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New Zealand Qualifications Authority

Scholarship 2024

Design and Visual Communication 93602

TOP SCHOLAR



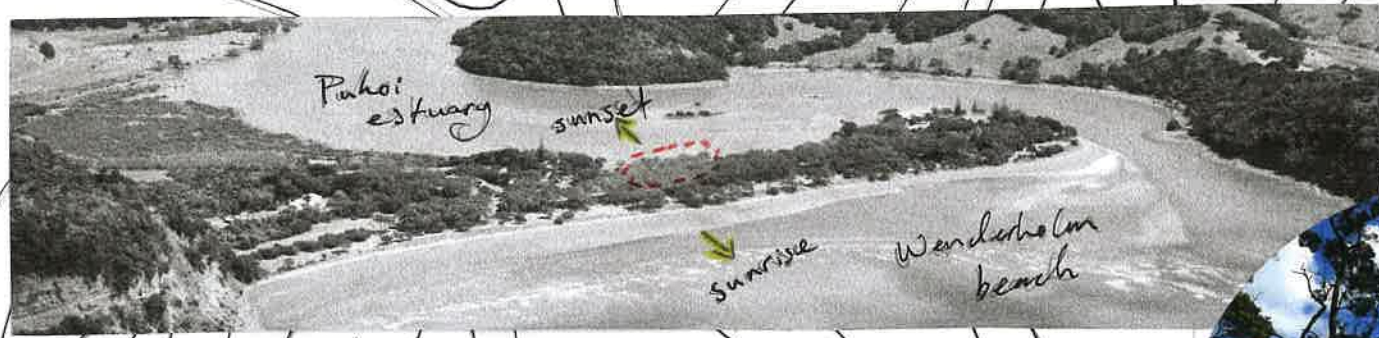
THE HERON

On the water at Wenderholm

An aerial photograph of Wenderholm Regional Park. The image shows a large, calm body of water in the foreground, reflecting the sky. In the middle ground, there are several small, forested islands and peninsulas. A small boat is docked at a wooden pier on the left side of the water. The background features a large, dark, forested headland that juts out into the sea. The sky is blue with scattered white clouds. The overall scene is peaceful and scenic.

WENDERHOLM

Wenderholm Regional Park has been an attraction for New Zealanders for hundreds of years due to its natural resources, location and beautiful walks and views. Because the park is accessible by canoe it was a convenient location for the Māori to gather shellfish, build settlements and fish in the surrounding waters. In 1965 Wenderholm became the first regional park in Auckland and is now enjoyed by all as a relaxing getaway for walks, picnics and recreational activities.



Activities at Wenderholm:

- walking tracks
- swimming
- boating



SITE ANALYSIS

Wenderholm

Experience

- Relaxing getaway
- Connecting with nature

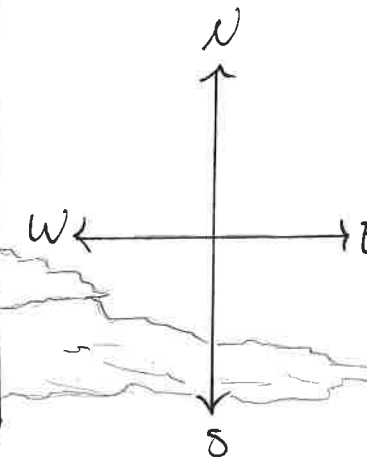
Puhoi Estuary

SITE

boat ramp

Wenderholm beach

Wenderholm Regional Park

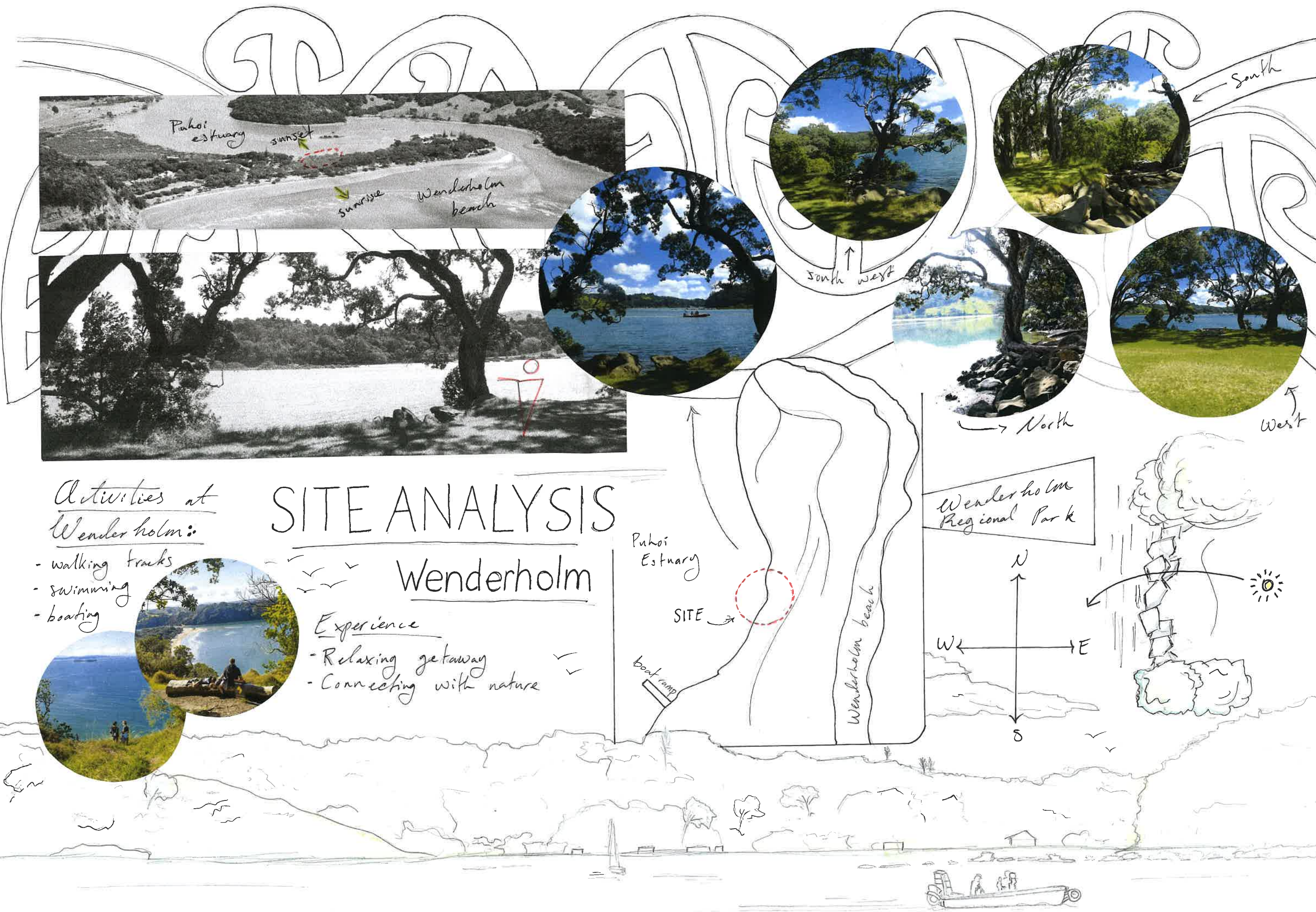


South

South West

North

West



THE HERON

I want to represent the unique features of the heron and their symbolism in my design

rounded feathers shape

stilts

water movement

REEF HERON

- rare in NZ
- live on rocky shores

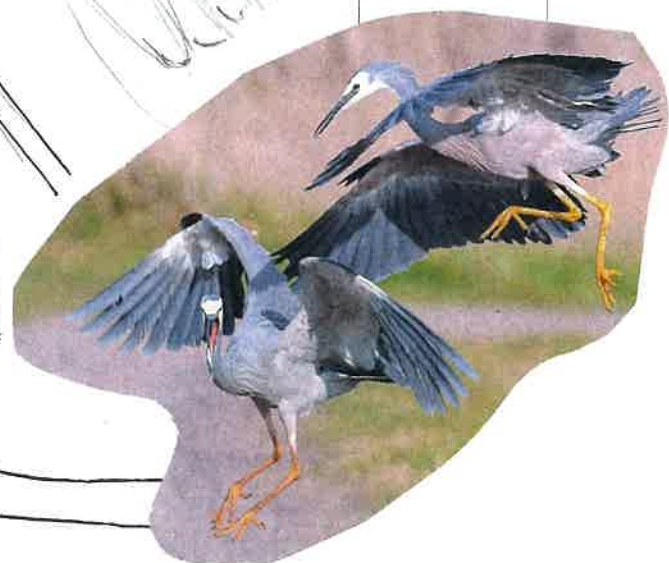
KŌTUKU

or white heron
the bird of a single flight
rare and sacred

WHITE FACED HERON

- coastal birds
- mostly solitary but sometimes form small flocks

WING movement



Analysing architecture styles

What will relate to the
site and the heron?

EXPRESSIONISM

↳ conception of architecture as
a work of art

- sculptural forms
- asymmetry

ZAHA
HADID

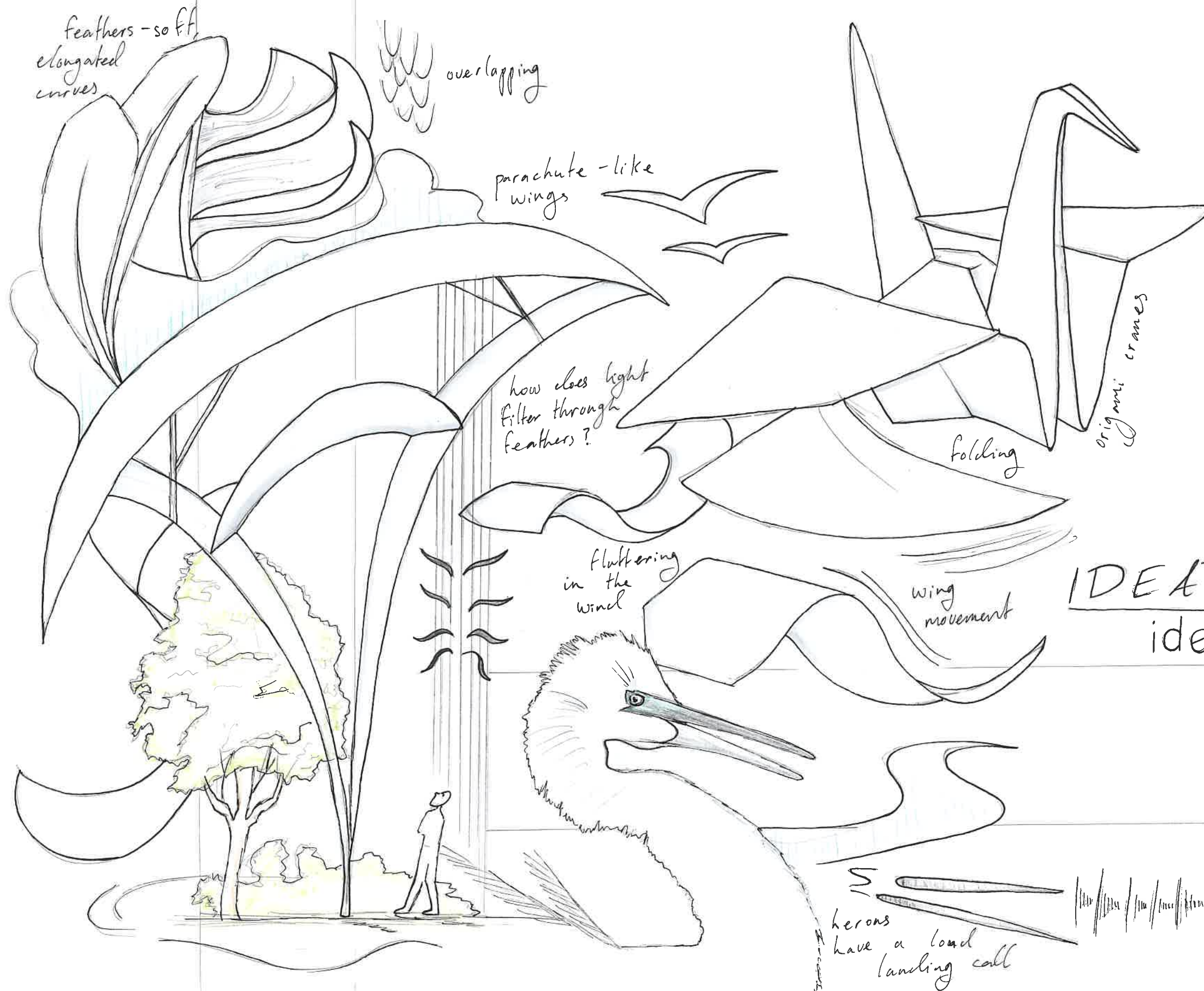
sweeping lines

overlapping organic
shapes

seaweed-like

grids to
define
curves

flowing water
heron



IDEATION
identifying forms



INITIAL IDEAS

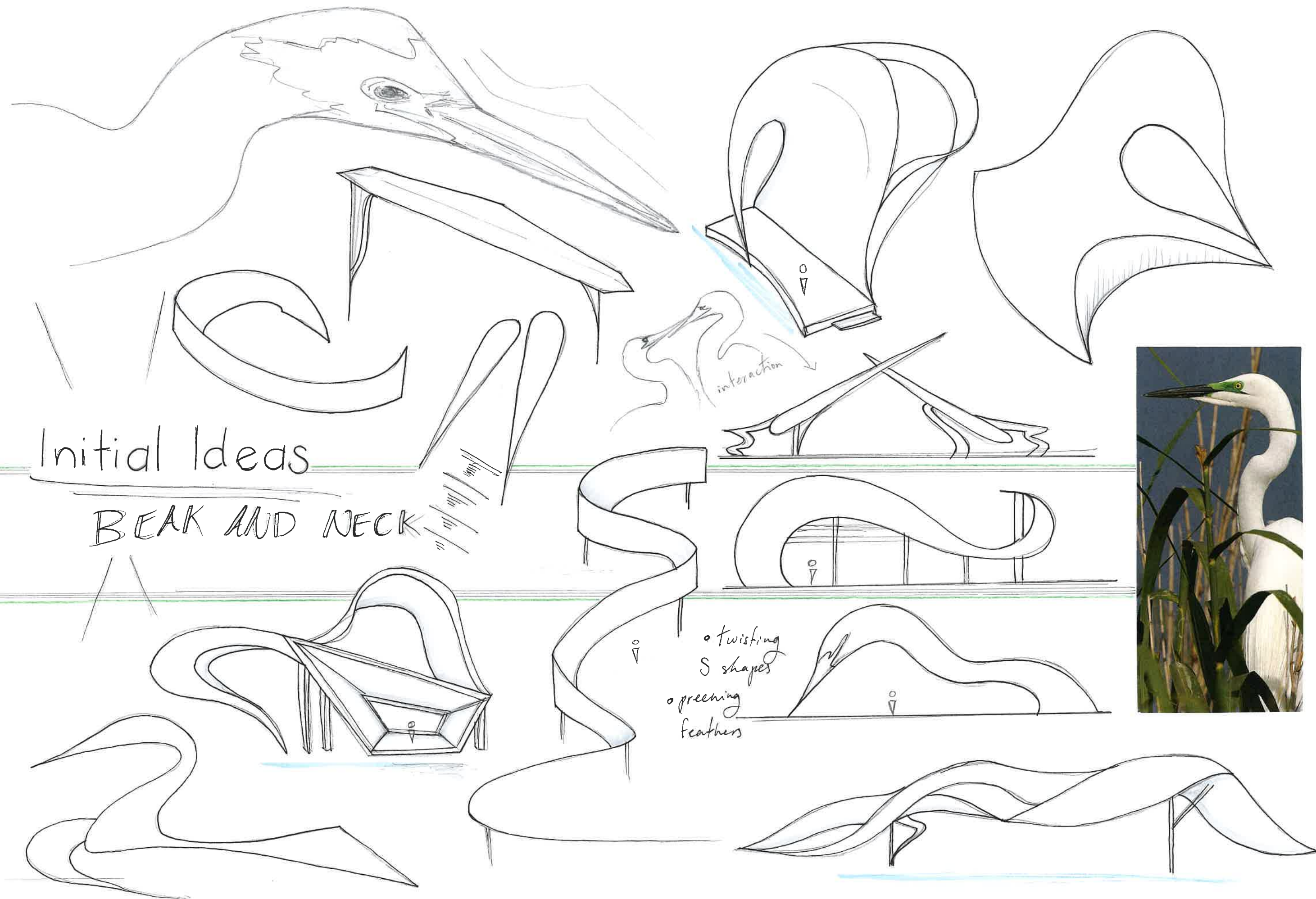


Paper crane wing

WINGS

Initial Ideas

BEAK AND NECK



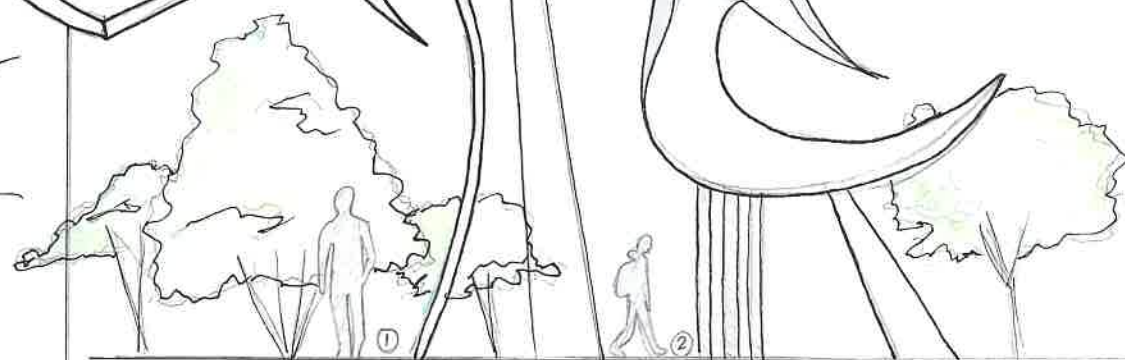
Initial Ideas

STILTS COMING OUT OF THE WATER



SCALE

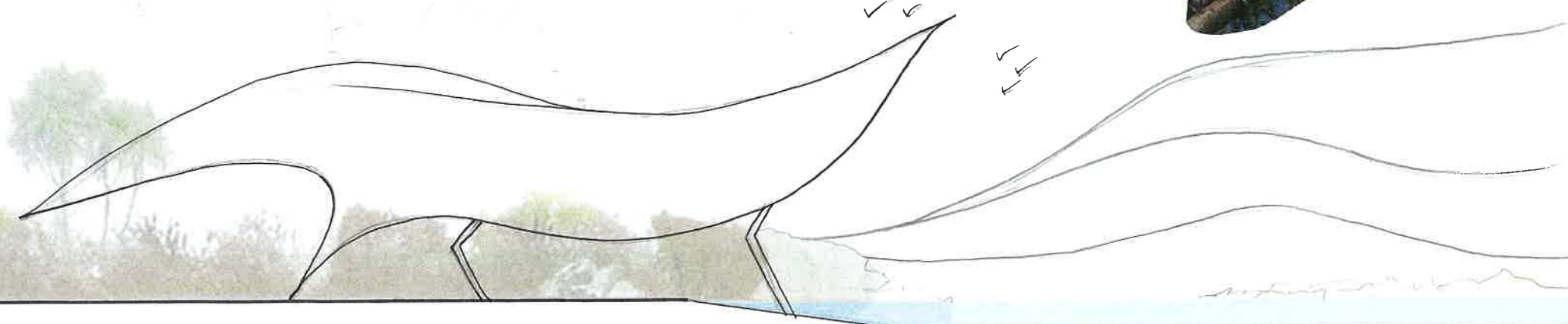
I will need to consider human interaction and the site



Heron are water birds - they will stand in shallow water and feed. I could have the structure partially extend into the estuary.



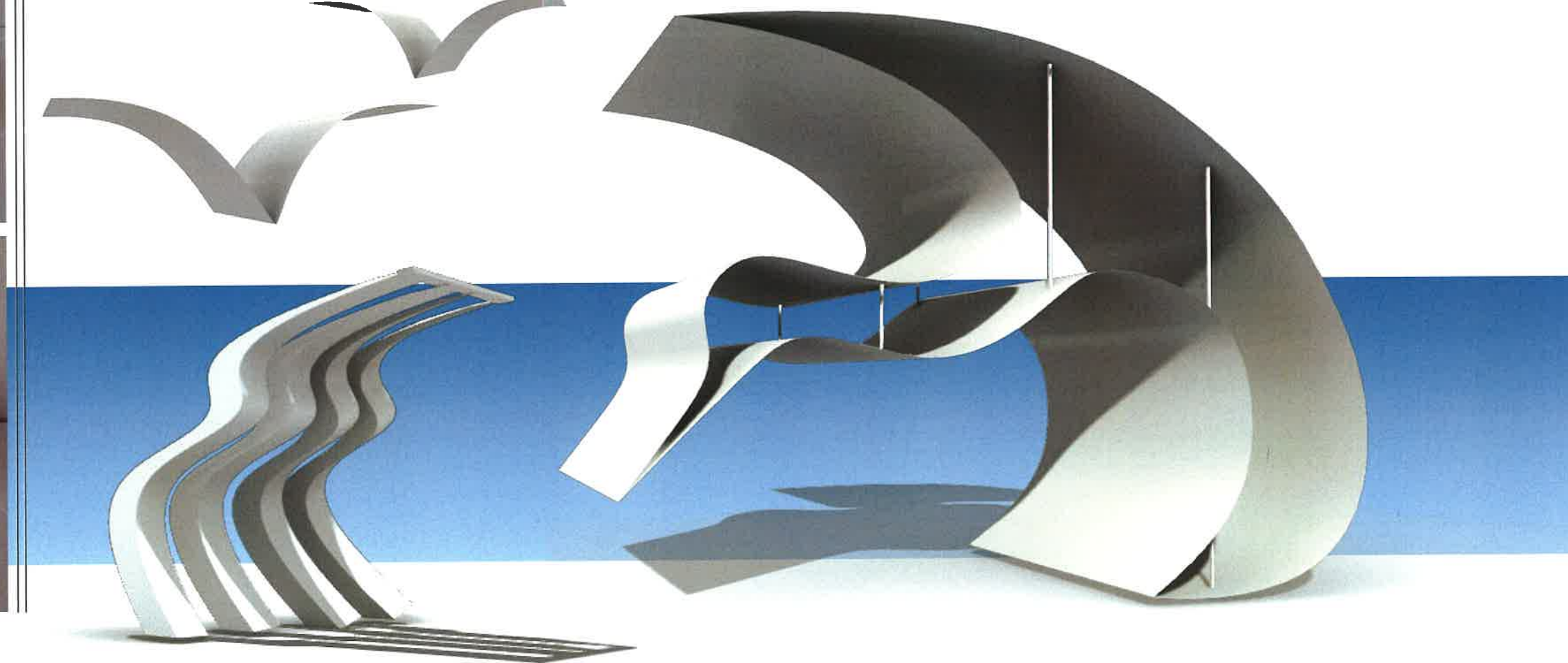
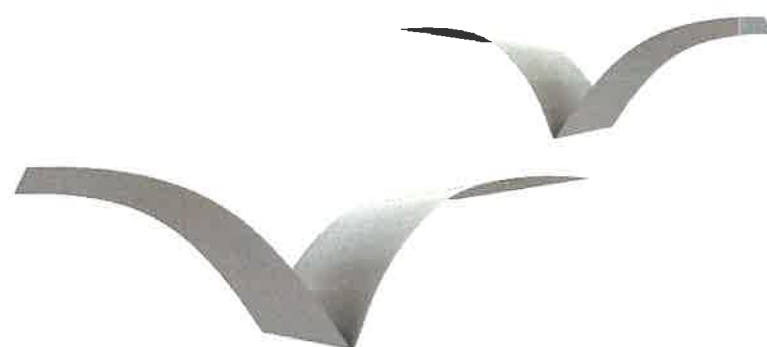
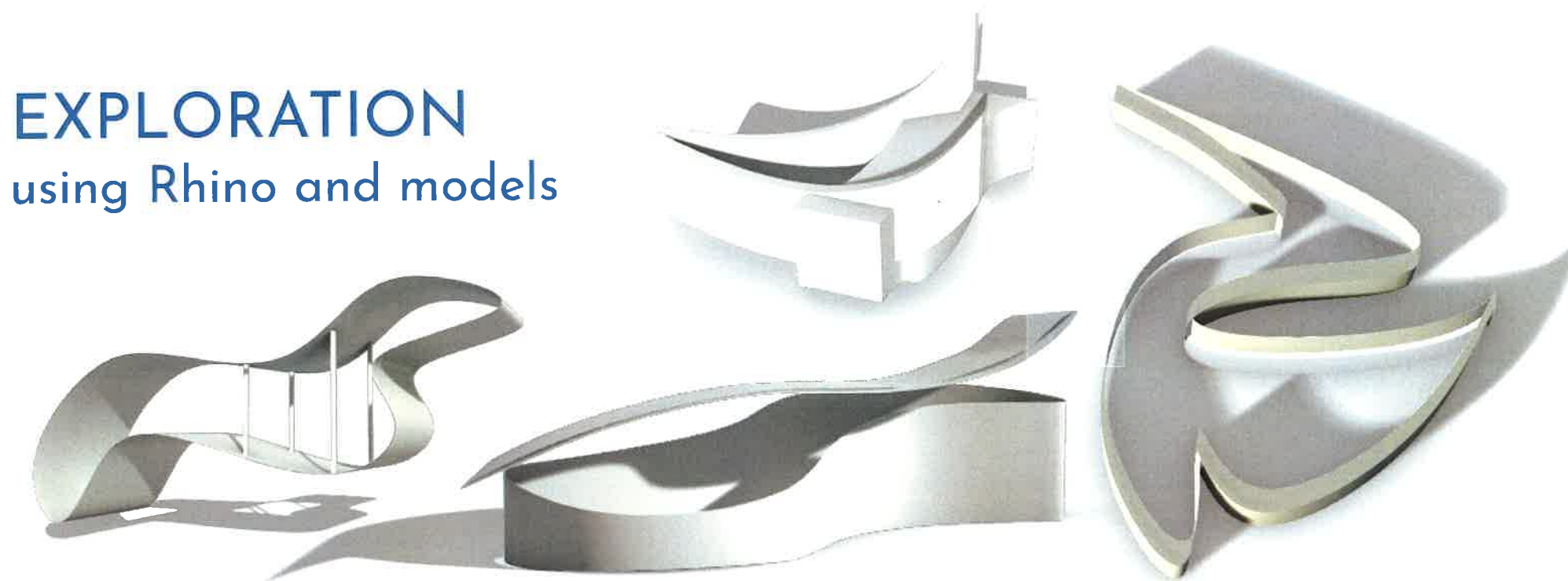
WATER REFLECTIONS

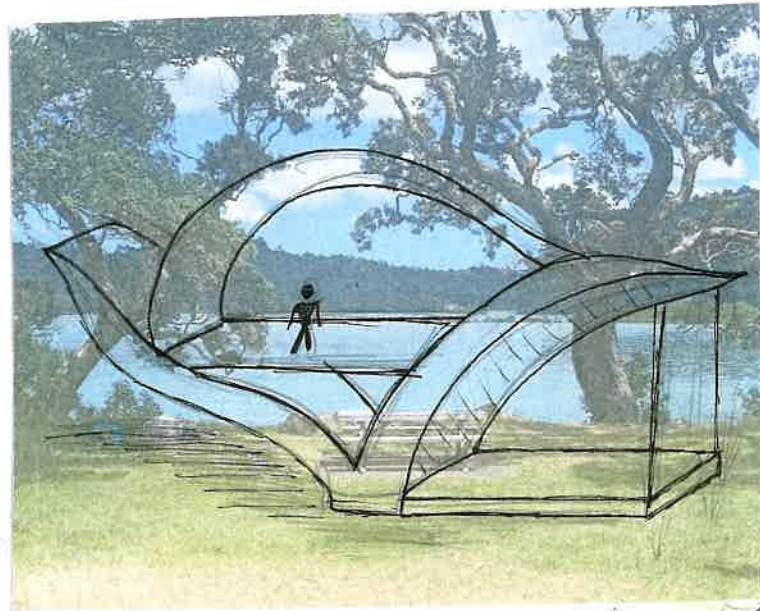




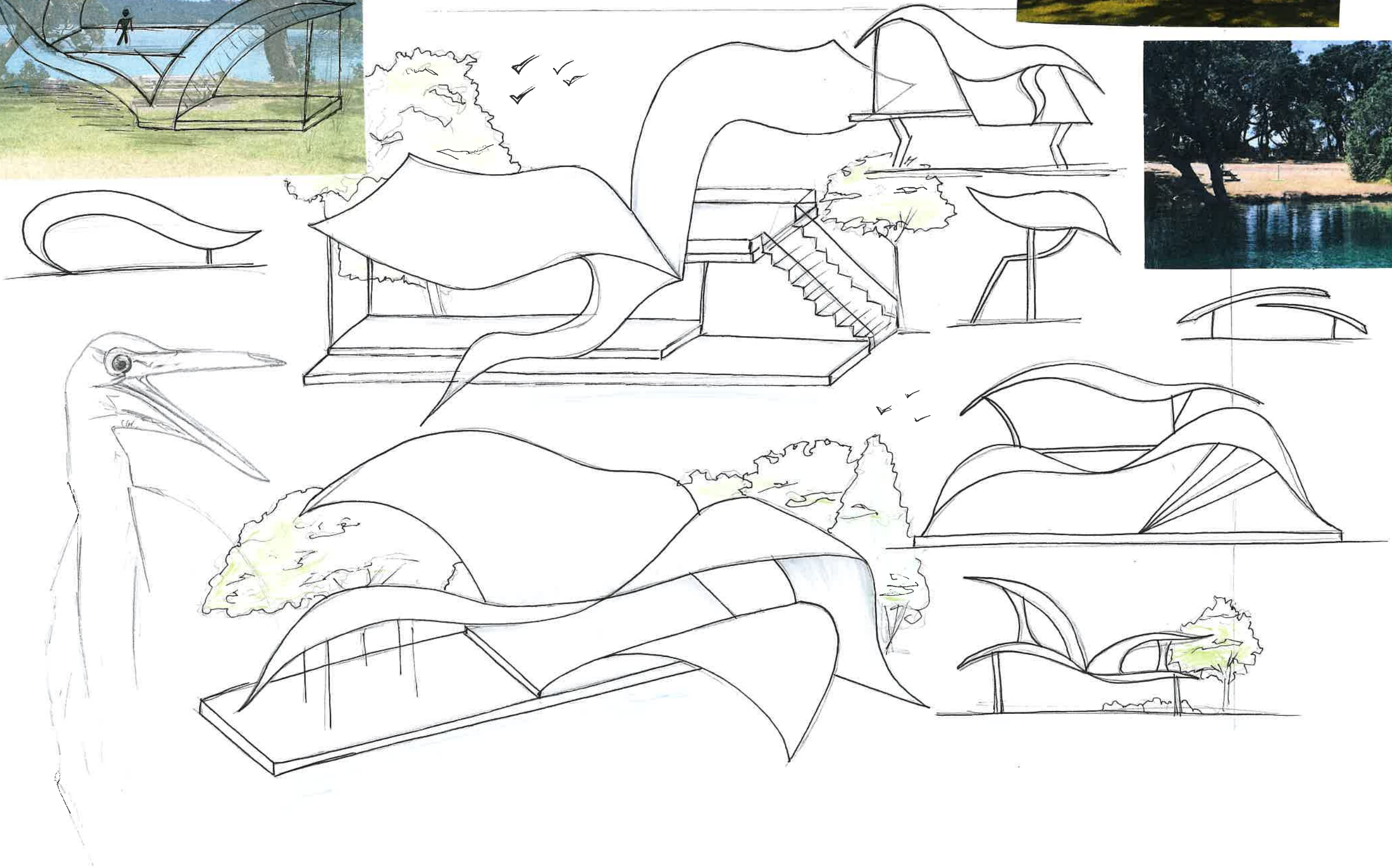
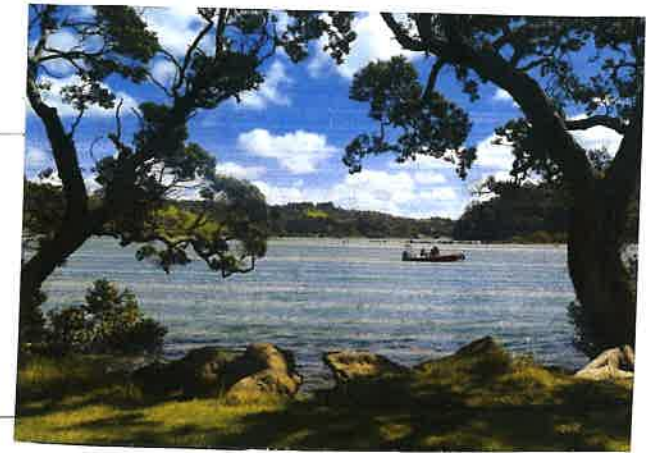
EXPLORATION

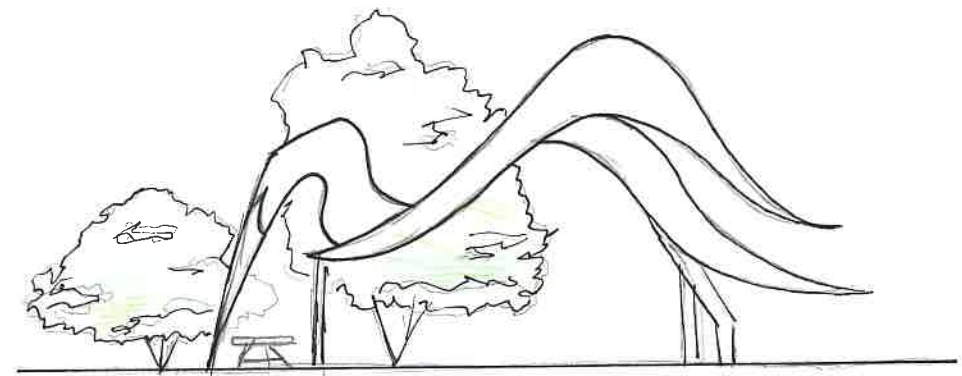
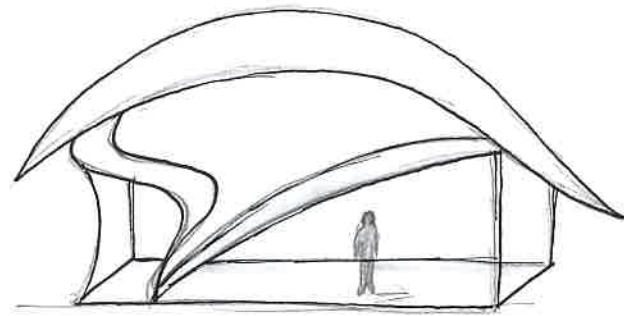
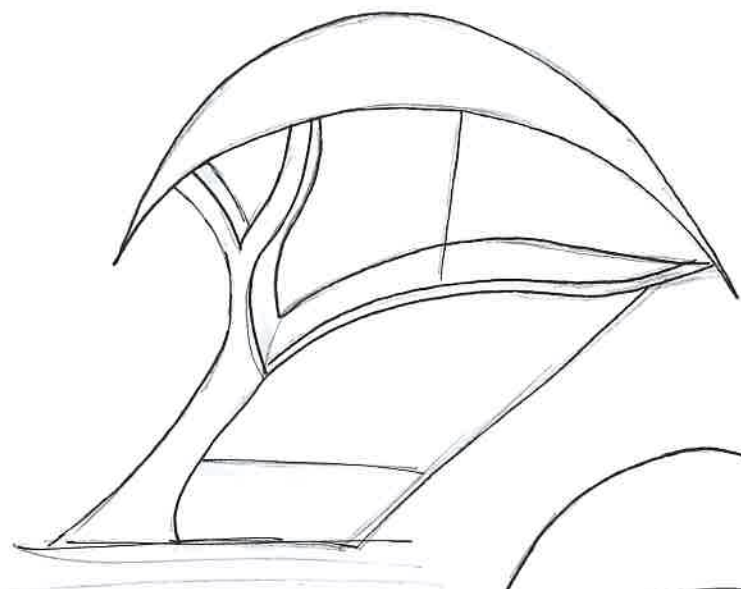
using Rhino and models



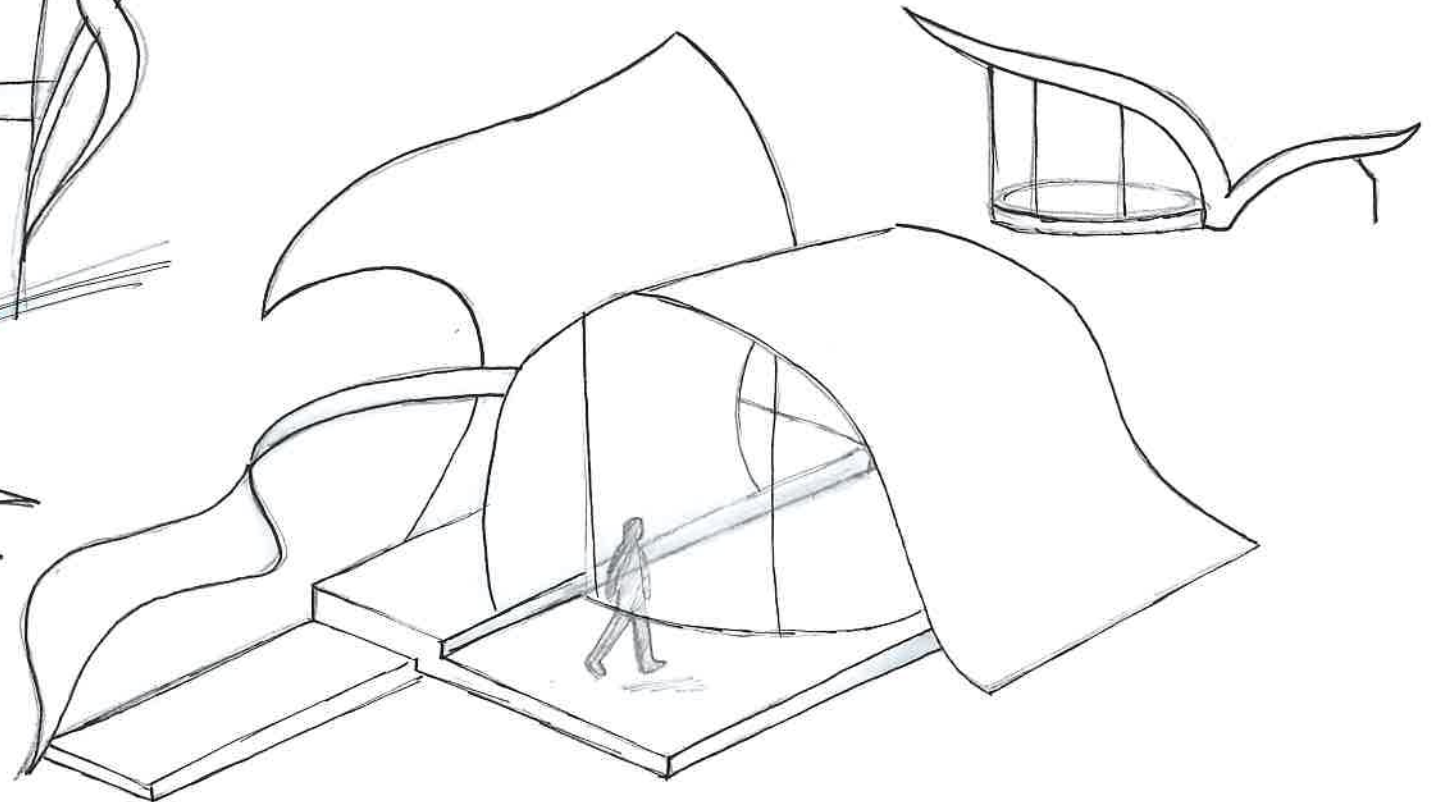
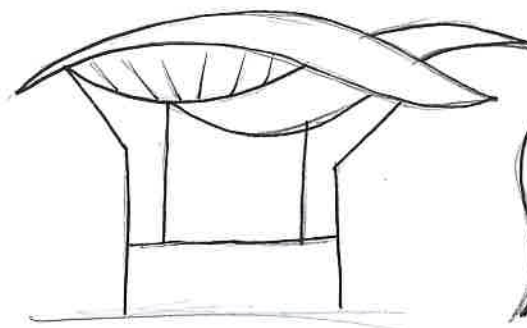
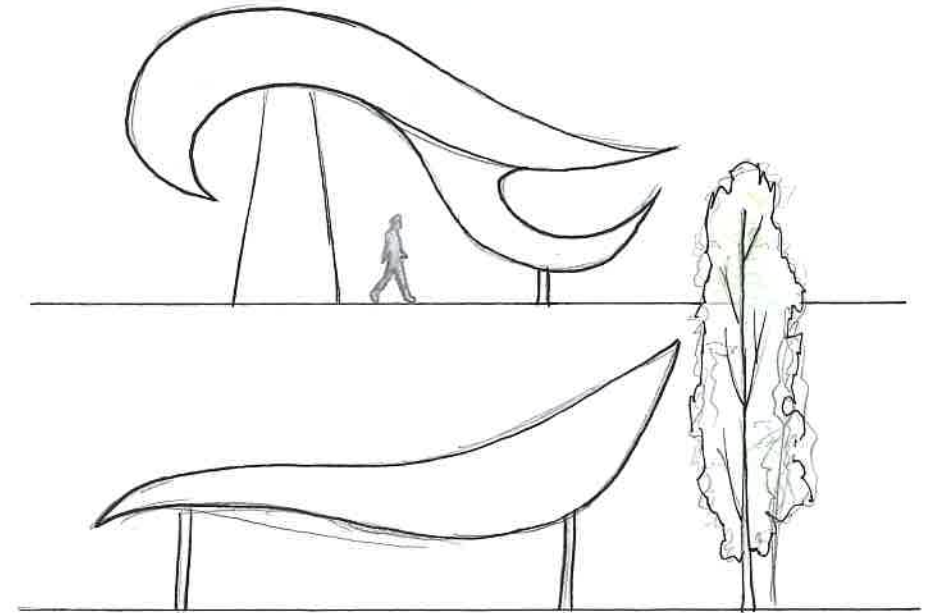


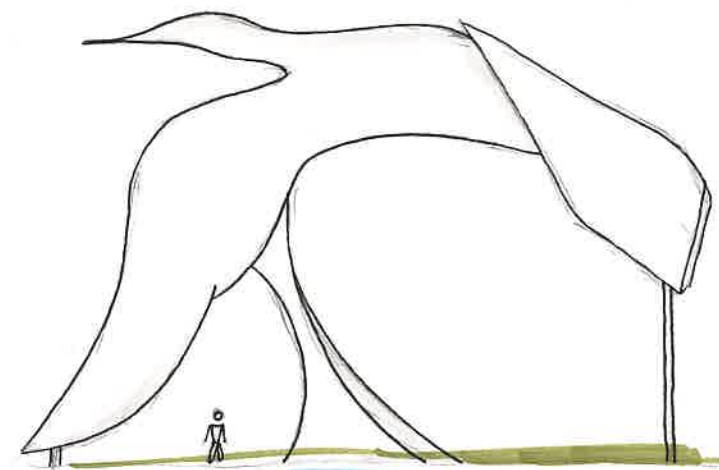
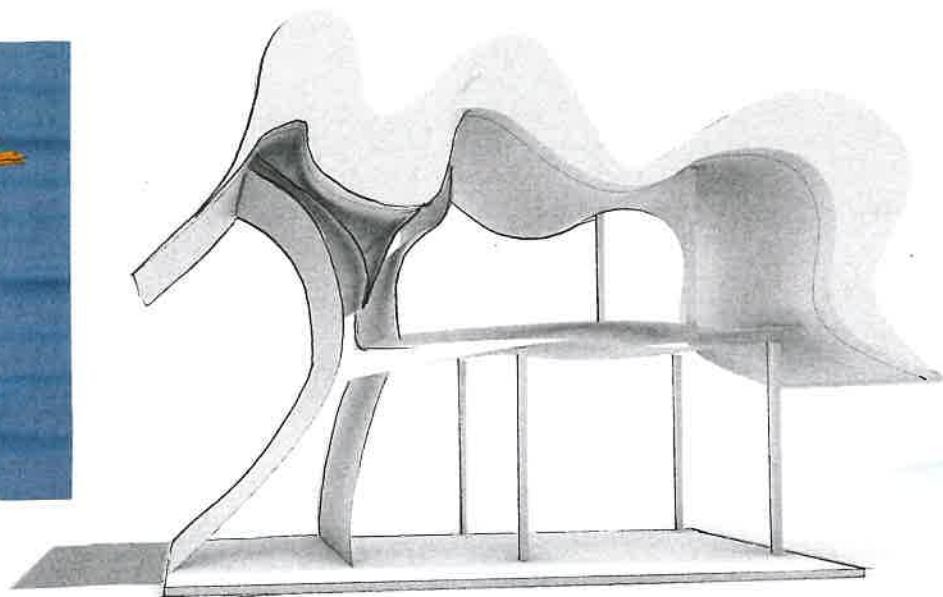
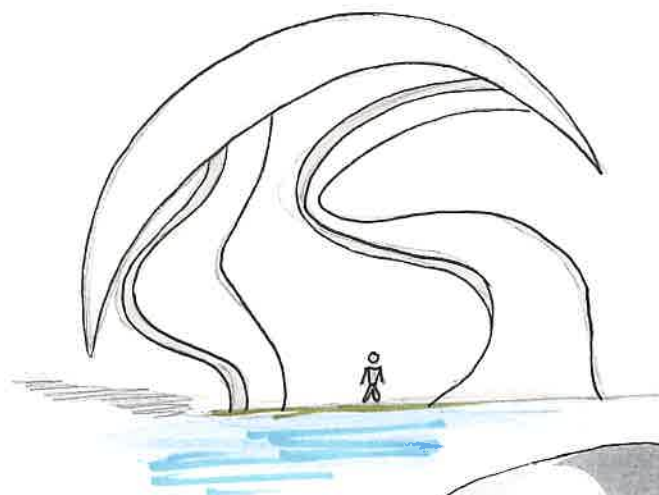
EXTENDING IDEAS



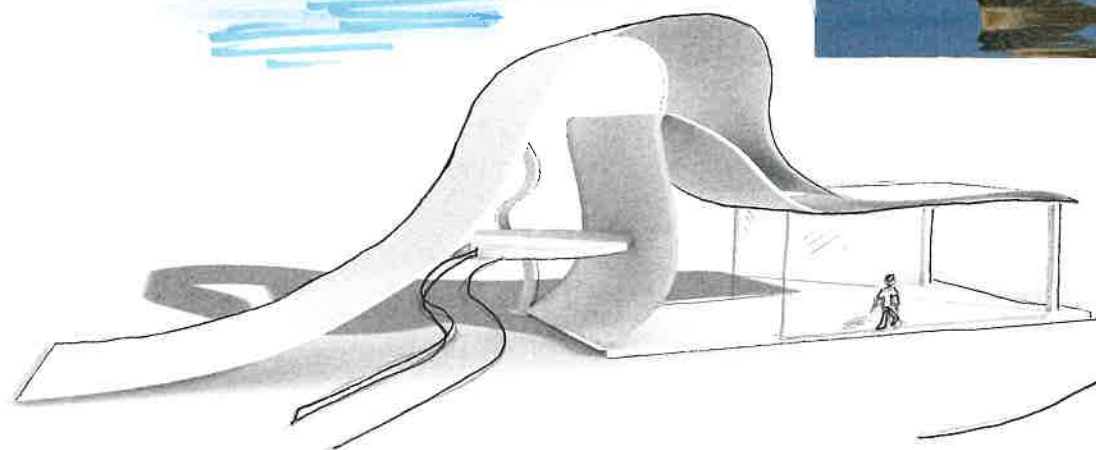


extending ideas

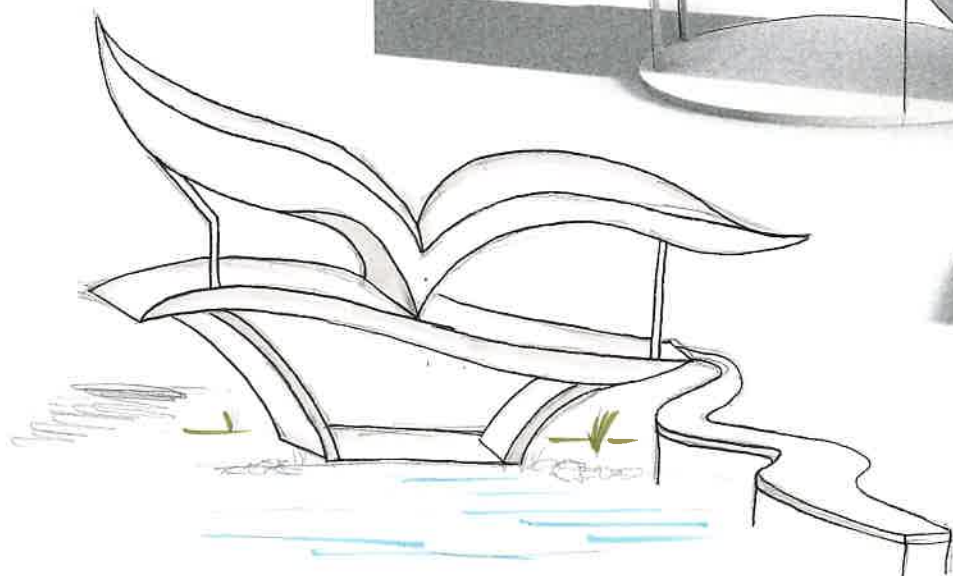
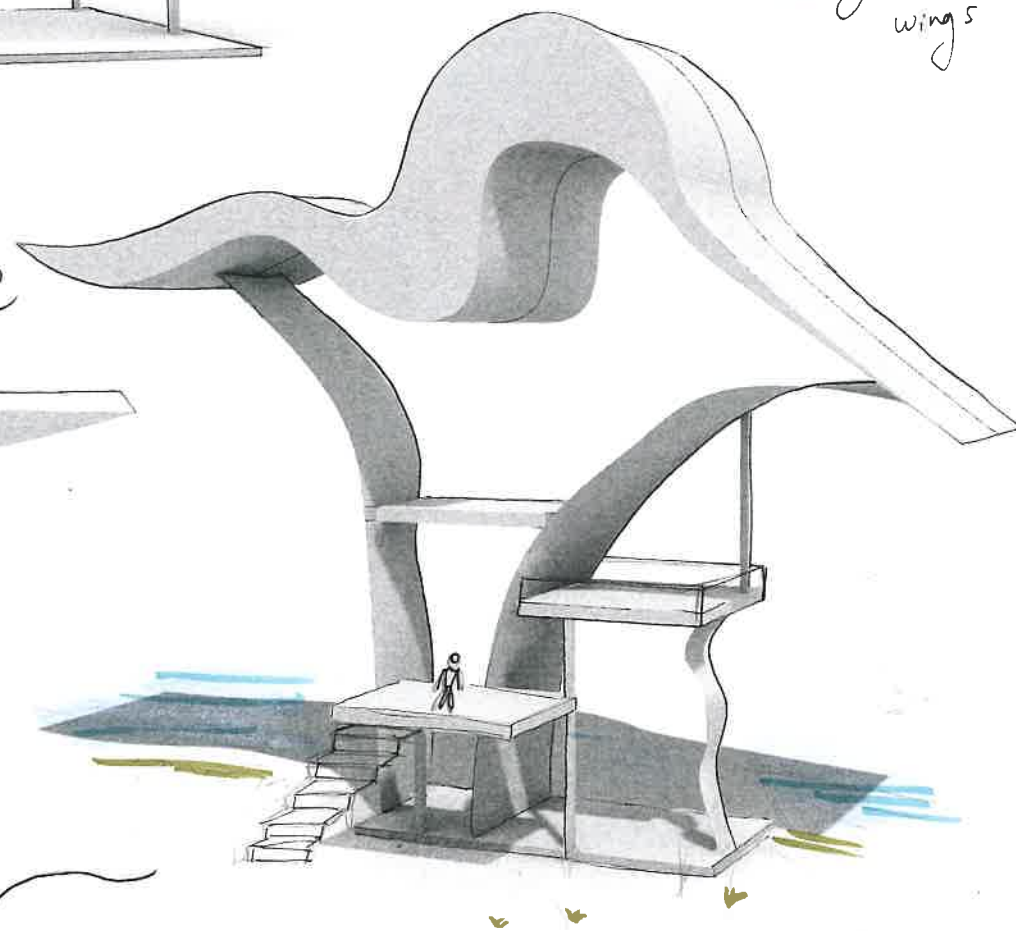




origami-like wings

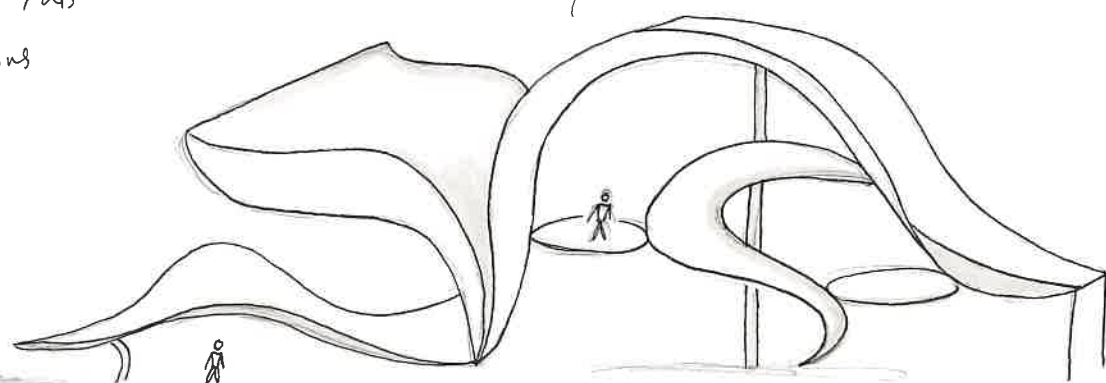


extending ideas



Simplified wing shape as a roof structure, this allows for two different sections

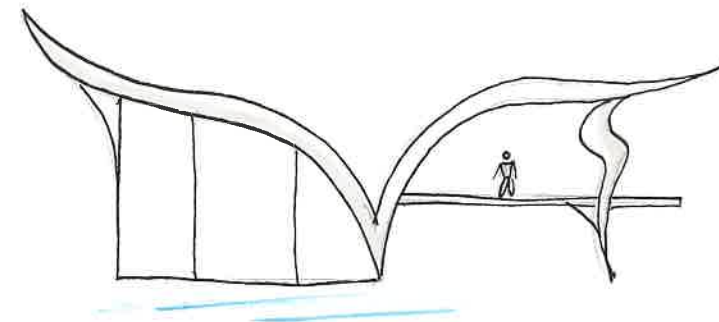
different levels



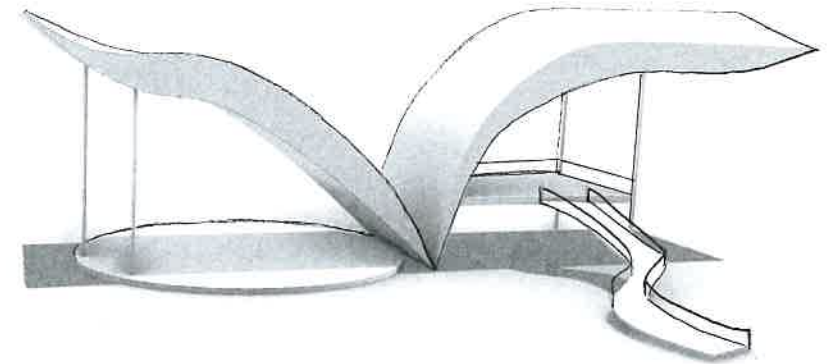
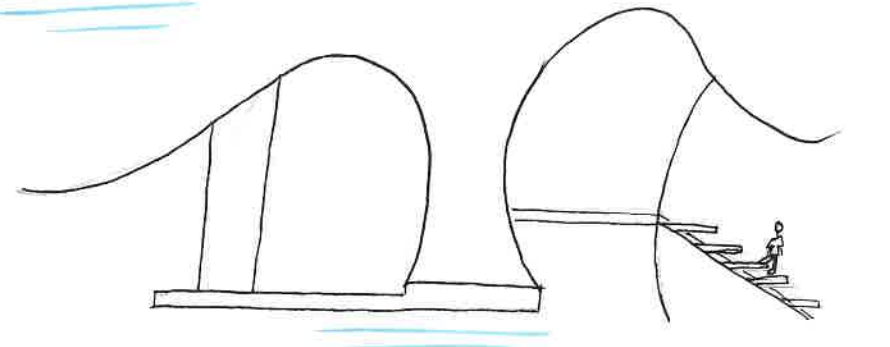
boat dock



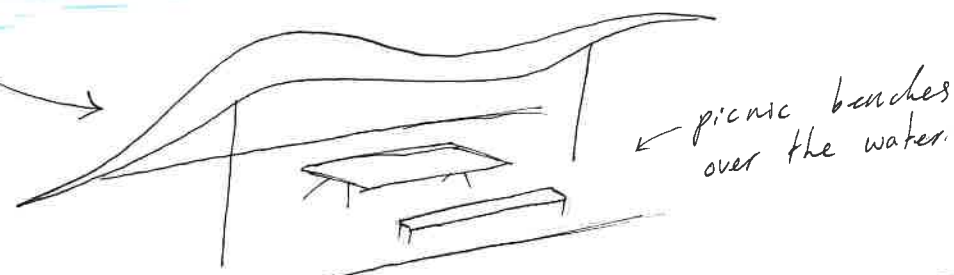
- I want to create the effect of a heron about to take off and fly away from your grasp.



different levels provide more viewing opportunities and more places for benches and seating



EXTENDING TOWARDS A CONCEPT



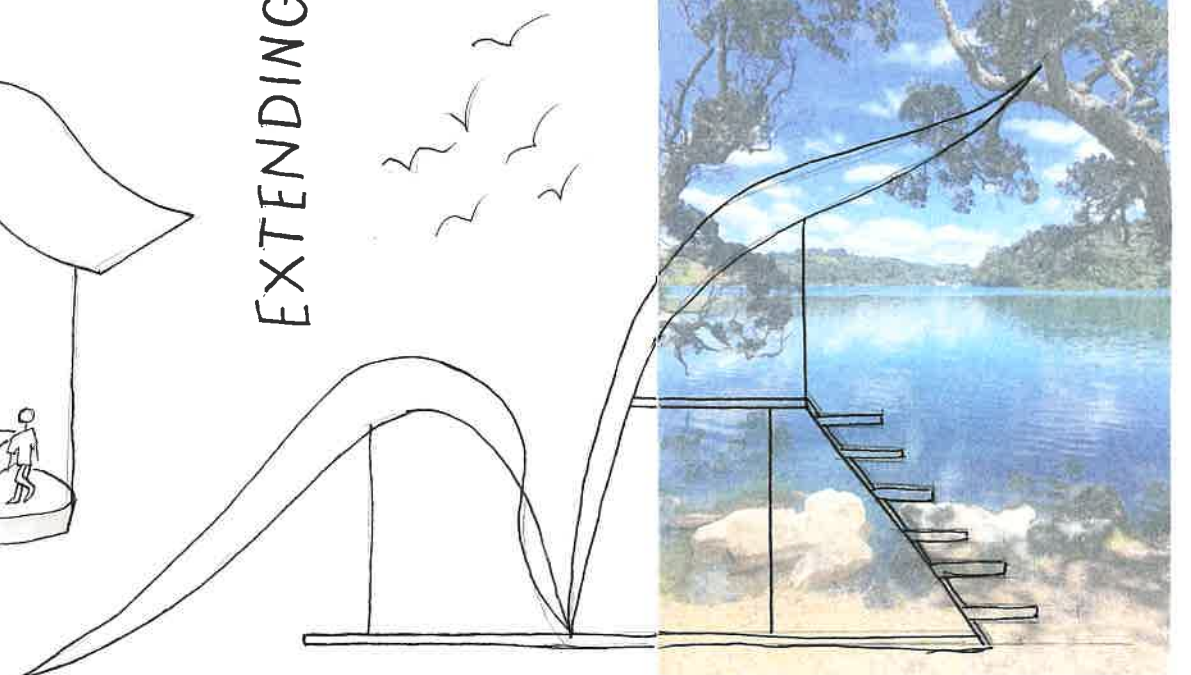
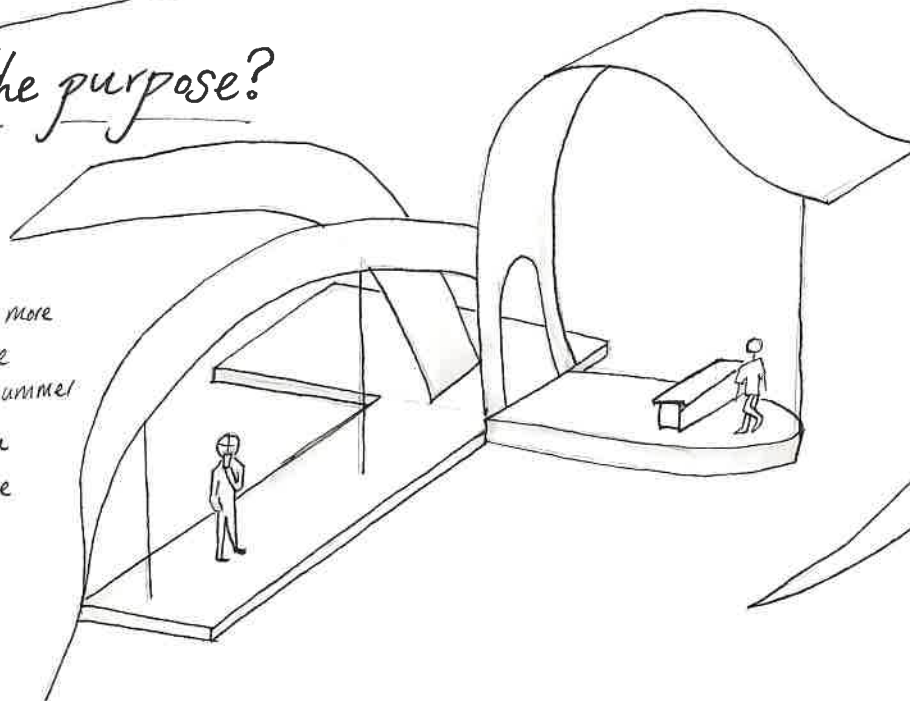
picnic benches over the water.

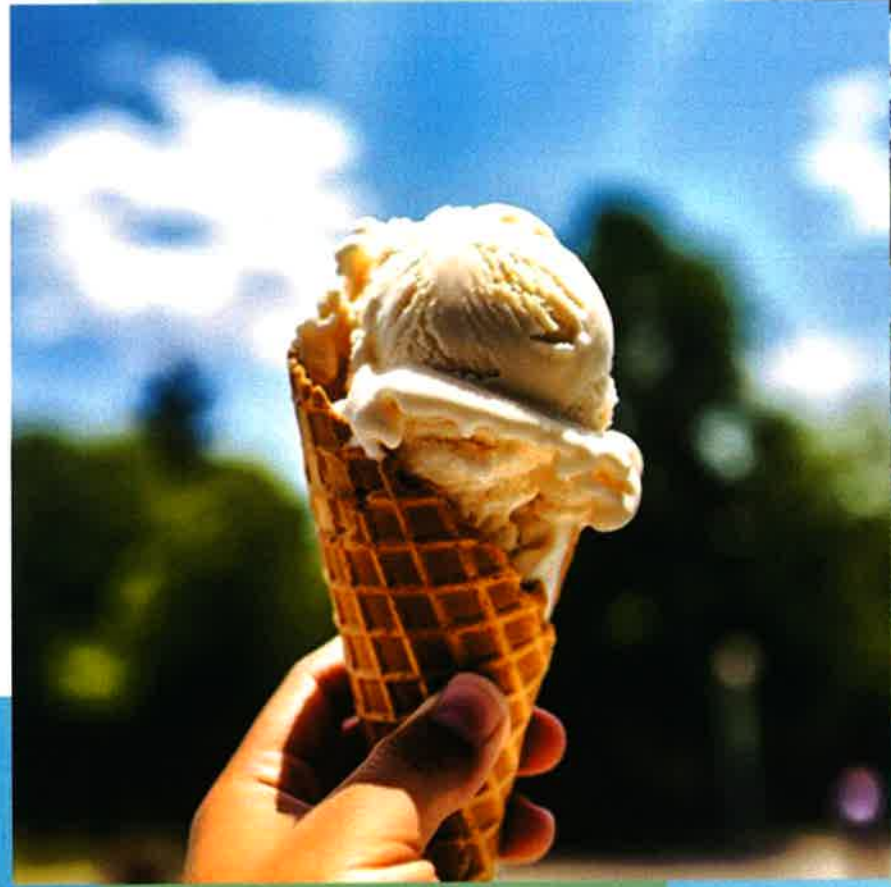
Icecream and Coffee shop



What is the purpose?

- visitors to Wenderholm are more likely to purchase icecream in the summer and coffee in the winter, therefore it can be an attraction all year round.

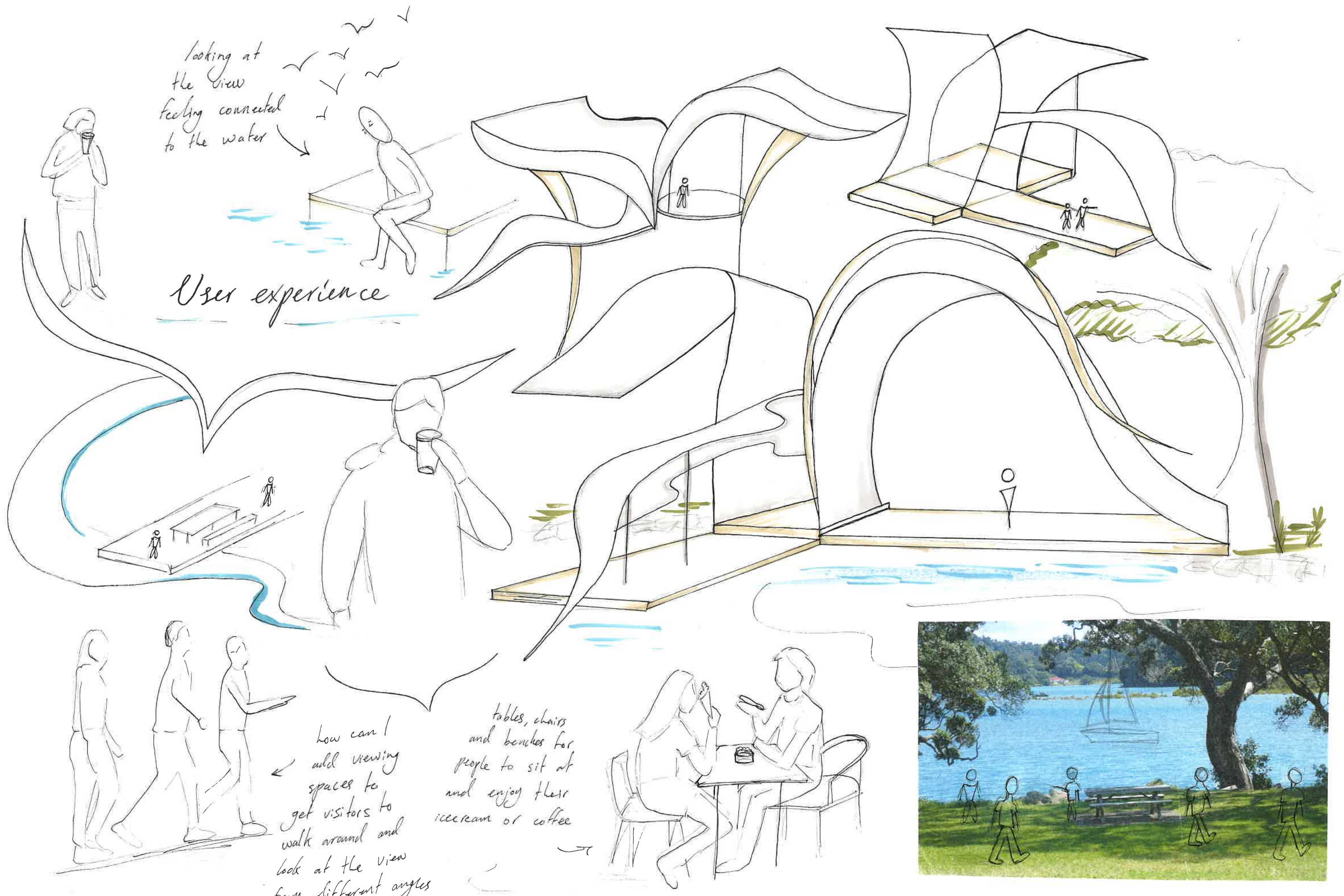




BRIEF

Gelato and Coffee at Wenderholm.

An inviting space for Wenderholm visitors to rest and enjoy the beautiful views of the Puhoi estuary while enjoying a summer treat. In order for my building to fit the purpose, it needs to be accessible, have indoor and outdoor seating, and large windows so you can look out at the view.



looking at
the view
feeling connected
to the water

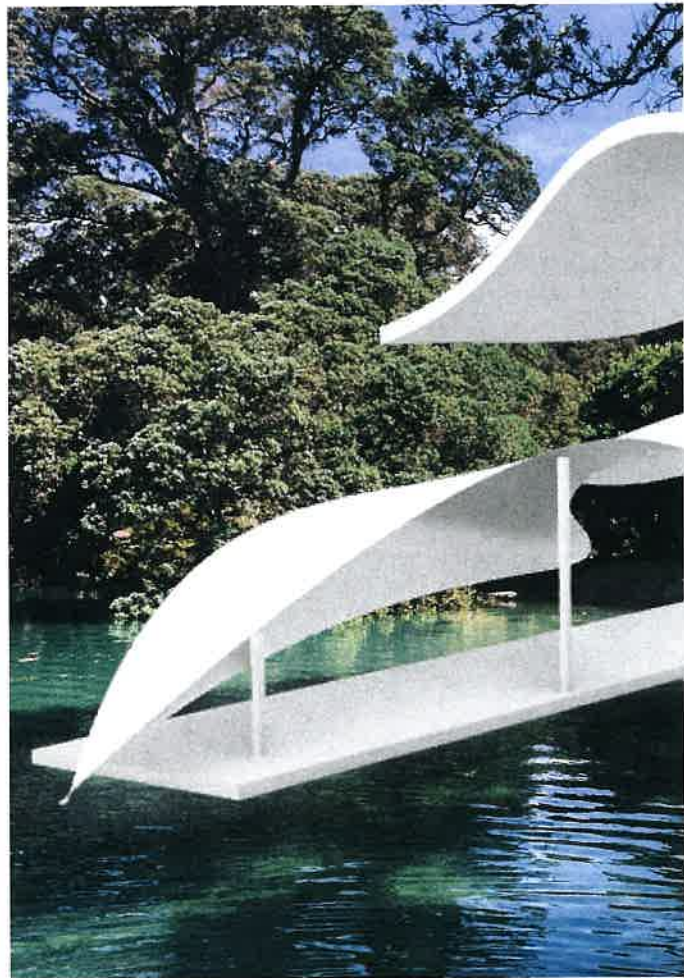
User experience

how can I
add viewing
spaces to
get visitors to
walk around and
look at the view
from different angles

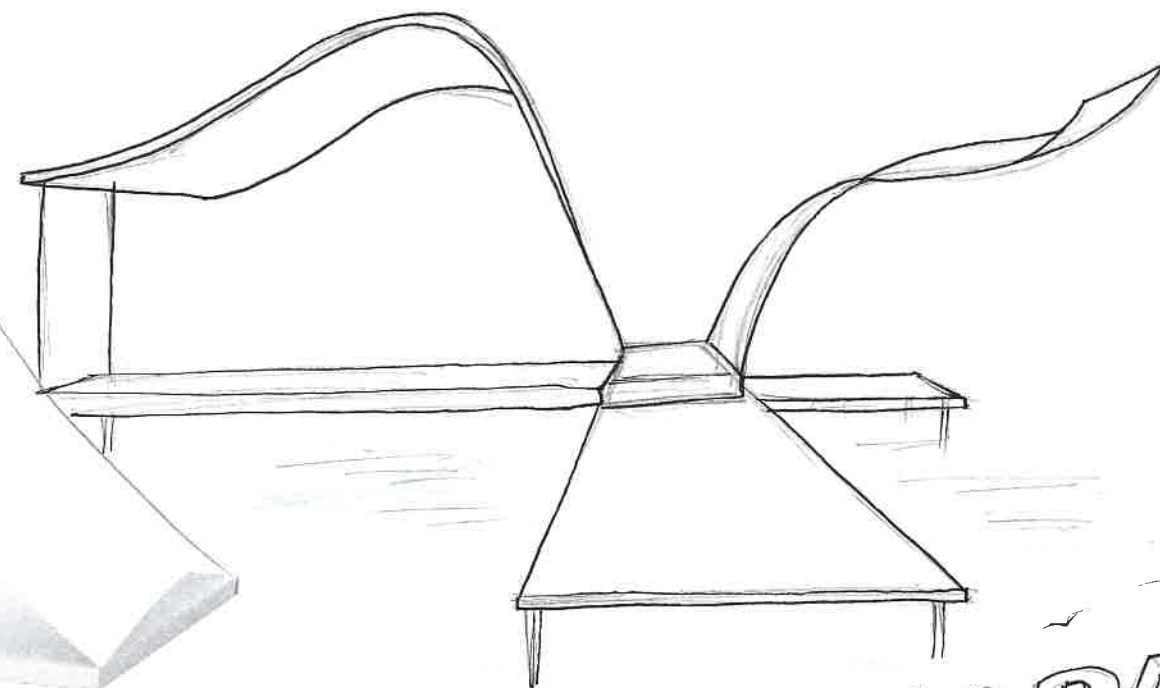
tables, chairs
and benches for
people to sit at
and enjoy their
icecream or coffee



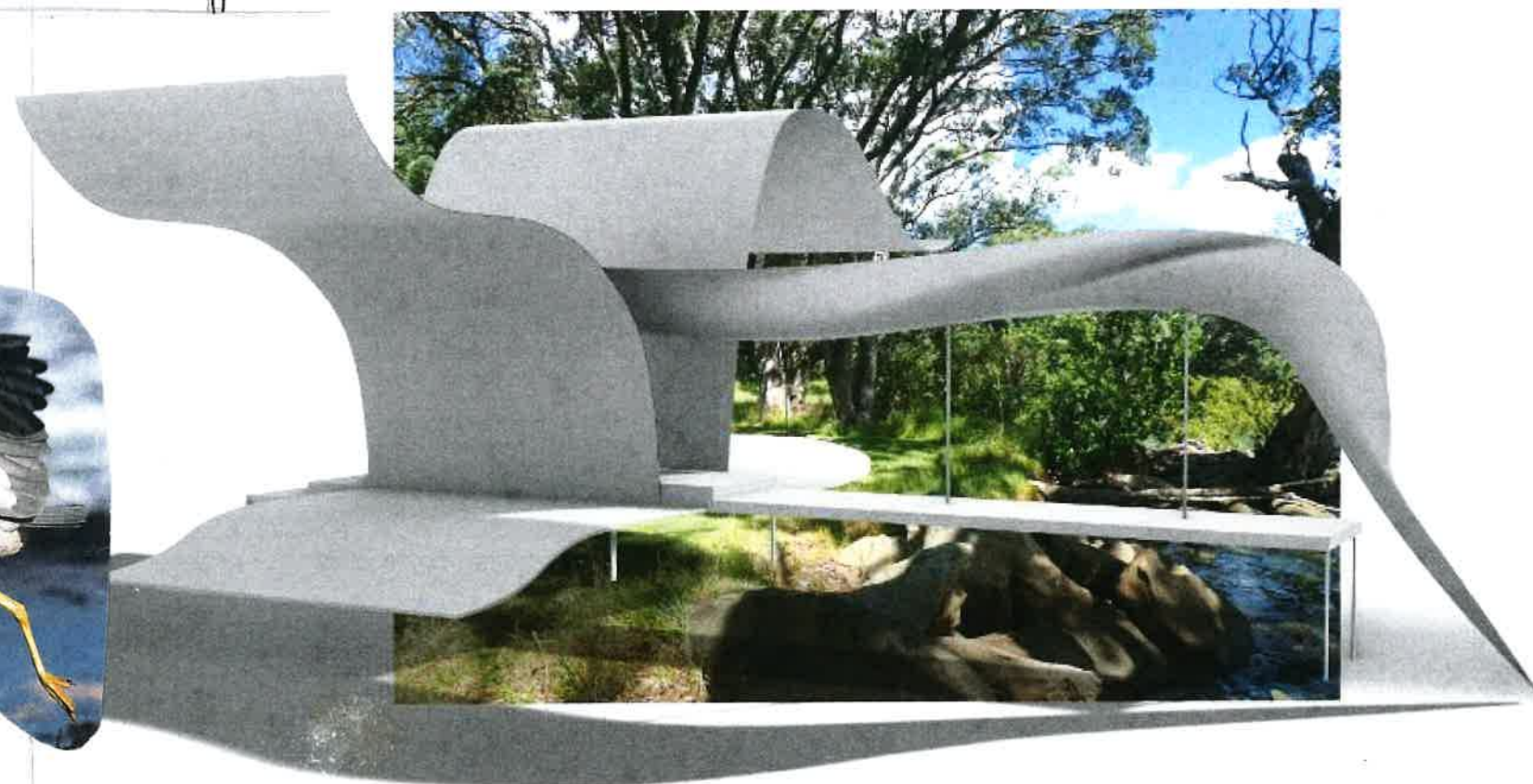
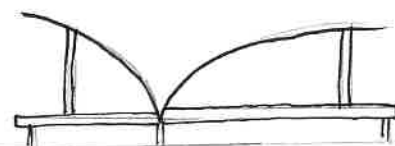
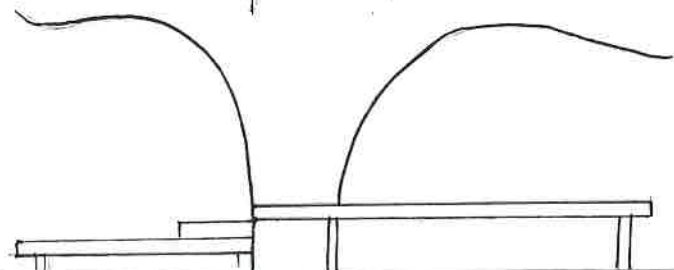
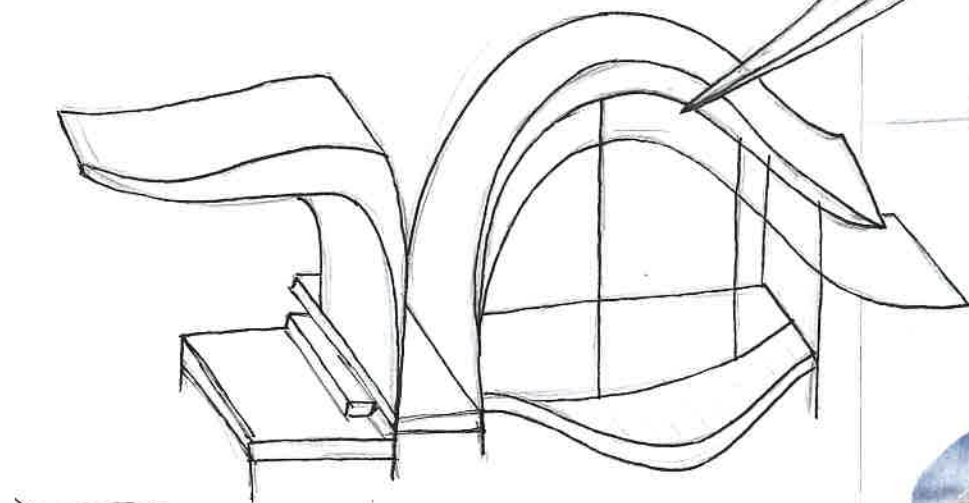
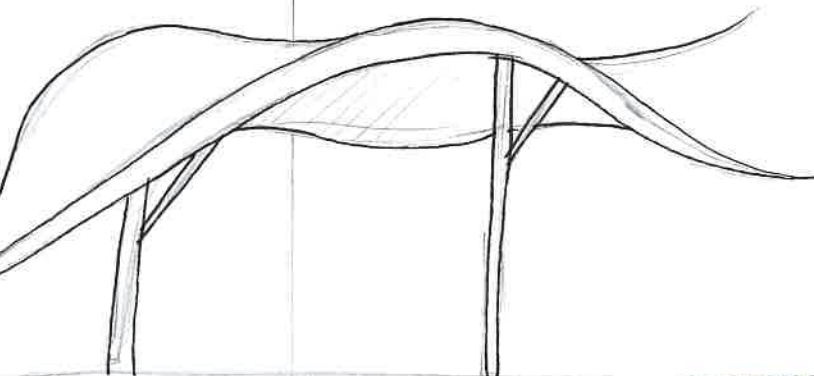
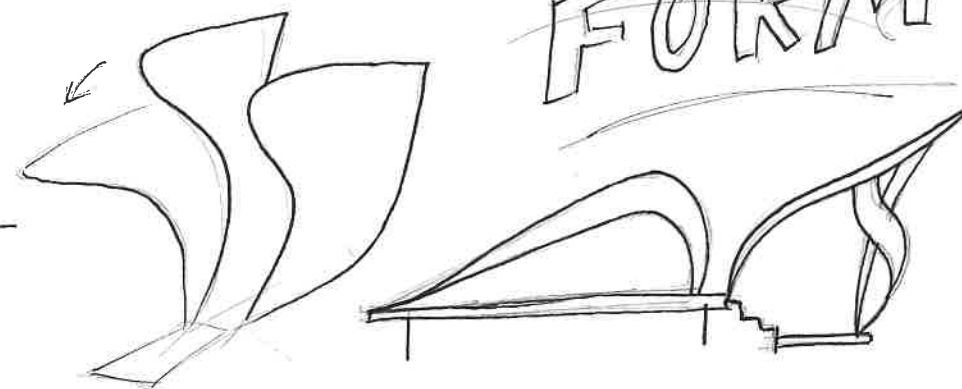


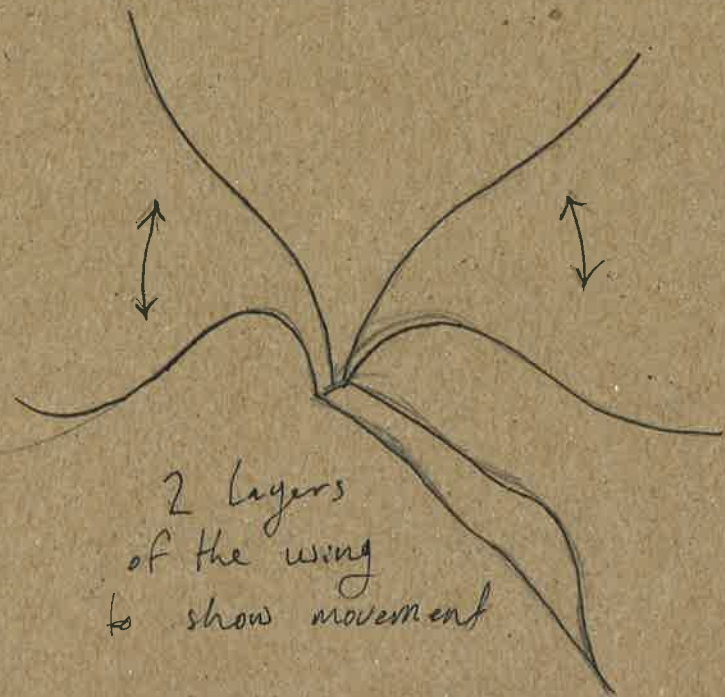


Exploring possibilities
using my
chosen idea



FORM





2 layers
of the wing
to show movement

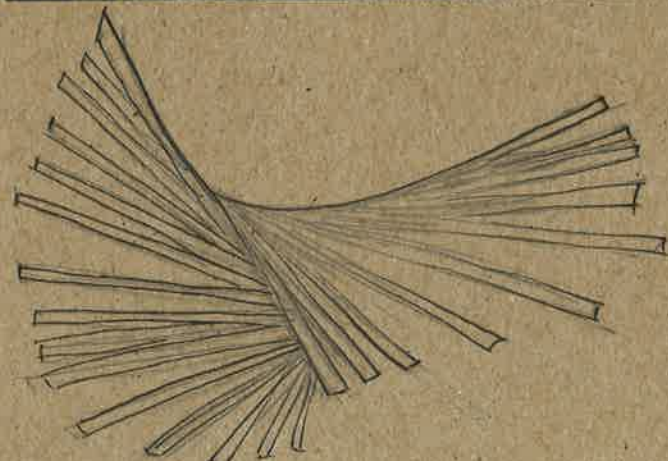
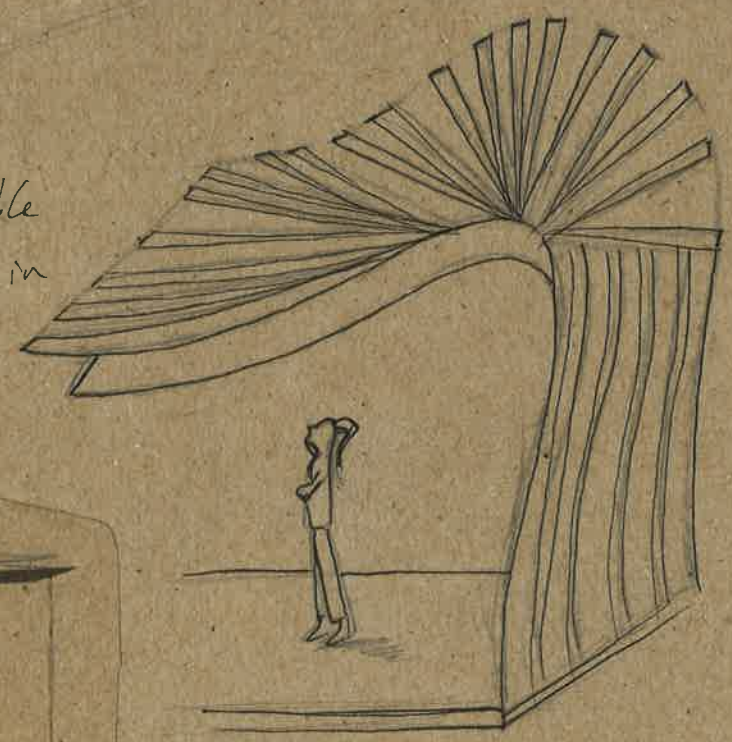
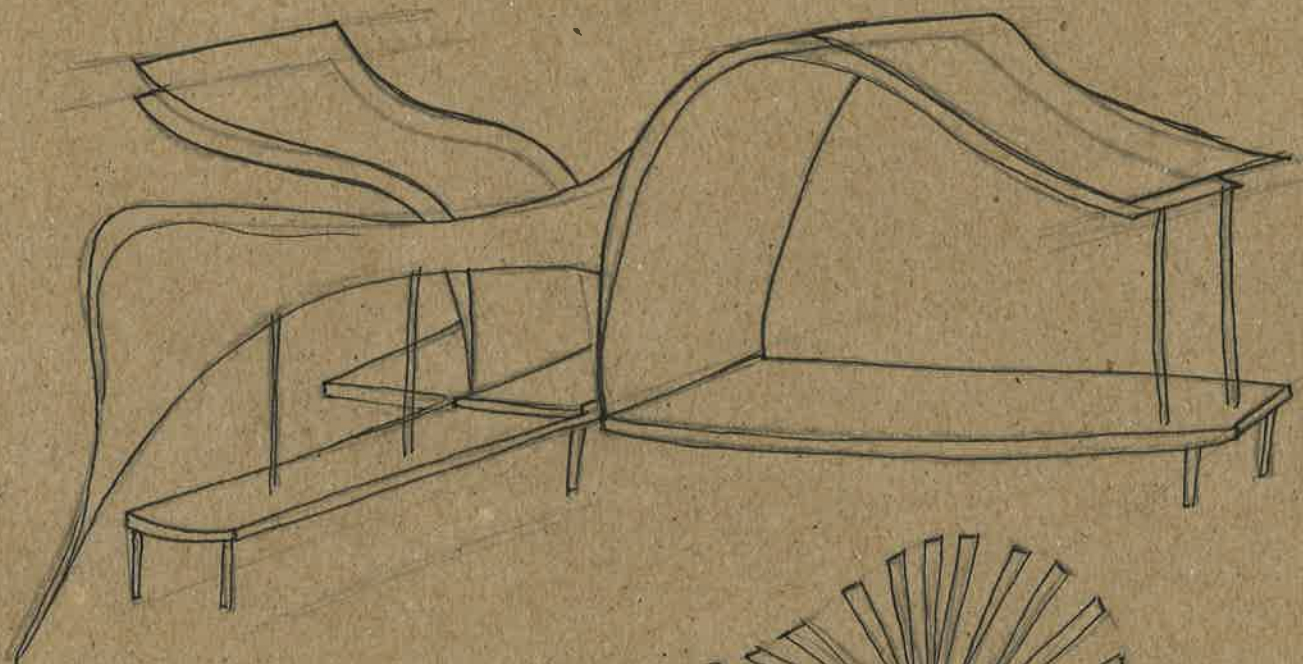


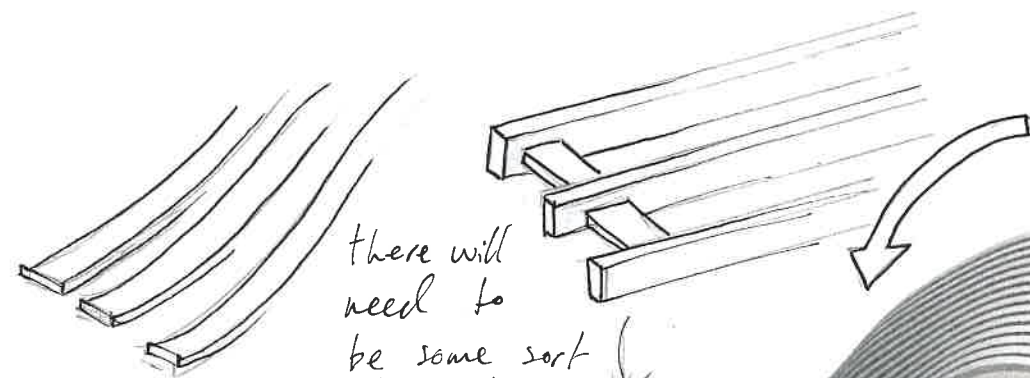
the different
stages of a
heron taking flight



KOTUKU

large rounded wings
with lace-like feathers. Could this double
layering of feathers be represented in
my design to create interest?

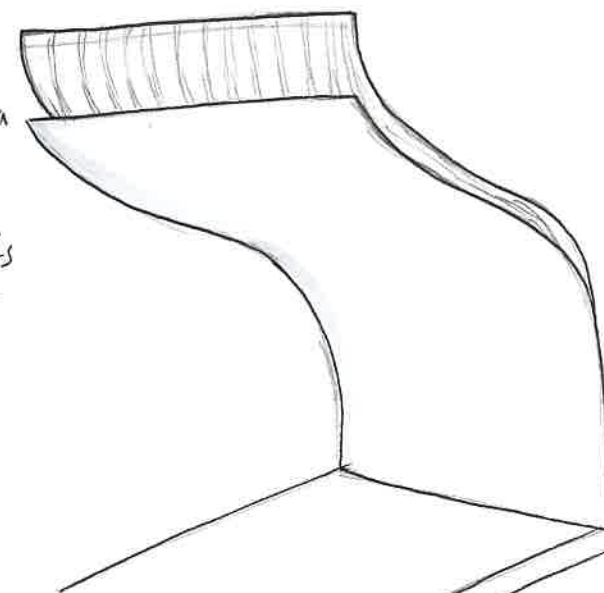




there will need to be some sort of steel bar connecting the slats

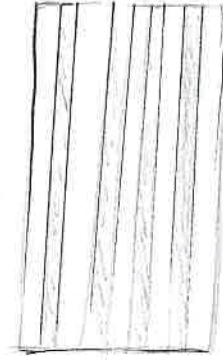
on Rhino I made the slats quite wide and close together but I think it will be more interesting and feather-like if they had more height and distance between

as this will be an outdoor area I could cut off the main wing and extend the slats further

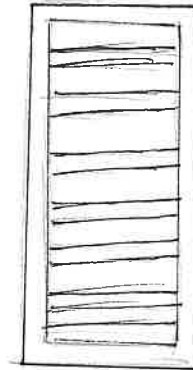


the slats could extend past the main wing

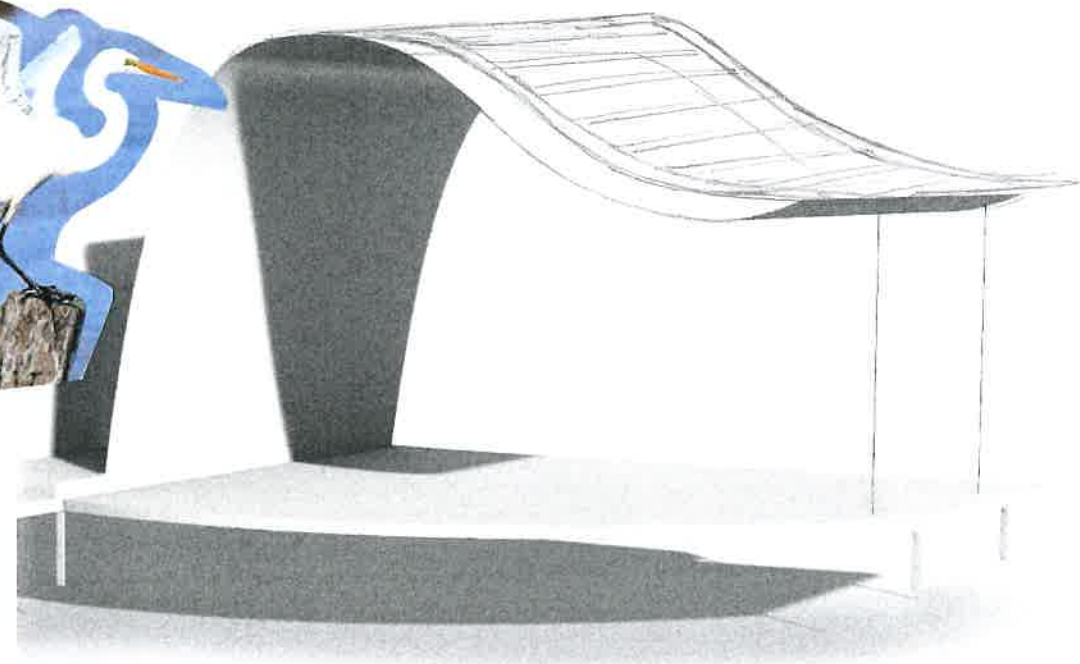
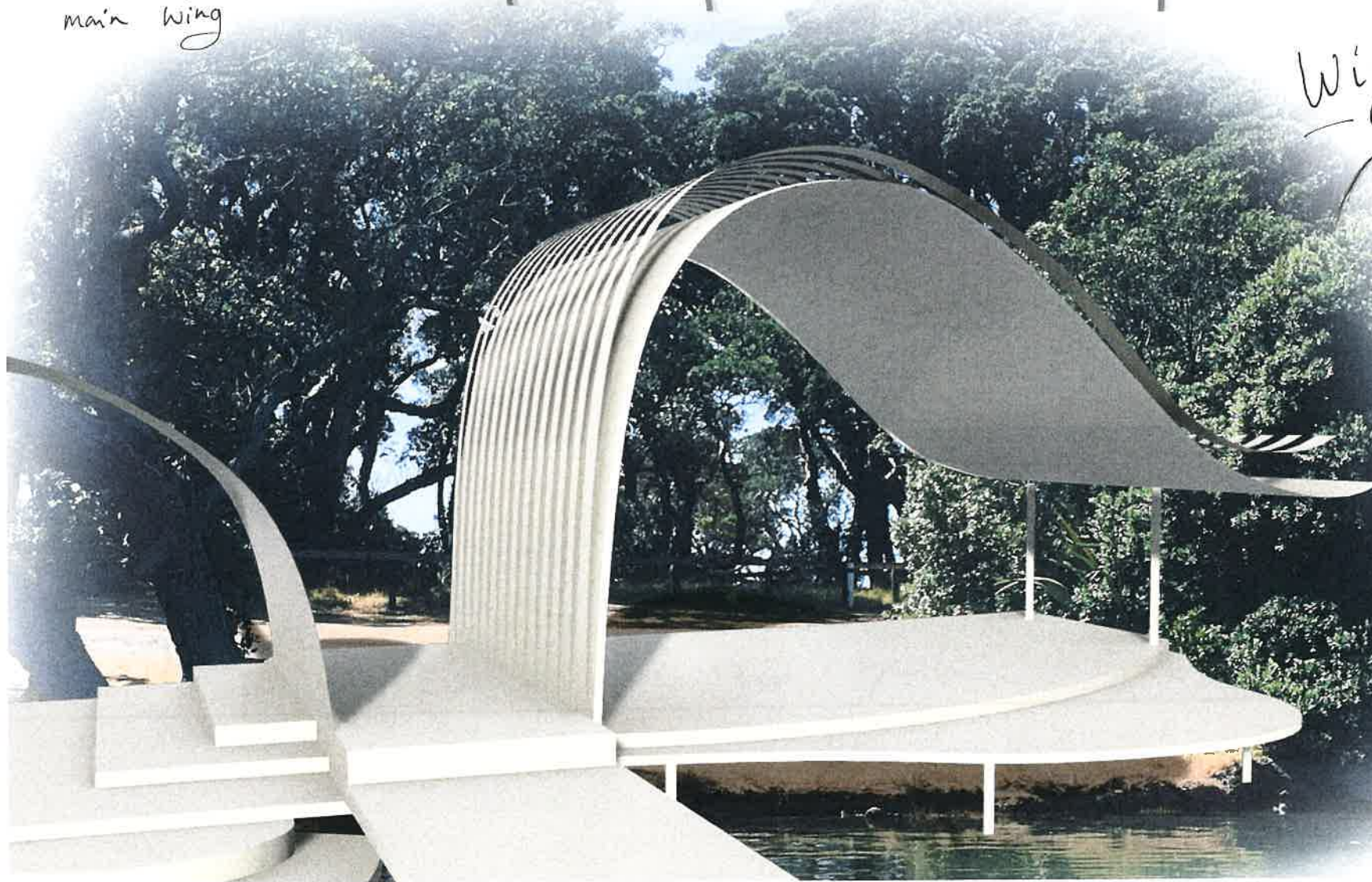
① vertical, no border



② horizontal with border

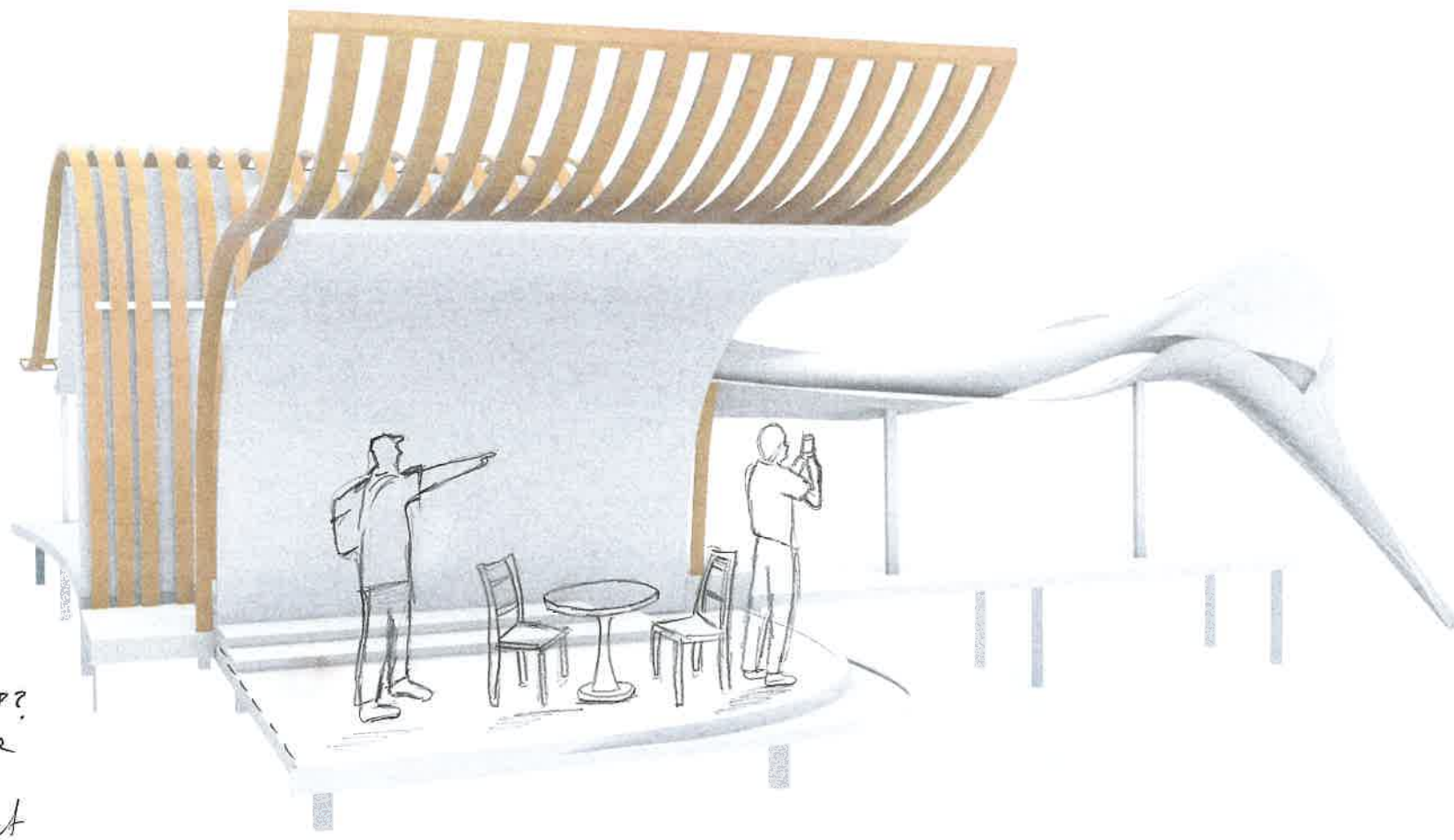
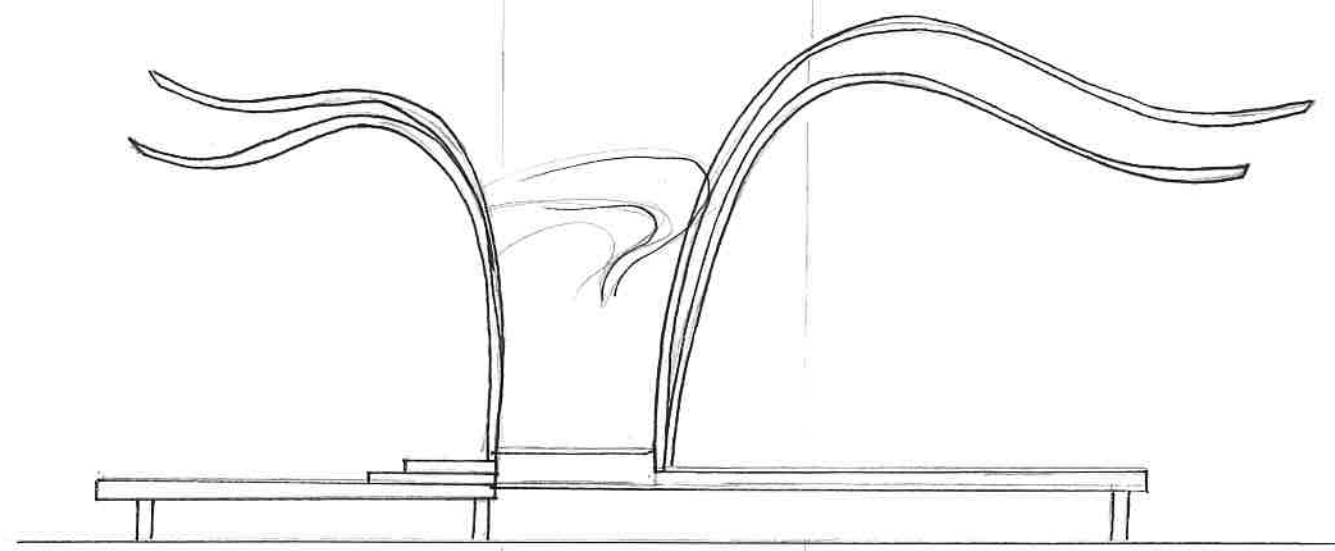


Wing Slats



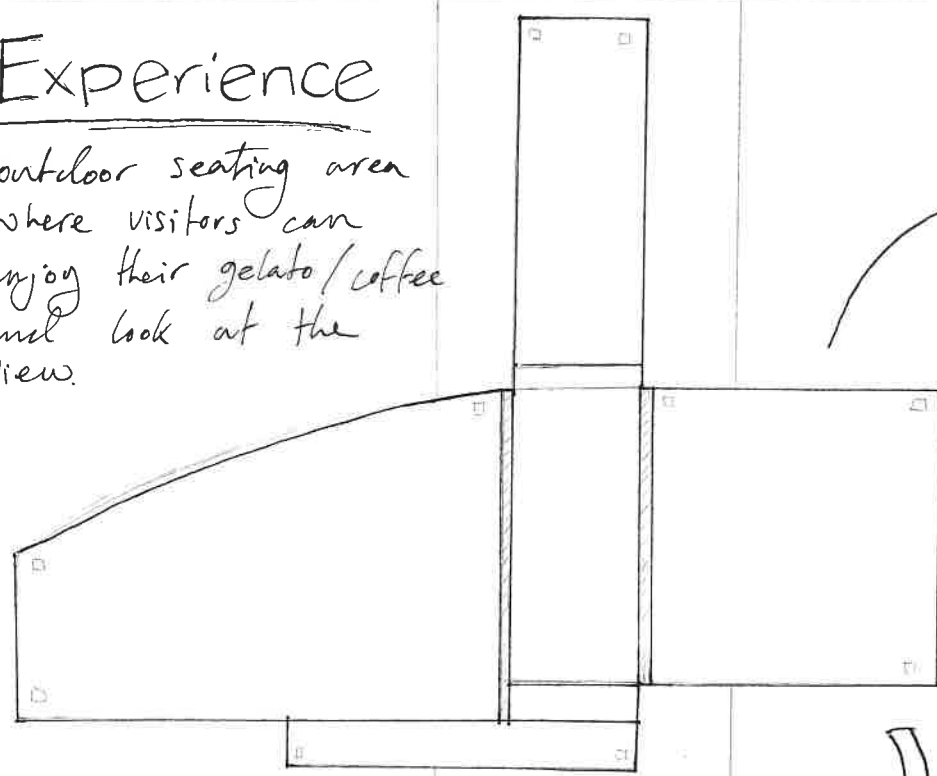


WING MOVEMENT

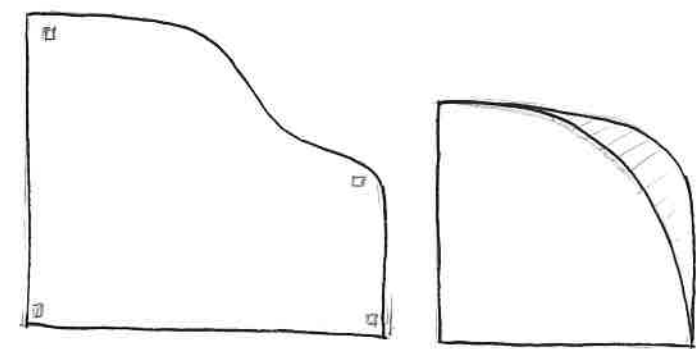
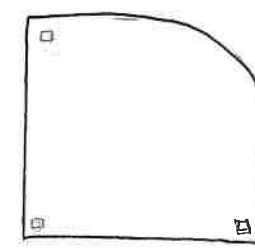


Experience

outdoor seating area
where visitors can
enjoy their gelato/coffee
and look at the
view.



Is the square
platform too sharp?
I can't have the
platform shape
too complex that
it draws away
from the wings.



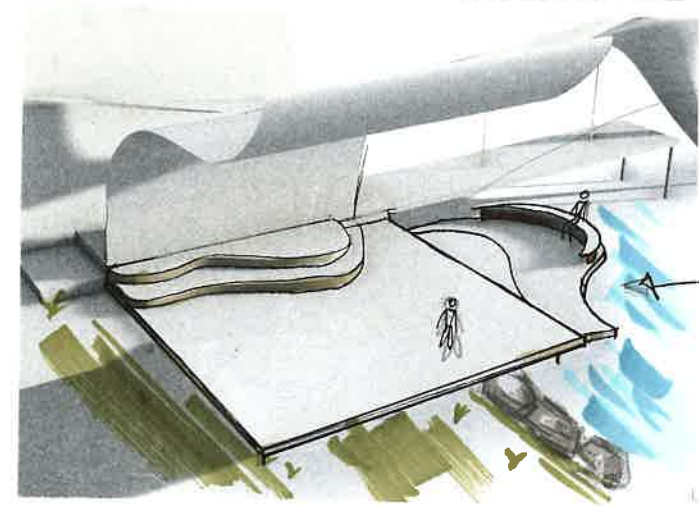
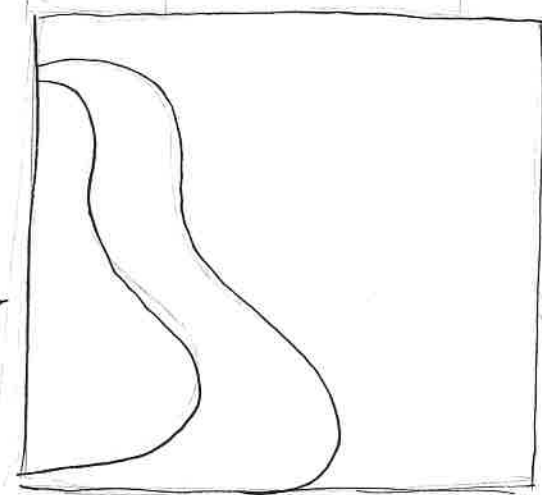
does there need to
be some sort of
railing to prevent
people from falling

this would clash
with the platform
over the water

flowing rippling
water shape

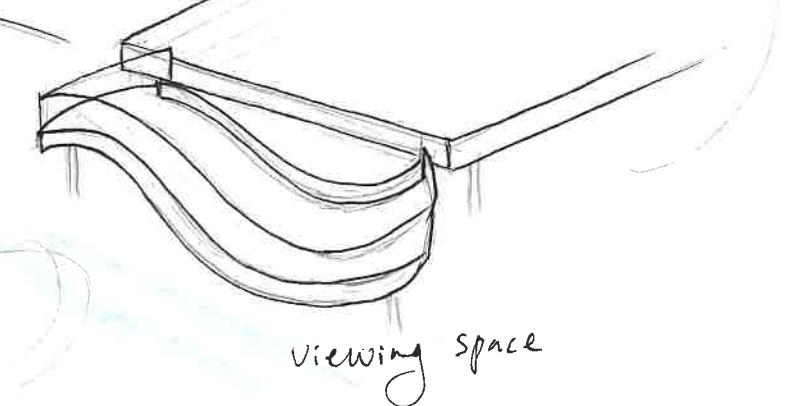


steps
flowing
stairs

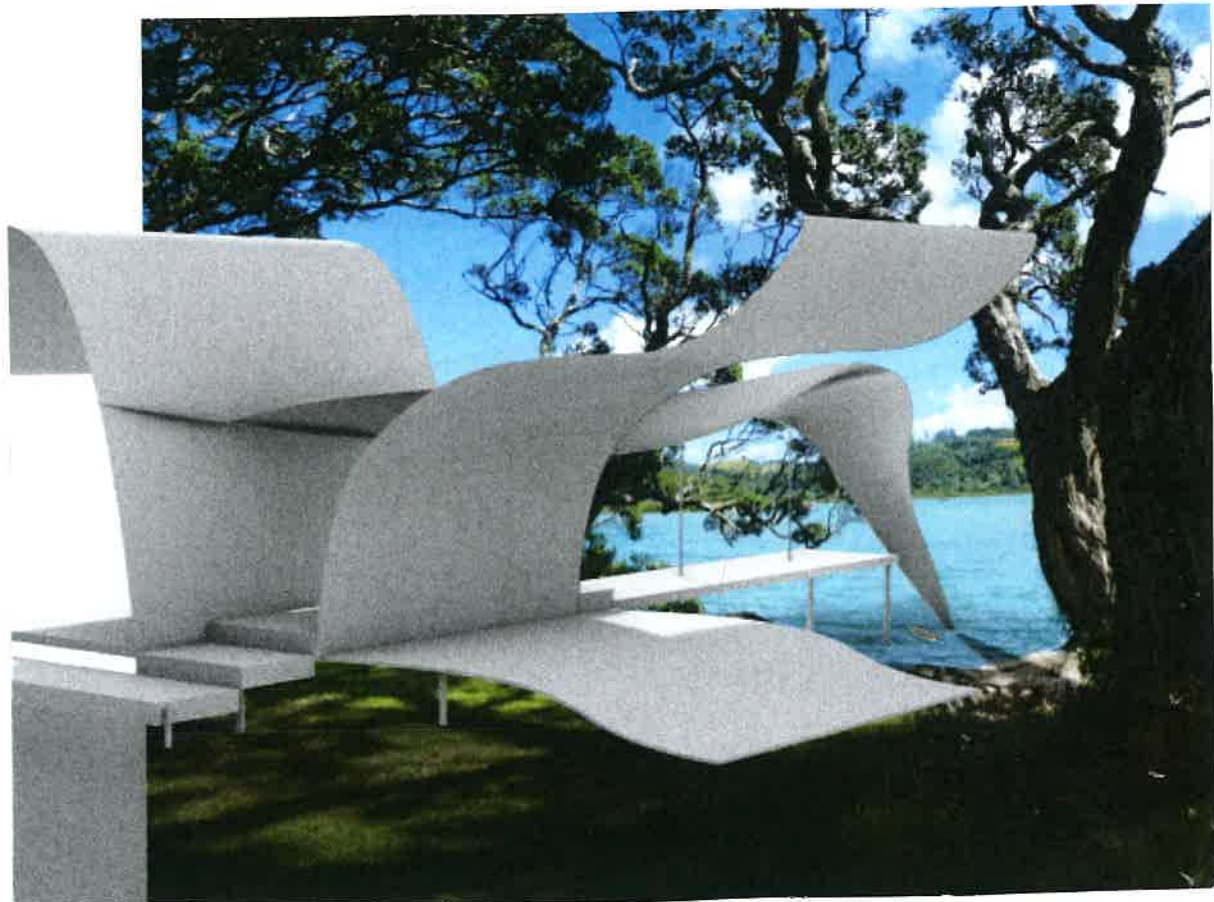


Connection to
the water

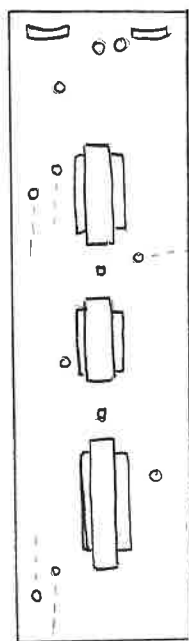
will this intergrate
into the site?



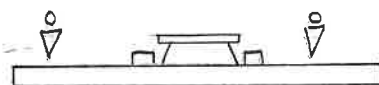
viewing space



seating at the end?



the platform needs to be wide enough for two people to comfortably walk side by side on either side of the tables.

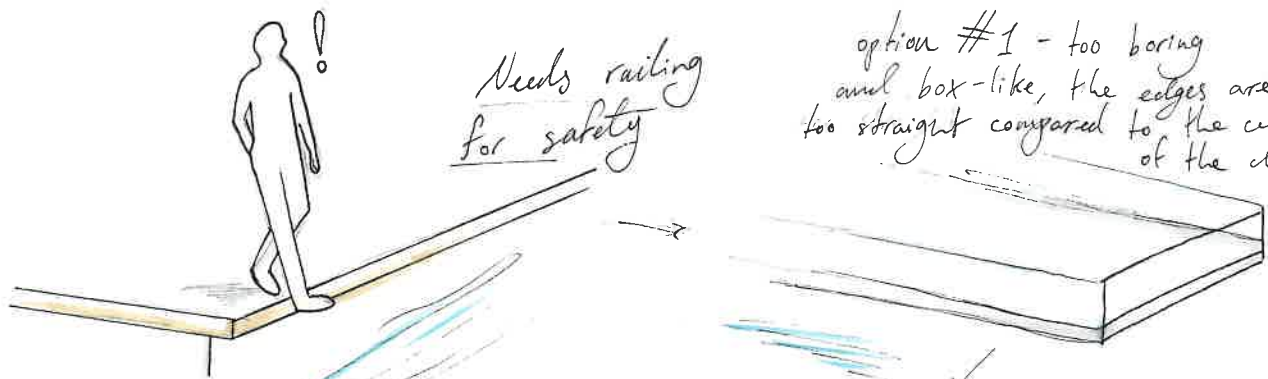


I want the overhang roof to represent the S-shaped neck and long beak of a heron while having an interesting twisted effect.

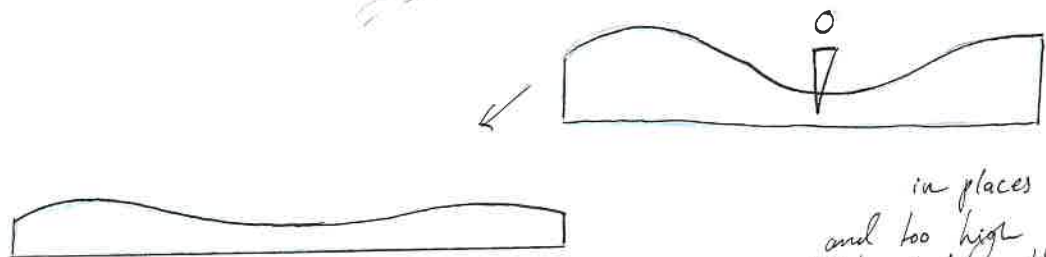


Needs railing for safety

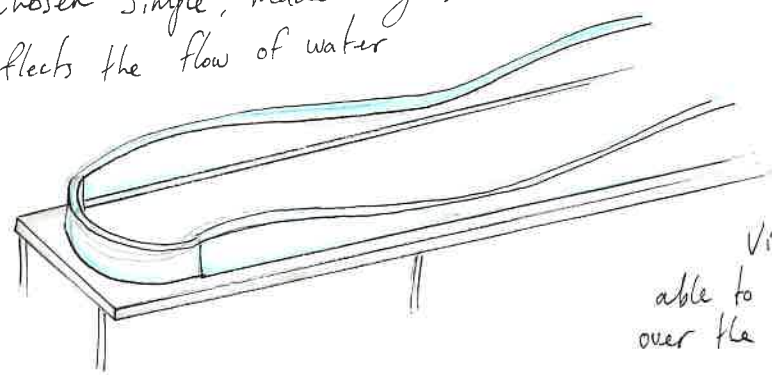
option #1 - too boring and box-like, the edges are too straight compared to the curvature of the design



option #2 - its too low in places to be safe, and too high that you would be looking through the glass



Chosen - simple, made of glass reflects the flow of water

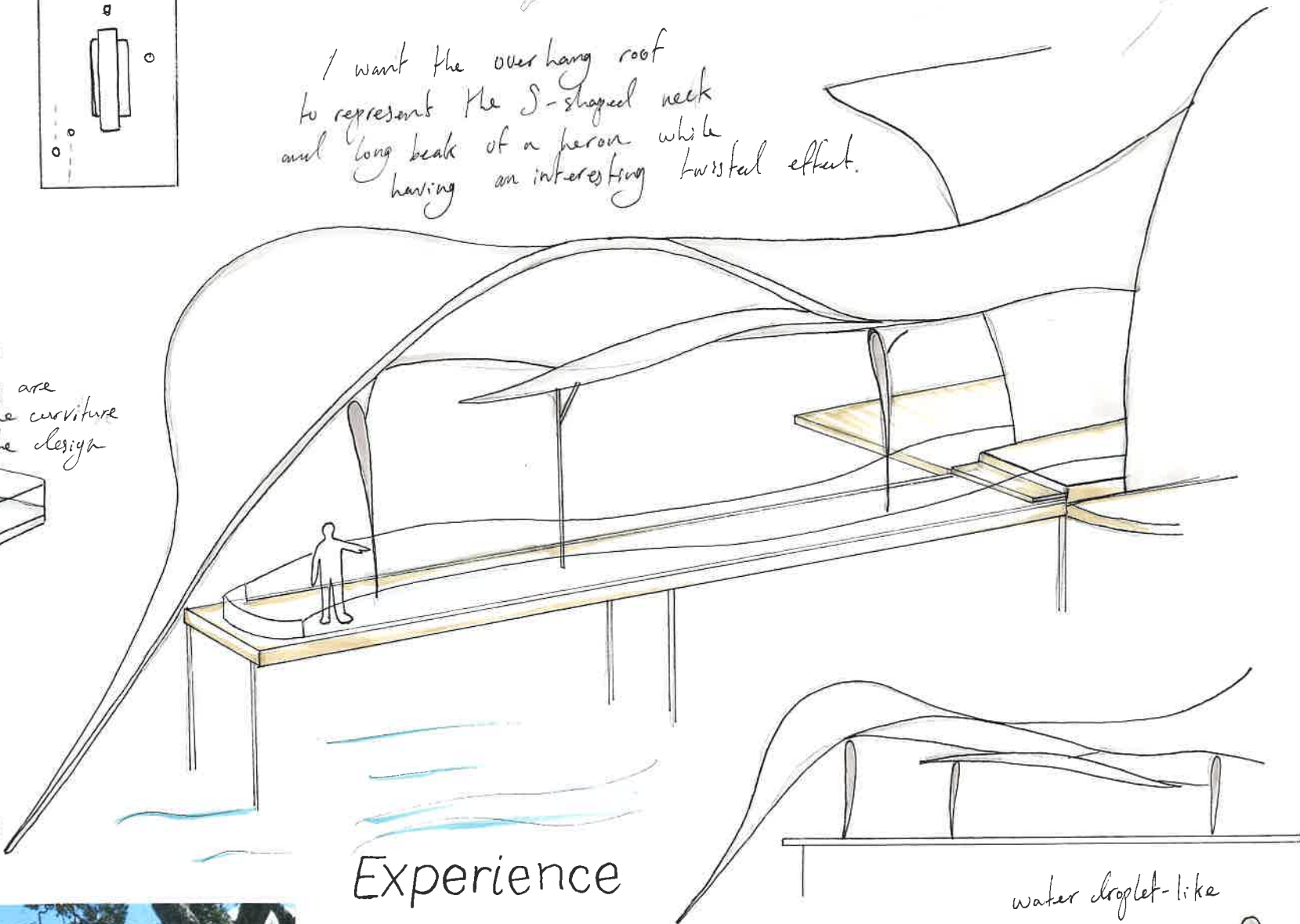


Views, able to look out over the whole estuary



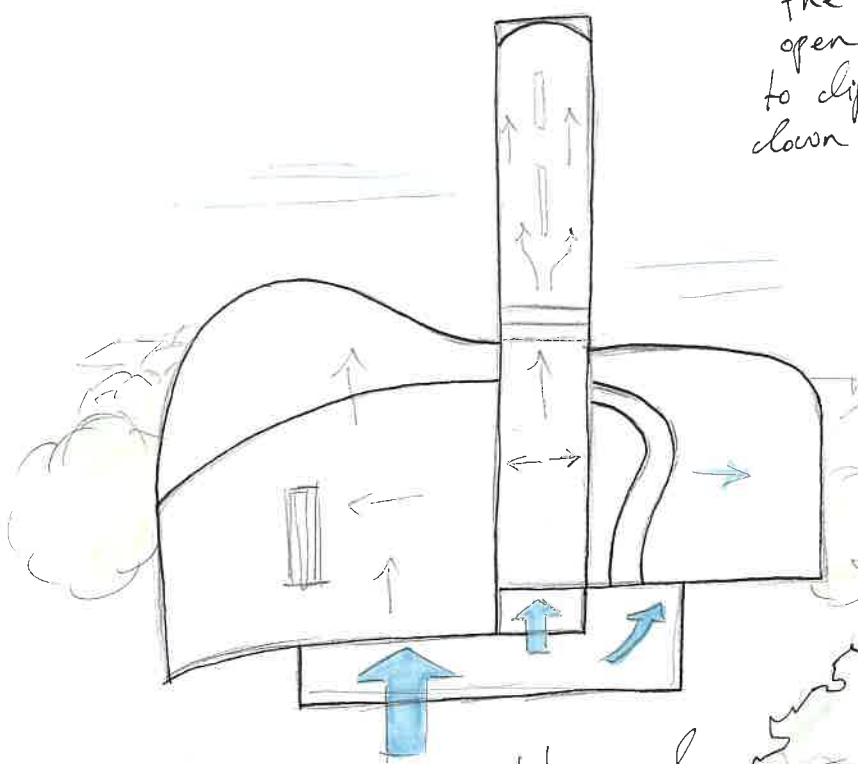
Experience & function - platform over the water

water droplet-like pillars

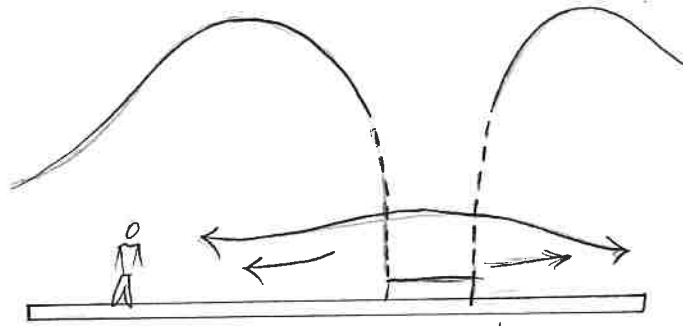


the space felt too open so I decided to clip the wing down further.

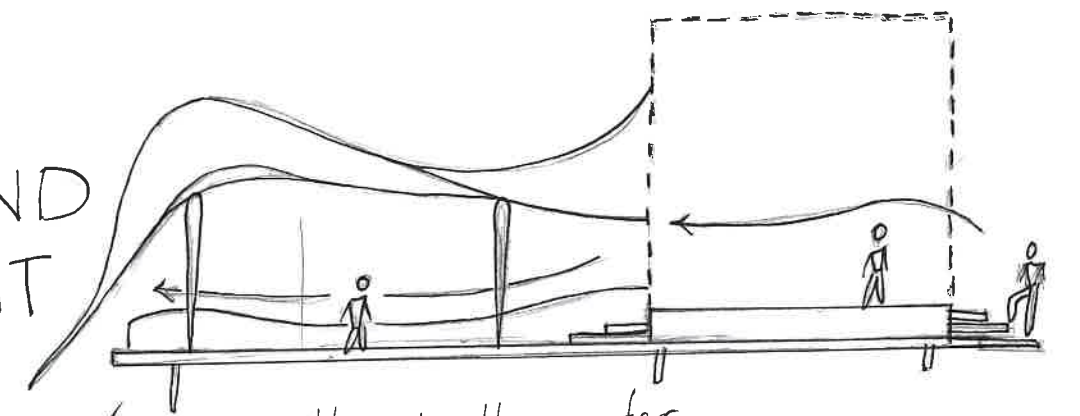
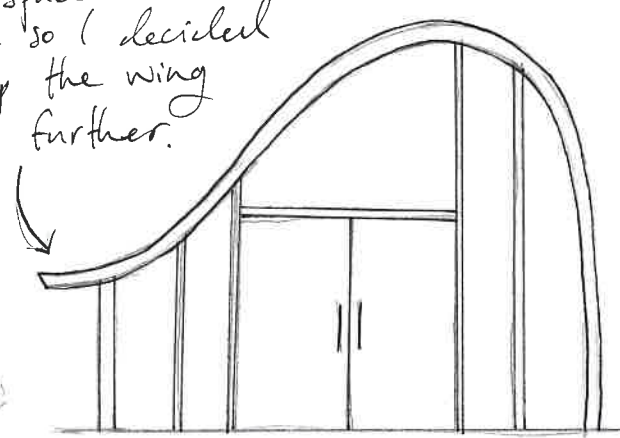
INTERIOR ACCESS AND MOVEMENT



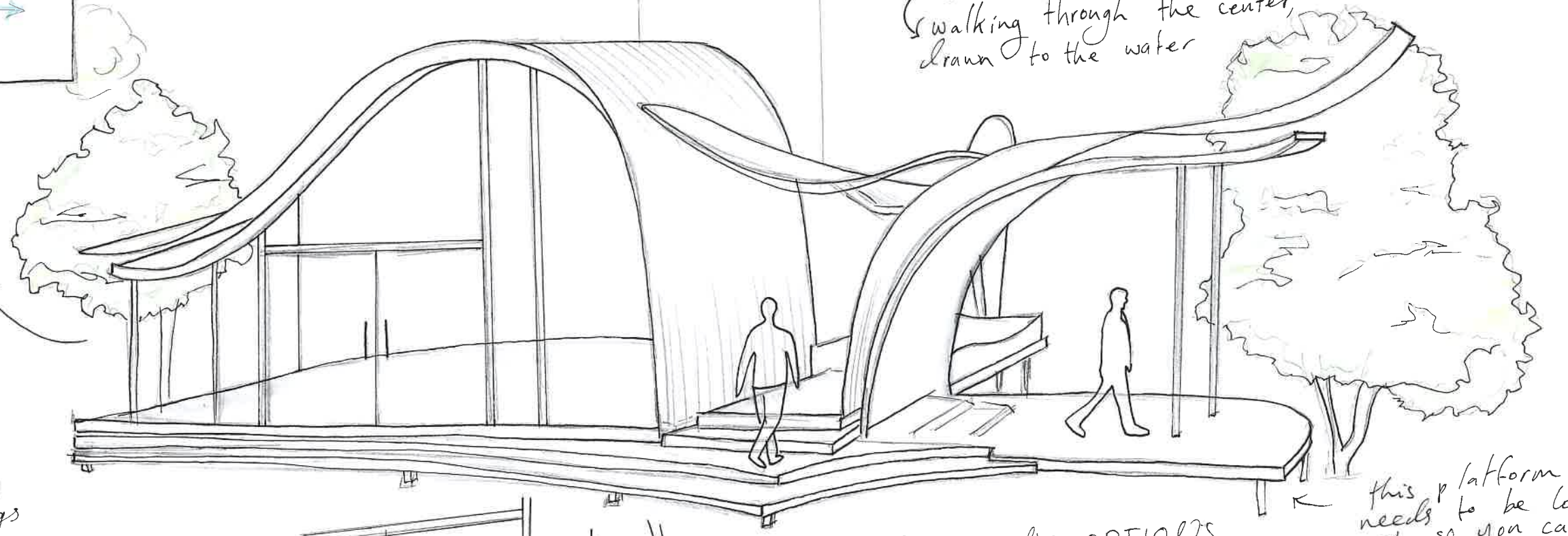
might need a path



opening in the wings

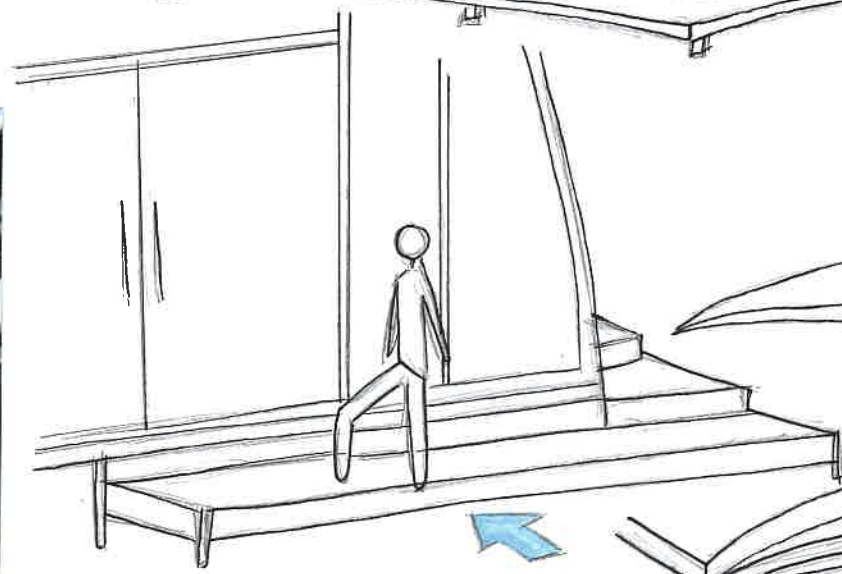


walking through the center, drawn to the water

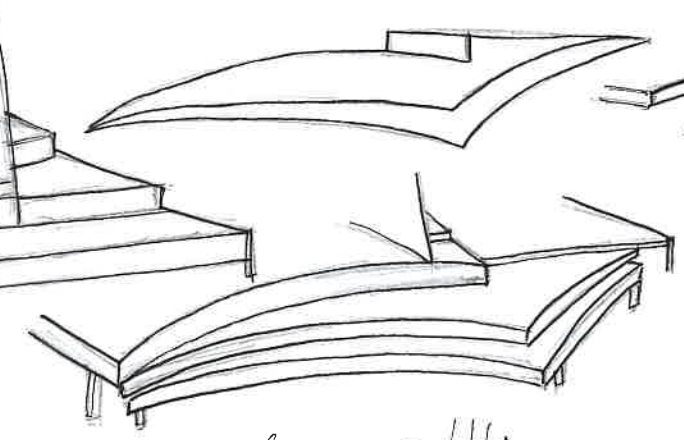


this platform needs to be low enough so you can step down onto the grass.

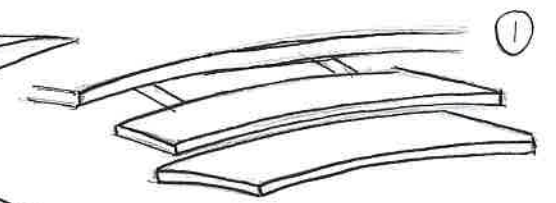
MAIN STAIR OPTIONS



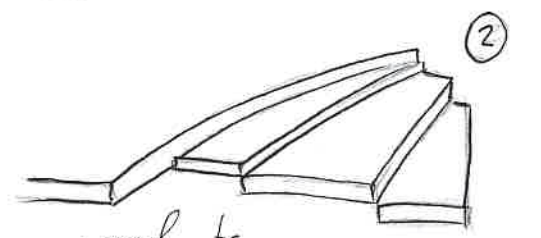
big singular step - too chunky



③ chosen - subtly reflects wing shape and tail feathers, aligns with platforms

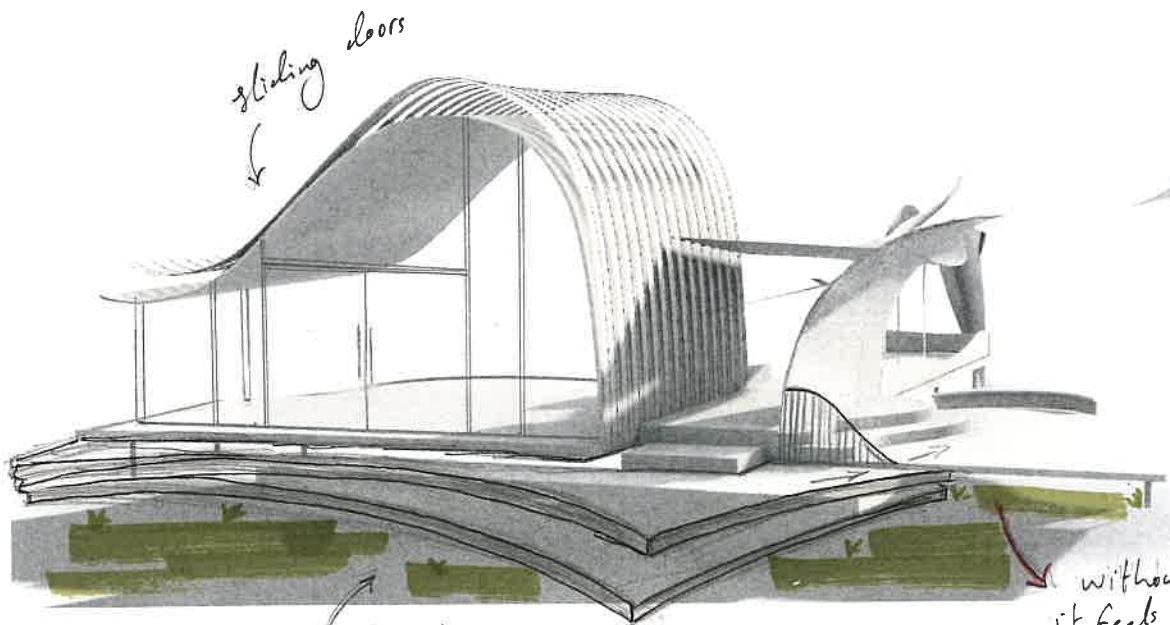


① 'floating' look



curved to create interest, doesn't work with the platforms





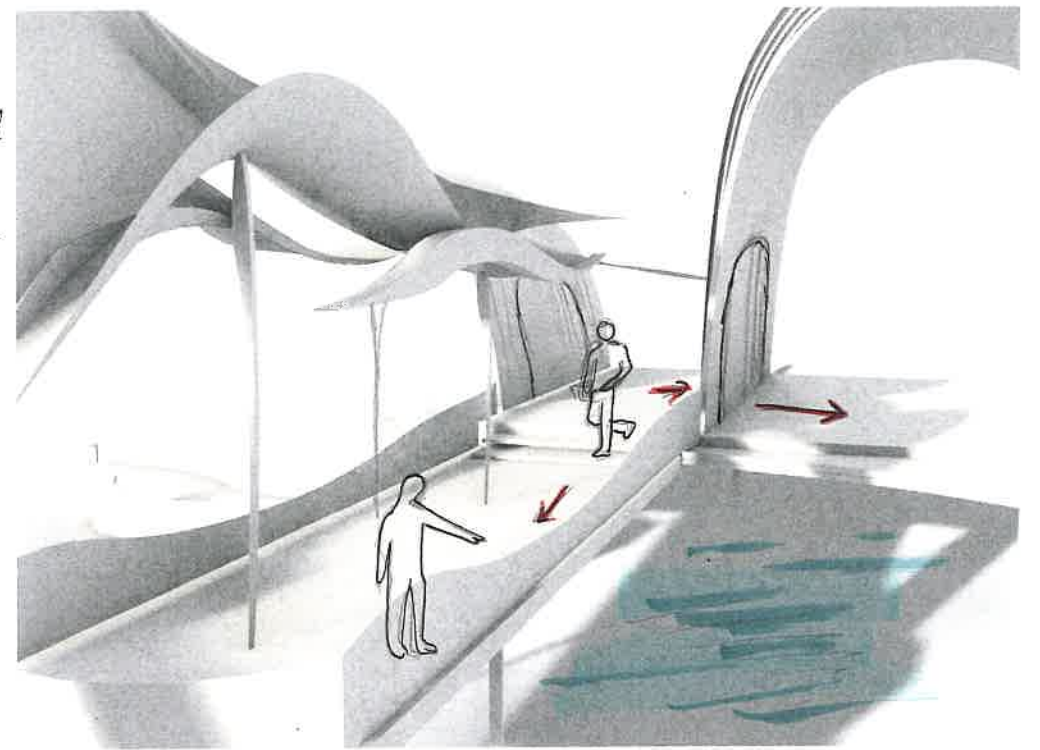
bringing it out on the east side creates balance with the platform over the water

opening in wings

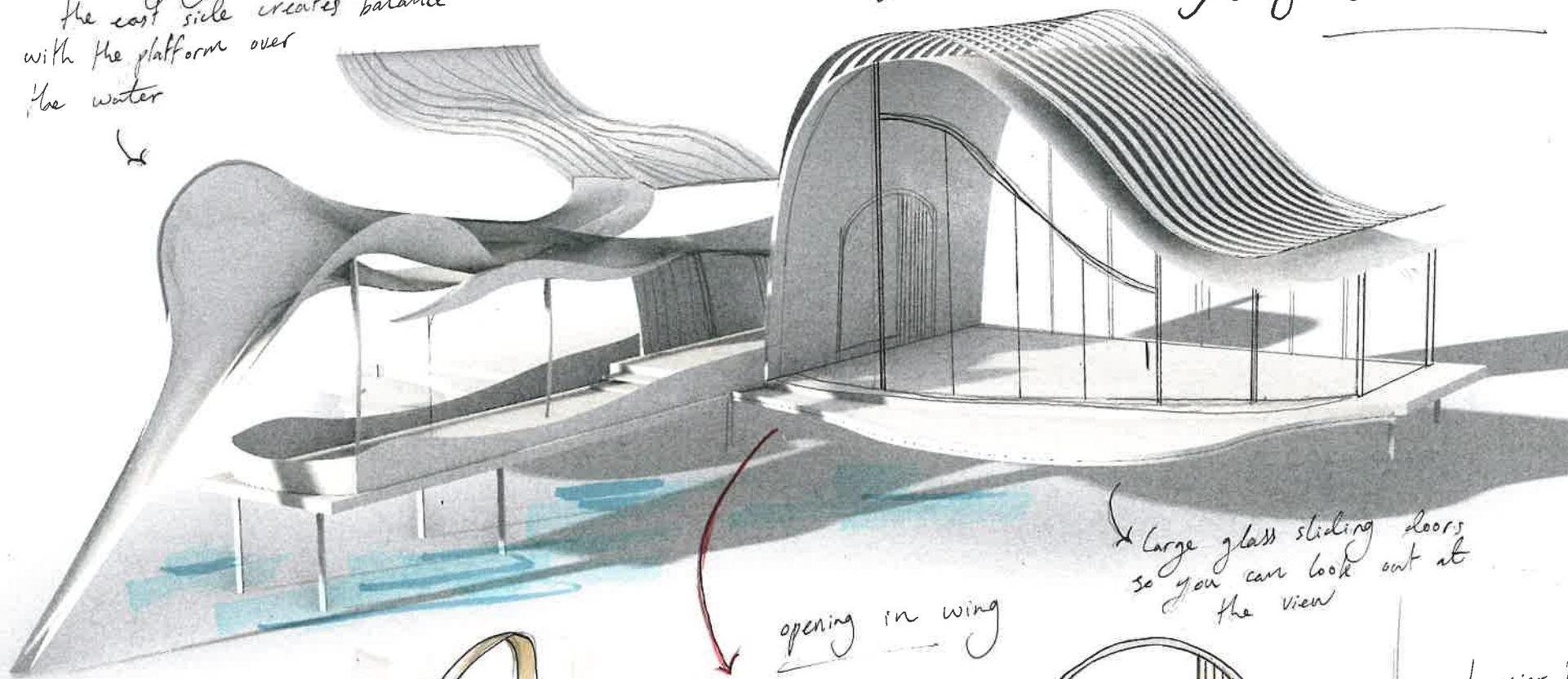


the larger the archways the more functional as more people will be able to come in and out

Movement - How do the platforms connect?

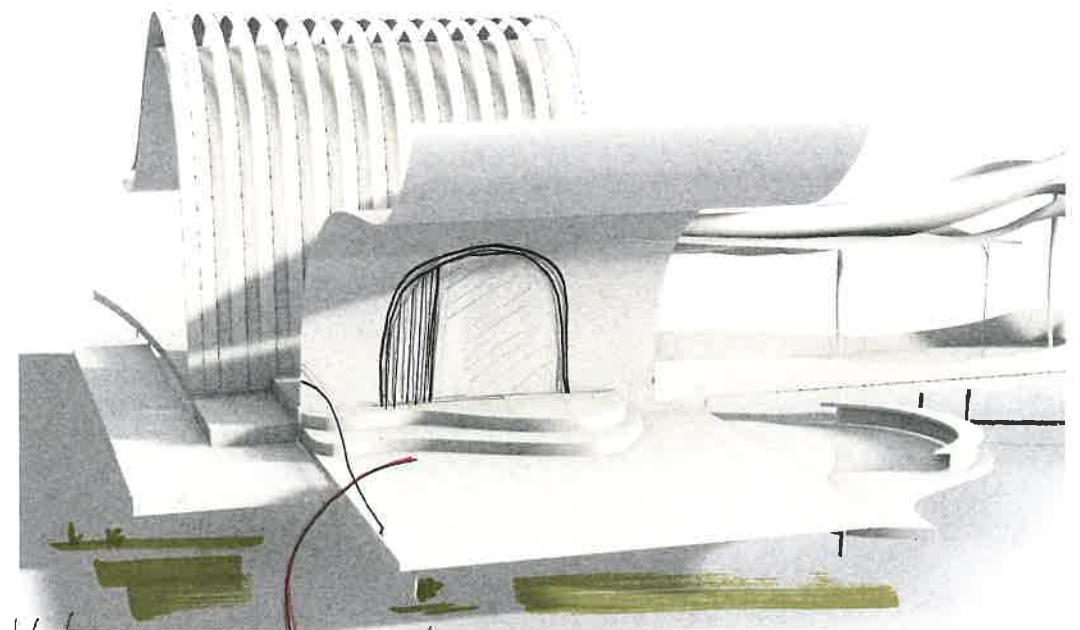


without the barrier it feels like there are too many stairs



large glass sliding doors so you can look out at the view

opening in wing



I have decided that with the new main steps these curved ones look too busy and need simplifying

barrier to block off the main stairs and make it more enclosed



option #2

floating stairs look

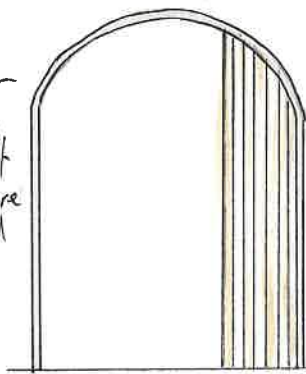
main stair access

option #1



option #1 with archway with wooden railing

chosen - integrates slat layer, looks more natural

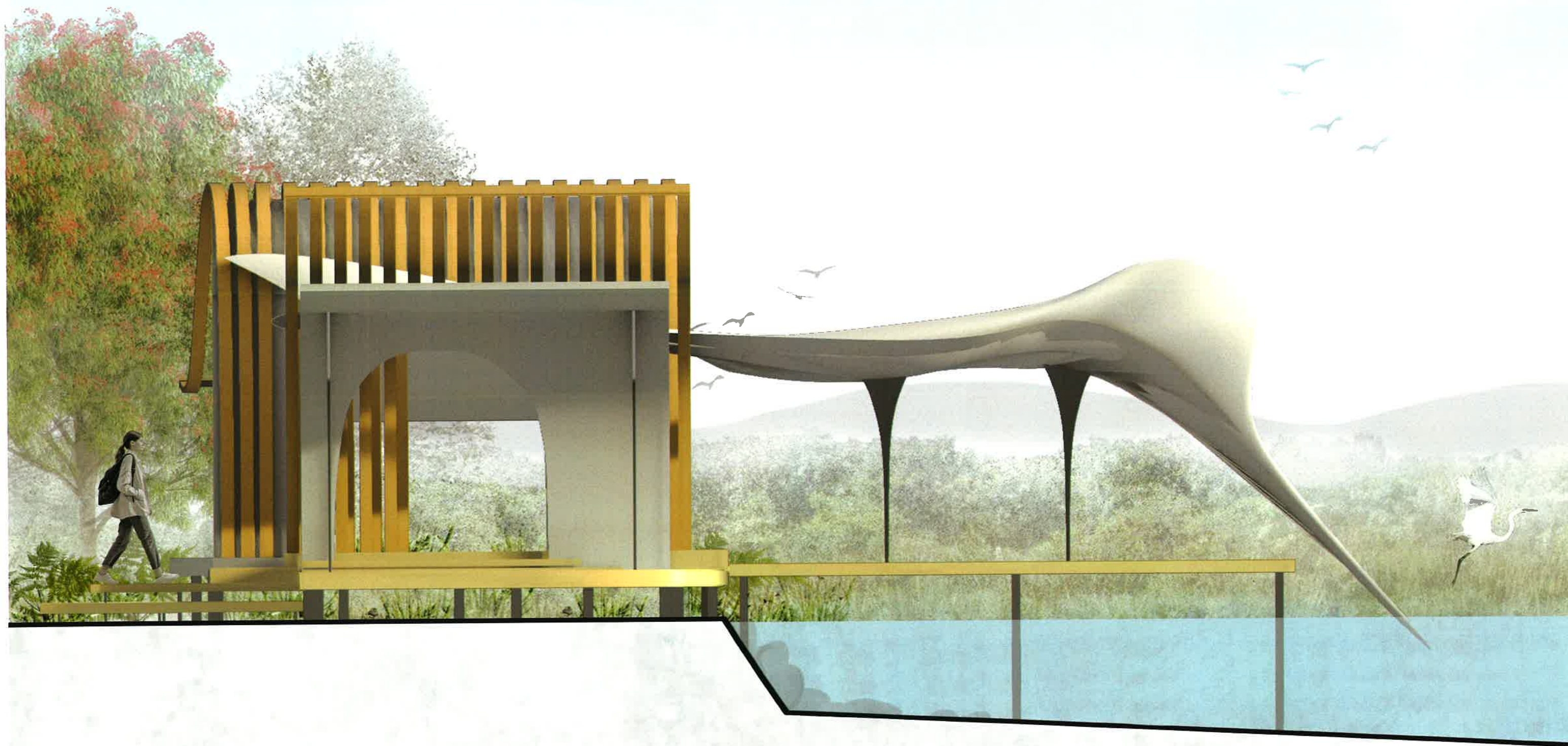


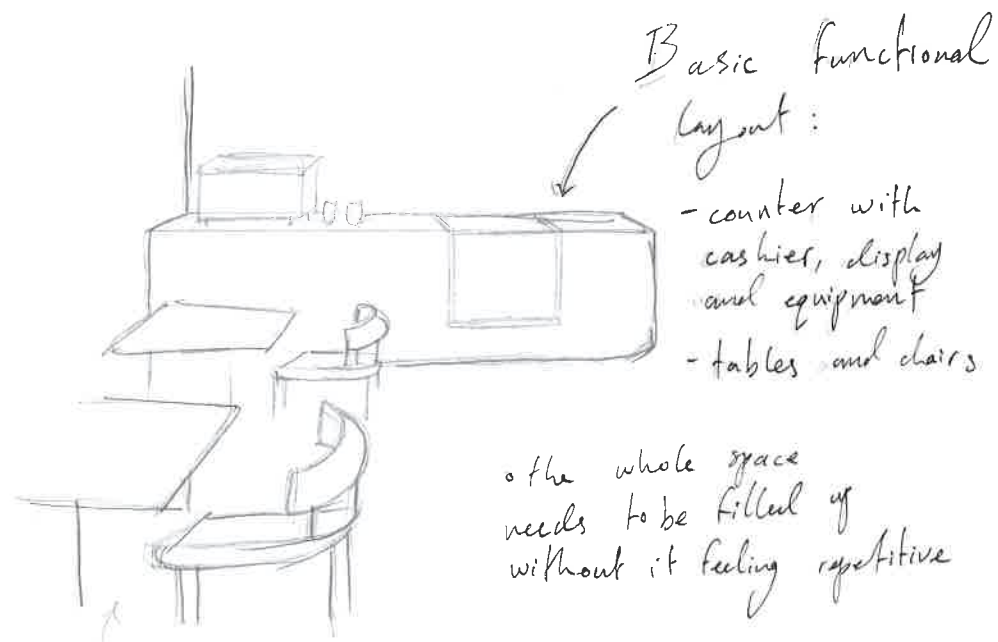
wooden slat wing layer

sliding glass door

option #2

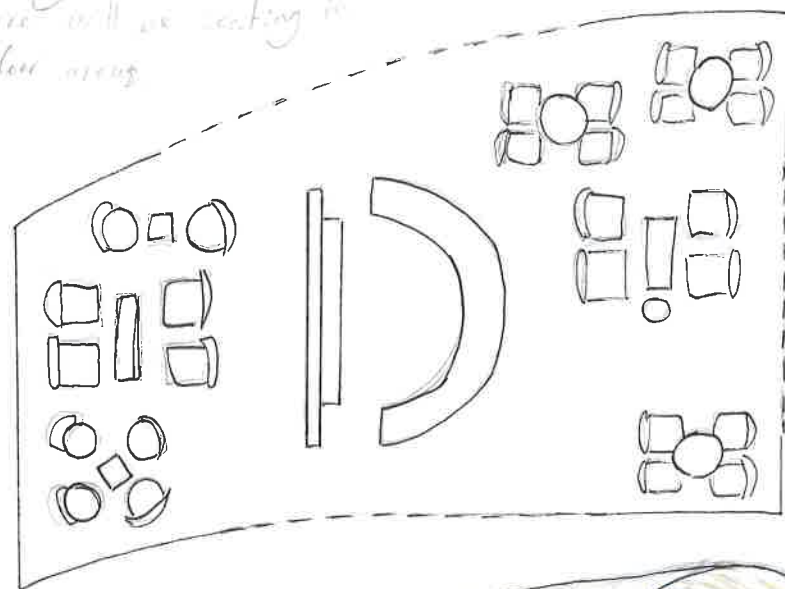
series of arches, functional for the flow



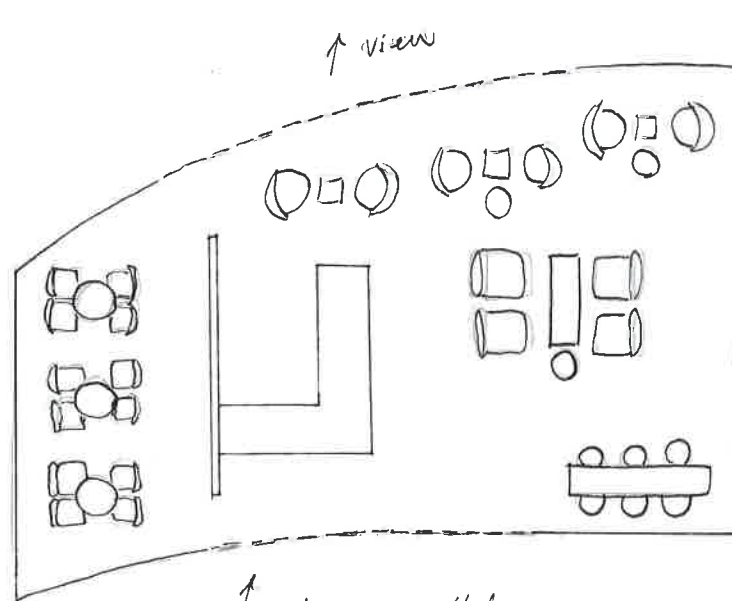
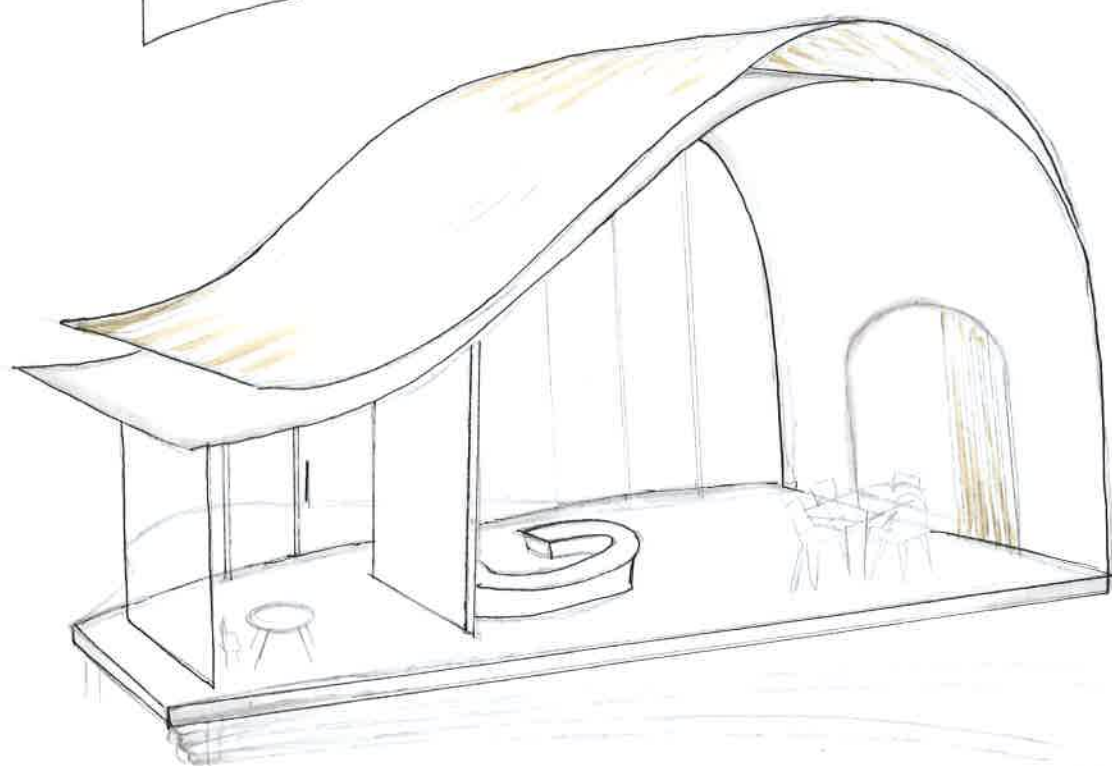


the whole space needs to be filled up without it feeling repetitive

there doesn't need to be that many tables and chairs as there will be seating in the outdoor areas



Layout option #2



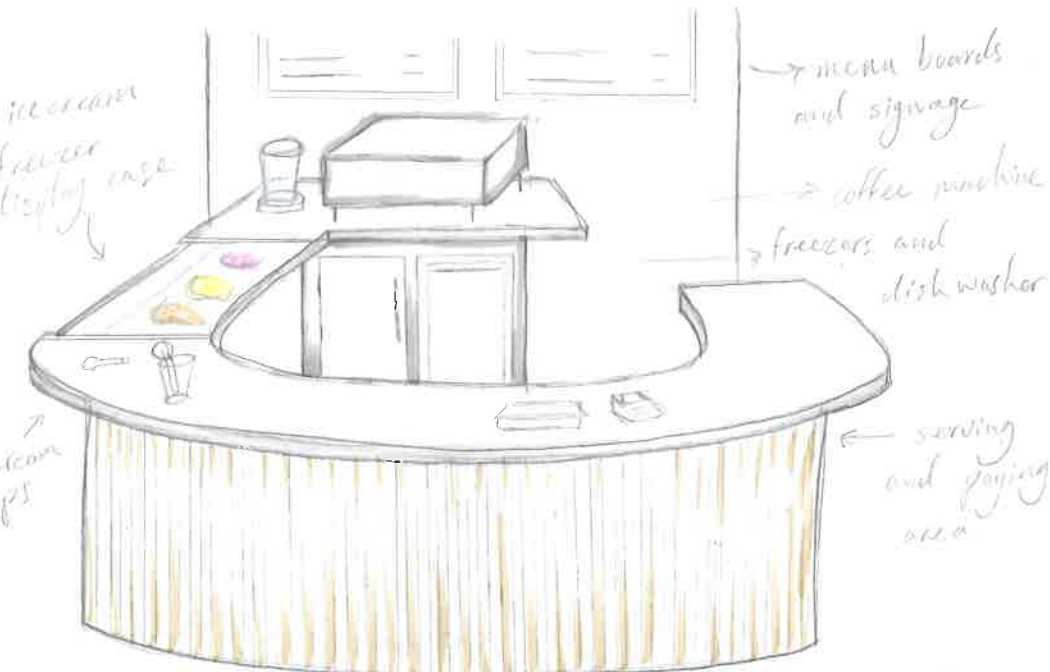
the counter is parallel to both entrances

Layout option #1

plenty of walking space



ice cream scoops

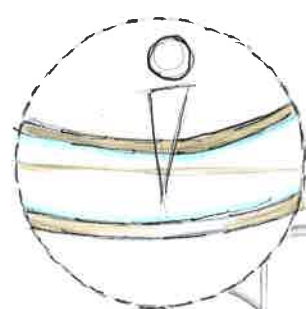


Interior-

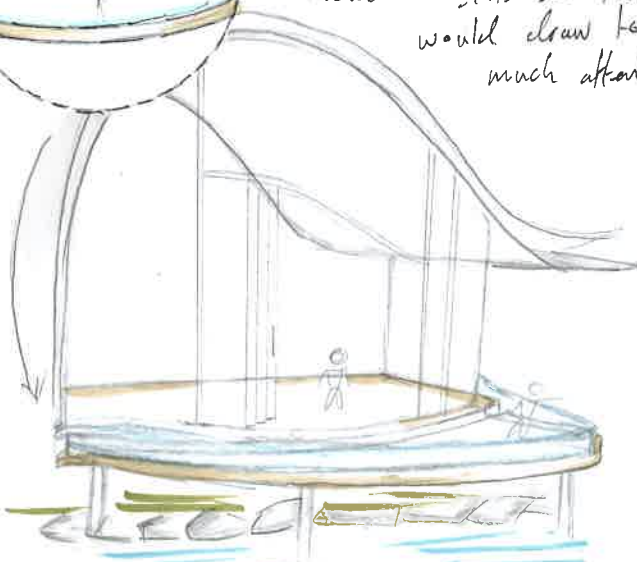
Functionality

sliding glass doors for the east side.

folding glass doors would be best for the west side as its curved

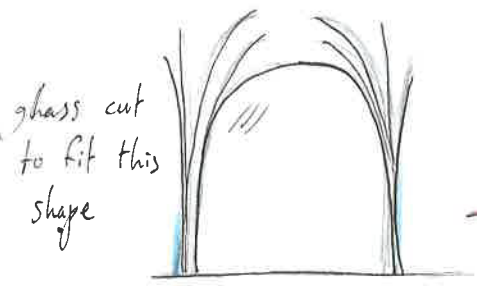


railing glass with wooden edging. I was thinking of using wooden slats but that would draw too much attention

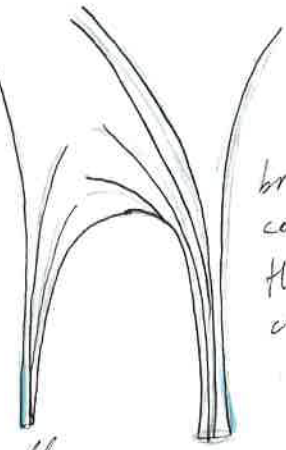


viewing space over the water

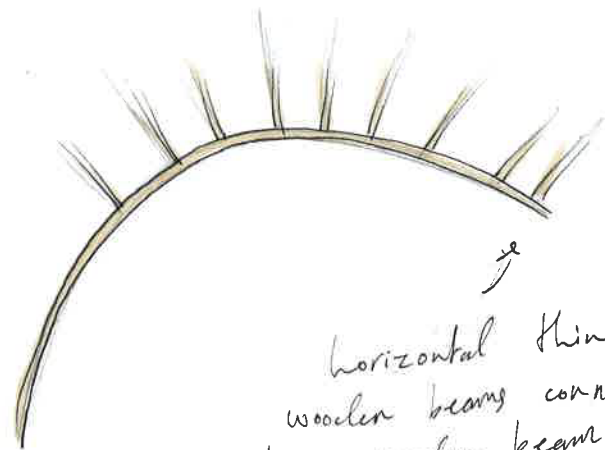




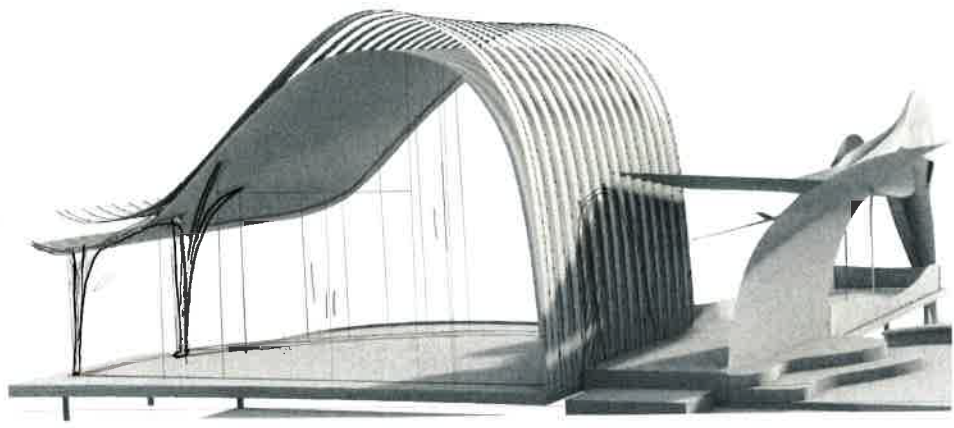
glass cut to fit this shape



chosen branches out, connecting to the roof, could use wood or concrete



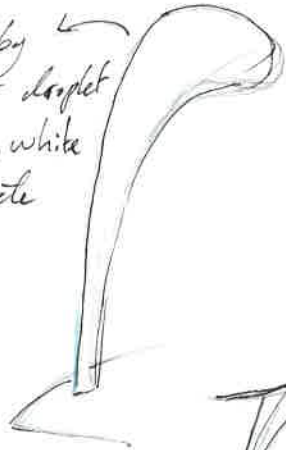
horizontal thin wooden beams connected to a wooden beam on the edge of the wing



feathers - horizontal lines

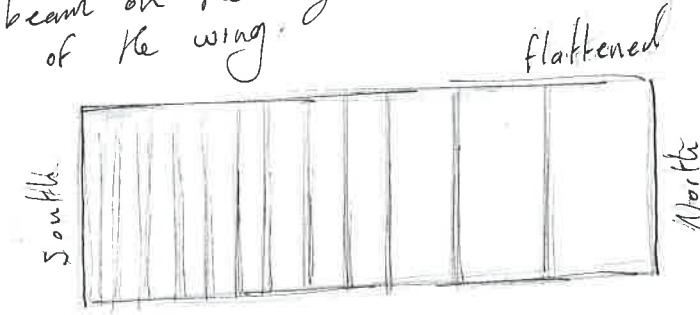
option #3 feather shape

option #2 blobby water droplet shape, white concrete

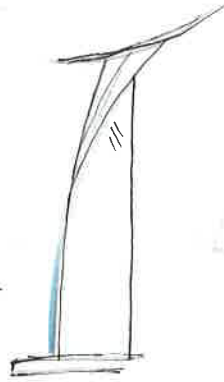


pillars - these need to be thick and integrated into the wing, in order to divide up the glass

gradient of regularity in the beams



option #1 overlapping arched thin beams

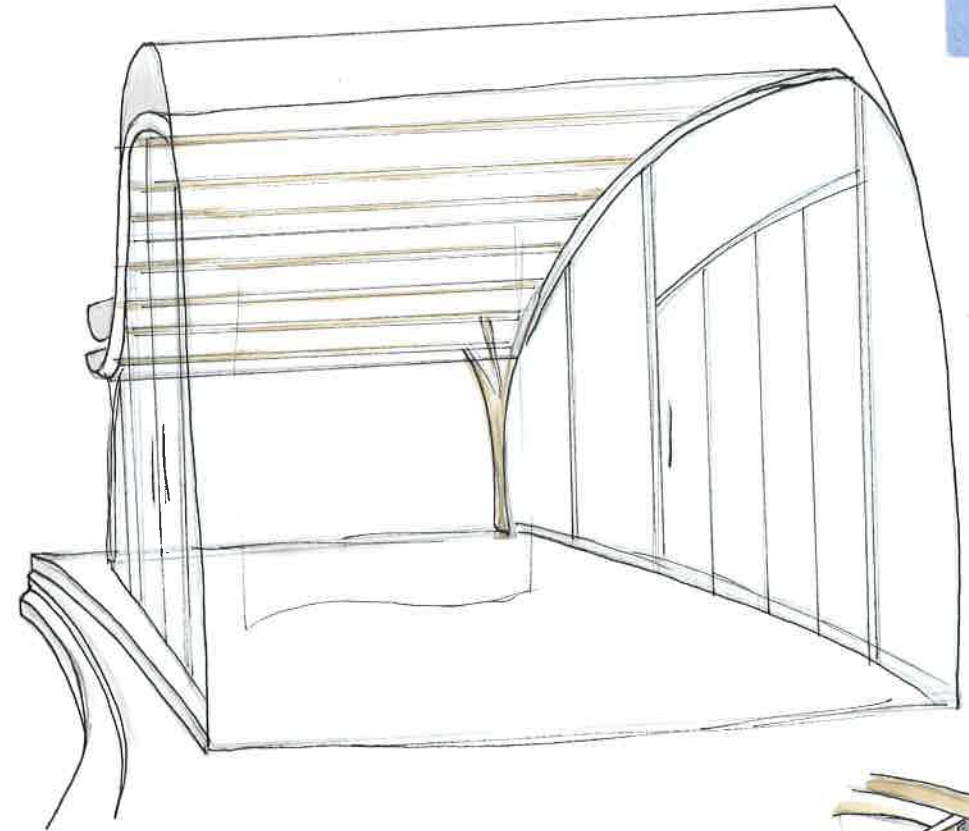


having a whole lot of circular white lights would connect it to the air and feathers - light and soft



Interior - using structure and materials to make it interesting

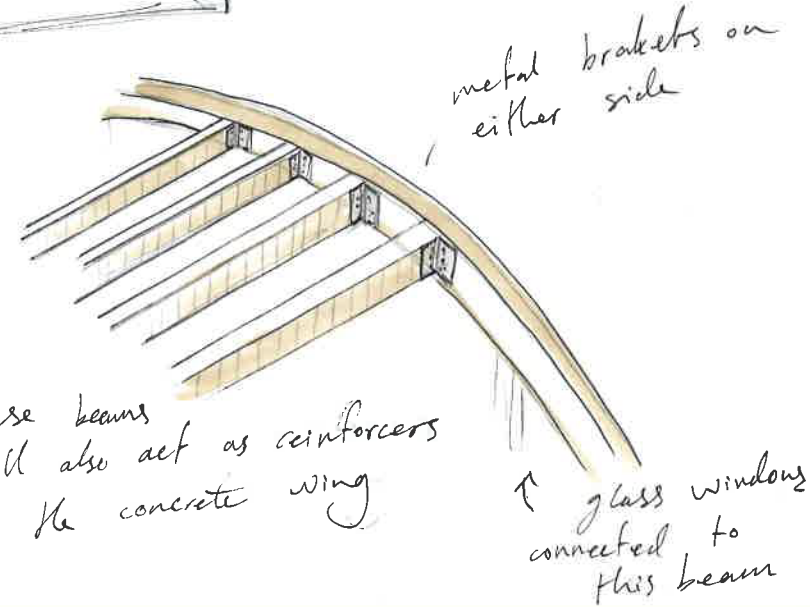
the lights are mainly for aesthetic purposes as not much artificial lighting is needed because of the large windows. Attaching the lights to the wooden beams would be easier than attaching to concrete.



Desired effect
What does it feel like to be under a heron's wing? I want to use structural details to draw attention to the roof and make it light and airy

divider behind counter

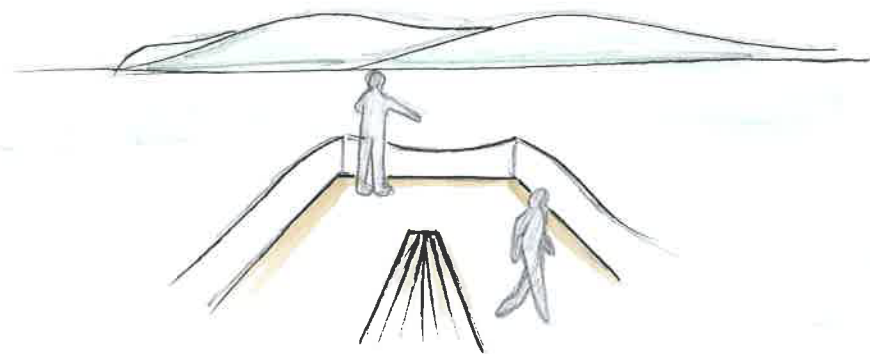
metal wire mesh for a translucent look, light filters nicely through it



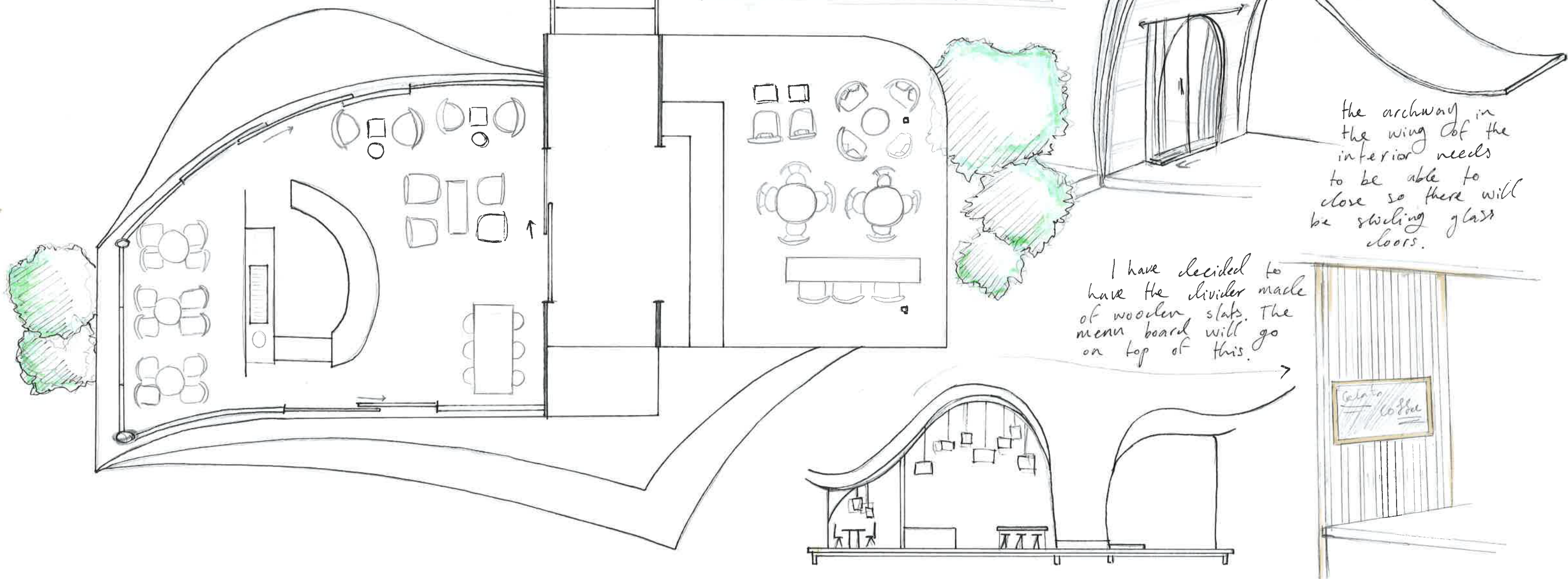
These beams will also act as reinforcers for the concrete wing

glass windows connected to this beam

INTERIOR LAYOUT



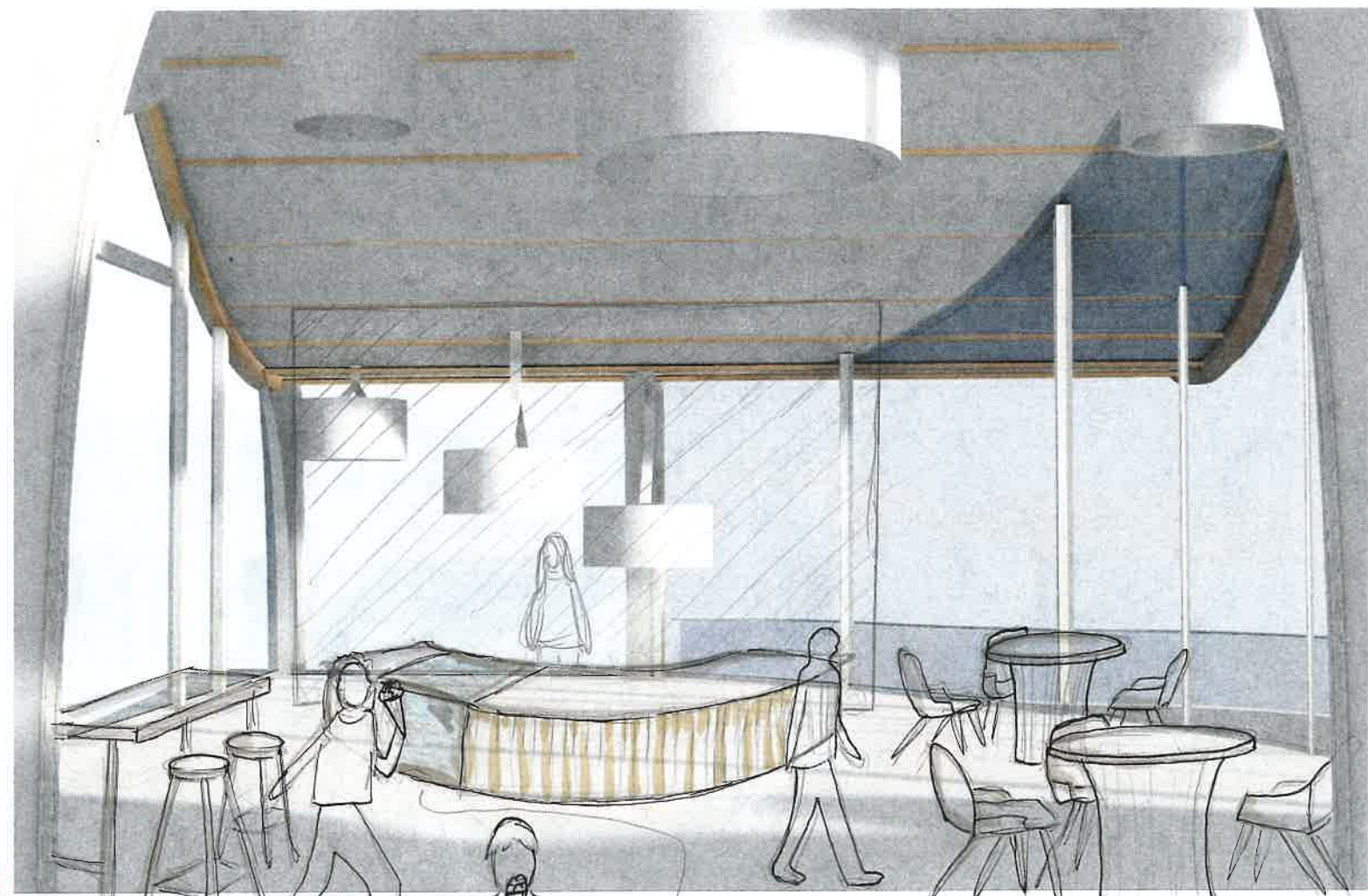
I want to
continue the
theme of
wooden slats
and light coloured
wood
in the
furniture



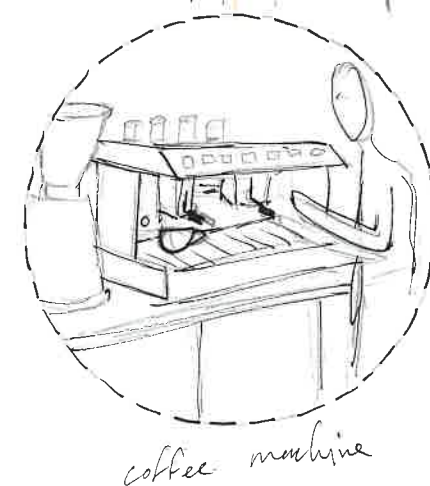
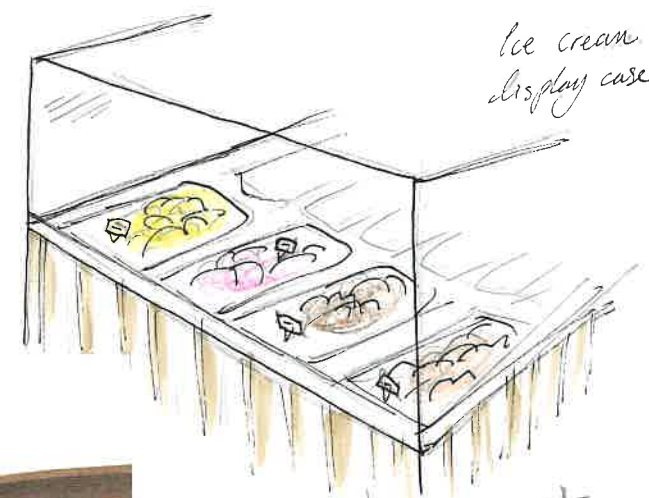
the archway in
the wing of the
interior needs
to be able to
close so there will
be sliding glass
doors.

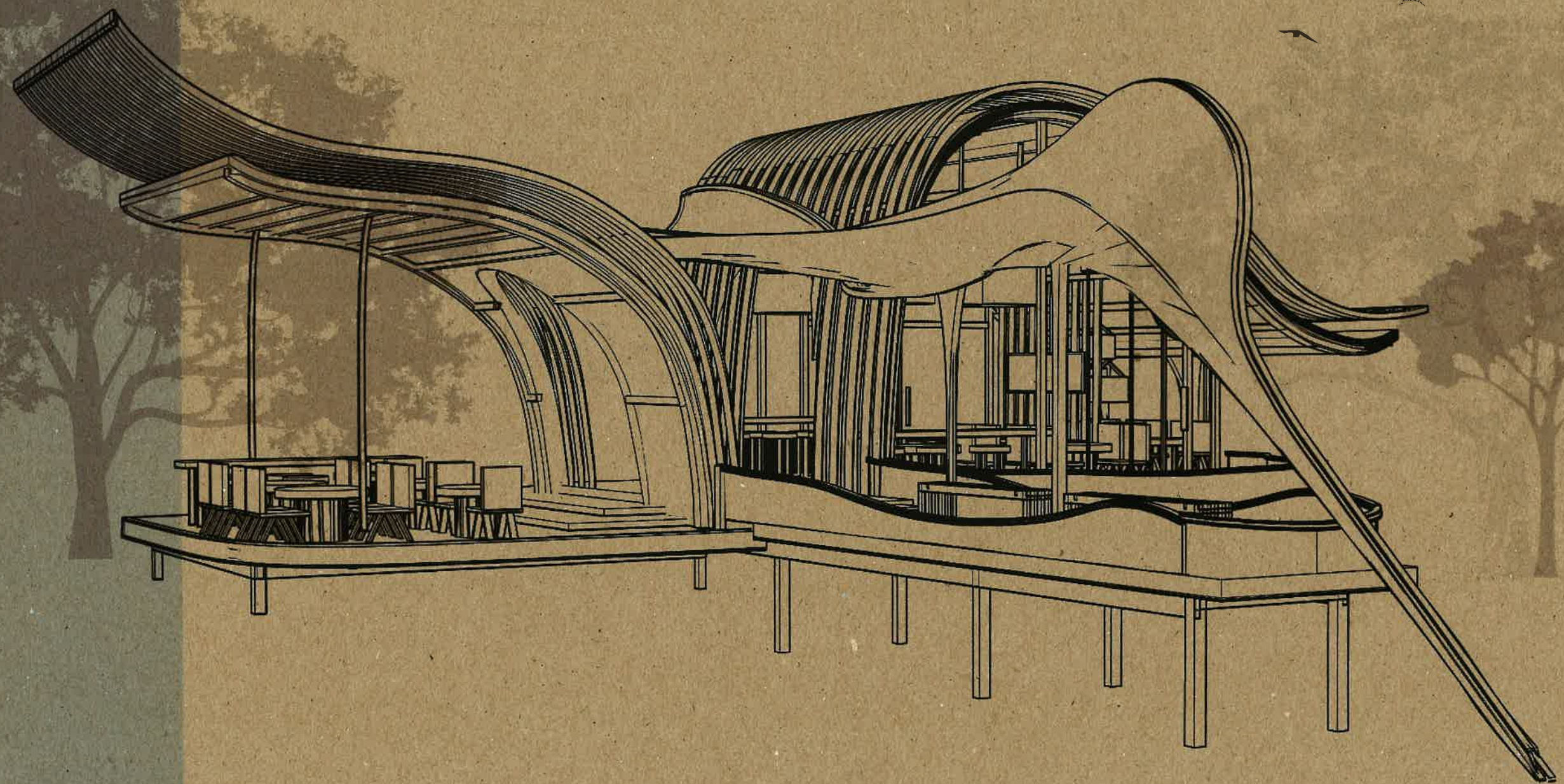
I have decided to
have the divider made
of wooden slats. The
menu board will go
on top of this.





Interior Space -
human interaction





EXPLORING MATERIALS



OAK WOOD:

This will work well for the wing slats as it's strong and weather resistant, making it the ideal wood for roofing. The slats will be connected using steel bars. The beams on the interior of the wings will also be made of oak.



GLASS FIBRE REINFORCED CONCRETE: This material is used by Zaha Hadid as it's ideal for curved shapes, is lightweight, long lasting and can be cast into any form. This will be used for the main wing form.



The materials need to be light and bright in order to enhance the form and structural details.

LIGHT COLOURED CEDAR WOOD:

This is a suitable material for the outdoor flooring because of its weather resistance and longevity. It gives more of a natural feel to the design, and the light colour won't draw attention downwards, which is important to avoid it feeling too grounded so it has the effect of a heron taking flight.



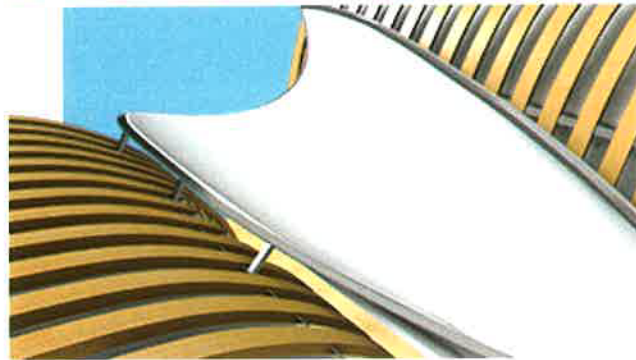
WHITE POLISHED CONCRETE

FLOORING: this will be used as the flooring for the main interior. This is suitable for the purpose of my building as its low maintenance and easy to clean with is important for a kitchen space.



STRUCTURE

Connects the tensile frame to the poles going through the wooden slats so it's attached to the wings



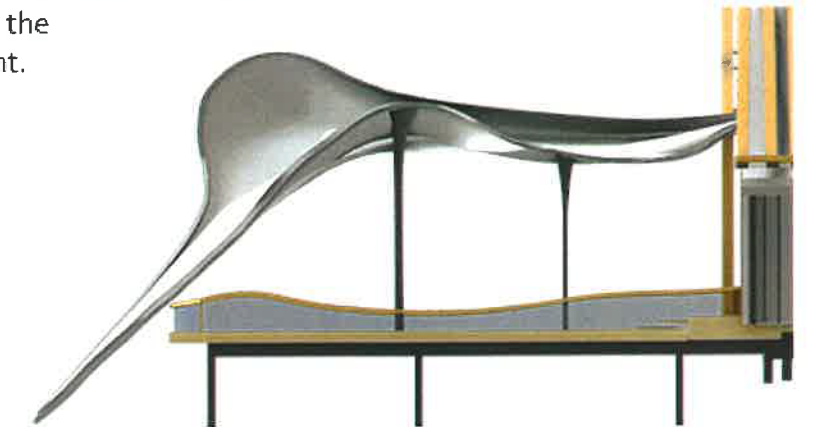
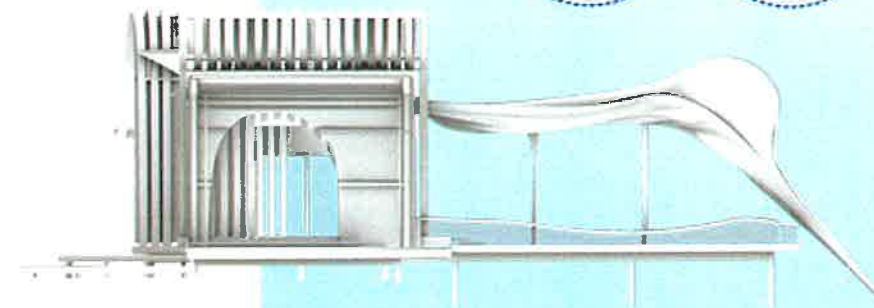
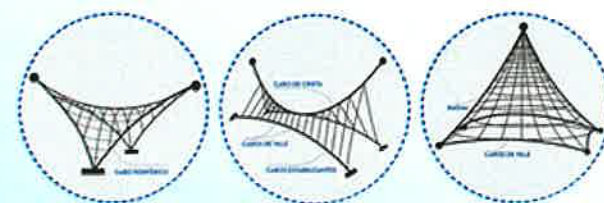
Steel pillars supporting the tensile frame



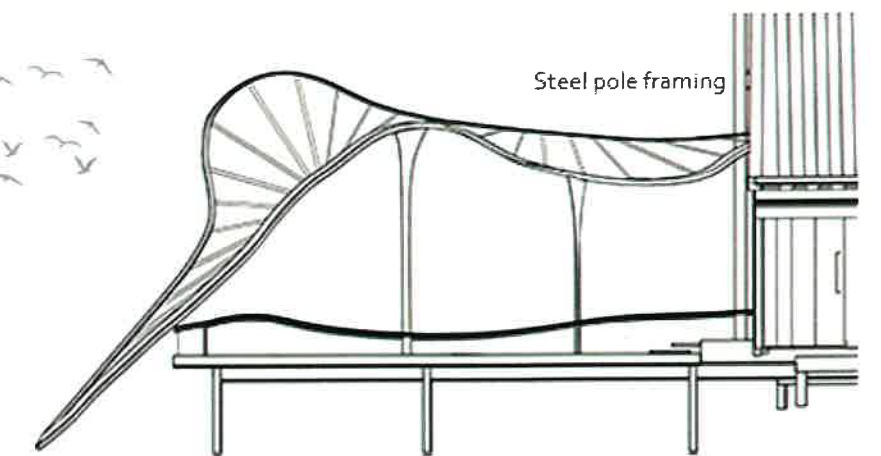
Tensile Structure:

The construction of roofs using a membrane held in place on steel cables.

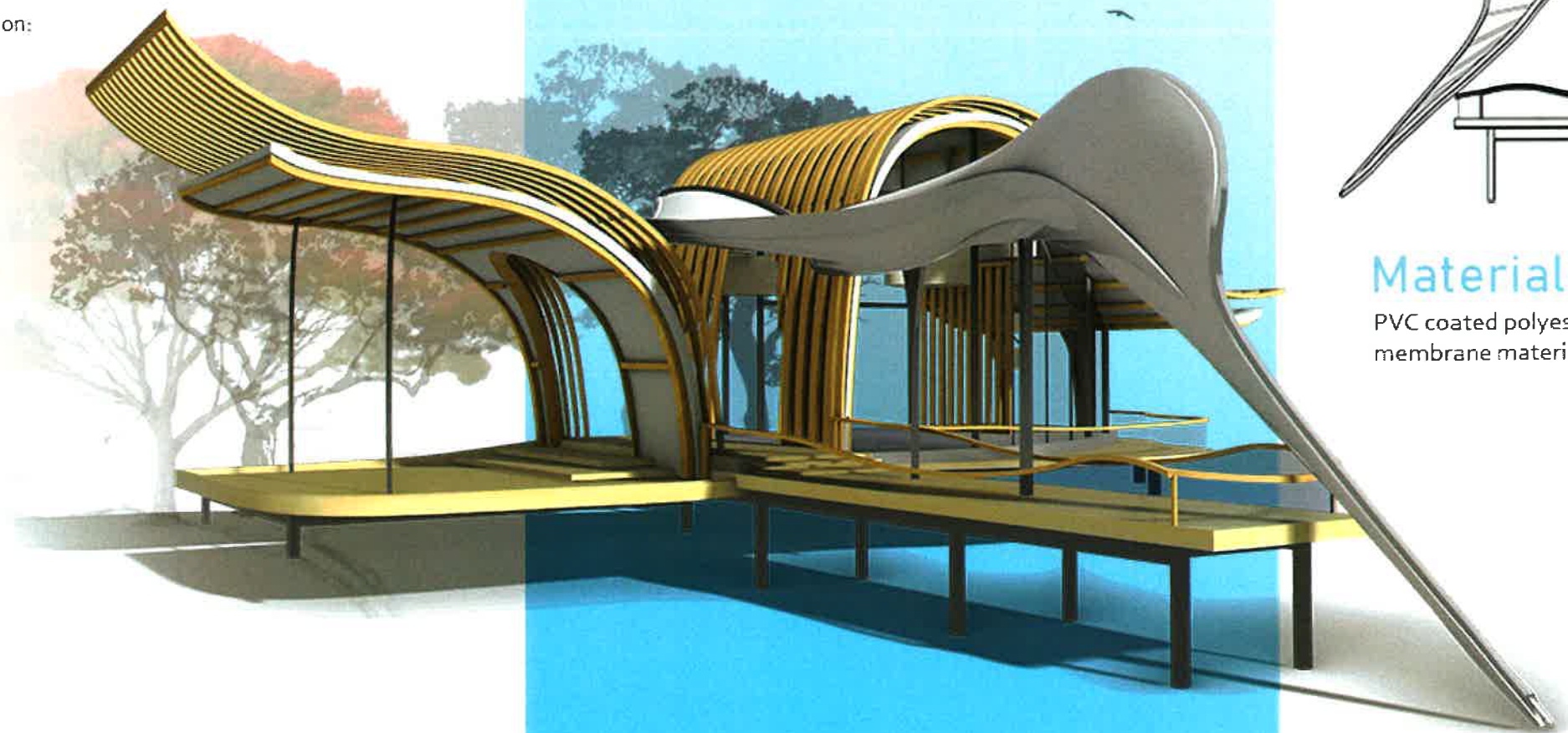
A thin canvas is stretched over framing to create a surface. This will work well for the beak overhang as it can form the complex twisting shape while being lightweight.



Steel pole framing



Steel pole connection: strut brackets



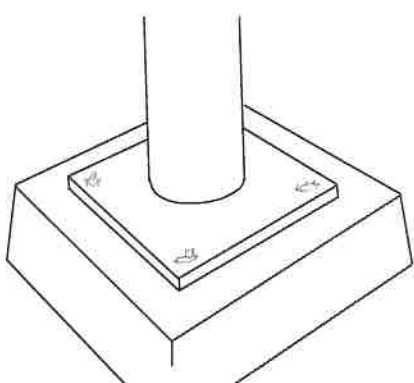
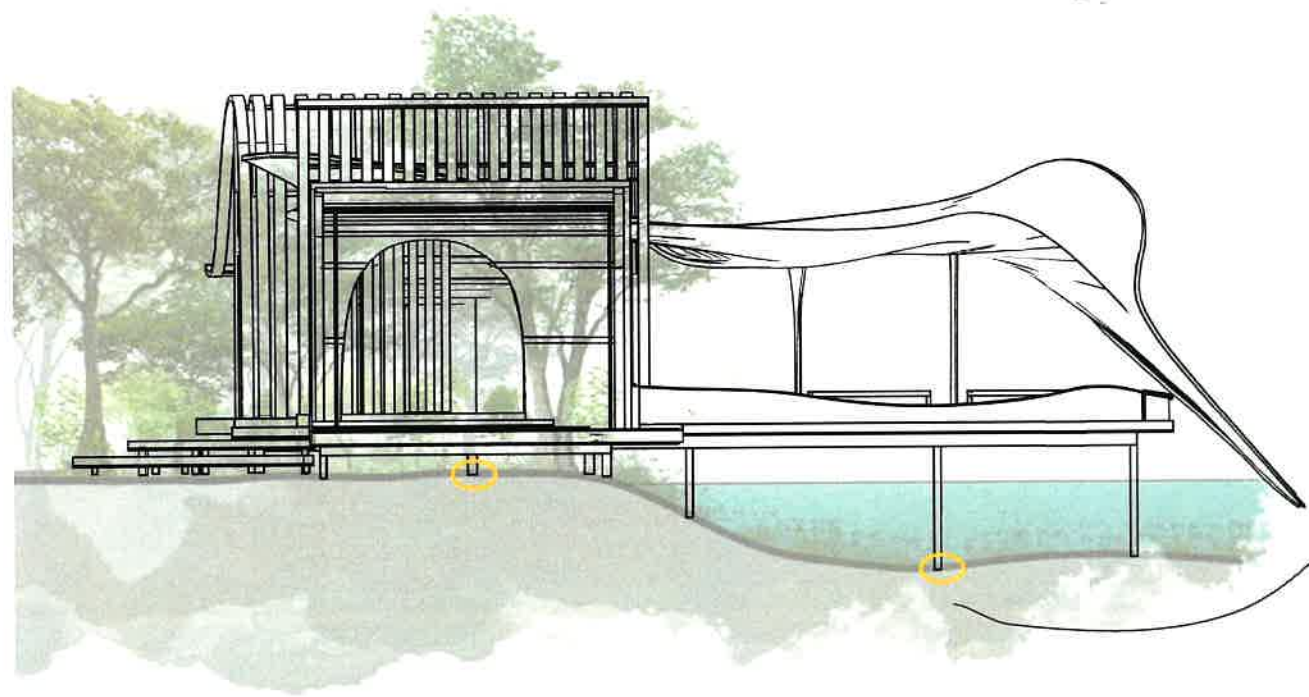
Materials

PVC coated polyester is the most common tensile membrane material as its flexible and weather resistant.

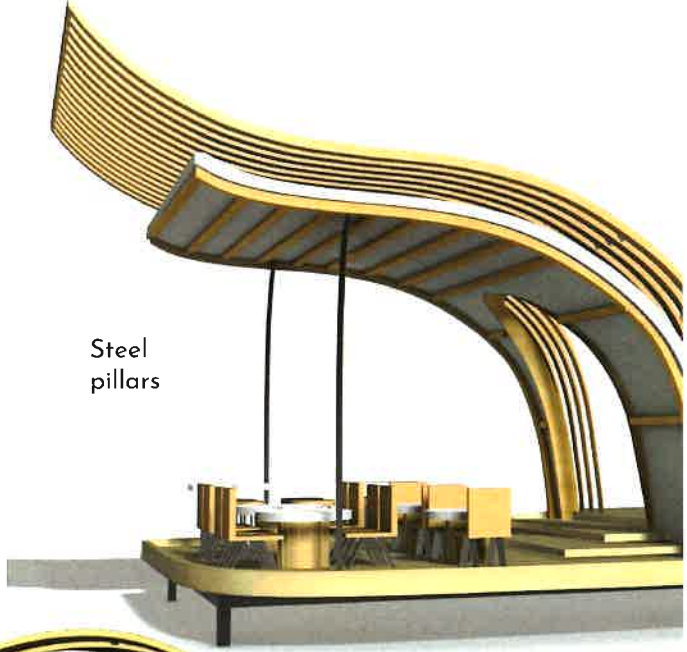
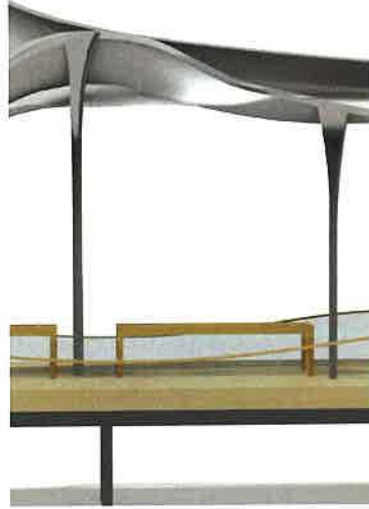




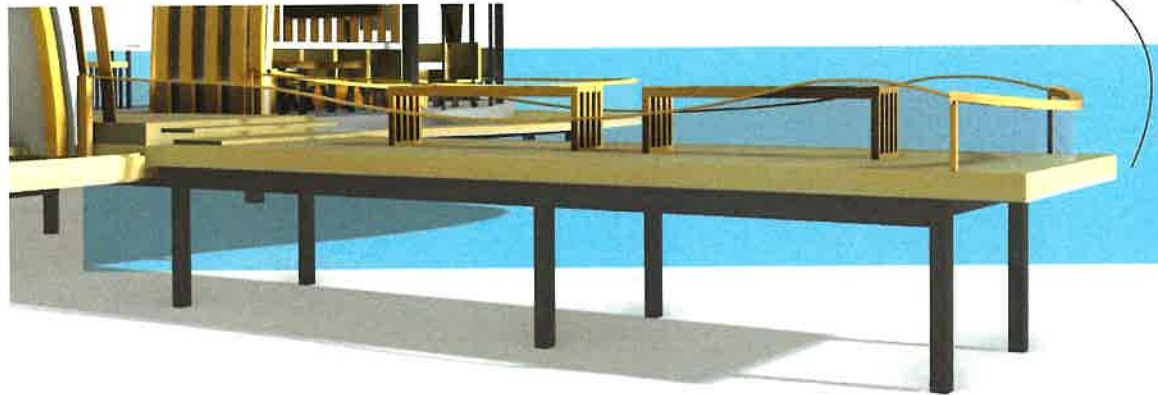
The whole structure is being held up by these steel supports attached to the ground. This is to avoid it feeling too grounded so it can have the effect of the heron about to take flight.



Concrete base plate: on the ground and under the water.



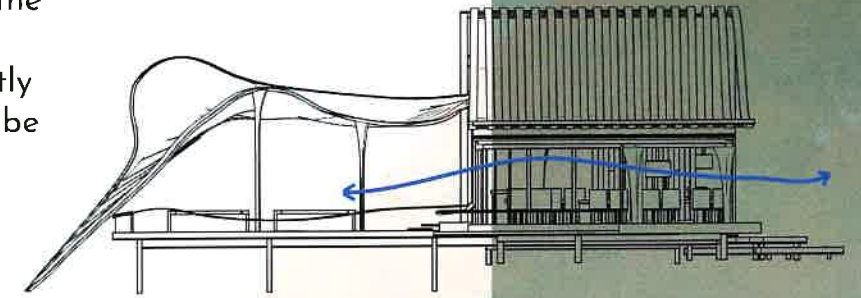
The wooden platforms will rot and deteriorate over time because it is over the water. Having a layer of concrete underneath the wood would minimise this.



I need a way to power the freezers and coffee machines sustainably. This could be done using solar panels. Although these cannot be placed on the roof of my building, due to both the roof design and the trees arching over the site, they could be placed on poles further away, as solar power can be transmitted from up to 150 meters away from the building.



Air flow: as there are doors on three sides of the interior space the need for cooling systems is reduced. The gelato and coffee shop will mostly be open in summer so air conditioning would be required but would not need to be used too often.



The many windows in the interior space minimise the need for artificial lighting, especially because a lot of light can enter from the east and west.



Sustainability

What are some ways to make my design more sustainable in order to minimise adverse effects on the beautiful nature of Wenderholm?



THE HERON

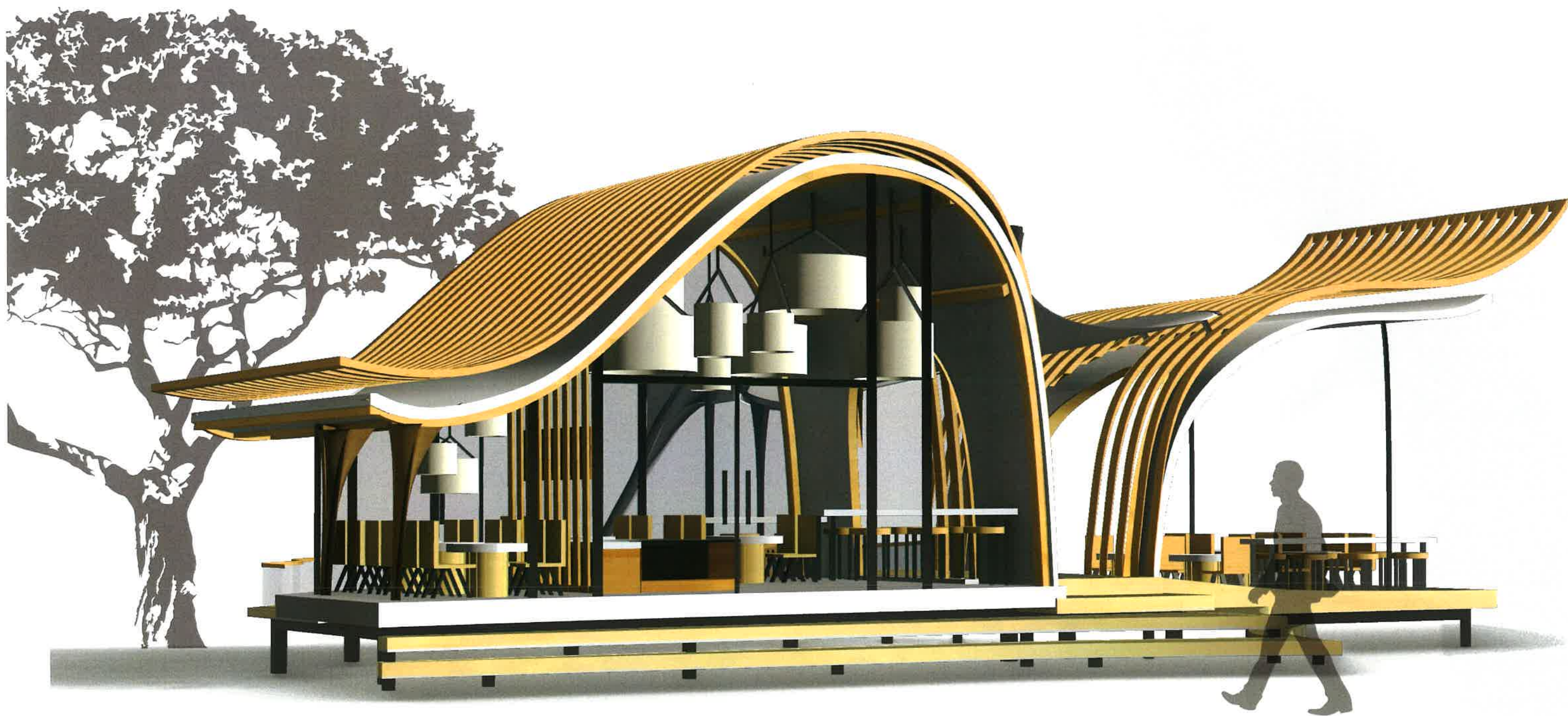


Gelato and Coffee at Wenderholm



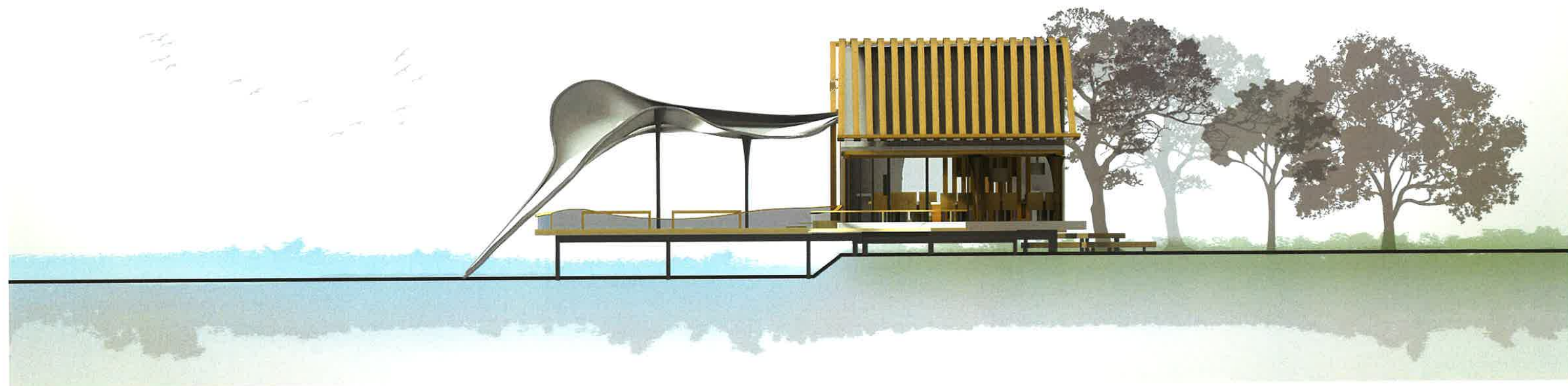
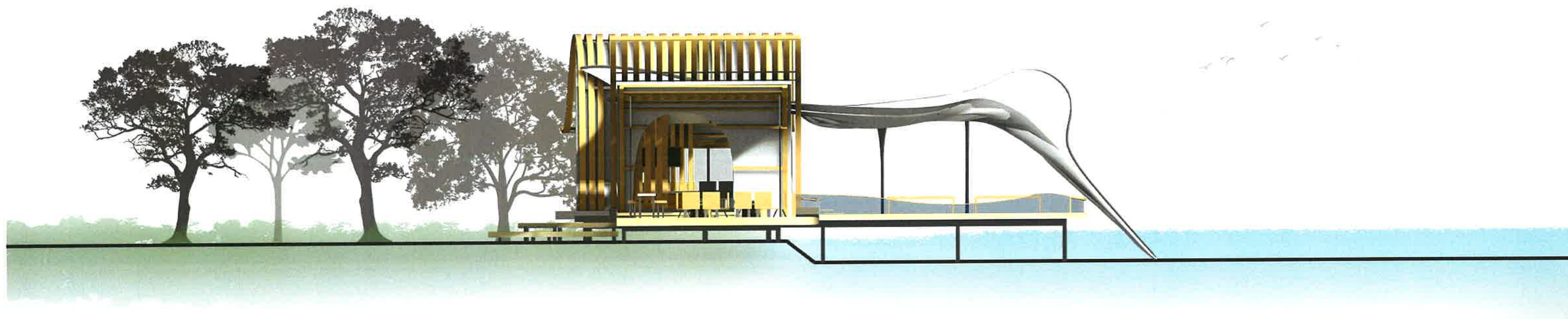
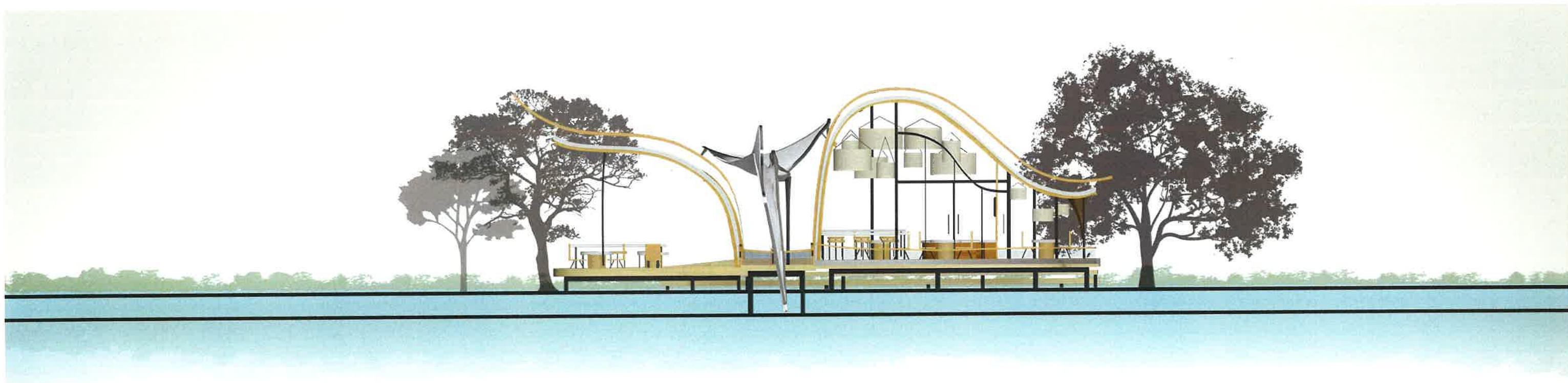








Design Exhibit, The Heron







Final Evaluation

The Heron is a gelato and coffee shop, providing visitors to Wenderholm Regional Park with a unique experience to connect with the serene nature and beautiful views of the Puhai Estuary, while enjoying a summer treat. Showcasing the essence of the kōtuku and its symbolism, the design features a tensile structure and a wing-like form to achieve the effect of a heron about to take flight. The Heron is situated along the Wenderholm peninsula, facing the estuary and framed by pohutukawa trees. The location is an idealistic summer retreat from the city. The platform over the water provides visitors with a panoramic view of Auckland's most historic regional park.