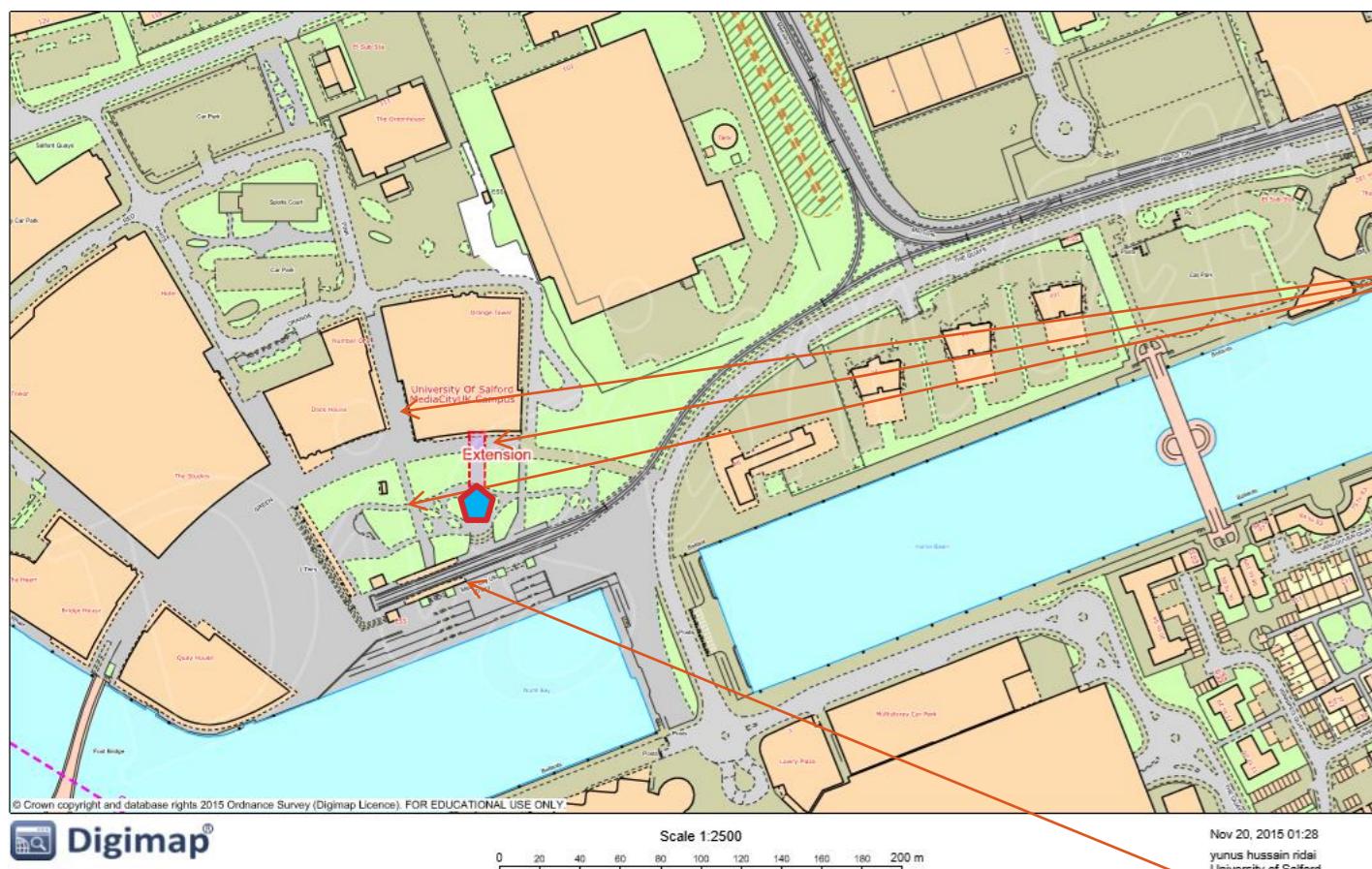


## Site Analysis

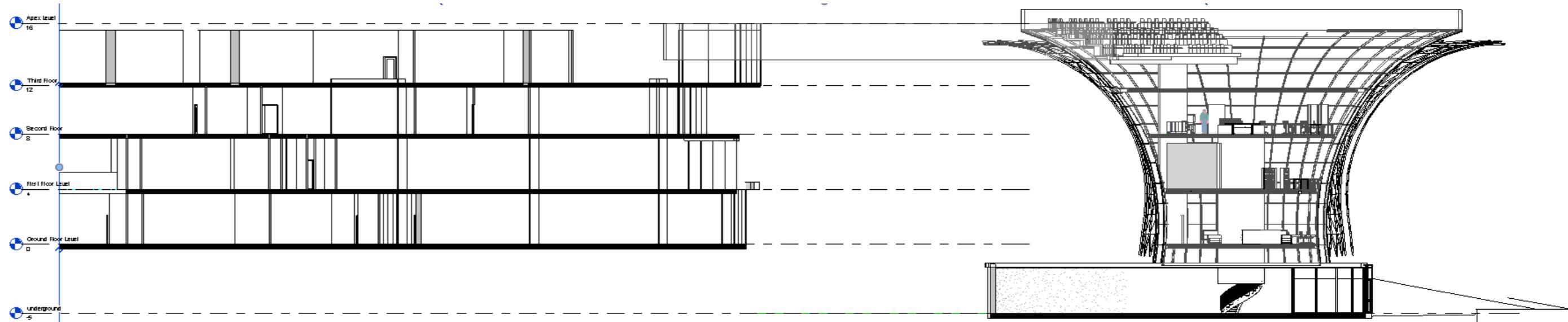


## Site photos



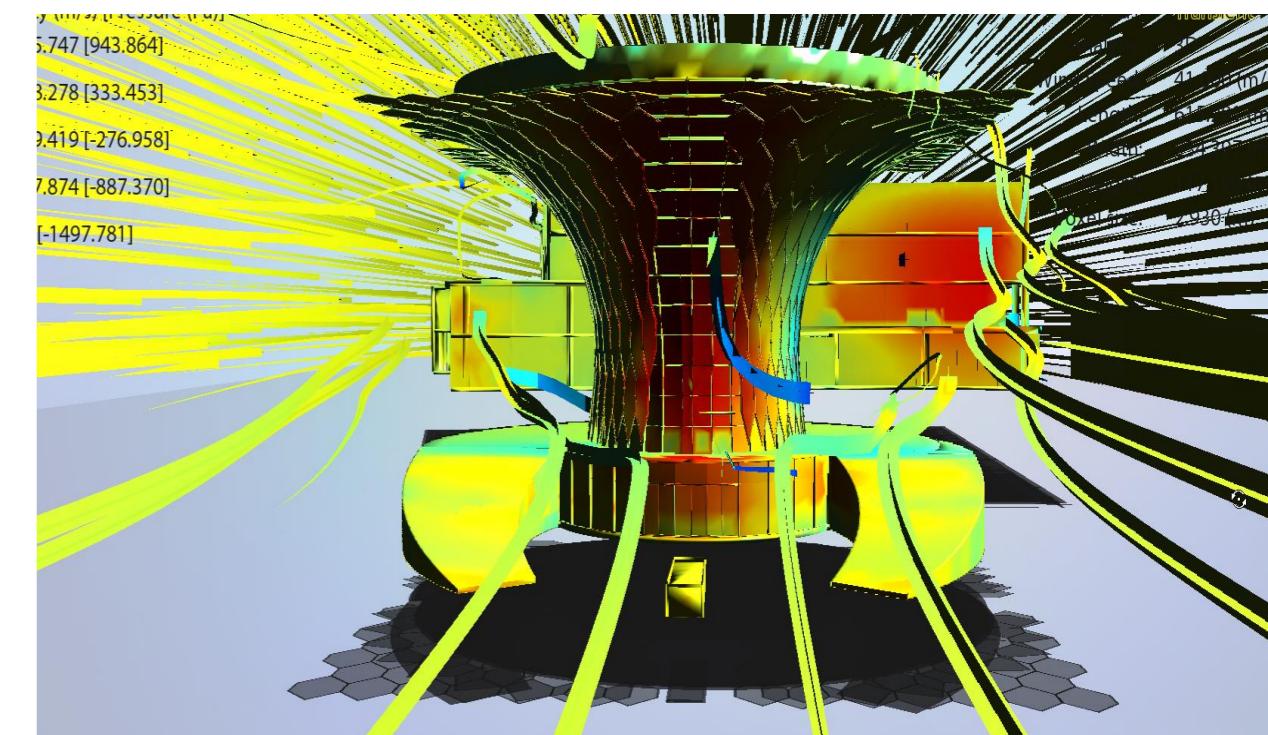
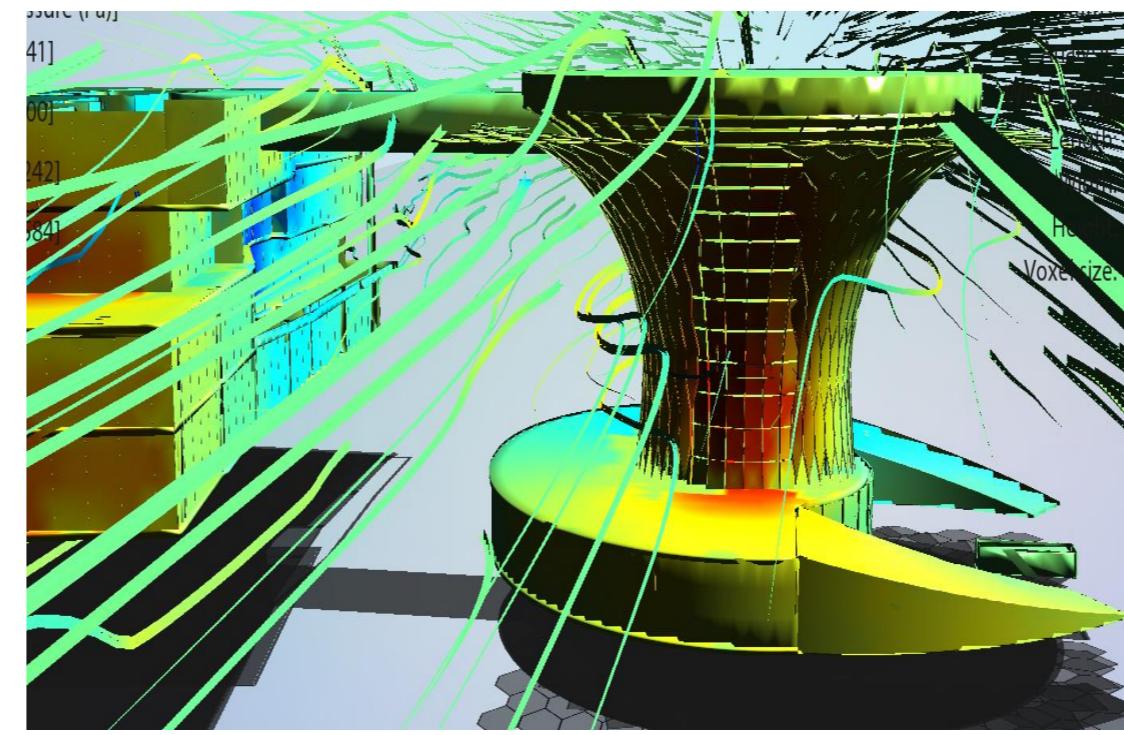
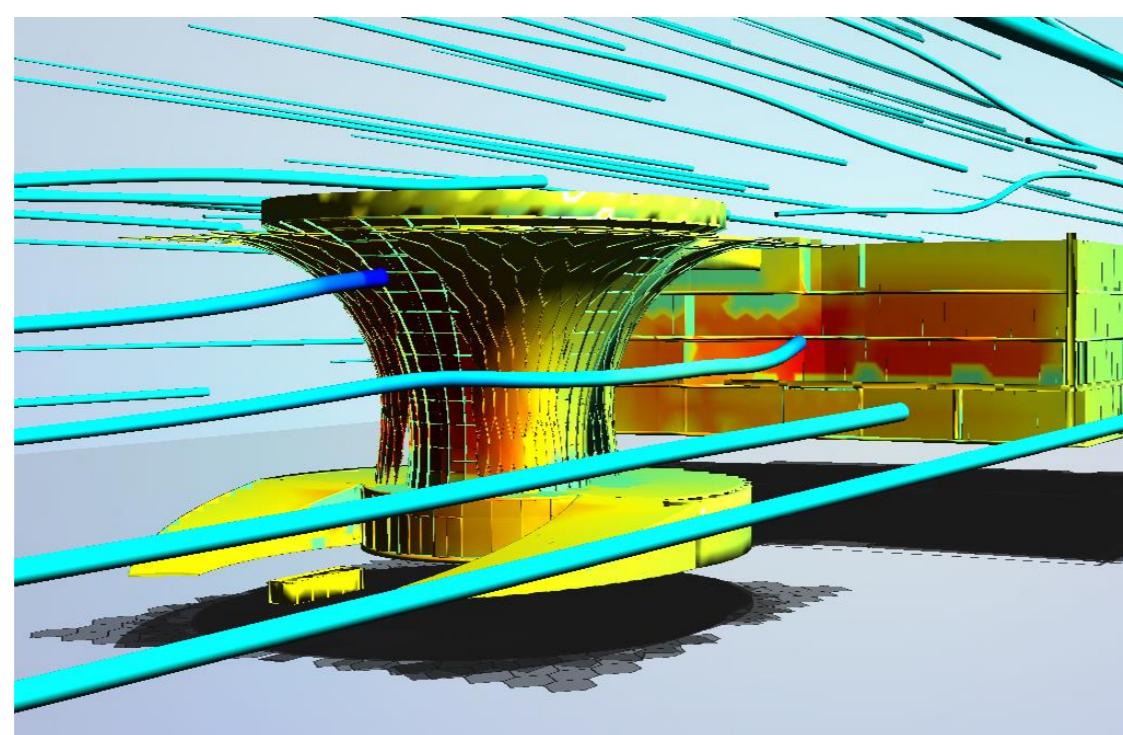
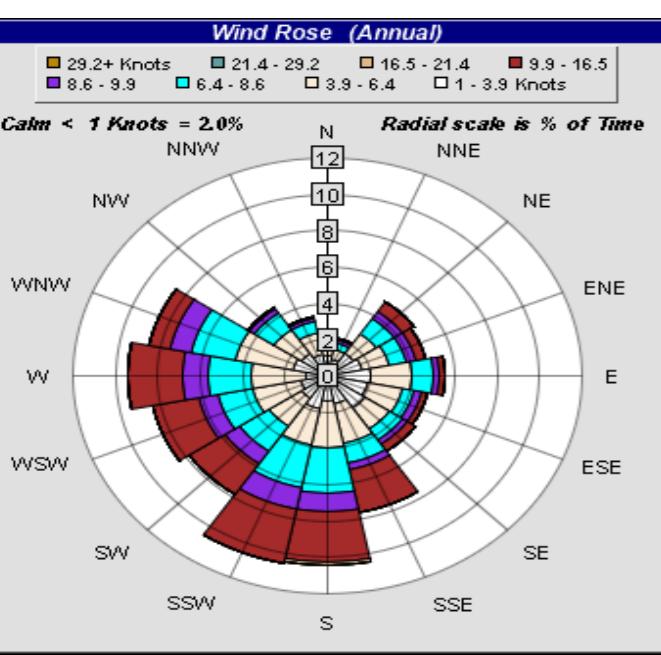
High flow path ways

Potential train



## Wind Analysis

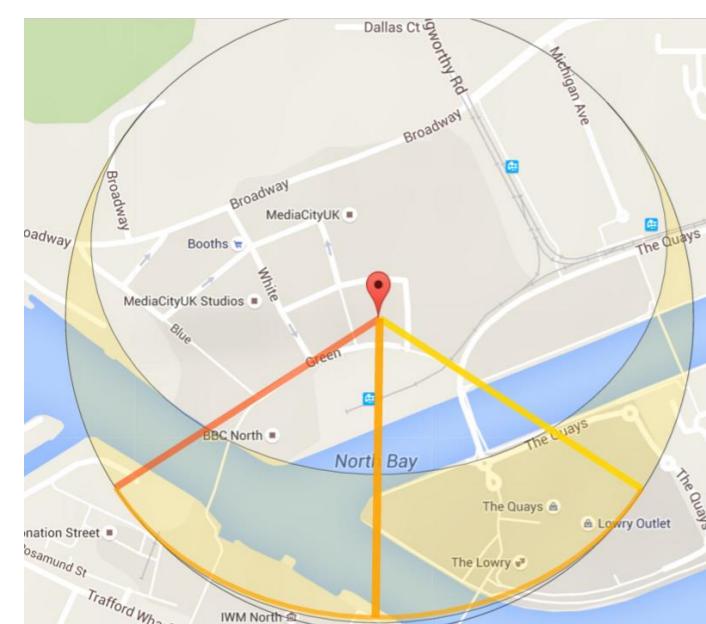
It was important to analyse the wind of the site, the reason being is because of the size of the new extension and the location may cause a venturi effect, also it is important to consider the direction of the wind so that it can be channelized through the interiors.



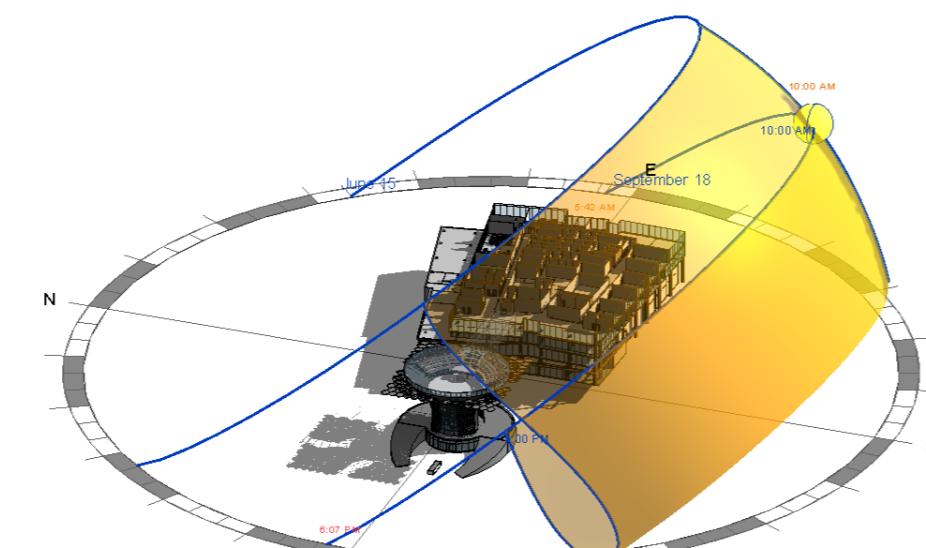
## Wind direction

## Sun Analysis

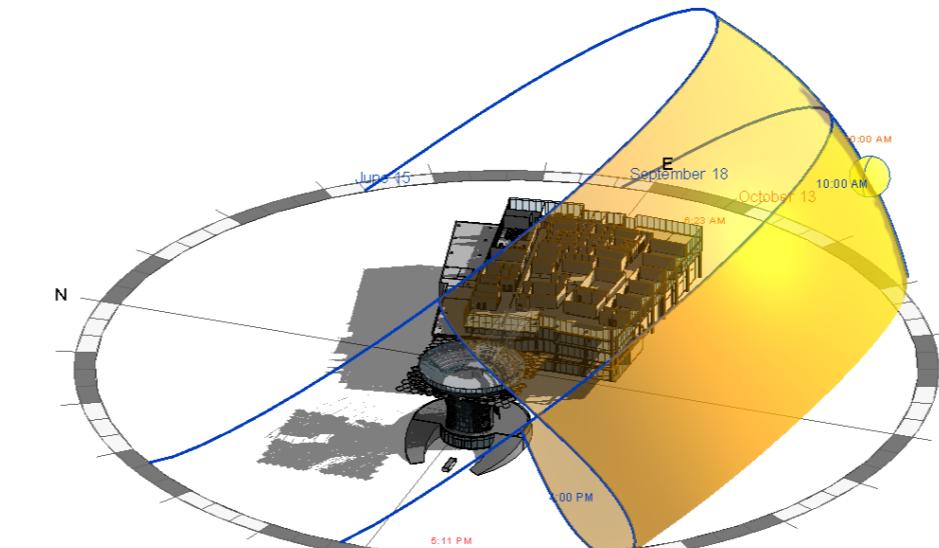
It is important to understand the sun path of the site to ensure that natural light for the extension is at its optimum levels and also to understand the shadow of the extension to avoid blocking the natural light from neighboring buildings



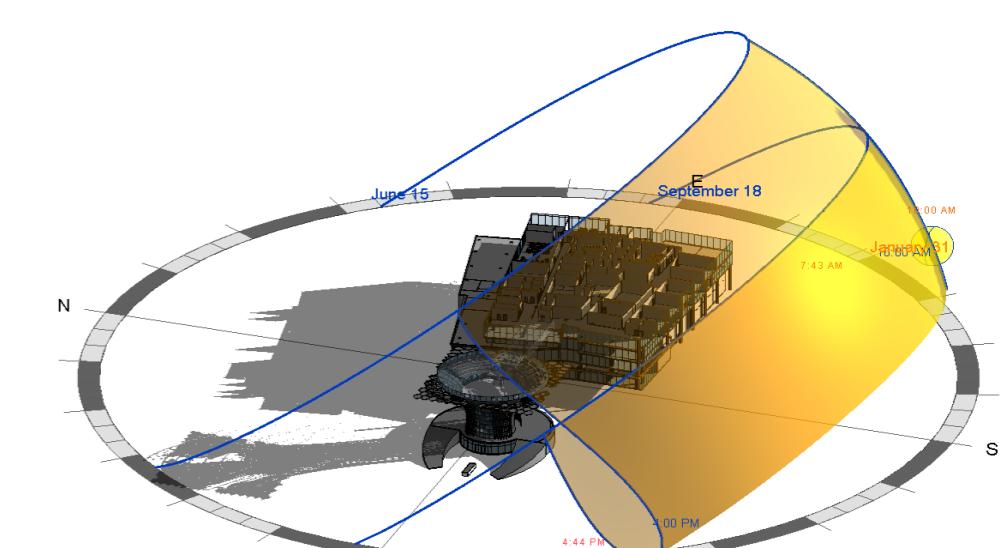
- 07:04 — dawn
- 07:44 — sunrise
- 11:56 — solar noon
- 16:07 — sunset
- 16:47 — dusk



Shadow analysis of both extension and existing building at 10am on September



Shadow analysis of the extension and existing building at 10:45pm on October



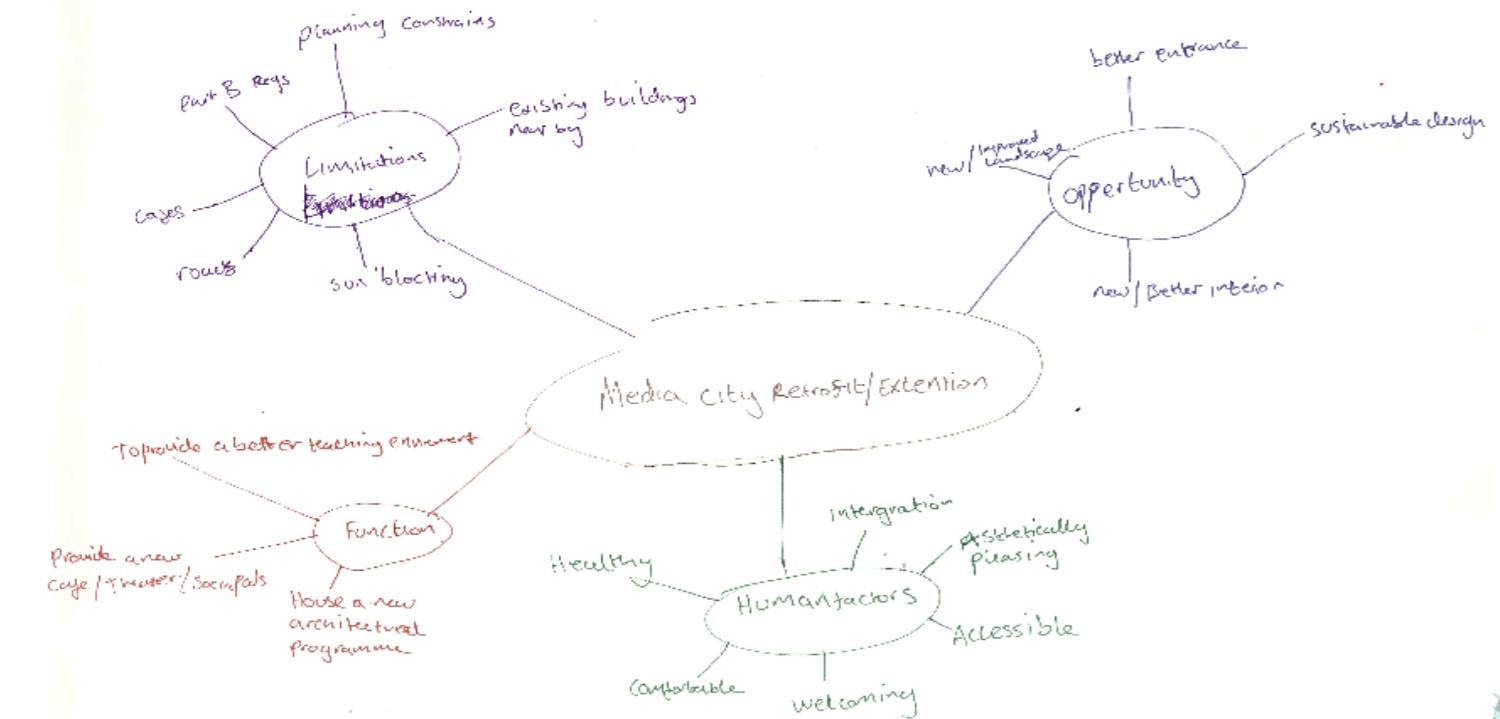
Shadow analysis of the extension and existing building at 10:00am on January

# EXTENSION

## Design process

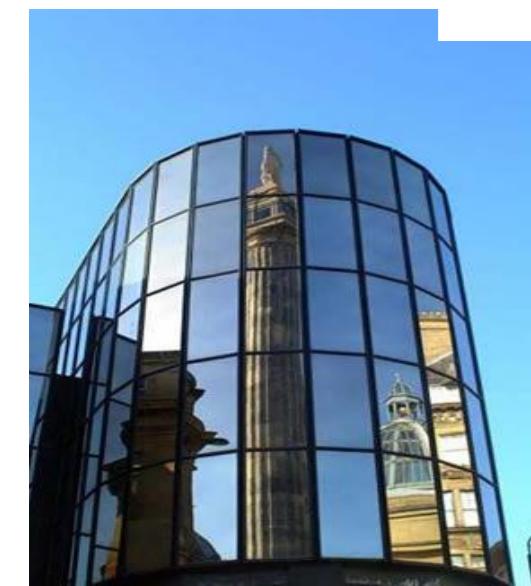
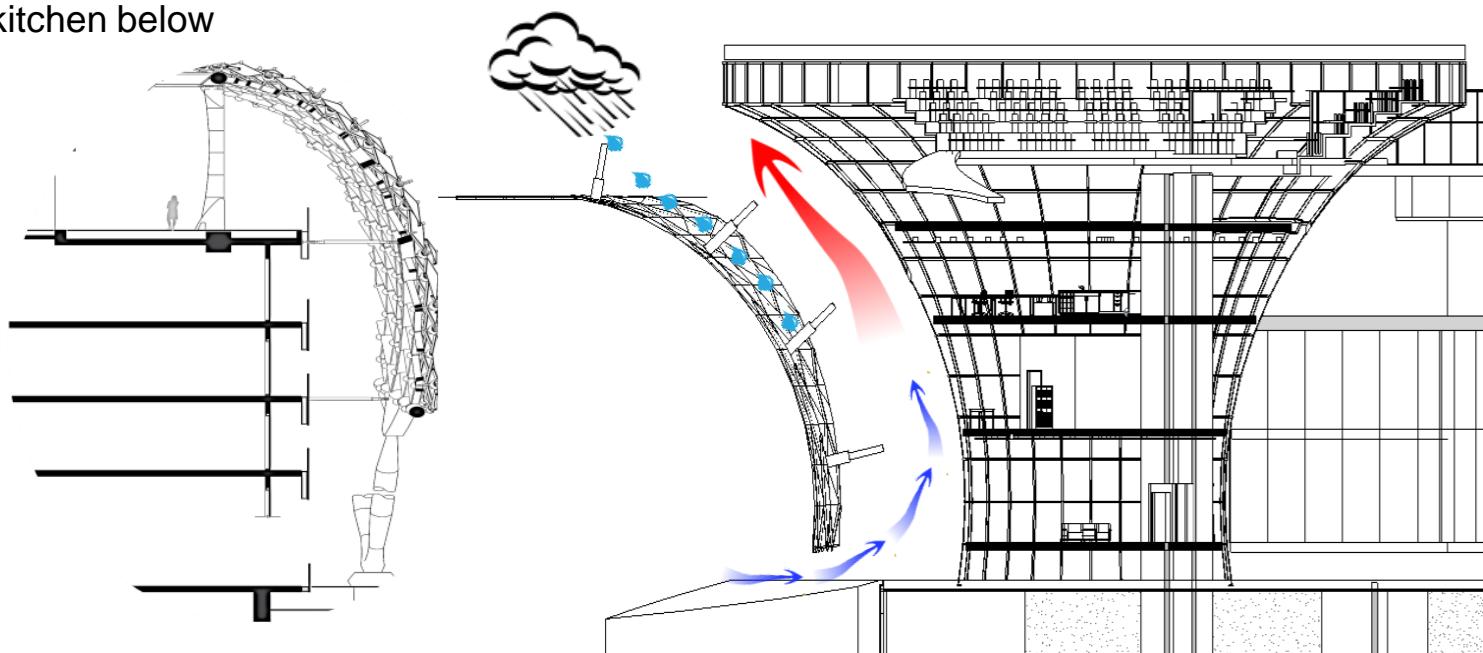
For the extension of the building before did any designing I looked at the sit and realized that there were some things to consider when designing my extension, one of the first things I noticed was the cafes and restaurants at the front of the building , and also the road in front of the building.

Below is a spider diagram and sketches of the how I went about designing the extension



## Cladding summary

For the exterior Leaf cladding, I have taken the approach of connecting it as if it is a grid shell. Also the cladding will be a reflective glazing to create a reflection of the docks which are opposite. The glazing inside will be self cleaning and funnel rain water for re harvesting to power kitchen below

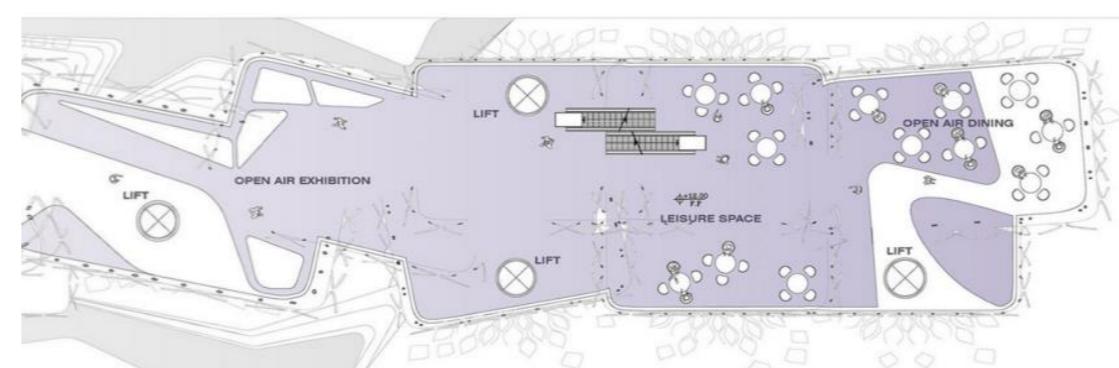
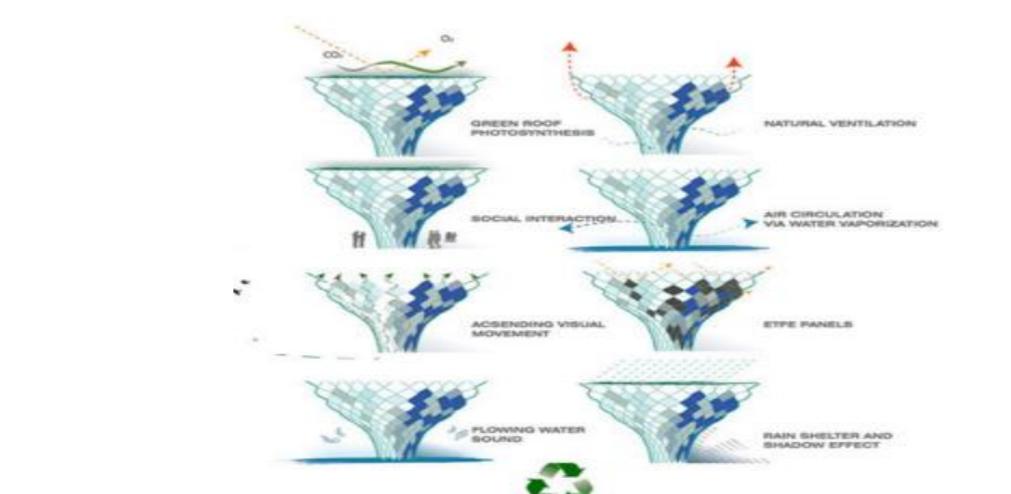
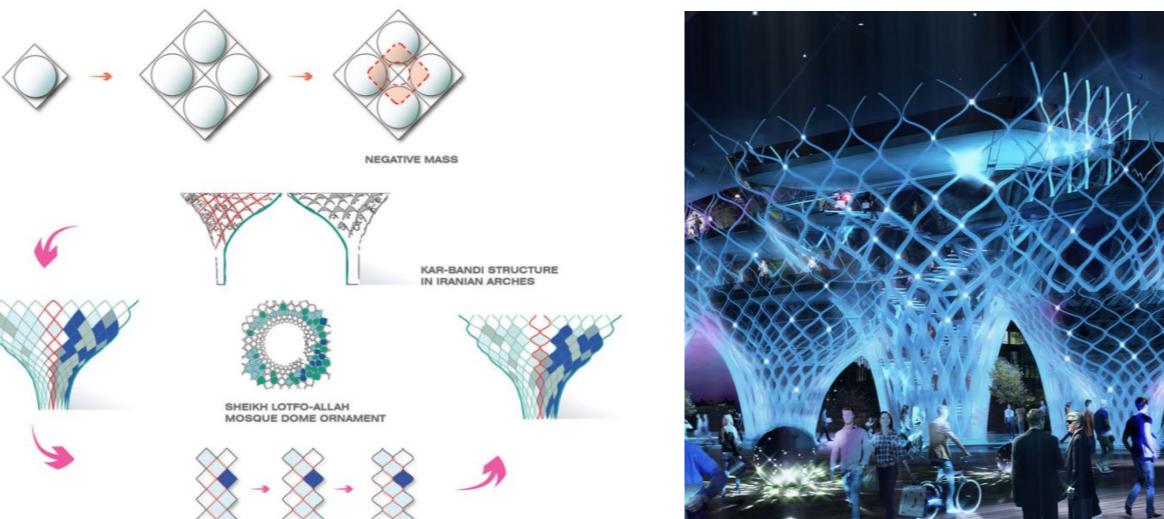


## Concept and research

I began to look at inspirations and ideas of what to base my design off, I came across a couple of ideas such as the Singapore gardens ,and decide d that would be the best approach , because it does a good job of having minimal impact on the site.



Another design I took great inspiration from is a competition entry design for the Iran Pavilion (Expo Milan 2015) done by new wave architecture. It brilliantly lifts the main structure up to avoid blocking paths and roads. This building also formed a good basis for me to go of when designing my floor plan

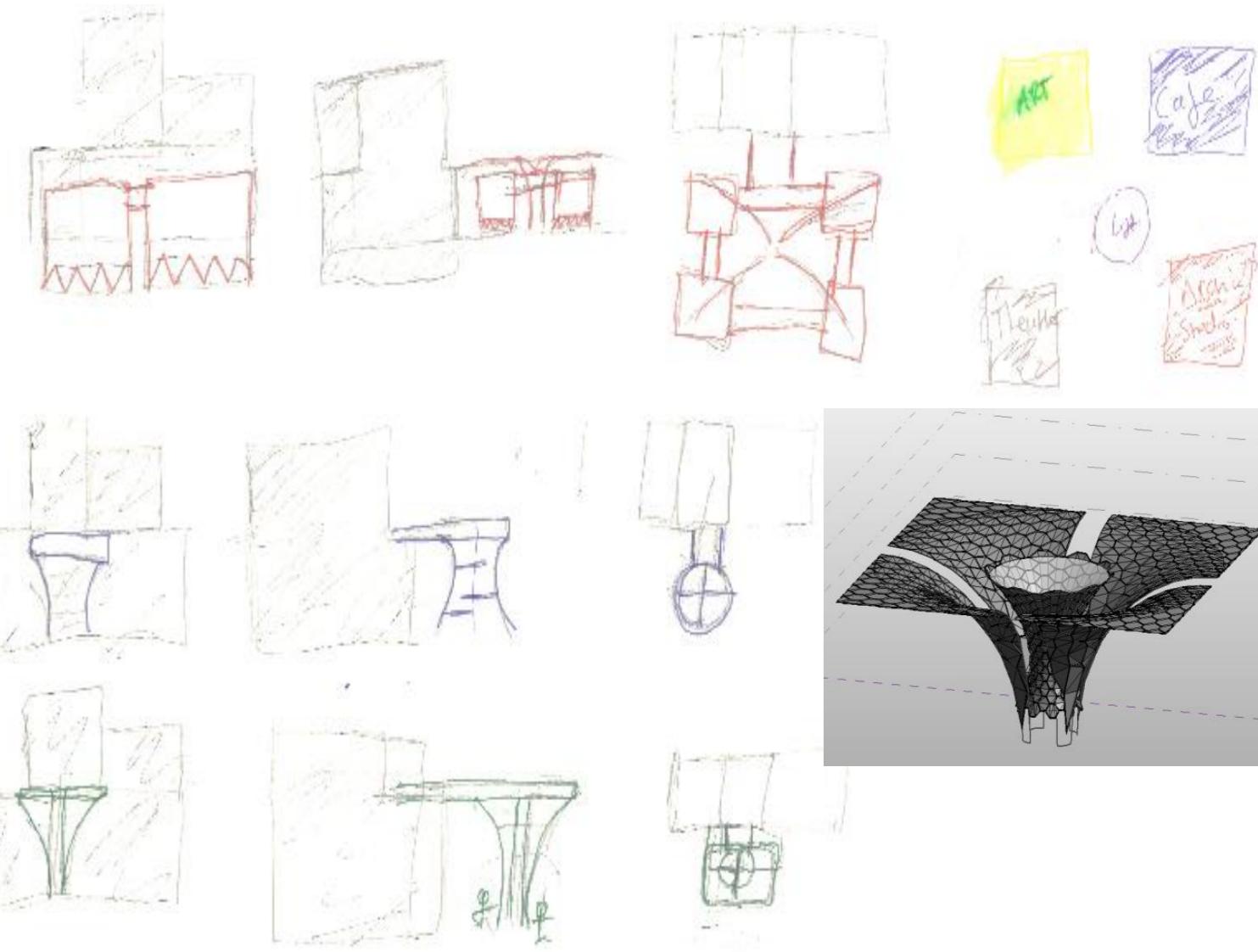


## Floor plan of extension

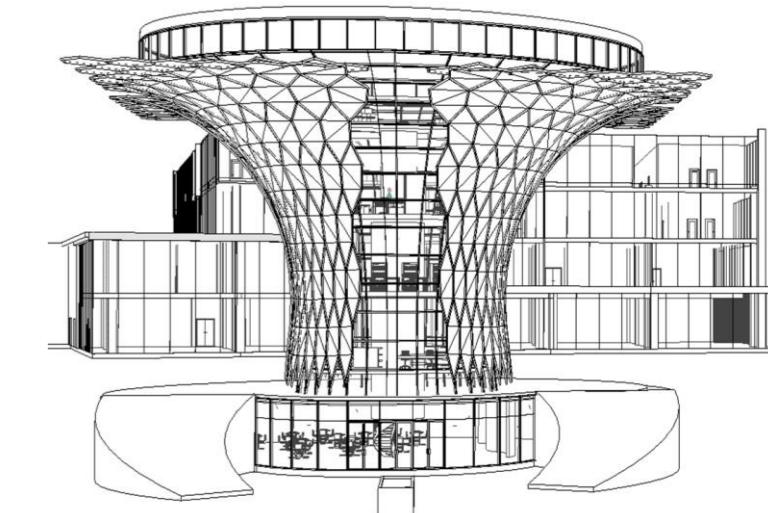
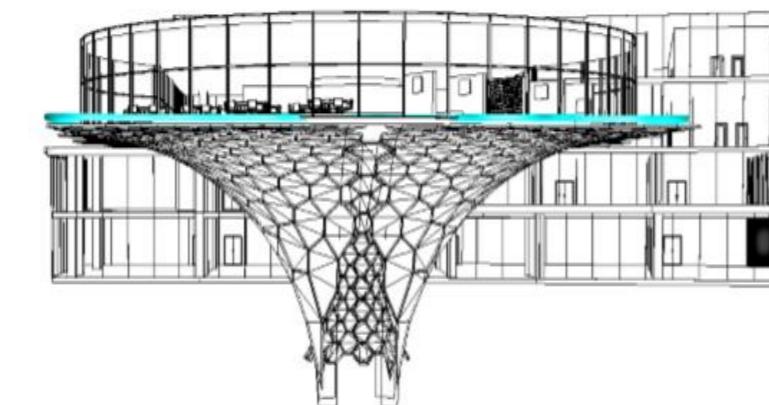
I split my floor plan into four sections and developed the floor plan below , I also took inspiration from the pavilion design and made the eating and leisure areas open with no barriers. My intentions are to keep the architecture studios in close proximity to the gallery to for them to take inspiration from

## Sketches/modeling

I began to sketch possible methods of integrating the building with the sit e while attempting to create a land mark type of architecture that would attract people

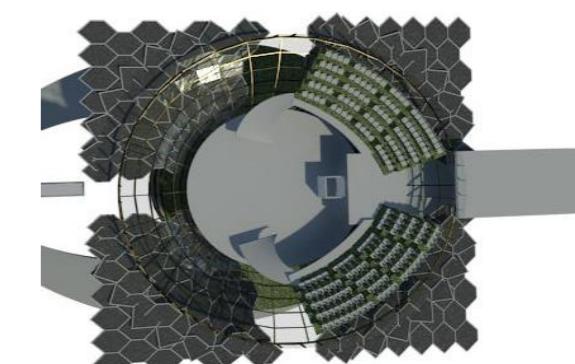
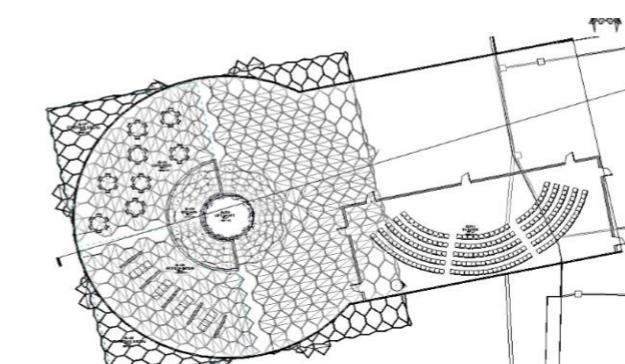


## Changes



### Physical changes and reasons

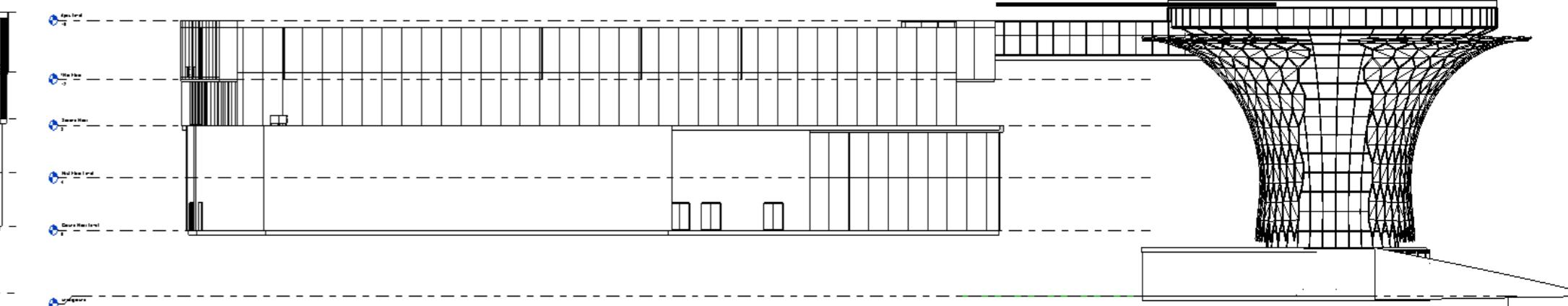
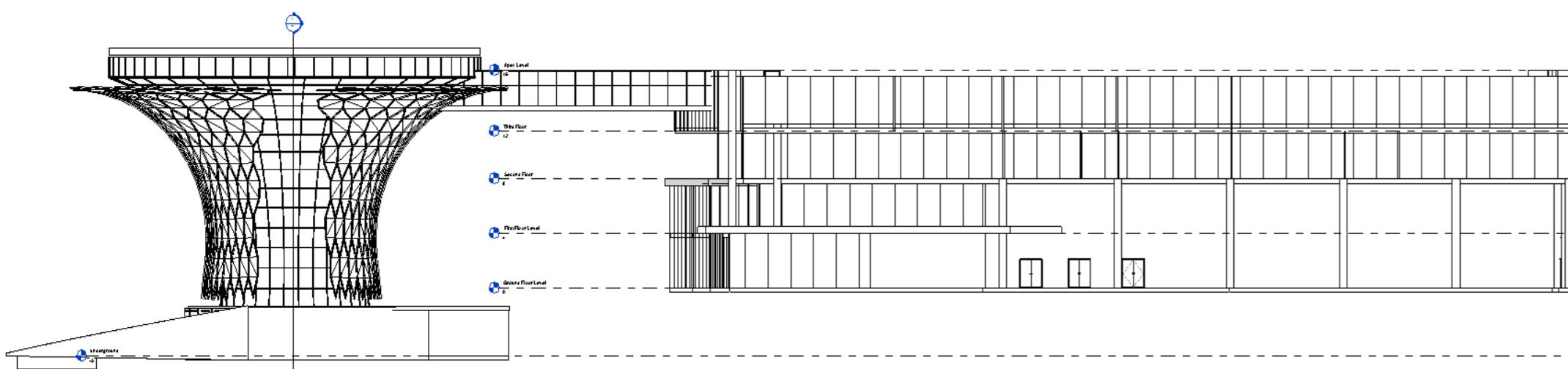
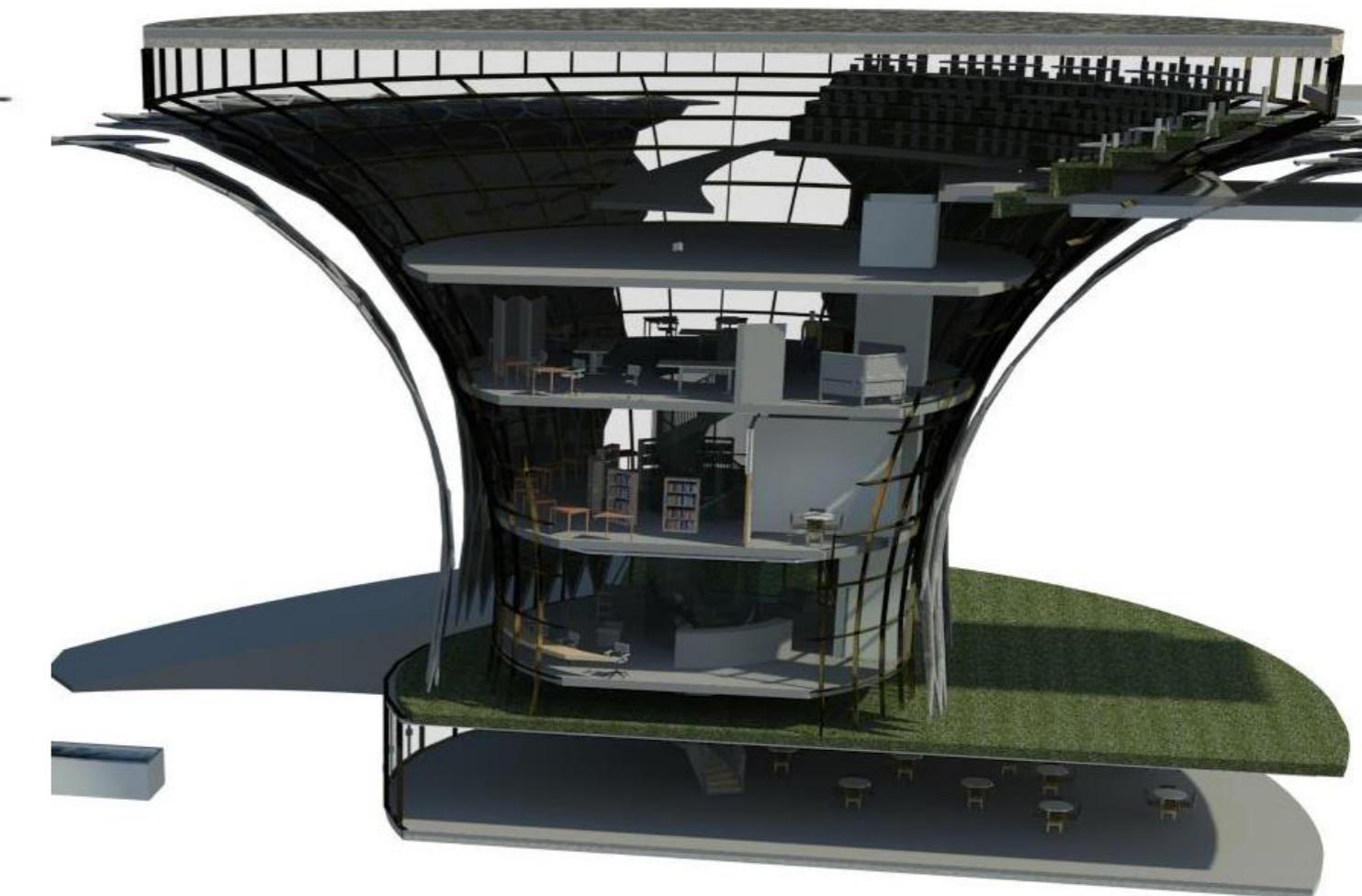
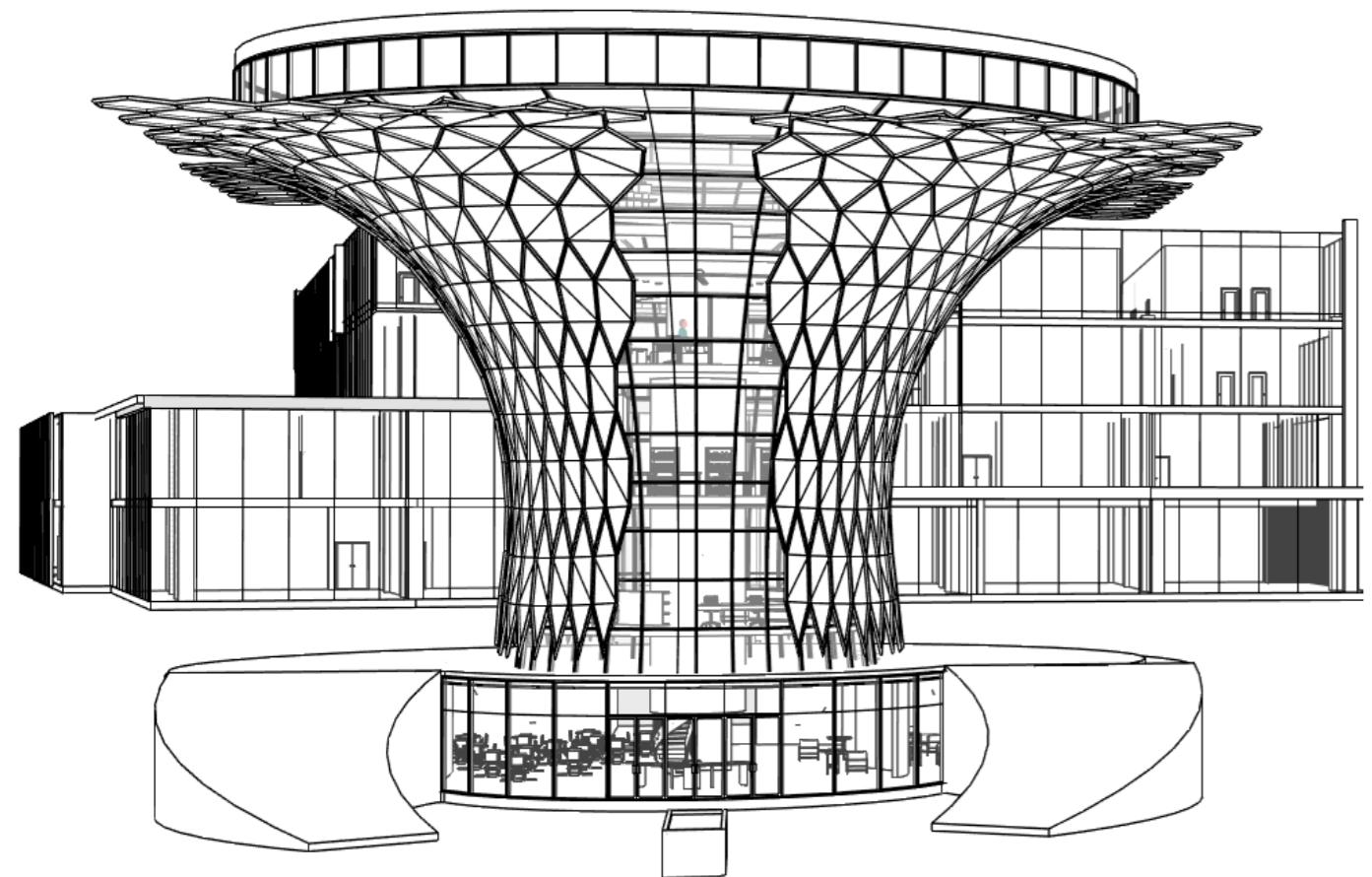
- Size-** the building size was change drastically from one floor to five floors to help cope with the large population and accommodate more facilities for student architects.
- Theater placement-** the theater in the interim project was placed poorly on the bridge, in this new and improved building it is now placed appropriately a before and after is shown below.



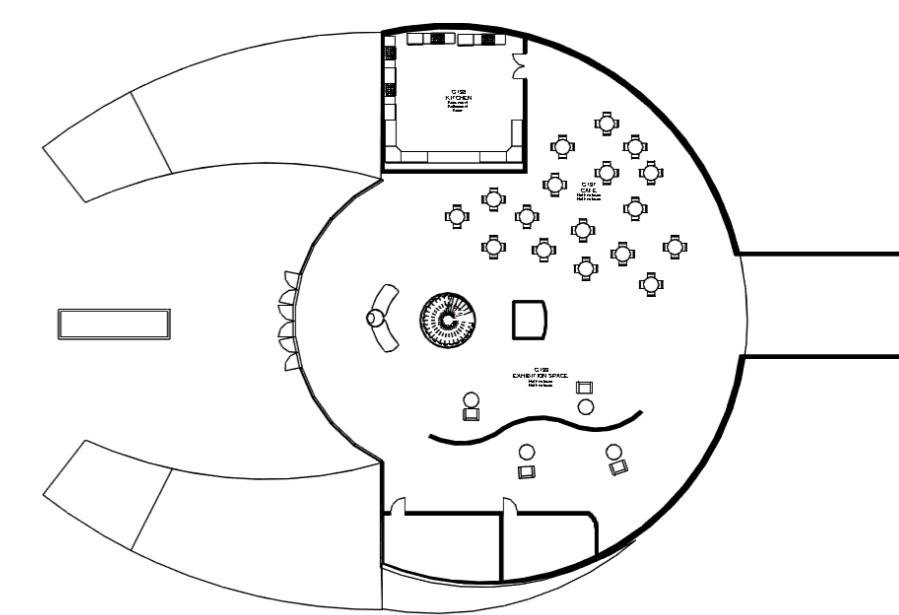
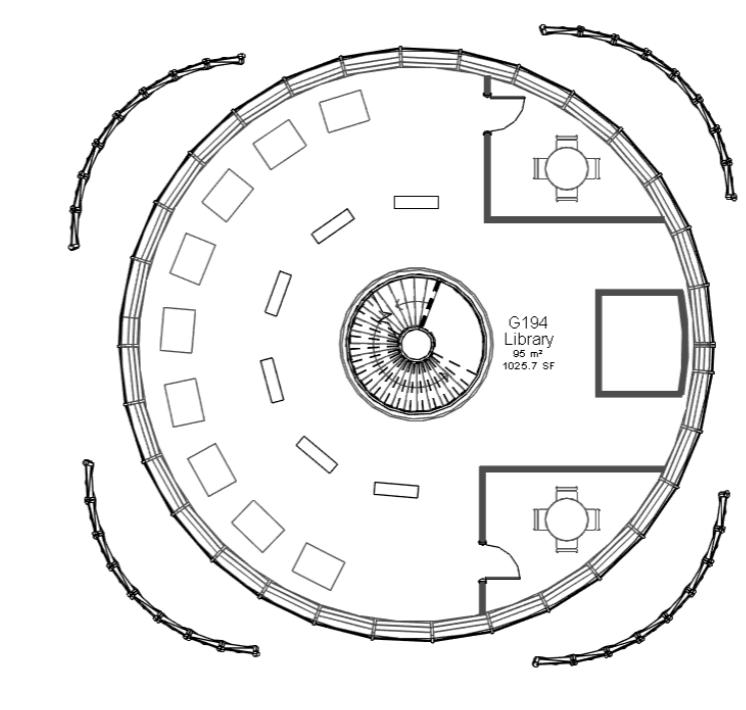
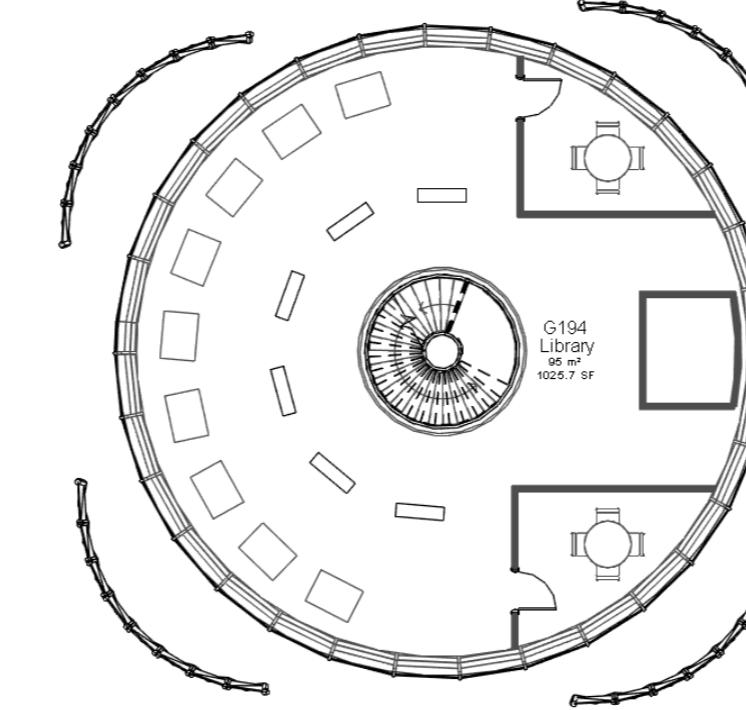
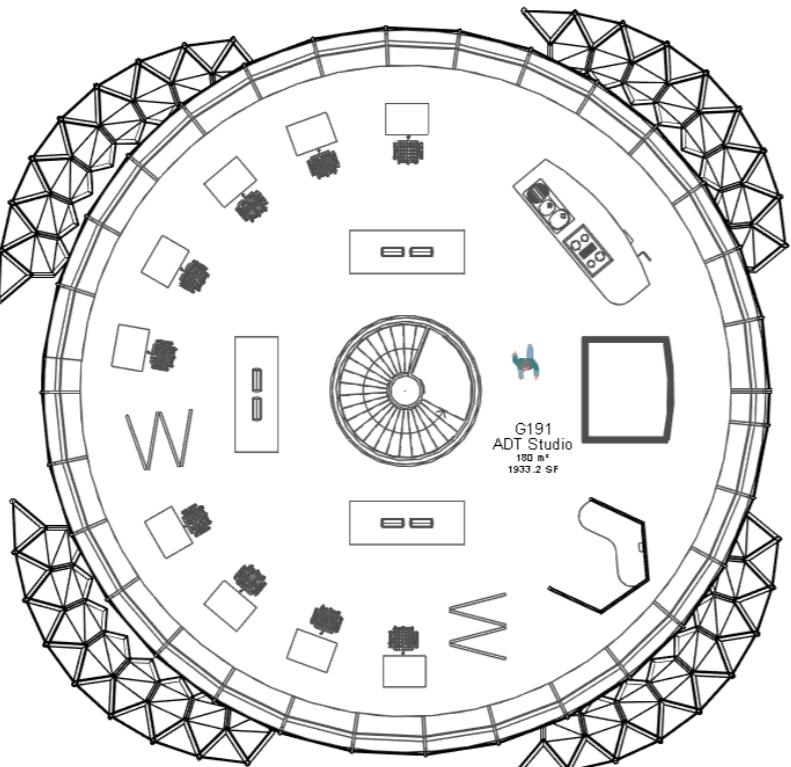
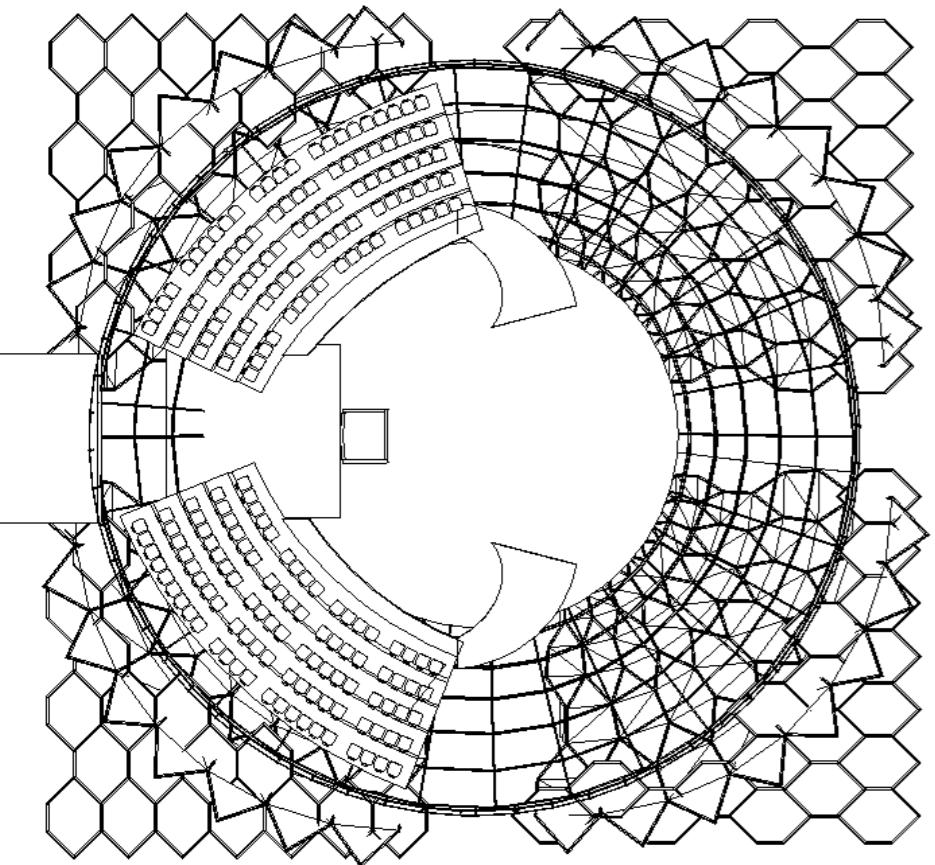
- the bridge size has also been changed to allow more light for the cafes of the existing building.
- There is now also a basement with connection to the existing to adhere to part B of the building regulations.

# PLANS, ELEVATIONS AND SECTIONS

## Front elevation



**North elevation**



For the floor plan of the existing building my aim was to try and separate the café which populated 160 people and separate the theater which populated 280 people, this was so that the building could adhere to the building regulations part B of building regulations. It was my decision to also include the architectural studio, a library and also a chill out area, the reason for this is to offer the students new scenery as well as inspiration. the exhibition was placed on the basement along with the café because it is the main entrance and essentially ensures that the art work does not go unseen.

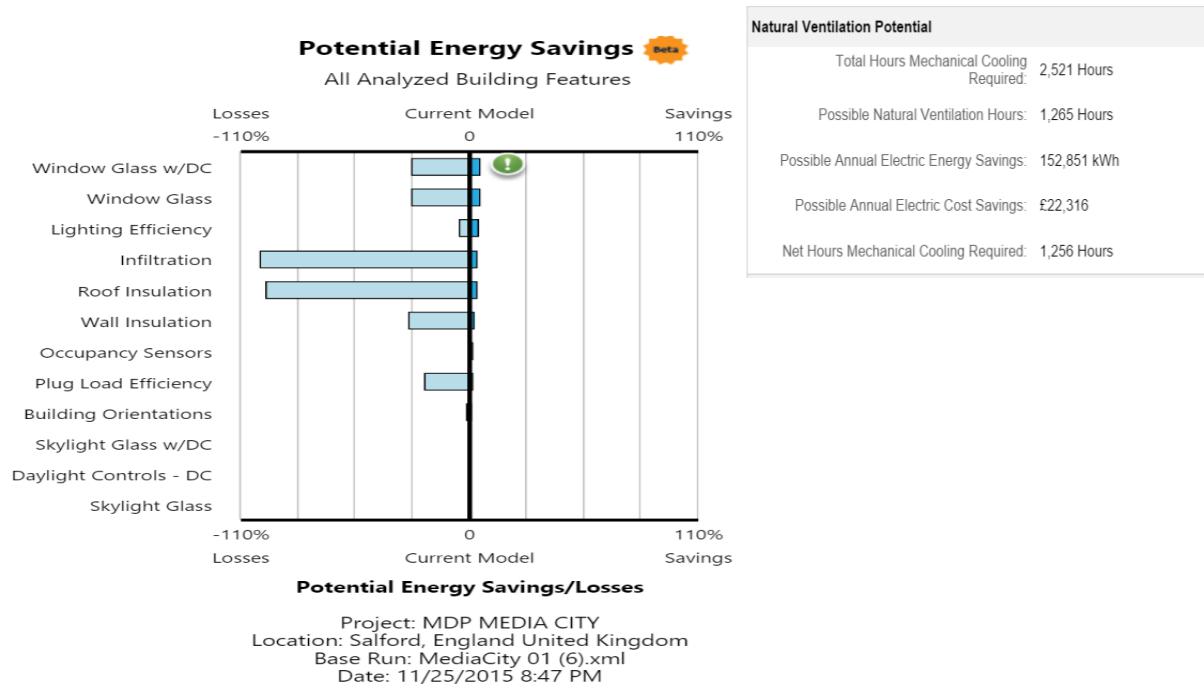
# EXISTING BUILDING RETROFIT

## Building performance analysis

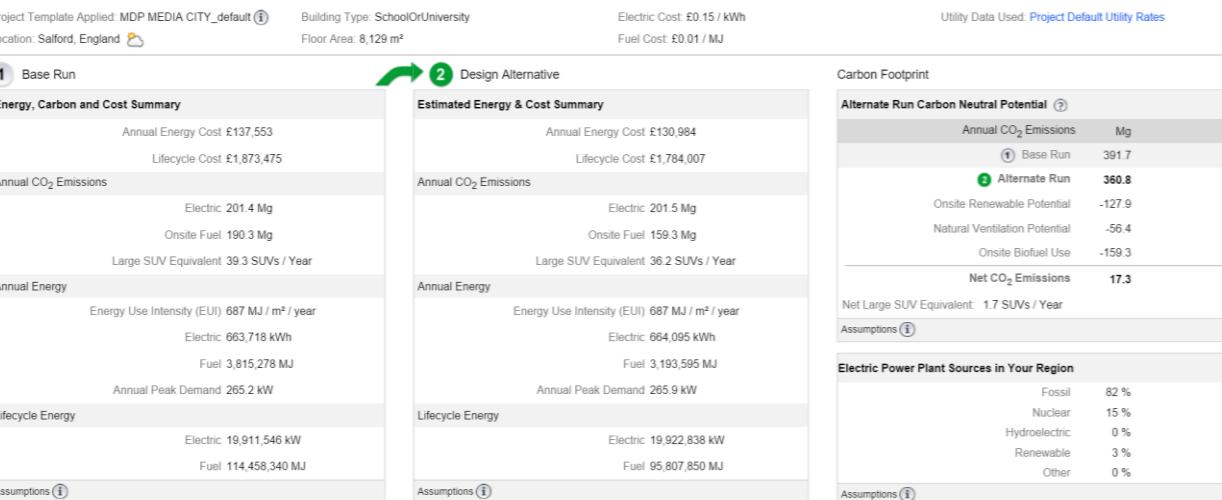
Retrofitting is the process of modifying something after it has been manufactured.

Before making any changes to the existing building I first uploaded it to green building studio to analyze the key areas where I could improve the building

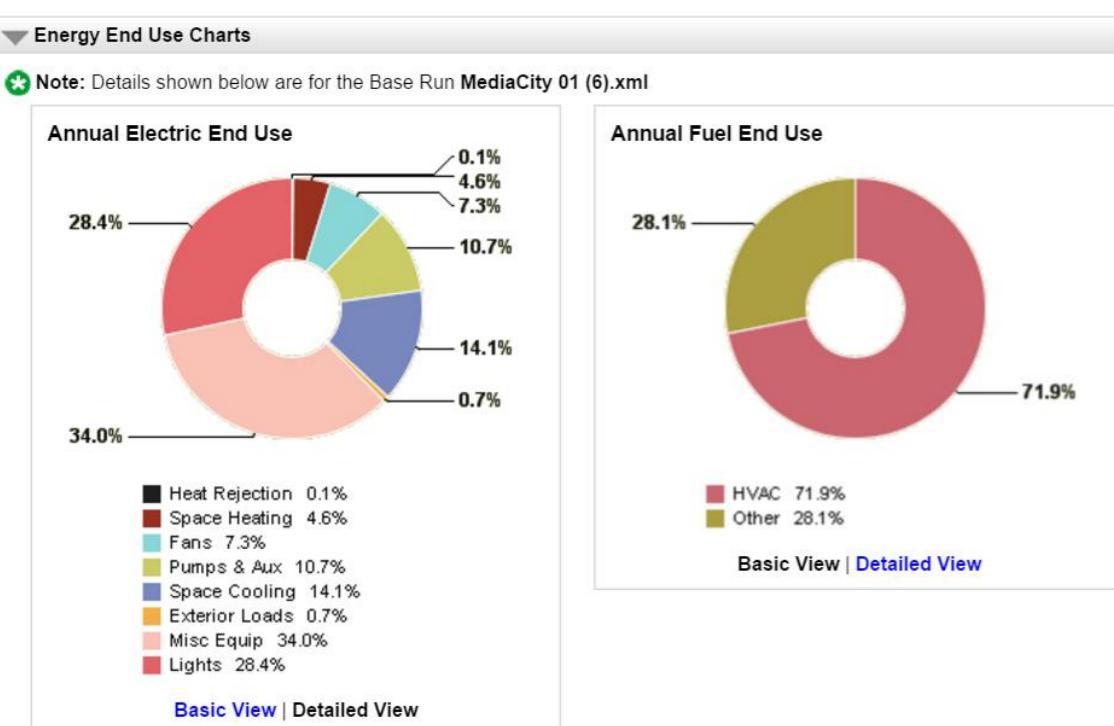
The image below shows the potential energy saving chart which shows areas that need to be improved.



The image below shows the alternative run that I entered by changing things such as the wall thickness , insulation thickness and cladding.

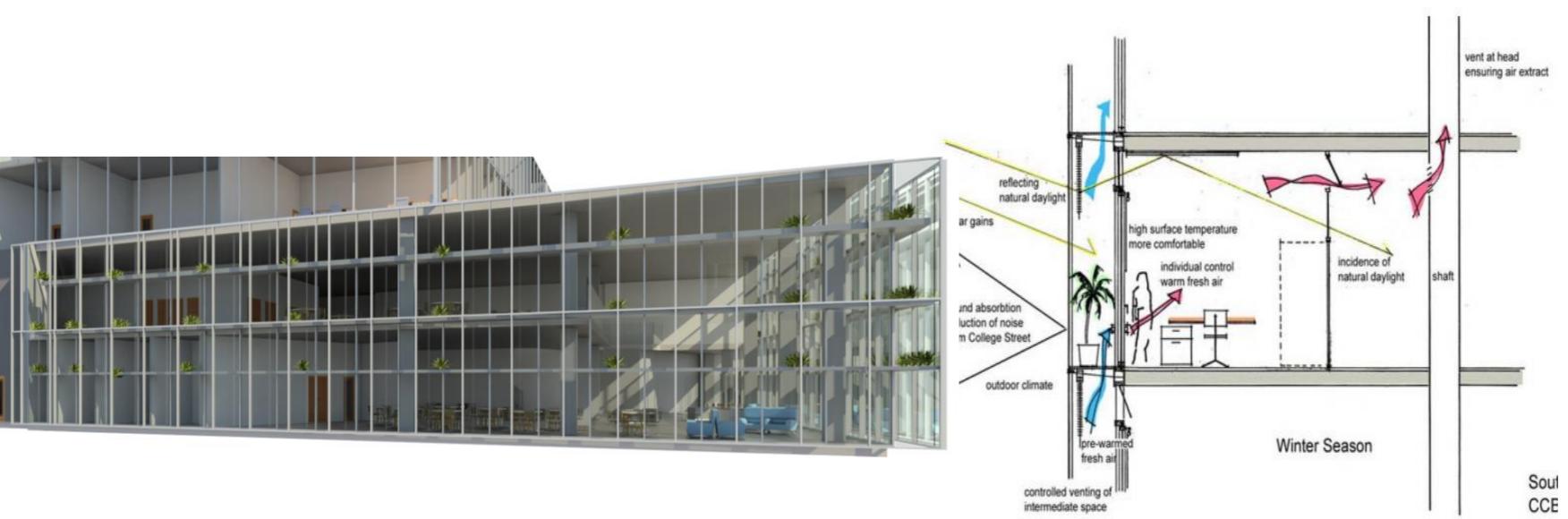


Below shows a pie chart of what uses up most of the electricity and what uses the most fuel.



## Cladding system

One of the main things that can easily be changed is the exterior cladding of the existing building. The type of cladding system I chose was based off of the potential energy saving bar chart which shows areas of the building that can be improved, based off of the information which shows high levels of infiltration which is essentially air tightness and also the potential improvement of the glass façade, my intentions are to retro fit a double skin cladding which mechanically allows ventilation into the building.



## By Room Name Legend

- ASSOCIATE HEAD OF SCHOOL
- BRIDGE CONNECTION
- CHANGING ROOMS
- CONFERENCE ROOM
- CONFERENCE SPACE
- DIRECTORATE OFFICE
- RHERSAL SPACE
- STORAGE ROOM

