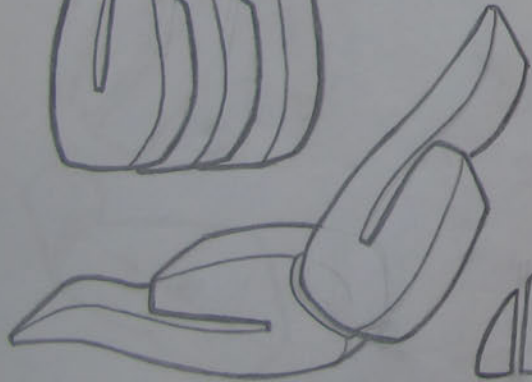
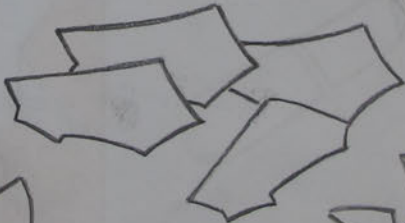
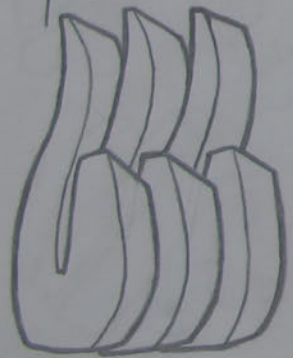
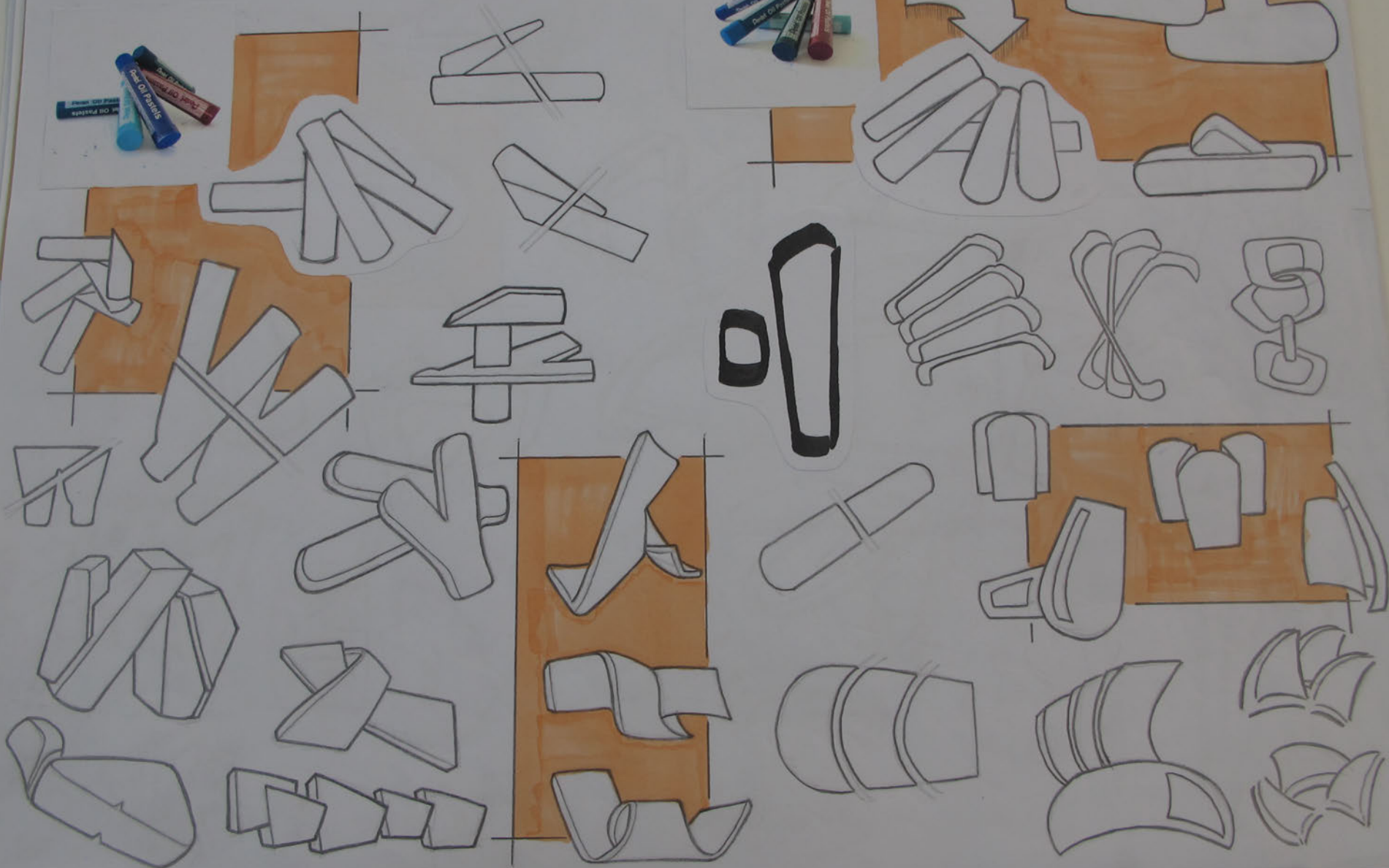


EXPLORATION

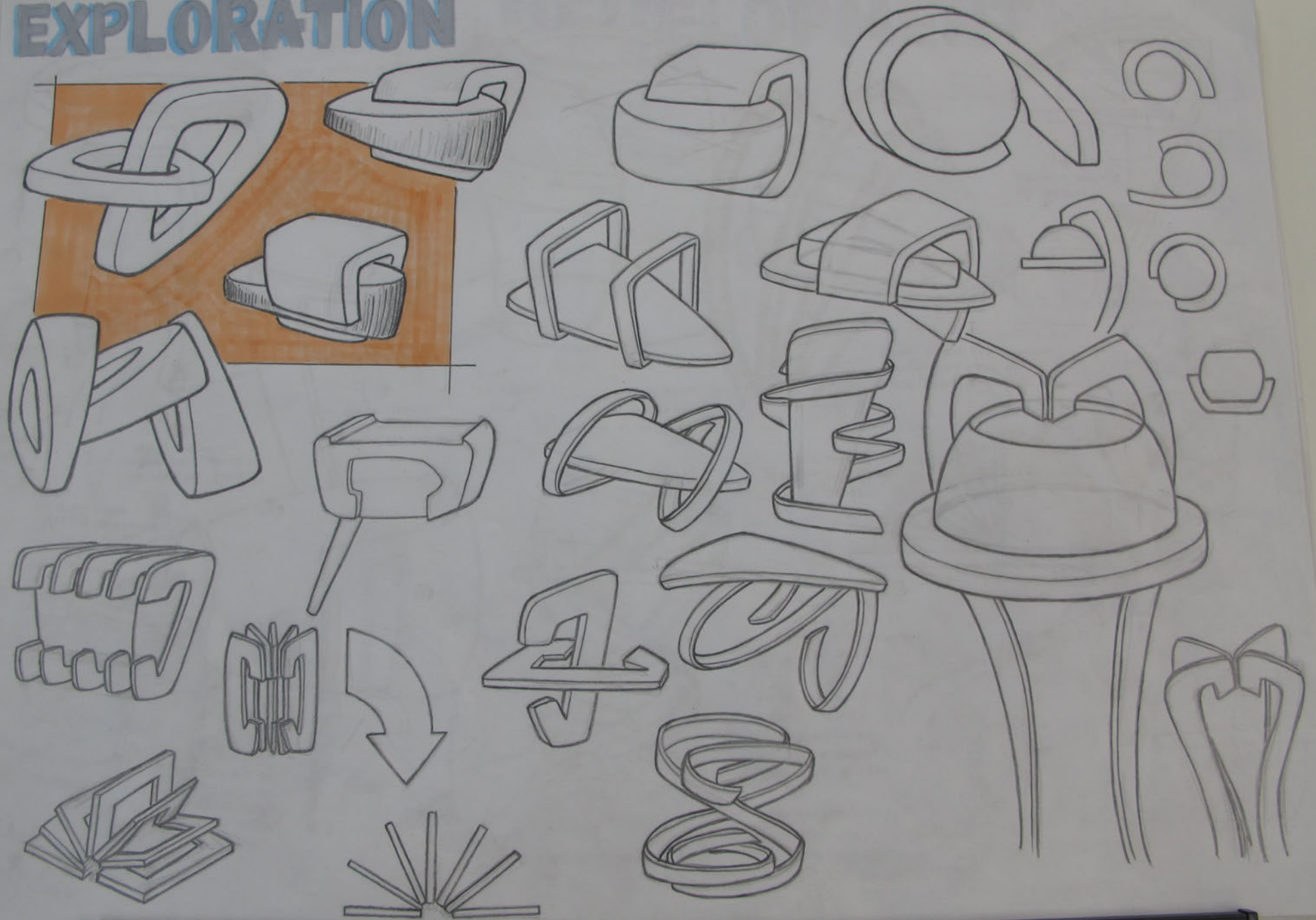


EXPLORATION

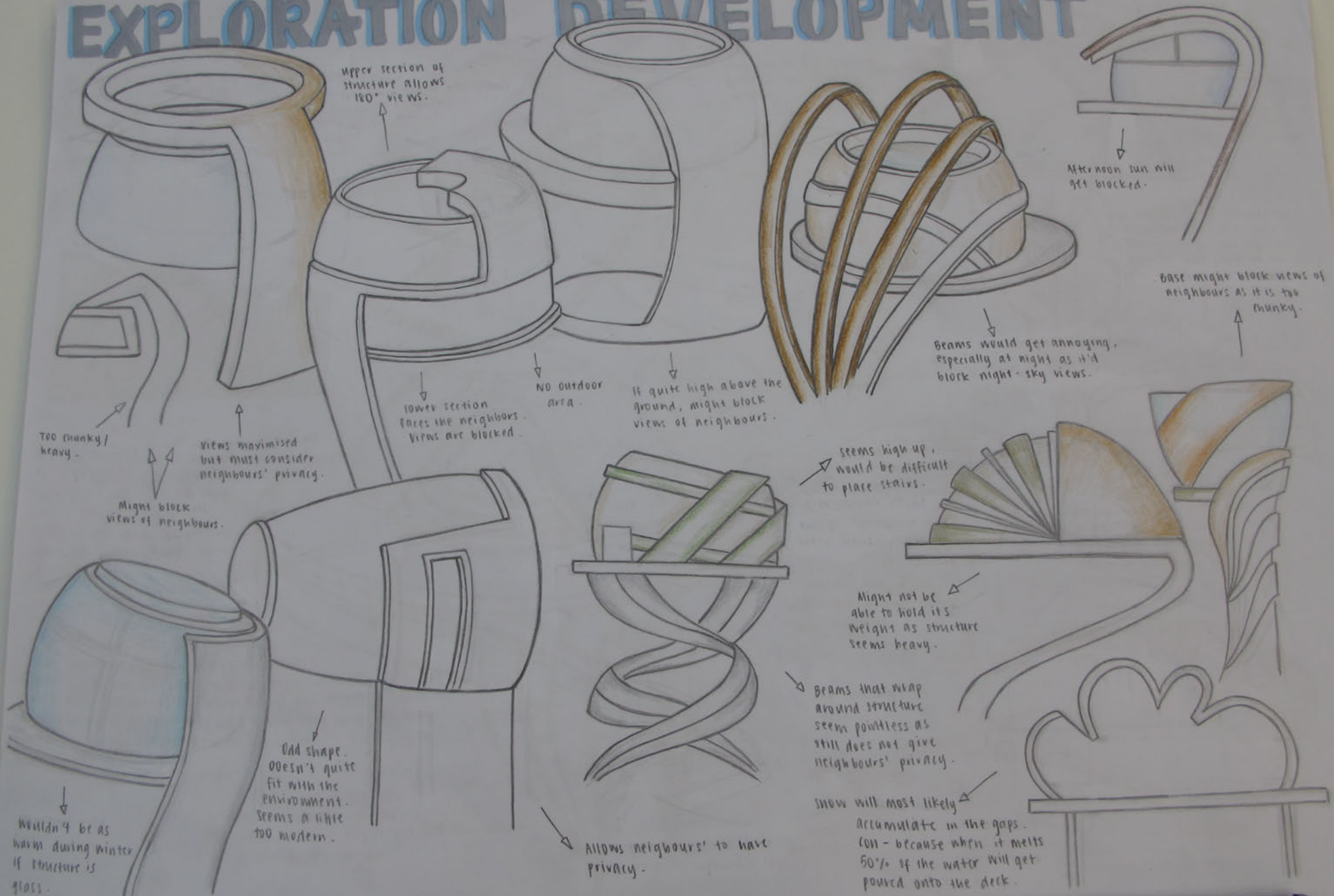




EXPLORATION



EXPLORATION DEVELOPMENT



EXPLORATION DEVELOPMENT

It seems as if most of the structure's weight is on one side - a little unstable -
 ∴ might collapse, considering how extreme the weather conditions are.



The structure doesn't quite fit with the environment as it is composed of simple shapes that don't flow.

Heat will be lost through glass ∴ cold during winter.

Snow will still most likely accumulate in the gaps. Weight of snow on the roof might cause it to collapse.

Similar to the structure with its beams interlocked, this structure might not also be able to hold itself up for the same reason.

Rain able to slide down the roof and onto the ground.

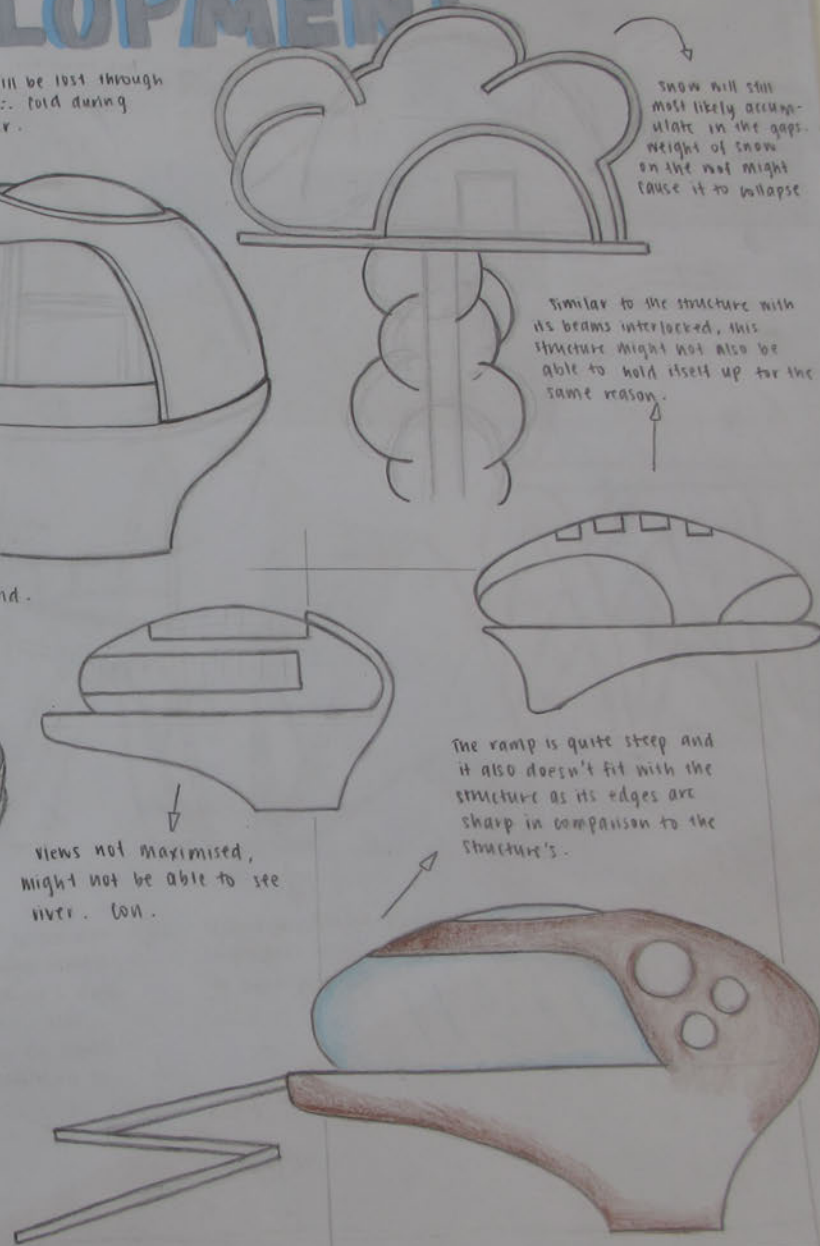
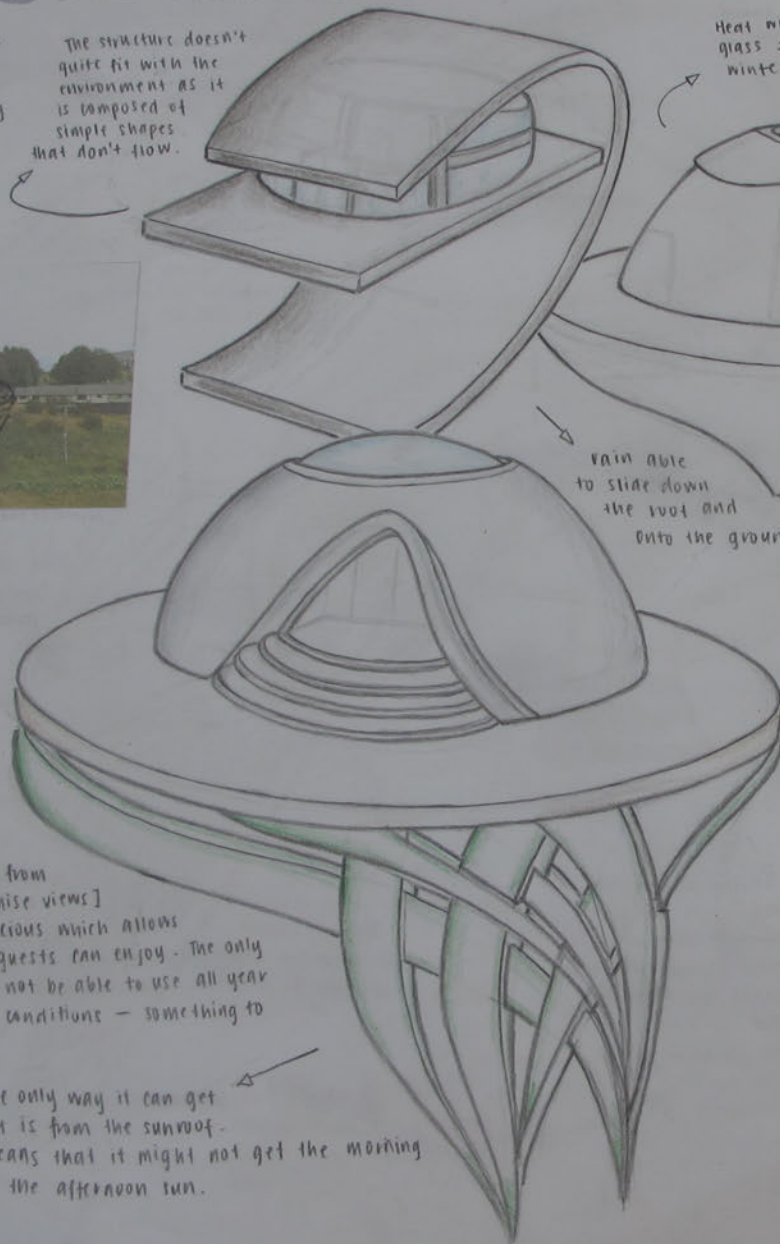
Its base is blocking the views of the neighbours behind the structure. Also, it is too high above the ground, doesn't make it convenient for tourists. Although it does provide better views.

Views not maximised, might not be able to see river. Con.

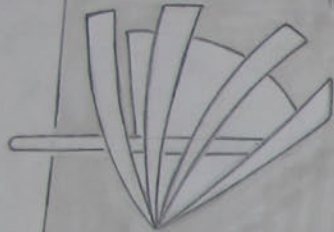
The ramp is quite steep and it also doesn't fit with the structure as its edges are sharp in comparison to the structure's.

only able to see view from the entrance. [Does not maximise views]
 However, its outdoor area is spacious which allows me to place luxurious facilities guests can enjoy. The only downside to this is that they may not be able to use all year round due to the extreme weather conditions - something to consider.

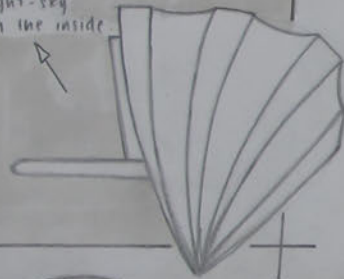
The only way it can get sunlight is from the sunroof. This means that it might not get the morning sun or the afternoon sun.



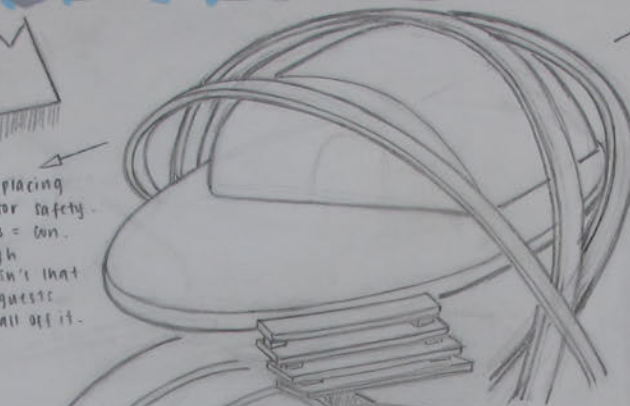
INITIAL CONCEPTS



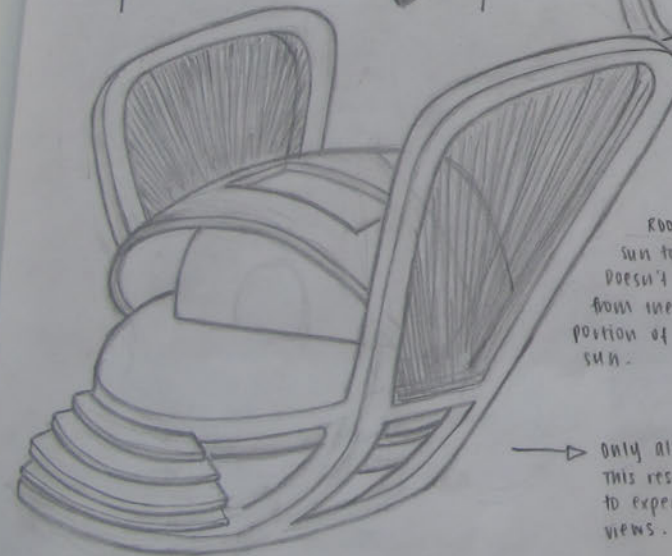
Guests will not be able to see the night-sky at night from the inside.



Consider placing barriers for safety. No barriers = fun. Even though structure isn't that high up, guests can still fall off it.



Beams may not be able to hold structure up as there's no support underneath the structure. Beams should also be slightly larger in order to improve the support on both sides.



Roof doesn't allow sun to enter the building. Doesn't maximise heat from the sun. Only a small portion of structure can get sun.

Only allows 90° views. This restricts my guests to experience the full 180° views.

Only allows guests to see views from the deck. Beams covering north side of building, does not maximise views. Also, having huge beams on same side, does not allow sun to enter building during the day. Also does not allow to use sun to its full potential.

Although, having beams & vertical suspenders allow neighbours to have privacy.

SAFETY

1. Consider placing handrails.
2. Make vertical suspenders slightly spread out as if too close objects could get stuck in between. (would also be a hassle)

STABILITY

1. support underneath must be a uniformly distributed.
2. support should be able to carry weight of building. [consider using light weight materials]

AESTHETICS

1. Sun roof (to allow sun in. Also allows to experience night views).
2. windows - to capture sunlight and see views from the inside.

INITIAL CONCEPTS

Will not be able to get sunlight during noon as there are beams covering the windows - not energy efficient.



I incorporated these ideas into my design as I liked the idea of lagging. It can also act as a noise barrier which minimises the noise heard from the inside (of the structure).

Rain can run right off the roof without collecting and creating leaks inside the house.

Indoor / outdoor flow isn't seamless. Would need to climb up stairs to get to the roof balcony. This makes it quite inconvenient.

However, having the balcony on the roof means guests will get better views as they are higher up.

If I were to make the window as big as this, I would need to find ways to let sunlight in during winter while only allowing a little bit of sun into the structure during summer.

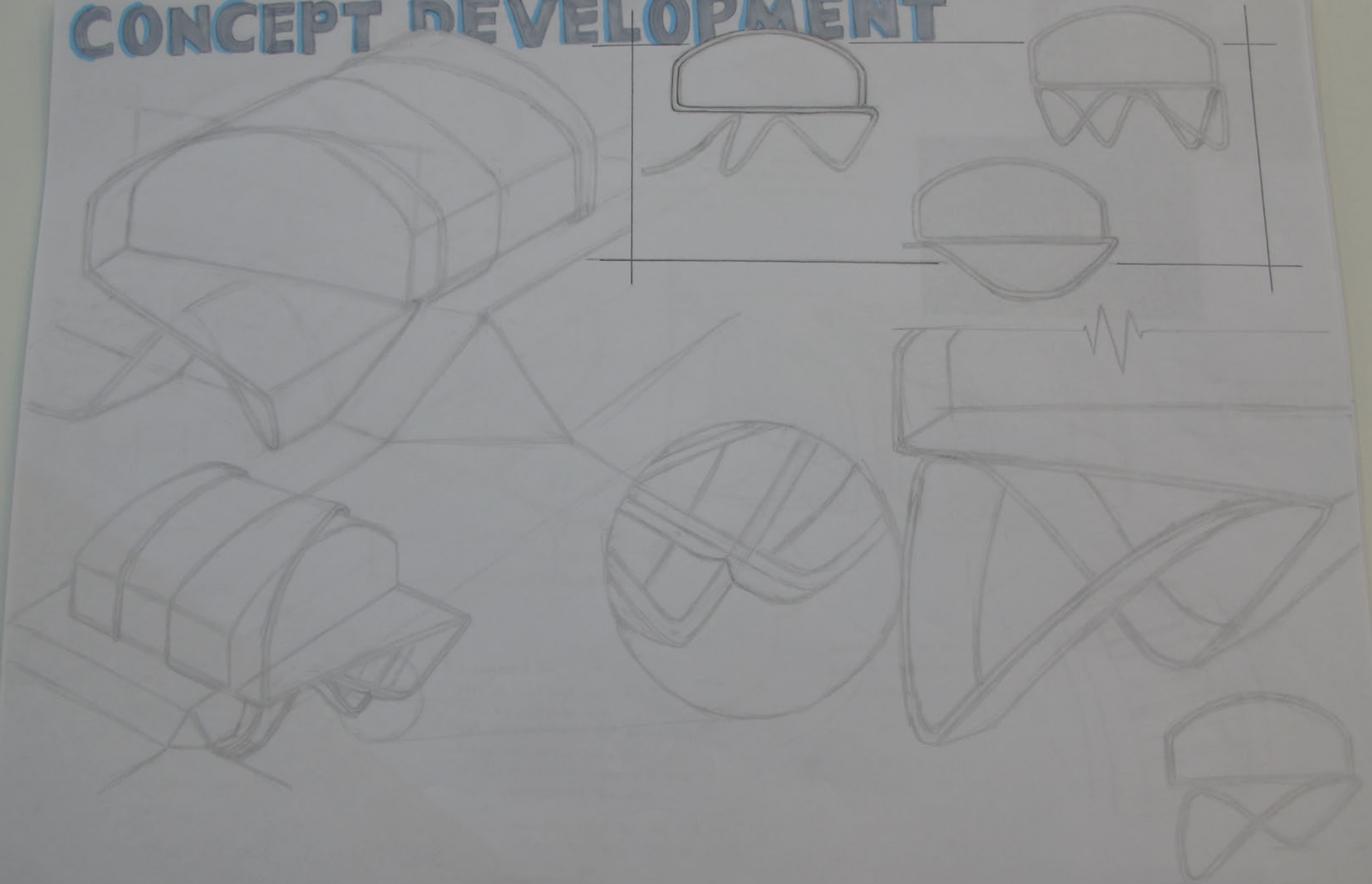
Snow will accumulate on the roof, might cause the roof to collapse due to the weight of the snow.

Will have to place barriers and stairs if will be placed on stilts.

likely to see neighbours from the inside as half of the structure is glass. [negative]
however, it maximises the views [positive].



CONCEPT DEVELOPMENT



CONCEPT DEVELOPMENT

FRONT

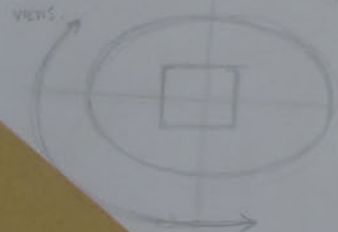


BACK



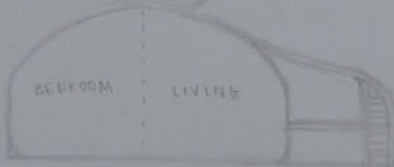
Energy efficient as allows light into the rooms that do not get as much sun.

SITE



VIEWS

part



BEDROOM

LIVING

part

does not make it obvious that they're solar panels as it seems like they're just windows that have been tinted.



Taken from google images.

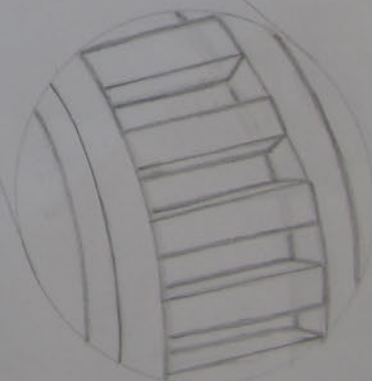
improves indoor/outdoor flow. Allows guests to sit outside under the sun.

solid wall to give neighbours' privacy.

Allows light in but is also a feature of the structure.

I extended the roof as I realised that since the platform is a flat surface, snow will most likely accumulate in this area which will be inconvenient for guests as they will need to shovel the snow.

This also keeps the deck dry during rainy days. Safe for guests to walk on.



CONCEPT DEVELOPMENT

The purpose of the glass is to keep the heat in.

Will be able to see night sky while out on the deck.

Glass will be on the outside to prevent snow from building up in between.



The window frames are exposed which doesn't make the structure as 'clean' looking. Although it is more durable.

Guests could slip over going out through the bedroom door as the steps to the spa is right in front of it. = Hazard.

REFLECTIVE GLASS

• [source: vitroglazings.com]

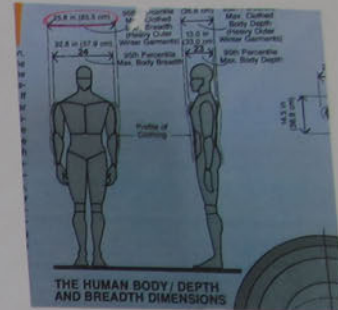
It allows just the right amount of natural light into the building, while at the same time reduces glare and the need for window blinds and other interior shading devices. In addition to this, it also has a special metallic coating that makes it possible to see out, while preventing people from seeing in.

• As shown in the picture, the glass reflects its surrounding which makes the structure blend with its environment.

Also, since this is an outdoor spa guests will get really cold when they get out of the pool especially during winter as the air is quite cold. It will only be warm whilst they're in the pool.



CONCEPT DEVELOPMENT

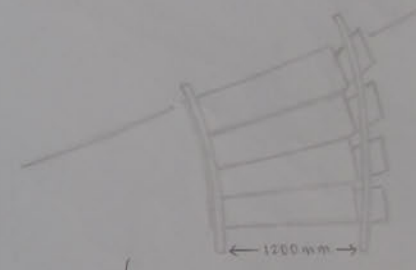
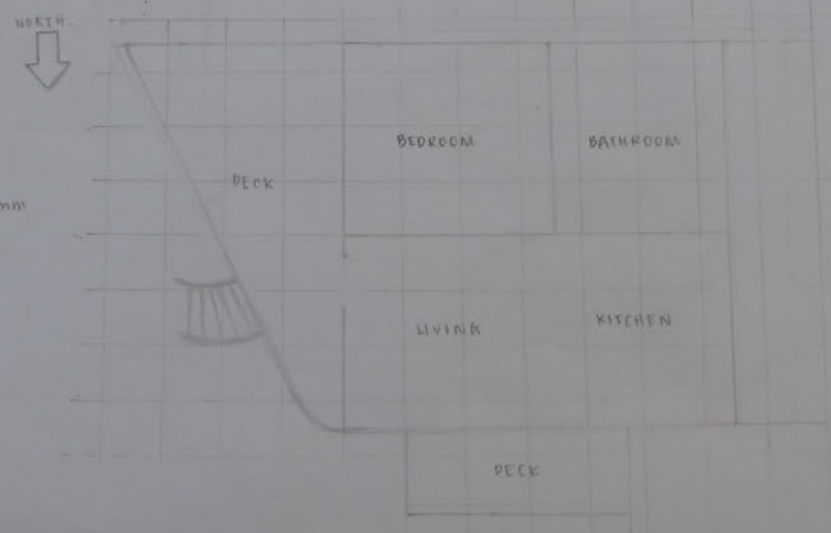
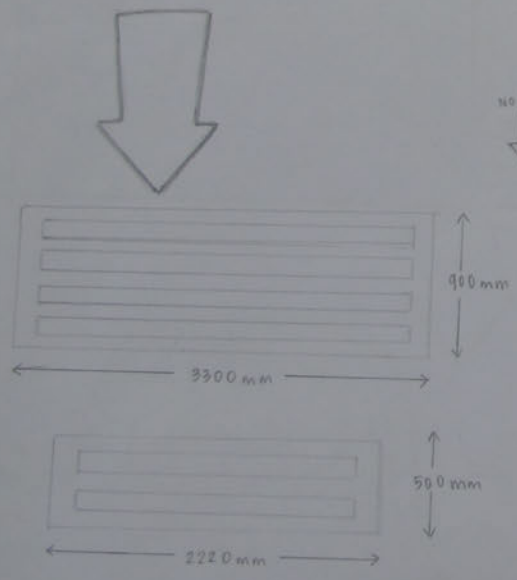


Sizes have been slightly altered for the aesthetics.



If the solar panels were to sit on the roof as shown in picture, I would need an overhang to minimise the heat entering the house during summer.

To calculate the size of the overhang:
 $A = H \times F1$
 F1 is 0.35 for Christchurch.

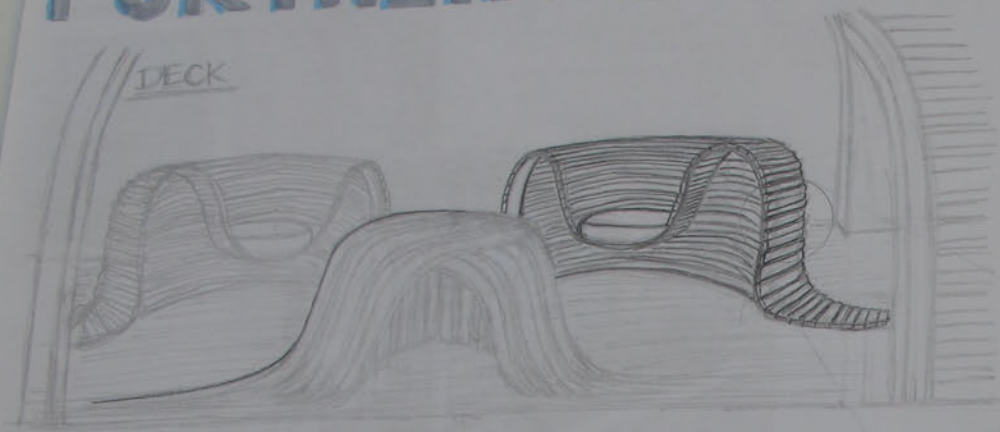


Allows guests to go up the stairs with their baggage by their side. Also, gives them space on either side.

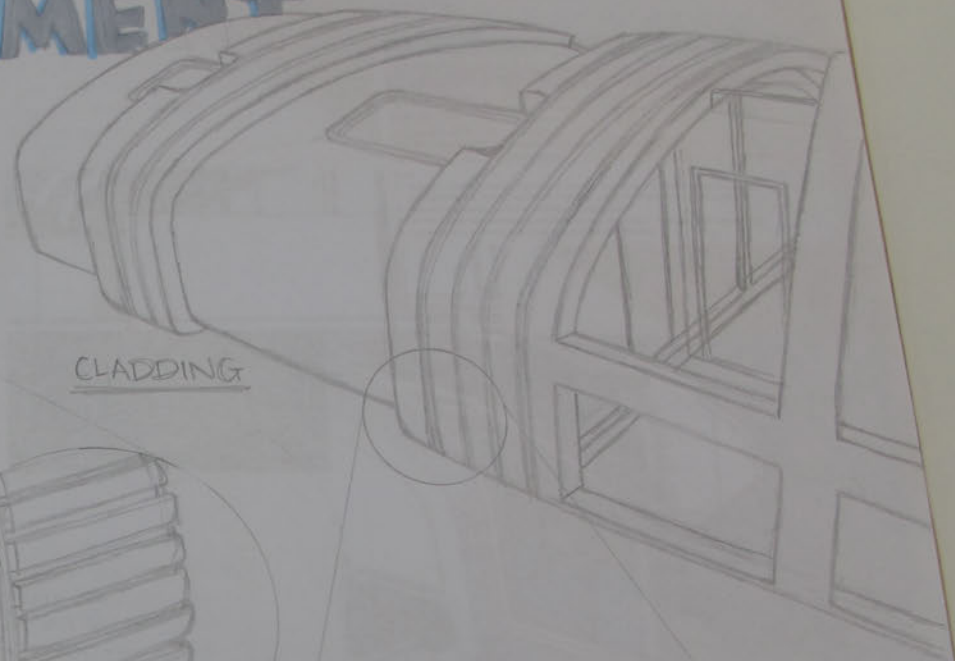
Steps are placed right in front of the main door to make it more convenient for guests as they will only need to walk straight through.

FURTHER DEVELOPMENT

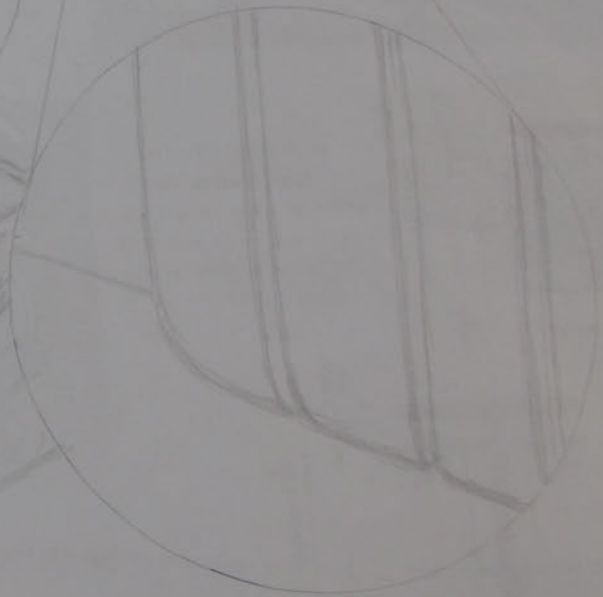
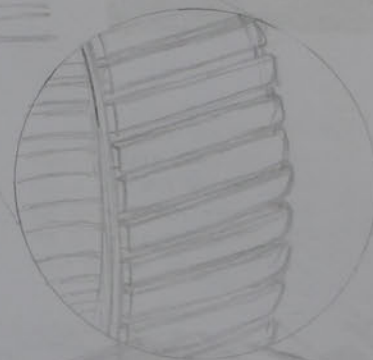
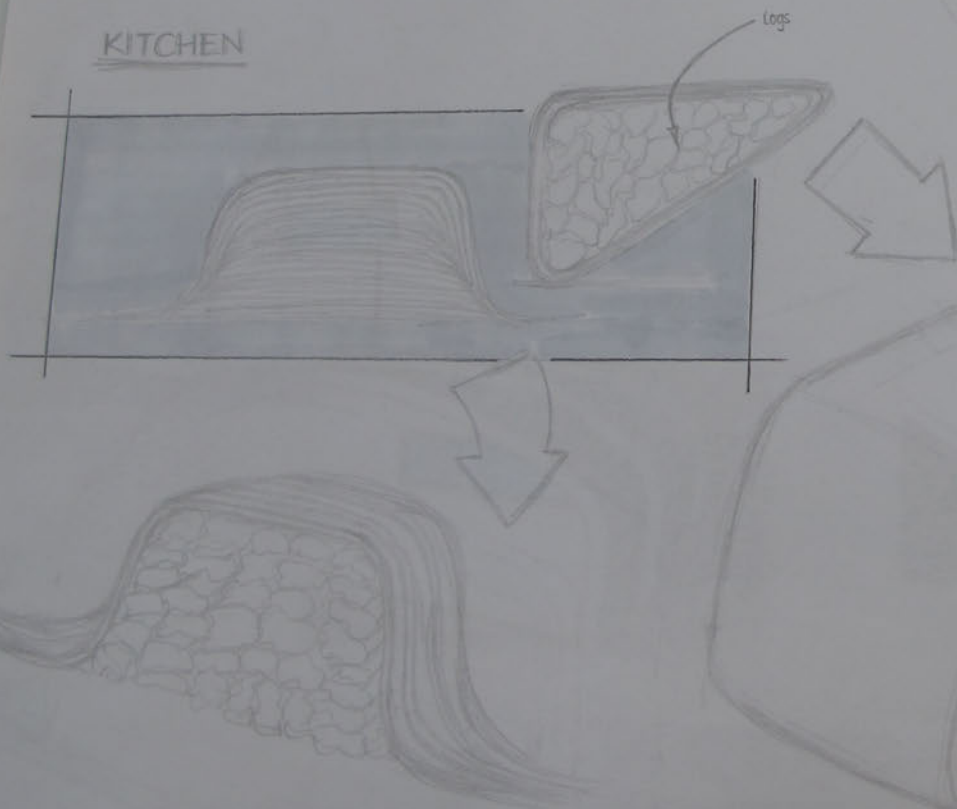
DECK



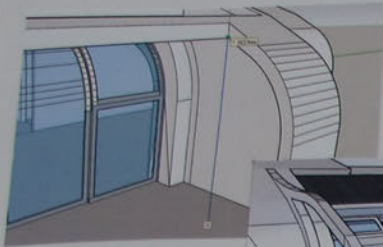
CLADDING



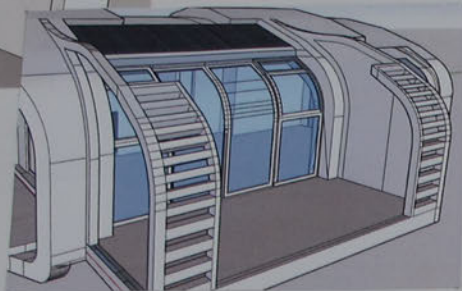
KITCHEN



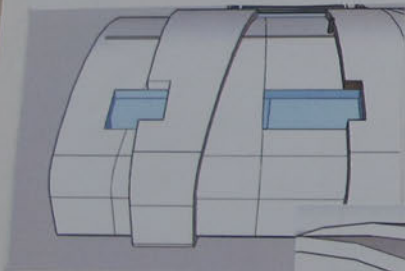
FURTHER DEVELOPMENT



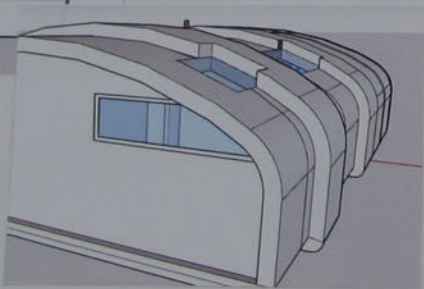
beam running across the deck had to be removed as it is not high enough for guests to be able to stand under it.



I also put a skylight in the bathroom so that light can enter this room during the day.

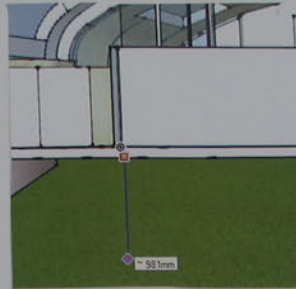


skylight in bedroom allows guests to see night sky whilst being inside.

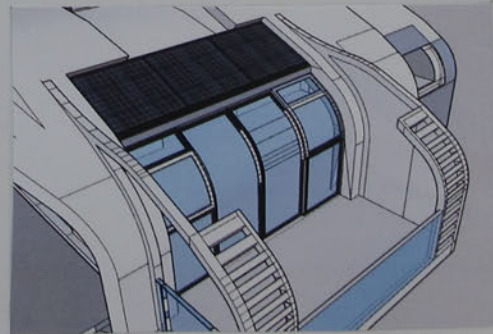


Although not ideal, there will be a window facing the neighbours for the bathroom to allow ventilation too plenty, the glass will be frosted.

Even though it isn't a + difference to have a barrier for my design (since the fall is less than 0.1m), there will still be a barrier next to the steps to ensure that no one will fall off the deck.



I had to alter my original idea slightly since the beam running across the deck has been removed. The solar panels now have to sit on the roof which also means there must now be an overhang.



second idea/design drawn in previous page.

Barrier heights

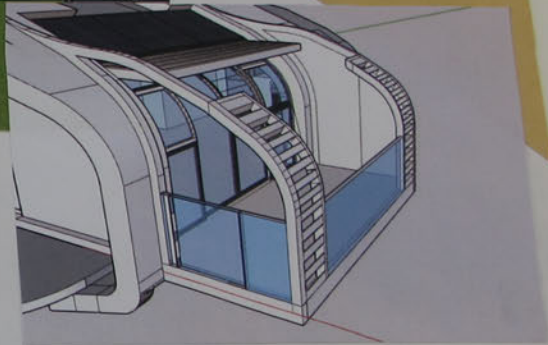
The minimum barrier heights are given in Table 3.1 (Table 1 from Acceptable Solution F4681)

Table 3.1 Minimum barrier heights

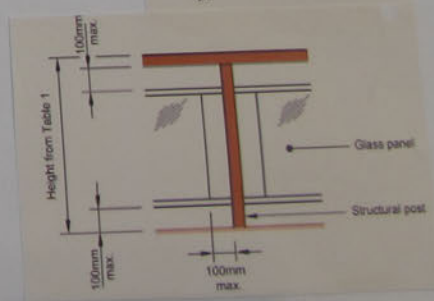
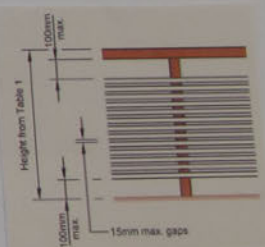
Building type	Location	Minimum barrier height (mm above D)
Classified buildings and other residential use of multiple dwellings	Stairs and ramps and their landings	900
	Subsides and stairs, and edges of external floors or balconies	1000
All other buildings, and common areas of multiple dwellings	Stairs or ramps	900
	Barriers within 500mm of the start of fixed seating or other structure	800
	All other locations	1100

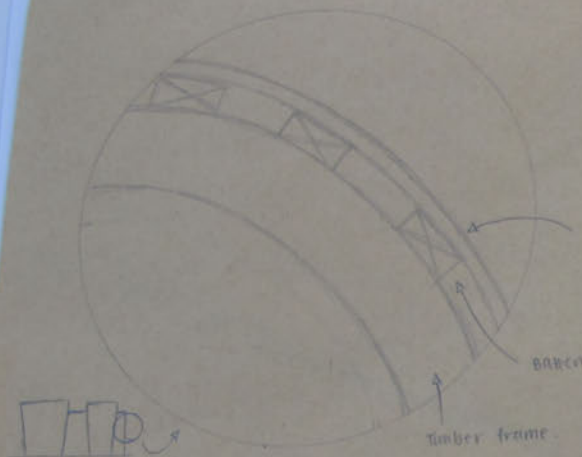
Notes

1. Heights are measured vertically from finished floor level (ignoring carpet or vinyl, or similar thickness covering on floors, landings and ramps). On stairs the height is measured vertically from the stair nosing or stair nosing.
2. A barrier is a platform with the side function of a railing system.
3. An 800mm high barrier in front of fixed seating would be appropriate in cinemas, theatres, and stadiums.
4. Not applicable to swimming pool fences or barriers, refer to 102 5500.



Since this area is no longer covered, I've decided to place a barrier that can be opened on one side so that if snow builds up, it can easily be pushed off of the deck.



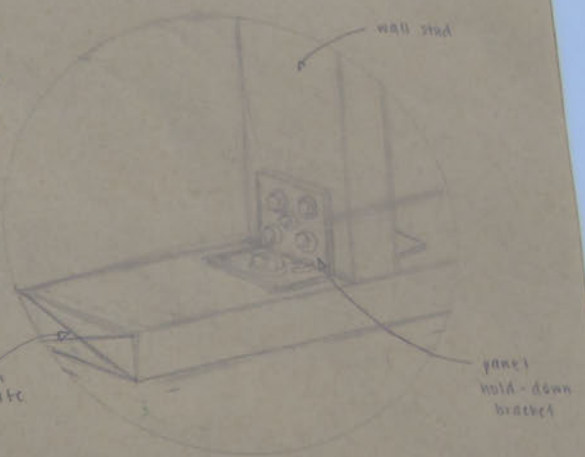


stud and rafter spacing at 600mm c/c.

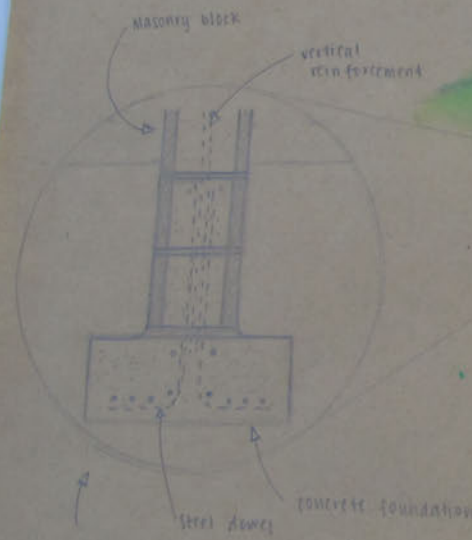


plate will be in the centre of the beams so that it doesn't show on the outside only the bolts will be seen.

Bolted on either side.

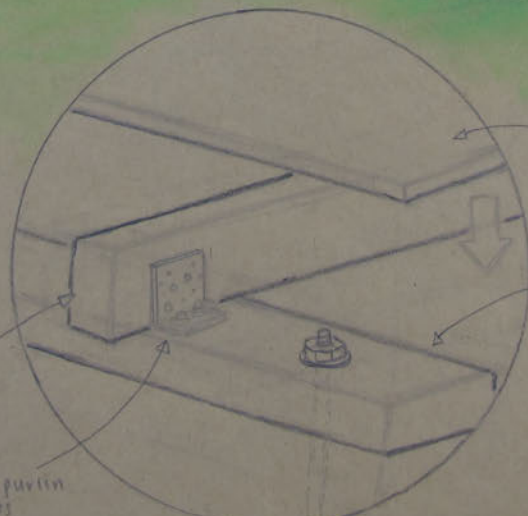


Framing - how the bottom plate and wall stud are attached.



vertical reinforcement overlaps steel dowels to tie wall to concrete foundation.
[source: building construction book]

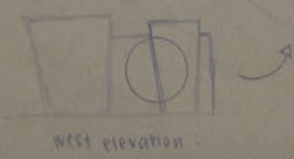
top plate will be bolted down to the masonry wall and to attach the joists to the top plate concealed purlin cleats will be used.



How the masonry wall attaches to the deck.

Floor board

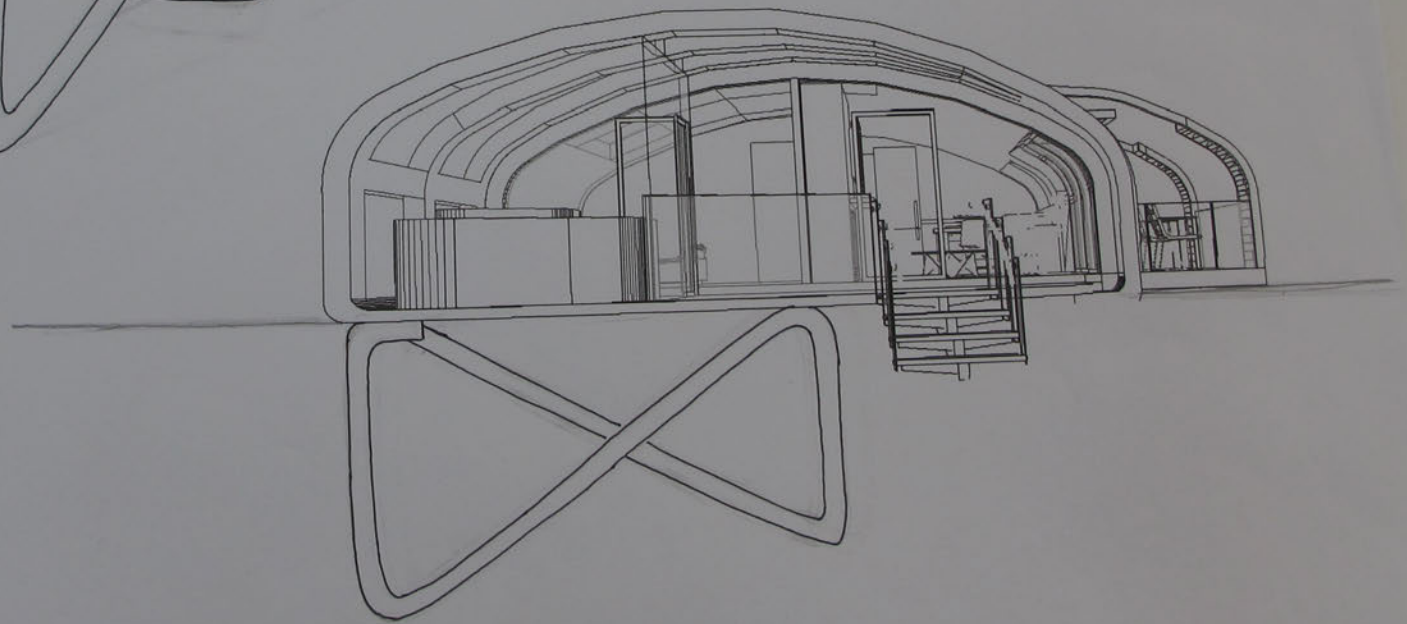
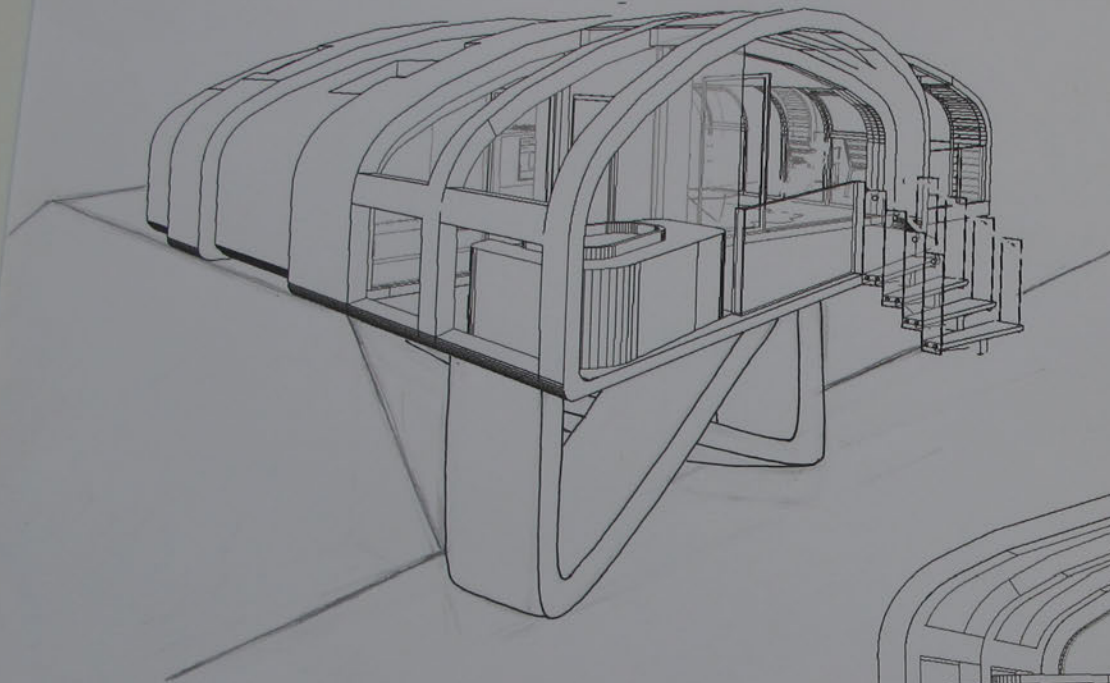
timber frame



Purlin



FINAL DESIGN



EXCELLENCE

Architecture : Small house

16 pages in total

AS 91627 (3.30): Initiate design ideas through exploration (4 credits)

Achievement	Achievement with Merit	Achievement with Excellence	Overall level of attainment for 91627
Initiate design ideas through exploration.	Initiate design ideas through insightful exploration.	Initiate design ideas through extensive exploration.	
<ul style="list-style-type: none">Use starting experiences and visual communication strategies to <u>explore alternatives and variations</u> to <u>expand design thinking</u>.Ideas are <u>re-generated</u> from alternatives and variations which <u>lead towards</u> design ideas.	<ul style="list-style-type: none">Use visual communication strategies to show <u>considered</u> alternatives and variations for the purpose of <u>analysing and re-interpreting</u> ideas.Ideas identify an <u>emerging train of thought that informs</u> design ideas.	<ul style="list-style-type: none">Use visual communication strategies to show <u>divergent and perceptive</u> alternatives and variations.Train of thought ideas <u>extend and transform</u> design ideas.	E

Pages 1- 4 show starting points that are explored to find forms and shapes. Design ideas are expanded thinking around the break down of elements, abstraction and repetition of a flower, and a stack of crayons is evident.

Page 5 has a train of thought around repetition of lines and form starting to occur and is seen throughout the rest of the submission. It is not clear what is being designed as exploration is still occurring.

Page 6 shows some consideration towards architectural structures starting to appear to be the direction of design focus.

Pages 6 - 9 signal earlier thinking and design ideas re-interpreted with an informed clear train of thought towards architecture. Consideration and analysis can be seen with the ongoing exploration of shape and exterior structures and supporting annotation.

Pages 10 - 16 have further ideas being clarified in a way that starts to show divergent thinking that is perceptive, pushing the idea by extending and transformation of elements.

There are a range of visual communication strategies and techniques used to communicate ideas, including freehand sketching, and computer aided design to show more detailed sectional viewpoints and thinking. Elements of the interior are touched upon but not detailed in-depth.