

APPENDIX B: Questionnaire Phase 1



RESEARCH ON ACCEPTANCE LEVEL ON SELF BUILD HOUSING CONCEPT AMONG LOW-INCOME HOUSEHOLD IN RURAL AREAS

The questionnaire is designed in an attempt to evaluate respondents' experience and suitability for self build houses as an alternative. The questions cover many of the issues in acquiring and maintaining self build homes.

- Objective 1: To determine extent of acceptance and establish issues on the concept of self build houses.
- Objective 2: To ascertain knowledge and skills in construction and routine maintenance of the house.
- Objective 3: To establish factors that influence housing demands.

RESPONDENTS BACKGROUND

Reference No.:

1. District	Baling	<input type="text" value="1"/>
	Padang Terap	<input type="text" value="2"/>
2. Kampung	<input type="text"/>	
3. Type of house presently occupy	Kampung house	<input type="text" value="1"/>
	Single story terrace house	<input type="text" value="2"/>
	Double story terrace house	<input type="text" value="3"/>
	Governement quarters	<input type="text" value="4"/>
4. Ethnic	Malay	<input type="text" value="1"/>
	Chinese	<input type="text" value="2"/>
	Indian	<input type="text" value="3"/>
	Others	<input type="text" value="4"/>
<i>Please state if answer is no. 4</i> <input type="text"/>		
5. Sex of head of the family	Male	<input type="text" value="1"/>
	Female	<input type="text" value="2"/>
6. Age	<input type="text"/>	
7. Level of education	Primary school	<input type="text" value="1"/>
	Secondary school	<input type="text" value="2"/>
	Collage/University	<input type="text" value="3"/>
	None	<input type="text" value="4"/>
8. Number of family members living together	<input type="text"/>	
9. Household income (RM)	<input type="text"/>	

10.	House ownership	Self	1
		Rented	2
		Inherited	3
		Others	4
	Please state if answer is no. 4		

11.	Employment sector	Government	1
		Private	2

12.	Position	
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13.	How many hours a day do you work?	
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14.	Do you need a house?	No	0
		Yes	1

15.	Are you satisfied with the condition of your present home?	No	0
		Yes	1

(If the answer to question 15 is yes, please answer question 72)

16.	Are you aware of self help approach as an alternative to own a house?	No	0
		Yes	1

(Explain the concept of self build houses)

Identifying the issues related to Self Build Housing Concept.

17.	I can only AFFORD to buy a house costing (RM)	
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18.	My present home is easily RENOVATED . (From technical viewpoint)	No	0
		Yes	1

19.	I need ADDITIONAL SPACES in my present home.	No	0
		Yes	1

20.	I have PROBLEMS to renovate my present home. (Other than technical/construction method matters)	No	0
		Yes	1

21.	Please prioritise your REASONS accordingly if the answer to Q 20 is 'YES':	
	Limited land area	
	Expensive construction materials	
	Labour charges	
	Financial matter	
	Infrastructure (road, electricity, water, sewerage)	
	Other than the above – please state	

22. Please prioritise your **CHOICES of spaces** for renovation accordingly which you think is important.

Living space	
Dining space	
Family/recreational space	
Kitchen	
Sleeping space	
Washing space	

23. Have you ever been **INVOLVED** in **MUTUAL** housing construction?
- | | |
|-----|---|
| No | 0 |
| Yes | 1 |

24. Are you willing to **PARTICIPATE** in the mutual construction of houses in your community?
- | | |
|-----|---|
| No | 0 |
| Yes | 1 |
- (If the answer to question 24 is no, please answer question 73)

25. Please prioritise your **REASONS** accordingly if the answer to Q 24 is 'YES':
I will participate in the mutual housing construction within my village because...

More built up area	
Able to plan spaces to suit family needs	
Cheaper and cost efficient in owning a house	
Strengthen community bonds	

26. Please prioritise your **CHOICES** accordingly:
If I were to be given a choice, I would

Buy a completed house	
Hire contractor to build my house	
Build my house with families and neighbours	
Renovate my present house	

(Please answer Q 74. Ask the reason of the first choice

Example: "Why choose to hire contractor to build your house?" If respondent choose that as his/her first choice.

Identifying the acceptance level related to Self Build Housing Concept.

	Very disagree	Disagree	Agree	Very agree
	1	2	3	4
27. Self Build housing is an APPROACH to own houses the EASIER way.				
28. Programs for Self Build Housing give ADVANTAGES to participants.				
29. Self Build Housing Program STRENGTHENS community ties.				
30. If the local government coordinates a Self Build Housing Program, I would				

- PARTICIPATE** in the exercise.

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31. I am interested to **KNOW MORE** about the concept of Self Build Housing.

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32. Self Build Housing gives me the **FREEDOM** to design my own house.

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33. I am able to construct my own house with the **HELP** from my neighbours.

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34. I believe that Self Build Housing is an effort that **BENEFITS** all parties.

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35. Self Build Housing **DELAYS** house ownership.

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36. I feel **SATISFIED** if I could build my own house compared to contractor-built low-cost houses.

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37. The community in my village **HELPS** each other.

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38. The community in my village will **ASSIST** anyone who wants to build their own houses.

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39. My family and I will **LEND A HAND** to those who wants to build their own house.

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40. I am willing to **SPARE MY TIME** to help my neighbours to build their houses.

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41. I agree to take up **HOUSING LOANS** to build my own house.

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42. I prefer to **HIRE** a contractor or a carpenter compared to building my house.

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43. I have **NO SPARE TIME** to build my own house.

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44. I am **WILLING** to participate in the Self Build Housing Program.

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(If the answer to Question 44 is either scale '3' or '4', please answer Q 75)
45. Please prioritise your **CHOICES** accordingly:

The following characteristics of a house is important to me.....

Type of house offered
Type of construction materials used
Interesting design
Total build-up area
Good location

Identifying levels of knowledge and skills in construction.

- | | | | | |
|-----|--|-----|---|---|
| 46. | I have EXPERIENCE in building my own house. | No | <table border="1"><tr><td>0</td></tr></table> | 0 |
| 0 | | | | |
| | | Yes | <table border="1"><tr><td>1</td></tr></table> | 1 |
| 1 | | | | |
| 47. | I have SKILLS in building my own house. | No | <table border="1"><tr><td>0</td></tr></table> | 0 |
| 0 | | | | |
| | | Yes | <table border="1"><tr><td>1</td></tr></table> | 1 |
| 1 | | | | |

If the following trainings were available to me, I would utilise it in order to build my house:

- | | | | | |
|-----|--|-----|---|---|
| 48. | How to construct a house | No | <table border="1"><tr><td>0</td></tr></table> | 0 |
| 0 | | | | |
| | | Yes | <table border="1"><tr><td>1</td></tr></table> | 1 |
| 1 | | | | |
| 49. | Financial advise to obtain housing loan | No | <table border="1"><tr><td>0</td></tr></table> | 0 |
| 0 | | | | |
| | | Yes | <table border="1"><tr><td>1</td></tr></table> | 1 |
| 1 | | | | |
| 50. | Managing cash flow/expenditure | No | <table border="1"><tr><td>0</td></tr></table> | 0 |
| 0 | | | | |
| | | Yes | <table border="1"><tr><td>1</td></tr></table> | 1 |
| 1 | | | | |
| 51. | Production of construction materials | No | <table border="1"><tr><td>0</td></tr></table> | 0 |
| 0 | | | | |
| | | Yes | <table border="1"><tr><td>1</td></tr></table> | 1 |
| 1 | | | | |
| 52. | Planning to start a Self Build Housing group | No | <table border="1"><tr><td>0</td></tr></table> | 0 |
| 0 | | | | |
| | | Yes | <table border="1"><tr><td>1</td></tr></table> | 1 |
| 1 | | | | |
| 53. | I am able to read construction drawings.
(to show an example of house plan) | No | <table border="1"><tr><td>0</td></tr></table> | 0 |
| 0 | | | | |
| | | Yes | <table border="1"><tr><td>1</td></tr></table> | 1 |
| 1 | | | | |

- | | | | |
|-----|--|--|--|
| 54. | Please rate construction materials that you are COMFORTABLE to work with. | | |
| | Timber | <table border="1"><tr><td></td></tr></table> | |
| | | | |
| | Masonry | <table border="1"><tr><td></td></tr></table> | |
| | | | |
| | Steel | <table border="1"><tr><td></td></tr></table> | |
| | | | |
| | Glass | <table border="1"><tr><td></td></tr></table> | |
| | | | |
| | Bamboo | <table border="1"><tr><td></td></tr></table> | |
| | | | |
| | Concrete | <table border="1"><tr><td></td></tr></table> | |
| | | | |
| 55. | Please rate construction materials that you could AFFORD . | | |
| | Timber | <table border="1"><tr><td></td></tr></table> | |
| | | | |
| | Masonry | <table border="1"><tr><td></td></tr></table> | |
| | | | |
| | Steel | <table border="1"><tr><td></td></tr></table> | |
| | | | |
| | Glass | <table border="1"><tr><td></td></tr></table> | |
| | | | |
| | Bamboo | <table border="1"><tr><td></td></tr></table> | |
| | | | |
| | Concrete | <table border="1"><tr><td></td></tr></table> | |
| | | | |

		Very disagree	Disagree	Agree	Very agree
		1	2	3	4
56.	I am willing to SHARE the building materials together with my neighbour.				
57.	I am able TO SEEK my own building materials.				
58.	I am willing to MAKE my own building materials.				
59.	I am willing to TRY OUT new building techniques to build a house.				
60.	I am willing to EXPLOIT new building materials in the market to build my own house.				

Investigating factors that affect the housing demand.

		Very disagree	Disagree	Agree	Very agree
		1	2	3	4
61.	TOTAL BUILT UP AREA is my main criteria of owning a house.				
62.	I believe living in a concrete/masonry house shows the HOUSEHOLD STATUS .				
63.	I think TIMBER HOUSES are for poor people only.				
64.	The affordable housing provided by the government is AFFORDABLE .				
65.	The affordable housing provided by the government has acceptable QUALITIES .				
66.	I am satisfied with the DESIGN of the public low cost houses.				
67.	I agree that the SIZE of low cost housing is insufficient.				
68.	THE SELECTION SYSTEM to buy a low-cost house is a taxing for me.				
69.	I definitely would IMPROVE the low-cost				

house I purchased.

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70. I believe the **CONSTRUCTION MATERIALS** used in low-cost housing is the reason that made them expensive.

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71. I will be satisfied if I can control the **CONSTRUCTION QUALITY** of my house.

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72. What are the **CHARACTERISTICS** that exist in the present house which satisfies you?

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73. Why are you **NOT WILLING** to participate in the mutual help of constructing a house in your village?

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74. Why have you chosen that as your **FIRST** choice?

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75. Why do you want to **PARTICIPATE** in self build house?

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76. What is your main **FINANCIAL SOURCES** to own the present house?

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Thank you for your participation. If there are any questions, please write to:
Researchers:

Wan Srihani Wan Mohamad, Post-graduate Student, Faculty of Built Environment,
Universiti Malaya, 50603 Lembah Pantai, KL.

Prof. Madya Dr. Yahaya Ahmad, Supervisor, Faculty of Built Environment,
Universiti Malaya, 50603 Lembah Pantai, KL.

APPENDIX C: Questionnaire Phase 2



RESEARCH ON RESPONSE OF LOW-INCOME HOUSEHOLD IN RURAL AREAS ON READY-TO-ASSEMBLE (RTA) SELF BUILD HOUSING SYSTEM

The second questionnaire is arranged after the Ready-To-Assemble (RTA) self build housing system has been developed to a 12' X 8' prototype using Segal principles with local response from an earlier questionnaire.

Objective 1: To determine willingness in participating a self build construction using a simplified construction system.

Objective 2: To ascertain the response on the RTA self build housing system.

PART A. Background of respondents:

1. Gender Male ☐ Female ☐
2. Age years old
3. Previous involvement in housing construction. Yes ☐ No ☐
4. Possess any technical skills Yes ☐ No ☐
5. Physiological condition that can affect construction work. (pregnant, arthritis, heart, knee, back problems.)

PART B. Understanding respondent's reactions towards technical and design issues during the process of briefing and assembly using the RTA self build housing system.

TECHNICAL ASPECTS

- | | Very disagree
1 | Disagree
2 | Agree
3 | Strongly agree
4 |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| 6. I am able to read the instructions on the manual. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. The drawings are easy to understand. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. The usage of bolts, nuts and screws eases the assemble process. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. The weight of each floor panel is manageable by 2 persons. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. The height of wall module is easy to handle. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. I understand the drawings and manual but I still require assistant in the assembling of the RTA self build system. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 12. I can assemble the RTA self build system with the help of my family and neighbours. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

13.	As a whole, the RTA self build system is easy to assemble.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.	Please rate the following component in terms of its ease of assembly	Easiest 1	Easy 2	Difficult 3	Most difficult 4
	Main structural component (columns and beams)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Wall module	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Floor module	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Roof structure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Roof panel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

DESIGN ASPECTS

		Very disagree 1	Disagree 2	Agree 3	Strongly agree 4
15.	The modular floor of RTA self build system looks nicer than the conventional system.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16.	The exposed bolts and nut on the wall looks good.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17.	The modular walls of RTA self build system has attractive designs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18.	I would buy timber houses if opportunity presents.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(To show those participated possible designs using RTA self build housing system with Schedule of Materials.)

19.	The RTA self build housing system allows flexibility in arranging spaces according to my family's need.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20.	The RTA self build housing system gives me flexibility in organising my expenditure before constructing a house.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21.	The RTA self build housing system gives me flexibility in creating varieties of housing facade.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22.	The concept of prefabricated timber house is a good investment to own a house.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

23. What is your opinion of RTA self build housing system as compared to the conventional system?

PART C. Identifying issues related in the process of self build using the RTA system.

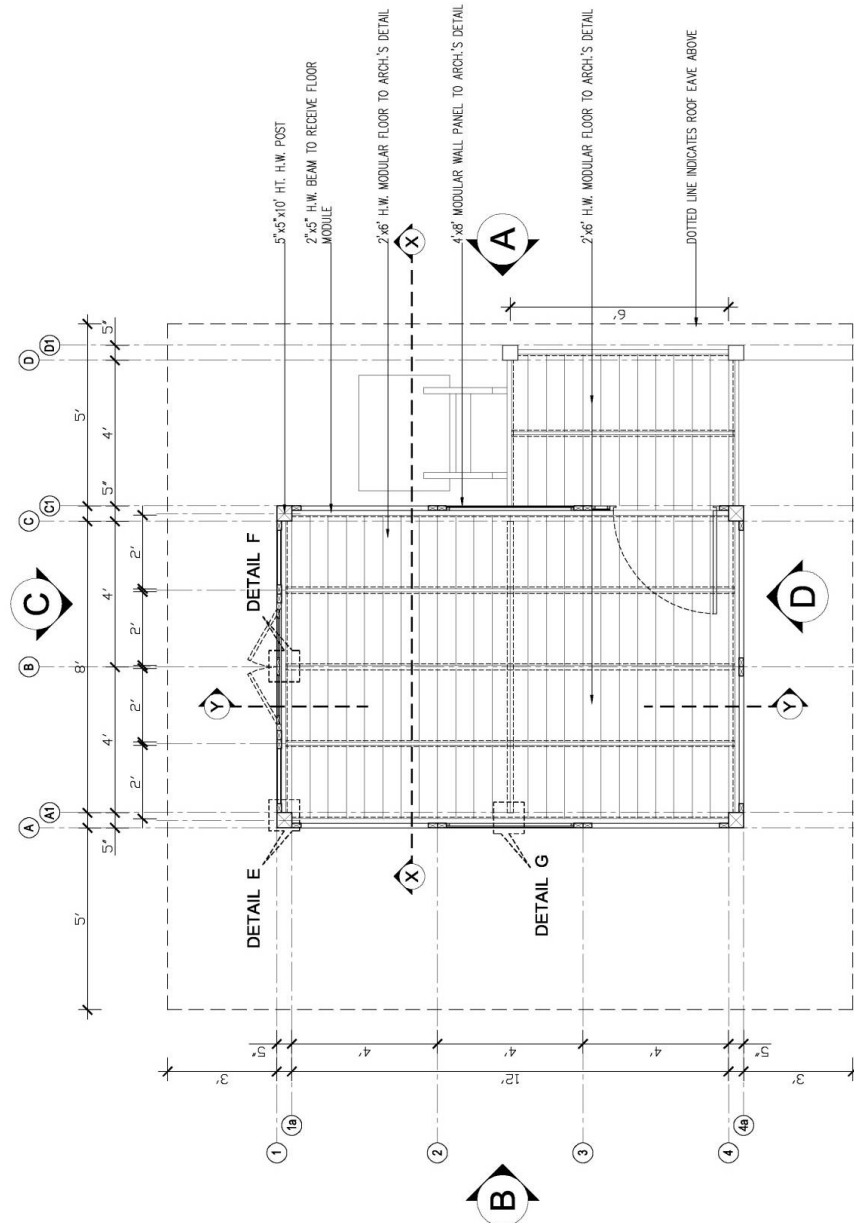
PROCUREMENT

	Very disagree 1	Disagree 2	Agree 3	Strongly agree 4
24. RTA self build housing system can save labour cost.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
25. RTA self build housing system should be encouraged in rural area.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
26. RTA self build housing system is fast to build.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
27. RTA self build housing system is easier to construct as compared to other conventional system.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
32. I would buy a house that comes from a box.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
33. What are the CHARACTERISTICS of RTA self build housing system that you like most?	<div style="border: 1px solid black; height: 20px;"></div>			
33. What are the CHARACTERISTICS of RTA self build housing system that you dislike most?	<div style="border: 1px solid black; height: 20px;"></div>			
34. Would you participate in self build process if the construction of housing is simplified? Why?	<div style="display: flex; align-items: flex-start;"> <div style="margin-right: 10px;"> Yes <input type="text"/> No <input type="text"/> </div> <div style="border: 1px solid black; flex-grow: 1; min-height: 40px;"></div> </div>			

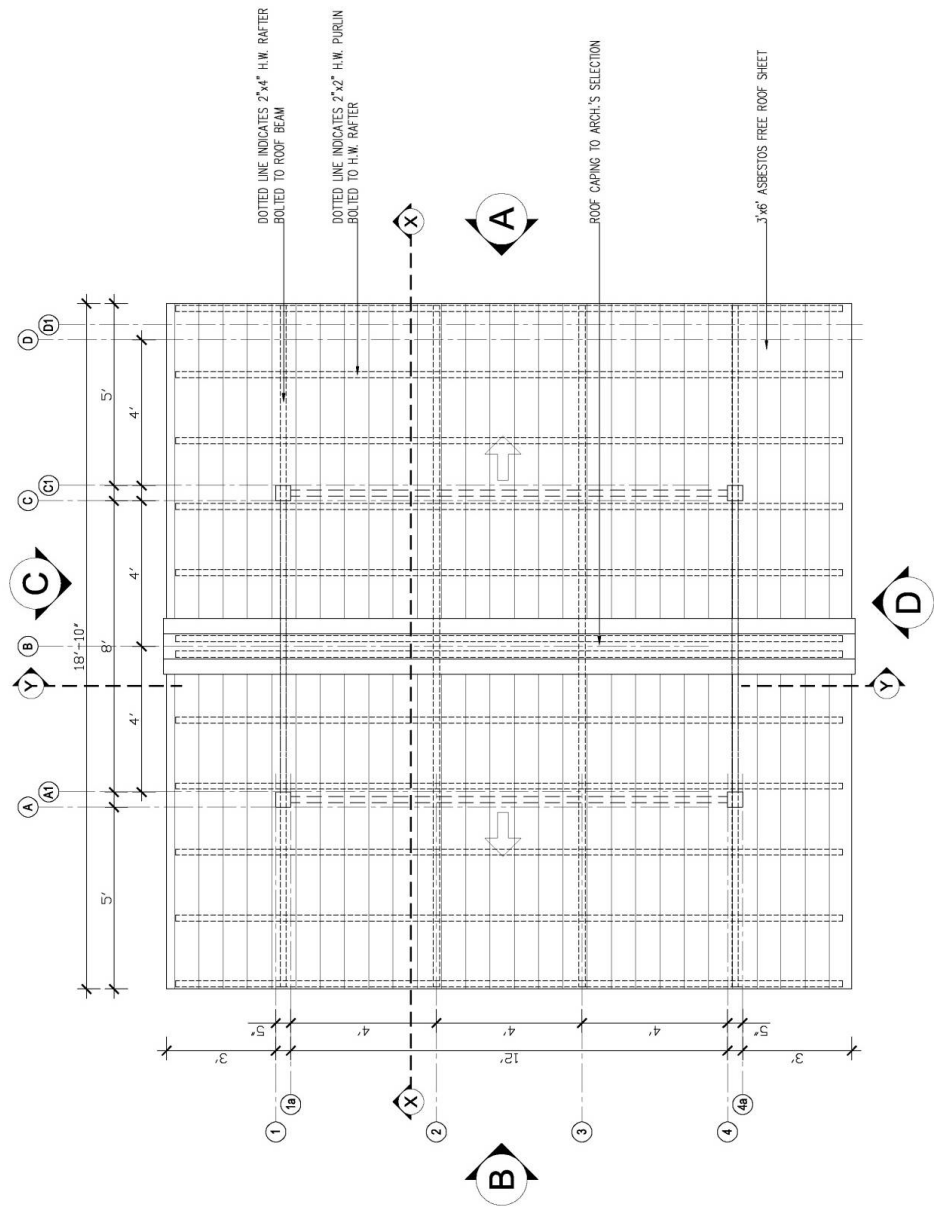
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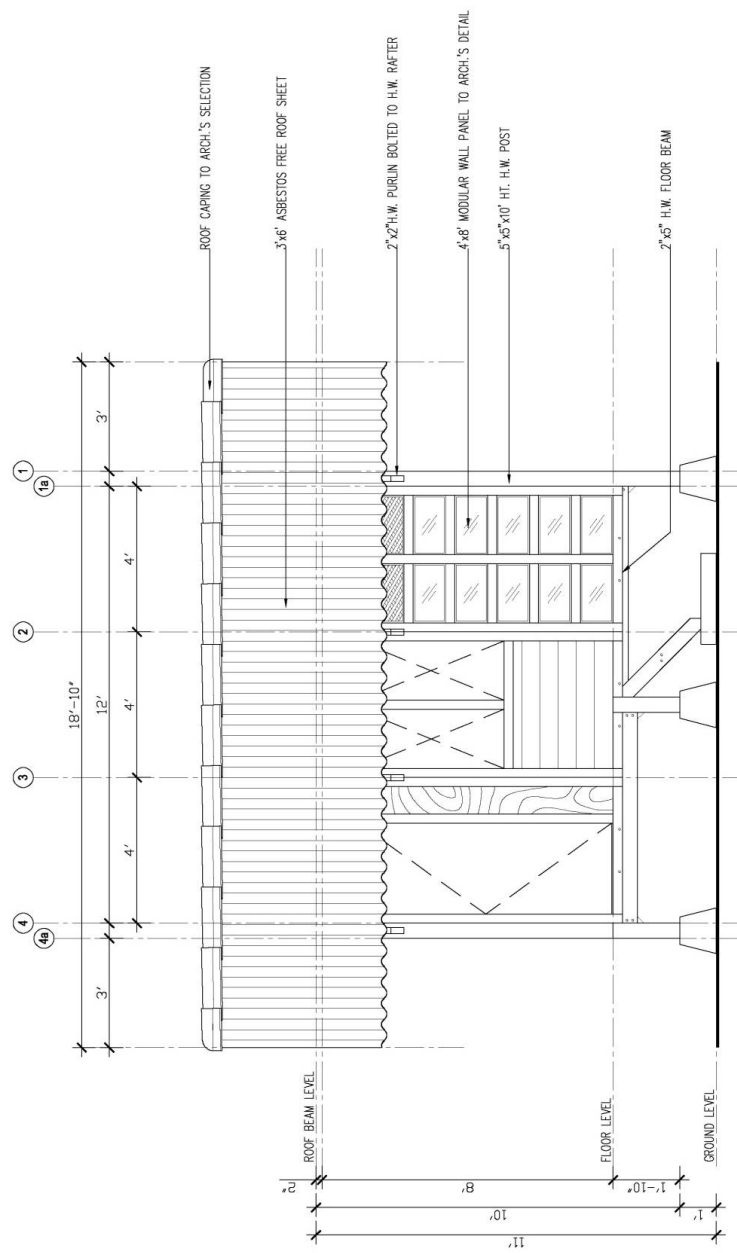
APPENDIX D: Acad Drawings Of RTA Self Build Housing System Prototype



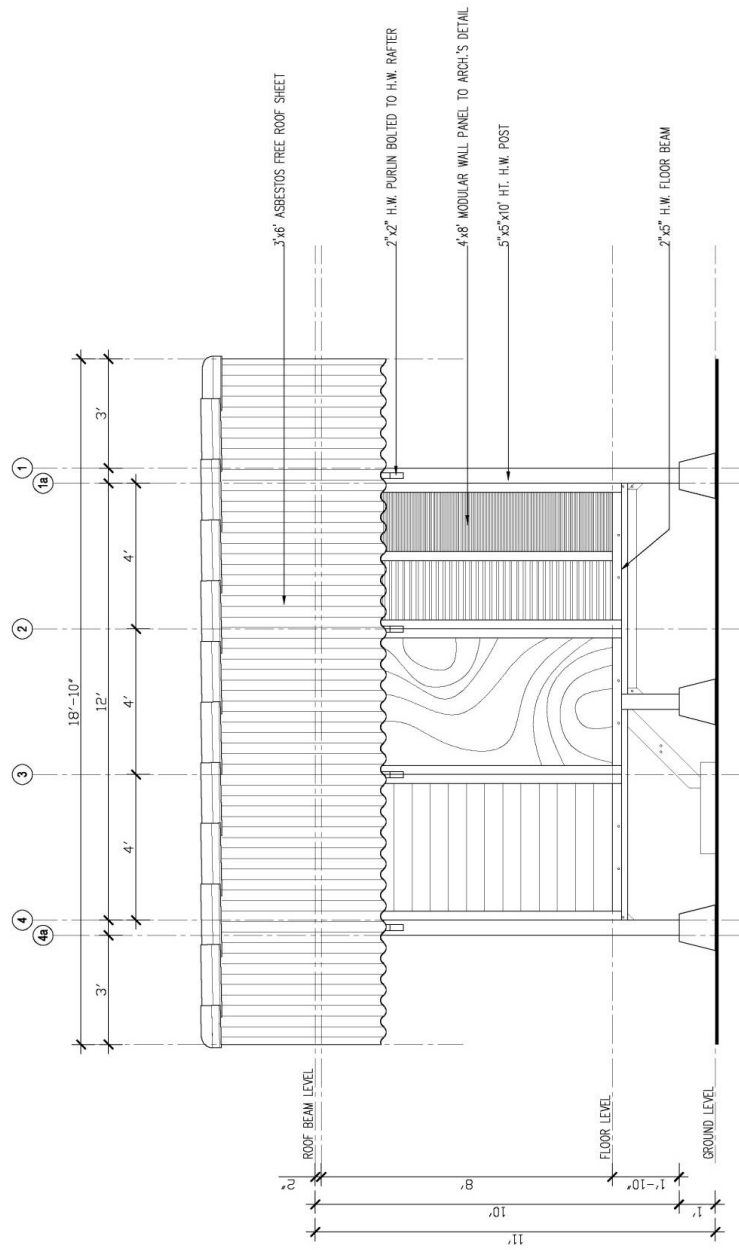
FLOOR PLAN
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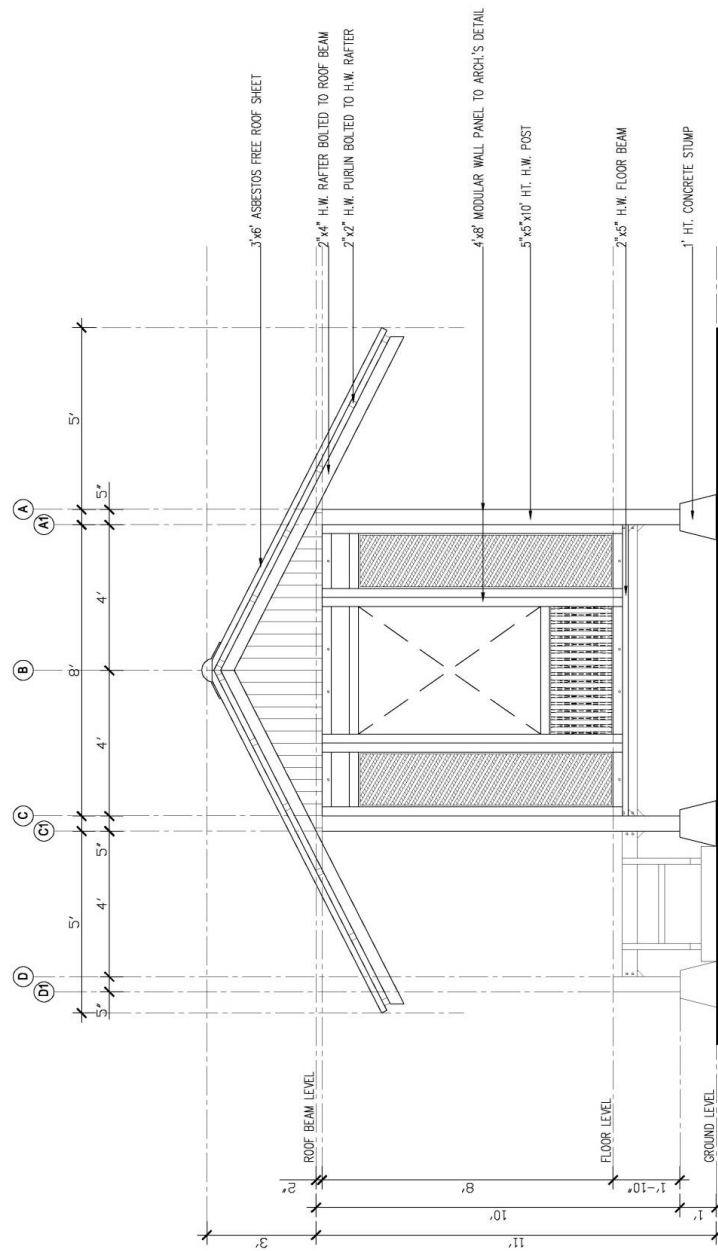
ROOF PLAN
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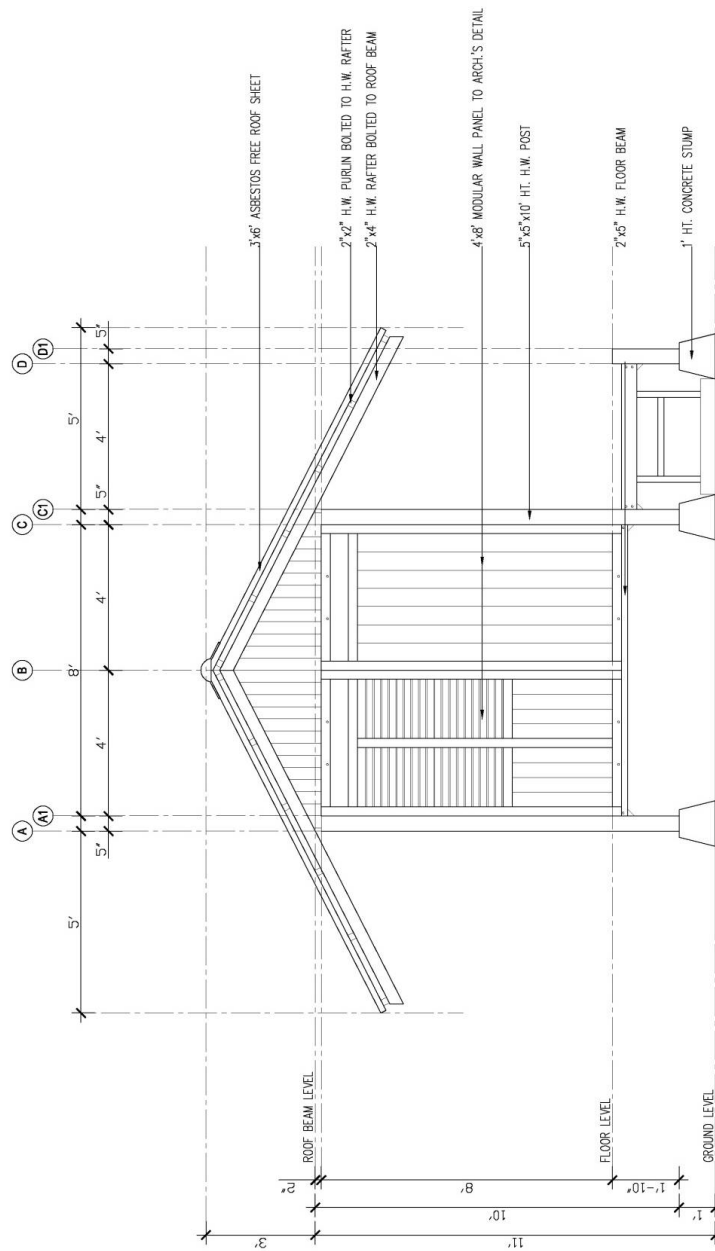
ELEVATION A
SCALE 3/8" : 1'0"



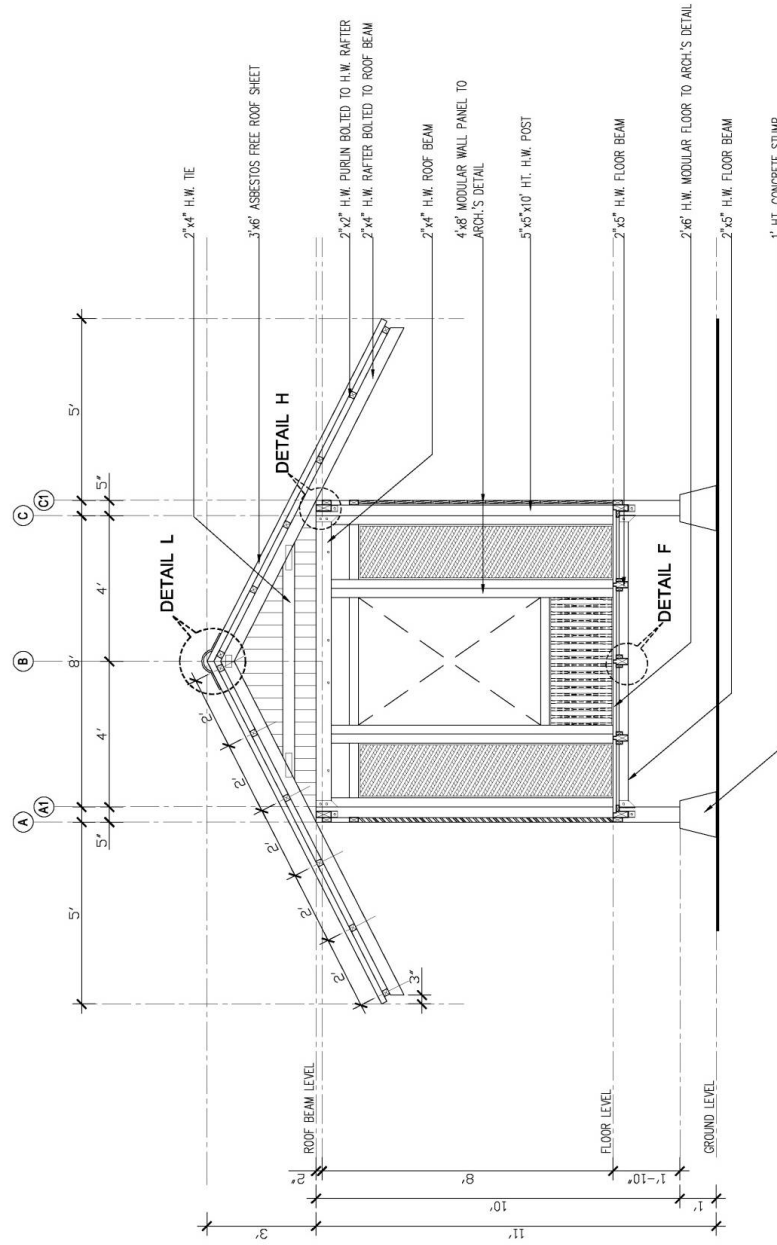
ELEVATION B
SCALE 3/8" : 1'0"



ELEVATION C
SCALE 3/8" : 1'0"



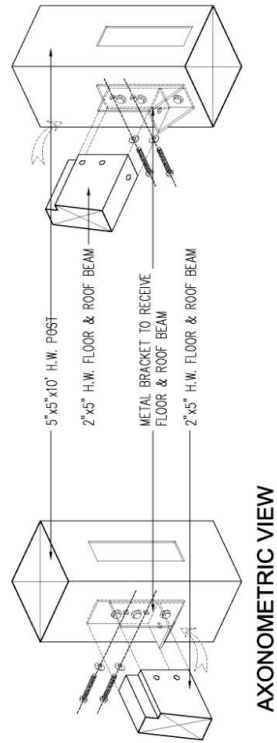
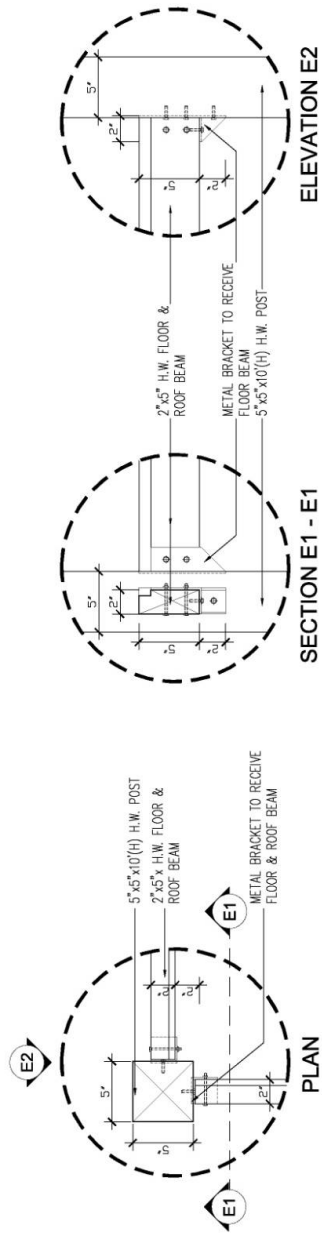
ELEVATION D
SCALE 3/8" : 1'0"



SECTION X-X

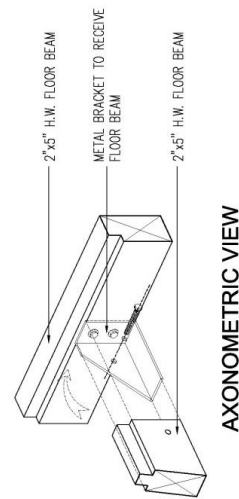
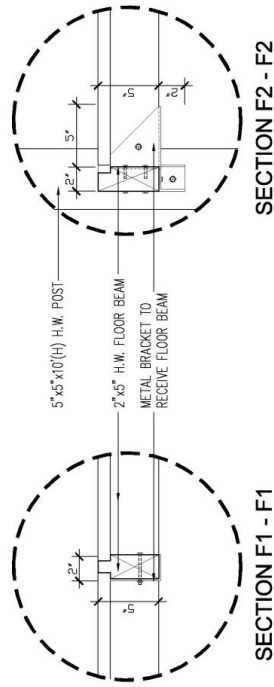
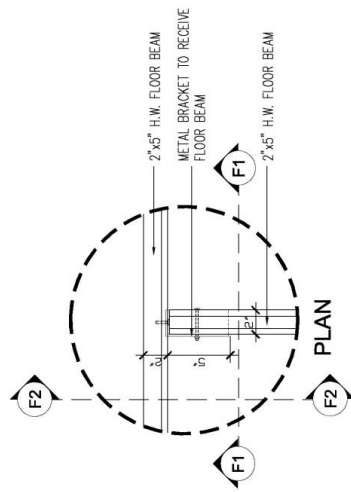
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DETAIL E SCALE 1 1/2" : 1'0"

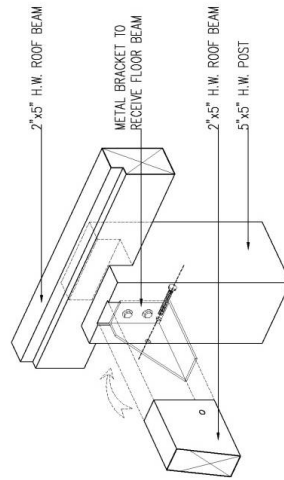
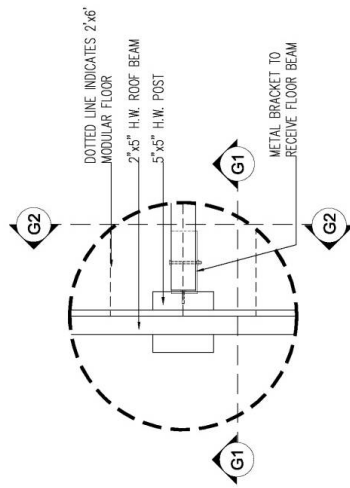


DETAIL F

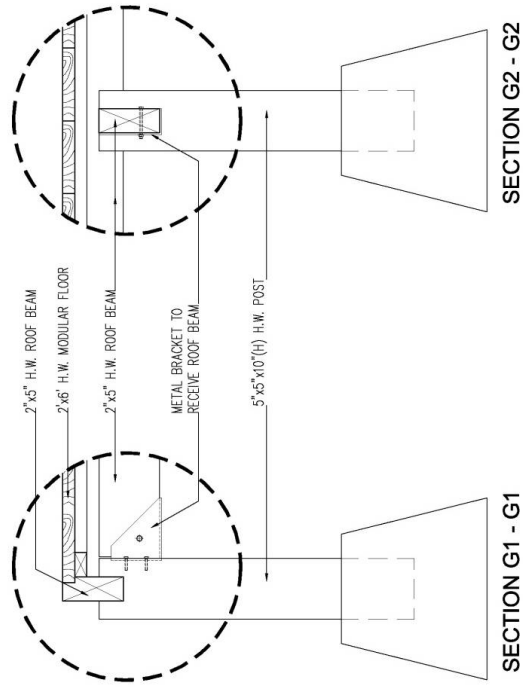
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DETAIL G SCALE 1 1/2" : 1'0"



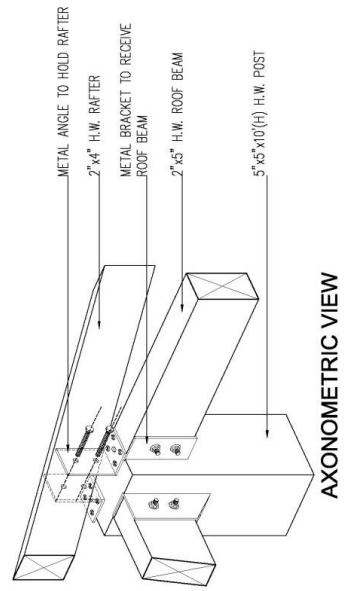
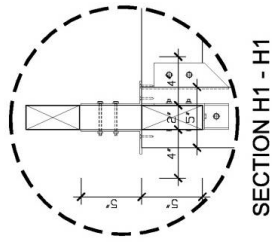
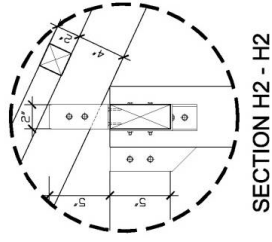
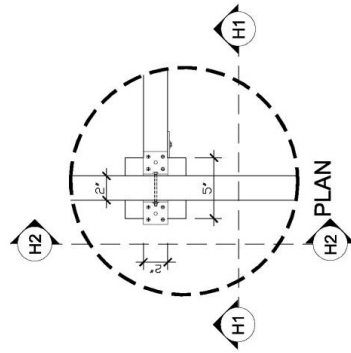
AXONOMETRIC VIEW

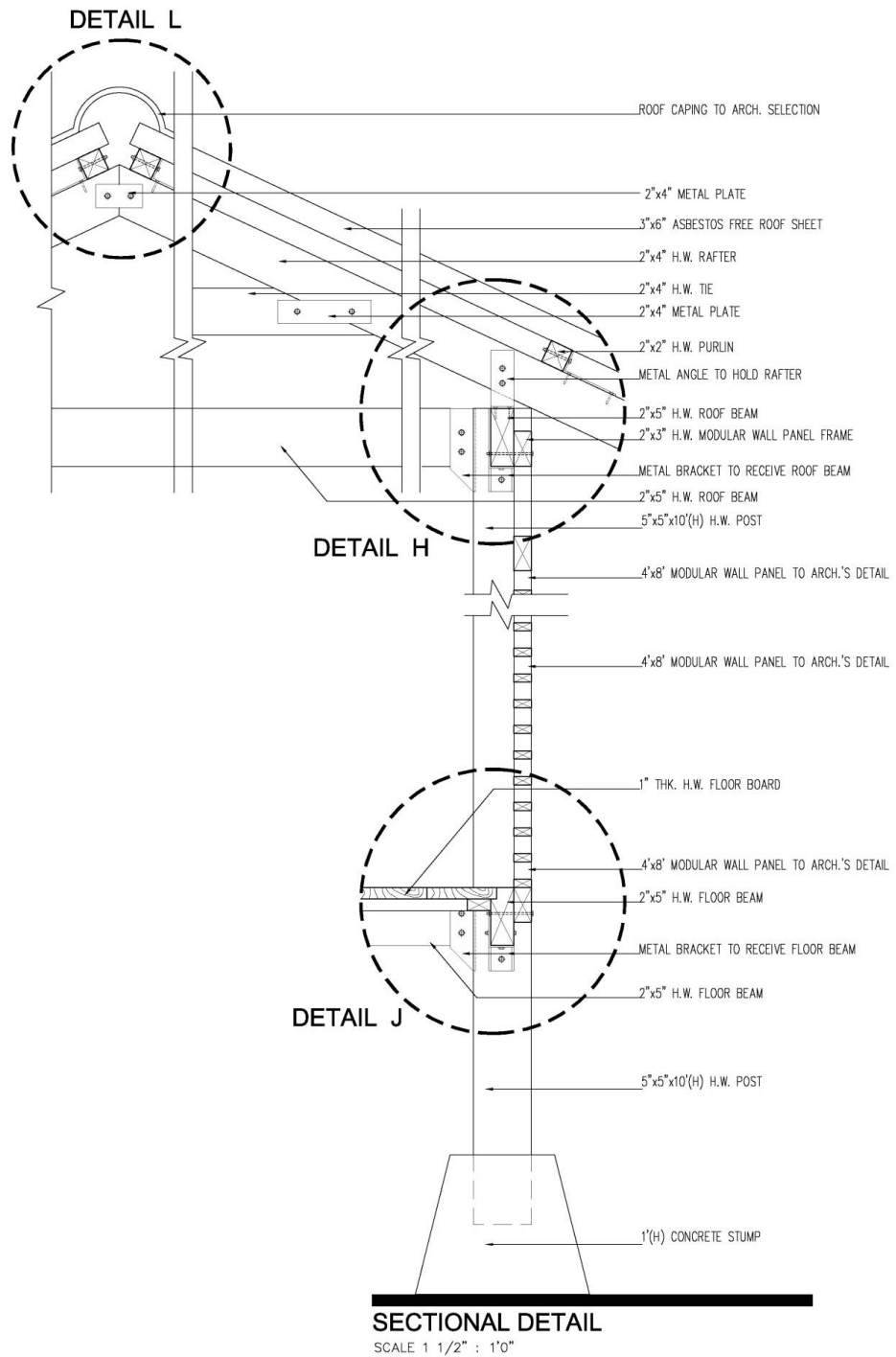






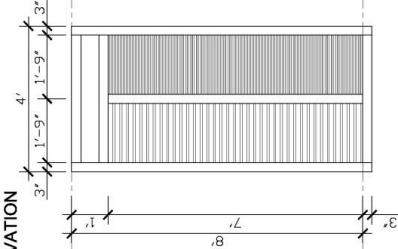
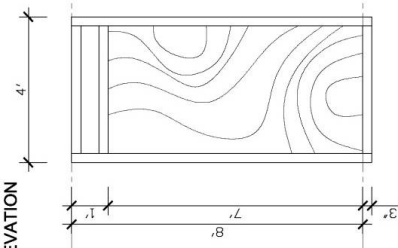
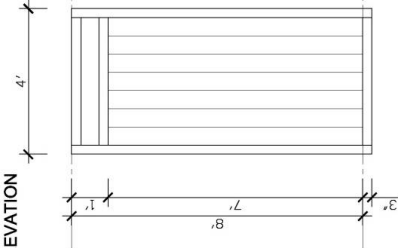
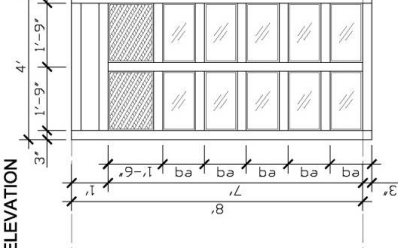
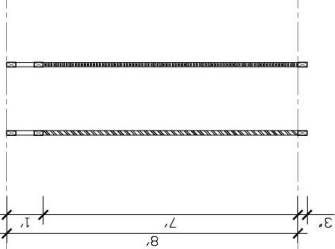
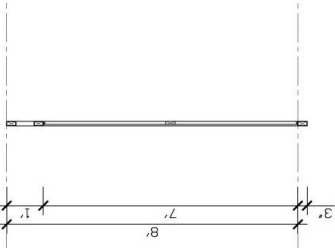
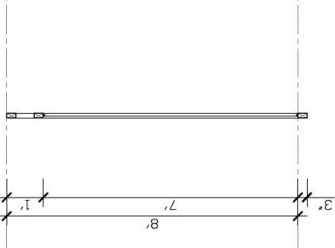
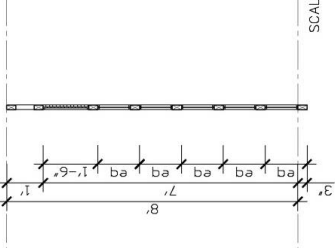
SECTION G2 - G2

SECTION G1 - G1





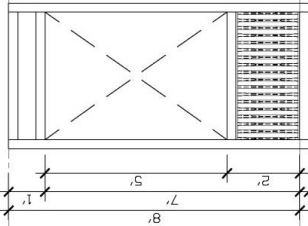
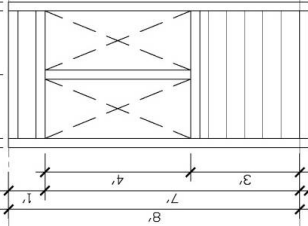
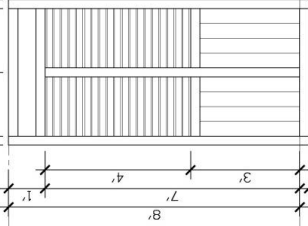
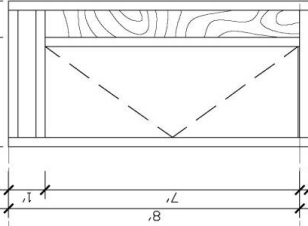
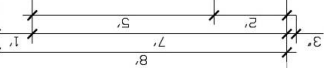
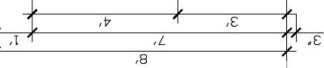
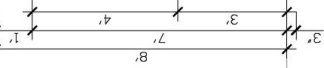
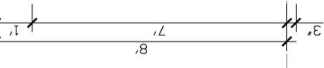
DETAIL H SCALE 1 1/2" : 1'0"

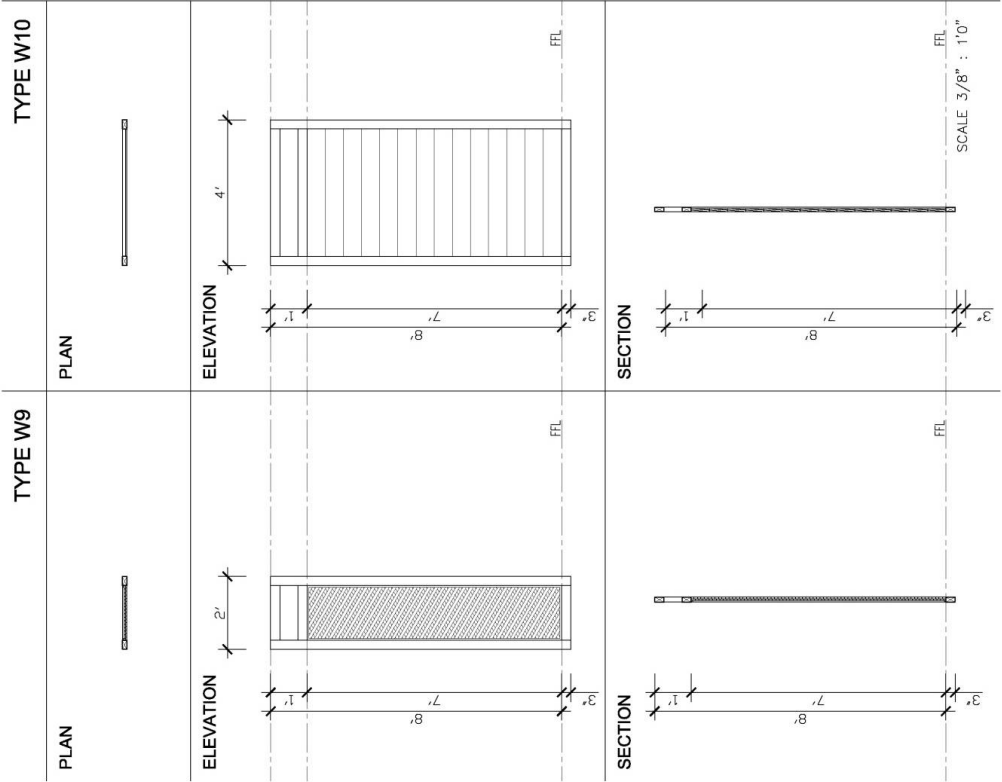




TYPE W1		TYPE W2		TYPE W3		TYPE W4	
PLAN	PLAN	PLAN	PLAN	PLAN	PLAN	PLAN	PLAN
							
ELEVATION	ELEVATION	ELEVATION	ELEVATION	ELEVATION	ELEVATION	ELEVATION	ELEVATION
							
SECTION	SECTION	SECTION	SECTION	SECTION	SECTION	SECTION	SECTION
							

SCALE 3/8" : 1'0"

TYPE W5		TYPE W6		TYPE W7		TYPE W8	
PLAN		PLAN		PLAN		PLAN	
ELEVATION		ELEVATION		ELEVATION		ELEVATION	
SECTION		SECTION		SECTION		SECTION	





Kajian Sistem Perumahan Bina Sendiri RTA (Ready-To-Assemble)



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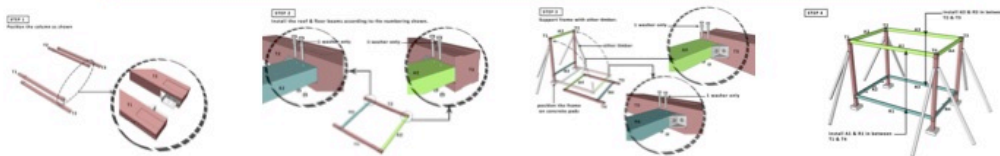
Sistem Perumahan Bina Sendiri RTA

- Penjelasan tentang Sistem Perumahan Bina Sendiri RTA
 - Agenda pada hari pemasangan
 - Isi borang set soalan selepas pemasangan
 - Pembayaran saguhati

Penjelasan tentang Sistem Perumahan Bina Sendiri RTA

- Apakah itu **Sistem Perumahan Bina Sendiri RTA**?

lanya merupakan sistem yang direka menggunakan konsep prapasang-siap, di permudahkan cara pemasangan untuk menggalakkan rumah bina sendiri.



Penjelasan tentang Sistem Perumahan Bina Sendiri RTA

- Apakah **TUJUAN** mengadakan Sistem Perumahan Bina Sendiri RTA ini?

1. Memberi alternatif untuk memiliki rumah mengikut rekabentuk dan keperluan keluarga juga dapat jimat kos tenaga buruh.
2. Menambah kemahiran pertukangan di kalangan masyarakat.
3. Mengembalikan kemahiran yang sudah mulai lupus dikalangan generasi muda.

Penjelasan tentang Sistem Perumahan Bina Sendiri RTA

- Apakah **KELEBIHAN** Sistem Perumahan Bina Sendiri RTA?

1. **Fleksibel.**
2. **Mudah.**
3. **Cepat.**
4. **Perancangan awal kewangan dan pembelian barang.**
5. **Menggalakkan penggunaan semula (recycle) bahan.**

Agenda pada hari pemasangan

- | | |
|---------------------|---|
| ■ 8.00 am – 8.30 am | ➤ Sarapan |
| ■ 8.30 am – 1.00 pm | ➤ Pemasangan Struktur dan panel lantai & dinding |
| ■ 1.00pm – 2.00 pm | ➤ Makan tengahari & solat |
| ■ 2.00pm – 4.30pm | ➤ Pemasangan panel bumbung |
| ■ 4.30pm – 5.00pm | ➤ Minum petang dan isi borang |

Isi borang set soalan selepas pemasangan

Tujuan mengisi borang:

1. Untuk memastikan tahap penerimaan menyertai program rumah bina sendiri menggunakan sistem pemasangan yang telah dipermudahkan.
2. Untuk mengenalpasti respon terhadap sistem rumah bina sendiri RTA.

Pembayaran saguhati

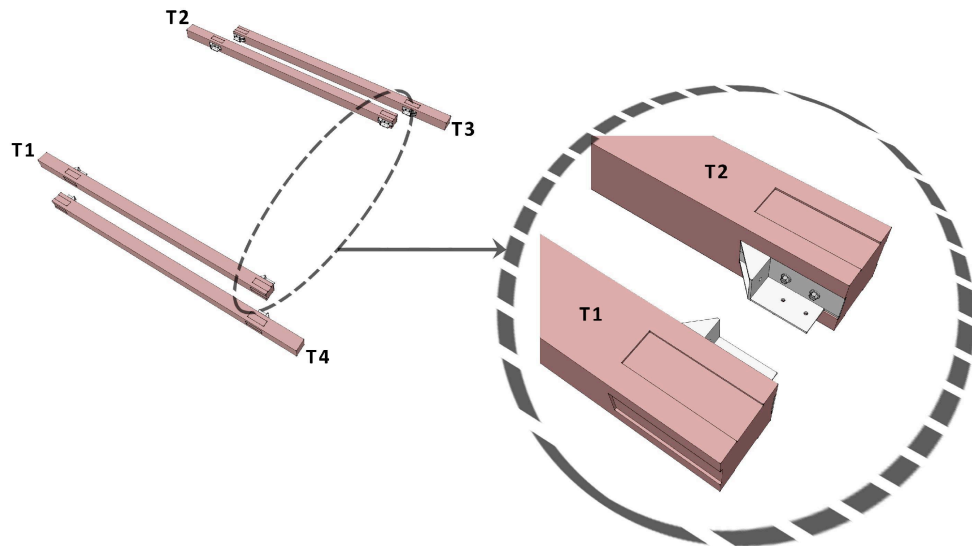
Setiap peserta akan di bayar sebanyak RM50.00 sehari dan disediakan sarapan, makan tengahari dan makan petang bagi memudahkan pekerjaan dijalankan.

Perlu menandatangani borang akuan.

APPENDIX F: Guidebook To Installation Of Ready-To-Assemble (Rta) Self Build Housing System

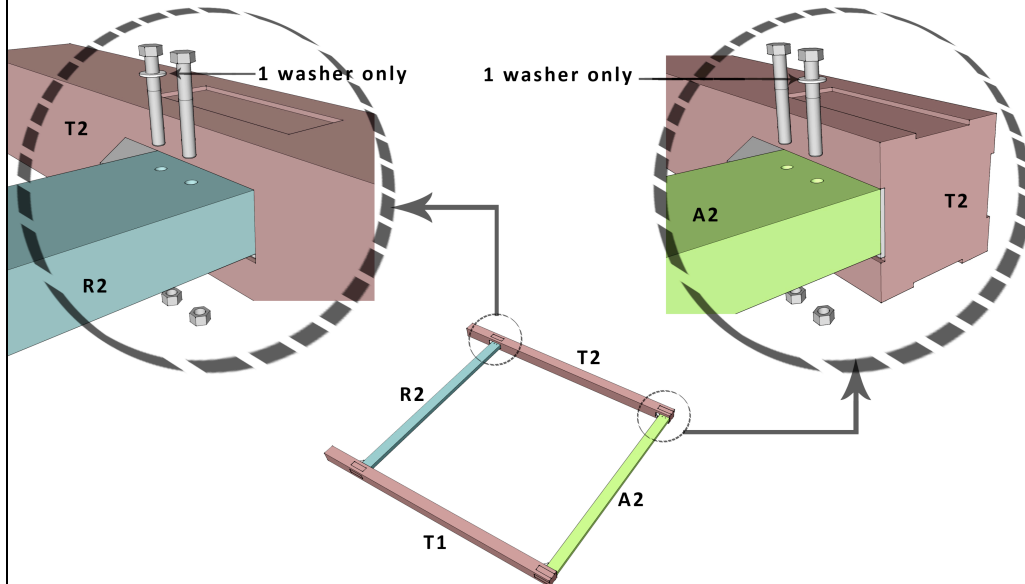
STEP 1

Position the column as shown



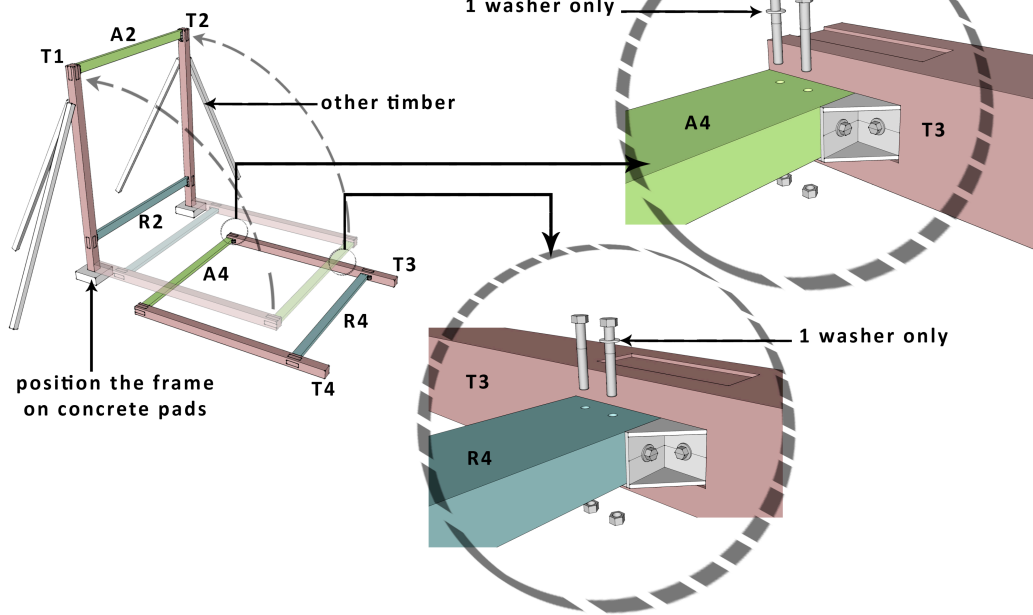
STEP 2

Install the roof & floor beams according to the numbering shown.

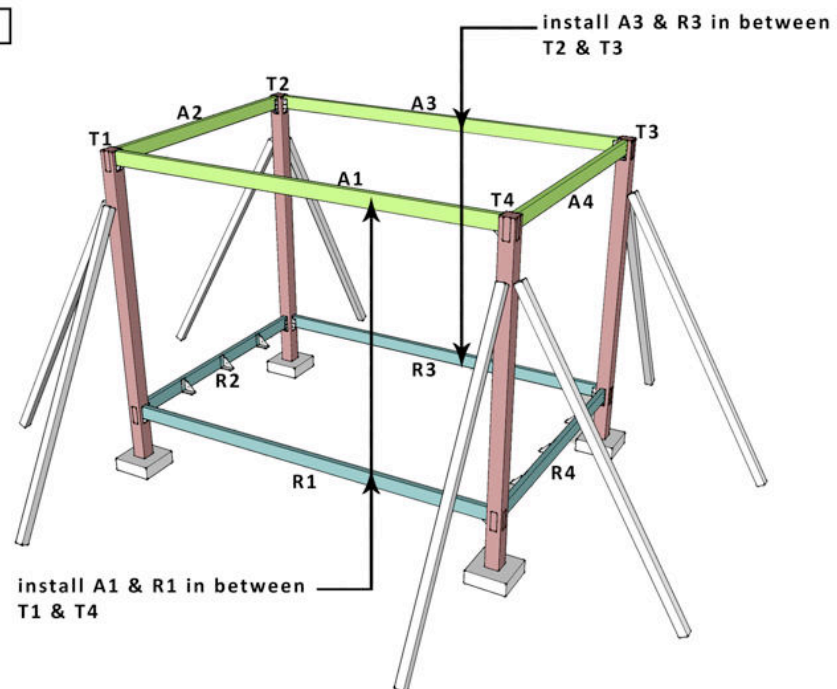


STEP 3

Support frame with other timber.

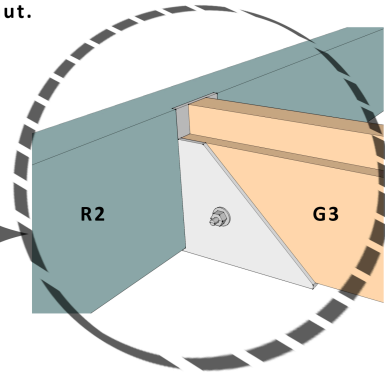
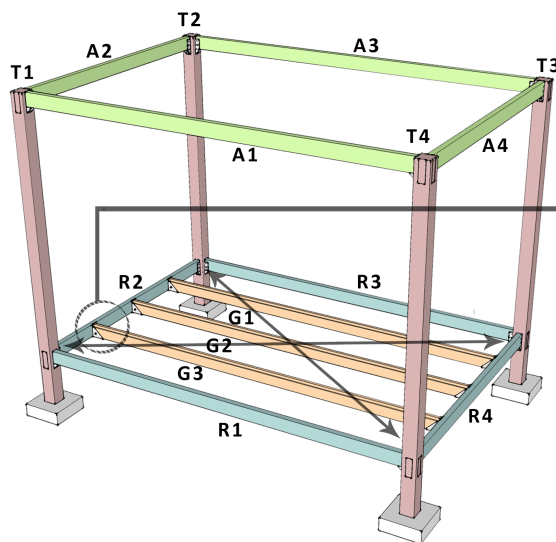


STEP 4

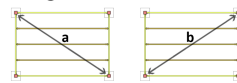


STEP 5

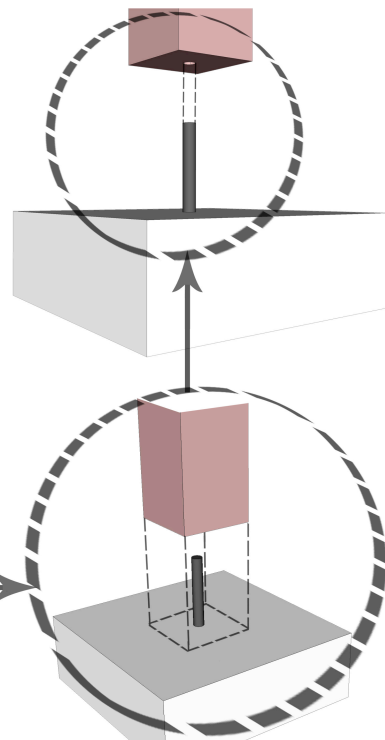
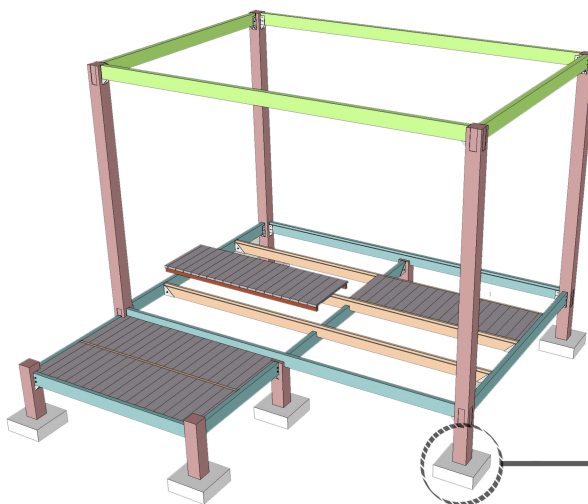
Place G1, G2, G3 accordingly at R2 & R4 using bolt & nut.

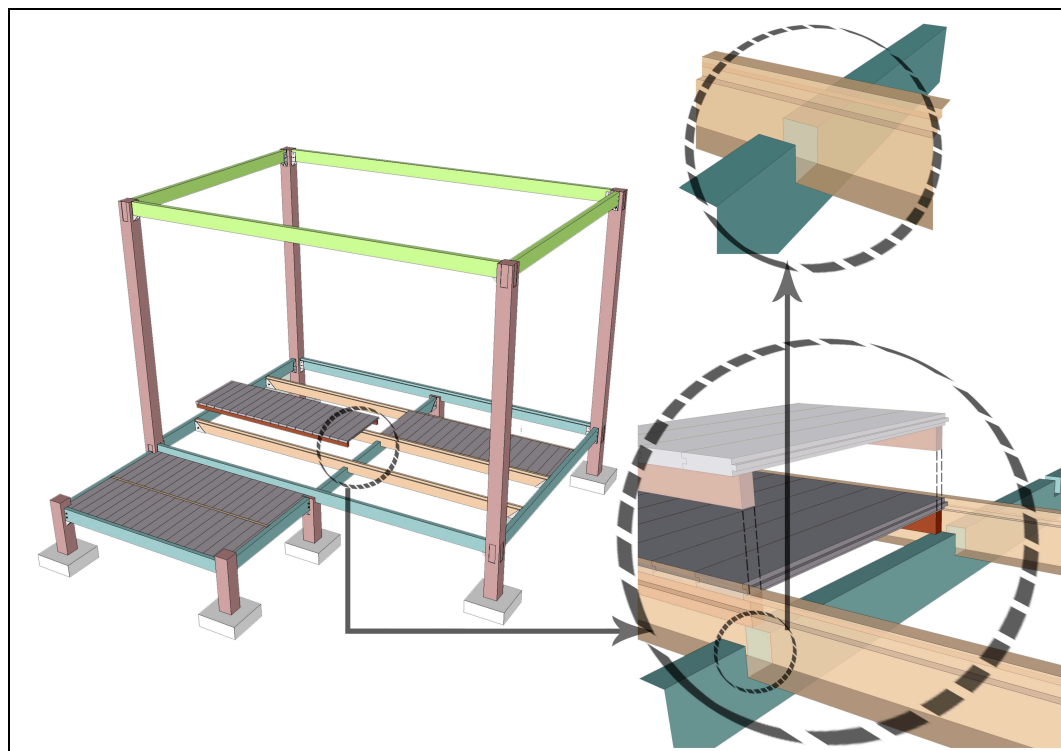
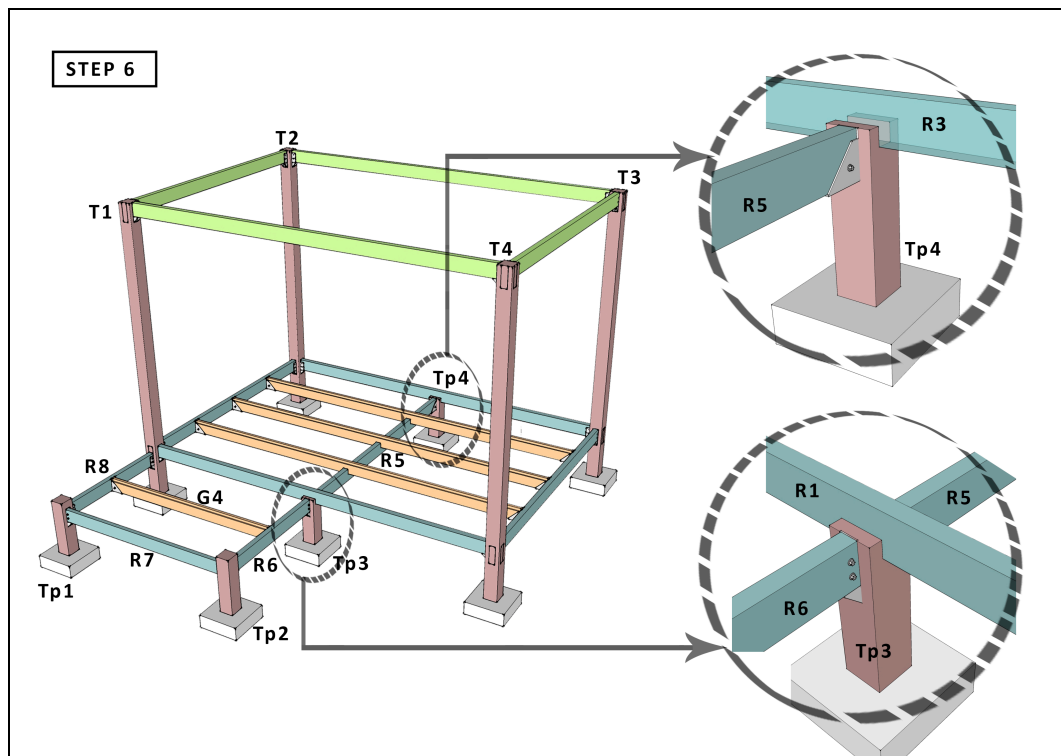


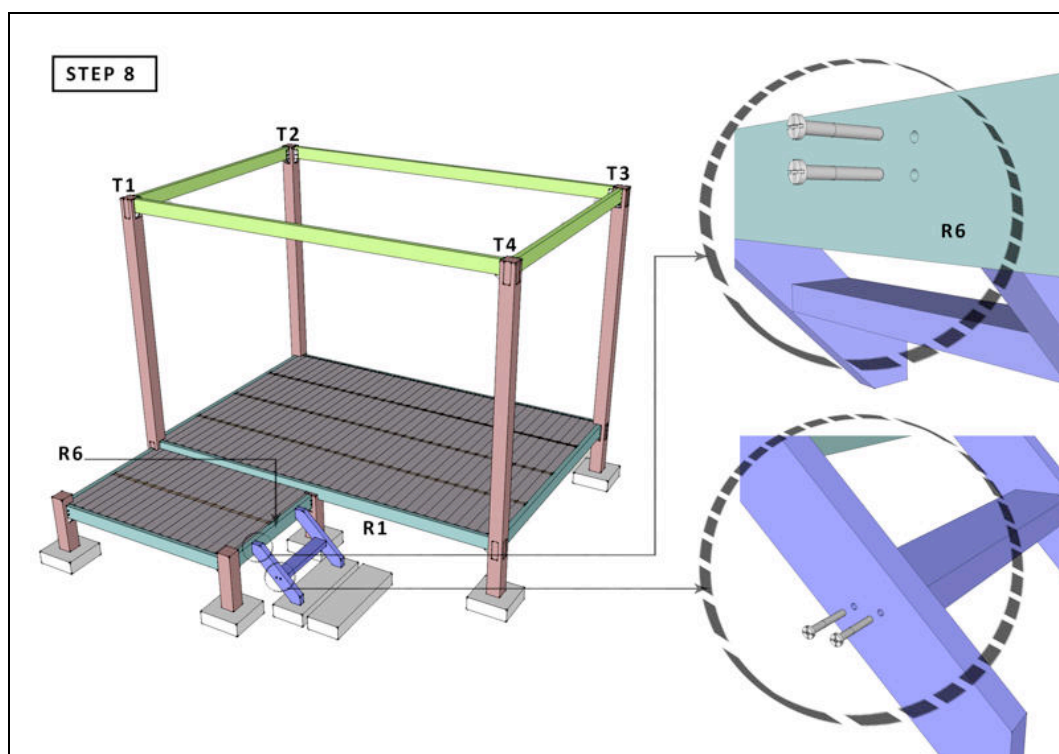
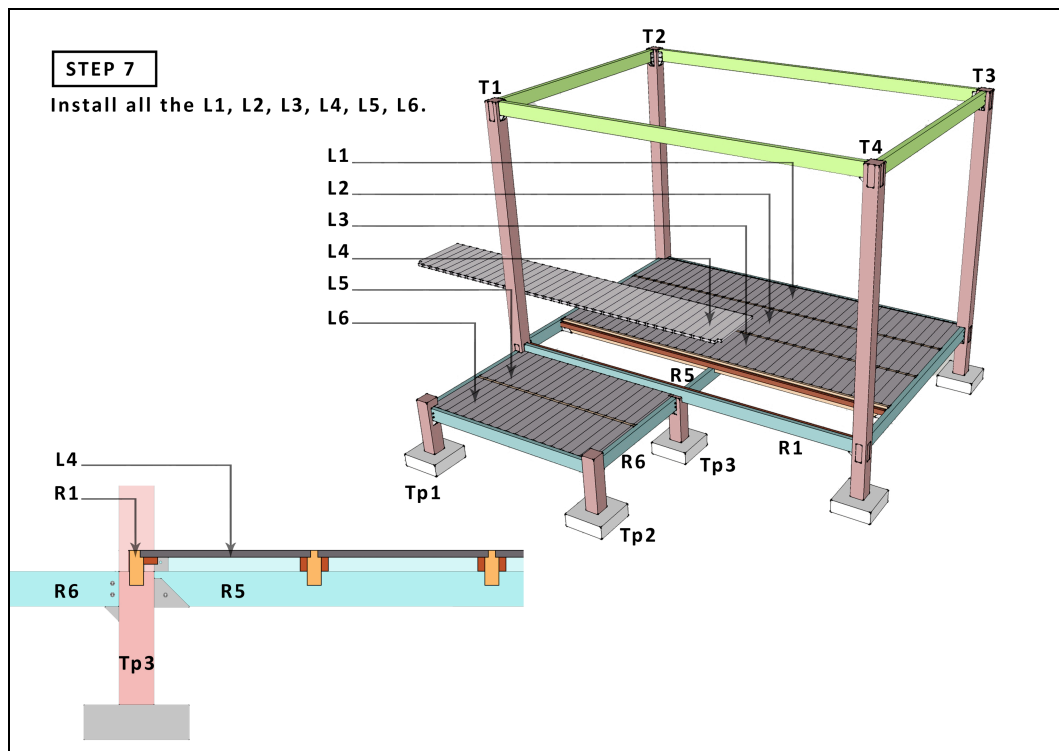
Check setting of a perfect rectangular by the diagonal dimension.

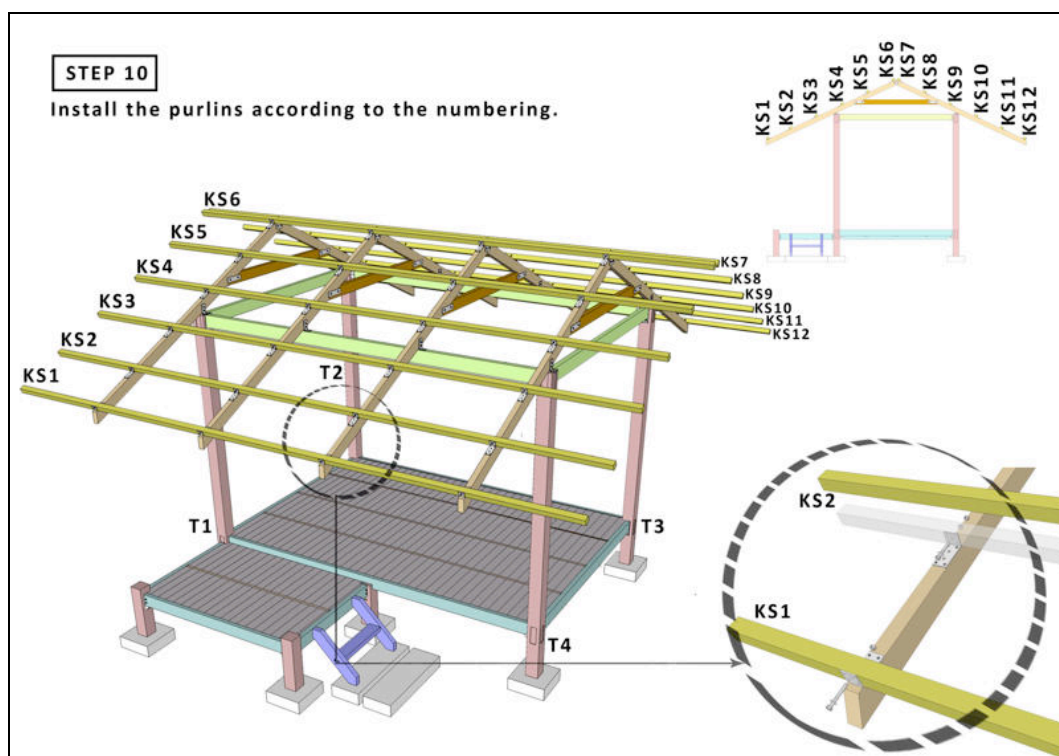
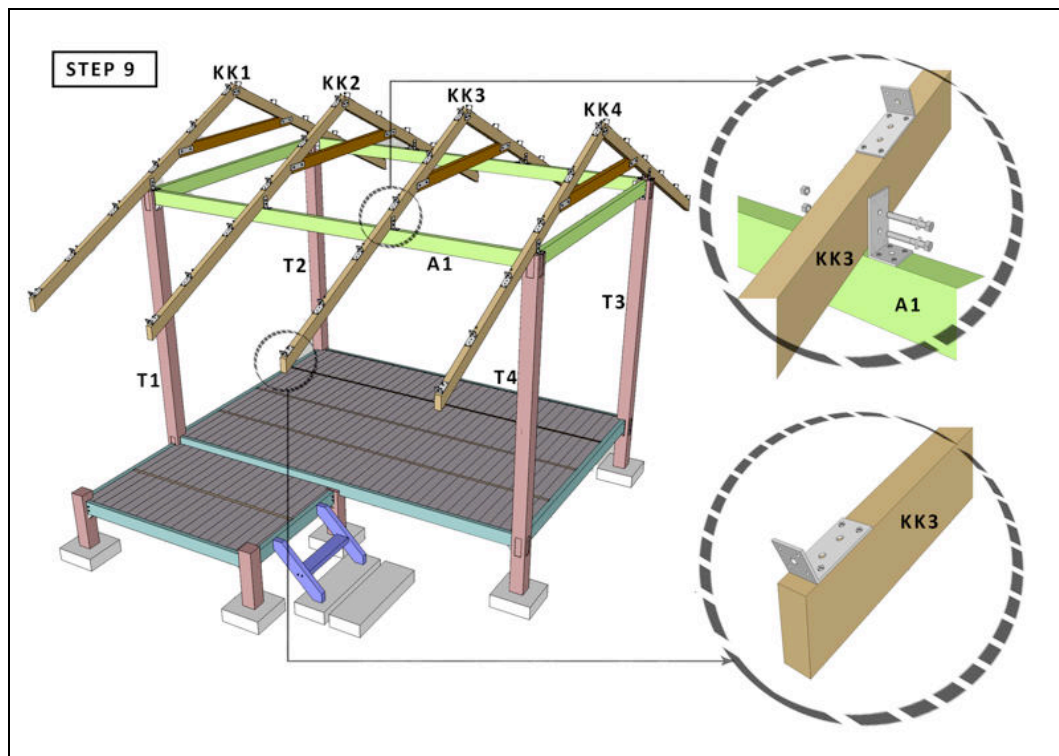


$$a = b$$



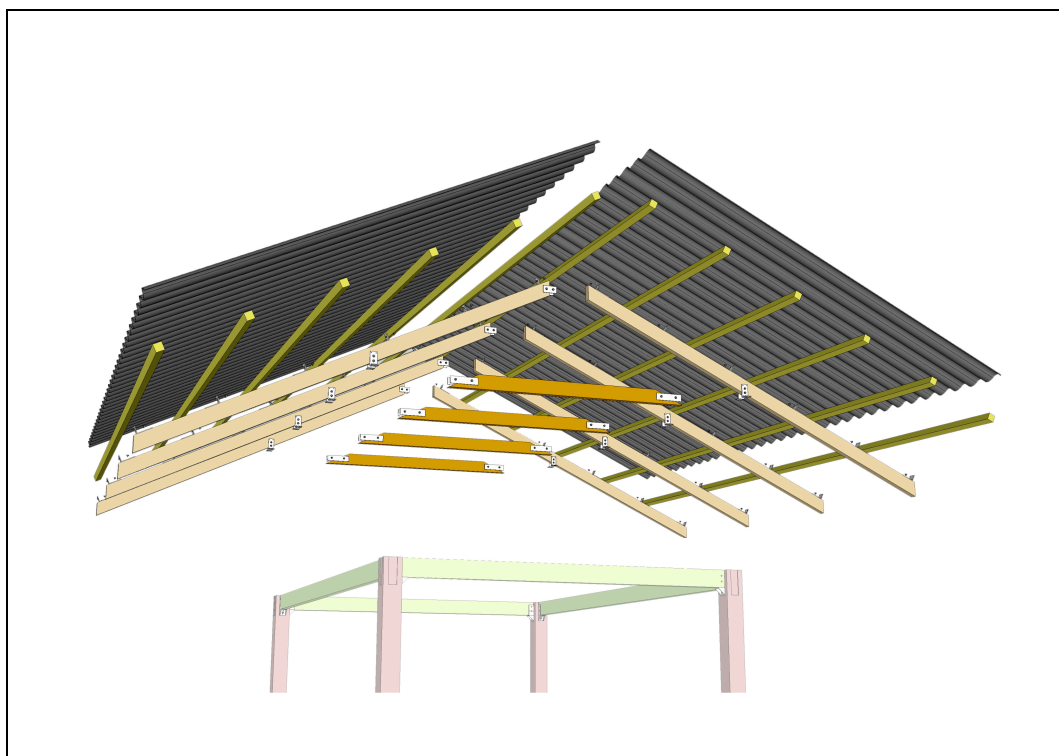
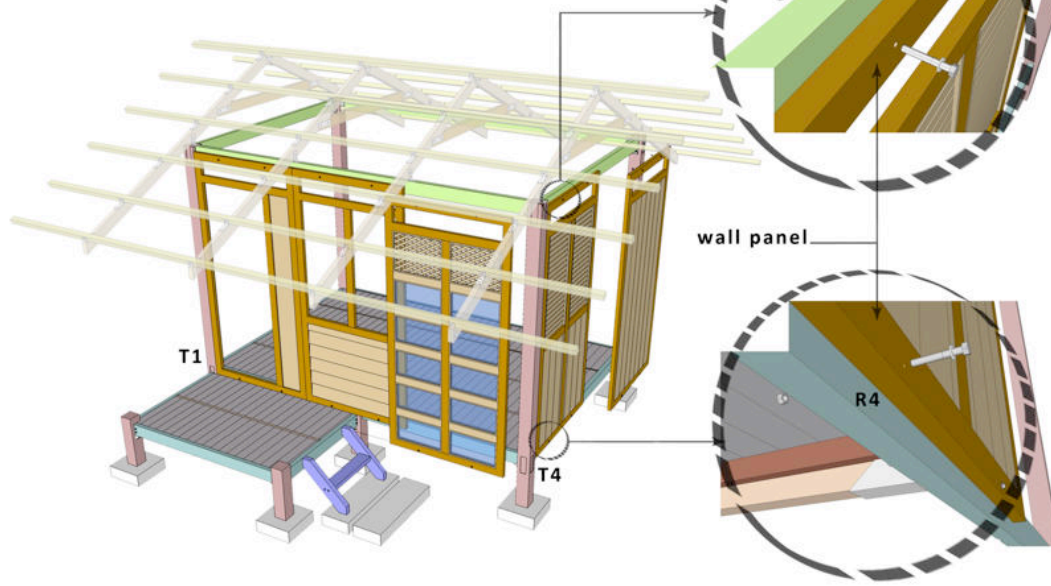




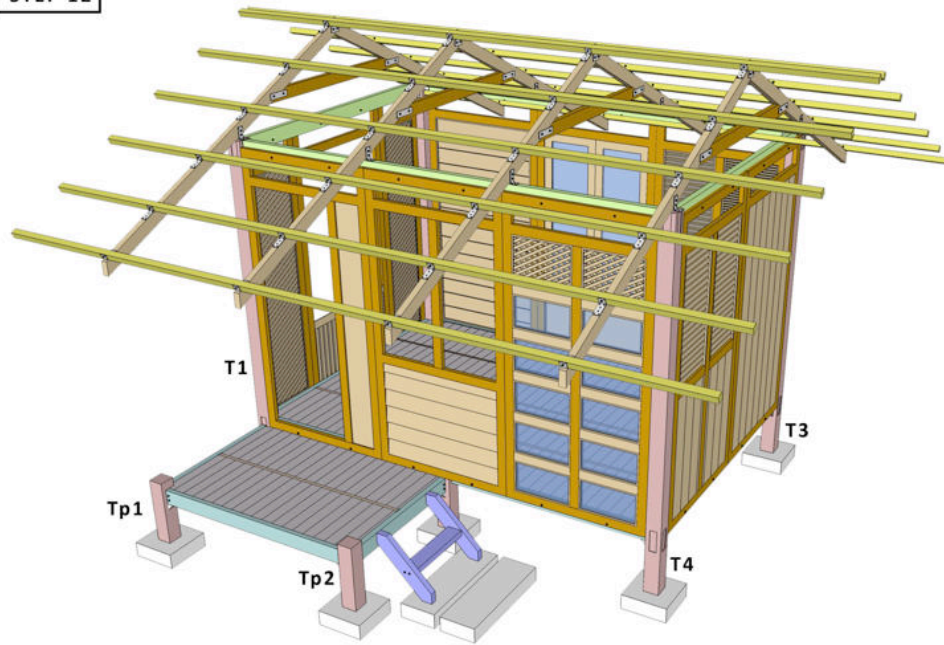


STEP 11

Install wall panels using bolt & nut as shown.

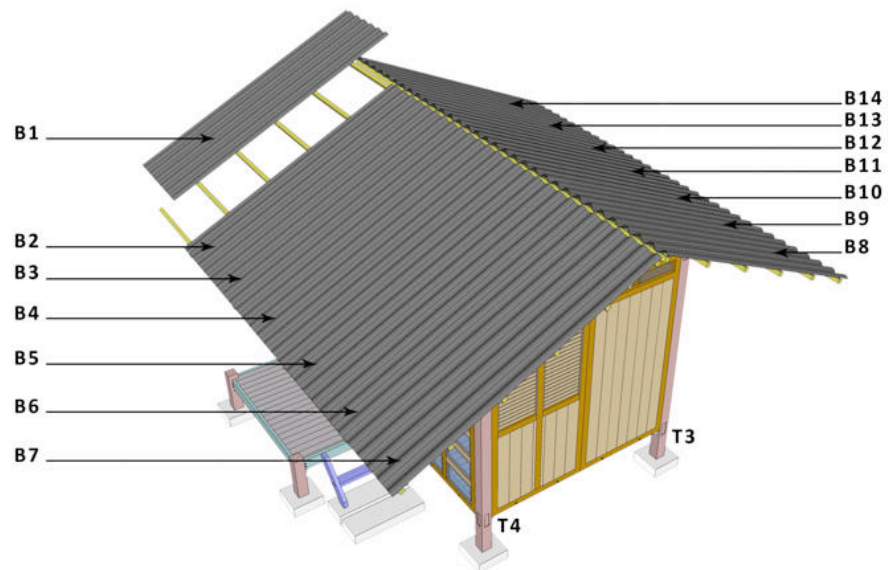


STEP 12



STEP 13

Install roof panels as shown.



STEP 14

