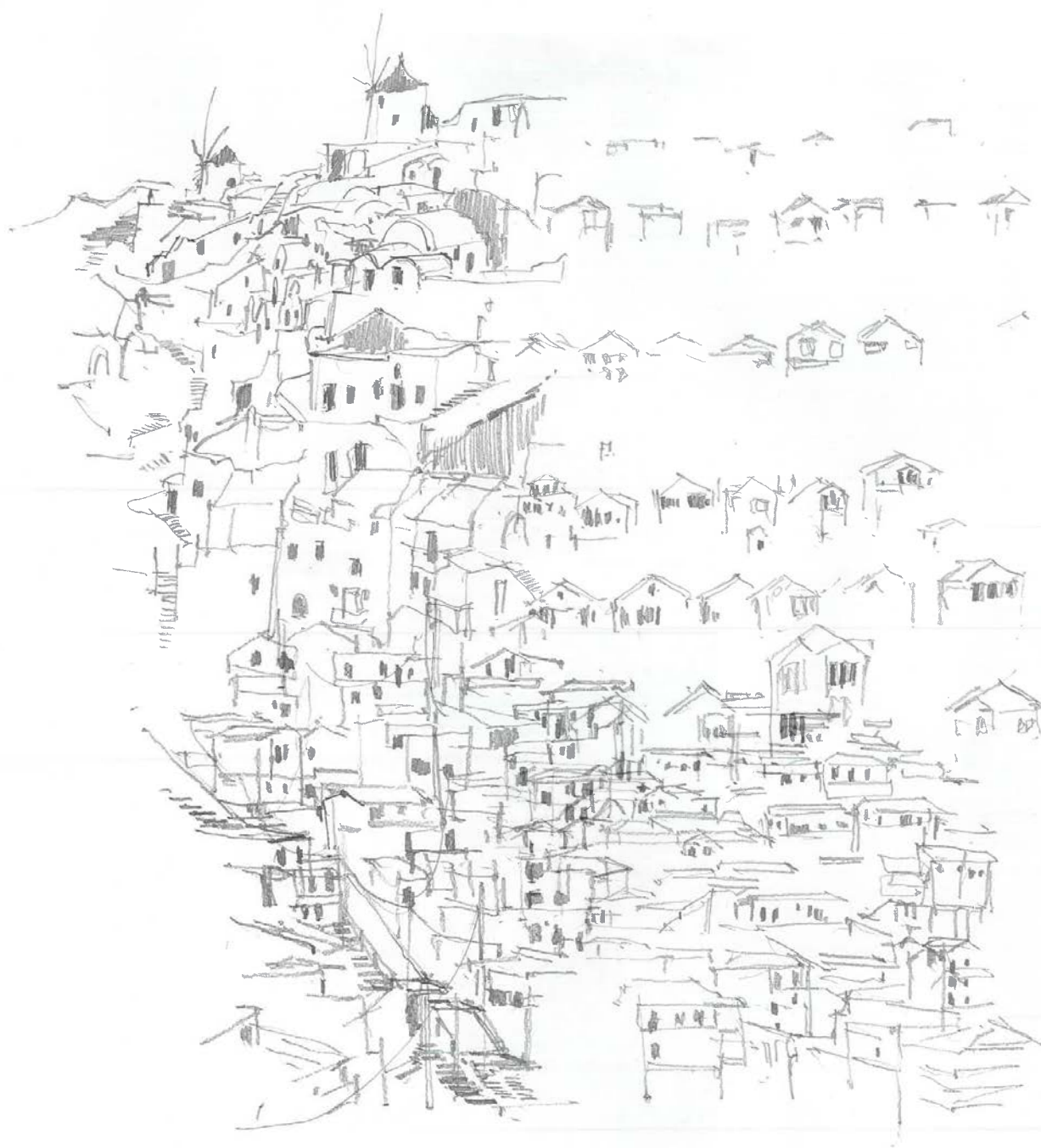




How it fits in

Chapter Three: City-making

Through this research, I have been able to understand that the disciplinary overlap between art and architecture helps me approach architectural design from the personal perceptual experience through to city-making. The intersection between disciplines has been an interest of mine since childhood, although never explicitly knowing how I might use this interest. This chapter aims to explain the art and architectural discussions that have helped to position my design within a wider conversation and the interests I developed through my background to understand how theoretical context and my tacit working knowledge stitch together to form my approach to architectural design. To do this I use the work and discoveries from the first and second chapters as a lens to look at existing architectural theories that tackle similar formal or pragmatic problems. I reflect on the influence those theories have on positioning my design process and architectural design outcome. In chapter two I navigate my design through the tension between complexity and legibility, but this chapter reveals that it is not about one or the other but about creating a dialogue between the two.

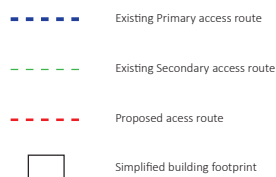


Hillside Texture

Case Study:

Hillside Patterns

This case study examines hillside communities in domestic and international contexts to gain knowledge on how other hillside communities occupy the hillside. The study aims to investigate transport infrastructure's relationship to buildings, and the formal organization of buildings and roads.



Hataitai

New Zealand

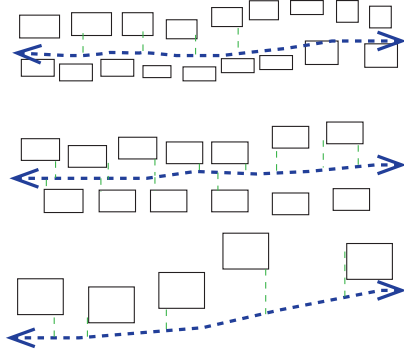


Figure 136. Upper Hataitai elevation diagram

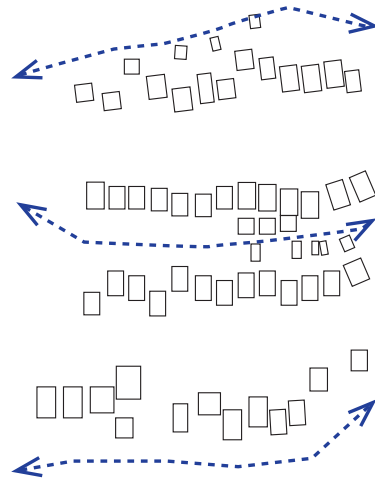


Figure 137. Upper Hataitai plan diagram

On the Hataitai hillside roads follow the contours and dwellings follow the elevation of the road, building above and below the road. Garages directly connect to the road and the houses are set back. Although the roads organically follow the contours, both diagrams (fig 136,137) illustrate the linear arrangement of buildings. Greenery fills the negative space between the rows of houses as buildings rarely overlap in elevation. Buildings are similarly proportioned over the hillside, most commonly around 200m² rectangles, two storeys, standalone and oriented across the contours, due to the horizontal road system.

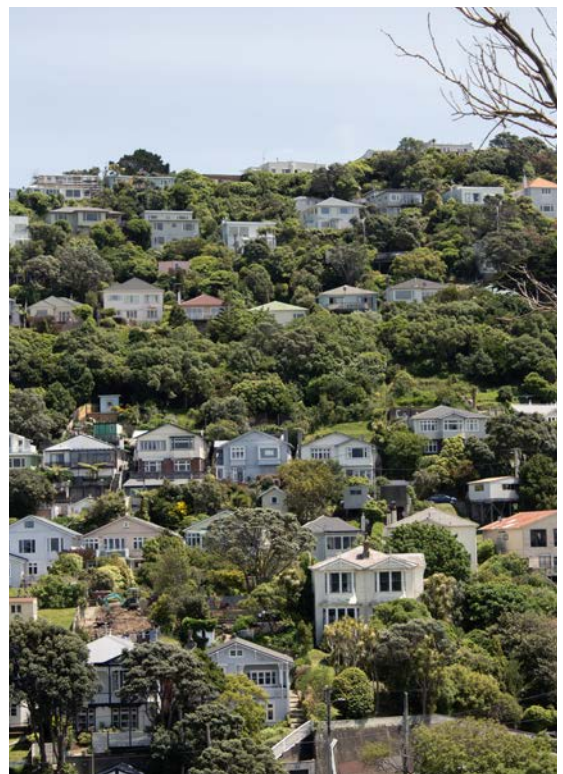


Figure 138. Hataitai hillside looking at selected site

Mount Victoria

New Zealand

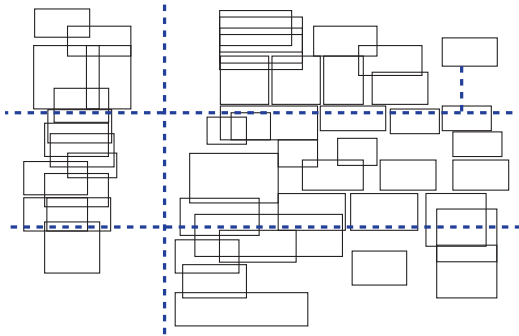


Figure 139. Mount Victoria elevation diagram

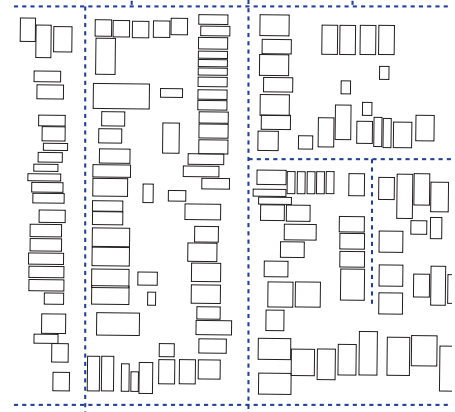


Figure 140. Mount Victoria plan diagram

Mount Victoria was developed for worker housing as part of the 1840 plan (Council, 2018). The suburb is planned within the Wellington city 'town belt' so an orthogonal grid system was applied to the hillside. The studies show that the grid system has resulted in a formal arrangement of buildings. Building footprints are most commonly rectangular, with the smallest façade on the street edge. In elevation the buildings overlap due to the roads allowing for more density across the contours. The grid enables sight lines vertically up the hillside.

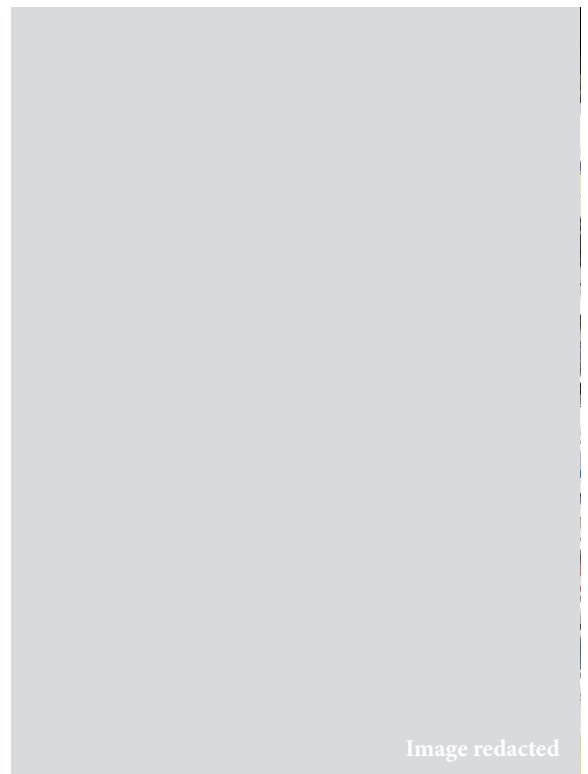


Figure 141. Mt Victoria Hillside

Valparaíso

Chile

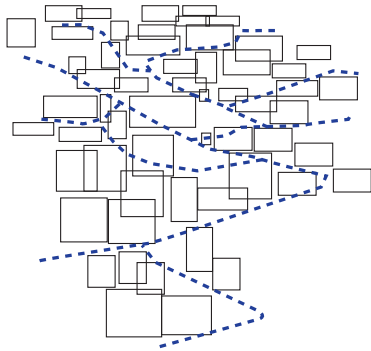


Figure 142. Valparaíso elevation diagram

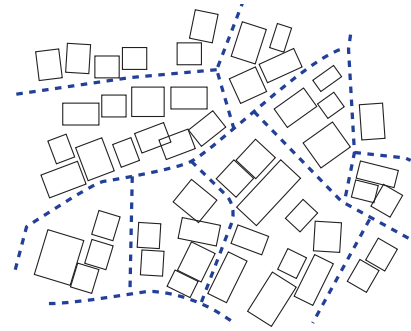


Figure 143. Valparaíso plan diagram

Buildings are commonly rectangular, of varying size and heights and oriented along the contours so the buildings face out from the hillside, creating a sense of horizontality within the elevation (fig 142). The roads organically cover the hillside with a slight suggestion of a grid layout, as irregular blocks are formed within the road network. Buildings consistently overlap in the elevation diagram, with a small amount of negative space between buildings. Formally the architecture is rather mundane, but the colourful paint operates to unify the hillside grain into one vibrant collective.

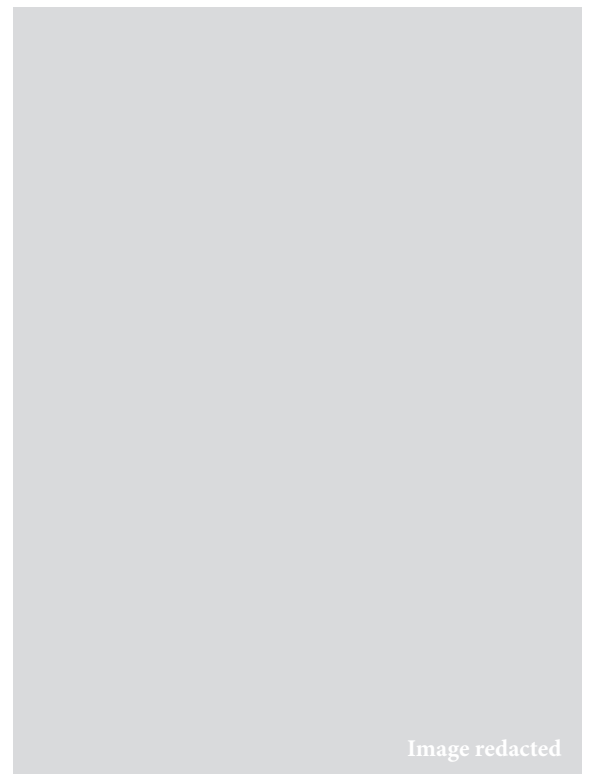


Figure 144. Valparaíso Hillside

Santorini

Greece

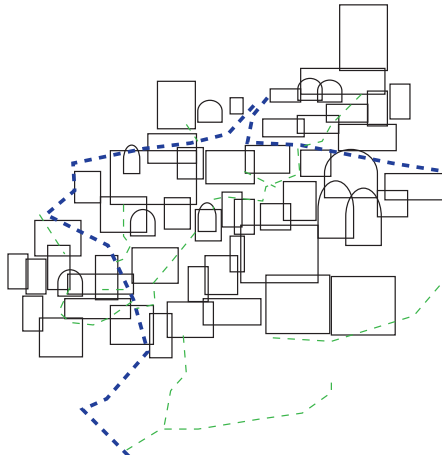


Figure 145. Santorini elevation diagram

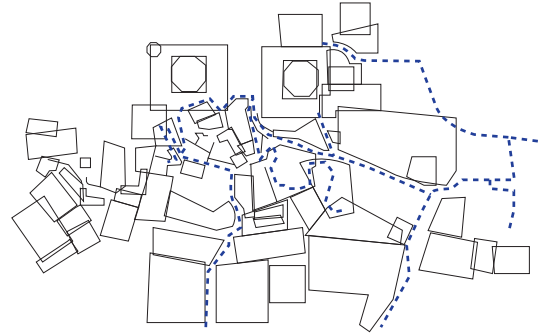


Figure 146. Santorini plan diagram

The narrow streets, small buildings, and high density developed from a shortage of safe land, climate, security and economic factors (Weber & Yannas, 2013, p. 16). There is a diverse range of building shapes, sizes, and orientations. Although there is no order to the geometry of the buildings, the power of composition comes from the continuous irregular repetition of small buildings, solid volumes, small voids and the unifying white plaster that ties all the diverse forms together.

A vertical urban layout is used in response to the steep hillside, where the top of a house is often the veranda of the one above (Weber & Yannas, 2013, p. 28). Roads weave through, over and under buildings, blurring the role of roofs and floors. The outcome of this is an organic pathway system that is formally and pragmatically complex.

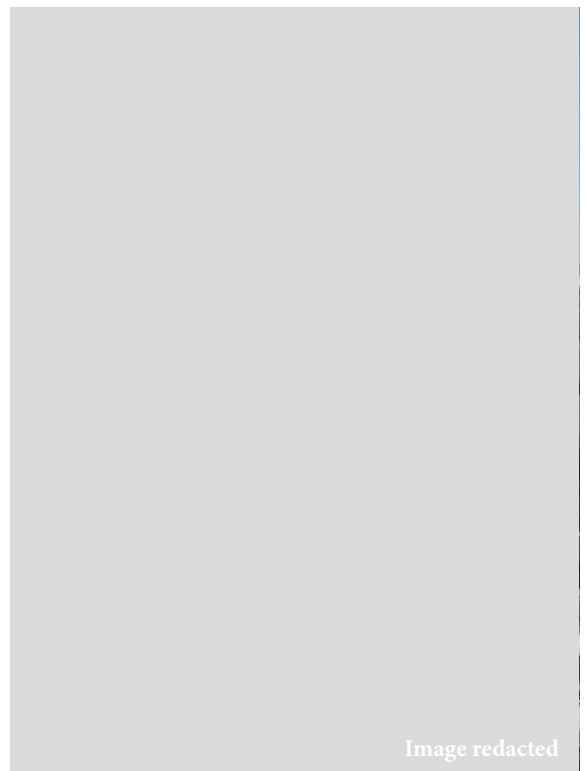


Figure 147.

Santorini Hillside



Findings

This case study identifies similarities and difference between Hataitai and other hillside neighbourhoods. There is a much higher degree of complexity in the Valparaiso and Santorini case studies as their access routes, formal language and plan layouts are irregular and organic. An observation from this case study is that Hataitai and even Mt Victoria's buildings are connected to the road from one façade so is experienced as a two-dimensional elevation. Whereas Valparaiso and Santorini buildings are experience in full three-dimensions, access routes cross over, behind, next to or through one house.

Case Study:

House as city

The purpose of the following case studies is to provide examples of architectural projects that have had to deal with tensions around proposing architecture into existing hillside suburban fabrics. The formal operation of each of these case studies varies, highlighting the challenges around tensions such as multiplicity and singularity, legibility and ambiguity.

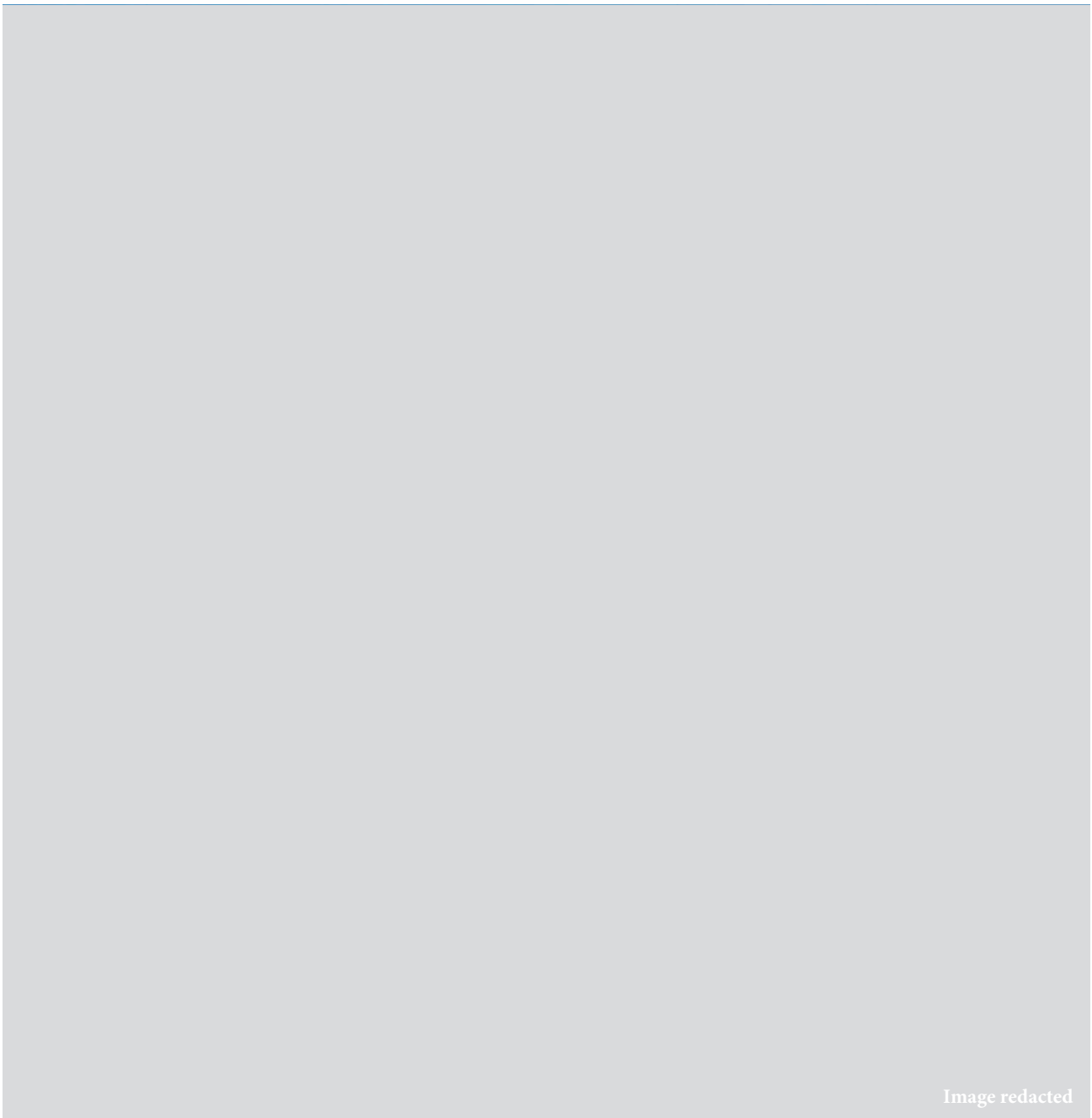
Athfield House

Background

This case study looks at the 'Athfield house', which sits on a steep 1.3-acre section in Khadallah, Wellington. The Athfield house is the most significant case study for this research due to its similar motivations, Wellington hillside context and social considerations involved.

Formal language/position

This house provides an alternative to regularity and rules of New Zealand's detached suburban housing. Ath drew influence from his travels through Mediterranean cities, where white plaster forms organically tumble-down hillsides, as describe in the earlier case study. The freedom and collective nature of their neighbourhoods it what Ath hoped to bring to New Zealand. Ath intended the house to be a 'work in progress' forever, eventually tumbling down to the lower road. It is now recognizing as a historic organic building enabling alterations and additions to continue. The combination of its small-scale spaces, irregularity and continuous organic construction creates a house with little formal legibility. Nooks, crannies, bunkers and towers cut into or pop-out of the hillside on every angle. There is no legible pattern or system in the formal arrangement. The lack of formal



legibility sounds like chaos, but the intentionally limited material palette unifies the complex forms into a tumbling whole.

Response to landscape

The hillside's ability to organically expand and contract becomes the catalyst for Athfield's design. The design echoes qualities of the organic landscape but disregards the existing houses surrounding it. The formal language rebels against the surrounding houses, and instead stand out. Athfield house protrudes from a ridge which enables the design to disregard the neighbourhood's formal language in a more subtle way. The ridge accepts the design as a landmark that is set apart from the existing fabric. The design has more autonomy sitting on the ridge, than



if it was on the hill face where it becomes part of the urban grain.

Access

There are stairs all over the site and a public staircase down to the lower road. The firm and families who occupy the house are still committed to Ath's idea of an alternative suburbia as neighbours walk through the public routes and use the on-site pool. Ideas of suburban privatisation are broken down to encourage the understanding of private property yet public benefit. Although public use is encouraged, accessibility is questionable for everyone, as stairs, that are often without a rail or are of varying dimensions, are the only form of access through the site. When I visited the house, I got lost straight away. My wayfinding skills were challenged the entire visit as I struggled to form a mental map of the house. Paths go through, under and around spaces, there are dead ends, courtyards, multiple hidden and visible access points, few sight lines and a variety of stair designs. Stairs change in materiality, width and detailing so it is hard to distinguish if you are 'off route'. With that said, when I was there, I wasn't tied to a time constraint so wandering around lost became a whimsical experience of discovering unexpected spaces.

Claude Megson

Background

Claude Megson is also one of New Zealand's most significant architects, showing work alongside Athfield in the 1960s. Like Athfield, Megson's work often protests what he saw as New Zealand's conservative suburban society (Reid, 2016, p. 3). I examine Megson's work to understand his approach to medium density housing and his ability to design dramatic sections and complex roofs. I explore three selected residential projects; Rees Townhouses, Cocker Townhouses and the Barr house as they display Megson's overarching ethos and principles of design.

Formal language/position

Megson approaches the formal language of houses as a small city rather than an isolated suburban house, like Athfield. Megson's case studies take on both the "house image; and co-opted the wider neighbourhoods image"(Reid, 2016, p. 7) The detailing and overall building scales are sympathetic to the surrounding neighbourhood because they tie together the complexity, diversity and multiplicity of the entire neighbourhood grain. The projects show consideration for creating a "texture derived from the accumulation of small-scale elements and the desire to fit in with the wider community" (Reid, 2016, p. 7). Giles Reid in Counter Constructions, says that Athfield was working to create a texture in the same manner, however, I get differing images from their work. Both architects are interested in creating a texture, but there is more dimensional exactitude and organizational consideration expressed in Megson's work. Athfield house is an

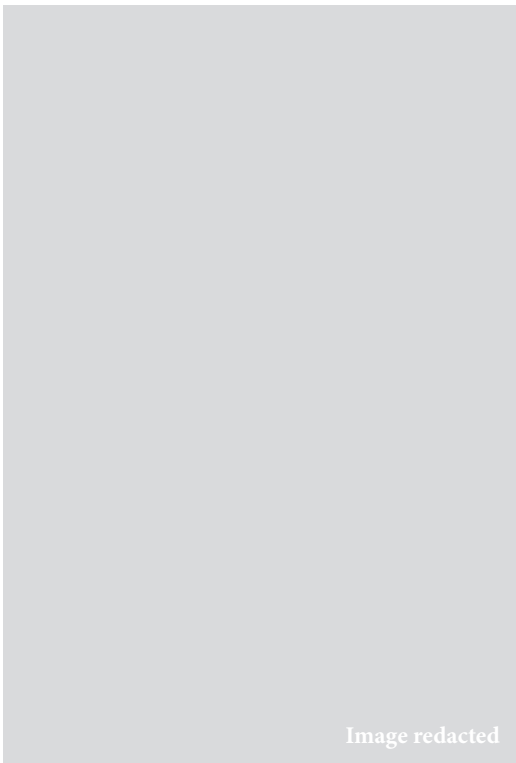


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organic building that is continuously transforming as an active 'work in progress', while, the precision and execution of Megson's work appears less spontaneous and comparably more static as a complete design. In saying that, both works appear as if you could continuously multiply the texture, but the difference is you could be more reckless with your additions to the Athfield house because of its organic formation.

Megson's designs emerged from a process of destroying legible forms that stood out as individual details, into smaller modest forms. Destroying the forms required a strategy where he constantly joined near similar forms to reduce our ability to perceive them as static, monumental or symmetrical (Reid, 2016, p. 7). This strategy was continually reintroduced at every scale, from detailing to the overall building image. Common to Megson's designs is an underplayed and hard to find entrance and exit. This design decision implies a sense of hesitation

Image redacted



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and uncertainty rather than invitation and reception common to an entrance (Reid, 2016, p. 9). Underplaying the entrances, further emphasises the texture and removes the design from connections to monumentality and standing out as individual details.

Each project employs a unifying element or strategy that ties the multiplicity together, just like Athfields use of a white plaster finish. The unifying element in the Rees Townhouses is its single surface roof with periscopes extruding out from it (Reid, 2016, p. 9). The unconventional roof has a small butynol gutter which provides a black border around the roof, making it appear as a lid to contain the building as one. The Barr house is committed to the diagonal. Lastly, the Cocker Townhouses' weatherboard cladding and sharp angled roofs are equally significant to unify the design.

It is explicit that the way Megson designed through axonometric drawings influenced the diagonal organization in both plan and section and the development of distinctive diagonal roofs (Reid, 2016, p. 6). This observation is what I am searching for through my research as I try to understand how my creative processes influences the architectural outcome I produce.

Tolo House

Background

The Tolo house is an innovative example of architecture that combines the hillside, public access and housing into one project, designed by Portuguese architect Alvaro Leite Siza. The 180m² building is located on a steep Northern Portuguese hill. The Tolo House case study acts as an example of how architects of a private dwelling can create dialogue with so many more traditions than just the private realm. Siza zooms out to create conversation with the entire neighbourhood by inviting public access through the site. Siza designs the private house with the approach that asks, what else could a house be?

Formal position

A composition of small linked concrete boxes tumble-down the hillside to collectively create the whole design. The slope primarily informs the organization of these volumes and overall architectural language. Not to the same intensity, but like the Athfield house and Megson's work, the whole design is an accumulation of small-scale forms. The design communicates like an enlarged staircase, where the house itself is in fact a path (ArchDaily, 2011). Each volume reading as a step in the complete staircase. The stepped form results in an architectural language that sits quietly within the existing landscape. The house hides amongst large pre-existing trees which isolate it from creating a direct connection to existing architectural languages surrounding the site (fig 157). Tolo house connects merely to the natural landscape, unlike the Athfield house and Megson's work which has an unavoidable connection to the neighbouring houses. For this reason, the

Tolo house has a less significant concern with developing a hillside texture it instead sits as an isolated object. the house is less concerned with the hillside texture but still deals with multiplicity of forms within the one design. Perhaps in a built-up context or constructed in a different material I would read it more as a hillside texture than just multiplicity within the one design.

The exposed concrete intends to further preserve the existing characteristics of the landscape by replicating the idea that massive stones have naturally tumbled down the hillside. Although I think the material choice contradicts its aim of blending into the landscape by being harsh and brutal on the landscape instead of appearing organic and dynamic like the landscape, it appears static, unable to change or multiply over the hillside. Both the material choice and the orthogonal architectural language creates this static image. Like how the visual artists talk about imagining things that aren't there, I was 'picturing' this relationship between the concrete and land.

Image redacted

Image redacted

Access

The challenging topography could be considered an obstacle, but Siza approaches it as an opportunity for architecture to excel. The sectional organization of the house (fig 158) shows the public realm directly above the private realm as the roofs of the interior staircases double as an exterior staircase. Materiality plays a significant role in informing this public- private distinction as warm timber and white materials are used on the interior surfaces and the exterior stair merges into the exposed concrete cladding.

From the top of the site, a linear staircase steps down the site then begins to fragment and shift in response to the sites complicated topography (Broadhurst, 2009, p. 44). In the same way, Siza rotates and shifts volumes to adapt to the natural morphology of the terrain and site boundaries, resulting in a plan which progressively widens over the site. Roofs of the volumes become patios, so the entire building becomes accessible space. Enabling the public to walk over the building shows Siza's commitment to preserving the landscape as the building becomes part of the walkable landscape.

Texture

The studied hillside settlements date back much older than the New Zealand case studies. Cars did not have the same influence on the formation and urban planning of the communities that settled before the car was popular. As mentioned in chapter one, Hataitai was developing during the early 1900's when the car became popular in New Zealand. This is a crucial difference between the formal and pragmatic organisation of the New Zealand communities compared to these overseas communities. The speed of movement around the communities without cars is much slower and more intimate, facilitating much denser construction. Traveling large distances is not efficient for slower commute options such as foot, bike, scooter, horse or donkey. The implication from the absence of cars during development is a dense and organic organization of buildings and access routes. Both the communities and individual hillside house case studies highlight the tension between occupying the hillside through multiplicity rather than singularity. The term multiplicity refers to a collection of singular forms coming together to achieve a similar objective, to merge into one complex architectural language. Conversely, singularity refers to a design that autonomously reads as one legible object. The hillside designs become less about an individual building and more about the entire collective language. Identifying that unity is established through an intense accumulation of small-scale elements to create a complex texture. Often there is a unifying element such as Santorini's white plaster, Valparaiso's colourful paint or Megson's complex single surface roof. Multiplicity allows the hillside architecture to occupy the landscape in an organic way, flexible for the complexities and diversity of modern living and it creates a dynamic texture which has the capacity to be altered and extended- forever existing as a work in progress.



Figure 72

Granulation

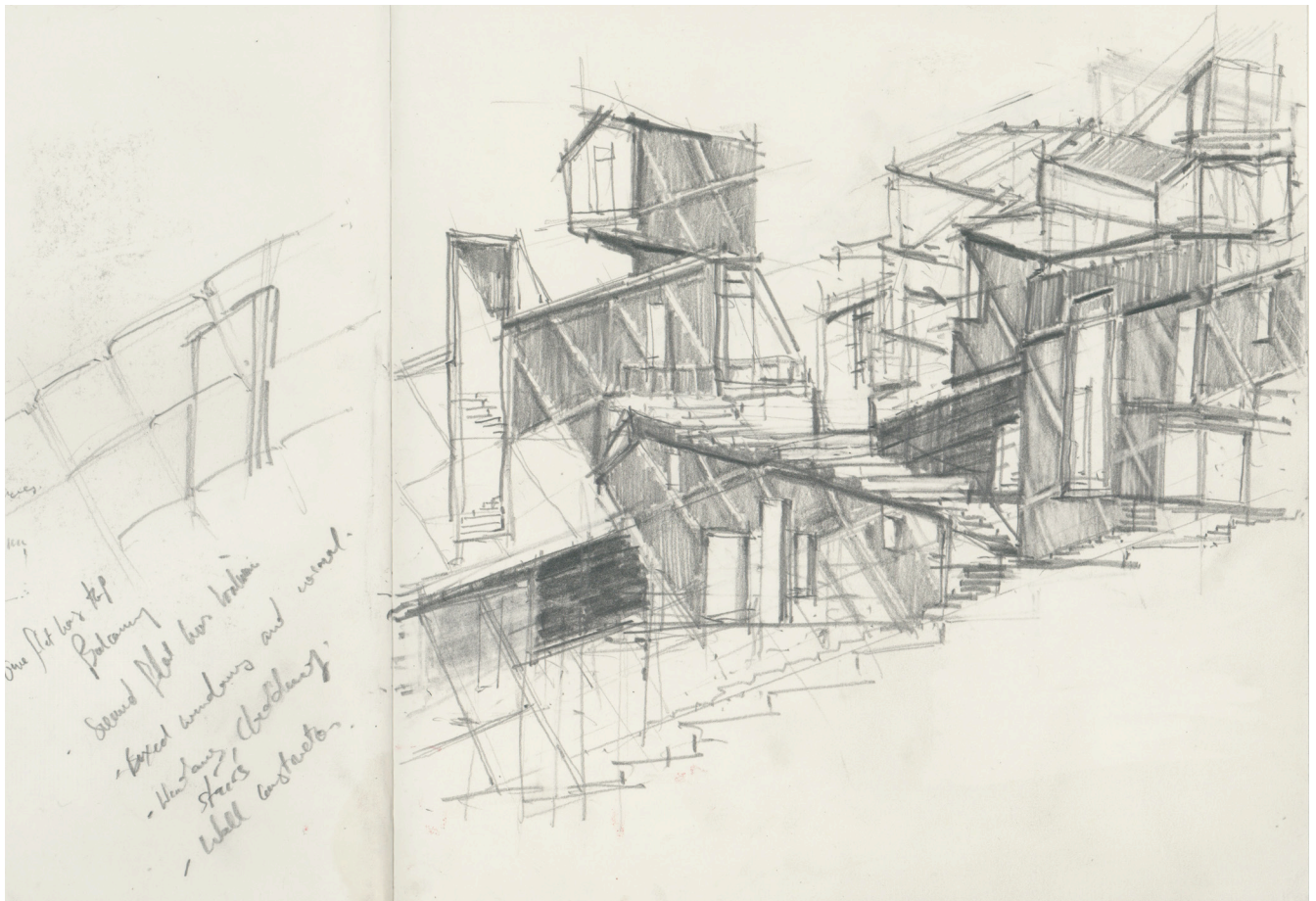


Granulation is the action of separating a whole into finer grains and creating a roughened surface texture. Granulation became a strategy to shift my design approach towards complexity. It was a tool to reintroduce the complexity I had experimented with early in my catalyst drawing series but from the zoomed out, whole scheme scale. I started to design a collection of singular forms that had a similar objective, to contribute to one cohesive architectural language to form the hillside texture. Applying the granulation operation to the expressive form shifts the design from a legible zigzag to a complex texture (fig 167). I shifted between the hillside face and side elevations to fragment and offset the roofline. Although ambiguous, the zigzag form is preserved, I repeat the angled roofs in a way that is suggestive of the original zigzag and it creates a dynamic quality that reads as a texture rather than singular object. The hillside case studies illustrate, multiplicity and operating through a texture unifies the urban scaled proposal and in addition, enables flexibility to adjust to the complex topography. Granulation made me aware that the previously developed legible form compromised the function, since I wasn't allowing for environmental, program or site conditions to disturb the legible form.



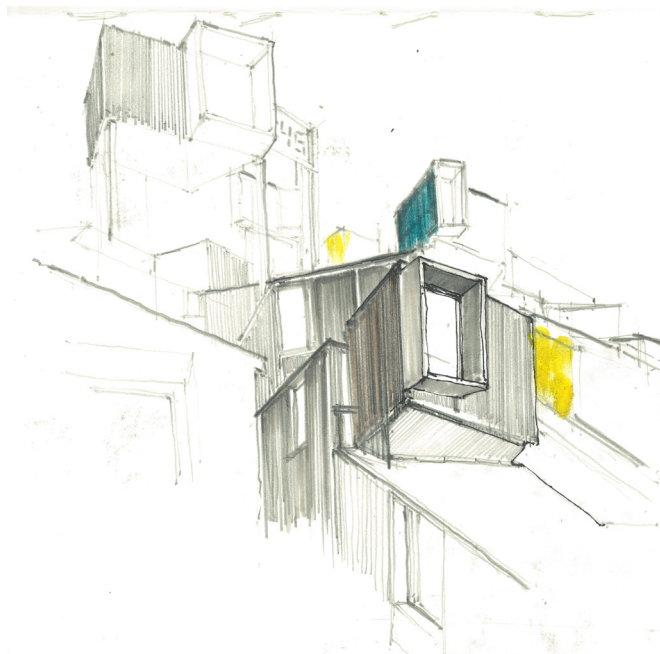
Figure 161.

Drawing where I erase and split the roofline, then offset it higher or lower in elevation to disrupt the legibility. I also mirror the roofline so that it is protruding out from the hillside.





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Figure 163.

View looking across the path

Figure 164.

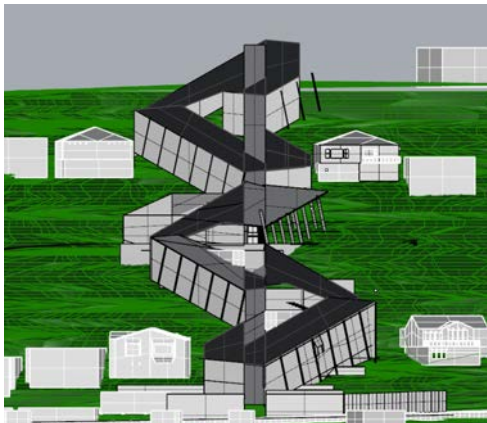
Complexity could be increased with pop-outs disrupting the roofline further



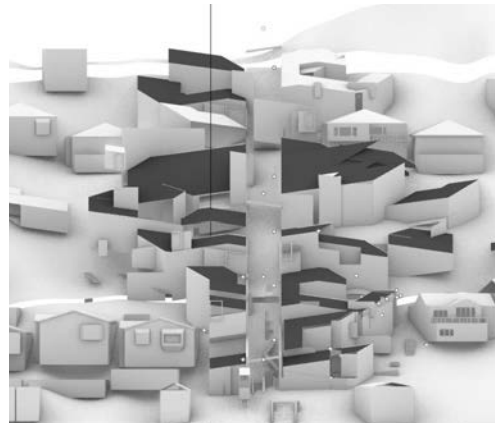
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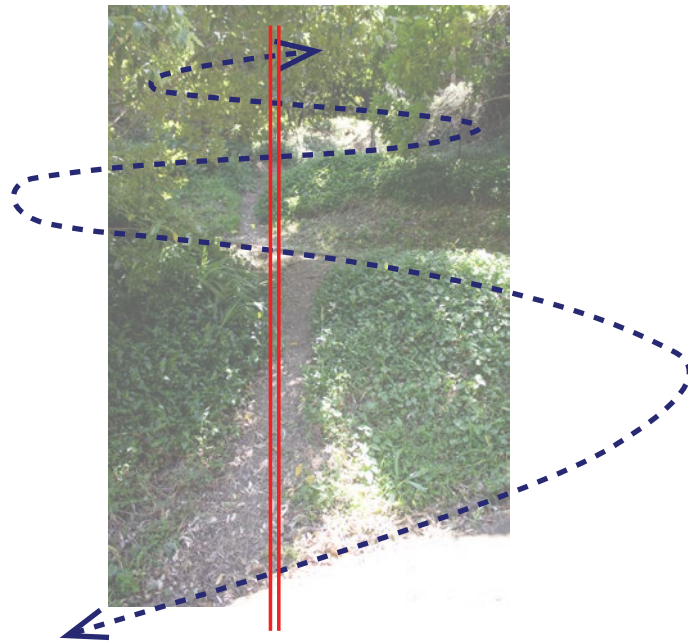
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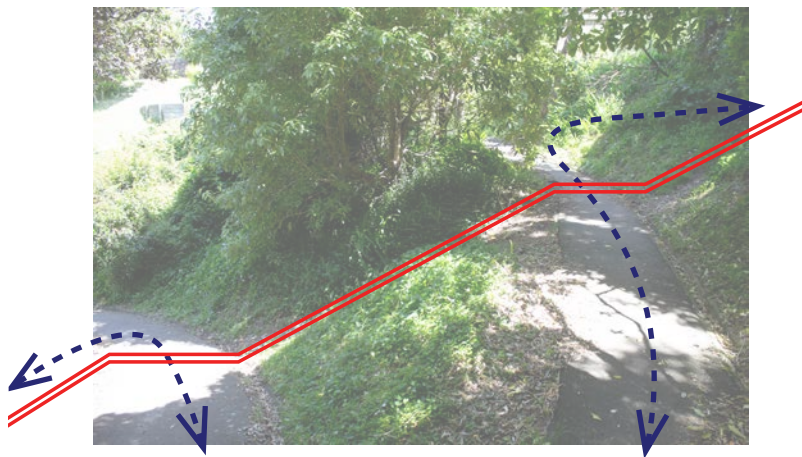
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- Figure 165.** Earlier design, both zigzag and path are legible
Figure 166. Digital model version of the above drawing
Figure 167. After granulation, complex texture
Figure 168. Digital model version of the above drawing
Figure 169. A2 perspective drawing across the grain





View up the hillside



View across the hillside

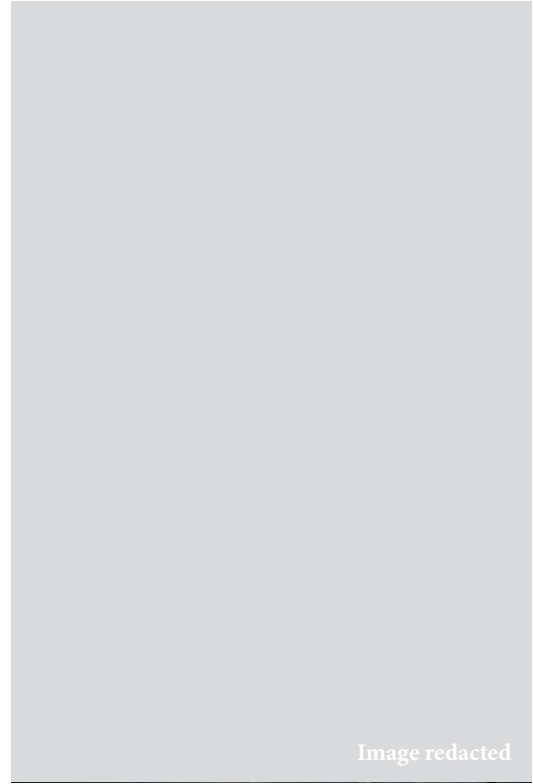
Moment of Clarity

Should the path be complex as well as the granulated buildings or should it be a legible form?

I observed an existing Hataitai pedestrian path connecting between Marewa and Alexandra Road that uses switchbacks to decrease the gradient, however, children have fought the intended switchback path by continuously crossing over the asphalt to create a direct route in the dirt (fig 170). This trace in the dirt, displays the tangible tension between legible or complex vertical movement. Jan Gehl's urban design perspective suggests to 'avoid stairs' whenever you can (Gehl & Rogers, 2013, p. 131), but the 46m displacement between Rakau and Marewa Road presents a challenging brief to avoid stairs. He suggests the use of switchbacks, to reduce the incline and fragment the vertical sight lines up the hillside, exactly how the observed Hataitai path moves up the hill. The position is that, the psychological battle to walk up reduces if the "staircases are disguised to make the trip more doable" (Gehl & Rogers, 2013, p. 130).



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Would the user become equally unaware of the climb and the architecture?

I worry that the architectural approach used by Gehl may lead to ‘invisible architecture’, that sits in the background of life. As mentioned earlier, Gehl explicitly suggests ‘disguising’ stairs so users are distracted from the height of the hill, but these strategies instantly cut users off from engaging in any sort of formal dialogue with the architecture and landscape. In opposition to Gehl, when I stand at the bottom of Mount Victoria’s Pirie street (fig 172). I feel the psychological battle, but I also feel a sense of empowerment even though the slope is magnified by a legible sight line. This legible road up the hillside conversely draws your attention to the scale of the slope.

Formless

Upon reflection I realise that this tension between designing a straight or switchback path up the hillside possibly presents the fundamental nature of the term “operation” used by the artists. By default, I connected legibility to architectural form, whereas the artists aren’t thinking about form as such, instead they are thinking about what the form is doing. This reflection enabled me to understand my engagement in Pirie Street is not because of its formal legibility but instead the formal operation of the legibility within the complexity.



The sight line enables formal connection and exposes me to the scale of the urban systems and my small presences within them. I see the road as a giant mark cutting through the hillside, drawing me from Mount Victoria through the city and back up Kelburn hill on the other side of the city. I see the cut as a pause within the chaos surrounding it. I am drawn in by the roads ability to be understood as a moment of clarity within the field of uncertainty.

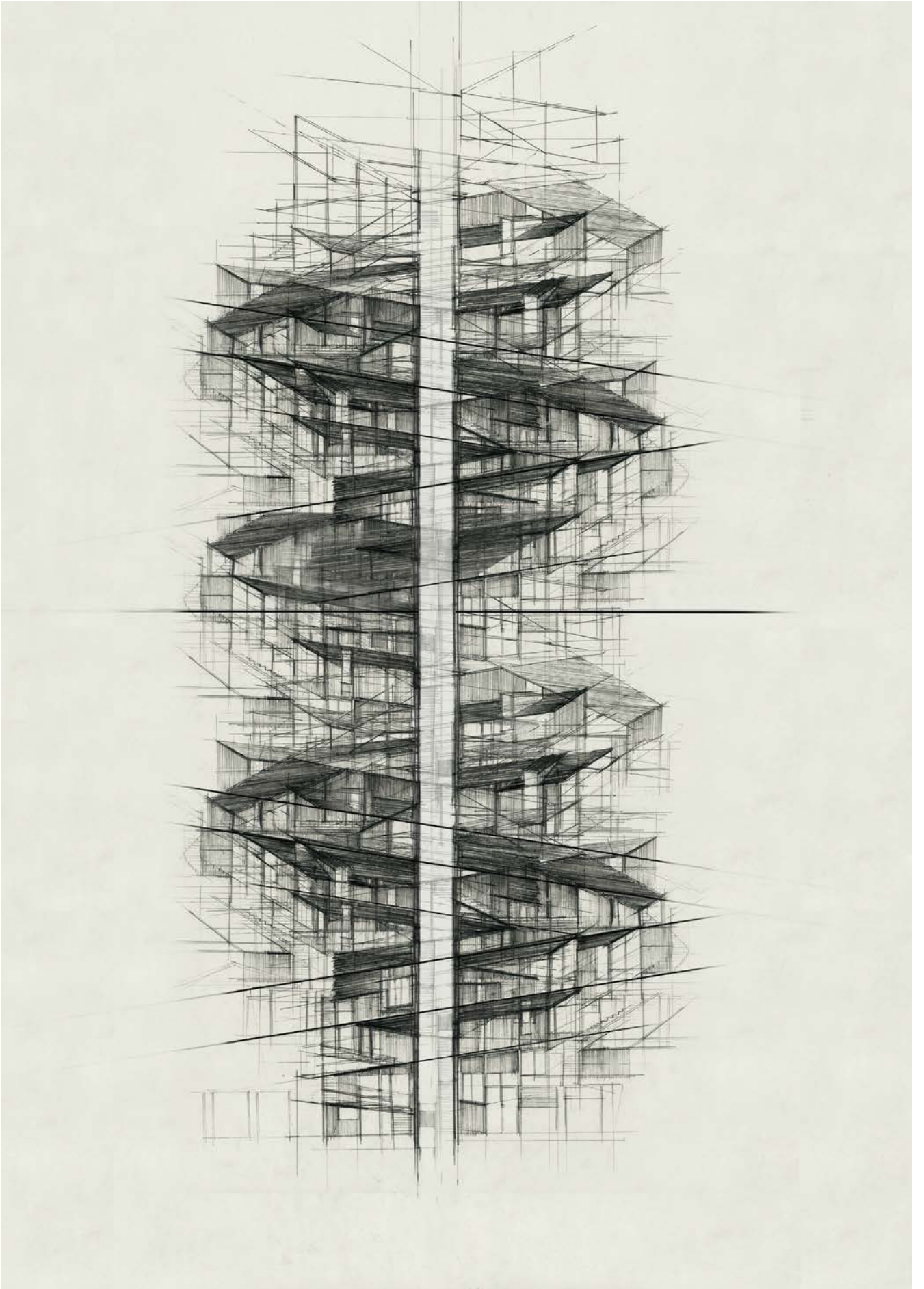
Perhaps I was experiencing “formless”?
‘Formless’ by Yves-Alain Bois presents an alternative framework to view modernist art. Krauss observed that,

“it is neither form nor content that interests Bataille, but the operation that displaces both of these terms.” (formless p.15)

It is no longer about what the work is showing or the medium of the work but about the operation of the work, hence the title ‘formless’. What the work is doing – how it engages you.

So, maybe the way I see the road as a pause within the chaos, is the operation? Possibly the line is operating or doing something, to the city?

The research doesn’t attempt to explain or even understand ‘formless’, but I see the potential in the visual arts viewing framework to influence reflections on my creative process.



Erasure

The Art

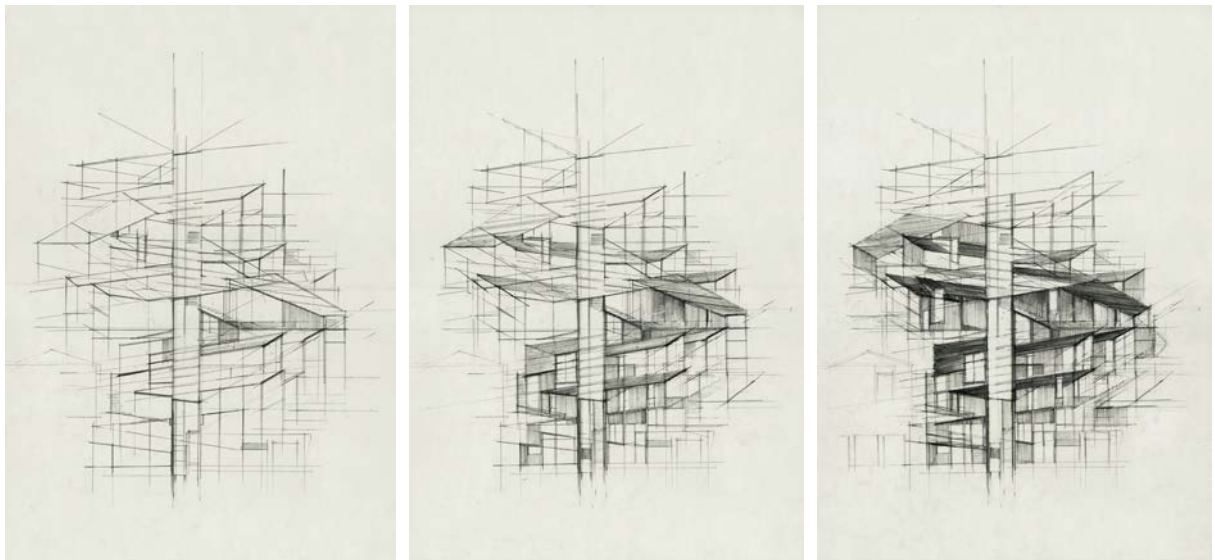
Original size: A2

Paper: off white drawing paper

Tools: mechanical 2b, 4b, 6b pencil. 3 rulers, hard eraser and putty eraser, digital production

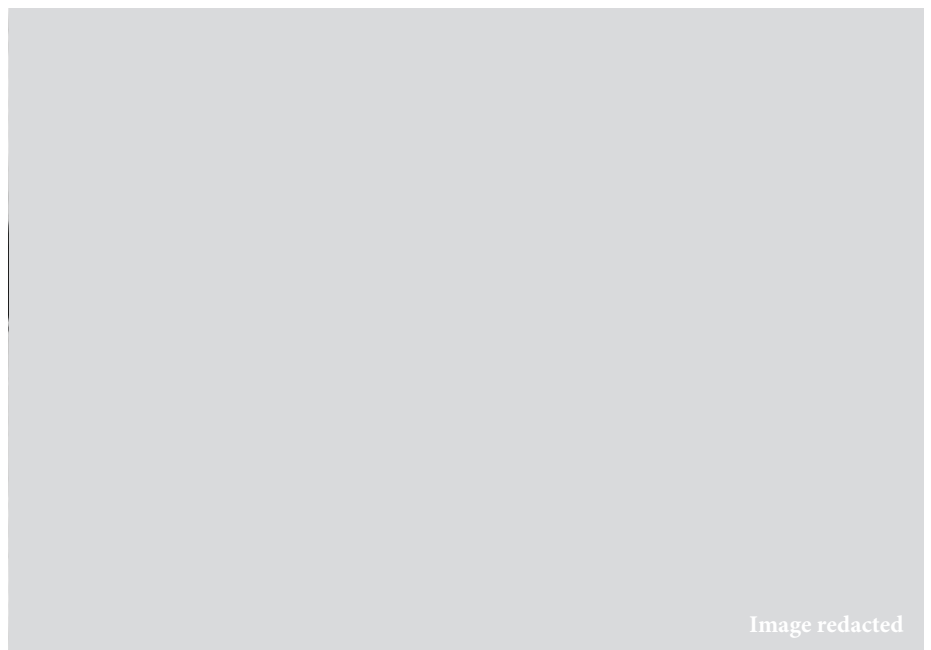
Time: 4hours

After granulating the form, I recognised the second and most intriguing operation I used to reveal the architectural outcome, is erasure. The definition I use for erasure to explain this section is, a place where something is removed; a spot or mark left after erasing. During the creative process I recognised my inclination to design through erasure, when I create marks with pencils but also erase marks to create new ideas. The removed marks and half removed marks are sources of new design discoveries. I will unpack the drawing in figure 173, that was pivotal in making erasure explicit as one of my design strategies. The



moment I use erasure is when the work begins to truly operate, this moment is the most significant transformative trigger to occur in this creative process. Firstly, I will explain the work from an art perspective, as an isolated image. Using a ruler and 2b, 4b pencils I set out the base line structure, I then add vertical marks to form solids and erase or leave negatives. To create more informal geometry, I use duplication and mirroring for an uncontrollable formal outcome. Figure 167 is an experiment from granulation which doesn't have an erased line and instead it reads as a complex texture. When I look at the work, I instantly understand that it is a complex texture, and that is it, there are no further questions or thoughts stimulated from looking at it. Another way to explain this, is imaging the work like the noise of a city from the hilltops where all the chaos and varying sounds are diluted to be heard as one flat drone as it hits you all at once. So, although granulation introduced complexity with the intention that it would make the whole design formally more engaging, it instead achieved the same effect as the legible design from chapter two, where both designs are positioned closer to one side of a compromised zone between complexity and legibility. I have described how the work without the line struggles to engage the viewer, but what is more interesting is how the work with the erased line is engaging the view.

The work with the erased line begins to operate by erasing out a vertical section of the complex texture. The erasure splits the work into two elements, the line and the complex texture that the line is erased from. During the production of the drawing I took three scans to illustrate my process and make explicit when the work begins to operate. Scan 1-3 and the finished drawing reveals that the more informal and expressive the surrounding texture is, the more the line operates as a 'cut' through the texture (fig 174). This cut is much more still compared to the dynamic texture surrounding it. Intensifying the granulation and complexity of the pencil marks on either side of the line create a higher contrast between the two elements, allowing the viewer to understand the elements by comparison to the other element. When I erase the line, there is a heightened impact from both the complex texture and the formal rigor of the line.



Expanded Field

Understanding where erasure overlaps into both, the art and architecture fields is where this research equally challenged and excited me. When drawing the work, I was unaware of my inclination to use the operation of erasure in both my drawings and the architecture they proposed. I firstly recognised how erasure operated exclusively in my drawings, which is profoundly embedded in the art field, but the challenge was to make it explicit how erasure is operating in the architectural field. Looking back at the artwork; the line is the transport void and the complex texture is the existing and proposed buildings. Like how the erased line activates the image, the transport void activates the buildings by removing a line of the complex texture. The combination of scattered houses, a complex topography, greenery wildly covering the hillside, and roads traversing organically across the contours creates a complex texture with an organic language. The transport void stands out next to the complex texture it cuts, by contrasting the organic nature of the fabric with a form that is orthogonal and unequivocally unnatural. Richard Long's landscape sculpture: *A Line made by Walking* 1967 (fig 175), displays a similar relationship between natural and un-natural. Long's work takes the form of a straight line running across a grass field which is the result of repeating his steps. Long's process of walking to form the work extends the boundaries of sculpture to continue Krauss's expanded field discussions by dealing with place as well as the material action of walking (Long, 2002, p. 68). The sculpture operates when the comparatively unnatural line disturbs the natural landscape, then the subject becomes the interaction between man and nature (Long, 2002, p. 37). Similarly, the principle of my proposal is about the meeting of architecture and nature by leaving a sign of its interaction. Although Long's process of walking is a temporal and direct interaction between his footprints and the ground, the transport void becomes a permanent trace of human's interaction with the landscape. Instead of the environment dissolving Long's footprints over time, the transport void acts as a permanent trace of the footsteps up the hillside. This trace enabling us to see our own physical presence in the environment, showing where you have come, gone, and returned to.

In addition to the line enabling us to see our own presence in the landscape, it equally enables us to redefine the landscape and how we appreciate it.

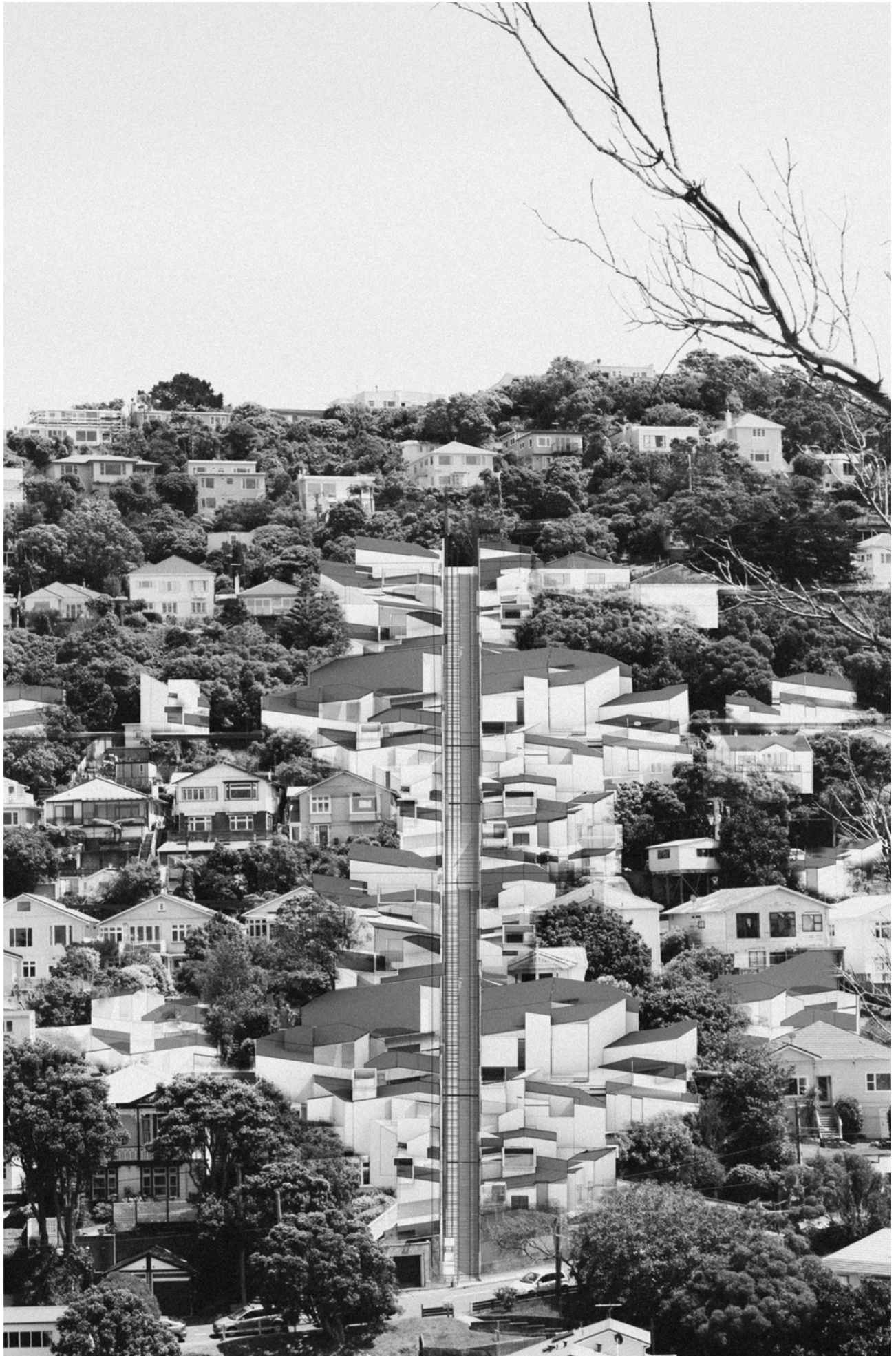
Serra favours sites 'not yet transformed', referring to open natural environments without human intervention on them. Serra states that, "the placement of the sculptural elements in the open field draws the viewers' attention to the topography of the landscape as the landscape is walked, whereas in my urban site-specific works the internal structure responds to external conditions, but ultimately the attention is refocused on the sculpture itself" (Richard Serra, 2007, p. 100). Using Serra's thinking to position my proposal, suggests the proposal is an urban site-specific intervention responding to the external conditions, as it is on the Hataitai Hillside. I agree, but also think my proposal is a combination of an urban site-specific and open field work because the buildings organically form a granulated texture over the topography, making the urban grain and all its complexities blend to redefine what 'landscape' or 'context' is and what 'sculpture' or 'architecture' is. The existing and proposed buildings integrate to become the 'landscape', while the path stands out as architecture. The direct placement and formally contrasting line draws the viewers' attention to the newly defined 'landscape' as people walk the line.

Redefinition of the landscape refers to the lines ability to cut through the complex texture without regard to anything in its way. This disregard and brutality for the landscape ironically gives us another perspective into appreciating the landscape. Richard Long's earlier example subtly enables us to appreciate the natural landscape through comparison of natural and unnatural form, however the landscape sculptor, Richard Serra, explores this relationship further. Serra's *Shift* sculpture uses the formal operation of cutting the landscape, which is not so dissimilar to my use of erasure. The cutting operation assertively slices into the landscape splitting the vast field (fig 176).

Willfulness

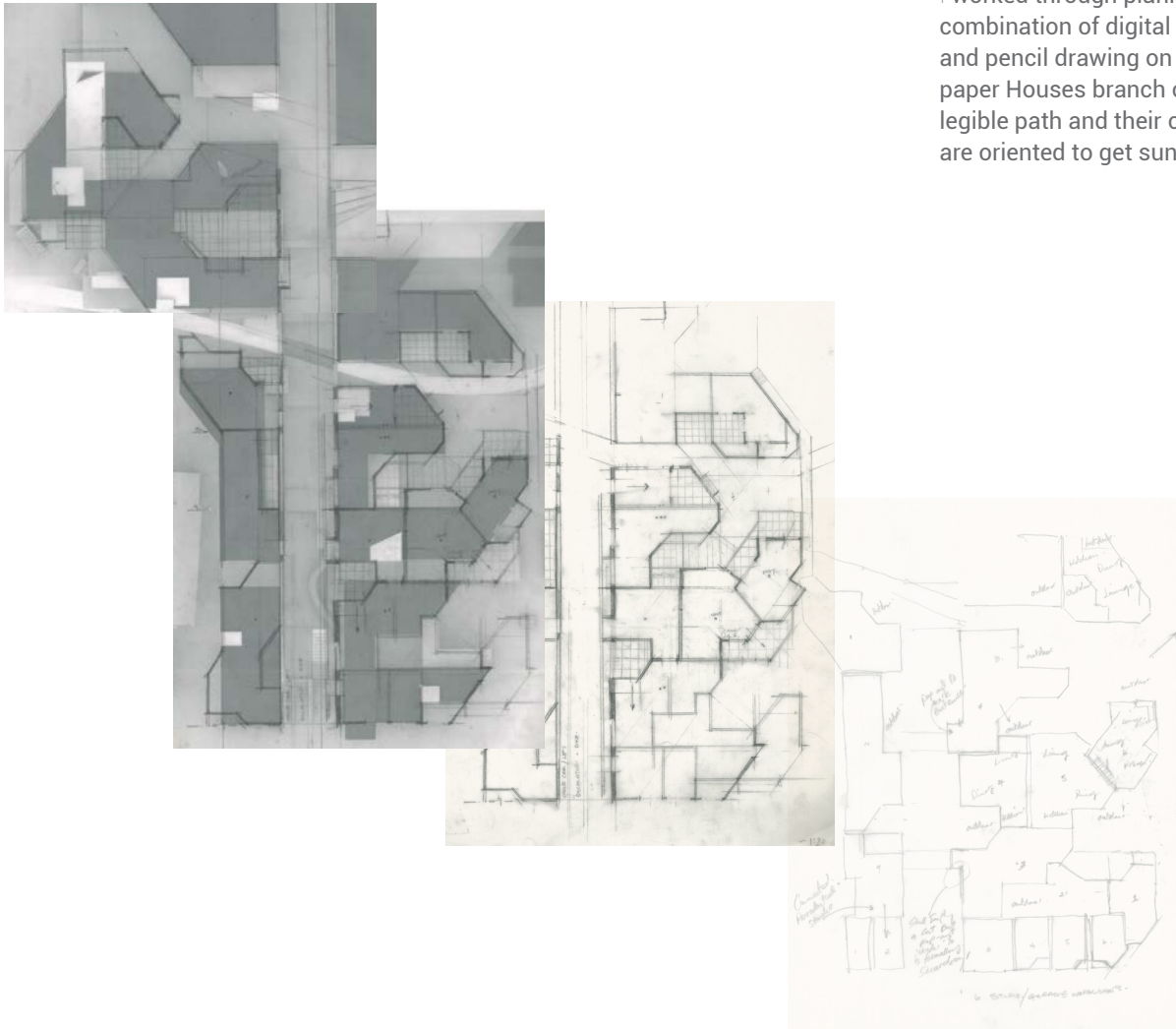
Although the void cuts through the fabric without regard for anything in its way, it ironically implies a sense of confidence, authority and care. It implies this by its clarity and no-nonsense form, it is unambiguously the shortest distance between two points. It is straight up the guts and not mucking around to form a connection from one road to another. An implication from the line confidently cutting the complex texture is an implied feeling of willfulness. The line is willful as its gesture as deliberate and unreasonably stubborn or headstrong. In a strange way you can imagine the line voicing “I am moving up this hillside no matter what stands in the way”.

Whereas, the texture’s complex arrangement of varying wall sizes, roof angles, solids and voids produce a feeling of uncertainty and softness. The texture is tentative of its presence on the hillside through trying to be quiet about how big it is by softly spreading itself over the contours and amongst existing houses. Juxtaposing the complex texture next to the direct line emphasizes this implied willfulness exposing what architectural languages could emerge from a legible path.





POOL



I worked through planning with a combination of digital modeling and pencil drawing on detail paper Houses branch off from the legible path and their courtyards are oriented to get sun exposure.

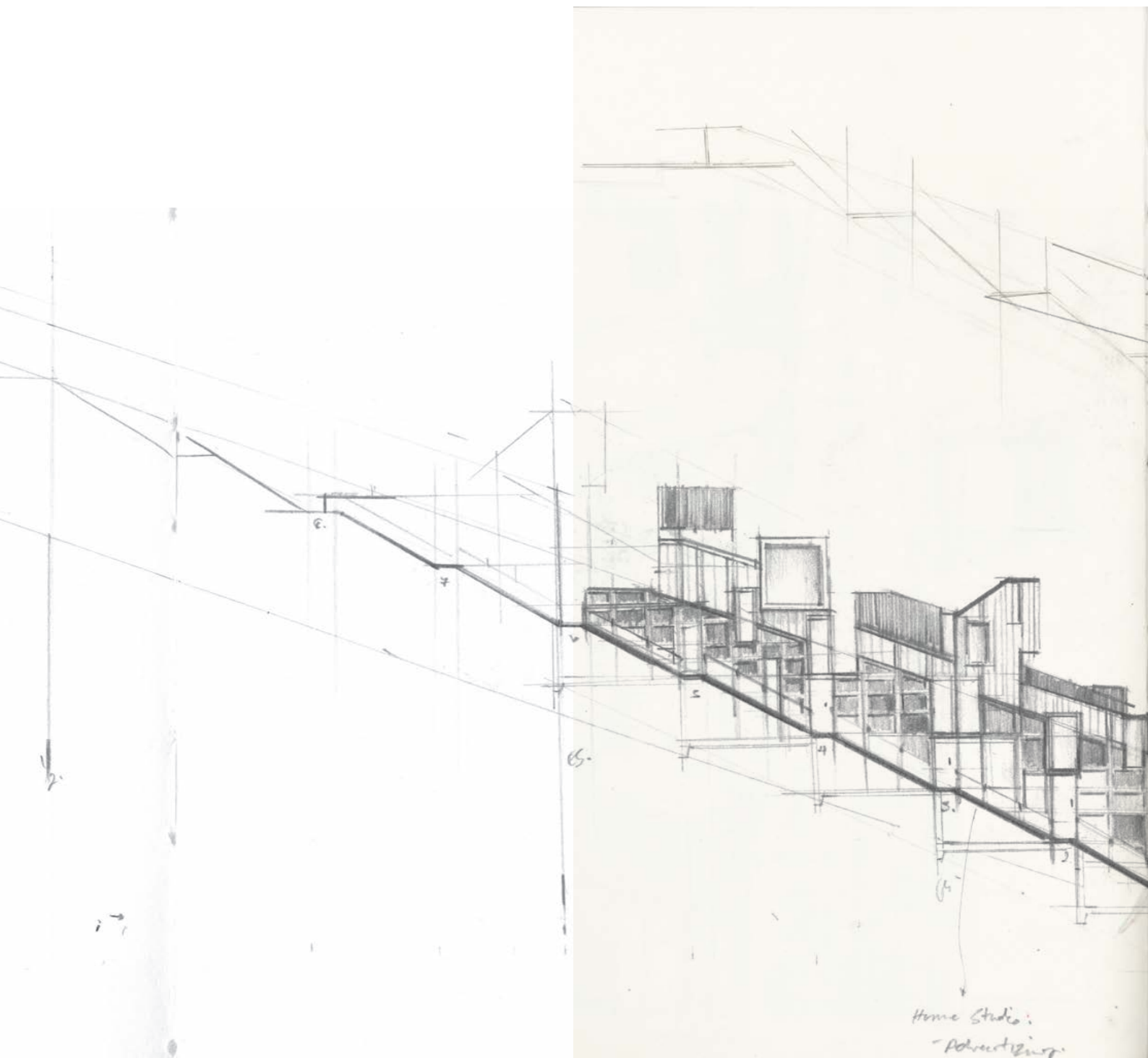
Movement

As well as the straight transport line formally operating, it provides a sense of security for the users. The informality and complexity of the texture's architectural language either side of the path could provide a potentially intimidating experience, where there are blind spots, tight spaces, corners, and complex layouts. Whereas, the legibility of the path offers passive surveillance from the surrounding dwellings and from within you have a sight line from the beginning to the end of the path. The central void channels residents, visitors and people in transit into one space where interaction between public and private occurs. This concept intends to challenge the existing understanding of suburban living where public and



private space is well separated, moving towards a more urban model of living. There are also secondary circulation paths throughout the texture which wander organically amongst the grain. These paths are discontinuous over the length of the design but provide alternative entries into the dwellings. The path needs to provide transport for people moving heavy items, furniture, rubbish bins, groceries, and wheelchairs so there is a staircase, sensor activated escalators with a bike rail on the side and a cable car. Each form of transport spans a different distance, the stairs incline 2.5m before a platform, escalator and cable car 7.5m.

I divide the laneway into private dwellings, dwellings with studios for business at home and commercial use. The mixture of programs is spread over the length of the path. Loosely planning commercial in the centre to draw people in and create a secondary pathway at the back of the sections.



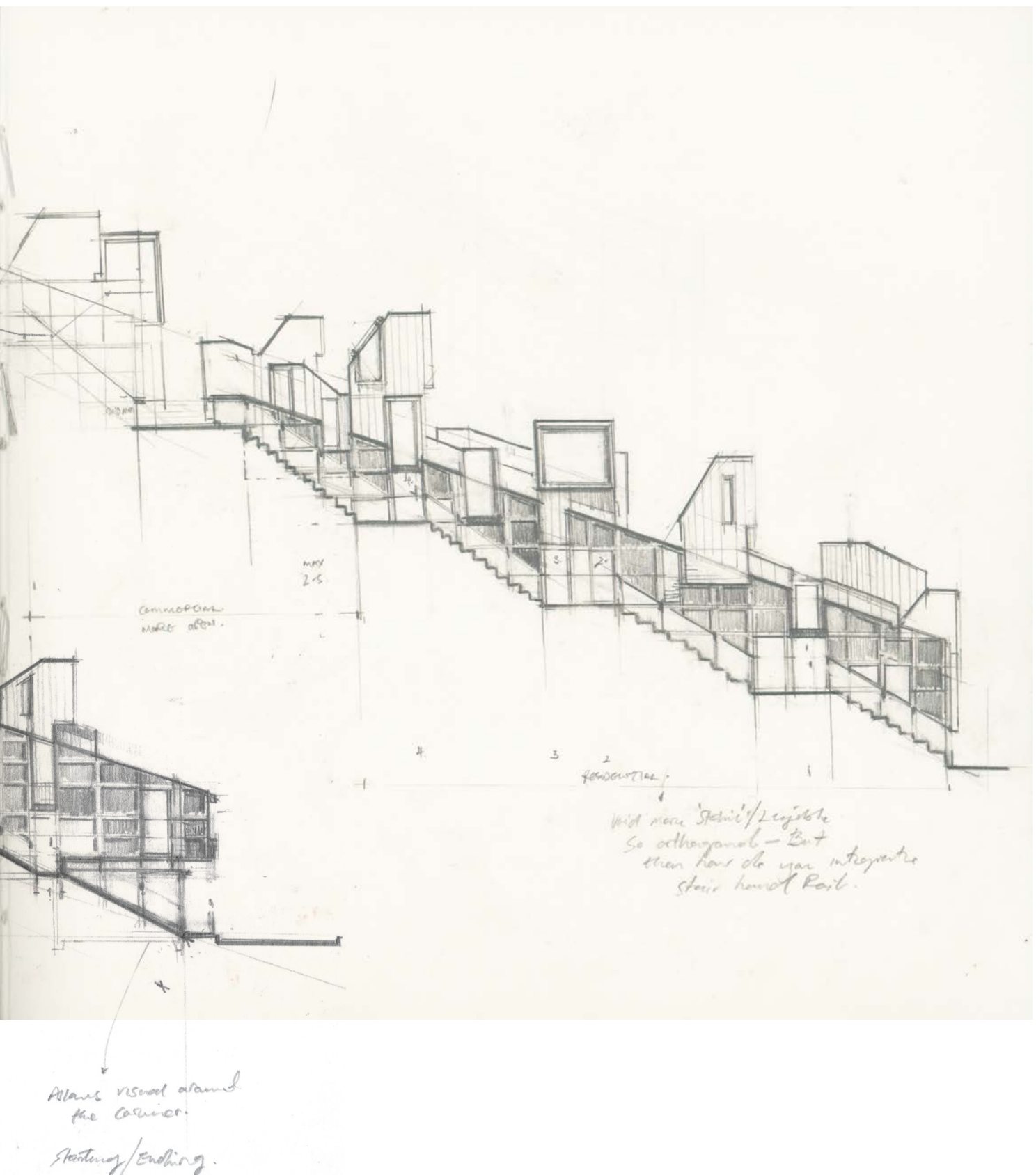
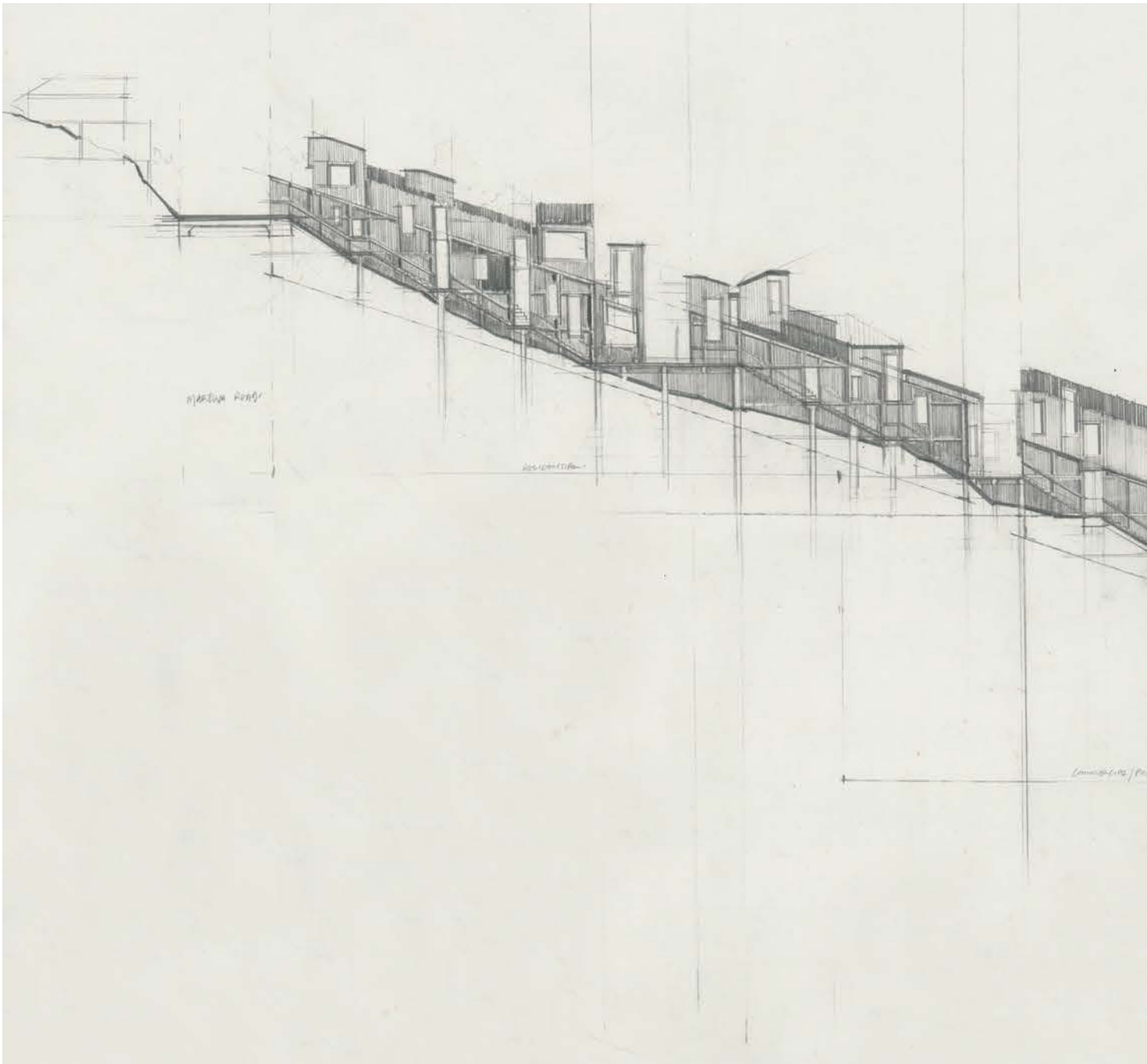


Figure 181.

Section through path, designing the walls of the 'cut' like solid section lines in a drawing. Thicker and more prominent



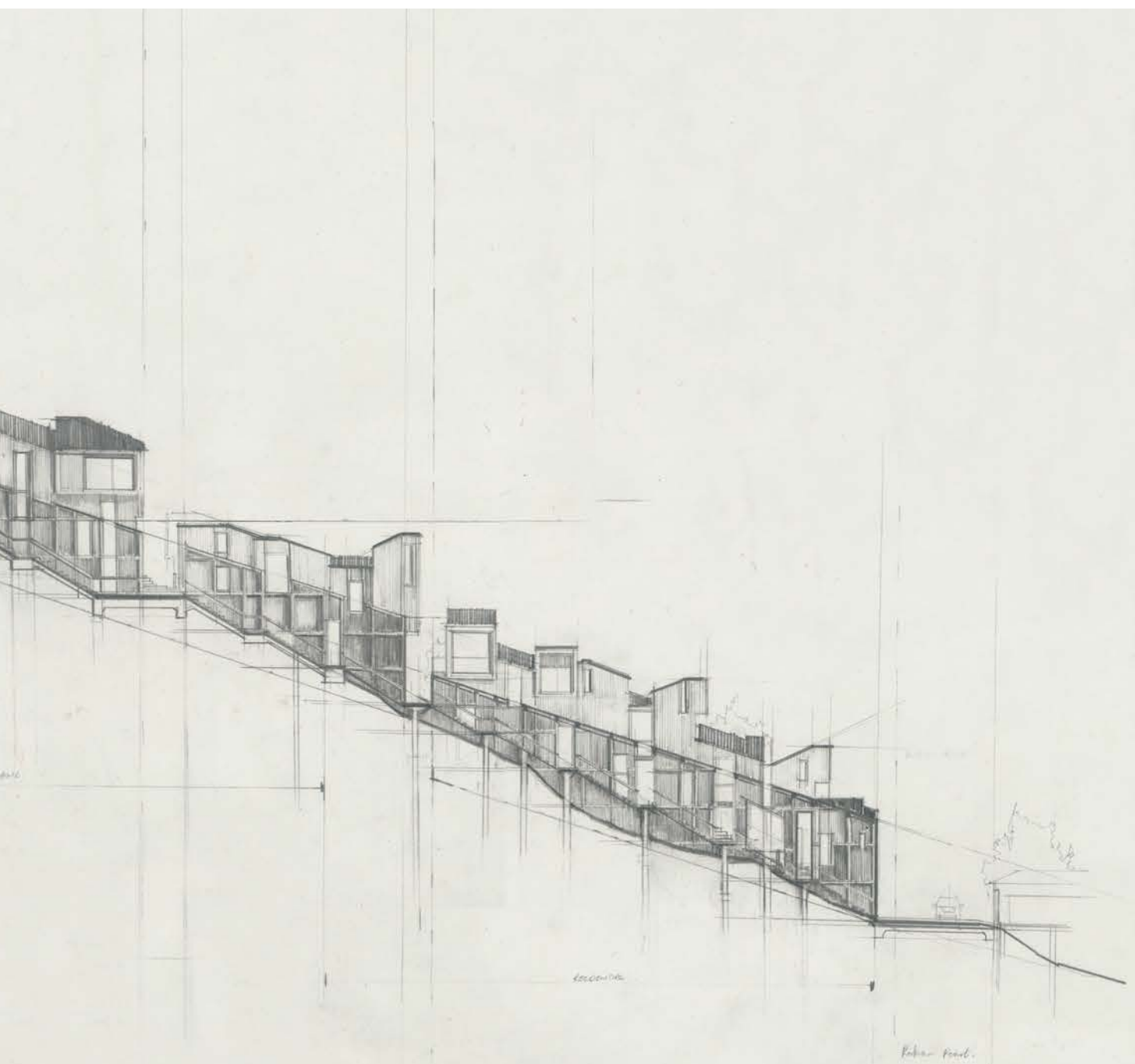


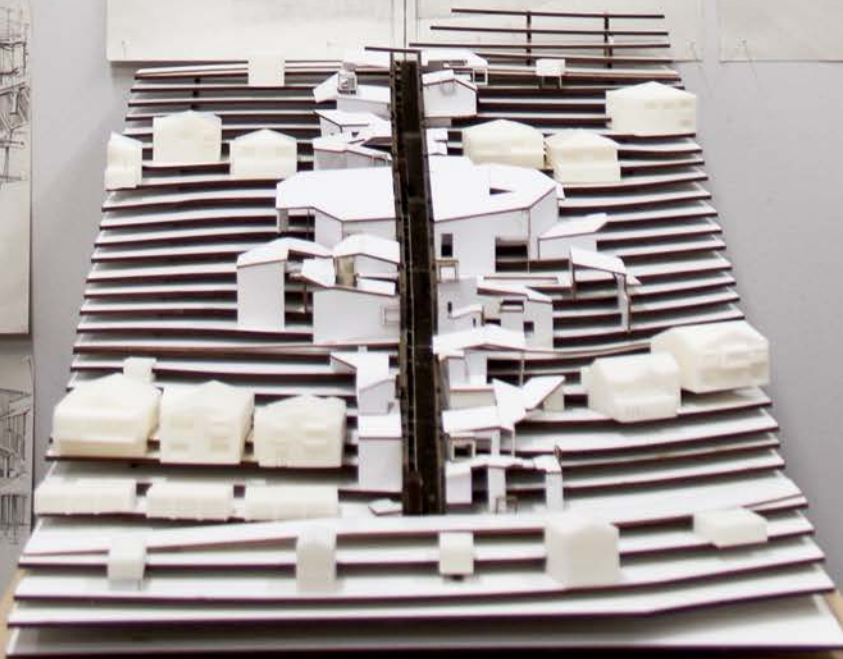
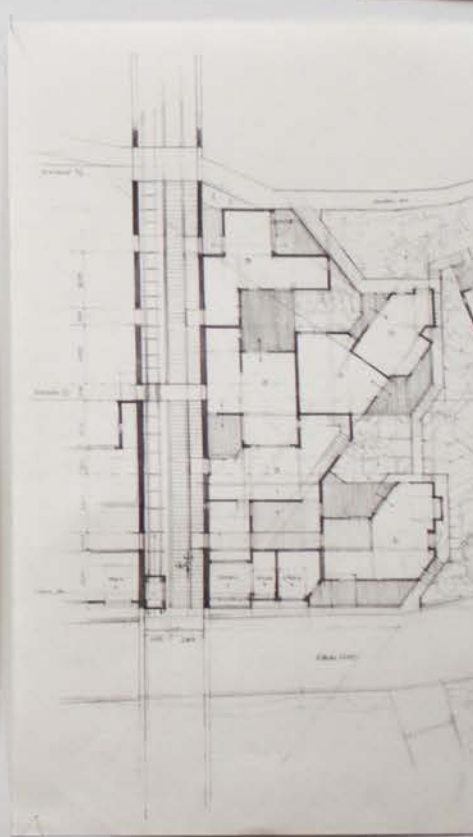
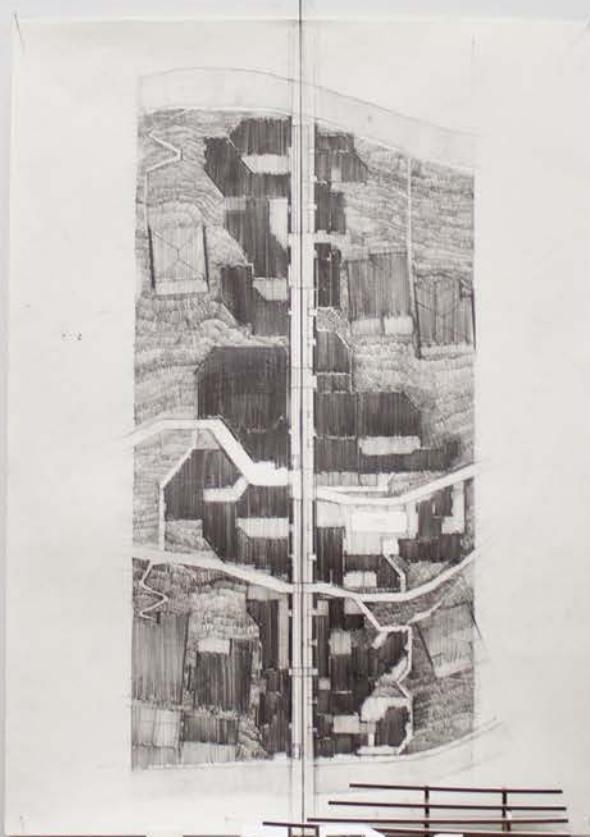
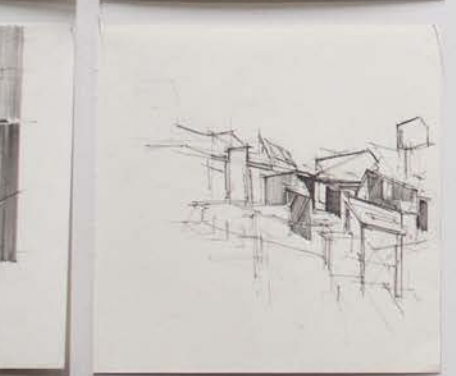
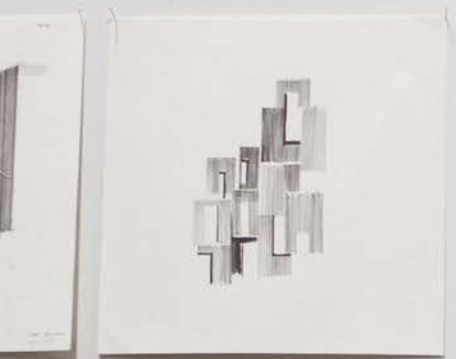
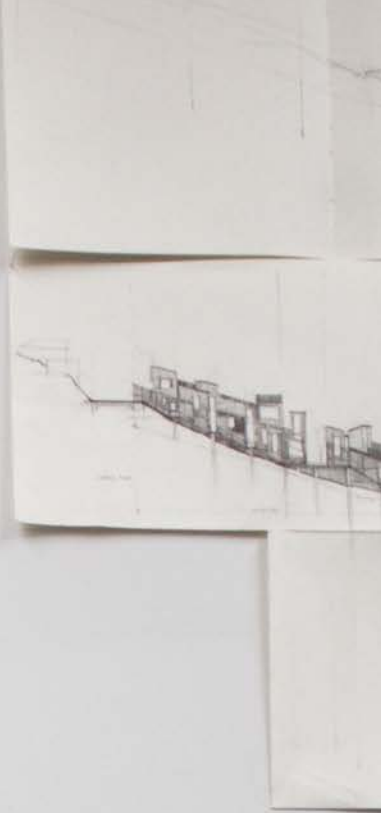
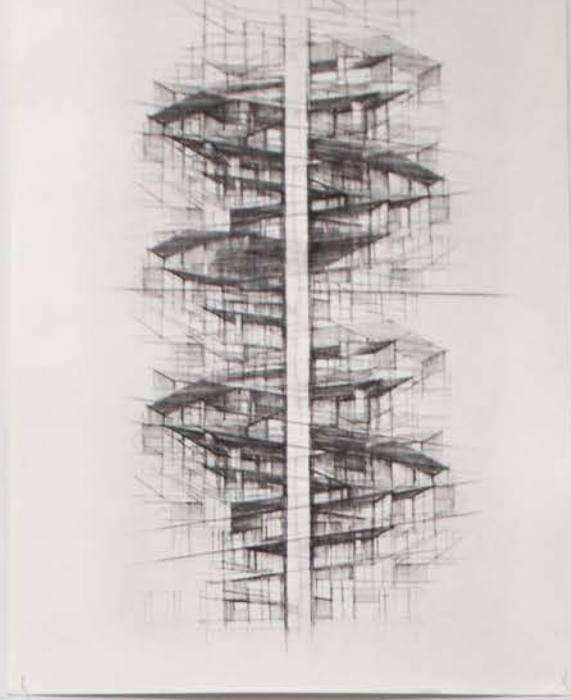
Figure 182.

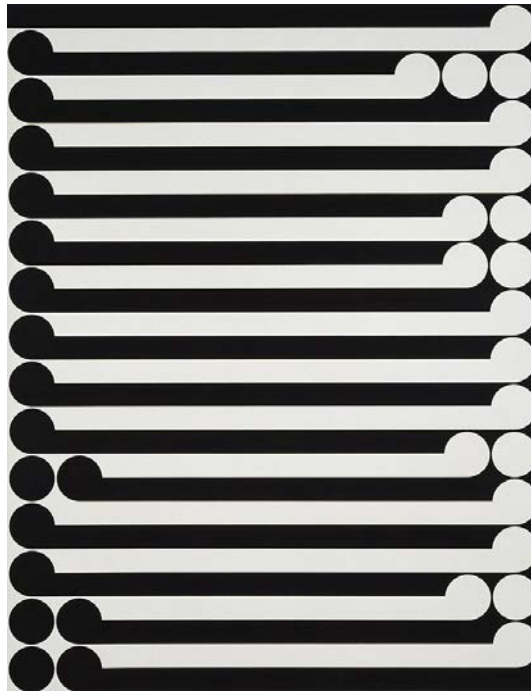
1:500 section through the legible path

The Flip

Initially I didn't understand that the flip between figure-ground was my fundamental inclination throughout this entire research, but upon reflection I recognised the aim behind my creative process and architectural outcome has been this flip all along. What is the flip?

Figure ground is a perceptual grouping tool that enables us to identify the figure from the background. Positive space, solid or black often is the figure in the composition and negative space, a void or white is the ground. This concept is a perceptual skill used by everyone in everyday life, but art and architecture explicitly address the skill. Some alternative terms for figure ground used within art and architecture are foreground background, positive-negative, object-background, built-unbuilt and architecture-context. Grouping the elements enables us to understand patterns as we compare objects to what they are not.

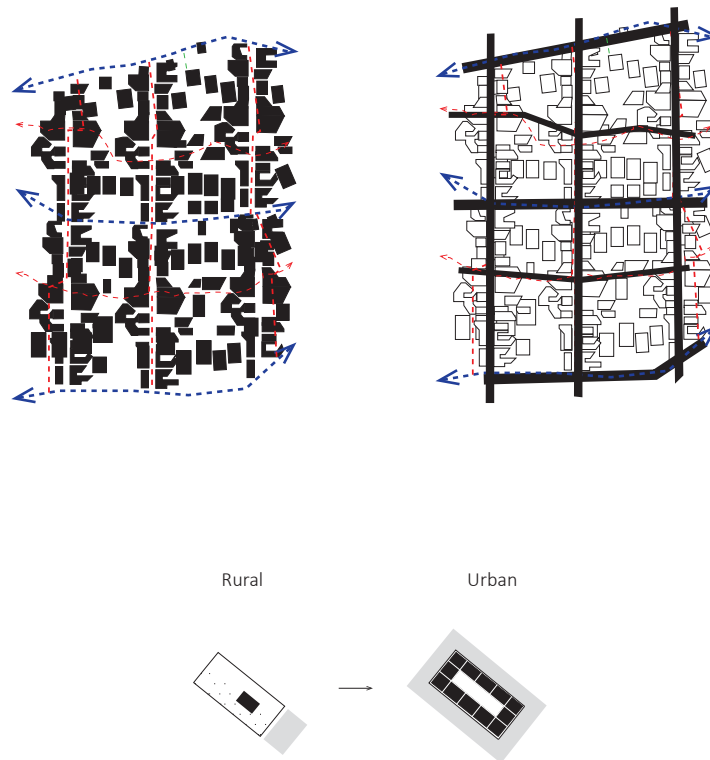




Gordon Walters

When thinking about figure ground examples it is hard to avoid the koru paintings by Gordon Walters, one of New Zealand's most significant artists. The painter plays with our perceptual understanding of figure ground organization of form and space. Walter's figure ground compositions create a dynamic relationship where it is challenging to convincingly identify the figure from the ground. The circles position is highly ambiguous because they are both visually in front of yet visually behind the black bands. Ian Scott explains how Gordon Walters koru painting operates by saying,

It is within this frontal flat pressure between the bands and circles and the transference of negative to positive space that one begins to get into the real complexities of the koru system. Each band somewhere along its length changes visual priority, so that while it is still a component of a visual field, each band is also a separate entity running horizontally, gradually switching spatial position from 'positive' to 'negative' (Ross, Simmons, & Walters, 1989, p. 11).



How is figure ground operating in my design? The dynamic of figure-ground links back to the initial project brief, where I aim to flip the Hataitai rural morphology to an urban morphology. In a rural model, buildings sit as isolated figures in the centre of large sections, the houses form the architectural intervention. Alternatively, in an urban model, the buildings meet the streets to form an edge, it is more about moulding the spaces between rather than forming the figures.

In my proposal, I flip the relationship between figure and ground; ground becomes figure and figure becomes ground. In other words, I flip the houses to be the background and the paths to be foreground. The public and private realms similarly take on this 'flip', where the

public activity shifts into focus.

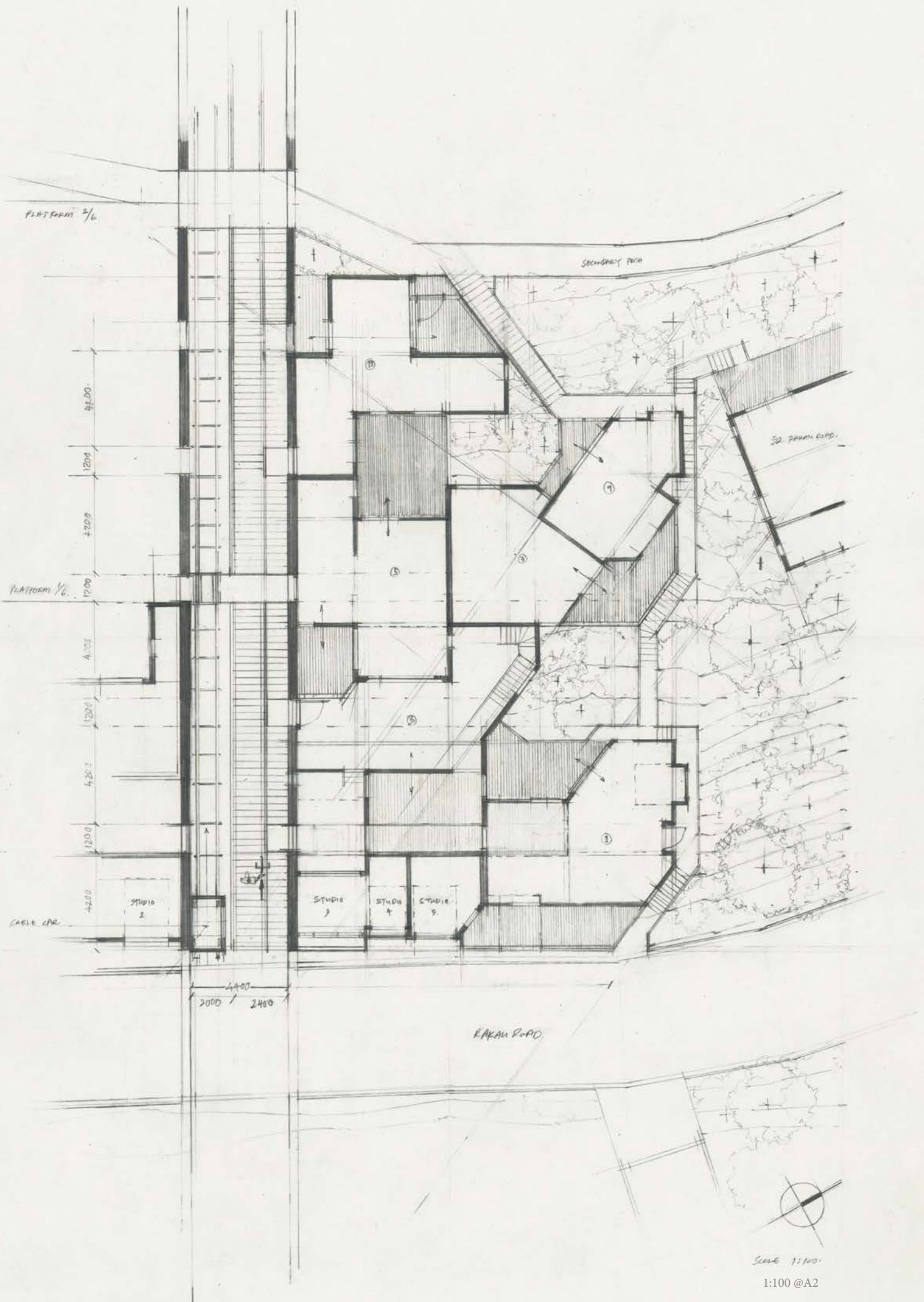
The existing Hataitai fabric reflects more of a rural model where large sections are occupied by small central figures. The hillside is an existing fabric with houses scattered over the landscape, so figures are already established, and the ground is cut out of the figures. Rather than the conventionally urbanized city that lays out the road network then builds figures into the gaps between the roads. An implication from cutting ground in rather than adding figure to complex relationship between what is read as figure or ground. Complex, but still a stable relationship as you can make sense of figure-ground by looking further, unlike waters where you are forever uncertain. I would love for Walters dynamic relationship to materialise in my design, but I am not sure how it could.

Figure 185.

Figure ground flip, from the paths are pulled to the foreground

Figure 186.

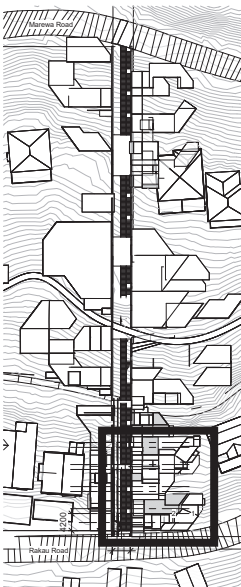
Diagram of rural-urban flip



Scale 1:100

1:100 @ A2

Hybrid



This proposal's motivation is to flip the rural and urban model to encourage density, walkability and liveability, but I also understand that Hataitai's hillside is unequivocally different to the streets of a completely urban setting. Buildings meet the street edge to form a clear boundary of where the envelope starts and where public and private space is, in a completely urban setting. New Zealand contexts encourage the connection to landscape, greenery and soft edges, where you can cross between indoor and outdoor environments. Imposing a strictly urban structure in Hataitai, would refuse the suburb from this fluid cross over between interior and exterior. I try to design soft edges that provide opportunities where public and private space is blurred then moments where distinct boundaries are communicated. The flip from rural to urban isn't a clear transition, it is a hybrid between rural, urban and suburban models.

Figure 187.

Figure 188.

1:100 Plan callout of the Rakau Road end of the path

Reference plan

Seoul Biennale of Architecture and Urbanism

The 2019 Seoul Biennale of Architecture and Urbanism was themed 'Collective Cities', exploring how cities of vastly different populations, economies, and cultures share many of the same obstacles, but approach them in many ways. Our exhibition presented the Hataitai pathway urban scheme, adding to the conversation on low density car-oriented cities. Korean born, Dongsei Kim, and Sam Kebbell co-curated the Wellington Exhibition. Ariana Faulkner, Eleni Timoteo and I produced the work with the curators, then before the opening in November 2019 we travelled to Seoul to set up and attend the exhibition.

The exhibit included a hand sewn map of the existing road network and the proposed pathway scheme, above a satellite image of the current situation, below an 1880s Hataitai map of when the land was farmed, steel rods held drawings of the view up the potential pathways and the mirror on the back wall reflected a photograph of the current situation on the rods. Experiencing the exhibit is from past to future situations, in vertical and horizontal axis as shown in fig 189.

Developing and executing the work for the exhibition was extremely challenging yet equally rewarding. The exhibit was the closest experience to architectural practice, in terms of seeing the project through from concept to construction within a team. We produce working drawings for the Korean construction workers, presentation images for the Biennale booklets and the model. Seeing the iterative design process and 3d visualizations of the exhibit, then experiencing the built reality of the exhibit was humbling



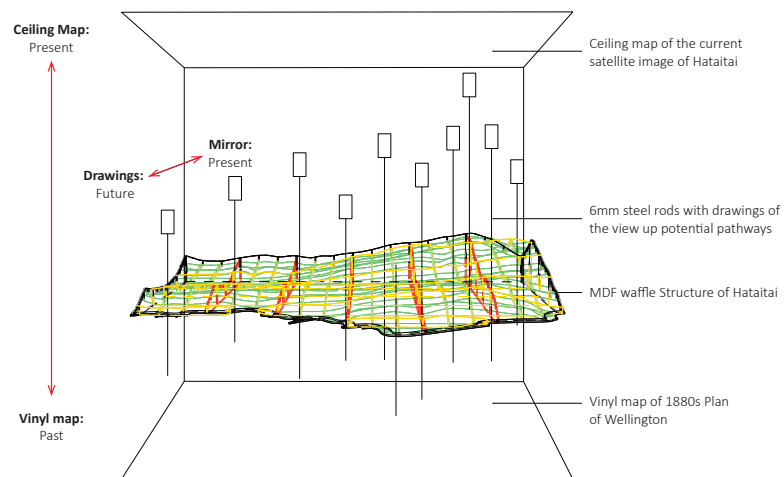
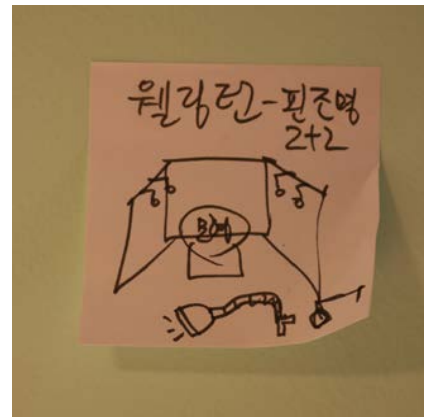
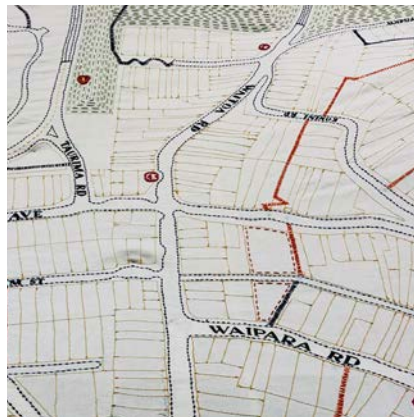
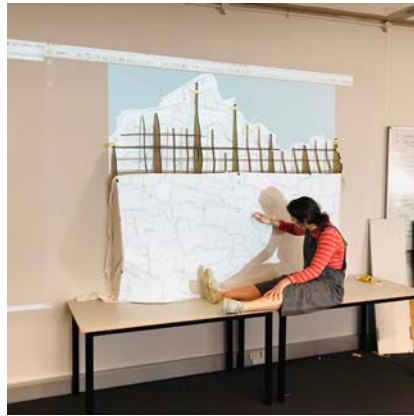
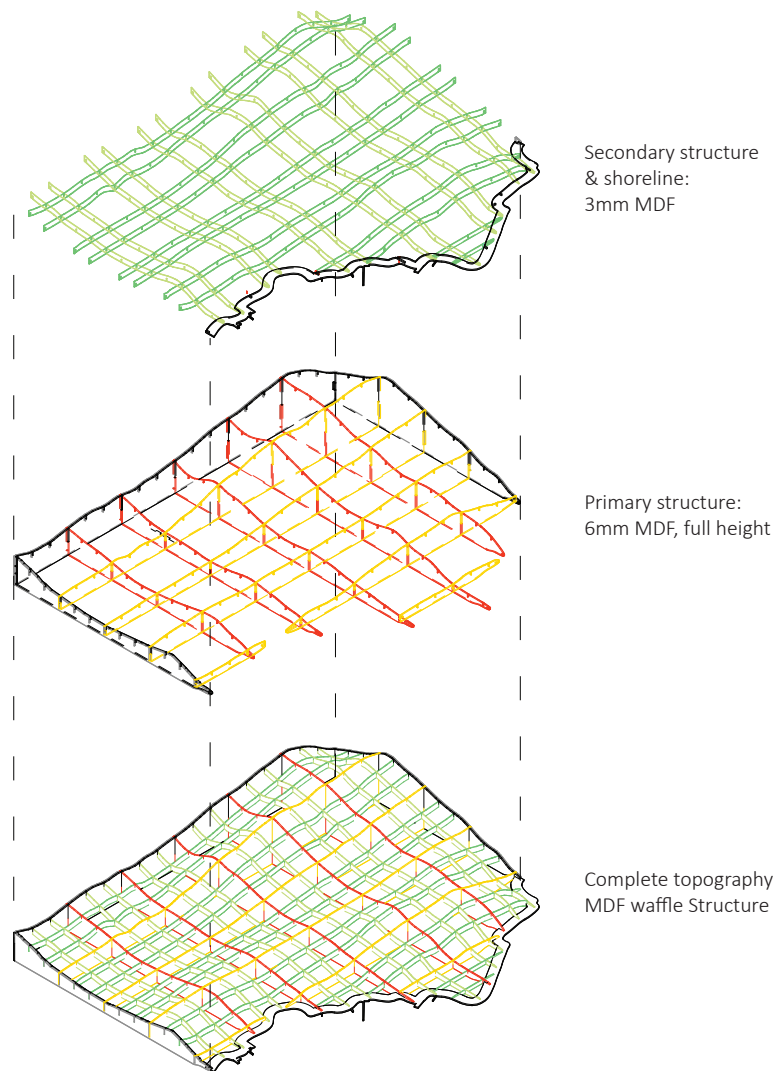


Figure 189.
Figure 190.

Diagram of exhibition
Exhibition





and rewarding. It gave me confidence and pride in our architectural skills and design process developed over our years of study. Succeeding wasn't about getting a good grade; it was a sincere team effort where everyone wanted to produce a beautiful exhibit to succeed for each other. Through my architectural studies there has always been an inescapable selfish incentive behind the work produce, even in group projects there has been an underlining awareness that you need to fulfil the expectation of a marking schedule. Whereas, this 'collective cities' experience was also about collective achievement and learning to be apart of something more than just you. The collaborative work taught me to divide workload, compromise, problem solve, communicate and learn off each other.



The success didn't come without its challenges, the cultural barriers such as, the language barrier, lack of maps and the cities reliance on local knowledge resulted a disconnection in our process. For example, a simple task of buying glue was difficult as we couldn't speak Korean and couldn't find a store. We befriended locals to take us material shopping, as local knowledge was the only way to find the small stores. The major learning curve we faced was our expectation of construction standards didn't align with the biennale workers. The Korean organizers requested working drawings for construction to take place before we arrived. We produced drawings which detailed every down the millimeter, yet our exhibition space was incomplete when we arrived. Not only this, but the construction workers came to finish the space and carelessly used staple guns and craft knives on site rather than referring to the well thought through detail. Language and standard of construction was a barrier, but we learnt to voice our expectations when crucial and compromise on less significant areas of the exhibition.

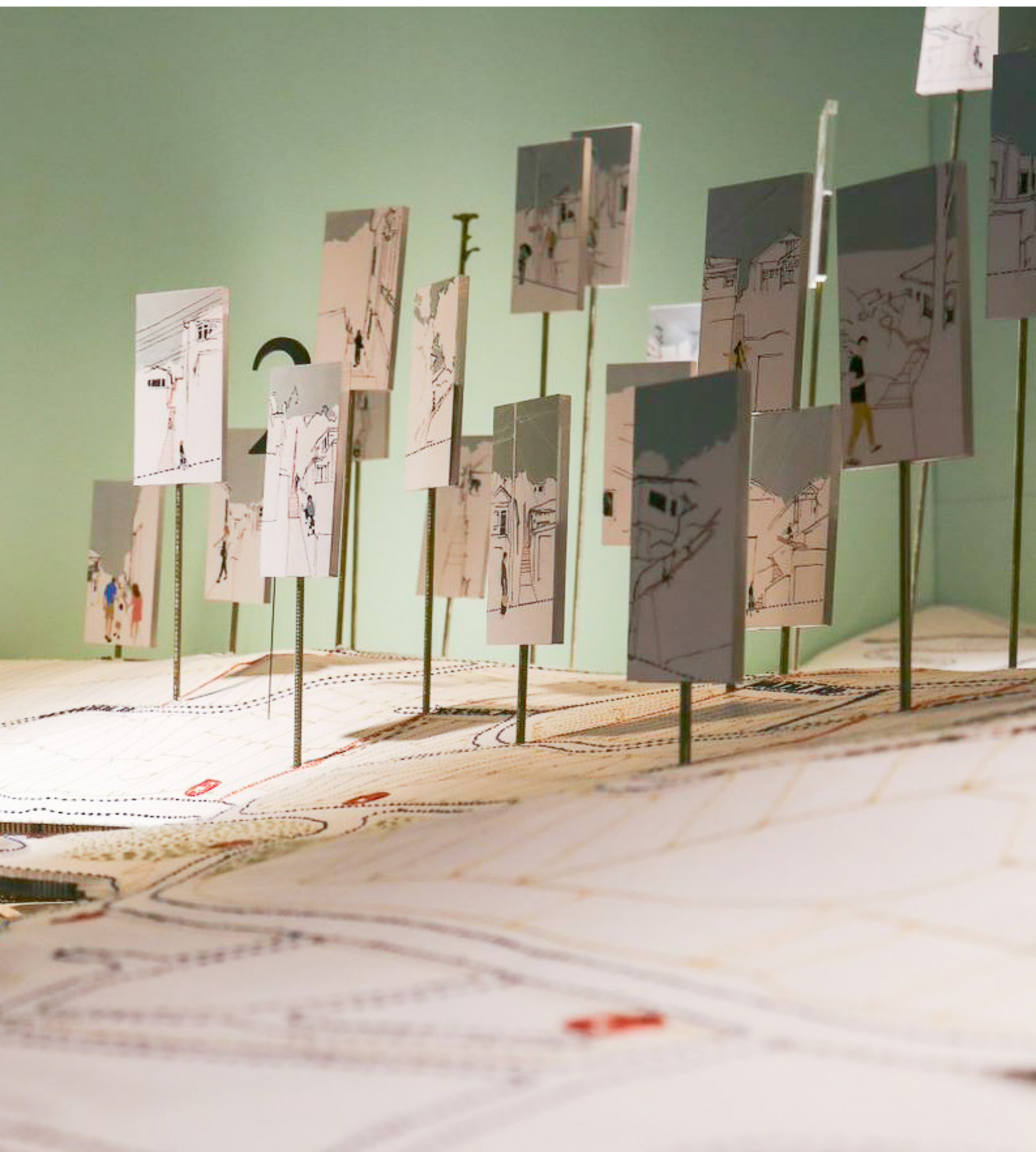


Figure 193.
Figure 194.

Looking down on the model
Close up of all the components coming together



Figure 195.





Conclusion

With Wellington's population expected to grow, Hataitai just a few kilometres away from the city centre, needs to consider how it can actively shift the existing transport infrastructure towards a pedestrian focussed transport system to both facilitate the growth and enrich the potential urban environment. The combination of Hataitai's countryside roots, steep topography and the current regulatory environment creates rigid parameters to transition Hataitai to a more walkable city. However, Hataitai's low-density and car-oriented infrastructure needs to be challenged before the organic development that created Hataitai continues to cover the hillside with no real intent or thought for the wider city and its implications. The Hataitai path scheme presents a possible solution to make the shift to a walkable Hataitai.

I began by drawing both the buildings and the path as legible elements, and I was attempting to experiment with the degree of complexity across the whole scheme to make it 'interesting' and possibly more 'engaging' like the visual artists describe viewing work. However, I reveal how my creative process pushes me back to legible forms, even though I would search for the ambiguity and complexity to exist across the whole scheme. I discovered when legibility operates alone, the architectural language could fall into being an architectural object, and alternatively, when complexity operates alone it could become "invisible architecture", either way creating unengaging architecture. My use of 'erasure' set the complex texture and the legible path into dialogue. The building could be complex and hard to read, but at the same time the path could cut through this complexity very simply, it is at this point of realisation that the project began to make so much more sense and "operate" as the artist would describe it.

Not only did the buildings and the path both gain visual strength from the other, but I conceived a formal strategy that could be expanded across the suburb. When zooming out from my site and to the overall pathway

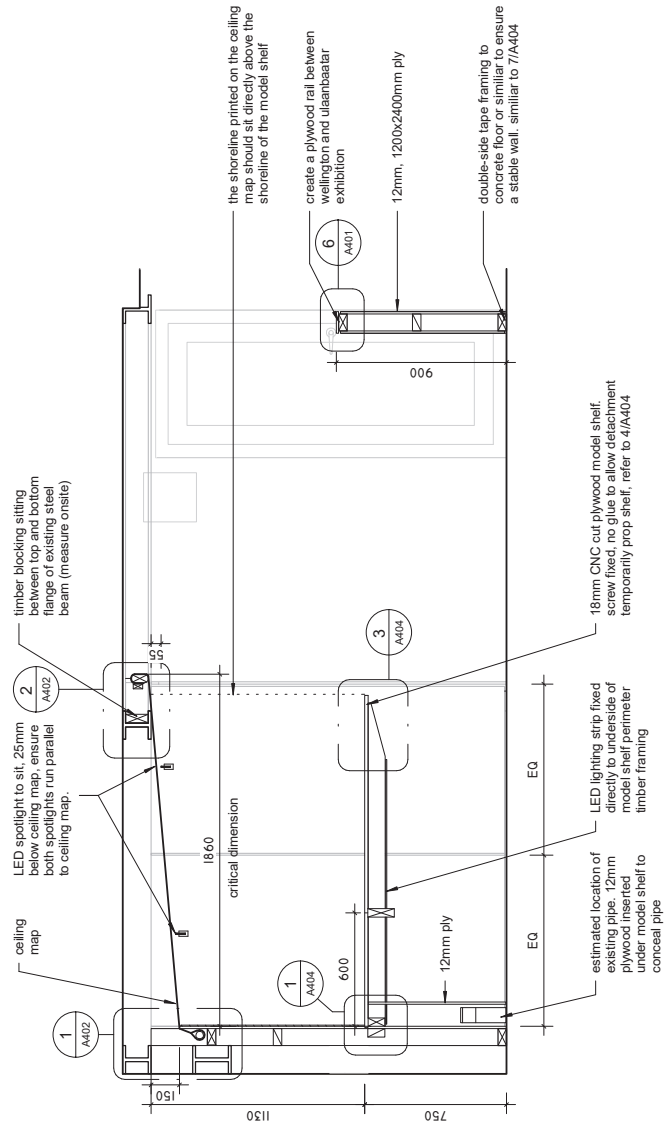
scheme, I now have a formal strategy that can be applied to all the pathways. It is not a 'copy and paste' solution but instead my creative process has developed a formal language for a more walkable Hataitai, which makes sense out of density and flips the typical formation of figure and ground to foreground pedestrian activity, public space and collective housing.

The formal language of an entire neighbourhood is only considered through council regulations that control what individual designs 'must' do for the street or the site, rather than the urban grain. The collective contribution of each project that conforms to these regulations, results in the urban architectural language. This architectural language is considered by urban planners who often think through the research methods as a kind of 'science of design', such as, Jan Gehl's toolbox' solutions for city design (Gehl & Rogers, 2013, p. 231). This rigid and pragmatic approach leads to the substitution of creative thinking by simplified and passive spatial solutions which don't engage in a high degree of dialogue with the city. This research could benefit a wider urban design conversation by presenting an alternative approach to the way we design our cities, possibly leading to richer urban environments which engage us in dialogue.

I can't uncover all my tendencies through one project, but I have begun a dialogue with myself which can continue through future practice as my tendencies, networks and processes evolve. Through this research I have become much more conscious of my inclination towards legibility and how I oscillate between processes to achieve either complexity or legibility, relying on drawing to introduce the complexity and messy digital modelling to introduce legibility. Knowing how I work means I can recognize and build on patterns which might take the research on rich lines of enquiry that wouldn't have appeared without my tacit knowledge being explicit.

Seoul Biennale of Architecture and Urbanism -Wellington Exhibition working drawings. Drawn by Emily Dalley, Ariana Faulkner, Eleni Timeteo (2019). Under the supervision of Sam Kebbell from KebbellDaish Architects.

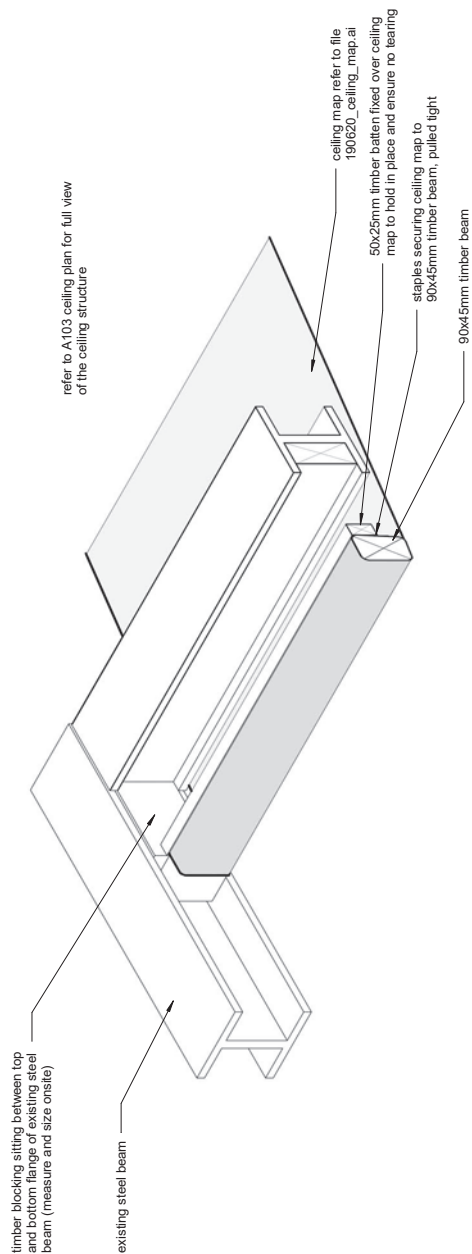




Section - East

The contractor shall verify all dimensions on site. Use figured dimensions. Do not scale off drawings. This drawing copyright KebbellDaish Architects Ltd

Revision	Date	Description
PN:	1907	Revision
Drawn:	Asana	Drawing Number
Issue:	Amended Submission	A201
Date:	22.06.2019	
Scale:	1 : 20 @ A3	SBAU - Wellington



note:
ensure the ceiling map canvas does not pull or
tear at any point, ensure a clean finish along
both edges

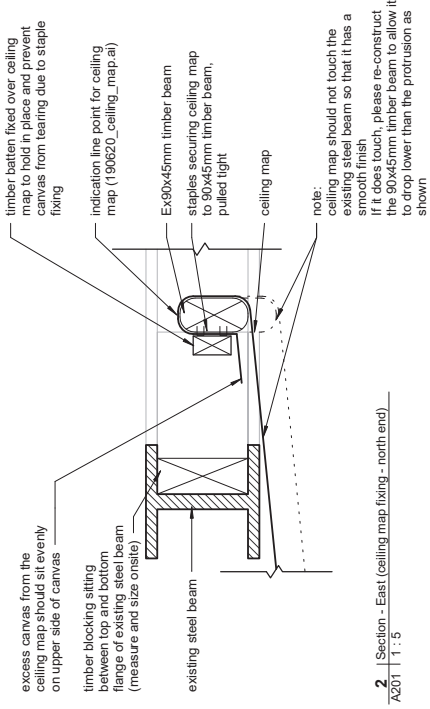
1 Ceiling Map Isometric

Details - Ceiling Map Iso

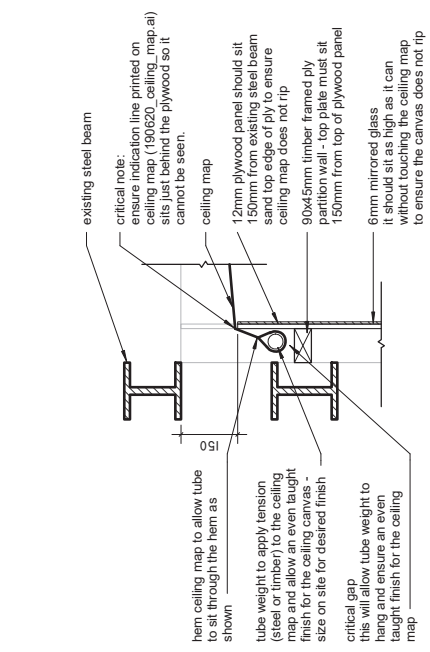
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Revision	Date	Description	PN:	1907	Drawing Number	Revision
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			Issue:	Amended Submission		
			Date:	22.06.2019		
			Scale:	@ A3	SBAU - Wellington	

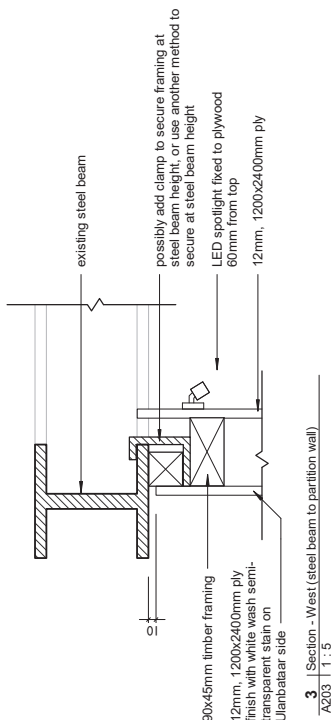


2 | Section - East (ceiling map fixing - north end)
A201 | 1 : 5



1 | Section - East (ceiling map fixing - south end)
A201 | 1 : 10

- Note:
- please use the indication lines that are printed on ceiling map 190620_ceiling_map.ai to ensure it sits in the correct location, the indication line on the south end is the most critical
 - the shoreline printed on the ceiling map should sit directly above the shoreline of the model shelf, refer to perspective A406. Please adjust the ceiling map accordingly before fixing
 - the tube weight must not apply too much tension to the ceiling map to avoid ripping around staple fixings at the north end
 - please ensure no text on on the ceiling map is showing.



3 | Section - West (steel beam to partition wall)
A203 | 1 : 5

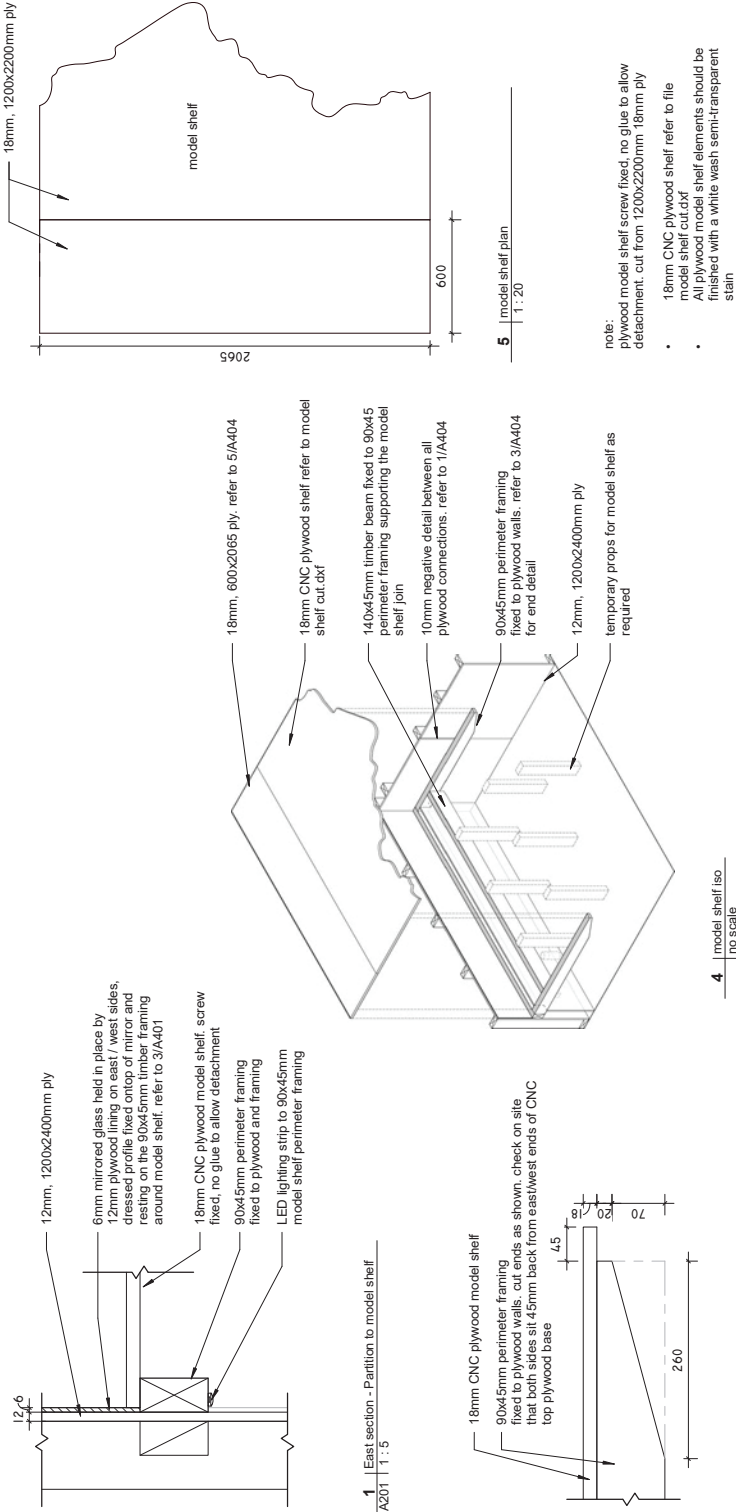
Details - Ceiling

The contractor shall verify all dimensions on site. Use figured dimensions. Do not scale off drawings. This drawing copyright KebbelDaish Architects Ltd



Revision	Date	Description

PN: 1907	Drawing Number	Revision
Drawn: Eben		
Issue: Amended Submission	A402	
Date: 22.06.2019		
Scale: As indicated @ A3		SBAU - Wellington



Details - Model shelf

The contractor shall verify all dimensions on site. Use figured dimensions. Do not scale off drawings. This drawing copyright KebbellDalsh Architects Ltd



Revision Date Description

PN:	1907	Drawing Number	Revision
Drawn:	Emily		
Issue:	Amended Submission		
Date:	22.06.2019		
Scale:	As indicated @ A3		

A404

SBAU - Wellington

List of figures

All figures not attributed are my own

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Figure 15. Alexander Turnbull Library. (1884). The excavation for the tram tunnel has begun. In Hataitai: A Collection of MemoriesI-Howman, & E.Lindsay Whitcoulls.

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Figure 157. Siza, A. L. (2015a). In 1999 CASA TOLO. <http://www.alvaroleitesiza.com/casa-tolo/#IMAGES> (pp. view up the stairs): alvaroleitesiza.

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