


A photograph of a lush green hillside. In the foreground, a utility pole with several power lines is visible. To the left, a blue house with a white roof is partially obscured by a palm tree and other vegetation. The background shows a dense forest covering the hillside, with a smaller, rounded hill visible in the distance under a clear sky.

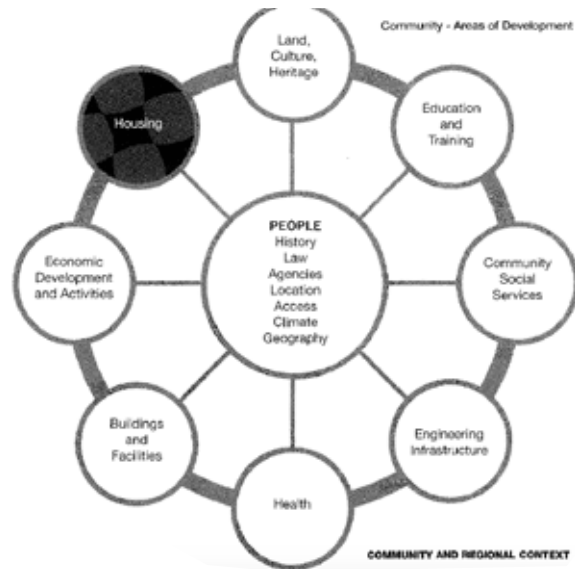
## YARRABAH HOUSING STUDIO

A photograph showing a residential scene. In the foreground, there is a blue building with a corrugated metal roof and a fence. Behind the fence, there are two large, cylindrical metal tanks. In the background, there are green trees and a hazy, mountainous landscape under a bright sky. The overall tone is soft and slightly overexposed.

*This course has been co-written and taught  
by Michael Mossman and Anna Ewald-Rice  
for the USYD 'Let Every Voice Be Heard  
Housing studio' 2018*

## CONTENTS:

Overview	Pg. 5
-Overarching Project Principles	
-The Project Will Explore	
-The Site	
Schedule Of Requirements	Pg. 11
Client Case Studies	Pg. 13
Preliminary Student Design Proposals:	Pg. 15
Camille Symonds	Xavier Logan
Cici Xue	Julia Lin
Alex Bang	Jeremy Kum
Marco Pecora	Esben Finger
Jack Fountain	Aiden Li
Vicky Xia	Kiran Roche
Tim Kwon	Anthony Tsang
Jinkun Liu	Andrew Xu
Bronte Parker	Fotina Bouranta
Amanda Yeo	Tianyun Liu
Carmelo Nastasi	
Appendix 1: Site Analysis	Pg. 123
-Yarrabah Peninsula	
-Yarrabah Community	
-Burri Gummin	
Appendix 2: Existing Housing	Pg. 129
- Council Housing	
-Transitional Housing	
- Iba Single Dwelling	
- Bush Block	



Diagrams from *Take 2: Housing Design in Indigenous Australia*, edited: P.Memmott, C.Chambers,2003

***“Just as the discovery of culture is a journey, not a destination, aboriginal architecture should be a ‘process’ and not just a ‘product’.***

- Deborah Mills and Paul Brown, Art and Wellbeing (Sydney, Australia council for the arts, 2004 pg 99)

The aim of this design studio is to develop appropriate and sustainable housing solutions for the displaced members of the Yarrabah community living with disability. This project is a reaction to the ongoing housing crisis in Yarrabah Aboriginal Shire, and the current unsatisfactory ‘one size fits all’ approach to housing for indigenous people.

Indigenous architect Kevin O’Brien speaks of the relationship between Indigeneity and Architecture and the challenge to architects to develop:

***“Fundamental projects that sponsor, support and affect the day-to-day events of the Aboriginal community at large and ultimately present a stage for a constantly changing cultural experience.”***

- Aboriginality and Architecture, Kevin O’Brien University of Queensland, 2005

The brief asks for detailed design of three small houses and a simple community space in Yarrabah that all follow the Murri Way: supporting the self-determination of Indigenous people in their housing choices. They are intended as buildings which both the specific users and the wider community can engage with and come to feel to be their own. These 3 dwellings can be seen as 3 case studies exploring and testing a single design approach and strategy. Along with these dwellings you are expected to develop a masterplan strategy.

This studios line of enquiry crosses over multiple layers of research, at times looking into broader Indigenous issues to do with identity, notions of country, story telling and performance, how to design for self-determination, an architecture of possibility, down to specifics such as the ramifications of building in remote, tropical environments, what this means for building materials and construction techniques, staged implementation, use of local skilled and unskilled labor, training opportunities and so on.

There is not one line of enquiry, rather it is like trying to follow a porous tracery of fine threads at times aligning, coming to the fore, receding behind or trailing off. It is about seeing the overall lie of the cloth, or maybe it is the land.

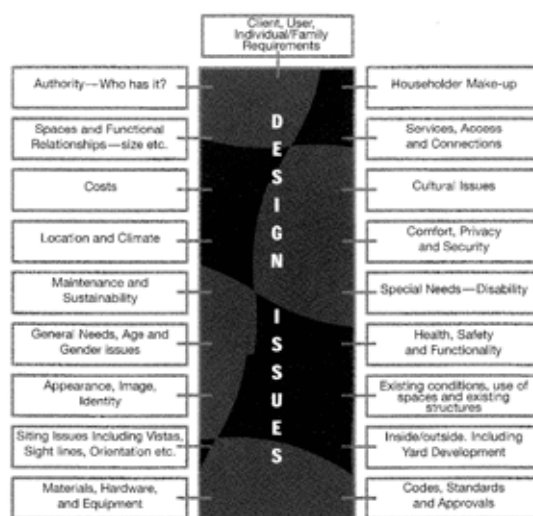


Diagram from *Take 2: Housing Design in Indigenous Australia*, edited: P. Memmott, C. Chambers, 2003

## **OVERARCHING PROJECT PRINCIPLES:**

This project aims to:

- Describe a generosity of spirit and a sense of humanity at the core of architecture's agenda, focusing on the quality of space itself.
- Focus on architecture's ability to provide free and additional spatial gifts to those who use it and on its ability to address the unspoken wishes of strangers.
- Celebrate architecture's capacity to find additional and unexpected generosity in each project - even within the most private, defensive, exclusive or commercially restricted conditions.
- Provide the opportunity to emphasise nature's free gifts of light - sunlight and moonlight, air, gravity, materials - natural and man-made resources.
- Encourages reviewing ways of thinking, new ways of seeing the world, of inventing solutions where architecture provides for the well being and dignity of each citizen of this fragile planet.
- Be a space for opportunity, a democratic space, un-programmed and free for uses not yet conceived. There is an exchange between people and buildings that happens, even if not intended or designed, so buildings themselves find ways of sharing and engaging with people over time, long after the architect has left the scene.  
Architecture has an active as well as a passive life.
- Encompass freedom to imagine, the free space of time and memory, binding past, present and future together, building on inherited cultural layers, weaving the archaic with the contemporary

## **THIS PROJECT WILL EXPLORE THE QUESTIONS:**

How to design a building which is culturally responsive?

- Embed in community
- Understand the significance of relating to country, narrative, performance,
- To be cultural responsive in practice and in theory

What might the building be like – atmosphere, character?

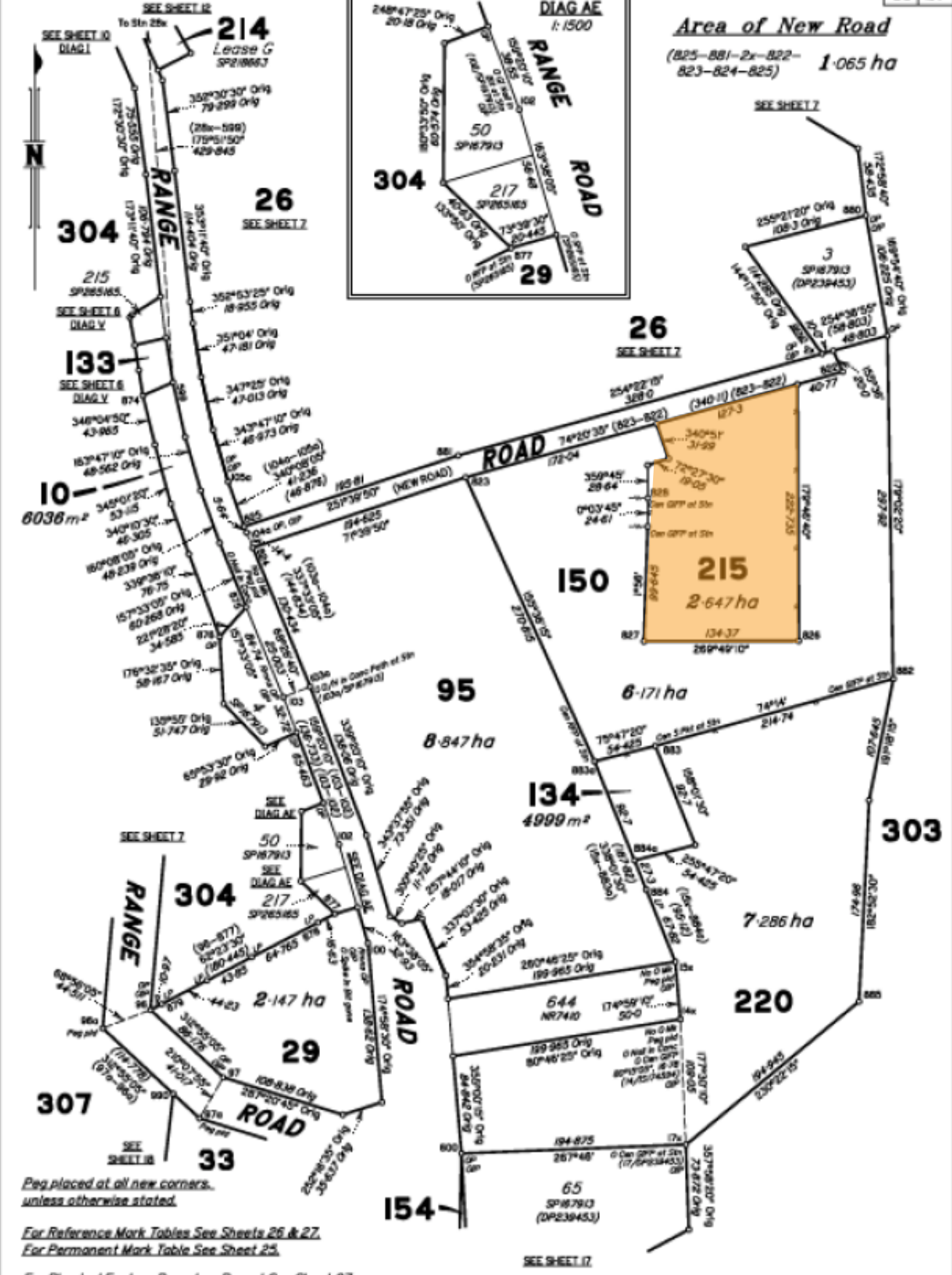
- Strong connection to country, to place
- Provide more than functional brief, what might this be?

What sort of spaces might be included?

- Liminal space, edges, thresholds. Places to chat, to meet, to gather, to reflect, to hang on the edges of
- Spaces which trigger creativity
- Spaces which are safe, are comfortable,

What expression might the building have?

- Non patronizing, not rough or agricultural, neither overly simple, nor crude

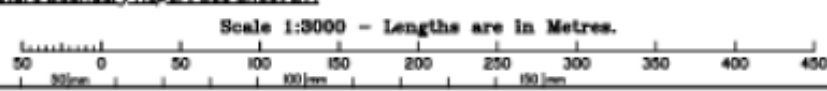


Peg placed at all new corners, unless otherwise stated.

For Reference Mark Tables See Sheets 26 & 27.

For Permanent Mark Table See Sheet 25.

For Physical Feature Boundary Report See Sheet 27.



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Insert Plan Number **SP284220**



## THE SITE

Based on the Burri Gummin Affordable Housing Project: Project overview/  
design brief (Document compiled by Centre for Appropriate Technology)

Proposed site location is 2ha surveyed block at 'Balamba' in the non-transferrable area of Yarrabah Aboriginal Council Land. i.e. the land is held in Trust by the council and is not due for transfer to traditional owners via the Gunggandji PBC Aboriginal Corporation (this needs full confirmation).

Land was surveyed on behalf of the project late 2015 with a donation from Centacare. Council has zoned the site for future community housing development in draft new planning scheme

The site was cleared and planted out as a tea tree plantation as a business venture in the early 2000s. This venture has since been abandoned but the site remains covered in dense tea tree bushes.

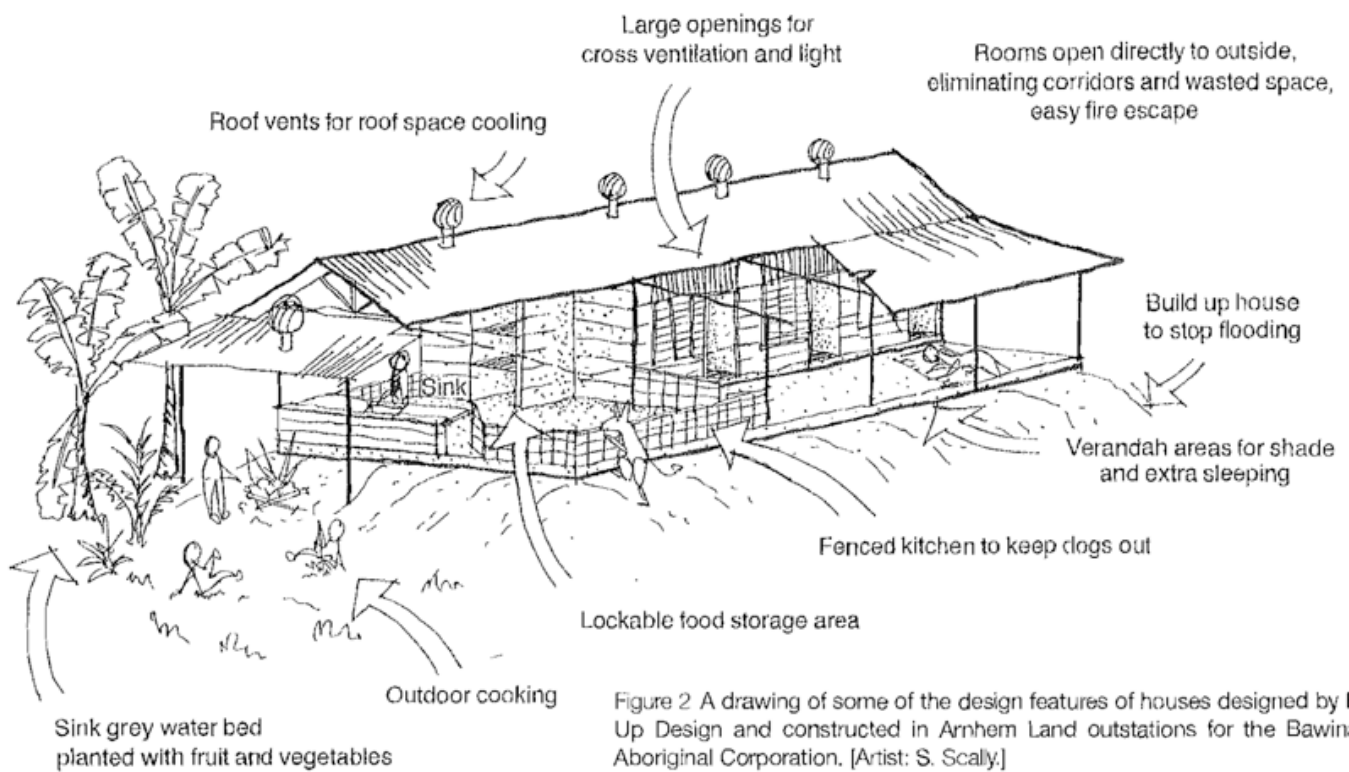


Figure 2 A drawing of some of the design features of houses designed by Build Up Design and constructed in Arnhem Land outstations for the Bawinanga Aboriginal Corporation. [Artist: S. Scally.]

Diagram from *Take 2: Housing Design in Indigenous Australia*, edited: P.Memmott, C.Chambers,2003

## SCHEDULE OF REQUIREMENTS

Based on the Burri Gummin Affordable Housing Project: Project overview/  
design brief (Document compiled by Centre for Appropriate Technology)

### **EACH DWELLING SHOULD INCLUDE:**

- outdoor food preparation/laundry/wash area (bench, large sink, drain, protected from extreme weather)
- outdoor fireplace/cooking place
- shaded/rain protected outdoor space (seating, easily accessed from house)
- living spaces indoor (large openings, ventilated using prevailing winds, )
- bedroom (refer to clients requirements, ventilated using prevailing winds)
- accessible bathroom (toilet, shower, basin, laundry, ensure that all wet area facilities are not located in one room)
- possibly additional bathroom to be accessed from outside (refer to clients requirements)
- kitchen (with clear circulation of at least 1500mm, not located near toilet access)
- lockable storage area
- accessibility ramp to front door
- fencing (gate to allow car access)
- washing line
- rubbish area

### **COMMUNAL OUTDOOR SPACE SHOULD INCLUDE:**

- outdoor food preparation area
- seating (for individuals and large groups)
- outdoor fireplace/cooking area
- shaded outdoor space
- access to water

\*consider ways that outdoor spaces might support cultural practices and relieve over-crowding at peak times.

## **EDUCATIONAL AIMS OF THE PROJECT INCLUDE:**

Spend time working on site to investigate cultural considerations when designing with indigenous communities

Become familiar with the accessible housing guidelines:

- Australian Housing and Urban Research Institute
- Housing for Health guidelines established by Health Habitat.

Understand and appreciate:

- the specific needs and functional requirements of different clients
- the culture of the clients,
- the way traditional, tropical and existing buildings in Yarrabah are constructed
- their unique relationship to the area.

Establish an overall strategy for housing to address:

- existing site conditions (orientation, micro-climate and surrounding context)

Understand appropriate design and siting to:

- create a network of buildings and communal spaces;
- foster and reinvigorate ideas of self determination, pride in culture, bright futures, and inclusive practices.

Explore the implications of:

- site repair and maintenance;
- buildability, local labor, and skills training.

Develop your emerging design process to:

- building on your experience of designing to date;
- develop an integrated approach to architecture,

landscape, construction, environment , structures

AND

PEOPLE!

## CLIENT CASE STUDIES

The 3 dwellings are to be designed for specific clients within the Yarrabah community. The different specific needs of each client need to be met.



**Jono**  
1 bedroom dwelling



**Paulie and Doug**  
2 bedroom dwelling



**Tracy her husband and two kids**  
4 bedroom dwelling

### CASE STUDY: SINGLE MAN - JONO

- DRUG AND ALCOHOL ISSUES
- WITHDRAWN
- NO CAR
- UNCLE IN YARRABAH
- UNEMPLOYED / LIMITED SAVINGS
- DISABILITY SUPPORT PENSIONS
- BASIC KITCHEN
- DOG
- OUTDOOR FIRE
- FISH PREPARATION

### CASE STUDY: FRIENDS - PAULIE & DOUG

- MENTAL DISABILITY
- FUTURE DISABLED ACCESS
- NO COOKING, FOOD DELIVERED
- PENSIONS SAVED UP
- BEDROOMS SEPARATE
- COMMON LIVING ROOM
- ACCESSIBLE TOILET
- IMMOBILE IN FUTURE
- PLACE TO WATCH WORLD
- REGULAR DELIVERY ACCESS, NO CAR
- NO DIRECT FAMILY

### CASE STUDY: FAMILY - TRACY + HUSBAND + 2 KIDS

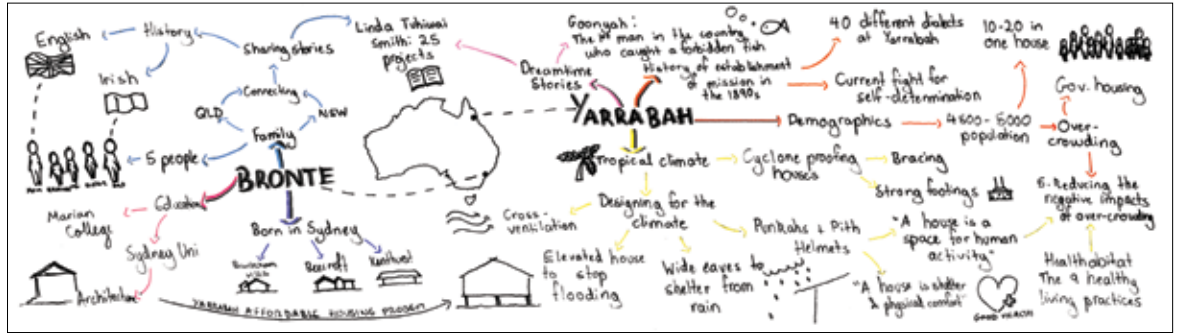
- 2 PARENTS 1 W/JOB
- CAR
- CHILD WITH PHYSICAL + MENTAL ISSUES
- KITCHEN
- RELATIVES WHO FREQUENTLY STAY
- LARGE BEDROOM TO ACCOMMODATE ALL
- EXTENSION FOR EXPECTED 2ND CHILD
- ACCESSIBLE ACCESS TO HOUSE
- ACCESSIBLE BATHROOM



## STUDENT DESIGN PROPOSALS

Each student has been asked to prepare:

- Map of their own story
- Reflections upon their time spent in Yarrabah
- Return brief or strategy based upon these experiences
- Masterplan of their different dwellings on the site.
- Cluster plan of the relationships between the houses.
- Three different dwelling designs for either: each of the three client case studies, 3 clients of their choice, or 3 stages to the one design for different uses.
- Set of principles to clearly explain their design choices and ideas

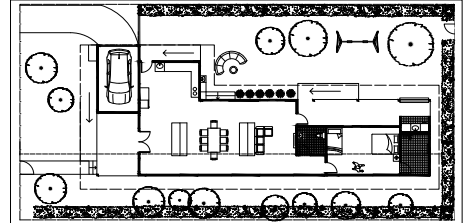
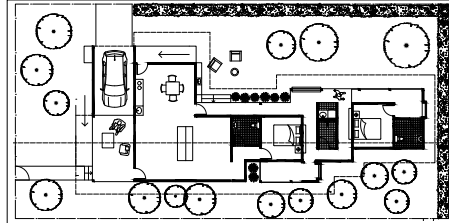
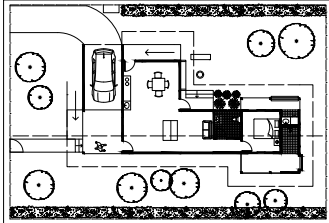


**MY STORY**

**PRE SITE VISIT BRIEF**

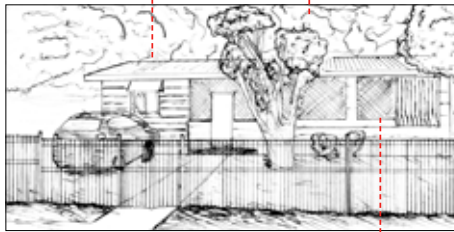
To develop housing solutions which are both sustainable and appropriate for displaced members of the Yarrabah community living with a disability.

Left: 1 occupant  
Middle: 2 occupants  
Right: 4 occupants



**PRE SITE VISIT PROPOSALS**

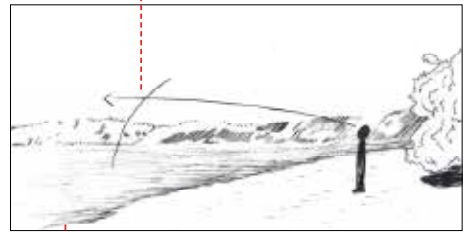
**LOCAL HOMES**



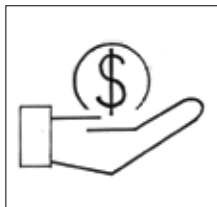
**BURRI GUMMIN SITE VISIT**



**YARRABAH BEACH**



**EXPERIENCE OF YARRABAH**



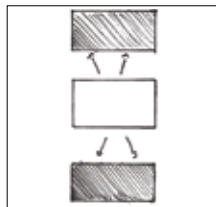
**AFFORDABILITY**

Use off the shelf standard materials and sizes in order to keep costs down



**ACCESSIBILITY**

Provide space to meet future disabled access needs such as ramps, wide corridors and bathrooms



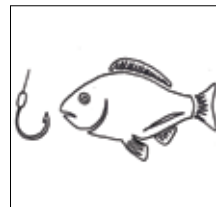
**PRIVACY**

Create private wings for different families joined by a common core space in order to maintain privacy



**ECONOMIC DETERMINATION**

Provide outdoor space for vegetable gardens to encourage self-sustainability and another income



**FISHING LIFESTYLE**

Include elements such as a large sink, outdoor bench, and large storage to facilitate client lifestyle



**CHILD SAFETY**

Place children's bedrooms at the back of the house to increase their safety from domestic situations



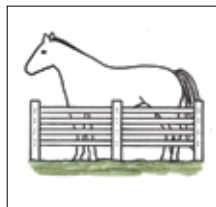
**DURABILITY**

Use steel and concrete in order to increase durability of home and decrease maintenance costs



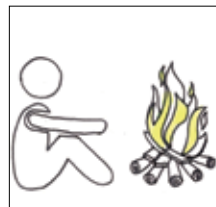
**SWEAT EQUITY**

Encourage home owner involvement in the building process to promote sweat equity



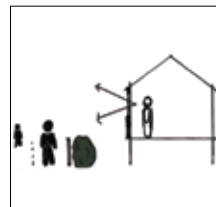
**WILDLIFE FENCING**

Use durable fencing around property in order to keep out wild animals from the streets



**OUTDOOR LIVING**

Emphasise outdoor living spaces such as fire pits to meet client lifestyle and cooking behaviour



**STREETVIEW**

Face a large window with screening to allow the occupant to monitor and look out at the street



**SUPPORT SERVICING**

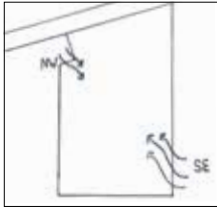
Provide multiple bathrooms in order to service numerous occupants and keep costs down for repair

**OVERARCHING DESIGN PRINCIPLES IN RESPONSE TO TRIP**

**Overcrowding is at the centre of a multitude of issues in Yarrabah. It can affect the education, health, and social well being of occupants. My aim is to design housing which responds to inter-generational housing use in Yarrabah. Central to this idea is designing both private and common spaces to minimise issues of overcrowding whilst keeping intact the family lifestyle.**

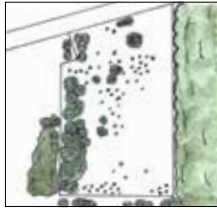
**RETURN BRIEF**





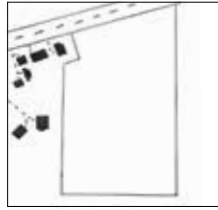
**WIND**

Prevailing SE breezes cool the humid area whilst NW tropical storms bring rain during the wet months



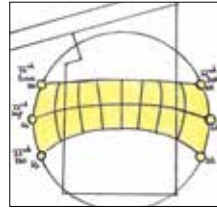
**VEGETATION**

Dense vegetation on the west and east of the site with shrubbery and occasional trees in between



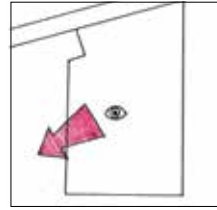
**NEIGHBOURING BUILDINGS**

Neighbours lie to the west of the site, however vision is restricted due to dense vegetation



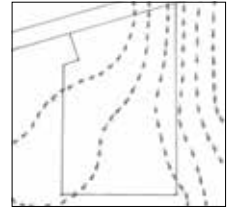
**SOLAR STUDY**

The sun rises and sets longer during summer, requiring shading especially on the west due to low lying afternoon sun



**OUTLOOK**

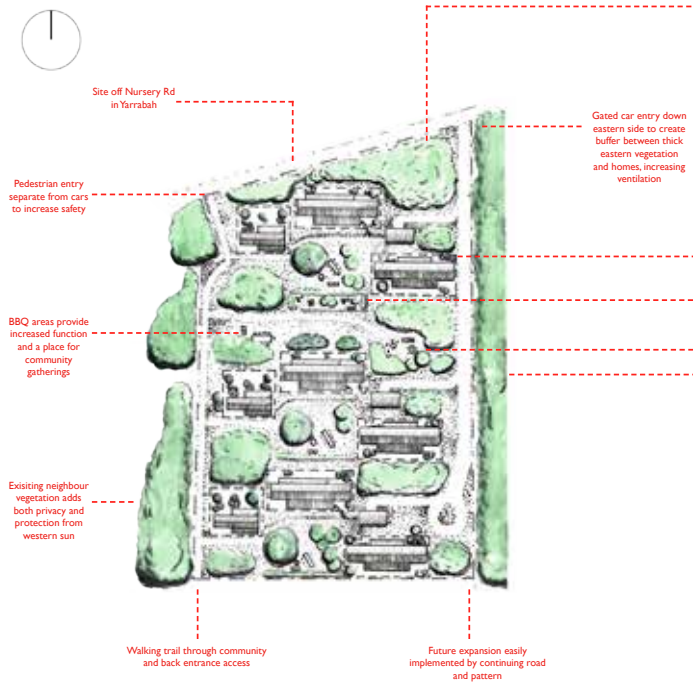
The view out towards the SW is the most interesting as it faces an impressive mountain



**CONTOURS**

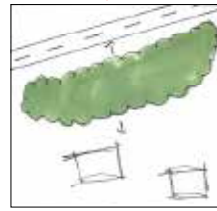
The site is relatively flat and surrounded by mountains, hence it is prone to flooding

**SITE ANALYSIS**



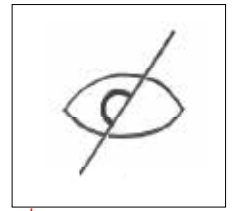
**SAFETY**

Fence off children's playground and place centrally to increase safety



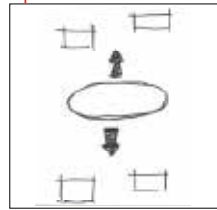
**SECURITY**

Use vegetation at the front of the site to buffer between the road and the residential spaces



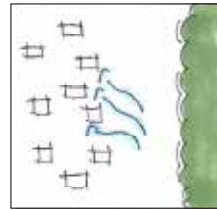
**PRIVACY**

Offset houses and use vegetation within clusters in order to maintain privacy of separate homes



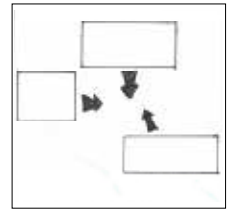
**COMMUNAL SPACES**

Spread clusters apart in middle of site to make space for communal areas to exist and thrive



**VENTILATION**

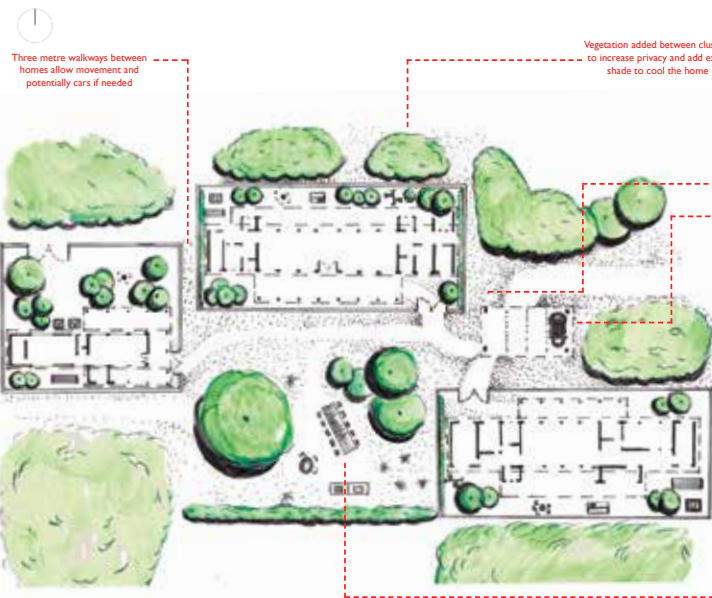
Place the homes closer to the west of the site to ensure adequate ventilation due to thick east vegetation



**CONNECTING**

Arrange houses in clusters of three in order to encourage connections between neighbours

**MASTERPLAN 1:1000**

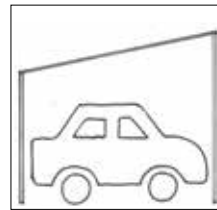


**MASTERPLAN PRINCIPLES**



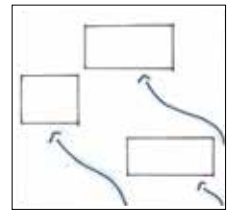
**VIEW**

Angle the courtyard space in order to look out towards the mountains and connect with nature



**CAR STORAGE**

Create a big carport to service all clients and any visitors in order to reduce overall construction costs



**VENTILATION**

Offset homes to ensure adequate ventilation from prevailing SE breezes to cool occupants

**CLUSTER PLAN 1:200**

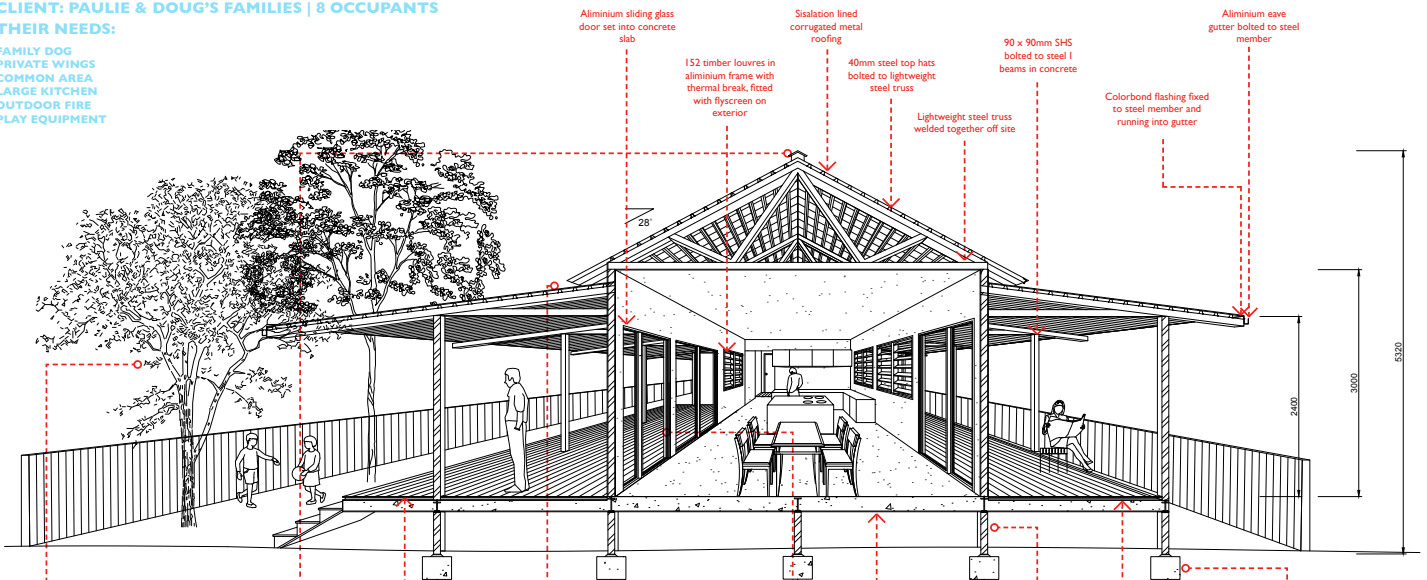
**CLUSTER PRINCIPLES**

# DESIGN OPTION 1:

CLIENT: PAULIE & DOUG'S FAMILIES | 8 OCCUPANTS

## THEIR NEEDS:

- FAMILY DOG
- PRIVATE WINGS
- COMMON AREA
- LARGE KITCHEN
- OUTDOOR FIRE
- PLAY EQUIPMENT



SECTIONAL PERSPECTIVE  
0 2 1 5

Timber hardwood decking fixed to timber battens

RC footing to engineer's details

RC slab on 'Bondek' to engineer's details

Water membrane lining under timber battens to prevent water damage

Aluminium sliding glass door set into concrete slab

152 timber louvres in aluminium frame with thermal break, fitted with flyscreen on exterior

Sisalation lined corrugated metal roofing

40mm steel top hats bolted to lightweight steel truss

Lightweight steel truss welded together off site

90 x 90mm SHS bolted to steel I beams in concrete

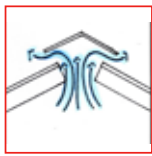
Colorbond flashing fixed to steel member and running into gutter

Aluminium eave gutter bolted to steel member



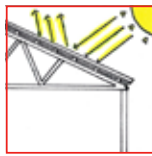
### SHADING

Plant vegetation and thick trees around home as a shading device to reduce radiant energy & heat



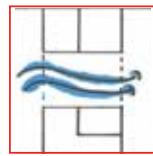
### VENTILATION

Use roof air vents in order to circulate hot air out and keep occupants cool



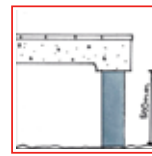
### HEAT REDUCTION

Use a corrugated metal roof lined with sisalation to reflect heat from getting inside



### BREEZEWAYS

Use large openings in the central space in order to create breezeways



### RAISED FLOOR

Raise the floor off the ground by 500mm in order to address flooding issues



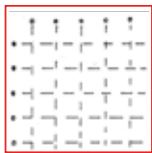
### CYCLONE PROOFING

Use a steel and concrete structure in order to survive cyclone conditions



### INCREASED FUNCTION

Include extra elements into the design such as play equipment to increase house function and reduce overcrowding



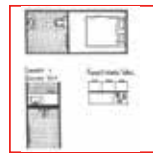
### COST EFFICIENCY

Work off a 2400mm grid in order to use off the shelf standard sizes to keep costs down



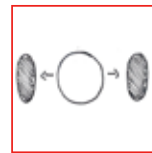
### SECURITY

Use lockable storage to secure belongings and prevent theft



### KIT OF PARTS

Group different services of the house in order to arrange the spaces between



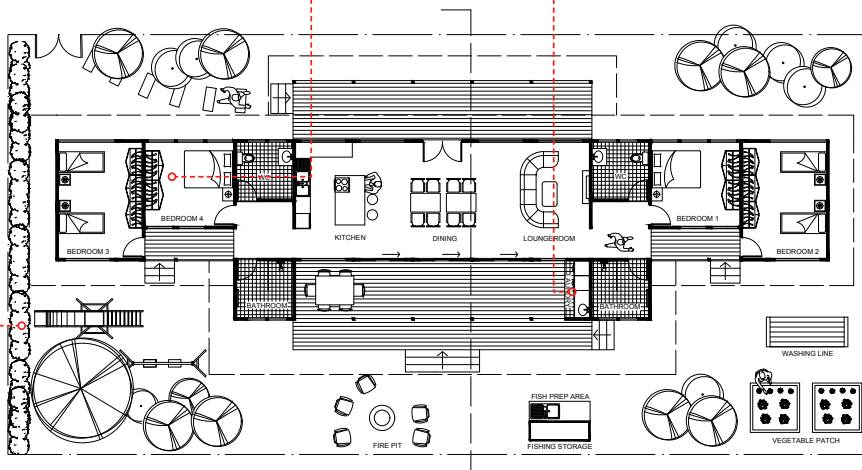
### ADAPTABILITY

Use a modular concept of a core spaces and private wings to contract and expand homes as needed



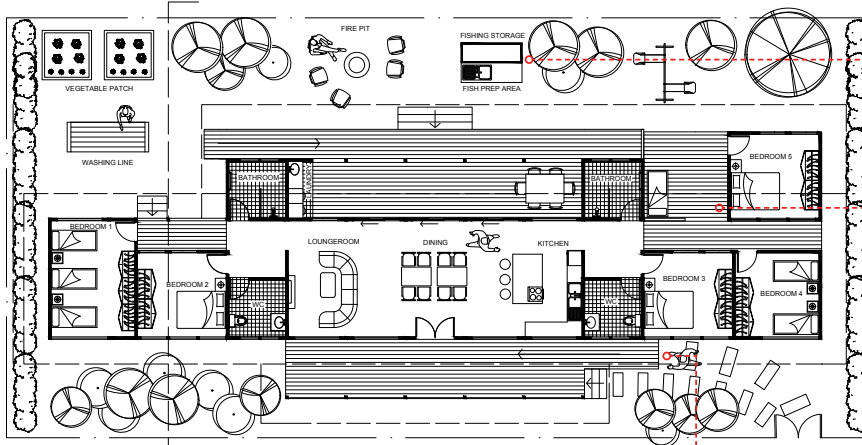
### LOCAL TRADES

Employ local trades and apprentices to activate economy in Yarrabah

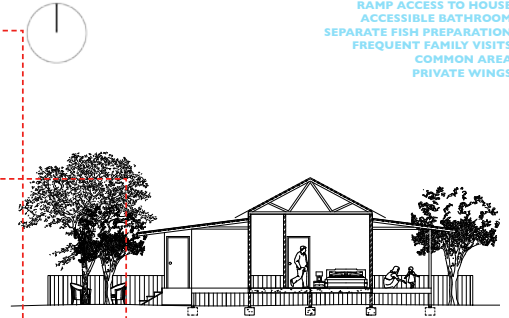


## DESIGN OPTION 2:

**CLIENT: TRACEY & BILLY'S FAMILY + GRANDPARENTS | 12 OCCUPANTS**  
**THEIR NEEDS:**  
 RAMP ACCESS TO HOUSE  
 ACCESSIBLE BATHROOM  
 SEPARATE FISH PREPARATION  
 FREQUENT FAMILY VISITS  
 COMMON AREA  
 PRIVATE WINGS



CENTRAL CORE MODULE

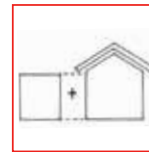


Outdoor verandah space enclosed by half walls allows extra room for relatives

Fish preparation situated outside next to fire pit and next to fishing storage for ease of access



ACCESSIBILITY



FLEXIBILITY



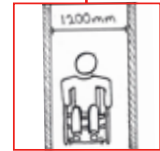
OUTDOOR COOKING



ACCESS RAMPS



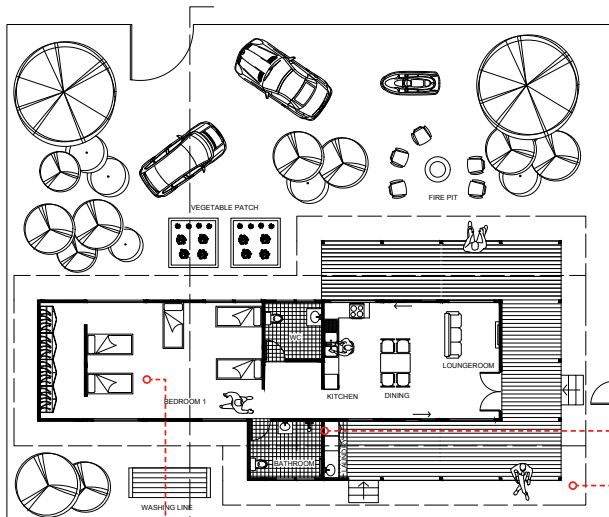
ACCESSIBLE BATHROOMS



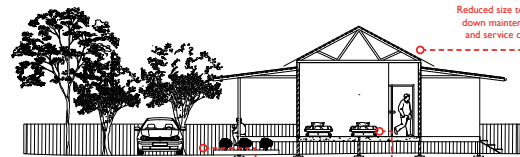
WIDE CORRIDORS

## DESIGN OPTION 3:

**CLIENT: JONO & FRIENDS | 5 OCCUPANTS**  
**THEIR NEEDS:**  
 TEMPORARY LIVING  
 BASIC KITCHEN  
 LARGE STORAGE  
 MULTIPLE SERVICES  
 LARGE VERANDAH  
 NO FAMILY VISITS



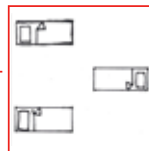
OUTDOOR LIVING



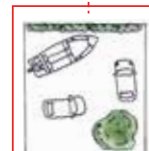
Big backyard with back entrance for storage of possessions such as cars etc

Reduced size to keep down maintenance and service costs

Beds set on wheels for ease of movement and temporary arrangement



SHARED BEDROOM



EXTENDED BACKYARD



SMALL SIZE



OUTDOOR LIVING

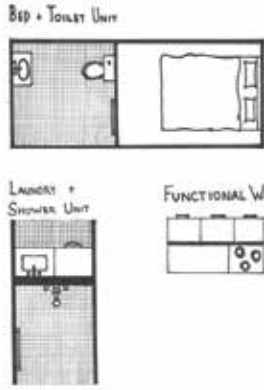


MULTIPLE SERVICES



ADAPTABILITY

**CONCEPTUAL DIAGRAM**  
**CLIENT CONSULTATION PROCESS**



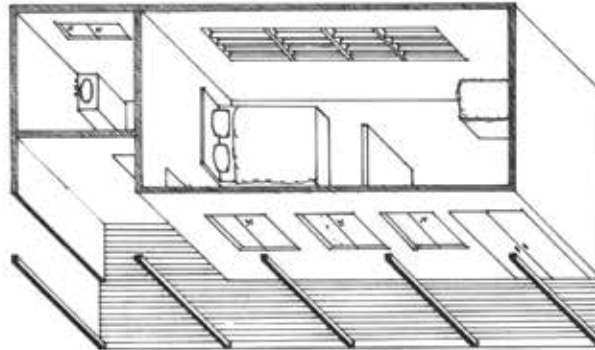
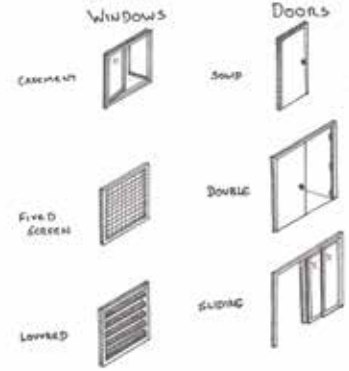
**KIT OF PARTS**



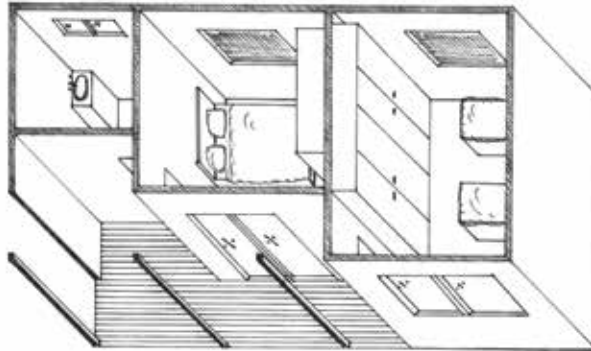
**GRID FORM 2400MM**



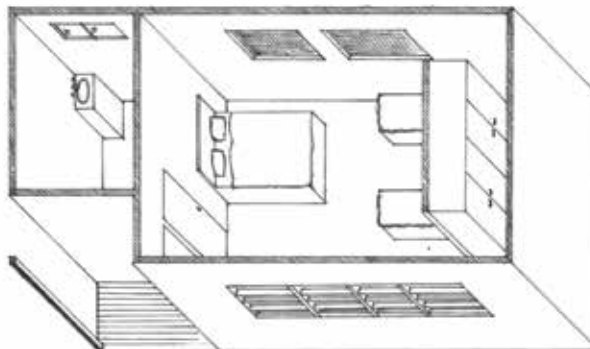
**CLIENT INFILL CHOICES**



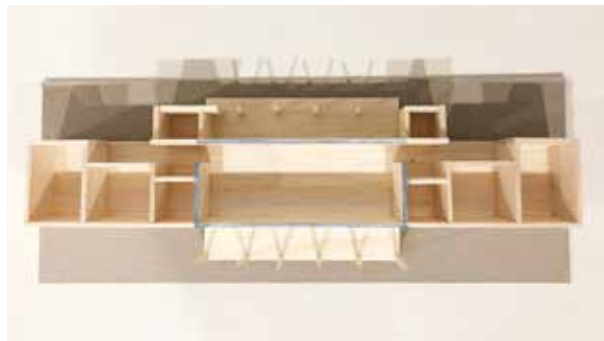
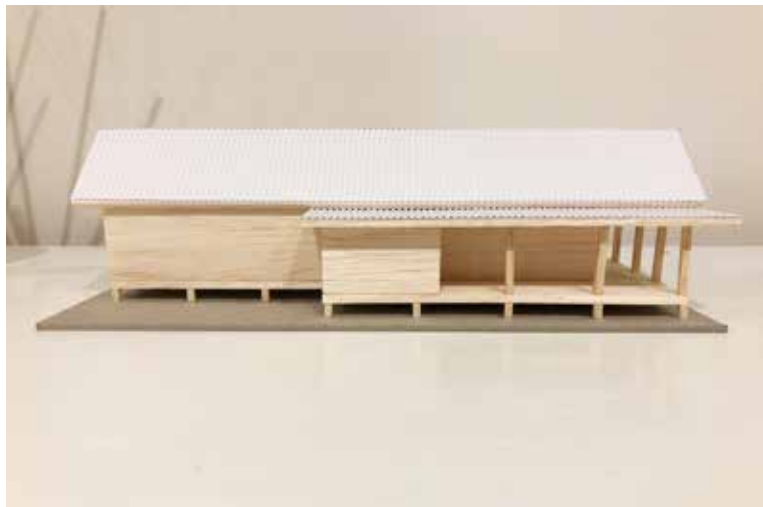
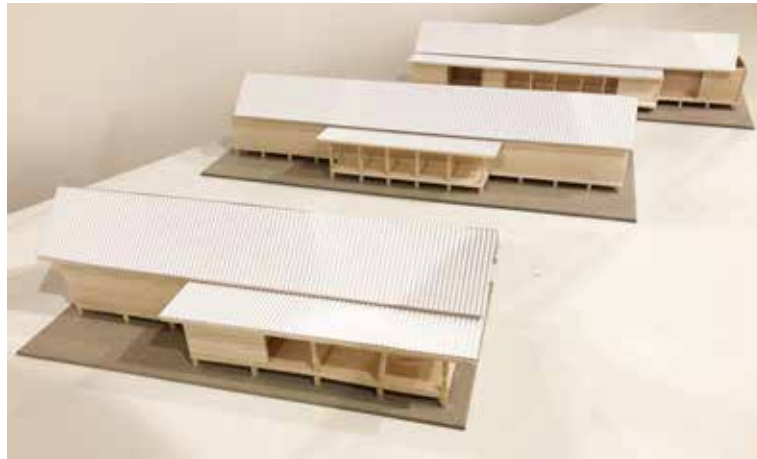
**PERMUTATION 1**

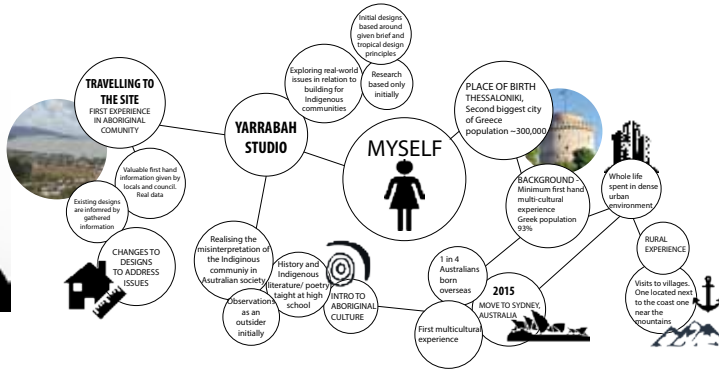
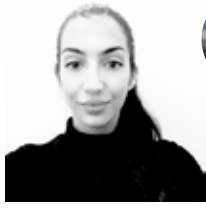


**PERMUTATION 2**



**PERMUTATION 3**





MY STORY



The initial designs did not address the housing crisis as I was not aware of this substantial issue in the community at the time. Also, the idea was to place gardens and porches on the private, isolated part of the house to provide privacy. However after consulting with members of the community it was determined that the porch is part of connecting to the community, by seating in the shaded balcony and observing passers-by. This immediately made sense to me as I recalled my own experience in living with my grandparents in a rural area for a while. Observing activity on the street was a habit for them too and the idea of enhanced privacy only came from personal experience in living in the very busy and noisy urban environment of Sydney.

PRE SITE VISIT PROPOSALS



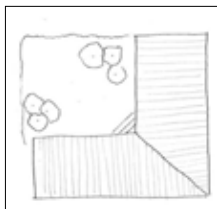
IMPOSING MOUNTAIN VIEW ENHANCED BY OPENNESS OF SITE AND SPARSE VEGETATION



DURABLE AND AFFORDABLE MATERIALS USED FOR HOUSING. THE PORCH AS AN IMPORTANT PART OF LIVING AND CONNECTION TO THE COMMUNITY



EXPERIENCE OF YARRABAH



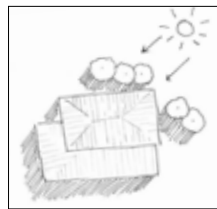
HARBORING

The initial idea of the interior harboring the exterior is to be developed and also applied to the masterplan



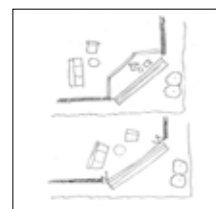
LIVING SPACE EXTENSION

The living space will be able to extend to the porch area. As was observed from the existing examples this is common



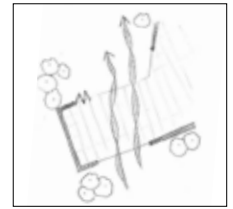
AMPLE SHADING

Both the roof structure and vegetation are to be used to provide ample shading from the hot tropical sun



CONNECTED LIVING SPACES

Living spaces are to encompass a sense of openness and connection as the option to be combined will be given to residents



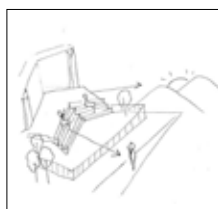
ALLOW BREEZES

Openings in houses are to be placed in such a way that breezes are allowed through for cross-ventilation



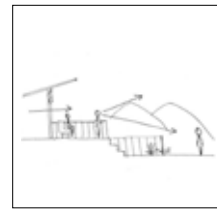
ELEVATED SLABS

As a principle of tropical design, slabs are to not be touching the floor to avoid heat transfer and to also allow breezes through



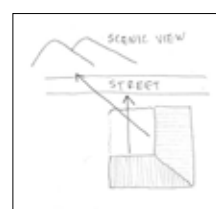
SEATING STEPS ARRANGEMENT

This idea of installing steps that can also be used as seating is to be applied to all designs. Thus orientation of those steps is crucial



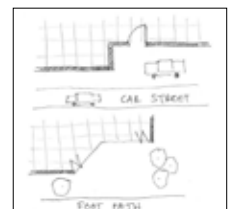
ATTENTION TO THE PORCH

As was observed during the visit to Yarrabah, the porch is an important part of living as it provides connection to the community



OUTLOOK + VIEWS

The dwellings' orientation is to consider views of the imposing mountain range and also connection to the street/ community.



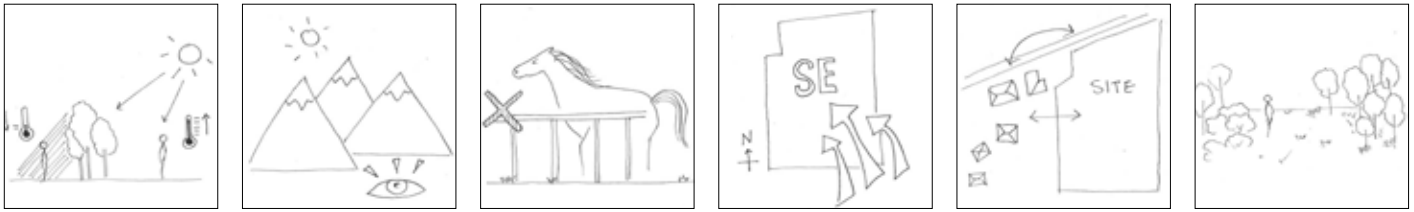
FORMAL VS INFORMAL

The side of the house facing the car street is to have a formal character of an entry and wall. The side facing the community is to have various openings for further communication

OVERARCHING DESIGN PRINCIPLES IN RESPONSE TO TRIP

TO ADDRESS THE PROMINENT HOUSING CRISIS IN THE COMMUNITY OF YARRABAH, RATHER THAN MODIFYING THE EXISTING CLIENTS I INTENT TO PROVIDE AN ALTERNATIVE SOLUTION FOR HOUSING MULTIPLE RESIDENTS. TRANSITIONAL HOUSING OPTIONS WILL BE PROVIDED SEPARATE TO THE DWELLING DESIGNS. HOWEVER, THE PERMANENT RESIDENTS OF THE DWELLINGS AND THE TRANSITIONING RESIDENTS WILL COMMUNICATE AND ASSIST EACH OTHER THROUGH THE ESTABLISHED PROGRAMME AND THROUGH VARIOUS COMMUNAL ACTIVITIES. THE MASTERPLAN DESIGN WILL PROMOTE THIS IDEA OF SUPPORT, PROTECTION AND SAFETY. A COMMUNAL GARDEN WILL BE CULTIVATED BY THE TRANSITIONING RESIDENTS TO PROVIDE A SENSE OF SELF-SUFFICIENCY AND THUS AIM TO RAISE THE MORALE OF THE COMMUNITY AS A WHOLE.

RETURN BRIEF



TEMPERATURE DIFFERENCE

When on site it was observed that temperature varied substantially under tree shade and when standing directly under the sun

IMPOSING VIEWS

An aspect I was not aware prior to the site visit was the beautiful view of the mountains dominating the field of view

HORSE DETAINMENT

A number of horses were present at the site and although a fence was installed it was obvious how they would create a problem if the design is to proceed.

PREVAILING BREEZE

Although the site visit was on a hot day, the prevailing breeze cooled down the temperature. This is to be utilised when designing.

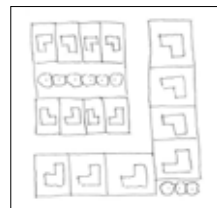
EXISTING RESIDENTS

Just meters from the given site it was observed that a few dwellings already exist. Consideration of the existing residents is to be made.

VARYING VEGETATION

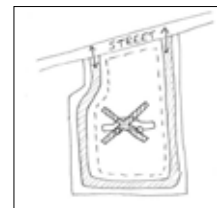
On the site nature has taken over with many different kinds of trees and plants growing next to each other. This includes vegetation of different heights and sizes

SITE ANALYSIS



HARBOURING

The masterplan is to adopt the idea of harboring to inspire a sense of protection, support and safety for the transitional residents



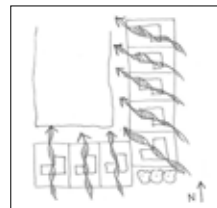
LIMITED CAR ACCESS

Cars are only to have access to the main road around the site and not within the space. This is to provide safety and peacefulness to the area



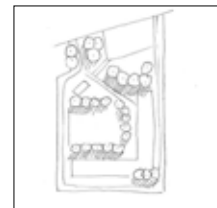
"BOTTLE NECK" ENTRANCE

The entrance to the residential part of the area is to be common so that resident communication and interaction is promoted



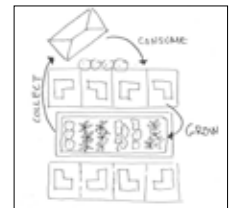
ALLOW BREEZEWAYS

All permanent dwellings are positioned at the edge of the masterplan so that breezes flow freely through them without obstacles



STRATEGIC VEGETATION

Trees and other vegetation are to provide shade and a sense of visual privacy to the plan while addressing the natural character of the site



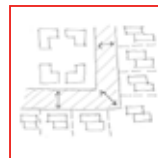
COMMUNAL GARDEN

The garden is to be used mainly by transitional residents. This will create a sense of purpose, self-sufficiency and will also be a way to give back to the community

MASTERPLAN 1:1000

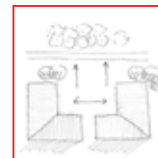
MASTERPLAN PRINCIPLES

DIVIDING AREA BETWEEN PERMANENT AND TRANSITIONAL RESIDENCES - COMMUNITY GROUNDS



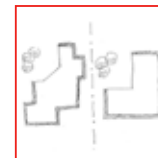
MIDDLE AREA

A dividing/ transitioning area between the permanent residents' dwellings and the transitional homes is provided to distinguish the two programs, provide sufficient space for the residents welfare and also create a middle communication area where most activity of the community takes place. So, this area would be used by both groups for socialisation.



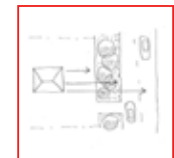
TRANSITIONAL DWELLINGS ORGANISED IN COUPLES

This design option will aim to 'partner' two dwellings and promote interactions of residents as well as assistance of one another when necessary. This was new members in the community will feel more included and confident as entering the transitioning housing scheme.



MODULAR VS FREEFORM

Although both dwelling types will be designed around the same principle of harbouring the exterior, the building layout will display the difference in the type of ownership - permanent vs transitioning (temporary). The permanent homes will allow for much more modification whereas the transitioning dwellings will provide residents a standard, rectangular building form, allowing minimum deviations



DWELLINGS PUSHED BACK FROM STREET

A public vegetated area as well as part of the property's area will be utilised to provide some division between the street and the living dwellings aiming for noise reduction and enhancement of privacy. The vegetation will provide a natural 'privacy screen' from oncoming traffic.

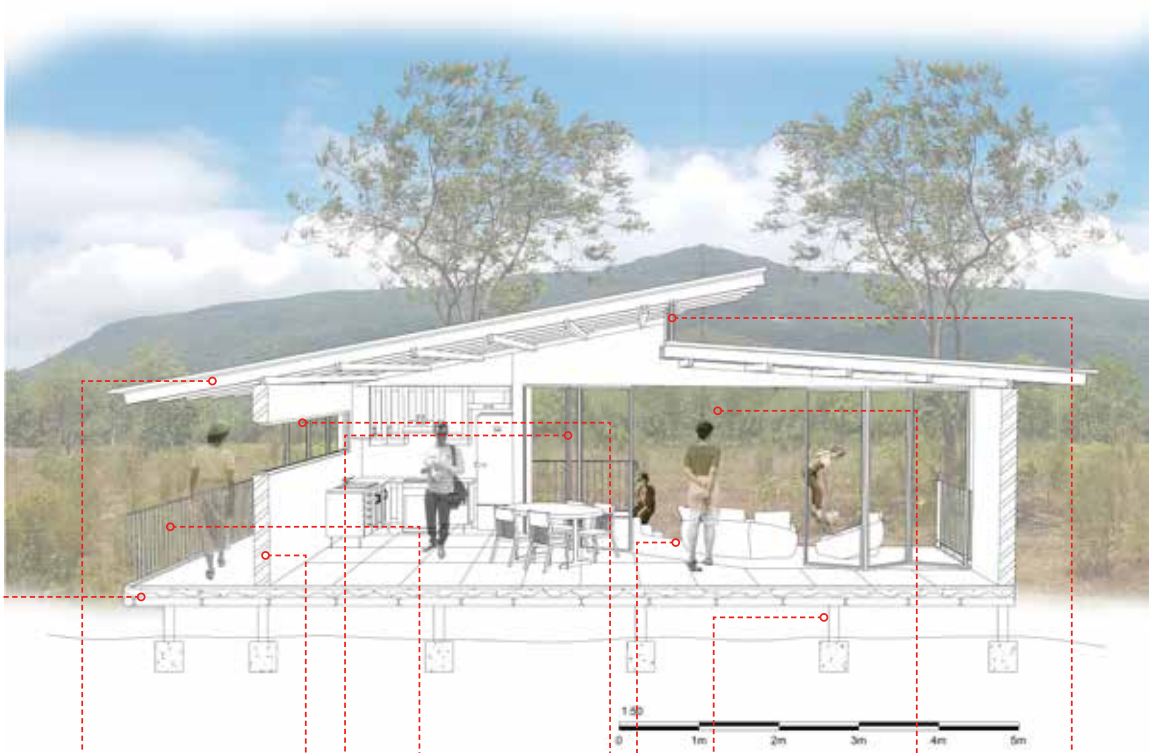
CLUSTER PLAN 1:500

CLUSTER PRINCIPLES

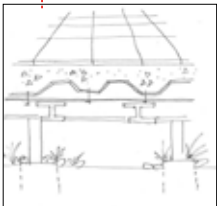
# DESIGN OPTION 1:

CLIENT: PAULIE & DOUG

THEIR NEEDS: MENTAL DISABILITY, DISABLED ACCESS, A PLACE TO WATCH THE WORLD, COMMON LIVING AREAS, BEDROOMS SEPERATE (2 BEDROOMS)

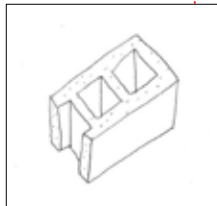


SECTIONAL (AA) PERSPECTIVE OF 2 BEDROOM DWELLING



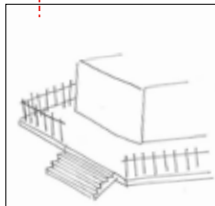
SPECIAL FLOOR SYSTEM

Cast in-situ lightweight concrete over a profiled steel sheeting laid across steel floor members. The concrete will allow tiles to be laid over for a durable interior surface



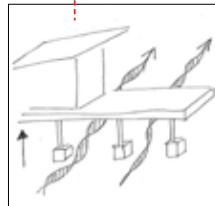
CONCRETE BLOCK WALLS

Upon the site visit it was determined that most houses had concrete clock walls. This will be the choice for the designs due to afford-ability,durability and availability



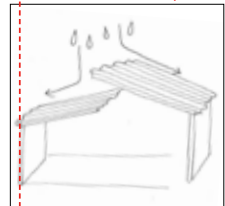
RAILING AROUND PORCH

Metal railing is to be installed around the walkable parts of the porch for safety



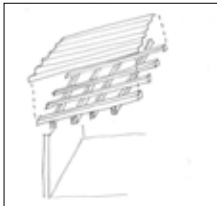
ELEVATED FLOOR

Floors are to be elevated from the ground to avoid heat transfer and to also allow breezes through.



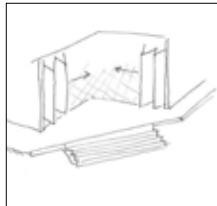
OVERLAPPING ROOFS WITH OPENING

The two overlapping roofs are to be clad with a corrugated steel sheet and are to have an operable opening in the middle for ventilation and light control



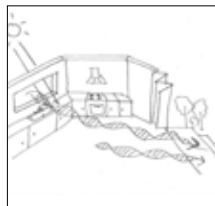
TIMBER ROOF FRAME

The roof frame structure is chosen as it is a lightweight material, relatively cheap and can be aesthetically pleasing if left exposed



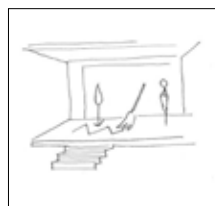
SLIDING DOORS

This will create the option to have an open or enclosed living space depending on the residents active choice. This also means extended area of living spaces



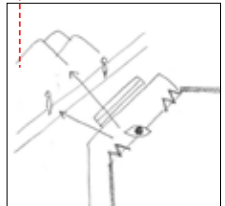
WINDOW OVER KITCHEN

Windows are to be installed over the kitchen benches to provide ample task light and to also allow cross-ventilation through



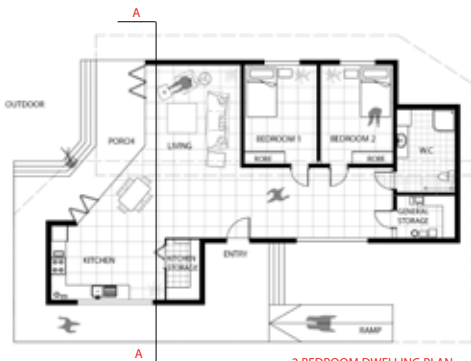
VINYL DURADECK PORCH

The surface of the porch is to be overlaid with Duradeck material for waterproofing, minimum maintenance, durability, ease of cleaning and temperature control (light colour)



EXTERIOR ORIENTATION

The exterior of the houses is to be placed in such a way to provide views of the mountains and the street (for community interactions)



2 BEDROOM DWELLING PLAN SCALE 1:100



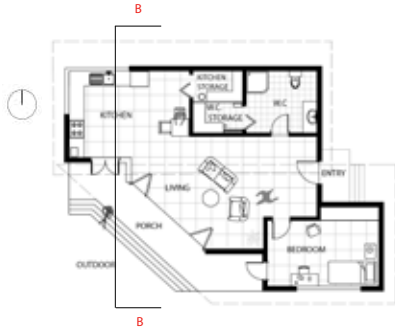
SIMPLIFIED VERSION OF MODULAR TRANSITIONAL HOME PLAN 1:100



## DESIGN OPTION 2:

CLIENT: JONO

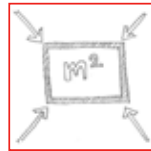
THEIR NEEDS: CONNECTION TO COMMUNITY FOR PSYCHOLOGICAL SUPPORT, AFFORDABLE LIVING THUS MINIMAL DWELLING SIZE, OUTDOOR PROGRAM ORGANISATION



SECTION BB

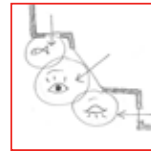


SIMPLIFIED VERSION OF MODULAR TRANSITIONAL HOME PLAN 1:100



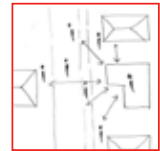
MINIMISE SIZE

To minimise cost of operation and maintenance and to provide easy of management



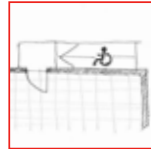
OUTDOOR PROGRAM ORGANISATION

As per the client's needs the outdoor arrangement is to accommodate the activities he participates in



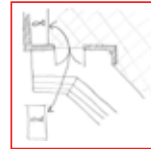
PROMOTE INTERACTIONS

To psychologically assist the "withdrawn" client and to provide connection to community and supervision



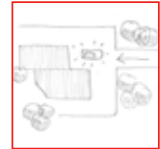
ACCESSIBILITY

Although not a requirement, the house layout is to be inclusive and plan for future. Also to accommodate visitors



KITCHEN & OUTDOOR CONNECTION

This is for interactions while using kitchen and to accommodate the special activity of fish preparation



CAR CLEARING

Although not a requirement the house is to accommodate drop offs and visitors with cars, so a driveway and clearing to be provided

## DESIGN OPTION 3 :

CLIENT: FAMILY, TRACY, HUSBAND, 2 KIDS

THEIR NEEDS: ACCESSIBLE HOME, OPEN LIVING SPACES FOR CHILDREN SUPERVISION, PRIVACY (OWN BATHROOM), SPARE BEDROOM FOR VISITORS



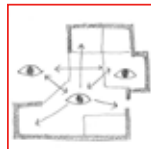
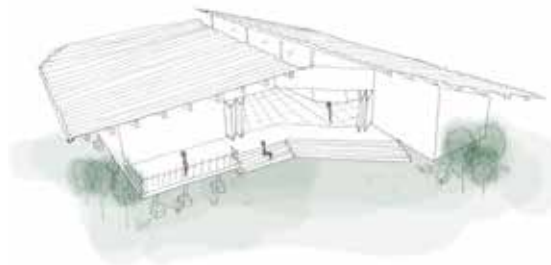
PLAN 1:100



SECTION CC 1:100



SIMPLIFIED VERSION OF MODULAR TRANSITIONAL HOME PLAN 1:100



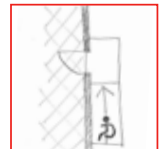
SPACE SUPERVISION

To provide safety and ease the tasks of parents with multiple kids. This is created through the openness of the space



PRIVATE BATHROOM

To address the parent's privacy and personal time which is often overlooked with many kids and other responsibilities.



ACCESSIBILITY

This addresses the initial requirement of the given brief and creates a space based on equity in the community



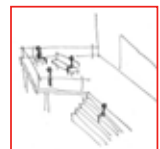
MULTIPLE CAR SPOTS

To address the needs of the multiple occupants of the dwelling (parents, visitors, other family).



KITCHEN STORAGE

With larger families the requirements in terms of cooking and food storage increase substantially thus special storage linked to the kitchen is to be provided



PORCH LOOKOUT

The more dwelling occupants the larger the porch needs to beand to maintain the steps/seating module an additional lookout space is to be installed

MODEL PHOTOS





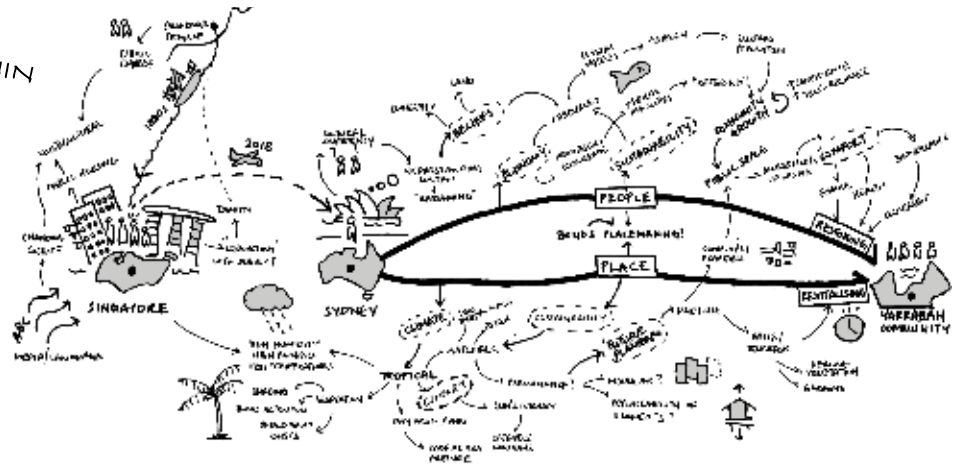
MY STORY



BURRI GUMMIN  
'ONE FIRE'

DESIGNING COMFORTABLE DWELLINGS  
& RESILIENT COMMUNITIES

**REFRAMING** INDIGENOUS BUILDING DESIGN  
**RESTORING** INDIVIDUAL AND COMMUNITIES  
**REVITALISING** SENSE OF PLACE



PRE SITE VISIT PROPOSALS

OPTION 1: 1 BEDROOM UNIT  
SAFE SPACE, PRIVACY, SELF-RELIANCE

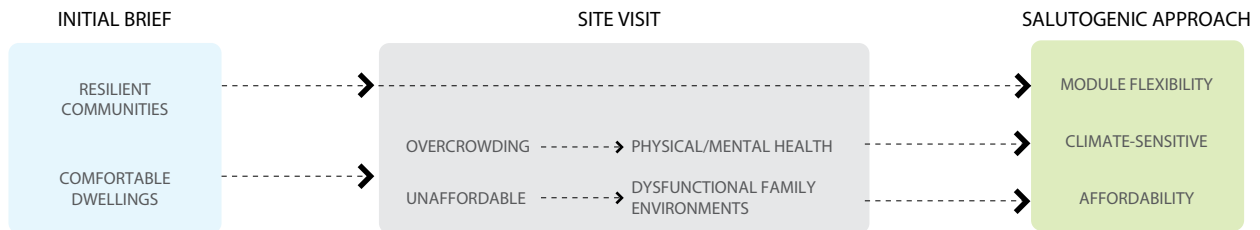
OPTION 2: 2 BEDROOM UNIT  
TRANSITION, ACCESSIBILITY, DIGNITY

OPTION 3: 4 BEDROOM UNIT  
OUTDOOR STIMULI, SURVEILLANCE



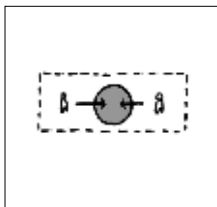
EXPERIENCE OF YARRABAH

ADDRESSING THE NEGATIVE SOCIAL IMPLICATIONS OF OVERCROWDING  
CONSIDERATION OF AFFORDABLE CONSTRUCTION AND DESIGN



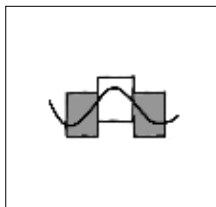
OVERARCHING DESIGN PRINCIPLES IN RESPONSE

EXTRACTED PRECEDENT PRINCIPLES



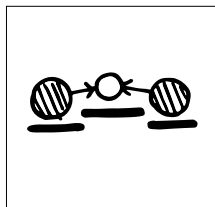
CORE SPACE

provide communal gathering space



RHYTHM OF SPACES

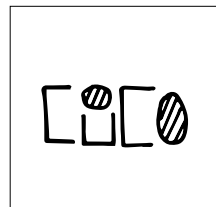
spatial variations suggest public/private thresholds



HIERARCHY OF SPACE

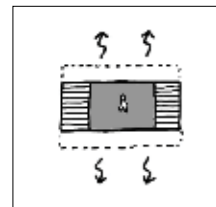
raised floors suggest public/private thresholds

KEY DESIGN PRINCIPLES



MODULE FLEXIBILITY

modular layout to configure non-standard spaces



CLIMATE-SENSITIVE

maximise thermal comfort through arrangement of program



AFFORDABILITY

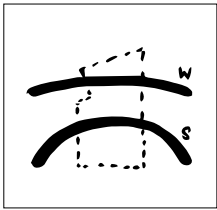
accessible materials and ease of transportation

RETURN BRIEF

DELIVERING A SALUTOGENIC APPROACH TO EASE OVERCROWDING  
BASED ON PRINCIPLES OF MODULE FLEXIBILITY, AFFORDABILITY & CLIMATE SENSITIVITY

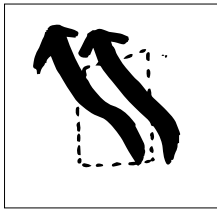
SUPPORTING INWARD HUMAN HEALTH & WELLBEING  
PROMOTING OUTWARD SOCIAL ENGAGEMENT

SITE ANALYSIS



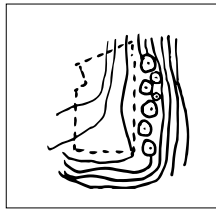
SUN PATH

tropical monsoon climate  
hot summers / mild winters



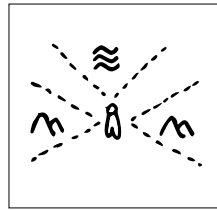
PREVAILING WIND

predominantly from  
south-east



SURROUNDING TOPOGRAPHY

vegetated upslope on east of site  
with tall gum trees



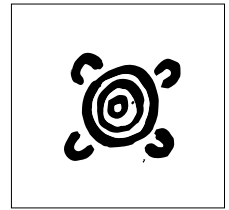
VIEWS TO SURROUNDING

sited between two mountain  
ranges to east & west



CYCLONE-PRONE AREA

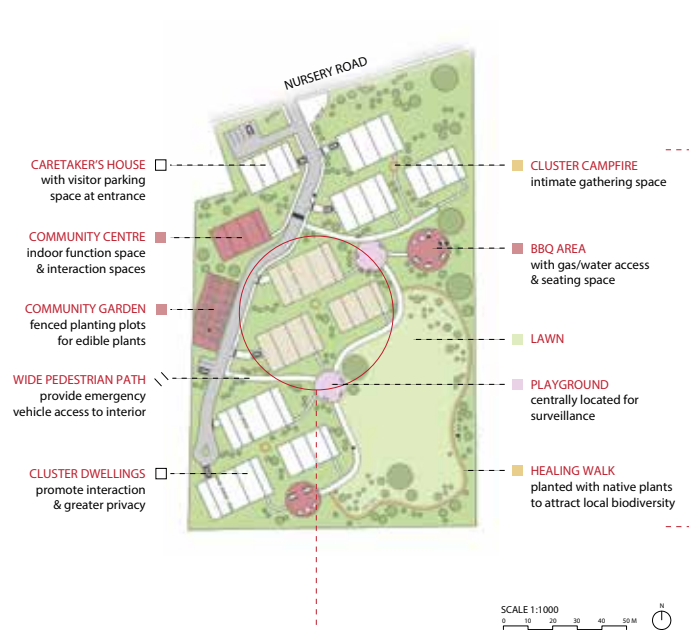
prone to seasonal flooding  
due to proximity to coast



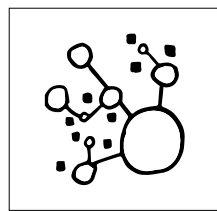
INDIGENOUS COMMUNITY

consider site & community as  
legacy of mission settlement

MASTERPLAN 1:1000

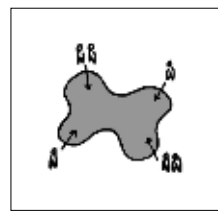


MASTERPLAN PRINCIPLES



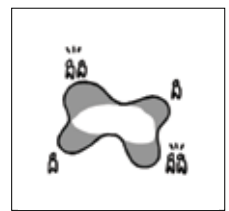
HIERARCHY OF SPACES

suggest threshold between  
public/private spaces



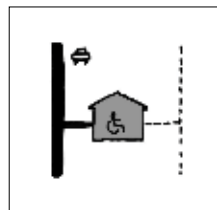
COMMUNAL SPACES

provide large gathering space  
for community



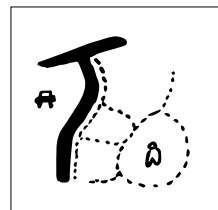
CLUSTER SPACES

provide semi-private spaces  
at smaller scale



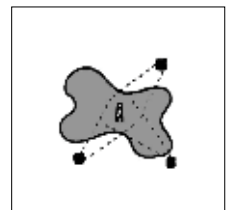
ACCESSIBLE SPACES

easy access to dwellings  
and communal space



WALKABILITY

separate vehicle and pedestrian  
circulation for safety



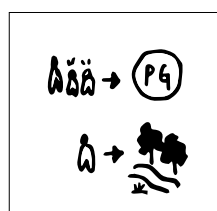
SURVEILLANCE

increase feeling of safety  
within community

CLUSTER PLAN 1:200

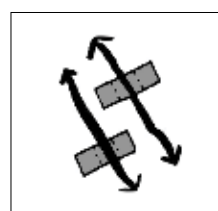


CLUSTER PRINCIPLES



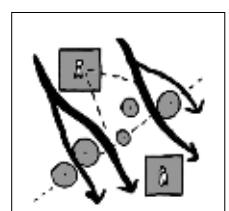
PROXIMITY TO AMENITY

place amenity close to dwelling  
of expected user group



STAGGERED MASSING

maximise overall natural  
ventilation in cluster



PLANTED BOUNDARIES

provide porous interface  
between dwellings

SALUTOGENIC APPROACH + LINDA SMITH'S 25 INDIGENOUS PROJECTS

INWARD APPROACH - SELF



CLUSTER FIREPLACE

place for storytelling between generations  
place for self-reflection and hope



HEALING WALK

place for connecting with land  
place for quiet self-restoration

OUTWARD APPROACH - COMMUNITY



COMMUNITY CENTRE / GARDEN

connect with agencies towards self-reliance  
place to discover and learn skills



BARBEQUE AREA

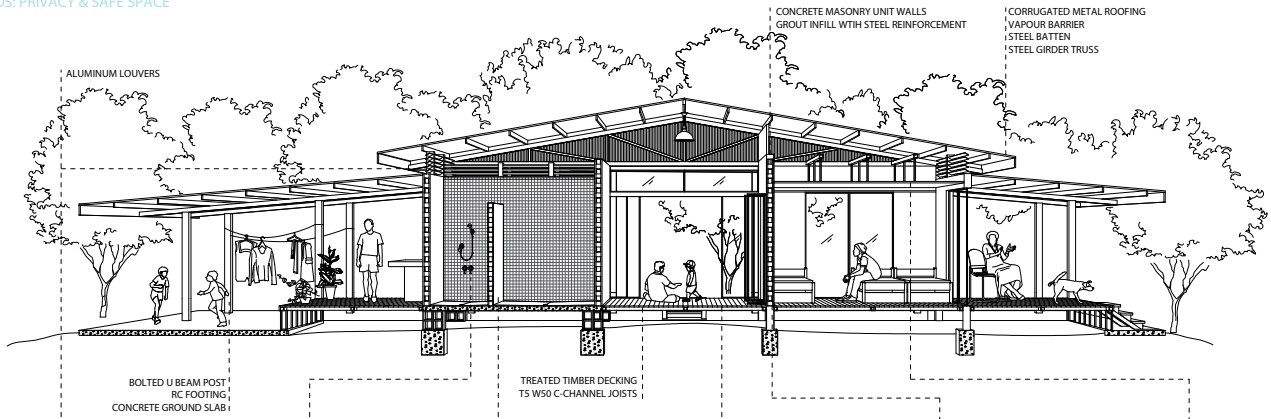
place to celebrate food as central to culture  
place to share as community's way of life

# DESIGN OPTION 1

## SECTIONAL PERSPECTIVE 1:50

CLIENT: JONO

THEIR NEEDS: PRIVACY & SAFE SPACE



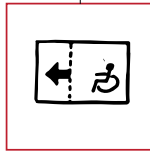
### CLIMATE-SENSITIVE

high-level openings for maximum ventilation



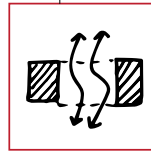
### AFFORDABILITY

sturdy quality bathroom fixtures to withstand high usage



### ACCESSIBILITY

potential to remove wall to increase bathroom mobility



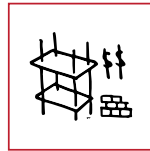
### CLIMATE-SENSITIVE

breezeway for maximum cross ventilation



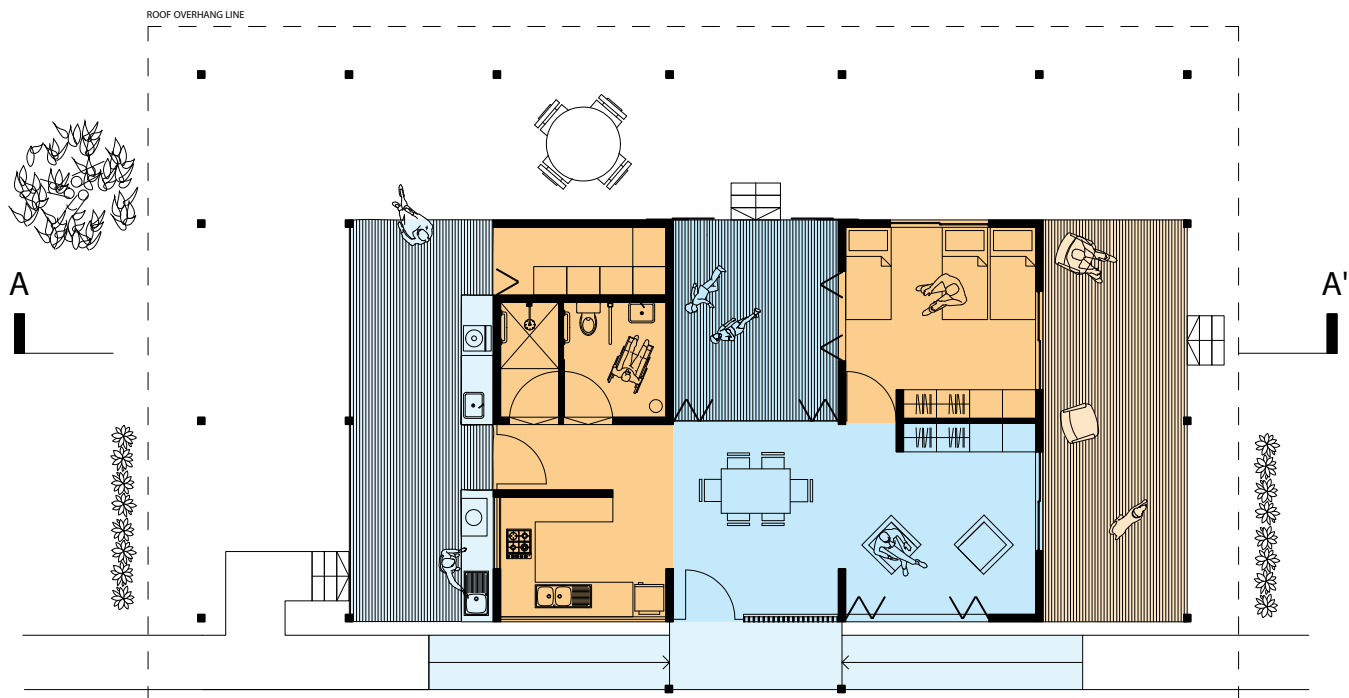
### COMFORT

lowered ceiling in bedrooms for intimacy in private spaces

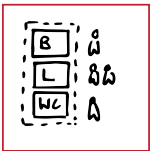


### CONSTRUCTABILITY

basic material range for easy construction

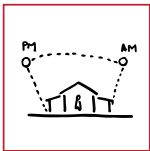


## DESIGN PRINCIPLES



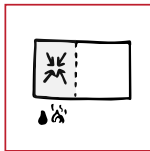
### MODULE FLEXIBILITY

allow concurrent usage by multiple occupants



### CLIMATE-SENSITIVE

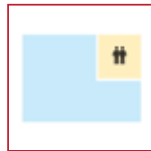
extensive verandahs shade east & west facades



### AFFORDABILITY

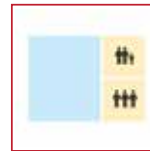
consolidate services to reduce infrastructure cost

## OCCUPANCY CONFIGURATIONS



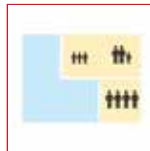
### 1 BEDROOM

single or couple



### 2 BEDROOM

small family & 3 friends

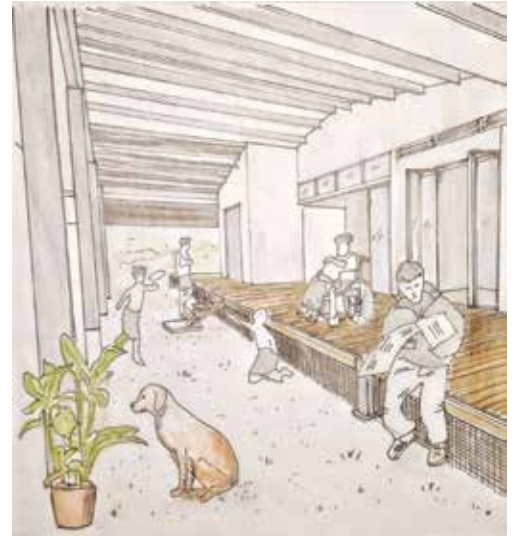
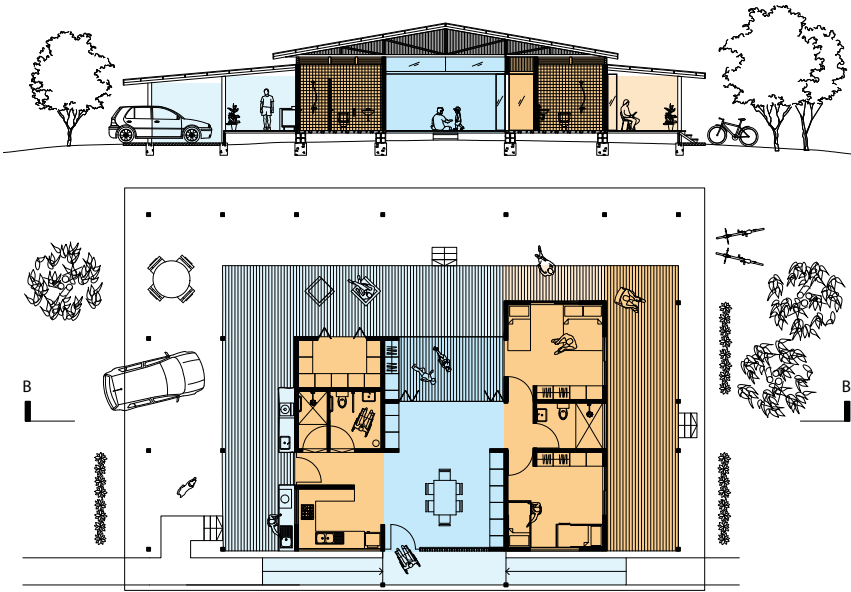


### 2 BEDROOM WITH SLEEPOUT

family & 4 friends

## DESIGN OPTION 2

CLIENT: PAULIE & DOUG  
THEIR NEEDS: ACCESSIBILITY & VIEWS



NORTHERN VERANDAH WITH RAISED DECKING

### DESIGN PRINCIPLES



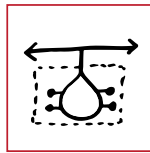
#### MULTIFUNCTIONAL

living area by day or  
sleepout by night



#### CLIMATE-SENSITIVE

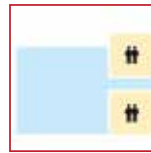
sliding flyscreen doors  
for living/sleepout space



#### AFFORDABILITY

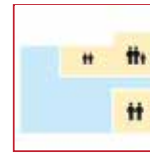
maximise activity area  
reduce circulation area

### OCCUPANCY CONFIGURATIONS



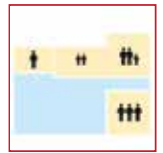
#### 2 BEDROOM

2 singles or couples



#### 2 BEDROOM WITH SLEEPOUT

family & 2 friends



#### 3 BEDROOM WITH SLEEPOUT

family & 4 friends

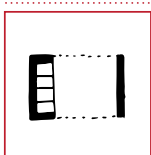
## DESIGN OPTION 3

CLIENT: TRACY & FAMILY  
THEIR NEEDS: EXPANDABILITY



CENTRAL BREEZEWAY WITH IN-BUILT CABINETY STORAGE

### DESIGN PRINCIPLES



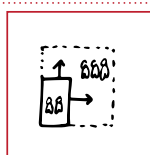
#### MODULE FLEXIBILITY

in-built storage cater to  
multi-functional space



#### CLIMATE-SENSITIVE

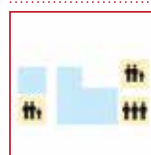
ventilated roof space above  
bedrooms for thermal comfort



#### AFFORDABILITY

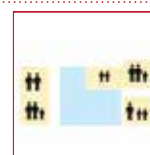
potential to expand rooms  
into deck space in future

### OCCUPANCY CONFIGURATIONS



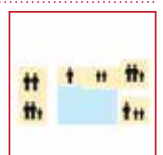
#### 3 BEDROOM WITH 2 LIVING

large family with guests



#### 4 BEDROOM WITH SLEEPOUT

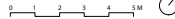
large family with relatives



#### 5 BEDROOM WITH SLEEPOUT

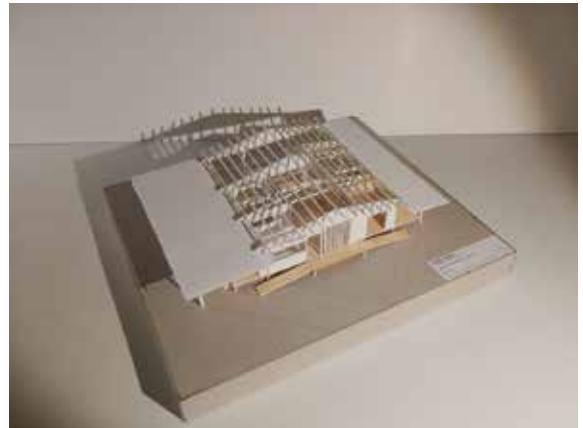
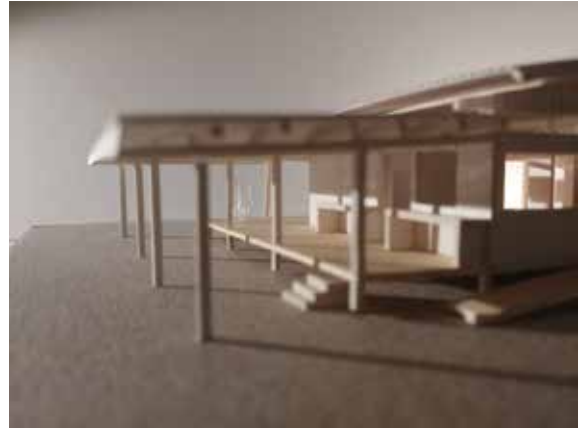
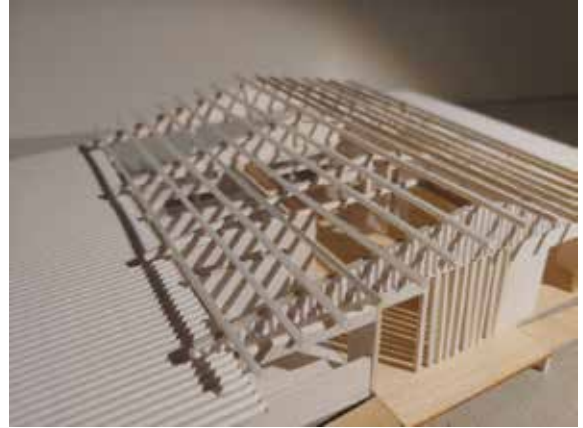
extended family with relatives

SCALE 1:100



# MODEL PHOTOS

YARRABAH HOUSING OPTION 2  
SCALE MODEL 1:100

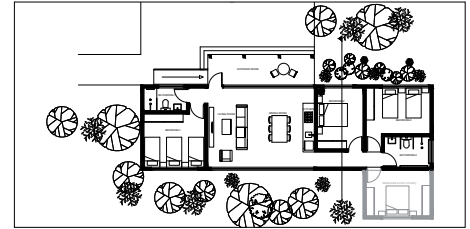
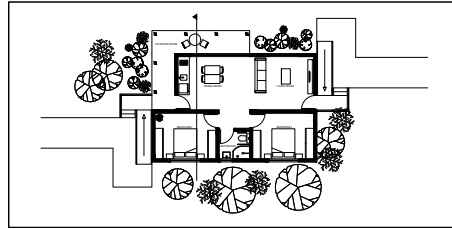
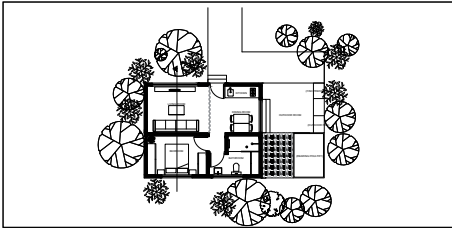








MY STORY



PRE SITE VISIT PROPOSALS

facade of the house :simple fence,bright colour house,big front outdoor space



photo of bedroom in local house,not enough storage,only boxes inside



photo of the site: mountain,shady trees on site

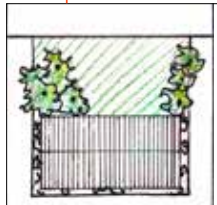


EXPERIENCE OF YARRABAH



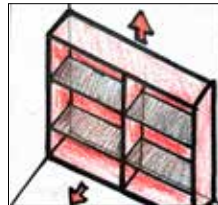
COMMUNICATION

everyone know each other in community,use simple fence in order to see outside and communication



CONVENIENCE

big front outdoor space in order to easy to take something ,like prepare to fish



ENOUGH SPACE TO STORE

put more storage space to store in order to solve the problem of having no space to store



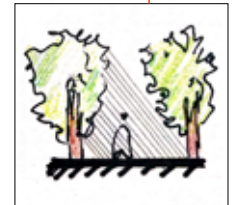
BIG BEDROOM

they have many children in one family ,build big bedroom in order to accommodate everyone



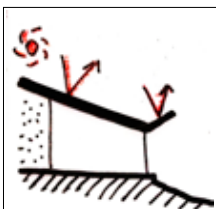
ENJOY THE VIEW

the mountain is beautiful,build a big window in order to enjoy the view and life



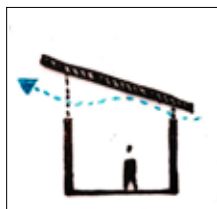
TREE'S SHADOW

plant trees on both side of the road in order to provide shadow and provide coolness to pedestrians



BLOCK THE SUN

use big roof in order to block the sun



VENTILATION STRATEGIES

use sloping roof and louver in order to disperse heat through ventilation



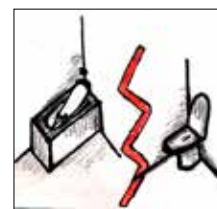
NATURAL MATERIAL

use tea tree as the material in order to protect the enviroment and save money



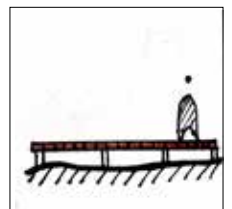
CONNECTNG INSIDE AND OUTSIDE

use sliding door in order to connect inside and outside



CONVENIENCE

separate bathrooms and toilets in order for people can use it at same time



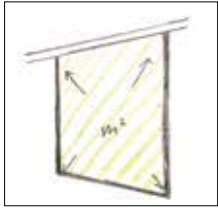
ACCESSIBILITY

FLAT GROUND IN ORDER TO ACCESSIBILITY FOR DISABLED PEOPLE

OVERARCHING DESIGN PRINCIPLES IN RESPONSE TO TRIP

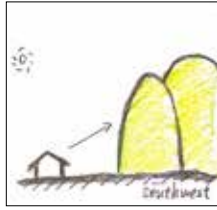
DESIGN A HOUSE FOR A LARGE FAMILY, LESS MONEY FOR MORE COMFORTABLE HOUSE  
CONSIDER THE PROBLEMS OF LARGE NUMBERS

RETURN BRIEF



FEELING SITE: BIG AREA

through site walking, I feel it is a big space, so I need to group house rather than disperse them



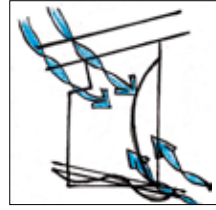
OUTLOOK

the view -mountain from the southwest is most interesting and beautiful



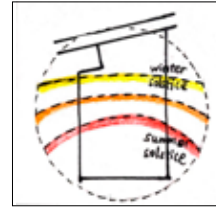
FEELING HOT

walking in the site, I feel very hot even not in the summer, the pathway need shadow



CONSTANT BREEZE

the wind comes south east and north west, the building also can build in this direction



SOLAR STUDY

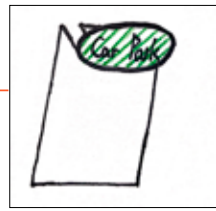
need to watch out the hot sun from the west at afternoon, the house need to block the sun from the west



TREE SHADOW

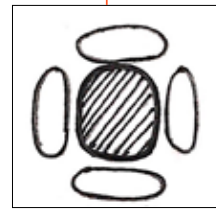
there are many tea tree bushes in the site, it can provide shadow and provide coolness to pedestrians

SITE ANALYSIS



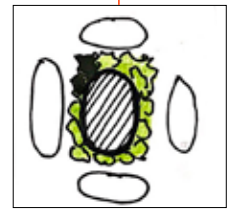
PROVIDING SAFETY

building a car park for visitor's car in order to reduce the noise to occupants and more secure to children



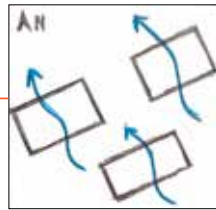
COMMUNAL SPACE

make communal space in the central in order to convenient for all users



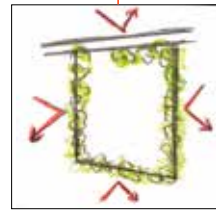
BLOCKING OUT THE NOISE

use plants around the communal space in order to stop the noise



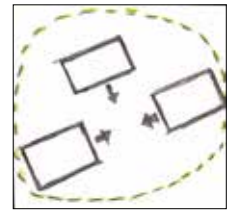
VENTILATION

place house face north west in order to disperse heat through ventilation



SECURITY AND PRIVACY

use vegetable around the site buffer the outside space and residential space

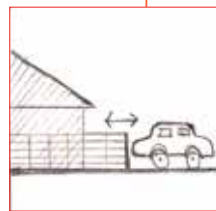


CONNECTION

arrange three house in clusters in order to encourage connections between neighbours

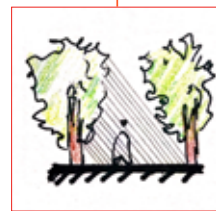
MASTERPLAN 1:1000

MASTERPLAN PRINCIPLES



CONVENIENCE

small car park is near the house in order to convenient for people



TREE'S SHADOW - COOL

plant trees on both side of the road in order to provide shadow and provide coolness to pedestrians



GROW VEGETABLE - REDUCE COST

three houses share one vegetable garden in order to help each other and reduce cost through growing vegetable

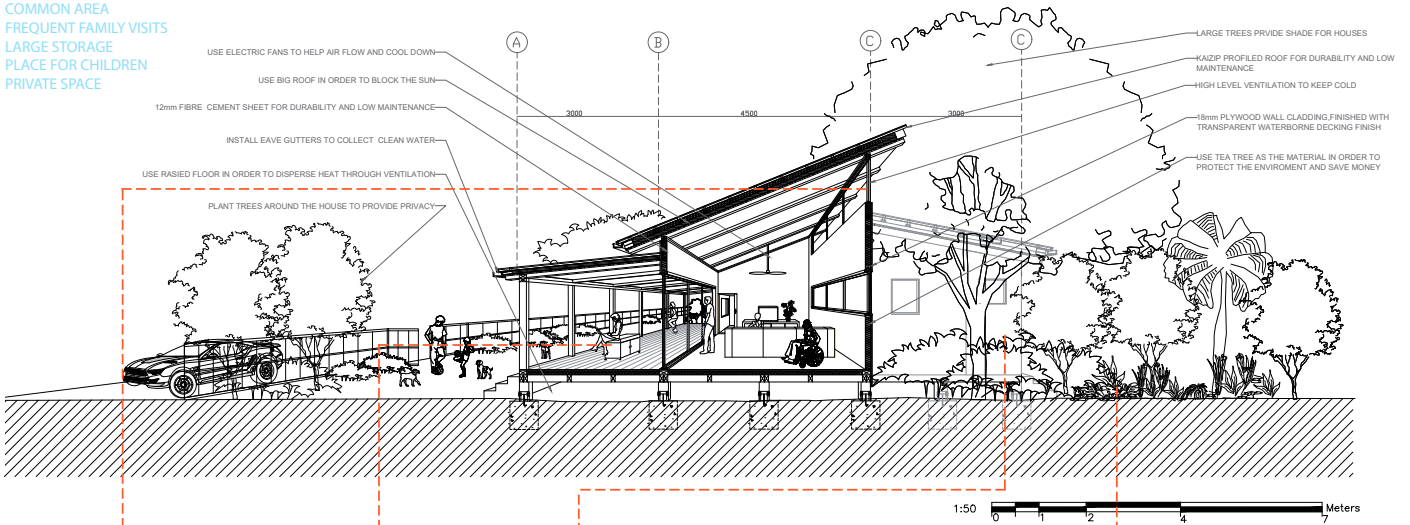
CLUSTER PLAN 1:200

CLUSTER PRINCIPLES

# DESIGN OPTION 1:

CLIENT: TRACEY AND BILLY'S FAMILY, GRANDPARENTS AND RELATIVES (12 OCCUPANTS)

- THEIR NEEDS:  
 RAMP ACCESS TO HOUSE  
 FLAT GROUND  
 DISABLE BATHROOM  
 COMMON AREA  
 FREQUENT FAMILY VISITS  
 LARGE STORAGE  
 PLACE FOR CHILDREN  
 PRIVATE SPACE



**VENTILATION STRATEGIES**

use sloping fans, roof and louver in order to disperse heat through ventilation



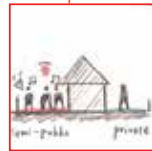
**MOVABLE STORAGE BOX**

put more storage box in order to solve the problem of having no space to store and it is also use for sit



**PRIVACY**

use brush as a natural screen in order to provide privacy



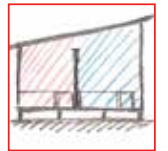
**GROUP/INDIVIDUAL**

create semi-public outdoor and private outdoor, people can choose which they like



**TREE SHADOW - KEEP COOL**

plant big tree in order to provide comfortable outdoor space



**PRIVACY**

use curtain as screen in order to provide privacy



**OUTDOOR LIVING**

build a outdoor living in order to connect nature



**CENTRAL LIVING ROOM**

put public space in the central in order to provide convenience for people



**MULTI-FUNCTIONAL SPACE**

create a multi-functional space in order to walk, read, eat, play, sleep etc



**EXHAUST OIL FUME**

build a window in the kitchen in order to exhaust the fume



**OUTDOOR COOKING**

build a outdoor kitchen in order to easy to handle the fishes after fishing



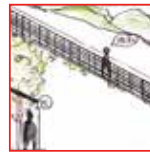
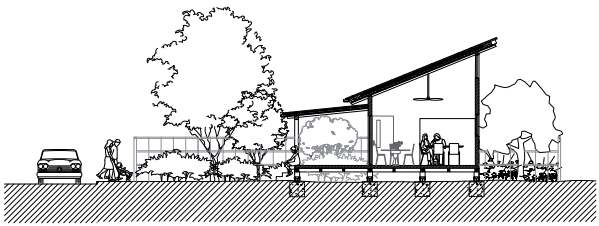
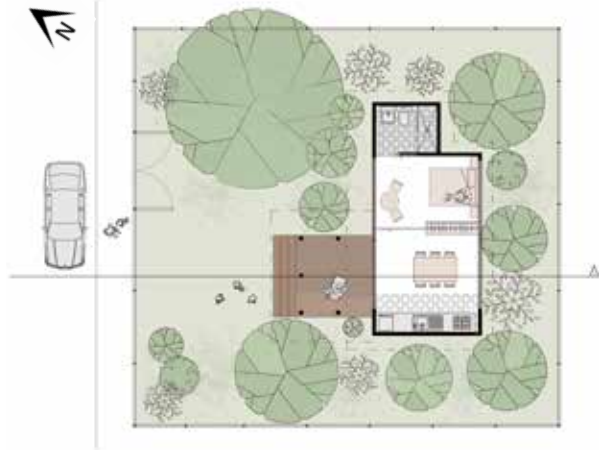
**SECURITY**

use locker to secure belongings and prevent theft



## DESIGN OPTION 2:

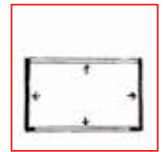
CLIENT: JONE AND HIS WIFE (2 OCCUPANTS)  
 THEIR NEEDS: TEMPORARY LIVING  
 BASIC KITCHEN  
 MULTIPLE SERVICES  
 LARGE VERANDAH AND OUTDOOR SPACE  
 NO FAMILY VISITS



**STREET VIEW**  
 use simple fence in order to see outside and communication



**PRIVACY**  
 use curtain as screen in order to provide privacy



**BIG EMPTY SPACE**  
 this room without any walls in order to future renovate



**SMALL SIZE**



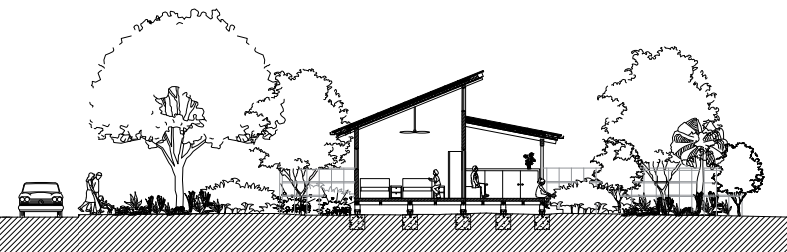
**BIG OUTDOOR SPACE**



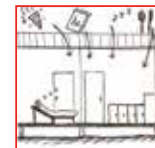
**WATER COLLECTION**

## DESIGN OPTION 3:

CLIENT: PAULIE AND DOUG'S FAMILIES (7 OCCUPANTS)  
 THEIR NEEDS: COMMON AREA  
 LARGE KITCHEN  
 LARGE LIVING ROOM  
 OUTDOOR SPACE  
 PRIVATE



**GROUP/INDIVIDUAL**  
 create semi-public outdoor and private outdoor, people can choose which they like



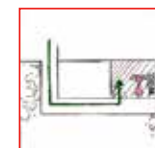
**MULTI-FUNCTIONAL SPACE**  
 create a multi-functional space in order to walk, read, eat, play, sleep etc



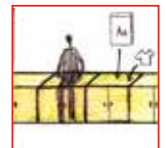
**DISABLE PEOPLE**  
 access ramps flat ground and disabled toilet in order to help disabled people



**PRIVACY**



**CHILD SAFETY**



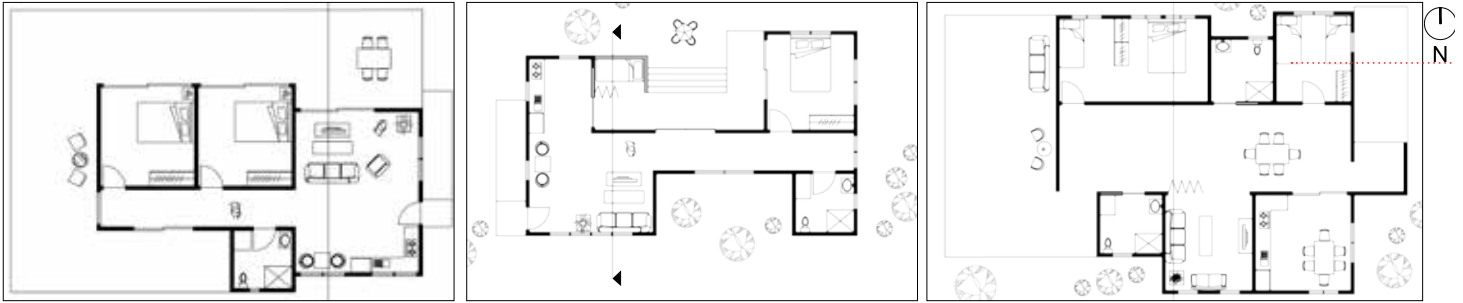
**STORAGE**







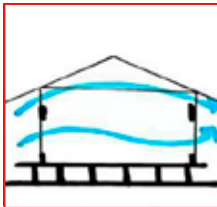
**MY STORY**



**PRE SITE VISIT PROPOSALS**

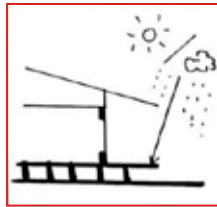


**EXPERIENCE OF YARRABAH**



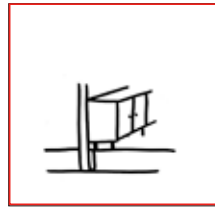
**Cross Ventilation**

Have openings on both sides in order to produce cross ventilation.



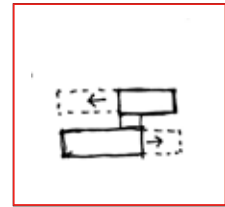
**Overhang Roof**

Use overhang roof in order to keep out sunlight and rain drops.



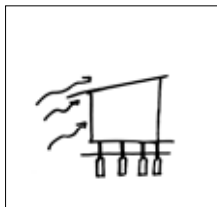
**Raised up floor and bench**

Raised up the floor and furniture in order to avoid flooding and keep out the bugs.



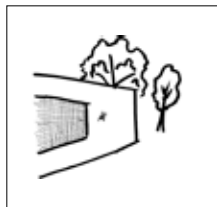
**Space for future**

Raised up the floor and furniture in order to avoid flooding and keep out the bugs.



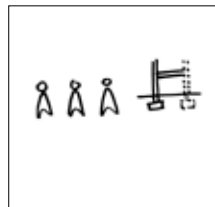
**Steel Structure**

Use steel as part of the main structure in order to resist Cyclone.



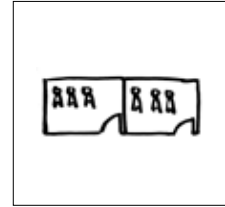
**Flyscreen**

Use flyscreens to keep bugs out in order to maintain a healthy space.



**Local Workers**

Use local workers in order to pass on the techniques of construction in case they need to repair or build their houses.



**Large Space**

Use large space in order to accommodate all.

**OVERARCHING DESIGN PRINCIPLES IN RESPONSE TO TRIP**

**A family buy a bush block and five years later their sister's family decide to move in with them, another five years goes by grandma gets sick and moves in as well so they can take care of her.**

**RETURN BRIEF**





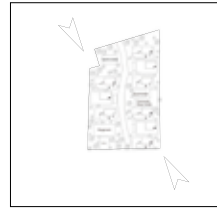
Horses

Use fences around the site in order to keep horses out.



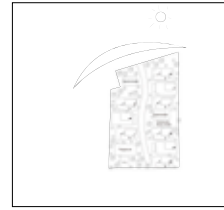
Vegetation

Use the native low bushes as fence in order to keep each block's privacy.



Wind

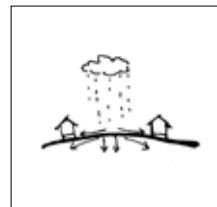
Shorten the width of each house in order to get cross ventilation.



Solar

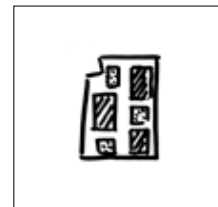
Minimize the area facing west in order to keep a comfortable temperature all year.

**SITE ANALYSIS**



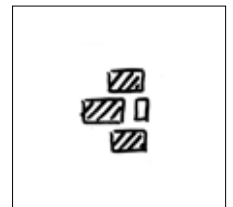
Avoid Flooding

Place the houses on each side of road in order to avoid flooding in residential area.



Different Zone

Place the houses with individual car park near the road to provide easier entrance to disable residents, place the playground at the end of the road where has less traffic to keep children safe.

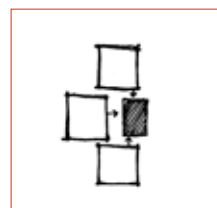
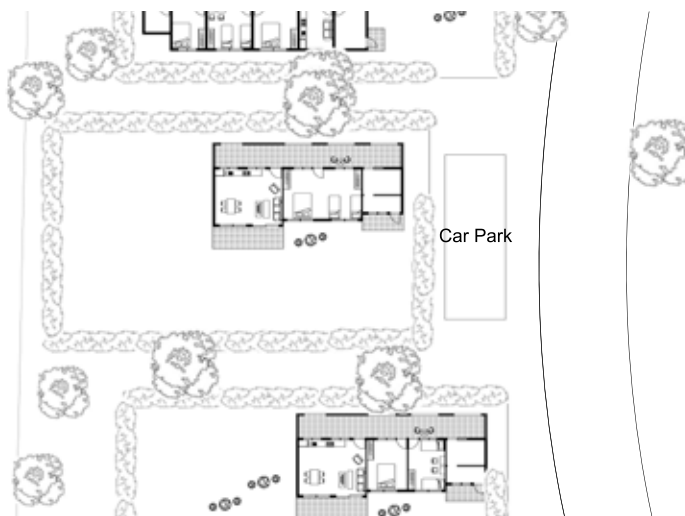


Group

Put three houses together as a group in order to share common areas in reasonable numbers of people.

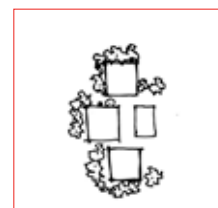
**MASTERPLAN 1:1000**

**MASTERPLAN PRINCIPLES**



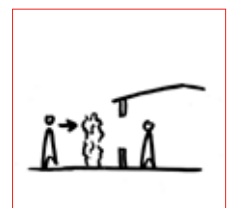
Shared Car Park

use sharing car park in order to reduce the cost of each house and place the car park in the center of a grouped three houses in order to be more convenience.



Environment

Plant vegetation around each block to provide shades and nature surroundings.



Bushes

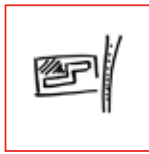
Use bushes as fence to keep the privacy of the house.

**CLUSTER PLAN 1:200**

**CLUSTER PRINCIPLES**

# DESIGN OPTION I:

**CLIENT:** Two family, 8 people  
**THEIR NEEDS:** Separate living space with individual rooms for children.



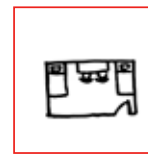
**Backyard**

Keep an outdoor space away from road in order to keep children's safety.



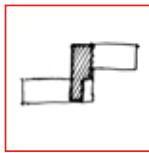
**Sheltered decking**

Have a sheltered decking area in order to hang clothes in rainy days and can be a place to sleep outside.



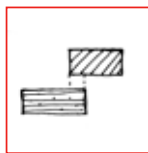
**Study Space**

Have a study place inside children's room to provide them a quiet space to learn.



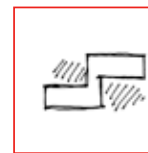
**Large Common Area**

Have a shared common space in center of two wings in order to provide enough space for families to social.



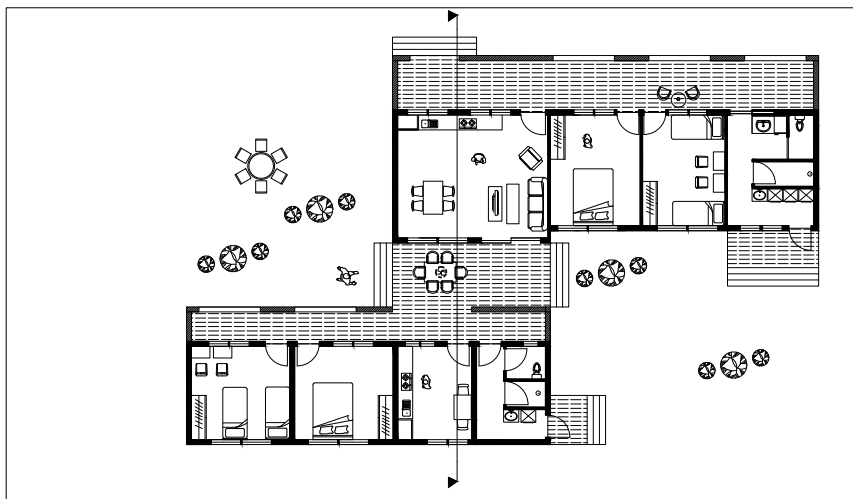
**Two Separate Space**

Have the two houses connected by the common space in order to provide privacy for each family.



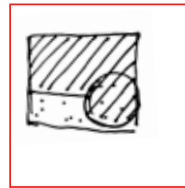
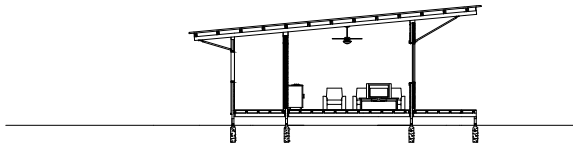
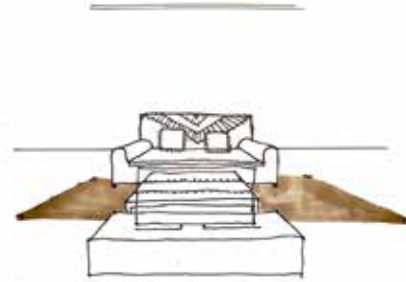
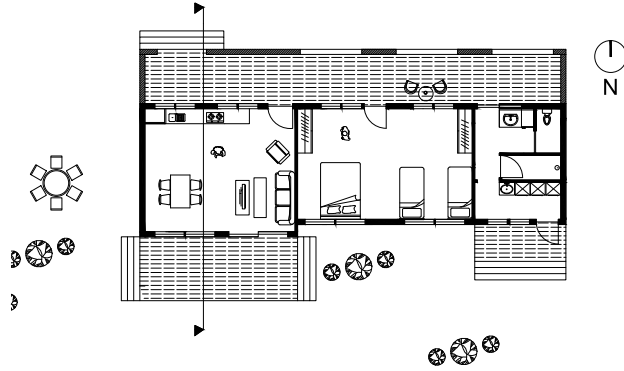
**Private View**

Each bedroom facing their own view in order to keep privacy.

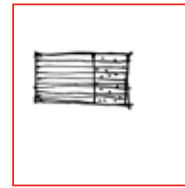


## DESIGN OPTION 2:

**CLIENT:** One family, 4 people  
**THEIR NEEDS:** Basic needs, one bedroom, one bathroom and living room.



Indoor/ Outdoor Space



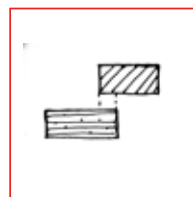
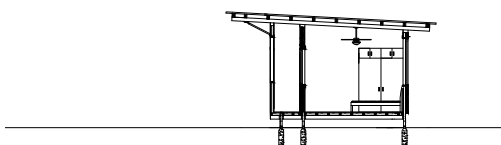
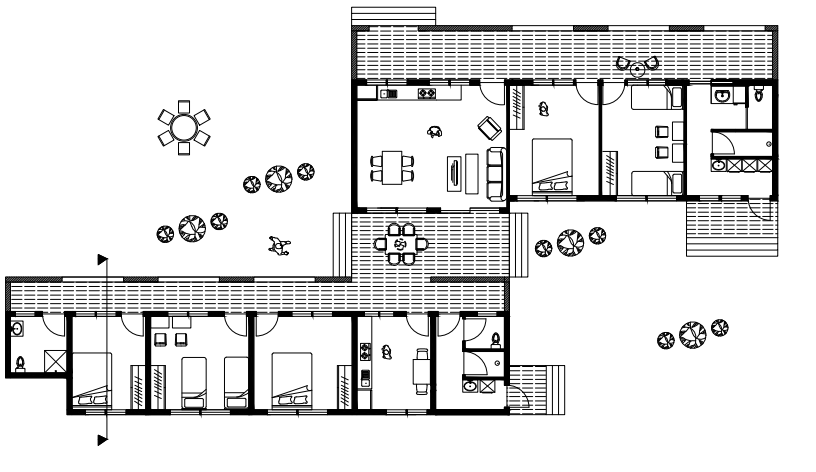
Large Room Can Be Separated Based on Needs



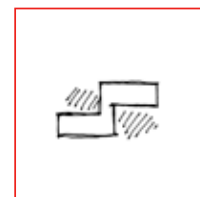
Separate Bathroom

## DESIGN OPTION 3 :

**CLIENT:** Two Family and Their Grandparents, 10 people  
**THEIR NEEDS:** An individual room for grandparents near the families so they can take care of them.



Individual Living Space

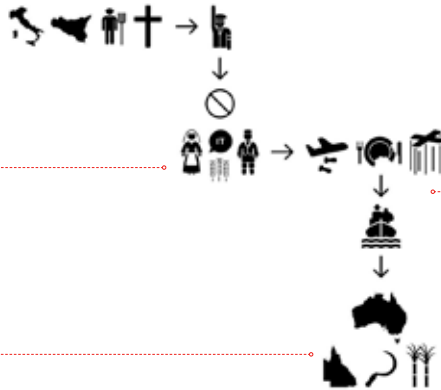


Private View



BANNING OF PROVINCIAL LANGUAGE BY NORTHERN GOVERNMENT WHICH LEADS TO LOSS OF OWN LOCAL CULTURE AND TRADITION. A DISCONNECT BETWEEN GENERATIONS DUE TO LINGUISTIC DIVIDES.

WITH THE LOSS OF LAND AND HOME COMES THE RESPONSIBILITY TO MAINTAIN AND LONG FOR CULTURE, TRADITION, ANCESTORS, FAITH AND STORIES.



**PARTICIPATORY DESIGN:**  
CITIZEN CONTROL  
PARTNERSHIP  
DELEGATED POWER

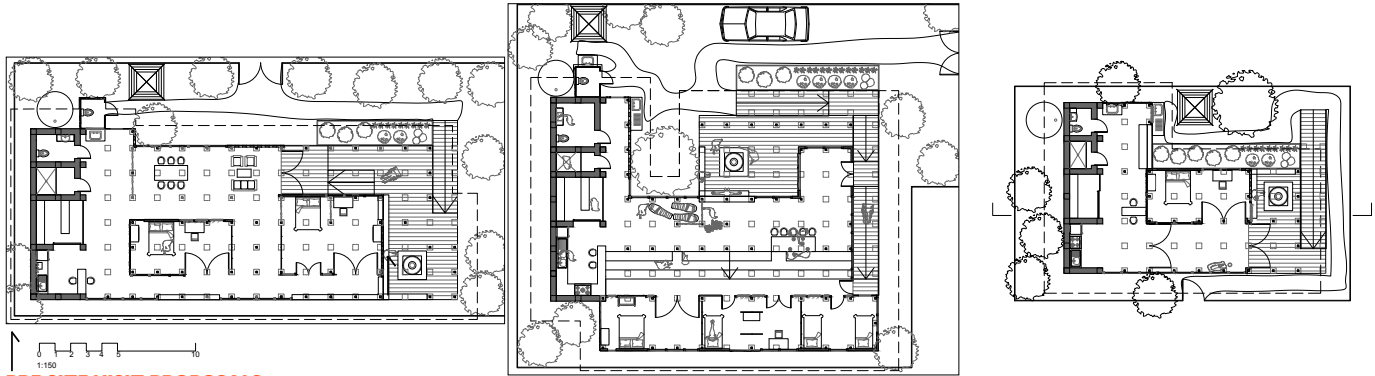
**OWNERSHIP + PRIDE**  
SWEAT EQUITY  
INVOLVED DESIGN  
FACILITATE DIY

**PEOPLE**  
TIME  
AGENCY  
CONTINUITY  
COLLABORATION  
IMPROVISATION  
FLUENCY  
ETHICS  
PRINCIPLES

CULTURAL REVIVAL BY LOCAL AND MIGRATED COMMUNITIES AS ATTEMOT TO RVITALISE CULTURE AND RECONCILE THE LOSS OF THE HOME LAND, ONE'S LAND BEING A CRUCIAL AND SPIRITUAL ASPECT OF LIFE.

FAMILY IS THE ELEMENT IN LIFE THAT CONNECTS US WITH OUR PAST AND EMPOWERS US IN OR FUTURE, THEREFOR A SPACE IS NEEDED THAT HELPS US UNITE AND LIVE AS A FAMILY UNIT.

**MY STORY**



**PRE SITE VISIT PROPOSALS**



**EXPERIENCE OF YARRABAH**



**BREEZEBLOCKS**

concrete block work is common and available in yarrabah, it is also a functional and ornamental unit that can transform a spatial relationship

**PAINT BRIGHT**

all homes a painted in bright tropical colours, this is an opportunity for personalisation but also improves the concrete block finish

**LIFE ON THE VERANDAH**

so long as a verandah is well ventilated, shaded and private, locals will do all they can on it, from eating to chatting to sleeping

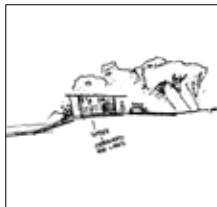
**PERFERATED STEEL**

perferated steel is a great material which is commonly used as a means of screening a space but allowing for ventilation

**OPEN PLAN**

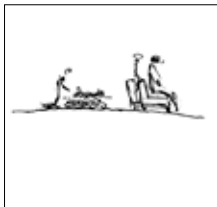
locals prefer the living room and kitchen to flow into eachother so that there is maximum living space and all of the family can be together

**TIMBER AND CORRUGATED STEEL**  
rather than thatching, light timber and corrugated steel are the preferred vernacular materials which allow easy DIY



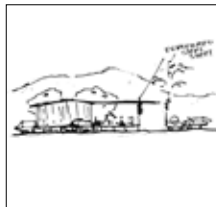
**ORIENTATION ON SITE**

the vernacular bush architecture sits beneath tree shade and opens up to the north, living at north and working at south



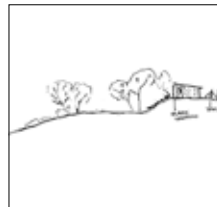
**THE BLACK SPOT**

each house has several burnt spaces in the garden, these are fire spots which are the center of activity, from cooking to chatting



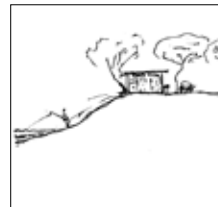
**HALF HALF**

the internal spaces of houses are to sleep and be warm, otherwise all life is outside so it is worth providing half of the spaces as sheltered outdoor



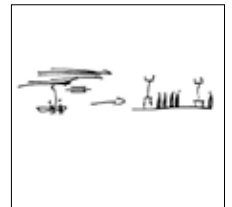
**EXTENDED CAMP**

camping is common, for when the visit to yarrabah is short and for when the home is too overcrowded



**FISH AND DRIFT**

fishing activities and car activities are very common, so provide enough space and facilities for both, many cars may fill a garden



**COMFORT IN THE OPEN**

due to lack of trust, poison relations and a comfort outdoors, the locals prefer open plan and outdoor living where circulation is free, exits are common and they can see all

**OVERARCHING DESIGN PRINCIPLES IN RESPONSE TO TRIP**

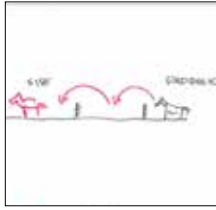
**25% TRANSIENT POPULATION + 33% 15-34 YEARS OLD + 12 PEOPLE PER HOUSE THIS IS THE REALITY, SO DESIGN TO FACILITATE COMFORTABLE LIVING FOR MANY, WITH A VARIETY OF HOUSING TYPES**

**RETURN BRIEF**



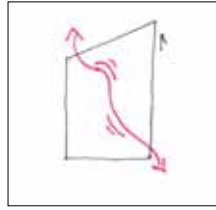
**PACING OUT**

after having paced out a 20 by 15 block it was noticed that the houses could be bigger and would sit well on the site



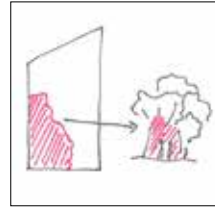
**ESCAPED HORSES**

despite fencing the site is full of signs of escaped horses which means significant efforts must be made to control their circulation and entry



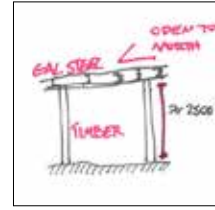
**CONSTANT BREEZE**

it was confirmed that the wind comes south east and north west, the breeze is constant so structures should capture and exploit the breeze



**TEA TREE SHADE**

the most pleasant space on the site was a south west corner of dense tea tree bush, the trees shade and cool the space dramatically so they should be promoted on masterplan



**CURRENT STRUCTURE**

an existing horse shelter was very effective in shading and keeping cool, it was tall and opened up to the north, focusing on protecting from the midday high sun



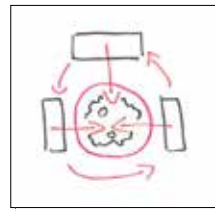
**CONSTANT DIRECT SUN**

other than a shelter and the small bush, the site has constant sun hitting it especially now that trees were removed, ensure walkways and outdoor spaces are well covered

**SITE ANALYSIS**

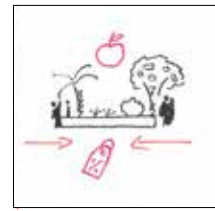
**KEY**  
 ● communal spaces  
 ● housing  
 ● circulation

**MASTERPLAN 1:1000**



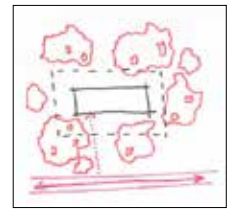
**TIE CLUSTERS WITH OPEN COURTYARD**

create a passive and open area with shaded incidental seating beneath large trees that act as a meeting place and a spot to have a yarn



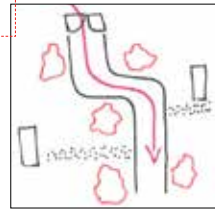
**CENTRAL & COMMUNAL GARDENS**

shared community run kitchen garden beds provide much needed cheap fresh produce as well as a sense of ownership of the site



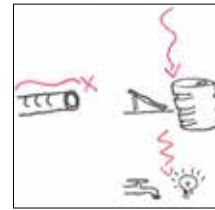
**BUSH BLOCKS**

each block is set amongst trees which provide layers of privacy as well as timber for construction and fire wood



**ROAD SPINE**

the single central road acts as the sole entry and branches off with unsealed roads and walkways which are for cars and activity



**SELF SUFFICIENT**

the community and dwellings should be mostly self sufficient with energy and water so to avoid the need for big pipe infrastructure



**A PLACE TO PARK**

by providing a place to park a car, boat or horse it reduces the likely hood of junk yards and livestock roaming freely



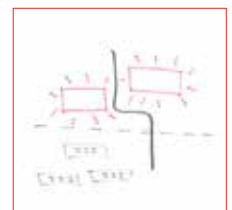
**THE LOCAL**

provide a locally run restaurant, shop and cafe to generate jobs especially for the youth housing as well as a humble and safe night life



**A PARK FOR ALL**

the community park is for everyone of all ages, there is a place for kids to play in, families to cook and dine, and for fishers to clean and cook straight away



**REDUCE DISTURBANCE**

by locating the sports ground, the youth housing and restaurant/cafe at the north entrance of the site, it avoids cars, and loud sounds traveling down to the more family based housing

**CLUSTER PLAN**

**MASTERPLAN + CLUSTER PRINCIPLES**

# 4 FAMILIES

CLIENT:

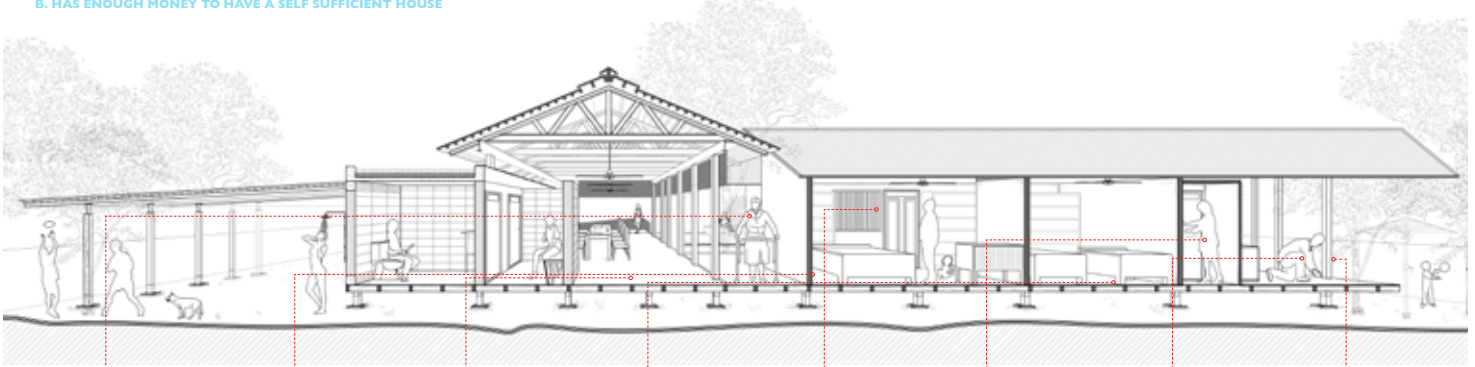
LARGE FAMILY WITH:

- A. 2 GRANDPARENTS
- B. 2 PARENTS 3 CHILDREN 1 YOUNG ADULT
- C. 2 PARENTS 2 CHILDREN
- D. 2 PARENTS 2 CHILDREN 1 INFANT

THEIR NEEDS:

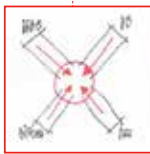
- A PLACE TO BE GATHERED AS ONE BIG FAMILY
- SEPERATE BATHROOMS
- A SPACE TO THEMSELVES
- D. IS TIGHT FOR MONEY
- B. HAS ENOUGH MONEY TO HAVE A SELF SUFFICIENT HOUSE

- CLOSE UP LIVING CORE FOR WINTER
- OPPORTUNITY TO EXPAND FOR MORE KIDS
- A. WANT A QUIET SPOT
- VARIETY OF COSTS



**CENTRAL FIRE**

the central fire is the tie between inside and out and is a place of gathering and cooking



**WINGED HOUSE**

facilitate inevitable co-living by providing varied housing types and family wings connected by central, open, shared living spaces



**VERANDAH LIVING**

the verandah connected to the amenities core is the central living space which connects all the homes and distinguishes quiet areas



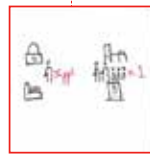
**QUIET PARTY**

provide private, quiet and safe spaces for children to study, sleep and be safe whilst there are guests or commotion



**LAYERS OF PRIVACY**

screens, louvres and vegetation provide layers of privacy allowing outwards observation yet modesty



**VARIED AMENITIES**

combination of individual and shared amenities to increase health and comfort



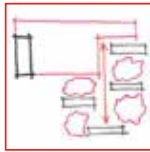
**SWEAT EQUITY**

owner builder and occupant design increases ownership and pride of home



**FACILITATE EXPANSION**

facilitate expansion, stage bids and DIY renovation to aid family growth and future proof the home



ORGANISATION LEAD BY AMENITIES CORE, VERANDAH, DETACHED DWELLINGS WITH MODESTY GARDENS



LOWER AND SHADED MODESTY GARDENS FOR EACH FAMILY DWELLING TO HAVE PRIVACY AND FEMALE MODESTY



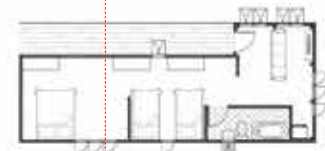
ELEVATED AND COVERED PLATFORM ON SIDE OF DWELLINGS TO BE FOUNDATION FOR DIY EXPANSION



STEEL GRATE SURFACE AT ENTRIES TO CLEAN FEET, TIMBER FLOORING FOR ALL OTHER WALKWAYS TO PROVIDE BAREFOOT COMFORT

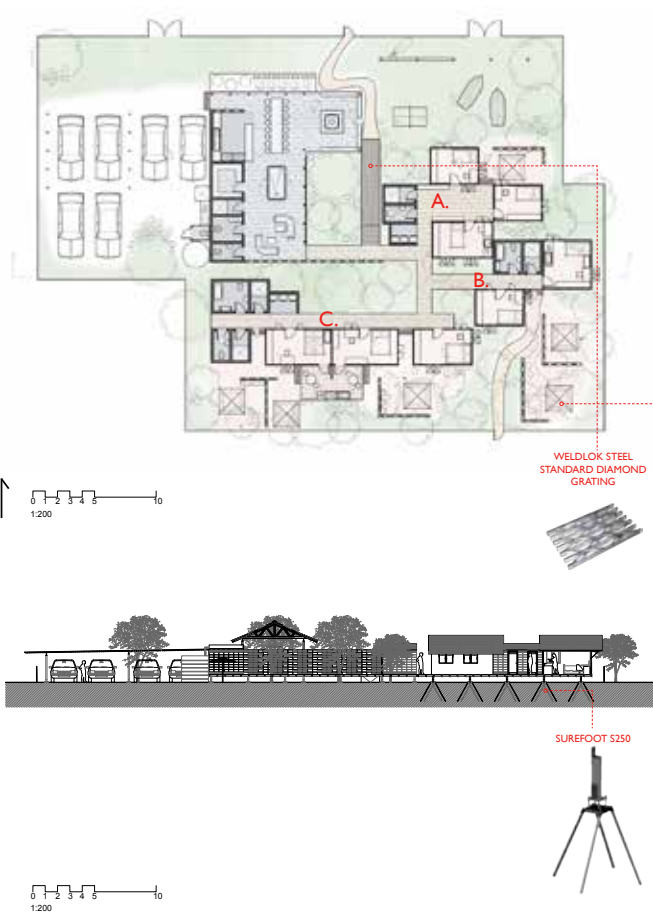


VARIED WINDOWS, PERFORATED STEEL SHEETS AND BREEZEBLOCKS HELP VARY PRIVACY, VENTILATION AND CATCH BREEZES



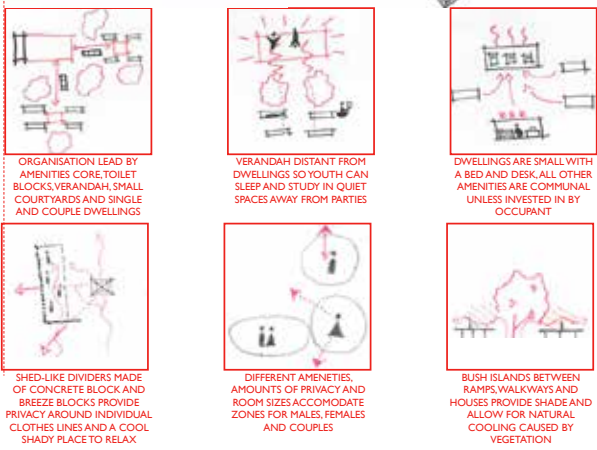
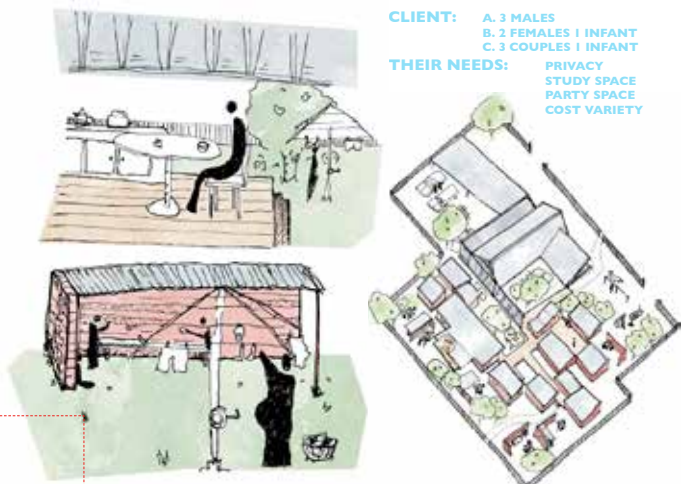
THE ABOVE ARTICULATE VARIATIONS OF SPATIAL ARRANGEMENTS AND EXPANDING THAT HIGHLIGHT THE VALUE OF OPEN PLAN BASE BUILDS

- KEY TO ALL PLANS
- communal spaces
- private spaces
- circulation

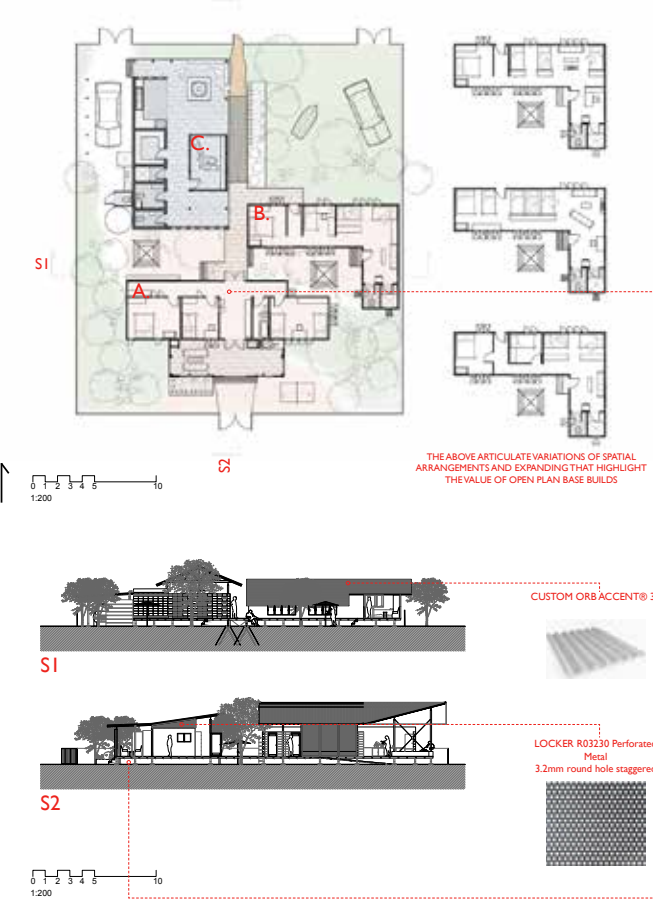


**CLIENT:** A. 3 MALES  
B. 2 FEMALES 1 INFANT  
C. 3 COUPLES 1 INFANT

**THEIR NEEDS:** PRIVACY  
STUDY SPACE  
PARTY SPACE  
COST VARIETY

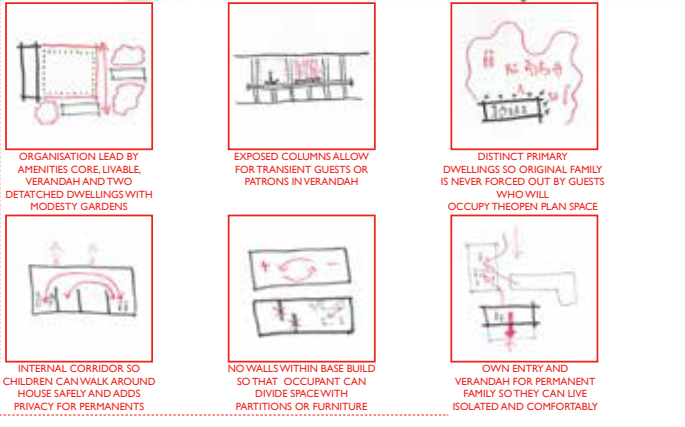
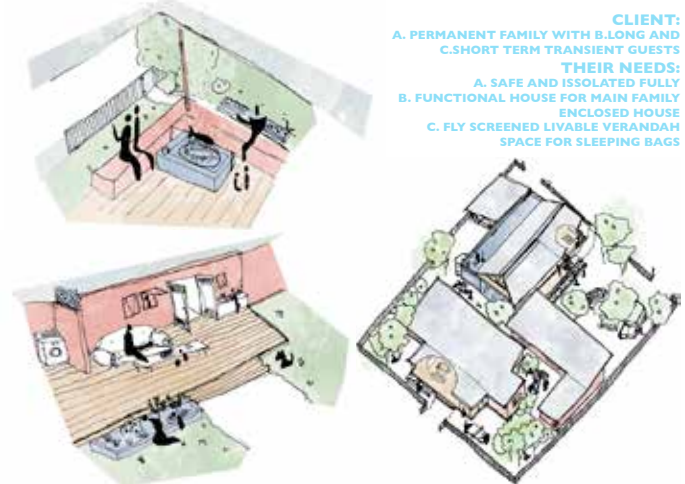


**FAMILY + TRANSIENT GUESTS**



**CLIENT:** A. PERMANENT FAMILY WITH B. LONG AND C. SHORT TERM TRANSIENT GUESTS

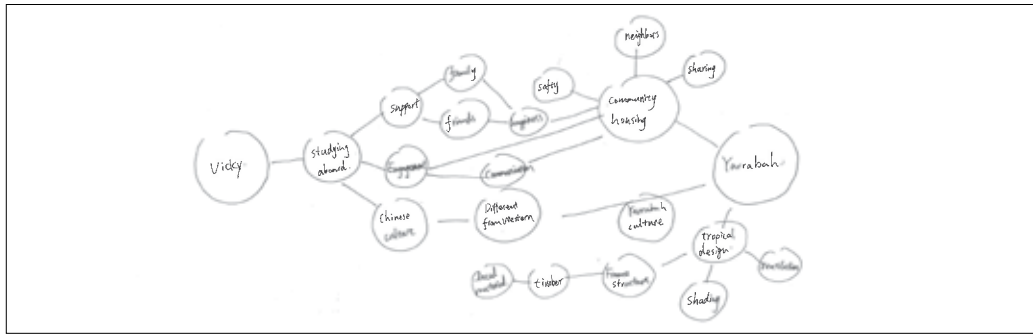
**THEIR NEEDS:** A. SAFE AND ISOLATED FULLY ENCLOSED HOUSE  
B. FUNCTIONAL HOUSE FOR MAIN FAMILY  
C. FLY SCREENED LIVABLE VERANDAH SPACE FOR SLEEPING BAGS



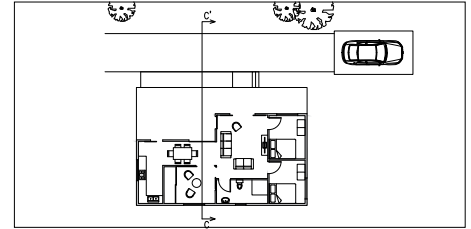
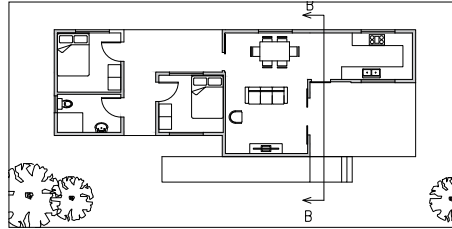
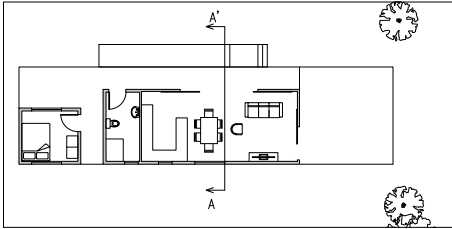








MY STORY



PRE SITE VISIT PROPOSALS



VISITED YARRABAH AND MET COMMUNITY MEMBERS

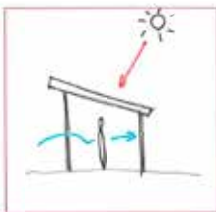


SITE VISIT. A WILD PLACE WITH BEAUTIFUL VIEW



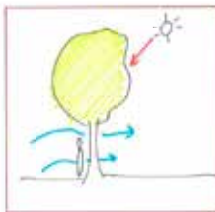
HOUSE VISIT. A BIG FAMILY LIVE IN THIS HOUSE

EXPERIENCE OF YARRABAH



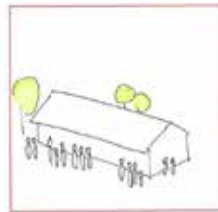
SHADING

USE SHADING TO CREATE PHYSICAL COMFORT



SHADING

USE TREE TO PROVIDE SHADING



BIG HOUSE

DESIGN A BIG HOUSE THAT ACCOMMODATE A BIG FAMILY (20PPL) TO BETTER FOLLOW THEIR LIVING STYLE



FAMILY BEDROOM

A BEDROOM THAT ACCOMMODATES A FAMILLY, WHICH IS PART OF YARRABAH CULTURE



OUTDOOR LIVING

INCLUDE A LARGE OUTDOOR LIVING AREA AS PEOPLE IN YARRABAH PREFER TO STAY OUTSIDE



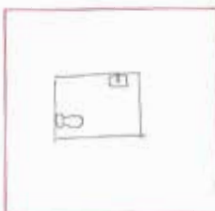
HALF HOUSE

BUILD HALF THE HOUSE AND LEAVE THE OTHER HALF FOR CLIENTS TO BUILD, WHICH SAVE THE COST AND HELPS IMPROVE THE SENCE OF OWNERSHIP



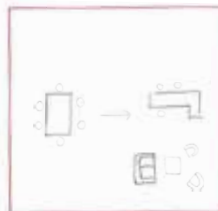
ELEVATED

ELEVATED THE HOUSE TO AVOID FLOODING



BATHROOM

INCLUDE ENOUGH BATHROOMS IN THE HOUSE TO AVOID OVERCROWDED ISSUE



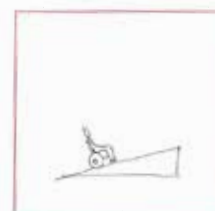
CASUAL DINING

REPLACE DINING TABLE WITH EXTRA SEATINGS, AS WE FOUND OUT LOCAL PEOPLE PREFER THAT



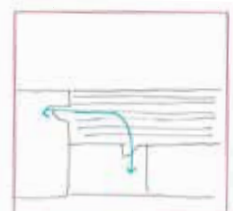
TIMBER STRUCTURE

LIGHT TIMBER STRUCTURE UTILISING LOCAL MATERIALS TO ACHIEVE SUSTAINABILITY



ACCESSIBILITY

USE RAMP TO MAKE IT ACCESSIBLE FOR DISABLED



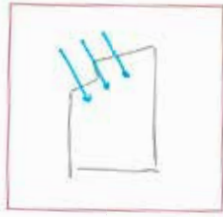
OUTDOOR CIRCULATION

MAKE THE OUTDOOR SPACE USABLE CIRCULATION SPACE TO SAVE THE COST

OVERARCHING DESIGN PRINCIPLES IN RESPONSE TO TRIP

DESIGN HOUSES FOR BIG FAMILY, AND ADDRESS THE OVERCROWDED ISSUE.

RETURN BRIEF



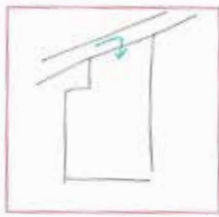
WIND

COOL BREEZE FROM NORTH WEST



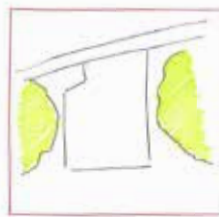
SUN PATH

SUN IS LOWER IN THE WINTER



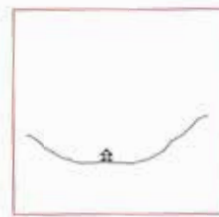
PRINCIPLE TITLE

longer explanation if necessary...Lari peroximilla L. Em no.Ubis.tici oniu, vit. Rae consulus,



VEGETATION

THE SITE IS ADJACENT TO GREAT AMOUNT OF TREES



LEVEL

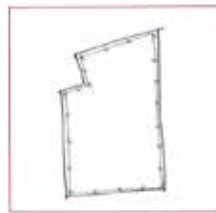
THE SITE IS LOCATED IN THE VALLEY



VIEW

NICE MOUNTAIN VIEW TO THE WEST

SITE ANALYSIS



FENCE

USE FENCE TO KEEP ANIMAL OUT



EXISTING VEGETATION

USE EXISTING PLANTS AS BUILDING MATERIAL, OR TO PROVIDE SHADE, IN ORDER TO REDUCE COST



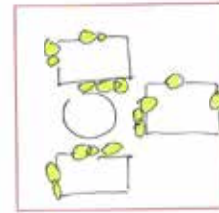
CONNECTION

SIT EACH CLUSTER NEXT TO THE MAIN ROAD TO ALLOW A CONNECTION BETWEEN HOUSES AND COMMUNITY



COMMUNAL BUILDING

HAVING THE COMMUNAL BUILDING AND CAR PARK RIGHT NEXT TO THE MAIN ENTRY, IN ORDER TO GUIDE VISITORS



VEGETATION

USE TREE TO PROVIDE PRIVACY, AND CREATE BOUNDARY

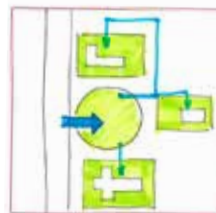
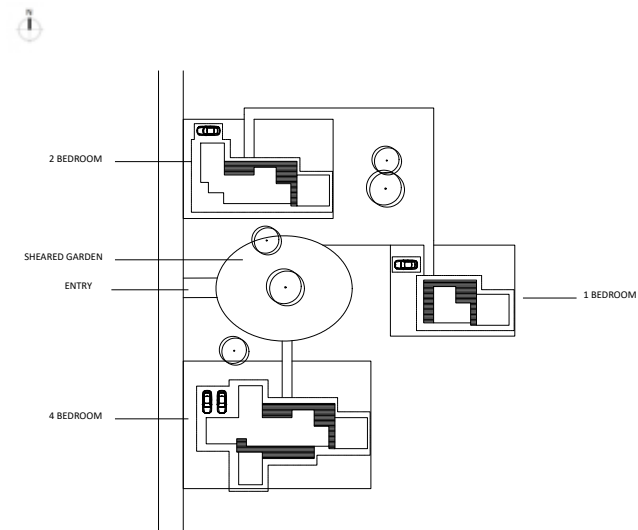


NATURAL COOLING

HAVING TREES IN THE OUTDOOR COMMUNAL SPACE TO PROVIDE NATURAL COOLING

MASTERPLAN 1:1000

MASTERPLAN PRINCIPLES



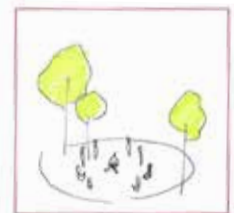
THRESHOLD

CREATE A THRESHOLD FROM PUBLIC ROAD, SEMI-PUBLIC CLUSTER GARDEN AND HOUSE, IN ORDER TO PROVIDE A SENSE OF ARRIVING



GATHERING

USE BIG TREE AS GATHERING POINT



CONNECTION

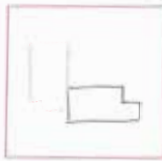
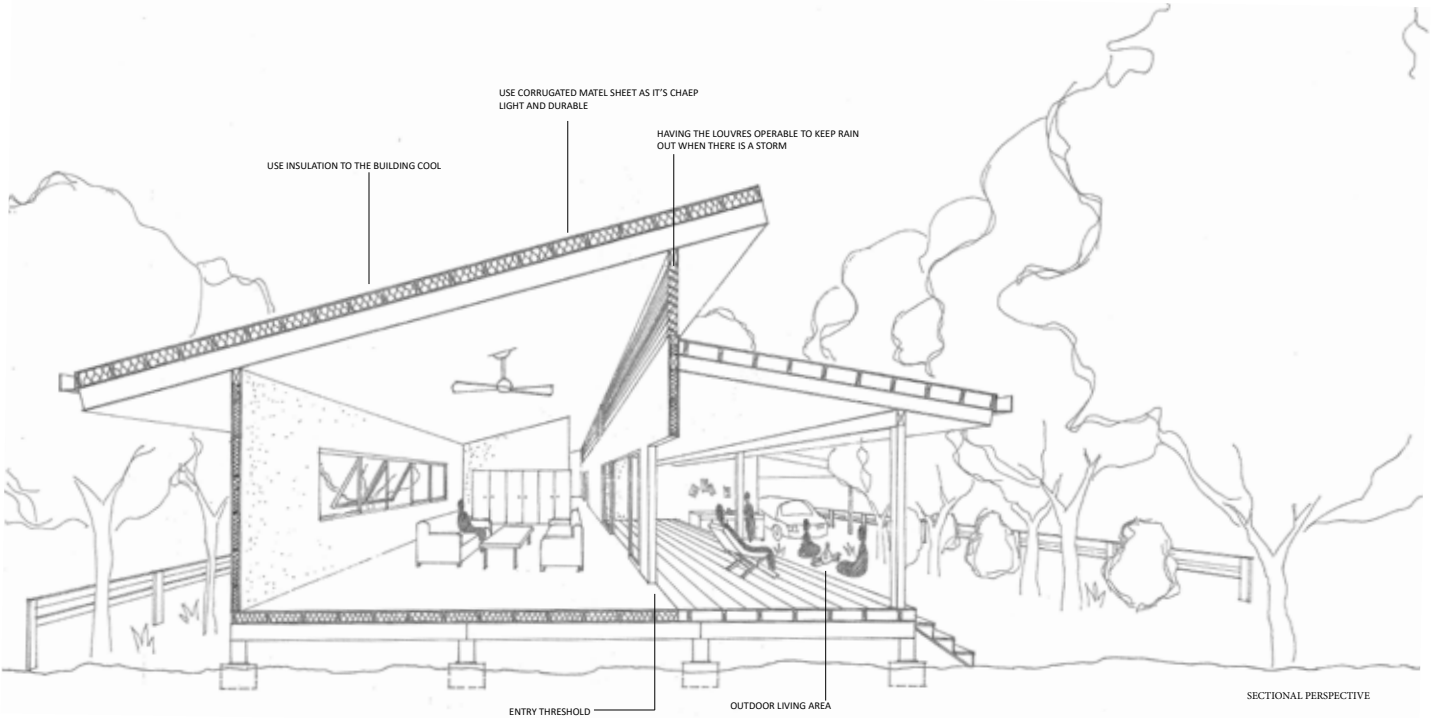
THE SHARED GARDEN DRAW CONNECTION AMONG NEIGHBORS

CLUSTER PLAN 1:500

CLUSTER PRINCIPLES

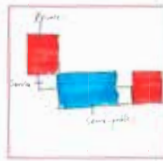
# DESIGN OPTION 1:

CLIENT: THE FAMILY WITH ONE CHILDREN GET MARRIED AND HAVE KIDS  
 THEIR NEEDS: MORE BEDROOMS



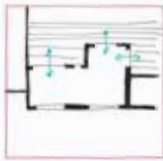
EXPANDABLE

PROVIDE THE OPPORTUNITY FOR CLIENTS TO EXPAND THE HOUSE TO IMPROVE SENSE OF OWNERSHIP



ORGANIZATION

HAVING THE SERVICE SPACE - BATHROOM BETWEEN BEDROOM AND LIVING SPACE TO MAKE IT MORE ACCESSIBLE



INDOOR&OUTDOOR

USE OPENINGS TO MORE CLOSELY CONNECT INDOOR AND OUTDOOR



OUTDOOR KITCHEN

HAVING A SHADED OUTDOOR KITCHEN NEXT TO THE ENTRY PROVIDES A MORE CONVENIENT PLACE TO WASH FISH



OUTDOOR LIVING ZONE

A OUTDOOR LIVING AREA INCLUDES OUTDOOR KITCHEN, VAREDAH AND COURTYARD



SHADED FIRE PLACE

USE TREES TO SHADE THE FIRE PLACE



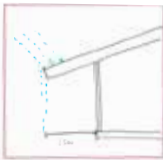
QUALITY OF ENTRY

THE THRESHOLD CREATES A SENSE OF ARRIVING



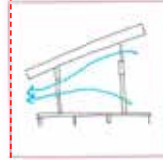
STRUCTURE

ATTACH THE CAR PORT ROOF TO THE WALL TO SAVE STRUCTURE



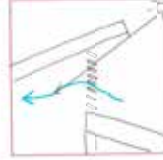
OVERHANG

USE LONG OVERHANG TO BLOCK THE HORIZONTAL RAIN FORM SOUTH



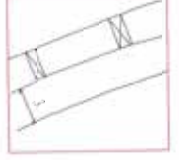
VENTILATION

USE OPENINGS TO IMPROVE VENTILATION



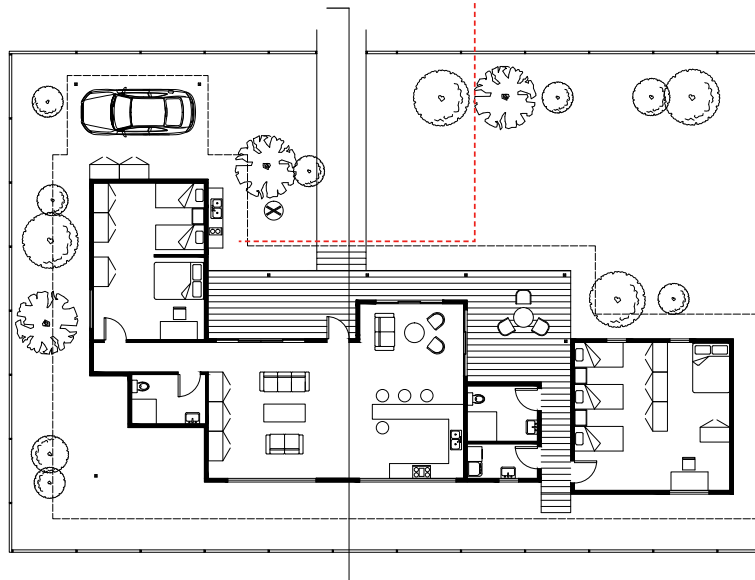
LOUVRES

USE GALSS LOUVRES TO IMPROVE VENTILATION WHILE NOT BLOCKING WINTER SUN LIGHT



LARGE MEMBER

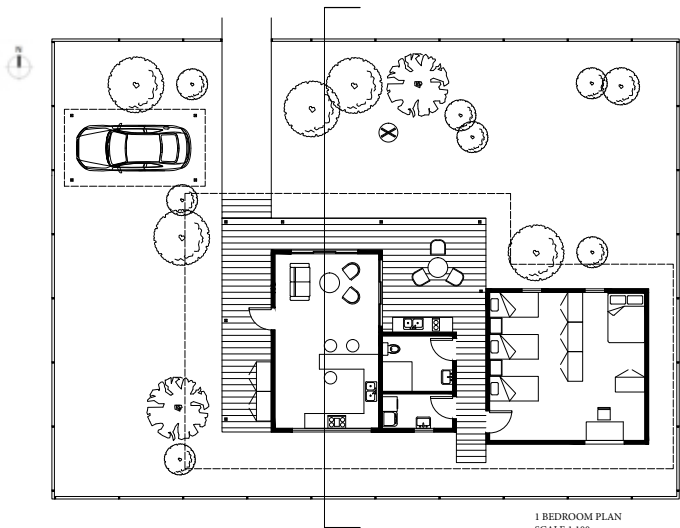
USE 300MM RAFTER TO ARCHIVE 6M SPAN



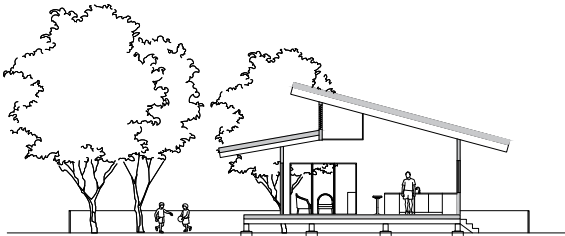
2 BEDROOM PLAN  
 SCALE 1:100

**DESIGN OPTION 2:**

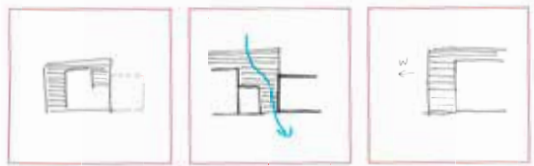
CLIENT: PARENTS AND THREE KIDS  
THEIR NEEDS: A FAMILY HOUSE



1 BEDROOM PLAN  
SCALE 1:100



1 BEDROOM SECTION  
SCALE 1:100



LEAVING FOR BEDROOM  
FOR CLIENTS TO BUILD

OUTDOOR LIVING AREA AS  
BREEZEWAY

ACCESS TO NICE VIEW



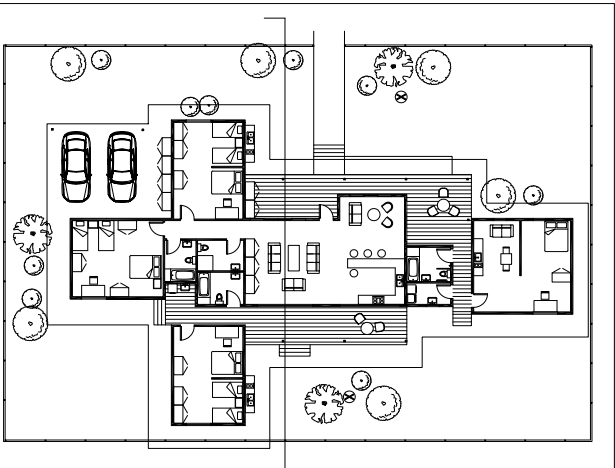
FAMILY HOUSE-PARENTS  
AND 3 KIDS

ACCESS BETWEEN INDOOR  
AND OUTDOOR

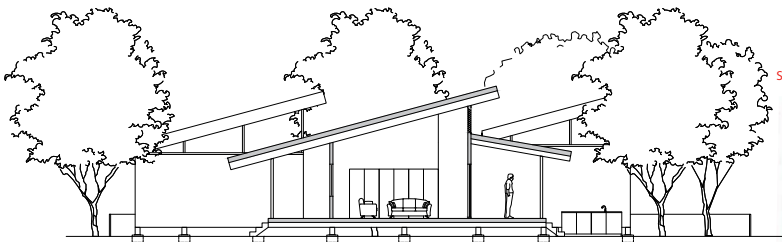
OUTDOOR KITCHEN

**DESIGN OPTION 3 :**

CLIENT: THE FAMILY WITH ALL CHILDREN GET MARRIED AND HAVE KIDS  
THEIR NEEDS: MORE BEDROOM AND LARGER HOUSE



0 5 10 15 20  
4 BEDROOM PLAN SCALE 1:100



4 BEDROOM SECTION  
SCALE 1:100



SEMI ENCLOSED SPACE AS  
OUTDOOR LAUNDRY

THE POPULATION OF THIS  
FAMILY INCREASED GREATLY

ACCESS TO OUT DOOR



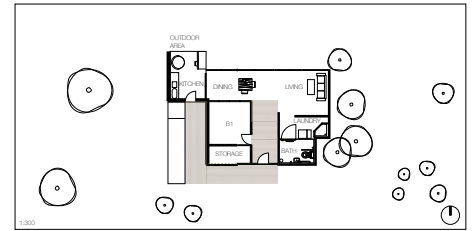
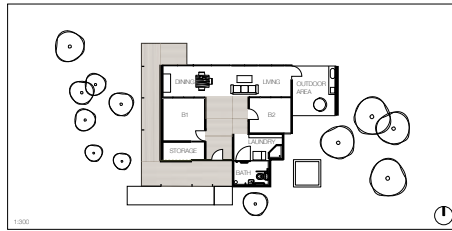
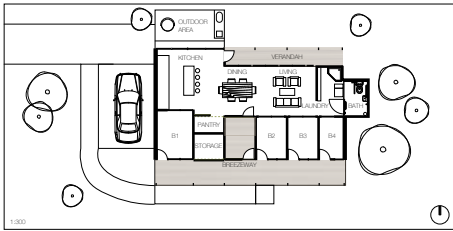
FLEXIBILITY-FREE TO EXPAND

PERSONAL SPACE FOR DIS-  
ABLED GRANDMA

LIVING ROOM HAS ACCESS TO  
OUTDOOR AT BOTH SIDES



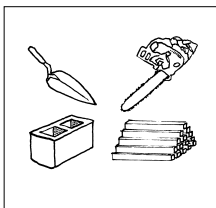
**MY STORY**



**PRE SITE VISIT PROPOSALS**

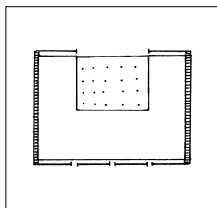


**EXPERIENCE OF YARRABAH**



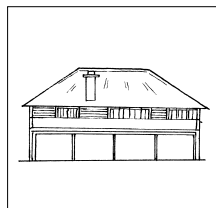
**LOCAL CONSTRUCTION**

Use of local building techniques + materials to empower local business + employment



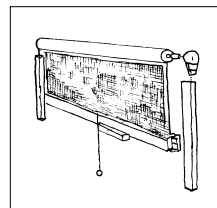
**NORTH FACING**

Open, protected living space with minimal openings on East + West facades



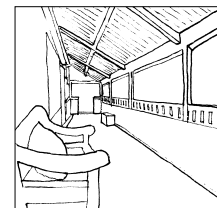
**ELEVATED**

Building elevated to account for flooding + additions + ventilation



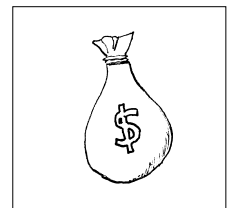
**SHADECLOTH**

Black insect-proof shade mesh for privacy + sun-shading



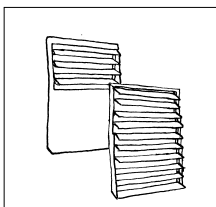
**VERANDAHS**

For exterior circulation + outdoor living spaces



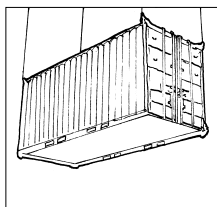
**AFFORDABLE**

Where possible cutting costs in materials + construction + labour



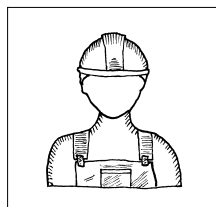
**LOUVRES**

Layering of walls + windows orientated towards prevailing breezes generate cross ventilation



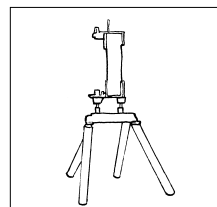
**TINY HOUSE**

Pre-fabricated kit pods to be added in response to fluctuation in family size



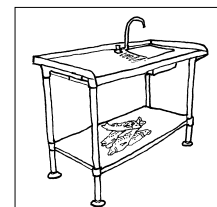
**CLIENT BUILT**

Owner/ builder system mentored labour program to gain sweat equity



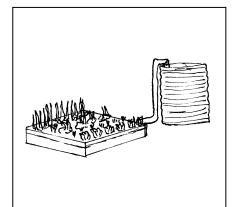
**SUREFOOT**

Multi-directional, cyclone proof, screw-pile footing



**"FISHERMAN'S STATION"**

Fish filleting and cleaning bench to support local lifestyle



**GREEN SYSTEMS**

Use of water tanks + irrigated food gardens to promote sustainable, healthy living

**OVERARCHING DESIGN PRINCIPLES IN RESPONSE TO TRIP**

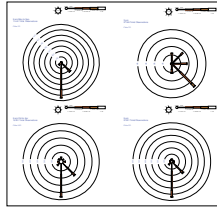
**THE CRISIS IN YARRABAH MUST BE ADDRESSED WITH A FLEXIBLE, AFFORDABLE SYSTEM. USING TROPICAL DESIGN TO REDUCE OVERCROWDING. EMPOWERING LOCAL PEOPLE & BUSINESS. AND BEGIN TO CONSIDER THIS A LONG-TERM AND ITERATIVE HOUSING PROCESS**

**RETURN BRIEF**



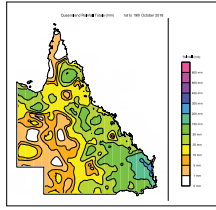
**SOLAR STUDY**

Powerful mid-day sun must be protected against through passive sun-shading



**WIND ROSE**

Clockwise from left: dry season, annual afternoon + morning and wet season (prevailing Southerlies)



**RAINFALL**

10-25mm 1st to 19th 1992mm annually on an average 154 days, majority of rainfall occurs January - March



**SITE BOUNDARY**

Site 215 SP284220 Accessed by Nursery Rd. the site has scattered native flora



**FLOOD PLAIN**

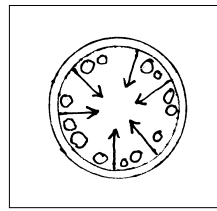
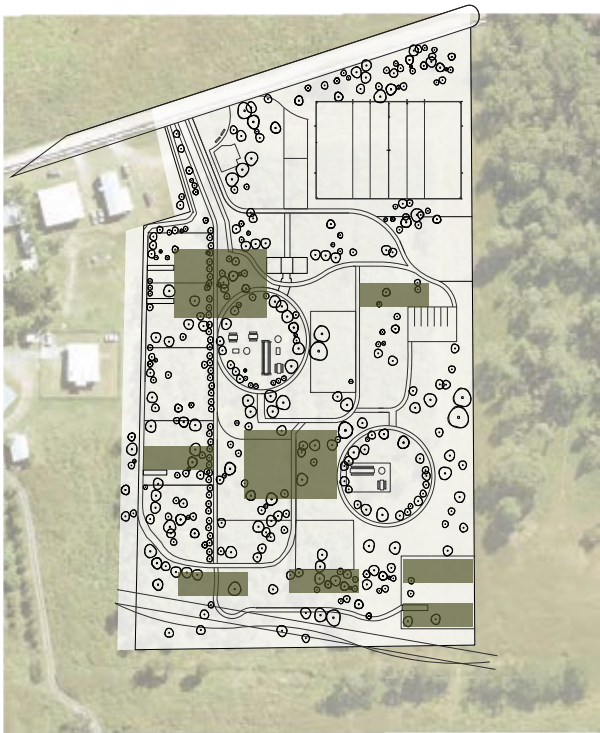
Wet season brings tropical cyclones, on average 1992mm of rain every year, and this can cause flooding



**COASTLINE**

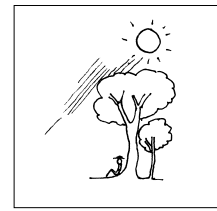
Fishery zoning, reefs, islands and boundaries + protected areas

## SITE ANALYSIS



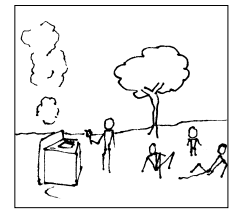
**CLEARING PARKS**

Circular clearing parks to denote public community amenities and place for story telling



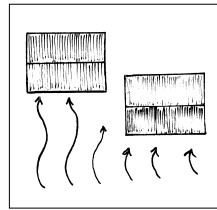
**NATIVE GROVES**

Native trees planted in small canopies for sun shading + gathering places + privacy



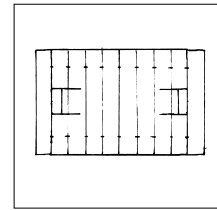
**PUBLIC BARBECUE**

Shared cooking amenity to promote shared community meals + place of leisure



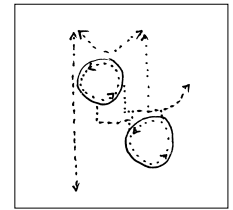
**STAGGERED PLANNING**

Exposure to the South to capture cool, prevailing Southerly breezes



**FOOTY FIELD**

To support young population and sport of rugby league

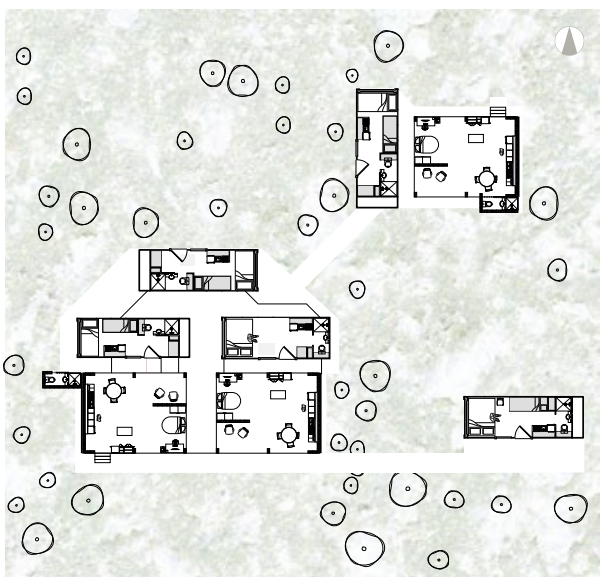


**WALKING TRACKS**

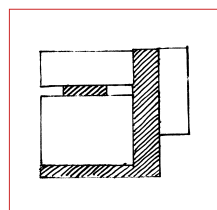
To link housing + parks + amenities so that they are interconnected

## MASTERPLAN 1:1000

## MASTERPLAN PRINCIPLES

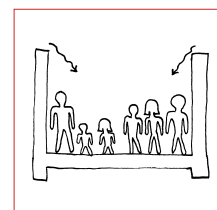


## CLUSTER PLAN 1:600



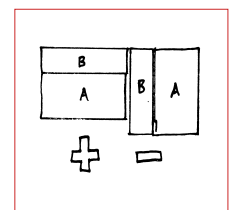
**ADJOINING VERANDAHS**

To link new additions + provide shaded elevated, outdoor areas



**COURTYARD**

Shared, well ventilated, courtyards created through placement of pods



**MODULAR PODS**

Different cluster combinations of pods + 'skeleton' for different family dynamics

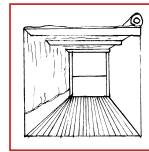
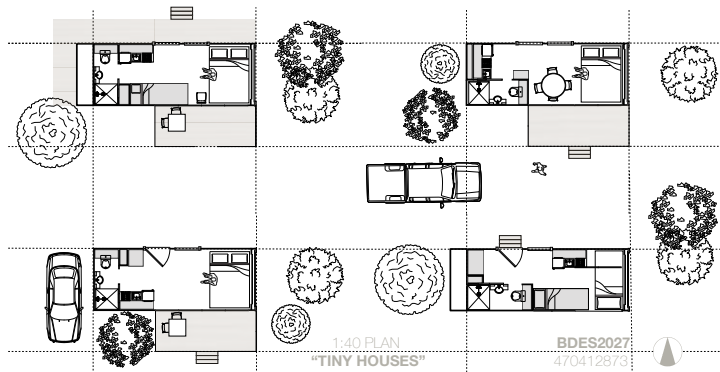
## CLUSTER PRINCIPLES



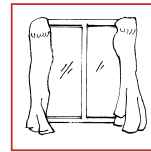


## DESIGN OPTION 2:

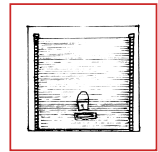
CLIENT: TONY  
THEIR NEEDS: 1 BEDROOM



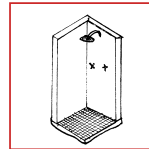
CANVAS CANOPY



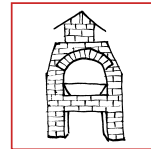
CURTAINS



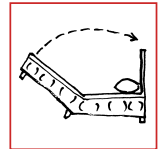
STORAGE SHEDS



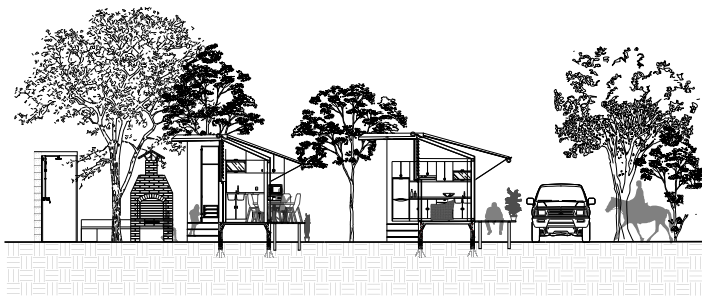
OUTDOOR SHOWER



OUTDOOR OVEN

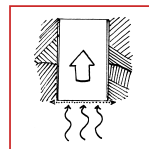
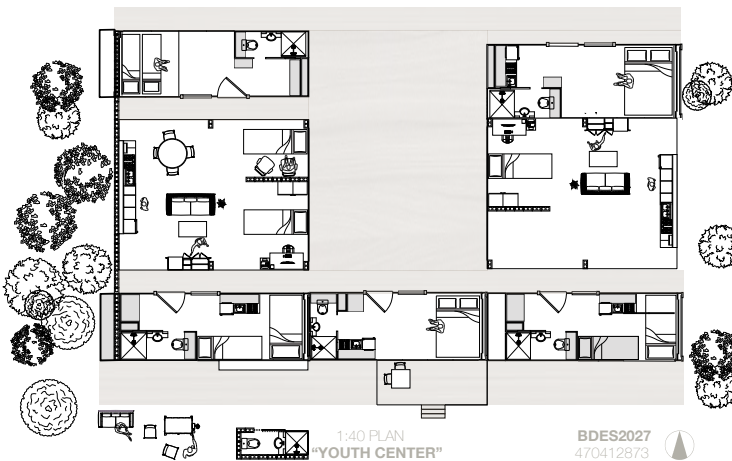


FOLDING BEDS

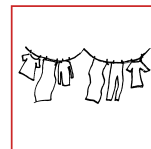


## DESIGN OPTION 3 :

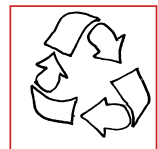
CLIENT: 13 TEENAGERS  
THEIR NEEDS: 13 BEDS



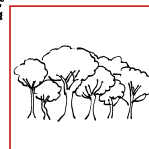
BREEZEWAY



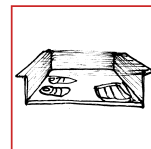
CLOTHESLINE



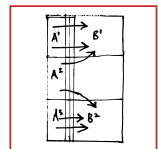
RECYCLED MATERIALS



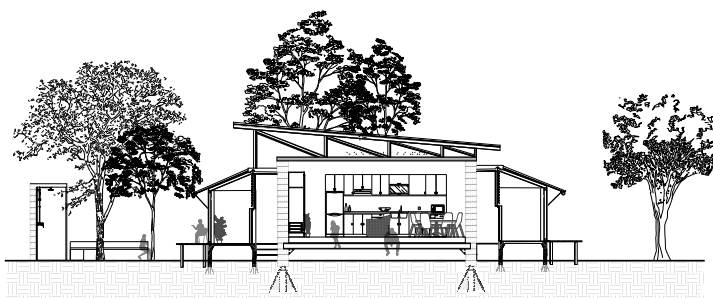
TREE WALL

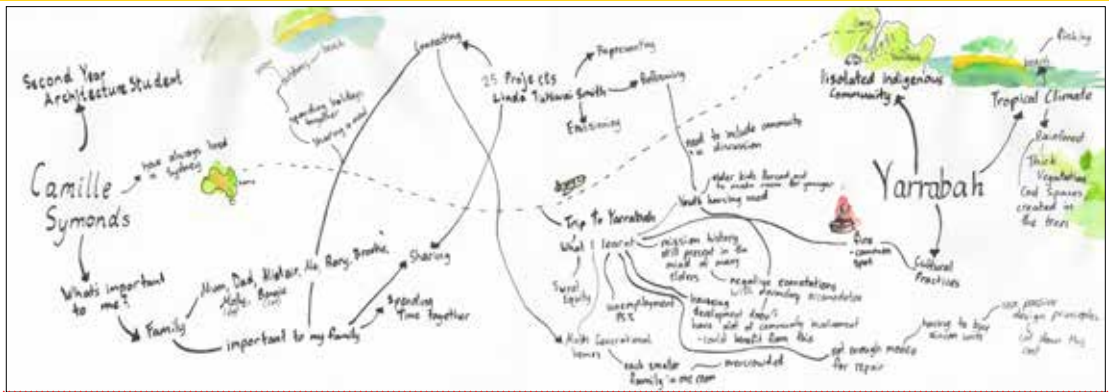


OUTDOOR SLEEPING

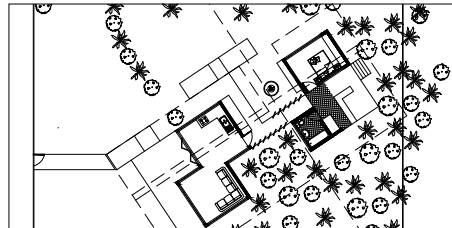
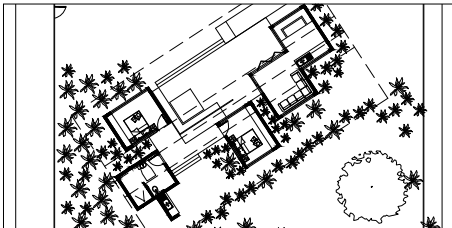


COMMON ROOMS

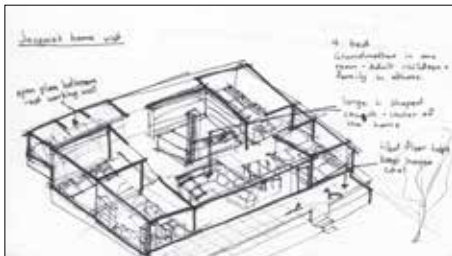




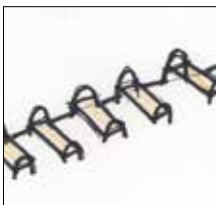
**MY STORY**



**PRE SITE VISIT PROPOSALS**



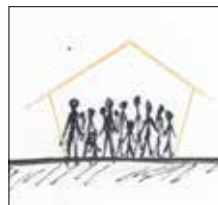
**EXPERIENCE OF YARRABAH**



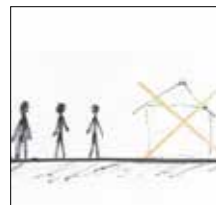
**RETHINK DORMITORY LIVING**  
 Protect against theft of furniture while also providing storage solutions.



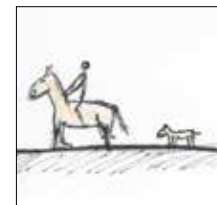
**OWNER BUILDER**  
 Currently the RNM budget is mostly used up by October meaning after the only safety issues can be fixed. If the individual has helped to build their own home they can then do simply repairs themselves.



**ADDRESS OVER CROWDING**  
 Designing home which can grow as the family grows



**ADDRESS YOUTH HOMELESSNESS**  
 Creating a safe transition space for youth to come and live.



**WILD HORSES AND STRAY DOGS**  
 Fencing around site and individual blocks to protect against unwanted animals coming in who may carry disease.



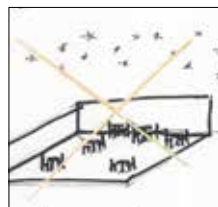
**WATCH THE STREET**  
 Many members of community preferred to use the front of their houses as a place to sit in order to be connected with what is going on in the street.



**FIRE PITS**  
 A communal meeting spot in which individuals can connect. Can also partake in cultural ceremonies.



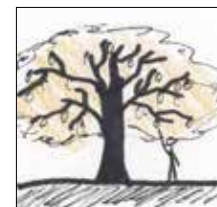
**CREATE JOBS**  
 High proportion of the community is unemployed. Design simple structures which the owner can help in the building process.



**PLACE FOR COMMUNITY TO GATHER AT NIGHT**  
 Yarrabah is a dry community meaning the pub was shut down. This was the only place for locals to come together at night. Creating a restaurant for locals to come to socialise.



**SEPARATED TOILETS**  
 Currently no uncommon for 15 people to be sharing one toilets. This leads to both maintenance issues as well as health issues.



**TROPICAL FRUIT TREES**  
 Planting of mango trees on the site. Creates both shade and food.



**INBUILT STORAGE**  
 Protect against theft of furniture while also providing storage solutions.

**OVERARCHING DESIGN PRINCIPLES IN RESPONSE TO TRIP**

**To create affordable and buildable homes which utilise outdoor space and passive cooling design principles. These homes are to cater for many different groups within society from youths to multigenerational homes to more reclusive members of community.**

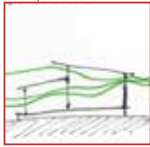
**RETURN BRIEF**

# DESIGN OPTION 1:

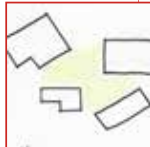
**CLIENT:** Grandmother, two adult children with partners. One with 4 kids one with 2 kids.  
**THEIR NEEDS:** A space for them all to be together as a family and for kids to play as well as a place for them to be apart from each other.



**COVERED VERANDAH**  
 Expandable for more family. Can sleep on covered outdoor area if temporary or could be later enclosed.



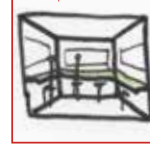
**VENTILATION**  
 Sliding windows and doors allowing the space to be opened up and for breeze to pass through.



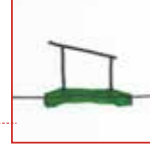
**OUTDOOR ROOM**  
 Utilising the space between the building as a room. This cuts down on construction cost and also allows for breeze to pass through the buildings creating a cooler space.



**PASSIVE SURVEILLANCE**  
 Direct line of site out of the kitchen into outdoor paved living area in which children can play.



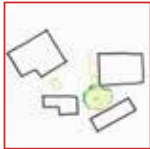
**MULTI PURPOSE NOOK**  
 A place in which children can do homework under supervision of adults in the kitchen. Can also be used as an eating space.



**THERMAL MASS**  
 The communal unit is built on a raised and tiled concrete slab. Wide northern eaves shading this space allow the unit to keep cool.



**ORIENTATION**  
 Living space orientated north for sunlight.



**EDIBLE GARDEN**  
 Raised vegetable garden bed and central mango tree. Provide fresh fruit and vegetable for family. Making healthy eating easier.



**LEVELS OF PRIVACY OUTDOORS**  
 Each individual family has its own private outdoor space allowing for time apart when needed.



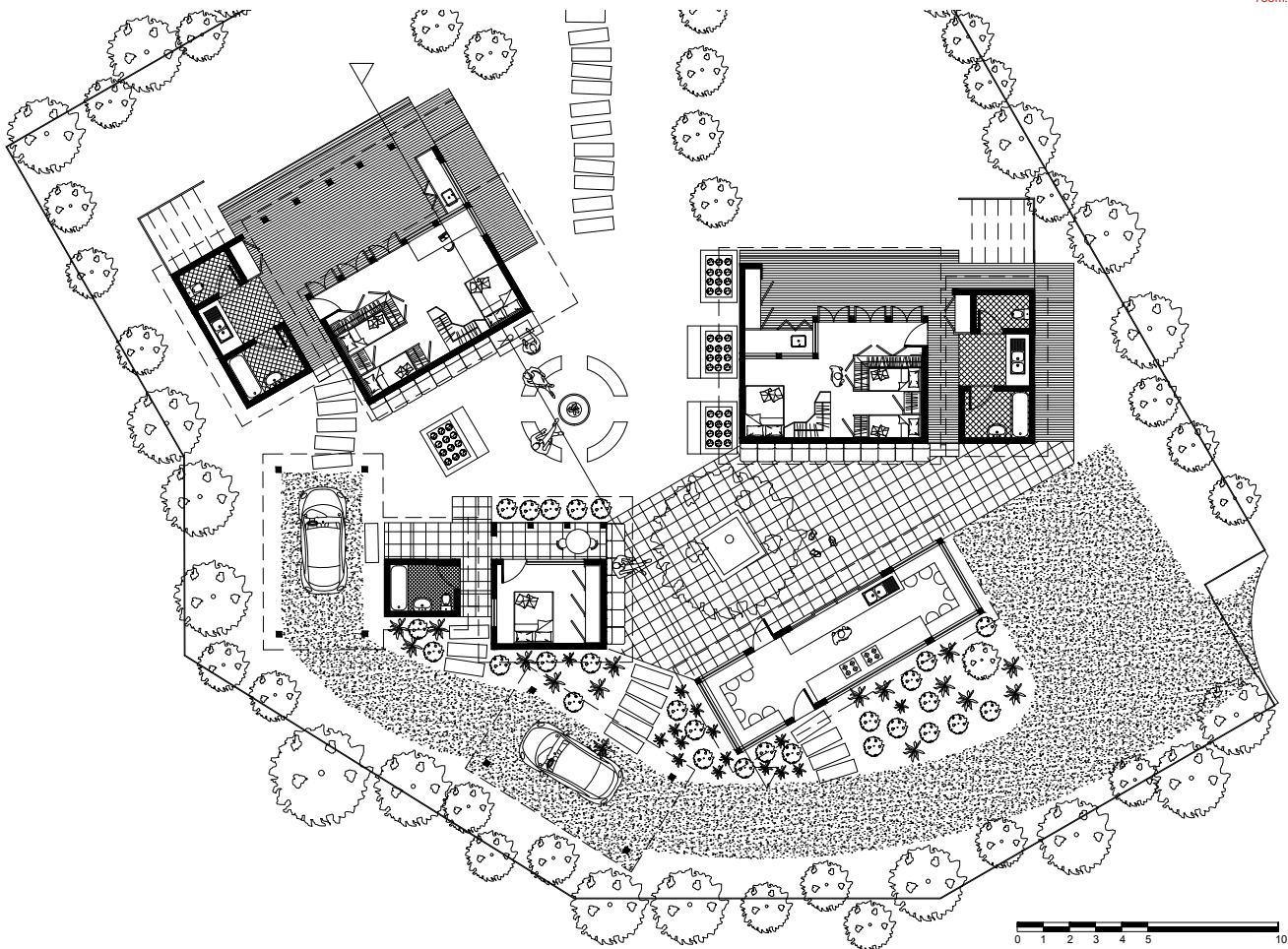
**PRIVACY**  
 Services placed on the outer edges of building allowing for privacy when using facilities.

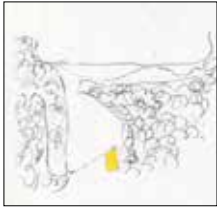


**FRAMES VIEWS**  
 Right side of communal unit gives passive surveillance of who is coming. Left side frames views of the mountains.



**BUILT IN STAGES**  
 More family units can be added on as needed. Only two units needed in order to create an outdoor living room.





**LOCATION**

The site is located out of the center of town off a quiet road. It is far enough away from town to be peaceful however still accessible.



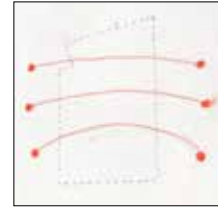
**VEIWS**

The west of the site has stunning views of mountains you need to cross over when going to or coming from cairns.



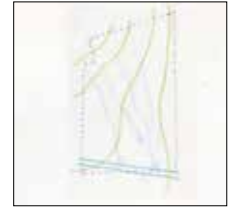
**WIND**

South West breeze on the site this has been utilised in designs. Also the side which is most exposed during cyclones so has to be protected.



**ORIENTATION**

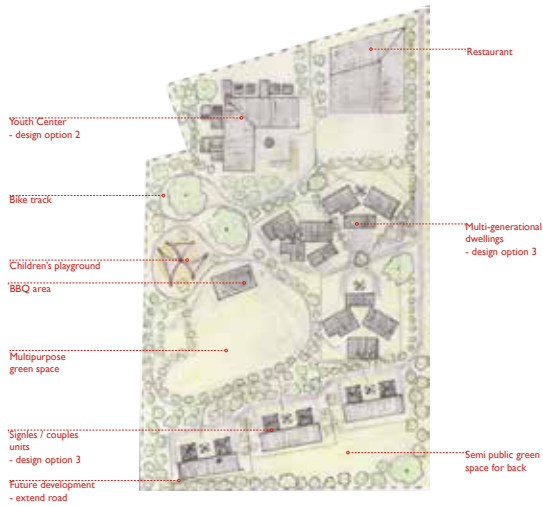
North facing towards the road. Living spaces orientated north for sun.



**TERRAIN / DRAINAGE**

The site is mostly flat with a slight slob down to the rear. Rear of the site has a green space on it for drainage.

**SITE ANALYSIS**



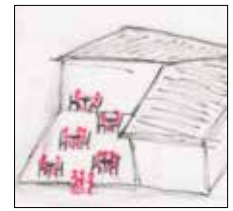
**UTILISE TREES**

Seating around trees which creates natural shaded areas. Turning trees into playgrounds for the kids.



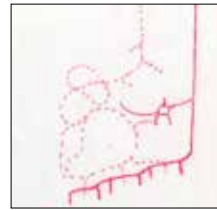
**WELL LIT SITE**

Use of LED lights on all paths including back paths to allow for use during both day and night.



**PLACE FOR COMMUNITY AT NIGHT**

Introduction of a cafe / restaurant on the site, possibly run by youth centre and other members of community. Creates both jobs and a place for community to come together.



**CIRCULATION**

Direct route of circulation by car alongside of the site. Weaving walking paths through the site. Able to experience green space on foot which you cannot by car.



**PUBLIC GREEN SPACE**

Large areas of public green space weaved through cluster of building. Semi-public green space at rear just for individuals in back units.

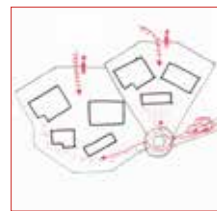


**PROGRESSES FROM LOUD TO QUIET**

Busy areas of the site are positioned closer to the front road, e.g. the youth centre. As you go further back the it become gradually less busy.

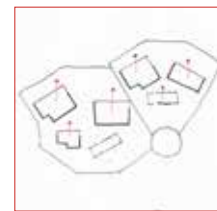
**MASTERPLAN 1:1000**

**MASTERPLAN PRINCIPLES**



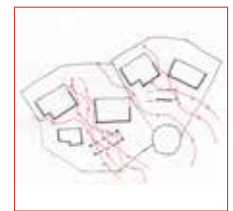
**TWO ENTRY POINTS**

Service / car entry from rear into kitchen unit. Foot entry at front into outdoor living room.



**ORIENTATION**

North orientated living room with western side shaded.



**BREEZE WAY**

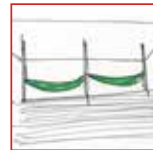
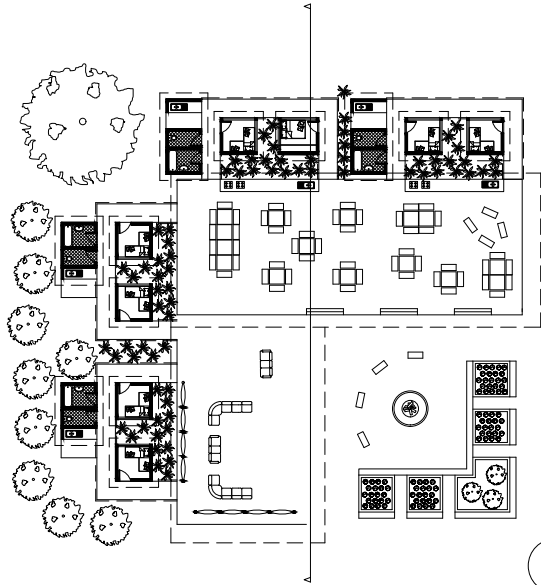
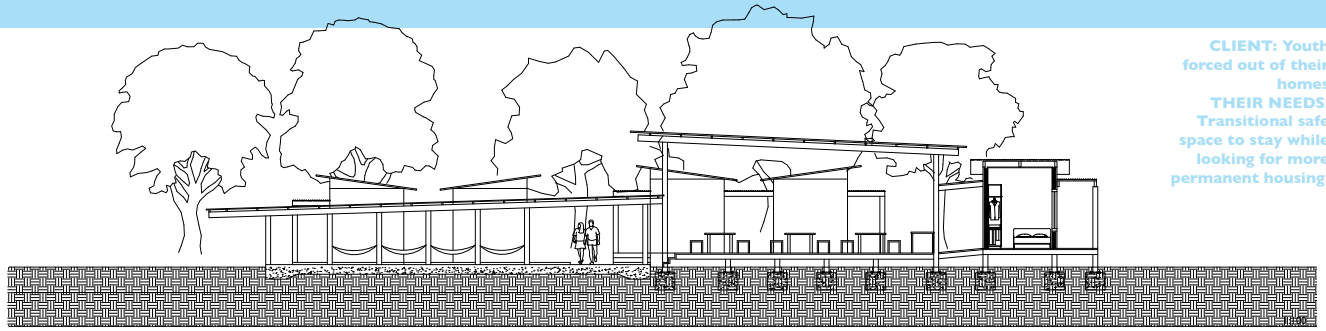
Breeze through central outdoor living room.

**CLUSTER PLAN 1:200**

**CLUSTER PRINCIPLES**

## DESIGN OPTION 2:

**CLIENT:** Youth forced out of their homes  
**THEIR NEEDS:** Transitional safe space to stay while looking for more permanent housing.



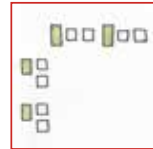
TEMPORARY SLEEPING  
HAMMOCK WITH  
MOSQUITO NETTING



COMMUNAL AREA  
OPEN TO BREEZE



BRINGING GREEN  
INTO THE BUILDING



SEPARATED SERVICES  
ON WESTERN SIDE



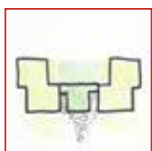
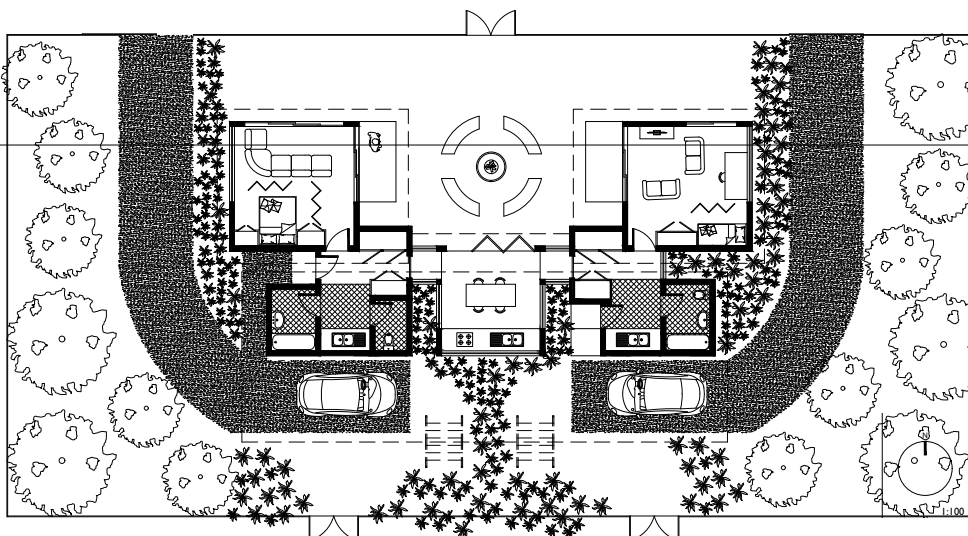
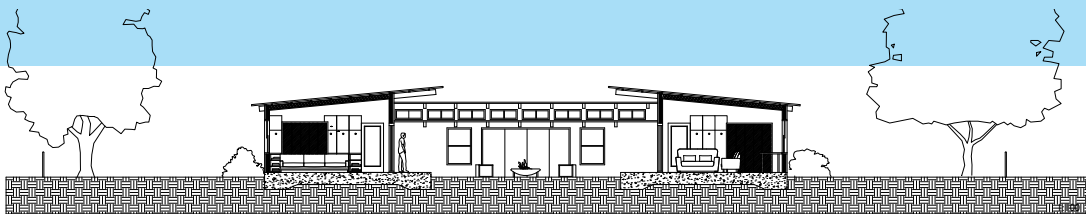
LOWER ROOF IN  
PASSIVE SPACES



CENTRAL FIRE PIT

## DESIGN OPTION 3 :

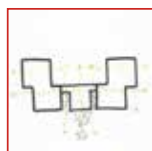
**CLIENT:** Reclusive older members of society, singles or couples  
**THEIR NEEDS:** A haven away from the hustle of town centre while still being easily accessible.



PRIVATE SPACE +  
SHARED SPACE



SCREEN WALLS



BREEZE WAYS



STORAGE



SECLUDED AT REAR OF  
SITE

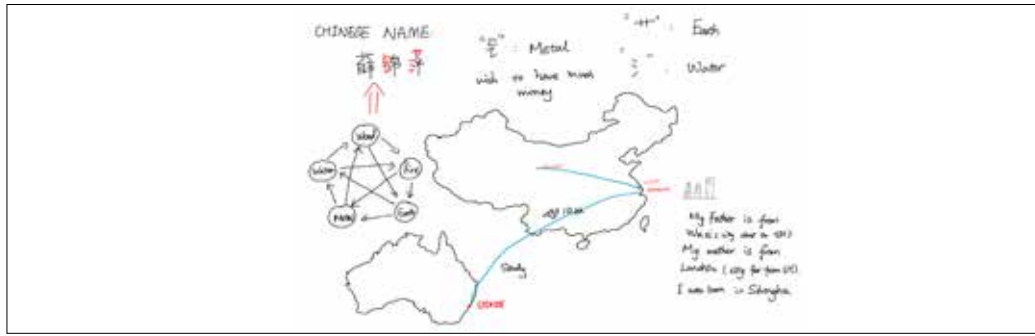


LEVELS OF PRIVACY

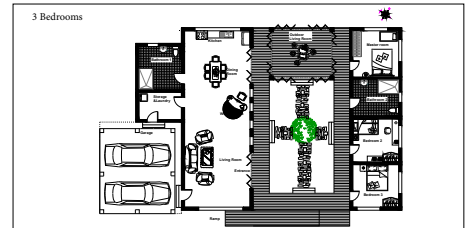
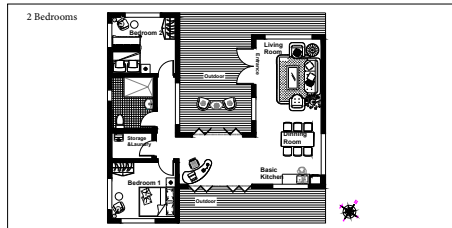
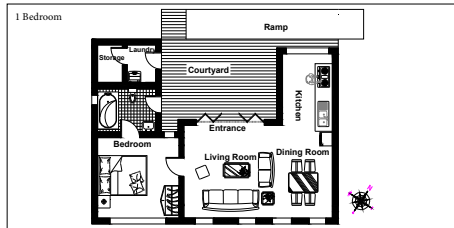
MODEL PHOTOS







**MY STORY**



**PRE SITE VISIT PROPOSALS**



**EXPERIENCE OF YARRABAH**



**Climate**

The climate is quite wet, and people have to turn on the air conditioner to dry the quilt.



**Wind**

The wind is strong in Yarrabah from south-east to north-west.



**Strong sunlight**

The sunlight is strong all day long and people have to bring sunglasses for protection.



**Animals**

There are many dogs on the street and no people take care of them.



**Vegetation**

The vegetation is dense which can provide good protection for the clients.



**View**

The view of the whole site is beautiful, it has good mountain view at west side.



**The exist house**

The house we visited is a little bit messy and it is obviously need more storage to make the house clean.



**Material**

The normal material in Yarrabah is concrete which can make people feel safe and use at low price.



**Education**

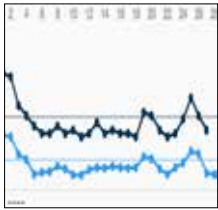
Many of the children do not have chance to study in school and playing on the street all the day.

**OVERARCHING DESIGN PRINCIPLES IN RESPONSE TO TRIP**

The design for 3 type of houses is suitable for the development of one family.

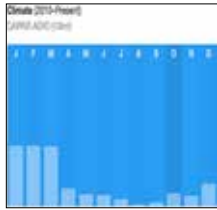
**RETURN BRIEF**





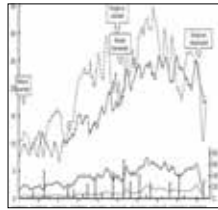
**Water level**

There is always rainy in Yarrabah, and the whole city is humid because of the large amount of rainfall.



**Wind study**

The wind is strong and cool from the seaside, this is the data in recent years



**Solar study**

The sunlight is strong and therefore the design of roof is important.



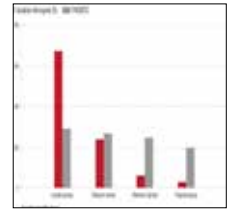
**The community composition**

There are lots of disabled people and children which need to be take care of.



**Design for disabled**

1:12 slope is created for the disabled and therefore they can go to any where easily by themselves.



**Affordability**

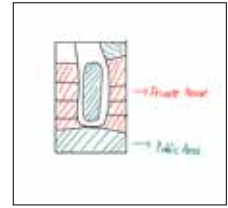
The affordability is quite low in Yarrabah although they have support from the government

**SITE ANALYSIS**

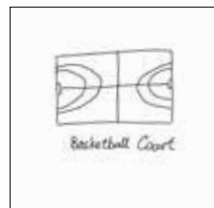


**Vegetation**

It can provide the shadow.

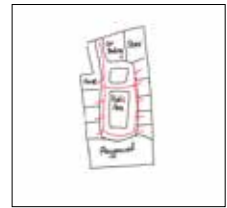


**Private area and Public area**



**Playground**

There is a playground at the below part of the site.

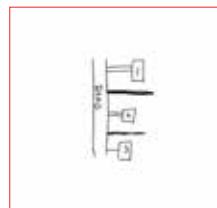


**Movement**

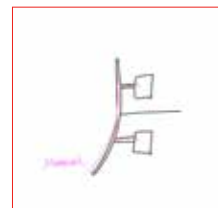
**MASTERPLAN 1:1000**

**MASTERPLAN PRINCIPLES**

**Plan Scale: 1:1000**



**Individual**



**Movement**

**CLUSTER PLAN 1:200**

**CLUSTER PRINCIPLES**

# DESIGN OPTION 1:

**CLIENT:**  
One Family with/ without kid OR  
One person

**THEIR NEEDS:**

- Accessible toilet
- Car
- Extension for disabled child
- Kitchen
- Large bedroom to accommodate a future disabled access
- Outdoor area



- ① Galvalume roof sheeting
  - ② 125\*75 M Timber purlin
  - ③ 300\* 75 M Timber Rafter
  - ④ Wood lap siding
  - ⑤ Timber floor board
  - ⑥ 300\*75 M Timber Bearer
  - ⑦ Concrete Footing
  - ⑧ Concrete Pier
  - ⑨ 200\*75 M Timber Joist
- Scale: 1:20



**Flat Roof**

Use flat roof, in order for good cross ventilation.



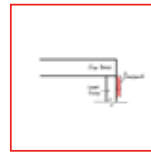
**Cross Ventilation**

The windows are on opposite side in order for good cross ventilation and enough sunlight come in.



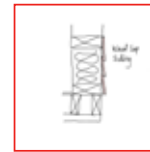
**Jack Truss**

Use jack truss roof system, in order for strong support to the flat roof.



**Baseboard**

It is used to cover the joint between the wall surface and the floor.



**Wood lap siding**

Using wood lap siding for its high durability and high waterproofness quality.



**Double-glazed Glass**

Use double-glazed glass in order to reduce transmission of both heat and sound.



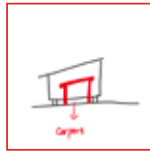
**Cross Ventilation**

When the wind is from southwest, people might feel cool inside the house.



**Bunk bed**

Use the bunk bed in order for enough space for each one to sleep.



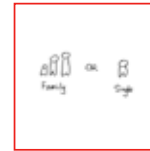
**Carport**

The outside carport will not block the view.



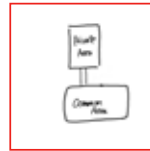
**Sliding door**

One sliding door separate the bedroom and the outside decking and provide privacy.



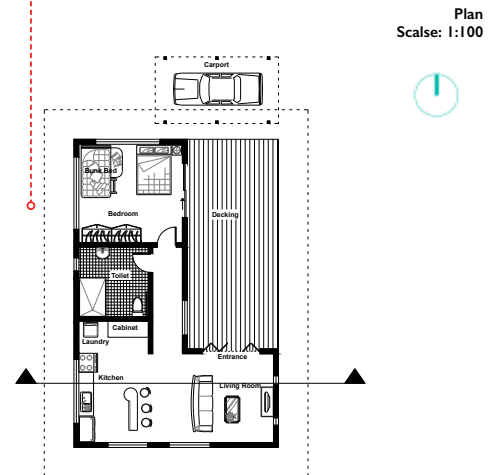
**One family OR single?**

This house is designed for one family or one single person.



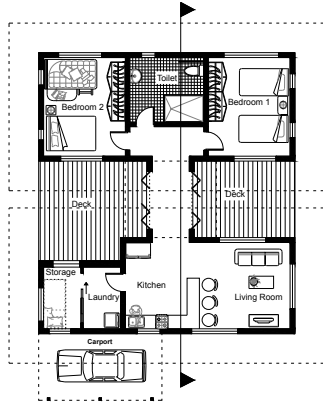
**Separating**

The privation area is connected to the common area by an aisle. For privacy.



## DESIGN OPTION 2:

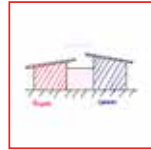
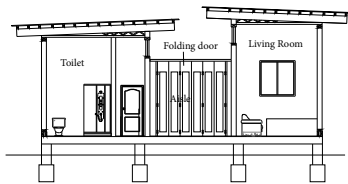
Plan  
Scale: 1:100



**CLIENT:**  
One family with kids and elders OR Two people

- THEIR NEEDS:**
- Future disable access
  - Kitchen
  - The elders come to live with
  - Large bedrooms to accommodate
  - Bedrooms separate
  - Common living room
  - Accessible toilet
  - Car
  - Outdoor area

Section  
Scale: 1:100



connection between private and public area



Separation



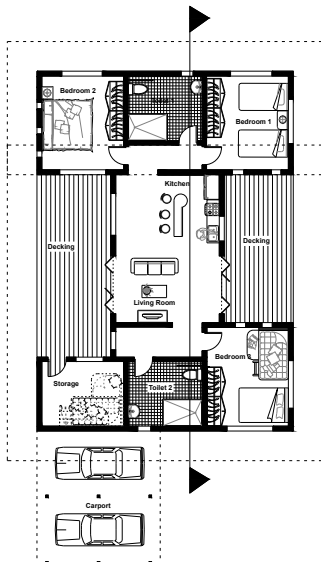
Multifunctional storage



outdoor decking

## DESIGN OPTION 3 :

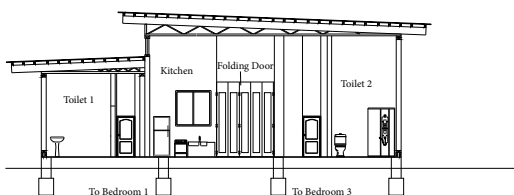
Plan  
Scale: 1:100



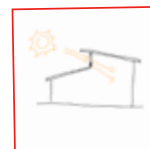
**CLIENT:**  
One family with kids, elders live with their relative's family OR one family with 3-4 people

- THEIR NEEDS:**
- Two Cars
  - Kitchen
  - Relatives who live with
  - Large bedroom to accommodate
  - Bedrooms separate
  - Accessible access to house
  - Accessible toilet
  - Common living room
  - Outdoor area

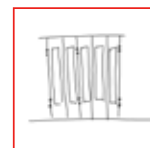
Section  
Scale: 1:100



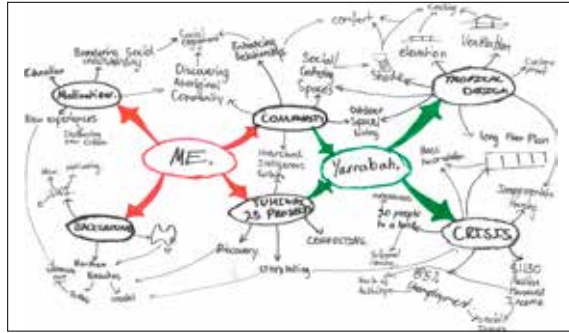
Multifunctional storage



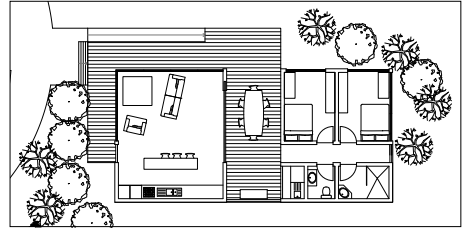
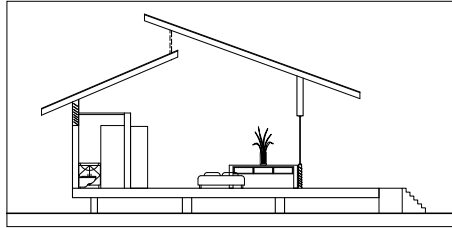
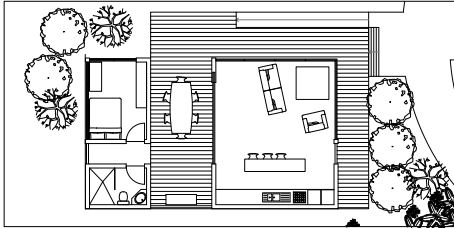
Roof design(ventilation and natural sunlight)



Design of folding door



**MY STORY**



**PRE SITE VISIT PROPOSALS**



**INCREASED URGENCY.  
RENEWED MOTIVATION.  
BOOSTED ACCOUNTABILITY.**



**EXPERIENCE OF YARRABAH**



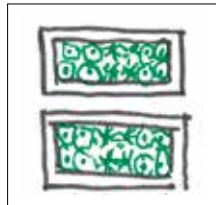
**LEVELS OF PRIVACY**

There is an evident demand for a variety of boundary Levels



**SIMPLE CONSTRUCTION**

Working in hand with the community to utilize local materials and labour



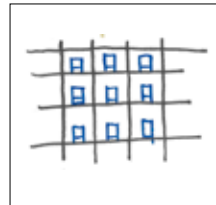
**SELF EMPOWERMENT**

Providing community members the opportunity to support themselves



**SHADE**

A necessity for passive thermal comfort



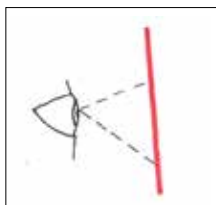
**DENSITY**

Maximising the number of available beds across the site



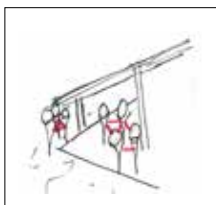
**MAINTENANCE**

Ensure that any development can be easily and cheaply maintained



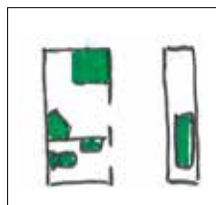
**PRIVACY**

Consistently providing private areas for residents



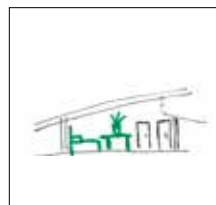
**COMMUNITY**

Providing Opportunity for community engagement.



**SIMPLIFIED SERVICES**

Simplifying service areas for ease of use and repair



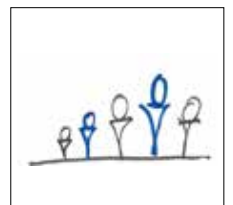
**COMFORT**

Ultimately providing comfortable and satisfactory living arrangements



**WIND ACCESS**

Ensuring passive thermal comfort through providing access to prevailing winds



**Multi-Generational**

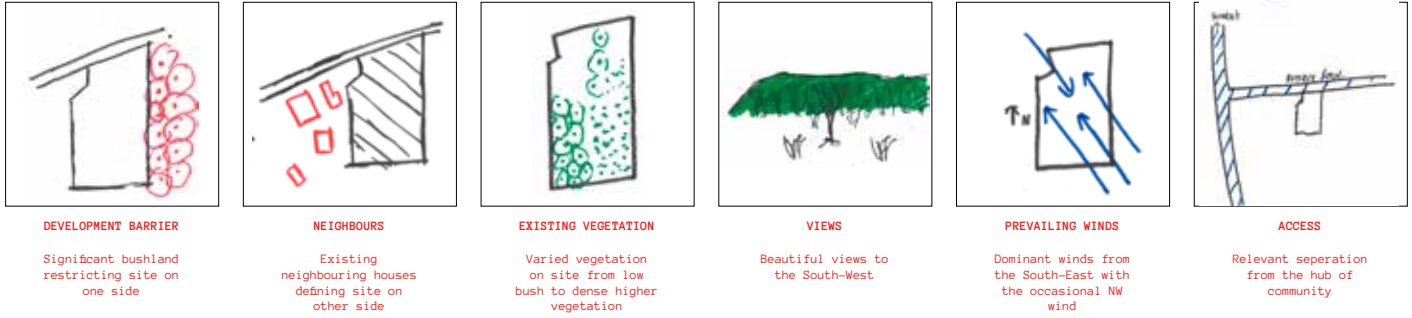
Catering to a wide variety of age groups

**OVERARCHING DESIGN PRINCIPLES IN RESPONSE TO TRIP**

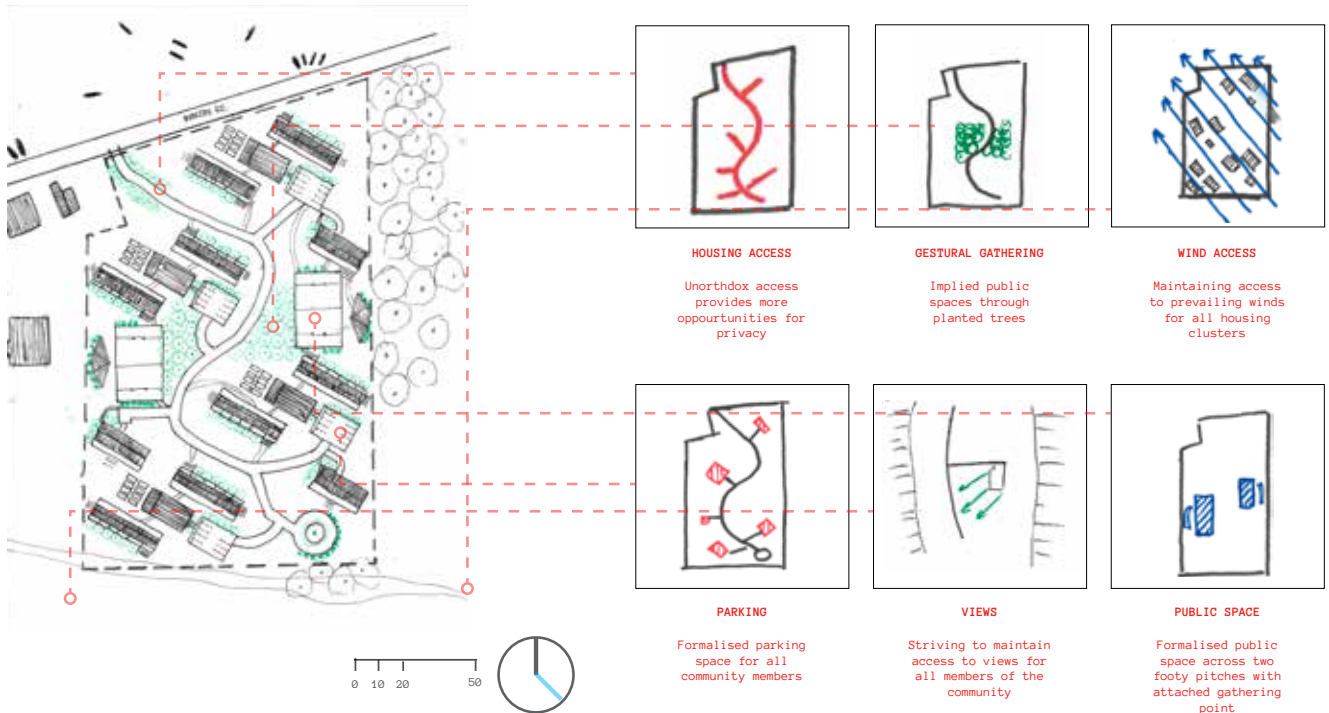
**TO PROVIDE A DESIGN SCHEME THAT EMPOWERS THE COMMUNITY TO REALISTICALLY SOLVE THE HOUSING CRISIS INDEPENDENTLY**

**RETURN BRIEF**

# SITE MASTERPLAN:

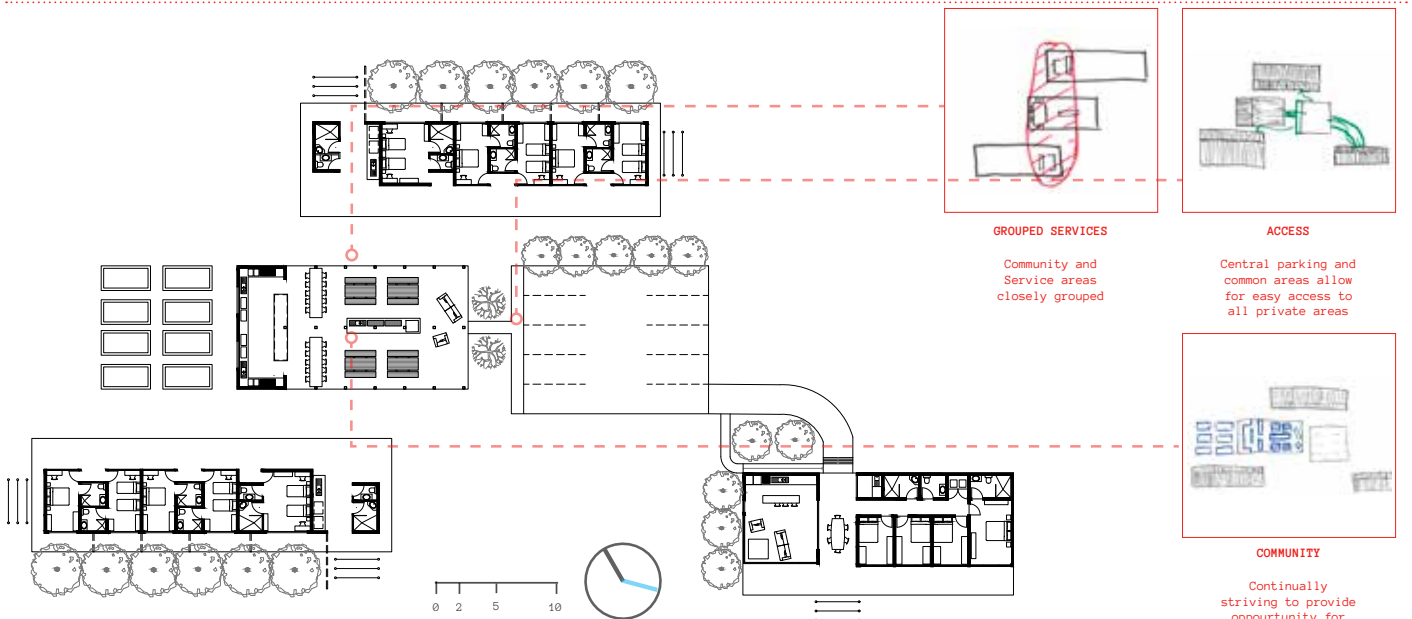


## SITE ANALYSIS



## MASTERPLAN 1:1000

## MASTERPLAN PRINCIPLES



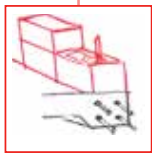
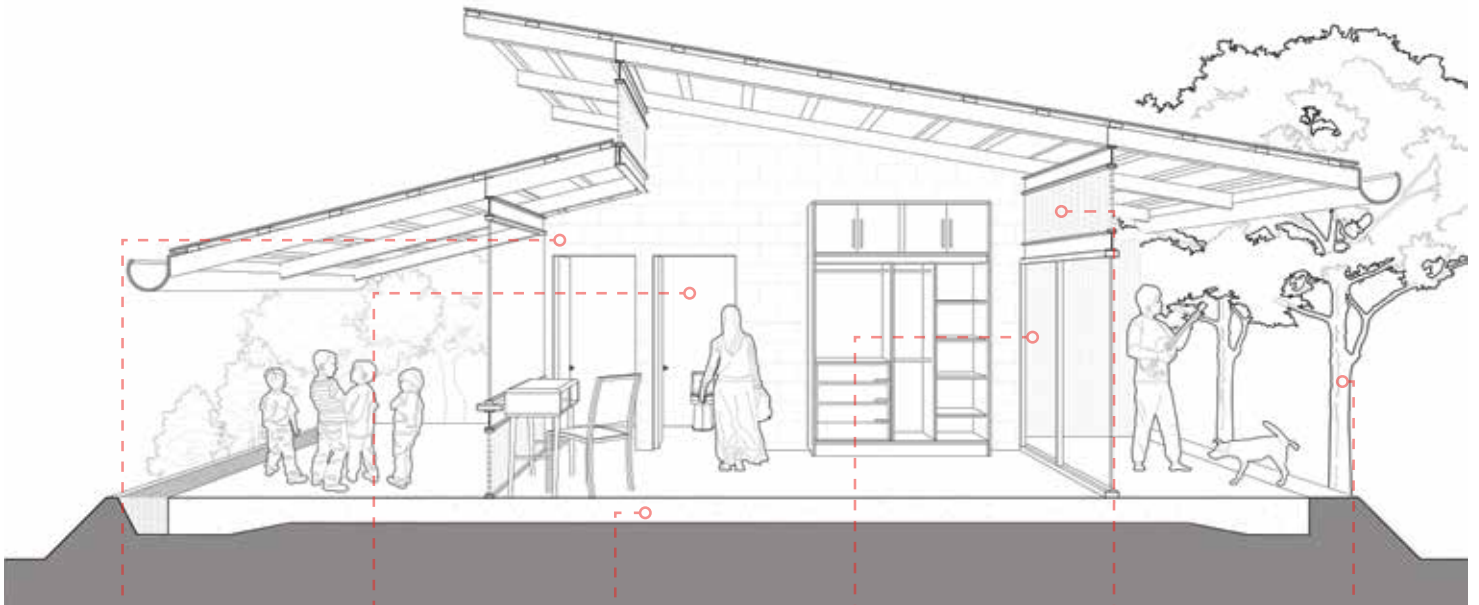
## CLUSTER PLAN 1:200

## CLUSTER PRINCIPLES

# MODULE ONE

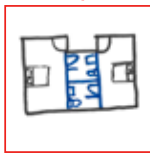
4 Single Rooms  
1 Double Room  
Private Bathrooms/  
Outdoor Areas

SECTIONAL PERSPECTIVE 1:20



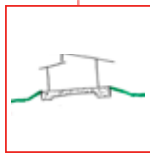
**SIMPLE CONSTRUCTION**

Working in hand with the community to utilize local materials and labour



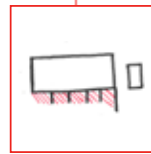
**BATHROOMS**

Private bathrooms/showers for all rooms



**RAISED SLAB**

Primary slab raised from existing ground level to assist drainage



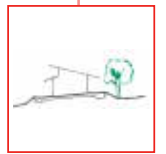
**PRIVATE OUTDOOR**

Private outdoor space for all residents



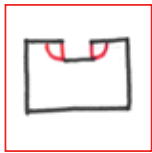
**VENTILATION**

Multiple permeable areas allow cross ventilation of all rooms



**VEGETATION**

Trees planted on one side to assist with wind and privacy



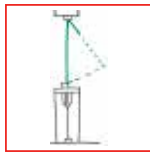
**OFF-AXIS ENTRY**

Bedroom doors removed from line of sight to maintain privacy



**ROOM VARIETY**

Both Single and Double bedrooms provided



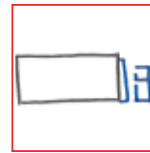
**WINDOWS**

Top hinged windows allow residents to maximise ventilation when necessary



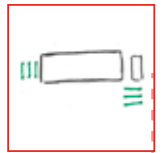
**MAINTENANCE**

Systems in place to allow for easy and cheap repairs



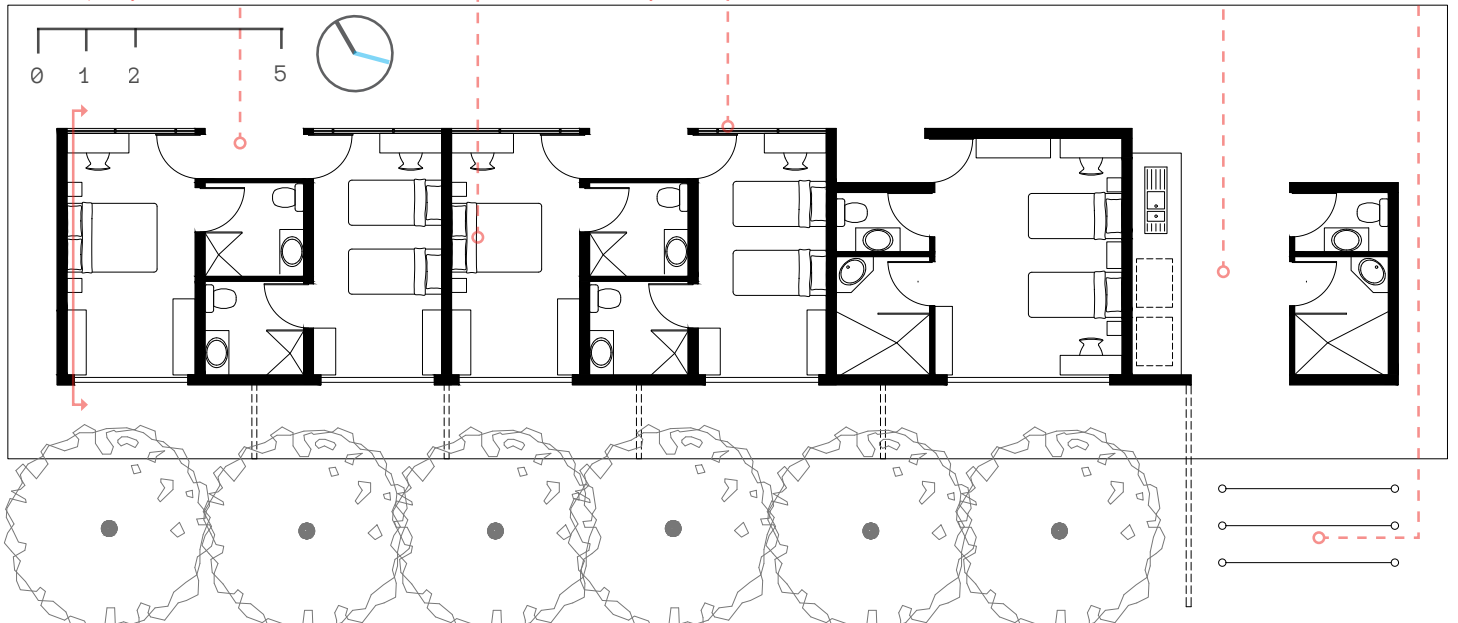
**SHARED SERVICES**

Laundry and Bathroom to support whole Module



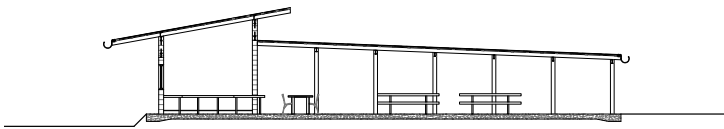
**CLOTHESLINES**

Sufficient communal clotheslines for all residents to use

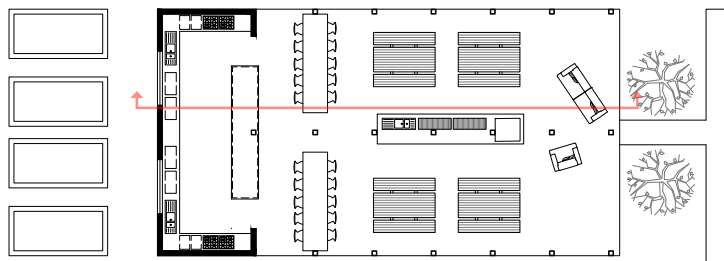


## MODULE TWO

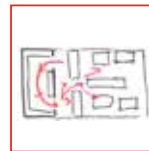
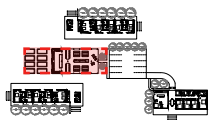
Kitchen Module  
Serves all Members of  
housing cluster



SECTION 1:100

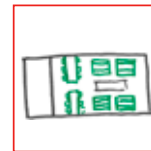


PLAN 1:100



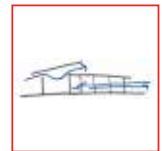
### CIRCULATION

All spaces can access kitchen without bottlenecks



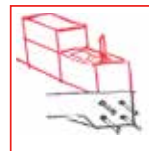
### FORMAL/INFORMAL DINING

Divided spaces of formal dining and more casual social spaces



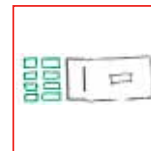
### VENTILATION

Enhanced ventilation through kitchen to maintain comfort when cooking



### SIMPLE CONSTRUCTION

Simple construction used to reduce costs and repair issues



### VEGIE PATCHES

Self maintained vegie patches allow community to grow food

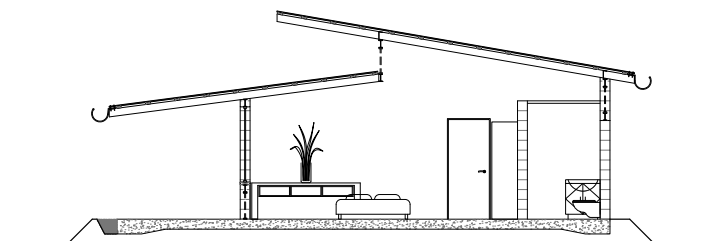


### COVERED OUTDOOR SPACE

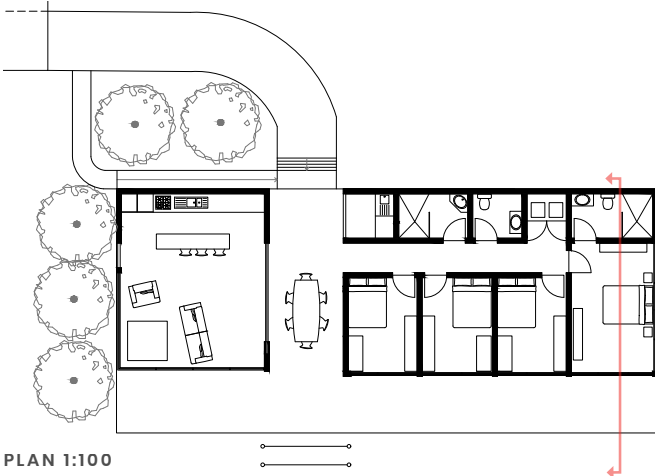
Protection from elements provided by roof with open ventilation

## MODULE THREE

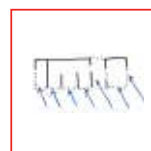
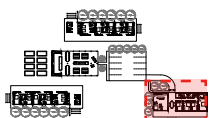
Family/Caretakers Home  
1 Master Bedroom  
3 Single Rooms



SECTION 1:50



PLAN 1:100



### WIND ACCESS

Open Areas and ventilation strategies orientated to winds



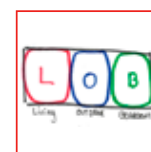
### COVERED OUTDOOR

Covered outdoor created used for dining and leisure space



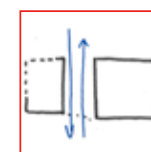
### SERVICE CORRIDOR

All services contained in corridor to maintain easy access



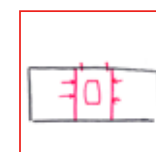
### SPACIAL RELATIONSHIPS

Space broken laterally into areas of varying privacy



### WIND TUNNEL

Central corridor enhances circulation and wind flow



### CENTRAL TABLE

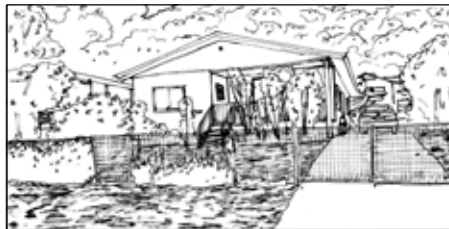
Tables serves as central meeting space for the household



MY STORY



PRE SITE VISIT PROPOSALS

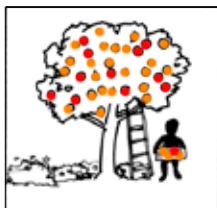


EXPERIENCE OF YARRABAH



GROWING THE LOCAL ECONOMY

A need for more local businesses to create a real economy in Yarrabah.



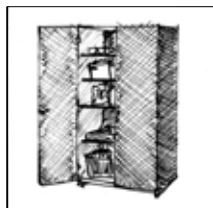
ECONOMIC DETERMINATION

Giving people the opportunity for their own creative opportunities.



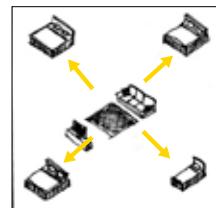
ADAPTABILITY

Designs that allow future expansion or adaption due to the inability to build more homes.



STORAGE

Lockable storage indoors and outdoors.



SEPERATE BEDROOM WINGS

Seperation of sleeping and living areas to increase privacy.



DURABILITY

Using appropriate fixtures and fittings for cyclone weather to create long lasting housing.



CHILDREN WELLBEING

Spaces for children to sleep, study and socialise.



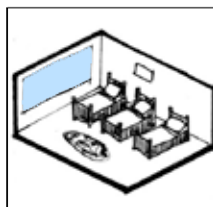
FISHING LIFESTYLE

An outdoor food preparation area to facilitate Yarrabah lifestyle.



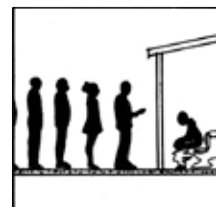
LOCAL LABOUR

Utilising and educating local labour to support Yarrabah's community.



LARGE BEDROOMS FOR FAMILY UNITS

Parents and children sleeping in a single large room.



MORE SERVICES

Homes to have multiple bathroom services due to the overcrowding issue.



OUTDOOR FIRE

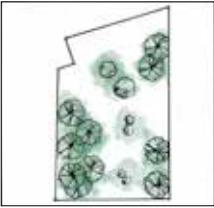
An area for an outdoor fire as a place for cooking and gathering.

OVERARCHING DESIGN PRINCIPLES IN RESPONSE TO TRIP

TROPICAL DESIGN THAT FACILITATES INTERGENERATIONAL LIVING AND IS AN ENABLER TO SOCIAL, CULTURAL AND PHYSICAL WELLBEING. THE CREATION OF QUALITY SPACES USING PRINCIPLES OF SWEAT EQUITY PROMOTES CLAIMING OF PRIVATE PROPERTY AND ENFORCES A SENSE OF OWNERSHIP.

RETURN BRIEF





EXISTING VEGETATION

Comfortable spaces under trees.



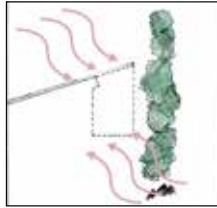
VIEWS

Mountain views towards the South



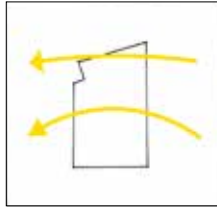
TOPOGRAPHY

Low lying area: water runs down mountains, resulting in landslides and flash flooding



PREVAILING BREEZES

Cooling SE winds come through the valley, and tropical humid NW monsoon winds



SOLAR STUDY

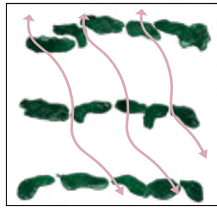
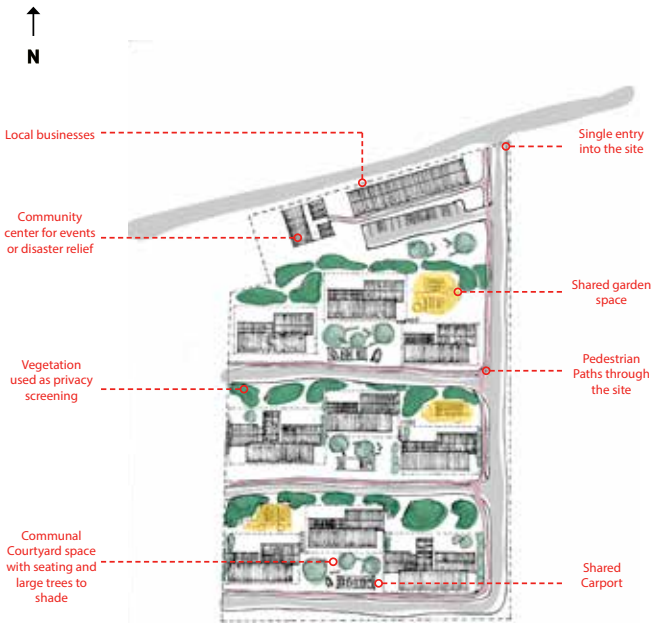
Maximising northern sun, and minimising western sun.



FLOOD AREA

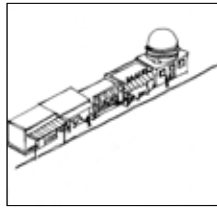
High rainfall during monsoon periods.

SITE ANALYSIS



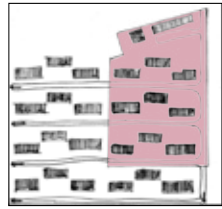
PLANTING

Vegetation planted in clusters provides privacy between homes while allowing breeze to pass through.



LOCAL STORES

Local businesses: restaurants, butcher, bakery etc. support Yarrabah's economy



FUTURE GROWTH

Simple plan allows for expansion when there are available resources.



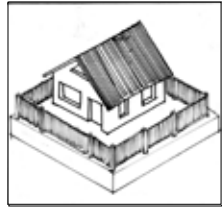
PEDESTRIAN ACCESS

Pedestrian paths are used to increase accessibility of the site, particularly for the young population.



PRIVACY SCALES

Shared community space and cluster courtyard gives individuals choice of social interaction.

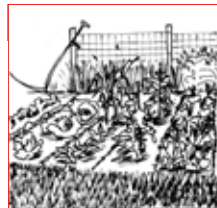
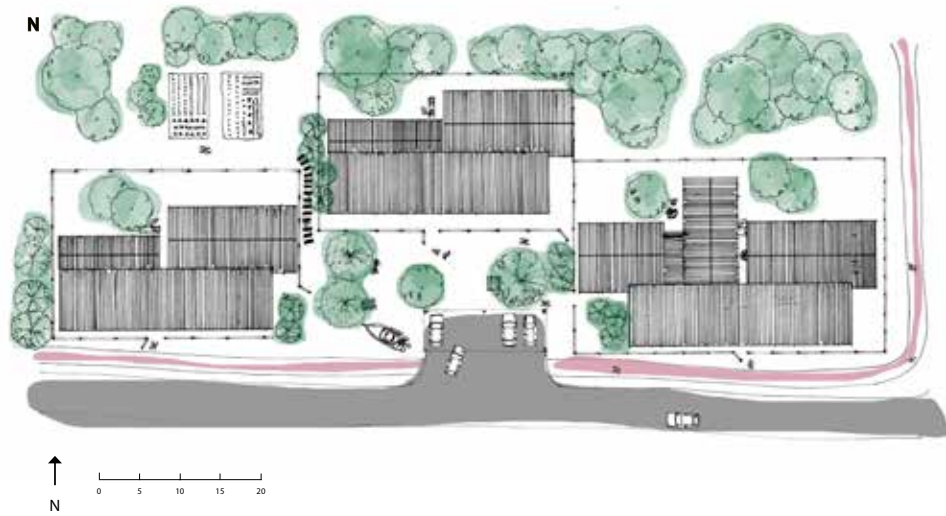


INDIVIDUALLY FENCED DWELLINGS

Determined property boundaries for safety and reinforcement of ownership.

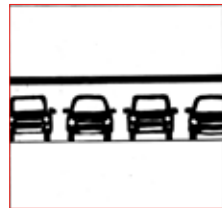
MASTERPLAN 1:1000

MASTERPLAN PRINCIPLES



VEGETABLE GARDEN

A communal vegetable garden to provide economic determination.



SHARED CARPORT

A shared carport to respond to the low rate of car ownership per household in Yarrabah.



LARGE TREES

Large trees shade the courtyard to create comfortable spaces and also become location markers.

CLUSTER PLAN DRAWN AT 1:200

CLUSTER PRINCIPLES

# DESIGN OPTION 1:

CLIENT: TRACY, HER HUSBAND, 3 CHILDREN  
+ TRACY'S DISABLED MOTHER AND FULL  
TIME CARER

THEIR NEEDS:  
DISABLED ACCESS  
OUTDOOR LIVING SPACE  
PRIVACY BETWEEN SOCIAL SUB GROUPS

BCG Duratex CFC sheet  
cladding

Galvanised Iron corrugated  
sheeting



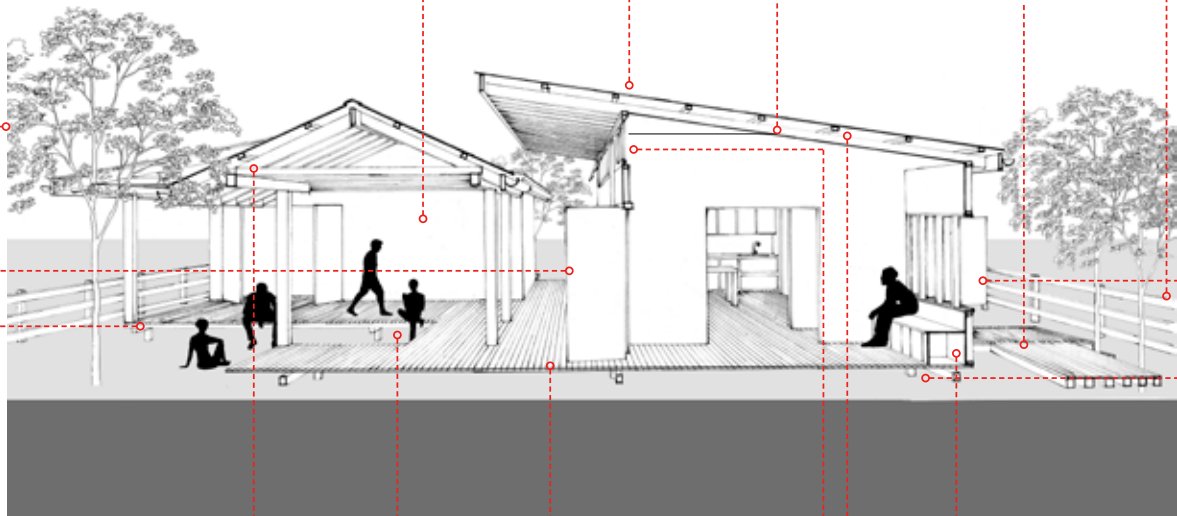
Operable clerestory  
window for light and  
cross ventilation

Ramp for  
disabled access

Fence to outline  
property  
boundaries

Large tree to  
provide shaded  
space

Bi fold doors  
extend living  
areas outdoors



Concrete Pad  
footing and  
Steel posts

Sectional Perspective 1:50



SEATING LEDGE

Edges of the verandah  
become seating to  
maximise use of space.



PRIVATE AND PUBLIC  
SPACES

Higher ceiling height of  
living spaces to make a  
smaller space seem larger.



GATHERING AREA

A wide outdoor living  
space for social gatherings  
and activities.



OUTDOOR CIRCULATION

Verandah circulation to  
maximise cooling breezes  
through pavilions, and reduce  
wasted space.



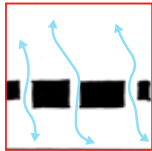
BUILT IN FURNITURE/  
STORAGE

Seating and lockable storage  
built in to eliminate theft and  
use space efficiently.



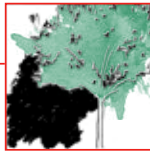
CASEMENT WINDOWS

Casement windows on  
south wall used to catch  
prevailing SE winds.



MULTIPLE BREEZEWAYS

Breezeway entrance and  
outdoor laundries for  
prevailing winds to flow  
through the buildings.



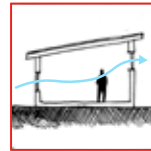
VEGETATION FOR SHADE/  
PRIVACY

Planted vegetation on  
the east and west sides to  
shade walls and reduce  
heat gain.



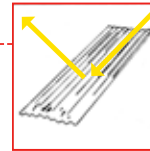
OUTDOOR COOKING

An outdoor sink and  
benchtop to support the  
fishing lifestyle.



CROSS VENTILATION

Openings on opposite  
walls in every pavillion for  
passive cooling.



LIGHT COLOURED ROOF

Light coloured roof to  
reflect solar radiation and  
reduce heat transfer to the  
building.



PREFABRICATED MODULES

Modules for quality  
control and quick on site  
construction.

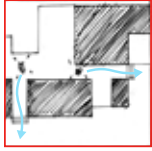


Plan 1:100

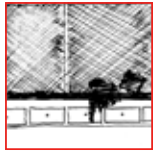
## DESIGN OPTION 2:

CLIENT: TRACY, HER HUSBAND AND 3 CHILDREN & REGULAR VISITORS COMING TO STAY FOR HOLIDAYS AND EVENTS

THEIR NEEDS:  
AREAS FOR GUEST SLEEPING  
MULTIPLE SERVICES  
GATHERING AREA FOR SOCIALISATION  
USEABLE SPACE FOR WHEN THERE ARE NO GUESTS



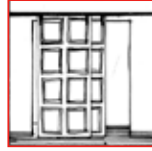
CULTURALLY SENSITIVE DESIGN - MULTIPLE ENTRANCE AND EXITS



DUAL FUNCTION WIDE STORAGE BENCHES



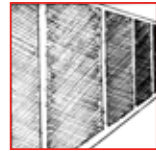
OUTDOOR LAUNDRY BREEZEWAY



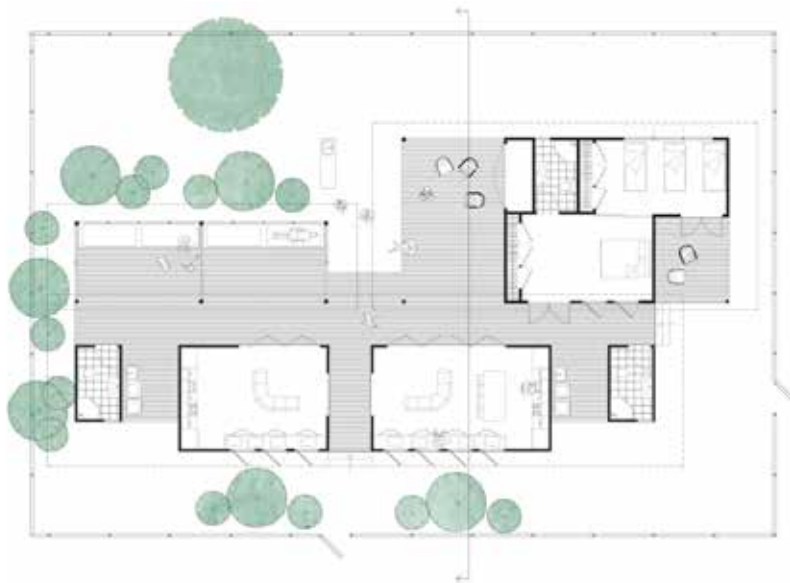
SLIDING PARTITIONS FOR FLEXIBLE SPACES



LARGE LIVING AREA FOR SLEEPING



LARGE SCREENED VERANDAH



↑  
N  
Plan 1:100



Section 1:100



## DESIGN OPTION 3 :

CLIENT: TRACY, HER HUSBAND, 3 CHILDREN & TRACY'S BROTHER, HIS WIFE, 3 CHILDREN & TRACY'S HUSBANDS MOTHER AND FATHER

THEIR NEEDS:  
 PRIVACY BETWEEN SOCIAL SUB GROUPS  
 MULTIPLE SERVICES  
 LOTS OF STORAGE SPACE  
 A PLACE FOR A FIREPIT  
 OUTDOOR LIVING SPACES



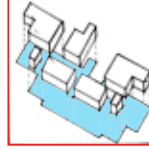
PRIVATE VERANDAHS FOR SUB GROUPS



SLIDING PARTITIONS FOR FLEXIBLE SPACES



MULTIPLE SERVICES



PAVILLIONS BUILT IN STAGES



LARGE ROOMS FOR GROWING FAMILIES



BUILT IN CLOSET SPACE

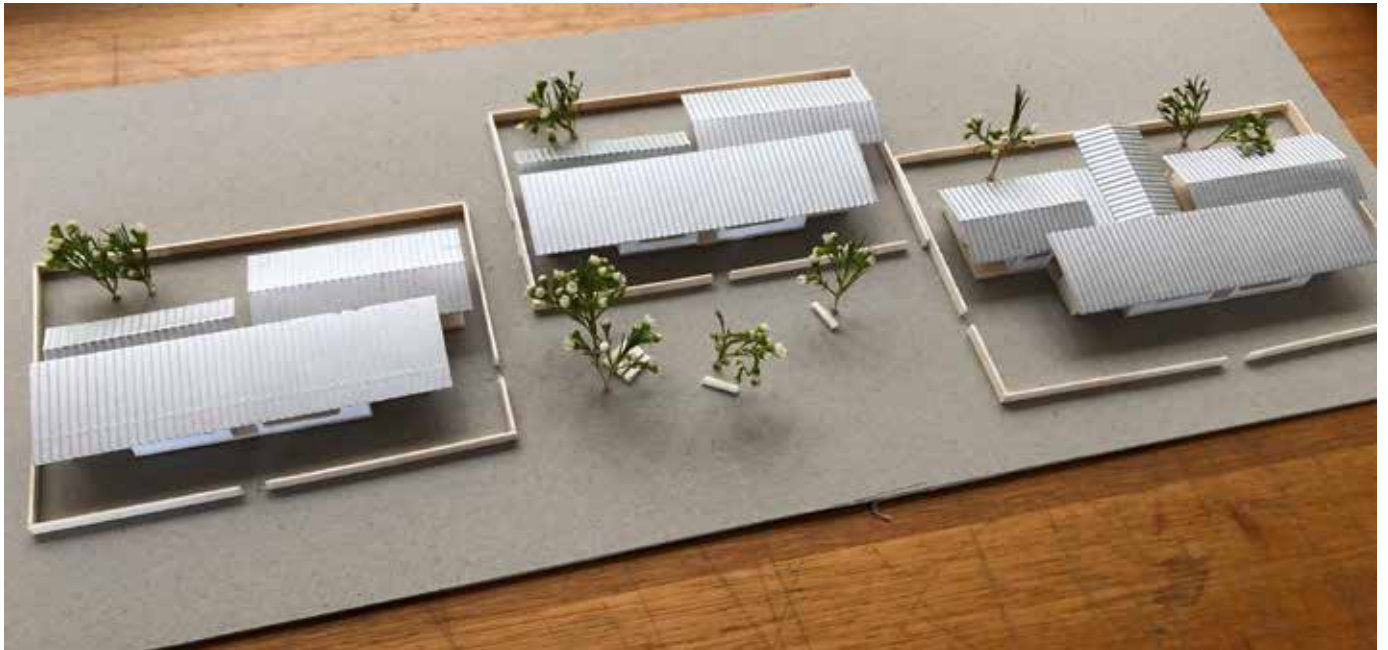
↑  
N  
Plan 1:100

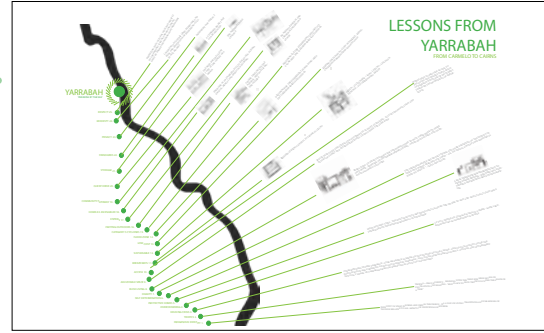


Section 1:100



MODEL PHOTOS

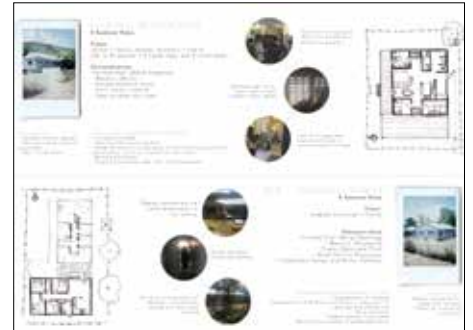




MY STORY



PRE SITE VISIT PROPOSALS



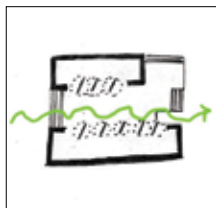
EXPERIENCE OF YARRABAH



**SELF DETERMINATION / CUSTODIANSHIP**  
 - GIVING THE COMMUNITY OPPORTUNITIES TO PLAY A ROLE IN DESIGN & CONSTRUCTION



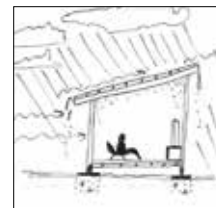
**OUTDOOR BUSHLIVING**  
 - PROVIDE ADJUSTABLE SPACES WITH HIGH CEILING AND OUTDOOR ASPECTS



**ACCESS AND BREEZEWAYS**  
 - CIRCULATION SPACES MUST BE EASILY ACCESSIBLE AND CAN BE MULTI FUNCTIONING BREEZEWAYS



**SUSTAINABLE, GREEN & LOW COST**  
 - SIMPLY MAKING THE BUILDING AS CHEAP AND SUSTAINABLE AS POSSIBLE VIA PASSIVE THERMAL



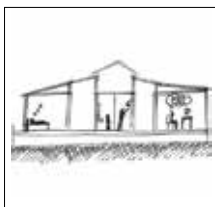
**DESIGNING FOR FLOOD ZONE & CYCLONES**  
 - MAKING APPROPRIATE DESIGN CHOICES THAT REFLECT FLOOD ZONE AND CATEGORY 5 CYCLONES



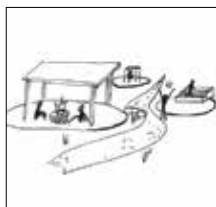
**INDOOR INVITES OUTDOOR**  
 - CAPTURING THE FEELING OF BEING IN A TROPICAL OUTDOOR SHADED SPACE IN EACH HOME



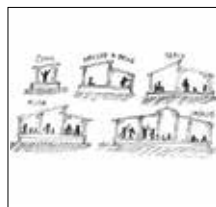
**MULTIPLE ENTRIES**  
 - THE NEED FOR FORMAL SECURE SPACES AND ENTRIES AND INFORMAL INVITING SPACES



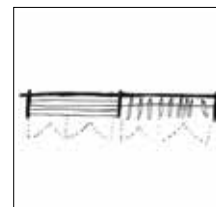
**HOME**  
 - THE HOME AS AN ENabler FOR SOCIAL & EMOTIONAL, CULTURAL AND SPIRITUAL WELLBEING



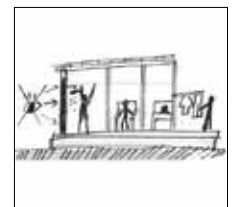
**COMMUNITY WALKWAY**  
 - COMMUNITY EXPRESSED THE NEED FOR A LINK BETWEEN HOMES AND COMMUNITY SPACES



**CLIENT DRIVEN**  
 - THE NEED FOR EACH DESIGN TO AN EXTENT BEING RELATIVE TO NEEDS OF CLIENTS



**STORAGE**  
 - THE NEED FOR EXTRA STORAGE INBUILT INTO THE HOUSE - LOCKABLE



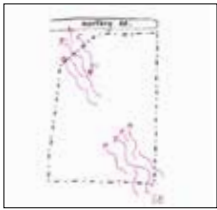
**PRIVACY, RESPECT & MODESTY**  
 - DESIGN THAT CONSIDERS CULTURAL TRADITIONS AND WAYS OF LIVING

OVERARCHING DESIGN PRINCIPLES IN RESPONSE TO TRIP

IN RESPONSE TO THE CURRENT HOUSING SITUATIONS AND TYPES WITHIN YARRABAH:

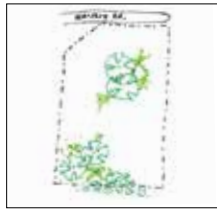
- DESIGN A MODULAR AND ADJUSTABLE HOME SUITABLE TO THE TRANSIENT NATURE OF CLIENT NEEDS

RETURN BRIEF



PREVAILING WINDS

- PREVAILING WINDS ON THE SITE COME FROM THE SOUTH EAST



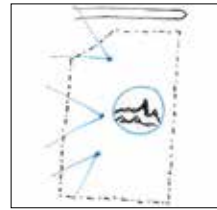
PLANT STUDY

- THE SITE IS NATURALL PLANTED WITH SWINE, MELALUCA AND TREE TREE, WITH PARTICULAR BRUSH TOWARD THE BACK



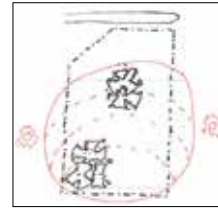
PRIVACY SCREEN

- NURSERY ROAD IS QUITE SECLUDED AND IS NATURALLY PRIVACY SCREENED



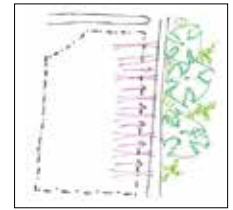
MOUNTAIN VIEWS

- THE SITE HAS THE MOST CAPTIVATING MOUNTAIN VIEWS TO EXPLOIT



SOLAR/ SHADING

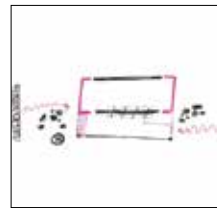
- THE SITE IS IN FULL SUNLIGHT AND NOT MUCH COVERAGE IS PRESENT WITH TREES NOT EXCEEDED 3 M



DRAINAGE

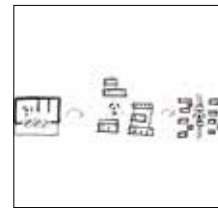
- THE SITE DRAINS TO THE EAST WHERE A DITCH EXISTS

SITE ANALYSIS



ACTIVE FROM BOTH SIDES

- PRIVATE SPACES ON THE OUTSIDE AND PUBLIC ON THE INSIDE - ACTIVATES BOTH ENDS



LAYERS OF PARTICIPATION

- ENGAGING LEVELS OF PARTICIPATION FROM ROOM TO HOME TO COMMUNITY



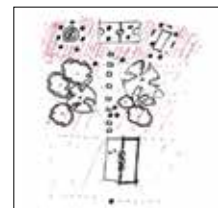
HIERARCHY OF PRIVACY

- SPACES BECOMING INCREASINGLY MORE PUBLIC TOWARD EPICENTRE OF COMMUNITY



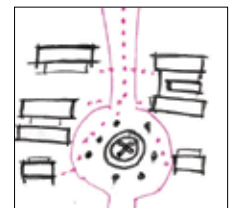
ACCESS AND AGENCY

- EQUAL ACCESS AND A SENSE OF AGENCY ENCOURAGE THROUGH CLUSTERING



THRESHOLDS

- HIERARCHY OF THRESHOLDS WITHIN THE COMMUNITY AS WAYFINDING TOOLS

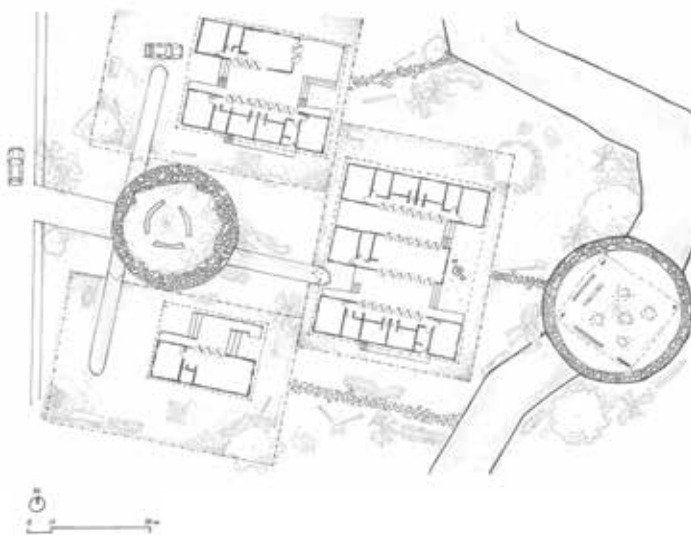


COMMUNITY PATHWAY

- AN OCCUPIABLE PATHWAY THAT GUIDES AND INFORMS COMMUNITY CIRCULATION AND LIFE

MASTERPLAN 1:1000

MASTERPLAN PRINCIPLES

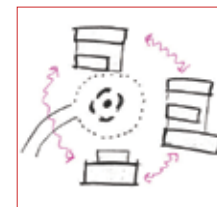


CLUSTER PLAN 1:200

CLUSTER PRINCIPLES

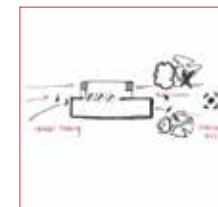
CLIENTS:

- JONO - SINGLE
- TRACY - FAMILY
- JACKIE - INTERGENERATIONAL HOUSE



INSULAR UNITS

- CREATING INSULAR CLUSTERS TO REINFORCE A INSULAR COMMUNITY AND HOME



SHARED FORMAL ENTRY

- A FORMAL ENTRY INTO THE HOMES OF THE COMMUNITIES CITIZENS FOR PRIVACY



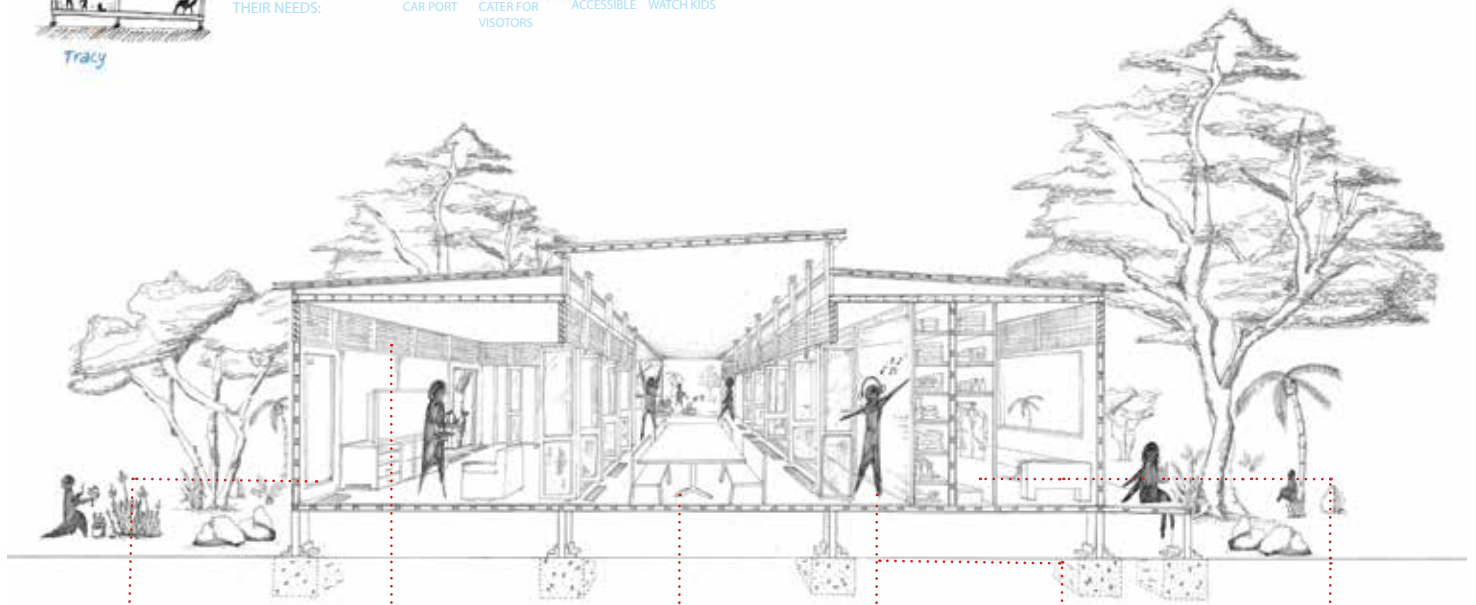
GATHERING BETWEEN

- CREATING INBETWEEN SPACES TO SUIT UNIQUE NEEDS AND LIKES OF USERS

# MAIN DESIGN OPTION 1:

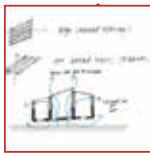


CLIENT: TRACY  
 NUCLEAR FAMILY  
 THEIR NEEDS:



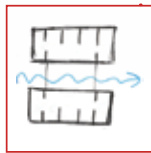
HIERARCHY OF SPACES

- CREATING ADJUSTABLE SPACES WITH VARYING LEVELS OF OPENINGS IN ACCORDANCE TO PRIVACY



VENTILATION

- FLYSCREEN, LOUVRES AND PELLICLS WORK TO VENTILATE THE SPACE WITHIN THE HOUSE IN A CIRCULAR MANNER



BREEZEWAY

- CENTRAL OUTDOOR SPACE THAT ACTS BOTH AS A BREEZEWAY BUT THE MAJOR CIRCULATION AREA THAT IS SHADED



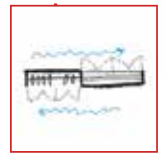
OUTDOOR/ INDOOR SUNROOM

- CORRIDOR STORAGE SPACES DOUBLE AS A SUNROOM WITH PERFORATED SLIDING DOORS  
 - BRING THE EXPERIENCE OF OUTDOORS INDOORS



INDOOR - OUTDOOR

- AN INDOOR AND OUTDOOR RELATIONSHIP IS ESTABLISHED THROUGH THE EXPANDABLE SPACE IN THE CENTRE SEPARATED BY SLIDING DOORS

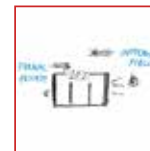


SERVED VS SERVANT

- THE RELATIONSHIP BETWEEN ROOMS AND THEIR CIRCULATION SPACE AND STORAGE MAXIMISED



PLAN 1:50



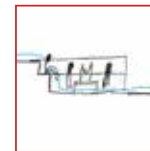
FORMAL AND INFORMAL ENTRY

- INFORMAL INVITING SPACES AT THE BACK, FORMAL PRIVATE ENTRY TOWARD THE FRONT FOR



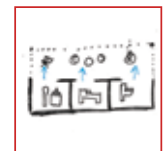
SERVICE CORES

- CLUSTERING ALL SERVICES INTO CORES OR CLOSE VICINITY TO CHEAPEN EXPENSES EG CLUSTERED WET AREAS



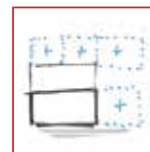
AMPHITHEATRE/ ACCESS

- USING ACCESS WAYS TO ALSO CREATING POTENTIAL INFORMAL SEATING AREAS  
 - RAMPS FOR ACCESS



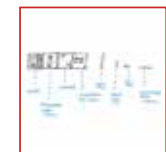
ENCLOSED ESSENTIALS

\* ALL WE NEED IS A HOME TO SHELTER US WHEN WE NEED IT\* - SELF DETERMINED OUTDOOR SPACES WITH ENCLOSED ESSENTIAL ROOMS



EXPANDABLE TO INDIVIDUAL NEEDS

- A LARGE RAISED PLATFORM/ PLOT WITH THE ABILITY TO EXPAND AND INCLUDE EXTRA MODULES



PORTAL KEY INFILLS

- TIMBER PORTAL KEY STRUCTURE WITH VARYING INFILLS THAT RESPOND TO LEVELS OF PRIVACY  
 - EASY MODULAR AND CHEAP MODE OF CONSTRUCTION



BURRI GUMMIN

- THE FRAMEWORK OF ONE FIRE INFORMS THE HIERARCHY OF SPACES IN THE HOME FROM THE LIVING SPACE TO THE OUTDOOR AREAS  
 - ALL AREAS HAVE A CORESPONDING EPICENTRE







RECLUSE



NEEDS MONITORING

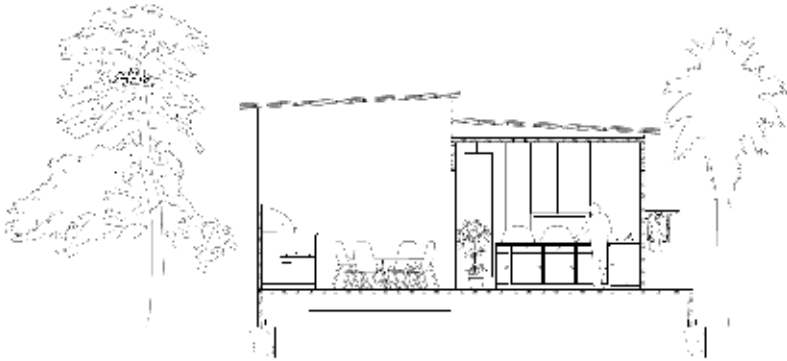


SMALL LIVING



CAMPFIRE

CLIENT: JONO  
SINGLE HOME  
THEIR NEEDS:



SECTION 1:50



PERSPECTIVE



PLAN 1:50



AXONOMETRIC



CAMPFIRE



SCOOPING ARM

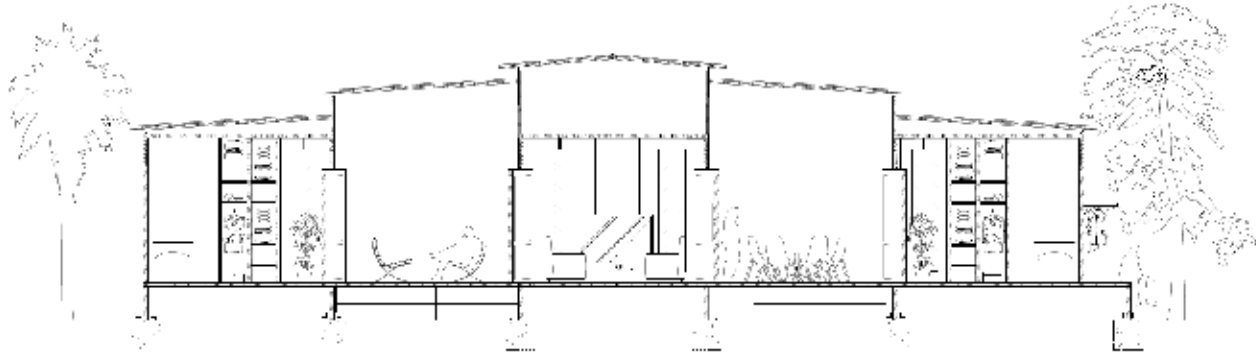


PRIVACY PLANTING

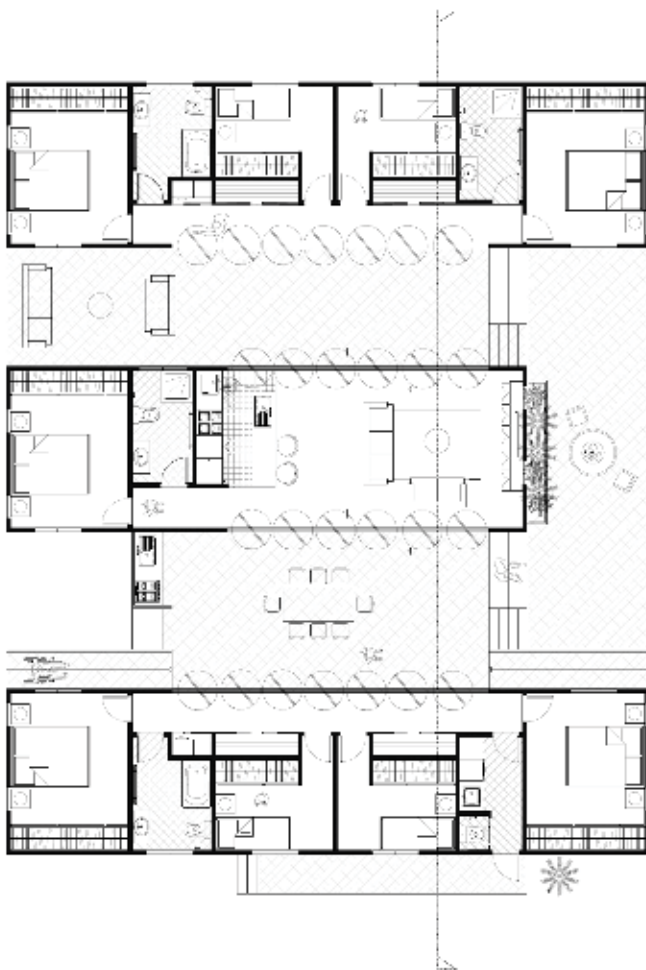


INTERGENERATIONAL  
ELDERLY  
COMMUNAL  
TABLE  
STUDY / RE-  
CREATION SPACE

CLIENT: JACKIE  
INTERGENERATIONAL HOME  
THEIR NEEDS:



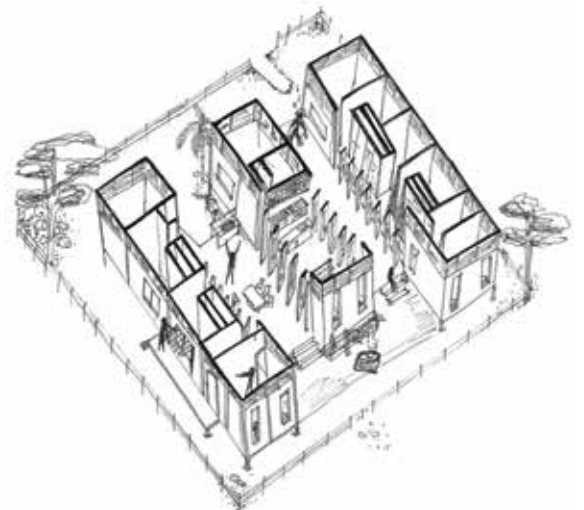
SECTION 1:50



PLAN 1:50



PERSPECTIVE



AXONOMETRIC



PRIVATE WINGS



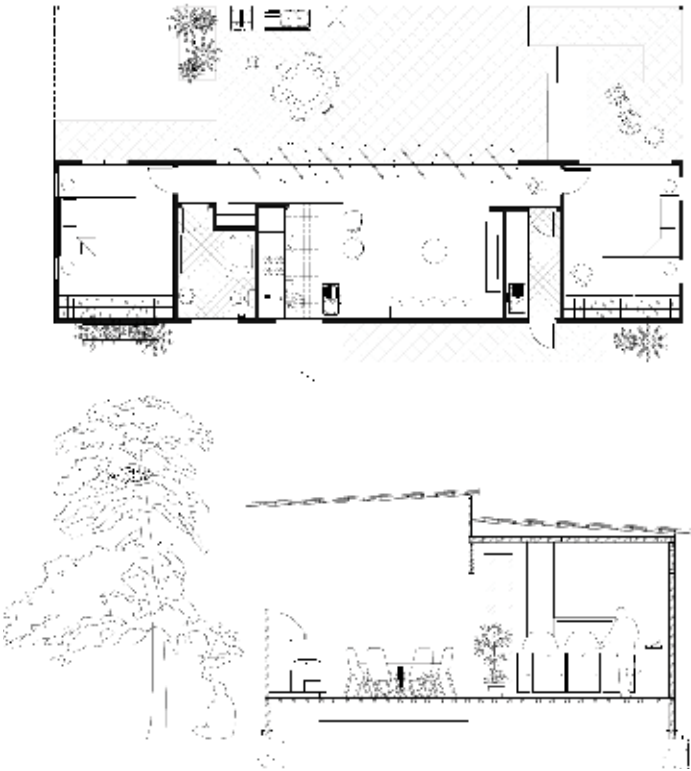
LAYERS OF OUTDOOR AND INDOOR



CENTRAL MEETING SPACE



DESIGN OPTION 4:



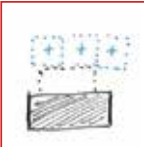
CLIENT: PAULIE AND DOUG  
FRIENDS  
THEIR NEEDS:



PLAN 1:50



ACTIVE FROM BOTH ENDS



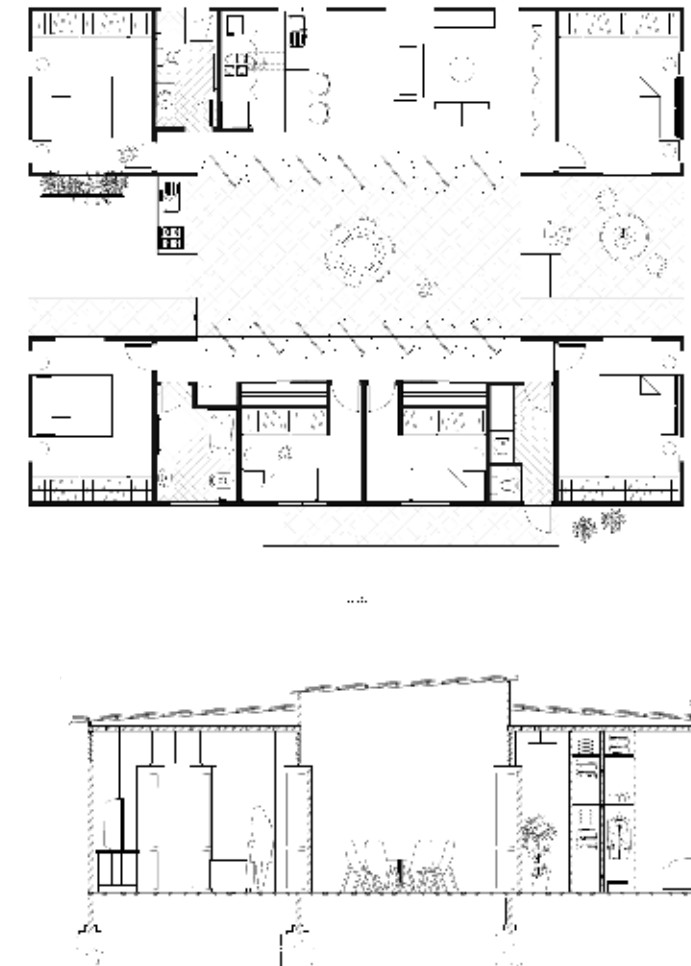
EXPANDABLE



FISHING SPOT

SECTION 1:50

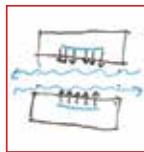
DESIGN OPTION 5 :



CLIENT: MICK  
ACCESSIBLE/ ELDERLY  
THEIR NEEDS:



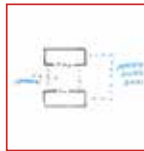
PLAN 1:50



CENTRAL BREEZEWAY & CIRCULATION SPACE



OUTDOOR KITCHEN



WINGS/BLOCKS

SECTION 1:50

SECTION 1:50

MODEL PHOTOS





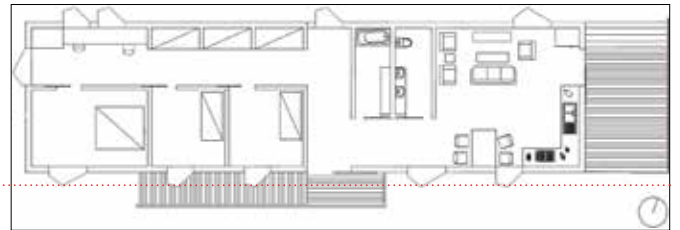
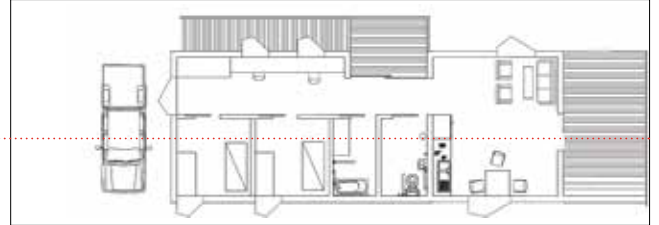
**STUDENT NAME  
SID:**



**MY STORY**



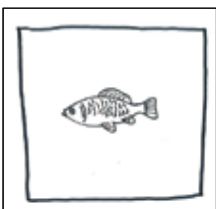
**PRE SITE VISIT PROPOSALS**



**EXPERIENCE OF YARRABAH**

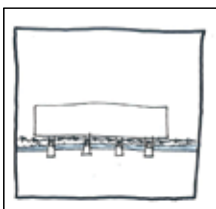


**OVERARCHING DESIGN PRINCIPLES IN RESPONSE TO TRIP**

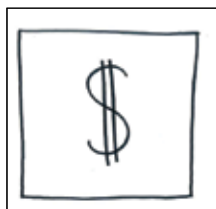


Outdoor food preparation area

Outdoor kitchen for people to connect and food preparation.



Elevated dwelling



Low Budget house



Disable



Dog

A place for the dog



PRINCIPLE TITLE

longer explanation if necessary...Lari peroximila L. Em no.Ubis.tici oniur, vit. Rae consulus,

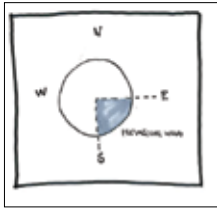
**Architecture for people and the environment. Prefabricated steel structure allows the inhabitants to take part in the building process of their dwelling.**

**RETURN BRIEF**



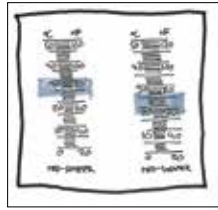
**Location**

Yarrabah, traditionally Yagaljida in the Yidin language spoken by the indigenous Yidinji people, is an Aboriginal community 53 kilometres from Cairns.



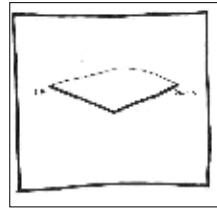
**The Prevailing Wind**

The prevailing winds are East to Southeasterly with strongest winds (cyclones excluded) usually occurring during April and August.



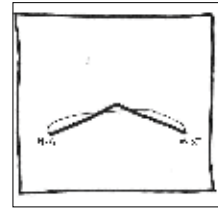
**Climate**

Tropical climate, with generally hot and humid Summers and milder dryer Winters.



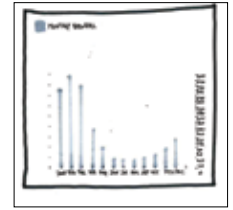
**Winter sun (1.Jun)**

The sun is high on the sky.



**Summer sun (1.Dec)**

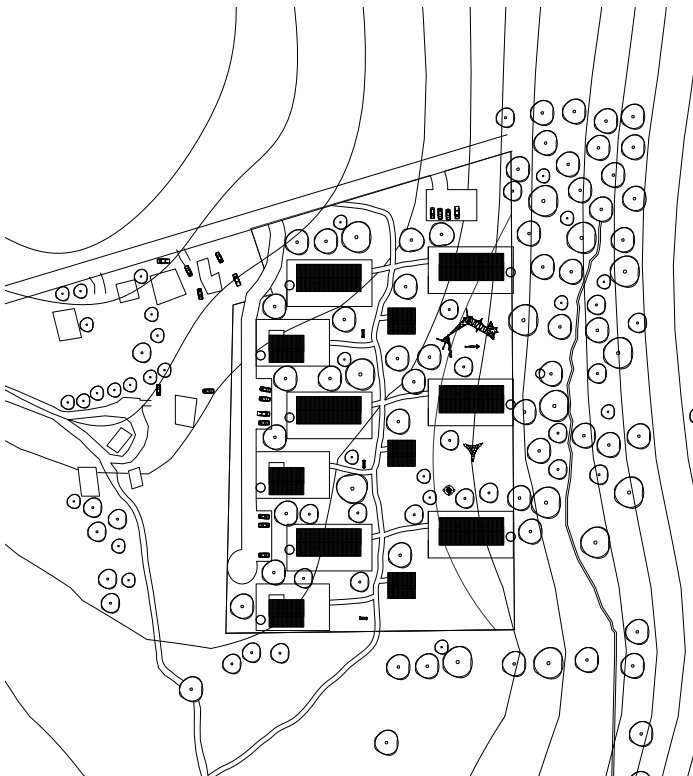
The Sun is low on the sky.



**Monthly Rainfall**

The majority of Cairns' rainfall occurs during summer between January and March.

**SITE ANALYSIS**

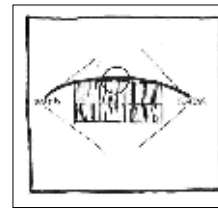


**MASTERPLAN 1:1000**



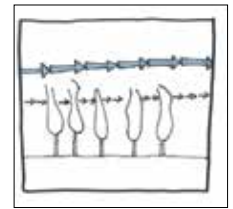
**Breezeway**

Eloved roof allows wind to channel though the dwelling.



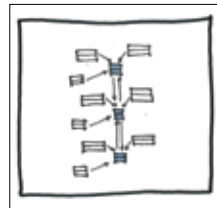
**Solar Radiation**

Small facades towards east and west to minimize sun radiation.



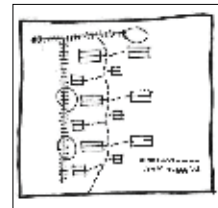
**Microclimate**

The trees on the site allow cooling air to channel through the shadow of the trees and hot air to be pushed upwards.



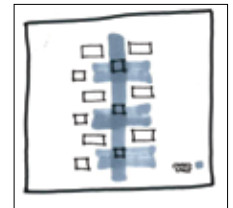
**Outdoor cooking**

The dwelling verandas is orientated towards the common area, with outdoor cooking facilities.



**Pedestrian and cars**

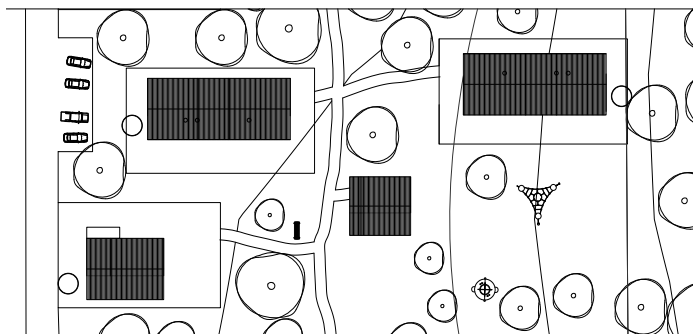
Pedestrian and cars are separated for a green community area.



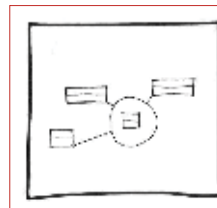
**Shared space**

Large area for people to share stories.

**MASTERPLAN PRINCIPLES**



**CLUSTER PLAN 1:200**



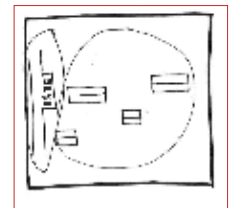
**Zones**

Private zones and shared spaces for community and outdoor cooking.



**Vegetation**

Vegetation organized in order to create privacy and shadow for each dwelling.



**Cars**

Parking in the sides of the site.

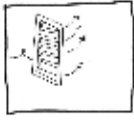
**CLUSTER PRINCIPLES**

# DESIGN OPTION I:



**Breezeway**

Elevated roof allows wind to channel through the dwelling.



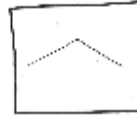
**Shutters**

For privacy and to channel the air flow upwards.



**Prefab**

Prefabricated steel structure.



**Gable roof**

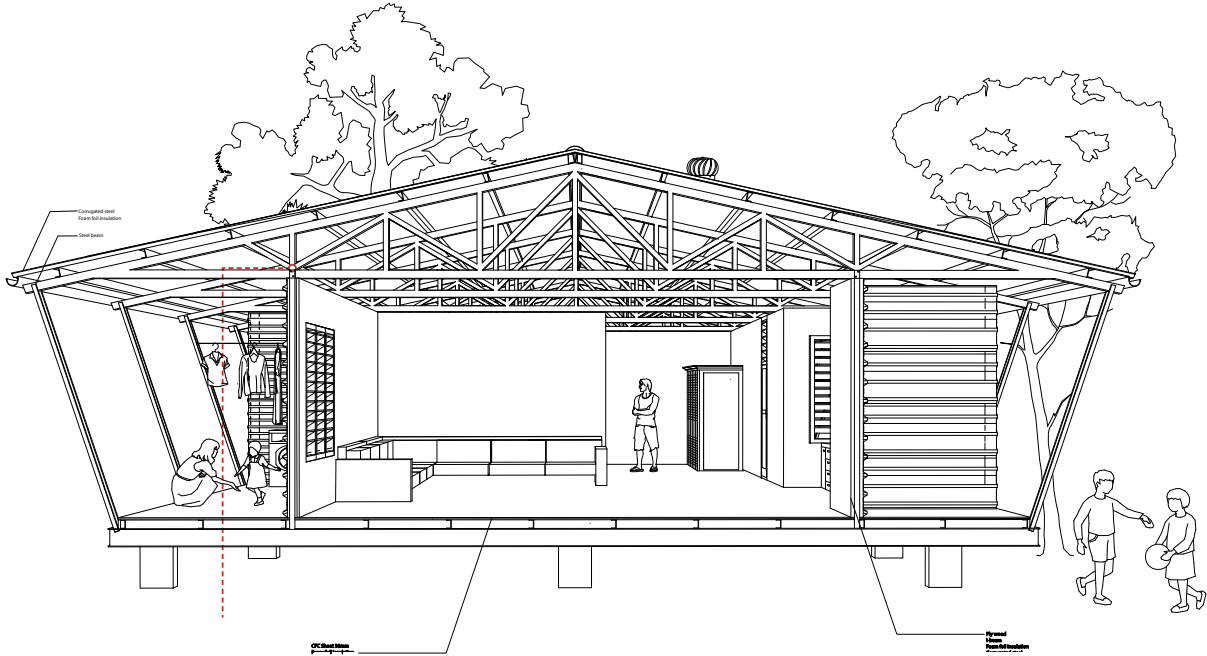


**Water tank**



**Dry clothes**

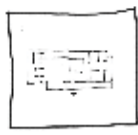
Space outside to dry clothes in shelter



**Inside/Outside**



**Surviving spaces**

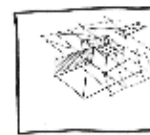


**Outdoor exits**



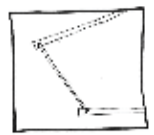
**Elevated dwelling**

To protect from water and ensure easy access for air circulation.



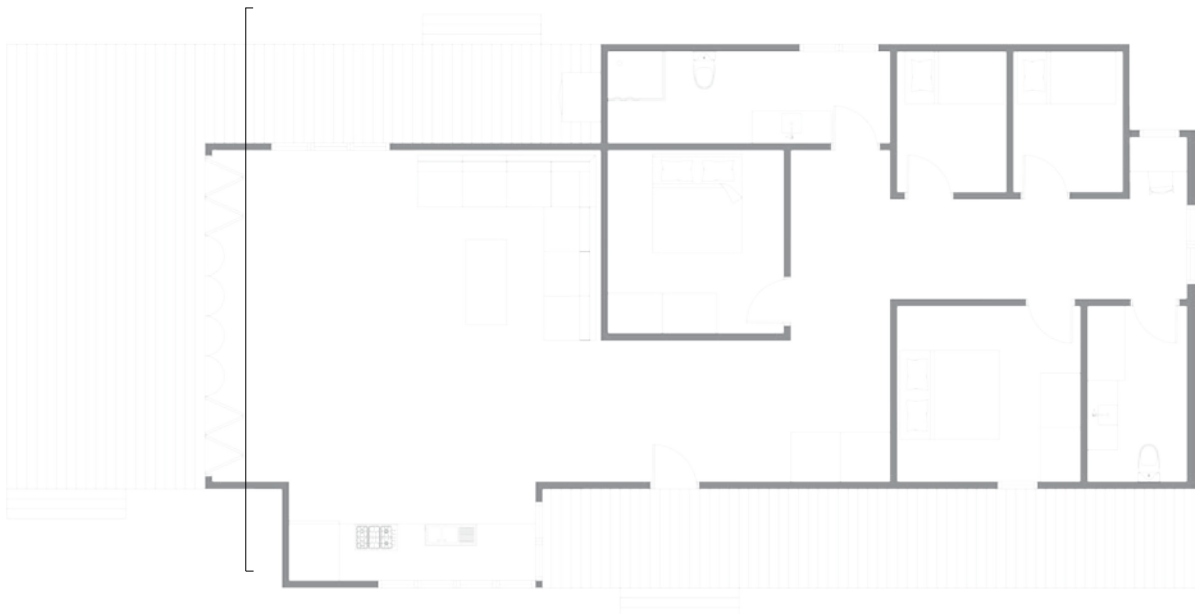
**PRINCIPLE TITLE**

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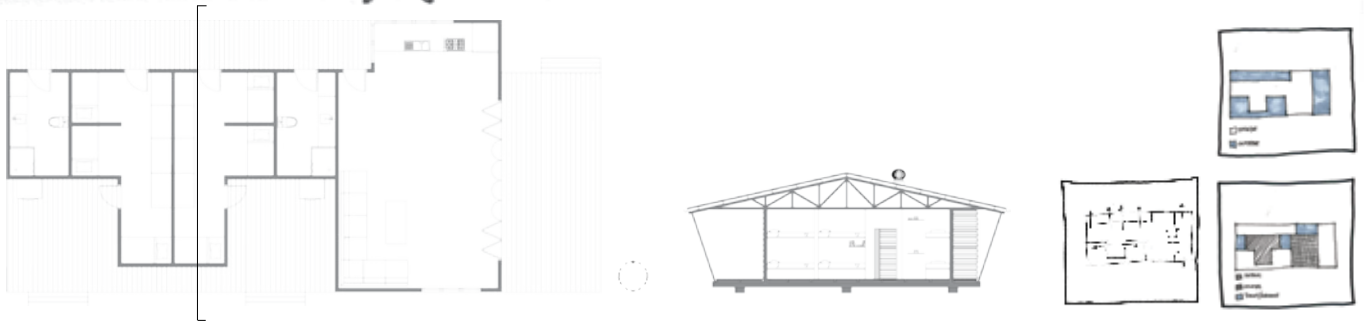
**PRINCIPLE TITLE**

longer explanation if necessary...Lari m inte teatici Rae consulus,

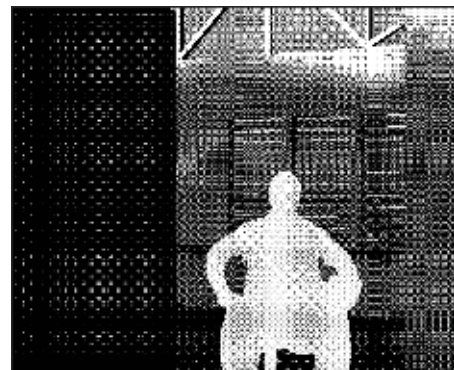
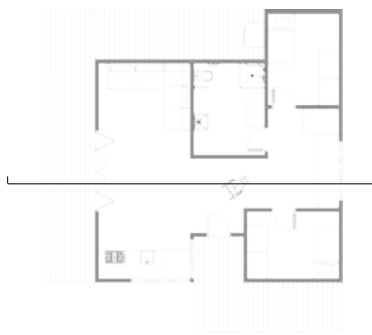




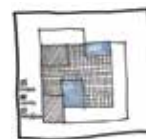
**DESIGN OPTION 2:**



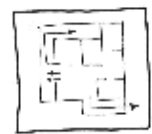
**DESIGN OPTION 3 :**



Inside/Outside



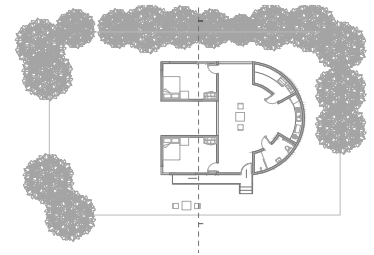
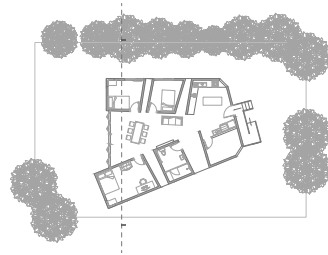
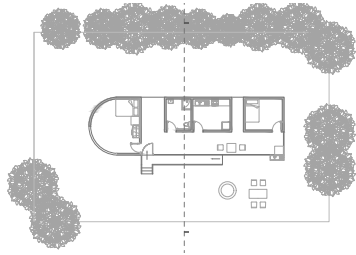
Surviving spaces



Outdoor exit



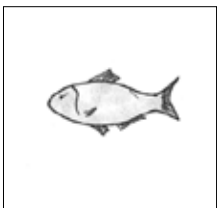
MY STORY



PRE SITE VISIT PROPOSALS

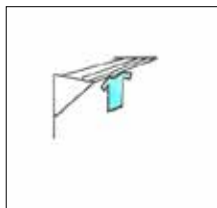


EXPERIENCE OF YARRABAH



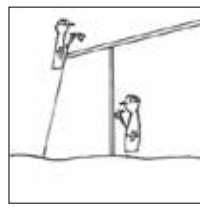
FISH CLEANING

Fishing is a big part of the Yarrabah lifestyle and houses should include gutting / cleaning stations



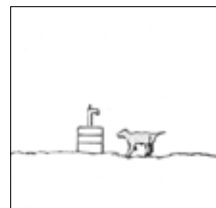
CLOTHESLINE PRIVACY

During site visit to Yarrabah many residents desired more privacy for their clotheslines due to modesty concerns



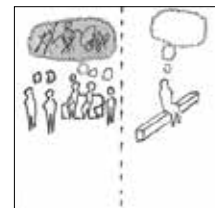
EASY TO REPAIR AND MAINTAIN

As Yarrabah council has a limited repair and maintenance budget per year



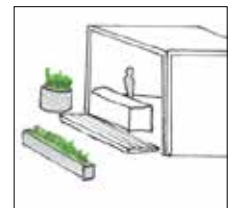
OUTDOOR TAPS

Outdoor taps should be elevated with runoff protection as unprotected leaky taps are likely to attract strays



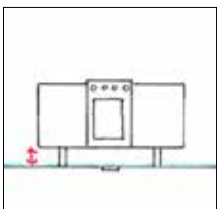
PRIVATE SPACES

Multiple generations of a family living in a home places strain on the mental health of occupants. Designs should give space for occupants to have time to themselves



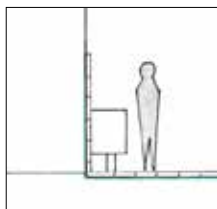
GARDENING

As fruits and vegetables prices in the community are inflated, many residents have started to grow their own produce



ELEVATED KITCHEN COUNTERS & FLOOR

For pest control and damage mitigation during floods



TILING AND WATERPROOFING HEIGHT

Tiling and waterproofing higher than normal reduces long term repair and maintenance costs

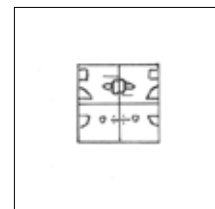


CONSTRUCTION

Designs use timber post & beam construction as it reduces the need for interior load bearing walls, allowing for more suitable for open plan designs.

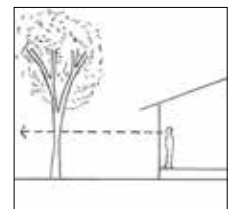


CONSTRUCTION MODELLED



MULTIPLE BATHROOMS

Hygiene is improved in high capacity houses by increasing the amount of bathrooms and showers



USING EXISTING TREES

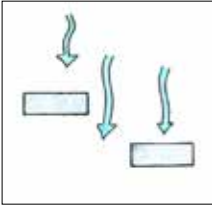
Designs will take advantage of shade provided by local trees as leaves start high but still allow uninterrupted views

OVERARCHING DESIGN PRINCIPLES IN RESPONSE TO TRIP

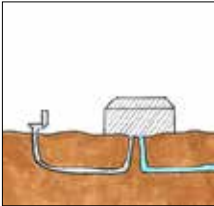
The aims of my designs are to create sustainable housing solutions for displaced members of the Yarrabah community that support the self-determination of Indigenous people and can become a source of pride

RETURN BRIEF

**SITE MASTERPLAN:**



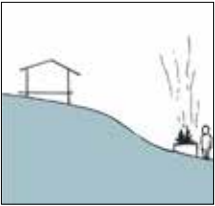
**SPACING TO ALLOW VENTILATION**  
Building should be adequately spaced and in a staggered pattern to allow equal access to prevailing south/ south east summer-winds



**LOCAL WATER PUMP + SEWAGE TREATMENT**  
As site is too far from Yarrabah, local water infrastructure is needed



**VEGETATION DISTRIBUTION**  
The densest area of trees exist in the south western area of site which remains well shaded and cool in the afternoon (image right: photo of site in the south west)  
The north and eastern side of the site has been cleared of trees (image left:entrace from road)



**HIERARCHY OF SPACES**  
Important buildings such as houses should occupy the higher ground on the east whilst community spaces which are of less importance can occupy lower ground to west

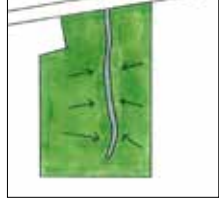
**SITE ANALYSIS**



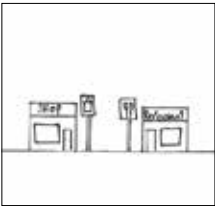
- 1. Community Centre & retail space
- 2. Farm
- 3. Half-sized basketball court
- 4. Playground
- 5. Communal garbage dump
- 6. Car park



**COMMUNITY SPACES**  
Provide a shaded communal space for meetings and events; a hall is ideal, but a pergola is more economical and can gradually be upgraded into a hall



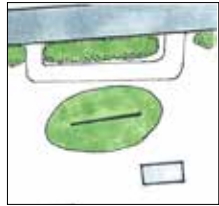
**CENTERED ROAD**  
Road is centered on the plot to allow residents to monitor visitors entering and exiting.



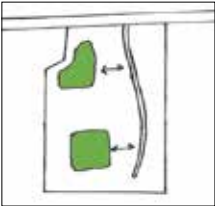
**LOCAL BUSINESS SPACES**  
Provide space for local community businesses which would aid local community



**LOCAL FRUIT & VEGETABLE FARM**  
Space for locals to farm provides access to affordable fruit and vegetables



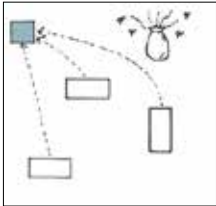
**SECURITY**  
Houses should be spaced from outer boundaries by community areas such as ovals for security



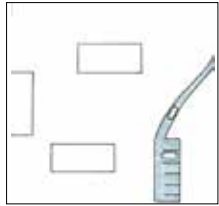
**PLACES FOR CHILDREN**  
Give spaces to children that are well spaced from the road for child safety

**MASTERPLAN 1:1000**

**MASTERPLAN PRINCIPLES**



**LOCAL GARBAGE DUMP**  
Garbage dump dedicated to each cluster to control waste overflow from overcrowding houses that could otherwise attract stray animals



**COMMUNAL CAR PARKS**  
As not every house needs car access, each cluster will have a dedicated car park that can save unnecessary costs of building roads to each house.



**TEA TREE RETENTION**  
Original vegetation should be retained where possible and re-purposed as fencing

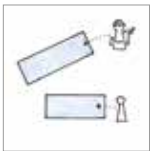
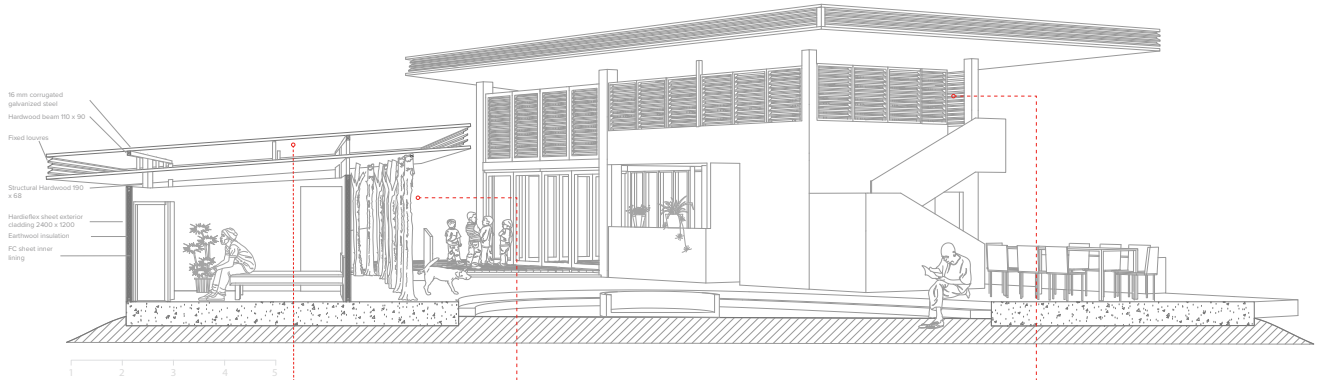
**CLUSTER PLAN 1:200**

**CLUSTER PRINCIPLES**

# DESIGN OPTION 1:

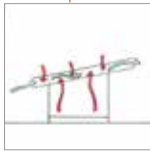
CLIENT: Multi-generational family

- THEIR NEEDS:
- Core of 3 families occupying the house
  - Number of occupants will fluctuate throughout the year (peak at 17 people)
  - Disabled access
  - Social housing



**SWEAT EQUITY**

Separate wings that have different difficulty to construct



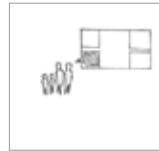
**DOUBLE ROOF**

To shield heat from sun and effectively ventilate heat from rooms



**Tree screen wall**

An easier to construct and cheaper alternative to louvre walls for resident to construct



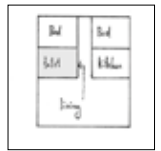
**BEDROOM CAPACITY**

Due to the housing crisis it is not uncommon for an entire family to occupy one bedroom



**LOUVRE WALLS**

Provide ventilation and creates relationship between outdoor and indoor space



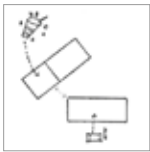
**TOILET PLACEMENT**

Toilets are placed near living spaces for security as it prevents visitors from wandering into private spaces



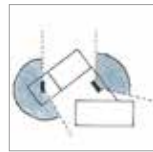
**FLEXIBLE SPACES**

Form of building encloses an "in-between" space that can be moulded to the occupants' needs



**SEPARATION OF SPACES**

Public and social spaces are separated from sleeping spaces for child wellbeing



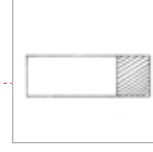
**PANORAMIC VIEW TO COUNTRY**

Public and private living spaces both provide a panoramic view to the east & west



**WIND TUNNELS**

Flexible space that Allows prevailing south/south-eastern summer breeze to pass through the building and provides semi-outdoor sleeping area in humid summer



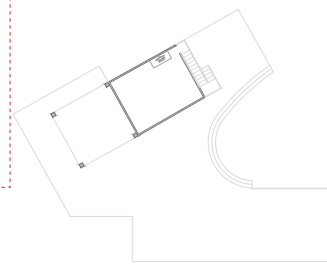
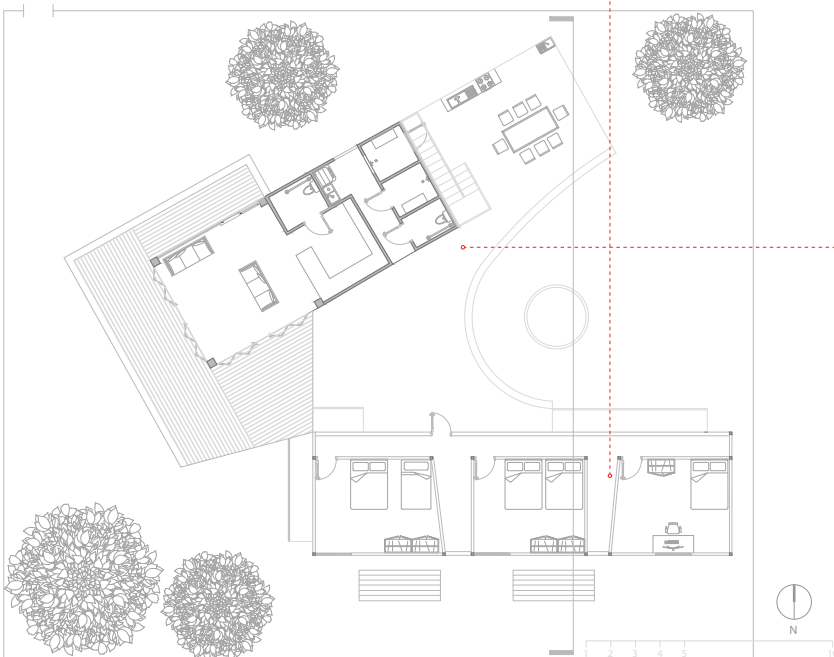
**CLUSTERED SERVICES**

Kitchen and Toilets are grouped together to save costs on piping



**STRAPPED JOINTS**

To resist cyclone uplift all joints are strapped or braced with steel plates.

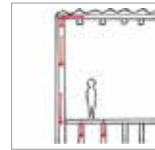
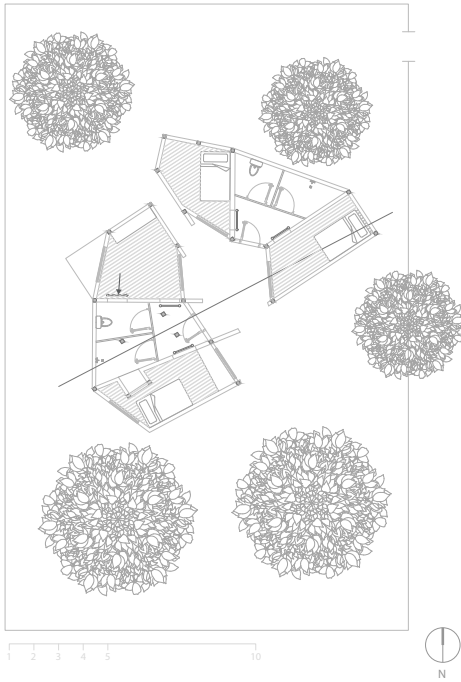


1: 200 plan of loft space

## DESIGN OPTION 2:

CLIENT: Semi-permanent housing for children displaced from home

THEIR NEEDS: • Culturally sensitive  
• Safety



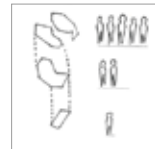
Separation of floor and roof loads for easier construction



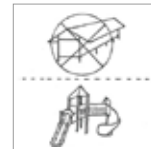
Regular structural grid



Loft space watches over entrance for security



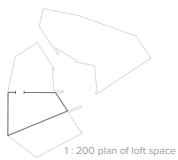
Difference levels of social interaction



Cultural consideration of building forms



Bush block aesthetic influence that ties building to place

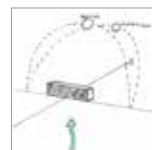
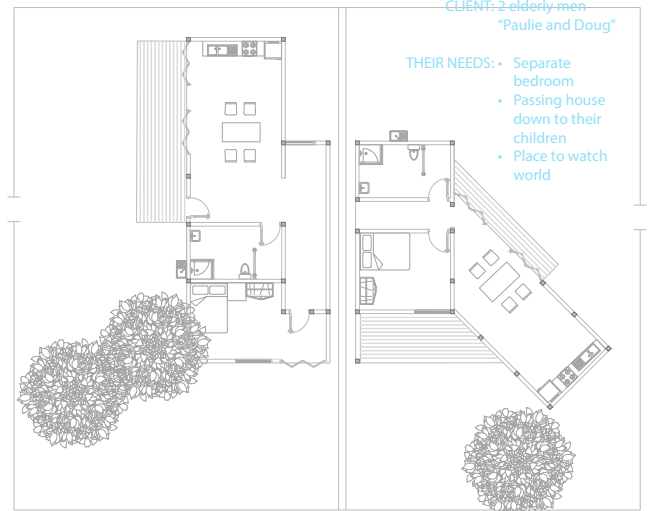
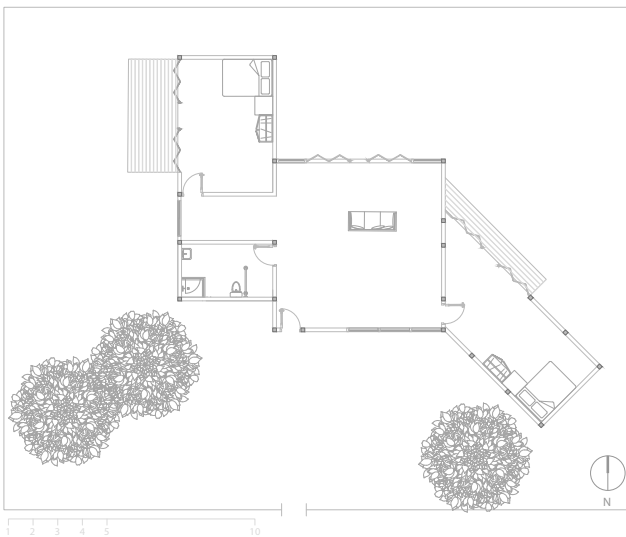


1:200 plan of loft space

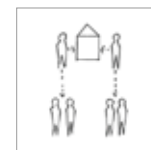
## DESIGN OPTION 3:

CLIENT: 2 elderly men "Paulie and Doug"

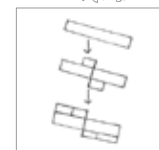
THEIR NEEDS: • Separate bedroom  
• Passing house down to their children  
• Place to watch world



Shape and orientation for optimal breeze & sun



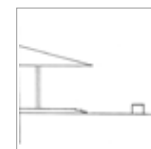
Function of house beyond first owners



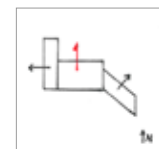
Stages of house as owners change



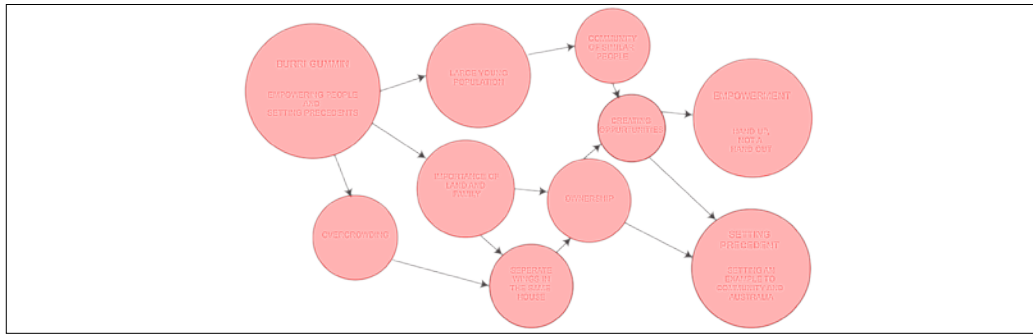
Panoramic view of country



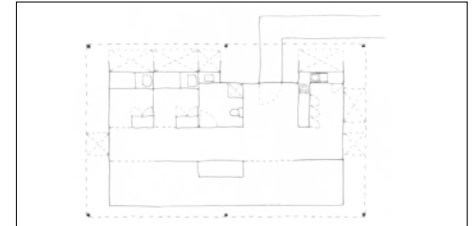
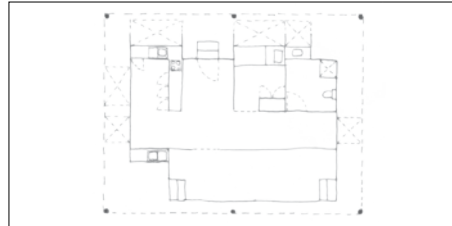
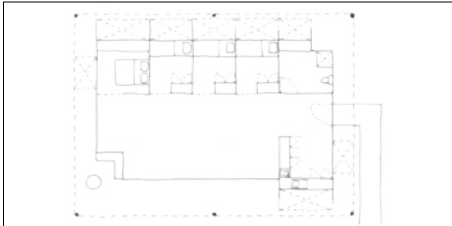
Veranda living



Public vs. private views



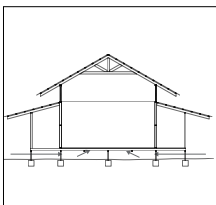
MY STORY



PRE SITE VISIT PROPOSALS

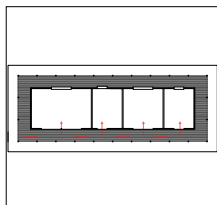


EXPERIENCE OF YARRABAH



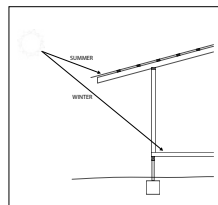
RAISING HOUSE

house is cooled through ventilation under the house



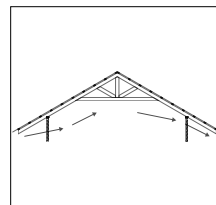
VERANDAH AS CIRCULATION

removing the hallway allows for greater ventilation through each room



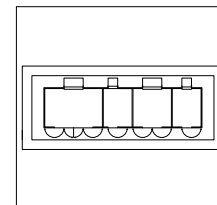
DEEP ROOF OVERHANGS

summer sun is excluded and winter sun is permitted, also prevents rain from entering house



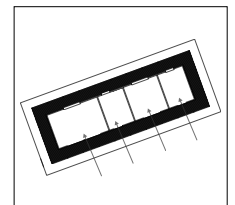
HIGH PITCHED ROOF

drainage of rainwater and higher ceiling space which allows for greater ventilation



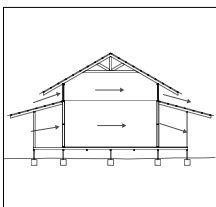
FULLY OPENED OR CLOSED

doors and windows can be full opened or sealed to allow for ventilation or privacy when required



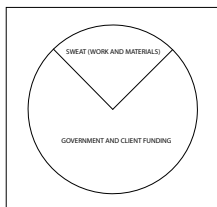
LONG THIN PLAN

captures the prevailing breezes effectively ventilating the house



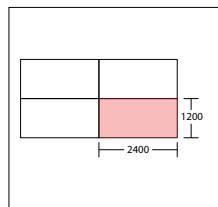
DOUBLE ROOF

Allows for ventilation through the house even when doors and windows are sealed



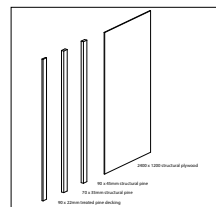
SWEAT EQUITY

materials and building technique allow for users to contribute 'sweat' as equity to their house



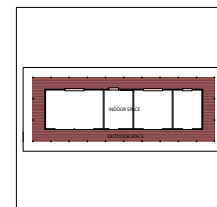
BUILT ON A GRID

built on a grid with increments of 1200 which allows clients to adapt the houses to their needs



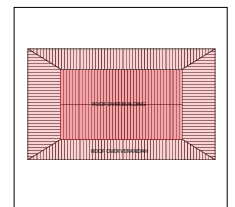
MATERIALS FROM HARDWARE STORES

most materials can be bought from hardware stores so they can be easily replaced and repaired



FOCUS ON OUTDOOR SPACES

outdoor living is prioritised in the houses opening up to backyards and communal spaces



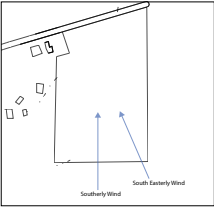
REFERENCING THE QUEENSLANDER

the houses reference the traditional vernacular Queenslander house

OVERARCHING DESIGN PRINCIPLES IN RESPONSE TO TRIP

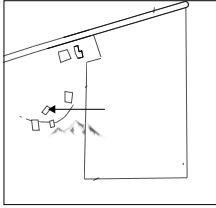
EMPOWERING PEOPLE AND CREATING OPPURTUNITIES  
RAISING THE BAR AND SETTING A PRECEDENT

RETURN BRIEF



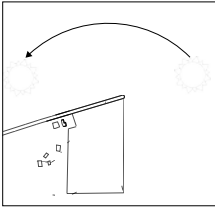
**PREVAILING BREEZES**

site receives only Southern breezes and occasionally South Eastern and South Western breezes



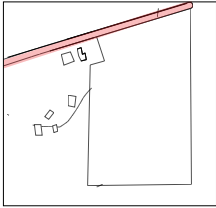
**FRAMING OF VIEWS**

panoramic views of the mountains sweep from the north all the way to the south west of the site



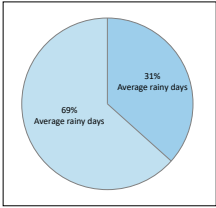
**SUN PATH**

east to west of the site however in the afternoon the sun descends behind the western mountains



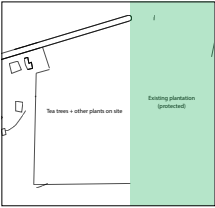
**PATHWAYS AND ACCESS**

one road to access the site and this connects to a main road, the site is quite secluded



**RAINFALL**

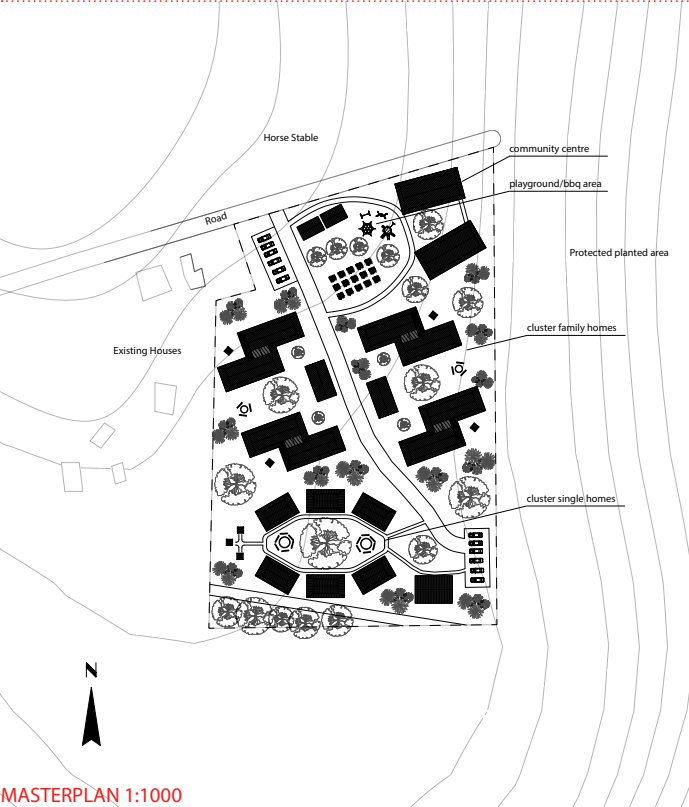
there are 113 rainy days (31%) per year in Yarrabah



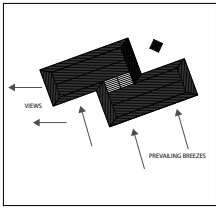
**EXISTING VEGETATION**

existing on the Eastern side of the site, tea trees planted on the site and other vegetation

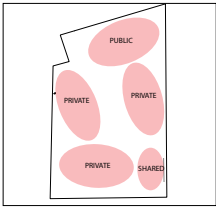
**SITE ANALYSIS**



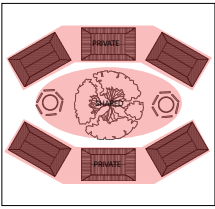
MASTERPLAN 1:1000



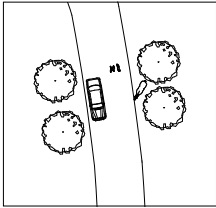
**HOUSES ORIENTED WEST OF NORTH**  
to make the most of prevailing breezes and Westerly views



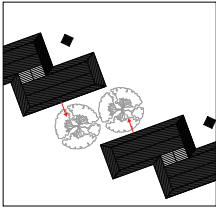
**PUBLIC, PRIVATE AND SEMI PUBLIC SPACES**  
public community spaces are separated from the private homes and respective shared spaces



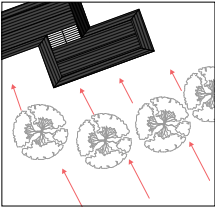
**CLUSTERS OF HOMES**  
clusters of homes are created in order to create individual communities and shared facilities



**SHARED CENTRAL ROAD**  
central main road shared between both cars and people with a focus on pedestrians

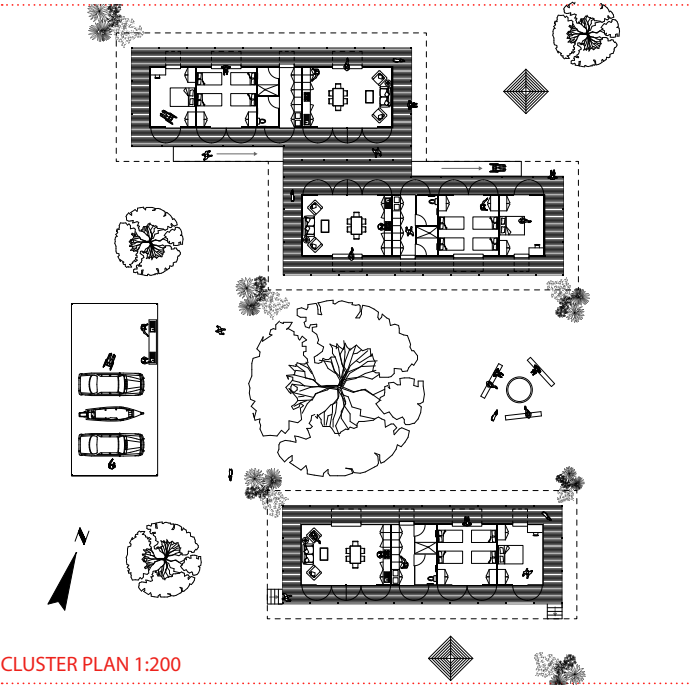


**VEGETATION AS PRIVACY SCREENING**  
natural screening between home and providing natural cooling means for houses

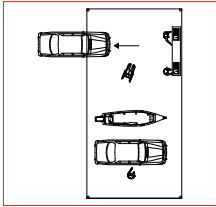


**HEAVY PLANTING OF LOCAL VEGETATION**  
used to cool the site and to provide areas for users to collect fruit and gather at these natural spaces

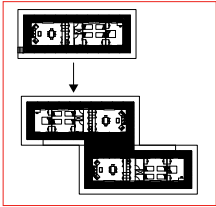
**MASTERPLAN PRINCIPLES**



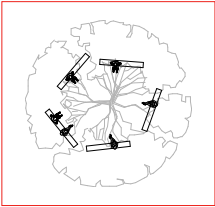
CLUSTER PLAN 1:200



**SHARED CARPORT AND OUTDOOR KITCHEN**  
carport that can double as a kitchen and fish cleaning between the two homes



**HOMES CAN BE EXPANDED**  
as the needs of the users grow and they can afford to the houses can be expanded



**MANGO TREE**  
mango tree used as a marker of cluster whilst providing a meeting zone and cooling the homes

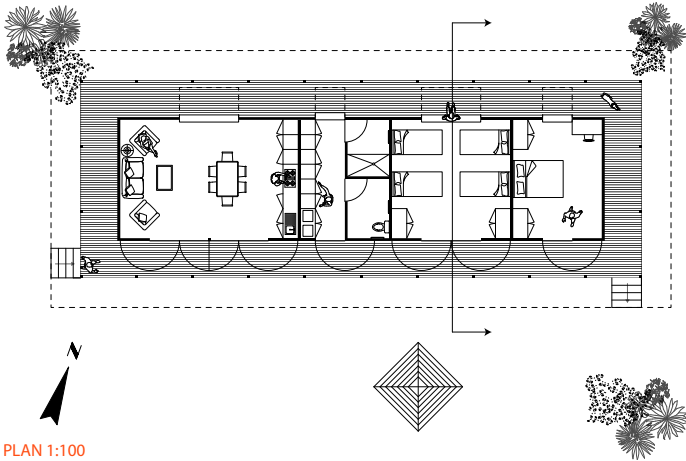
**CLUSTER PRINCIPLES**



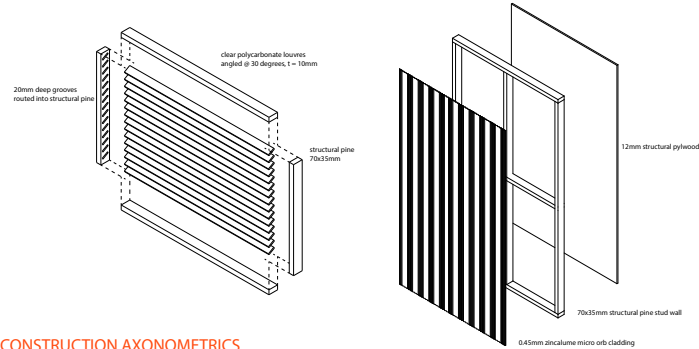


DESIGN OPTION 2:

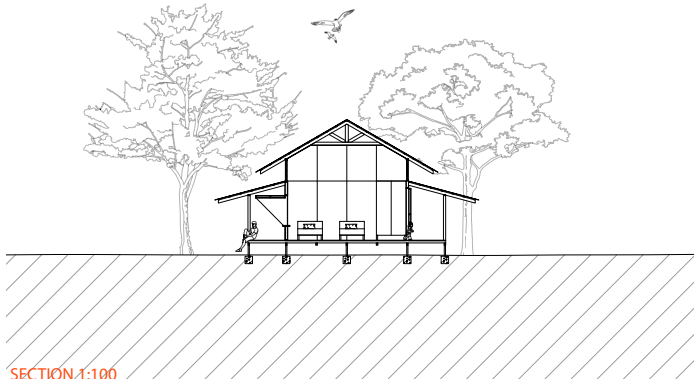
CLIENT: SINGLE FAMILY HOME



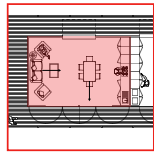
PLAN 1:100



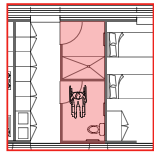
CONSTRUCTION AXONOMETRICS



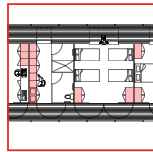
SECTION 1:100



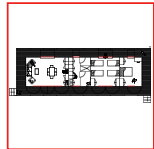
ADAPTABLE MAIN LIVING SPACE



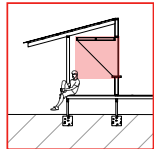
DISABLED ACCESS BATHROOM



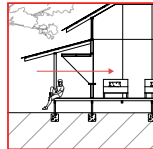
STORAGE



OUTDOOR THRESHOLD



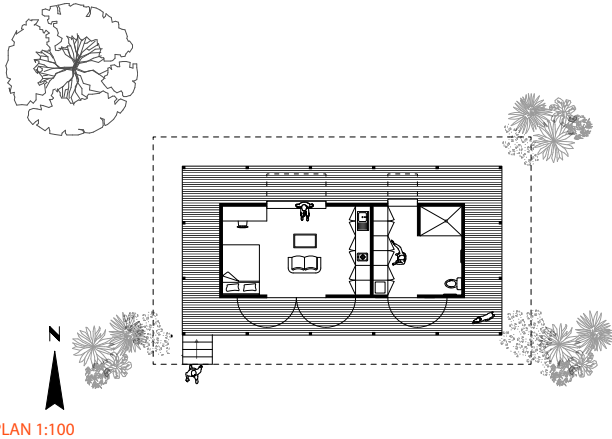
FEW MECHANICAL PARTS



LOW WINDOWS

DESIGN OPTION 3:

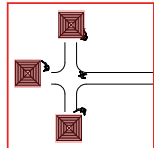
CLIENT: YOUNG SINGLE POPULATION



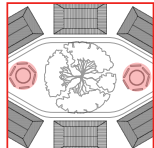
PLAN 1:100



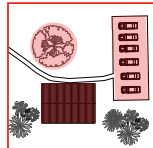
MATERIAL PALETTE



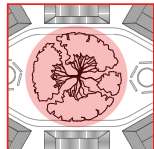
SHARED WASHING LINES



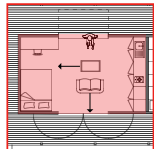
SHARED FIREPIT



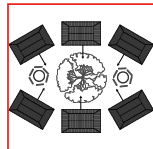
COMMUNITY SPACES



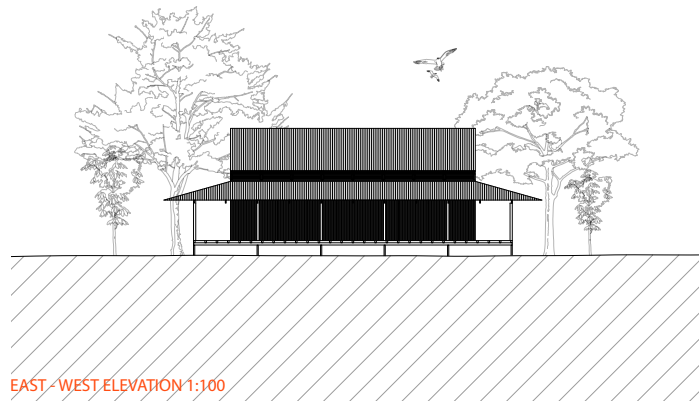
LARGE MANGO TREE



ADAPTABLE SPACE



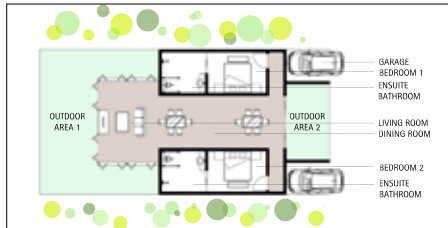
PASSIVE SURVEILLANCE



EAST - WEST ELEVATION 1:100



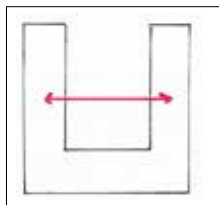
**MY STORY**



**PRE SITE VISIT PROPOSALS**



**EXPERIENCE OF YARRABAH**



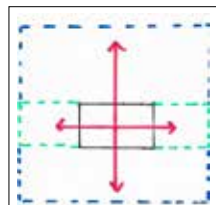
**WING HOUSING**

Wing design help separate large families in the same house creating privacy.



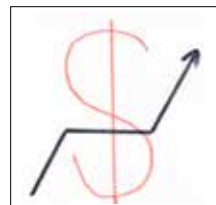
**WEATHER PROOFING**

Use tropical cyclone resistant building techniques to withstand bad coastal weather.



**EXPANDABILITY**

Housing must have the ability to expand to accommodate for growing families.



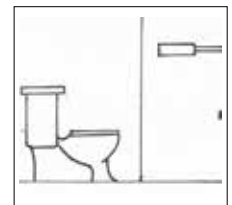
**AFFORDABILITY**

Housing must be affordable as unemployment rate is high.



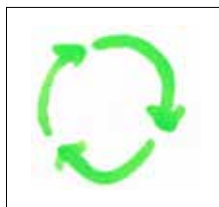
**VERANDAH**

Housing is desired to have verandah and outdoor kitchen as it is the preferred way of life.



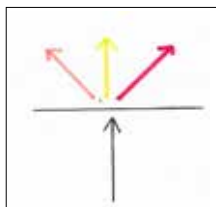
**BATHROOM**

Housing must have multiple bathrooms to accommodate for large families living in a single house.



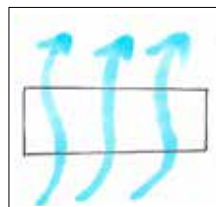
**SUSTAINABILITY**

Design should take into account of natural resources and avoid depleting certain materials.



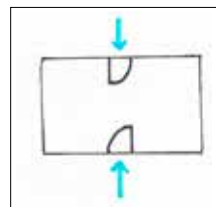
**OPEN-PLAN LIVING**

Open-Plan Living is desired by local people as the preferred way of life.



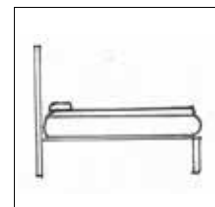
**BREEZE**

Design should account for prevailing winds to maximise breeze.



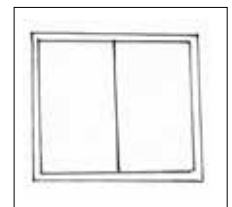
**REAR ENTRANCE**

Housing is preferred to have rear entrance for easy access.



**SPACIOUS BEDROOMS**

Bedrooms should be spacious to allow families to reside in a single room.



**MOSQUITO FLYSCREEN**

Flyscreen should be installed to prevent mosquito from entering the house.

**OVERARCHING DESIGN PRINCIPLES IN RESPONSE TO TRIP**

- ALWAYS LISTEN TO CLIENT'S WANTS
- ARCHITECT'S BUILDING FOR SHORT TERM ONLY

**RETURN BRIEF**



**Wind Rose\***

Prevailing winds from the South and South-East all year round.



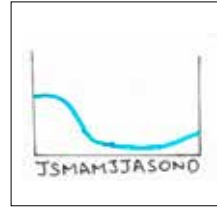
**AVERAGE TEMPERATURE\***

Average maximum temperature is 29.7°C while average minimum temperature is 21.3°C



**MAXIMUM / MINIMUM TEMPERATURE\***

2018 recorded maximum temperature was 36.3°C while minimum temperature was 11.2°C



**RAINFALL\***

Summer months receive a significant more rain than winter months.



**LOCATION\*\***

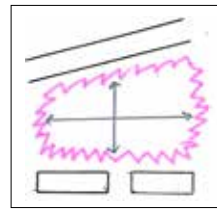
Yarrabah is located in a valley between hills and may be prone to flooding during rainy seasons.



**LOCATION\*\***

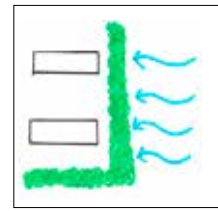
Yarrabah is at a coastal location and will be affected by tropical cyclones and rising sea levels.

**SITE ANALYSIS**



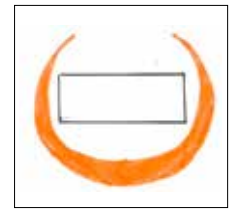
**BUFFER ZONE**

This zone helps divide the main road from the houses providing noise protection and safety precautions



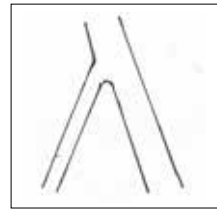
**SURROUND VEGETATION**

The scrubs help divide the "zones" while providing privacy from the communal area. It acts as a barrier from any disturbance.



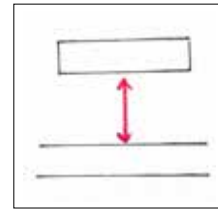
**SUN PATH**

The West-East orientation of the building helps minimise the area that would be most prone to direct harsh sunlight throughout the year



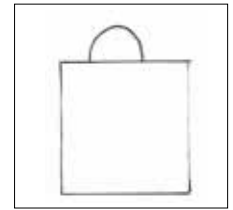
**FORKED PATH**

Main roads leads to communal public area, while forked side path leads to housing.



**DISTANCE FROM MAIN ROAD**

All housing are located away from the main road to provide more privacy.

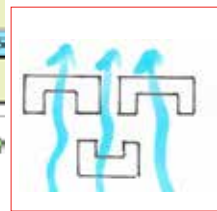


**MARKETS**

Markets / Stalls are desired by local residents.

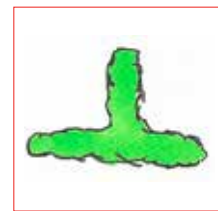
**MASTERPLAN 1:1000**

**MASTERPLAN PRINCIPLES**



**STAGGERED HOUSING**

Staggered houses allow breeze and ventilation to pass through without blocking it.



**VEGETATION**

Scrubs are used to create a natural barrier to divide housing that are close in proximity.



**VEHICLE ACCESS**

Each house is designed to be accessible by vehicle with car parking spaces.

**CLUSTER PLAN 1:200**

**CLUSTER PRINCIPLES**

\* Data retrieved from Willy Weather, 2018. <https://wind.willyweather.com.au/qld/far-north/yarrabah.html>

\*\* Image retrieved from Google Maps, 2018. <https://maps.google.com>

# DESIGN OPTION 1:

CLIENT: COUPLES  
THEIR NEEDS:

- GUEST BEDROOM FOR CHILDREN/GRAND-CHILDREN
- OPEN-PLAN LIVING
- OUTDOOR AREA
- PLACE TO REST OUTSIDE



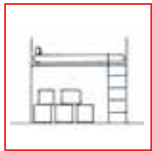
**RAISED PLATFORM**

Raised platform allows ventilation below to cool the building and avoid flooding.



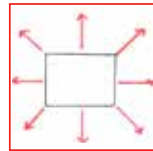
**ROLL-DOWN TARP**

This allows more shading during when eaves is not sufficient.



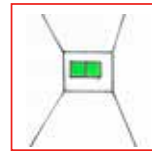
**MULTI-PURPOSE ROOM**

Storage room that can be transformed into guest room for families visiting.



**ACCESSIBILITY TO OUTDOOR AREA**

Designed to easily be able to access the outdoor area from anywhere in the house.



**PLACE TO WATCH THE WORLD**

Windows are located at the end of the long corridor allowing residents to look outside.



**LARGE WINDOWS**

This allows the maximum amount of natural sunlight into the building reducing demand on electricity.



**PASSAGEWAY TO CONNECT**

Main passageway helps with the "flow" of the building.



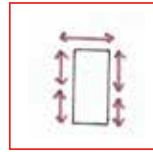
**LOUVRE WINDOWS**

These windows are able to fully open which helps to allow wind flow into the building aiding in ventilation.



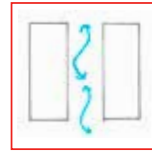
**LONG EAVES**

Large overhang eaves to help shade the walls of the building.



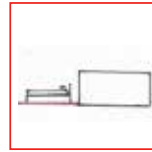
**VERENDAH TO CONNECT**

This connects the side deck with the outdoor area providing "flow" to the building.



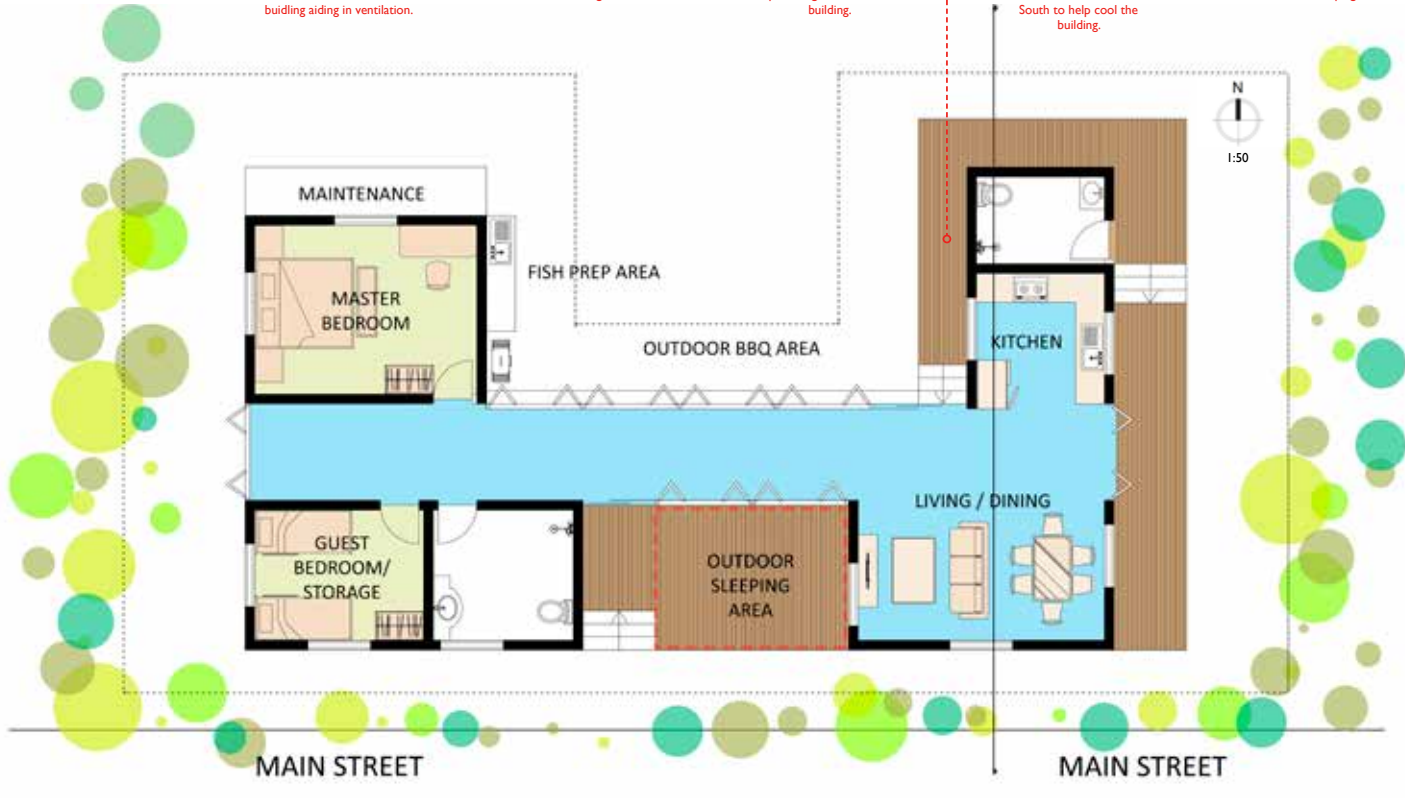
**BREEZEWAY**

Passageway between sections of the house that catches wind from the South to help cool the building.



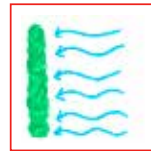
**OUTDOOR SLEEPING**

Part of the front deck can be sectioned off to create an extra sleeping area.

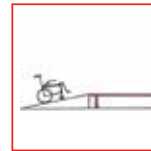


## DESIGN OPTION 2:

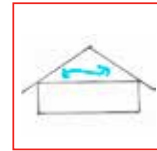
CLIENT: SINGLE PERSON  
THEIR NEEDS:  
- Place to Sleep  
- Disabled Access  
- Affordable



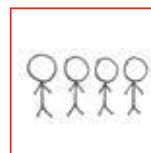
BUSH & SHRUBS



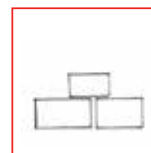
ACCESSIBILITY



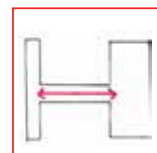
HIGH CEILING



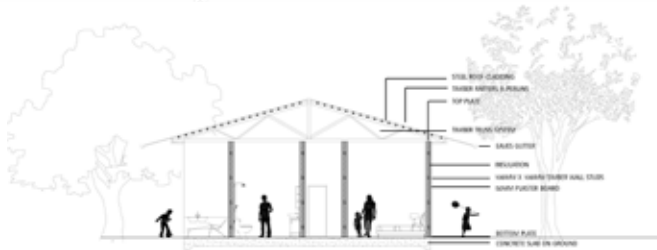
SINGLE PERSON DORMITORY



LARGE STORAGE ROOM

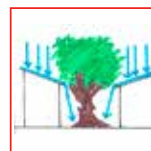


ZONE SEPARATION

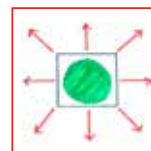


## DESIGN OPTION 3:

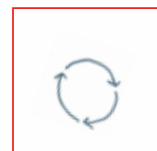
CLIENT: LARGE FAMILIES  
THEIR NEEDS:  
- Outdoor Area  
- Car Parking Spaces  
- Bathrooms  
- Spacious Bedrooms



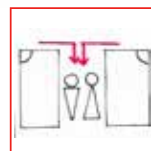
RAIN WATER MANAGEMENT



CENTRALISED GARDEN



EXPANDIBILITY



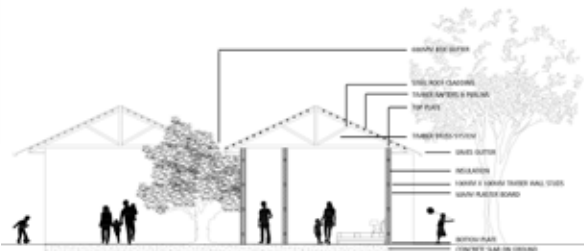
DUAL SHARE BATHROOM

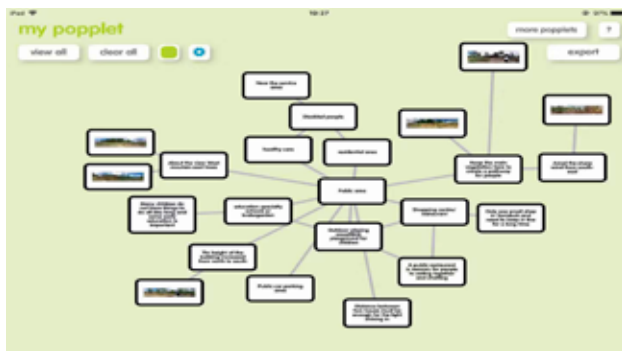


SEAMLESS TRANSITION

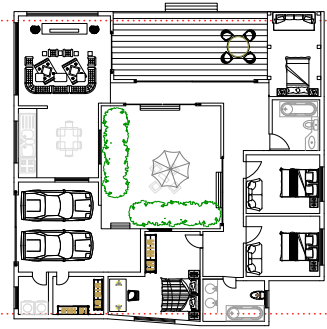
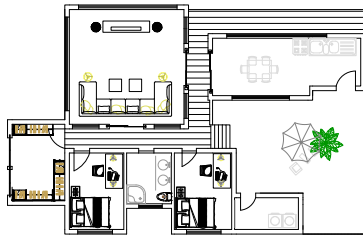
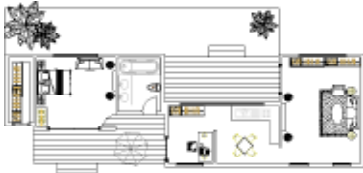


MULTI-VEHICLE GARAGE





MY STORY



PRE SITE VISIT PROPOSALS

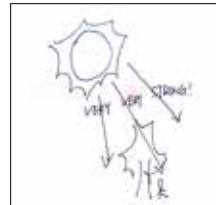


EXPERIENCE OF YARRABAH



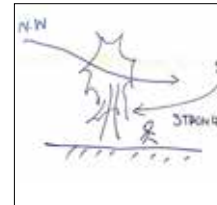
LONG SECTION OF THE EAST SIDE

On the east of the site, is a large piece of forest with lush vegetation. It is a long way from north to south. The trees can provide shadows and protect the house from strong winds comes from south-east. And people may feel safe when they live around such a large forest.



Sunlight

The sunlight is very very strong if there is a sunny day.



wind

The wind is speed and strong from south-east to north west.



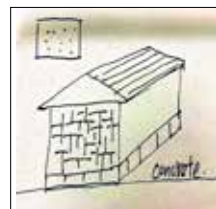
Climate

The Climate in Carns is very very humid and it always rainy.



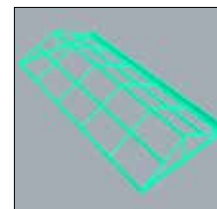
LONG SECTION OF THE WEST SIDE

On the west of the site, is a large flat ground with little vegetations around. It is open and free, people can see the beautiful mountain view through this direction. The sunlight is quite strong at the site all day long, so considering about the shape of roof and house orientation is important.



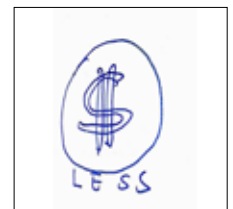
Material

The material of most of the house is concrete which is cheap but strong.



Roof

The roof is quite similar of all the buildings which is large and the same shape.



Affordability

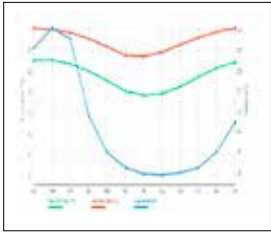
The ability to pay for daily use is a little bit low and can not afford airconditioner and electricity

OVERARCHING DESIGN PRINCIPLES IN RESPONSE TO TRIP

Architecture is another language for the culture, it carried the whole history and nationality from thousands years till now. Protecting the culture is necessary and important. Design close to nature and combined the traditional and modern skills together is what really architecture is.

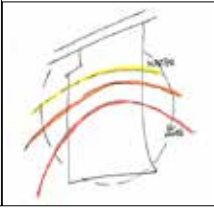
Let the natural light into the whole building and get good view as much as possible and use the space vertically to increase the use area for people as many as possible.

RETURN BRIEF



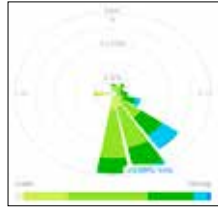
Amount of precipitation

The amount of precipitation is large and the climate resulted that it is always very humid in the site.



Solar study

The chart is about the solar study of the whole



Wind study

longer explanation if necessary. Lari peroximilla L. Em no.Ubis tici oniu, vit. Rae consulius,



Site photo of view-west

The view at the west of the site is mountains and some houses exist.



Site photo of view-east

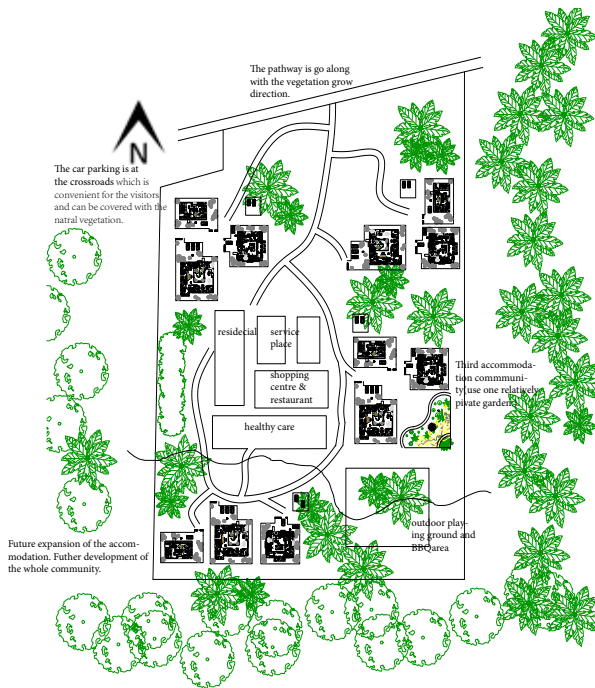
The view at the east of the site is forest with lush vegetation.



Site photo of view-north

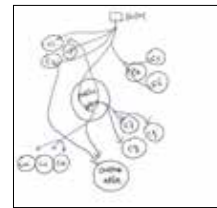
The view at the north of the site is the entry road and a large piece of grass.

SITE ANALYSIS



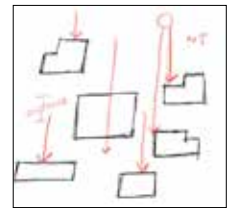
Radiation Display

Put the public area at the middle of the site and private house around it therefore provide same distance and convenient for each client



Circulation

People from every direction can walk to the same place with different way, each element has its nearest entry.



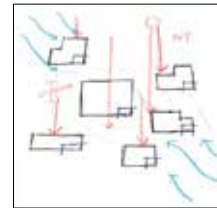
Natural light

The sun comes from north, so the elements need to be built scattered separated and have enough distance between each other.



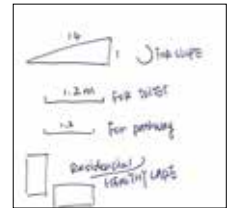
The height of building level

Because of the sun comes from north, put the garden and courtyard facing north and also the roof and level is higher and higher from north to south.



Ventilation

The wind at the site comes from south east and north west. So it is important to keep away the building at this diagonal

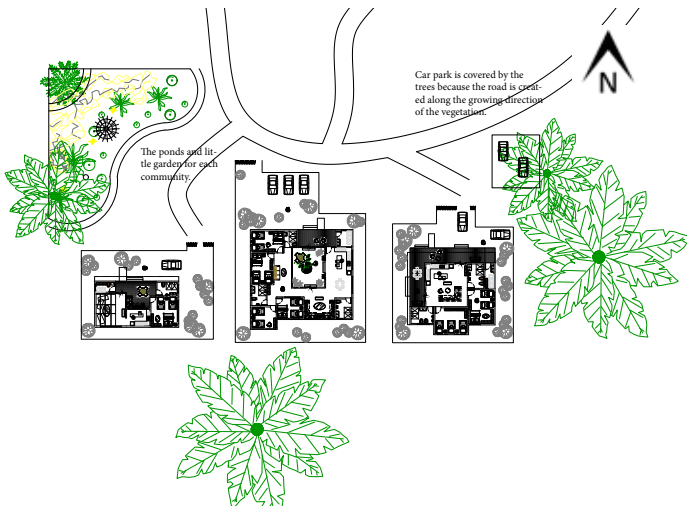


Disabled people

Because the disabled people is hard to take care of themselves easily and convenient, so put this kind of house quite near the residential place and care taker is important.

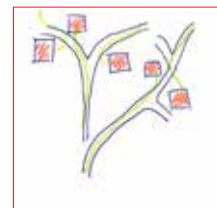
MASTERPLAN 1:1000

MASTERPLAN PRINCIPLES



Pathway design

The pathway connected every private house and public area which aims to the convenient circulation of client.(more close to nature, use the exist way create by the vegetation)



Parking area design

The public parking area need to be large enough for both hosts and relative's car to parking, and the space is near the main entry and roads.



Community design

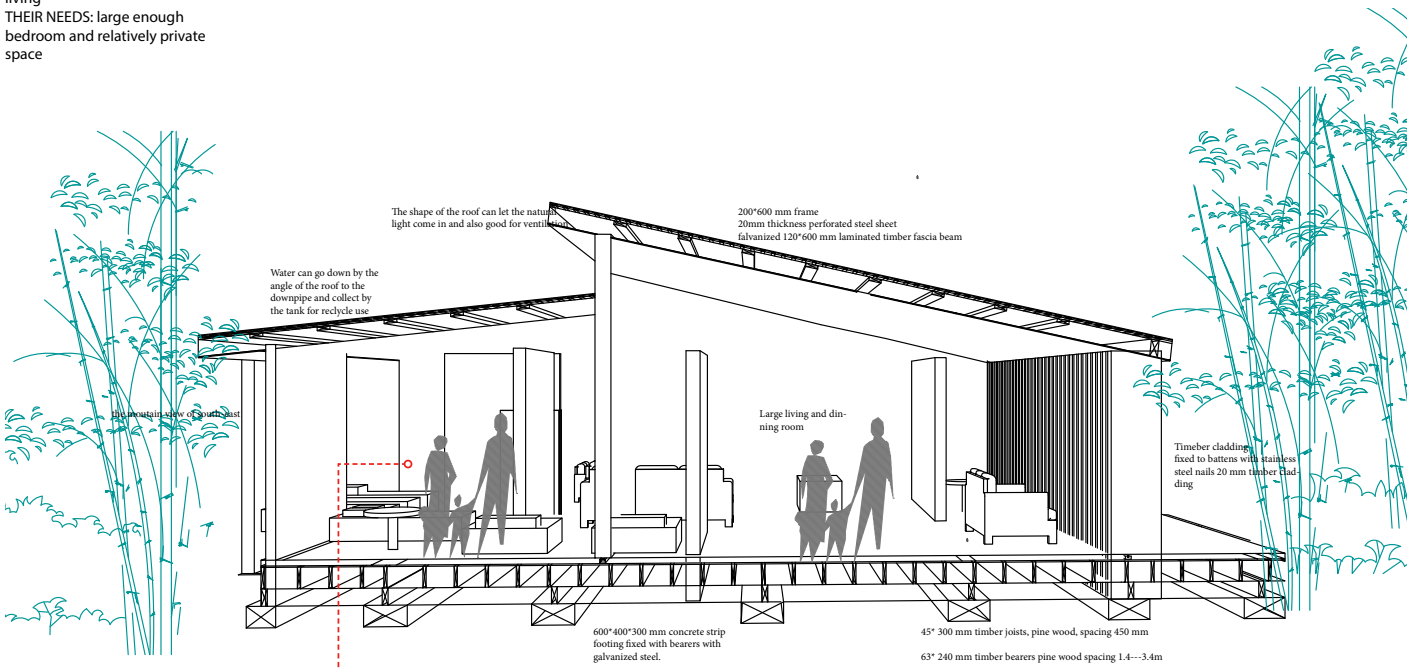
Each three house has their own communicated outdoor area.

CLUSTER PLAN 1:200

CLUSTER PRINCIPLES

# DESIGN OPTION 1:

CLIENT: 2 people or two families living  
 THEIR NEEDS: large enough bedroom and relatively private space



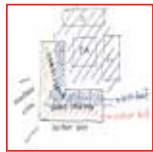
**Private area**  
 The private area for two family is separated and has its own living system (no disturbed each other)



**Communicate area**  
 In order to improve the communication area, the large kitchen and dining room is at the middle of the separated sleeping area



**Outdoor area**  
 Large decking for outdoor area provide sofa and chairs and good mountain view from west.



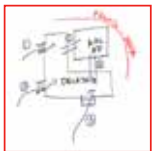
**Roof covering**  
 The large roof can cover half of the outdoor decking which make it also be used in rainy days.



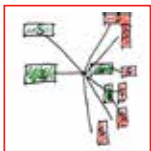
**Disabled people**  
 Create a 1:14 angle slope for the disabled people walk and make them convenient.



**Circulation**  
 Circulation for public and private area.



**Entrance**  
 People can get into the main building from three different direction which provide convenience.



**Storage**  
 Each room has its own storage and in the public area, it also has storage for public use like shoes, tools etc.



**Material**  
 The whole building made up with timber wall, posts and concrete foundation to keep the water out due to the humid climate.



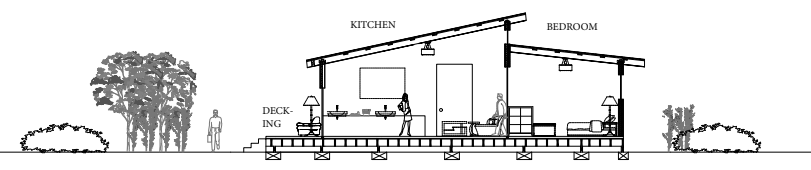
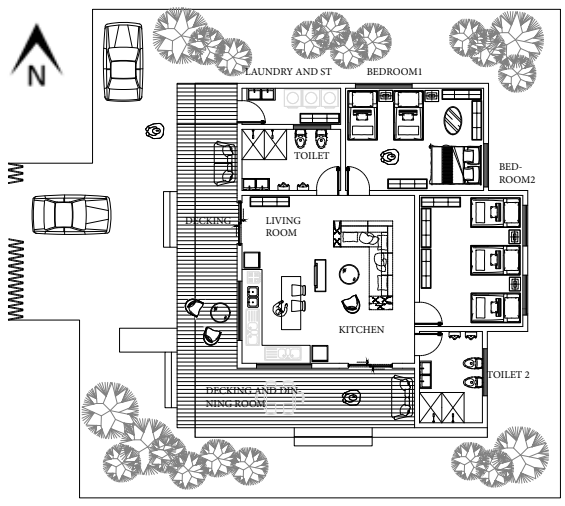
**Living room**  
 Living room can be used in any use so it need to have enough space and multifunction with furniture.



**Ventilation**  
 The roof can provide good ventilation inside the whole building.



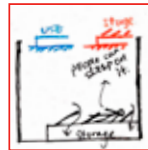
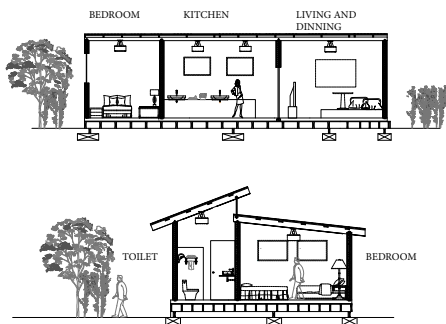
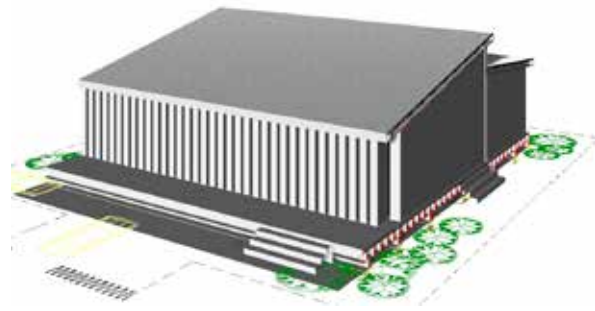
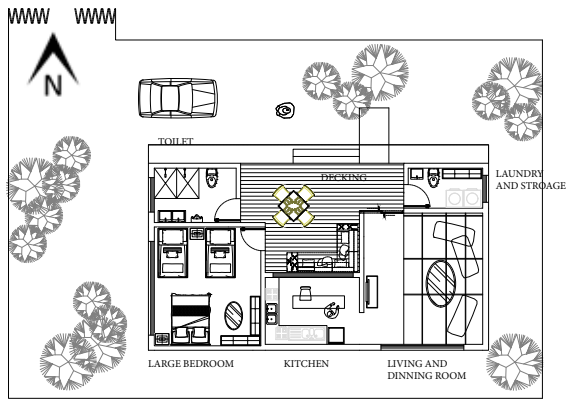
**Natural light**  
 The shape of roof can let the natural light in therefore save electricity and make people feel more comfortable.



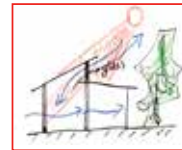


## DESIGN OPTION 2:

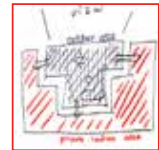
THEIR NEEDS: Enough space and multi functional room.



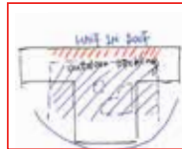
Design of TATAMI in living room can provide large sitting area and storage under it. It can also be a multifunctional sleeping area.



The roof design can provide good ventilation and natural light instead of LED which can make people feel comfortable.



Large decking for outdoor area provide sofa and chairs and good mountain view from north.



The large roof can cover half of the outdoor decking which make it can also be used in rainy days.



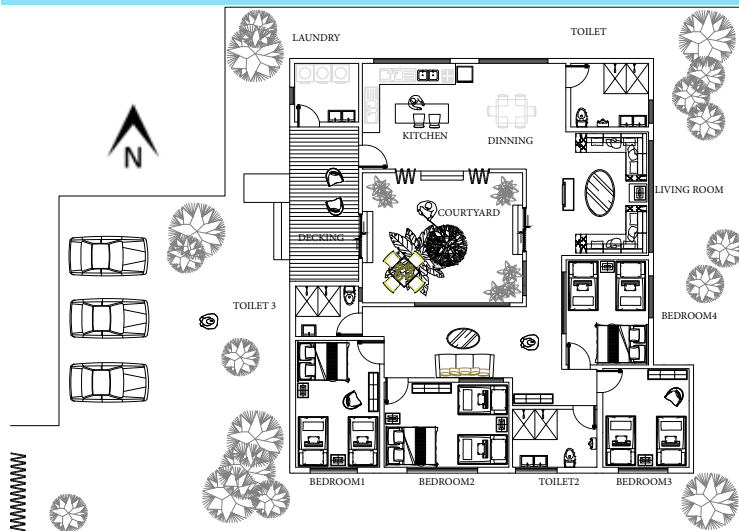
The material of the whole building is timber with concrete foundation which provide strong support to prevent the wind and rain.



Has own individual private garden which can make people feel safety.

## DESIGN OPTION 3 :

THEIR NEED: Large bedrooms and more toilets, large kitchen and dining area



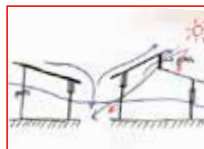
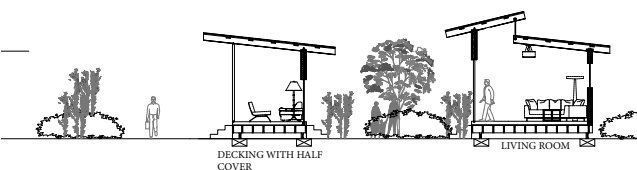
The use of courtyard is both good for interior view and ventilation.



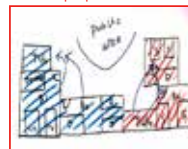
The working and service space is separated with sleeping area which is good for people to relax



Large decking and courtyard for outdoor activities



The shape of roof can let the natural light in and improve the ventilation,



The bedrooms are large enough for a whole family live in and have their own toilet.



For the design of the wall near bedrooms, it create many corners for little storages.



"Through personal experience, in practice a culture, for ideal and practical goal to in the office and urban environment. Research in a community, interest will be exposed to people who have the intention and ready to use the site." The spatial use and condition on the subject, instead of a direct and ordinary architecture design the space and create space for activities?

**MY STORY**



One-Bedroom Floor Plan 1:200

**DESIGN OPTION 1**

- 1 Bedroom, Living
- 1 Bedroom, Dining
- Living & Kitchen Open
- Bedroom
- No Car
- Walk to Transit
- Greenhouse / Limited Storage
- Quality Acoustic Material
- Wash Station
- Big
- Indoor Fire
- High Transparency



Two-Bedrooms Floor Plan 1:200

**DESIGN OPTION 2**

- 1 Bedroom, Living & Dining
- 2 Bedrooms, Dining
- Minimal Storage
- Former Shared Access
- No Parking, Road Decked
- Reserve Land On
- Bedroom Separated
- Common Living Room
- Available for
- Private to Future
- Place to Warm Space
- Regular, Terrace-Ready, Best for Street Facing

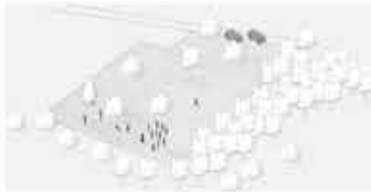


Three-Bedrooms Floor Plan 1:200

**DESIGN OPTION 3**

- Living Room, Dining and Kitchen
- 2 Bedrooms, Dining
- 2 Bedrooms, Kitchen
- Car
- Close with Physical & Shared Access
- Kitchen
- Material with Frequency Map
- Single Bedroom to Accommodate all
- Improvement to Existing, Good 100%
- Available Access to House
- Available Bedroom

**PRE SITE VISIT PROPOSALS**



**Visiting Site**  
A visit to the actual site for site analysis, observation, inspiration and documentation.



**House Visit**  
Visiting one of the resident's dwelling to have an idea of the current housing condition and lifestyle.



**Discussion**  
Get in touch with local people for information about the master planning, housing issues, social concerns and etc.

**EXPERIENCE OF YARRABAH**



**Overcrowding**

Several families living together under a single dwelling with insufficient shared spaces for activities during the day.



**Privacy**

Being exposed to closed and familiar neighbours. Lack of protective screen for outdoor spaces.



**Safety**

There isn't any specific living space for children. Wiling to provide a safe space for the children to study and play.



**Uncomfortable Living Space**

The design of government house does not achieve climate comfort. The new house is facing west which is hot in the afternoon.



**Unaffordable Housing Price**

With 75% of the residents are jobless, housing price has become an issue.



**Insufficient Storage**

There is a lack of storage areas in the house. Stuff are occupying the place and living space is getting narrow.

**ISSUES**



**Shared Dwelling**

Design a single dwelling with composed spaces for multiple family groups.



**Shaded Verandah**

Provide cool and large outdoor private space which is shaded or covered for the residents.



**Spaces for Kids**

Create secured indoor areas for children to study and play. Separate children living space from public spaces.



**Comfortable Space**

Climate responsive design to achieve basic comfort. Design has to be flexible and sustainable.



**Affordable Housing Price**

Use local materials and efficient construction system to minimize cost.



**Enough Space to Store**

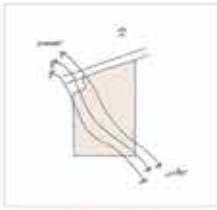
Design sufficient storage areas for the residents to enhance their living conditions. Increase living space and quality.

**DESIGN SOLUTIONS**

**OVERARCHING DESIGN PRINCIPLES IN RESPONSE TO TRIP**

"The story is about facilitating interaction through practical spatial designs and planning ... .."

**RETURN BRIEF**



**Seasonal Wind**  
Cool strong wind from North-West during the winter; South-East during the summer.



**Natural Forest**  
Tall gum tree forest at the east, need to be aware of bushfire and mosquito.



**Views**  
Blue clear sky and a great mountain view at the west and south areas of the site.



**Flooding**  
During raining season, heavy rainfall will cause flooding issue.

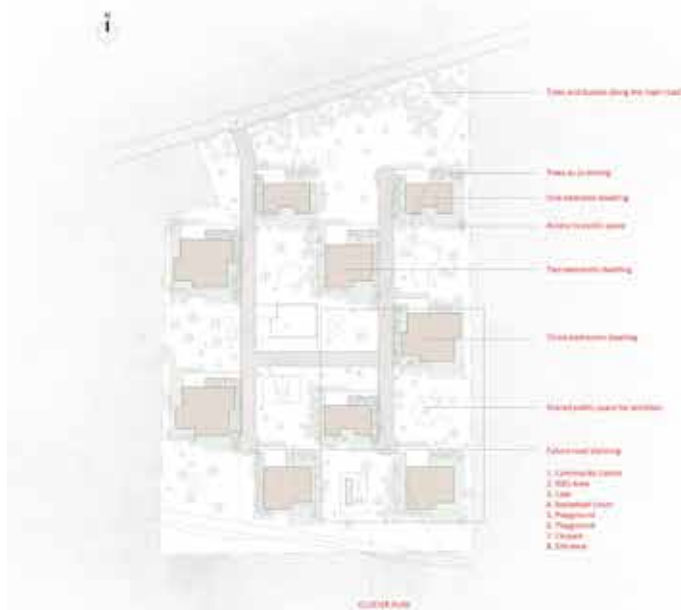


**Tropical Location**  
Located at the North Queensland with a tropical climate and is close to the coast.



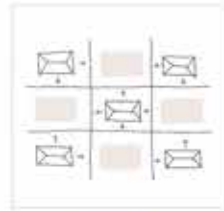
**Tropical Cyclone**  
A coastal crossing cyclone is always possible during the season, providing heavy rains and strong wind.

**SITE ANALYSIS**



9 Residential Houses  
1 Community Centre  
Public Spaces (Playground, Lake, etc)

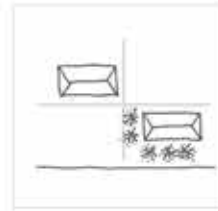
**MASTERPLAN 1:1000**



**Grid Design**  
Provide shared semi-public or transition spaces between houses for interactions and social activities.



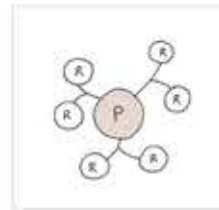
**Access**  
Having semi-public spaces as transition areas between residential floors and public centre for privacy and safety purpose.



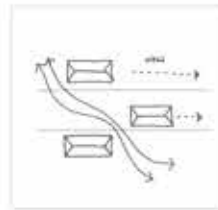
**Privacy**  
Offset the house to avoid direct facing, plant trees around the edges as privacy screening.



**Separation**  
Plant trees in between the main road and village area to provide privacy for the community.



**Communal Spaces**  
Place public space such as a cultural centre at the centre as the heart of the community that connects all the residents.

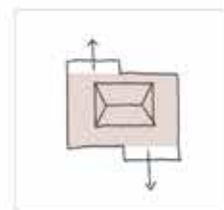


**Views**  
Offset design allows views to the landscape for all houses and creates gaps for natural ventilation.

**MASTERPLAN PRINCIPLES**



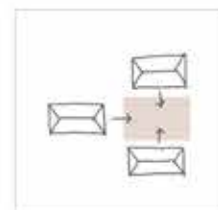
**CLUSTER PLAN 1:400**



**Connection**  
Offset a portion of the residential area to provide connection to the shared public space.



**Privacy Screening**  
Plant trees in 'C' shape patterns. The gaps provide natural ventilation and connections to the shaded areas.

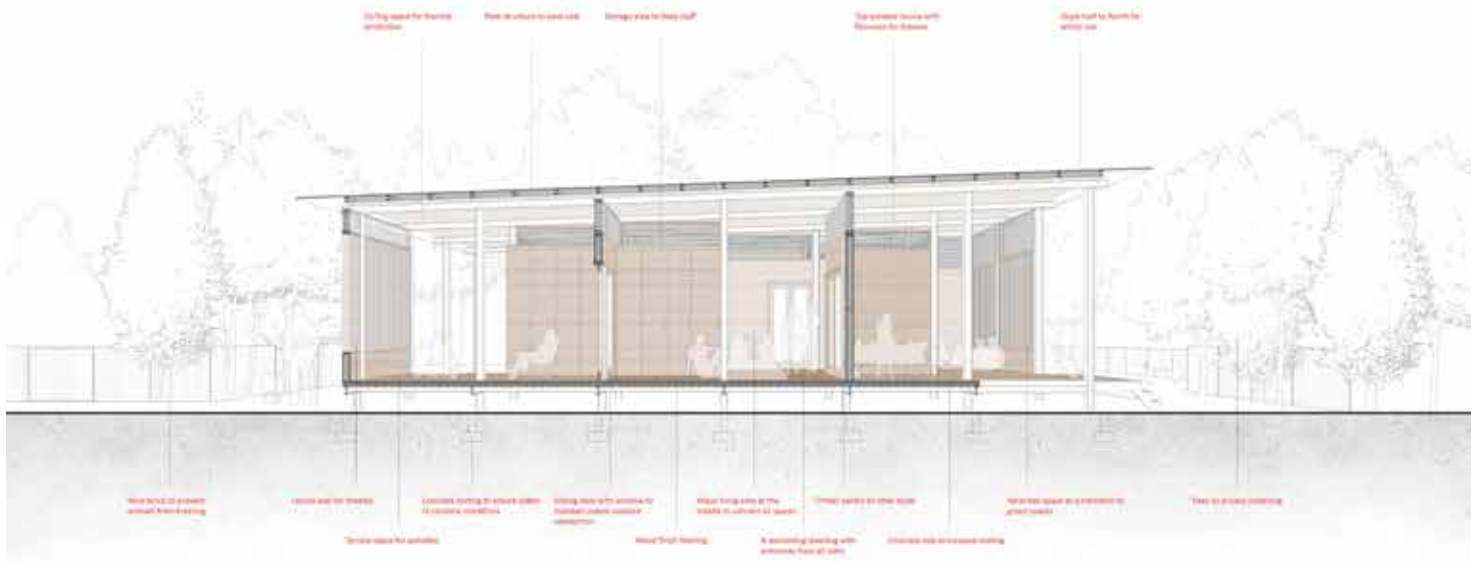


**Semi-public Space**  
The orientation of houses forms a negative space that can be a shaded green space, playground or basketball court for social activities.

**CLUSTER PRINCIPLES**

## DESIGN OPTION 1

### TWO-BEDROOMS SECTIONAL PERSPECTIVE 1:50



**Silt House**  
Raised on piles over the ground surface to prevent flooding issue.



**Louver Wall**  
As privacy screening for verandah area while allowing breeze to cool down the place.



**Transparent Door**  
Sliding doors with windows to maintain connections between indoor and outdoor areas.



**Large Verandah**  
As transition space to the outdoor areas, prevent afternoon heat and provide areas for interactions.



**Window Louver**  
Openings with flyscreen on top to allow cross-ventilation in order to cool down the interior space.



**Fence**  
Wire fence maintains the connections to green spaces while preventing animals from coming in.

### SECTIONAL PERSPECTIVE PRINCIPLES



**"The Camp Fire"**  
Having the main activity space at the centre to connect all spaces together.



**Breaking The Cube**  
Arrange spaces and create entrances at all four sides as connections to the outdoors.



**Extend The Space**  
Offset verandah area functions as transition space to the green space.



**Safety**  
To feel secure, bedrooms are placed behind living areas and far away from the entrance.



**Thick Wall**  
Storage increases wall thickness and functions as sound or thermal resistance.



**Elevated Space**  
Elevate floor plan to define spaces for different functions and activities.

### SPATIAL DESIGN PRINCIPLES

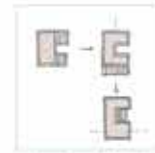


### TWO-BEDROOMS FLOOR PLAN 1:100

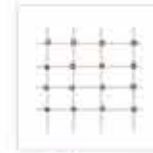
## DESIGN OPTION 2



ONE-BEDROOM FLOOR PLAN 1:100



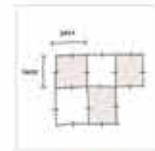
**Expanding Potential**  
Versatile spaces have the potential to be reconstructed into functional space for further purposes.



**Grid Language**  
An efficient consistent system that is easy for structural and spatial design.



**Design Elements**  
With ordered fixed size sub-spaces, increase or adjust spaces by simply adding and moving the elements.



**Fixed Size**  
All functional spaces are either 2.4x2.4 or its multiple, easy for management and material arrangement.



**Minimize Material Waste**  
Space between columns is designed to be 2.0m to reduce waste. All walls use the same size of panels.



**Steel Structure**  
Using steel construction system and materials to minimize cost.



1. Bedroom  
2. Living Room  
3. Kitchen  
4. Terrace  
5. Staircase

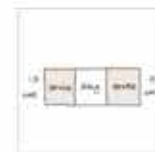
ONE-BEDROOM SECTION 1:100

## STRUCTURAL DESIGN PRINCIPLES

## DESIGN OPTION 3



THREE-BEDROOMS FLOOR PLAN 1:100



**Thermal Resistance**  
Placing service areas at east and west to prevent heat in living space.



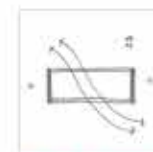
**Thick Wall**  
Arrange space to create openings at all sides for natural ventilation.



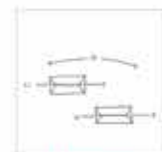
**Verandah**  
Use verandah space at west to prevent afternoon heat.



**Slope Roof**  
Tilt and tilt the roof to North for sunlight, ventilation and fast drying during raining seasons.



**Openings' Direction**  
Large openings at North and South to maximize sunlight and allow cross-ventilation.



**WE Orientation**  
West-East orientation to maximize sunlight and cross-ventilation.

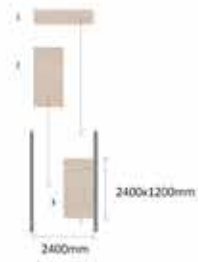


1. Kitchen  
2. Living Room  
3. Bedroom  
4. Terrace  
5. Staircase

THREE-BEDROOMS SECTION 1:100

## CLIMATE RESPONSIVE DESIGN PRINCIPLES

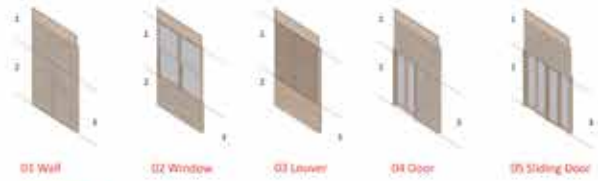
# SPATIAL ORGANISATION & STRUCTURAL SYSTEM



The dwelling is a composition of several cube spaces. With the standard plywood panel dimension, 2.4m has become the standard size of the house's wall element.

Different types of walls are put together to form functional spaces.

Cube elements with equal sizes form a grid system. Construction materials across all spaces are in the same size.



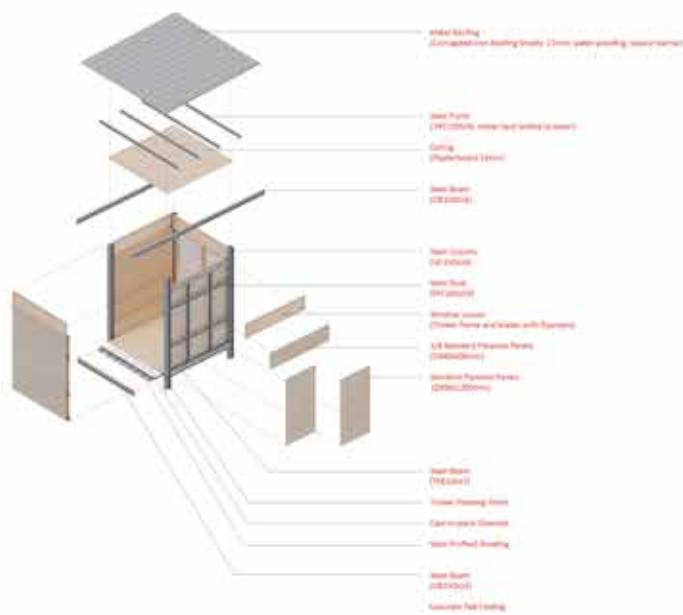
WALL TYPES



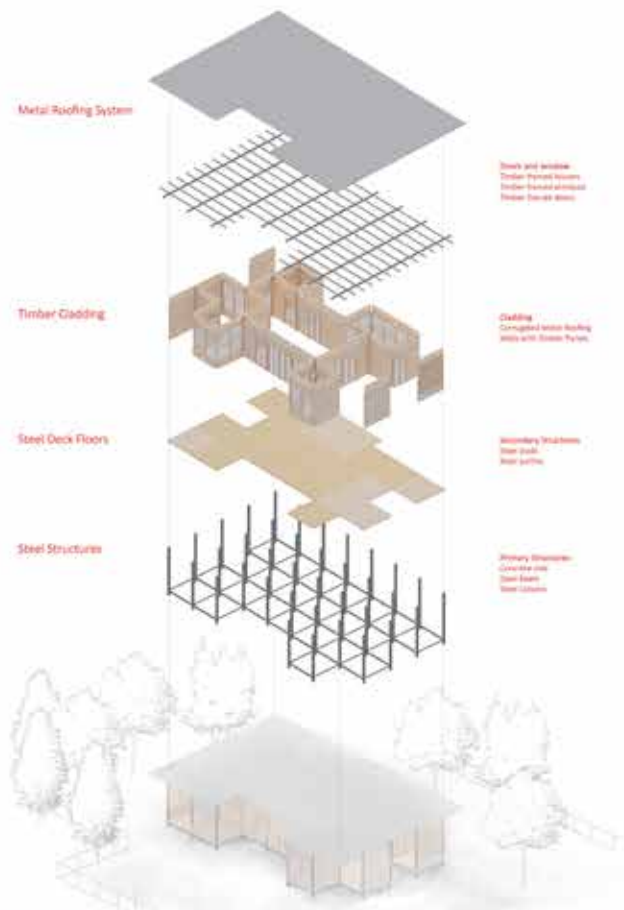
PLANS 1:100

Living Room

## DESIGN DEVELOPMENT DIAGRAMS



2.4x2.4m Spatial Design Element



CONSTRUCTION DETAIL EXPLODED AXONOMETRIC 1:100

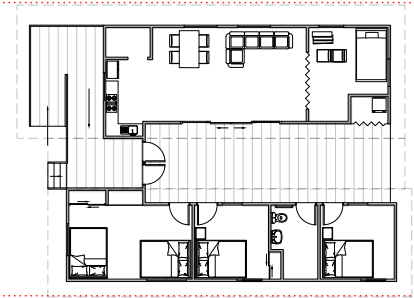
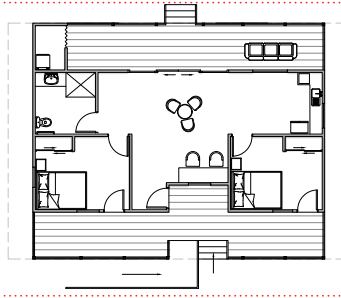
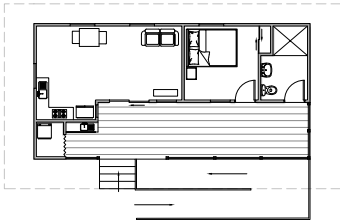
STRUCTURAL SYSTEM PARALINE DRAWING 1:200

MODEL PHOTOS





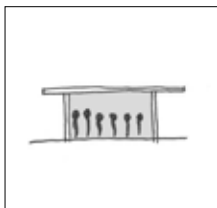
MY STORY



PRE SITE VISIT PROPOSALS



EXPERIENCE OF YARRABAH



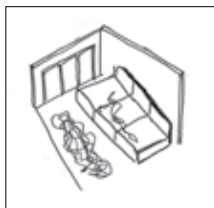
OVERCROWDING

Instead of rooms serving for individuals, it now must be capable of holding entire families as observed in Yarrabah



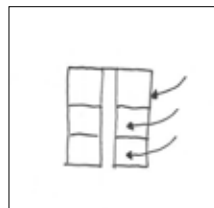
HYGIENE

Due to only a single bathroom in overcrowded homes of up to 20 people, hygiene issues arise.



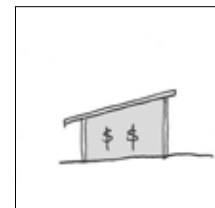
STORAGE SPACE

There was a lack of storage space in dwellings where belongings were just thrown on the floor or the bed leading to messy and unhygienic sleeping spaces



THERMAL DISCOMFORT

Government housing do not rely on passive cooling and comfort but rather rely on air-conditioning.



INSUFFICIENT MONEY

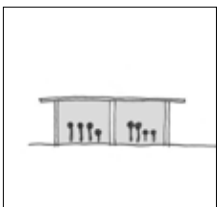
With an unemployment rate of 85%, housing affordability is a major concern in Yarrabah.



VERANDAH USAGE

A lot of time is spent on the verandah in dwellings especially if it is on a southern aspect where individuals can enjoy cool breezes. If it is well shaded, protected and ventilated it can act as further sleeping areas

ISSUES AND IDEAS OBSERVED IN TRIP



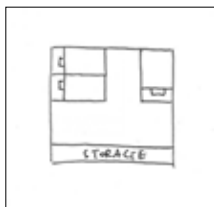
MULTI-FAMILY DWELLING

Approach a design where a room caters for a whole family instead of a single individual.



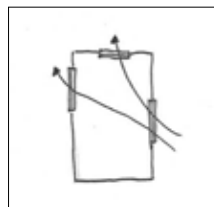
SUFFICIENT BATHROOMS

In design, ensure there is a sufficient number of bathrooms, which should roughly be the same as the number of bedrooms.



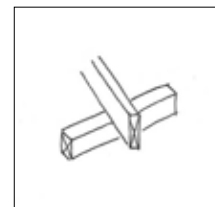
SUFFICIENT STORAGE SPACE

Allow enough storage space in dwellings to keep a cleaner, healthier household.



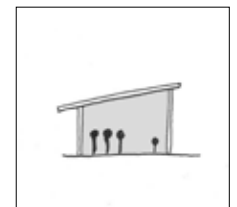
PASSIVE COOLING

Place openings and orientate the building such that it catches cool breezes and the shorter face is facing east and west.



MATERIALITY

Use timber frame walling and roof systems to reduce costs as well as to create an opportunity to reintroduce a sawmill in Yarrabah to localise material usage.



SAFE SPACES

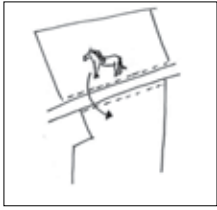
Due to overcrowding, children do not have sufficient space and comfort which causes behavioural issues which must be accounted for.

OVERARCHING DESIGN PRINCIPLES IN RESPONSE TO TRIP

OVERCROWDING AND HEALTH ISSUES AT HOME.  
THAT SHOULDN'T BE HAPPENING AT HOME.

RETURN BRIEF





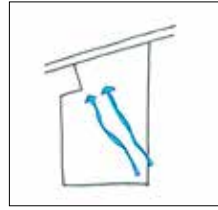
PADDOCK

A paddock is located across the road from the site and although fencing exists multiple escaped horses were found at site.



TREE SHADING

Tea trees were found to be taller than expected with heights up to around 6m which can be used to protect dwellings from the lower eastern and western sun



SOUTH-EASTERLY WINDS

Constant breezes from the south-east were experienced which must be taken to advantage for effective ventilation and passive cooling



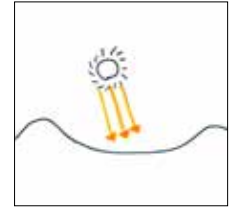
EXISTING SHELTER

An existing horse shelter opened up to the north that provided efficient sun protection from the high midday sun.



EXISTING PATHWAYS

Some pathways had already been created by wearing out of vegetation in areas where people have constantly walked through.



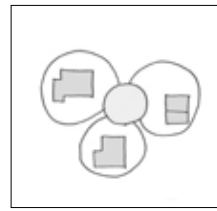
SUN

The site is highly vulnerable to direct sunlight where appropriate shading from the roof and trees must be implemented

SITE ANALYSIS

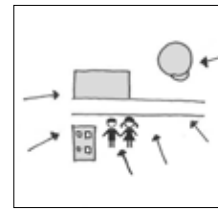


MASTERPLAN 1:1000



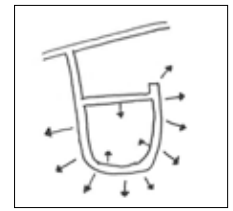
COMMUNAL SPACES

All relevant public spaces have been positioned near the centre of site to give a sense of connection for residents.



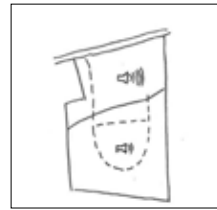
YOUNG POPULATION

The centre of site consists of a youth centre for children who feel uncomfortable at home as well as playgrounds which are accessible from all directions



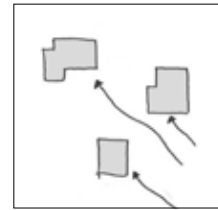
LOOP CIRCULATION

The main road loops around the site providing accessibility and circulation routes to all areas.



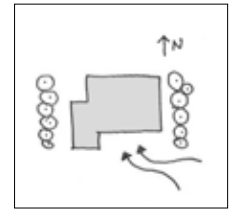
SOUND

The louder spaces have been positioned in the upper half of the site to lower disturbances to the dwellings.



STAGGERED POSITIONING

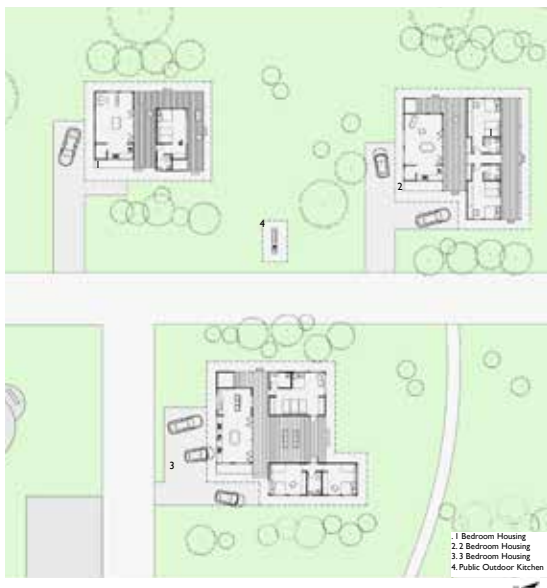
Dwellings have been placed such that there is no disturbance or barrier to breezes that flow within site.



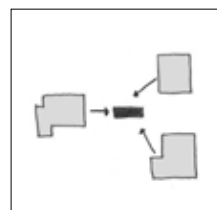
FOCUSING BREEZES

Tea trees have been placed along the east and western facades for not only sun protection and privacy but to direct the winds onto the southern facade of buildings.

MASTERPLAN PRINCIPLES

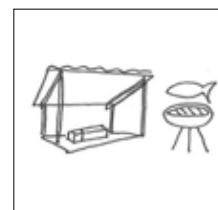


CLUSTER PLAN 1:200



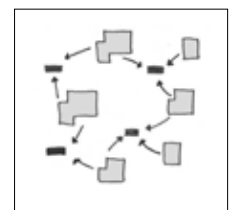
PUBLIC OUTDOOR KITCHEN

Outdoor kitchens and fish preparation areas have been positioned away from dwellings which act as a connection point for dwelling clusters.



EXISTING STRUCTURE

More duplicates of the existing shelter act as public outdoor kiten and barbeque areas.



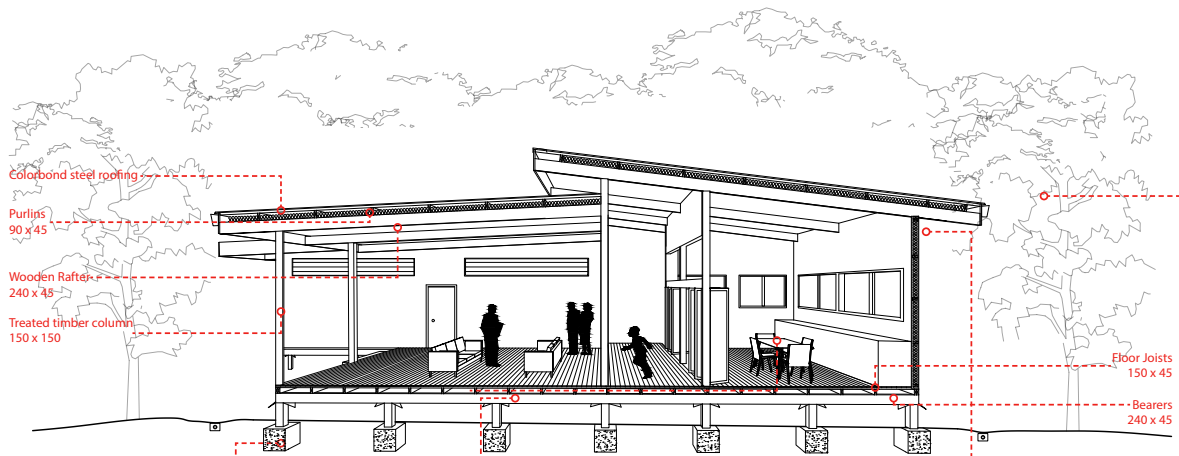
OVERLAPPING CLUSTERS

The public outdoor kitchens have been placed such that it creates overlapping clusters to allow better engagement and interaction between residents.

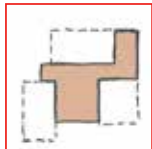
CLUSTER PRINCIPLES

# DESIGN OPTION 1:

3 Bedroom Design  
2 Families  
1 Intergenerational Family

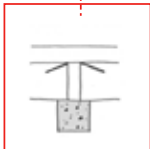


## SECTIONAL PERSPECTIVE 1:50



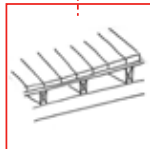
### INBETWEEN SPACES

An internal deck area sits in the inbetween spaces of rooms that connects the dwelling into a whole.



### ELEVATED STRUCTURE

The structure has been elevated via steel posts on concrete footings with an ant cap for termite protection.



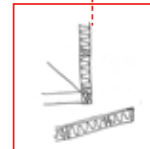
### FLOORING

The floor connections and structure consists of treated timber bearers, joists and decking.



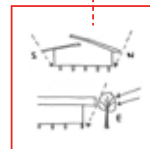
### PRIVACY

High louvers have been used to give a sense of privacy to the rooms from the deck area whilst allowing ventilation.



### OUTER WALLS AND ROOF

The roof structure consists of timber framing using treated timber rafters and purlins. The wall framing consists of treated timber studs and columns with the outer walls and roofing being insulated.



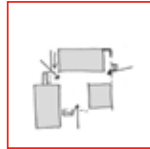
### SOLAR CONTROL

The sloped overhangs of the roof provides north and southern sun protection. Trees on the eastern and western ends provides protection for lower sun angles while the overhang accounts for higher sun angles.



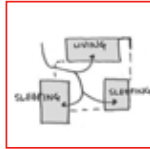
### STORAGE

Each room holds a family has available storage space to address hygiene and storage issues.



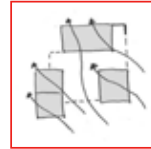
### ENTRY

The house been designed to allow entry from multiple directions to allow better interation and accessibility.



### ACCESSIBILITY

Upon entry via the decked area, it acts as a connection to all



### CROSS VENTILATION

Openings have been placed accordingly to allow efficient cross-ventilation from the breezes passign through site.



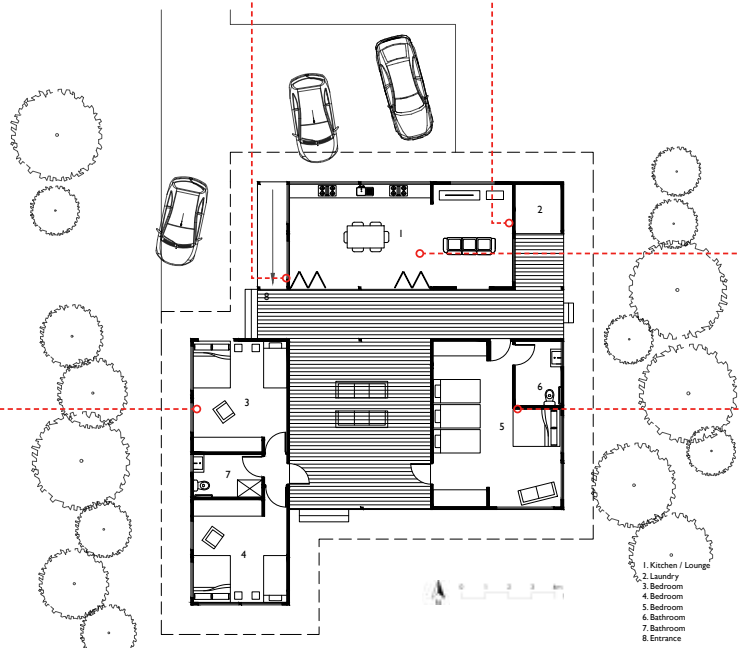
### INTERGENERATION

The spacious room on the right accounts for an intergenerational family where grandparents, children and parents live together under one household.



### BIFOLD DOORS

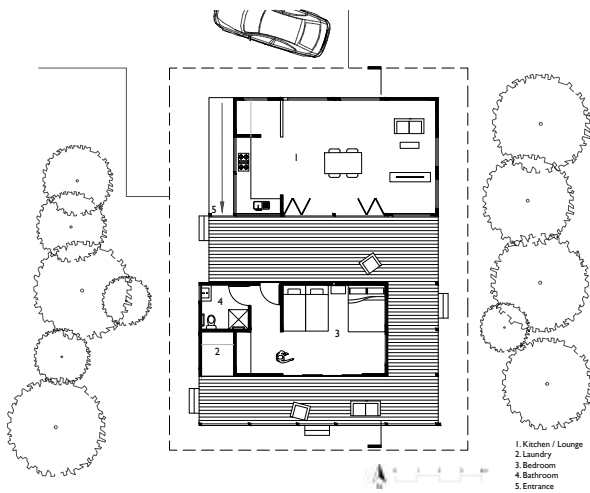
The bifold doors of the kitchen can be opened to connect to the deck to create a larger living space



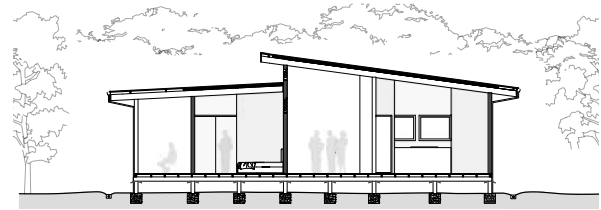
PLAN 1:100

## DESIGN OPTION 2:

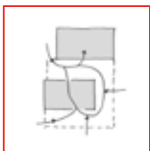
1 Bedroom Design  
1 Family



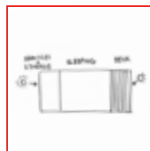
PLAN 1:100



SECTION 1:100



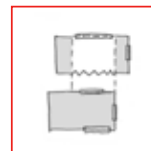
**LOOP CIRCULATION**  
There is a loop circulation throughout the structure and is easily accessible from all directions.



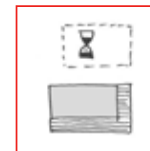
**SOLAR CONTROL**  
Services and storage space have been placed on the right and the deck on the right to provide eastern and western sun protection.



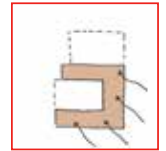
**PRIVACY**  
High louvers are used on walls that face out into the living space to provide privacy whilst allowing sufficient ventilation.



**OPENINGS AND DOORS**  
The bifold doors allow enlargement of living space onto the deck while other openings have been placed to allow effective cross ventilation.



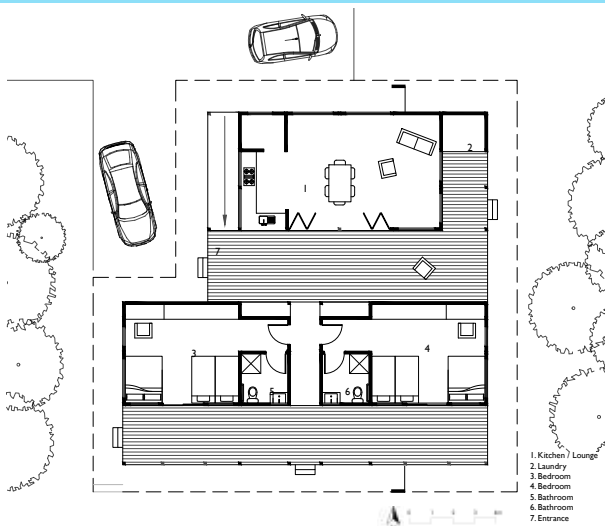
**ENTRY**  
There are multiple points of entry for better accessibility and interaction with other dwellings in the cluster.



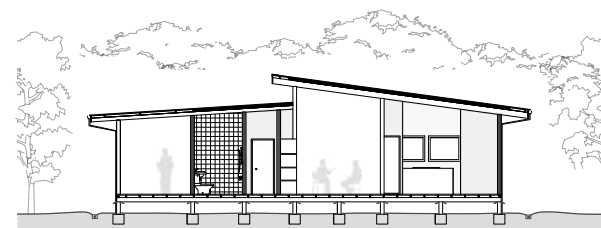
**DECK AREA**  
The deck opens out to the south and east to catch the cool south-easterly breezes that allows for a space of relaxation and roofed outdoor space.

## DESIGN OPTION 3:

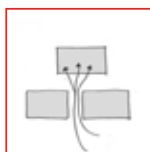
2 Bedroom Design  
2 Families



PLAN 1:100



SECTION 1:100



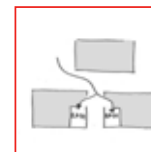
**WIND FUNNEL**  
The corridor separating the two bedrooms acts as a wind funnel to allow better experience of breezes at the central deck and corridor.



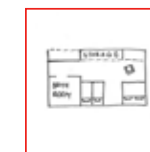
**TWO FAMILY HOUSEHOLD**  
The two room dwelling design accounts for two families.



**TIMBER FRAMING**  
Timber framing can reintroduce a sawmill business into Yarrabah to boost economic income.



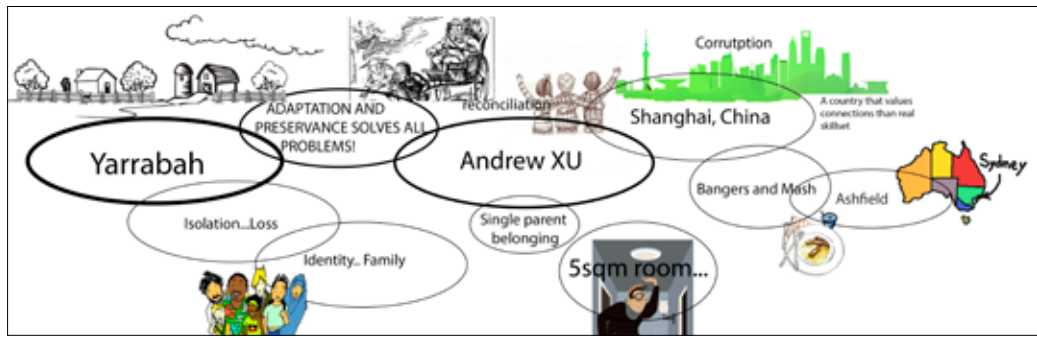
**BATHROOM ACCESS**  
Although the bathrooms are placed within each room there is easy access whilst maintaining privacy.



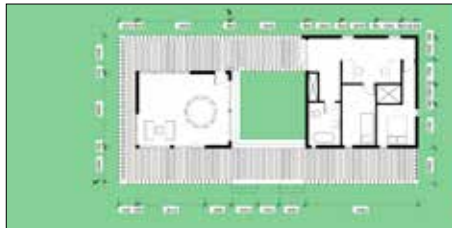
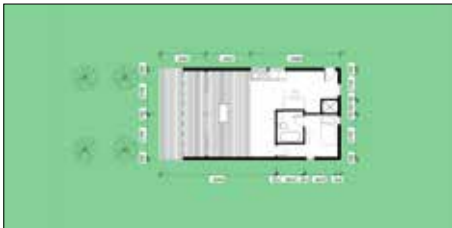
**SINGLE UNIT**  
The rooms can act as a single unit studio that can be potentially placed like dormitories with a common public kitchen and lounge area.



**ENTRY**  
There are multiple points of entry for better accessibility and interaction with other dwellings in the cluster.



MY STORY



PRE SITE VISIT PROPOSALS

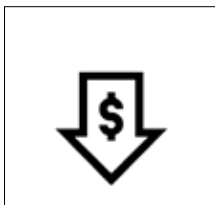


EXPERIENCE OF YARRABAH



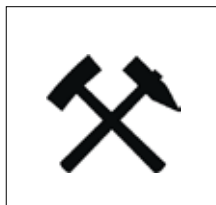
DOG PENT

Dogs were running rampant everywhere so it was clear to have a pent if owners had dogs and a gate to stray from wandering in



LOW-COST

Limited budget meant that materials and spaces cant be wasted and kept to a minimum



BUILDABILITY

having local craftsmen in the process can ease the budget and a feeling of community as they are building in their hometown



GENEROUS SHELVING AND STORAGE

Houses in Yarrabah had little to no storage and it was clear they needed a space to store away their belongings



MULTIPLE GATHERING SPACES

Multiple families would be coming in to visit so having more than one living room can be adjusted to activities at specific times



TOILETS TO OCCUPY IN BETWEEN SIGNIFICANT SPACES

toilets were not in prime location of accessibility so that people had to go to another space in the house that might of provoked unwanted attention



INTEGRATING CHILDREN MODULAR SPACES

Children would be healthy and happy to have their own spaces, a break from the adult spaces where they might bring unwanted attention, but also a reason to stay home safe.

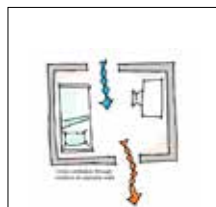


GUTTER AND ROOFING TO WITHSTAND A HUMID CLIMATE



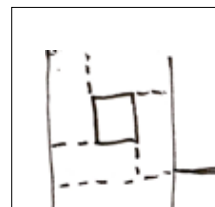
EXPOSED OPENINGS BEING FLYSCREENED

prevents any infectious mosquitoes from a tropical climate to be let in



CROSS VENTILATION

ventilated spaces give occupants more comfortability



CONVERTIBLE MODULAR

To aid in overcrowding issue by allow the living room to be used as sleeping quarters where mattresses would be easily within vicinity through storage and shelving which then allows the porch to be used as a second living room if people are still active



GENEROUS CORRIDORS FOR DISABLED

to allow fluidity in circulation but also mitigate awkwardness if two occupants are opposite of each other

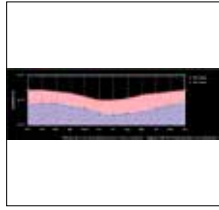
OVERARCHING DESIGN PRINCIPLES IN RESPONSE TO TRIP

DESIGNING A 'HOME' RATHER THAN A 'HOUSE'

RETURN BRIEF



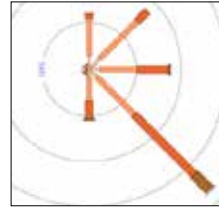
HUMID TROPICS



TEMPERATURE CHART



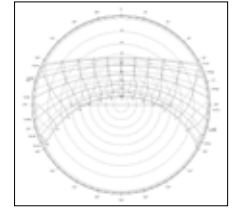
SOIL AND VEGETATION CONDITION



VENTILATION

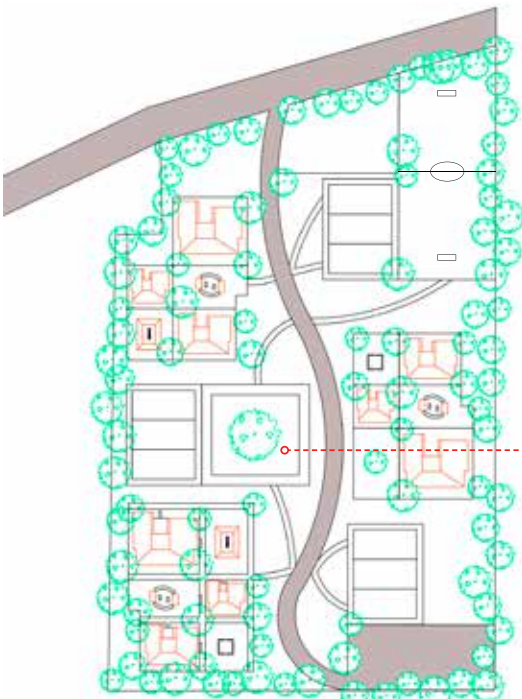


CYCLONE OCCURENCE

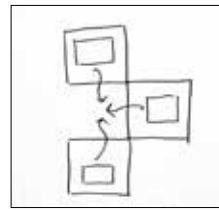


WINTER AND SUMMER SOLISTICE

SITE ANALYSIS

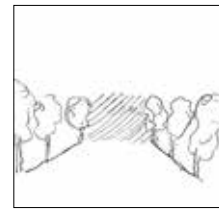


MASTERPLAN 1:1000



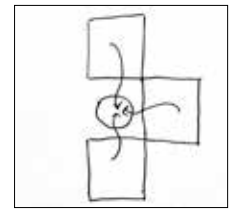
DWELLING PRIVACY

While dwellings are connected through communal spaces they also retain privacy through the distancing of the space inbetween



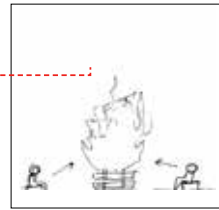
TREES TO NEST AN URBN SANCTUARY

Site is encompassed by a surrounding of trees to create a sanctuary feeling making it special



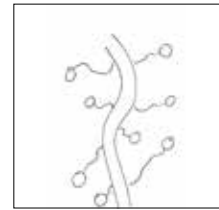
COMMUNAL SPACES

Inbetween communal spaces are established based upon client needs



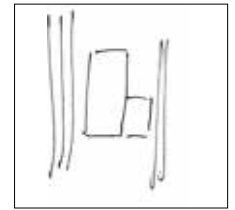
NUCLEUS BANQUET SPACE

A central town centre that nights up a life of gathering through a central fire. It is equidistant from all clusters



ONE ROAD TO TIE ALL MODULES

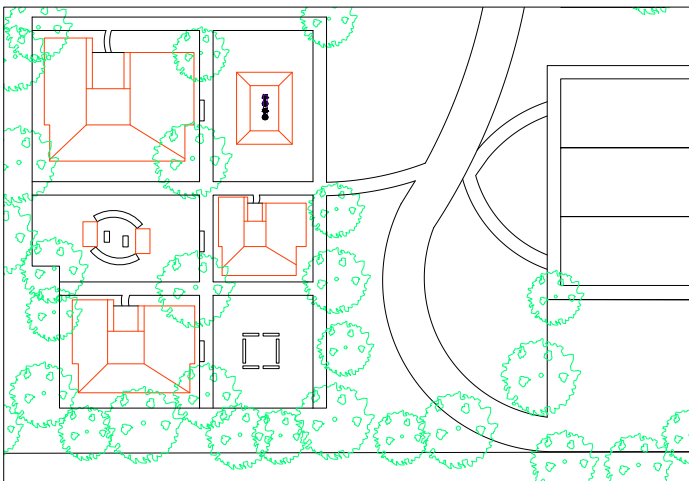
One road to specify where all transportation will come and go allowing speculation from townspeople but also ease of access along a linear road to finding their destination



LINEAR ORGANISATION

The rectangular linearity is crucial to responding to the site aesthetics and the mountain view further beyond

MASTERPLAN PRINCIPLES

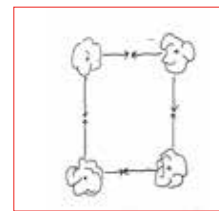


CLUSTER PLAN 1: 250



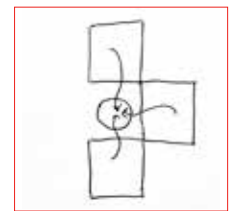
ACCESS TO WATER BUBBLERS

Bubblers among a common walking path allows more circulation along a key circulation acces to all three dwellings



TREES TO DEFINE SPACES

trees act as a boundary to shelter dwellings privacy whilst also making it clear of spaces neighbours can interact

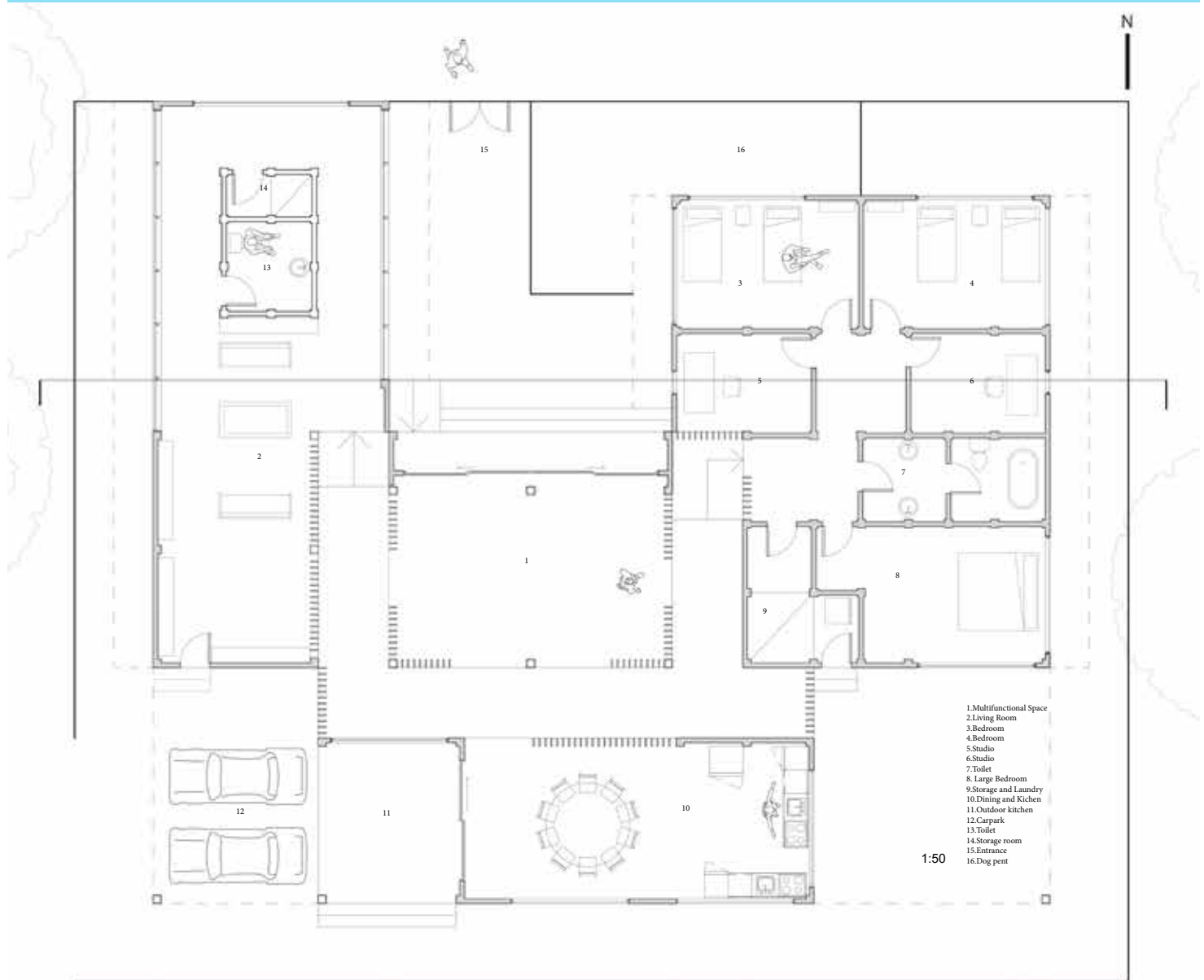


INBETWEEN COMMUNAL SPACES ALLOW INTERACTION

To prevent feelings of isolation dwellings can freely interact when they want on a neighbour relationship basis

CLUSTER PRINCIPLES

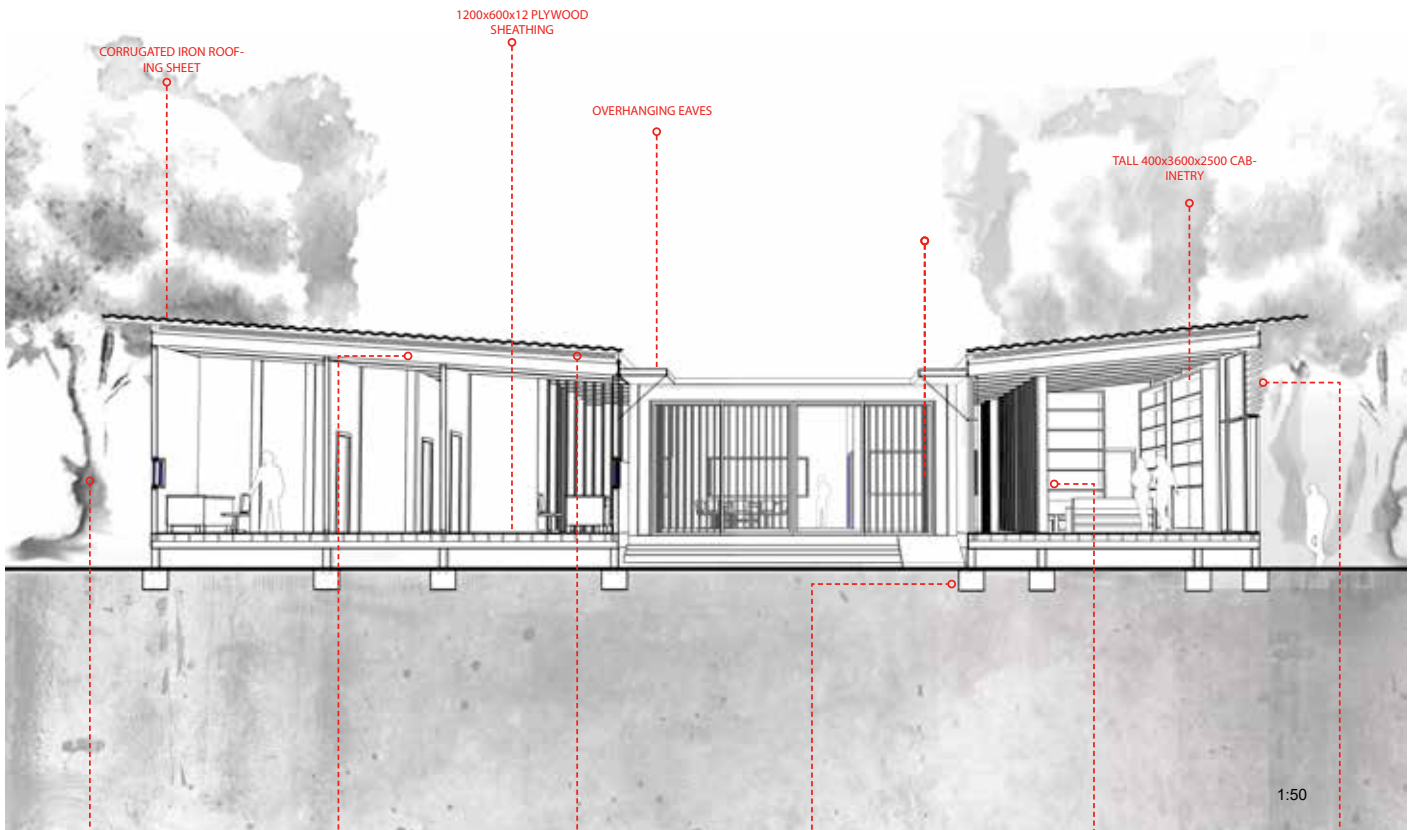
# DESIGN OPTION 1: 3 Family bedroom Dwelling



DINING ROOM VIEW

# DESIGN OPTION 1: 3 Family bedroom Dwelling

CLIENT: TRACY HER HUSBAND AND TWO KIDS  
 THEIR NEEDS: HOUSING TO ACCOMMODATE RELATIVES AND THEIR FAMILIES



## TREES AS FRAMING DEVICES

trees provide a canopy of shading whilst also further emphasising that mountain view in a picture frame sense

## EXPOSED 140x235 ROOF RAFTERS

lack of ceiling and exposing the structure allows a feeling of spaciousness whilst also opening towards the surrounding site

## SERPENTINE STYLE ROOFING

inspired by Peter Zumthor's Serpentine gallery which opens to a two seventy degree view whilst also coming down onto the core space of the design, the Japanese style porch

## STILT FOOTING

Raised footing from ground lets ventilation through especially to the porch from underneath making it a multifunctional space that can be utilised by the occupants however they want

## PLYWOOD PANELS

Panels act as the physical elements that connect the U shape modular whilst allowing more presence when perpendicular as occupants can see right across their home

## LOURVE SYSTEM

Further measure to counter a raised roof to the West and East as a ventilation strategy in terms of convection but also blocking out the unwanted solar heat



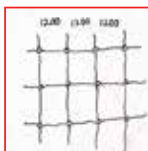
## CONNECTION OF FOOD RELATED SPACES

The outdoor area is the first space that allows hunters to file/gut their catch of the day which is then taken right inside to the kitchen and dining room next to it



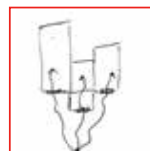
## LIVING ROOM AS A SPACE TO ENJOY SITE

Having that mountain view gives pride and identification to the people of Yarrabah as having something people in the urban city do not get to experience



## ROBUST 1200x600 MODULES

Plywood sheets manufactured in this size allows space to be constructed in a modular sense but also makes it more buildable for locally trained craftsmen



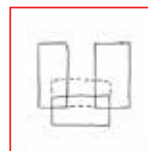
## SOUTH DAYLIGHTING

Much needed daylight from an undisturbed sunpathing to psychologically give the occupants comfort of their own space



## MULTIFUNCTIONAL JAPANESE STYLE PORCH

The space can be flexibly adjusted to whatever the inhabitants needs it to be while also retaining its spatial identity of a semi public greeting area.



## SPACES VISUALLY AND PHYSICALLY CONNECTED TO MAKE KEY CIRCULATION PATH

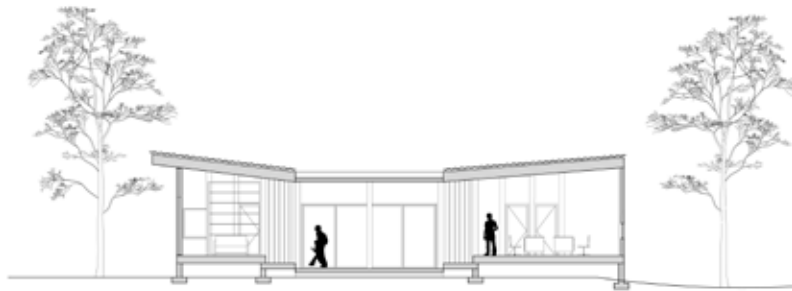
Through a common circulation path bound by vertical timber panels

## DESIGN OPTION 2:

CLIENT: PAULIE AND DOUG  
THEIR NEEDS: FRIENDS WHO WANT A PLACE TO WATCH THE WORLD



1:100



1:100



LIVING ROOM VIEW



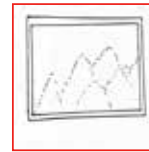
**SHARED WORKING SPACE**

To further promote interaction between two close friends



**CORE CENTRAL SPACE ACTS AS A TEA ROOM**

The central space is multifunctional but is best used as a tea room while other spaces around are utilised



**LIVING ROOM TO WATCH THE SITE MOUNTAIN TERRAIN**

Mountain terrain acts as a crucial cultural element that gives identity to the people and the site



**CABINERY STORAGE**

Crucial combination of both cabinetry and storage rooms allows spaces to be more free

## DESIGN OPTION 3 :

CLIENT: JONO , HIS DOG AND THE UNCLE THAT VISITS  
THEIR NEEDS: FISH PREPARATION, PENSIONS SAVING



1:100



1:100

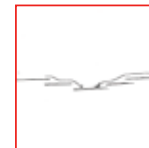


BEDROOM VIEW



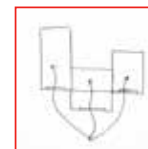
**PRESENCE OF DOG**

Dog can stay near owner but also kept out when private time is needed

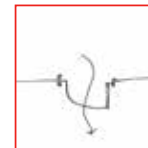


**ELEVATION TOWARDS A CENTRE SPACE/STAGE**

allows a further emphasis on the semi public porch



**DAYLIGHTING**



**PENSIONS SAVED, TIGHT STORAGE**

Owner has limited savings so storages and belongings are located and stored in locations that are hard to find where people would have to go through interaction with the inhabitant first



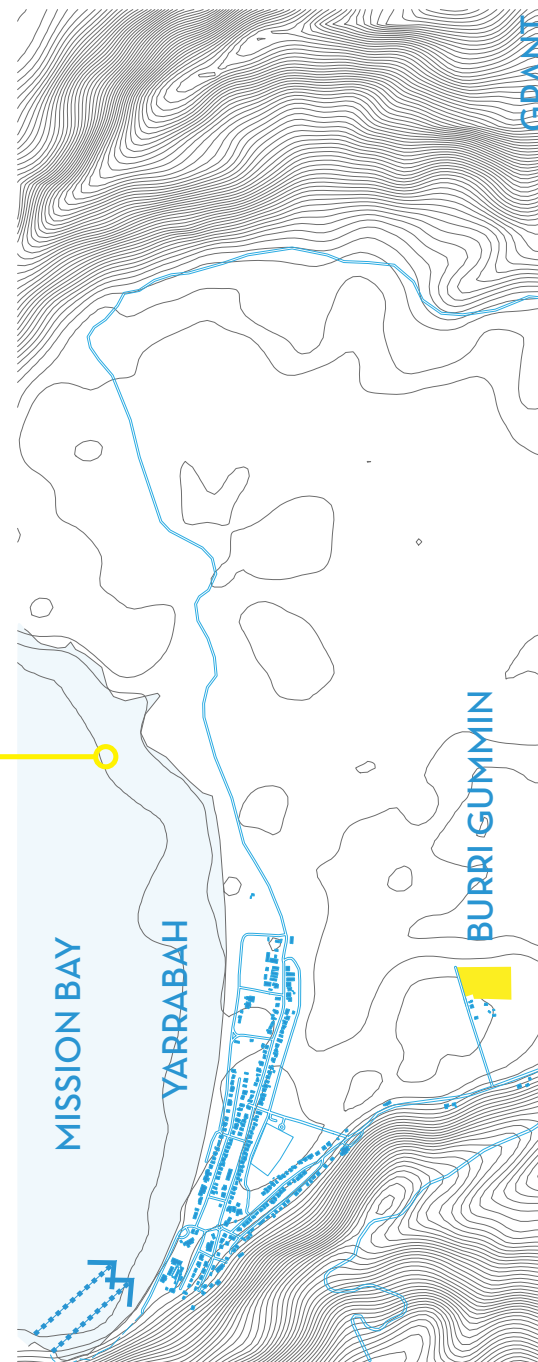
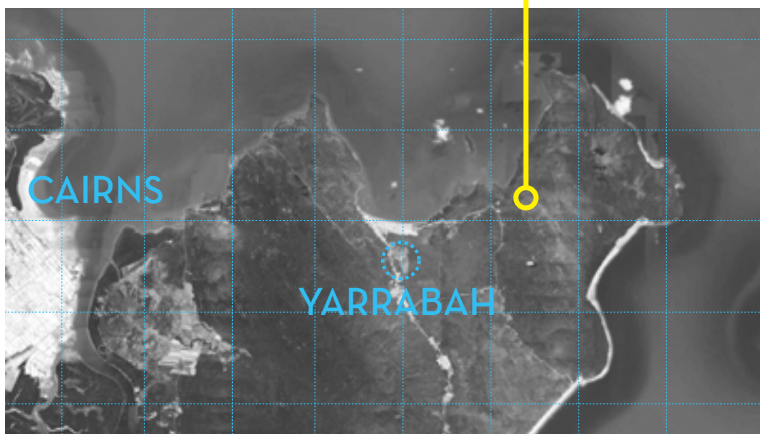


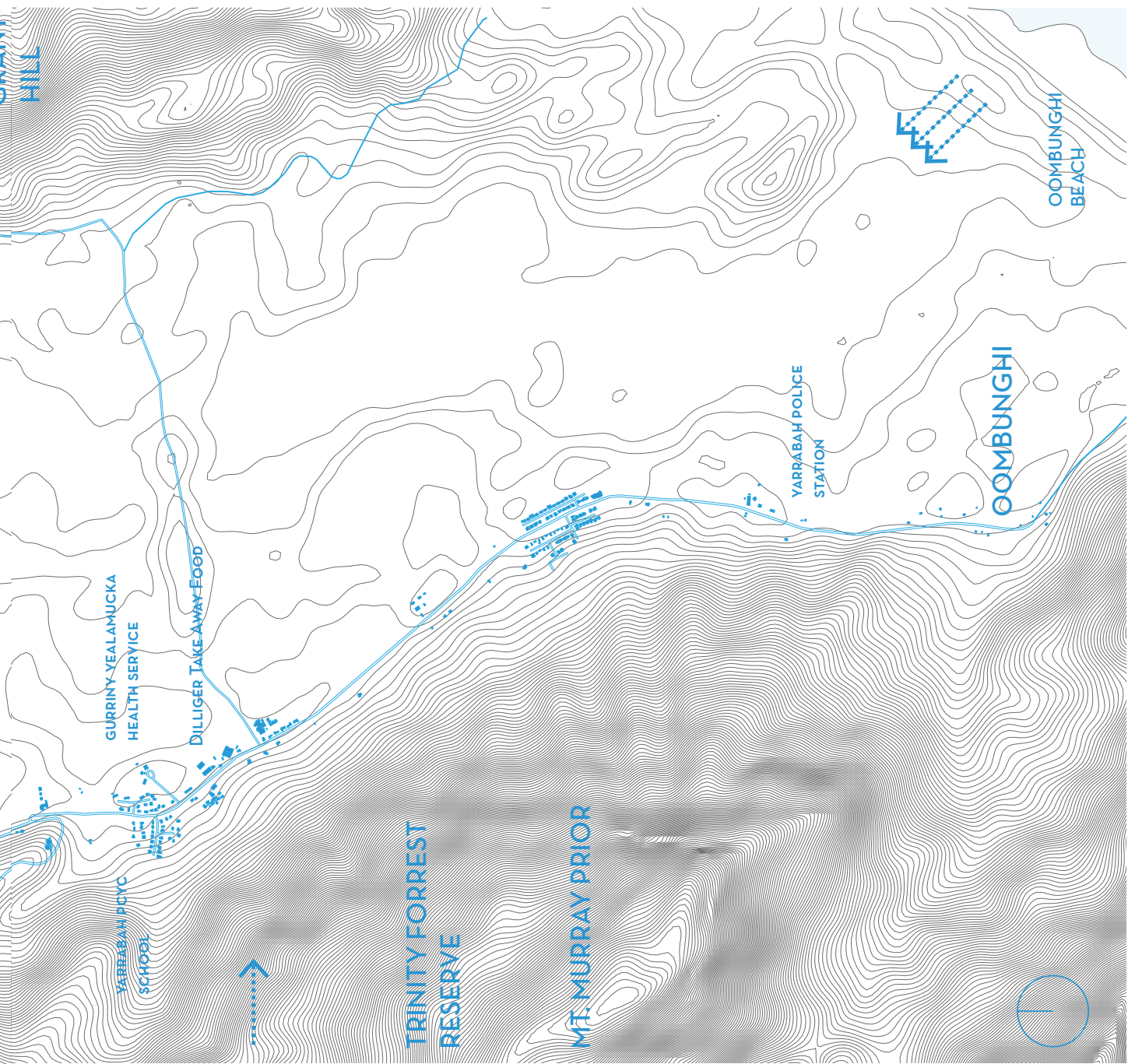
## APPENDIX I: SITE ANALYSIS, YARRABAH PENINSULA

During cyclonic storms, the low air pressure forces the water level of the ocean up, causing the body of ocean water to grow and cause huge tides which can cause vast amounts of damage to Yarrabah.

The prevailing South Easterly breeze is subject to a funneling effect by the mountains that cradle Burri Gummin, providing natural ventilation airflows throughout the year.

There is also anecdotal evidence that the mountain range shelters Burri Gummin from cyclone to some extent.





## SITE ANALYSIS, YARRABAH COMMUNITY

Clouds coming off coast builds up against mountain range.



Creates rain shadow.



Results in fast moving water coming off the mountain.



Can cause flash flooding and landslides.



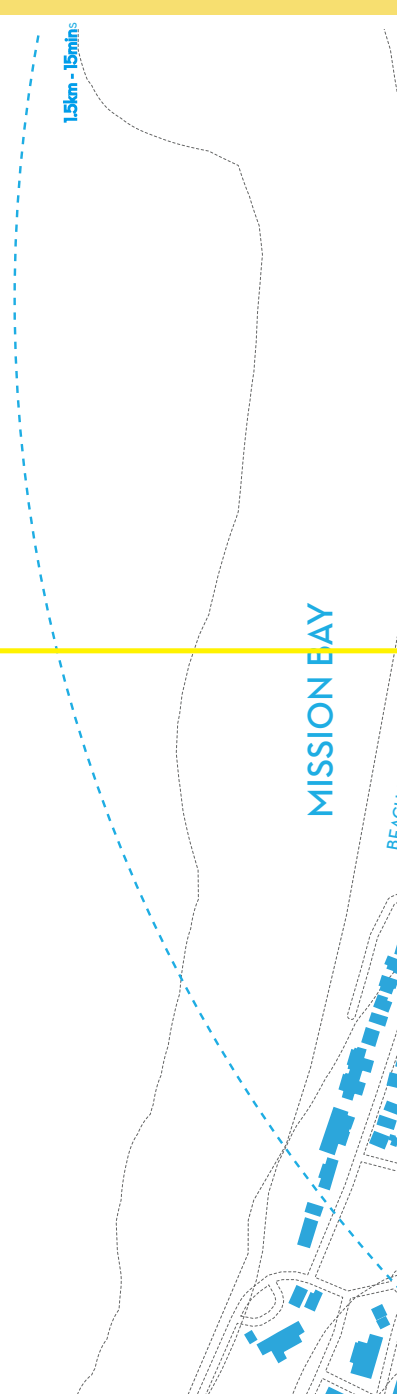
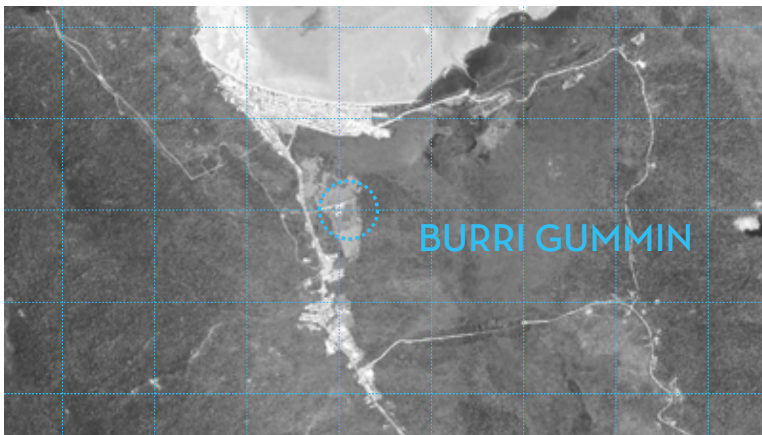
Low lying site is a floodrisk.

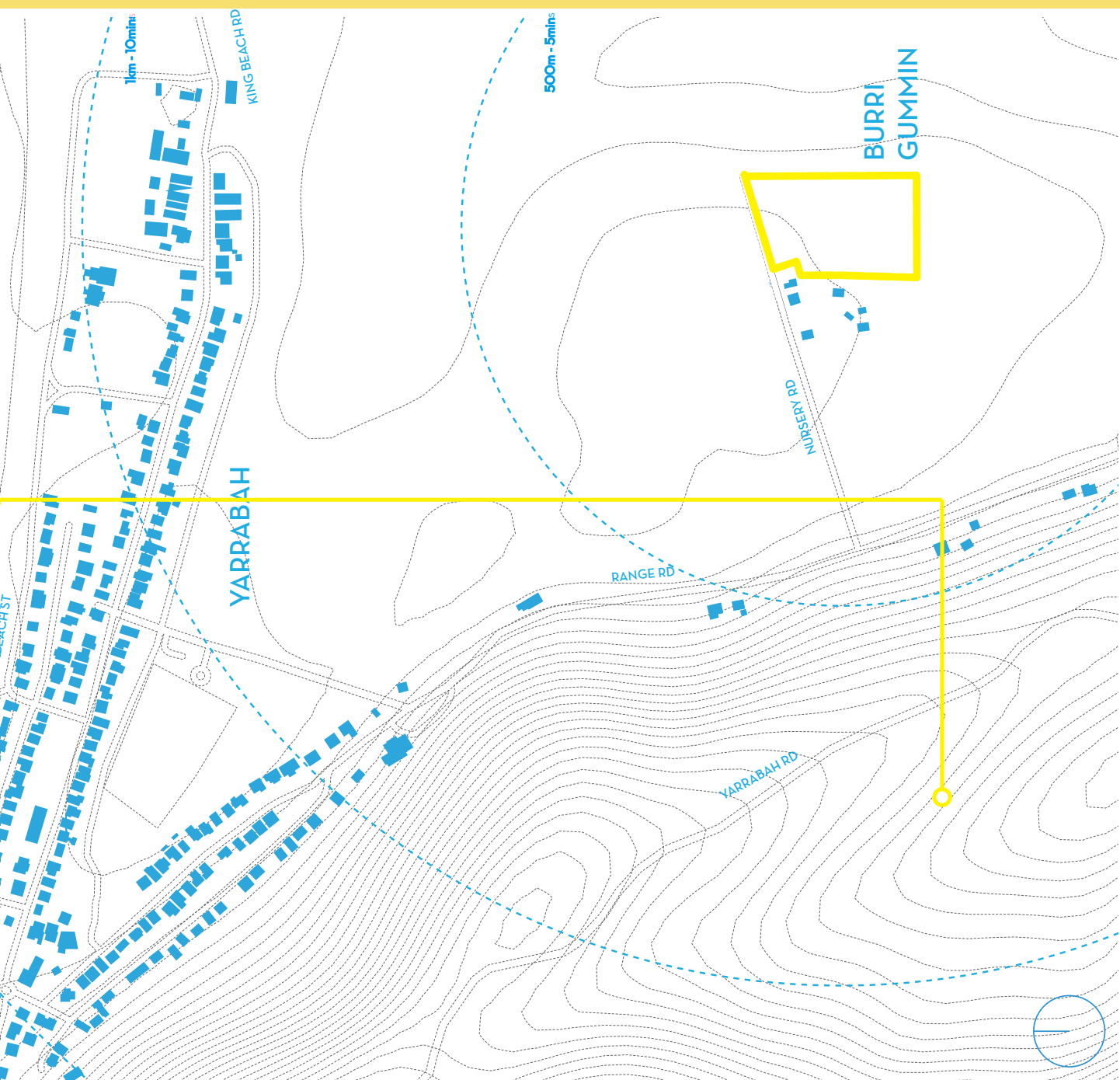


Furthermore, there is no where for the water to drain due to the high water table of Burri Gummin, hence the site is constantly a wetland with high incidents of flooding during monsoon periods with high rainfall.

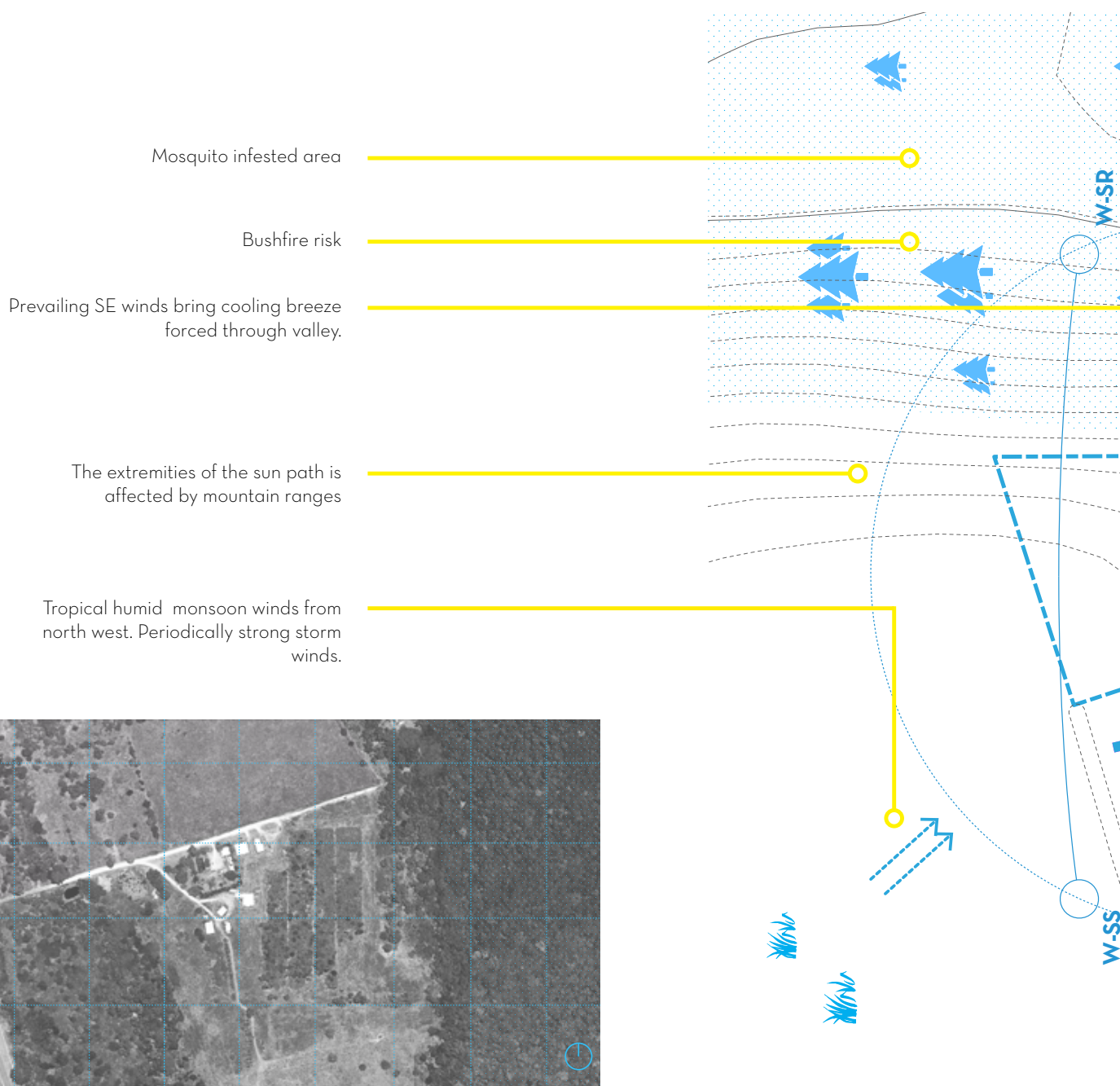


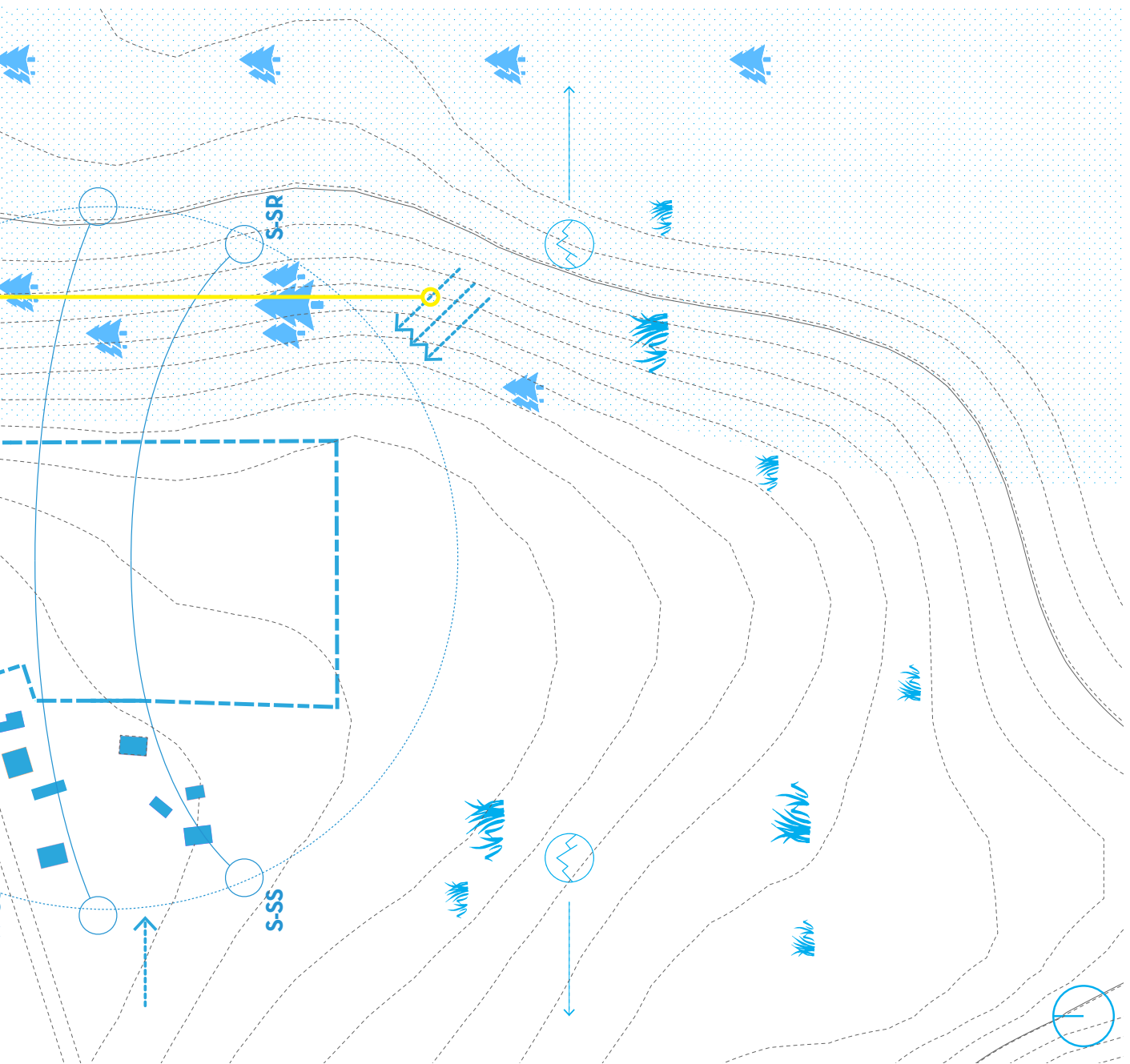
As a result, the houses surrounding the site are generally on stilts.





# SITE ANALYSIS, BURRI GUMMIN





## APPENDIX 2: EXISTING HOUSING - COUNCIL HOUSING

Single storey masonry building, under repair



### STRENGTHS

Natural Light to Living  
Disabled Access from Front and Rear  
Built in Storage

### OPPORTUNITIES

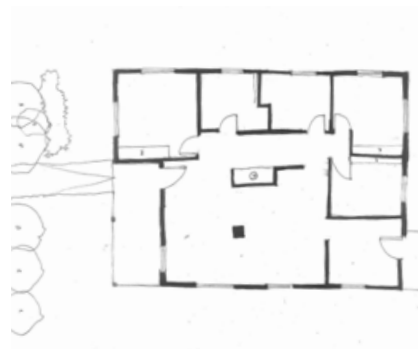
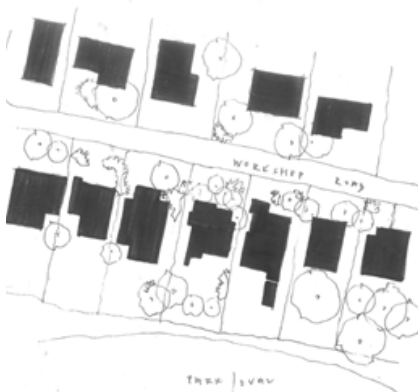
Planting provides Security from Street Front  
Pitch / gable roof  
Gas bottle easily accessed and locked  
Large Backyard but overlooked by oval / park  
Verandah accessible from Living Room

### WEAKNESSES

Pitch of roof too low  
No connection to outside space  
Low height ceilings, no skirting, finishes seem clinical  
Double banking of rooms  
No roof ventilation space  
Private Open space to rear accessed from Laundry

### THREATS

Kitchen not durable - being totally replaced  
Gas Accessible from outside  
Minimal ventilation opportunities  
Bathroom - Tiles broken, windows dirty, fixtures broken  
Windows Boarded Up  
No privacy between subject site and neighbors





## EXISTING HOUSING - TRANSITIONAL HOUSING



Timber and steel framed demountable housing.

### STRENGTHS

- House lifted off ground
- Gabled roof
- Street address and frontage
- Planting to private open space
- House lifted off ground

### OPPORTUNITIES

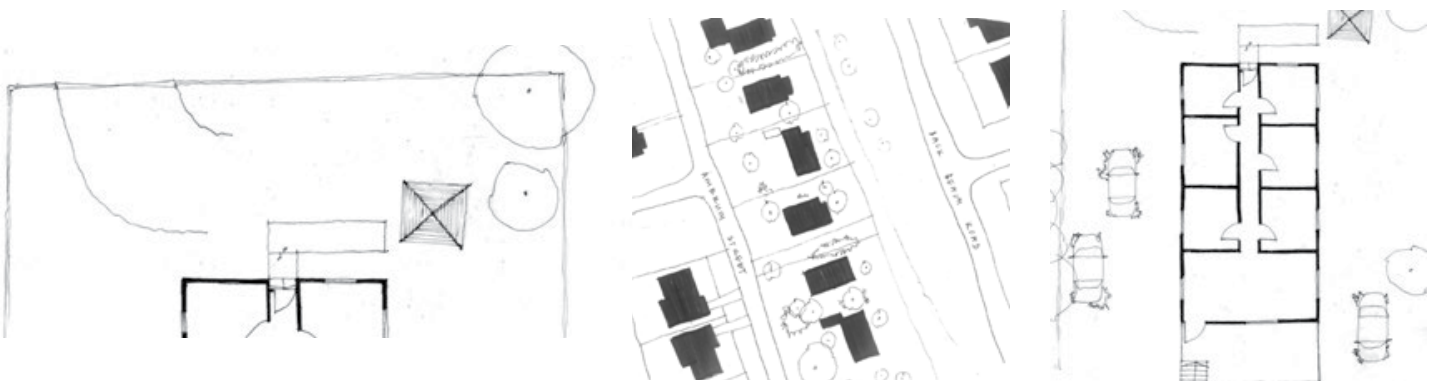
- Lightweight construction (steel posts and timber substructure)
- House lifted off ground
- Privacy planting between subject site and neighbor (south)
- Simple construction methods, cladding and plumbing details
- Orientation of house
- Planting to private open space

### WEAKNESSES

- Double banking of rooms
- No ventilation of roof space
- No natural light infiltration
- No link between verandah and living room
- Verandah to Open space link not accessible (level change too high)
- No opportunities for disabled access without major changes

### THREATS

- Private Open space directly visible from public domain
- Minimal ventilation strategies
- Abandoned cars render open space unusable
- People walking through site, fencing doesn't ensure privacy



## EXISTING HOUSING - IBA SINGLE DWELLING



Single storey masonry building on a bush block

### STRENGTHS

- Sheltered entry with lockable gate and planting
- Surrounding ground includes swale to stop water run off from hill
- Hipped roof to housing
- Car access, lockable garage
- Disabled access would be quite easy to initiate
- Covered verandah with generous dimensions (4 x 3m) with outlook to vegetation

### OPPORTUNITIES

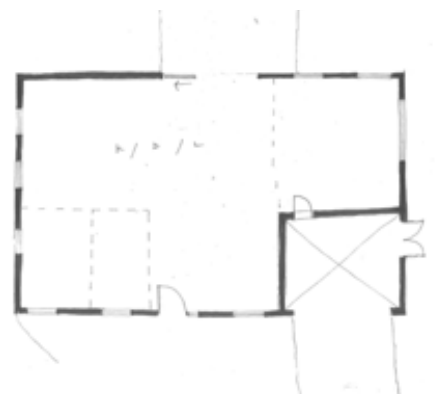
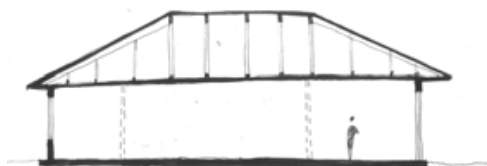
- House situated in clearing of bush
- Planting provides fencing, privacy and secluded location, no overlooking
- Private open space directly accessible from internal areas of house

### WEAKNESSES

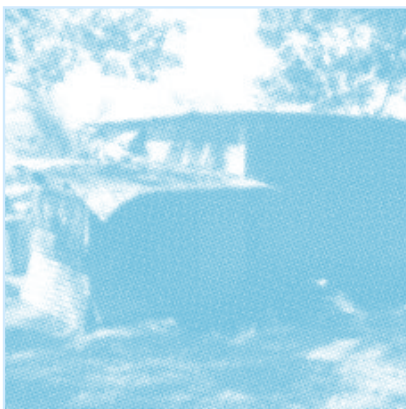
- Pitch roof too low, needs greater pitch to shed water
- No response to local environmental conditions
- Masonry Construction of external walls
- Natural light infiltration minimised by lack of appropriate openings

### THREATS

- External thermal mass not shaded by eaves
- Orientation
- Masonry construction does not provide easy avenue for additions or changes to envelope
- Natural light infiltration minimised by lack of appropriate openings



## EXISTING HOUSING - BUSH BLOCK



Locally constructed timber framed, metal clad house

### OPPORTUNITIES

- Low level fencing integrated with planting
- Set of pavilions utilising outdoor space as a living room
- Outdoor kitchen primary source of food preparation
- Simple Construction Methods
- Materials that are easily found, replaceable and worked with
- Buildings located as a cluster, sheltered within a setting of planting
- Pride of ownership derived from building the house yourself

### THREATS

- Maintenance of basic health hardware
- Abandoned cars restrict outside space
- Not BCA, AS Cyclone Proof

### STRENGTHS

- Separation between outside space and key internal services
- Sheltered entry with good passive surveillance for Cars
- Furnishing of outside space
- Septic tank toilet and separation of toilet facilities

### WEAKNESSES

- Abandoned cars restrict outside space
- Not BCA, AS + Cyclone Proof
- Quality of Construction undesirable
- Furnishing of open space

