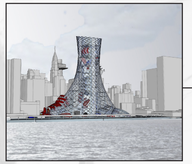
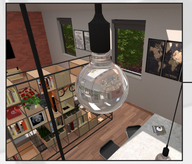
Andrew Boffi
Portfoli



Comical Ideology

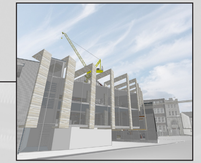
The Futuristic Home

Render Practice



Stanley Brick House

Cradle to Cradle



An Architect's space

Mud and Stud Holiday Lets

Work in Practice

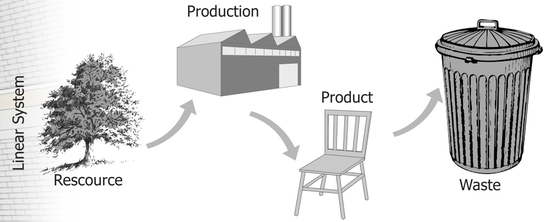
Garden Rooms

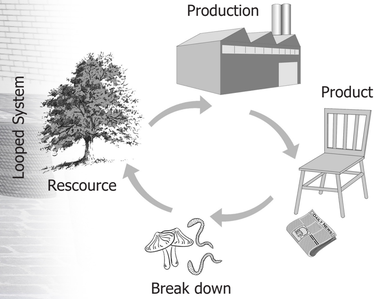
Cradle to Cradle - 7 Legge Lane

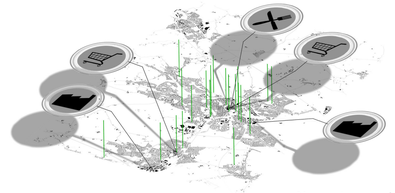
Inspired by The Cradle to Cradle methodology of design, this project looked at reuse and life-cycles at differing scales and the infrastructure necessary to implement a Cradle to Cradle lifestyle to a wider community. This project concluded with the design of The Re-purposing Factory that reused existing, dilapidated buildings in order to turn them into a place for re-purposing waste objects, a place for Cradle to Cradle business start-ups and a community hack space geared towards helping the community learn and lead a Cradle to Cradle lifestyle.

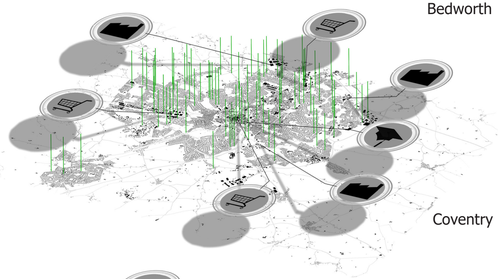
Written by Michael Baungart and William McDonough "Cradle to Cradle; Remaking the way we make things" argues for a closed loop system to be implemented into many different aspects of society. A closed loop system is a continuing life cycle of resources; this is opposed to the predominant linear cycle in which the resources are lost to a landfill.

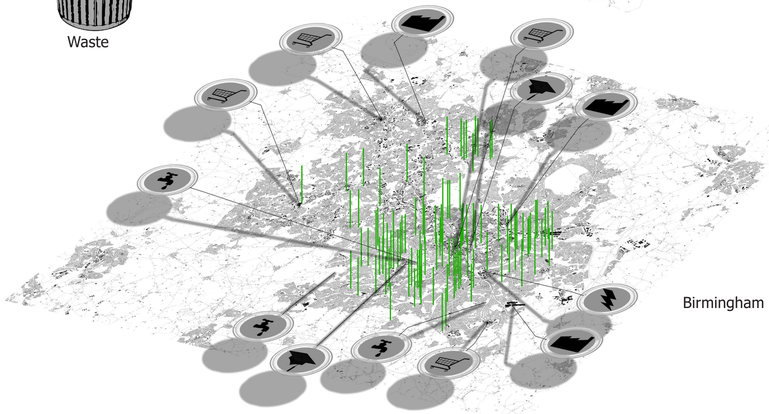
In order to situate the project I identified different towns and cities and mapped their traditional sites for waste management against the areas amenities. Using public information I found a correlation between the settlements I was observing; the more opportunities they have to recycle the less amount of waste they recycled. This was how Birmingham became the city that the project was based in. Through observation and comparison of areas of dilapidation and potential to tap in to local communities and waste resources further narrowed the site down to a block within the Jewellery Quarter.



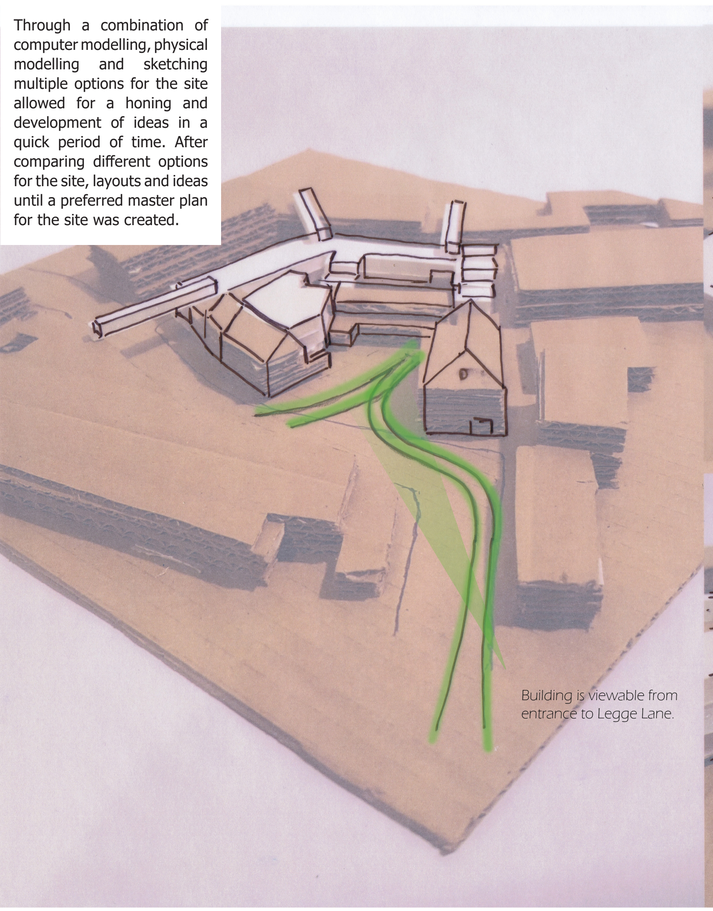


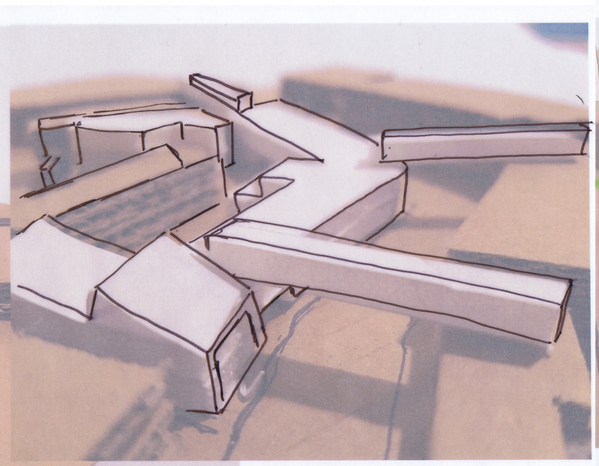


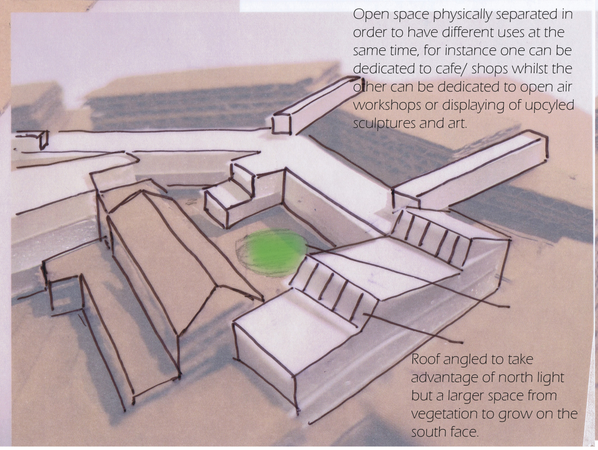


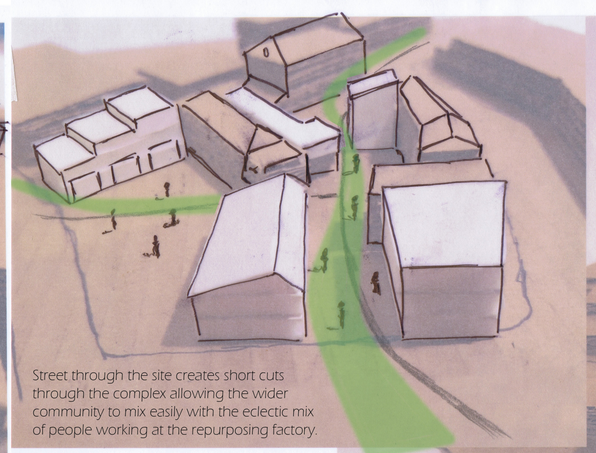


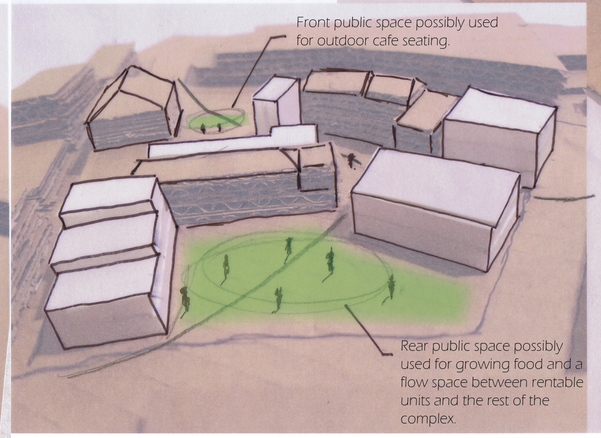
Through a combination of computer modelling, physical modelling and sketching multiple options for the site allowed for a honing and development of ideas in a quick period of time. After comparing different options for the site, layouts and ideas until a preferred master plan for the site was created.

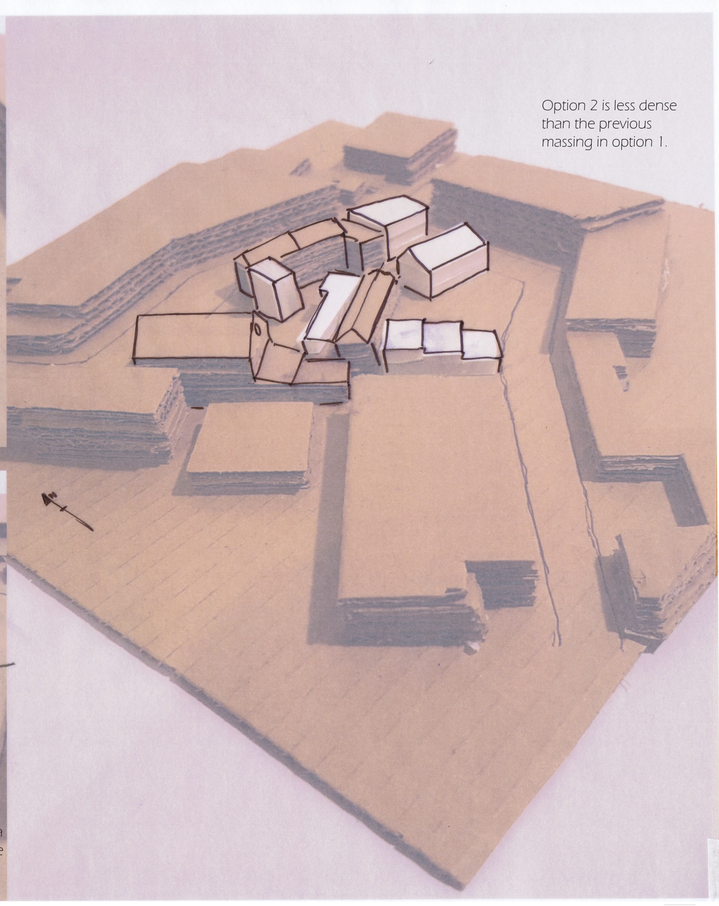




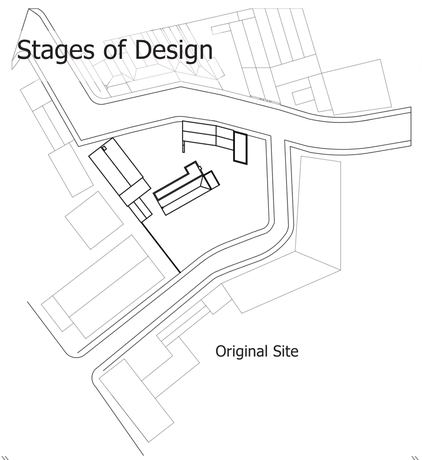




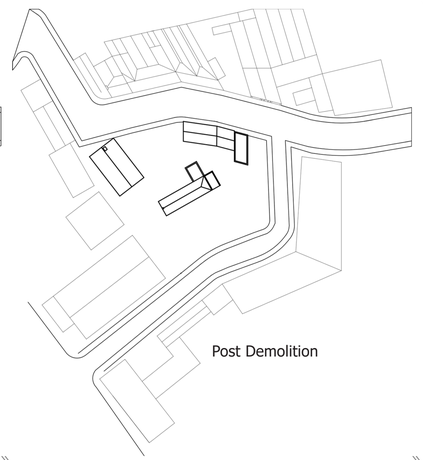




Stages of Design

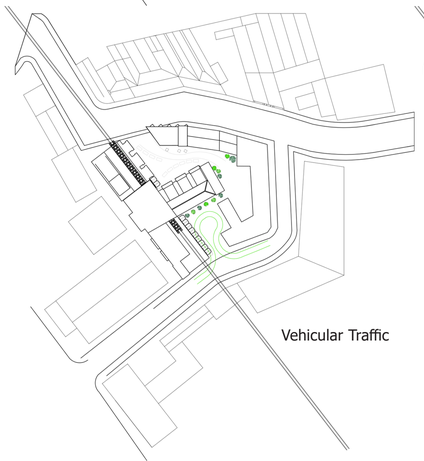


Original Site



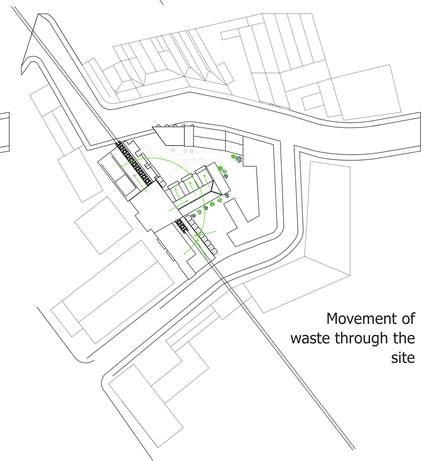
Post Demolition

Site Lines

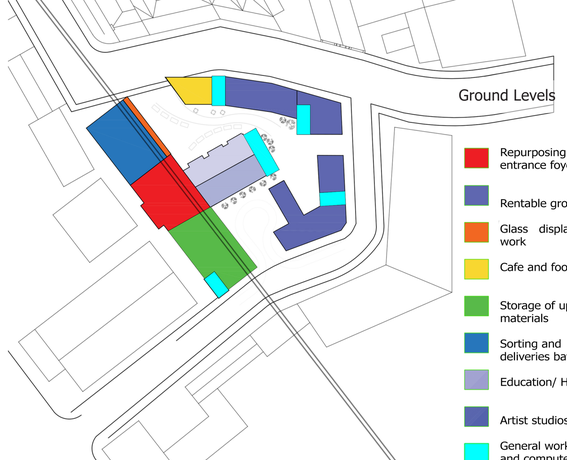


Vehicular Traffic

Pedestrian Traffic



Movement of waste through the site



Ground Levels

- Repurposing factory entrance foyer
- Rentable groundfloor units
- Glass displaying of upcycled work
- Cafe and food preparation
- Storage of upcyclable materials
- Sorting and deliveries bay
- Education/ Hackspace
- Artist studios
- General workspaces and computer spaces

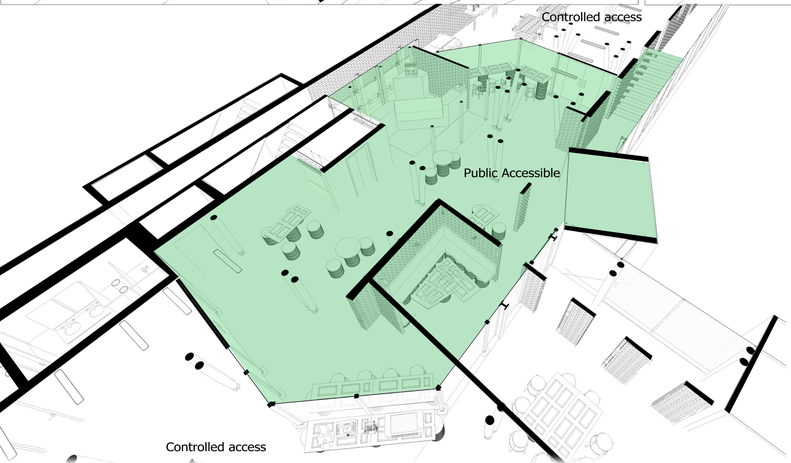
Mid Levels

- Repurposing factory entrance foyer
- Rentable groundfloor units
- Glass displaying of upcycled work
- Cafe and food preparation
- Material Libraries /offices start up incubators
- Exhibition space
- Artist studios
- General workspaces and computer spaces
- Access to higher level

Roof Levels

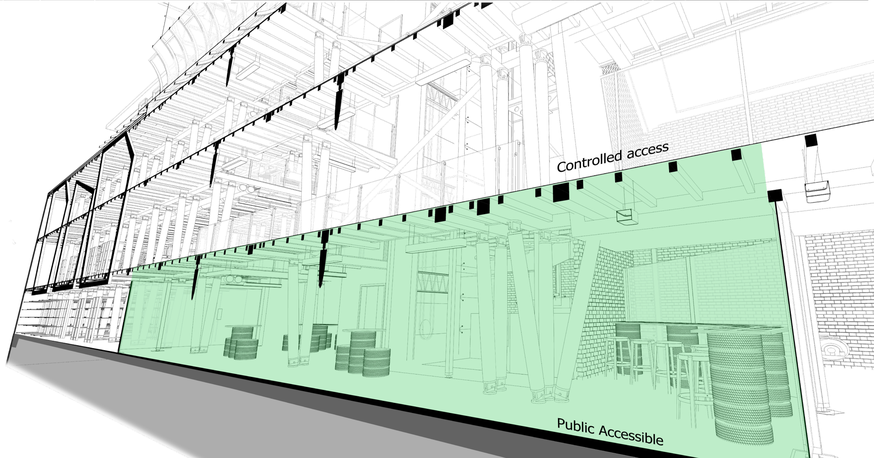
- Allotment and green spaces
- Walkways to waste delivery system
- Walkways to rooftop spaces

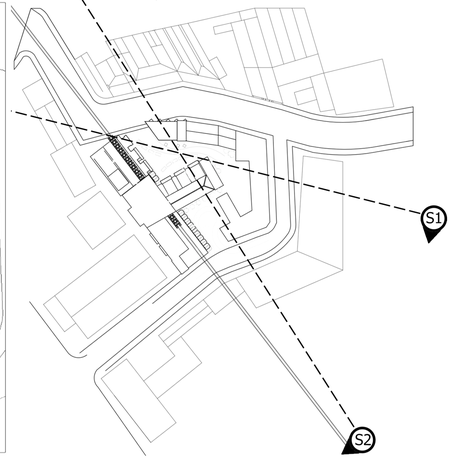
The land usage is different throughout differing levels. Interactions with the public generally occur on the ground with more work orientated affairs occurring on the higher levels and a mixture of public access and walkways inhabit the rooftops and upcycling activities such as growing crops and composting occur.



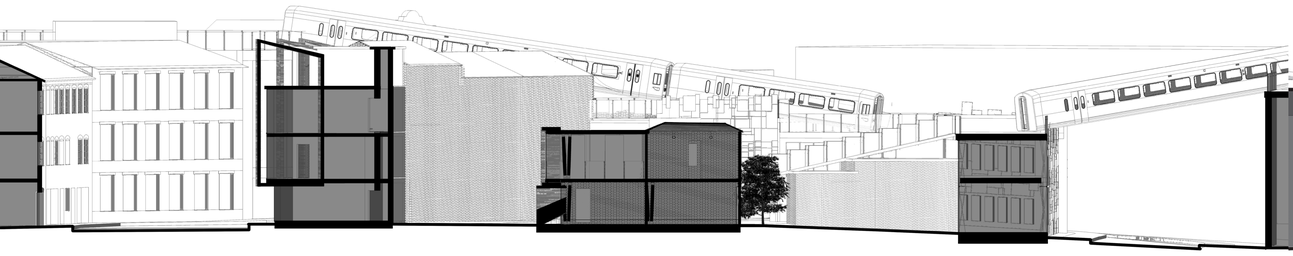
The central reception area continues the relationships between the public and the process of upcycling and hacking. The boundaries are imposed by moveable glass partitions that are freestanding. These can be moved or reconfigured in order to allow for different views into the differing process but also to comply with logistical constraints such as unusual changes to the typical programme of work. The building typology necessitates permeability with the public realm; within the building certain activities must be separated for safety and security of both public and users of the space. The images below show the areas that are public and controlled access.

The reception/ canteen and heart of the building is on the ground floor though there are walkways passing overhead the building opens up creating an atrium over the canteen.

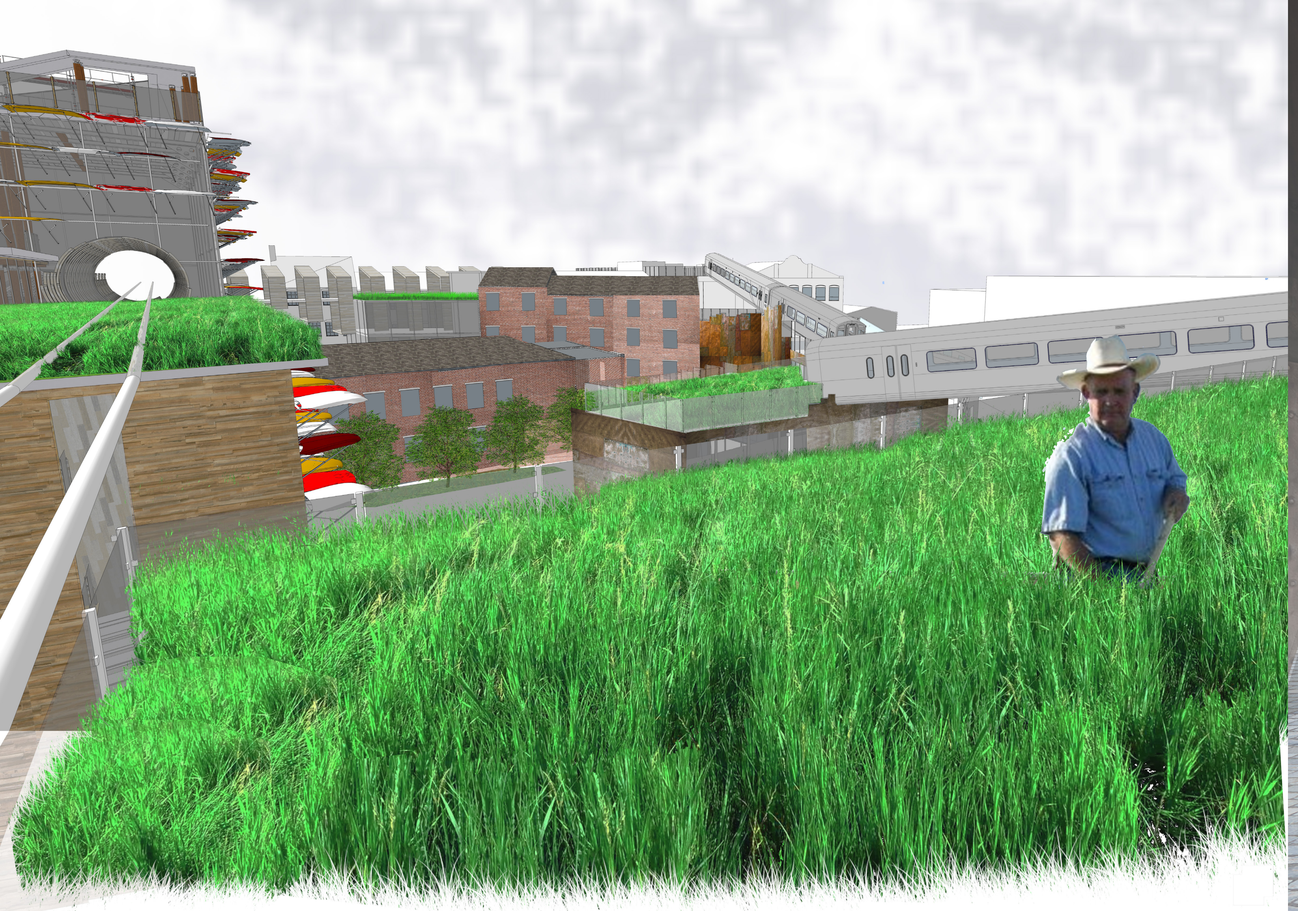


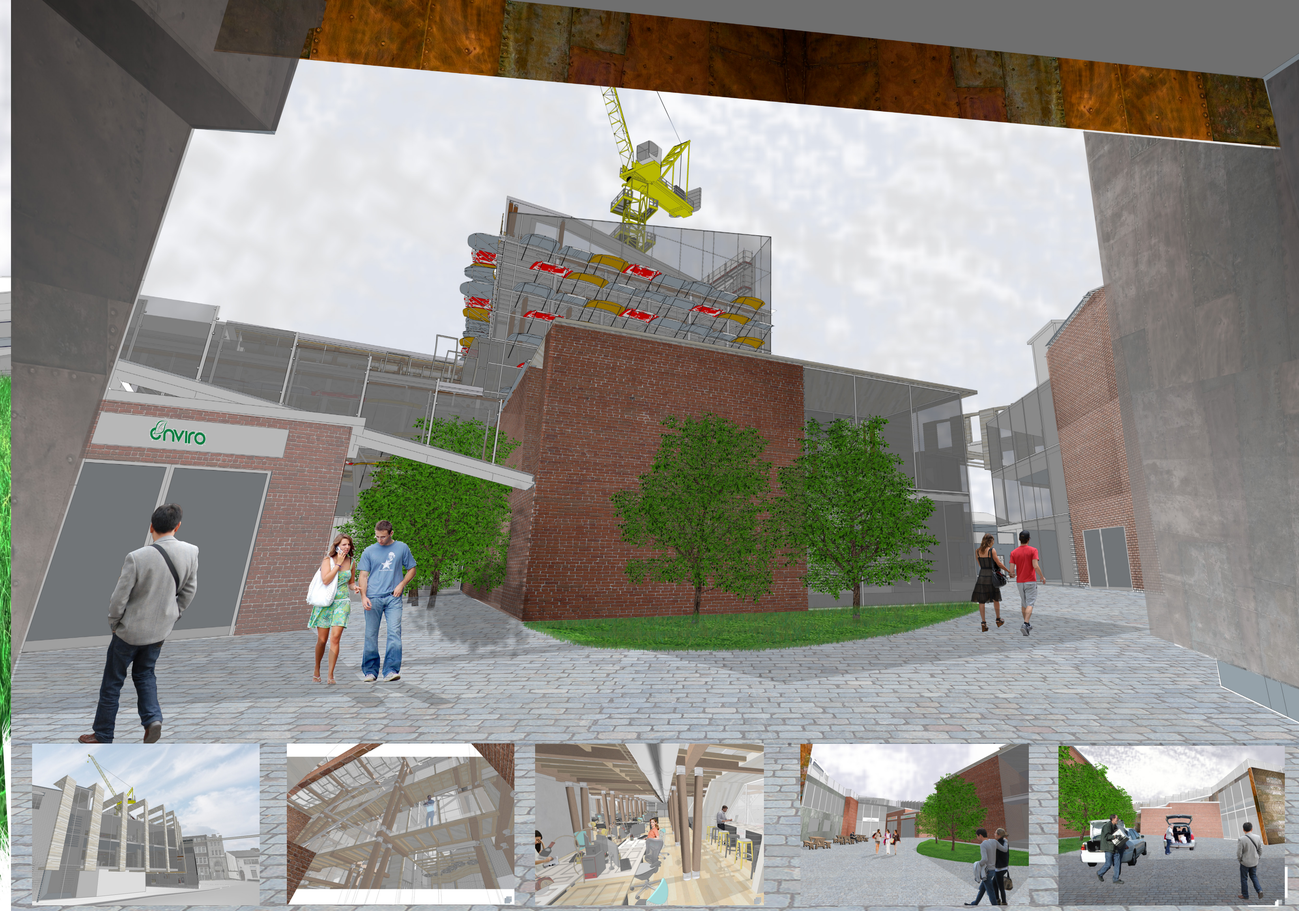


Section 1



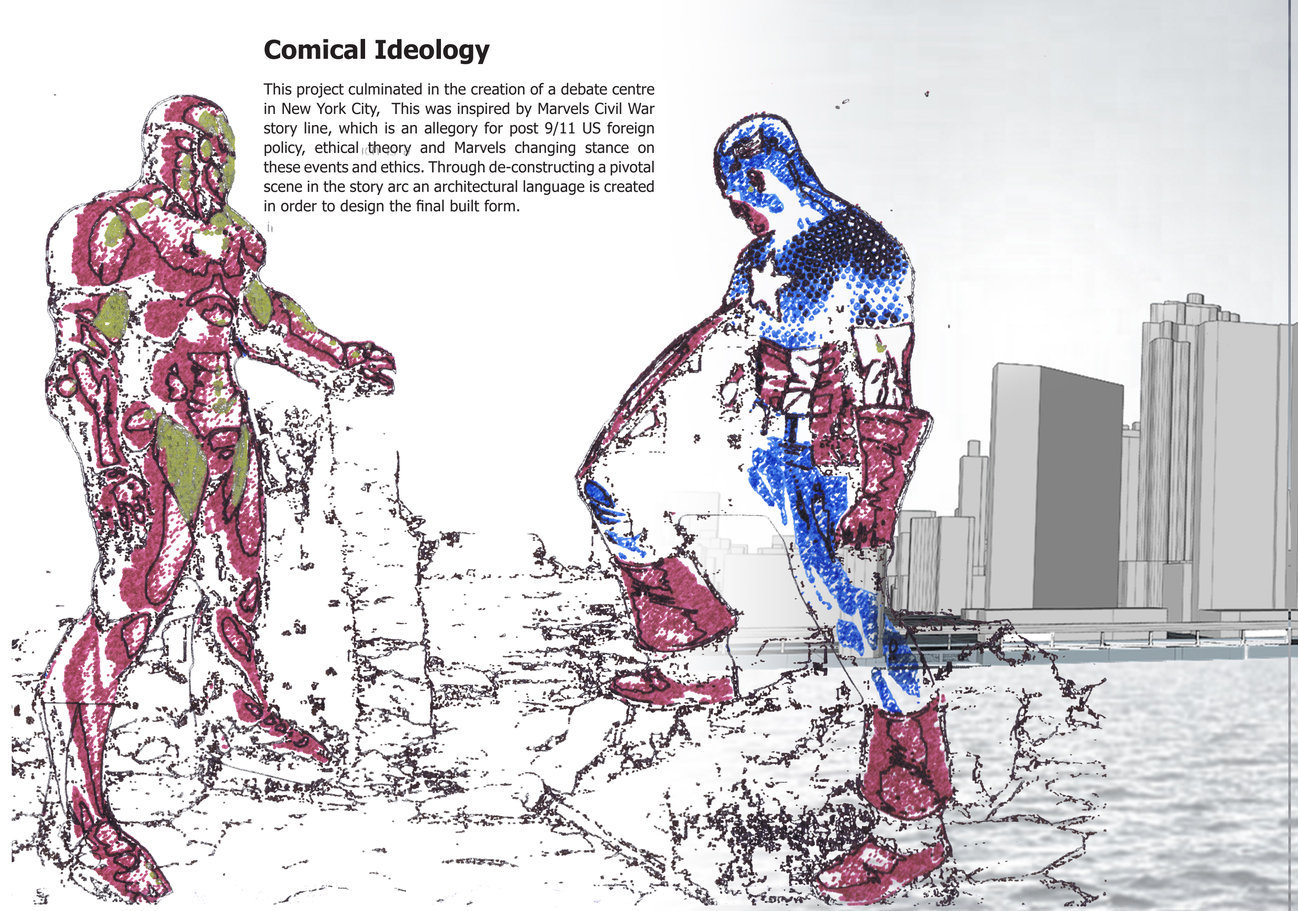
Section 2

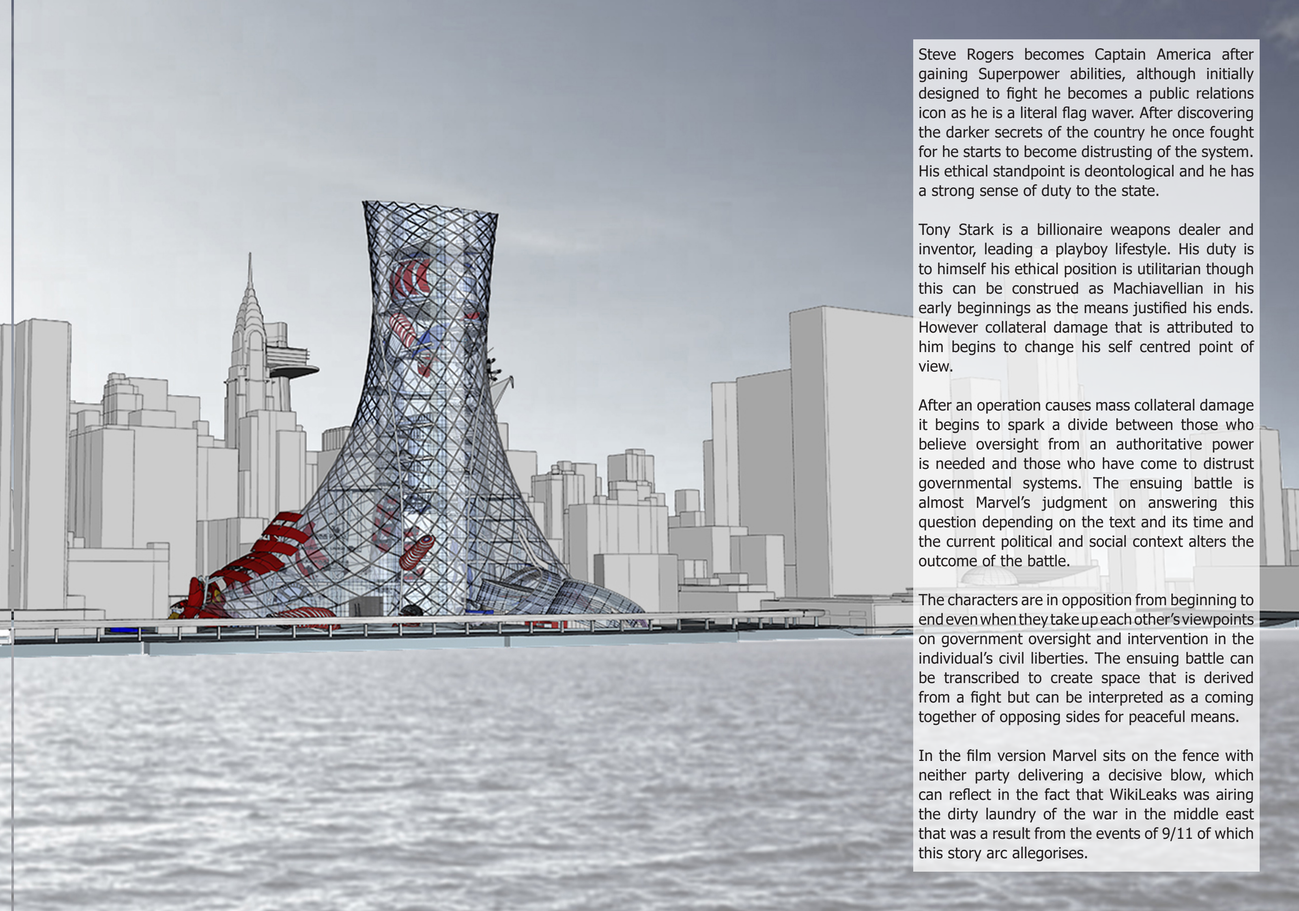



Enviro

Comical Ideology

This project culminated in the creation of a debate centre in New York City, This was inspired by Marvels Civil War story line, which is an allegory for post 9/11 US foreign policy, ethical theory and Marvels changing stance on these events and ethics. Through de-constructing a pivotal scene in the story arc an architectural language is created in order to design the final built form.





Steve Rogers becomes Captain America after gaining Superpower abilities, although initially designed to fight he becomes a public relations icon as he is a literal flag waver. After discovering the darker secrets of the country he once fought for he starts to become distrusting of the system. His ethical standpoint is deontological and he has a strong sense of duty to the state.

Tony Stark is a billionaire weapons dealer and inventor, leading a playboy lifestyle. His duty is to himself his ethical position is utilitarian though this can be construed as Machiavellian in his early beginnings as the means justified his ends. However collateral damage that is attributed to him begins to change his self centred point of view.

After an operation causes mass collateral damage it begins to spark a divide between those who believe oversight from an authoritative power is needed and those who have come to distrust governmental systems. The ensuing battle is almost Marvel's judgment on answering this question depending on the text and its time and the current political and social context alters the outcome of the battle.

The characters are in opposition from beginning to end even when they take up each other's viewpoints on government oversight and intervention in the individual's civil liberties. The ensuing battle can be transcribed to create space that is derived from a fight but can be interpreted as a coming together of opposing sides for peaceful means.

In the film version Marvel sits on the fence with neither party delivering a decisive blow, which can reflect in the fact that WikiLeaks was airing the dirty laundry of the war in the middle east that was a result from the events of 9/11 of which this story arc allegorises.

Though breaking the event down in a similar manner to Tschumi I shall incorporate added steps in order to make the meaning and narrative that inspired the events to be more easily perceived rather than abstracted out into obscurity. The steps I put into place are shown below:

1. Like Tschumi I started off with an event, the event I chose within the narrative was the final showdown between the two characters. Each scene was selected for its dynamism which was a desired aesthetic to be carried through to piece.

2. Unlike Tschumi I highlighted the two opposing characters rather than it being one form merged at the end of the process. as this narrative is about two opposing factions it is important that the inhabitant experiences the two different sides to the story.

3. The movement notation documents the movement between the actors within the scene.

4. Icons and visual signs are used replacing the movement notation symbols. This will help the inhabitants of the future space to be created from this process be able to identify the architectural elements as a sign for the ethical philosophies that each opposing character stands for.

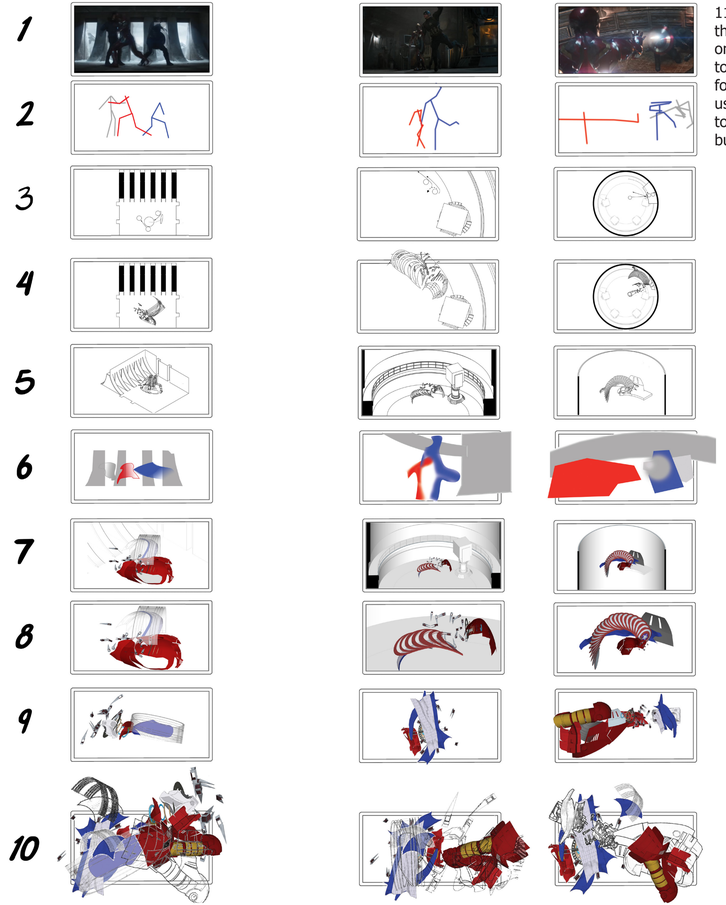
5. The 2 dimensional shapes are extruded to create 3 dimensional forms.

6. Colour is generalised from the original scene to be then reused within the 3 dimensional forms as this further identifies the architectural element with a particular opposition. The colour is a visual sign of the opposing sides.

7. This step shows the colour from the previous step being introduced to the 3 dimensional extrusions.

8. And 9. Show the different views of the 3 dimensional spaces that will then be composed around one another to create a more complex form

10. In this step multiple views are transposed over one another to create a 2 dimensional composition that has an increased visual complexity.

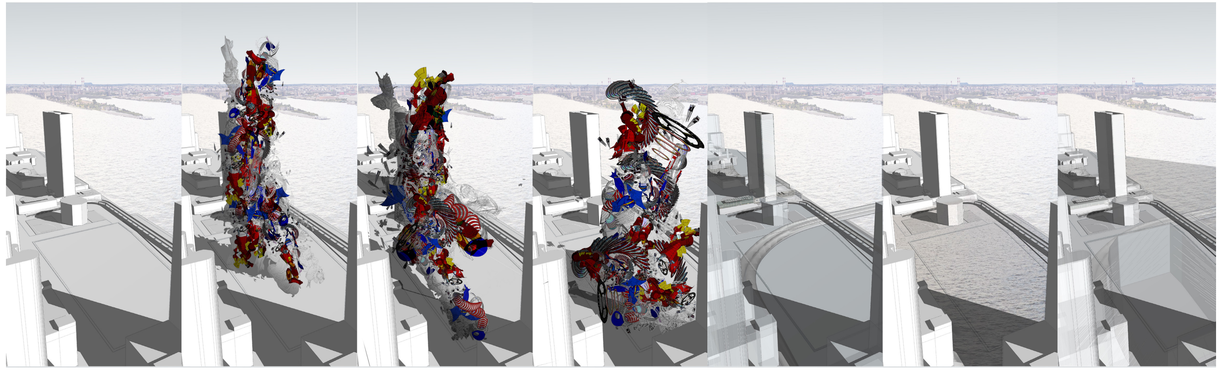


11. The compositions then take views from one another in order to create an elongated form that will be then used to inform the towering shape of my building.

The compositions are then superimposed upon the site and imply a sense of scale equal to the scale of the massing of its neighbours. It produces an abstract form that represents the dynamic struggle between the two characters and by extension the two ethical oppositions. The scales of these forms allow (once rationalised) to create usable spaces and rooms.


EXIT 7
E 23 St
3/4 MILE
EXIT 8
Midtown Tun
E 34 St


SKYLINER



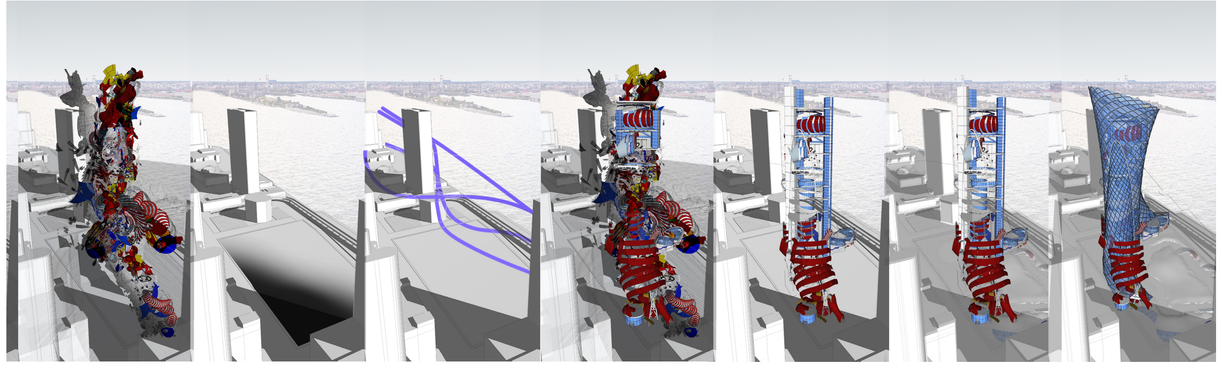
Site is vacant

Implementation of architectural language compositions

Site constraints: Tunnel

Site constraints: Water egress

Constraints solution: Slurry wall



Placing language in site constraints solution

Climactic problem: Solar shade

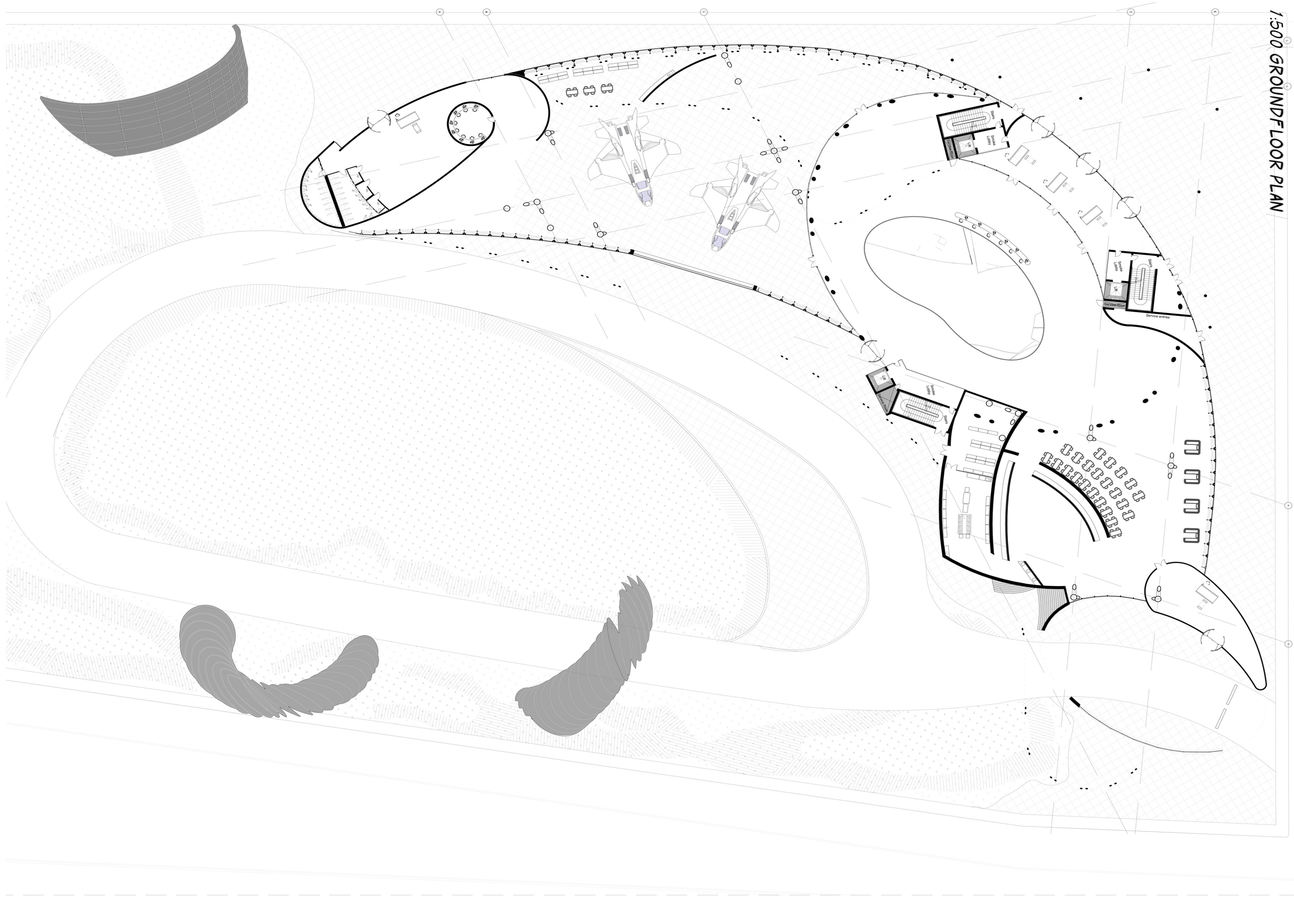
Climactic problem: Prevailing wind

Resolving language in rational building forms

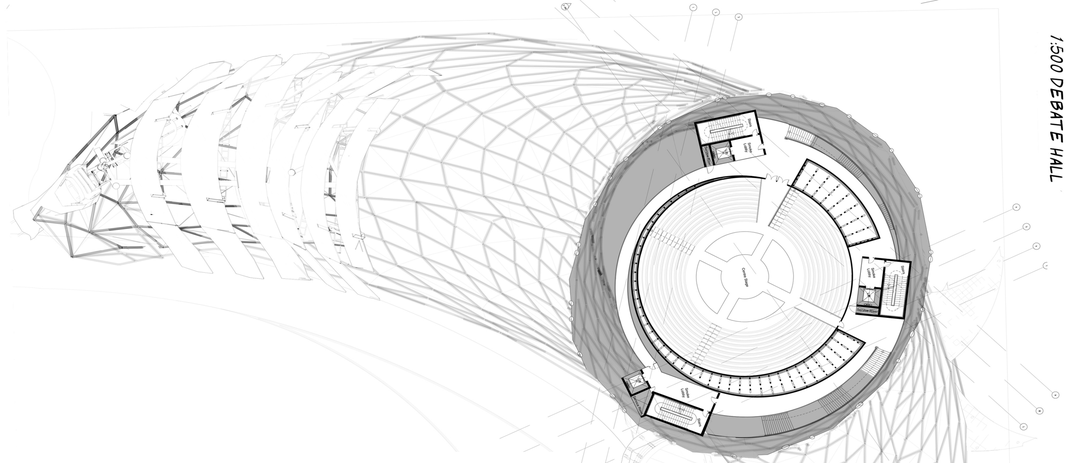
Resolving language in rational building forms

Extension of language into landscape design

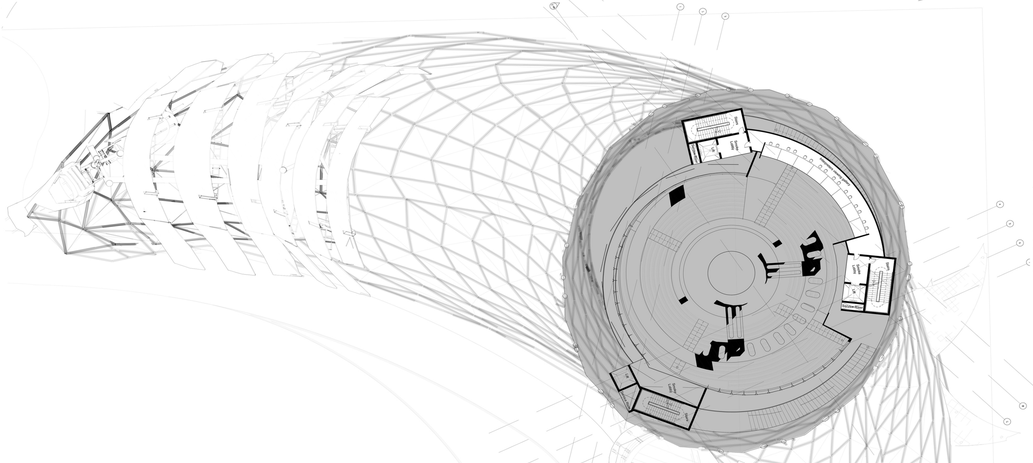
Envelope wraps around language to form building



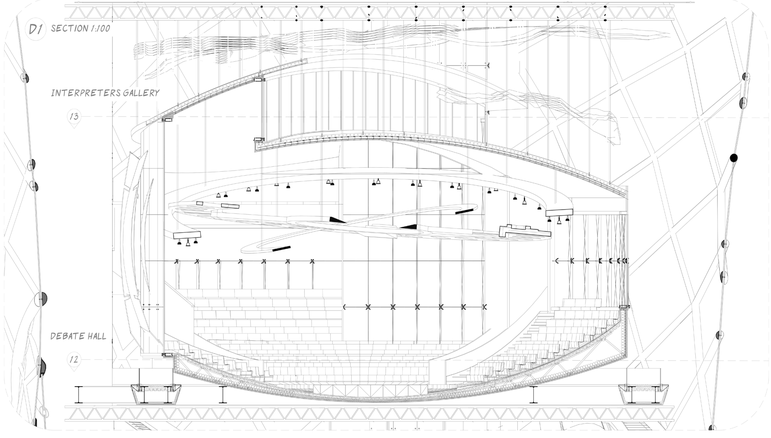
1:500 GROUNDFLOOR PLAN

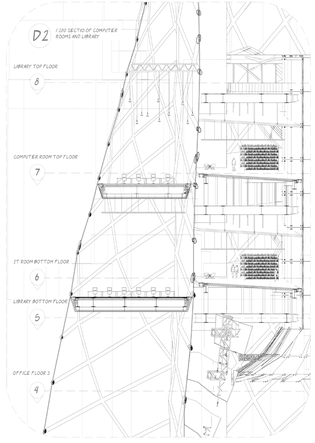


1:500 DEBATE HALL

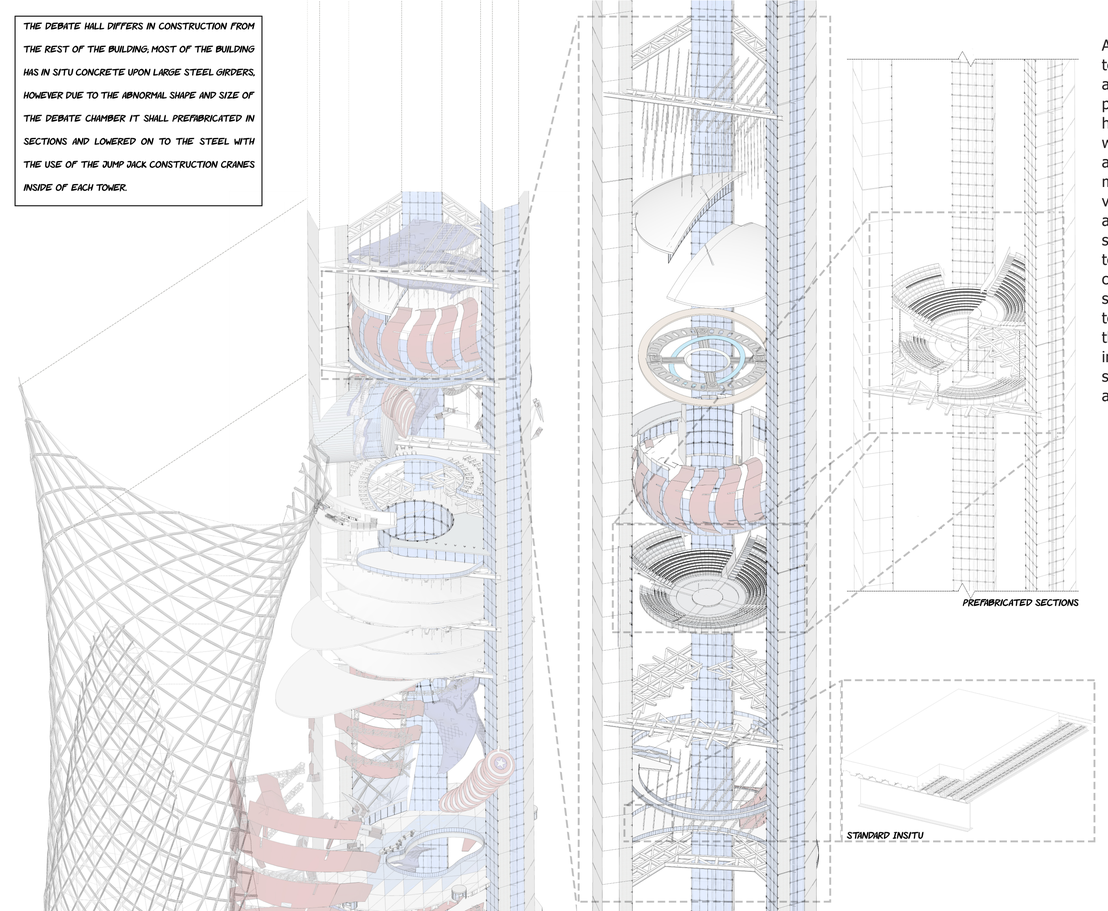


1:500 INTERPRETERS GALLERY





THE DEBATE HALL DIFFERS IN CONSTRUCTION FROM THE REST OF THE BUILDING; MOST OF THE BUILDING HAS IN SITU CONCRETE UPON LARGE STEEL GIRDERS. HOWEVER DUE TO THE ABNORMAL SHAPE AND SIZE OF THE DEBATE CHAMBER IT SHALL PREFABRICATED IN SECTIONS AND LOWERED ON TO THE STEEL WITH THE USE OF THE JUMP JACK CONSTRUCTION CRANES INSIDE OF EACH TOWER.

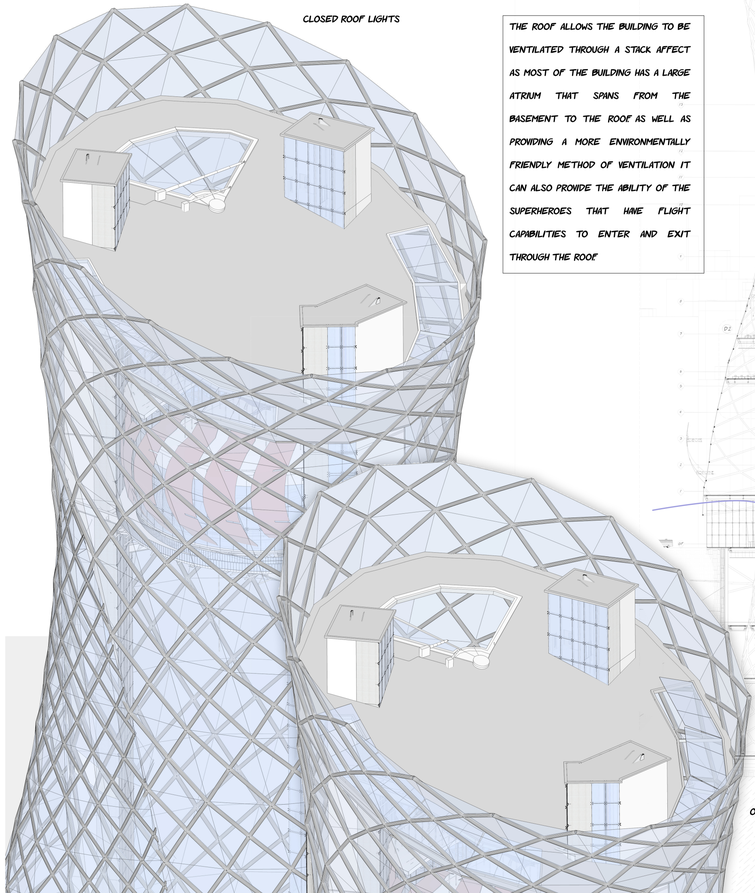


PREFABRICATED SECTIONS

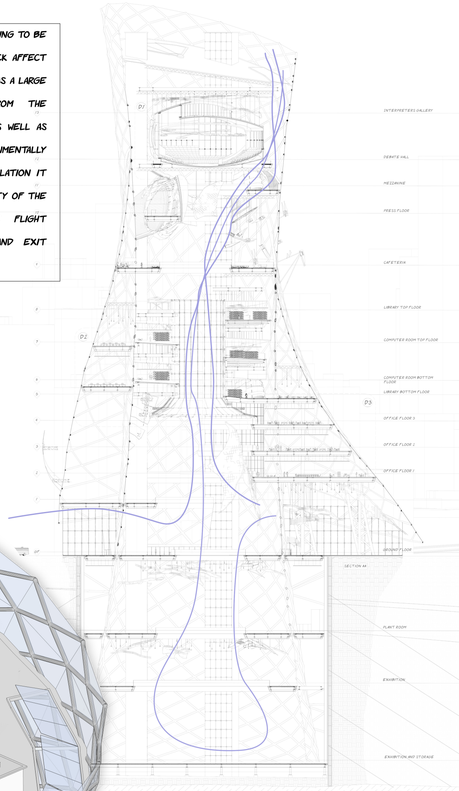
STANDARD INSITU

As a part of the technical module associated with this project, the design had to engage with materiality and construction methods, heating and ventilation methods, and a technical specialism bespoke to the project, in this case anti terrorism strategies. These had to be conveyed in the final presentation in the form of 3 separate drawings and diagrams.

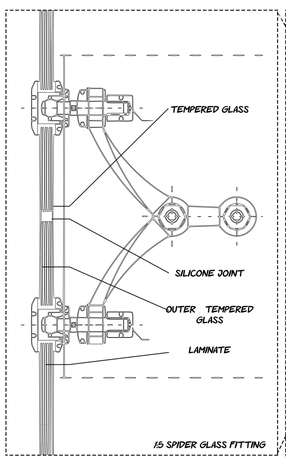
CLOSED ROOF LIGHTS



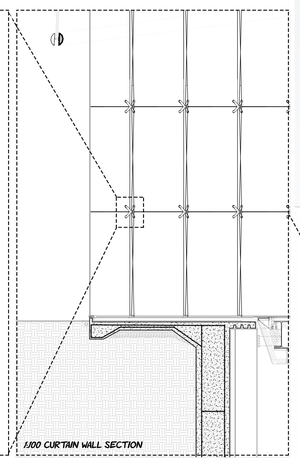
THE ROOF ALLOWS THE BUILDING TO BE VENTILATED THROUGH A STACK AFFECT AS MOST OF THE BUILDING HAS A LARGE ATRIUM THAT SPANS FROM THE BASEMENT TO THE ROOF AS WELL AS PROVIDING A MORE ENVIRONMENTALLY FRIENDLY METHOD OF VENTILATION IT CAN ALSO PROVIDE THE ABILITY OF THE SUPERHEROES THAT HAVE FLIGHT CAPABILITIES TO ENTER AND EXIT THROUGH THE ROOF



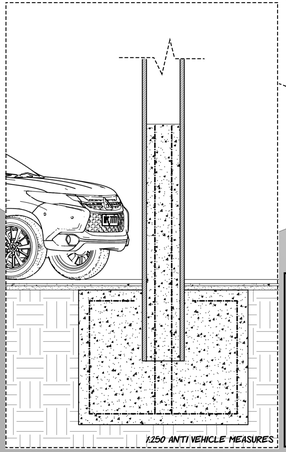
OPEN ROOF LIGHTS



1:5 SPIDER GLASS FITTING



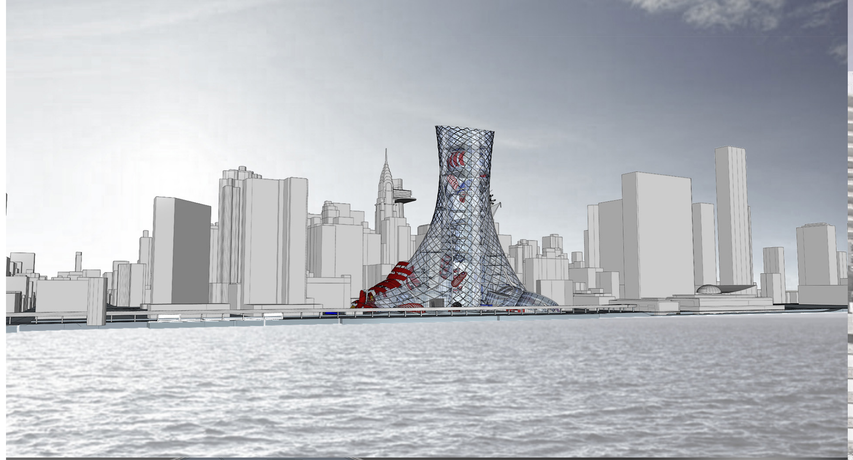
1:100 CURTAIN WALL SECTION

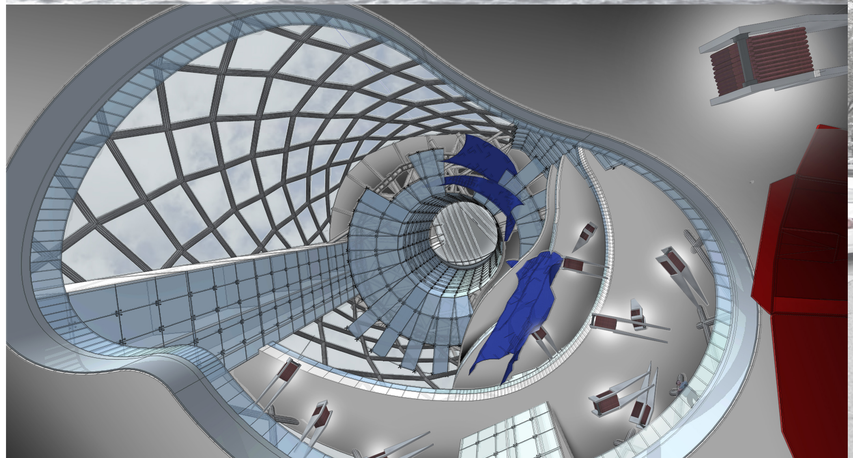


1:250 ANTI VEHICLE MEASURES

THE TECHNICAL SPECALISM OF THE PROJECT IS ANTI TERRORISM FEATURES IN ARCHITECTURE. THE BUILDING EMPLOYS HARD LANDSCAPING TO PREVENT VEHICLE BORN ATTACKS, AN INCREASED IN FIRST FLOOR LEVEL TO MITIGATE THE EFFECTS OF A POSSIBLE BLAST AND ON A MATERIALITY LEVEL, TOUGHENED GLASS IN THE CURTAIN WALL. THESE MEASURES HAVE BEEN TAKEN AS THE PROGRAM GATHERS IMPORTANT PEOPLE WHO ARE POTENTIAL TARGETS.

MAIN PROGRAM ELEVATED @ONE 10 METRES @ONE GROUND LEVEL





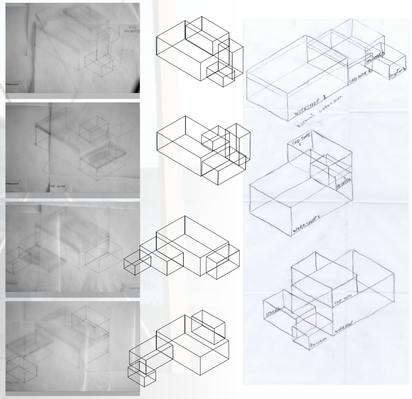
An Architect's Space

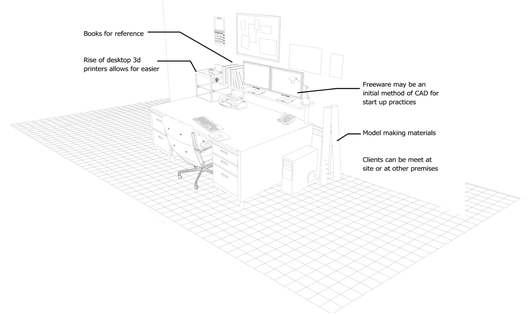
The brief invites us to submit innovative proposals to rethink the workspace of an Architect. To propose projects that addresses the Architect's vision of his or her ideal inspiration and working space. My response to that is more pragmatic. Although it says "ideal inspiration and working space", I believe in most cases that would come later in the lifetime of a practice. The start up costs and time limitations may put the design of one's own workspace further down on the list of priorities. I started by looking at the processes within a practice and the necessities in order to design. This project provided me with an opportunity to learn revit and expand my knowledge of the BIM software package.

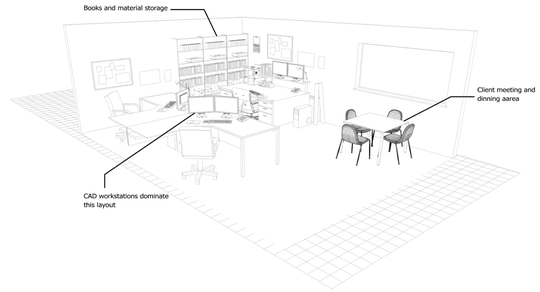
After looking at examples of existing workspaces and architectural studio premises, I identified equipment and activities that are needed or take place within the practice and then categorised these into whether they are group or solitary acts., however as the practice would grow these activities that may be solitary or small would grow too.

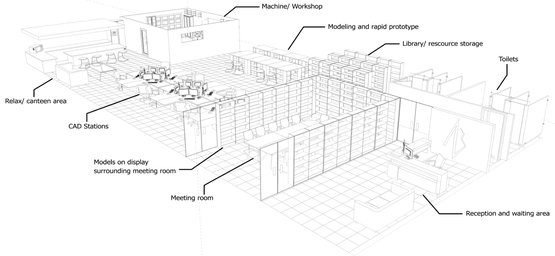
My next step was to prioritise the equipment or activities, in terms of whether they were a necessity or a luxury depending on the size of the practice.

I started looking at a maturing business and how its premises could evolve with it. I started off by looking at priorities of which space would be needed. In all cases the workshop could fit all processes in comfortably and as the practice matured then add areas specifically for CAD Suites, Storage and Client reception areas. I measured out the space each area would require and moved them round to create basic compositions.





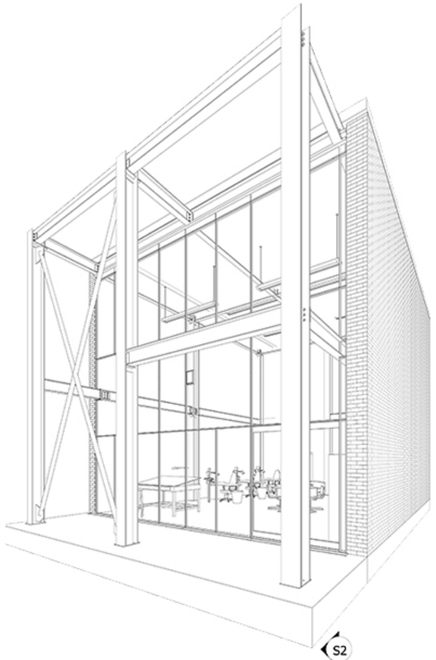


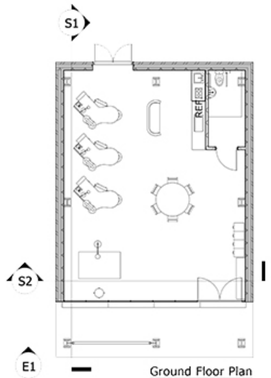


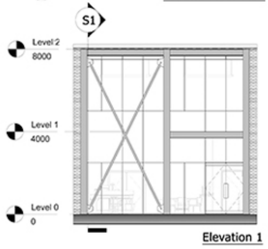
Small sized practice

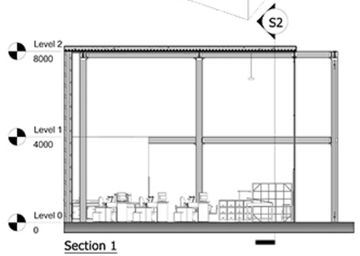
As an early business, size and cost of the premises may be restricted, therefore the scale and types of work may be hindered. However space can be used for multiple purpose, rather than just having a long board table opting for a large circular table could be better suited for multiple roles such as modelling, photography, meetings even lunch area.

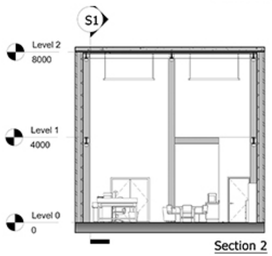
Using steel frame allows for further extension of the premises at a later date. The steel frame is also an architectural splurge to help create an interesting facade and semantically directs people to the entrance, as well as fulfilling a structural role.

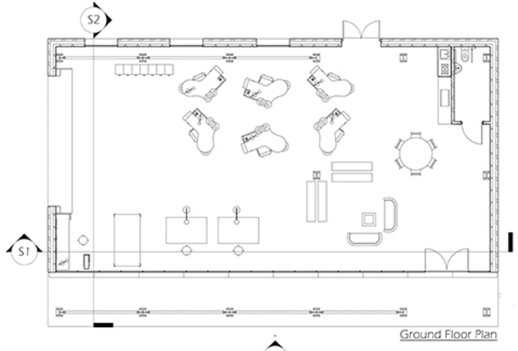


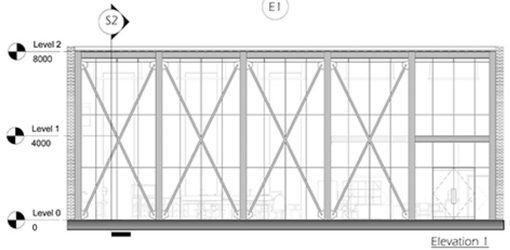


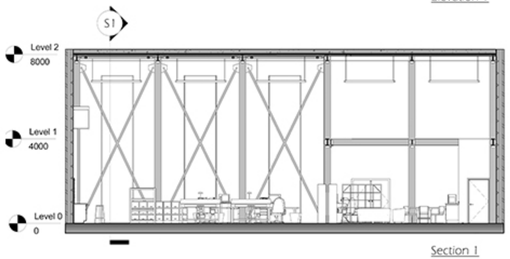






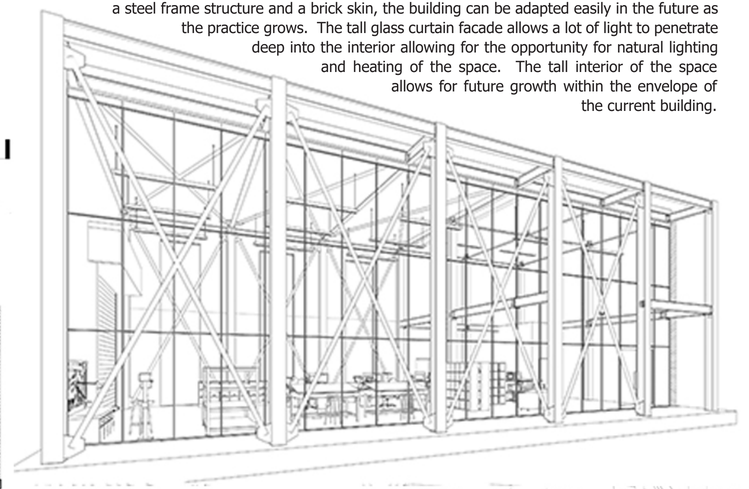


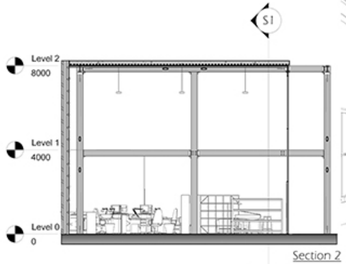




Medium sized practice

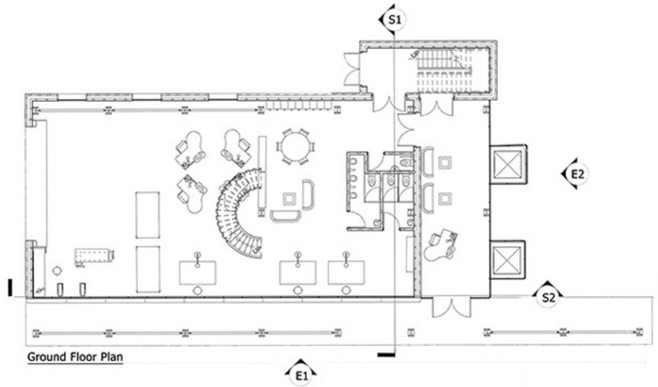
As stated in my spatial studies this workshop can support all process of design, this is made easy by making it open plan if more space was needed for a particular job things can be moved to suit. Using a steel frame structure and a brick skin, the building can be adapted easily in the future as the practice grows. The tall glass curtain facade allows a lot of light to penetrate deep into the interior allowing for the opportunity for natural lighting and heating of the space. The tall interior of the space allows for future growth within the envelope of the current building.



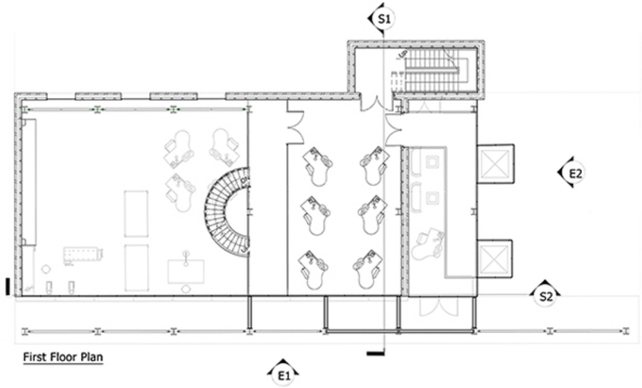


Large Practice size

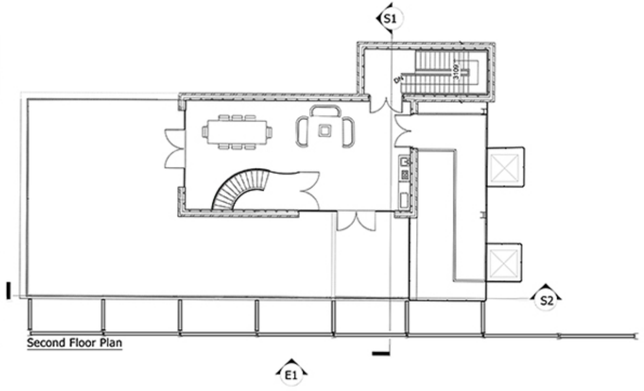
This larger more established design evolved from the previous medium sized practice and is more complex in terms of how extra space has been gained. A first floor has been added within the tall workshop to allow a CAD Suite to be moved to a separate area, this allows for more space for workshop activities and storage. Access to the roof can be gained from a room that can be utilised for relaxation or dining or an area to work in a more quiet setting. The atrium on Elevation 1 allows elevator access but also a reception area in to the building. The building makes the spiral staircase at the centre and the elevators protruding through the facade an architectural feature of the building. As most of the building is very utilitarian however, these stairs and elevators are as beautiful as they are functional. This splurge on aesthetic works with my earlier pragmatic view as these additions would be easy to make in a larger practice.



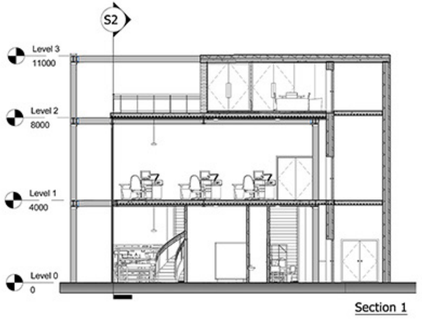
Ground Floor Plan



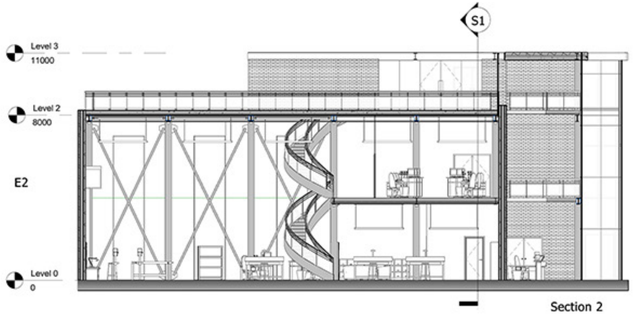
First Floor Plan



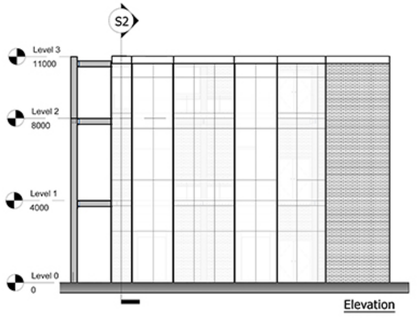
Second Floor Plan



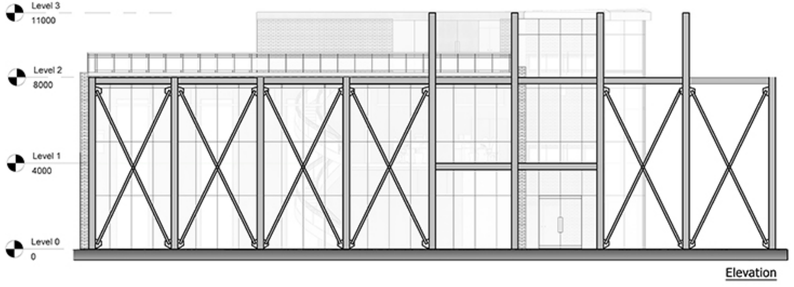
Section 1



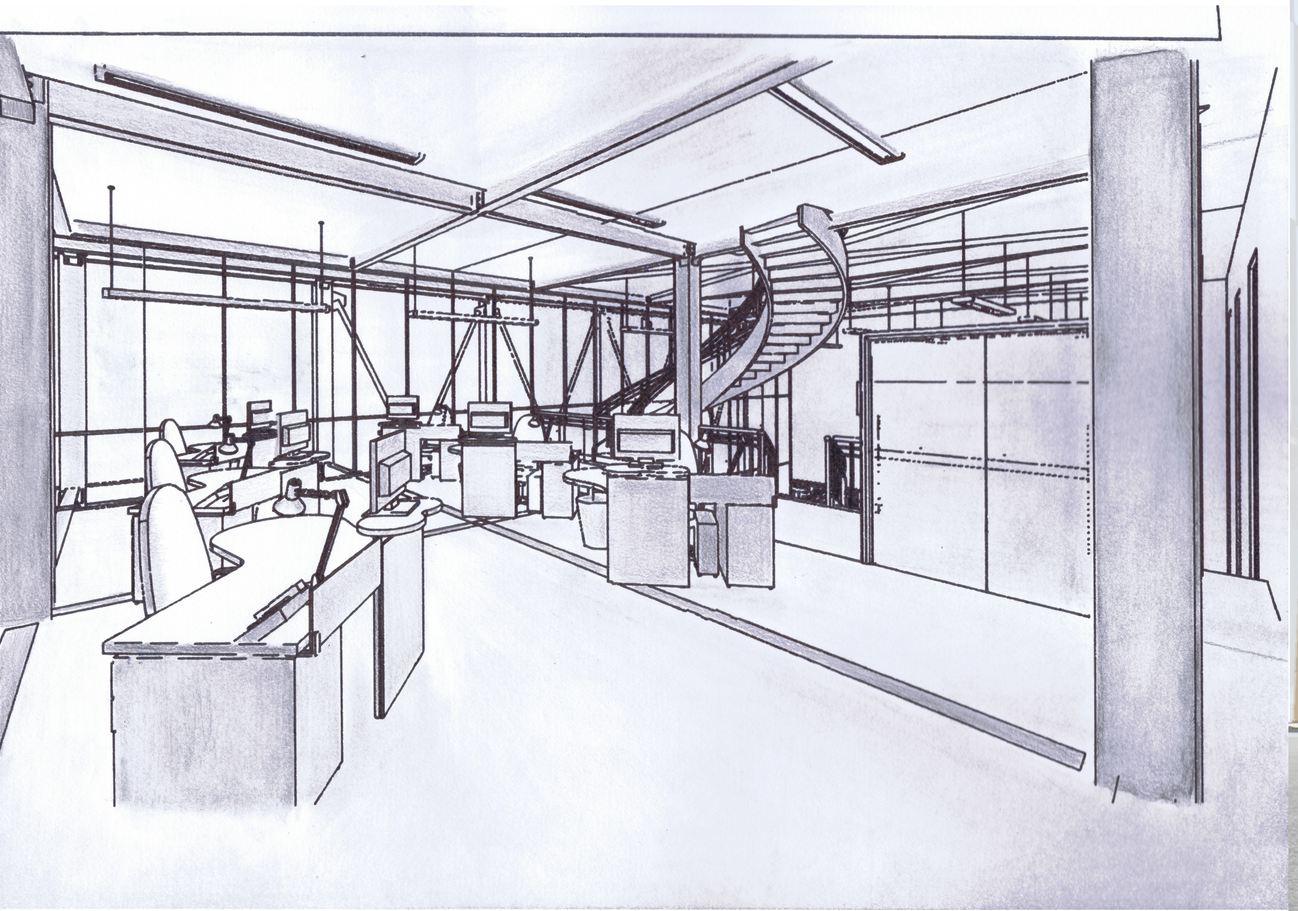
Section 2

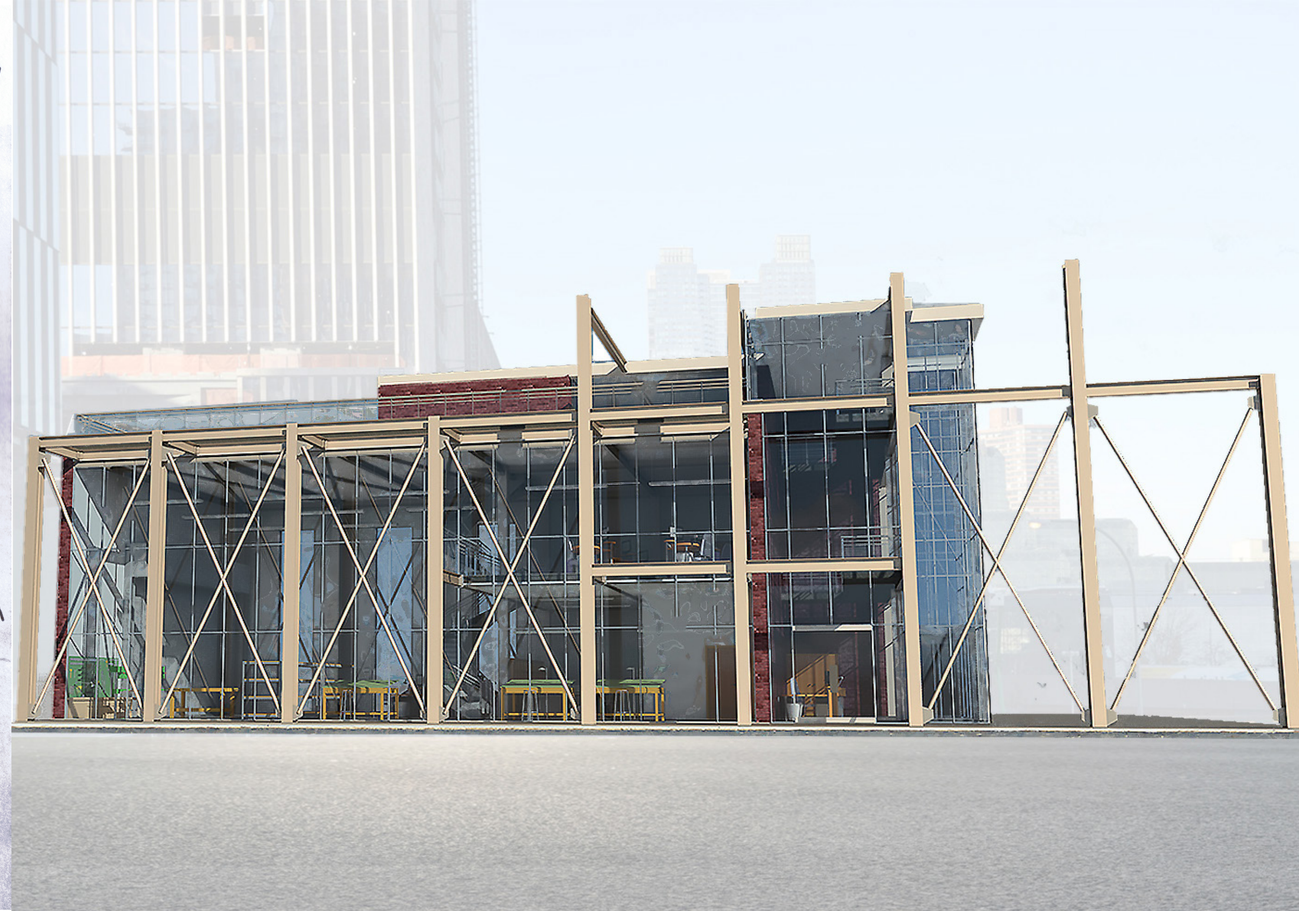


Elevation



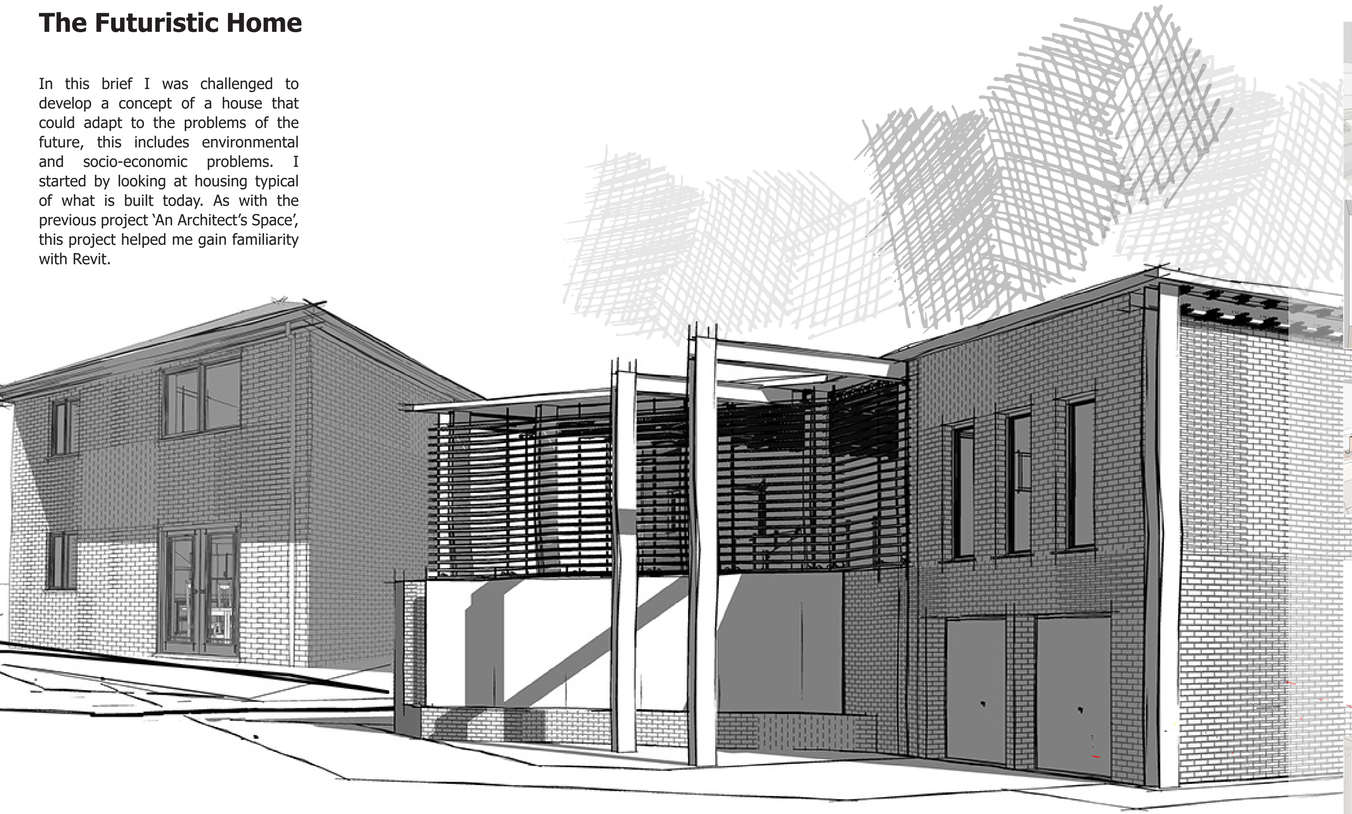
Elevation





The Futuristic Home

In this brief I was challenged to develop a concept of a house that could adapt to the problems of the future, this includes environmental and socio-economic problems. I started by looking at housing typical of what is built today. As with the previous project 'An Architect's Space', this project helped me gain familiarity with Revit.



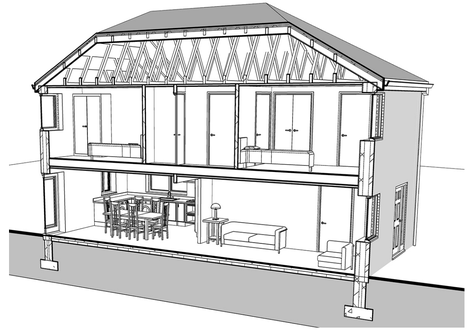
This house is typical of conventional housing stock. I have designed it to be a 3 bedroom, 5 person house that meets space requirement targets

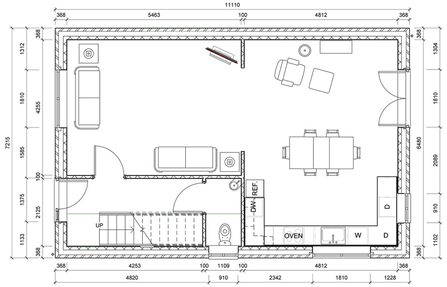
Open plan kitchen dining room allows for two room typologies to be created in a smaller area.

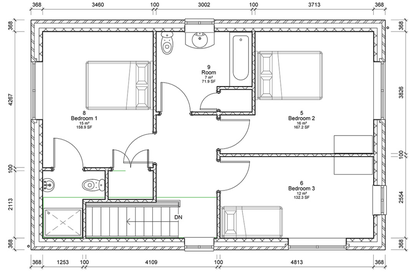
The single bedroom is 7.5m2 and is at least 2.15m wide and the double is to be 11.5m2 and is at least 2.75m wide. However these are only guidelines.

As the bedroom sizes grow with spatial guidelines so does the living space below.

Architectural details are often very plain and generic



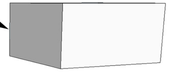




Objectives

Solution

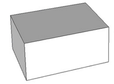
Smaller rooms that are typical in conventional housing stock are often dark.



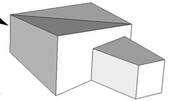
Larger, lighter rooms are generally prefered.

Houses are often smaller maximising profits for the developer at detriment to the end user's spatial needs.

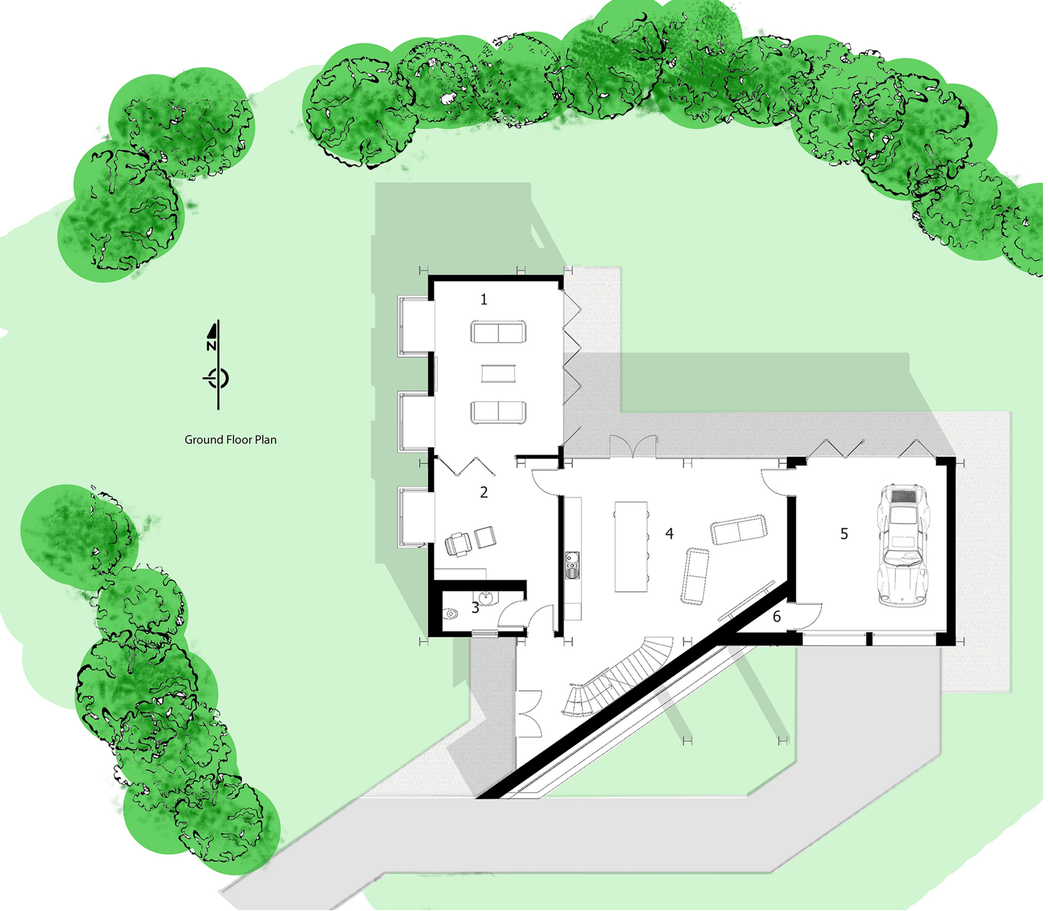
With more space multiple actions can occur in one room bringing occupants together.



For ease and speed of construction houses are often simple in shape and have little architectural features

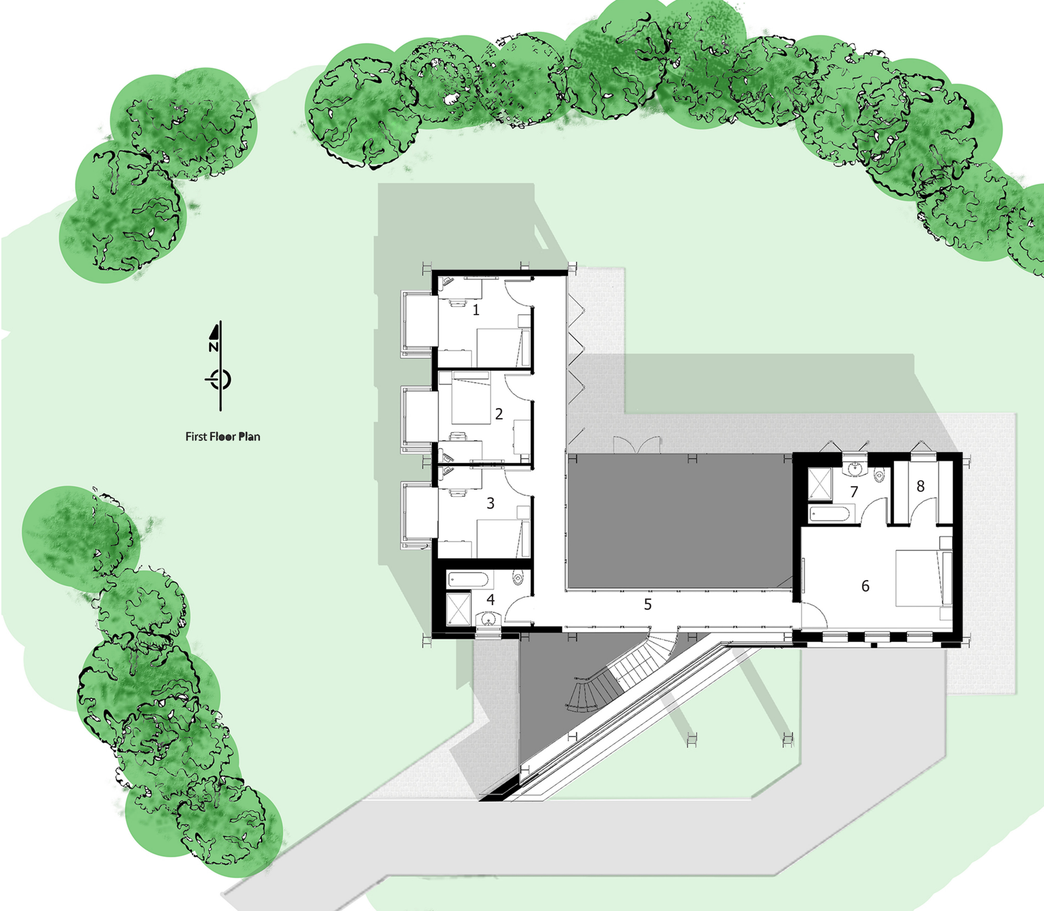


Though more costly, building envelopes can be altered in shape and orientation in response to the environment also creating more inspiring aesthetics.



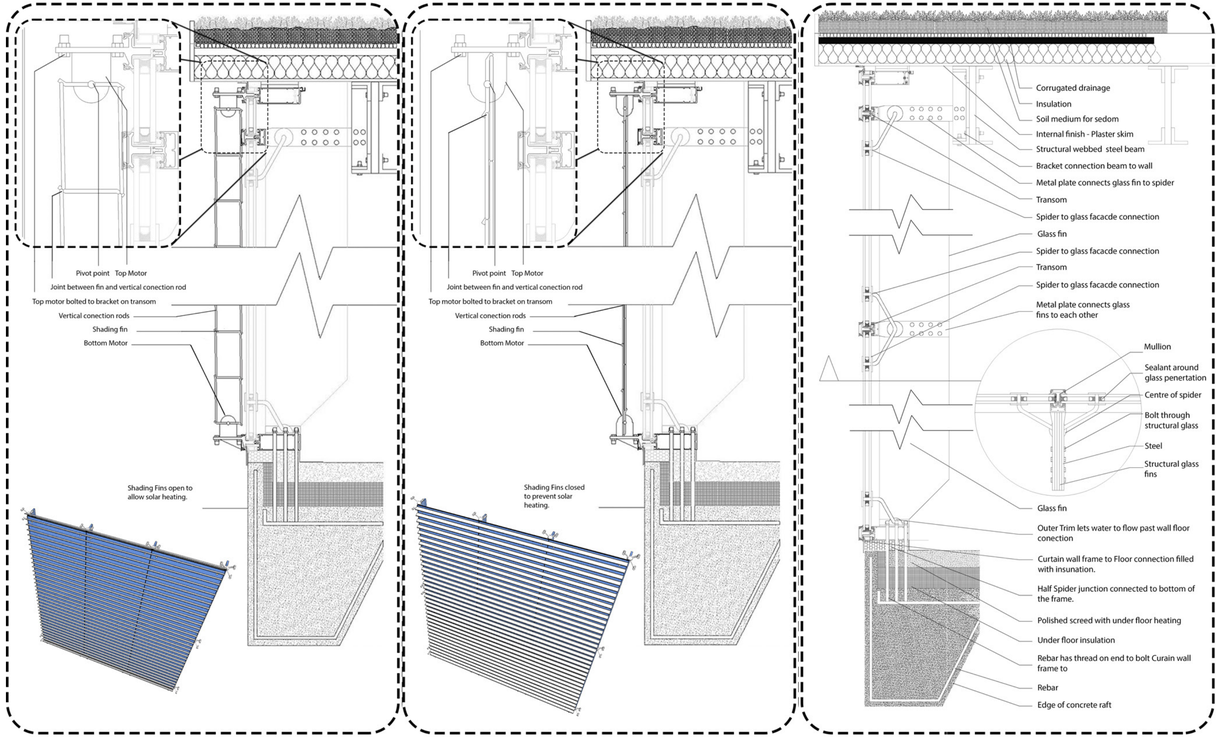
Ground Floor Plan

1. Lounge
2. Study
3. Toilet
4. Kitchen
5. Garage
6. Services cupboard

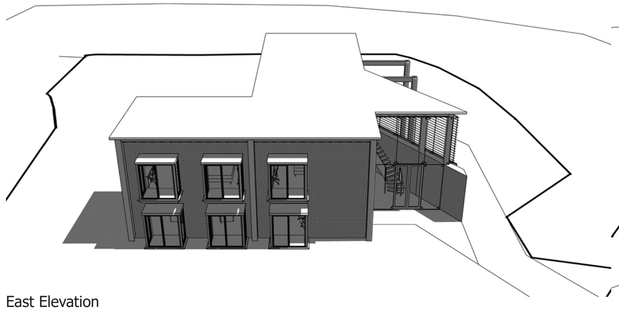


First Floor Plan

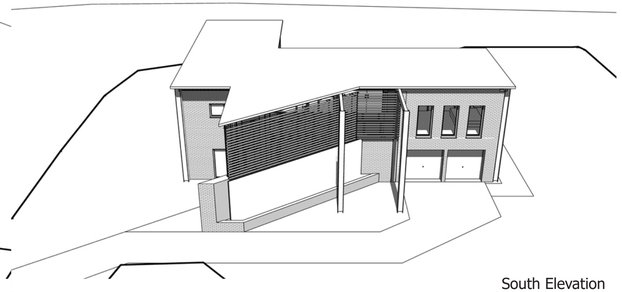
1. Bedroom 1
2. Bedroom 2
3. Bedroom 3
4. Bathroom
5. Raised walkway
6. Master Bedroom
7. En-suite
8. Walk in wardrobe



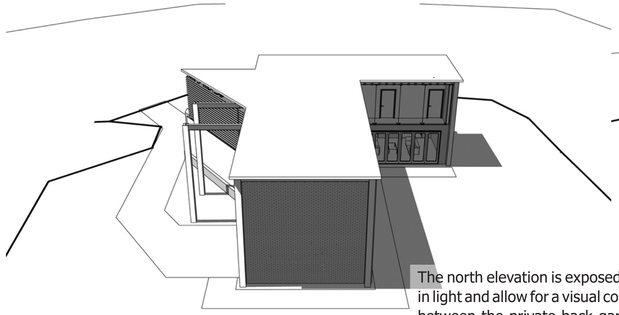
One of the features I looked at in more detail was the solar shading and curtain wall system, which included a mechanical blind system that was external to the building envelope preventing the penetration of sunlight and overheating of the building.



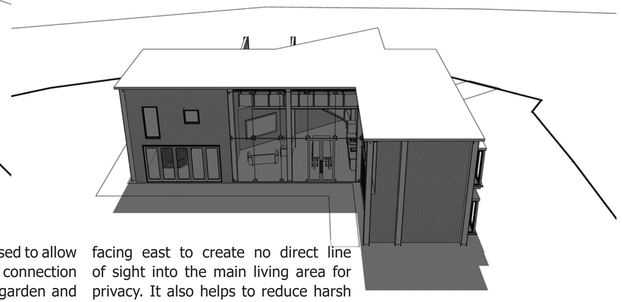
East Elevation



South Elevation

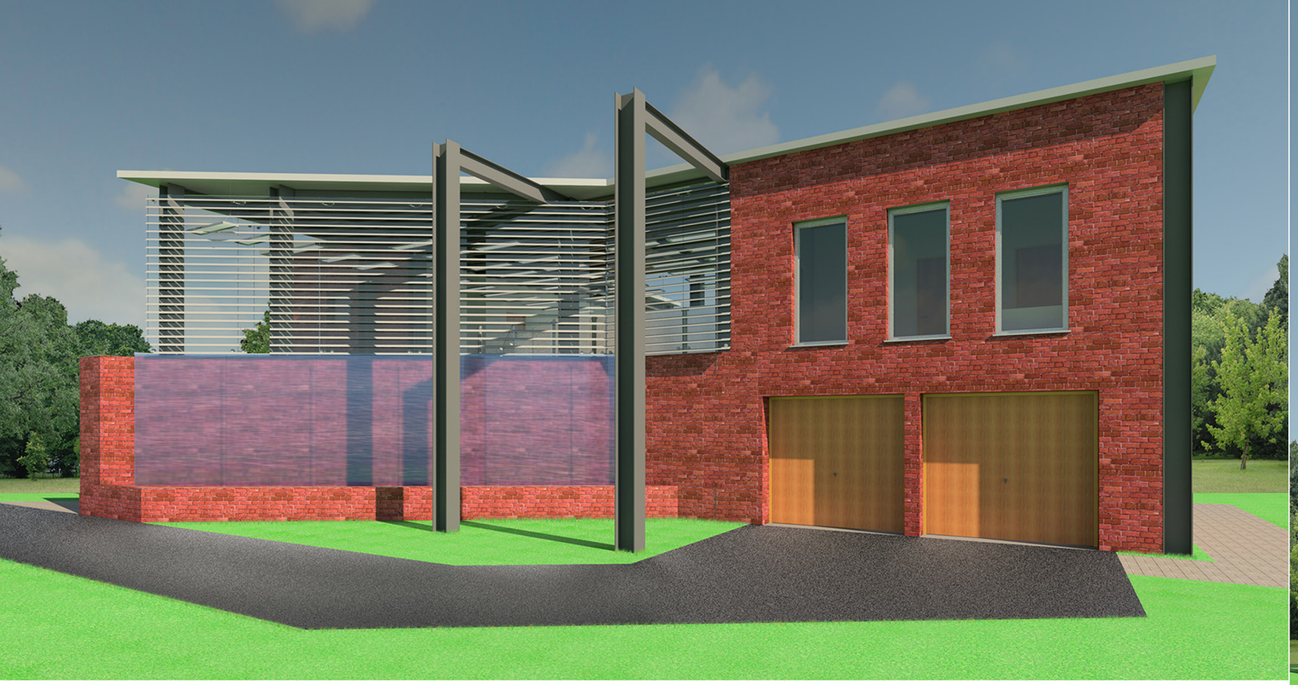


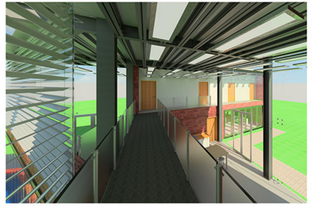
West Elevation

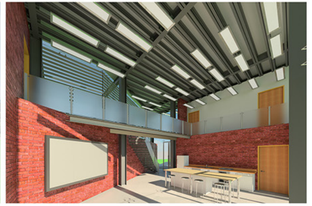


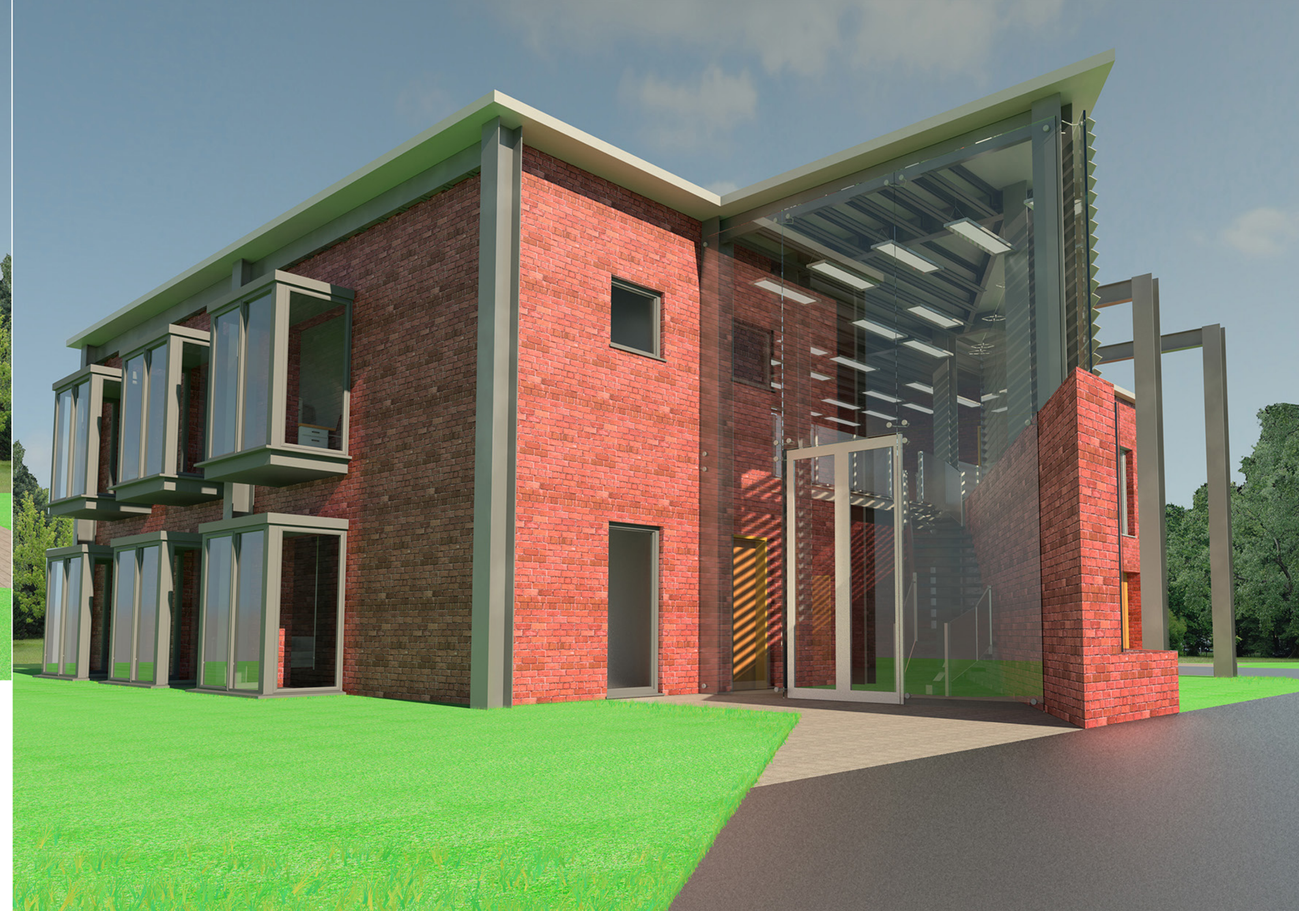
North Elevation

The north elevation is exposed to allow in light and allow for a visual connection between the private back garden and the interior of the house. In contrast, the South has solar shading through the means of mechanical blinds and brickwork. The main entrance is the South elevation, though the door is facing east to create no direct line of sight into the main living area for privacy. It also helps to reduce harsh south light. Bay windows into the bedrooms from the east provide for light to flood in during the mornings and cool during the evening providing for a more comfortable atmosphere for sleep.







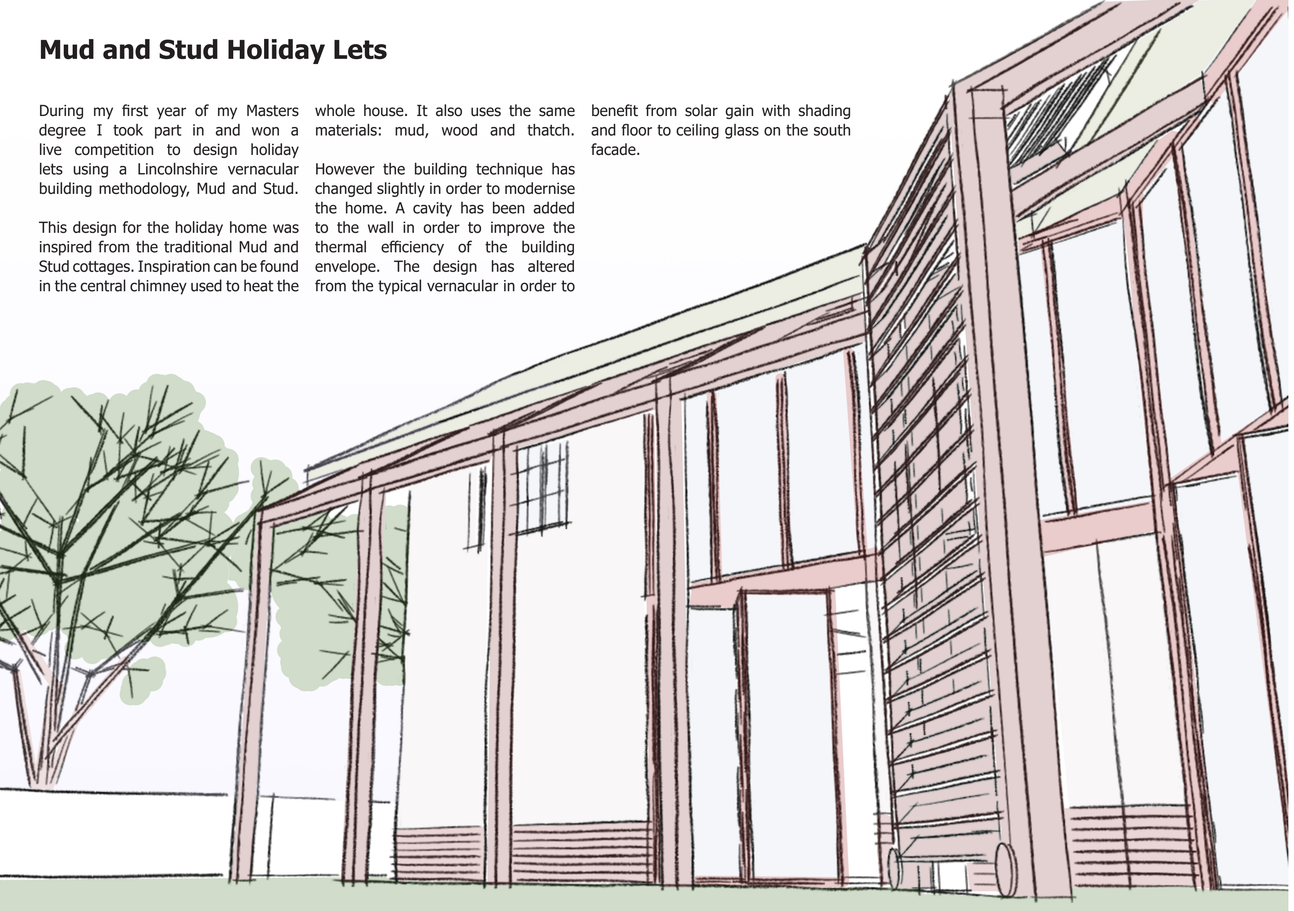


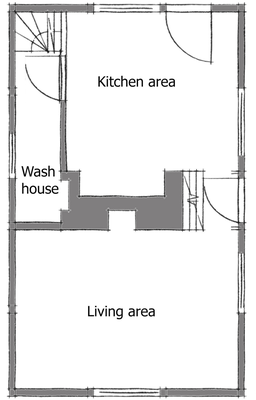
Mud and Stud Holiday Lets

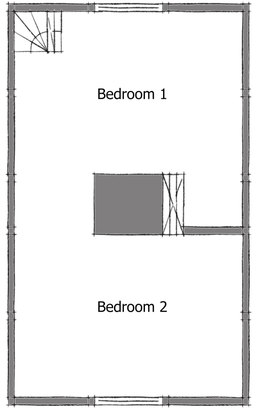
During my first year of my Masters degree I took part in and won a live competition to design holiday lets using a Lincolnshire vernacular building methodology, Mud and Stud.

This design for the holiday home was inspired from the traditional Mud and Stud cottages. Inspiration can be found in the central chimney used to heat the whole house. It also uses the same materials: mud, wood and thatch.

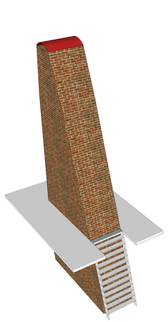
However the building technique has changed slightly in order to modernise the home. A cavity has been added to the wall in order to improve the thermal efficiency of the building envelope. The design has altered from the typical vernacular in order to benefit from solar gain with shading and floor to ceiling glass on the south facade.



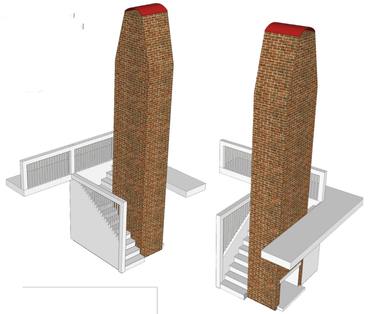


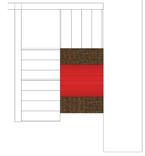


The site where the competition was set was at an open air museum in Skegness. The Museum already had a preserved Mud and Stud cottage (Witham Cottage) on the site however this would not be fit for modern habitation. Witham Cottage provides an excellent example of how traditional Mud and Stud cottages are built and set out. It shows the problems such as small living spaces and wall makeup's and staircases that would no longer suffice modern building standards. Witham Cottage also inspired architectural elements that would be taken through to my final design, such as a central fireplace and thatched roofs.

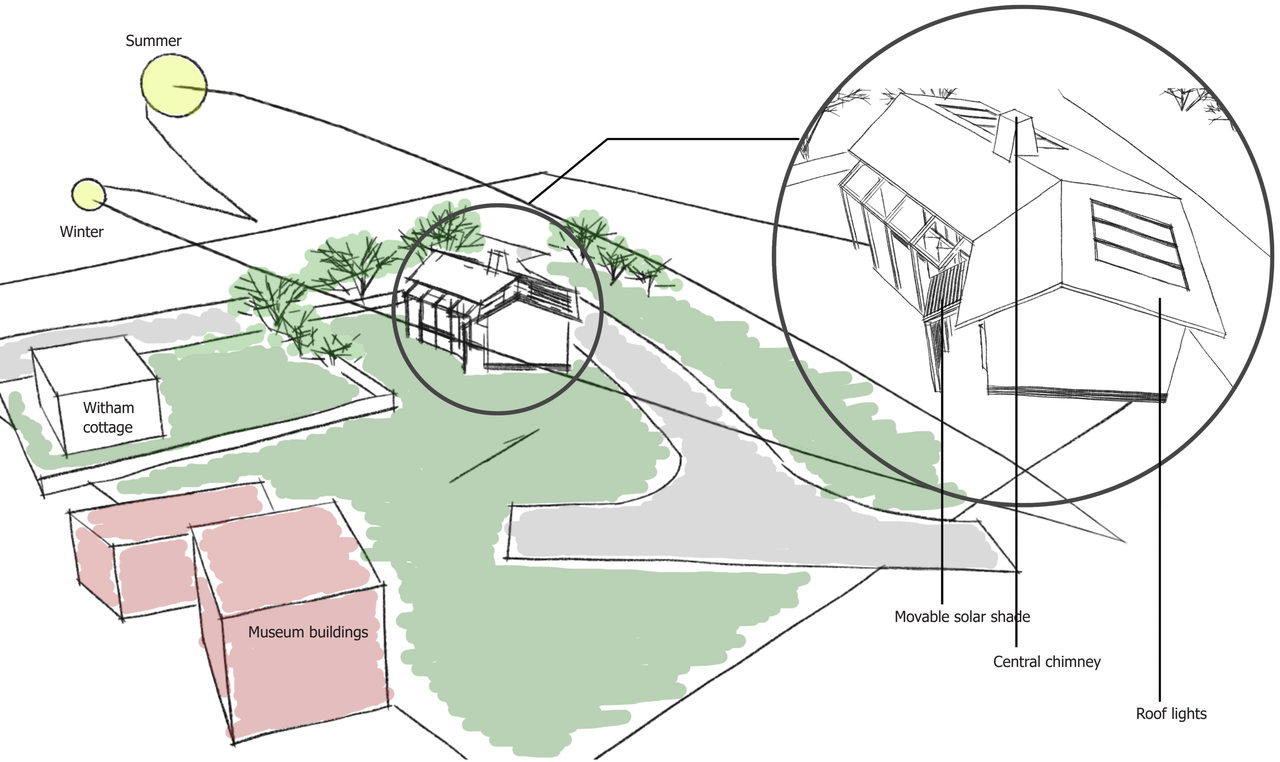


The original Mud and Stud cottages like Witham cottages had access to the first floor via the means of a step ladder alongside the central chimney.

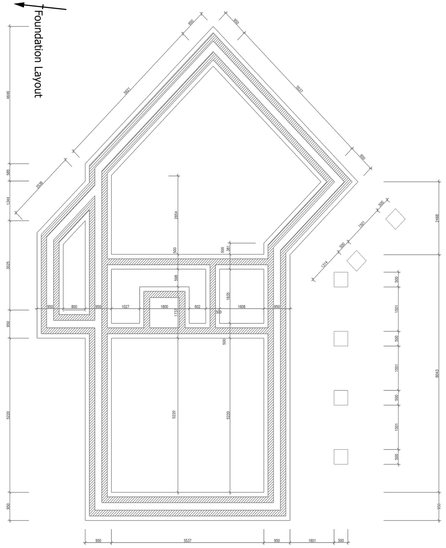




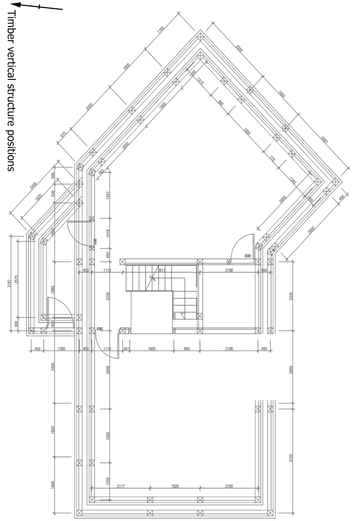
The new design tried to keep the close relationship between the staircase and the chimney. Rather than the original steep incline the staircase shall wrap around the chimney stack. The staircase shall also exploit the opportunity to show the wall make up by exposing the wooden laths.


Summer
Winter
Witham cottage
Museum buildings
Movable solar shade
Central chimney
Roof lights

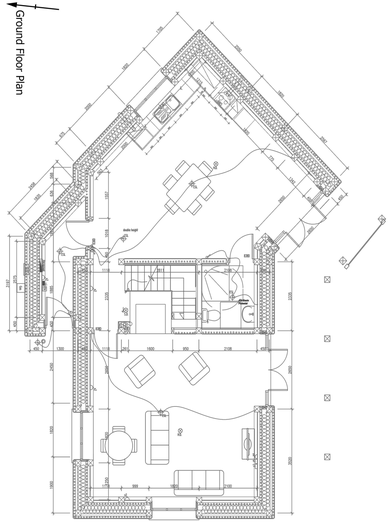
Foundation Layout



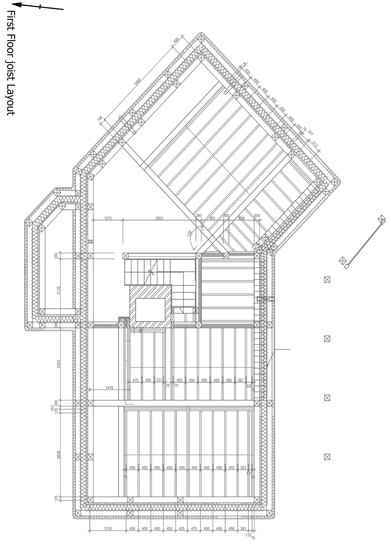
Timber vertical structure positions



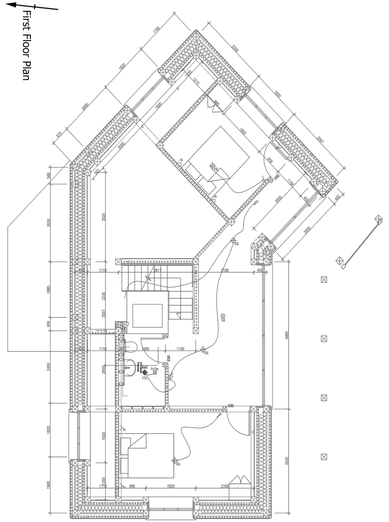
Ground Floor Plan



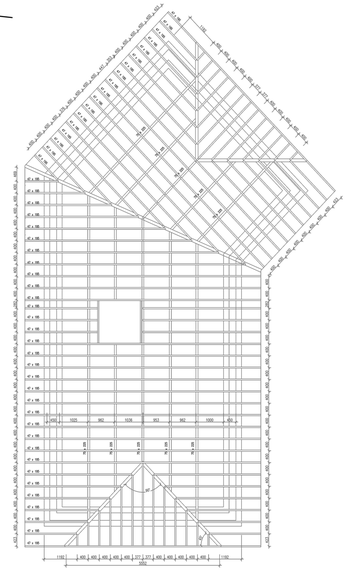
First Floor Joist Layout



First Floor Plan

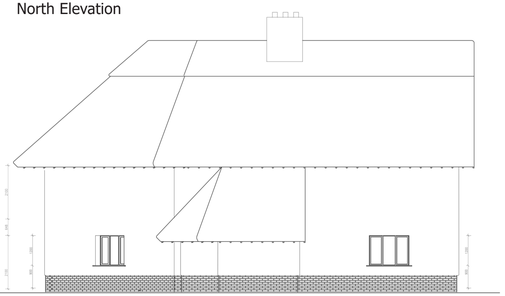


Roof Plan



West Elevation

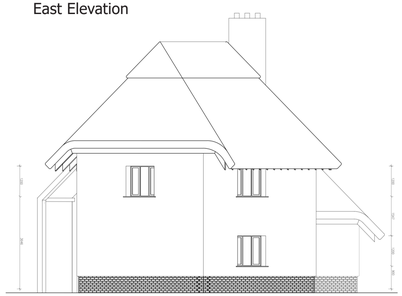
North Elevation



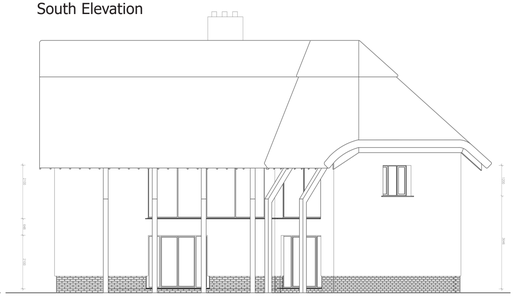
Once I had won the competition, working with the client and competition organisers I refined designs making changes to the roof thickness and creating hips at the gables. The entrance also changed creating an enclosed hallway. As well as aesthetic changes structural refinement of the design was also undertaken.

Using experience from conventional housing developer's substructure, floor joists and roof structure was designed in the same method of construction as typical developers housing stock. This standardised method of construction of elements that are not necessarily needed to be designed in a vernacular makes for ease of construction and reduces cost of construction

East Elevation



South Elevation

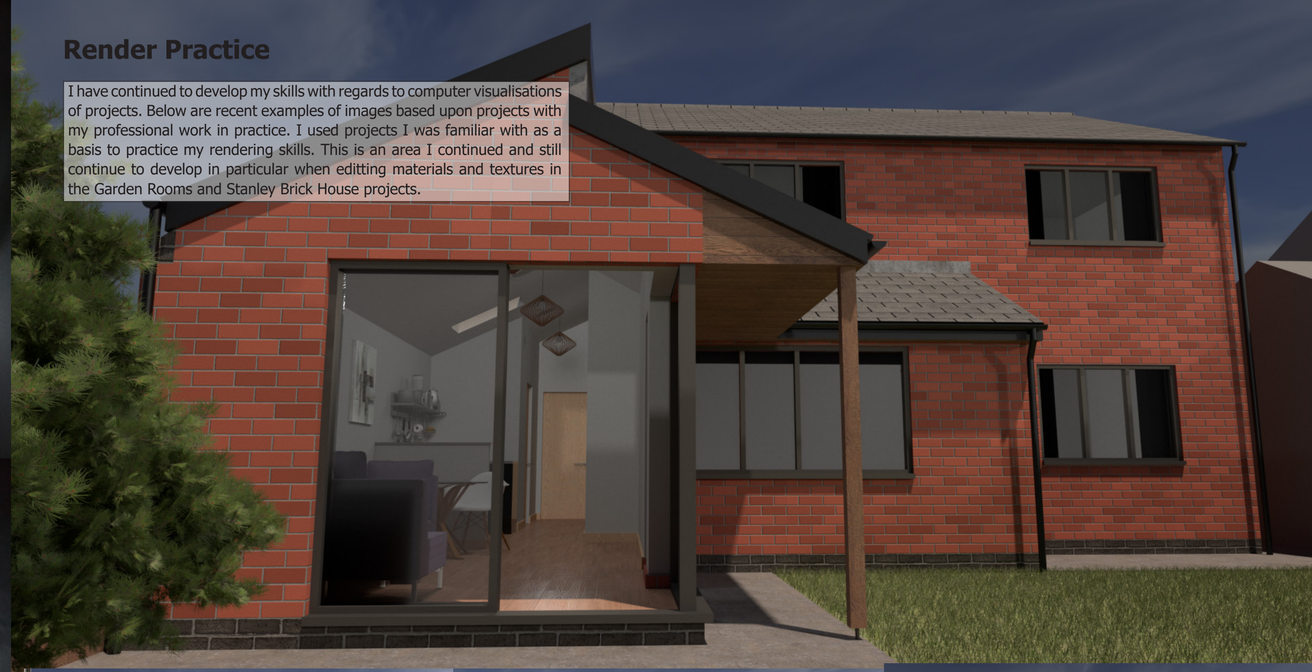


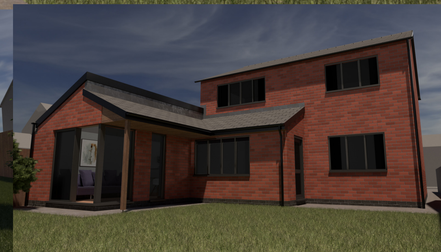
Model Making

Creating physical models has been a medium in which is tangible and explains the forms and ideas in an object that could take multiple drawings to explain. I have physical modelling throughout my undergraduate and post graduate courses; they have been used to convey post production, concept, massing and materiality ideas.

Render Practice

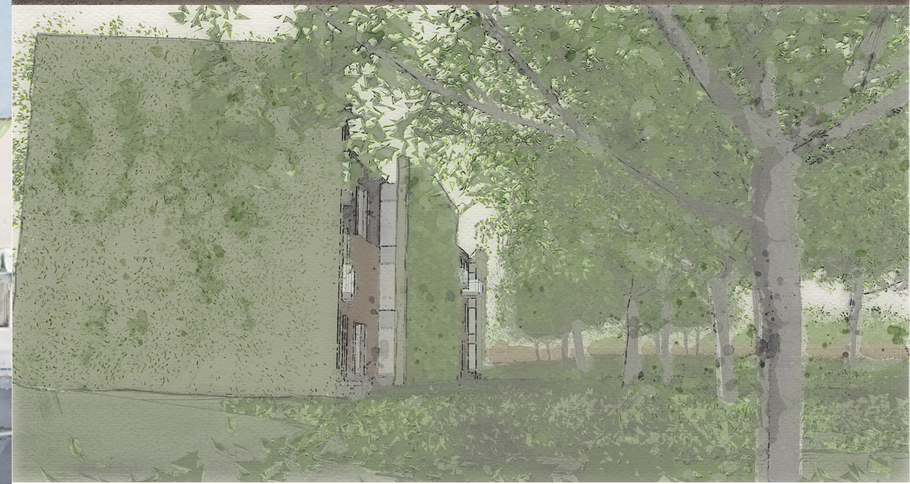
I have continued to develop my skills with regards to computer visualisations of projects. Below are recent examples of images based upon projects with my professional work in practice. I used projects I was familiar with as a basis to practice my rendering skills. This is an area I continued and still continue to develop in particular when editting materials and textures in the Garden Rooms and Stanley Brick House projects.





Work In Practice

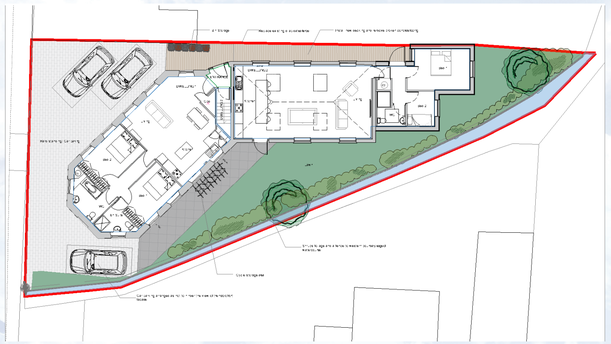
During my time in practice I worked on many projects from residential housing to student accommodation; from the initial concept to the technical design and tender stages. Below is student accommodation that I designed during my time at Callinghams. On the right are initial concepts of a block of apartments in Coventry that I produced during my time in practice.



Stanley Brick House

Stanley Brick House is a former Methodist Chapel in Nuneaton that my brother and I purchased in 2020. The property was partially converted but the rear and grounds have yet to be refurbished. It is our intention to renovate and convert this into three 2 bedroom flats. This is an active project and work in progress.

The original brickwork, fenestration and surviving materials will be repaired and retained. The history and character is retained and displayed through its materials and patina, and its retention is of the utmost importance.



Garden Rooms

This project involved creating images and examples of possible garden offices for a point of sale for a local builder. COVID 19 has increased the amount of people working from home and the need for a separate space for them to carry out their work. These outbuildings were required to meet size requirements to be permitted development and to be modern and comfortable.