Revisiting the Bach:

A model for New Zealand's coastal holiday communities

by

Luke Keegan Cunningham

A 120-point thesis
submitted to the Victoria University of Wellington
in partial fulfilment of the requirements for the
degree of Master of Architecture (Professional)

Victoria University of Wellington
School of Architecture

2021

Figure 0.11: Tairua Beach, Coromandel. Digital Photograph.
Authors Own (2020).

Abstract

The original holiday architecture of New Zealand's coastline has faded from the nation's memory. The bach was once an icon of national culture; it represented a simple, easy-going lifestyle that many aspired to adopt during holidays and on weekends. As some may remember, the bach was a small building that facilitated the very basics of life in a coastal context. It was small, in-expensive, and built with a strong sense of its surroundings.

Regulation around building code compliance and resource management have slowly seen the coastal landscape change. Second homes are now required to be built professionally, usually on privately developed land. Subdivisions filled with luxurious beach houses now overwhelm the natural environment, as land-owners compete for their slice of sea-side paradise.

This research aims to challenge the status quo by looking to the modest baches of the past for architectural solutions. Research into the bach typology uncovered what made them so treasured as holiday facilitators; whilst a model of shared land ownership addressed issues surrounding the planning of coastal buildings. A master planned community located in the Coromandel Peninsula at Waikawau Bay was developed to join these two facets together. As one of the last undeveloped beaches on the Peninsula, Waikawau presented a unique context for this research.

Data-collection on historic bach buildings was completed through the method of *Thematic Analysis*. Following this; *research through design* reintroduced the architectural qualities of the bach to a contemporary context. The results showed that through shared-ownership models, the Coromandel Coast could continue to be developed and even densified through new planning methods and revised architectural design.

These results suggest that future development of our coastlines can still occur, but new ideas about the planning and ownership of holiday towns are required; ideas that should be fore fronted by community and place, to sustain and enhance the coastal landscape.

For Mum and Dad, Anna and Daniel. I'm sure you'll all find something worth reading in here.

Preface

My parents chose to move away from the hustling, bustling city of Auckland when I was three years old; opting instead for the sleepy town of Cooks Beach on the Coromandel Peninsula. Their motivation was simple: they wanted to relocate to a place where their family could enjoy a relaxed lifestyle in a more natural environment.

The Coromandel turned out to be an epic place to raise a family, offering many opportunities for someone with a taste for the outdoors. My family has, in the years since, enjoyed a lifestyle that many Kiwis dream of. Lighting a fire on the beach; diving for a feed of mussels; or surfing till the moon rises; are just a few of the activities one can indulge in at the interface between land and sea. I have since developed a special bond with the ocean and coastline, and wanted to include these landscapes in my thesis project.

This thesis explores new ideas for dwelling in a coastal landscape, with special reference to the holiday buildings of our country's earlier years. I wanted to challenge the status quo, which sees holiday regions like the Coromandel developed similarly to an urban environment. The result is a speculative research project that adds to the conversation on development of coastal areas for holiday and recreation.

Figure 0.12: Purangi Estuary. Digital Photograph. Authors Own (2020).

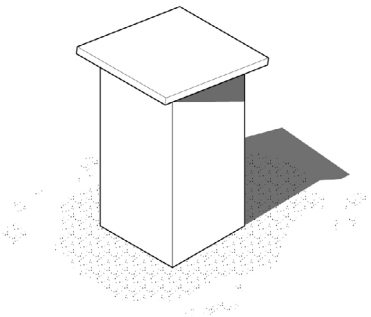
Figure 0.13: Forgotten fence post. Digital Photograph.
Authors Own (2020).

Acknowledgements

Many thanks to my supervisor, Peter Wood for
sharing your extensive knowledge with me.

Thank you to my friends and classmates, and
most importantly, the boys at the bach.

Contents



Chapter One

INTRODUCTION

Figure 1.11: Hot Water Beach. Digital Photograph. Authors Own (2020).

1.1 *Problem Statement*

New Zealand's coastlines are littered with beach homes that show little shared connection to the landscapes that inspired their creation. Driving this trend is a significant national history of second homes or baches and a romanticized holiday culture.

Increasing environmental concern around housing has seen building codes and planning regulations brought into the second home landscape, which effectively treat second homes as equal to the primary residence. Professionally constructed houses and highly planned subdivisions have therefore become the new normal, contributing to a rise in coastal property value.

But with the holiday culture reportedly as strong as ever, and increasing concern around the sustainability and affordability of housing; it is unclear how much development our coasts can take, before the culture is permanently affected. Arguably, we have already lost original qualities of the New Zealand holiday, in favour of luxury and amenities. Some welcome these changes, but others prefer a simple lifestyle when spending time away.

It is possible that thoughtful building design and new ideas around the planning of coastal property can, once again, make the seaside holiday simple and accessible to the majority. This thesis therefore questions:

> *How can coastal villages better reflect New Zealand holiday culture through revised bach design and planning?*

1.2 *Aims and Objectives*

Research Aim:

This thesis challenges the notion of the large holiday house to rediscover a sense of place and community within holiday villages. The core idea of this thesis is one of shared coastal property, rather than private ownership; thus making holidays enjoyable and accessible to all.

Research Objectives:

RO1: To study historical discourse that offers details of early holiday buildings and their respective cultural and societal drivers.

RO2: To offer insights into how the architectural qualities of favourable buildings can contribute to a sense of place in holiday locations.

RO3: To explore how a series of buildings can be planned to sustain and enhance the qualities of a coastal site, while testing how a community can reflect the nature of its surroundings.

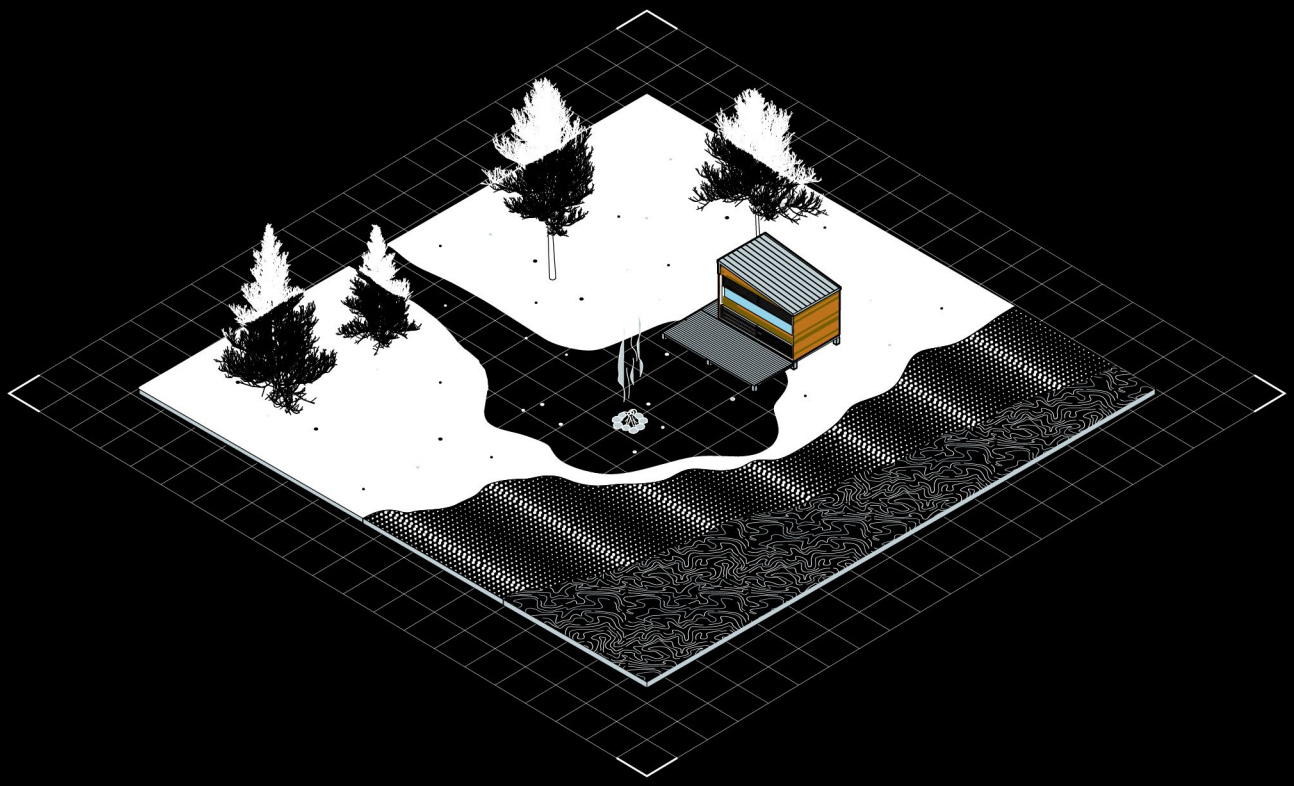


Figure 1.21: Early Design Experiment. Vector Artwork. Authors Own (2019).

1.3 *Research Methods*

The proposed research methodology can be split into two groups; *historical data collection* using *Thematic Analysis* as a primary method; and *research through design* using a range of physical and digital tools (see fig. 1.31).

To address Research Objective 1 (RO1), an extensive literature study is proposed to understand the intricate background of baches and the culture that constructed them. A series of case studies then examines buildings that are favourable to the proposed design research. A database of selected buildings is compiled, with significant architectural and physical qualities to be noted. This database sets up an architectural language that can be further explored and applied to a site in the research through design phase of investigation.

Design research begins with abstract interpretations of case study buildings, such as diagrams and models. Successive iterations through different modes such as drawing, modelling and photography gradually layer complexity into the architectural language established in the historical research phase. Physical and digital methods are used in conjunction to test and develop the language. *Research through design* initially takes place without a specific site which allows more creative freedom in the concept design phase. Finally, a site is selected and the architectural language is further developed with reference to the specific site qualities. RO2 and RO3 are primarily addressed in the design phase of research.

The two method groups work together to produce a solution to the Problem Statement. Tools and methods applied throughout the research have been carefully selected to ensure a convincing final architectural outcome.

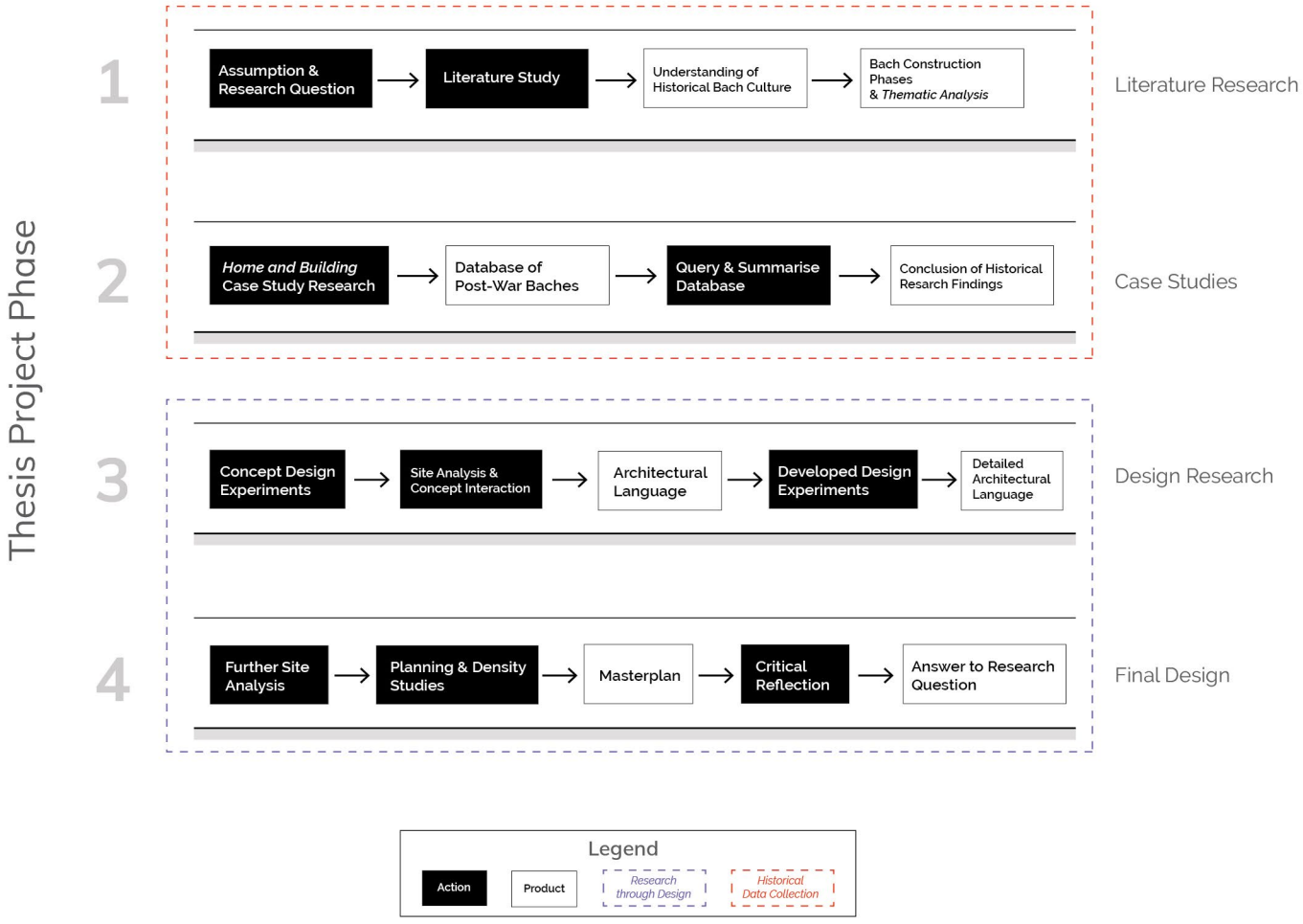


Figure 1.31 Research Methodology Diagram. Authors Own (2020).

1.4 *Thesis Structure*

Chapter 1: *Introduction*

Chapter 1 sets out the Problem Statement and Research Question; it explains the Research Aims and Objectives; it outlines the Research Methodology, Thesis Structure and Scope.

Chapter 2: *The Site*

Chapter 2 provides the physical context for the research. It looks closely at the geography and history of a selected site, which become important factors in later design phases.

Chapter 3: *The Bach Condition*

Chapter 3 explores many of the historical factors that constructed baches as an architectural typology. It proposes a final design outcome with reference to historical factors and existing examples.

Chapter 4: *Methodology*

Chapter 4 sets up the primary historical research method and details the phases of a study of post-war baches. It concludes with a series of findings and a database of buildings for use in Chapter 5.

Chapter 5: *Design Experiments*

Chapter 5 develops an architectural language to address RO2 and RO3. It uses a series of tools to iteratively build on the database of buildings, resulting in an original design framework.

Chapter 6: *A Holiday Community*

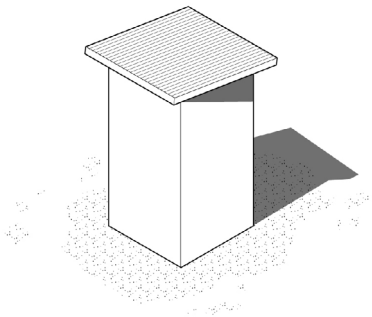
Chapter 6 details the final design stages and results in a master planned community. It critically reflects on the research findings and relates these to the wider body of knowledge, and considers how they have addressed the Research Question, Aims and Objectives.

1.5 *Scope*

Due to the scale of the final masterplan, key issues that are typically significant in a conventional architectural project are not within the scope of the proposed research. Parameters such as services design, structural analysis and weatherproofing are not addressed to the extent they should be, if to be built under the New Zealand building code. Financial considerations involved with the final design are also outside the scope of this project.

The proposed research aims to add to the collective discussion on coastal housing and holiday communities in New Zealand. It reflects on what could be explored along our coast in future years, under ideal circumstances.

It therefore does not consider all aspects that need addressing, if such a project was to be constructed in 2021. Some aspects of the research findings are more poetic than pragmatic, which reflects the nationally romanticised holiday culture, and continues the discussion of: *What if?*



Chapter Two

THE SITE

2.1 *Coromandel Peninsula*

2.1.1 Geography

The Coromandel Peninsula is a large coastal strut that lies 55 kilometres to the East of Auckland city. The Thames-Coromandel district covers the Peninsula and all of its offshore islands; it's defined from the rest of the Waikato by the town of Whangamata on the East Coast and Thames on the West. Although only 40 kilometers wide at its widest point, the two coasts are relatively isolated from each other, due to the Coromandel and Moehau Ranges that run up the centre of the peninsula. These ranges also isolate the district from its provincial neighbours; Waikato - which it is officially a part of - and Bay of Plenty. To reach the Coromandel's beautiful coasts, a tedious drive must be undertaken over the central ranges or Te Paeroa A Toi (Toi's long mountain range). For these reasons, "the Coromandel Peninsula, is in many respects - cultural and geographical - like an island" (King, The Coromandel 1).

Figure 2.111 (Opposite): Map of Coromandel Peninsula. Vector Artwork. Author's Own (2020).

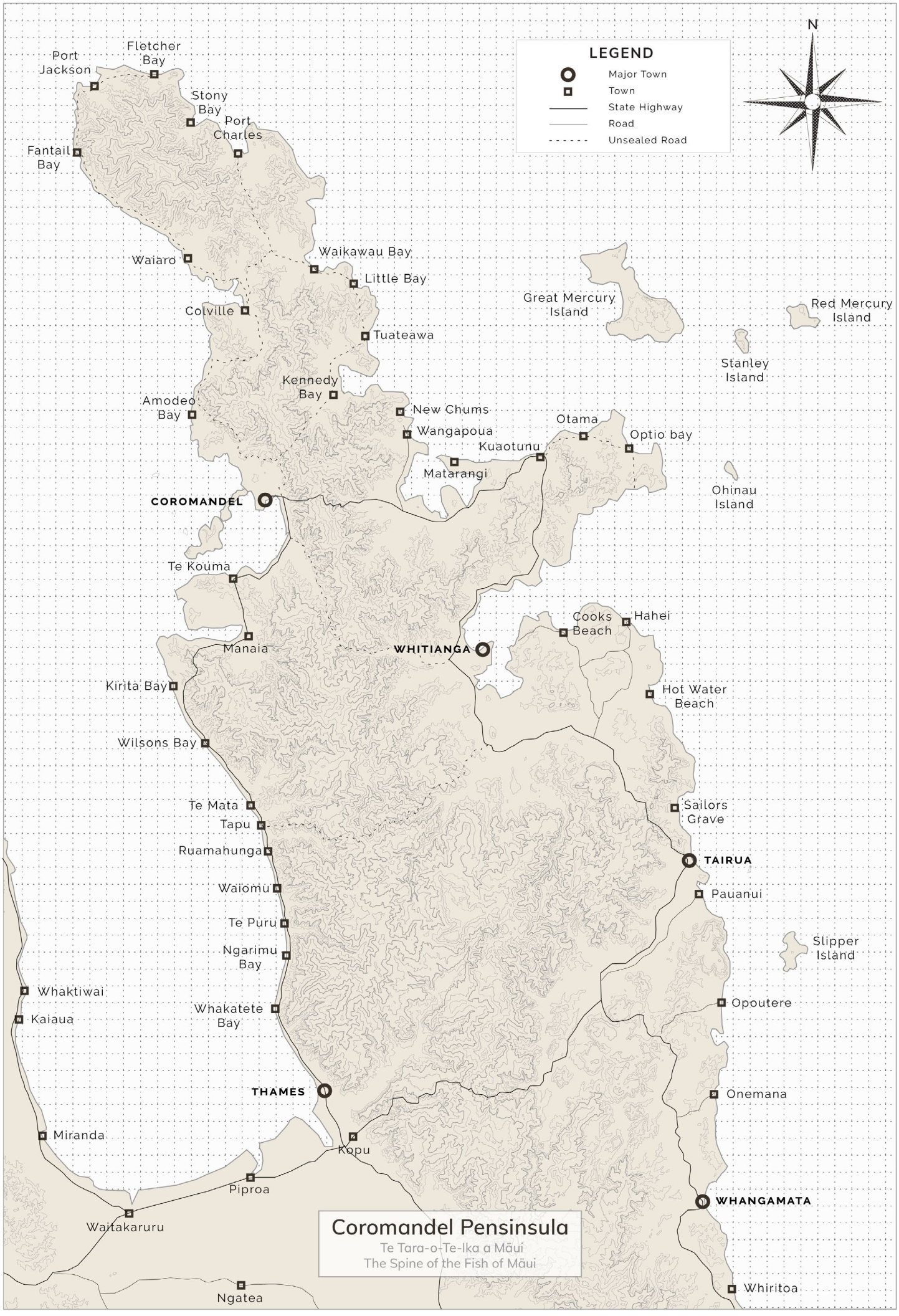

LEGEND
Major Town
Town
State Highway
Road
Unsealed Road
N
Port Jackson
Fletcher Bay
Stony Bay
Port Charles
Fantail Bay
Waiaro
Waikawau Bay
Little Bay
Colville
Tuateawa
Great Mercury Island
Red Mercury Island
Stanley Island
Kennedy Bay
Amodeo Bay
New Chums
Wangapoua
Otama
Optio bay
Kuaotunu
Matarangi
Ohinau Island
COROMANDEL
Te Kouma
Cooks Beach
Hahei
Manaia
WHITIANGA
Kirita Bay
Hot Water Beach
Wilsons Bay
Te Mata
Tapu
Sailors Grave
Ruamahunga
TAIRUA
Waiomu
Pauanui
Te Puru
Slipper Island
Ngarimu Bay
Whaktiwai
Kaiaua
Whakatete Bay
Opoutere
THAMES
Onemana
Miranda
Kopu
Piproa
WHANGAMATA
Waitakaruru
Coromandel Pensinsula
Te Tara-o-Te-Ika a Māui
The Spine of the Fish of Māui
Ngatea
Whiritoa

Figure 2.112: Marine Vessle.
Author's Own (2020).

Climate and Marine Conditions

The region, like much of the North Island, is classified as having a temperate oceanic climate, “characterised by relatively warm temperatures in the summer and relatively cold temperatures during the winter” (Chappell 22). However, like other coastal areas, the ocean regulates air temperature near the coast, neither getting too hot or too cold. In the Coromandel region, the sea generates a relatively comfortable mean air temperature year-round, which further contributes to its appeal as a holiday destination. The sea surface temperature around the peninsula gets only as low as 16°C during winter, while it often reaches a sub-tropical 21-22°C in late summer (Chappell 21). These mild marine conditions, combined with the multitudes of offshore islands and kilometers of untouched coastline found in the region, provide much of the reason that families holiday here. With dozens of beaches and islands at easy access from many of the region's settlements, there is ample opportunity for recreational activity and fishing. At only a few hours drive from many of the North Island's major urban centres, marine sports and recreation are accessible to anyone with a boat, kayak or a pair of board shorts. In the last few decades, as the region's settlements have grown and the number of summer residents has gradually increased, many have chosen to place their holidays here in the off-season, which is typically during Spring or Autumn. Year-round warm weather and a forgiving marine environment have contributed to this trend, allowing for a more pleasant stay in the region in the time leading in or out of summer, when less people are around.

Proximity to Centres

On a map, the district forms a geographical

Figure 2.113: Hot Water Beach, Coromandel. Digital Photograph.
Author's Own (2019).

Upper North Island

New Zealand

Auckland, Waikato & Bay of Plenty

Figure 2.115: The 309 Road between Whitianga and Coromandel Town. Digital Photograph. Author's Own (2020).

square with three of the North Island's major population centres; Auckland, Hamilton and Tauranga. Each are approximately two and a half hours drive from the centre of the Coromandel region. Proximity to these centres is a major contributing factor in the region's annual population explosion, which is often noted as beginning on Boxing Day. Much of the region's infrastructure swells with cars, boats and caravans as many finish work for the year and begin their Christmas-New-Year holiday. As domestic vehicles have become more affordable to families, and New Zealand's roads have improved in quality and upkeep, more of the Peninsula has become accessible. Much of the way the peninsula is now populated can be attributed to the motor car (Mitchell 19). Just as motor vehicles have made it easier for the Kiwi family to pack up their belongings and head to the beach, it has also meant that harder-to-reach settlements in the Coromandel have stayed relatively isolated. Towns such as Colville, Port Charles and Port Jackson in the far north have tiny populations compared to the popular resort towns found further south. The Peninsula's northern roads are unsealed, narrow and wind around harbours and through native bush. These rough and often dangerous

Figure 2.114 (Opposite): Map of Upper North Island. Vector Artwork. Author's Own (2020).

Figure 2.115: Hot Water Beach, Coromandel. Digital Photograph. Author's Own (2019).

roads make travelling north of Coromandel Town and Whangapoua more difficult and time-consuming, which is why most opt for the easily accessible southern towns.

Human Geography

The Thames-Coromandel district's population of permanent residents is approximately 27,500, according to a 2017 study (Summerfield 3). The actual population fluctuates over the year with the seasons, and often increases on holidays and weekends when second-home owners use their holiday properties. The district's major settlements include Thames and Coromandel Town on the West Coast, nearer to Auckland and Hamilton; while Whangamata, Tairua and Whitianga are the large resort towns on the East Coast, nearer to Tauranga. Each of these five settlements have strong permanent populations, with robust industry and schooling as key motivators. The major towns all have populations that swell over summer, with Whangamata notably growing the most over the New-Year period. Large holiday resort settlements such as Matarangi, north of Whitianga, and Pauanui, south of Tairua, have small permanent populations, but have huge beach-housing capacity and explode with visitors during the high-season, which is

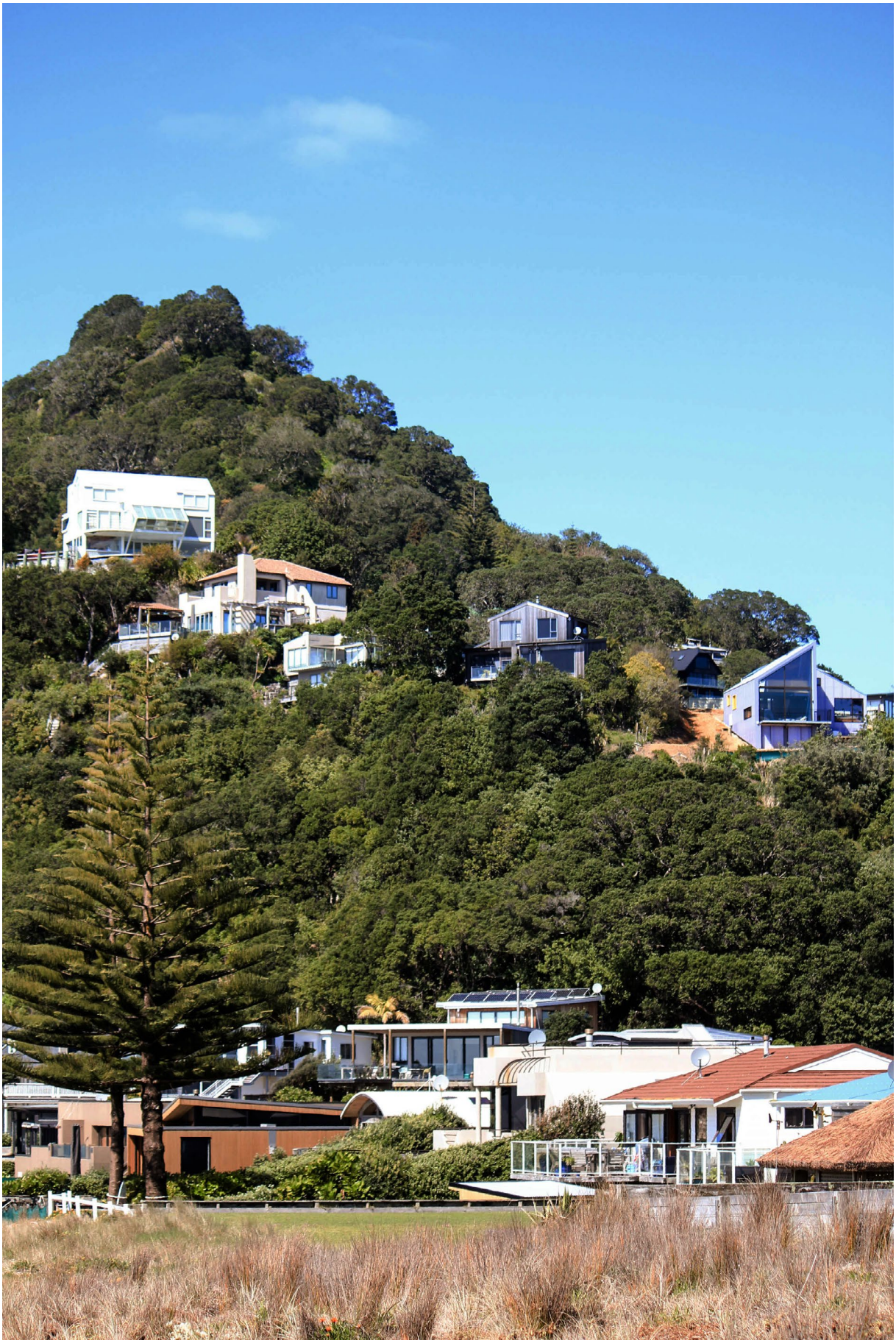


Figure 2.116: Tairua Beach houses, Coromandel. Digital Photograph.
Author's Own (2020).

Figure 2.117: Coastal development in Cooks Beach.
Digital Photograph. Author's Own (2020).

typically from Boxing Day to early January. The peak population of the Coromandel Peninsula on New Years Eve in the summer of 2016/2017 was 126,298 people, a 460% increase in the region's population (Summerfield 4). This heaving summer population thins out as people return to work in the weeks following the New Year, however, many families that can afford to stay around, do. Therefore, the summer population of the region is significantly greater than during the rest of the year.

According to another population study, the resident population of the Thames-Coromandel district is expected to slowly decrease in three of five district wards (Clarke 18). These figures may be attributed to the trend of people gradually migrating to urban areas to live and work. The resident population however, is of low significance to this thesis compared to the summer population. More importantly, dwelling growth in the region is projected to increase, with 3,100 more unoccupied (holiday) dwellings expected by 2045. Furthermore, "This increase in holiday homes may also be caused by existing dwellings being converted to holiday homes" (Clarke 19). Therefore, the holiday population of the Coromandel Peninsula is likely to increase in the coming years, which is a key factor in the development of holiday resorts in the region.

2.1.2 History

Settlement History

The Coromandel Peninsula is a significant place in New Zealand's settlement history, with early settlers of both Maori and European descent having landed there. Being on the east coast of the North Island, it is widely assumed that the Coromandel hosted some of the earliest Polynesian settlers, along with the Northland, Auckland and Bay of Plenty regions. There is speculation around which region was settled by Maori first, though it is known that they travelled West from the Central Pacific Islands, around the 13th Century AD. This would indicate they reached New Zealand's north-east regions before they got to any other coastline. Some of the strong evidence for Maori arrival in the region is in traditional legend, where sea-fairing chiefs such as Kupe named landmarks after themselves and their ocean-going canoes. Te-Whitianga-A-Kupe, now known as Whitianga, translates to 'the crossing place of Kupe' (King, The Coromandel 14). That Whitianga was called the crossing place indicates that the region holds great significance in early Maori settlement of the North Island as this displays that this area was the first place that voyages from the Pacific made land before exploring further. Kupe was a leader of one of the first waves of modern Maori to New Zealand from Polynesia, while descendant chiefs, such as Toi who came later, named the Peninsula's southern mountain range Te-Paeroa-o-Toi or the long range of Toi (King, The Coromandel 21).

The many estuaries, harbours and mudflats found on both coasts provided prime fishing grounds for Maori. Shellfish such as pipi, cockles and mussels could be easily gathered near the water's edge, while "the waters between the shore and the small islands teemed with snapper, trevally, kahawai, kingfish, mackerel and gurnard" (King, The

Figure 2.118: The Pinnacles, Coromandel Range (Te-Paeroa-o-Toi).
Author's Own (2018).

Coromandel 38). Bush near the coastal plain and elevated rain-forest further inland featured large numbers of birds including Moa, which were another great source of food and clothing: “The enormous drumsticks and breast meat provided a welcome change of diet [to early Maori], the giant eggs were roasted by the fires and the skin and feathers were used for both warmth and decoration” (Williams 18). These features, particularly the fishing prospects, would later be welcomed by European visitors and undoubtedly made working in the area easier and even enjoyable.

Figure 2.119: Low coastal bush. Digital Photograph.
Author's Own (2020).

Industry

Early industry on the Coromandel Peninsula consisted mainly of timber milling, and to a lesser extent farming and fishing. Captain James Cook, an English naval lieutenant who was responsible for thoroughly surveying and mapping New Zealand during 1769, explored the region extensively. His ship, The Endeavour first landed in New Zealand at Poverty Bay, near Gisborne. After a series of violent encounters with local Maori there, he returned to sea and tracked north, navigating into the Mercury Bay harbour, where he was successful in gathering food and fresh water and taking astronomical readings in order to establish his ship’s position on the globe (Williams 36). He spent considerable time in the area, mapping the coast and taking further readings before leaving for the Bay of Islands and later returning to England. He reported to those at home of the land of New Zealand, with its abundance of tall, straight trees which looked suitable for boat-building timber. Soon after, the Maori would see the first of many foreign voyages in search of the massive Kauri and Kahikatea trees that grew in numbers in the hills and mountains (Williams 41).

During the early 1800s, ships from Australia and England were travelling to Waiau Harbour to partake in the growing timber trade. In 1820, the Royal Naval ship Coromandel moored in the harbour to load timber and supplies and at this

Figure 2.120: Native Coromandel forest. Digital Photograph.
Author's Own (2020).

time, gave the harbour and township its name (Williams 44). Use of local timber gradually shifted from boat-building material to housing timber throughout the early 19th century and upon transfer of New Zealand's capital city to Auckland in 1841, timber milling operations in the area saw a sharp rise. Auckland, previously a small town, quickly required large, strong timbers in vast numbers to build commercial and civic buildings, as well as many of its new houses (King, The Coromandel 56). Timber mills were shortly thereafter set up in Tairua and Whitianga on the East Coast, and many of New Zealand's early settlers were to take part in the felling and milling of native trees to provide building materials in the newly established country. Kauri in particular, proved to be excellent building timber, with the average tree producing hundreds of metres of high-quality timber (King, The Coromandel 53). Workmen would spend weeks at a time in the hills, felling trees, tumbling them down valleys and floating them via river to the harbours where they would be milled (King, The Coromandel 93). So it was massive trees such as Kauri, Kahikatea and Rimu that initially built and repaired the boats that settlers arrived on; would construct workmen's huts in the bush, and would later build the towns and cities of early colonial New Zealand. The timber industry on the Coromandel Peninsula played a significant role in the nation's early development and would produce another major industry shortly after.

It was through timber operations in the region that the first pockets of gold were discovered in the 1850s. Prospectors discovered quartz rock in the hills behind Coromandel Town that contained gold and soon, many flocked there to take part in the exciting new industry (Williams 61). Gold-mining operations were set up in Thames, Coromandel Town and Waihi, of which the latter would grow to be the largest and most long standing. Thames, at the Southwest corner of the Peninsula,

Figure 2.121: Bush-clad hills at Waikawau. Digital Photograph. Author's Own (2020).

Figure 2.122: Low-lying Flax and Manuka. Digital Photograph
Author's Own (2020).

became a particularly large settlement due to it's proximity to Auckland and the Waikato, and its nearby goldfields. During the gold-rush period, it was the third largest settlement in New Zealand and was at one stage considered for the capital city (King, The Coromandel 89). The gold-mining era was expensive and stuttered as fields were depleted. Although it produced fortunes for some, many quickly had to change occupation to continue to earn. Similarly, timber milling operations grew slow by the 1920s as the inland Kauri forests were depleted and soon, much of the country's focus would be on the First World War. The boom-bust nature of these industries meant many moved out of the region and the towns became sleepy for several decades. Two World Wars and The Great Depression followed and meant that those who were left on the Peninsula quietly engaged in comparatively smaller industries of farming and fishing. Meanwhile, the bush was left to re-generate as much had been wiped out, and the beaches and coastal towns sat quietly. The next influx of people would shape how the region is used today.

Holiday Paradise

The post-war boom of the 1950s gave New Zealand society the motive and means to unlock the Coromandel for tourism and recreation. Roads were built that opened up parts of coastal New Zealand that some didn't even know existed, such as those that lived in the central North Island who "...rarely saw the sea" (Mitchell 19). The Coromandel and Kaimai Ranges were the barrier that initially prevented such places from being explored recreationally. During the earlier 1900s, a train line took visitors across the Hauraki Plains to the entrance of the Peninsula, which is the town of Thames. From there, the West Coast beaches and settlements were somewhat accessible. Waihi and Whangamata on the Peninsula's South-East coast were accessible via bus from Thames, but much of the North-Eastern coast, where many of today's resort towns lie, remained isolated (Mitchell 19). When large-scale vehicle imports began and the Kopu-Hikuai road (State Highway 25) was built in the 1960s, the regions enticing beaches

were finally opened up to the masses (King 64).

A growing population and changing societal values allowed holidays and recreation to become an important part of New Zealand culture. A piece of technology that facilitated this shift is the family car, which became widely accessible in the post-war years. Many families gained access to a vehicle that could transport their family and belongings hundreds of kilometers and soon, New Zealand had built the infrastructure it needed to facilitate this activity (Hall and Keen 174).

Moving forward 60-or-so years, the region is still made up of resort-based communities. Some of the towns, such as Whitianga, Whangamata and Thames, now have infrastructure that is better suited to the amount of visitors they receive each year. Supermarkets, restaurants, service stations and building supply stores are some of the many facilities that now support permanent and holiday life on the Peninsula. With retail, industrial and recreational services now available in the bigger towns, holiday-makers are able to stay for longer without having to return to their primary residence for work or supplies. Coastal activities are still very popular, with some of the beaches receiving huge volumes of domestic and international tourists each summer. A 2018 study found that the Peninsula's eastern beaches are the most popular for visitors, with some even coming from the cities of Auckland and Hamilton on day-trips to visit them (Matthews et al. 320). With so many beaches in close proximity to one another, people visiting multiple beaches on a single day to engage in different activities is also common. Fishing and diving is still a primary recreational activity, with charter services accessible from the bigger towns. Inland, the Coromandel Forest Park caters for trampers with a series of tramps and huts available; waterholes and rivers can also be accessed here, which are popular with tourists.

Of the Coromandel's domestic visitors, those from the Auckland region far out-number people coming from other parts of New Zealand. A study commissioned by the Thames-Coromandel District Council found that Auckland accounts for 59% of the district's domestic visitors (Summerfield 19). Behind Auckland, Waikato accounts for 23%, and Bay of Plenty for 8% of visitors to the district. These findings can be attributed to said regions being geographical neighbours of the Coromandel Peninsula. Auckland is also the most populous city in New Zealand by far, so a higher percentage of travellers could be expected to come from there. Having several large cities in close proximity has meant that the peninsula has remained a popular destination on weekends and during holidays, especially as the cities have grown, becoming more densely populated and congested.

So far, the landscapes and activities that draw tourists to the Coromandel have remained intact and can still support the visitors that seek them out. However, increasing visitor numbers and holiday-home construction must be carefully monitored to ensure that activities such as fishing, diving and tramping can still be enjoyed by all. Coastline inhabitation in the area must also be looked at carefully, as more buildings are built on land that is already bearing the effects of rising sea levels and coastal erosion. The holiday paradise that is the Coromandel Peninsula has survived roughly 60 years of intense tourism and seems to be managing. Looking ahead, new ideas and a focus on sustainability of the region's draws must be considered in order to maintain the level of tourist activity here.

Figure 2.123: Sub-division at Cooks Beach. Digital Photograph.
Author's Own (2020).

2.2 *Waikawau Bay*

2.2.1. Geography

Waikawau Bay is an isolated beach on the north-east Coromandel coast. It lies between Port Charles in the North, and Kennedy Bay in the South and is accessible via a gravel loop road that connects the Peninsula's northern settlements. It's remoteness has allowed it to remain largely undeveloped by humans, except for some pastoral farm activity and a seasonal Department of Conservation (DOC) campground.

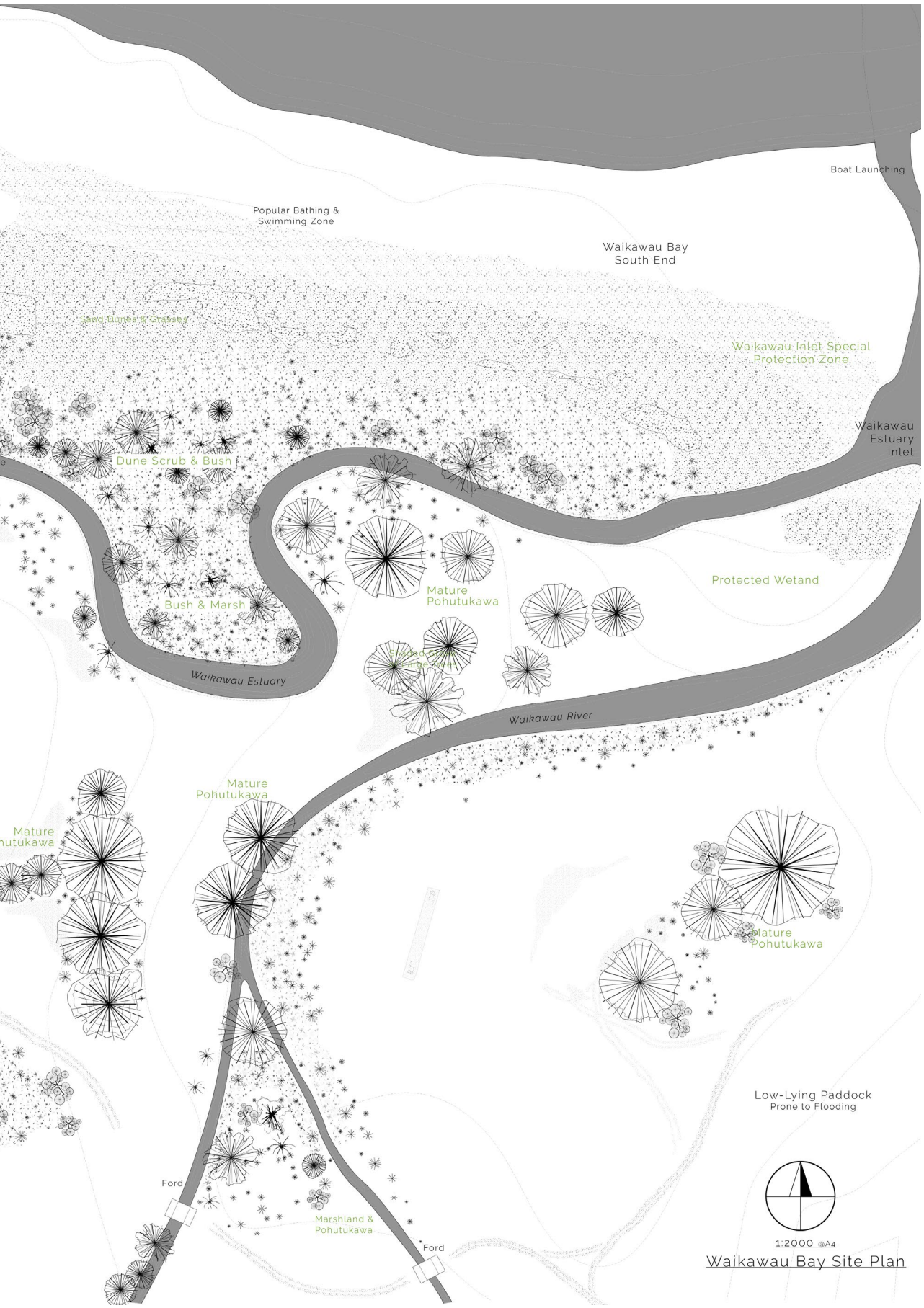
A strong example of the region's famous white-sand beaches, Waikawau Bay is roughly two kilometers long with major estuaries at either end. It has extensive sand dune systems running the length of the beach, with small, rolling dunes at the South end, and large, steep ones at the North. Behind the dunes lies a short coastal plain which runs several hundred metres before meeting the forested hills that stretch back to the Peninsula's interior. Apart from Waikawau Beach Road, which runs along the base of the inland hills, the beach is "...devoid of modification, imparting a high degree of naturalness" (Frost and Lassé 55).

At the bay's south-east corner lies a campground run by DOC which can accommodate up to 600 campers during the summer months. During the off-season, the camp's paddocks are grazed by stock which keeps them from over-growing. A river runs down from the hills nearby. It winds its way through the campground and feeds into the ocean at the Waikawau River estuary mouth. Many families visit this campground during summer and continue to

Figure 2.21: Waikawau Bay looking South-East. Digital Photograph. Author's Own (2020).

Figure 2.22: Waikawau Bay Campground. Digital Photograph.
Author's Own (2020).

Figure 2.23: Waikawau Bay Campground, site plan. Vector Artwork. Author's Own (2020).


Boat Launching
Popular Bathing &
Swimming Zone
Waikawau Bay
South End
Sand Dunes & Grasses
Waikawau Inlet Special
Protection Zone
Waikawau
Estuary
Inlet
Dune Scrub & Bush
Protected Wetand
Mature
Pohutukawa
Bush & Marsh
Waikawau Estuary
Waikawau River
Mature
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Mature
Pohutukawa
Low-Lying Paddock
Prone to Flooding
Ford
Marshland &
Pohutukawa
Ford
1:2000 @A4
Waikawau Bay Site Plan

come back in following years, building on the experiences and relationships they formed previously. Some of these groups may stay for several weeks across December and January. Others simply visit for a day or two and then continue their travels around the Peninsula. Groups may change their campsite each year to move to a different zone which offers a varied experience. This may be because they want to be closer to the beach access or the boat ramp, for example. In other years they might be interested in setting up closer to the river or moving to the back of the campground to gain some privacy. As a result, the campground becomes home to a community of people who often share a relationship with each other from previous years. They also share an interest in the immediate landscape and in particular, the different campground zones which they can choose between to suit the changing needs of their group or family. DOC's continued operation of the camp and conservation activities in the area mean that it's a basic but attractive option for a family holiday.

2.2.2. Suitability for Project

The Southern end of Waikawau Bay - where the DOC campground is located - is an ideal location to test the architectural ideas being developed in this research. The site is somewhat sheltered from the West, East and South by hills and bush. It faces almost directly North and features a range of landscape characteristics that can't be found with such concentration, anywhere else at the beach. These features include sand dunes, thick coastal bush, planted rows of trees (or shelterbelts), mature Pohutukawa and a river/estuary. The combination of landscape features, relative remoteness and pre-establishment of a seasonal holiday community make Waikawau Bay a great canvas for architectural exploration.

Zoned for Conservation

Waikawau Bay is zoned for conservation under the Thames-Coromandel District Council's (TCDC) District Plan. More specifically, Waikawau falls under the categories of 'Coastal Environment' and 'High Natural Character' which give it an even greater conservation status. These categories generally mean that the area is protected from development for residential or commercial use. As well as this, the operational DOC campground means that the area is not only protected from development, but is being actively enhanced by DOC activities in the area. According to the District Plan, Conservation land "has historic heritage, landscape, natural character, scientific, indigenous biodiversity and recreation values. The rivers, streams and wetlands within public conservation land also have important habitat, cultural and recreational values" (Thames-Coromandel District Council, sec.43.1). The special zoning provisions that are in place for the area distinguish it from other beaches on the Coromandel, which have been extensively developed for housing and tourism in recent decades.

Landscape features

Natural features that have been preserved by the Department of Conservation at Waikawau make it an attractive holiday location. With the district plan outlining the area for conservation, private development of the area is not possible. This means that the felling of trees and bush, leveling of land and re-directing of waterways has not occurred at Waikawau, as it has at many other settlements on the Coromandel Peninsula. Conservation activity at the site has seen the area carefully managed by DOC, who has outlined areas for camping, and others that can't be inhabited and are instead for bush regeneration. The Waikawau Bay campground model is loose in that camp-site boundaries are not marked perfectly; there are less restrictions on where your tent and car can go and campers are encouraged to camp among the trees and bush around the site. As a result, inhabitants are able to arrange their campsites as they wish.

Using trees for shelter, a place to hang wet clothes or as an extra anchor point for a tent, is common. Camping near the estuary is also popular as it provides an extra water source for cleaning, or for the kids to catch an eel. As a result, campers who stay here are able to live close to natural features and develop a strong relationship with their immediate environment - a condition that should be preserved.

A Unique Opportunity

The combination of conditions including an active campground, conservation status under the District Plan and it's remote location make Waikawau Bay a unique location to test architectural ideas relating to modern bach buildings. Parallels can be drawn between the nature of the land at Waikawau, and that at the Sea Ranch community in Northern California, USA (see fig. 2.24 & 2.25). Sea Ranch was started in the 1960's by a private developer with input from a series of architects and most notably, landscape architect Lawrence Halprin. This project aimed to develop a new model for coastal living that prioritised the harmony between landscape and building; nature and human. The landscape at Sea Ranch had been touched by humans minimally, and, like Waikawau, had mostly been used to graze animals before planning for the community began:

> The richly varied surfaces, edges, and patterns of natural growth were interwoven with the bold, linear geometries of human intervention, already expressed here in hedgerows, fences and roads. Halprin's plan set out to take advantage of both of these characteristics, using arrangements that matched the ecology and the scope and scale of the landscape better than the conventional patterns of incremental, parcelized development would.
> (Lyndon 19)

The Waikawau campground layout means that land is already clear and able to be built on, but the conservation zone means that the site and surrounding areas are full of native bush and have remained largely untouched since Kauri felling ceased in the early 1900's. Waikawau Bay gives this thesis a site and a chance to develop ideas about coastal living in a region where highly-developed suburbs are the current norm. A coastal community can be imagined here on what is effectively a blank canvas.

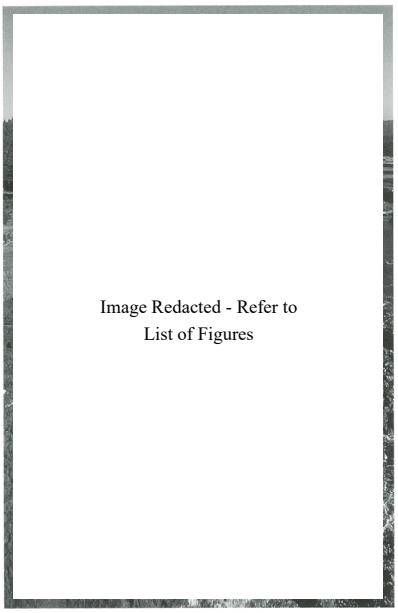


Figure 2.24: Kite view of the Sea Ranch Site, 2002.

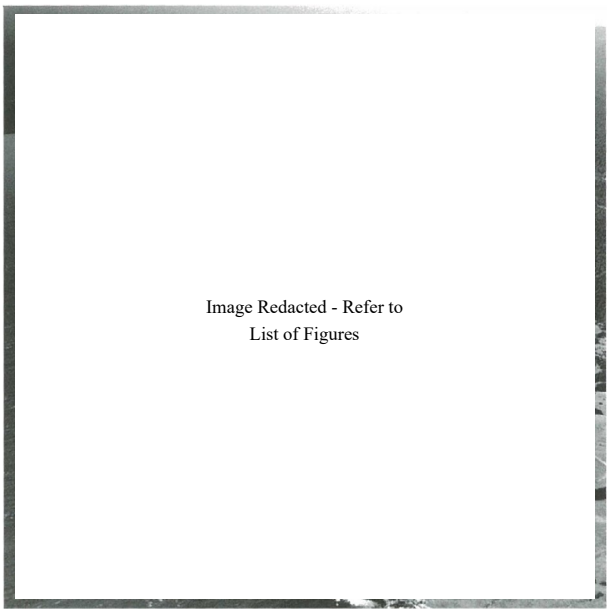


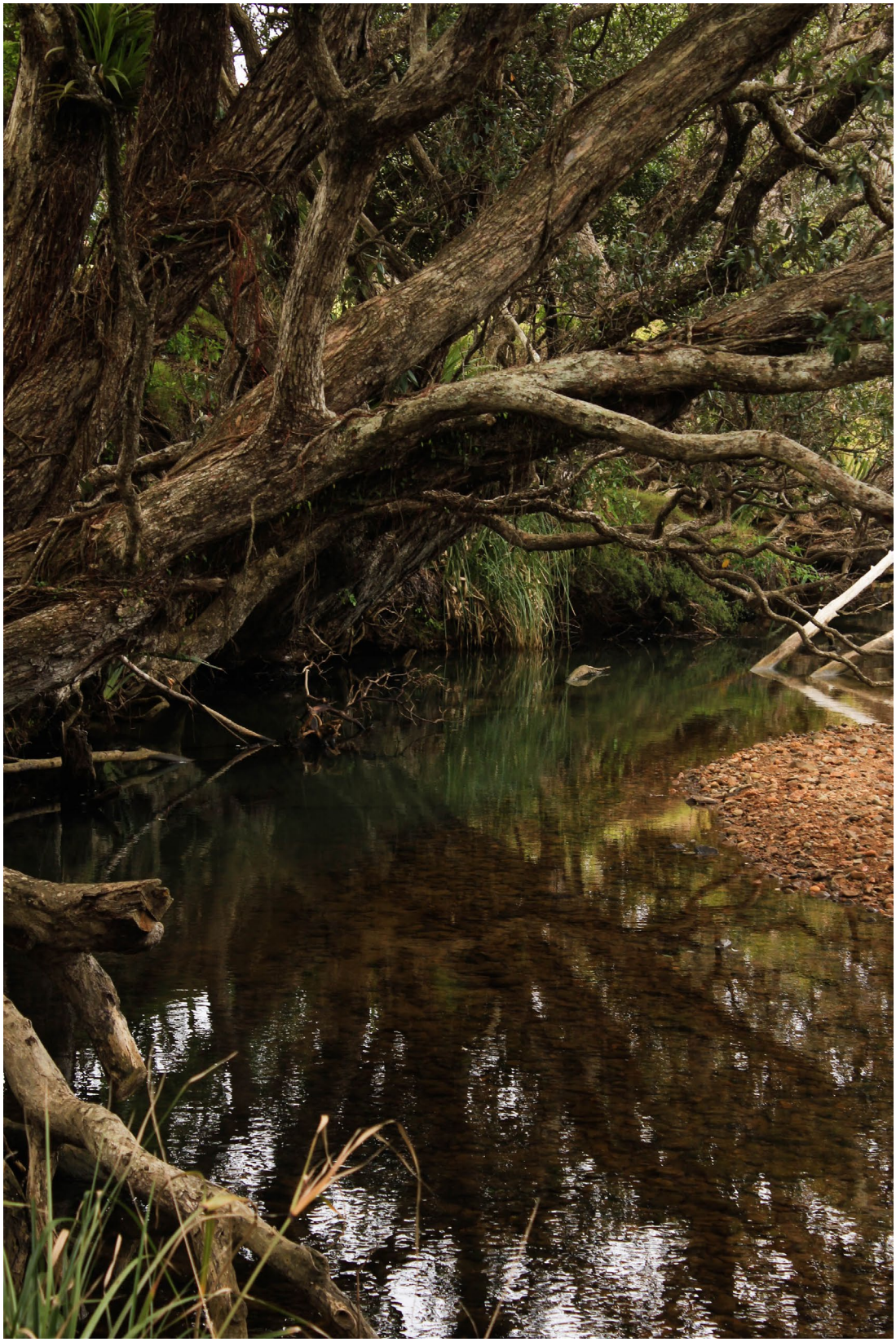
Figure 2.25: Early aerial view of the Sea Ranch site, ca 1964.

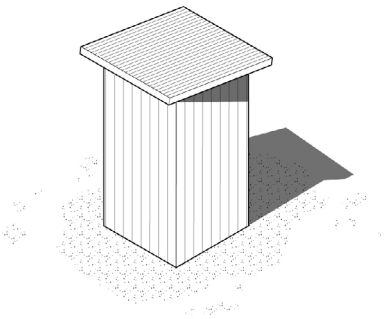
Figure 2.26: Waikawau Bay DOC Campground. Digital Photograph. Author's Own (2020).

Site Gallery

WAIKAWAU BAY


Spark
Spark





Chapter Three

THE BACH CONDITION

Introduction

The people of New Zealand have always shared a relationship with the sea. Both Maori and European settlers who arrived in Aotearoa, did so via the surrounding oceans. We use water to travel, move goods and collect food. This condition means that much of the New Zealand population lives near the sea, which has crafted a beach house culture along our coasts.

Figure 3.01: Beach Houses at Tairua. Digital Photograph. Author's Own (2020).

3.1 *Bach: Object, Verb, Lifestyle*

The word *bach* cannot be fixed to a particular physical or architectural style of building. As Paul Thompson notes in his famed book, *The Bach*, life at the bach need not be hard and fast, and "another thing that need not be hard and fast is the definition of a bach" (3). The appearance of baches has changed constantly over our country's history, which makes physically defining a bach difficult. The function of a bach, however, is easier to define. It is a place of simplicity. Being at the bach is about taking only the essentials, and leaving the rest at home.

The historical definition of the bach sums up the lifestyle that can be expected there. Thompson explains that the term came from the word *bachelor*, which typically described an unmarried male: "The term bach is an abbreviated form of the word bachelor. The unmarried man who lived by himself in simple surroundings was said to be baching or keeping bachelor's hall" (Thompson 7). Simplicity and the basic living practices observed at the bach has often been an attractive way for people - particularly men - to spend their leisure time. Peter Wood, a Senior Lecturer of Architectural History and Theory at Victoria University of Wellington's (VUW) School of Architecture (SoA), suggests that "the bach is for the unmarried, it is uncomplicated, uncivilized, undomesticated, it is the place of the improper house" (44). There is significant written evidence of New Zealand males spending their holidays in simple, natural settings; a condition that can be traced back to the very beginning of the country's history.

3.1.1 Baches Rooted in Early Industry

New Zealand's version of the holiday cottage has its roots in the country's industrial beginnings. The holiday culture that has grown for over a century has consistently featured male figures, according to historical literature. What is also widely reported, is the overwhelming presence of men in New Zealand's earliest industries. As mentioned in section 2.1.2, the first industries to emerge in New Zealand were those of forestry, mining, whaling, and later on, fishing and farming. Early in the country's colonial history, men - "it was always men at this time" - were sent out to traverse and survey the land. They mapped the country's interior landscapes and reported back to their leaders so that the authorities knew "which regions were suitable for farming, forestry or mineral exploitation" (King, *The Penguin History of New Zealand* 172). Following the surveys, companies of men would relocate to favourable regions with hopes of establishing business. On an isolated island with little to no infrastructure, these men often had to live in the remote locations where they worked.

Pioneers of industries like the 1800s timber trade, lived deep in the hills where tree-felling occurred. King explains the situation of forestry workers in the Coromandel Ranges:

> Gangs employed by timber merchants would go into the forest to build large shanties in the areas in which they planned to work. These buildings, with split paling walls and nikau-thatched roofs, would be home for up to several years. (*The Coromandel* 98)

Men, living and working with each other for long periods of time inevitably fostered a distinct culture; one that was based on tough, manual labour and a relatively simple lifestyle outside of work hours. "In the evenings the loggers read by lamplight and candle, played

cards, told stories and sang" (King, *The Coromandel* 98).

Robin Skinner, an Architectural Historian at the VUW SoA, explains that the famous 'man alone' image (see fig. 3.11), portrays "an individual man in a raw environment…" and has done so for many years in New Zealand architectural history (58). "Many men lived like this in the pioneering days..." (Thompson 7). According to King, a rich culture grew around the forestry workers, and "died with the trees on which they depended for their living" (*The Coromandel* 98). They prided themselves on working incredibly hard and looking after their mates. These men laid down many of the "unspoken conventions of New Zealand male culture" that would continue into the 1900s and beyond (King, *The Penguin History of New Zealand* 208). With few, if any, women around, it's plain to see how a male culture - based on the outdoors and hard work - grew and prevailed throughout the pioneering period.

Other industries that were typified as *boom-bust*, produced fortunes for select people very quickly. Gold rushes in regions such as Otago, Nelson, the West Coast, and the Coromandel Peninsula were short but sharp (King, *The Penguin History of New Zealand* 184). As a result, towns were quickly built, which restored some domesticity and civilisation. But in the hills and valleys where prospectors worked, many had to live with small groups of men in isolation. Samuel Butler's popular novel *Erewhon* describes experiences that men like him encountered while exploring the New Zealand wilderness: "Never shall I forget the utter loneliness of the prospect - only the little far-away homestead giving sign of human handiwork; the vastness of mountain and plain, of river and sky; the marvellous atmospheric effects…" (Butler 12). This condition appears to have been common among New Zealand's early pioneer population. The work that made men the living they were promised when immigrating from Britain, was located in remote areas. They could venture into the wilderness and do the work, or try their luck in the towns, where manual labourers struggled to make money. Thus, much of New Zealand's early male population lived in isolation, and worked incredibly hard for their living.

3.1.2 Rising Domesticity

Towards the start of the 20th century, 'domestic' living in New Zealand was becoming more widespread. The government offered a scheme that gave British women free passage into the country to address the imbalance of men to women. In 1871, 66% of the over-20 population was male. By 1891, the scheme had brought this number down to 56% - making the ratio near equal (King, *The Penguin History of New Zealand* 207–08). More women in the towns and cities, as well as the bust effect of industries like gold-prospecting, drew men back to civilisation. Historian James Belich explains that new Labour governments began to value manual workers more at the turn of the century and during the early 1900s. They encouraged the establishment of trade unions, which gave workers a collective voice on working conditions and pay; something they had not previously had (136). Support for the eight-hour work day had been growing since the carpenter Samuel Parnell famously won this right with an employer in 1840. This condition gave some working men a life outside of work which was not common during the pioneering period.

Male workers who found employment within the eight-hour-day structure now had life outside of work. One can imagine they often spent this time with their families, or pursuing recreational activities. New Zealand, with its vast landscapes and a male culture built on the great outdoors, must have been an exciting home for a man with some spare time on his hands.

3.1.3 Beginnings of the Bach

As the 19th century became the 20th century, a combination of cultural attitudes and a growing population gave New Zealanders the opportunity to explore their back yard recreationally. Men were more frequently living in urban centres, rather than in the regions, and they had more time outside of work than ever before. What they also had, whether it was relayed from their fathers, or by first hand experience; was a distant memory of time spent living in the New Zealand wilderness. The late 1800s and early 1900s are the years when the first holiday baches began to appear. It was the memories of improvising, constructing, fishing and hunting that drew males out of the towns and into the regions to find a places to pursue these activities. Locations that saw the first baches were often much closer to towns and cities than pioneers shanties. But it was less about distance from home, and more about simply getting away from home, that prompted men to build those early holiday houses.

Figure 3.11: Hans Peter Knutzen sitting on the verandah of his home, Piha, ca 1915-1916.

3.2 *A History of the Bach*

Distinct periods of bach-building have taken place across the New Zealand landscape since the 1890s. Each period can be identified as responding to different cultural, economic and regulatory conditions (Kearns and Collins 227). Four phases are outlined in the following sections.

3.2.1 Phase One: Simple Baches and Huts (1890s-1945)

The first phase of bach construction in New Zealand began around the 1890s, where many buildings were little more than huts or sheds. Donna Keen and C. Michael Hall note that our earliest baches were often small, roughly constructed and often on the coast near towns or cities (175). They were built on both private and public land. Sometimes the bach owner owned the land, but other times it was tucked away on someone else's property, with or without their knowledge. Examples of these early baches can be seen in close proximity to cities such as Wellington, where original baches at Red Rocks still exist and even have heritage status. In Auckland, the Rangitoto Island bach community (see fig. 3.21 Rangitoto Bach) was established after the First World War and had over 100 dwellings by 1940 (Kearns and Collins 232). Increasing popularity of baches during this time is linked to the positive portrayal of holiday and escape in New Zealand culture at the turn of the century. Leaving urban centres in favour of natural landscapes was seen as a "healthy activity" and many who could spend their weekends away from their primary residence, did (Kearns and Collins 229–30). This phase is the earliest recorded of holidays at the bach in New Zealand, and it is perhaps those early memories that we have continued to pursue ever since.

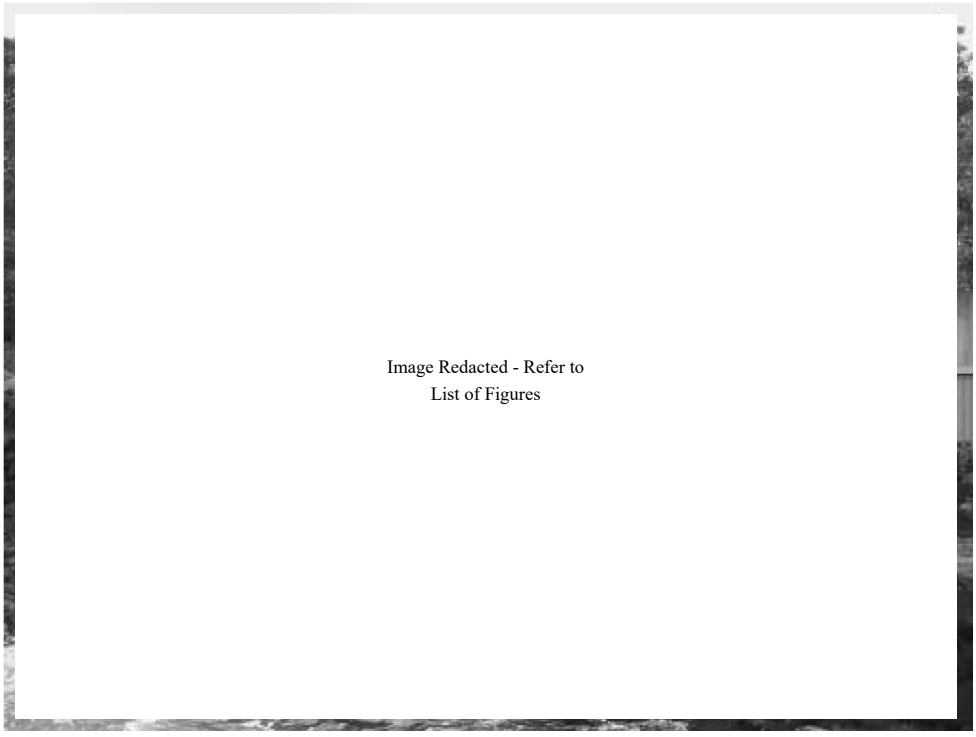


Figure 3.21: An early Rangitoto Bach, ca 2006.

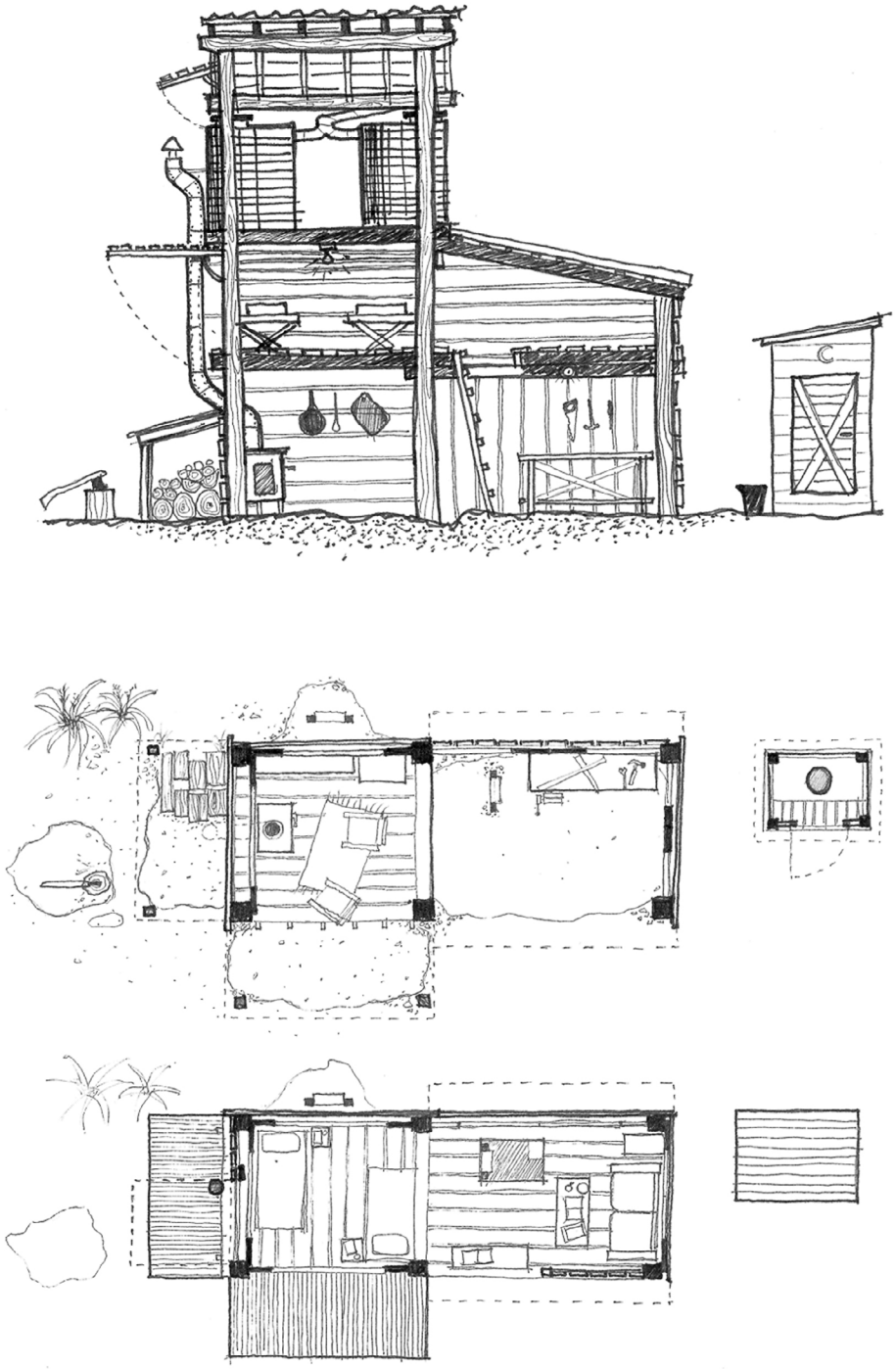


Figure 3.22: Bach essentials concept one. Pen on Paper.
Author's Own (2020).

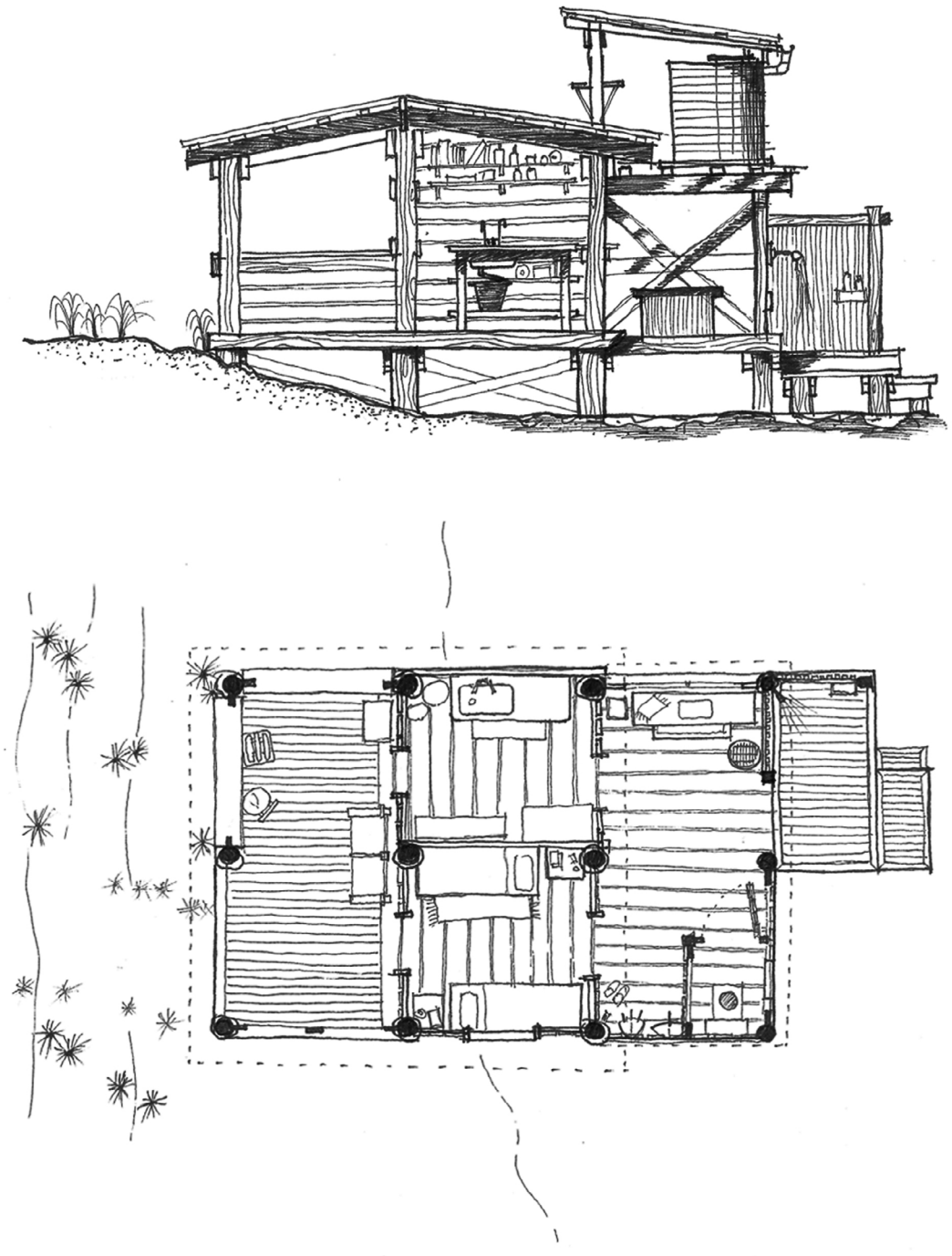


Figure 3.23: Bach essentials concept two. Pen on Paper.
Author's Own (2020).

3.2.2 Phase Two: Post-war Baches (1946-1965)

Following the end of the Second World War, phase two of New Zealand's bach building history began. Holiday buildings in this period shared similarities with those from the first phase, but also showed significant differences as a result of growing prosperity and technological advances. Baches were still constructed basically, although the size of a bach may have increased in this time. Existing baches gained "lean-to" additions while new buildings were constructed to include more of the family (Mitchell 18). Bach communities close to the main centres filled up, while rising vehicle ownership and better roading allowed baches to be built further afield (Mitchell 19). The government still recognised holidays at the bach as a healthy lifestyle choice, as Paul Thompson explains:

> Even the laws made allowances for a little jerry building. Standards laid down in the Housing Improvement Act of 1945 and its regulations of '47 were incorporated into a standard model by-law, which was adopted by most local bodies. Usually, houses that were not occupied in the winter except for a month or less at a time were allowed to fall below the legal norms. This was intended to let bach-owners off the hook of having to build to the standards of a 'real' house. (5)

This legislation allowed more people to build second homes, although the construction quality of a bach remained basic. The change in law didn't shrink the popularity of baches, but marked the start of a series of regulative changes which would define the later phases of bach building.

Figure 3.24: Dated bach on Waiheke Island. Digital Photograph. Author's Own (2020).

3.2.3 Phase Three: Holiday Homes (1966-1990)

During the 1960's, phase three of bach construction began. This was a clear step in the direction of New Zealand's modern coastal holiday communities. This period saw 'holiday homes' as they were beginning to be called, built as part of large-scale coastal lifestyle developments. These subdivisions were carefully organised as a reaction to "greater planning and environmental restrictions" imposed by the government (Hall and Keen 181). Geoff Chapple called it "the holiday suburb, its roads wide and beautifully curbed and channelled, its houses perfect examples of compliance to the buildings codes" (Chapple 4). David Mitchell further explains that the buildings found in these communities resembled "miniature family homes" that were becoming larger and more expensive to build, as a result of new building code requirements (21). New Zealand's economic landscape shifted in the 1980s with the de-regulation of the economy, which quickly made select groups of people wealthy (Belich 394). The lending of cheap money from the bank during this period allowed people to invest in property, which was sometimes in the increasingly popular seaside subdivisions. Michael King explains how this changed the appearance of the Coromandel Peninsula: "By the late 1960's the peninsula was no longer a sleepy island. It was becoming a target for developments generated by the growth of Auckland and Hamilton and the expansion of their commercial activities" (*The Coromandel* 10). Large-scale, planned coastal developments such as those at Whangamata and Pauanui are examples of the types of towns and buildings produced during this period. The increasingly detailed laws around planning and construction flowed into the next phase, and have largely shaped the state of the coastal holiday community today.

Figure 3.25: Older bach at Tairua. Digital Photograph. Author's Own (2020).

3.2.4 Phase Four: Post-bach (1990-Present)

Post-bach is the latest and current phase of bach-building in New Zealand. The term *post-bach* was coined by Robin Kearns and Damian Collins, who say we have moved into a new era, where new holiday dwellings can no longer be compared to the bach . This is particularly apparent in the Northern North Island, where coastal property prices have climbed quickly in areas close to our major cities (229). Increasingly, holiday homes constructed at resort towns in areas such as the Coromandel Peninsula and Northland, are professionally built, often with input from an architect. This trend can be identified on newly developed land, as well as on land previously occupied by older baches. “In combination, they are transforming many bach landscapes, to varying degrees, into elite holiday home landscapes, where economic notions of investment and return compete with more established cultural values of recreation and escapism” (Kearns and Collins 229). What has resulted, is an increasing amount of large, high-quality buildings along New Zealand’s coasts. They are perhaps sharper and better looking than the baches of previous years, but questions of the owner’s motives arise. Large scale buildings and developments collectively overwhelm the coastal landscape. Mitchell addresses this, saying “few realized that natural assets were most threatened by the facilities that were built to enable those assets to be enjoyed” (Mitchell 19). While an individual beach house can be appreciated for its architectural qualities; a series of large buildings subtracts from the natural beauty of the site, as they compete with the landscape and eachother. This is one of the fundamental differences between *post-bach* and the other phases identified in this chapter, and is a condition that the proposed design research endeavours to address.

Figure 3.26: Beach house at Tairua. Digital Photograph. Author's Own (2020).

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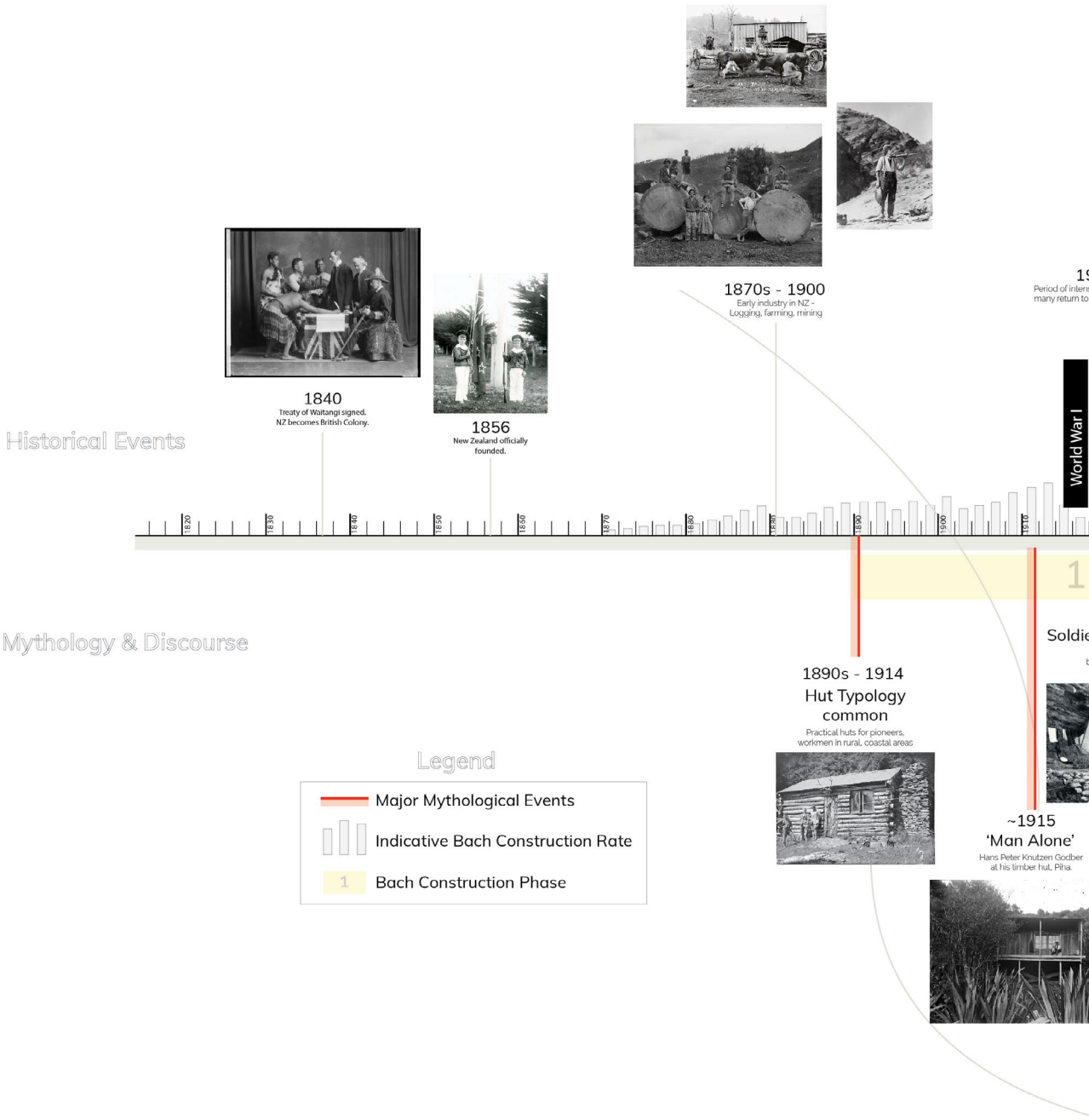


Figure 3.27: Timeline outlining history and theory surrounding the bach.
Vector artwork. Author's Own (2020).

he Bach
d theoretical framework

1929 - 1933
Great Depression creates unemployment and a leaves most with no extra money

1946
Period of intense bach building as many return to NZ from Europe following WWII

Mid 1960s as end of the original bach

Rising accessability to middle class

Many newly wealthy people build second homes

1984
Introduction of Neoliberal Economic Regime by Labour Party

1990s
Rise of architectural beach mansion

Indicative rate of construction of baches

World War II

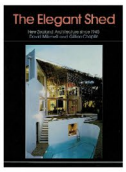
1920 1930 1940 1950 1960 1970 1980 1990 2000 2010 2020

2 3 4

1920s
ers come bachelors
Connections drawn between bach lifestyle in NZ and WW1 military lifestyle

1984
The Elegant Shed
David Mitchell

"... About 1965, when the old bach began to be replaced in the real-estate advertisements, and on the sand dunes, with the fully blown holiday home." P.17



2008
The Whare in the Bush
Robbin Skinner

2000
The Bach: The Cultural History of a Local Typology
Peter Wood

2010
Spatial distribution of second homes in NZ
Trudie Walters

2015
Second homes as sites for the consumption of luxury
Trudie Walters & Neil Carr

"Many of the newly wealthy could now afford, both financially and socially, to build larger more expensive second homes than had existed in the past - and they did." P. 132

Collins & Kearns (2008)

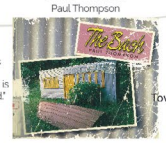
Freeman & Cheyne (2008)

McIntyre & Pavlovich (2006)

Mike Austin (2006)

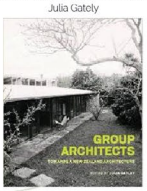
2006
'On the Rocks': New Zealand's coastal bach landscape and the case of Rangitoto Island.
Robin Kearns & Damian Collins

1985
The Bach
Paul Thompson



"Leisure and holidays have become much more organised, which is to say commercialised." P. 5

2010
Group Architects
Towards a New Zealand Architecture
Julia Gately



Family Bach popular
Gable/'can to; DIY nature; locally sourced/second-hand materials; situated close to landscape elements

3.2.5 A Brief Summary

The shift from humble, egalitarian communities to exclusive, elite neighbourhoods on our coasts can be explained by a series of complicated national conditions. Growing prosperity in the post-war period is one; increased planning and environmental regulation is another. Perhaps the fact that most people now live in urban centres, with constant connection to one another and less connection to nature; gives us less of an appreciation for natural landscapes. We may therefore have forgotten how to dwell in these places, which could explain why coastal development looks how it does today.

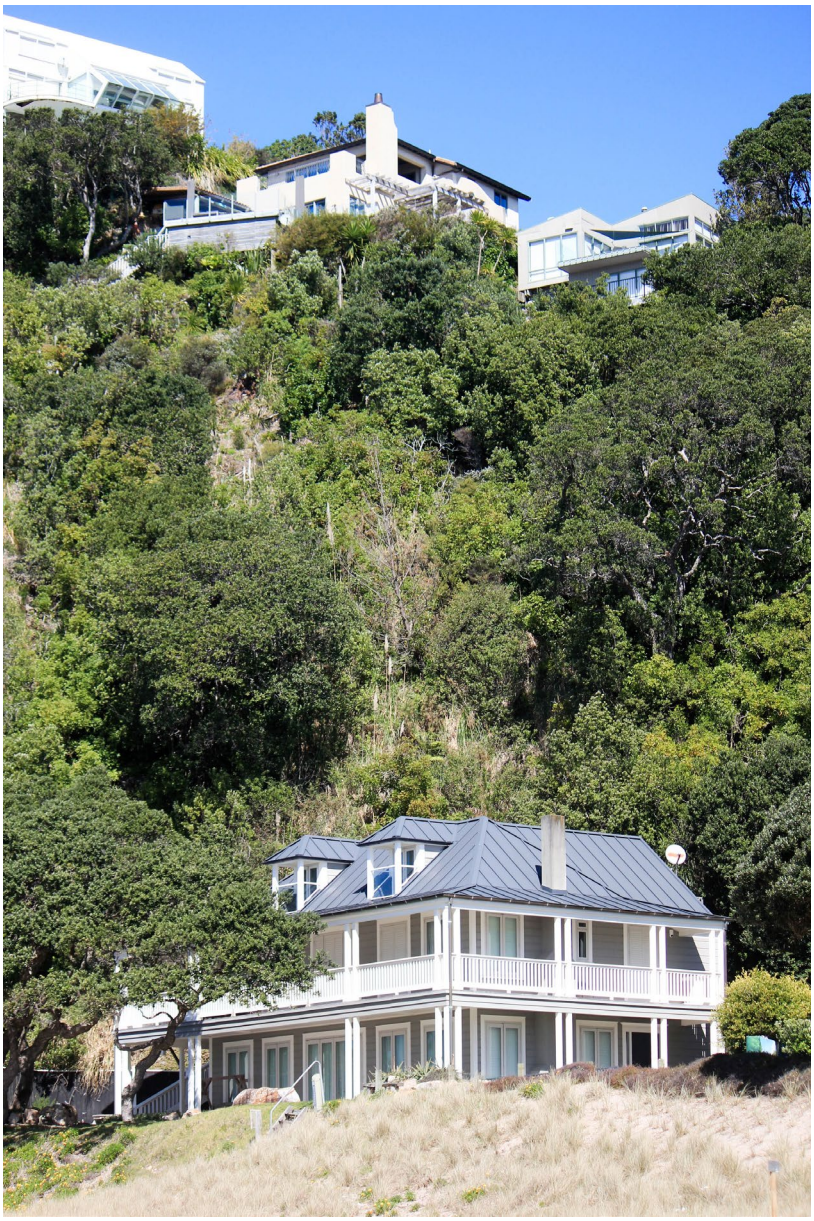


Figure 3.28: Beach houses at Tairua. Digital Photograph. Author's Own (2020).

Figure 3.29: Onetangi Beach, Waiheke Island. Digital Photograph. Author's Own (2020).

3.3 *The Proposition*

A look into the history of New Zealand's coastal buildings found that tightening building laws and a romanticised holiday culture has caused coastal property prices to soar. Expensive coastal land has in turn fostered a mindset of investment and therefore, resale value when designing and building second homes. A key way to address this issue is by reverting to a land ownership model similar to that of early baches, which dampens the allure of resale. Leased or shared land models give bach owners the opportunity to step back and consider what they need from their second home, rather than what the market will need in several years. Shared land models offer exciting design opportunities, as the designer can consider how a whole community might develop, rather than just one building. This thesis therefore proposes that a planned coastal community - based on shared-ownership models - is an appropriate way to address the current condition of New Zealand's coastal landscape.

3.3.1 Planned Communities

Planned holiday communities provide an exciting design opportunity, due to their rareness in New Zealand and perceived success overseas. There is little evidence of shared-ownership bach communities in Aotearoa, although it is not clear whether that's due to a lack of reporting, or a lack of their existence. Co-housing communities which offer shared spaces and amenities are growing in popularity overseas as a result of increased housing demand and urbanisation. They are an opportunity to decrease living costs and human impact on an environment. Recently, New Zealanders have begun to experiment with modern co-housing models, such as that of the permanent Earthsong community in Ranui, West Auckland. Robin Allison, the architect who initiated Earthsong, explains that residents use less electricity and fuel overall, and report increased well-being due to the strong sense of community (46). Meanwhile, there is some evidence of shared holiday property in New Zealand. In 2008, the New Zealand Herald featured an article that outlines options such as proportional or fractional property ownership; timeshares; and campground caravans or units (Clement). However, international models such as The Sea Ranch in California (see section 2.2.2), provide a large scale and more complete precedent.

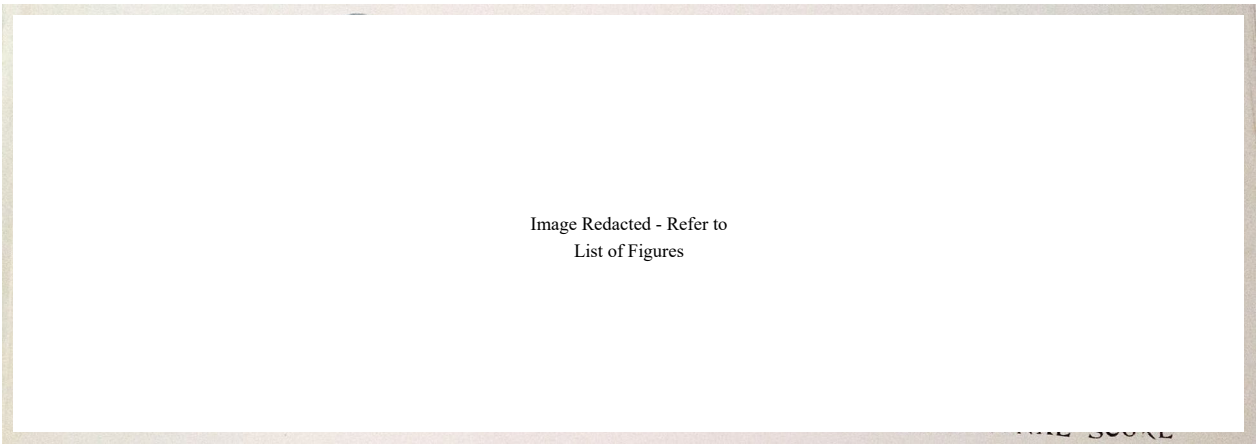


Figure 3.31: Early site plan of The Sea Ranch.

3.4 *The Vision*

The vision for the design aspect of this thesis, is a shared holiday community on the Coromandel coastline. Ideas of harmony between landscape and building, such as those experimented with at The Sea Ranch, are at the core of the vision. Lead landscape architect of The Sea Ranch, Lawrence Halprin summarises the ideas that were pursued in California:

> A feeling of overall 'place,' a feeling of community in which the whole was more important than the parts. If we could achieve that - if the whole could link buildings and nature into an organic whole rather than just a group of pretty houses - then we could feel that we had created something worthwhile which did not destroy, but rather enhanced the natural beauty we had been given. (Halprin 29)

Waikawau Bay (see section 2.2) provides a similar landscape to experiment with such ideas. The relative lack of human intervention in the area, compared to nearby towns and beaches, allows a realistic setting for such a community to occur. A masterplan is to be drawn, which weaves the historical, architectural, cultural and physical conditions of the New Zealand bach together at Waikawau (see fig. 3.41 handdrawn perspective). The result will be a persuasive argument for how our coastal communities could look in the future, if we are to retain our holiday culture.

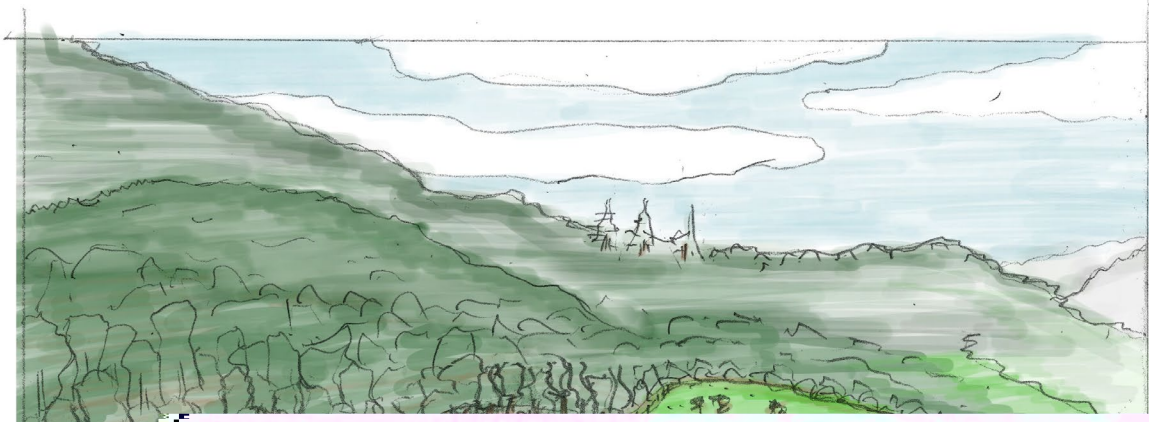
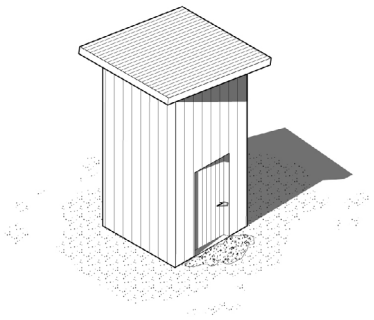


Figure 3.32: The Vision. Pencil on paper & digital media.
Author's Own (2020).



Chapter Four

METHODOLOGY

4.1 Building a Database
4.2 Precedent Study
4.3 Period of Analysis
4.4 Method
4.5 Findings
4.6 Conclusions

Introduction

The methods used to address the research question, aims and objectives can be split into two groups; *historical data collection* relating to the individual building; and *research through design* relating to the master-planning of a community.

Data collection on the bach typology uses *Thematic Analysis* of select cases. This technique analyses periodical publications to find trends across a topic, allowing conclusions to be drawn. Trudie Walters, a tourism researcher at the University of Otago, explains that *thematic analysis* is an under-used but powerful method of historical investigation, specifically in the context of second homes ("*Second Homes as Sites for the Consumption of Luxury*" 132).

The planning of buildings on the chosen site was investigated through design exercises and experiments, using a mix of digital and physical tools.

Lands Design, a detailed 3D modelling software, was used to aid in the arrangement of multiple buildings on a site, with particular reference to significant landscape features.

4.1 *Building a Database*

In the previous chapter, the history of the bach as a building typology was discussed at length, alongside influences for different phases of bach construction. Many of the supporting ideas came from popular discourse on the topic, such as *The Bach* and *The Elegant Shed*. These books have become famed for their portrayal of New Zealand architecture and are often cited in this area of research. There are, however, mythological elements to these publications, which allows their author's claims to be disputed.

David Mitchell's book *The Elegant Shed*, for example, is accepted as a must-read publication on post-war New Zealand architecture, and yet it mentions in the Acknowledgements that not every idea is supported by fact (Mitchell 6). In other words, Mitchell helped to construct mythology about New Zealand's post-war buildings in what would become a key piece of architectural literature, which many now hold in high regard. Peter Wood, among others in the discipline of architectural theory, argue that while *The Elegant Shed* is significant for its broadcasting of national New Zealand architecture, it generalises building typologies; grouping buildings together where it may not be appropriate to do so. Wood called it "a collection of Mitchell's personal hits and myths…" ("*Watershed: Of Buildings and Stories and Elegant Sheds*" 78).

By taking the stories of Mitchell and Thompson and building upon them, their personal understanding of what a bach is would be reproduced in the proposed research. This may have based findings on buildings that they had described as baches, but were not completely representative of the typology as a whole. It therefore created the idea to find a different information source that represented the bach typology with as little mythical influence as possible.

4.1.1 Magazines as an Information Source

Periodicals have long been used as vehicles to broadcast ideas and trends to an audience. They are a representation of cultural and social trends during defined periods. Magazines in particular, provide regular evidence of lifestyle trends in the form of stories, articles, illustrations and advertisements. Trudie Walters explains that magazines have both "influenced and reflected society's changing notions of fashion, taste, desire and luxury in various areas including architecture and interior design" (Walters and Carr, "*Second Homes as Sites for the Consumption of Luxury*" 132). Magazines are easily accessible to many New Zealanders and engaging with them is seen as an significant part of New Zealand culture (Leonard et al. 100). Periodicals therefore provide detailed and extensive information that can be analysed to draw conclusions.

Being regularly published, magazines allow trends to be tagged to defined periods. For example, a claim could be made that during the 1970s, sun hats were popular in New Zealand. The representation of people in a magazine is a form of evidence that could support this trend. If sun huts appeared consistently in 1970s magazines, and not often before or after that, one might generally conclude that sun-hats were popular during that decade. Most magazines are published monthly, bimonthly or quarterly which makes the time-stamping of trends easy. This condition makes magazines attractive for historical analysis. Thus, magazines provide a rigid and regular source of cultural representation which can be interpreted to draw conclusions on a topic.

4.2 *Adopting Thematic Analysis*

Trudie Walters has published a range of research papers that analyse information found in popular magazines to form conclusions. As a senior lecturer in the University of Otago's Department of Tourism, much of Walters' research has focussed on domestic tourism in New Zealand, with second home research being a frequent topic. A method she commonly uses is *thematic analysis* which identifies reoccurring themes in periodical publications. Such methods require the author to read through magazines of a chosen period, noting relevant articles and then analysing their content to build data on the question posed. This method primarily analyses images and text for repeating themes and is highly controlled by the person conducting the research, which is why it is seen as subjective, and the output data qualitative.

Second home studies are a small area of domestic tourism research in New Zealand but are beginning to be explored more frequently. Lifestyle magazines are now being identified as a possible base for research concerning topics such as culture, leisure and luxury in relation to second homes. Walters notes that these magazines "may be a valuable resource for such research, and yet they are seldom utilised as sources of empirical material" (Walters and Carr, "*Second Homes as Sites for the Consumption of Luxury*" 138–39). In her own research, Walters has looked closely at how magazines represent and therefore influence lifestyle practices in baches or second homes. She has written several articles detailing these. She explains that while the author is ultimately in charge of processing the articles they analyse, there are checks that should be used to ensure consistency in the data produced. The process she uses involves several phases which consistently narrow in on relevant articles, capturing more detail as they progress. She describes the deeper levels of analysis as "iterative and organic" meaning that the author shapes their techniques as they go, and thus the outcome can be something they were not expecting (Walters and Carr, "*Second Homes as Sites for the Consumption of Luxury*" 133). The lack of prior use for study and ease of access to magazines makes this an attractive research method.

Home and Building magazine was selected as the primary source for media analysis of bach buildings. The publication began as *Building Today* in 1936 and has gone through several name changes since then. It was the premiere architectural publication in New Zealand, and from 1936 to 1994 was formally associated with the New Zealand Institute of Architects (NZIA) (Walters and Carr, "*Changing Patterns of Conspicuous Consumption*" 299). It has always endeavoured to represent New Zealand lifestyle and was therefore selected as an appropriate source of information for data-collection and analysis.

4.2.1 Limitations

The limits of this study are centred on the fact that representation from only one publication was analyzed. The findings are therefore limited to buildings uncovered in *Home and Building* magazine. There were thousands of other baches constructed through the selected period that consequently were not analyzed for the purpose of this study. *Home and Building* is a lifestyle magazine aimed at architects and home-owners, meaning its representation of buildings and culture is crafted to address these readers. Analysis of a different publication would have uncovered different stories and produced different conclusions. *Home and*

Figure 4.21: Home and Building Volume 22, Number 11. Digital Photograph.
Author's Own (2020).

Building was selected due to its presence as a widely-read national magazine, with a long, consistent publishing period. Other periodicals may have offered a lesser number of suitable articles and buildings, which could impact on the quality and variety of findings. It was therefore anticipated that the selection of *Home and Building* was most suitable for the proposed research.

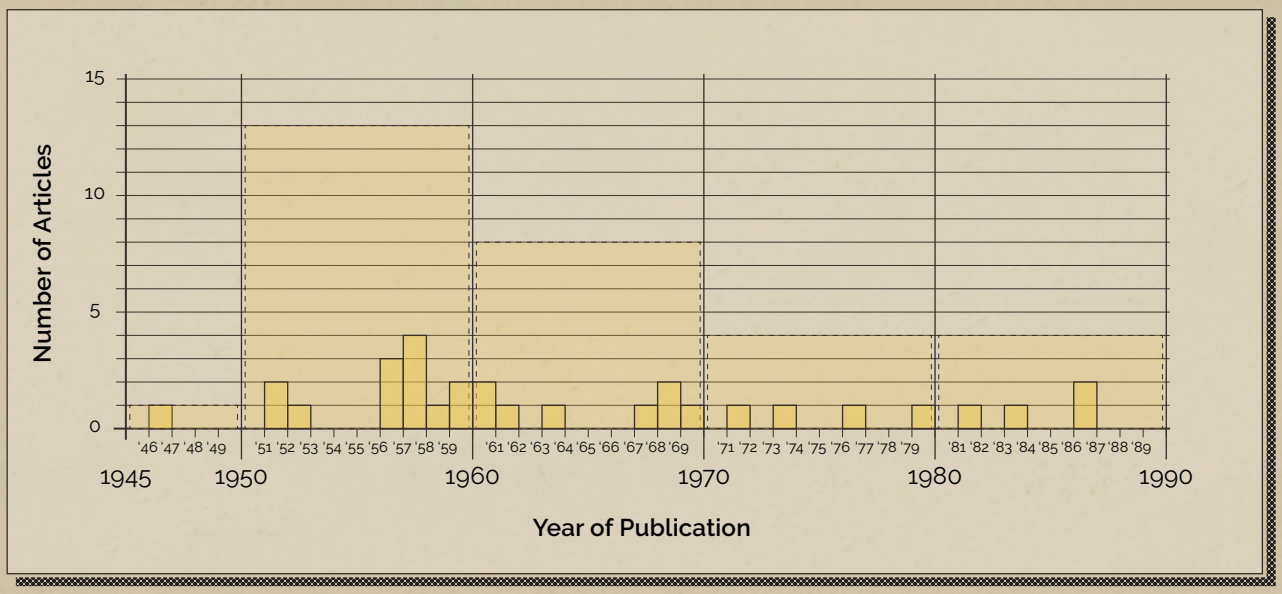


Figure 4.22: Time of Publication of Bach Articles throughout period of analysis. Author's Own (2020).

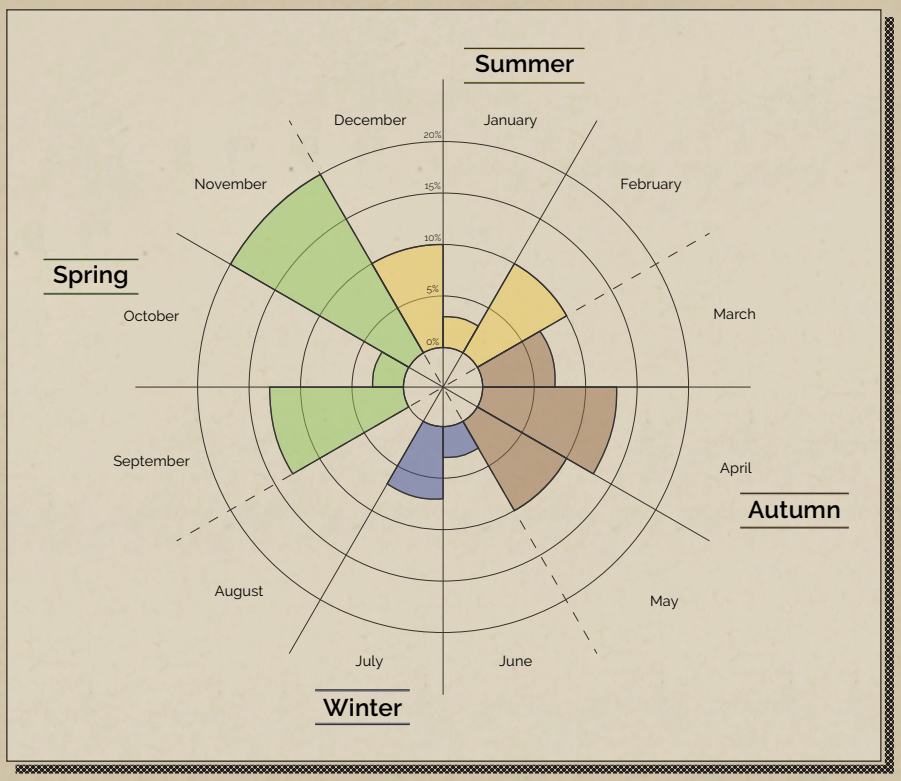


Figure 4.23: Time of Publication of Bach Articles as percentage of year. Author's Own (2020).

4.3 *Period of Analysis*

The period selected for analysis is a crucial parameter in determining the outputs of this study. Social and cultural trends appear across defined periods and these are reflected in regularly published periodicals such as *Home and Building*. Walters notes that periodicals and newspapers are the dominant source of representation of New Zealand second homes. They therefore help to construct the cultural trends we associate with the bach (Walters 98). It was expected that trends about any phase of bach-building could be produced by analysing a large enough number of articles. The period selected was based on literature research (see Chapter 2), which identified phases of construction before 1990 as favourable due to their apparent lack of impact on our coastlines. Therefore, defining the period of analysis appropriately was significant to ensure data collection was relevant to the wider research objectives of this thesis.

The period chosen was 1945-1990 which, some have observed, represents a distinct and favourable age of bach building in New Zealand. The year 1945 is significant because of its marking of the end of World War II. The 1900s preceding this year are known to have produced many of New Zealand's early rudimentary baches and were considered for inclusion as well. However, the years following 1945 are linked to increased prosperity and optimism following a quarter-century of wars and economic depression. Coverage of buildings in magazines was also more widespread after the war than beforehand. The upper boundary of this period, 1990, was selected due to the 1990's representing the beginning of the "post-bach" period in which larger beach houses started to become the new holiday housing norm (Kearns and Collins 229) (Hall and Keen 175). Supporting - almost perfectly - the decision to mark 1990 as the beginning of a new coastal architecture, the December 1989 issue of *Home and Building* featured an article of four modern second homes which are a clear step towards the spacious and sculptural buildings of the post-bach period. The first paragraph reads: "Moving into the 90s, the New Zealand Bach is a somewhat grander structure than its forebears" while "pleasure", "open-plan" and "plenty of sleeping accommodation" are highlighted as key aspects of the design briefs (Millar 26).

A study like the one proposed here has not been completed before, it is understood. It was therefore unclear what the findings would be. What was clear, was that the period selected had produced many defining New Zealand buildings, and that there was a sharp increase in coastline inhabitation thanks to the family car and an increasingly accessible road network (Mitchell 12). Increased means and motive to reach our coasts during this period continually popularised the recreation and holidays, and in many ways, has shaped how we holiday today. It was, therefore, vital that all potential holiday buildings were considered and analysed; to capture a true representation of the New Zealand bach.

4.4 *Method*

Each issue of *Home and Building* during the 1945-1990 period was read to build a catalogue of buildings to study further. This produced a database of 30 buildings that were considered suitable for inclusion and analysis. The process started with physical copies of magazines, which were skimmed through by hand, looking first to the contents page of each issue to find articles that mentioned *holiday, bach* or similar. This involved browsing the *domestic* or *residential architecture* section of the contents page for articles containing keywords, such as *holiday home, house or cottage; bach; beach house; cottage or weekender*. If an article featured these words, the page was opened and the second phase of analysis undertaken.

The building then had to meet the second phase criteria if it was to contribute to the study. It had to be mentioned as a building used for holidaying, either in the title or article text. An architectural drawing, such as a plan, section or elevation was required to determine physical properties, such as scale and relationship to the site. Finally, photographs were necessary to understand the spatial and material qualities of each building. Cases also needed to be located in New Zealand. Hypothetical projects (such as student work) were mostly excluded. The first two phases of analysis produced a catalogue of 30 articles which had sufficient information to enable further phases of analysis to be completed. These articles contained the final 30 buildings that would produce all of the output data for this study.

Once the basic criteria had been met for selected articles (Phases 1 & 2), a digital version of the magazine was opened in a PDF reader and further detailed analysis was conducted. Working digitally allowed information to be recorded more accurately and quickly through screenshotting; increasing the size of images; and fast comparison between articles.

The final phase of analysis recorded finer levels of detail in each building through the use of a case study template (see Appendix 1). Data was recorded under five categories including History, Location, Media Coverage,

Phases of *Home & Building* Magazine Analysis

Phase 1	Physically check contents page of magazine for key words.
Phase 2	Open article page to check for drawings, photographs and location of building.
Phase 3	Open digital copy and record images, drawings and text
Phase 4	Sketch architectural information and record on case study template (see Appendix 1)

Figure 4.41: Phases of Thematic Analysis of Case Studies.

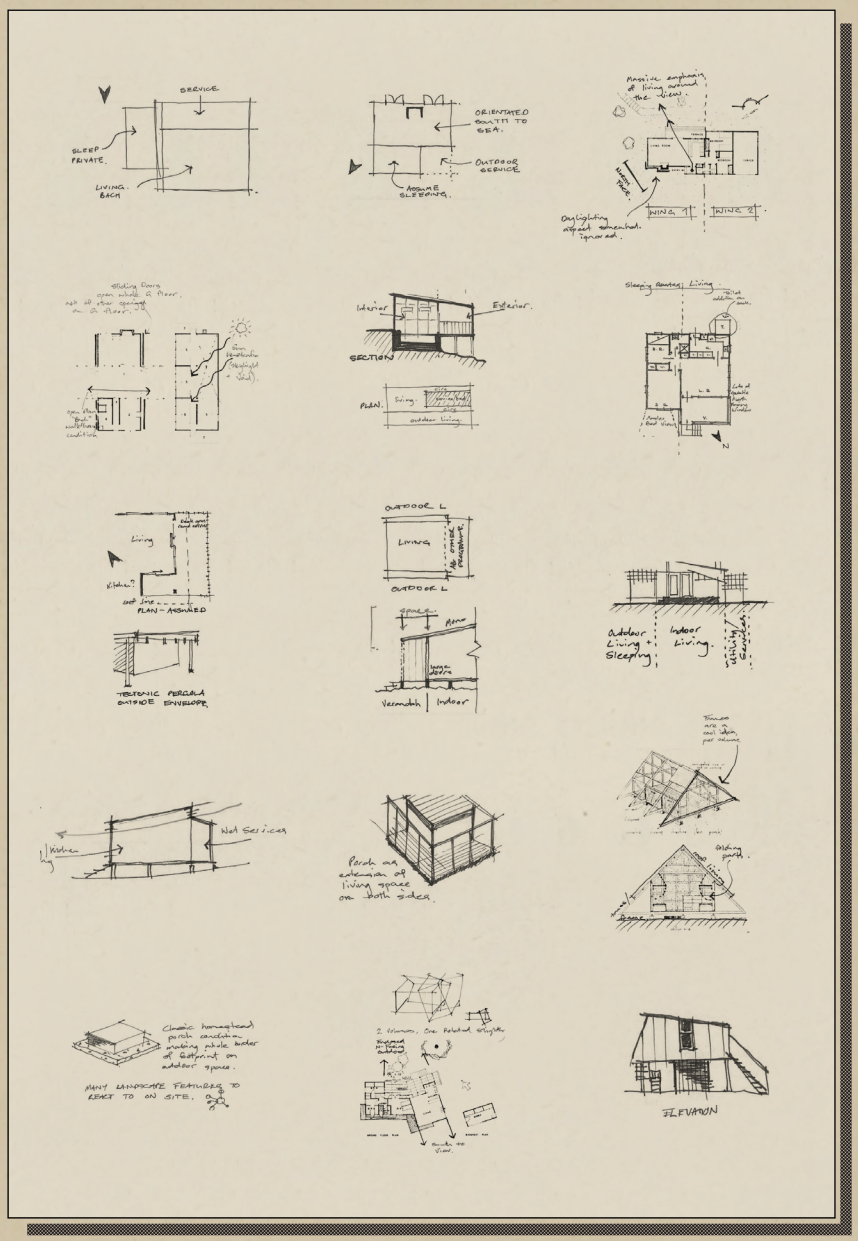


Figure 4.42: Matrix of Case Study Diagrams 1.
Authors Own (2019).

Form, Size and Services. This phase of the analysis was completed by hand to allow more freedom in note-taking and, more importantly, so that diagrams could be drawn, using images and the original plans as reference (see figure 4.42). The first half of the study was organic and iterative which allowed for changes and mistakes to be made that would ultimately enhance the accuracy of the findings. During the second half, a system was developed so that by the end of the study, similar language, abbreviations and word-counts were being used to record and describe each section. This allowed the recording process to flow more quickly and would later be useful in categorizing the extracted data.

From start to finish, data-collection took almost a month and although the recording process morphed and changed as systems were developed, the case-study template did not change, allowing for consistency in the output data.

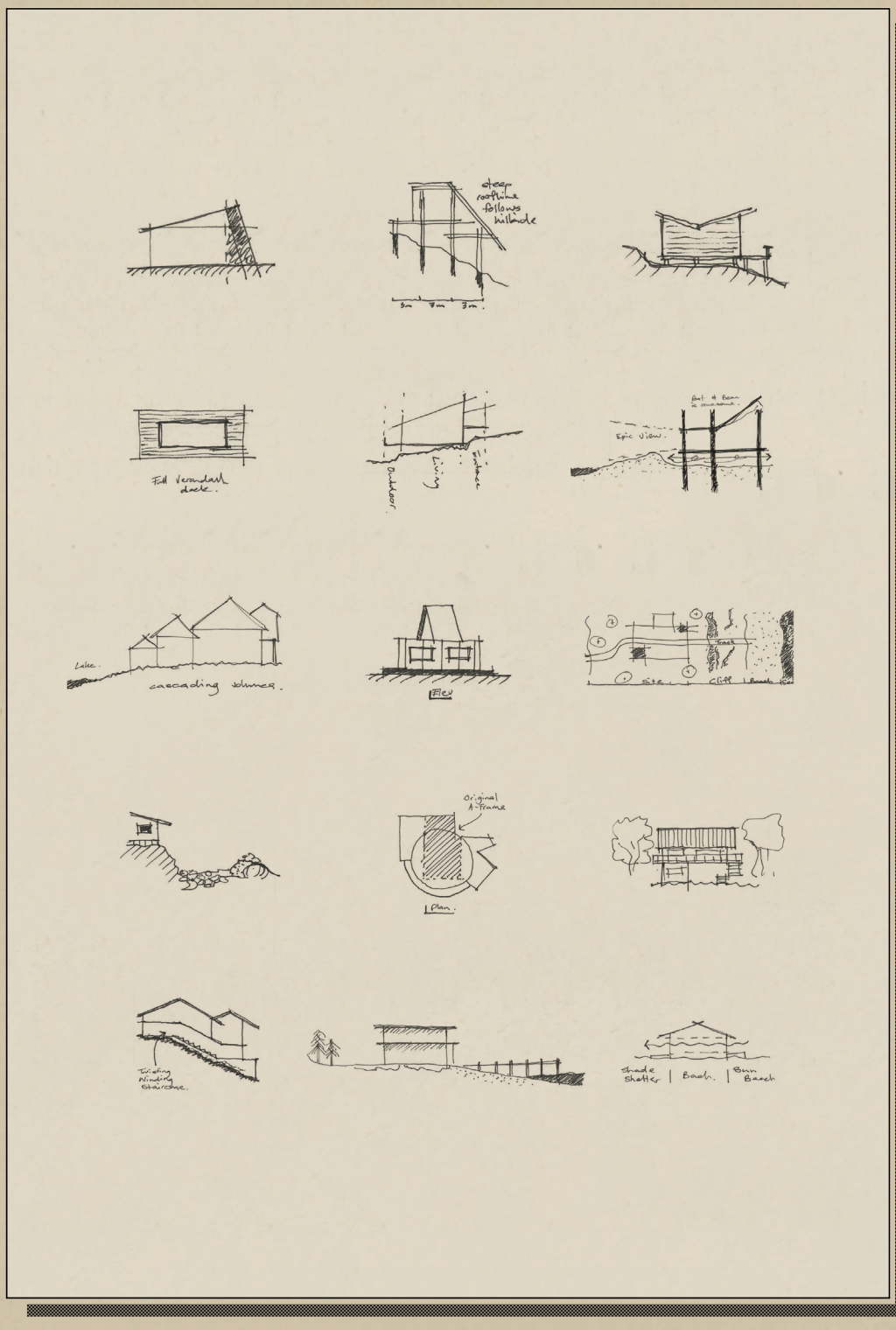


Figure 4.43: Matrix of Case Study Diagrams 2.
Authors Own (2019).

4.5 *Findings*

Not what we've been told

Case study findings showed a great deal of design experimentation in post-war baches. Very few of the architectural features uncovered were expected. Orientation toward landscape features; location and architectural form were not consistent with the image that popular discourse has constructed of baches in the past. What we expect, from historically acclaimed texts such as *The Bach* or *The Elegant Shed*, is an "unpainted wooden cube" or the "gabled roof on rafters" with "lean-to additions", usually situated near a beach (Thompson 13) (Mitchell 18). The cases analysed in this study were often vastly different to this.

Location

Locations of analysed baches were expected to be where coastal resorts exist now. Interestingly, the findings showed a strong tendency to inland locations, rather than the coastal contexts that are now popular. One aspect of this trend was that baches were found in rural contexts close to major cities, such as in the Waitakere Ranges, west of Auckland. The other was a trend toward lakefront sites, often in alpine areas. The Bay of Plenty region for example, featured just one coastal bach, but had four inland, near Lakes' Rotoiti and Tarawera. This is inconsistent with today's holiday image of Tauranga and the Bay of Plenty, which has a mild climate and a vast coastline used heavily

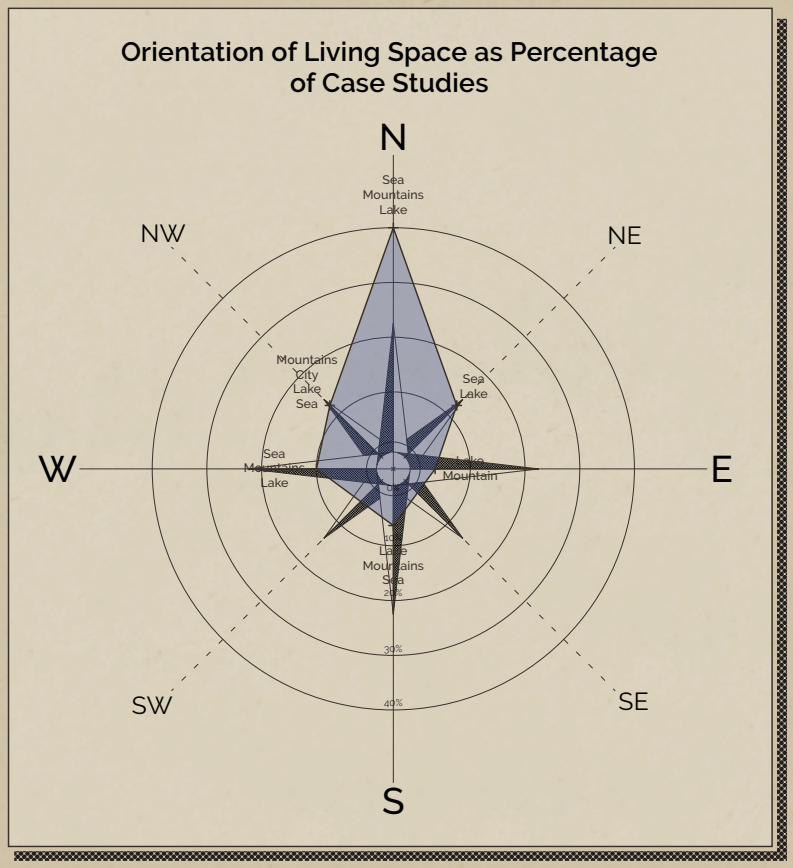


Figure 4.51: Living Space Orientation of Cases Analaysed.
Authors Own (2019).

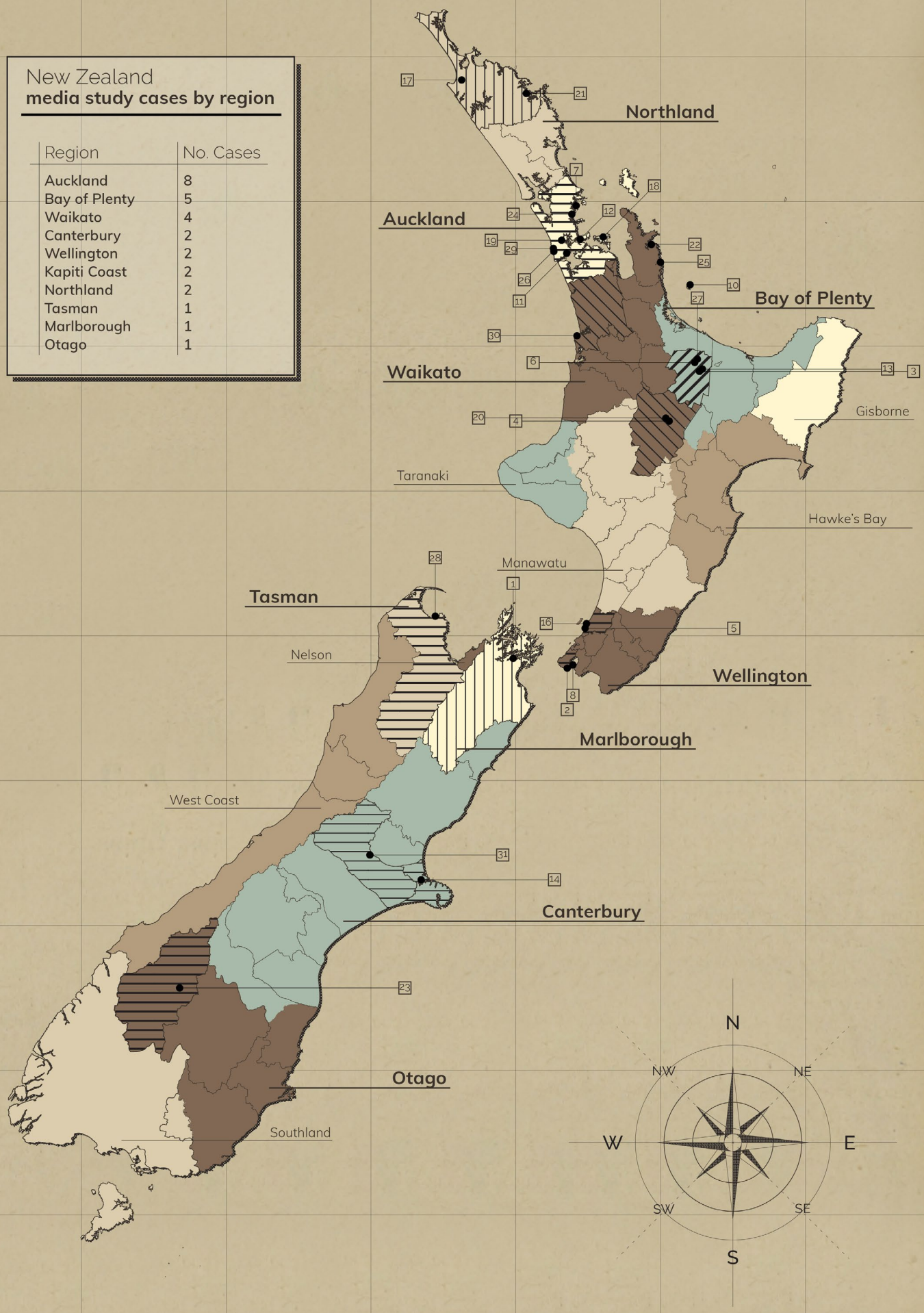


Figure 4.52: Map of Case Studies by Region. Authors Own (2019).

in the promotion of coastal living.

Coastal baches did appear in the study however, just not in the anticipated locations. Less than half of the cases were located at or near the coast, while the rest were situated in bush-clad hills or facing mountains and lakes. In hindsight this is understandable, as many of the coastal resorts where people now take their holidays didn't exist or were inaccessible. As has been discussed in previous chapters, crucial infrastructure and widespread availability of the car allowed coastal New Zealand to be explored more extensively for recreation after 1945. What's shown in the locations of buildings from this study, is perhaps the limitations of the road network of New Zealand in the early post-war period. Through this lens, it simply wasn't an option to own a bach at the coast because there was no straight-forward way to get there. This is likely also the reason for cases being found in very close proximity to the major centres, particularly Auckland, which was another strong theme.

4.5.1 Auckland

The cities of Auckland, Wellington and Christchurch each featured holiday buildings at a short distance from their centres. In Wellington these were found at Miramar and on the South Coast, with some a little further away on the Kapiti Coast. One of only two baches represented in the Canterbury region was found at Lyttelton Harbour, just outside of Christchurch. The Auckland region alone featured the largest concentration of baches, representing 27% of the cases analysed. This number is significant, as the next largest figure was just 17% in the Bay of Plenty. Baches in Auckland were found in coastal settings at Devonport, Waiheke Island, Piha Beach and around the North Shore. Inland they were found at Titirangi and in the Waitakere Ranges. While the over-representation of baches in Auckland was unexpected, it can be accounted for by several historical factors.

The first is that since 1911, Auckland has had the largest population of any New Zealand city. Following World War II, the city continued to grow at a faster rate than any other centre (King, *The Penguin History of New Zealand* 246). With the largest population and urban area, Auckland has historically had New Zealand's greatest concentration of practicing architects as a result of the city's construction demand. Auckland, being the location of New Zealand's first (and only until 1976) school of Architecture also likely fed this trend. The 'Practicing Members of the NZIA' section of each *Home and Building* magazine often featured just a handful of members across regional New Zealand and in the smaller cities, but always had plenty from Auckland.

Additionally, the magazine was always published in Auckland during the period of analysis. As a result, the works published had a higher tendency to be located in or around Auckland. This can be attributed to, again, New Zealand's restricted transport and communication networks which suppressed the variety of locations that could be reported

Names of Architects/Practices

Porter & Martin	B. A. Helean	Ronald H. Mewa	Dodd Patterson Architects
Wilson, Moodie & Gillespie (3)	Mark Brown & Fairhead	H. M. Shattky	Ross Lee
David & Lillian Chrystal	J. B. Peterson	Hoadley Budge & Partners	Llew S. Piper
Porter & Martin (2)	Lawry & Sellars	Hristch, Curtis, Simmon &	Alex Bowman
Surrey S. Alleman	Sargent, Smith & Partners	Partners	John B. Gummer
Anthony L. Treadwell	Charles Fearnly	McCoy & Wixon	Errol Care-Cottrell
K. L. Piper	Morton Jordan	Richard Sales	D. E. Donnithorne

Figure 4.53. Architects and Practices represented in Case Studies. Authors Own (2019).

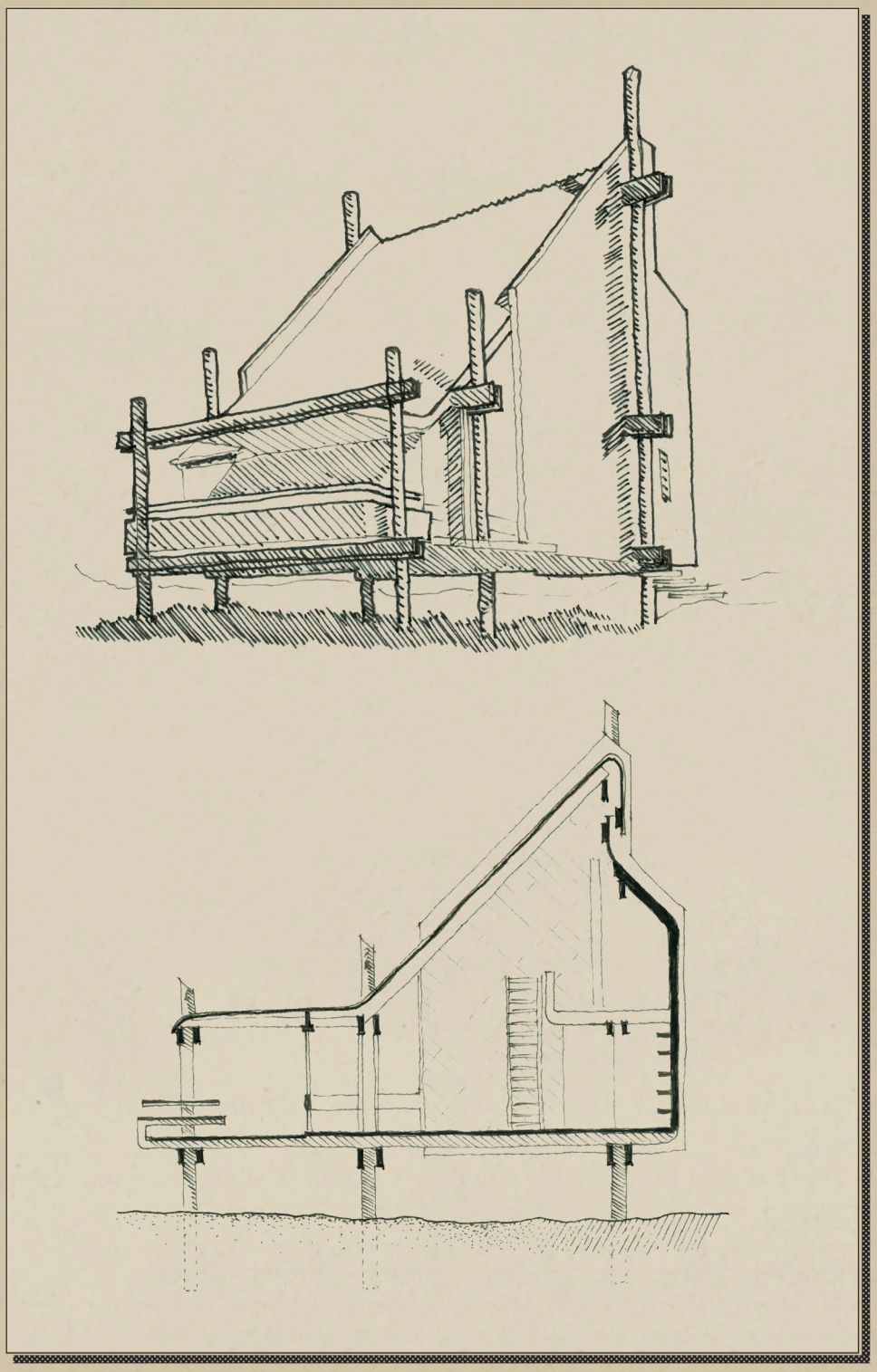


Figure 4.54: Cooks Beach Bach, perspective and section. Pen on paper.
Authors Own (2020).

on. Despite continual publication for the better part of a century, *Home and Building* articles have always had a consistent style and format. To portray the building as the architect (and NZIA) wanted; drawings, photographs and article text were required for a complete article. Getting access to drawings and photographs of a project, particularly in the 1940s and 50s, was not as straightforward as it is today. At the very least, these could be sent through the post service from where-ever the building was, by its designer. Historical figures on this process are varied, but reports indicate that it took longer and was more difficult than it is today. What is more likely, judging from the consistency of each article, is that an editor of *Home and*

Figure 4.55: Cooks Beach Bach. Digital Photograph.
Authors Own (2020).

Building went to the project site to write the text and meet the building's designer. It is quite likely that a professional photographer was also required to capture a suitable image. From this perspective, it's clearer as to why Auckland, the city of publication, was over-represented in the findings. Trains between Auckland and Wellington were available throughout this time, as was road travel; but a trip from Auckland to say, Dunedin for the average architect or editor would be either lengthy or expensive, often both. This would become easier with frequent domestic air travel, but not until the 1960s - approaching the second half of the analysis period. James Belich notes that both domestic air travel and communication systems were relatively slow to be adopted in New Zealand, but improved and reduced in price throughout the 1900s (Belich 427).

These factors, which are based on New Zealand's slow adoption of modern transport and communications systems throughout the 20th century, contribute to the high frequency of bach articles represented in the Upper North Island. The study found just 17% of baches from *Home and Building* to be located in the South Island. The publishing city of Auckland,

with its large population and the country's premiere School of Architecture, featured a range of baches in close proximity to the city.

4.5.2 Unexpected Formal Qualities

A final, more radical finding was the range of formal characteristics shown across the study. Many of the elements which give a building its final form were expressive, irregular, and represented a great deal of experimentation from the architects of the time. Perhaps the most defining and interesting aspect of this trend is the frequency of unique roof shapes in the baches analysed.

Roof shapes ranged from typical forms expected from suburban houses in New Zealand, to ones that are so unique that they're difficult to categorize. Gable, hip, monopitch and variations of these appeared fairly regularly, while experimental shapes like kite, timber lattice and butterfly roofs also featured. Buildings such as one found at Cooks Beach and one at Onetangi, had particularly steep pitches with curved edges and operable windows near their ridge. In both cases, this type of roof allowed for a large, cavernous interior space as well as an extra level in the form of a mezzanine floor. The Onetangi Beach example was less distinct when viewed in it's hillside context amongst bush and trees. Its roof followed the steep fall of the hill and blended into the landscape. The Cooks Beach example stood out much more, with a tall, steep mono pitch that curved over the ridge beam and formed a wall on the back side (see fig. 4.54). This building was raised on large poles on the sand dunes at a beach that, at the time, was devoid of the many baches that exist there now. From the beach, it had a tall, distinctive presence that was defined by the roof. It can still be found at the site (see fig. 4.55) and although it is now masked by trees and adjacent houses, it's defining roof is still an interesting feature on the dunes.

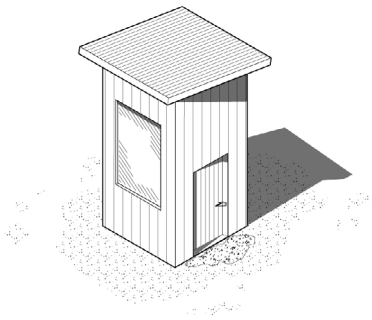
New mass-produced roofing materials can be attributed to the roof forms uncovered in this study. Asbestos cement and corrugated iron were used in overwhelming numbers on baches. Asbestos roofs represent 27% of cases in the study, while corrugated or profiled iron was used on 47% of the baches analysed. These materials were suited to being wrapped around corners or were manufactured with curved surfaces. As a result, steeper roof angles could be experimented with. Asbestos panels could be used to clad walls as well as roofs, which allowed for the two to be blended into a single mass. This allowed roofs and walls to become a unified object, without the typical wall-eave junction that visually and functionally separates the two elements. Asbestos cement manufacturing plants were established in Auckland in 1938 and Christchurch in 1943, at the start of the post-war period (*History of Asbestos and CES in New Zealand*). These new, mass-produced materials were important in the building of post-war houses and naturally found their way into New Zealand's suburbs, homes, and evidently, baches.

Regardless of the use of asbestos and corrugated iron, the roofs of many of the baches analysed in this study held interesting forms. Steep pitches and the combination of planes produced more visually interesting forms in bach buildings than have been reported. These were often emphasized when the building was viewed from below, such as when it sat on a dune, hill or cliff. This trend goes against the popular narrative of the post-war bach, which is said to have usually featured a gable roof and lean to's.

4.6 *Conclusions*

Post-war bach buildings are much more architecturally diverse than we've been told by popular discourse. As a result, what defines a bach is perhaps now even more difficult to explain. An over-representation of baches in the Upper North Island, particularly near Auckland is due to the city's size and population, and perhaps leaves more to be said about the state of post-war baches in other regions. Baches in inland areas, near lakes and in the bush surrounding cities, were unexpectedly popular, most likely as a result of the limitations of New Zealand's roading infrastructure. Finally, the most exciting conclusion was the abundance of expressive formal qualities of post-war baches. Roof forms, cladding systems and structural systems showed a lot of experimentation from architects during the period of analysis. The conclusion can only be that post-war baches remain an intriguing section of New Zealand architecture, and more investigation is warranted to understand them further.

Home and Building proved to be an excellent information source for architectural data collection. Most of the articles featured drawings in the form of plans, sections, elevations and perspectives. These often included precise measurements and information about materials used in construction, which make the quantitative findings remarkably accurate. Photographs of baches were also common throughout the articles and these helped to fill in the blanks if drawings were unclear or degraded. Images also portrayed the 'feel' of buildings, giving an indication of intangible spatial qualities. Drawings and photography, combined with article text gave a thorough representation of post-war baches, allowing for a high degree of confidence in the measurements and findings.



Chapter Five

DESIGN EXPERIMENTS

5.1 *Bach Diagram Matrices*

The *Home and Building* study provided a range of data on post-war bach buildings, including quantitative physical attributes as well as expressive formal gestures. The first step in teasing out a formal language for the proposed building system was to document these features in a way that allowed them to be explored as concepts. For each case, an interpretive, two-dimensional sketch was drawn on the case-study template. This exercise was intended

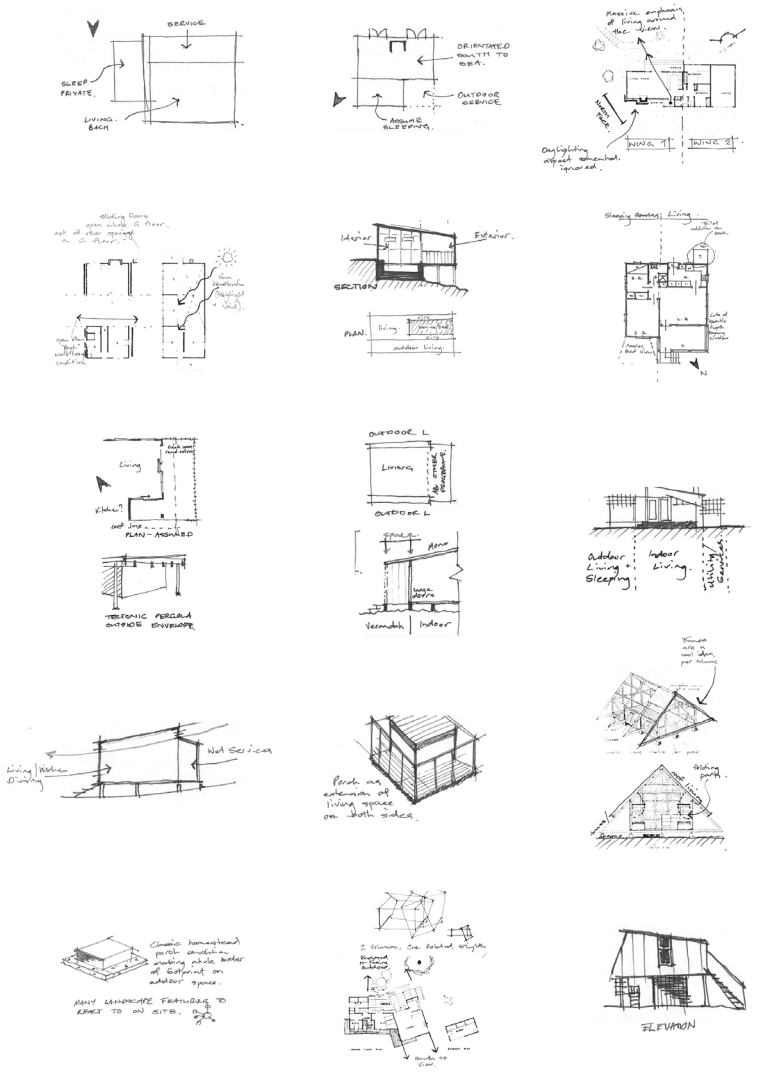


Figure 5.11: Bach Diagram Matrix 1. Pen on Paper.
Authors Own (2020).

to be completed quickly, to extract significant formal or visual features. This process resulted in a small, hand-drawn diagram for each case which tended to pick out features such as expressive roof forms, structural systems and cladding types. It also captured subjective qualities such as perceived living spaces, relationship to landscape and circulation paths for each building. The resulting matrices (see figure 5.11 & 5.12) is a distillation of the features that were uncovered during the case study process, and became a stepping stone between historical research and the first design experiment.

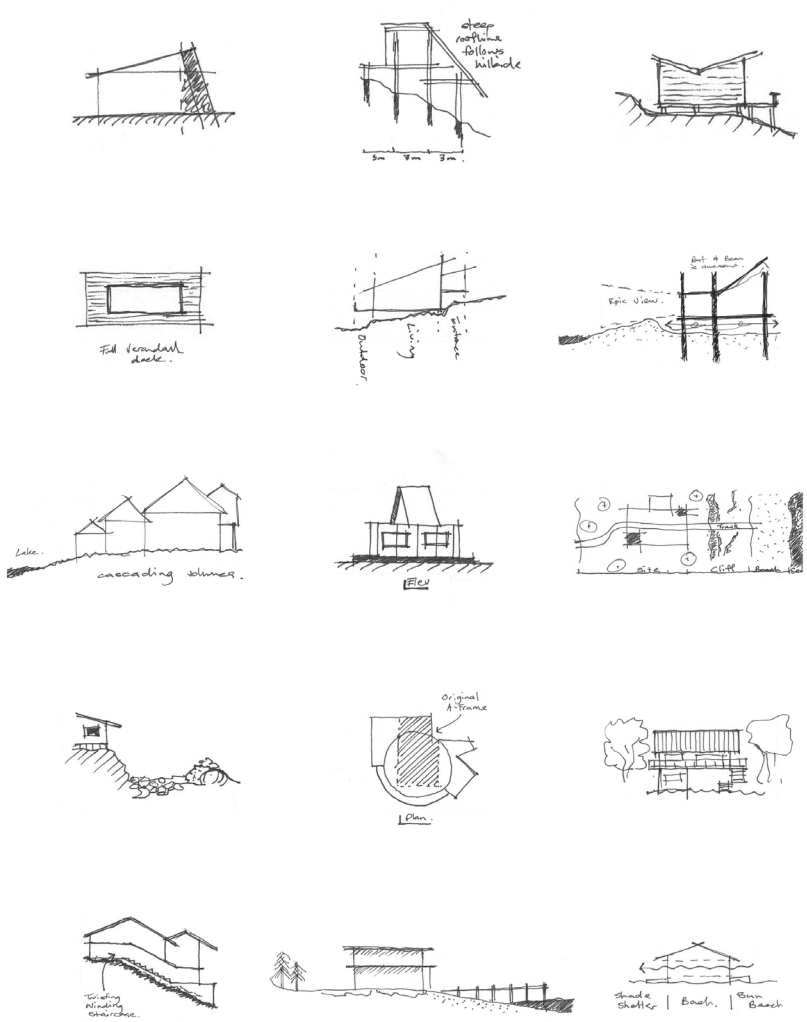


Figure 5.12: Bach Diagram Matrix 2. Pen on Paper.
Authors Own (2020).

Experiment 1

5.2 *From Diagram to Object*

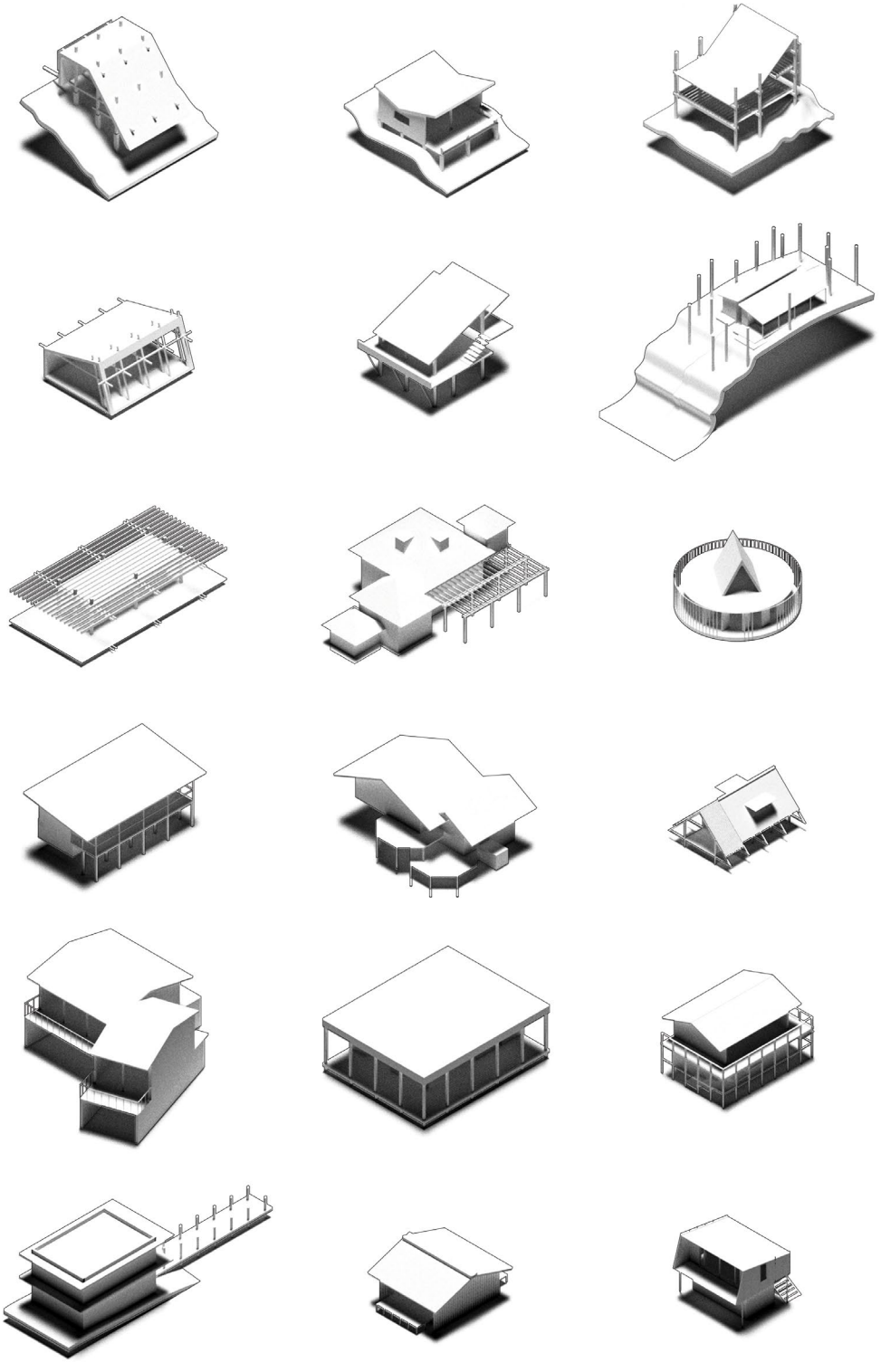
5.2 From Diagram to Object

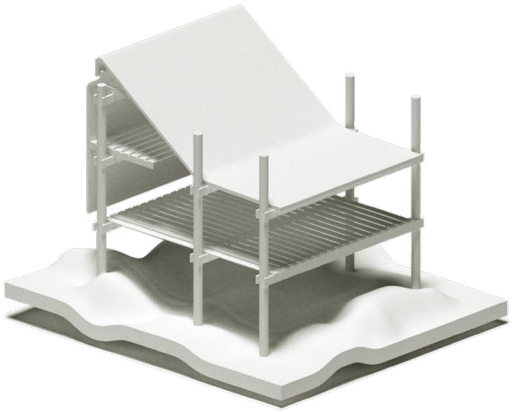
A clear next step followed, which was to take the two-dimensional diagrams and reimagine these in three dimensions. This was undertaken using digital 3D modelling, starting with the sketch diagram and extruding the major formal elements, then filling in space between with finer pieces. To ensure that this was not simply modelling the original buildings, reference was only taken from each small sketch, without using project photographs as reference. This method filled in the gaps between the 2D and 3D modes of representation and in the process, decisions had to be made about the size of components and spaces relative to each other. No set scale was used, and the first few shapes of each model tended to govern how the other pieces were built. This often meant that a major formal element was modelled first, which in many cases was the shape of the roof, although other elements were also starting points. A high degree of variation in the form of outputs can be observed, which is attributed to the following two points:

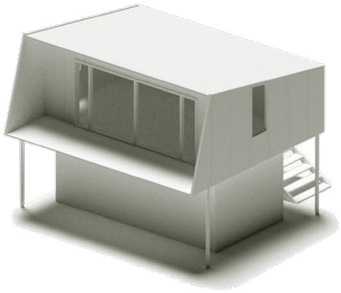
- The two-dimensional, base diagrams of this exercise were drawn differently each time, either as a plan, section, elevation, axonometric or perspective. Modelling for each case would therefore begin at a different point each time, based on the type of drawing the diagram was extracted from.

- Variation in the size and shape of case-study buildings also contributed, as each of the cases analysed were built in different years and across different locations.

Figure 5.21 (Opposite): Bach Object Matrix. Pixel & Vector Artwork. Authors Own (2020).







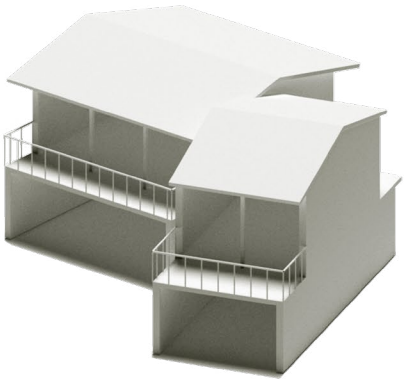


Figure 5.22: Bach Objects Enlarged 01. Pixel Render.
Authors Own (2020).

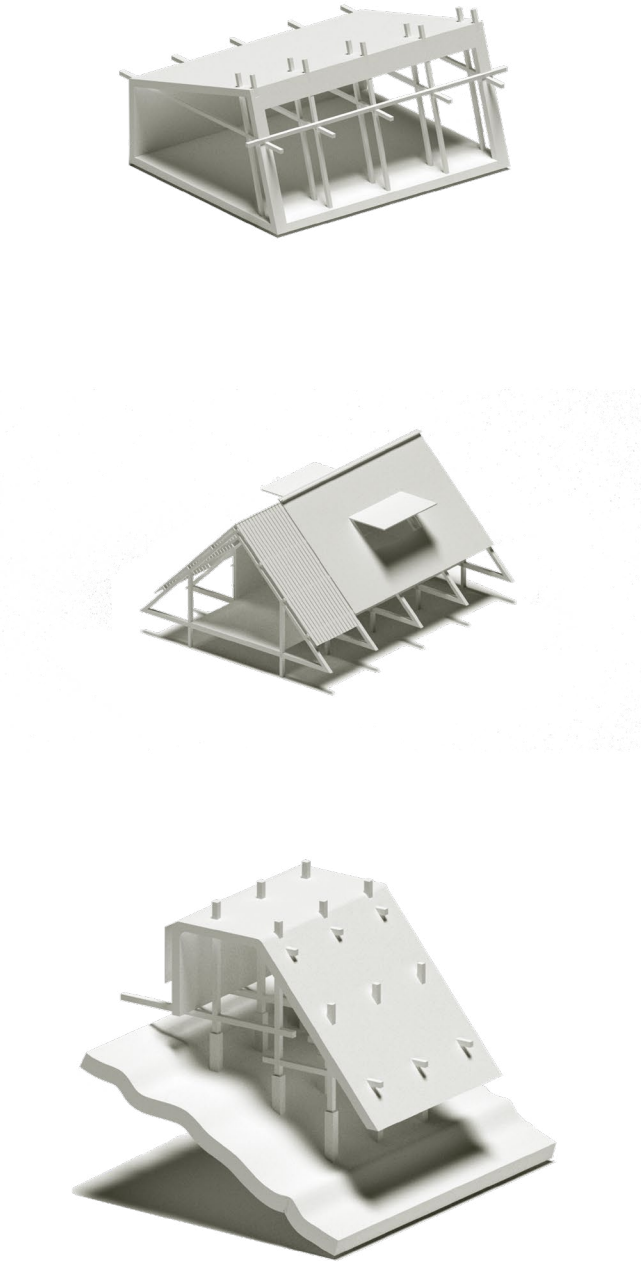


Figure 5.23: Bach Objects Enlarged 02. Pixel Render.
Authors Own (2020).

Mini-Reflection

While a small amount of variation in the size of each bach object can be observed, a clear success of this exercise is that the resulting objects appear compact and modest in size, which addresses the Research Aims of this thesis. The objects suggest human inhabitation through the sizing of members such as poles, frames, openings, balustrades and stairways. This leaves it up to the viewer to decide on exactly how large each bach object is. The abstract nature of the objects produced here, with their lack of fine detail, are an exciting first step in the design process. They build on the findings of case studies from Home & Building articles, which found a high level of formal experimentation in architectural baches of the post-war period.

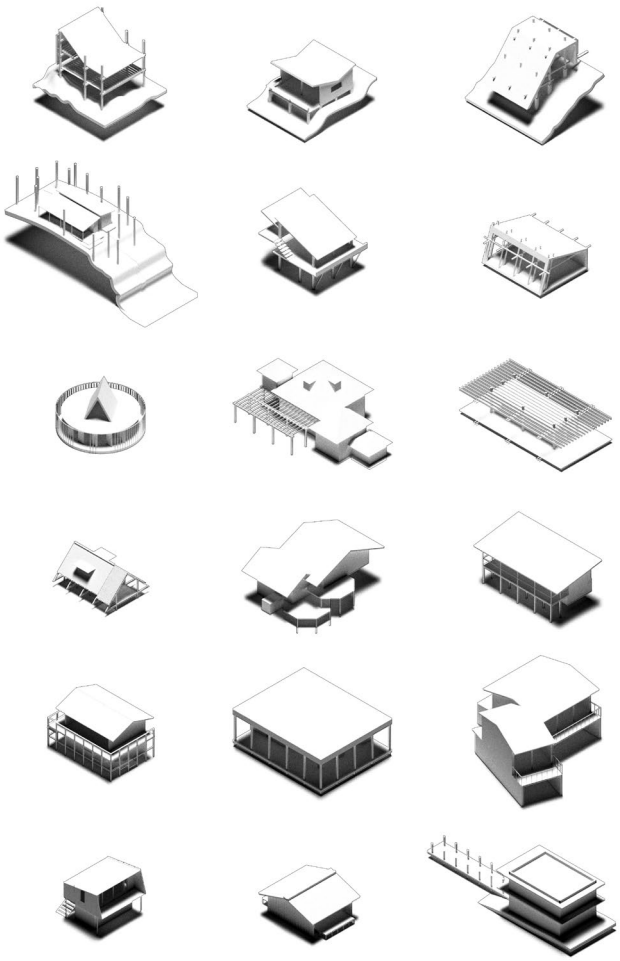


Figure 5.24: Bach Object Matrix. Pixel & Vector Artwork. Authors Own (2020).

5.3 *Typical Coastal Strip*

To address Research Objective 3, a connection between building and landscape was sought. The first step in this process was to find a landscape that could host the objects that had been created in Section 5.2. The geography of the Coromandel Peninsula was analysed and documented in Chapter 2 and with this knowledge, a piece of terrain mimicking the Coromandel Landscape was modelled. A strip of coastal land was built digitally with the use of *Rhino 3D* modelling software. The 400 x 70 metre strip of terrain typifies coastal land where holiday settlements exist now (see figure 5.31). At one end of the model, the ocean meets a sandy beach. The beach moves into rolling sand dunes and at the other end, the coastal plain stretches inland and constitutes most of the central model. A small estuary runs perpendicular to the shoreline across the coastal plain, effectively dividing it into two parts. Finally, after crossing a roadway, the hills climb steeply to a height of 60 metres, where heavier bush and taller trees can be expected.

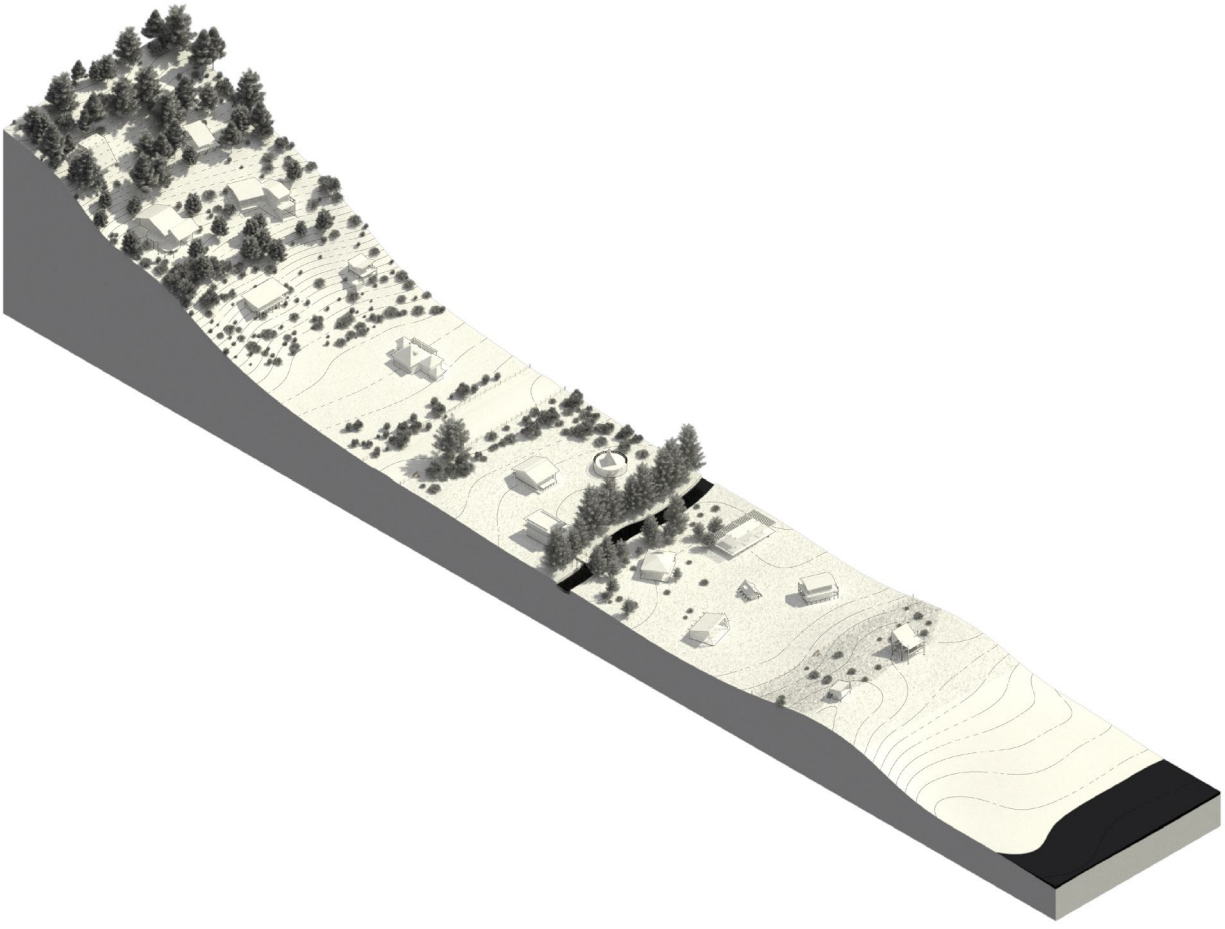


Figure 5.31: Coastal Strip model, isometric. Pixel & Vector Artwork.
Authors Own (2020).

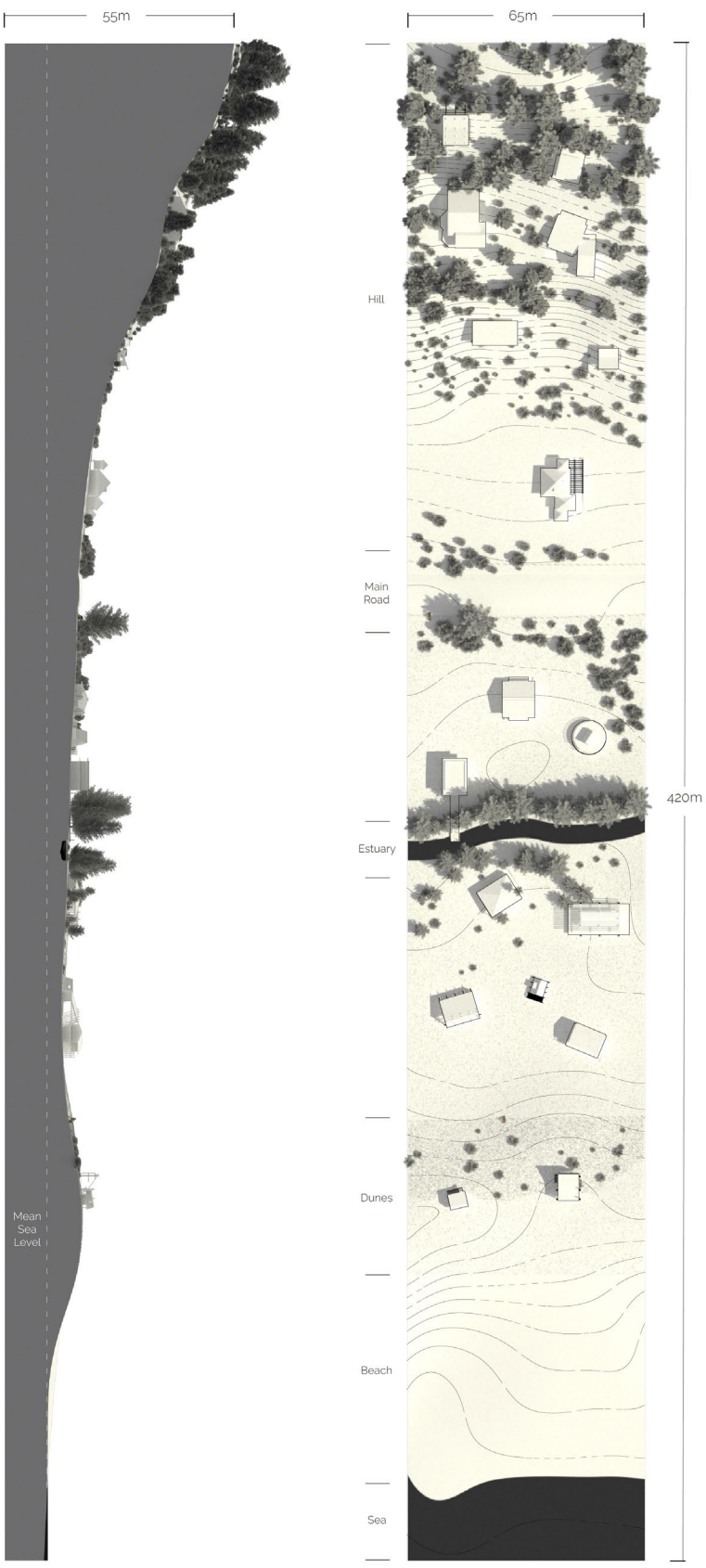


Figure 5.32: Coastal Strip model, elevation. Pixel & Vector Artwork. Authors Own (2020).

With the land modelled, and two bodies of water forming a relationship with the land, the final component of the model would be bush and vegetation. Accurate placement and sizing of vegetation on the coastal strip was significant to this exercise. Realistic trees and bushes allow for realistic relationships between landscape-features and buildings. A key design tool here was *Lands Design* modelling software, a plugin for *Rhino 3D* which is primarily used by landscape architects to produce planting plans. It allows for quick and easy selection and placement of trees, bushes and grasses within a digital model. Without accurate representation of vegetation, the model misses crucial components that govern design and planning decisions. *Lands Design* allowed different densities of bush and trees to be accurately placed throughout the model. Dune grasses and flax were positioned on the dunes; light bush and smaller trees on the coastal plain; mature trees bordering the estuary; thicker bush and tall, mature trees were placed on the inland hills.

Mini-Reflection

The resulting model is a generalised strip of coastal land with realistic features. Similarities can be drawn between it and beaches where coastal communities currently exist. Beaches such as Cooks Beach, Whangapoua, Whangamata, Hot Water Beach and others on the Coromandel Peninsula feature the same geographical make-up of: beach; dunes; coastal plain; hills. It can, therefore, be argued that the findings of this exercise could be applied to any coastal contexts with similar features. This was a positive outcome. Another was the ability to control heights and densities of vegetation through *Lands Design*. Realistic trees and bushes create accurate sun-shading, visual privacy and they divide the landscape into smaller parts. These positive outcomes fed nicely into the next phase of the design exercise, which brings landscape and object together.

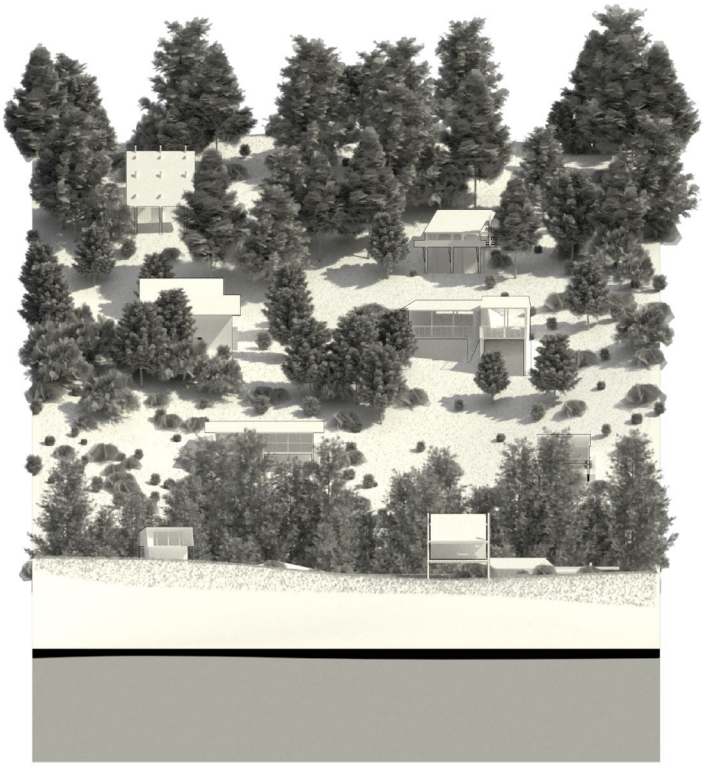


Figure 5.33: Coastal Strip model, elevation. Pixel & Vector Artwork. Authors Own (2020).

5.4 *Object Arrangement*

A relationship between the bach objects and the landscape was now sought. This process required a series of objects - which previously had no relationship to each other - to be grouped together on the coastal strip of land. Some objects had elements suited to specific zones on the landscape model. Objects on poles or piles suited areas near the beach, where the substrate is a mixture of sand and soft soil that could easily shift or erode. Poles lift objects up and let the sand shift freely beneath them. Objects with multiple floors and a deck or verandah suited the hill context. The vertical change between floor levels naturally follows the contours of the hill; while decks provided outdoor living space on the steep hill, which would otherwise be unavailable. Objects which didn't suit either the sand dunes or hill, were placed somewhere on the coastal plain.

Once the objects had been placed on top of the model, teasing out a connection between the object and the landscape was key. Objects on the hill or dunes were naturally orientated to the dominating landscape feature; the ocean. This is something we have come to expect in any coastal dwelling; that there be a big view of the water. On the coastal plain, however, objects had their view of the sea blocked by either dunes or trees, and thus orientating them to the sea was no longer appropriate. These objects were then placed and rotated to engage with immediate features such as trees, the estuary and each other. The choice to rotate the objects to face one-another addresses Research Objective 3, by speculating as to how a sense of community might arise.

Figure 5.41: Sand Dune Bach Object. Pen on Butter Paper.
Authors Own (2020).

5.5 *Design Reflection*

The series of investigations carried out in Section 5.4 uncovered both positive and negative outcomes. Modelling a strip of land perpendicular to the ocean denies the opportunity to inhabit the coastline as we already do. Modelling less beach allows for thinking on how land behind the beach can be used to facilitate a community. This condition also highlights the option to orientate buildings toward landscape features other than the ocean, such as trees and inland bodies of water.

Objects placed on all zones of the model emphasized the need for poles as part of the structural system. The soft, sandy substrate near the beach and on the coastal plain warrants the use of poles to lift buildings off the ground. This allows the ground to shift with little effect to the building itself. As identified in Chapter 4, hillside buildings also benefit from being raised on poles, as it reduces the need for expensive earthworks and foundations. Low-lying areas such as the coastal plain can be prone to flooding, which further warrants the use of poles. Flood-prone buildings, if raised on poles, remain dry and undamaged during flooding events.

Looking critically at the model produced in Section 5.4 raises questions about it's address of constructing a *community*, while *sustaining* and *enhancing* the site (see Section 1.2). A series of objects were simply placed on a site, moved and rotated to show a connection with each other. The issue is that the *bach objects* are based on buildings from a range of locations and periods. It becomes difficult to prove a connection between a building nestled on the hill, and one one the dunes, especially if they come from different construction periods.

Design Experiment 1 was a success nonetheless. It allowed an opportunity to work a series of different buildings into an accurately modelled context. It can't be said that a *community* was created, but the digital tools allowed an accurate representation of scale, which validates this early exercise.

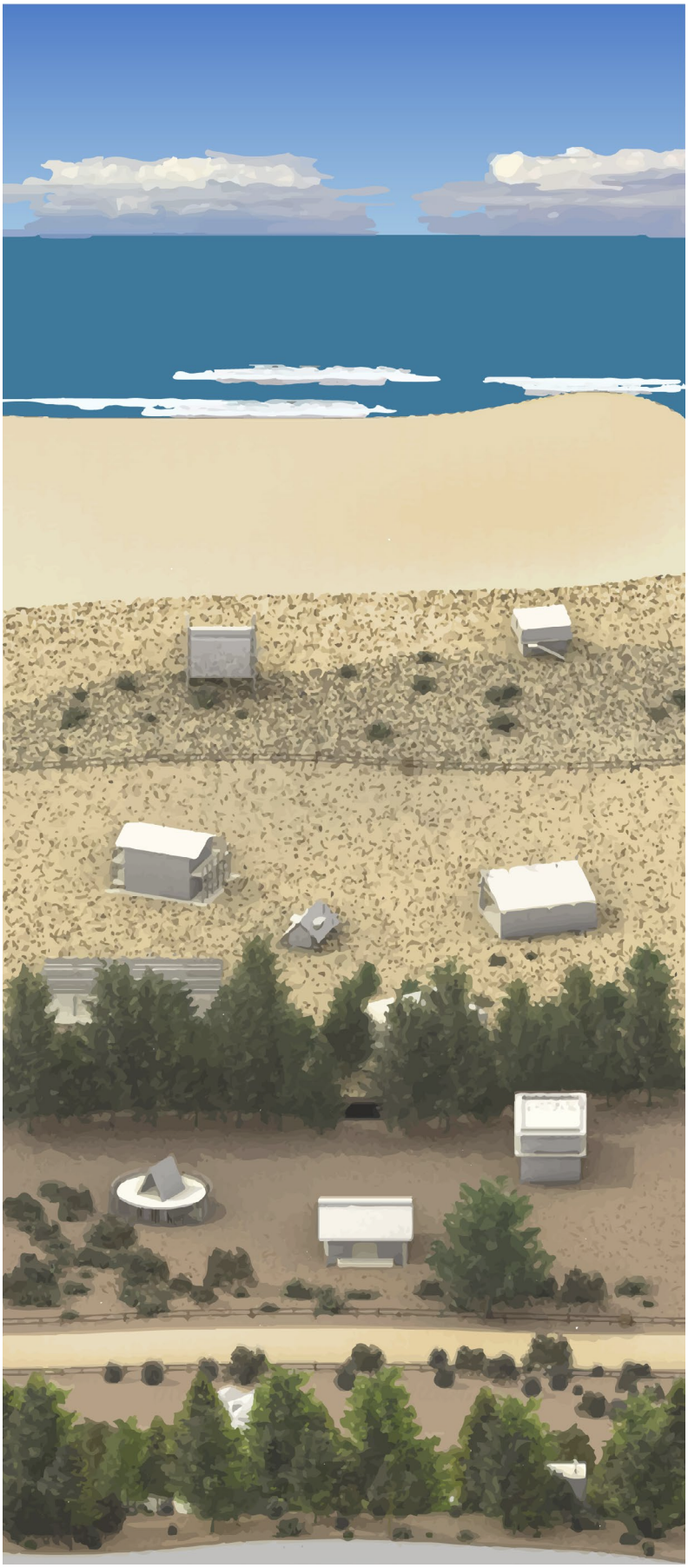


Figure 5.51: Presentation style test. Vector Artwork.
Authors Own (2020).

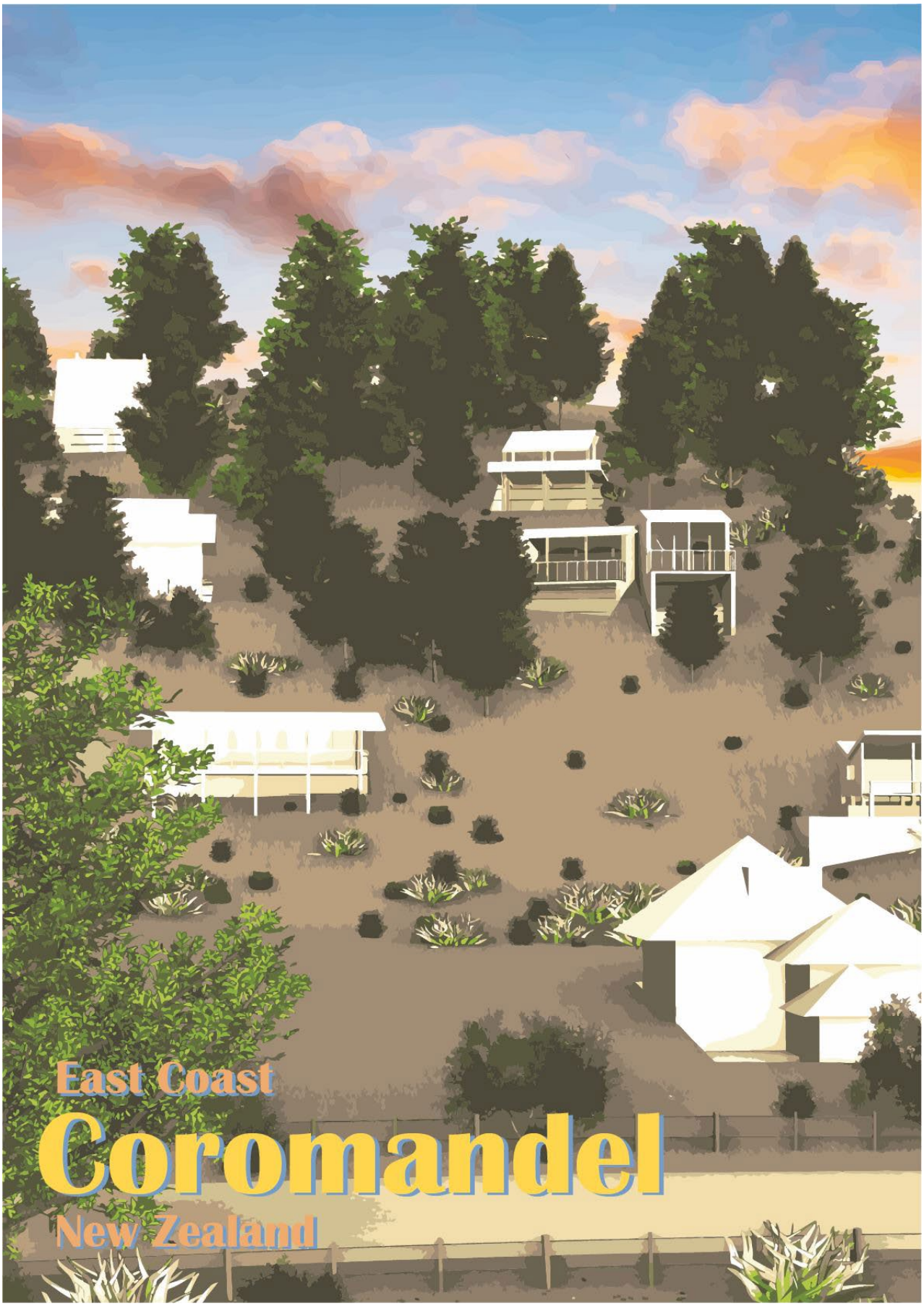


Figure 5.52: Early Tourism-inspired poster. Vector Artwork.
Authors Own (2020).

Experiment 2

5.6 *Bach Archetype 1*

Common characteristics found in the objects of Experiment 1 (see Section 5.2) were selected as inputs for an *archetype* design. An archetype is defined as a very typical example of an object. In the context of the research being presented here, a Bach Archetype refers to a typical bach based on architectural information from Experiment 1. Therefore, Experiment 2 aims to condense the architecture of each bach object, with the output being a single building. Other design inputs for Experiment 2 include the site selected for this test, and personal design methods and taste. The archetype design is the next step in the development of this project's architectural language.

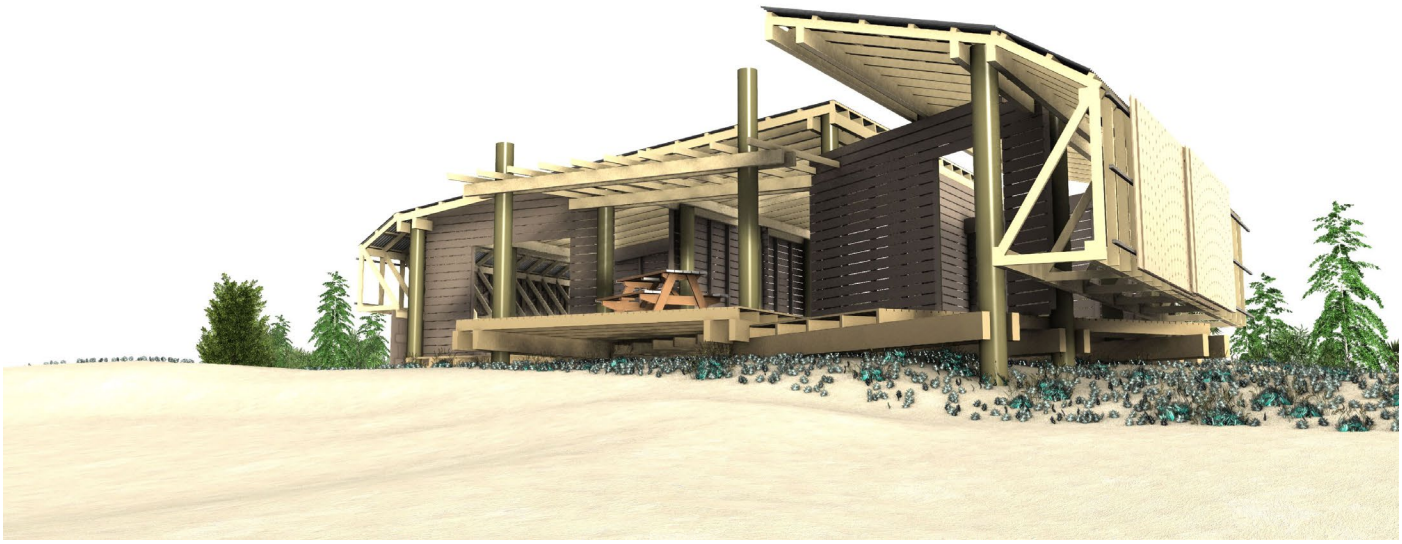


Figure 5.61: Bach Archetype 1, perspective. Digital Render.
Authors Own (2020).

5.6.1 Design Decisions

A site had to be selected to further test the language generated by Experiment 1. The site selected is comparable to the Typical Coastal Strip (see Section 5.3). It is a small, idealised piece of coastal land, modelled to accommodate just one building. Land was modelled in *Rhino 3D* and populated with realistic vegetation using *Lands Design*. The model is 45m x 45m and represents a typical beach landscape, with sand dunes, grasses, scrub, bush and larger trees. The ocean was not modelled for this experiment, but in referencing the context of Waikawau Bay (see Section 2.2), the ocean lies to the North. Despite the ocean not being represented in the model, it's position was considered during the design process, due to its significance as a major landscape feature.

Design of Bach Archetype 1 combines several key architectural elements from Experiment 1. Structure; subfloor system; openings and screens; and roof form were all explored throughout the design of the archetype. An average floor area of 110m² was used from the *Home and Building* study in Chapter 4.

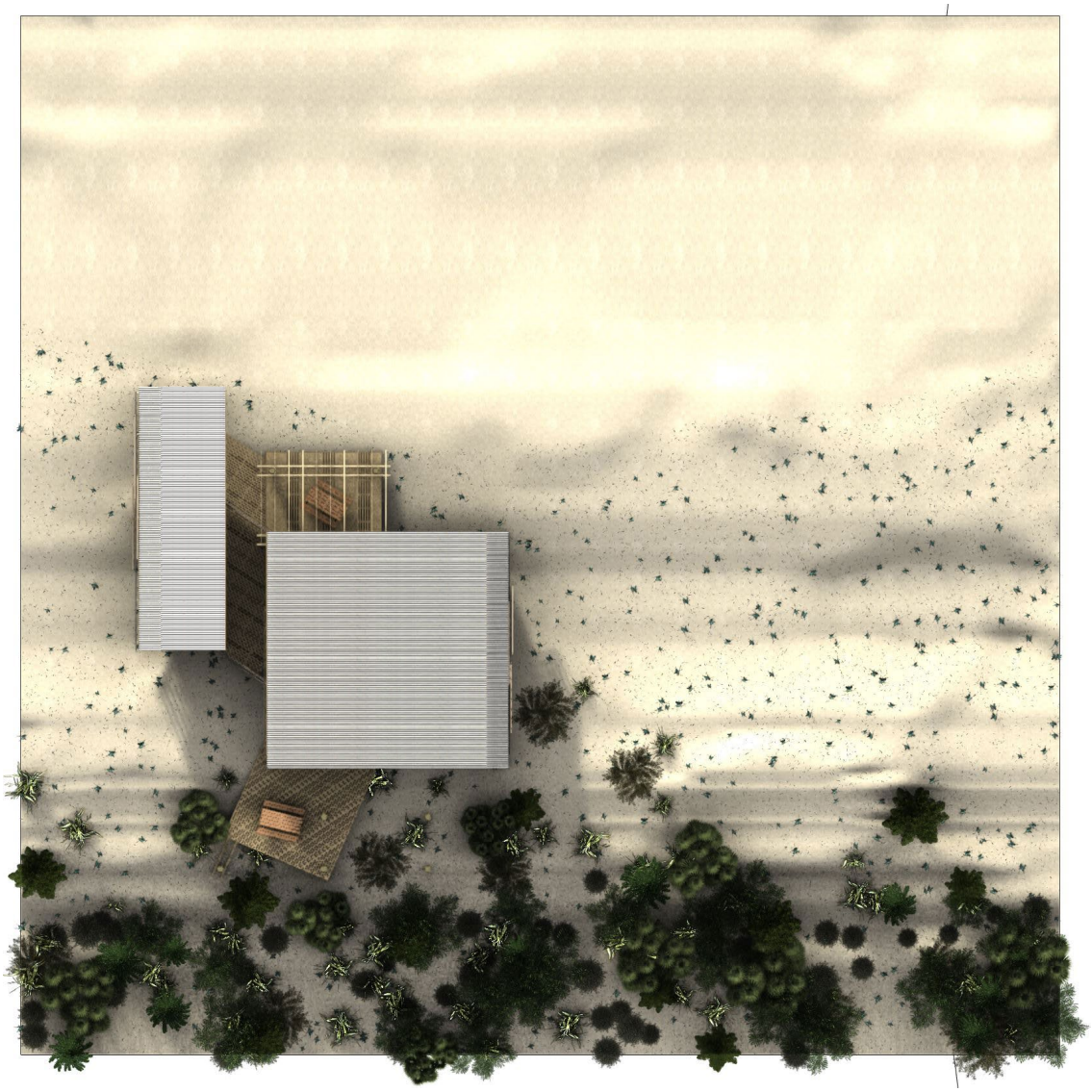


Figure 5.62: Bach Archetype 1, roof plan. Digital Render.
Authors Own (2020).

Design Input Parameters:

Structural System: *Timber post & beam*

Post and beam is specified for its prevalence in previous sections of this research. Timber posts can be rammed into the ground, sometimes without use of concrete. They also present opportunities for future removal and relocation.

Openings & Screens: *Large, operable openings*

Openings were designed to penetrate full structural bays, allowing for large holes that represent windows and doors. This makes use of the warm climate by allowing plenty of air to pass through the building. Operable screens allow the inhabitant to shut off sections of the house for privacy reasons, or in bad weather.

Roof Form: *Expressive & Site Responsive*

The roof system is timber framed and clad with corrugated metal. The lightweight system features eaves for sun-shading where necessary. An expressive feature of the roof wraps over walls, becoming part of the screening system on the East and West elevations (see figure 5.64).

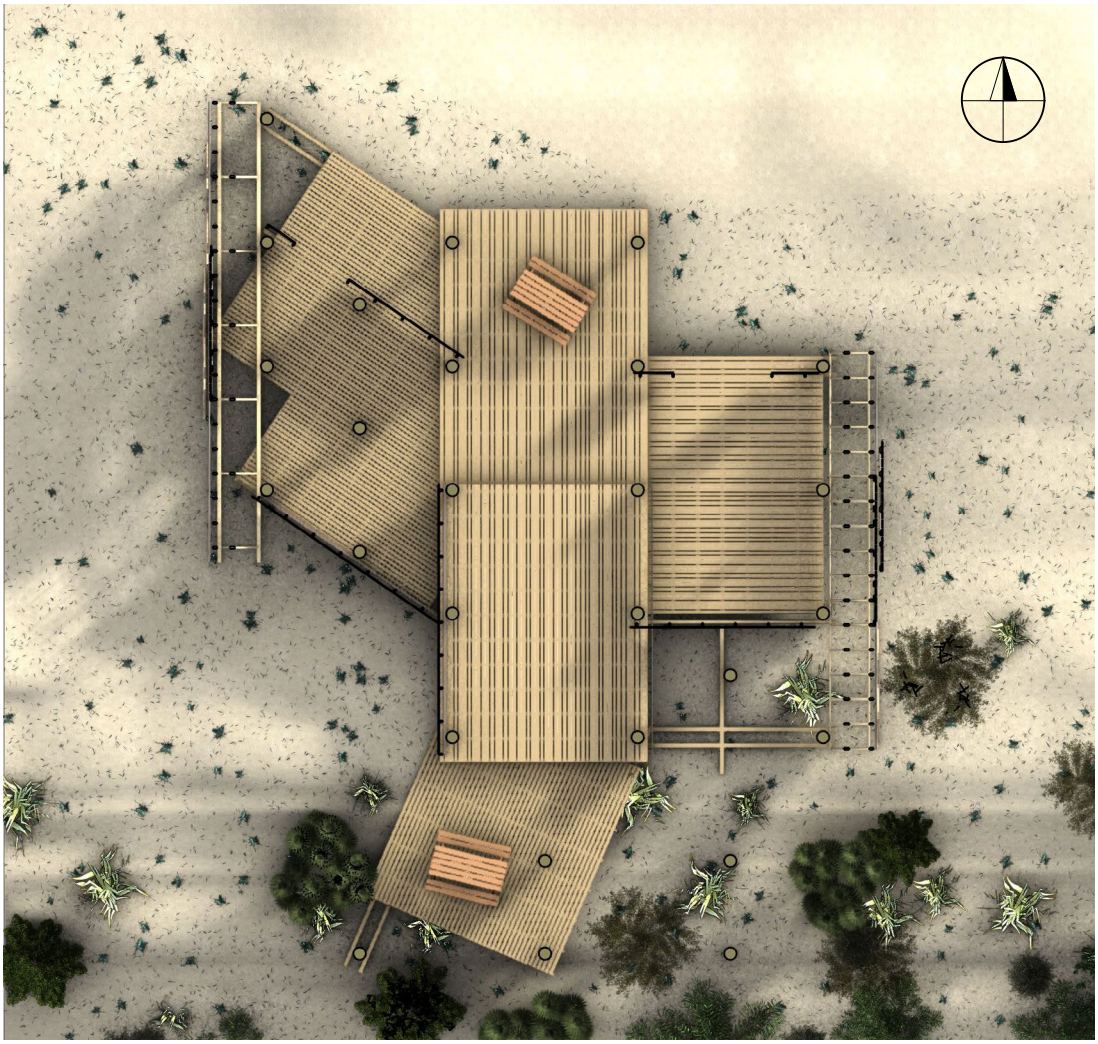
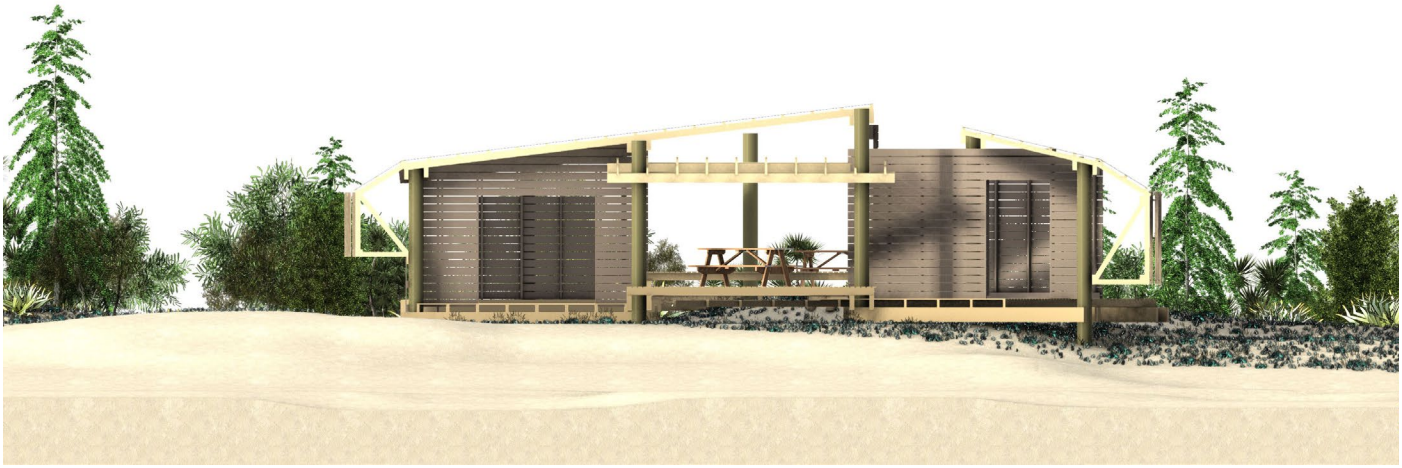


Figure 5.63: Bach Archetype 1, floor plan. Digital Render.
Authors Own (2020).



NORTH ELEVATION

EAST ELEVATION

WEST ELEVATION

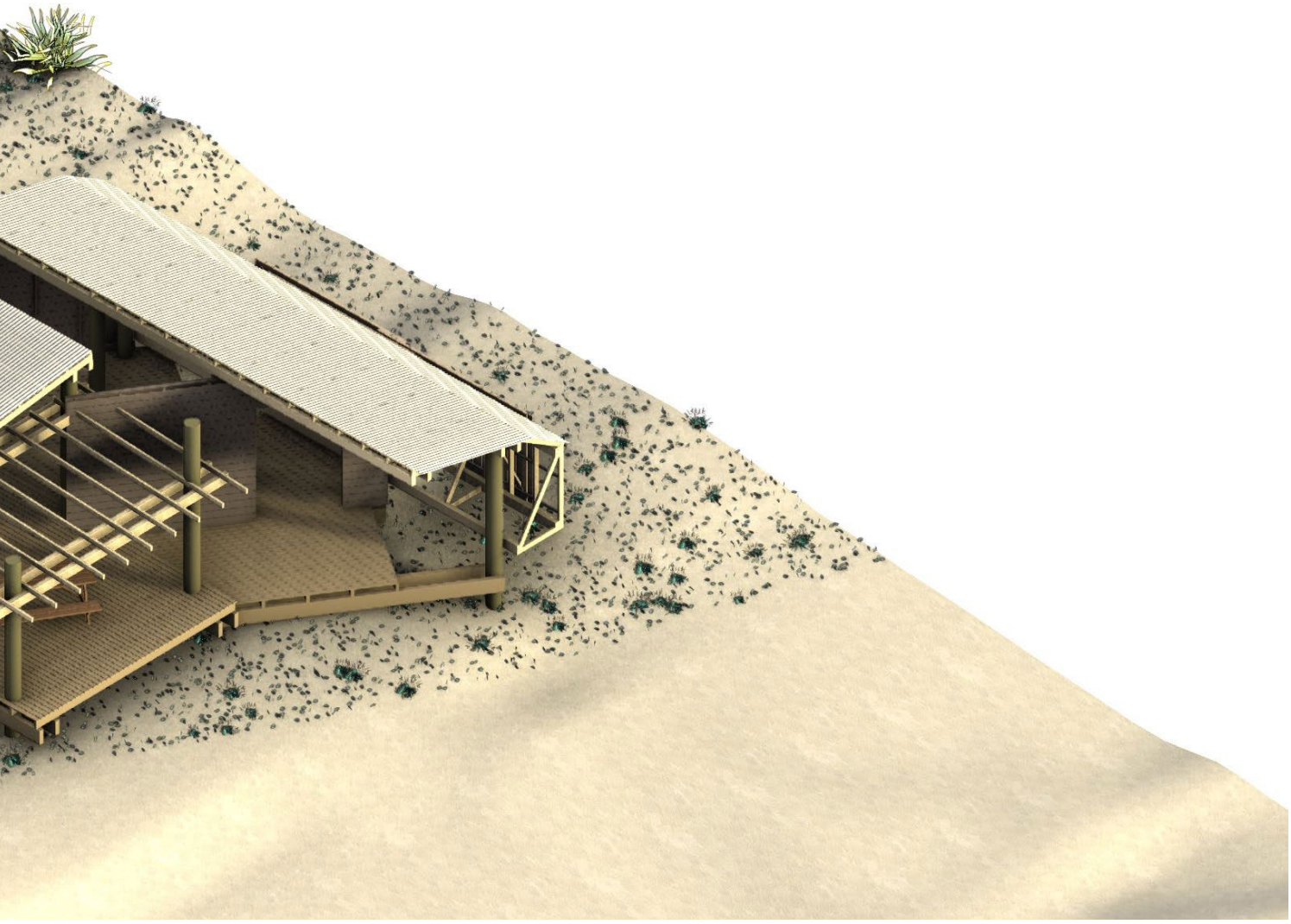
Figure 5.64: Bach Archetype 1, elevations. Digital Render.
Authors Own (2020).

Figure 5.71: Bach Archetype 1 Isometric View. Digital Render. Authors Own (2020).

5.7 *Design Reflection*

Bach Archetype 1 provides useful findings and further develops an architectural language for the final design stages. It proves the idea that dozens of *bach objects* can be condensed into a single, realistic building. There are, however, elements that remain abstract and would present problems if built under New Zealand building code. The use of large openings and a very light cladding system presents weathertightness problems. So too does the presence of openings in the roof system. Meeting code, however, was not the aim of the exercise and the design presents many successes.

In addressing Research Objective 2, the archetype displays qualities that could only be expected from a holiday building, such as multiple outdoor areas connecting to both the sea and bush; a flexible program with room use being interpreted by the inhabitant; and formal references to structures such as tents and older baches, primarily through roof shape. These features suggest that there is still room for style in modern holiday buildings, without the need for a massive budget. Overall, the design presented positively develops the architectural language of this project.



Experiment 3

5.8 *Bach Archetype 2*

Bach Archetype 2 is a final refinement of the architectural language in this series of design experiments. It can be considered a second pass of the archetype exercise, and results in a further developed architectural output. The final product of this section is arrived at through a series of investigations using a range of digital and physical media. Ill-considered areas of the first archetype were addressed here, resulting in a physically realistic design.

5.8.1 Physical Models

Physical modelling updated the architectural language with a finer layer of detail. This process further developed the screens and structural system through a series of physical sketch models. Screening devices such as louvred frames (see fig. 5.81 & 5.82) afford occupants the ability to operate openings, depending on privacy or weather concerns. Post and beam structure was also identified in the models. The sizing, placement and combination of different timber elements builds a visually attractive language that is carried throughout each model (see fig. 5.82, 5.83 & 5.85). Finally, a larger scale model was constructed that breaks the post and beam into smaller layered members (see fig. 5.84). The effect is a visually lighter structural system with the ability to be disassembled should the need arise.

Figure 5.81: Physical Experiment 1. Digital Photograph.
Author's Own (2020).

Figure 5.82: Physical Experiment 1. Digital Photograph.
Author's Own (2020).

Figure 5.83: Physical Experiment 2. Digital Photograph.
Author's Own (2020).

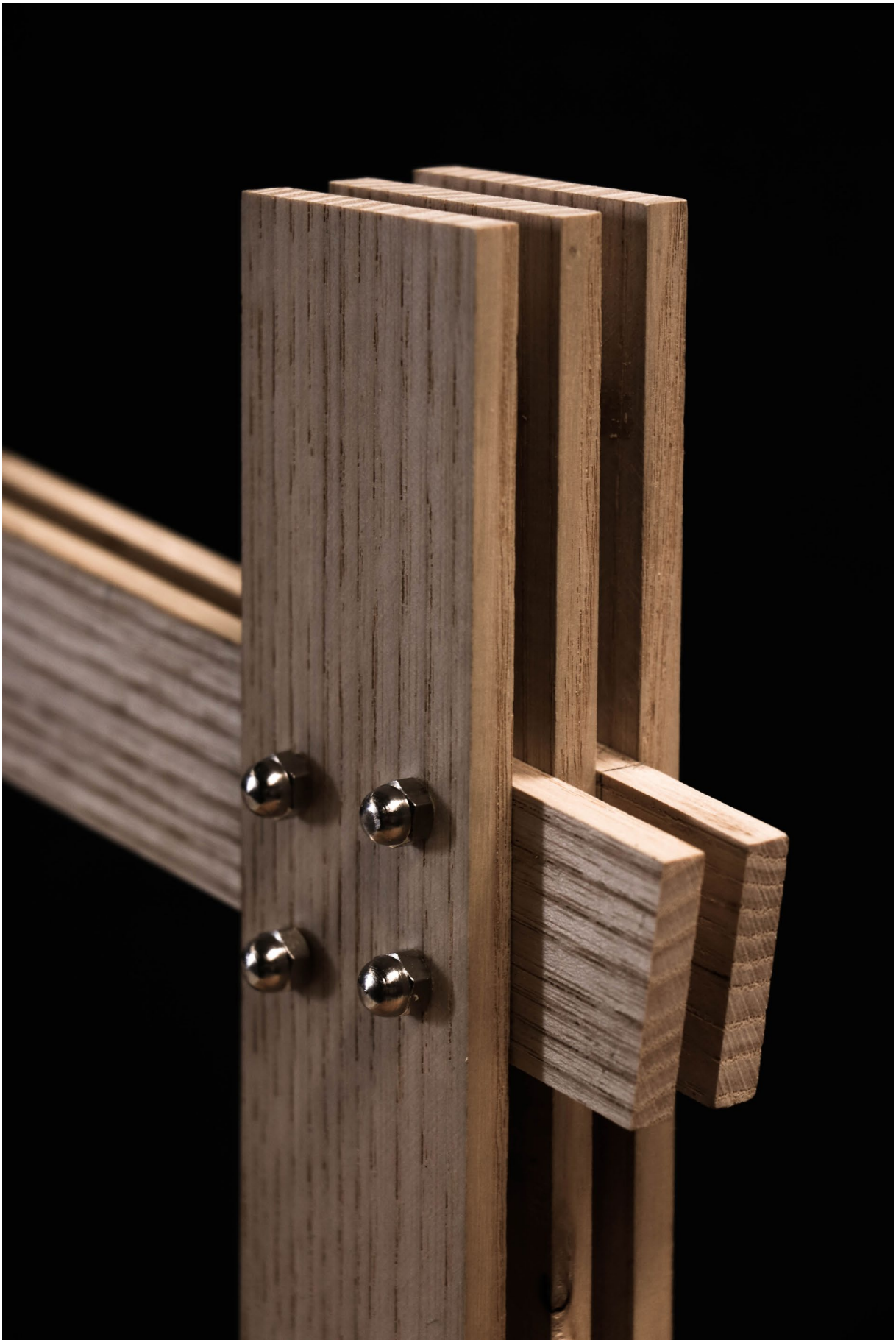


Figure 5.84: Physical Experiment. Digital Photograph.
Author's Own (2020).

Figure 5.85: Physical Experiment 3. Digital Photograph.
Author's Own (2020).

5.8.2 Developed Design

The final Bach Archetype 2 model was built in *Rhino 3D* once again, with reference to previous sketch models. A revised brief was imagined for the purpose of this model, with changes made to the brief from the first archetype. The main design considerations were:

Increased budget:

An increased budget was imagined to allow more freedom in architectural expression. Elements such as high and low windows, a modern wood burner and the bolted component post and beam structure display this in effect.

Orientation:

The building is orientated on a North-South axis, with fully operable screens that open up either elevation. This references the most significant landscape features, being the ocean to the North, and the bush to the South.

Additive/Subtractive measures:

The new portal frames of bolted timber define the building on it's North and South elevation. They also display the ability to add or subtract rooms or modules (such as the deck) as the program requirements change with an increasing or decreasing number of family members.

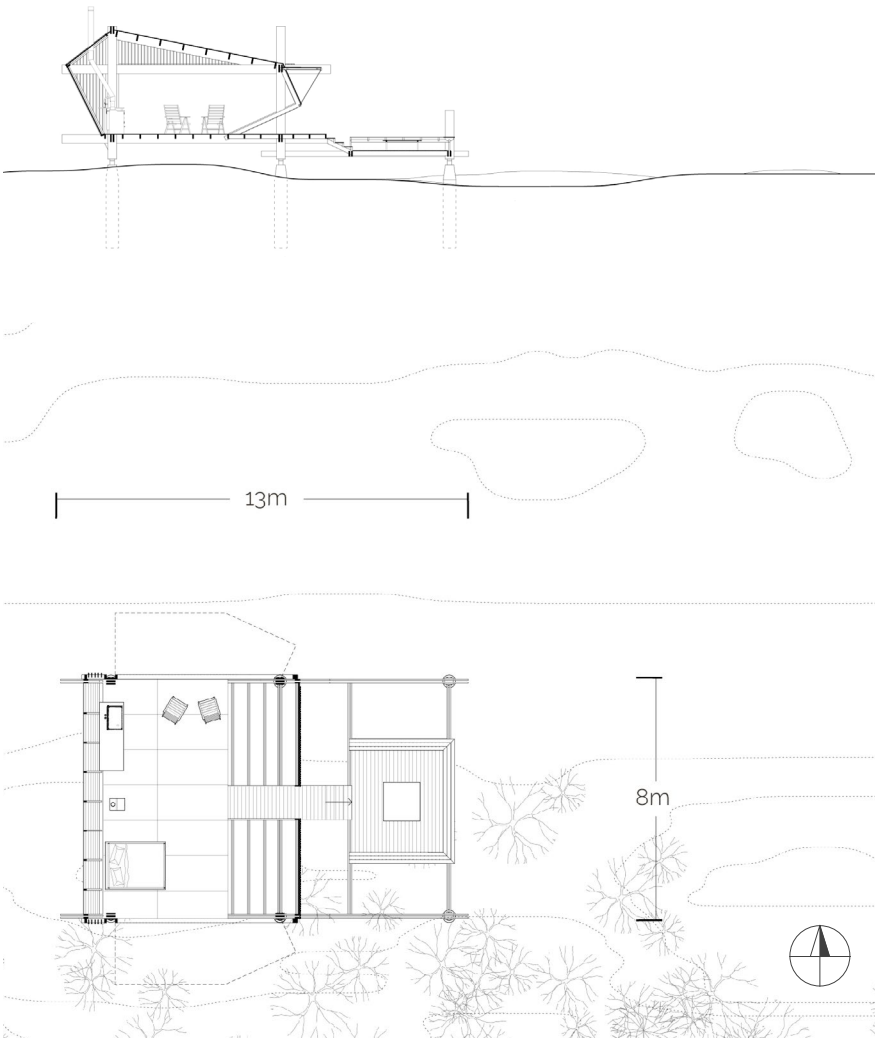
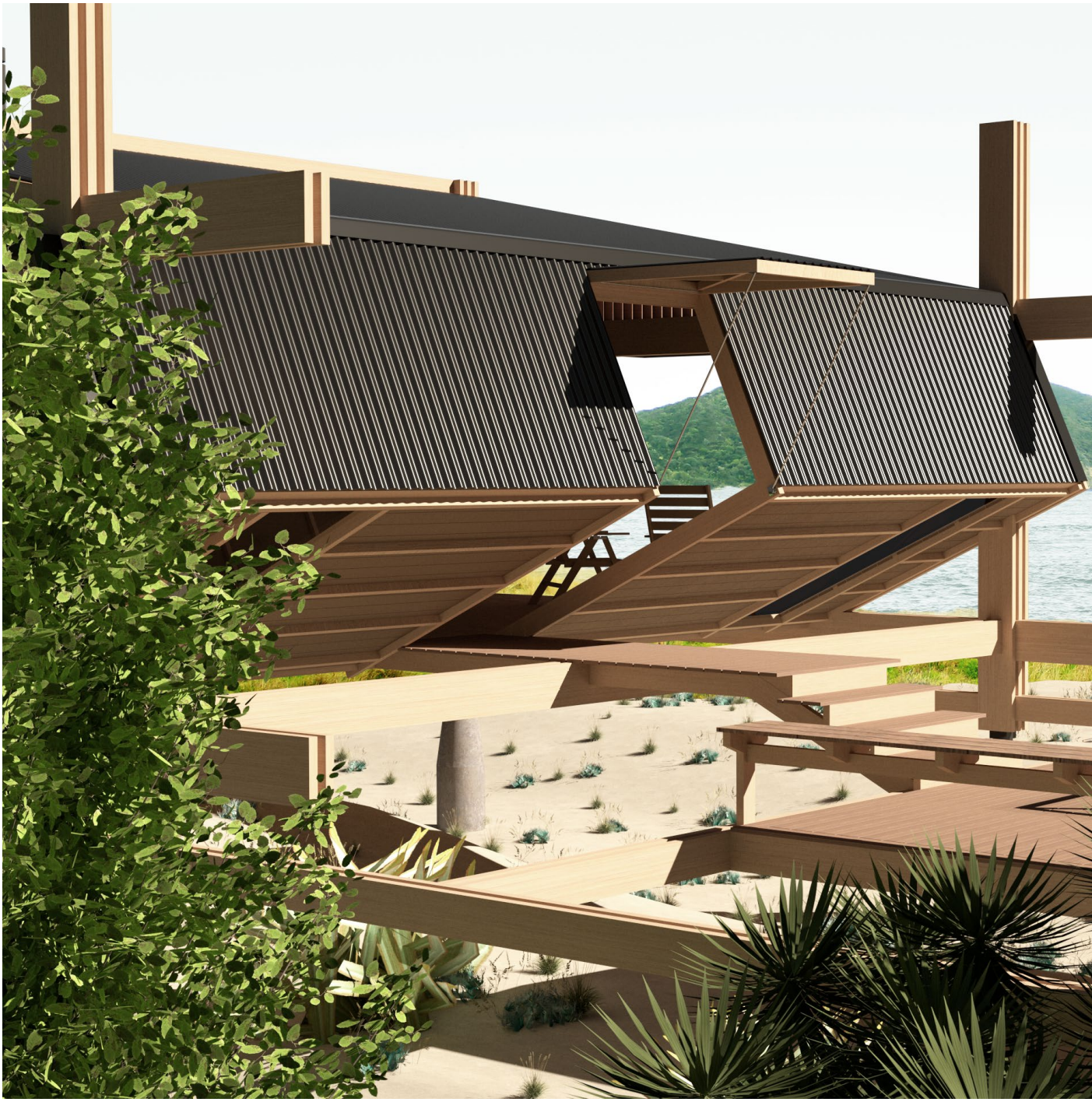


Figure 5.86: Section and floor plan of Archetype 2.0. Vector Artwork.
Author's Own (2020).

Figure 5.87: Archetype 2, perspective. Digital Render.
Author's Own (2020).

Figure 5.88: Archetype 2 hatch, perspective. Digital Photograph.
Author's Own (2020).

Figure 5.89: Archetype 2 low window, perspective. Digital Photograph.
Author's Own (2020).

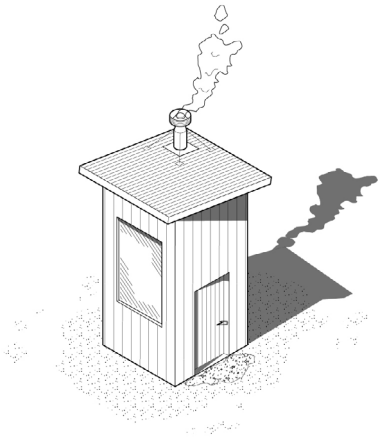


5.9 *Design Reflection*

The development of Bach Archetype 2 builds on previous findings and the architectural language discussed throughout Chapter 5. Success is identified in areas such as the roof shape and irregular angle of walls which seem suited to a holiday setting. These reference not only the immediate coastal landscape by allowing views of both the sky and sand; they also draw reference from the intriguing roof shapes of the *bach objects* developed earlier in the chapter. The resulting building is a refined and realistic display of the architecture that will form the final design.

This chapter set out to construct a series of buildings that display the qualities of the post-war baches uncovered in Chapter 4. They continually iterate and develop an architectural language through the use of tools such as drawings, physical models and digital models. This process is summarised and displayed as Bach Archetype 1 and 2. While the scope of this investigation ignores several conventional architectural considerations, the final products are successful in their display of a developed architectural language. The language references the research context (Waikawau Bay) and the *bach objects* which were key design inputs. The result is two refined examples of how the proposed architecture can occupy the chosen site.

Figure 5.91: Bach Archetype 2 in context, perspective.
Digital Render. Authors Own (2020).



Chapter Six

A HOLIDAY COMMUNITY

As a final address of the Research Question, Aims and Objectives, a master-planned holiday community is developed in this chapter. The plan brings together both the context of Waikawau Bay, and the architectural language that was developed throughout Chapter 5. It speculates as to how a community of owners might develop a piece of land under a shared-ownership model. The result is a series of buildings on the site that bear similarities to the campground context that exists there now.

6.1 *Master Plan*

An accurate master plan was developed to showcase the final proposition of this research. It was built using digital tools such as *Rhino 3D* and *Lands Design* which allow for remarkably accurate site modeling. This process used notes, memories and photographs of the site - obtained during a site visit - to supplement the information found online (see fig. 6.11).

The topography was built first, with considerable help from *Lands Design* which imports and models contours with considerable accuracy. The longest and most arduous process was the selection and placement of trees, bush and grasses in the site model. This was required to address Research Objective 3, which calls for sustenance and enhancement of the natural qualities of the site. With realistic flora and water bodies modelled, human intervention could start to be imagined.

The first consideration was that of how vehicles, and therefore humans, could occupy the site. Vehicles are currently an unavoidable component of holidays in the Northern Coromandel Peninsula due to its remoteness. Vehicles bring inhabitants to the site via Waikawau Beach road, and thus their entry and circulation of the site was one of the first planning considerations. A roadway was mapped out around the existing trees and bush, allowing for space either side to facilitate baches.

6.1.1 Zoning

Following the establishment of a road throughout the site, areas were zoned for different community uses. A zoning plan was completed to clearly show bach construction zones, and land to be left for other purposes. The zoning plan highlights a large section in blue for construction, which is circulated by the roadway. Also highlighted in the zoning plan are aspects of the site's conservation status, such as DOC protected bush, which is labelled as ‘Conservation’. Heritage Pohutukawa are also highlighted (see fig. 6.11 & 6.12).

Privately owned farm land is highlighted by in red, which puts it outside the scope of the master plan. Recreational areas are highlighted in yellow. Within those, ‘Shared Facility’ zones are specified for shared community facilities, such as halls, studios and barbeque areas.

The resulting zoning plan carefully assigns areas of the site for different community functions. Over half the land area of the immediate site is assigned to functions other than bach construction. This condition highlights the aspiration of *sustaining* and *enhancing* the natural site qualities as stated in Research Objective 3 (RO3). Large recreational and communal areas further contribute to RO3 by facilitating a range of community interactions.

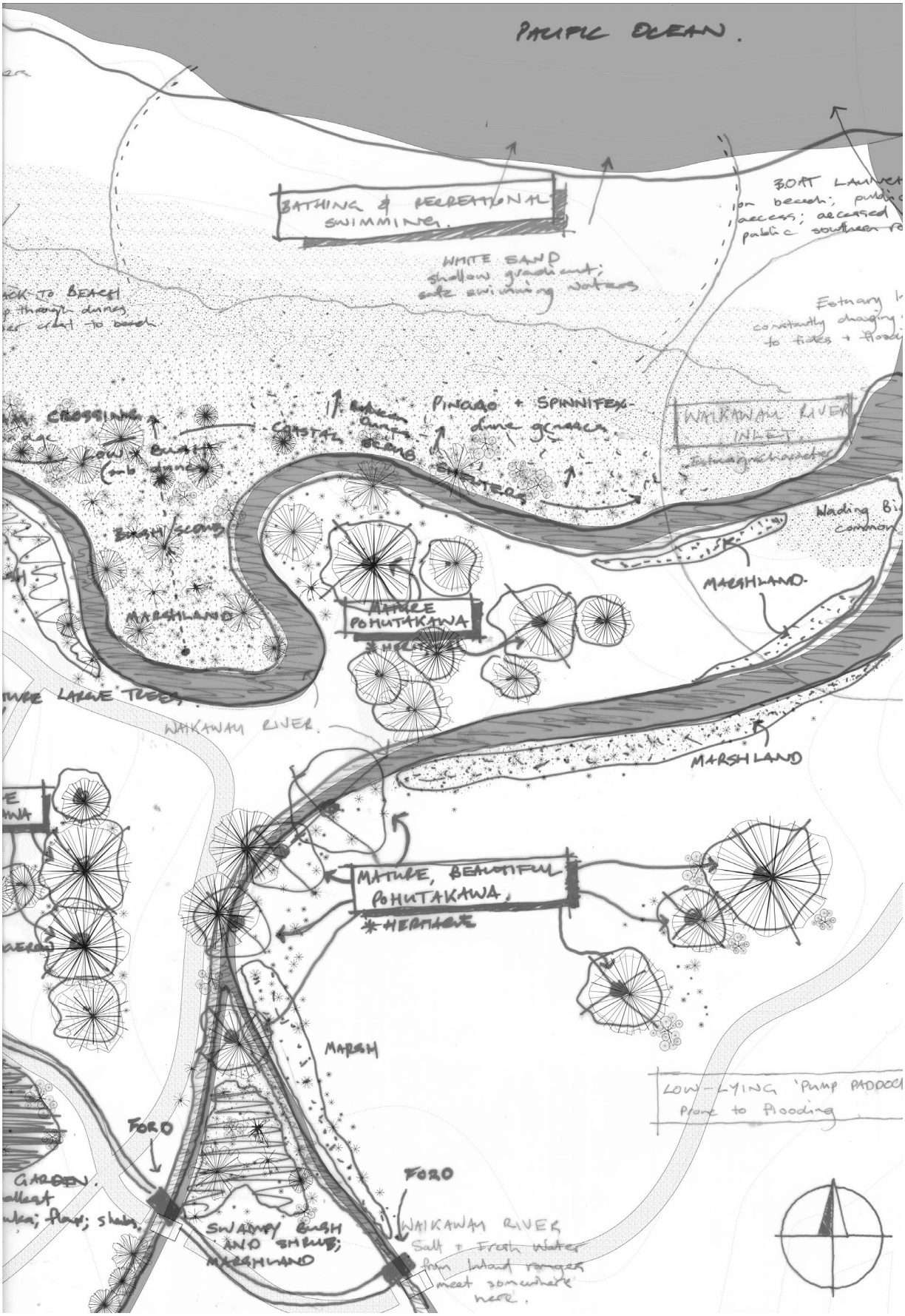


Figure 6.11: Site plan notes. Pen on Butterpaper.
Author's Own (2020).

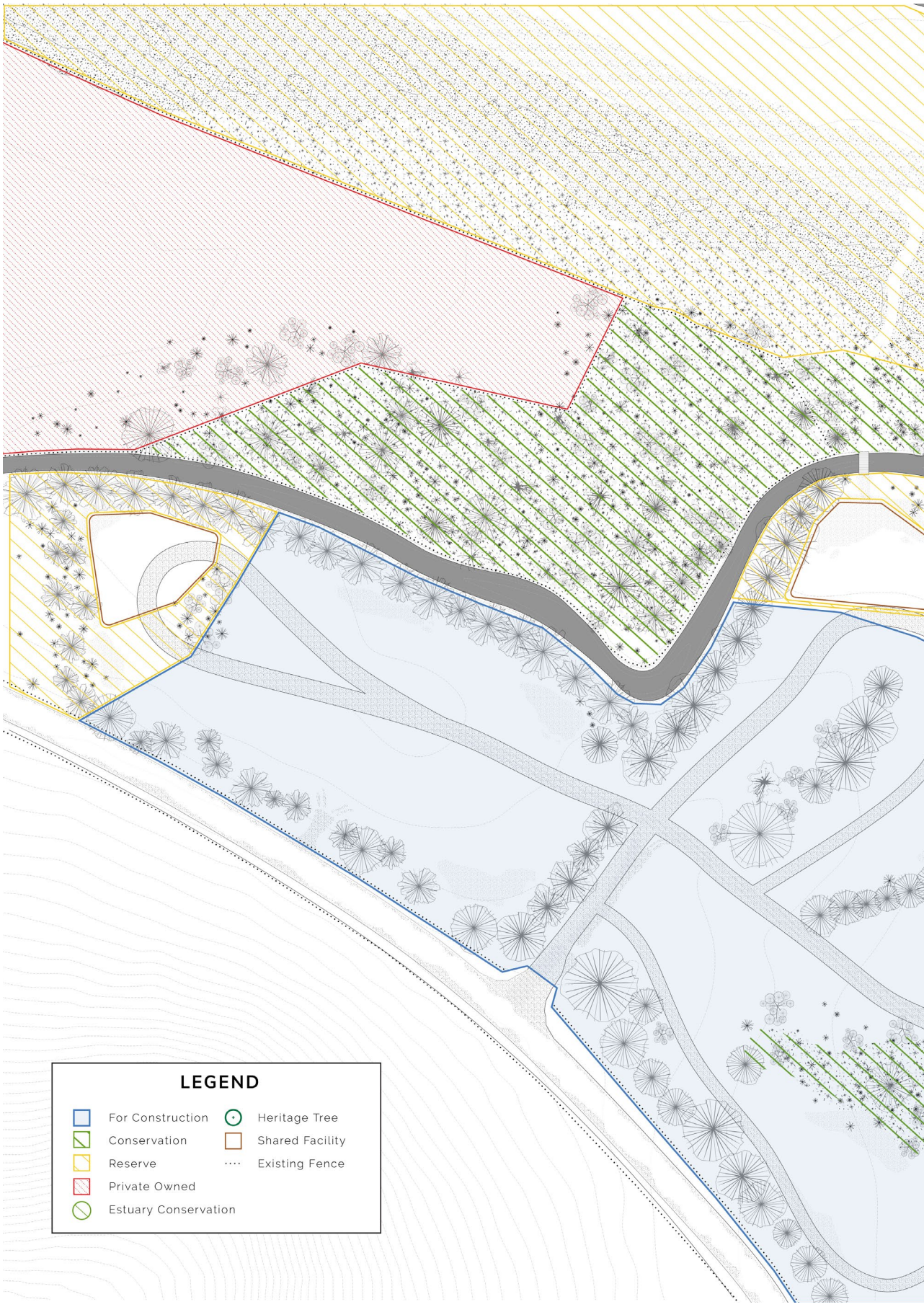

LEGEND
For Construction
Conservation
Reserve
Private Owned
Estuary Conservation
Heritage Tree
Shared Facility
Existing Fence

Figure 6.12: Zoning plan. Vector artowork.
Author's Own (2020).

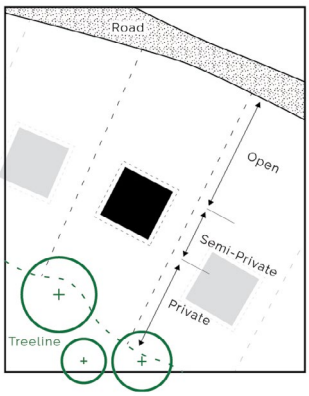
6.1.2 Density & Planning Studies

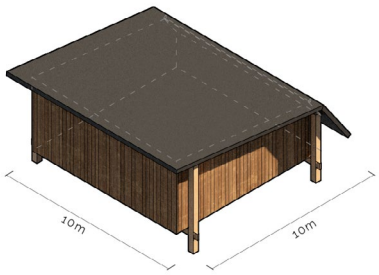
Once the site parameters had been considered and the land zoned for inhabitation, a final design experiment needed to be completed. Planning the size of the buildings and how close to each other they could be would define the appearance and importantly, the feel of the community for someone living inside it.

Density Study 1

The first attempt at planning multiple baches on the site is centred on giving the buildings plenty of room between each other. A square mass is arrayed around the site, and each mass is rotated to orientate it towards bush, trees or the estuary. The mass is used to represent a very simple bach; 10m by 10m in plan. Doors or windows weren't modelled, but it is imagined that there would be multiple openings on most of the exterior walls. The land zoned 'For Construction' is divided into parcels of similar size, which adds an element of order to the layout. The parcels are approximately 20m in width, and stretch outwards from the road until they meet trees or bush.

This layout prioritises open space between buildings over higher levels of density. The





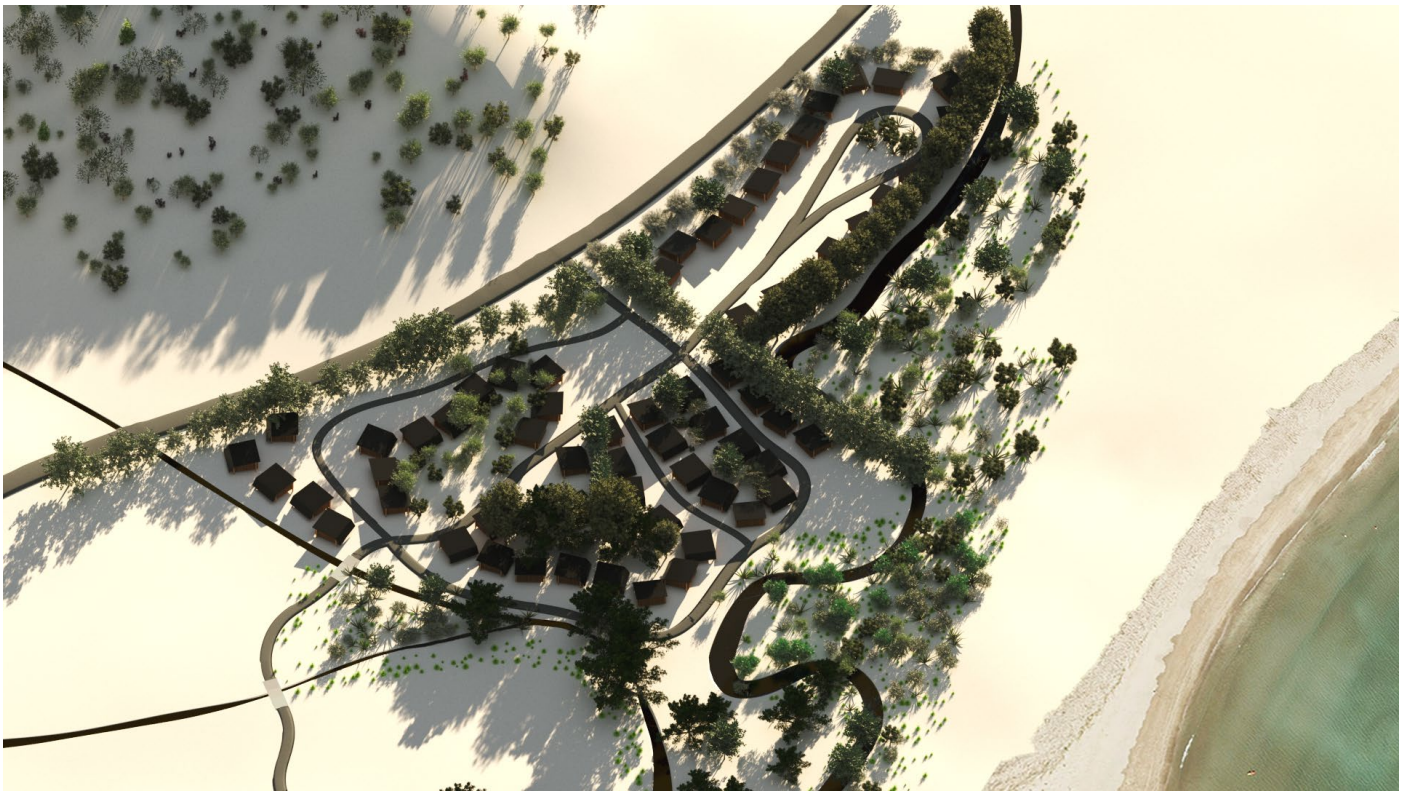


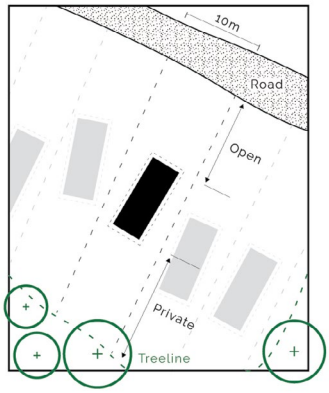
Figure 6.13: Density Study 1. Various Digital Media.
Author's Own (2020).

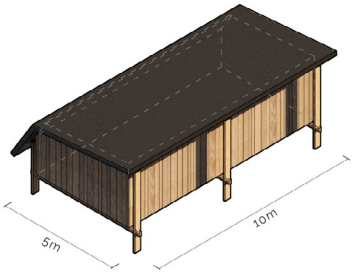
parcels therefore contain mostly private space at the rear, mostly open space at the front and semi-private space between buildings. This arrangement achieved 62 baches. With an average of four people per bach, the population of the community could reach 248 people at full capacity.

Density Study 2

Density Study looked at how a reduced floor area and a tighter arrangement of buildings could increase the density of buildings on the site. The building mass was changed to a 10m by 5m building in plan. This allowed another building to be place in the empty space from the first density study. Land parcels were reduced to a width of 10m, meaning almost twice as many buildings could be arranged throughout the site.

This layout prioritised speculates as to how dense the community could get. Land parcels therefore contain almost no space between buildings. Private space is created to the rear, while open space sits between the road and buildings. This arrangement achieves 109 baches. Assuming an average of three people per bach, the maximum population of this study is 327.





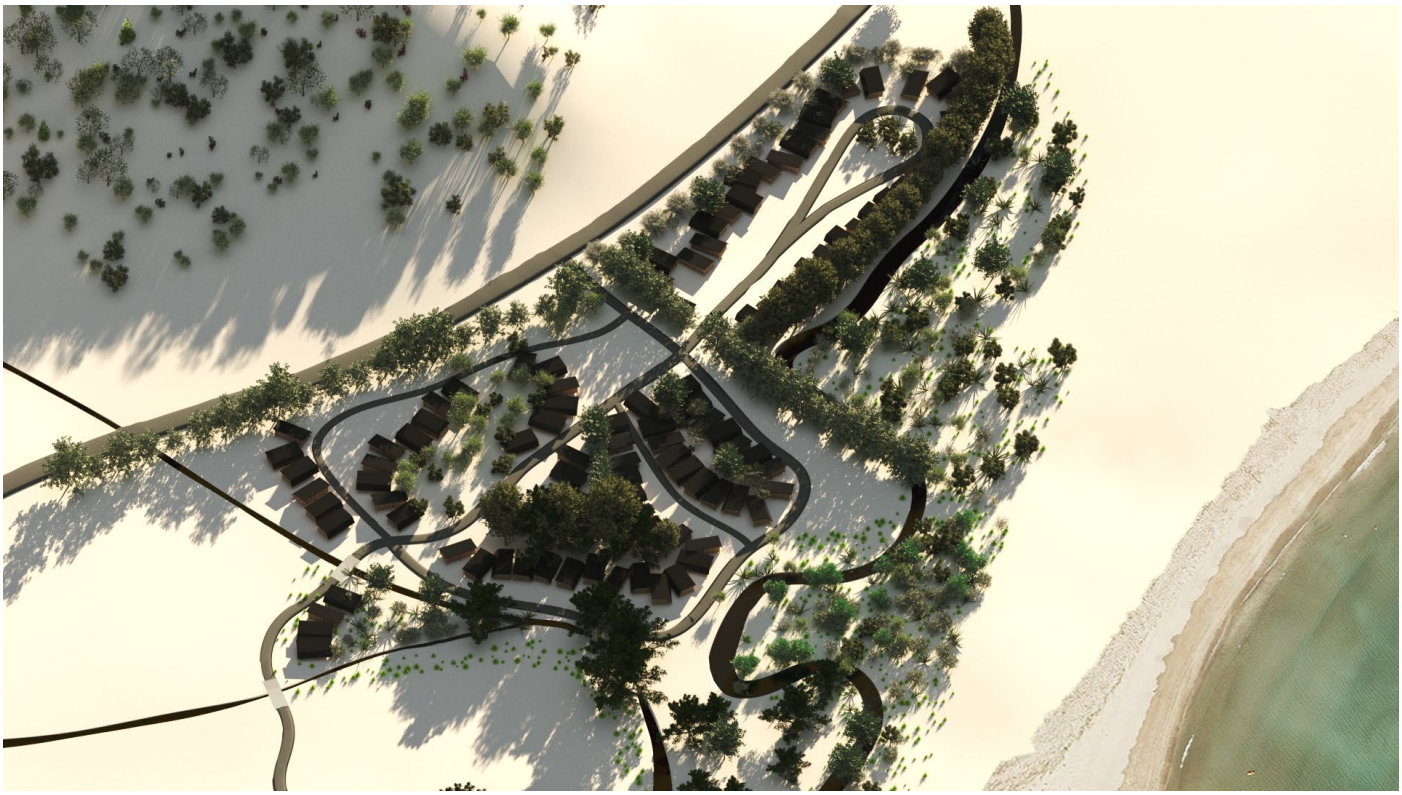
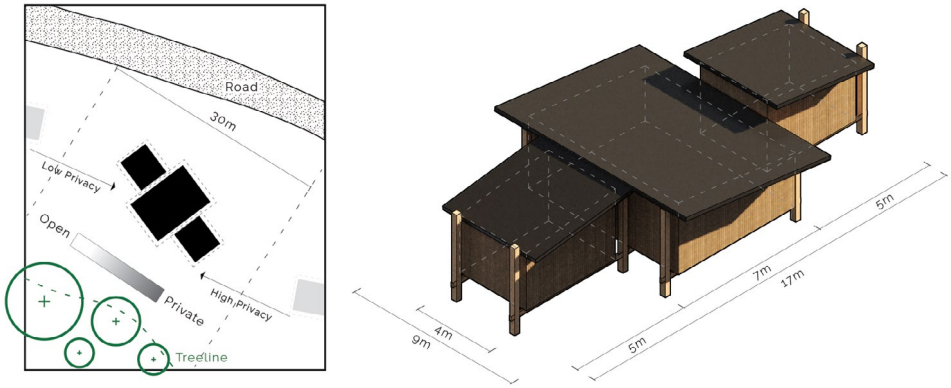


Figure 6.14: Density Study 2. Various Digital Media.
Author's Own (2020).

Density Study 3

The final study reverts to a less dense model where open space is more abundant. A different bach typology is used, with reference to Bach Archetypes 1 and 2 (see Chapter 5). A 7m by 9m central module forms the heart of the building. Options for 4m by 5m bedroom modules are able to be added or removed, reflecting the changing needs of a family. Land parcels are increased to 30m wide, allowing for a gradient of open and private space around each building.

This layout is the preferred model for a final design as it moves away from the denser concepts observed in the first and second studies. Density, however, may increase as an occupant needs it to, with bedroom modules able to be added around the central module. This condition is preferable and is favoured in the final master plan. A total of 42 buildings are shown in this study. With an average of 4 people per bach, the capacity as shown is 168. However, considering the additive nature of the design, the population and thus the density, could grow over several years.



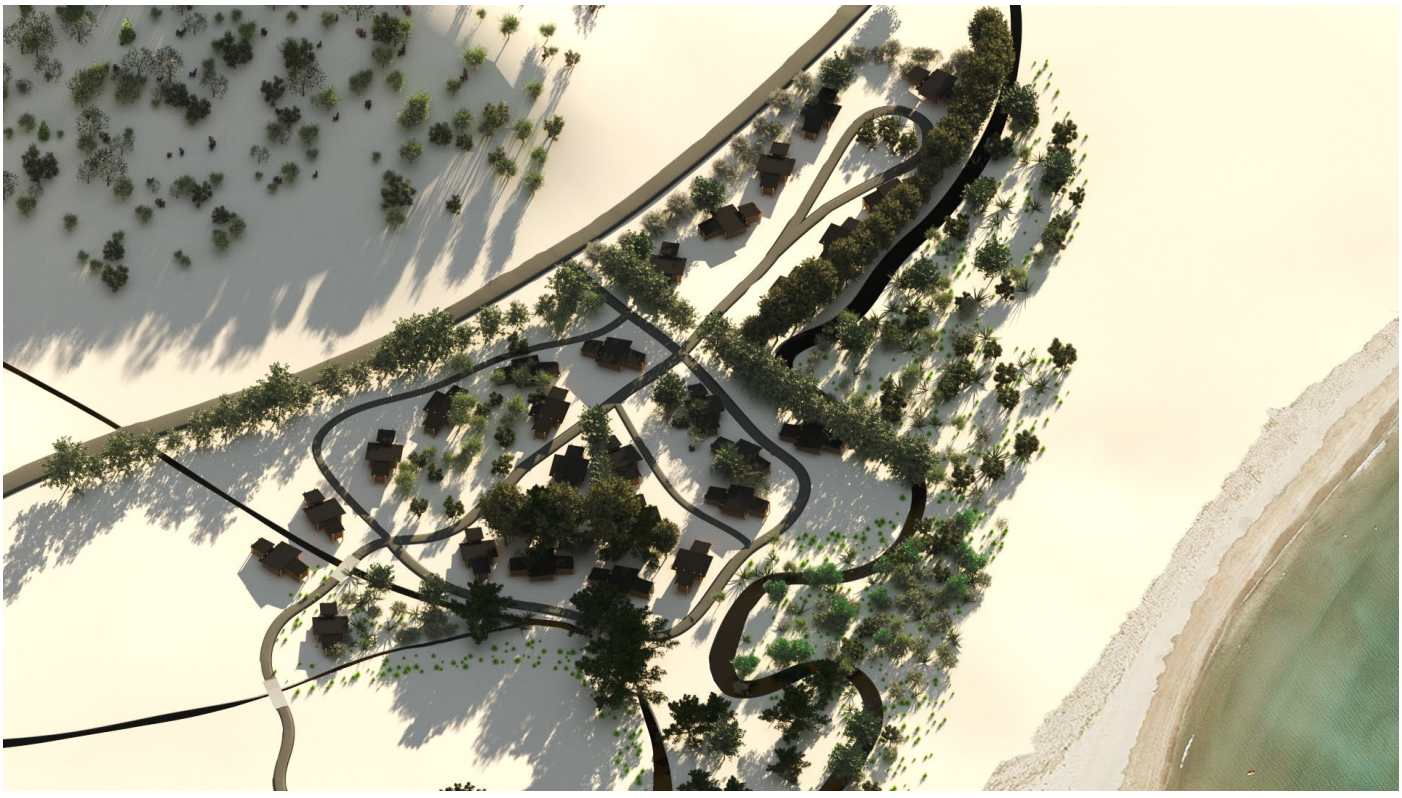


Figure 6.15: Density Study 3. Various Digital Media.
Author's Own (2020).

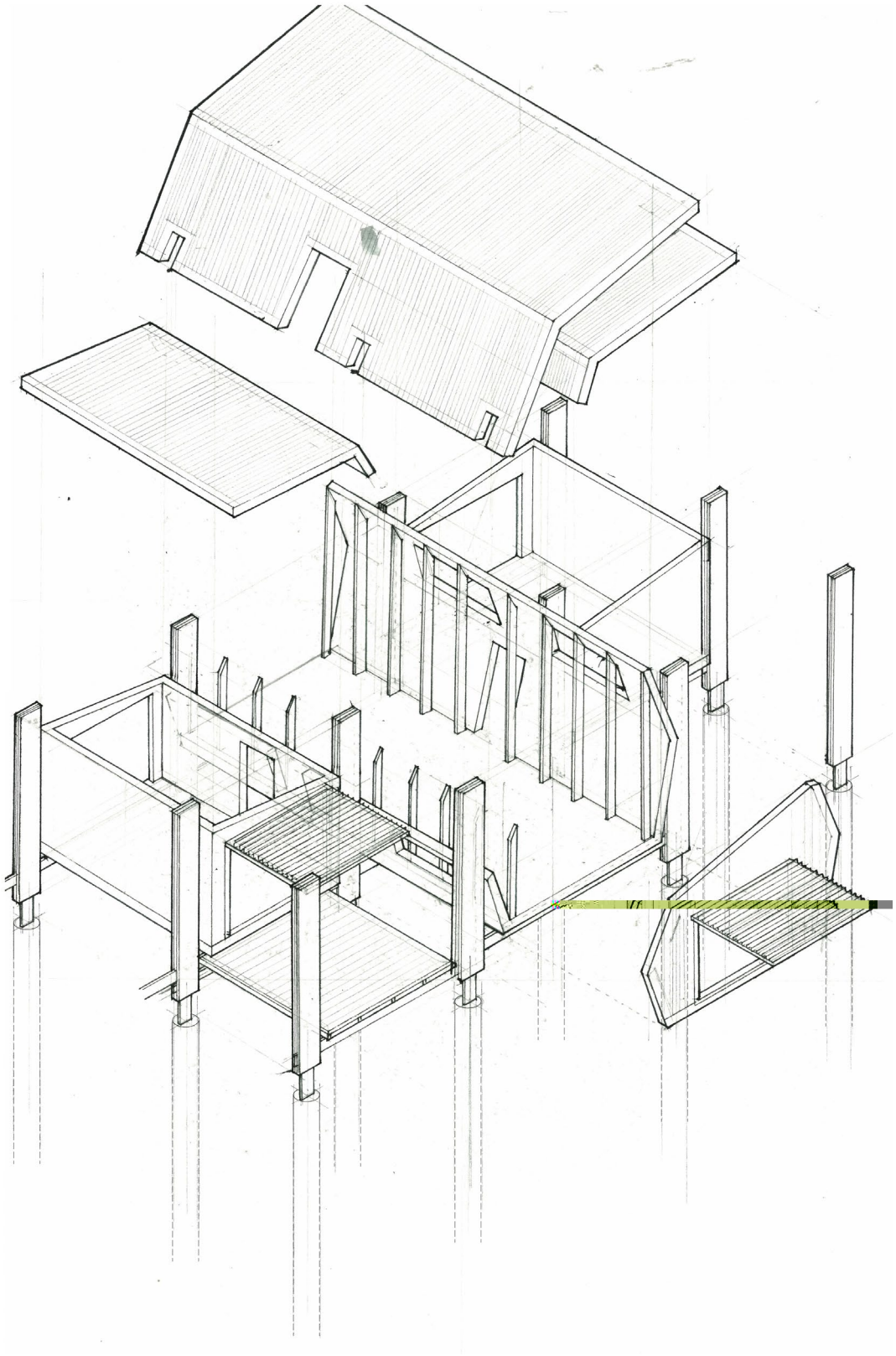


Figure 6.16: Example of final community bach. Various Digital Media.
Author's Own (2020).

Final Design

WAIKAWAU BAY MASTER PLAN

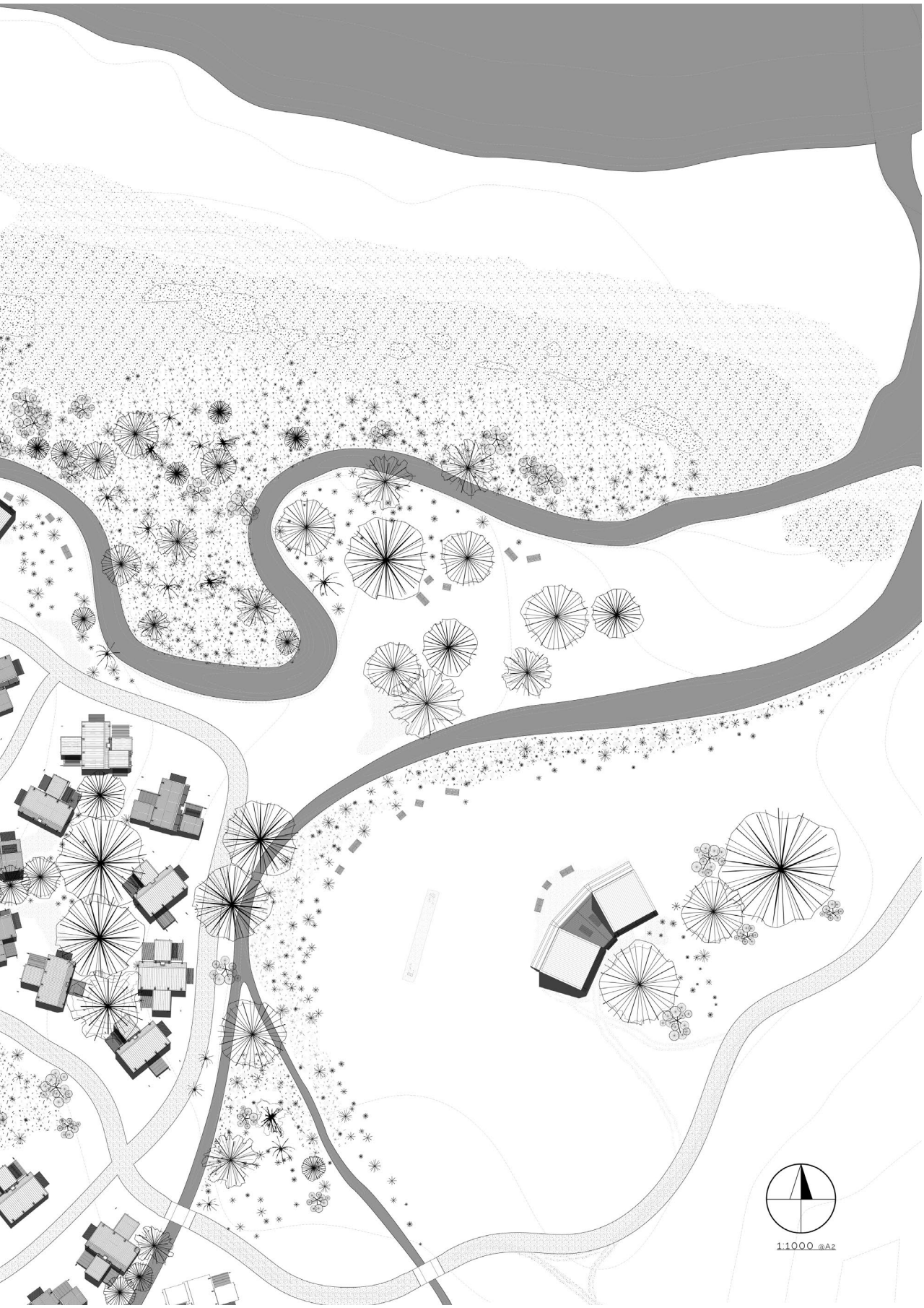


Figure 6.17: Final site plan. Vector artowork.
Author's Own (2020).

Figure 6.18: Waikawau, Coromandel. Vector Artwork. Author's Own (2020).

Figure 6.19. (Opposite): Site plan closeup 1. Vector Plan. Author's Own (2020).

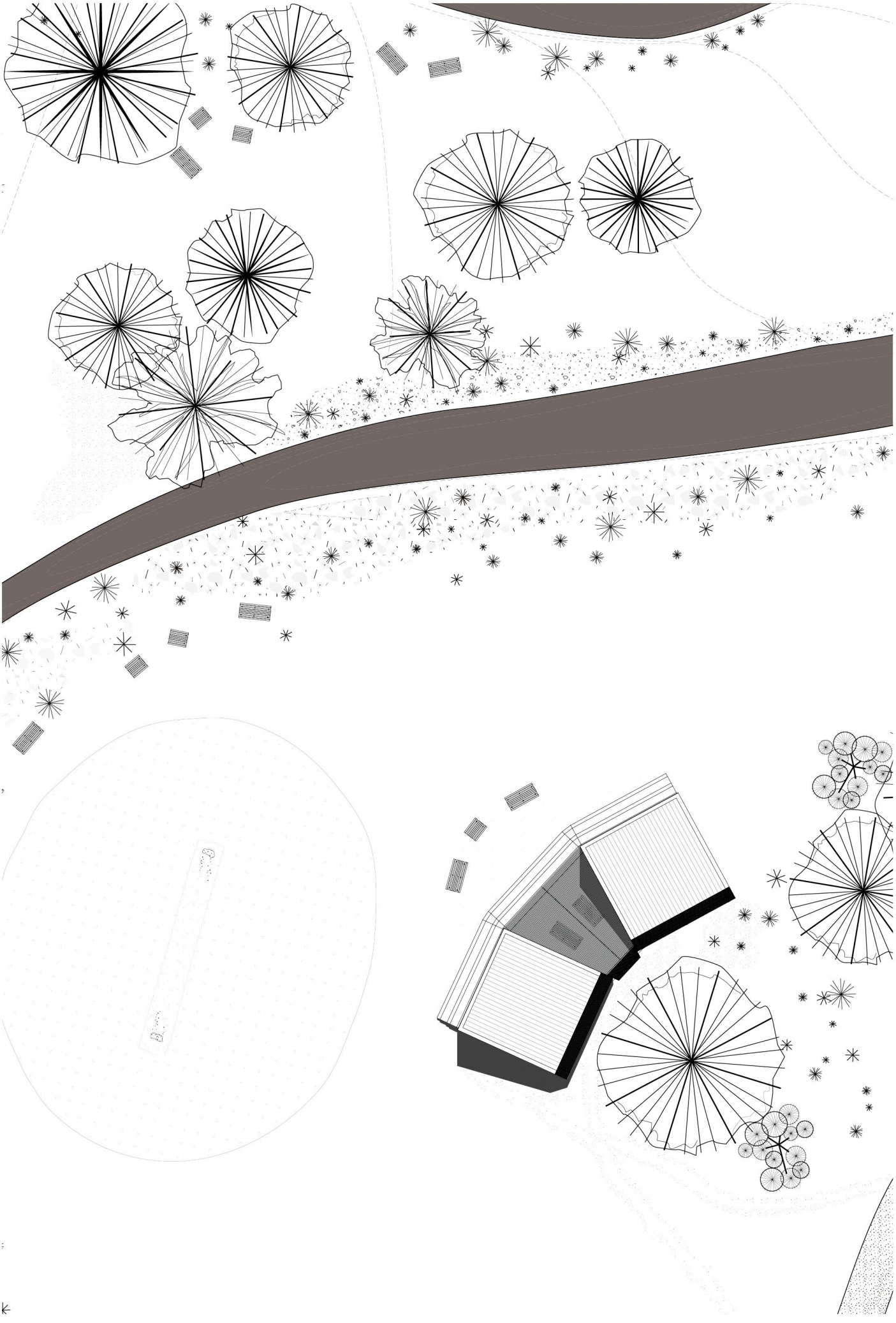
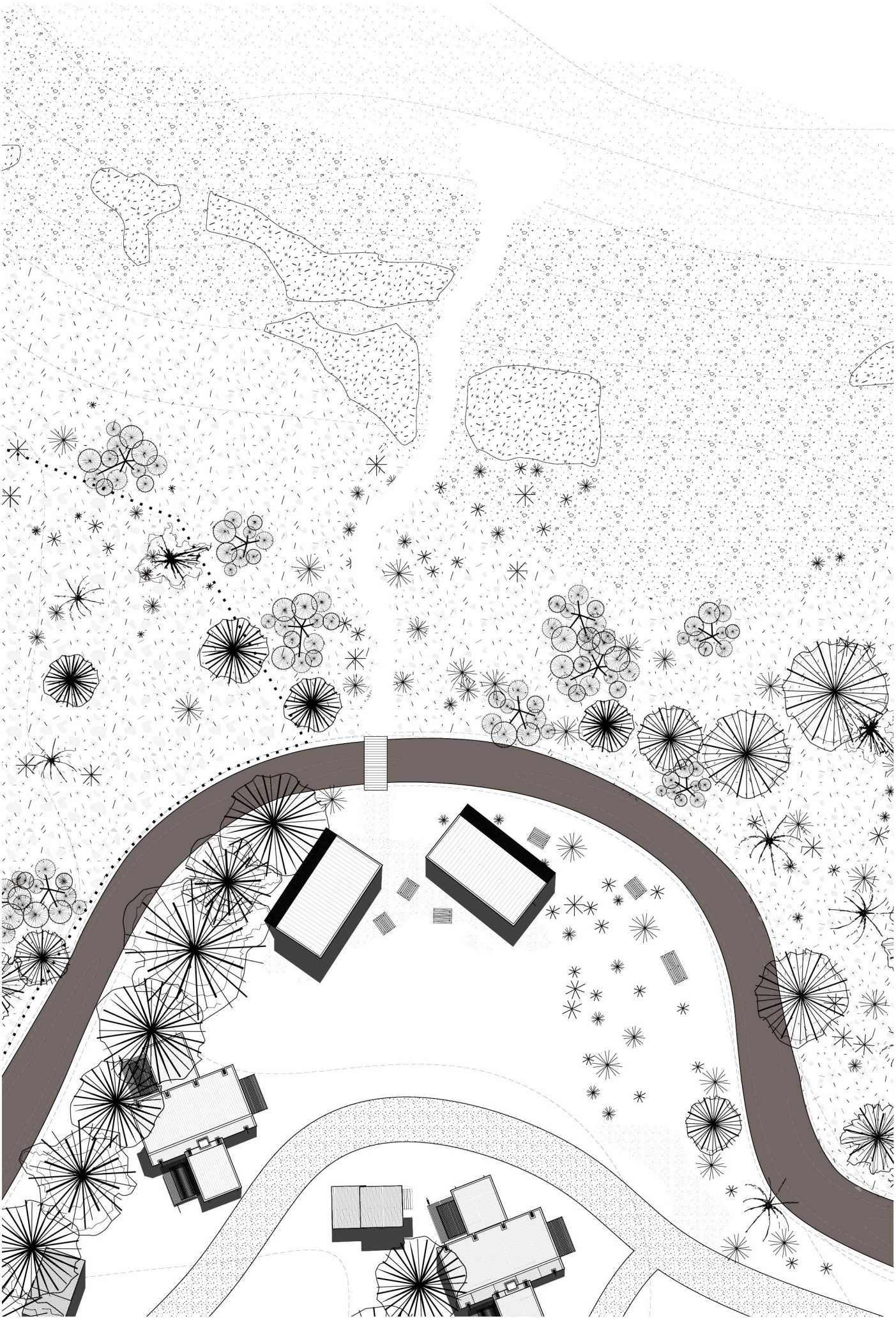


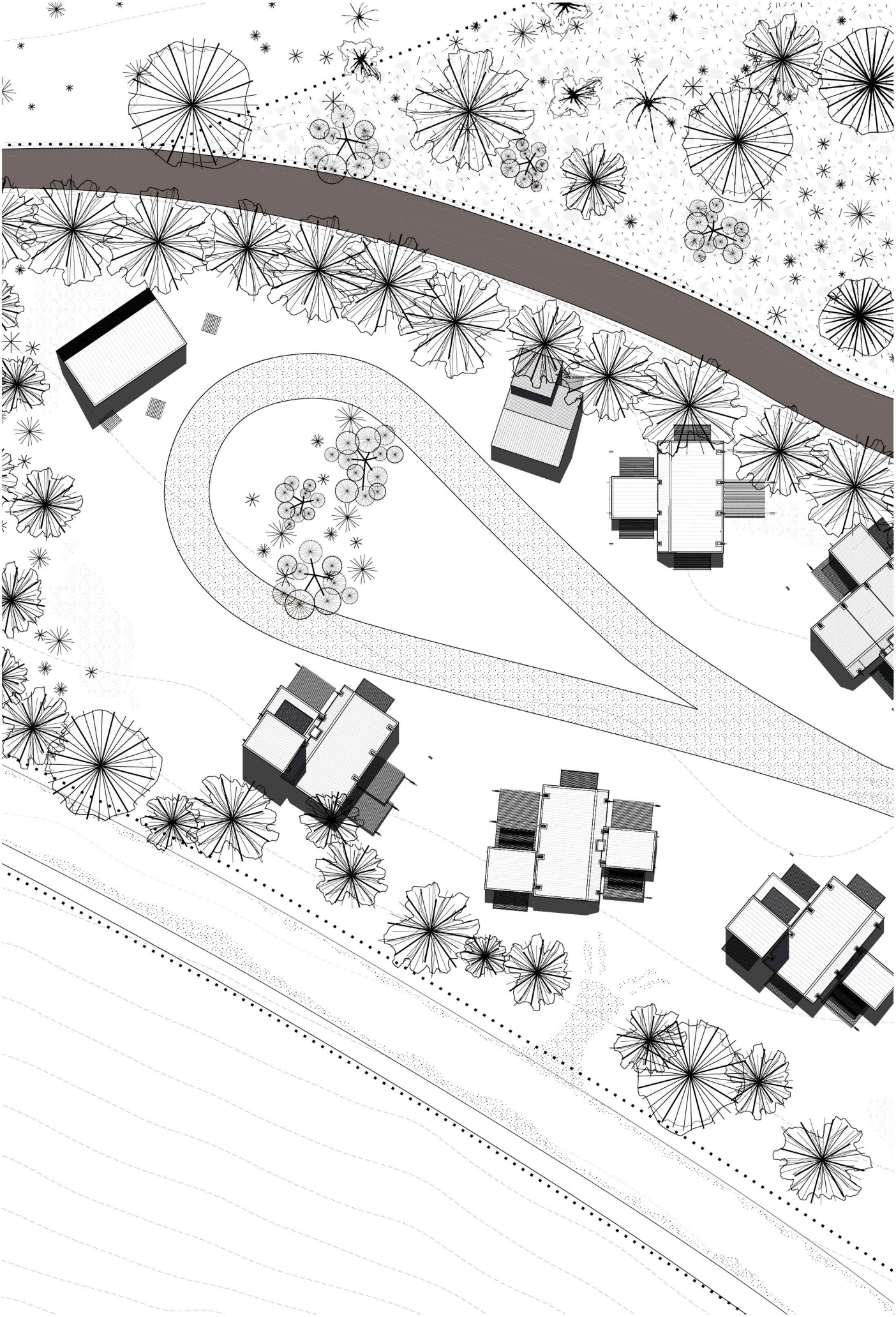
Figure 6.21: Shared community hall. Vector Artwork. Author's Own (2020).

Figure 6.20 (Opposite): Site plan closeup 2. Vector Plan.
Author's Own (2020).

Figure 6.22: Shared barbeque area. Vector Artwork. Author's Own (2020).

Figure 6.23 (Opposite): Site plan closeup 3. Vector Artwork. Author's Own (2020).





6.2 *Critical Reflection*

A range of discoveries were made during the course of this research. Design outcomes were sometimes expected and pursued, while the nature of *research through design* inevitably meant that many of the outputs were not expected. Meanwhile, *historical data collection* uncovered a series of unforeseen conditions relating to post-war baches in New Zealand. These conditions were searched for methodically as part of a lengthy process that seeked to tease out stories from the past. The result was a series of findings that could be explained by historical New Zealand discourse, if only the person searching asked the right questions. What arose was stories of baches and holidays that are not immediately apparent in New Zealand discourse. Conditions such as the location of baches and their visual and formal qualities were far more diverse than had been expected. The stories shone a light on New Zealand architects and their experiments with holiday buildings in the second half of the 20th century. These conditions provided exciting opportunities for exploration in the later design phases.

Research through design explored how different models of coastal development could be used to better reflect the nature and culture of holiday buildings. A series of buildings were developed, then combined with a specific context to test the ideas being proposed. Careful consideration was given to site-specific qualities during the design process to enhance and sustain what makes inhabiting coastal areas so special. Qualities such as indeginous flora, as well as bodies of water were protected due to their impact on the experience of coastal sites. The final design is one example of how the research question can be answered. There are however, endless opportunities for the realisation of these ideas on a site.

If the thesis were to exceed the scope of the research question, more consideration might be given to conditions such as the continued occupation of the site. Through further design experiments, more detailed planning rules could be established; and models detailing the growth and decline of families could be explored.

Figure 6.24: The author during a research presentation. Digital Image.
Author's Own (2020).

Figure 6.24 (Opposite): Site Plan closeup 4. Vector Artwork.
Author's Own (2020).

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List of Figures

UNATTRIBUTED FIGURES BELONG TO THE AUTHOR

Appendix 1

BACH CASE STUDY TEMPLATE

bach case study template

Title:

Image

Image

History

Built:

Architect:

Photograph Taken:

Location

Region:

Town:

Neighbours:

Geography of Local Land:

Orientation of Living Space:

Land Ownership Status:

Services

Heating:

Water:

Sleeping:

Cooking:

Form

Exterior Cladding:

Roof Lining:

Roof Shape:

Outdoor Living:

Modified Since Built:

Media Coverage

Recognised Architecturally?:

Found in which Publication?:

Elsewhere Referenced?:

Referred to As (bach/house):

Size

Floor Area:

Rooms:

No. of Volumes:

Appendix 2

BACH CASE STUDY DATABASE

(A) = Assume

No.	Source					Language	Architect	Location						Form				Outdoor Living				Size			Services			
Case Study No.	Source	Year	Month	Vol.	No.	Referred to as:	Name	Region	Town	Neighbours	Geography	Living Orientation	Ownership	Cladding	Roof Material	Type	Roof Shape	Description	Amnt.	Type	Size	Fl. Area	No. Rooms	No. Volumes	Heating	Water	Sleeps	Cooking
1	Home & Building	1957	July	20	2	House	Porter & Martin	Marlborough	Rellings Bay	0	Beachfront/Light Bush	N Sea	(A) Private	V-Shiplap Timber	Iron	Corrugated	Long Gable	Substantial V'dah	1	V	L	120	7	1	Wood	Stream	6	Fire/Gas
2	Home & Building	1957	December	20	7	Cottage Holiday	Wilson, Moodie & Gillespie	Bay of Plenty	Lake Tarawera	0	Inland/Rolling Farmland	E Lake/Mountain	Private	H-Wboard Timber	Iron	Corrugated	Short Gable	Small Deck	1	D	S	70	5	1	Wood	Tank	4	Gas/Elec
3	Home & Building	1960	November	23	6	Home Holiday	David & Lillian Chrystal	Waikato	Taupo	3	Hill/Lakeside	S Lake/Mountain	(A) Private	H-Wboard Timber	Iron	Corrugated	Short Gable	Small Deck x2/G Floor Breeze	2	D	S	150	7	1	Wood	Unknown	16	Gas/Elec
4	Home & Building	1961	April	23	11	Home Holiday	Porter & Martin	Kapiti Coast	Raumati	1	Hill/Bush/Seaviews	W Sea	(A) Private	V-Wboard Timber	Aluminium	Corrugated	Shallow Monopitch	Substantial V'dah	1	V	L	105	5	1	Wood	Tank	4	Unknown
5	Home & Building	1946	September	9	3	Bach	Surrey S. Alleman	Bay of Plenty	Lake Rotoiti	Unknown	Flat/Lakeside	NE Lake	(A) Leased	V-Wboard Timber	Iron	Corrugated	Short Gable	Small V'dah	1	V	S	55	6	1	None	Stream	4	Fire
6	Home & Building	1979	February	41	2	Cottage Holiday	Unknown	Auckland	Mahurangi	2	Hill/Bush/Seaviews	NE Sea	(A) Private	V-Wboard Timber	Unknown	Unknown	Shallow Monopitch	Small V'dah	1	V	S	80	4	1	Unknown	Tank	Unknown	Unknown
7	Home & Building	1956	February	18	9	House	Anthony L. Treadwell	Wellington	Mirimar	2	Hill/Bush/Seaviews	NW Sea & City	Private	V-B&B Timber	Fabric	Sheet	Shallow Monopitch	Small V'dah	1	V	S	120	5	1	Wood	Town	4	Gas/Elec
8	Home & Building	1956	November	19	6	Cottage Holiday	K. L. Piper	Unknown	Unknown	Unknown	Flat/Coastal Plain	N Sea	Private	H-Wboard Timber	Iron	Corrugated	Multiplane Monopitch	Substantial V'dah x2	2	V	L	240	5	3	Wood	Tank	6	Gas
9	Home & Building	1956	November	19	6	Bach	B. A. Helean	Bay of Plenty	Mayor Island	0	Island/Beachfront/Bush	Unknown Sea	DOC/Lease	Corrugated Iron/Plywood	Iron	Corrugated	A-Frame	Small V'dah	1	V	S	60	1	1	None	None	4	Kerosene
10	Home & Building	1957	March	19	10	House	Mark Brown & Fairhead	Auckland	Titirangi	2	Hill/Bush	N Unknown	Private	V-Shiplap Timber	Unknown	Unknown	Monopitch	Substantial Porch	1	P	L	170	6	2	Unknown	Town	4	Gas
11	Home & Building	1951	September	20	4	Bach	J. B. Peterson	Auckland	Devonport	3	Flat/Inland/Bush	N Unknown	Private	H-Wboard Timber	Iron	Corrugated	Monopitch	Small V'dah	1	V	S	45	3	2	Wood	Town	4	Gas
12	Home & Building	1957	November	20	6	House	Wilson, Moodie & Gillespie	Bay of Plenty	Lake Tarawera	0	Flat/Lakeside	W Lake/Mountain	Private	H-Wboard Timber	Iron	Corrugated	Hip	Porch All Sides	1	P	L	270	6	1	Wood	Tank	2	Gas/Elec
13	Home & Building	1959	December	22	7	House Weekend	Lawry & Sellars	Canterbury	Lyttelton	0	Hill/Seaviews	S Sea	Private	H-Wboard Timber	Asbestos	Corrugated	Short Gable	Extensive Deck x2	2	D	L	150	7	2	Wood	Tank	8	Unknown
14	Home & Building	1960	April	22	11	Weekender	Sargent, Smith & Partners	Hypothetical	Hypothetical	N/A	Flat/Sanddunes	Unknown Sea	N/A	V-Asbestos Sheet	Asbestos	Corrugated	Monopitch	Substantial V'dah	1	V	L	70	3	1	None	Tank	4	None
15	Home & Building	1958	November	21	6	House	Charles Fearnly	Kapiti Coast	Paraparaumu	2	Flat/Sanddunes	N	Private	Plywood	Iron	Corrugated	Monopitch	Medium Porch	1	P	M	80	7	2	Electric	Tank/Bore	6	Gas
16	Home & Building	1959	May	21	12	House Small	Wilson, Moodie & Gillespie	Northland	Kaitaia	2	Flat/Coastal Plain	N Stream	Private	V-Asbestos Board	Iron	Corrugated	Kite	Small V'dah	1	V	S	60	5	1	Wood	Tank	4	Gas
17	Home & Building	1976	April	38	3	Home Holiday	Morton Jordan	Auckland	Waiheke Island	0	Island/Hill/Bush	N Sea	Private	V-Wboard Timber	Asbestos	Corrugated	Steep Monopitch	Extensive Deck x3	3	D	L	150	9	3	None	Tank	6	Gas/Elec
18	Home & Building	1952	January	14	8	House Weekend	Ronald H. Mewa	Auckland	Waitakere	0	Hill/Bush	N Sea/Ranges	Private	H-Wboard Timber	Iron	Corrugated	Butterfly	Medium Deck	1	D	M	50	5	2	Wood	Tank	8	Gas/Elec
19	Home & Building	1967	December	30	7	Cottage Holiday	H. M. Shattky	Waikato	Taupo	0	Hill/Bush	NW Lake/Mountain	Private	V-Asbestos B+B	Asbestos	Unknown	Shallow Monopitch	Porch All Sides	1	P	L	160	6	1	Wood	Town	4	Gas/Elec
20	Home & Building	1973	June	35	10	House	Hoadley Budge & Partners	Northland	Paihia	0	Hill/Bush	NE Sea	(A) Private	Concrete Block	Unknown	Unknown	Steep Monopitch	Medium V'dah	1	V	M	150	9	2	None	Tank	4	Gas
21	Home & Building	1971	November	34	4	Bach	Hristch, Curtis, Simmon & Partners	Waikato	Cooks Beach	2	Flat/Sanddunes	N Sea	Private	D-Wboard Timber	Asbestos	Unknown	Steep Monopitch	Substatial Deck	1	D	L	65	4	1	None	Tank	4	Gas
22	Home & Building	1983	March	45	2	House	McCoy & Wixon	Otago	Wanaka	0	Flat/Lakeside	Unknown Lake	Private	Concrete Block	Iron	Profiled	Short Gable	Substantial V'dah	1	V	L	200	10	4	Wood	Unknown	8	Gas
23	Home & Building	1981	February	45	1	House Beach	Richard Sales	Auckland	Hatfield's Beach	Unknown	Flat/Hill/Bush	N Sea	Private	V-B&B Timber	Asbestos	Shingle	Multiplane Monopitch	Substantial Deck x2	2	D	L	150	9	2	Wood	Tank	10	Electric
24	Home & Building	1986	July	48	3	Bach	Dodd Patterson Architects	Waikato	Pauanui	2	Flat/Coastal Plain	Unknown Unknown	Private	V-Asbestos Board	Timber Shingle	Shingle	A-Frame	Medium Deck x3	3	D	M	120	9	3	None	Town	6	Electric
25	Home & Building	1986	September	48	4	Bach	Ross Lee	Auckland	Piha	0	Hill/Bush	NW Sea	Private	H-Wboard Timber	Asphalt Shingle	Shingle	Hip	Substantial Deck x5	5	D	L	350	13	3	Wood	Tank	8	Gas/Elec
26	Home & Building	1951	May	13	6	Home Holiday	Llew S. Piper	Bay of Plenty	Lake Rotoiti	2	Flat/Lakeside/Bush	NE Lake	Private	H-Wboard Timber	Unknown	Unknown	Flat	Medium Deck/Jetti	1	D	M	190	10	2	Wood	Bore	8	Gas/Elec
27	Home & Building	1968	September	31	4	Cottage Beach	Alex Bowman	Tasman	Tata Beach	2	Flat/Beachfront	NW Sea	Private	V-Asbestos Board	Iron	Corrugated	Short Gable	Medium Deck x2	2	D	M	100	8	1	Wood	Tank	6	Gas
28	Home & Building	1968	October	31	5	House Beach	John B. Gummer	Auckland	Piha	0	Hill/Bush	W Sea	(A) Private	V-B&B Timber	Asbestos	Corrugated	Short Gable	Substantial Deck	1	D	L	60	7	2	Wood	Tank	6	Gas
29	Home & Building	1969	April	31	11	Cottage Beach	Errol Care-Cottrell	Waikato	Raglan	Unknown	Hill/Seaviews/Rocky	N Sea	Private	H-Wboard Timber/Concrete Block	Asbestos	Corrugated	Short Gable	Medium V'dah	1	V	M	85	6	1	Wood	Tank	4	Unknown
30	Home & Building	1963	May	25	12	Cottage	D. E. Donnithorne	Canterbury	Springfield	0	Flat/Inland Plains	N Mountains	Private	V-B&B Timber	Iron	Corrugated	Short Gable	Medium V'dah	1	V	M	80	6	1	Wood	Tank	3	Gas