



# **Research of development and characteristics of historical buildings in Levuka**

# PURPOSE

Elucidate the value and development of historical buildings in Levuka

# METHODOLOGY

Actual measurement

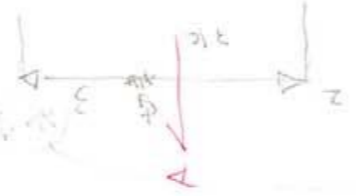
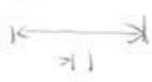
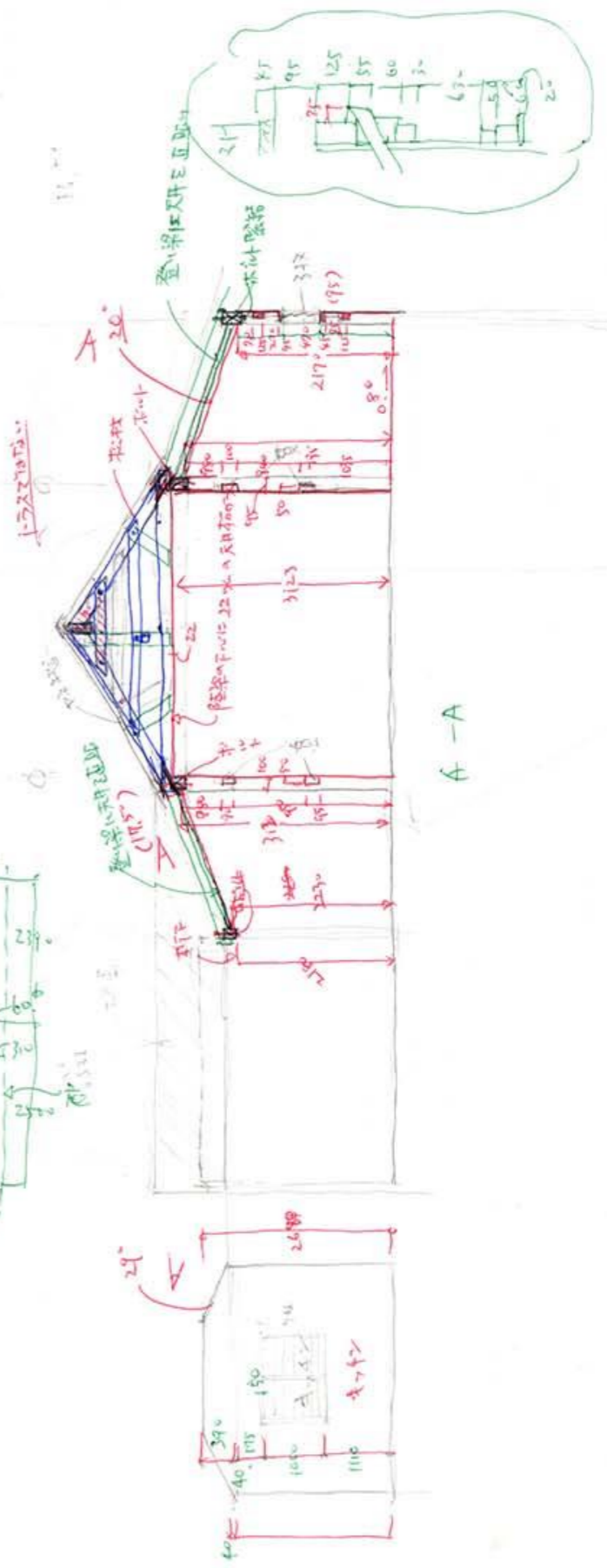
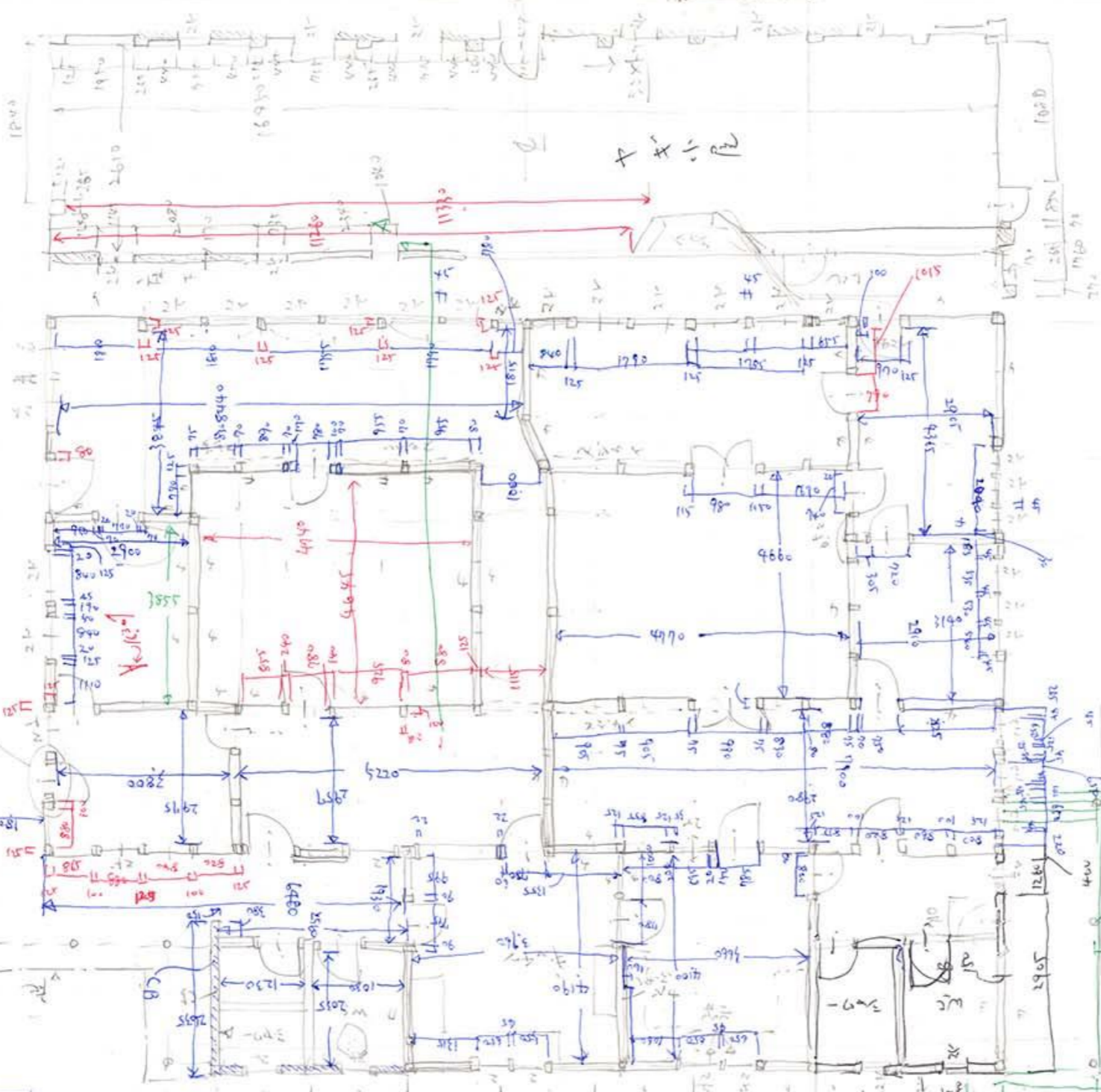
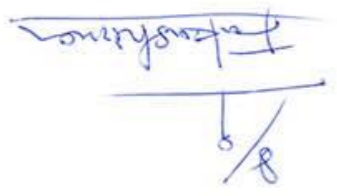
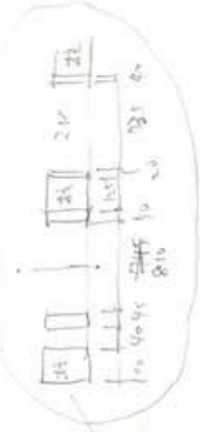
Trace research

Bibliographic survey

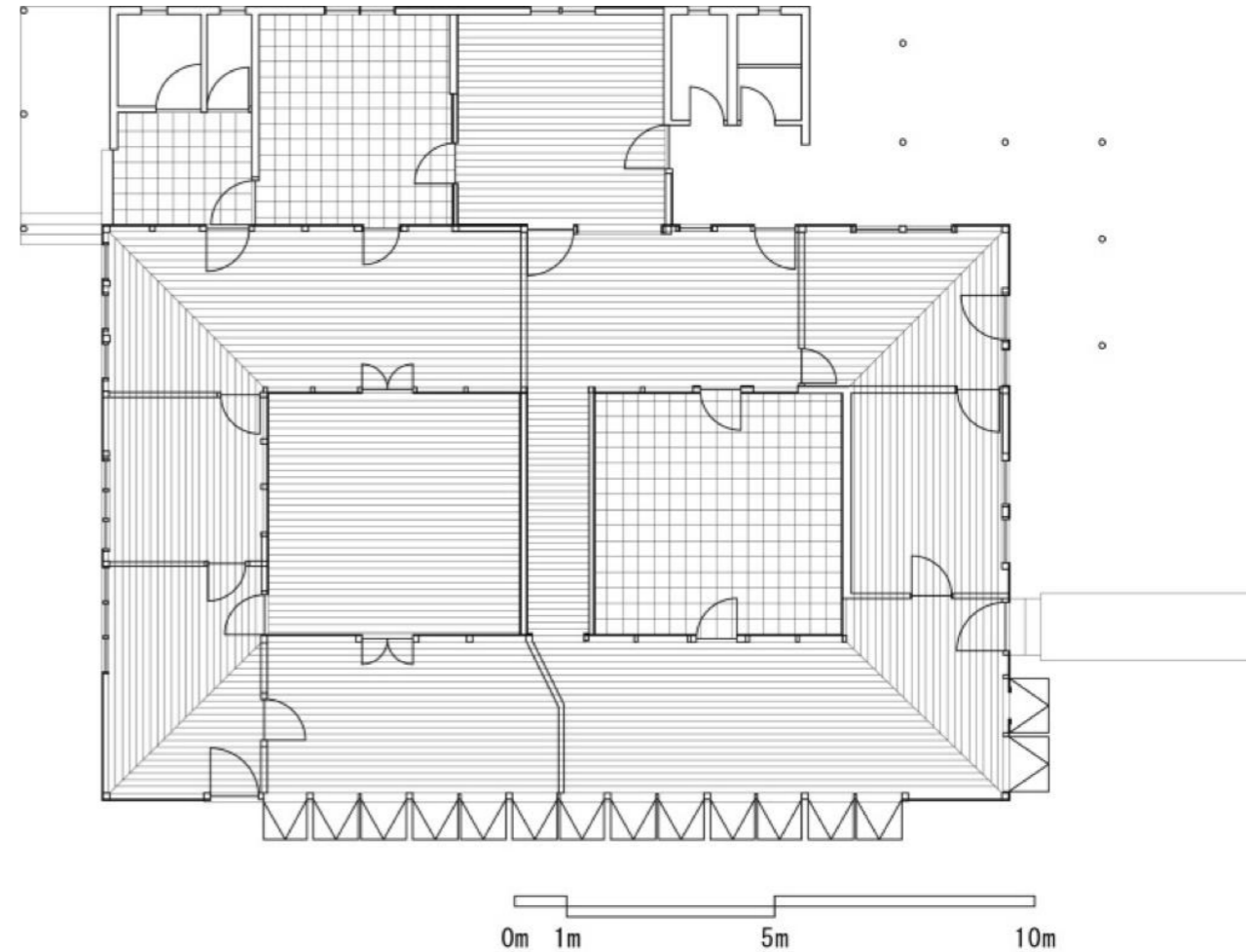
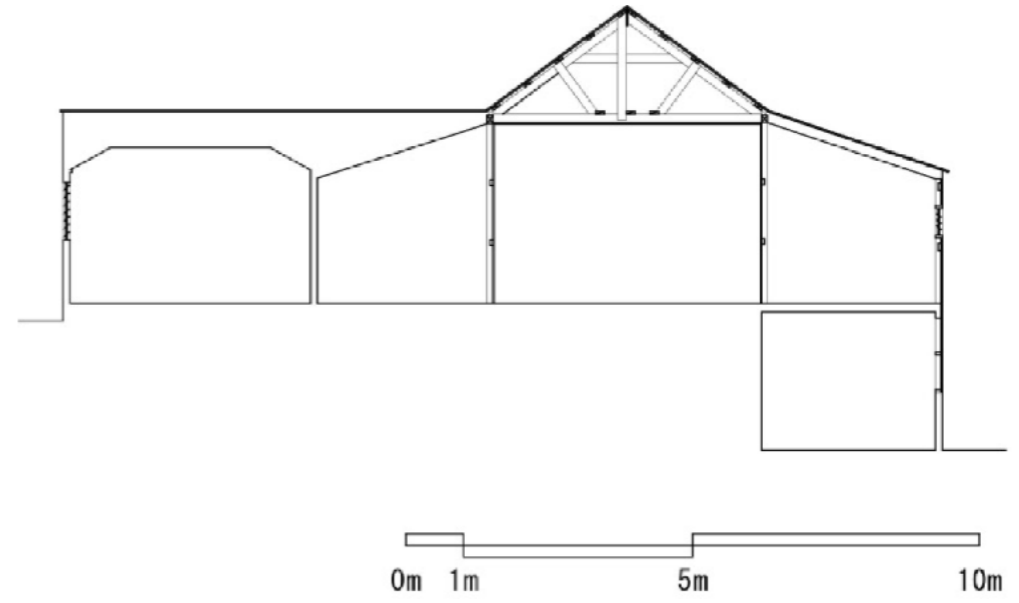
Interview

Photograph comparison

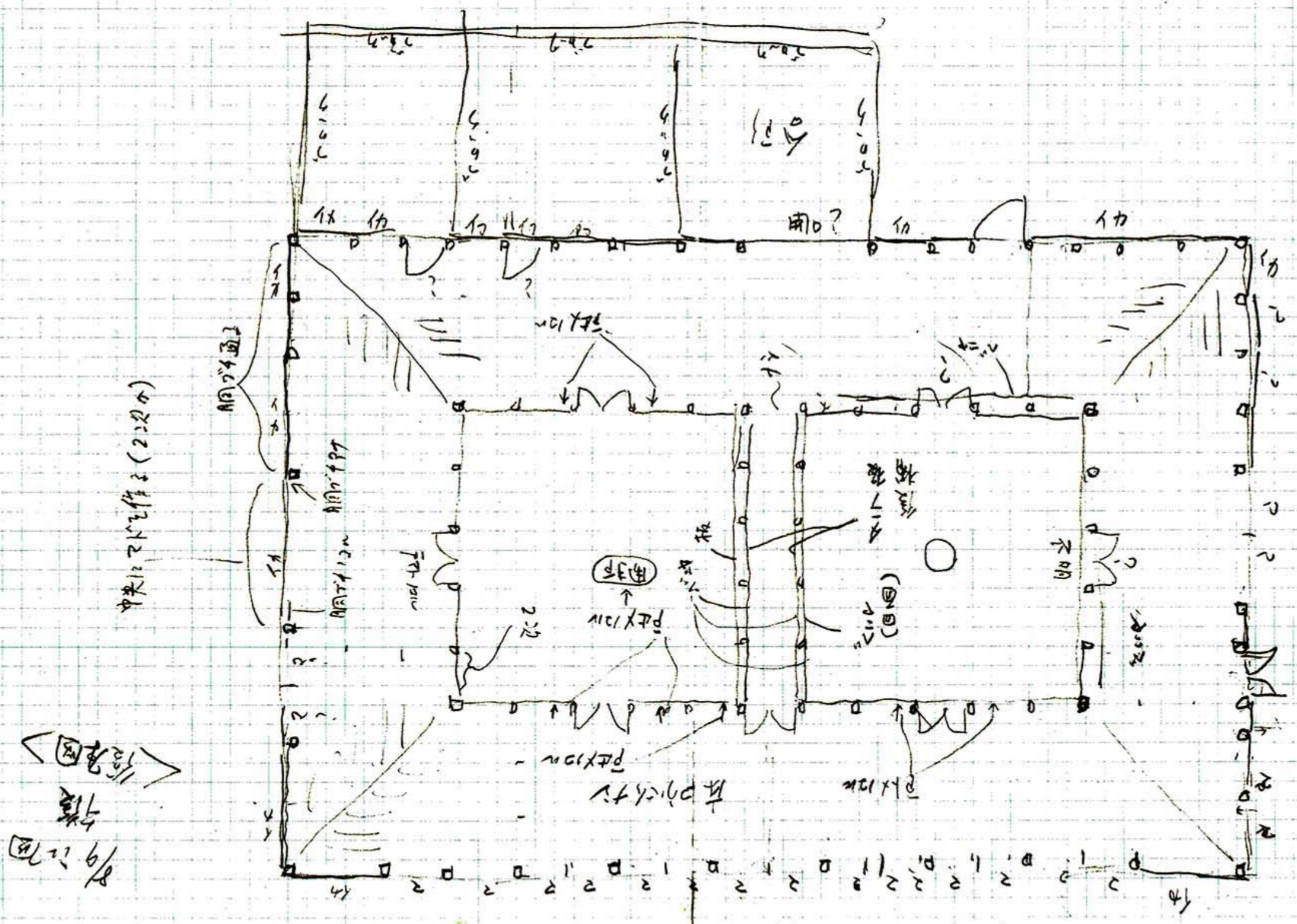
# Actual measurement



A-A



Actual measurement



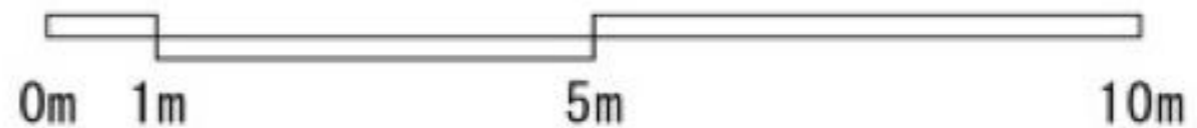
# Trace research

中央エレベーター(222号)

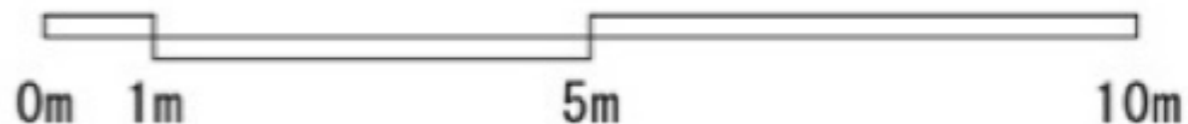
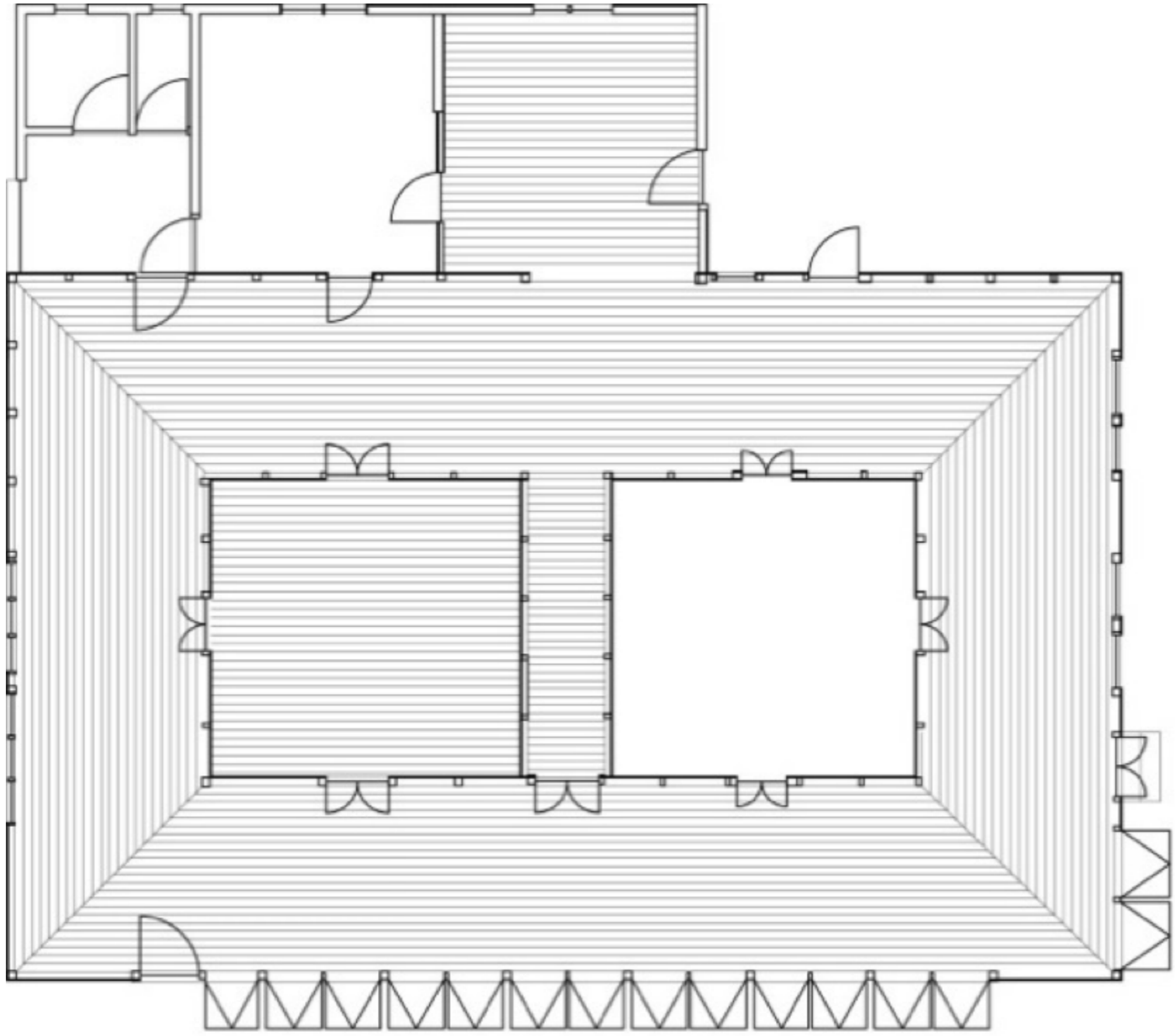
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15時











# Target Buildings in Levuka

Residence	82
Shop House	43
Public Building	25



Checked the roof structures 73  
Drew the Original Plan 89  
Conducted interview 115

Structure Material  
Wooden 119  
Concrete 25  
Stone 6



# Rules of wooden pillars

2x4 inc

2x3 inc

4x4 inc

## Wall Boards



Weather Board



Tongue and Groove Boards

# Roofing Materials



Galvanized iron



Shingle Roof



Residence

# Catalogue House



Source: George Hudson Limited. 1950, *Some designs of Hudson's "Ready-Cut" homes*, Collection in Sydney living museums

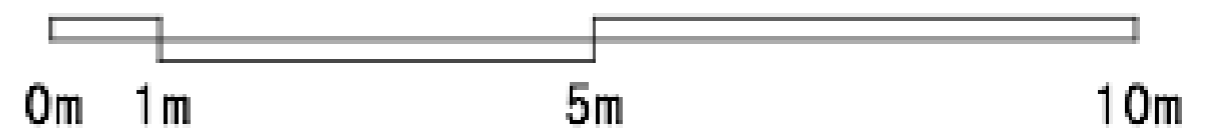


Collection in Fiji museum





**PLAN**

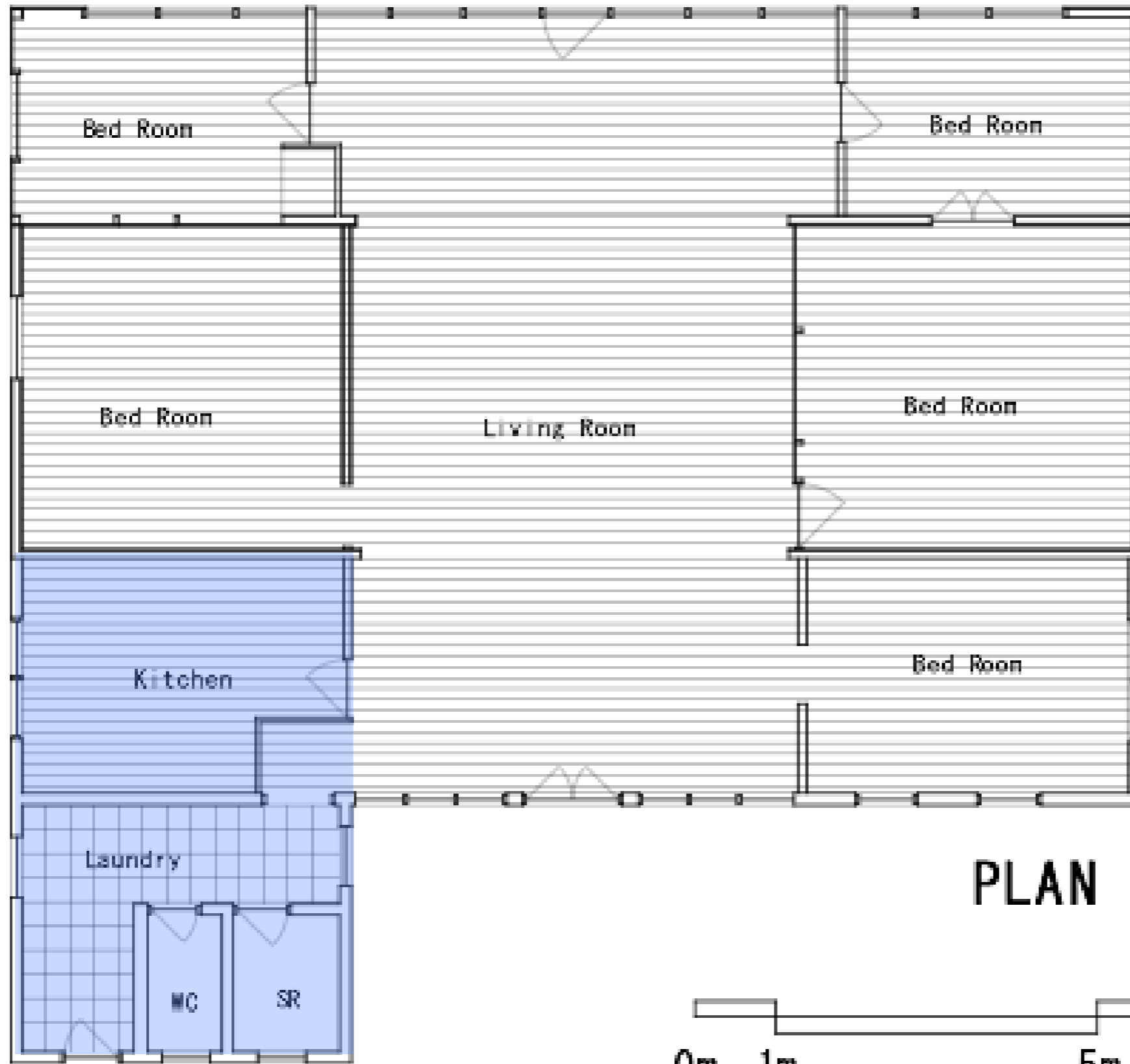


Front Verandah



Collection in Fiji museum

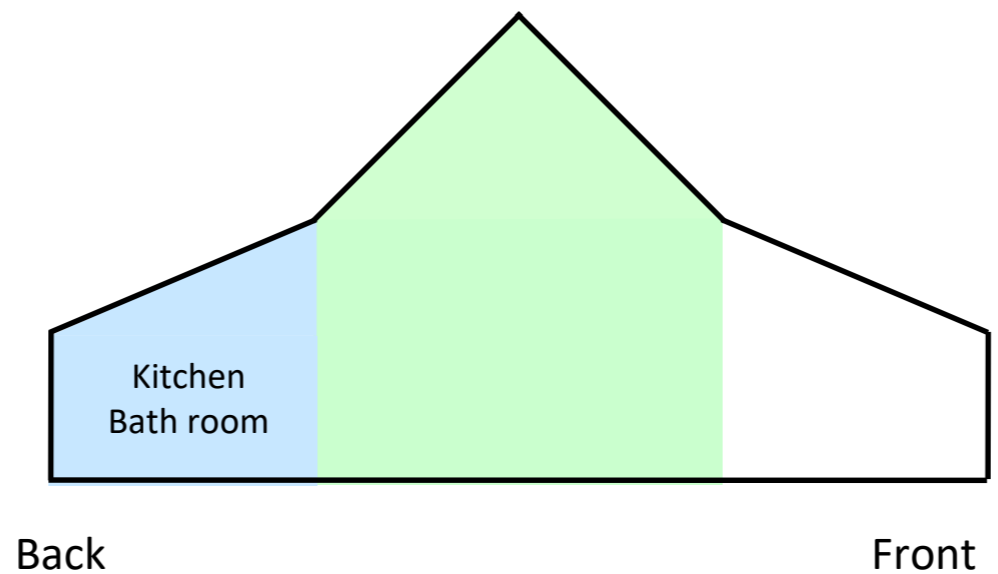
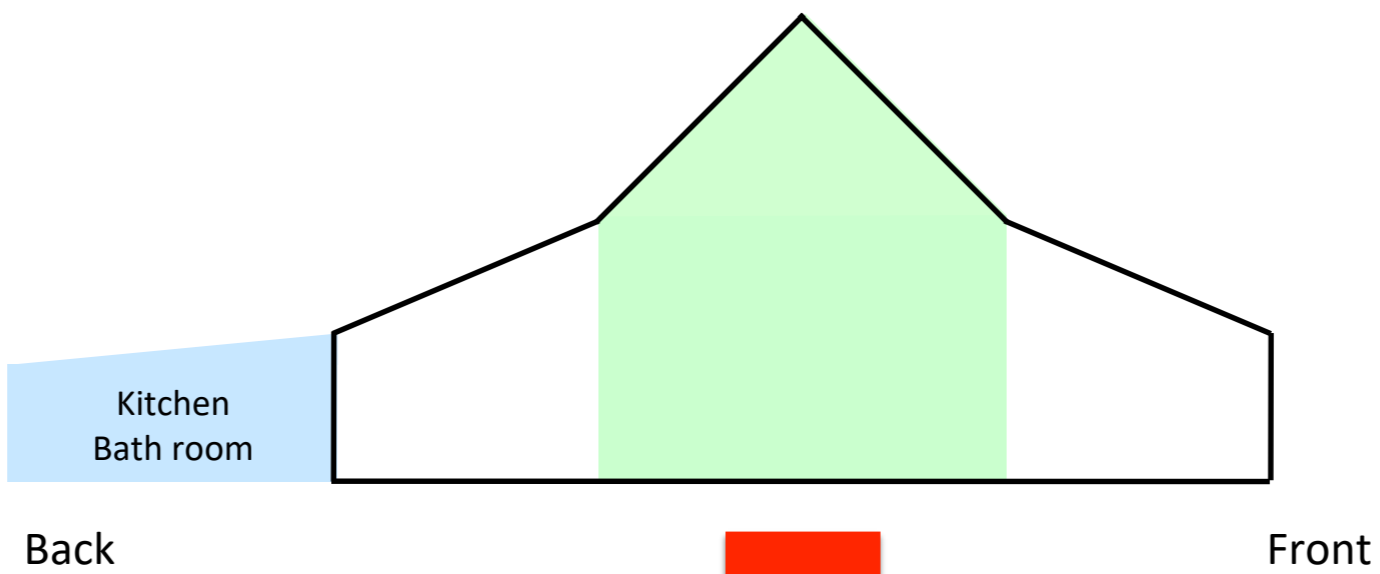
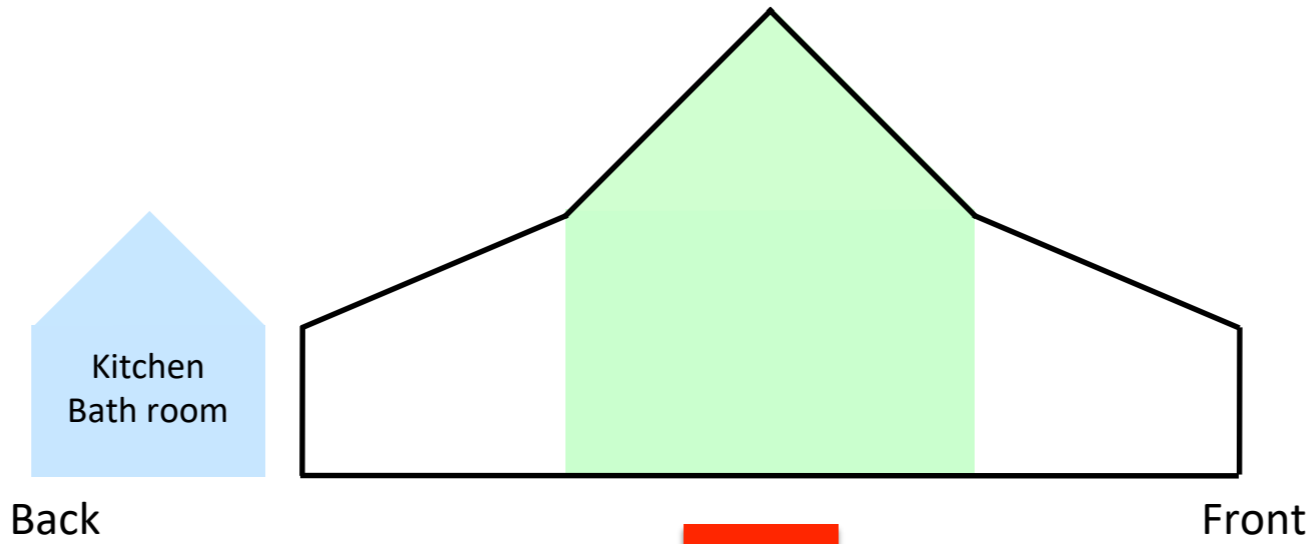




Back Verandah







## Changing floor plan

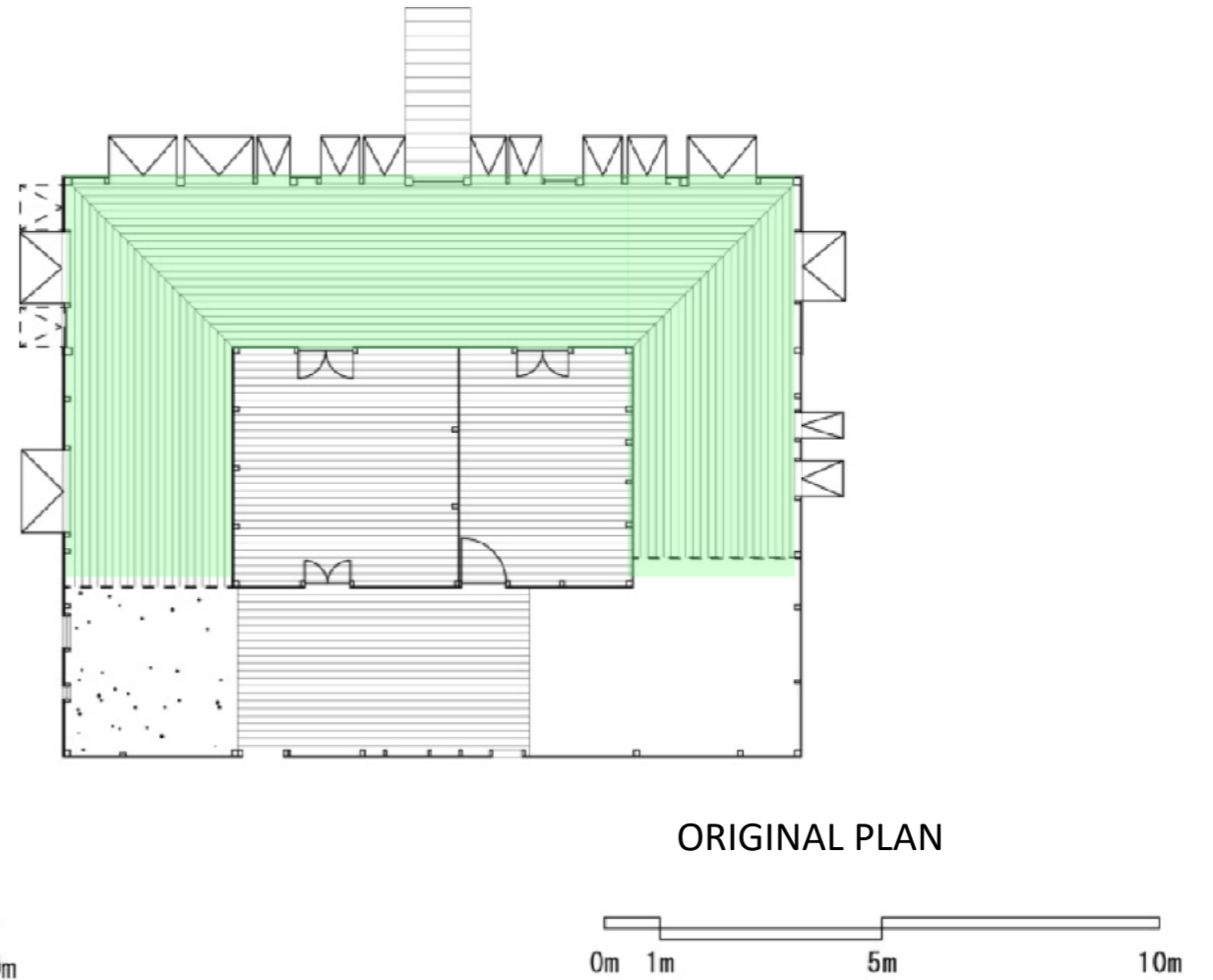
- Segmentation of the Verandah
- Expansion of Living room
- Making of the passage



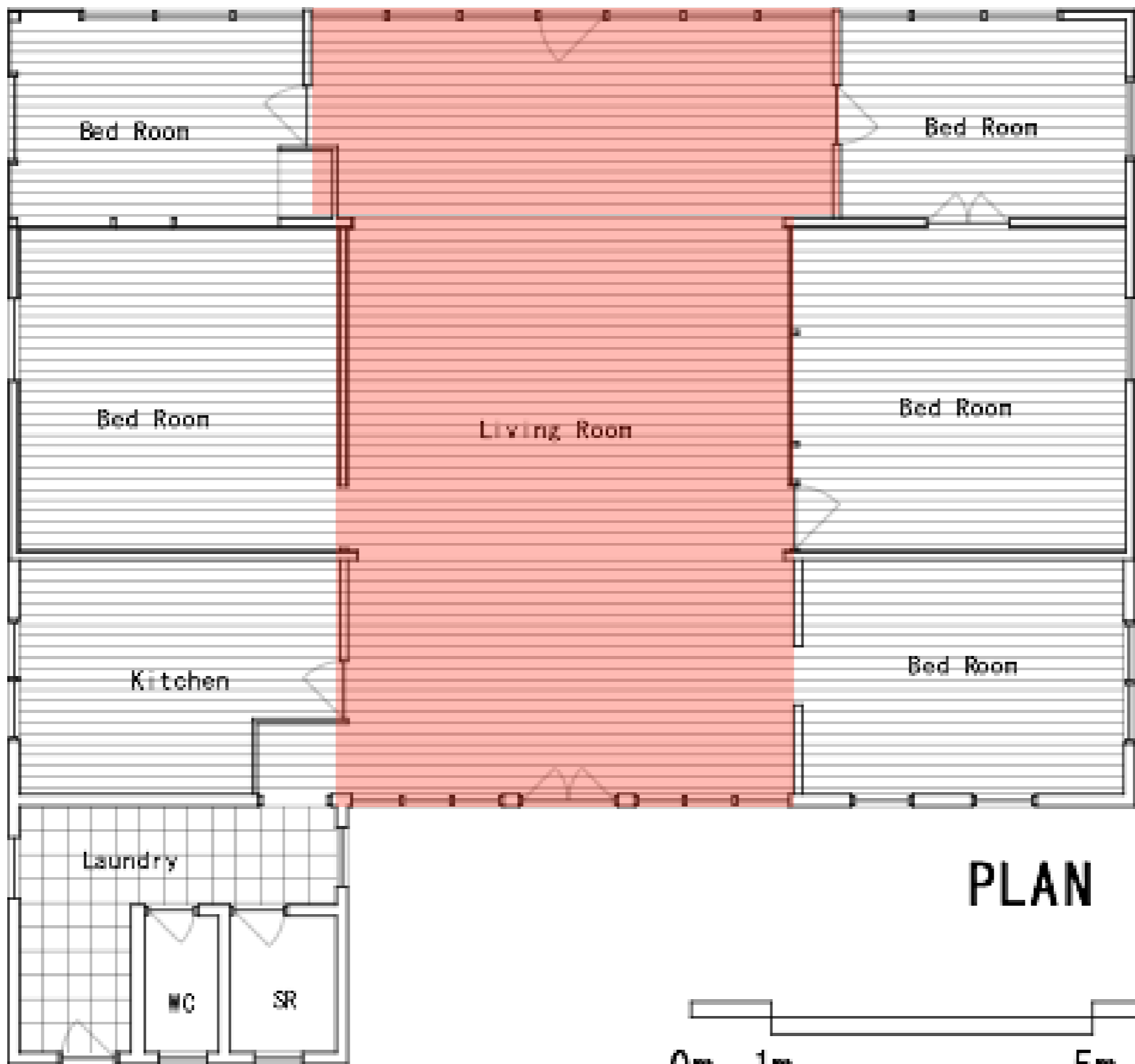




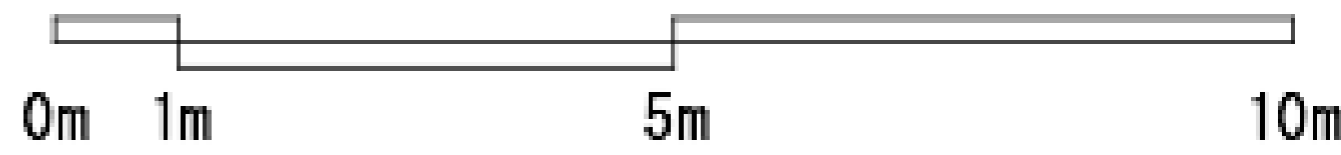
PLAN

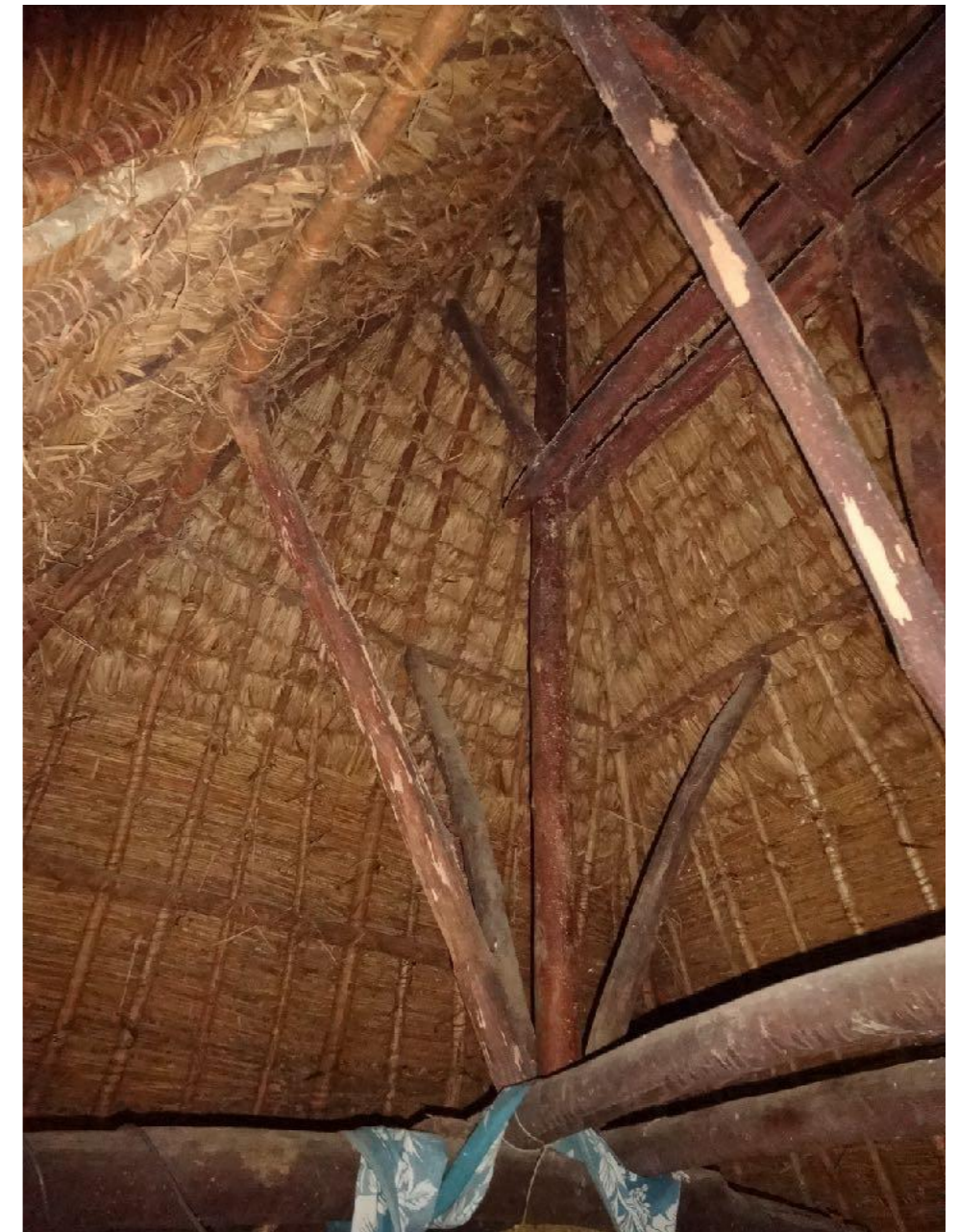


ORIGINAL PLAN

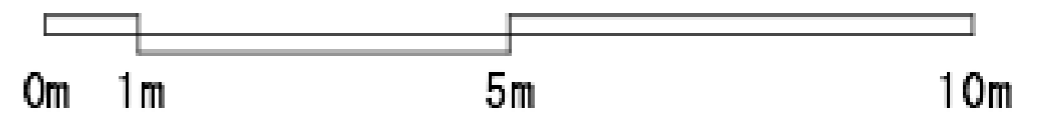
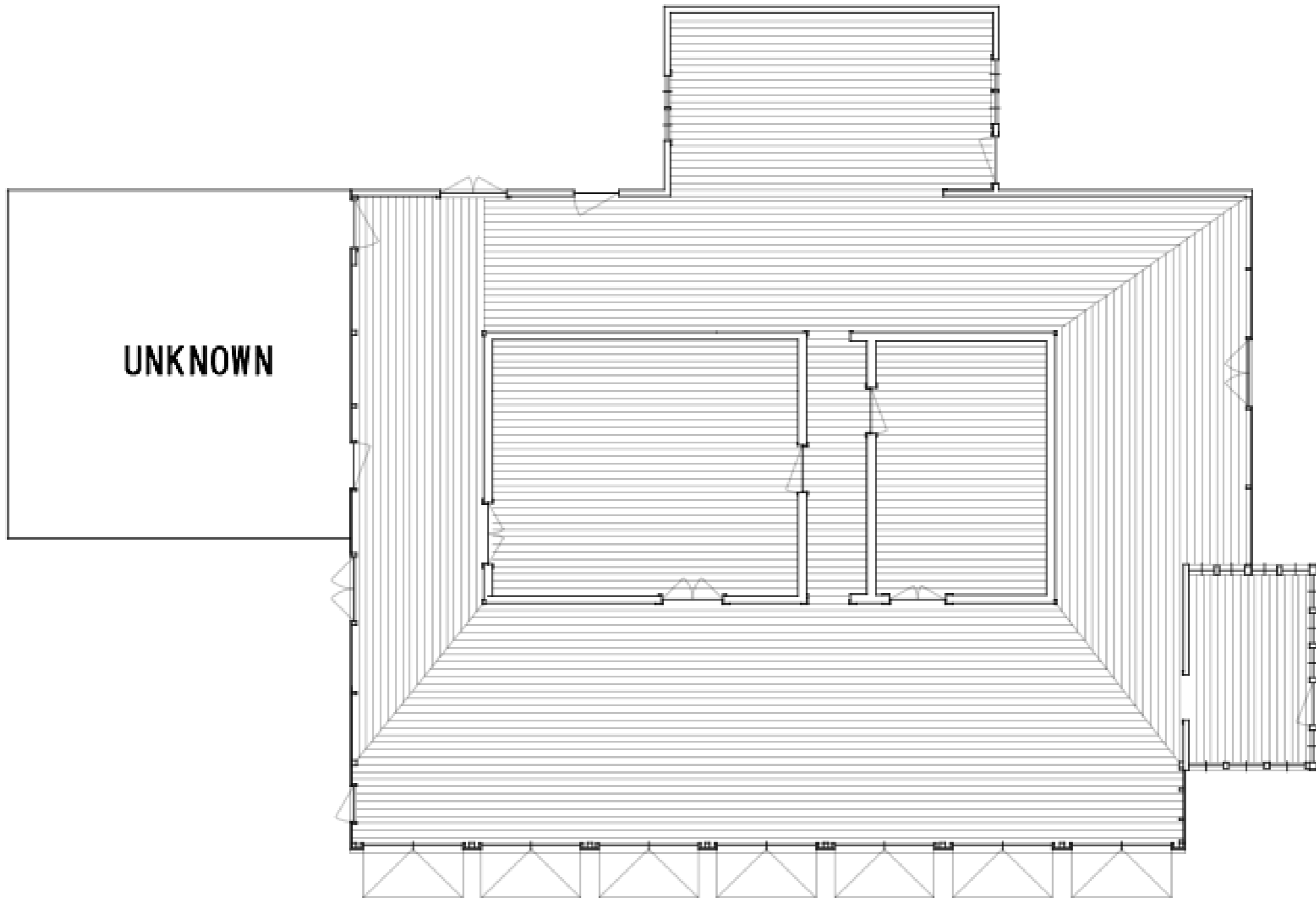


**PLAN**





Fijian traditional house “Bule”





Geo Hudson & Son Ltd. Regent St. Redfern



No. 17



No. 17

Materials ... **£353**

Erected and  
Painted **£565**

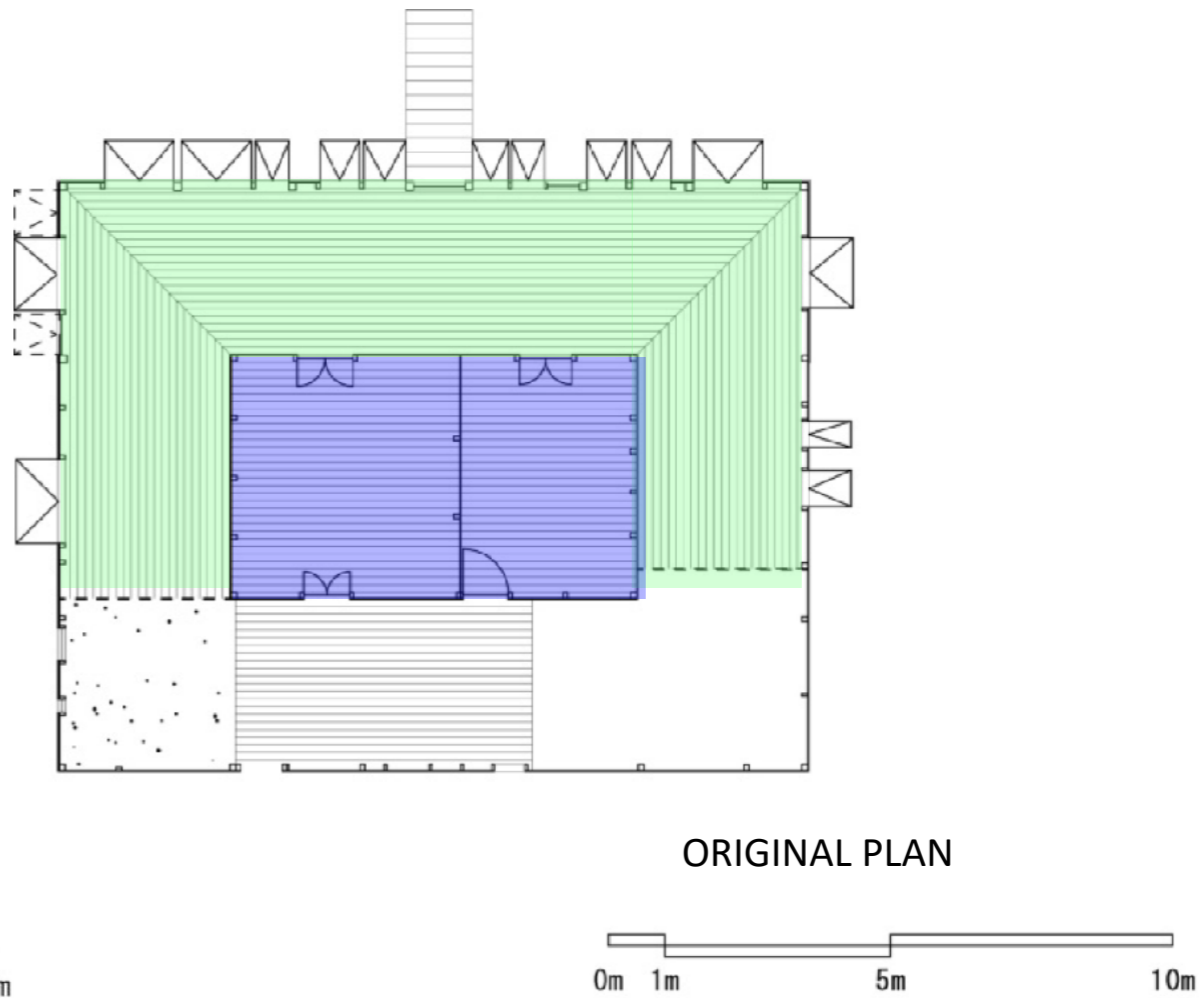
[SEE INTRODUCTION.]

Weatherboard Cottages Erected Complete Anywhere

Source: George Hudson Limited. 1915, *Cottage homes*, Collection in Sydney living museums



PLAN







ORIGINAL PLAN



# SHOP HOUSE



<p>With Arcade</p>	<p>Gable roof or Hip roof</p>	<p>Without eave</p>		<p>A</p>
		<p>With eave</p>		<p>B</p>
	<p>Skillion roof</p>			<p>C</p>
<p>Without Arcade</p>	<p>Gable roof</p>			<p>D</p>

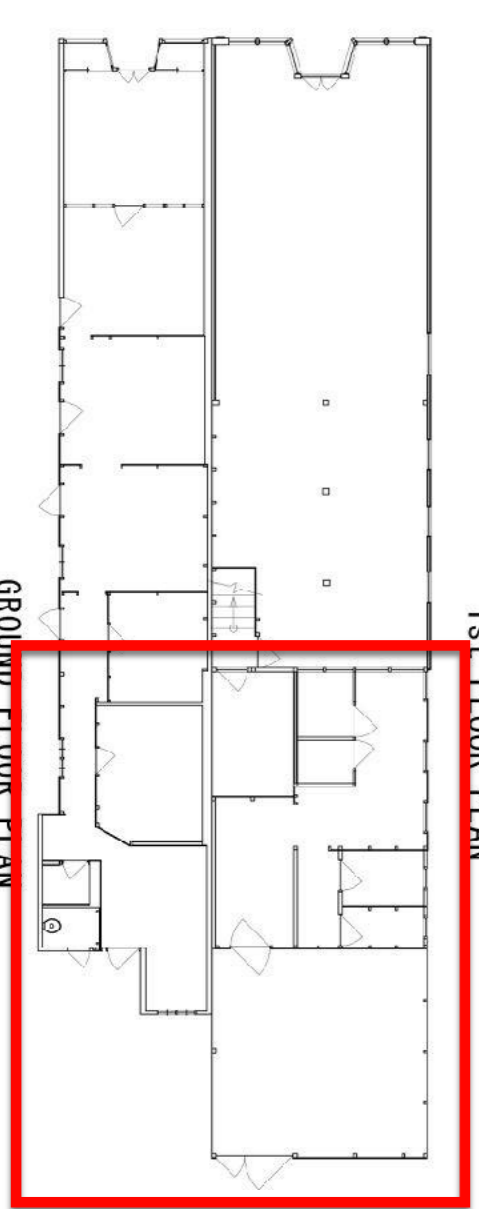
# SHOP HOUSE

- Warehouse
- Small one room
- 2 stories building

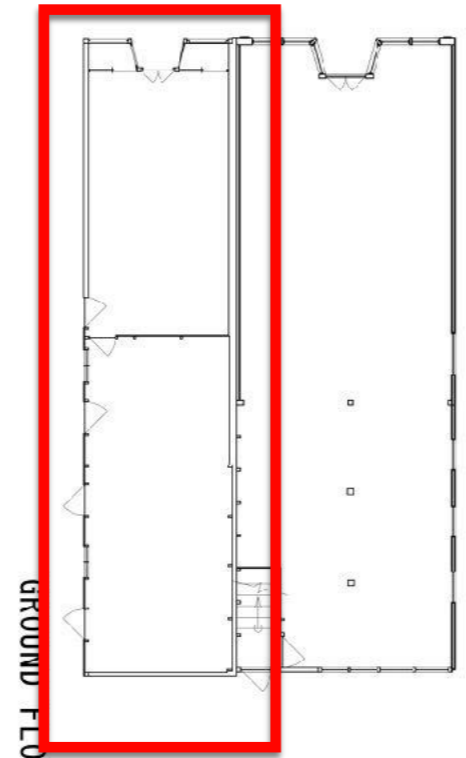


WAREHOUSE

10m  
5m  
0m 1m

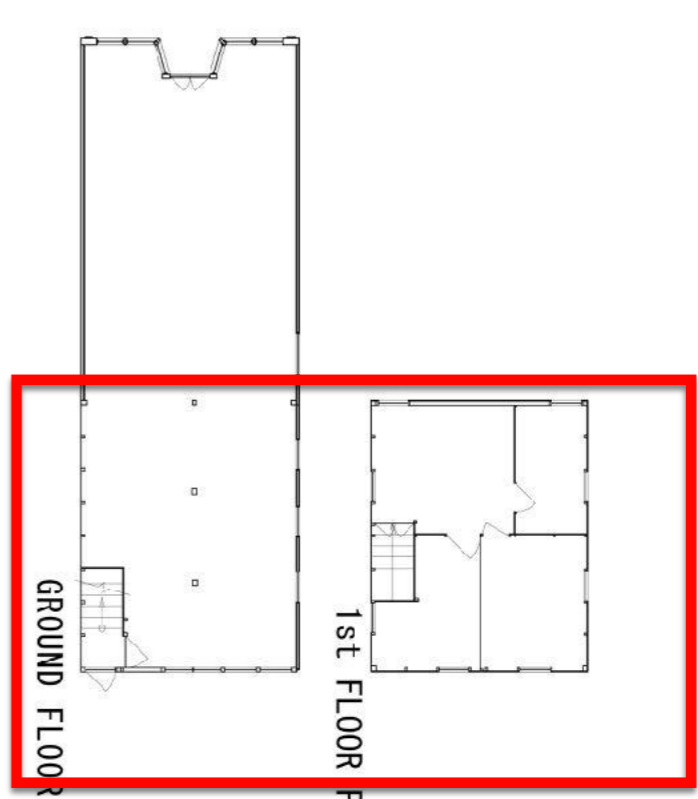


1st FLOOR PLAN



GROUND FLOOR PLAN

1st FLOOR PLAN



GROUND FLOOR PLAN

1st FLOOR PLAN



SMALL ONE ROOM



**2 STORIES BUILDING**



Taken in 1869

Source: Fiji museum



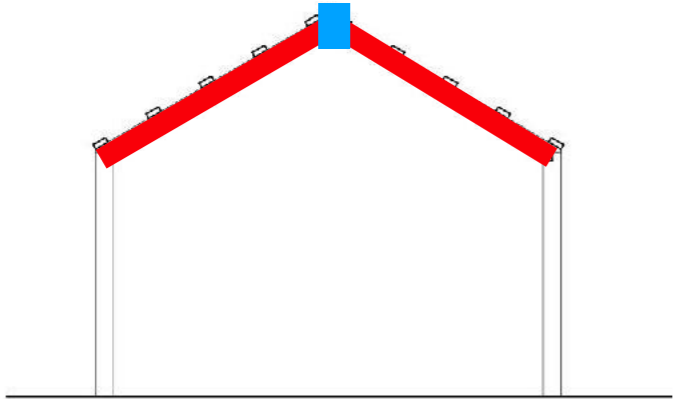
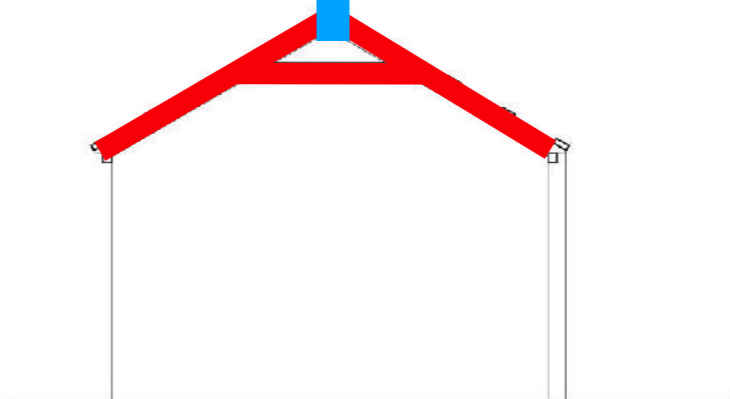
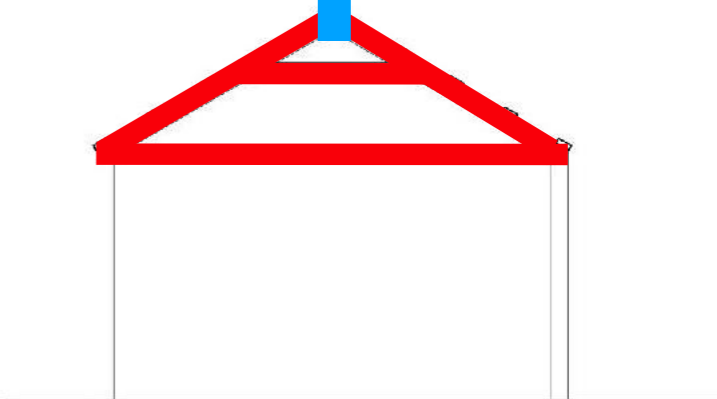
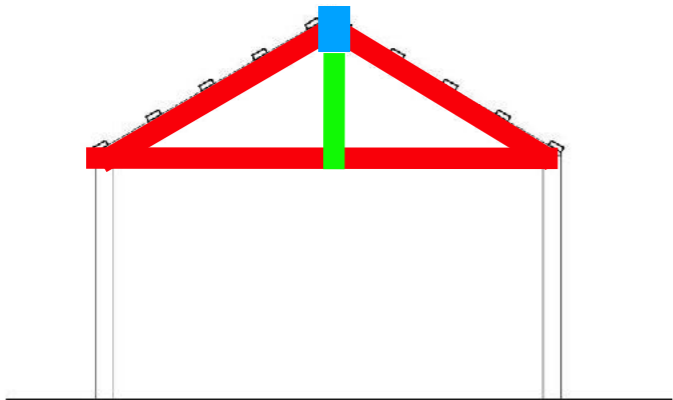
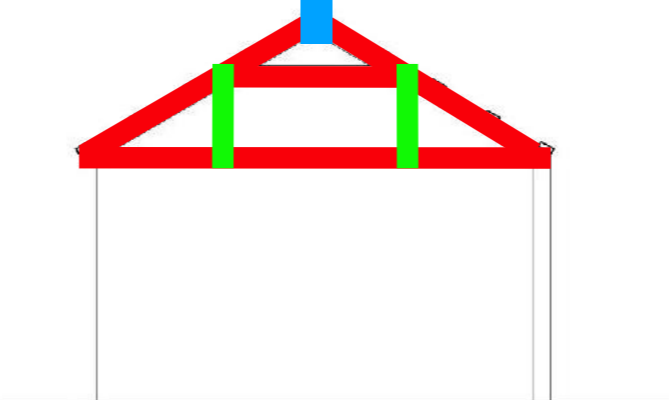
Taken in 1894  
Source: Fiji museum



After Hurricane (Taken in 1895)

Source: Fiji museum

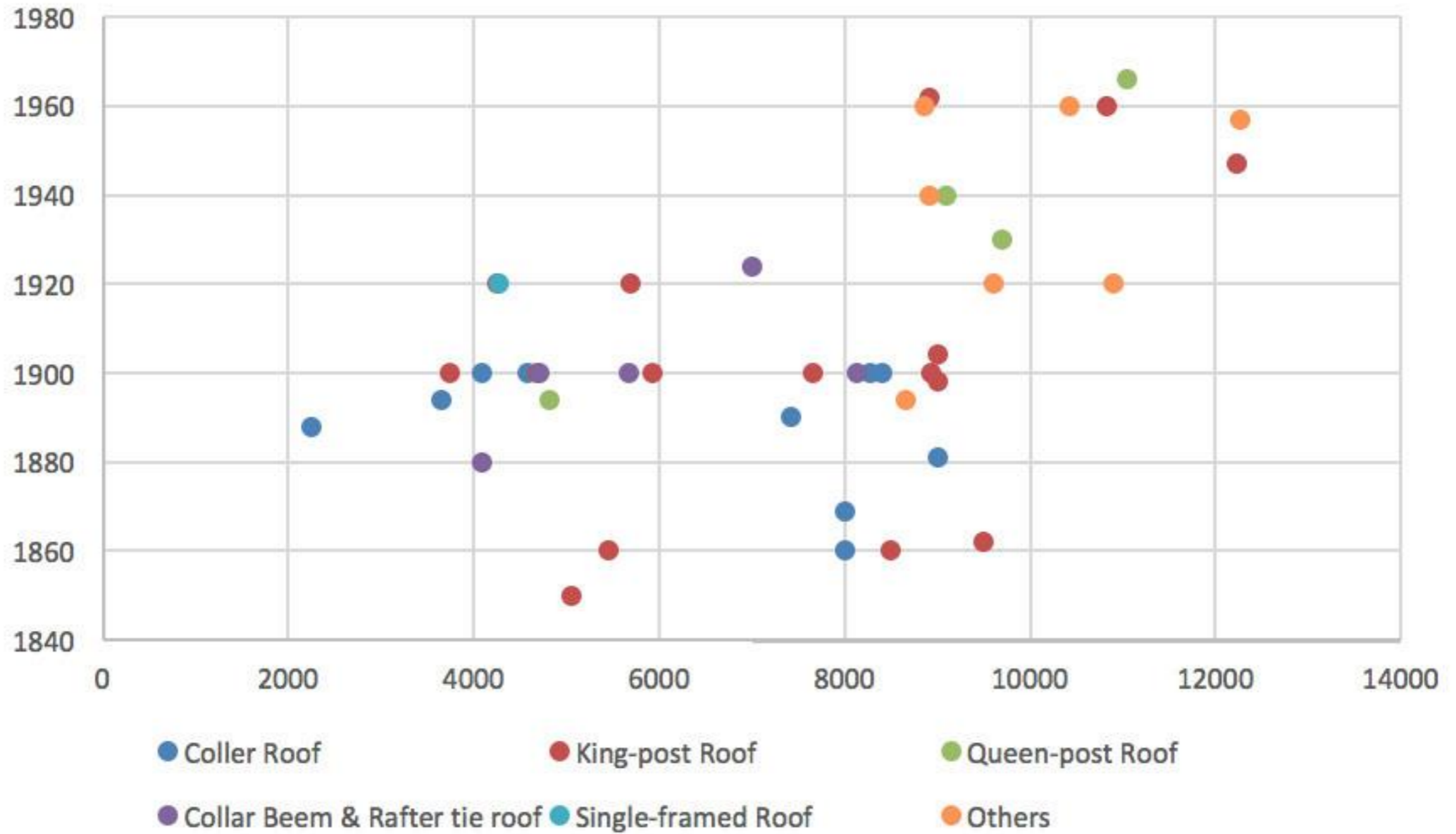
# Roof Structure

		
<p>Single-framed roof</p>	<p>Collar Beam roof</p>	<p>Collar Beam and Rafter tie roof</p>
<p>6</p>	<p>24</p>	<p>5</p>
		<ul style="list-style-type: none"> <li>▪ Mansard truss</li> <li>▪ Skillion roof</li> <li>▪ Scissors truss</li> </ul>
<p>King-post roof</p>	<p>Queen-post roof</p>	<p>Others</p>
<p>24</p>	<p>7</p>	<p>7</p>

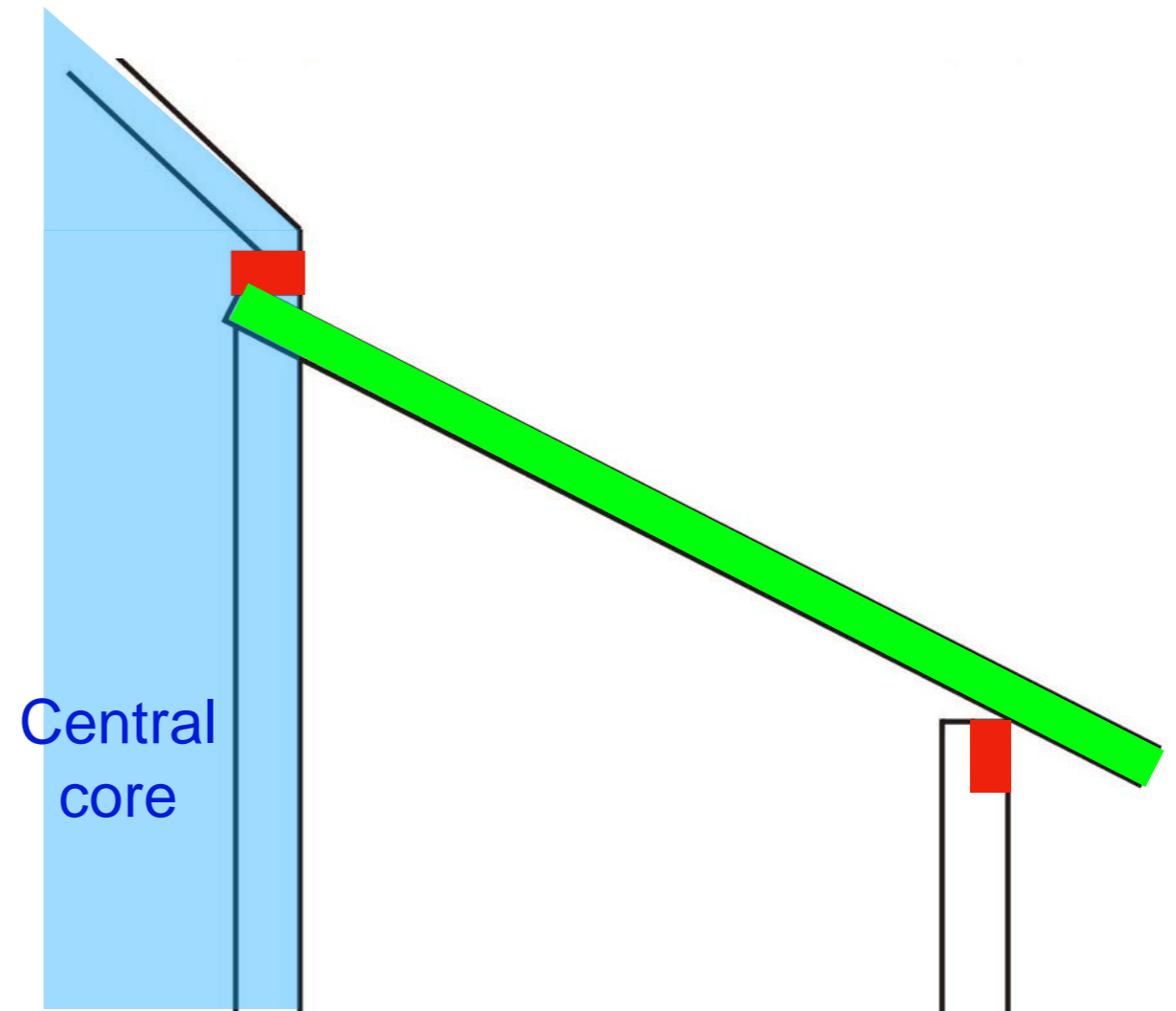
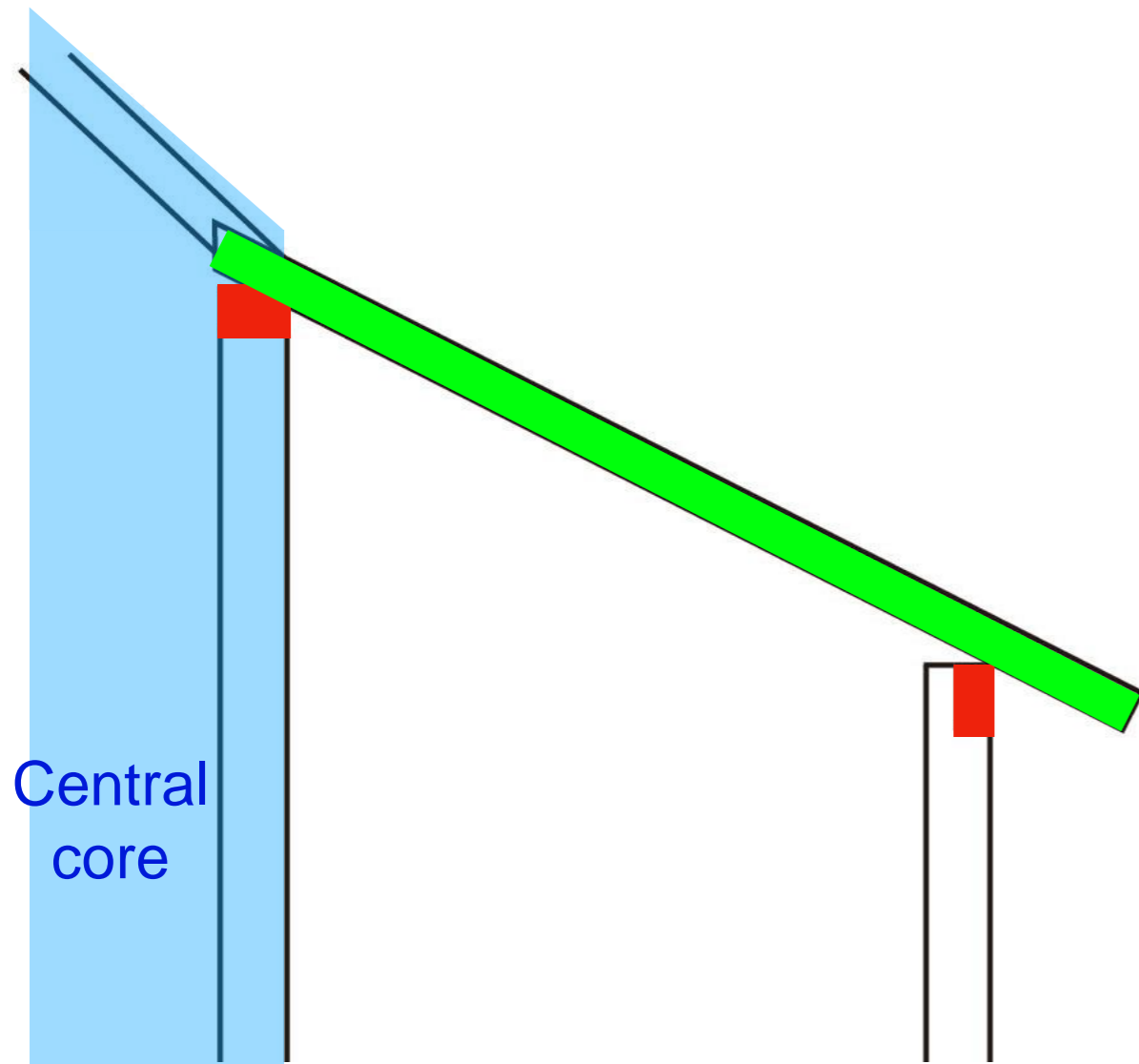




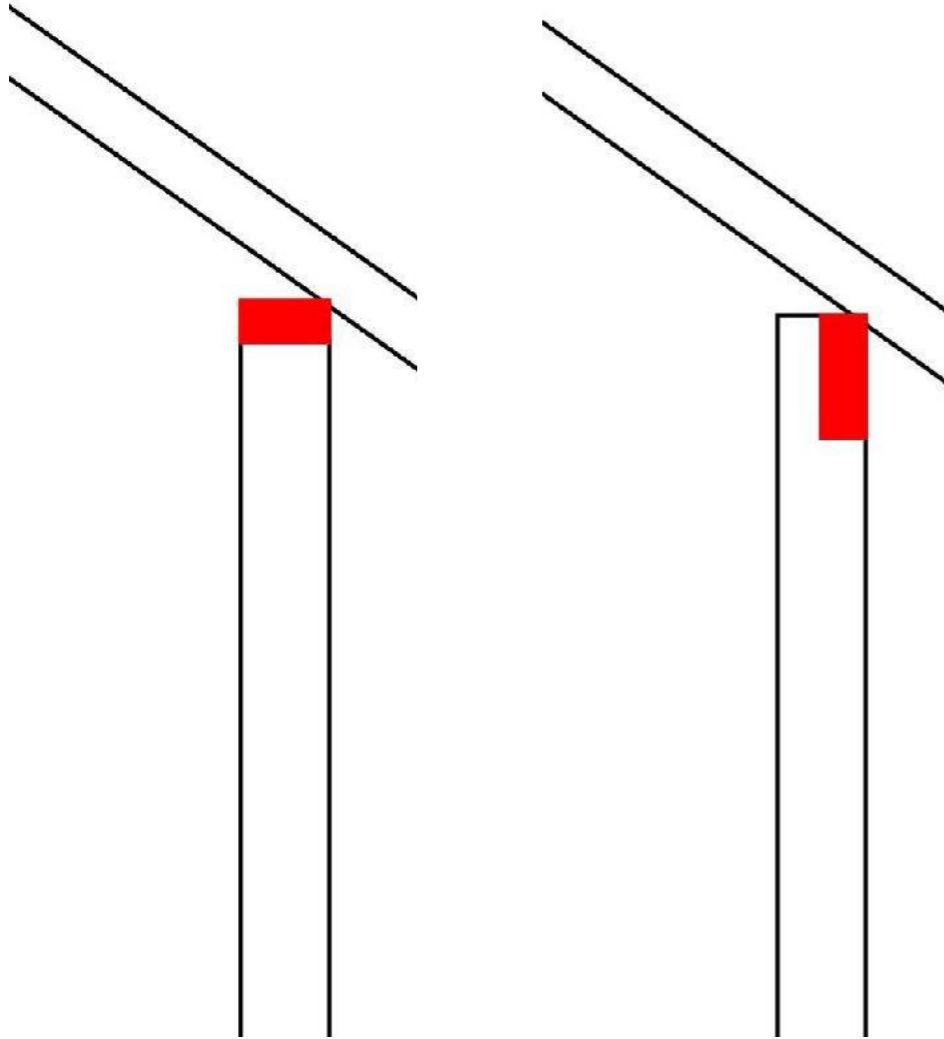
# Relationship between Width and Year



# Eaves' Rafter



# Eaves' Rafter



# Conclusion

## ▪ Residence

- Residences were based on Bungalows and the early time they had open verandahs.
- Bedroom were moved verandahs from central core and living rooms were expanded.

## ▪ Shop House

- There were bungalow type buildings, but the number of shop house type buildings increased with the development of the town along the beach street of Levuka before the capital time.
  - After that many buildings disappeared due to hurricanes. Existing shop house type buildings of Levuka built in the time copra trading, and the original plans of the shop houses is the small one room type.

## ▪ Roof Structure

- The roof structure is reinforced based on the rafter roof types, and there are few trusses in Levuka.
  - There are some devices in verandahs that enable to prevent rising of the rafters.
  - Based on the above, it could be considered that these have the shape before the “catalogue house” were developed.
  - It is important to know the transition of bungalows.