

PIPELINE

Max Cochrane
AD676



CRISIS

Brighton sits along the southern coast of the UK, sea levels have been rising by 4mm each year, this is [expected to increase over the next 20 to 50 years](#). Given Brighton is right on the coast, it is at [higher risk of being overwhelmed](#). Climate central predicts huge sections of Sussex will be hit by annual coastal floods [within 30 years](#), and by 2050 large portions will fall below sea level.

2030 a meteor strikes a glacier increasing the sea level rise by 40 feet [submerging much of Brighton's seafront](#). This unexpected rise causes numerous businesses to be affected as well as cause problems for Brighton as a tourist hotspot.

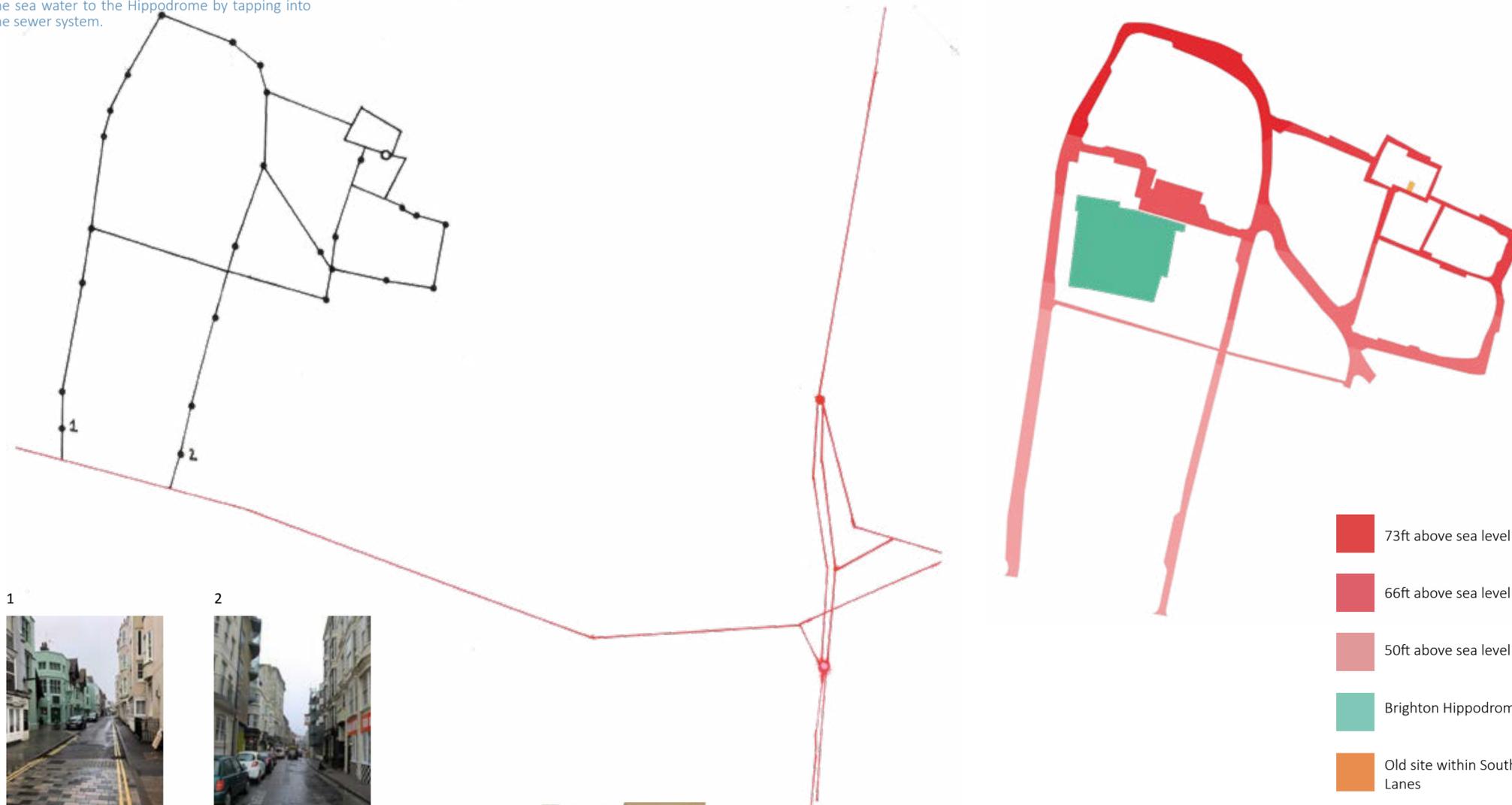
In need to respond to the crisis and solve the tourism issue, Brighton council investigates potential solutions to turn the negative into a positive.



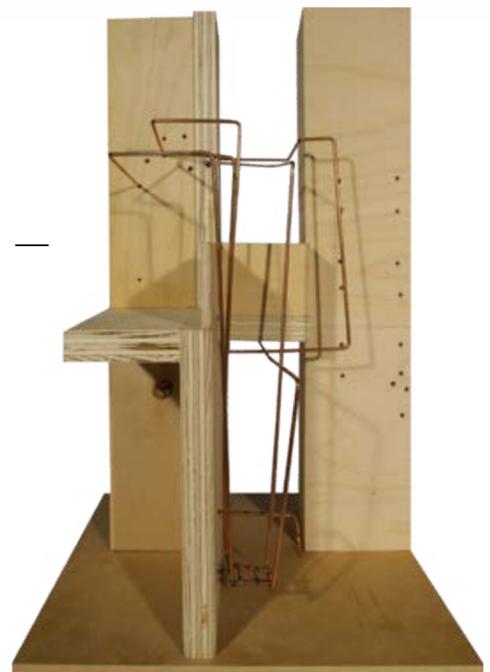
SITE CONTEXT

The Hippodrome is located very close to the seafront and entrance to the [old Brighton sewer systems](#).

The Hippodrome sits on a sloped surface, being at around [50 feet above the sea level](#). Being not so far from the sewage systems, copper pipes will [carry the sea water to the Hippodrome](#) by tapping into the sewer system.

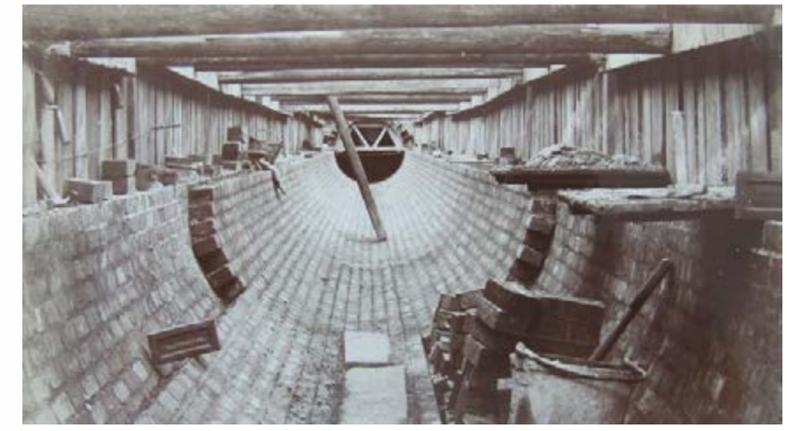


- Old site ————
- Manhole
- Pipe routes
- Existing sewer system
- Sewer entrance
- Sewer exit



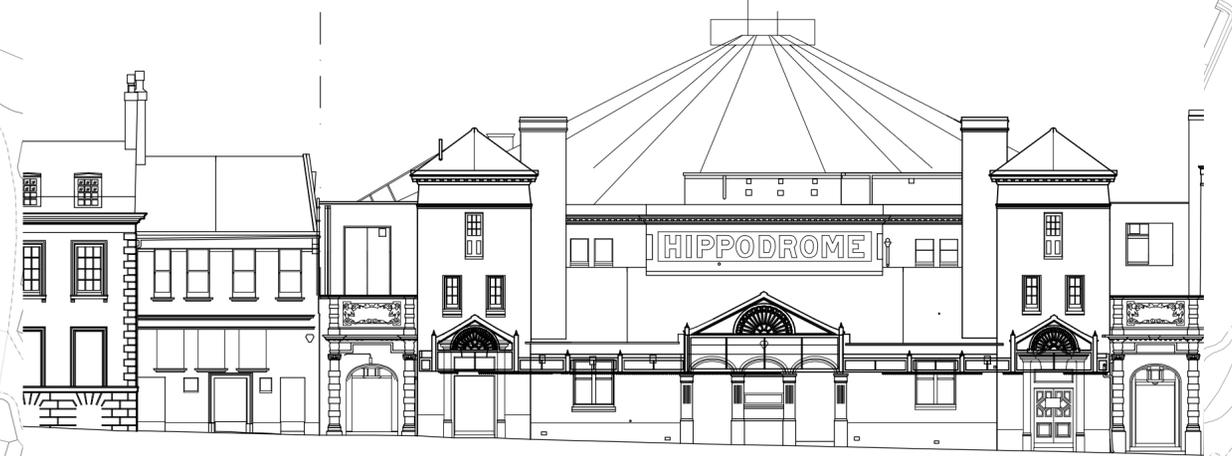
Brighton sewers:

- Until mid 1800s, most of Brighton's sewage drained into cesspools at the back of houses.
- 1860 the council orders the construction of a system that will deliver sewage into the sea.
- 1874 a 48km long sewer system is built underneath Brighton.
- Old tunnel that runs from Hove to Portobello still serves as an emergency relief valve during heavy rain.
- In late 1990s, a wide storm water collection drain was constructed.
- The entrance remains by Brighton pier, as well as an entrance at Old Steine.



HIPPODROME

The Hippodrome, a grade II listed building close to the South Lanes. Designed by Frank Matcham.



HIPPODROME

The Hippodrome has had numerous set of purposes such as

Ice rink 1897

Circus 1900

Vanity theatre 1901

1919 Extensions done

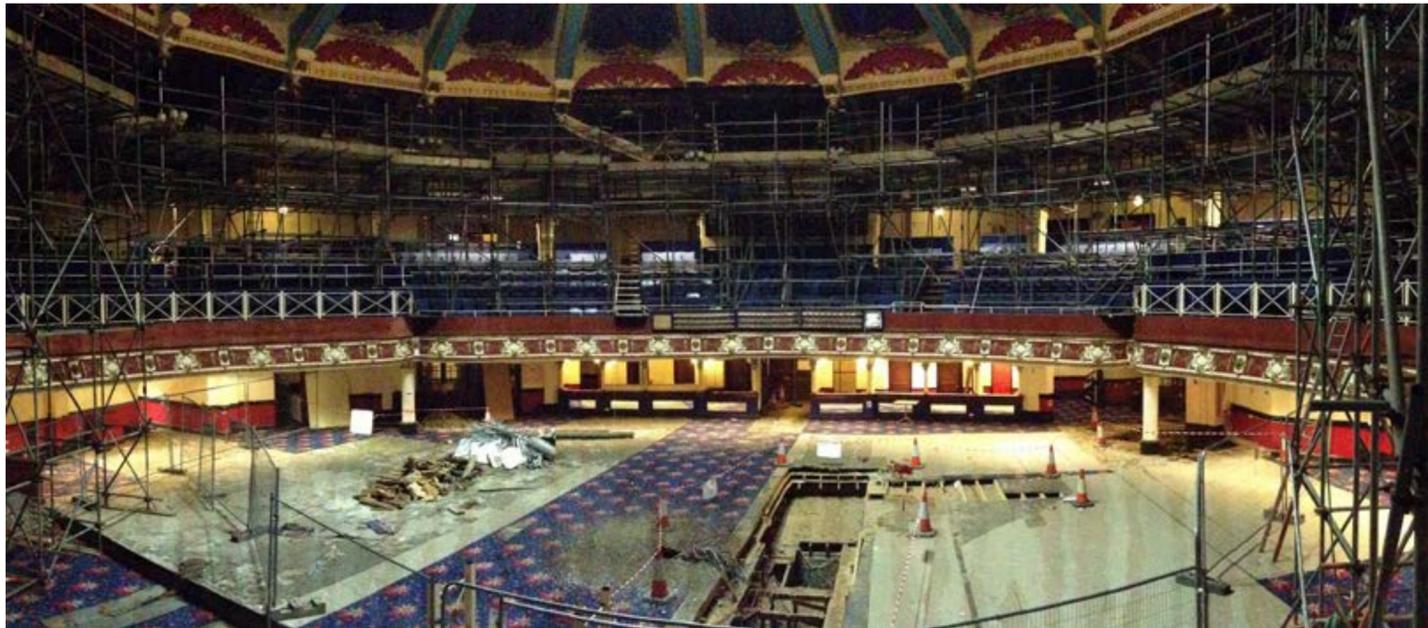
Theatre closed 1964

Television and film studio 1966

Bingo Hall 1967

Closed 2006

Transformed into the Salt Rock 2030



During the mid 18th century Brighton had begun to be perceived as a healing place. This was due to a dissertation and teachings of Dr Richard Russell. Patients were told of healing benefits from bathing and drinking sea water, especially the sea of Brighton which was more beneficial than that of spas. This would put in motion the transformation of Brighton from a small fishing village to a popular tourist holiday destination it is today.



Council responds by transforming The Hippodrome into a water distillation space, converting salt water into fresh water. Copper pipes will deliver water from the sea, via the existing sewer system.

The fresh water is distributed around the South Lanes for the public. Visitors are given a sample as they enter.

The salt removed is not sent away. It is instead used as a main element for the other programme of the Hippodrome

The Hippodrome will embody the healing qualities Brighton was known for in the 18th century by becoming a salt spa.

OPENING TIMES

LOCATION

- Mon 10:00 - 19:00
- Tue 10:00 - 19:00
- Wed 10:00 - 19:00
- Thur 10:00 - 19:00
- Fri 10:00 - 20:00
- Sat 11:00 - 20:00
- Sun 11:00 - 18:00

52 Middle St, Brighton BN1 1AL

Journey to the South Lanes, and if in doubt, the copper pipes will lead you to your destination.



The Salt Rock

Healing pods, healing water, healing space

Reverse osmosis and extraction of sea salt

Follow the copper pipes to the Hippodrome

AMAZING HISTORY

SPECTACULAR SCIENCE

ECSTATIC EXPERIENCE

HIPPODROME

WHAT WE DO

FOLLOW THE PIPES



The Hippodrome, one of Brighton's most treasured buildings. The grade II listed building holds a rich history, having had numerous programmes since 1897:

- Ice rink
- Circus
- Variety theatre
- TV Studio
- Bingo hall

Out of business since 2007, the Hippodrome is opening its arms back to the public, inviting you to come experience it with all its glory, for its latest chapter.

Since the 18th century, Brighton has been perceived as a healing place, people from all over the UK would come to bathe in its sea for its healing benefits. Here at the Hippodrome we continue this healing legacy.

The Hippodrome's reopening as a water distillation plant, taking water from the sea and converting it into fresh healing distilled water! You may have noticed the new copper pipes going through the South Lanes transporting water to the Hippodrome.

That's not all, people will now be able to benefit from visiting for the glorious salt spa, a place people can feel the effects, breathe better and feel great. If one fancies a visit and perhaps a drink there is also the Hippodrome bar, one can surround themselves with the healing benefits of the reborn Hippodrome coming soon.

We welcome you to enjoy a fantastic experience at the Brighton Hippodrome. Experience the history, learn some about science, and reap the benefits of salt therapy

FOLLOW THE COPPER PIPES TO THE HIPPODROME



This will use both Himalayan salt bricks, and salt extracted from Brighton sea water to create salt therapy spaces.

This will allow visitors to come and have halo-therapy sessions. This salt therapy involves being in a room filled with salt, breathing in the particles. Sessions go for 45 minutes and are said to reduce anxiety and certain breathing issues.

Both the climate crisis and tourism have been effectively responded to. The negative of extra sea water, is distilled into a positive of an increase in drinking water. As well as this tourism will have a new interactive, fascinating site to visit. They can immerse themselves within the history of the space, and Brighton will once again be seen as a healing area through the rebirth of the Hippodrome.



PROCESS

Within the distillation process there are two main elements that will both have various outcomes. The salt, and the distilled water.

The process all starts with the same origin:

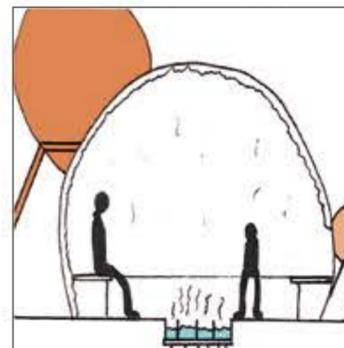
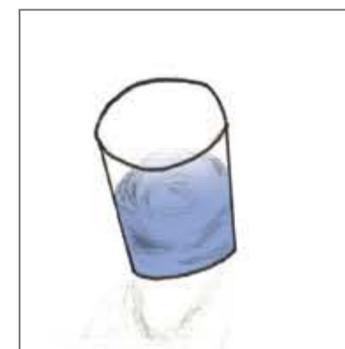
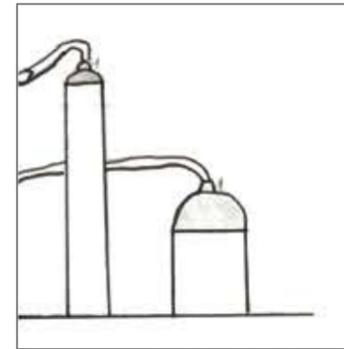
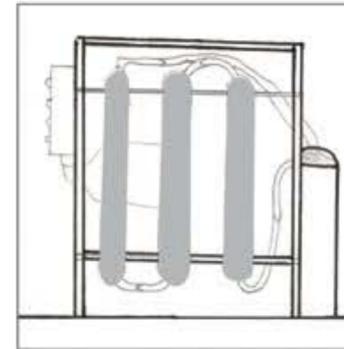
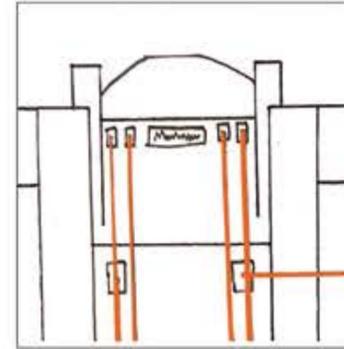
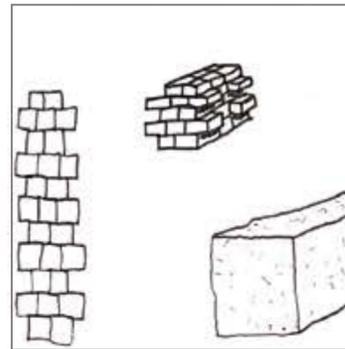
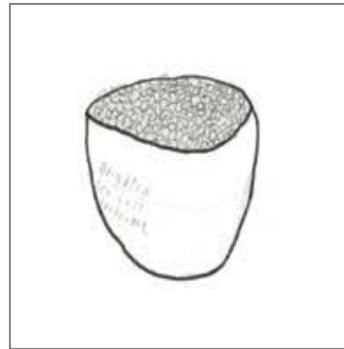
1. **Sea water** is taken and transported to the Hippodrome using the **existing sewer tunnels and copper piping**.
2. **Reverse osmosis** machines separate as much fresh water as they can from the sea water.
3. The distilled water is stored in one pod and the remaining salt water is also saved. This is where the various paths take place.

Water:

- Fresh water is served to visitors as they enter
- The distilled water is transported to various shops around the South Lanes via copper pipes to be distributed to the public

Salt:

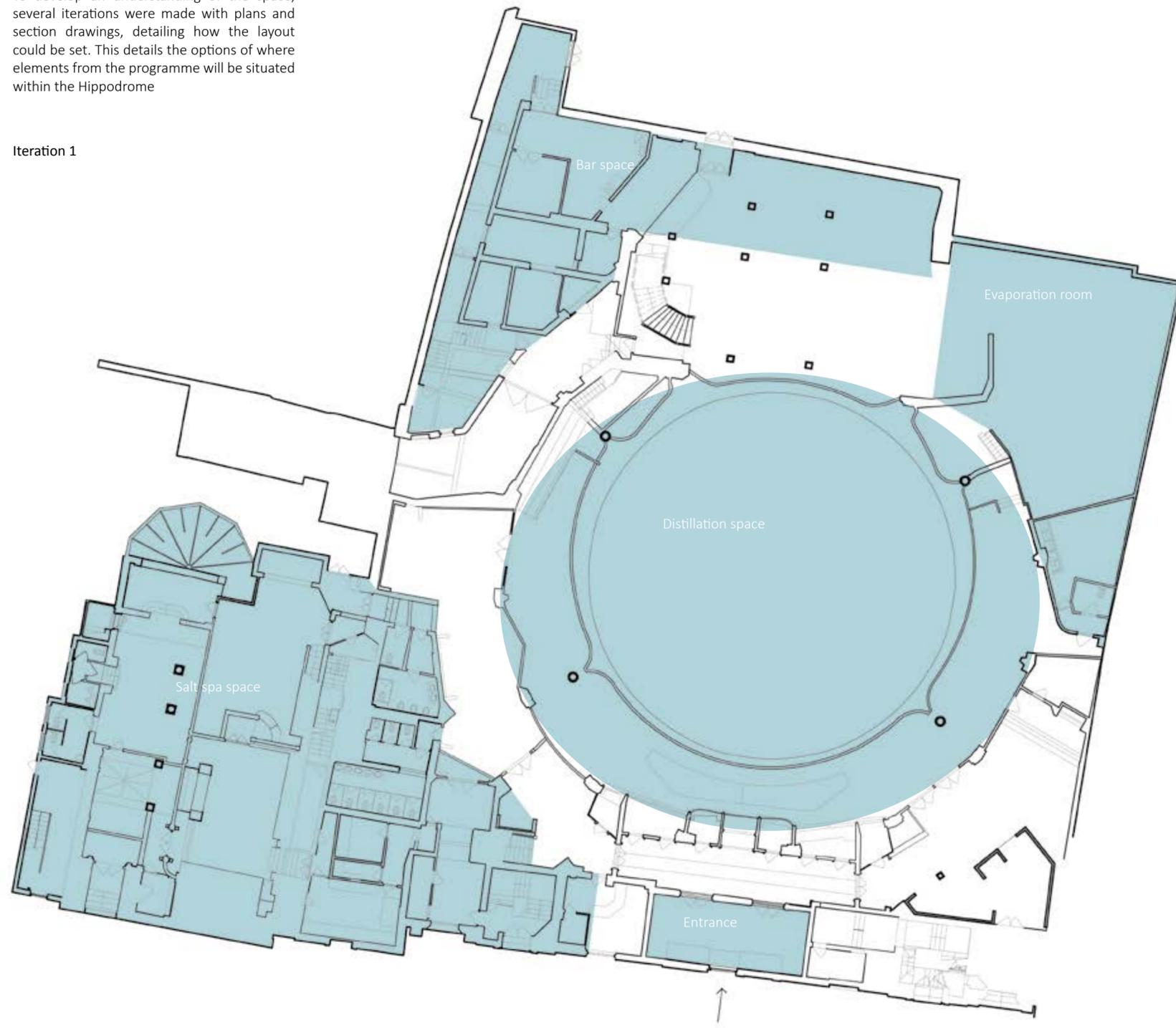
- Remaining salt water is used within the salt spa pods to create an added sauna effect. In order to extract the salt, the water is poured into a copper lined grid and boiled over and electric heater within the room. Once the water has evaporated and the salt is left behind it is collected.
- Salt blocks are formed and are used as the walls within the salt therapy rooms
- Sea salt is also distributed to visitors
- Salt is also used for tequila shots at the bar



GROUND FLOOR PLAN

To develop an understanding of the space, several iterations were made with plans and section drawings, detailing how the layout could be set. This details the options of where elements from the programme will be situated within the Hippodrome

Iteration 1



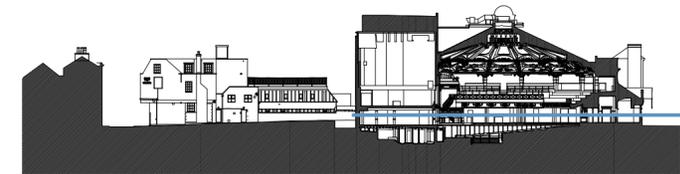
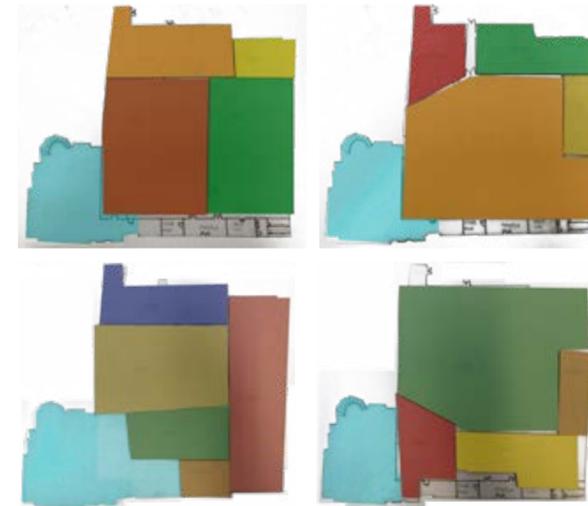
Numerous walls would be removed throughout several spaces, replacing smaller rooms with grander, larger spaces. The entire ground floor would be transformed in order to fit in a space for the spa, bar, storage and distillation space



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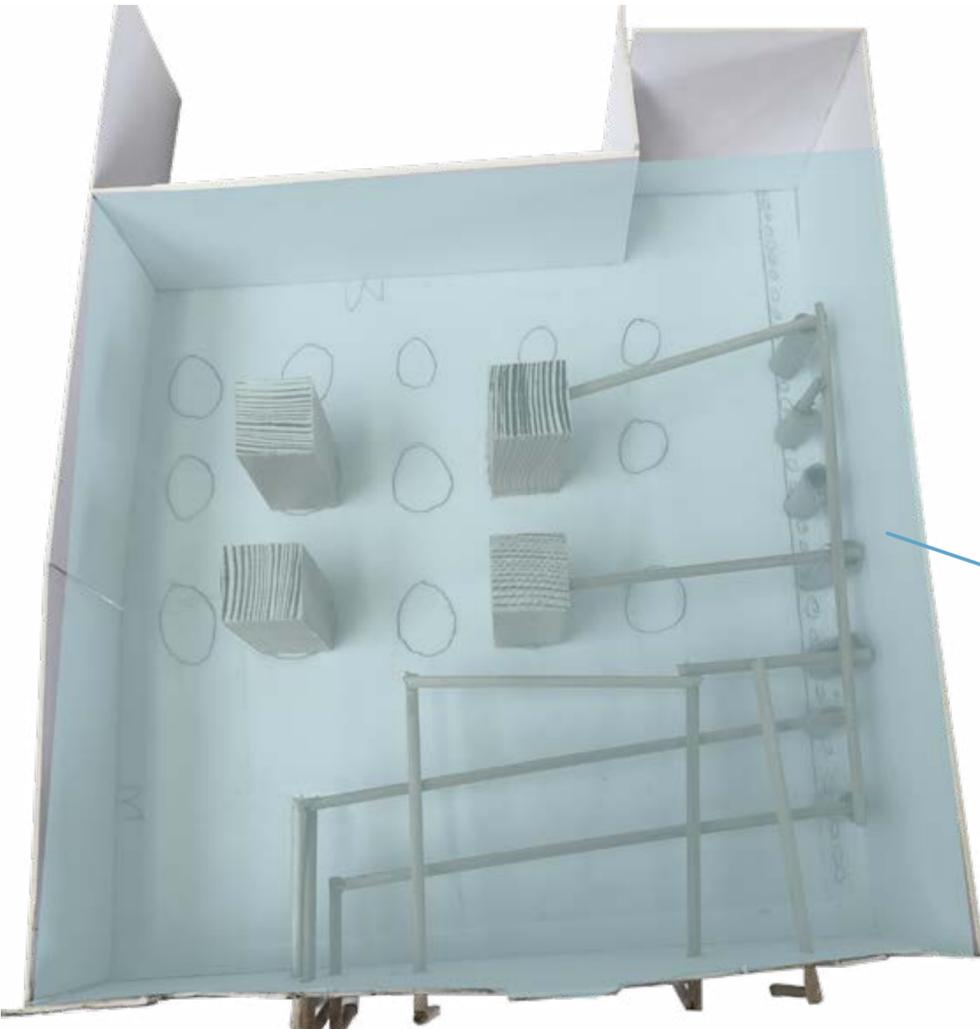


Pipes enter through the windows

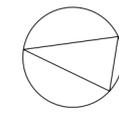
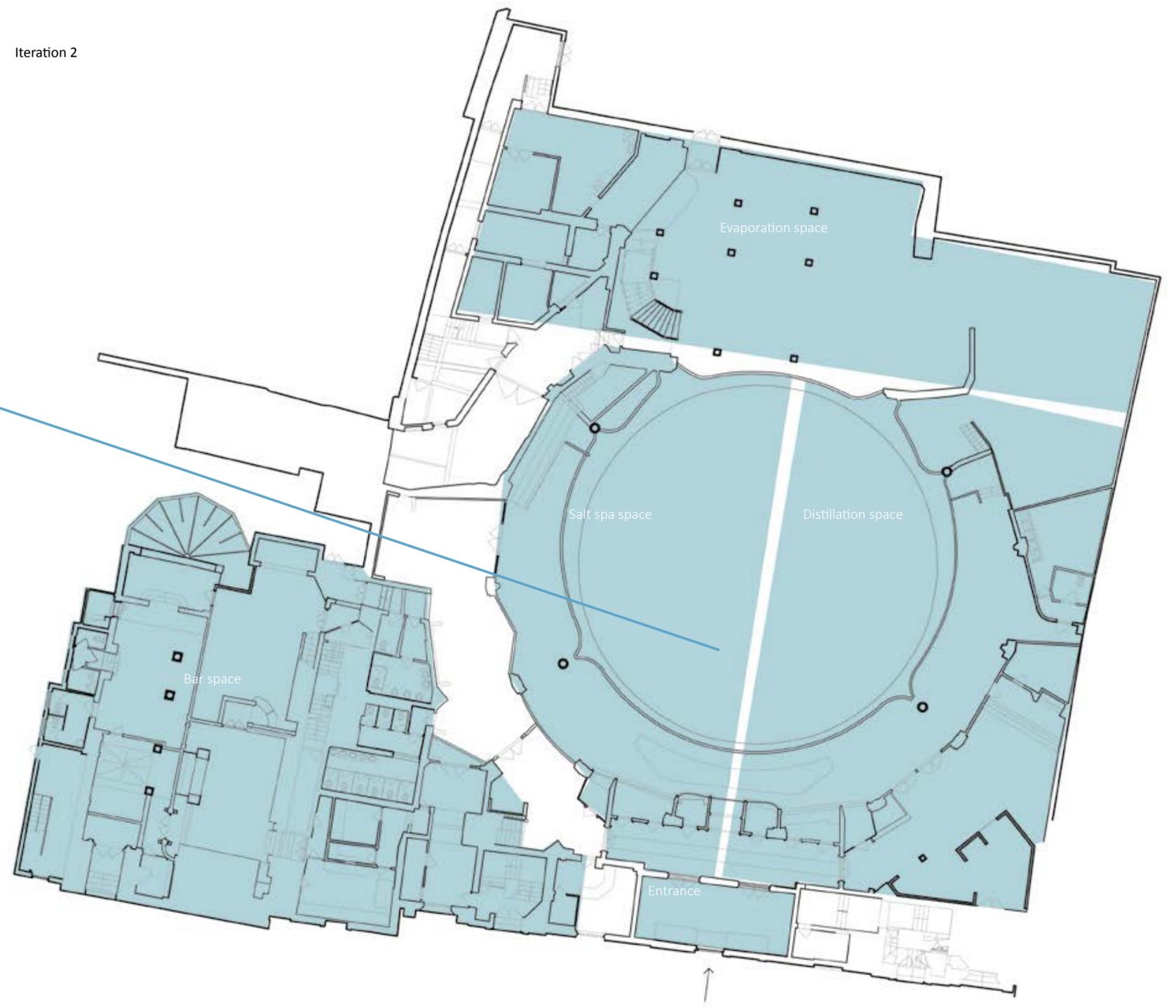


GROUND FLOOR PLAN

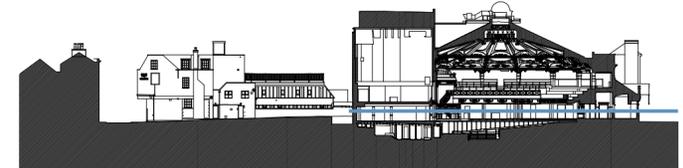
Iteration 2



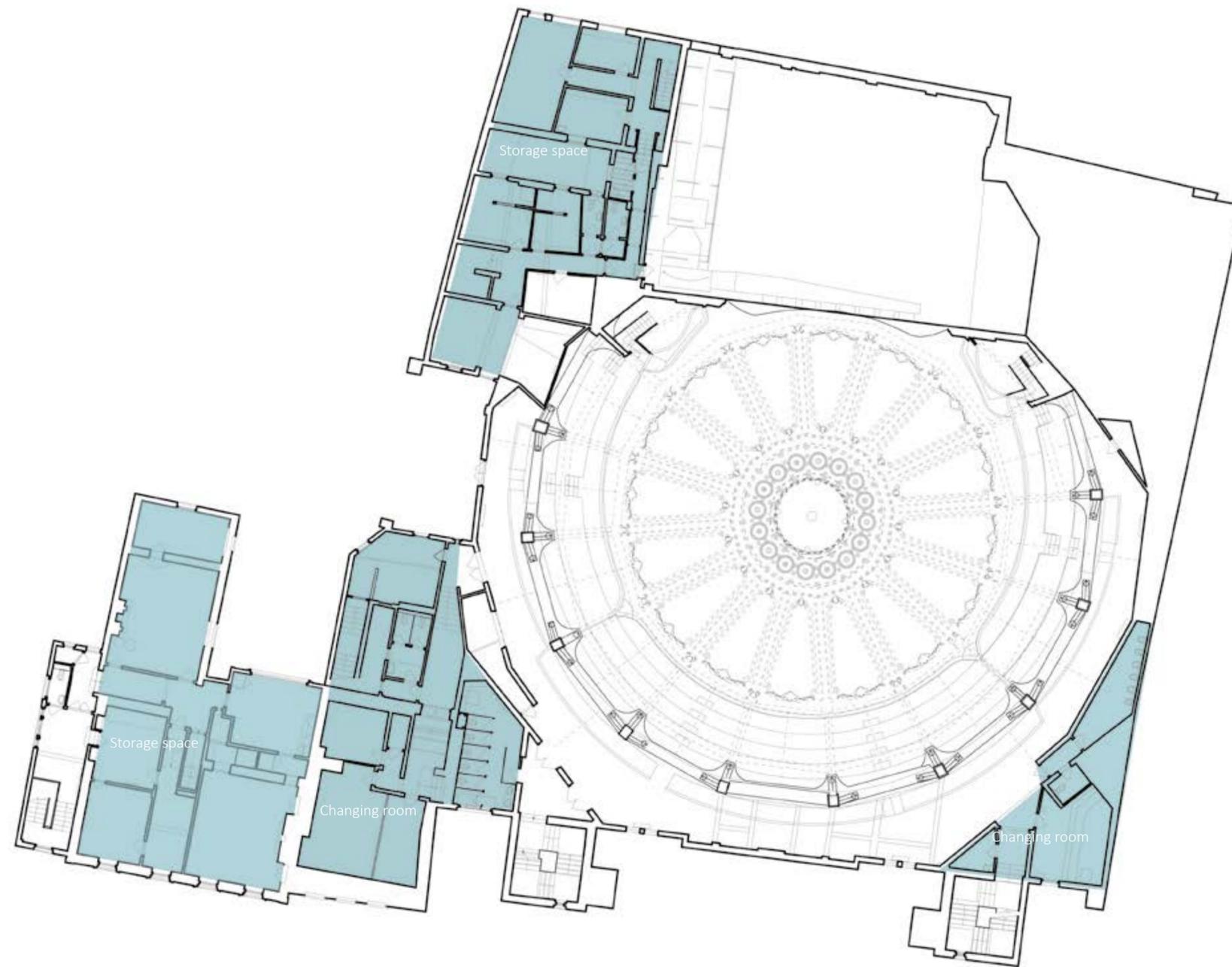
Potential have the pods scattered around the central space and the South wall will have all the reverse osmosis water vessels dominate it.



1 - 200



FIRST FLOOR PLAN



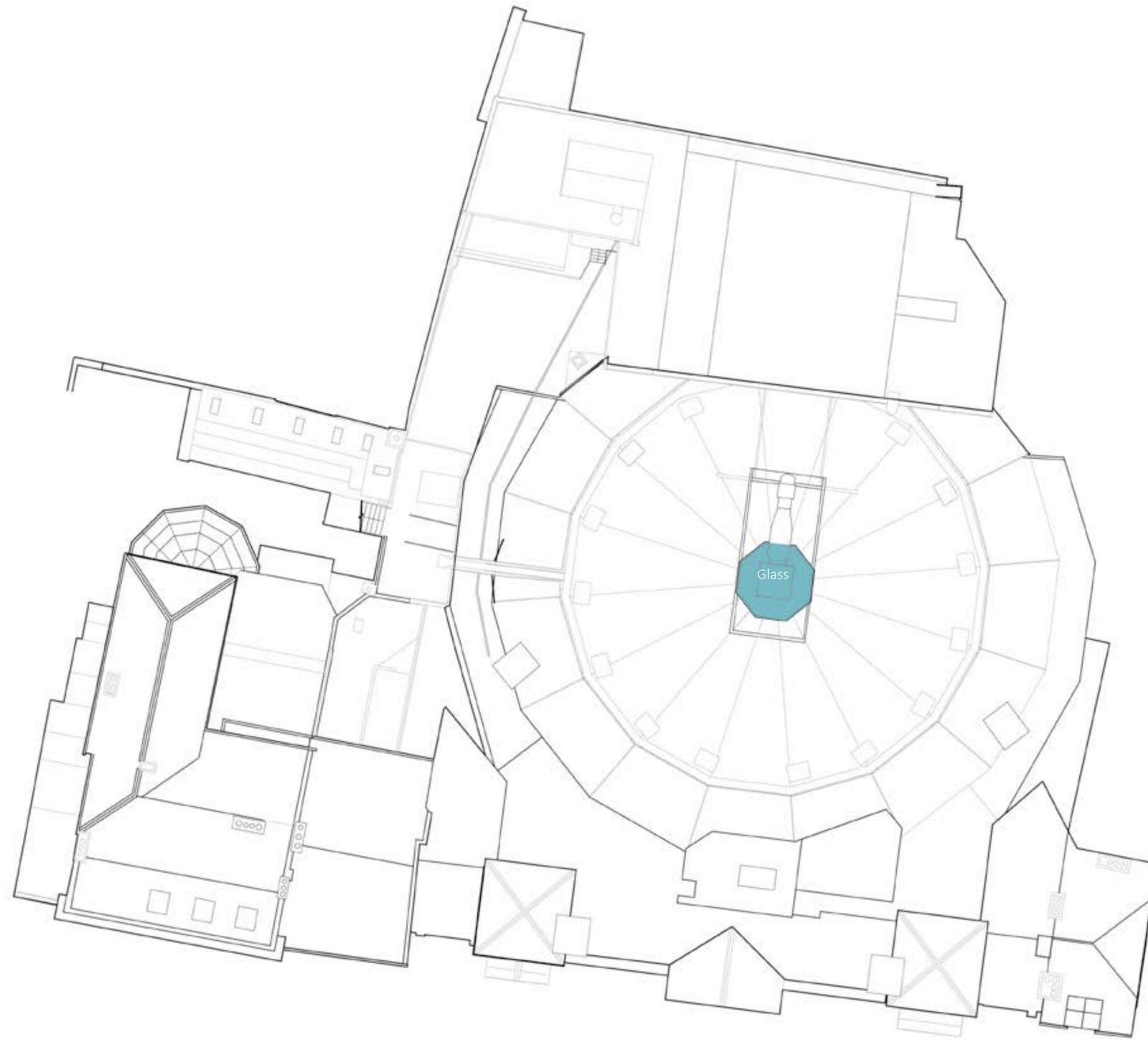
The first floor central seating will be left untouched. Visitors will still be able to use these and gaze down upon the transformed ground floor. Similar to ground floor, numerous small rooms will be replaced with larger spaces.



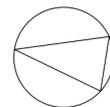
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ROOF PLAN



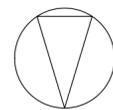
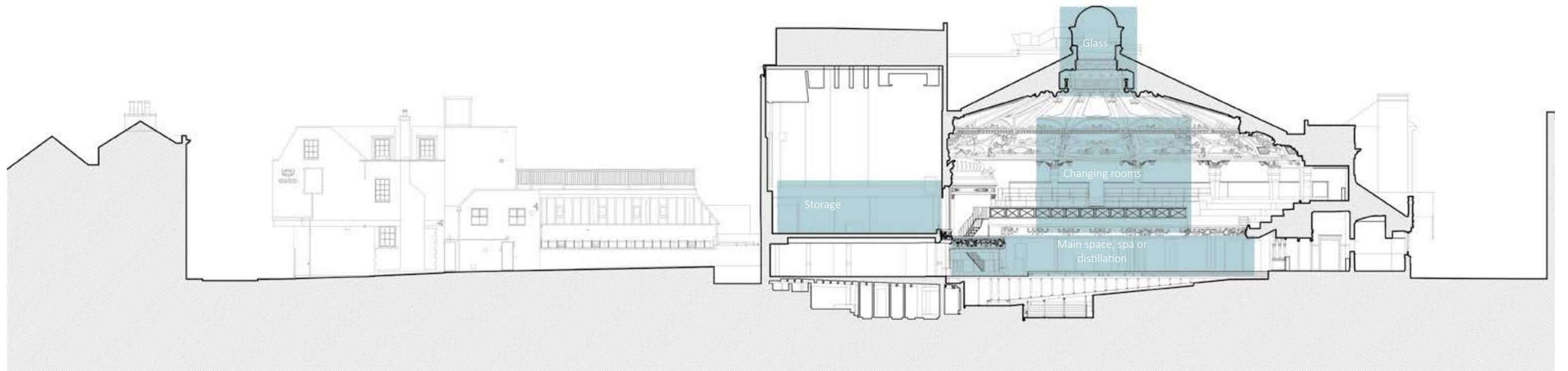
The roof will remain untouched except for the centre piece. This will be replaced with a glass sheet.



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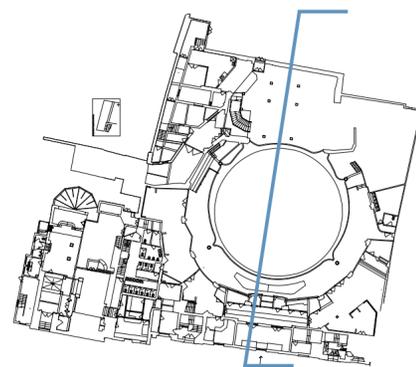


SECTION

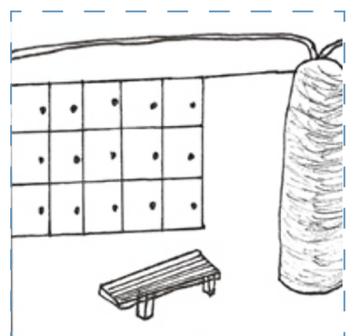
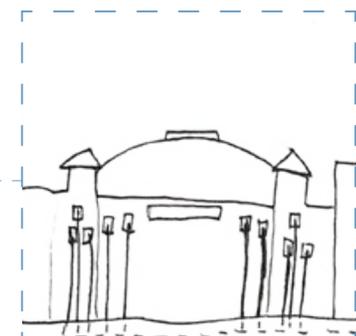
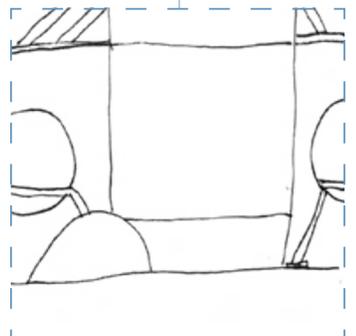
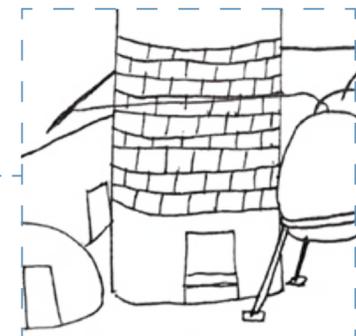
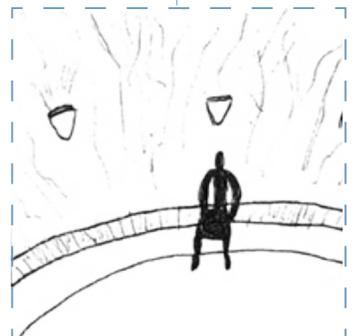
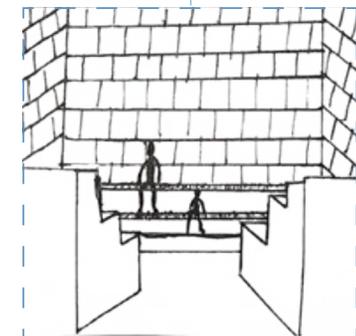
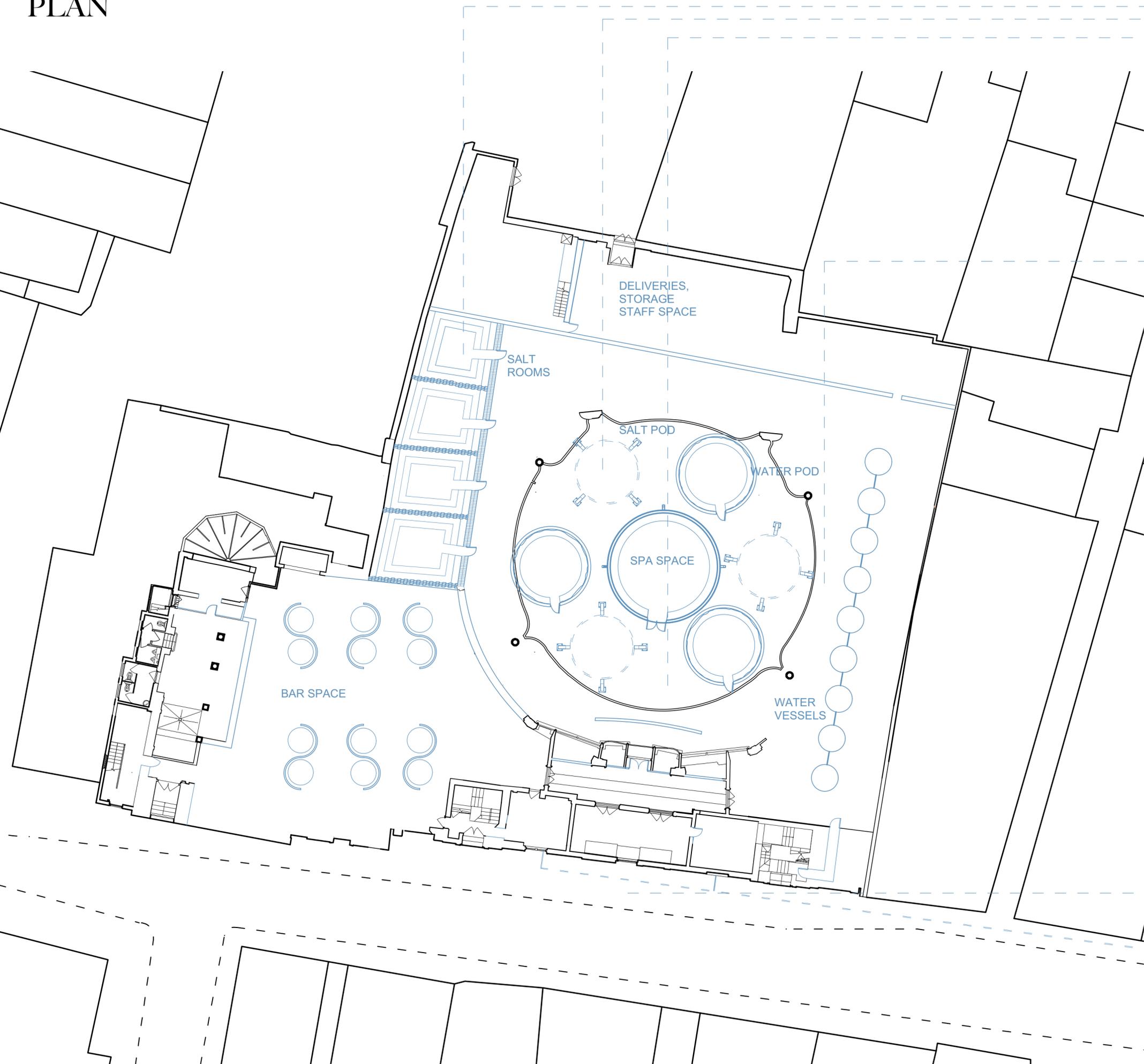


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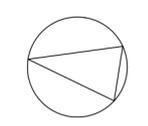
Main central space will be transformed into the spa and distillation spaces. The upper floors will become changing rooms and extra storage space.



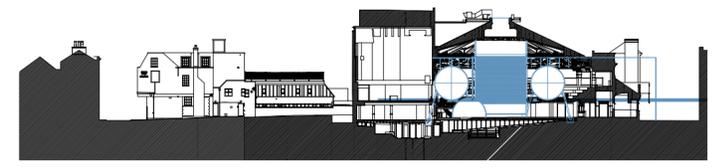
GROUND FLOOR PLAN



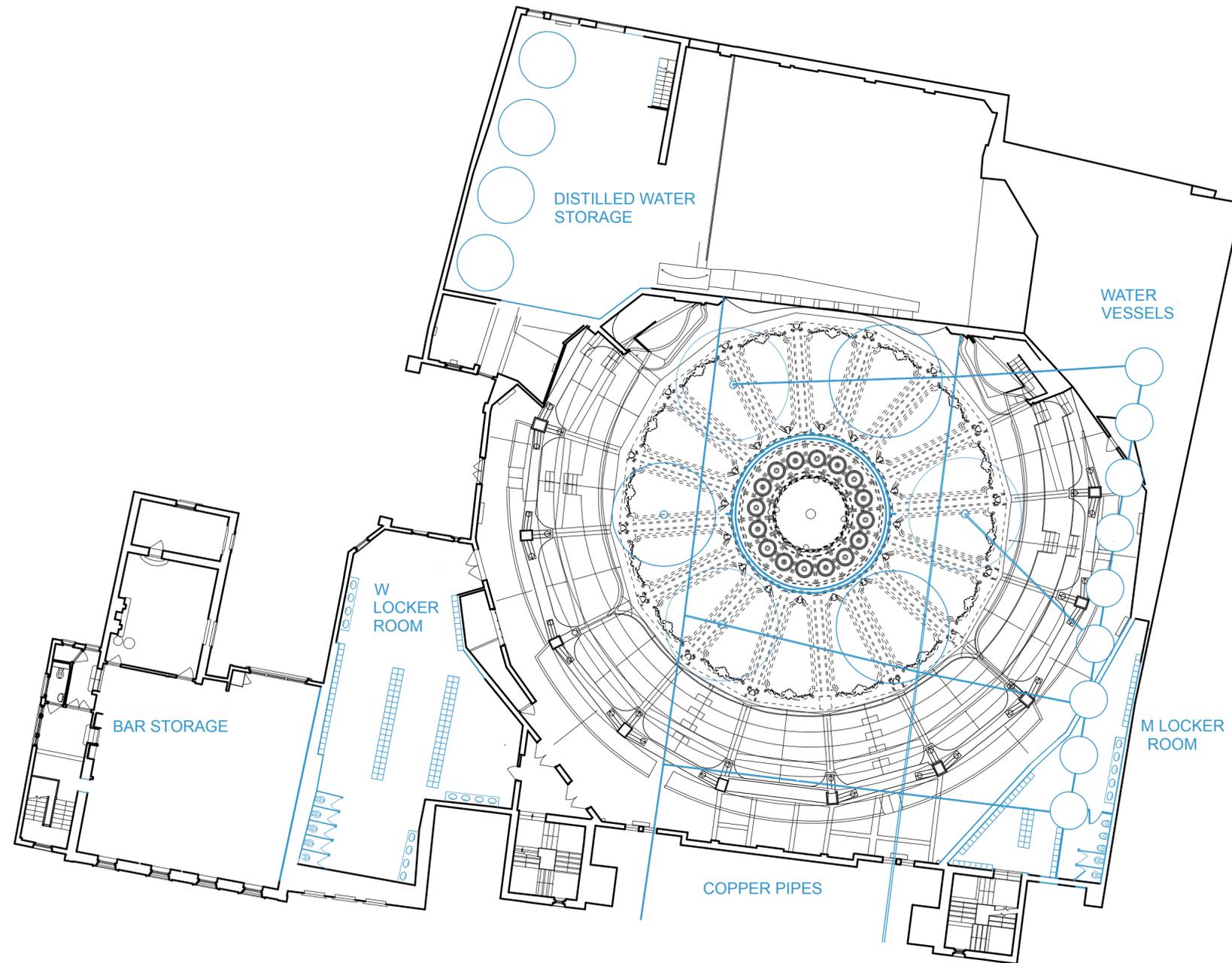
The final design merged both the distillation space and the spa space together as **one space** in order to be **more immersive**. This space was given **central focus within the ground floor**, while the back was left for deliveries, storage and staff rooms, the bar found its home on the North side of the building.



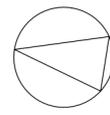
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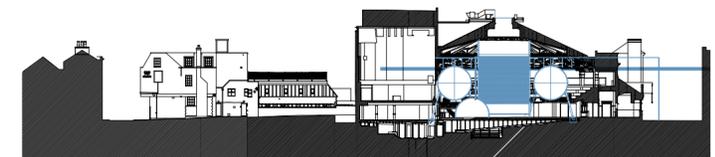
FIRST FLOOR PLAN



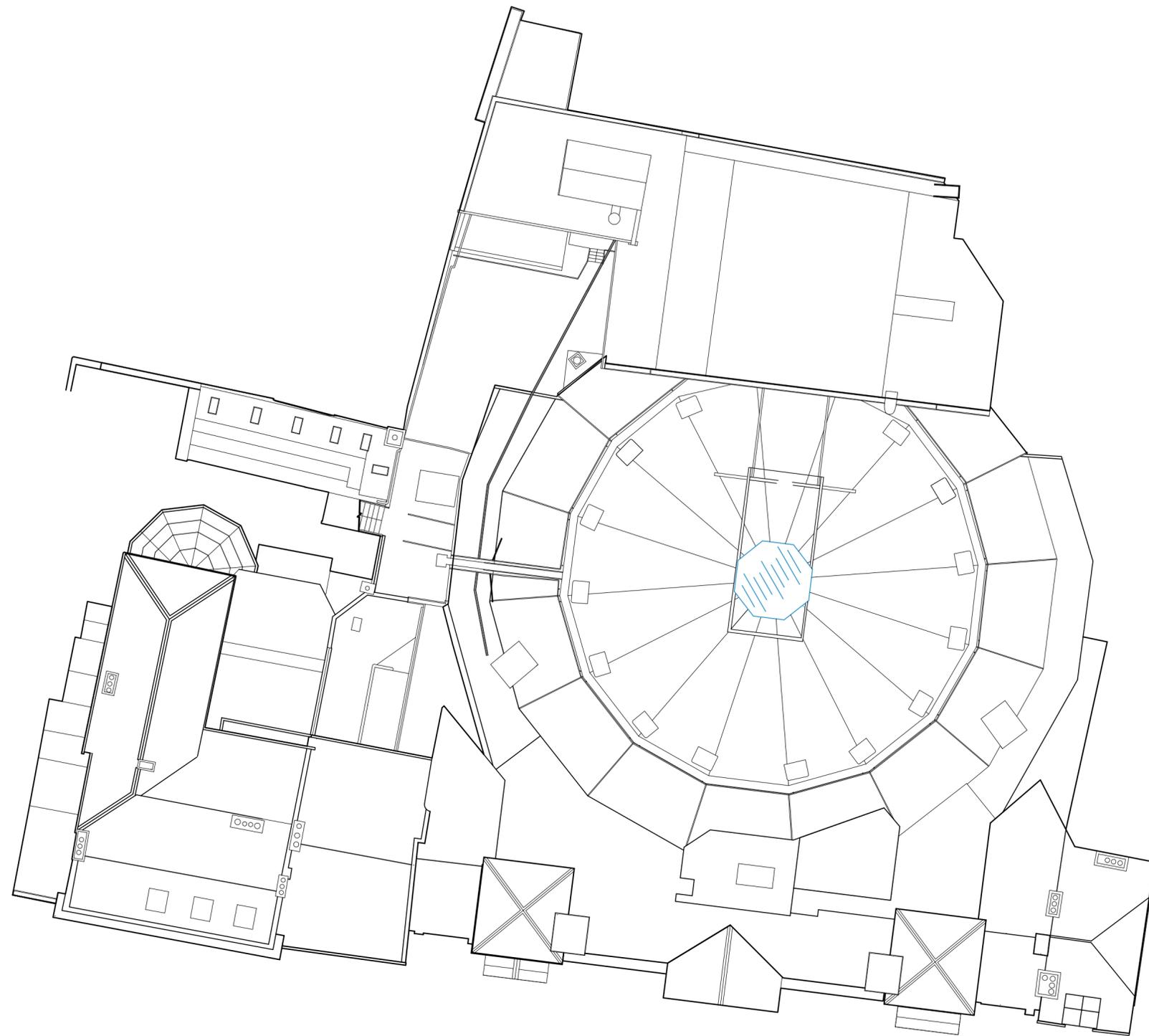
Two locker rooms were created by removing walls of smaller rooms. Water vessels from ground floor emerge through the floor of the male locker room. Throughout the first floor, copper pipes intertwine, delivering sea water to the water vessels, as well as aiding the lighting of the space as the lights are attached and dangle from the pipes. Bar storage is on the North side of the space. Extra storage of distilled water is at the East side of the space.



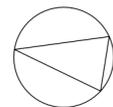
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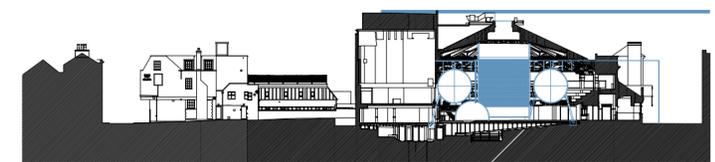
ROOF PLAN



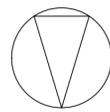
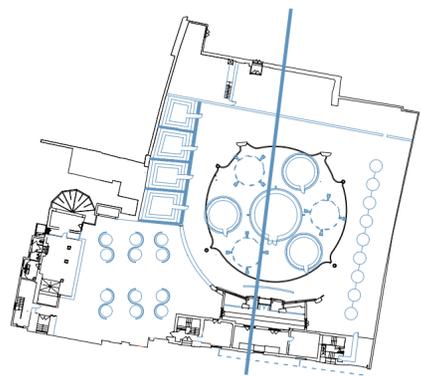
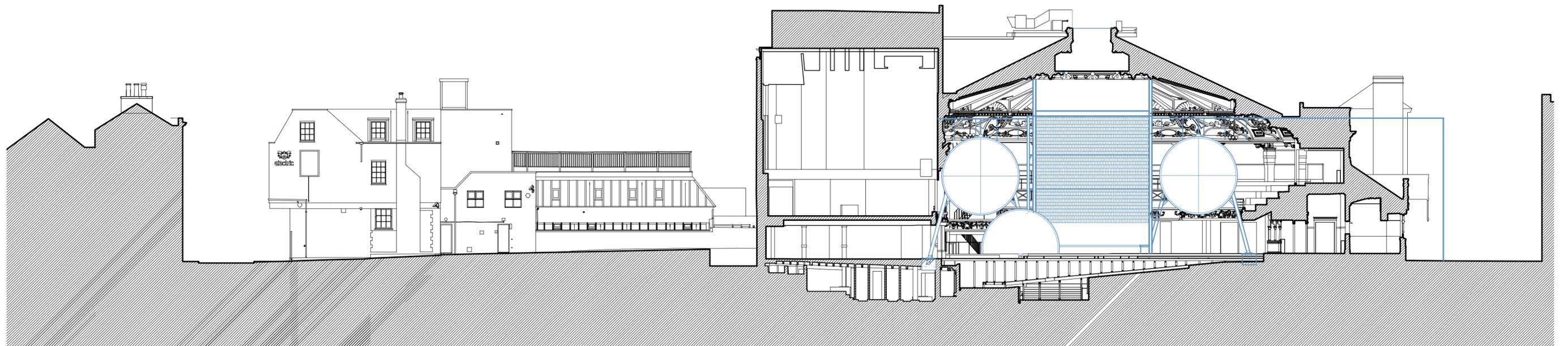
The centre piece of the roof has been replaced with a [glass sheet](#) allowing natural light to access the space, similar to the Pantheons Oculus.



1 - 200



SECTION



1 - 200

Pipes delivering sea water enter through the windows of the hippodrome. The central space is dominated by the central spa space, made mostly of Himalayan salt bricks that stretches to the ceiling. Natural light access this space through the glass sheet on the ceiling. The standing pods collect distilled water, as the spa pods remain on the floor.



Salt range begins at the foothills of the Himalayan Mountains in Northeast Pakistan. It is mined within one of the six primary mines located across the salt range. With estimated over 6.7 billion tons within Khewra the largest mine, there is a vast supply.



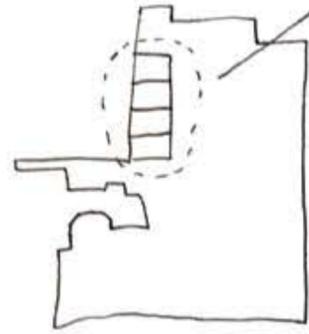
Traditional mining methods have not changed since the 19th century, using methods with pickaxes, drills, and small gunpowder explosives. Mines such as Khewra mining 400,00 tons of salt per year.



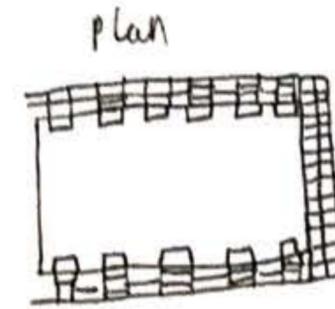
The salt is extracted in various sized chunks, and then cut into shapes such as blocks using powerful saws. Other shapes are formed with a variety of tools.



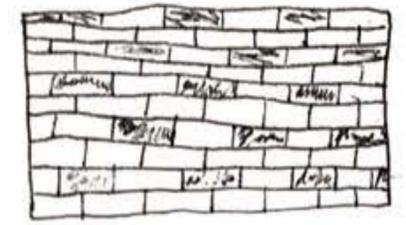
The cut shapes are then distributed and shipped all over the world.



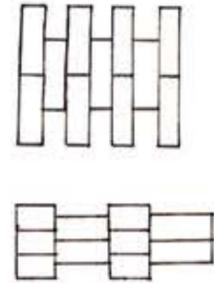
Salt wall rooms plan location



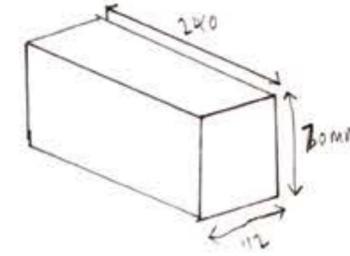
Salt wall room plan



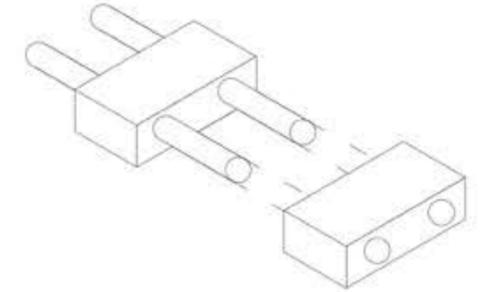
Salt wall room elevation



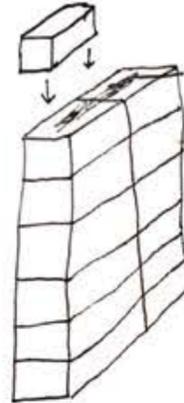
Staggered salt brick options



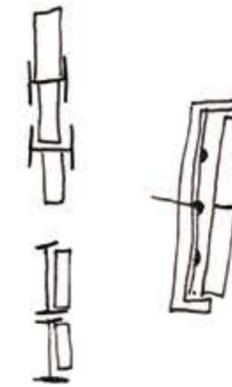
Salt brick measurements



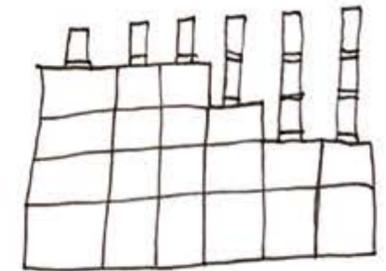
Breeze block option



Special salt brick glue option



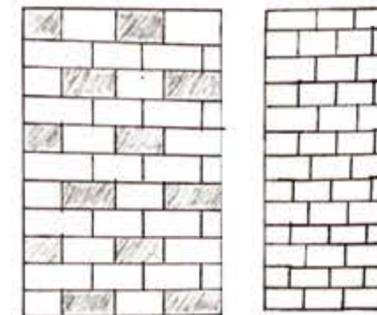
H steel profile/ I steel profile



H steel profile wall



Proposed salt wall set up. Steel H profile with LED lighting from behind.



Proposed staggered salt wall elevations

Looking at several options of how to construct my staggered salt wall rooms. Several different possibilities were examined such as breeze blocks, using special glue, or steel H or I profiles. The outcome resulted in the construction being done with a steel H profile. This would allow for extra support, as well as ease of placing and allow a strip of LED lights to be placed along the back. This would allow the bricks to be illuminated creating a warm atmospheric glow..

Salt block light tests



Interior with light from behind.

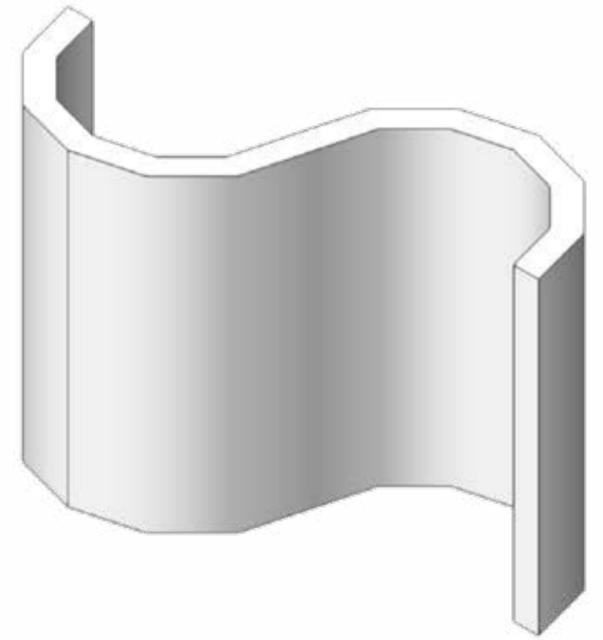


Dark interior with light from behind.

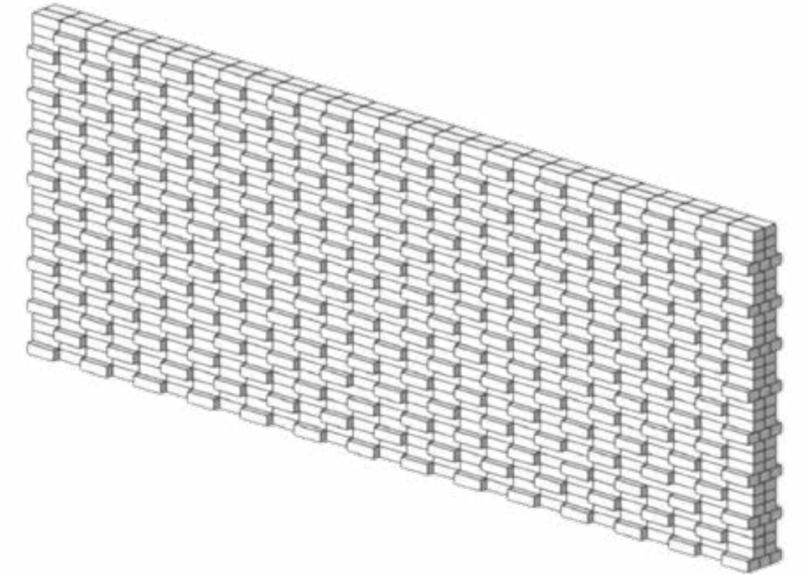


Exterior

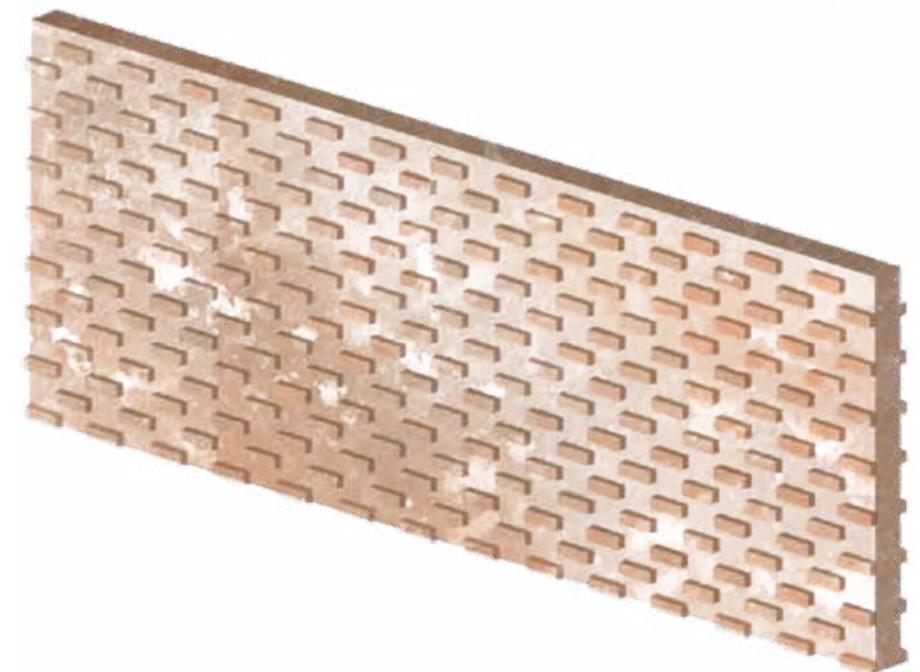
Bar booth salt panel wall

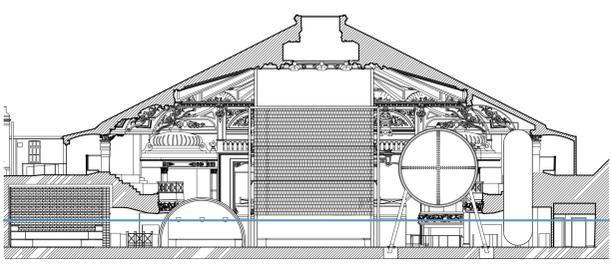
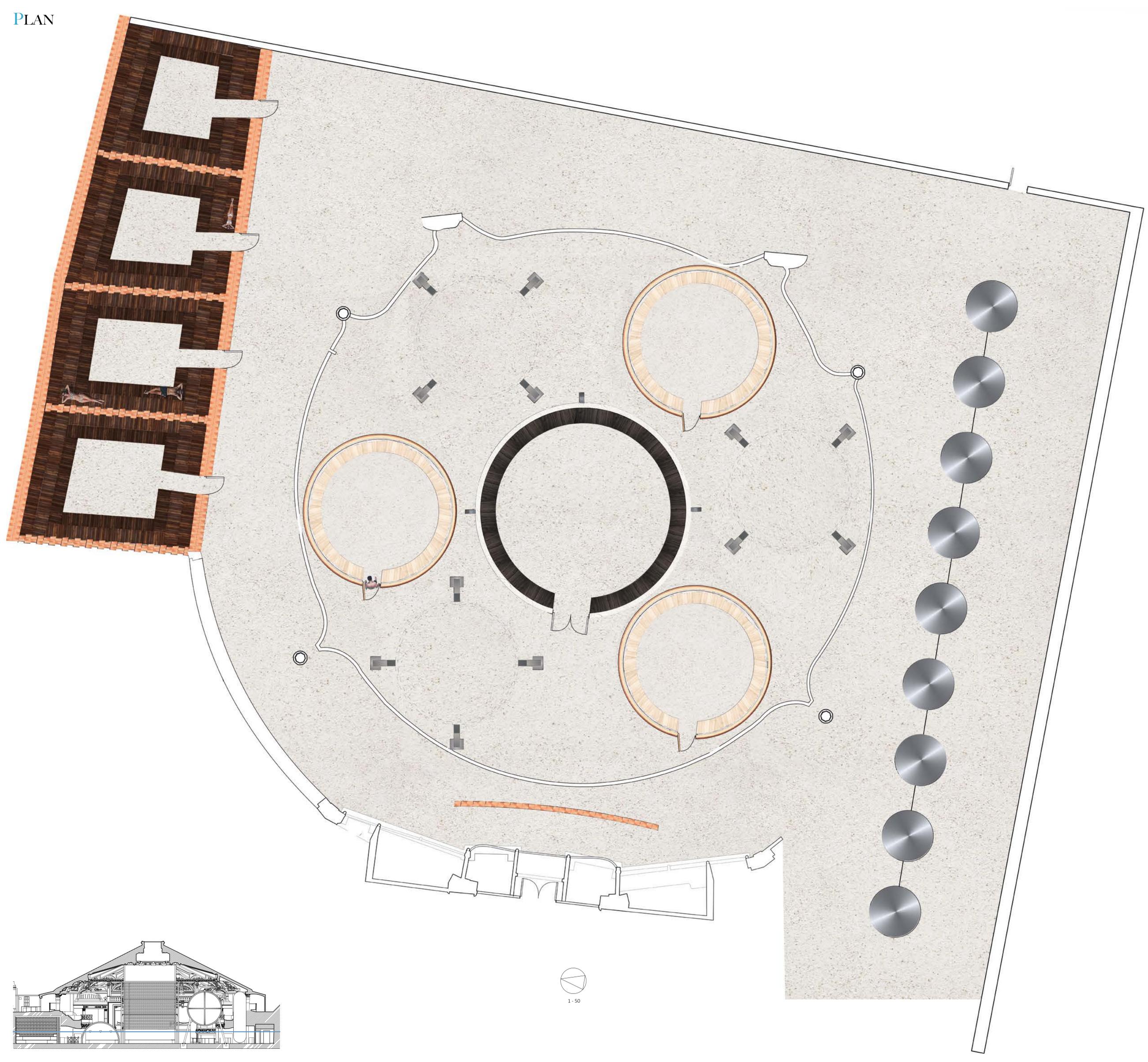


Salt wall line drawing



Salt wall render





1-50

SECTION

