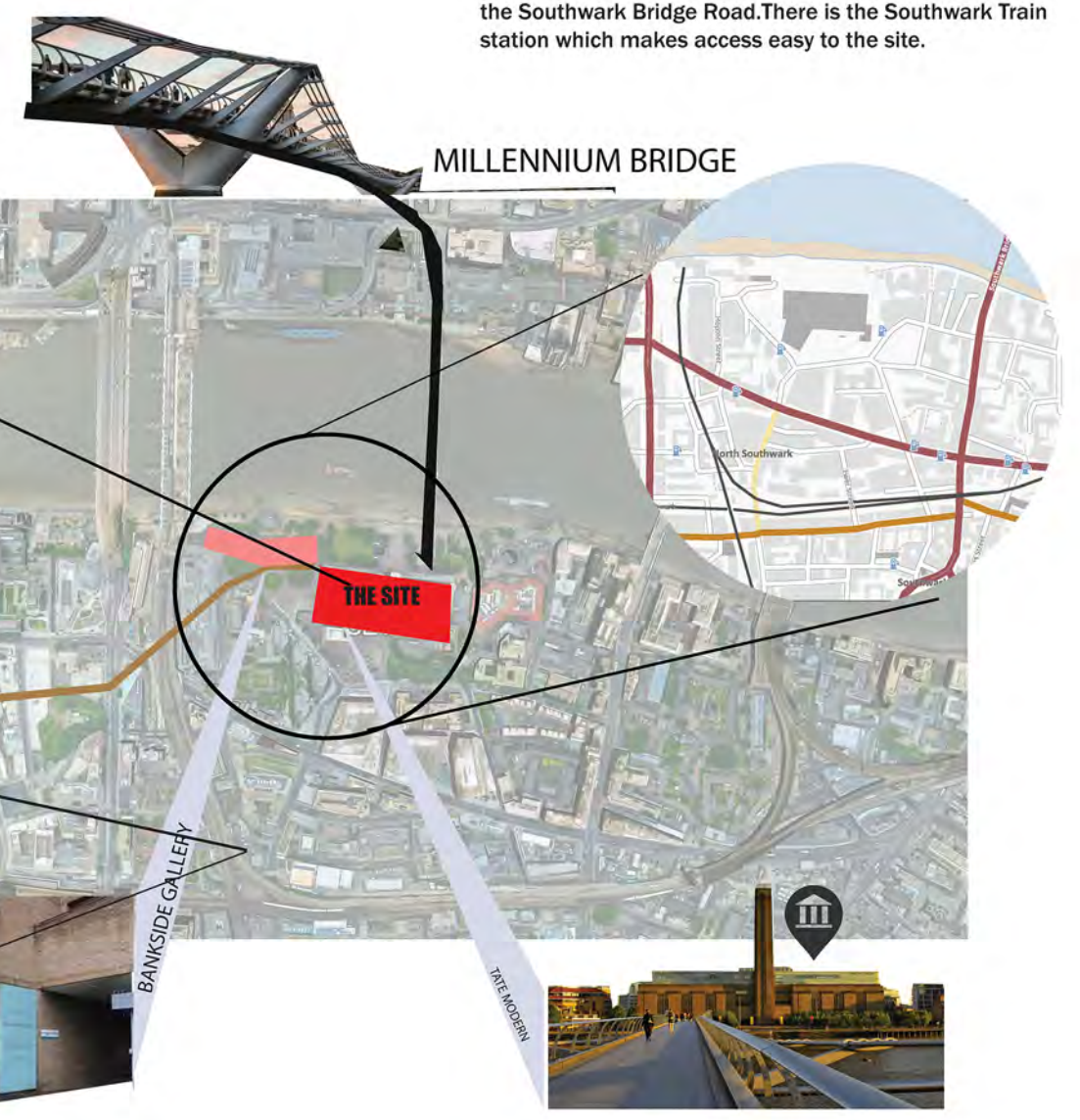




DESIGNING A SUSTAINABLE PUBLIC TOILET **“THE GREEN HOUSE PUBLIC SPACE”**

SITE ANALYSIS & TRANSPORT

Tate Modern is Britain's national museum which comprises of modern and contemporary art and is known to be the world's most visited contemporary art gallery. The is in the converted former Bankside Power Station on the banks of the Thames, along with the Turbine Hall. Visitors are welcome to come to the museum for free to visit and great works of art from Louise Bourgeois, Yayoi Kusama, Henri Matisse, Cornelia Parker, Pablo Picasso, and Mark Rothko but there are also many more



Transport around the site is makes it easily accessible for the main road which is Southwark street as well as the Southwark Bridge Road. There is the Southwark Train station which makes access easy to the site.

SITE ANALYSIS & USERS OF THE SPACE

1. Many of the users will include urban walkers who would visit the museum and surrounding on week-days. Surrounding the museum are many other locations like the Sharwick Bridge Road which may mean that people need access from there too.

2. Visitors like local shoppers of the area and tourists who may visit the museum and surrounding on trips will need access of the toilet

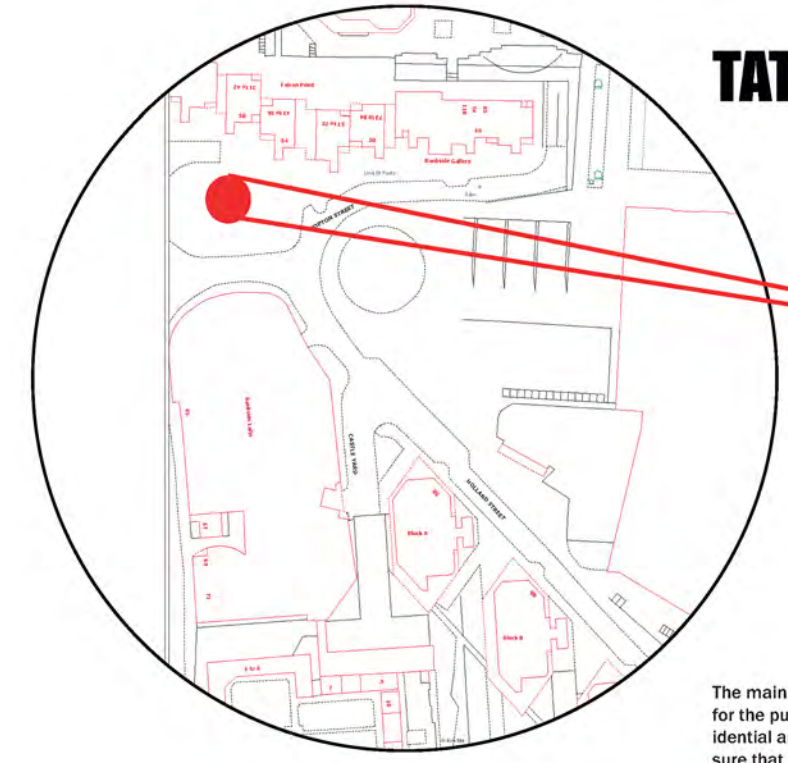
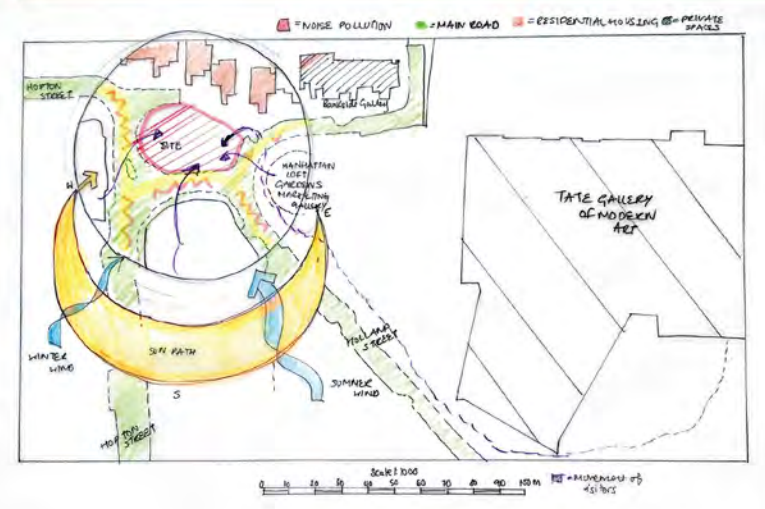
3. Staff: Additionally there will be facilities for the staff like for maintenance and security and also designed in a way for storage for staff belongings and toilet supplies.

4. Other users it will need to accommodate is families with kids of all ages and also people who come by different transports along with cyclists etc. Other users are those with young children for changing facilities/ also accessibility for disabled people



Inclusivity:
The space will need to be designed to provide a secure environment for everyone as well provide facilities for families with kids and elderly.

Accessibility:
The toilet will need to ease of access and also have the facility access of 24 hours as there may be people and visitors around.



TATE MODERN | Site Decided

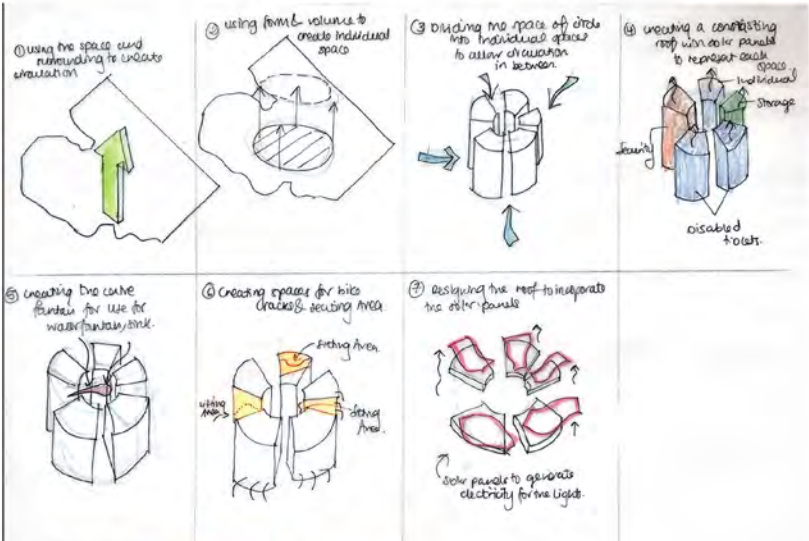
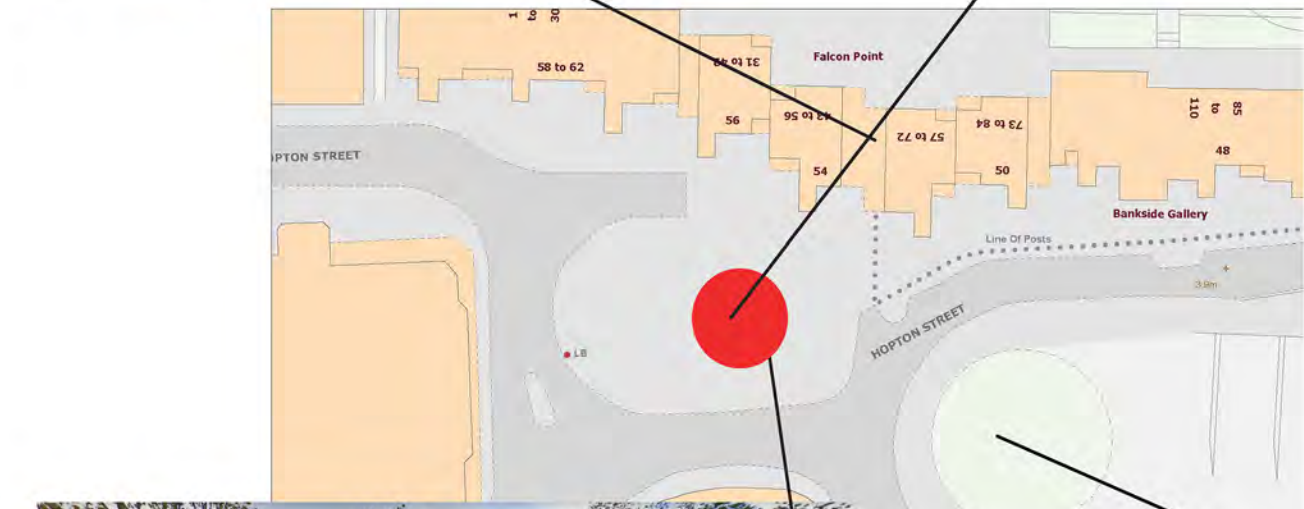


The main site chosen was the Tate Modern Gallery-with the site analysis done the space for the public toilet was chosen to be surrounding the gallery as well as central to the residential areas the gallery around. This enables enough circulation around the place-making sure that visitors are able to use the toilet easily.

SITE SURROUNDINGS & CONCEPT DIAGRAM



The concept for the gallery design was to experiment with the form and volume and create a design of the toilet so that people around can circulate easily. The concept diagram shows how the design was chosen to be form a circle and then divided into individual cubicles. There would be both disabled toilet and toilet which can be used by all with baby changing facilities. Along with this the design also had the integrated roof with the solar panels which enables renewable energy to be used for the lighting for the public toilet.



Manhattan Loft Gardens Marketing Gallery

AIM OF THE PROJECT

The aim of the project is to design a public toilet space which can be used within one of the sites. Through research and site analysis carried out, the main site area which was chosen was the Tate Modern Gallery and specifically the area where the public toilet will be located was determined by the concept of light, form & volume and well as designing a public toilet which was both sustainable to use and can be eco-friendly to the area.

In 1889 Henry Tate, who was an industrialist-sugar refiner, offered the collection of the art to nation and this provided funtion for the first Tate Gallery.

Tate building was first introduced to it public in the year 1897-where there was a small collection of British artworks. This now expanded to four major sites/ national collection of British art.



Arts and antiques dealers Sir Joseph Joel Duveen (1843-1908) and his son Lord Joseph Duveen (1869-1939) made many contributions for the original gallery at Millbank. Extensions including seven new rooms to display the Turner Bequest in 1910 and the Duveen Sculpture Galleries were made.

Tate was known to be the patron of Pre-Raphaelite artists and the paintings to the National Gallery included- John Everett Millais' Ophelia 1851-2 and J.W. Waterhouse's The Lady of Shalott 1888. However the gallery was not able to offer the space for these paintings. Therefore a new gallery had to be made dedicated to British art. There was the £80,000 donation from Tate himself, the gallery at Millbank, (known as Tate Britain), was built / opened in 1897.

TATE MODERN | Site history

Between the 1947 and 1963-Power station was built in two phases -designed by Sir Giles Gilbert Scott. Consisted of a turbine hall, 35 metres high and 152 metres long and with boiler house / a single central chimney.

The site had been redundant since 1981

December 1992 ,decision was made by the Tate Trustees to create a separate gallery for international modern and contemporary art in London.

In 1994-The site was decided to be the former Bankside Power Station to be new gallery site. Following year, Swiss architects Herzog & De Meuron converted the space into a gallery.



In 1996-design plan were made officially-following a £12 million grant from the English Partnerships regeneration agency, the main changes were that the huge machinery was removed/the building was stripped back to its original steel structure and brickwork. Furthermore the turbine hall became an entrance and display area. Also, the previous boiler house became the galleries.

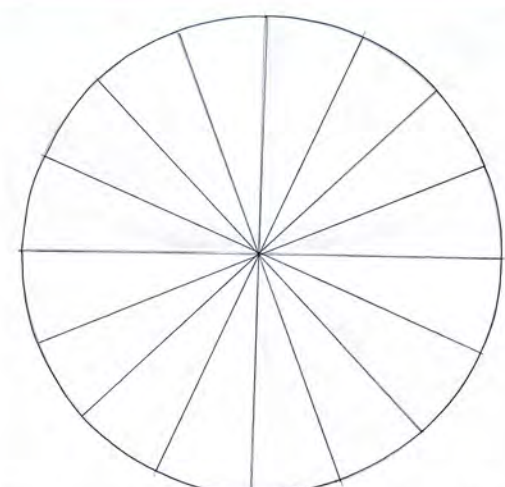
Opened in May 2000-more than 40 million people have visited Tate Modern. One of the UK's top three tourist attractions. Generates an estimated £100 million.

In 2009- a decision was to develop Tate Modern, the changes were made by Herzog & de Meuron, changes included the redundant oil tanks, increasing gallery space/ improved visitor facilities

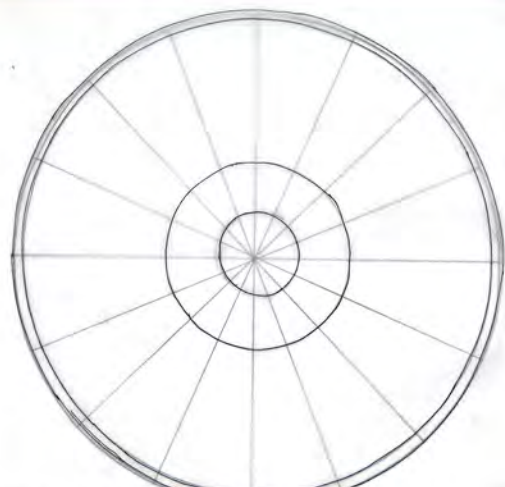


CONCEPT SKETCHES

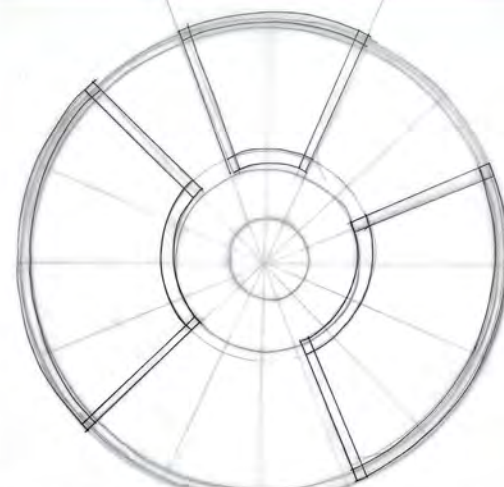
My concept for the public toilet is using the element of form & volume, light and material to create a design which is both functional and sustainable design. Using the technology of the compostable & waterless toilets as previously research, my concept is to form a design from the circle shape. Breaking the different sections into individual portions to create the toilet for all as well as toilets for disabled toilets and for those needing to have the baby changing facilities.



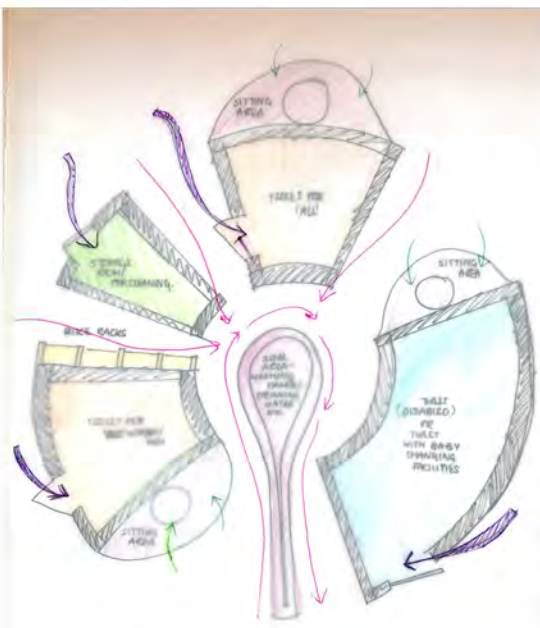
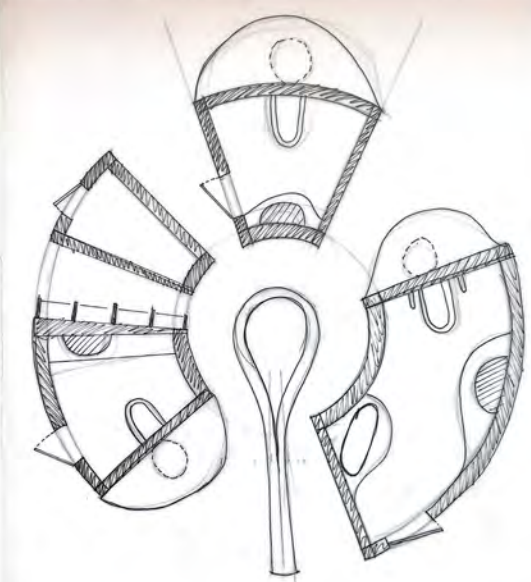
SHAPE-Using the circle shape to breakdown the different section into the individual areas.



INNER SPACE-Futhermore dividing the space into 2 zones one for inner space where there would be handwashing facilities as well facilities for drinking water etc.



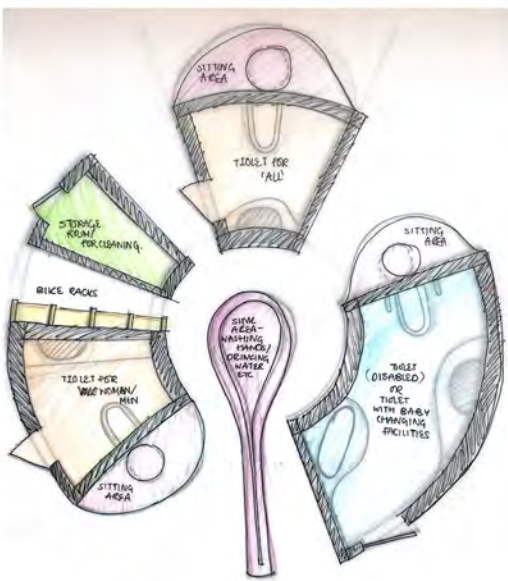
ZONING-Zoning the toilet individual out to create the main design of the toilets. Incorporating the idea of form and volume and working with the space to individually create circulation spaces.



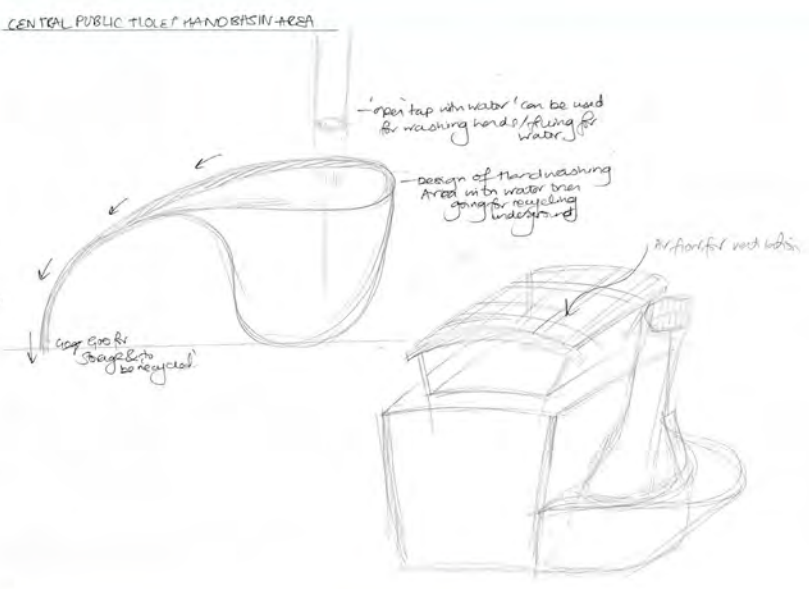
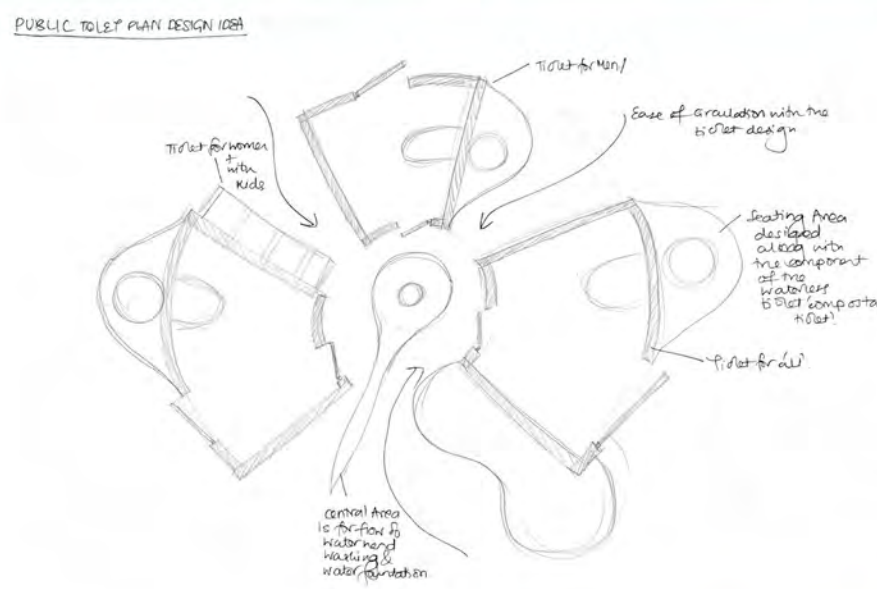
CIRCULATION-The shape of the circle reinforces ease of circulation around the public toilets. The individual cubicles of the toilet are spaced out within ease of movement. Visitors are able to access the toilets and also if wanted can use the seating area individually as well as the sink area in the middle.

The design of the toilet makes it unique in the area where it's a space which are comfortable to use.

STRUCTURE-The toilet structure would be made from sustainable material like the sustainable recycled wood. Space has been divided into the 3 individual toilet cubicles as well as space for the storage space which will be used by the staff for cleaning and storage/electricals etc.



CONCEPT COLLEGE AND SKETCHES



WEATHER RESEARCH



MORNING AROUND 9:50 AM



AFTERNOON AROUND 4:50 PM



EVENING AROUND 9 PM

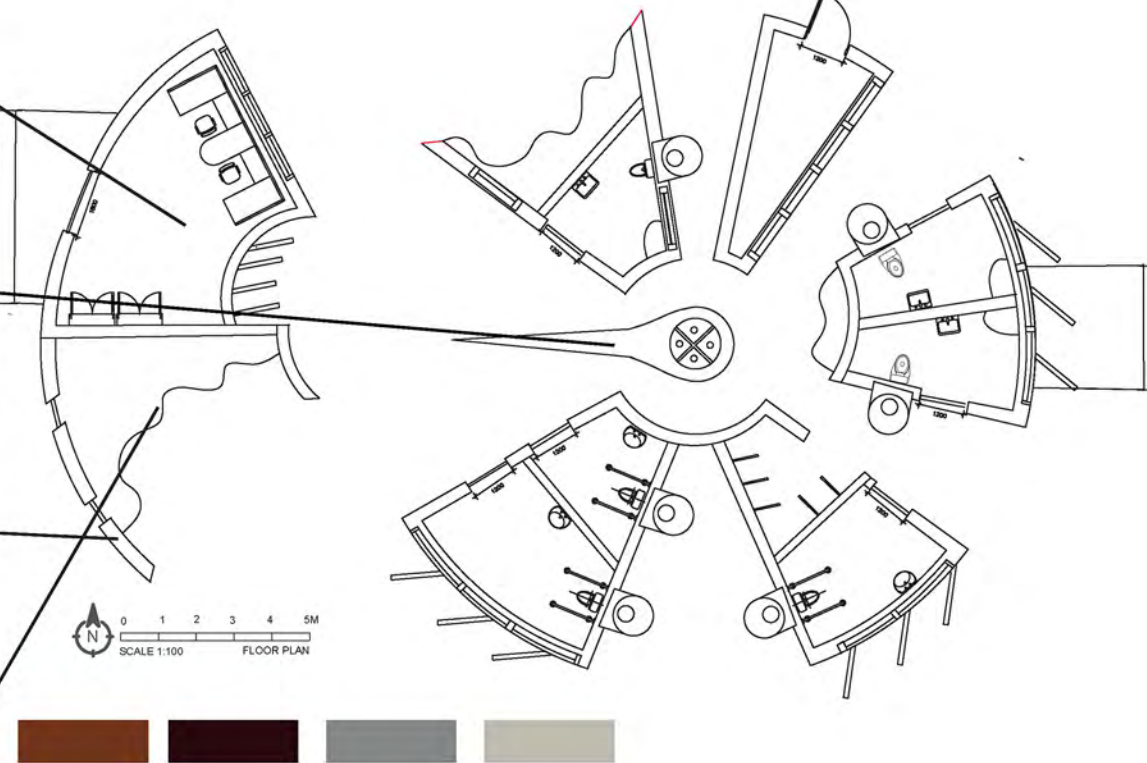
COLOUR AND MATERIAL PALETTE



For the material for the key feature of the fountain I decided to use concrete for contrasting against the recycled timber to give the design the minimalist look. Concrete is very important for the sink as the main structure of the sink has the element for the rain water recycling therefore this in the centre of the design

With my concept being about sustainability and making the public toilet all sustainable. The material choice for the construction would be to use recycled timber to give the design the natural look and also as recycled timber is cost effective when comparing to other materials. Also recycled timber for the roof and platform display would be used.

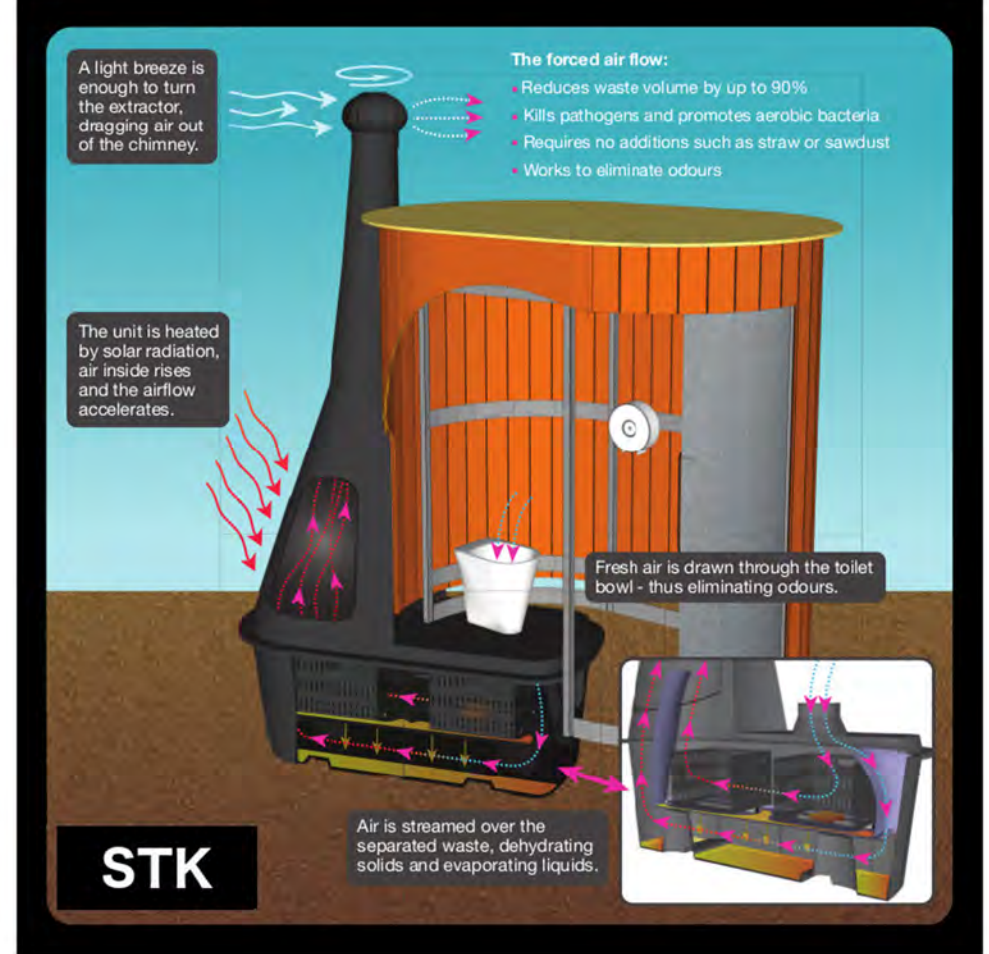
For visitors seating areas have been created in the design to enable visitors to sit, correspond with the minimal design black timber would be used for the construction of the sitting area.



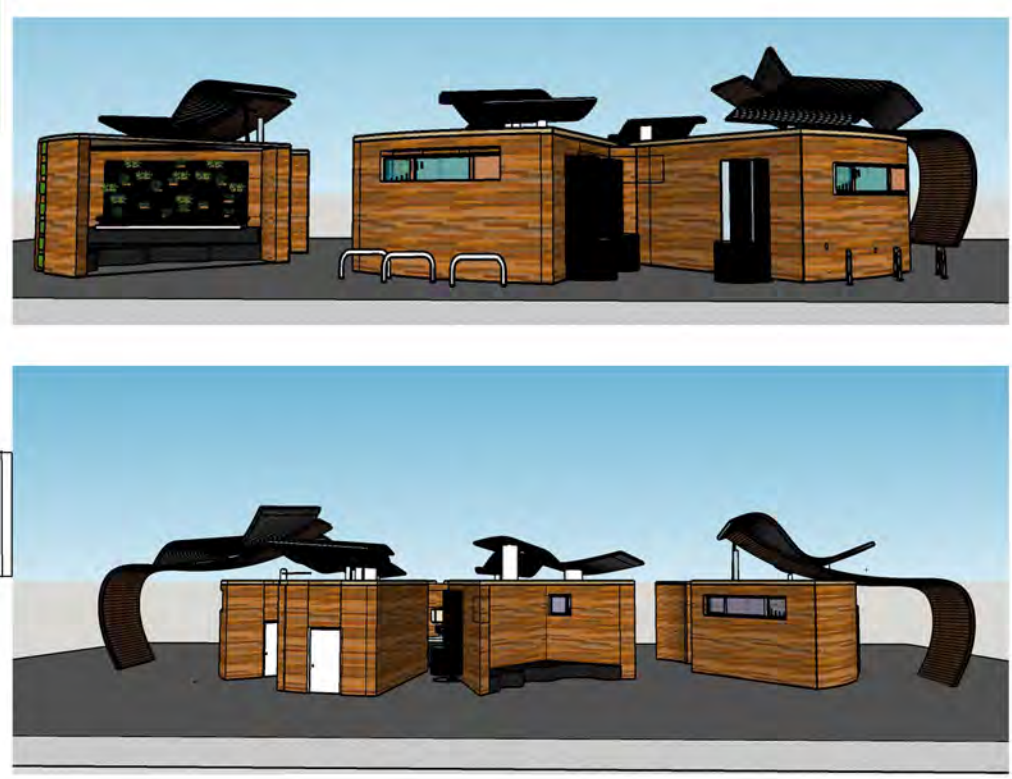
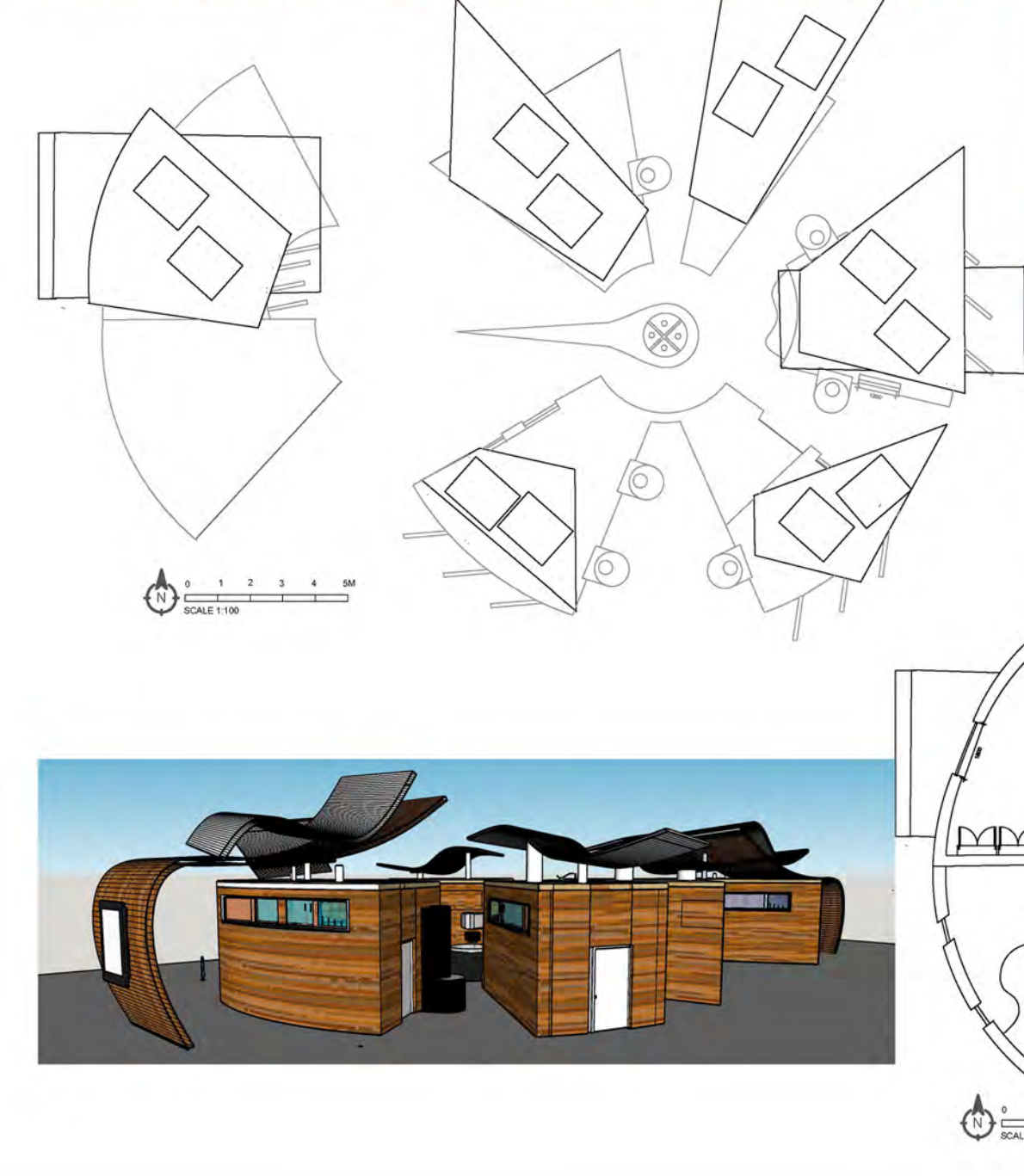
CONCEPT IDEAS AND RESEARCH

Waterless toilets

For my concept of simplicity and sustainable toilet design-waterless toilets are the options. This system uses the waterless and composting toilets. The example on the left shows a mechanism which is known for the drying mechanism. A sustainable option that uses no water, electricity or chemicals therefore making this very low maintenance and neutral compost toilets. There is a separation which works for the solids used. Solids remain in the basket and the liquid drains through the basket in a different tank underneath the ground. Unit heats up in the sun where the warm air rises as the temperature rises. Attached to the toilet structure is the extractor which is used for ventilation to let out the air. Also the air is drawn down the toilet which prevents backflow of odours. Human waste is mainly 90%. Flow of air inside reduced the waste and uses the evaporation and dehydration process. Airflow removes bacteria in this process.

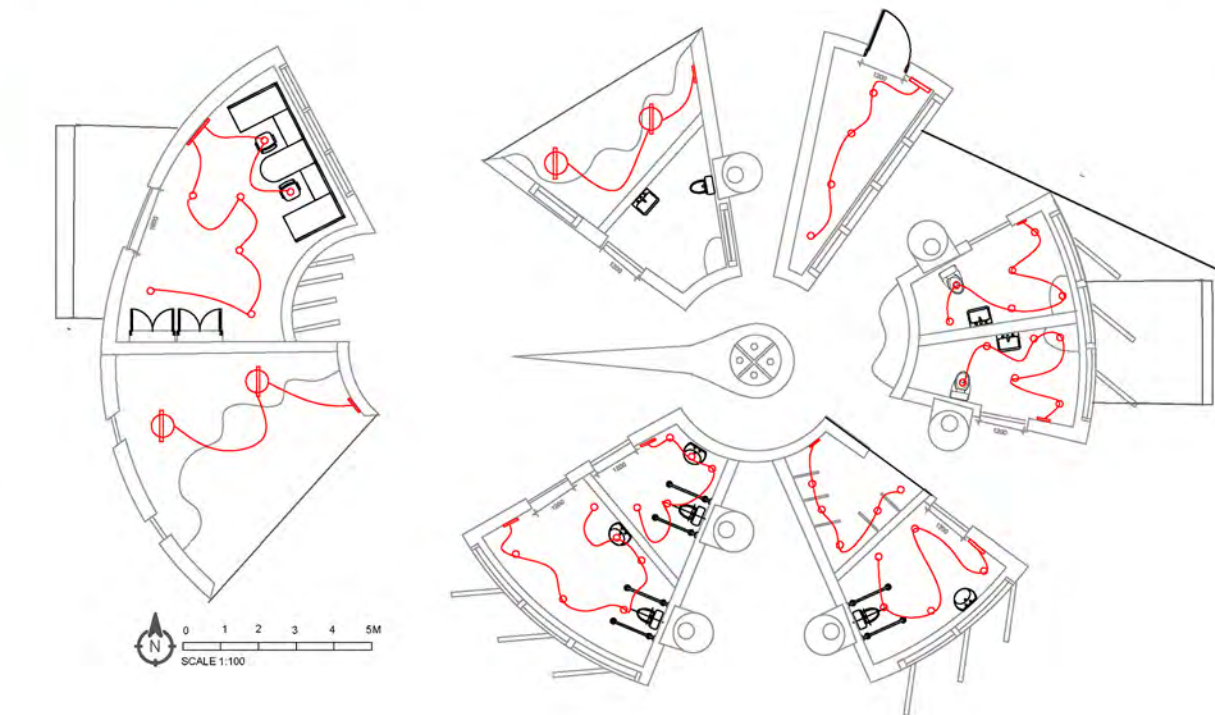


FLOOR PLAN & ROOF PLAN 1:100



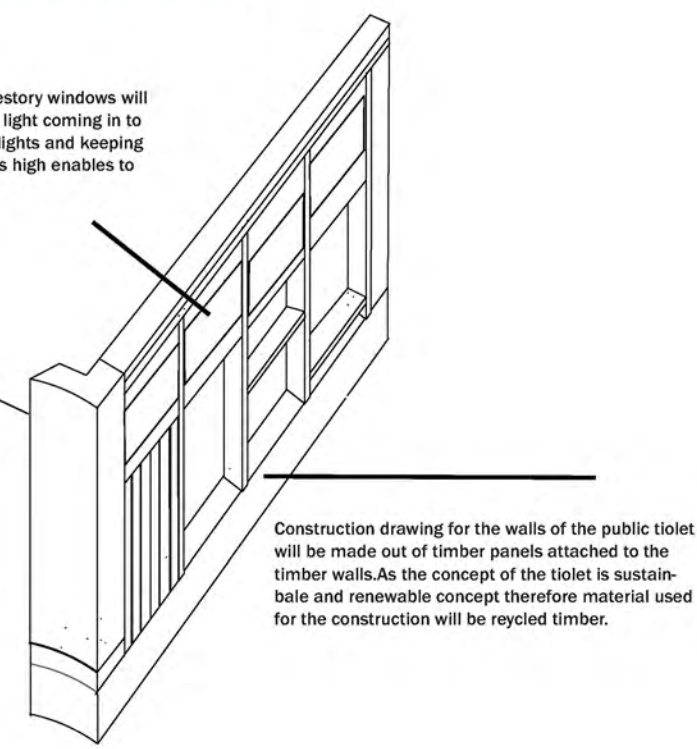
EAST ELEVATION 1:100 & ELEVATION WITH CONTEXT 1:200

LIGHTING PLAN 1:100

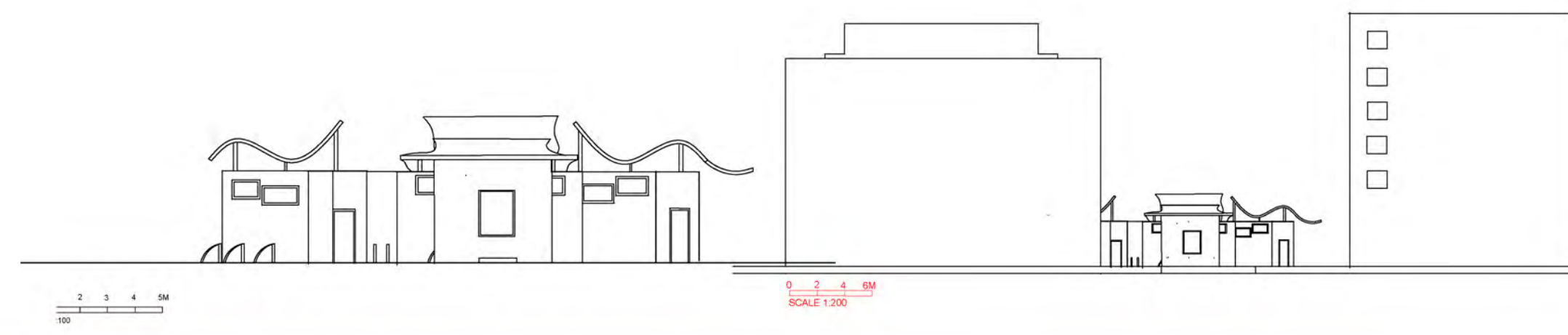


CONSTRUCTION DRAWING 1:50

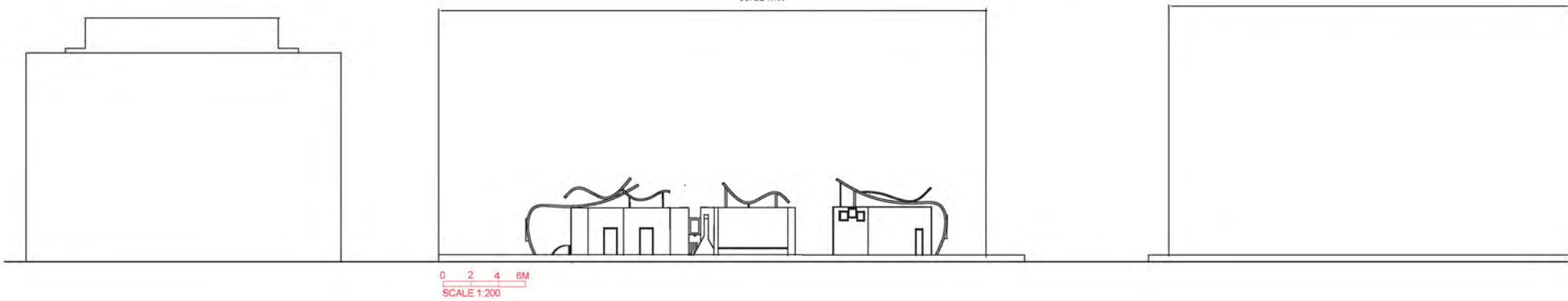
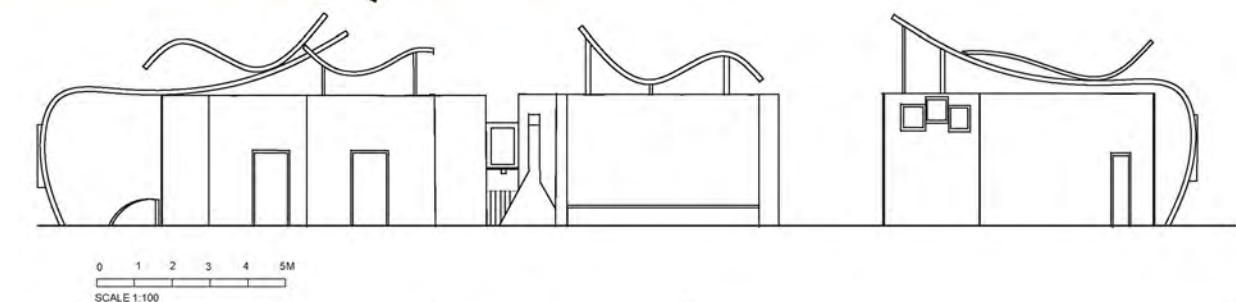
For the timber walls, clerestory windows will be used to maximise the light coming in to the toilets. Using natural lights and keeping the height of the windows high enables to use the maximum light.



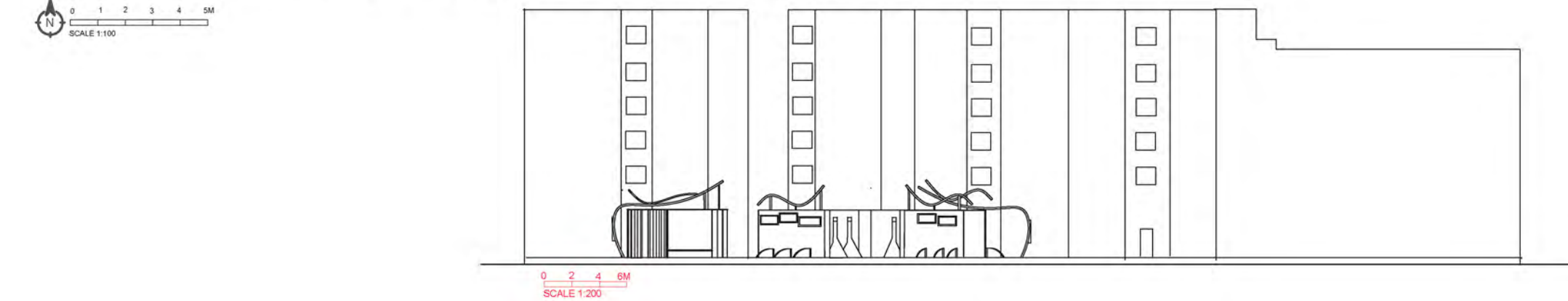
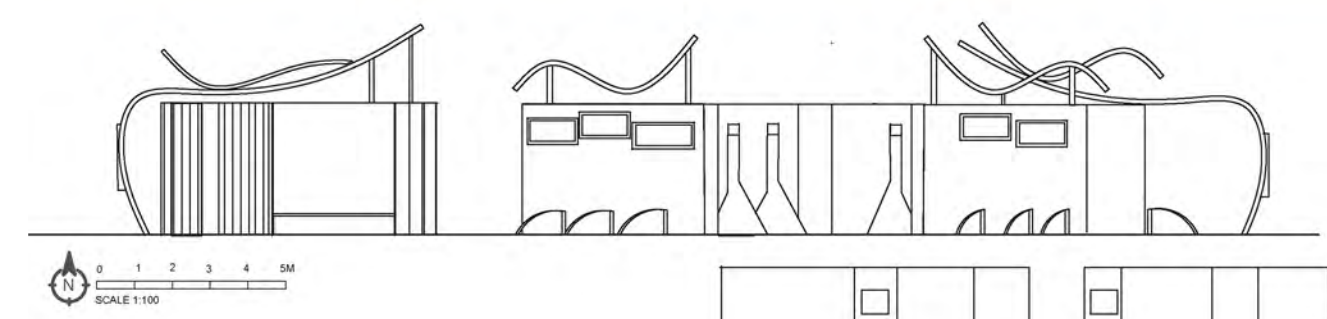
Construction drawing for the walls of the public toilet will be made out of timber panels attached to the timber walls. As the concept of the toilet is sustainable and renewable concept therefore material used for the construction will be recycled timber.

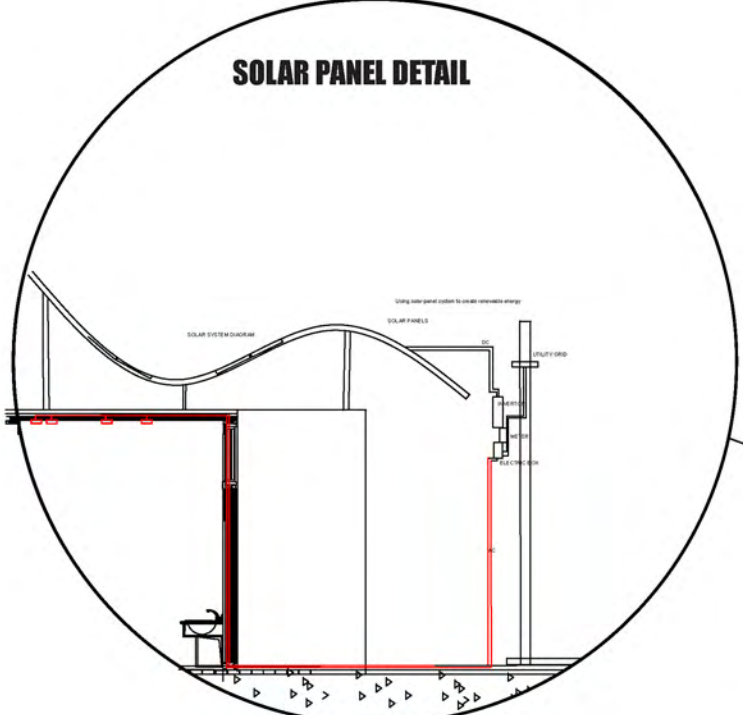


SOUTH ELEVATION 1:100 & ELEVATION WITH CONTEXT 1:200

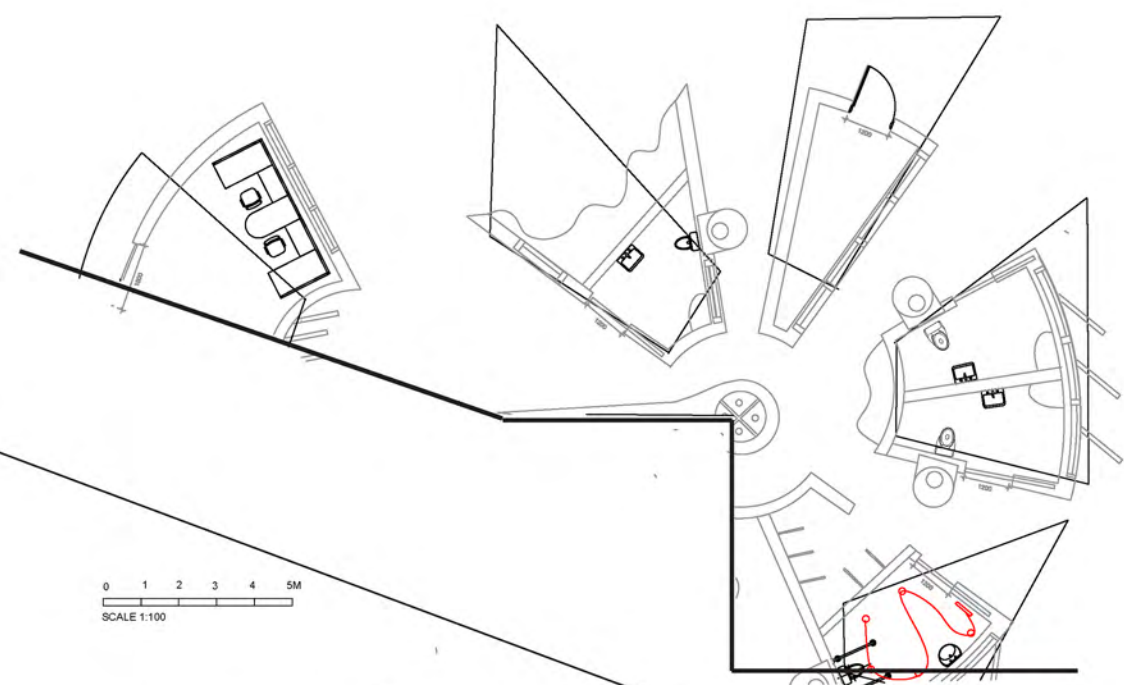


NORTH ELEVATION 1:100 & ELEVATION WITH CONTEXT 1:200

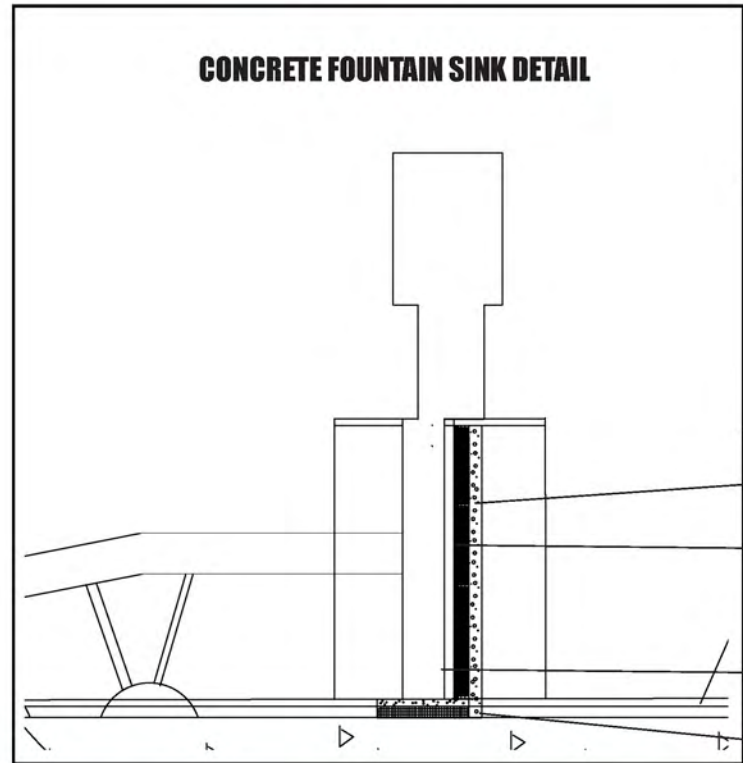




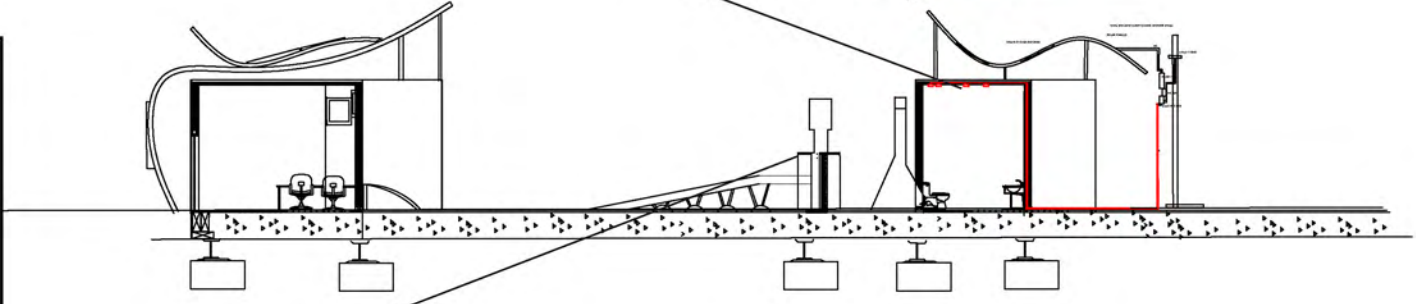
SOLAR PANEL DETAIL



0 1 2 3 4 5M
SCALE 1:100

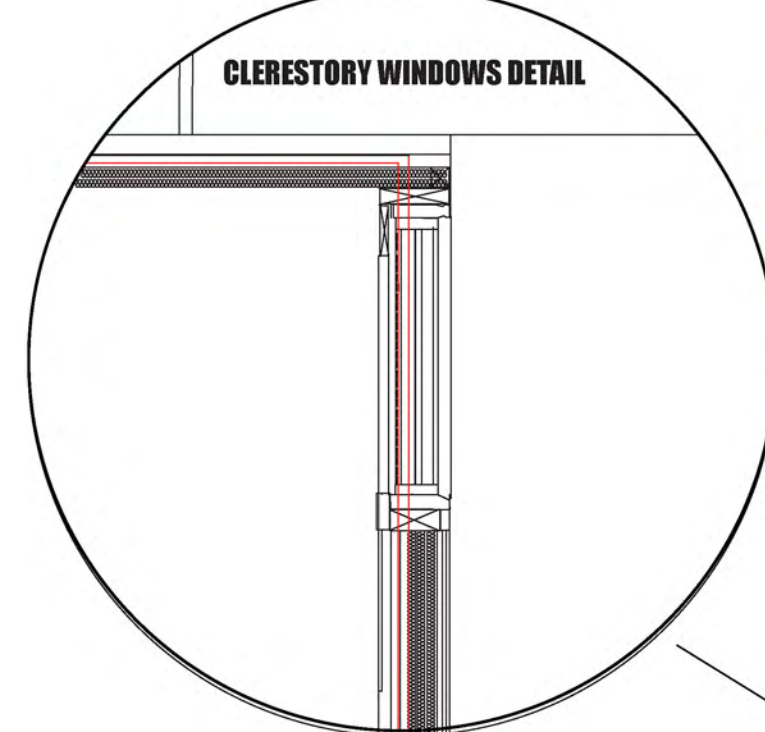


CONCRETE FOUNTAIN SINK DETAIL

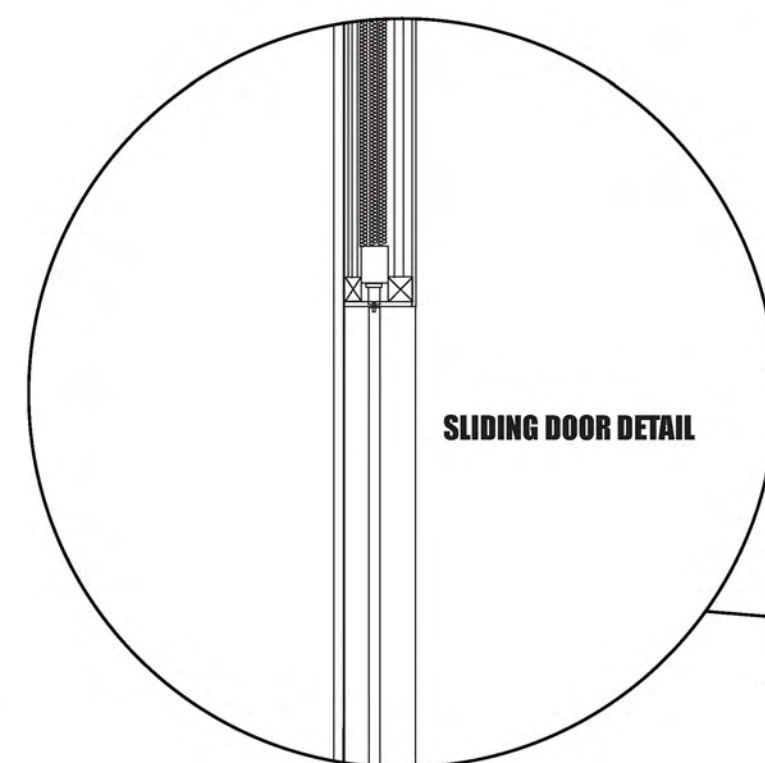


- Concrete slab for the sink wall
- Precast concrete panel for the wall for the sink
- Wood studs for the concrete wall
- Crushed stone under the concrete slabs

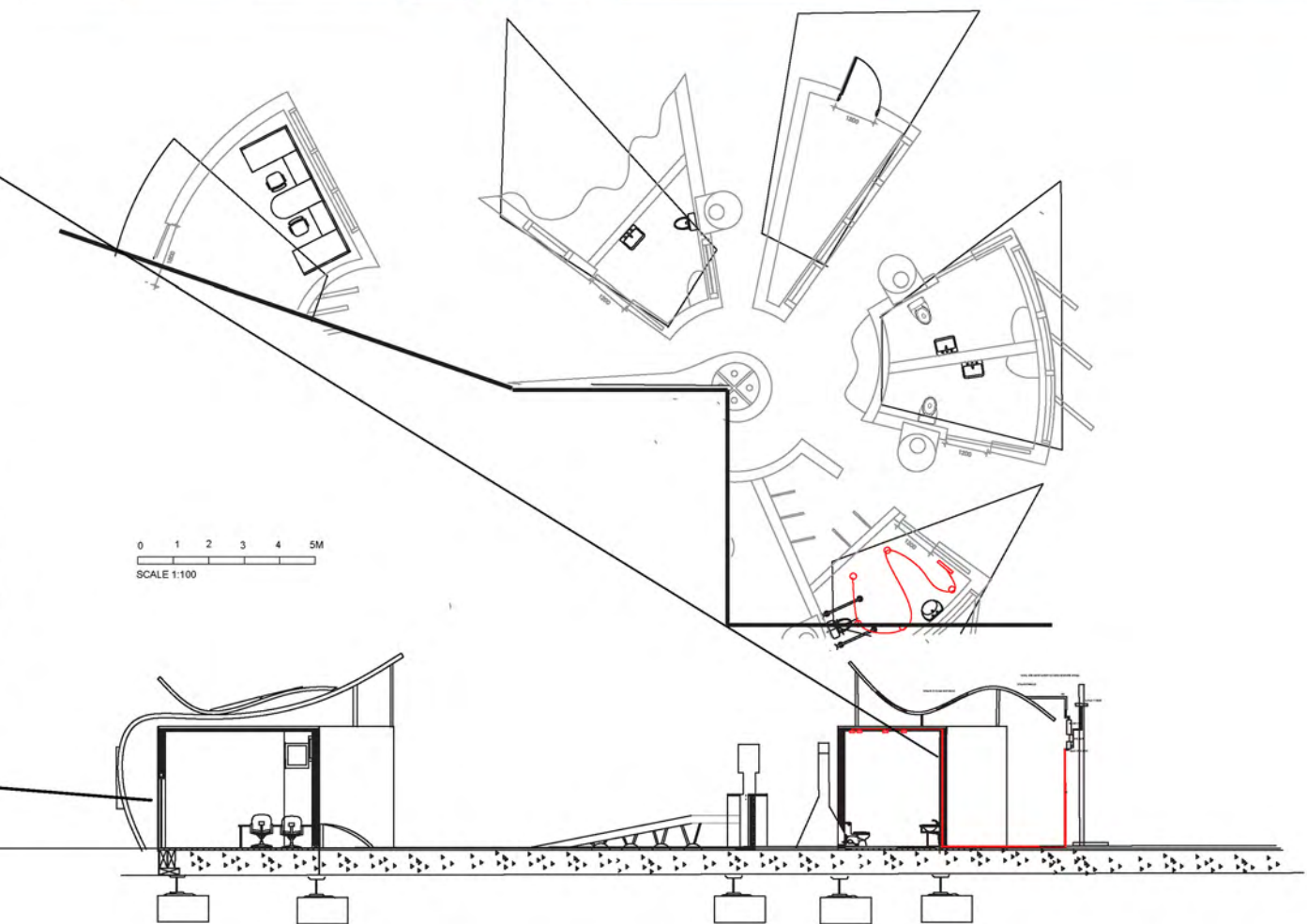
SECTION 1:100 & SOLAR SYSTEM



CLERESTORY WINDOWS DETAIL



SLIDING DOOR DETAIL



0 1 2 3 4 5M
SCALE 1:100

PHYSICAL MODEL 1:50 & RENDERS OF KEY FEATURES OF THE SPACE

