

DOSSIER

5
USER JOURNEY

1
USERS

6
SPATIAL
DEVELOPMENT

2
SITE ANALYSIS

7
ADVERT DESIGN

3
RESEARCH PACKAGE

8
MATERIALS BOARD

4
CONCEPT



HOMES FOR HOPE

Homes for hope is a residential community hub that provides accommodation, jobs and educational facilities for the homeless and low income renters. Providing the homeless with the necessities they require in order to lead a healthy mental and physical lifestyle and prevent them from ending back on the streets.

It will include three types of residential homes for low income renters as well as bunk homes for the homeless, which they can use permanently or short term as well as places to work and create an income. All in all a building that allows them to grow and progress in life and lead the life they wish to live. Always having a place to call home without the fear of it being taken away from them.

Homes for Hope aims to create an all encompassing residential hub that enhances their living experience as well as ensuring that it is affordable and an easily maintainable lifestyle for both users.

Everyone deserves to have a place to call home, what that means is up to you

WHY?

Due to population growth and an increase in urban density and real estate prices, architects and urban planners have been pursuing alternatives for new spatial configurations for settling and housing in the cities. The multiplication of shared housing and workspaces is an example of how the field of architecture is adapting to new ways of living in society.

Not only co-working and co-living facilities, but mixed-use buildings, flexible spaces, and temporary installations are also associated, each in its own way, with the idea of sharing spaces.

There seems to be a lack of places for homeless people to go and feel safe. They spend their days and nights in horrible conditions with no idea what the next few days will bring and where they will be finding their next meals.

The reasons I came to this conclusion was due to analysing some of the homeless shelter and realising that they are never permanent and are not very inviting or welcoming. This also goes for council housing, the next "affordable" housing solution, which also have negative connotations and never promote growth and do not always help with preventing people ending back out on the streets.

However, as well as focusing on the homeless, I also felt that low income renters struggle to find somewhere decent to live, especially graduates. The price of housing has increased and what is claimed to be the national living rate for everyone does not think about the type of living environment that these people are forced to occupy.

Although the aim of social housing is to be built quickly, the regularity is practical but it does not provide any breathing space, it seems that everything is tightly packed together. It has no colour, it looks very dull and not very welcoming and inviting.



Homeless shelters also create a unwelcoming environment. It is never permanent. It has the same regular layout with no space to socialise or even interact with others. There are never really any facilities included that enhance their lives and mental well being.



This is another example of how tightly packed homeless shelters can be, there is no private space. There is also very little personalisation opportunities available. Every persons space is identical for practicality.



Another example of social housing that follows the same tightly packed regularity in housing. Although there is little garden space there is not much else that provides that all encompassing community environment.



1

USERS

The Homeless

Homelessness has always been a concern, they are always on a continuous search to find shelter. The homeless are often overlooked and disregarded from our cities. The reasons become homeless varies from high rents and low pay, life events or even losing their jobs. The homeless have access to hostels and shelters, however, most require a referral or a service charge as well as extra income for other services.

Shelters are temporary never permanent

Low Income Renters

Graduates, minimum wage workers and more also struggle to find somewhere acceptable to live. Majority of the time they end up in council estates which are always negatively seen by societies.

Due to house prices increasing it becomes more difficult for low income workers to find somewhere adequate to live. This can be seen for graduates as well, struggling to find jobs, then when they do they are in the lower income bracket leaving them with very few choices to live within.

Although they have somewhere to call home, it is not always seen as suitable living conditions.

Throughout this design project I want to turn these negative connotations into positive and making sure that they have all the facilities they require within one area.



DURING THE PANDEMIC, **1000s**
HAVE BEEN MADE HOMELESS

ROUGH SLEEPERS INCREASED BY
36% YEAR ON YEAR

320,000 PEOPLE ARE
HOMELESS AND ALMOST **5,000**
ARE ROUGH SLEEPING

WHY?

The reason the homeless and low income renters are my target clientele is due to realising the struggles of finding a place to call home, even during the current pandemic. It is important that everyone is able to form connections with where they live and grown and live a healthy life.

The focus will be on how a community hub can be created for the homeless and low income renters that coincides and exists with its surrounding community and seen as part of the community. Providing several services and a change to create income.

SITE ANALYSIS

- 2.1 Site Introduction
- 2.2 SWOT analysis
- 2.3 Macro mapping
- 2.4 Transport links
- 2.5 Homelessness Information
- 2.6 Residential analysis
- 2.7 Social housing
- 2.8 Journey to the site
- 2.9 Micro mapping
- 2.10 Building analysis
- 2.11 Reflection

2

SITE ANALYSIS

WHY?

The building is a large empty space which can be utilised to create a residential hub for the homeless and low income renters. It has large windows letting in a lot of natural light. The building is not listed therefore there are no restrictions in the changes that will be made. Although its art Deco style adds to the character, it could be beneficial to keep some of this. Also its ideal location in the jewellery quarter makes it easily accessible to everyone, it is not in a full residential area and is surrounded by several facilities. It is not located in city centre therefore it gives a chance for the homeless to move away from the hustle and bustle and have a more quieter place to sleep and grow in.

back corner view



Front facade view



Roof view



INTRODUCTION:

Name: James Cond Building

Location: Charlotte street
Birmingham
B3 1PY

Current use: Car park
(Holds 124 cars)

Style: Classic art deco building





It is a large single storey building located in the Jewellery Quarter. Its' ideal location means it is close to the City Centre but far enough to not be part of the hustle and bustle of city life. It is also nearby open green lands and places of worship, which may attract certain users. Due to the large number of windows it allows for a lot of natural light to enter the building. It also has several entry points which can all be utilised for different users and or functions.



Due to the building currently being used as a car park, the aesthetic and hollistic aspects of the building will have to be accessed and changed due to the new development. Also the local residents and businesses will have to be considered as not everyone will be so open to such a development being design within their community.



There is the opportunity to utilise the large site and incorporate all the main sectors required. It also can provide a new outlook on homeless shelters and include them as part of the community and providing them with the facilities to lead happy and healthy lives.



The continued lack of use could mean that structural elements could be worn out and would need overall updating. Due to the building being open to the elements, this could have worn our surfaces and flooring which means this would have to be considered. Also its lack of being cared for poses a threat on the building.

key

- Residential
- Commercial
- Education
- Direction to stations
- Building location

Birmingham City hospital:
 9 min drive
 25 min walk
 10 min cycle

Birmingham Children hospital:
 5 min drive
 18 min walk

Jewellery Quarter

The site does have residential homes nearby, however, the price of them may not always be affordable. As well as the fact that it does not provide any of the extra facilities Homes for Hope will.

Stations nearby highlight the great network of transport links that surround the site

St. Paul's Church

Snow Hill station

Great main road access, again highlighting how easily accessible the site will be to everyone. There are also car parks nearby.



JAMES COND BUILDING:

The building main entrance is located on Cahrlotte Street. The roads surround the site have a one way system. The unique style of the building adds to its character. Therefore the facades of the building will remain the same but there will be updates.

Although not directly accessible to the site, there is a canal that runs behind the site. Providing an scenic area that can add a point of escapism and change of scenery. Cycle routes also run alongside the canal.

New Street station

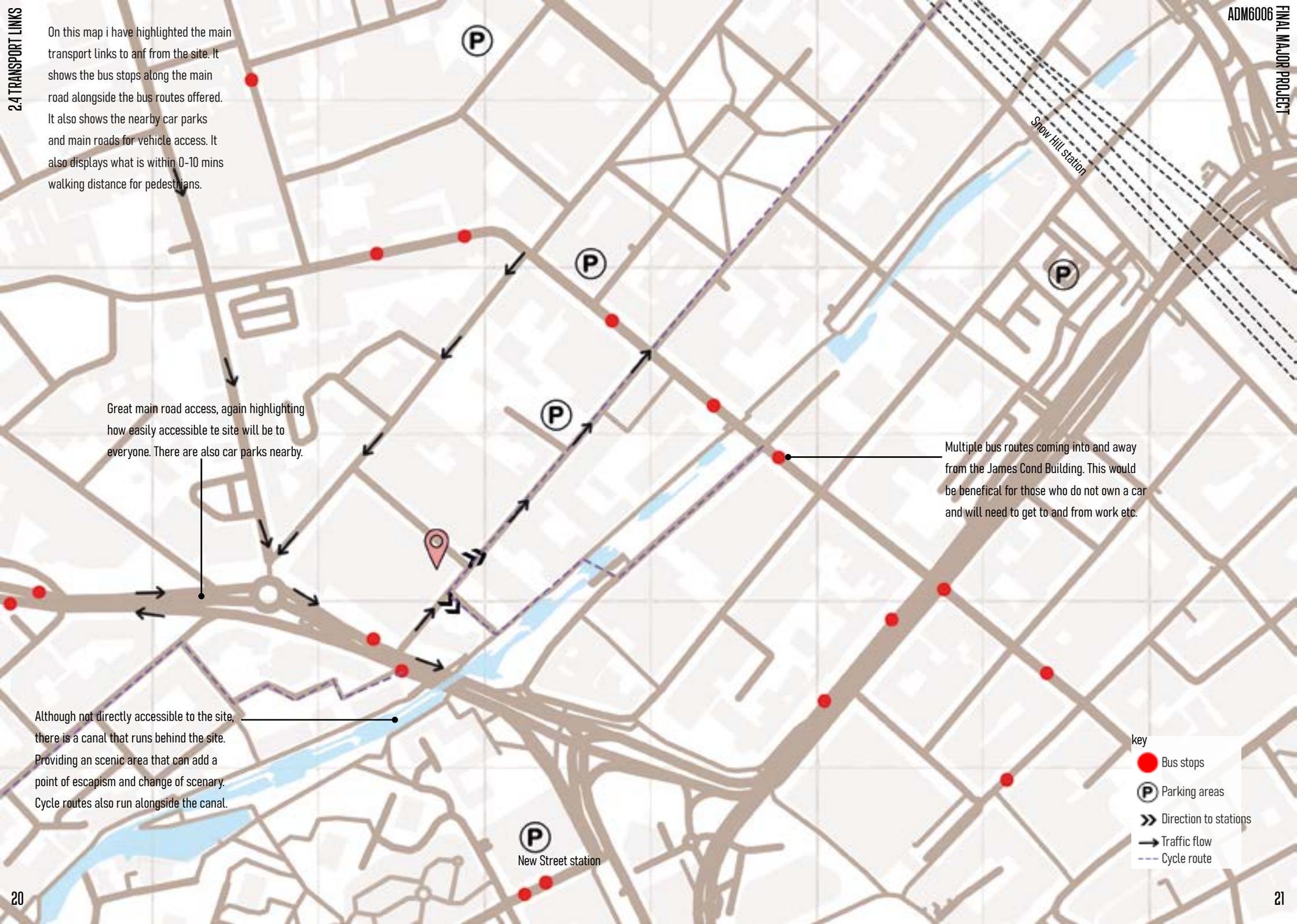
Macro mapping allowed me to analysis the surrounding building to the site location on a large scale. It helped define the few residential areas surrounding the site and how it is mostly populated by commercial buildings and directly surrounded by educational buildings.

On this map i have highlighted the main transport links to anf from the site. It shows the bus stops along the main road alongside the bus routes offered. It also shows the nearby car parks and main roads for vehicle access. It also displays what is within 0-10 mins walking distance for pedestrians.

Great main road access, again highlighting how easily accessible te site will be to everyone. There are also car parks nearby.

Multiple bus routes coming into and away from the James Cond Building. This would be beneficial for those who do not own a car and will need to get to and from work etc.

Although not directly accessible to the site, there is a canal that runs behind the site. Providing an scenic area that can add a point of escapism and change of scenary. Cycle routes also run alongside the canal.



- key
- Bus stops
 - P Parking areas
 - Direction to stations
 - ➔ Traffic flow
 - - - Cycle route

WHAT?

Lack of affordable housing
Poverty and unemployment
Life events

When they leave prison, care or the army with no home to go to
Women experiencing homelessness have escaped a violent or abusive relationship

Types of homelessness:

Rough sleeping

Rough sleeping is the most visible and dangerous form of homelessness. The longer someone experiences rough sleeping the more likely they are to face challenges around trauma, mental health and drug misuse.

Statutory homelessness

This is often referred to as the main homelessness duty. Every year, tens of thousands of people apply to their local authority for homelessness assistance.

Hidden homelessness

Many people who are not entitled to help with housing, or who don't even approach their councils for help, aren't counted in the official statistics. This is why Crisis carries out its annual study on core homelessness.

Many stay in hostels, squats or B&Bs, in overcrowded accommodation or 'concealed' housing, such as the floors or sofas of friends and family.

BIRMINGHAM HOMELESS TOTAL HITS

1200 MAKING THE CITY ONE OF

THE WORST HOTSPOTS IN THE UK

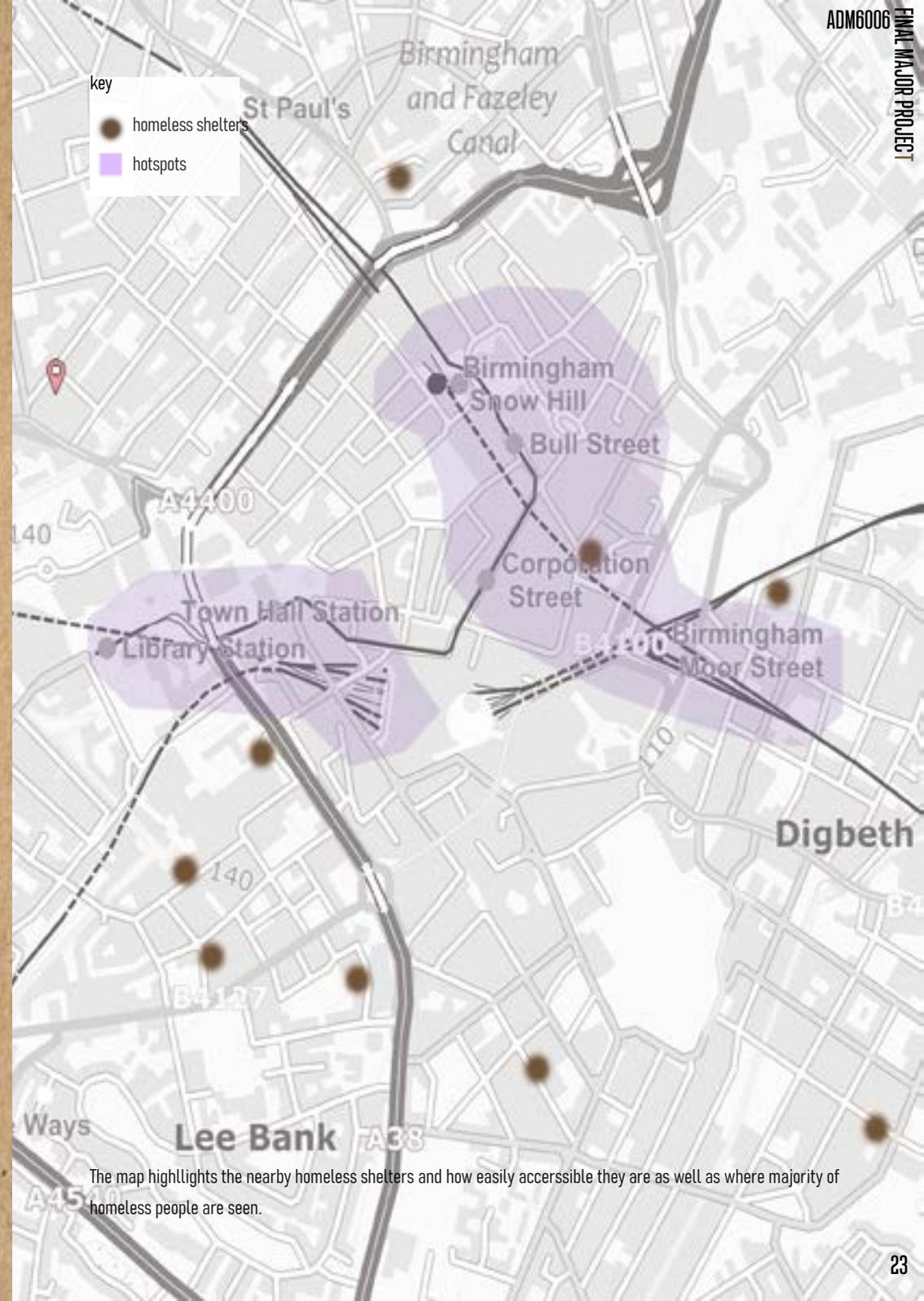
ROUGH SLEEPERS INCREASED BY

36% YEAR ON YEAR

320,000 PEOPLE ARE

HOMELESS AND ALMOST **5,000**

ARE ROUGH SLEEPING



The map highlights the nearby homeless shelters and how easily accessible they are as well as where majority of homeless people are seen.

WHAT?

Most affordable housing in Blrmingham is anything but. Affordable housing is used to describe lower rent properties. It includes social rent housing also known as council housing and affordable rent housing. Social rent is based on a formula that combines local wages and local property values and typically sees rent set at around 50% of private rents in the same area. Affordable rent is capped at 80% of the full market rate. The number of social homes dropped from 656 (2010/11) to 147 (2018). Average rents depend on location, whether the property is owned by the local authority and whether the housing is general needs or supported housing. Supported housing is only offered to the elderly, victims of domestic violence, the homeless, people with mental health issues, ex servicemen and women and people with learning disabilities.

	Minimum wage	National living wage	Real living wage
what is it?	£8.20	£8.72	£9.50 (across UK)
Age	21+	25+	18+
London weighting	no	no	no

The table above shows the the difference between minimum wage, national living wage and the real living wage. It is clear to see that the real living wage is higher than the minimum wage. This indicates that the cost of living is not as achievable by low income renters as many of them are on minimum wage.

WHY?

The reason that I wanted to look into the cost of living etc. is due to its importance in why recent graduates and low income renters struggle with finding adequate living accommodation. As well as the fact that social housing is hardly ever seen in a positive light, which is unfair on the users as it is not their ideal way of living yet it is the only type of accommodation that is available to them at that point in time.

Going forward, I want to take into account how accessible my design will be to everyone not just one particular group of people. Also providing facilities that will enhance their living conditions rather than providing space that seems standard and not very welcoming.

The map highlights what is considered the cheapest areas to live in Birmingham. The cheapest of them being Castle Vale which was considered one of the worst council estates to live on.

Handsworth
£134,832

Nechells
£116,851

Lozells
£128,317

Witton
£119,585

Castle Vale
£135,920

£936
Average rent cost

£164.79
Average
Council tax

WHAT?

Social housing is a valuable but limited resource and it has a great demand. Therefore the council manages a housing allocation scheme. It determines priorities for social housing. The criteria determines if they are eligible and qualify for social housing, if they do they join the housing waiting list.

Birmingham operates a choice based letting scheme and applicants accepted onto the housing register may express an interest in a home when a suitable one becomes available, those not accepted are offered alternative options such as private renting.

If an applicant refuses 2 suitable offers they are disqualified for 12 months and will have to re apply for a new application.

Around **three in ten** people live in bad housing (3.6 million children, 9.2 million working age adults and 2 million pensioners).

More than **1 in 10 (11%)** of all British adults said they felt depressed during lockdown because of a lack of space in their home

BAND 1

People who have a reasonable preference and are granted additional preferences (very urgent need to move). All applications in this band will be reviewed after six months.

BAND 1

People who need to move and fall within one of the reasonable preferences categories. All applications in this band will be reviewed after twelve months

BAND 1

Households one bedroom overcrowded and certain homeless households (those with a reasonable preference but who do not qualify for a Band 2 award). All applications in this band will be reviewed after eighteen months

BAND 1

Want to move- no reasonable preference but qualify for other specified reasons

WHY?

As explained previously, the reason that I wanted to look into social housing that surrounds the site already is to analyse the environments that they create and how they are negatively seen by the public. I also believe that done correctly social housing can be seen positively if designed correctly for the type of users that occupy social housing.

Going forward I want to make sure that throughout my design scheme, I have taken into account the holistic feel created for both the residents and the public surrounding the site.

HOW?

To achieve this I will consider incorporating facilities that promote a healthy lifestyle. Such as therapy rooms, gyms etc. This will also be achieved through incorporating communal spaces or breakout spaces that allow for interactions with different people. Improving the social aspect through the design, meaning that a sense of a community can be formed.

WHAT?

The facts and figures highlight the weaknesses of social housing and how it can affect our mental and physical well-being. Especially during the current pandemic, the lack of open space and access to other necessities has proved to be difficult for everyone.

Nearly a third (31%) of adults in Britain – **15.9m people** – have had mental or physical health problems because of the condition of, or lack of space in, their home during lockdown





Here I have taken small snippets of images on a walk from New Street station to the James Cond building. The aim of this collage was to show the journey a homeless person would take on their way to the accommodation. From looking at the variation in the images it is clear that towards the City Centre you are surrounded by buildings that are office or shopping based almost being quite intimidating but as you move away from this and close to the James Cond building you start to feel a bit more comfortable being surrounded by less intimidating. The brown dots show where an image has been taken from.

Great main road access, again highlighting how easily accessible the site will be to everyone. There are also car parks nearby.

University College Birmingham:
It is important to acknowledge that there will be a large volume of students that access the area on a daily bases. Therefore safety of everyone will need to be considered.

- ▲ Access into building
- nearest Tesco
- Jewellery 1/4 shops



Although not directly accessible to the site, there is a canal that runs behind the site. Providing an scenic area that can add a point of escapism and change of scenary. Cycle routes also run alongside the canal.

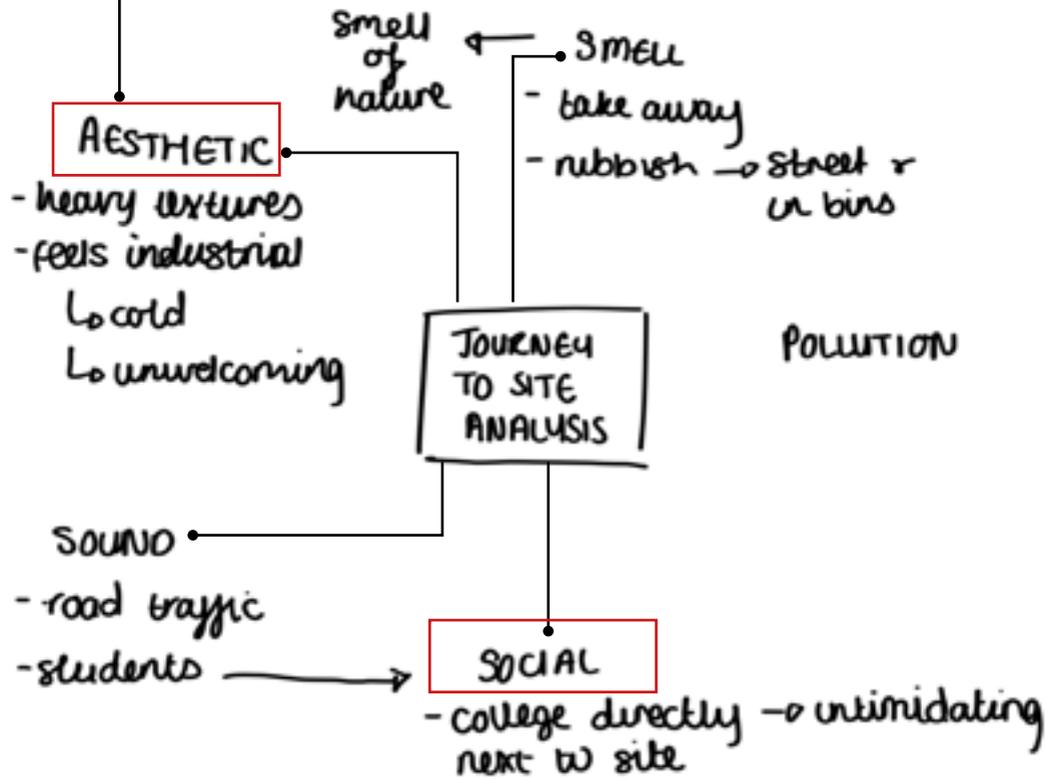
The building has a total of 505 roof windows that allow indirect sunlight into the internal structure of the building.

The red dotted line show pedestrian access to and from the building. This is mainly for showing how the homeless may approach the site and the route they may take.

CONCERNS:

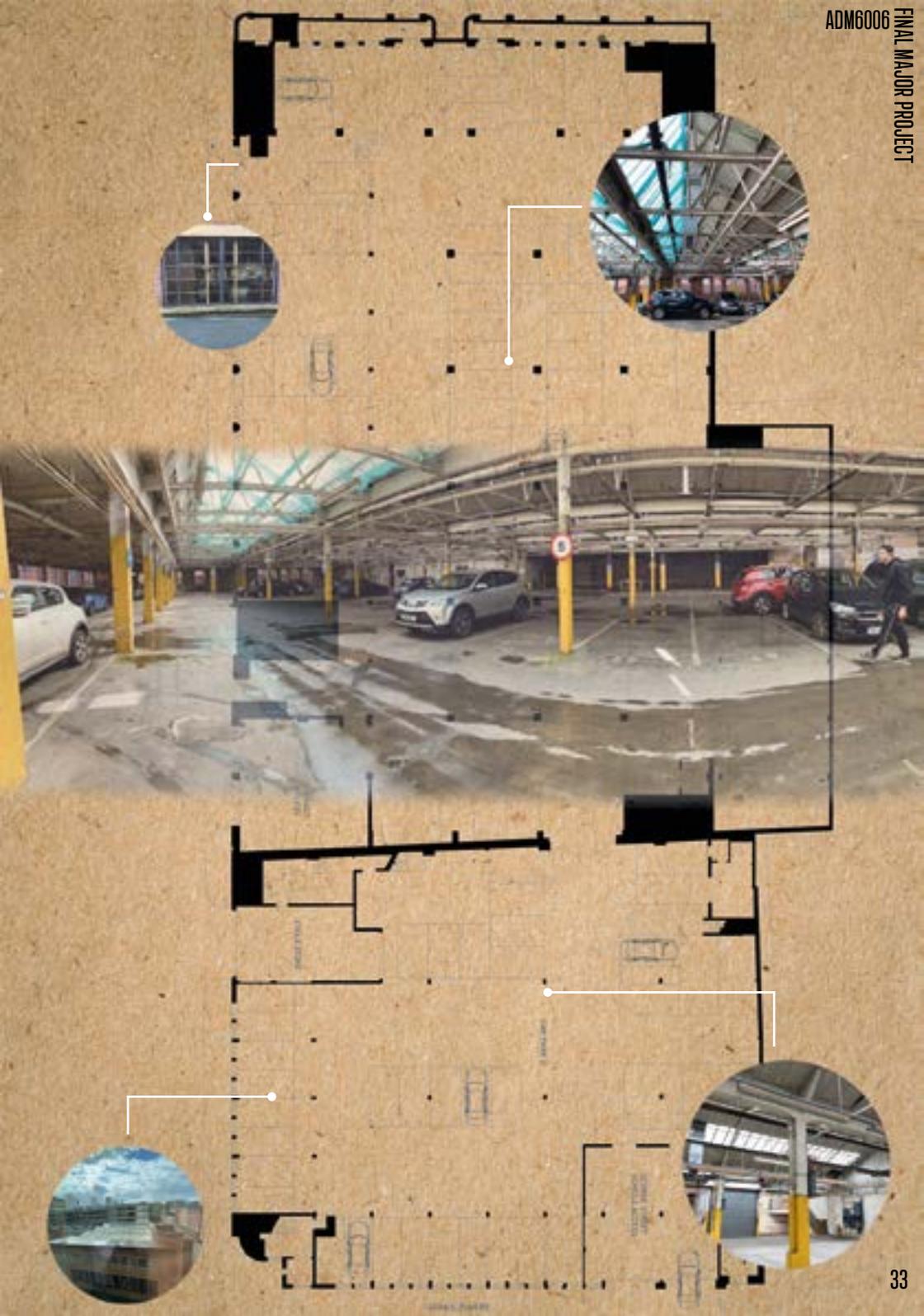
Take into account the hollistic effect of materials and how garbage will be accesseed and disposed of from the site.

Lunch: walking to get a quick lunch, felt unsafe, lonely and un-welcomed.



Consider the social culture already present at the site. As well as take into account saftey and noise pollution due to the college directly next door.

SOLUTIONS:



REFLECTION

REFLECTION

WHAT?

So far from doing site analysis and researching more into residential pricing and social housing was beneficial to my project as it gave me the chance to analyse the cost of purchasing or renting a housing in Birmingham as well as looking into the social housing estates that are near by and seeing the environment that they create and the issues associated with each one.

It also highlighted areas that need to be improved on within the residential sector.

Also deciding how the two different clienteles will be able to intergrate and merge with each other without creating social divides .

WHY?

The research and analysis that I have carried out so far has been done to create links between the clientele and site used. The link between the two is an important connection to be established as such designs have not be done yet, therefore it was important to establish the needs of each user and how the existing site enhances these or does not incorporate them.

HOW?

The ways that I will in-corporate this within my design is by analysing further the facilities required within the building and how it will benefit the users in a healthy and safe way.

One of my main focuses will be on how the two different clientele will integrate and not create a divide, This will be done by integrating the facilities incorporated and creating points of interactions and connections. This will hopefully also be carried through my residential design with breakpoint spaces incorporated within each block of housing.

The next step of my process is to analysis precedent and case studies as well as incorporating a concept that fits within my design scheme.

RESEARCH PACK

- 3.1 York Road tube station
- 3.2 Unite D'Habitation
- 3.3 Castle Vale
- 3.4 The Collective Old Oak
- 3.5 Portloop
- 3.6 Sky camp
- 3.7 Victor Pricops theatrical curtain
- 3.8 Hyper Lane Cheng du Landscape
Sichuan

3

RESEARCH PACK

What is it?

Morris + Company transform London underground station into a co- working space and hostel for the homeless.

The project was called 'The stepping stones", it combines temporary accommodation for people living rough with co-working spaces for young people starting out in the city. Each resident is treated with equal dignity and all living spaces have been designed to follow the saem 'ingredients for living'.

The idea is to make the building a key hub in the community, 'the hidden homeless' are no longer hidden but are supported at the centre of a vibrant community rich with opportunity.

Social + Cultural impact:

The project is a unique developemtn and aims to create jobs for the homeless and greatly impact the local economy by offering vast amount of opportunities. This is the aspect that intrested me the most, as it provides opportunity and reduces the divide between people, creating one unit rather than several different ones.

Influence on my design:

The project uses a similar intention to my design scheme, it focuses on developing the local economy and supporting local businesses. It highlights the homeless community and brings them into the spotlight of a vibrant community. It shows growth and progression within the community and society as a whole.



What is it?

Unite d'habitation is one of the most influential brutalist buildings of all time. It redefined high density housing by reimagining a city inside an 18 storey slab block. It was completed in Marseille 1952. He applied the concept that a house is "a machine for living in" and applied it to an entire community. It has 337 apartments accommodating 1600 residents, boasts two shopping streets, a hotel and a rooftop terrace.

Structure:

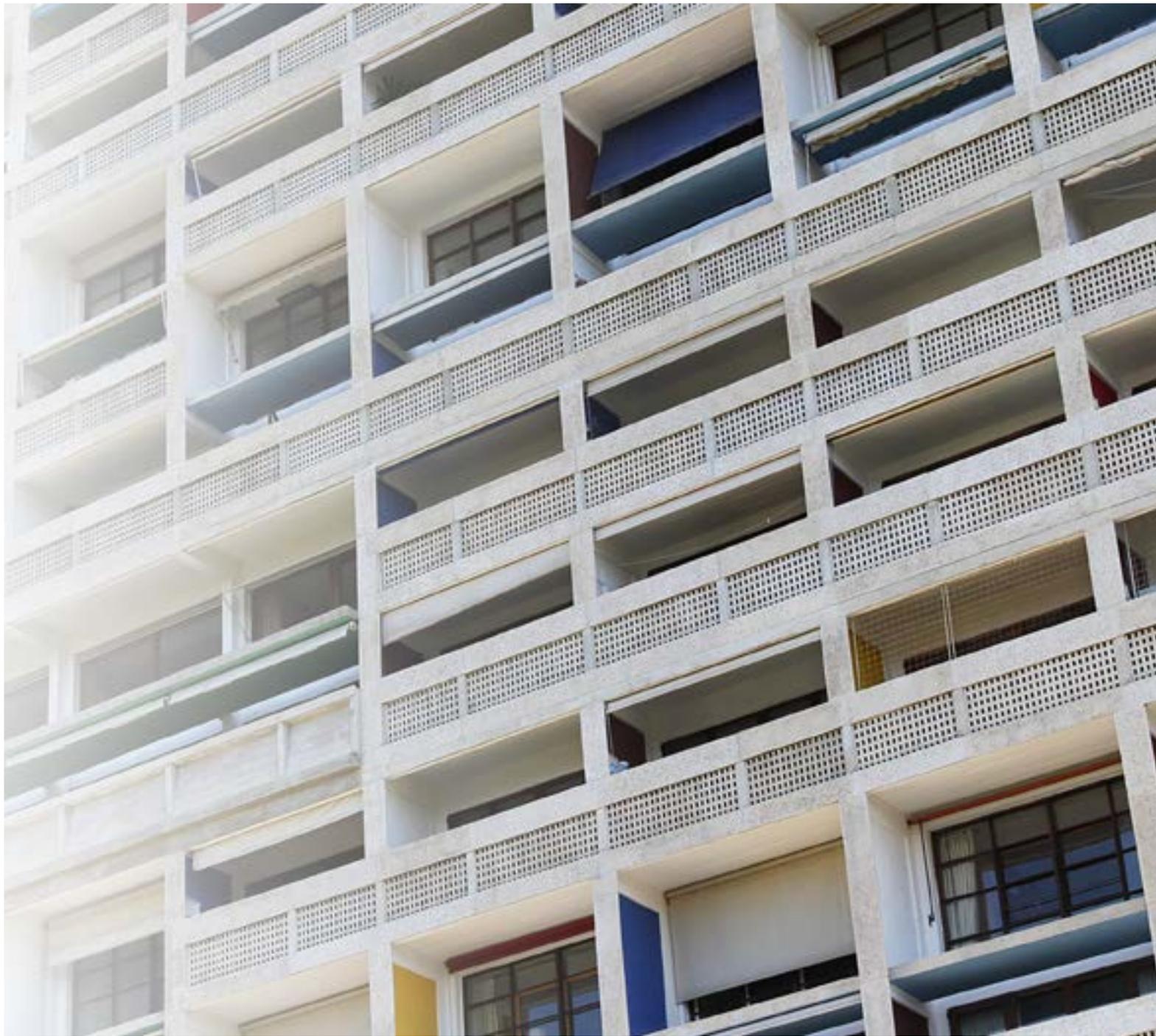
Le Corbusier developed this grid using a proportional measurement system. One level of each apartment stretches the full 21m depth of the block, corridors only needed to be accommodated on every 3rd floor, therefore there were only 5 in total.

Social - Cultural impact:

Unite D'Habitation is well known for its structural development and construction systems. It has greatly influenced the development and design of future high rise developments.

Influence on my design:

The use of multifunctional spaces are similar to the ones I will be incorporating within my design scheme. Its simplicity but effectiveness is something that I want to carry forward through out my project, as well as keeping to the minimalist look but keeping it relevant to today's design trends.





What is it?

Castle Vale is a housing estate located between Erdington, Minworth and Castle Bromwich. The area has an approx population of 10,000 people.

Construction:

The housing blocks consisted of 5,000 housing units along two spines of housing running along the length of the estate. Reinforced concrete was the main material used due to its low cost and ease of use.

Community:

As well as residential properties there was also a shopping centre, five schools, two churches and a swimming pool.

Decline:

The demolition of the slums and breaking up of communities made people feel unsettled. The modern features were hard to adjust to. There were several incidents and officers being attacked. The lack of law enforcement became an issue for all. The unemployment rate was high and there was a clear decline in education shown. There were many hidden pockets allowing for mugging and drug deals to take place.

Influence on my design:

The research into this estate has been useful in analysing what not to do. It highlighted where issues can be created and it begins to spiral out of control. As well as incorporating facilities that aid the users it is just as important to see how they are being used and maintained.

**What is it?**

Provides affordable housing that also works to build a better community. It provides a stress free living accommodation as their motto "so you can do the living, and leave the rest to us".

Social + cultural impact:

They focus on economic opportunities, social integration, health and well-being.

Community:

incorporates co working spaces as well as hosting cultural events. Includes bistros, laundrettes, secret gardens, library, roof terrace, cinema room, gym and games room. This is something that interests me as it provides all the basic necessities and more, providing facilities that aid the residents health and mental well-being.

Influence on my design:

The focus from this development is inclusive design for all, providing facilities that are beneficial. The most important thing is finding the balance between residential and commercial.

**What is it?**

Portloop is a Birmingham community development, wehn completed the project will host over 1,000 homes and allow people to live green. The project is on a larger scale spread over 43 acres and is expected to attract 3,000 residents that can rent or buy homes.

Construction:

there are two types of houses, the brick house and the town houses. The town houses are what intrest me the most, This is due to them being pre-fabricated. You can choose a size that suits you better and decide whether you want loft living or garden living. You can also pick out a material spec that suits you.

Community:

Portloop is creating a community hub. By incorporating commercial office spaces, a new leisure centre and a swimming pool. There is a sense of freedom and a sense of play.

Social + cultural impact:

Their main focus if creating a urban island neighbourhood, they incorporate greens treet, communal gardens, public parks and playgrounds. They are creating a greener city life.

Influence on my design:

The main focus from this precedent is the Town houses, as they are pre fabricated but still give the users a choice and allows them to pick their interiors that suit them and their mpersonalities. As well as choosing the layout between two types of layouts.

What is it?

SkyCamp proposes the suspension of a cityscape in the air. Sky Camp is an idea nursery where ground level no longer dictates our space and movement.

Community:

although there are no activities as such, it allows for interactions and more casual conversations. Allowing people to be free and socialise as they please.

Social + cultural impact:

It creates a space that allows people to connect with nature, get off their feet and open their mind to their surroundings and interact with those around them.

Influence on my design:

The reason I wanted to look at this was due to incorporating communal spaces within my design. This creates a unique way to incorporate these ideas with out just having green areas intergrated within the design.



**What is it?**

Pricop's pavillion entry is seen as a reflection of the values of the region by emphasising on the idea of a big, theatrical curtain draped on site.

Construction:

Uses a white floating fabric that extends 6m above the ground, using a timber frame to hold up the fabric.

Community:

Portloop is creating a community hub. By incorporating commercial office spaces, a new leisure centre and a swimming pool. There is a sense of freedom and a sense of play.

Social + cultural impact:

Creates informal semi private pockets where people can relax as well as provide opportunities for various programmes, blending art, education and public space.

Influence on my design:

This project has a huge influence on the design of communal spaces incorporated within the design scheme. It creates a unique communal design that can be used for several different events and reasons. It is a flexible design that provides its function.

What is it?

This is a barrier free skypark and pedestrian network that stretches over 2.4 km.

Construction:

Uses a white floating fabric that extends 6m above the ground, using a timber frame to hold up the fabric.

Community:

Portloop is creating a community hub. By incorporating commercial office spaces, a new leisure centre and a swimming pool. There is a sense of freedom and a sense of play.

Social + cultural impact:

Provides a socially defined space in response to socially distancing with a urban space. The space encourages impromptu performances, art exhibitions, cultural gatherings and open air theatre.

Influence on my design:

Although the design style wont be carried through my design scheme, I want to incorporate a similar layering effect for seating incorporated within the communal areas. Designing seating that is unique and different to standard outdoor seating.



4

PRIMARY RESEARCH

Q1: WHAT DOES HOME MEAN TO YOU?





Q2: IF YOU HAD TO PACK YOUR STUFF UP INTO A RUCKSACK AND MOVE, WHAT THREE THINGS WOULD YOU PACK TO MAKE THE NEW PLACE FEEL LIKE HOME?

REFLECTION

REFLECTION

WHAT?

Carrying out both primary and secondary research has been beneficial as it has increased my creativity within my design scheme. As well as thinking how each element fits within my scheme and how it will be integrated within my design. It has also been beneficial in getting me thinking how the technical drawings can be produced and showcase the main elements of certain designs.

WHY?

The Research package is a key component in providing inspiration and evoking new ideas and considerations that can be made. It shows the technical considerations that need to be made.

HOW?

The main inspiration will be incorporated through the design of communal areas and incorporate it in an interesting and unique way. Designing something that has several functions and is not just used for one primary function. The Portloop case study influences the design of the residential homes as there will be three types of residential homes that they can choose from. These will also be prefabricated homes. Any final furnishing will be decided by the users themselves.

CONCEPT

- 5.1 Concept ideas + brainstorming
- 5.2 Journey of the homeless
- 5.3 Concept development
- 5.4 Sketches + collages
- 5.5 Reflection

5

CONCEPT

WHAT?

For my concept I wanted to focus on the idea of growth, development and progression. I want these to be incorporated in several ways through out my design scheme. I also wanted to consider the materials used and incorporate this into the design.

WHY?

The reason that I wanted to focus on growth and progression as my main idea was because it shows the development of each individual. It can be expressed by the design of the building as well as through personal growth and development.

HOW?

To achieve this I will be incorporating this idea through the residential sector and it will influence the facilities and movement through the space. It determines the journey created through the building.

Key words:

GROWTH

PROGRESSION

GAPS WITHIN SOCIETY

NEW BEGINNINGS

UNITY

NOTES:

The main idea is that the development happens in stages, each stage shows growth as a person adapts with the size of accommodation.

The practicality of each stage will need to be considered within the James Cond building. Focus on the joinery detail, the construction elements and feasibility of each type of accommodation.

Rather than having such individual dwellings there could be a more coherent style but varying sizes.

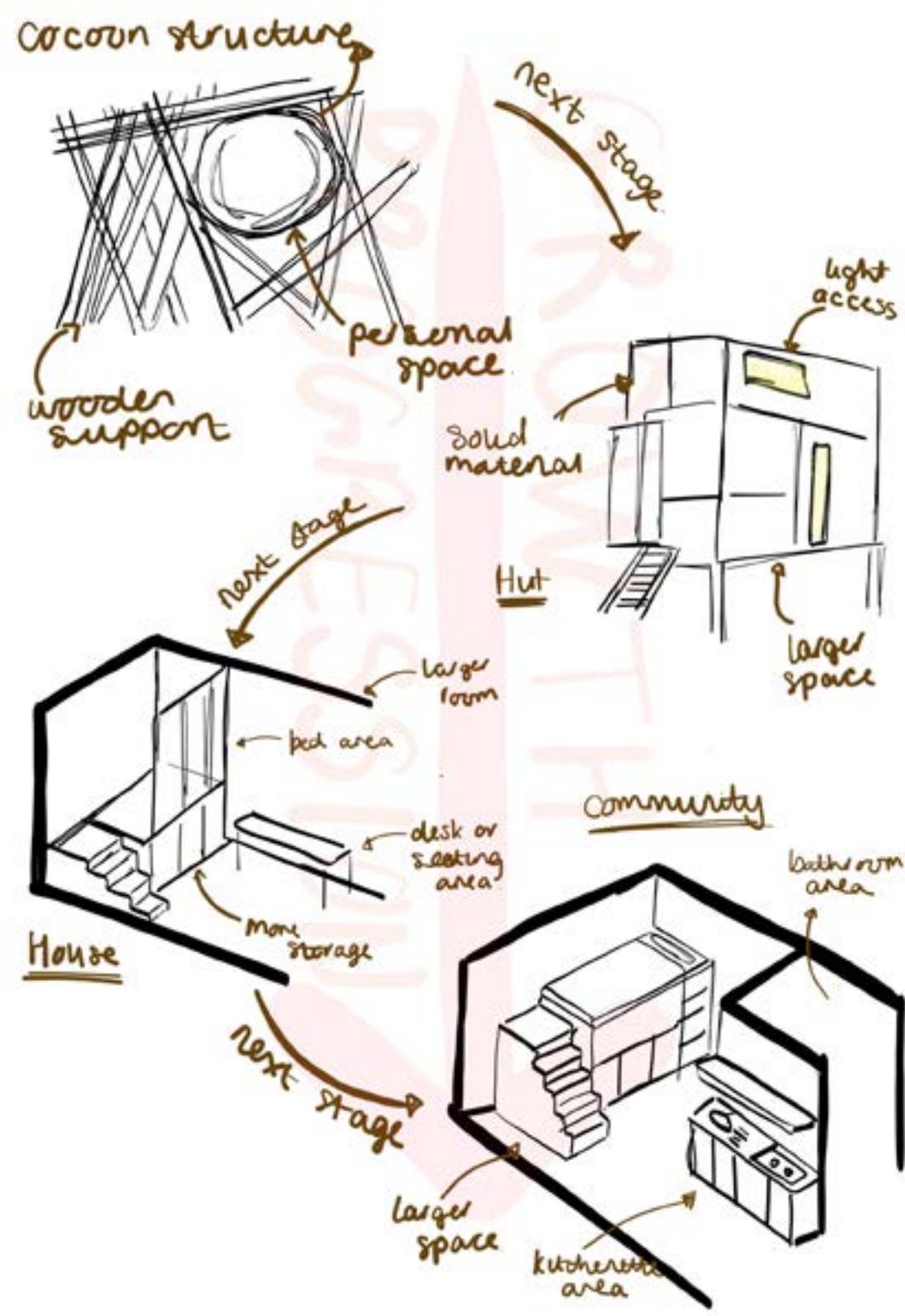
Take into account the roof and how the walls of the pods will be supported.

DESIGN DRIVERS:

SECURITY

OWNERSHIP VS. COMMUNITY

SELF CONTAINED



The main design driver that will be seen through out the scheme will be GROWTH. Within the scheme we will explore how we can facilitate growth within the interior of the site.

When breaking down the idea of growth, the process begins with how we interpret growth. For the homeless it begins with the possessions they own, making the spaces they live in very open and vulnerable. Then as they are able to find more shelter they begin to find the basic level of comfort however, as the process of their growth carries on they begin to occupy a shared space, although not personal they have their individual areas providing more solid protection.

In terms of how this will be interpreted within the space, the focus will remain on providing security and designing spaces that provide equal opportunities of personal ownership and communal spaces.

The initial idea is to create stackable self contained units, each one creating the main residential area. Each unit will provide a spatial sequence. This will create the correct balance between private and communal spaces. Each unit will have break out spaces in between which will allow for more socialising spaces and interactions. Creating the ultimate residential community.

WHAT?

The evolution of man - in short it is claimed that as humans we descended from apes, growing and developing as times goes on into the people we are right now. The reason that I wanted to mention this is because in a similar way there is an evolution or process of homelessness, they all start and end their stories in different ways.

Homeless people start their journey with whatever they can fit into their rucksacks or bags they carry. They then eventually find some cardboard or materials to sleep on, they then can potentially find tents and more solid shelter.

WHY?

The sketch on the right shows how the two ideas work alongside each other. The evolution of man can be reinterpreted to the evolution of homelessness. The journey begins with all that you can carry in bags or rucksacks with no where to sleep or live. This is then followed by trying to find materials such as cardboard/plastic etc to sleep on. The next stage is finding shelter of somewhat such as a tent or larger plastic sheets and making your own shelter. The final stage shows the opportunity of finding a bed in a shelter, although never permanent it is a step up from the previous stages.

The reason that I wanted to explore this idea was because it coincides with my initial concept idea on growth and each stage of accommodation is a larger space allowing for the individual to grow with the size of their accommodation and grow personally as well.



Jenga is a Swahili word meaning 'to build'. The blocks are stacked into a tower. Players remove a block and place it on top without causing the tower to fall. It demands skill, interaction, suspense and patience.



IDEAS:

Initial concept development began with taking the simple cardboard block and stacking them and seeing how they fall apart. This began to show the idea of growth and how it will develop the residential section of the design scheme.

The next step in the development was to see how the users will circulate through the space and locating it in the ideal place within the building.

The focal point was on creating the residential hub but also thinking about the gaps in between each unit and how this can be utilised. The breakout spaces will allow for socialising and allow for the mixing of people. Providing the ultimate community environment.

The blocks could become seating or installations for communal areas.

MY INTERPRETATION

-I made my own jenga blocks with cardboard. I stacked them as you would when you begin a game of jenga. However, my interpretation is that it represents us and our lives and the necessities we require.

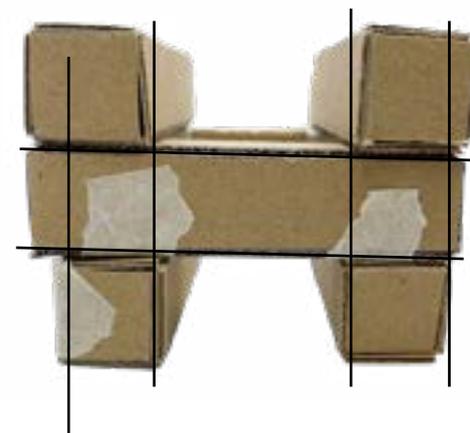
-As the towers grows it represents what we know as a stable lifestyle, however, once some of the blocks start getting removed the uncertainty of what will happen increases.

-When too many things leave our lives quickly it can cause us to feel very unstable resulting in this collapse of the tower.

"the blocks" can represent many things such as family, jobs, housing, friends, mental health and medical issues as well as many others.

-The images on the left show this idea of our lives being made up of these several elements and once too many are removed it can lead of people being homeless and losing everything.

-This links with my design drivers, growth and progression as it shows how we can piece back some of these elements and RE-BUILD this tower and starts to feel in control and stable again.



Using this grid like structure to form the shape and layout of the residential sectors. Creating my own version of tower blocks with open breakout spaces in between, these can allow for interactions. It can also be used to form the layout of the homeless pods and can be manipulated to be private and semi private.



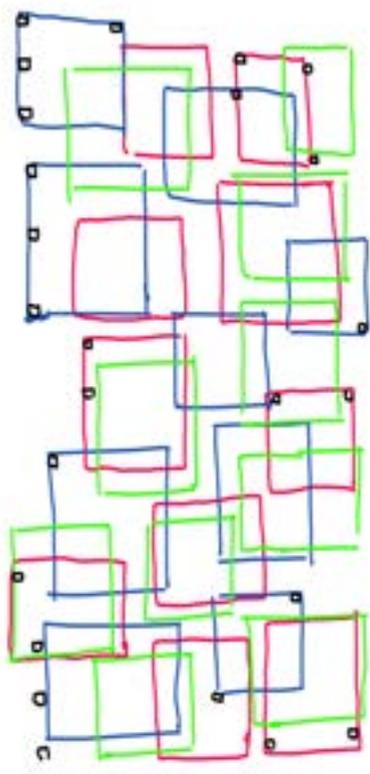
The image to the right is the pods that will be used by the homeless people that choose to occupy the pods. The idea above is for the more permanent residents (low income renters)

Further Development

From initially starting with jenga block shaped boxes, I then turned these into larger cubes that represented a single house.

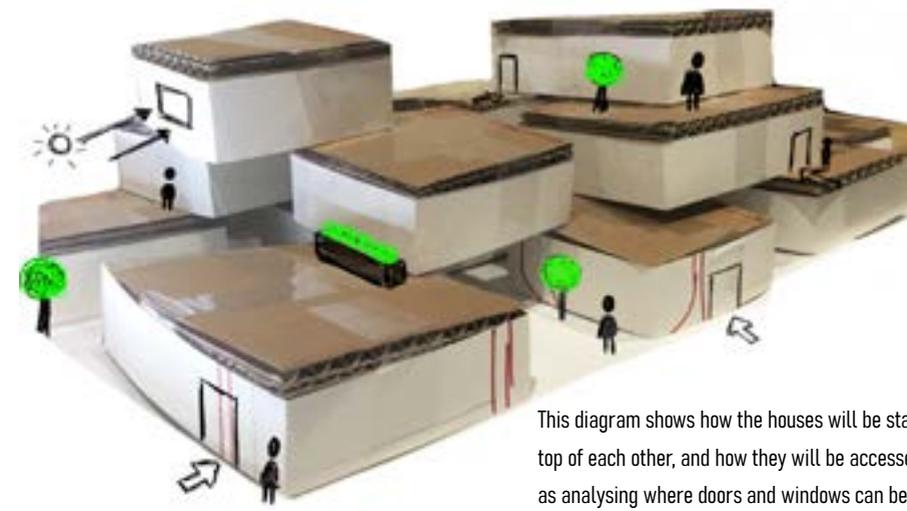
The next step was to see how these could be stacked on top of each other and start forming residential blocks that will form the main component of the design scheme.

I made three blocks that were different sizes, each block having facilities that accommodate for different users. However, to begin i tried stacking them in a way that would require fewer structural columns to support the levels above. This did not work as well as I hoped meaning that I had to consider using structural columns as a decorative consideration as well as structural.



The images to the right as my experimentation of how the houses will stack and how the walkways and structural columns will be placed.

Drawing it on tracing paper allowed me to place windows and doors in the correct place, trying to keep enough space to allow for people to pass through. It also showed where to put the balustrades in the right places.



This diagram shows how the houses will be stacked on top of each other, and how they will be accessed. As well as analysing where doors and windows can be placed for maximum entry of light. Although the diagram shows the hosues it does not show how the structural columns will support the levels above.

THE AIM:

- to focus on how the unit would be stacked on top of each other.
- what about the gaps within the blocks?
- how will people move inbetween each block and how will they interact with the people around them.

When stacking up the blocks, it was essential to think about the spaces inbetween. The gaps within society. The areas shaded in green are potential gaps between the housing blocks. They can be used as socialising spaces and create interactions between people. However, the gaps can only be used depending on where structural columns need to be placed and how the houses will be accessed.

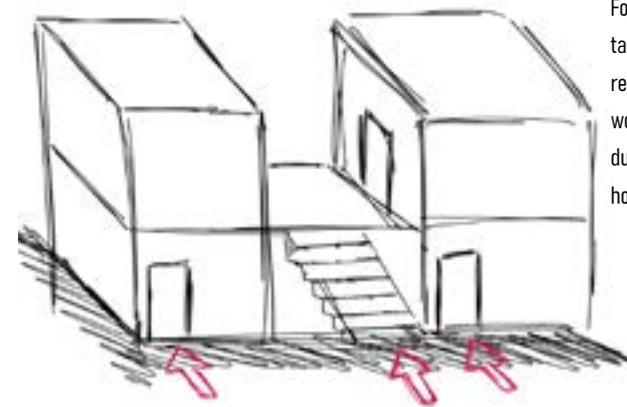
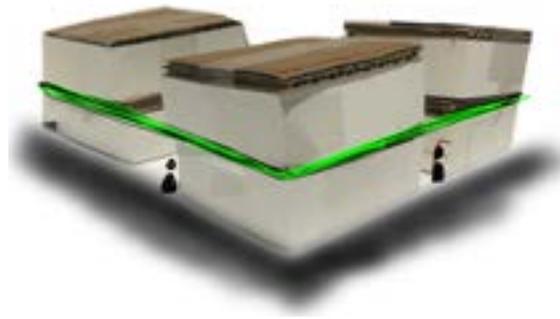


Further Development

Having had planned out how the residential sector for the low income renters will be I then tried to follow this design through the housing for the homeless.

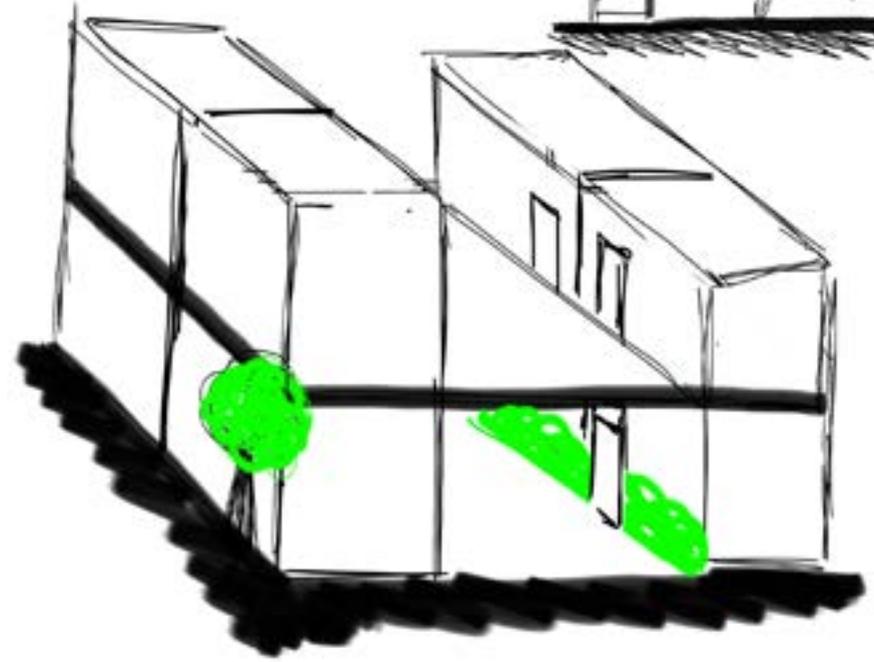
However, the approach with this was slightly different as it was not houses that were fully furnished, but more like bunks that had the basics.

The idea to not provide them with everything the same as the other residential homes was due to promoting the idea of growth that one step further and trying to show the homeless that they too can grow through the building by using the facilities provided they can soon own their own home like the others or if they chose to only occupy the bunks as temporary accommodation, it can then be cleaned as used for the next people that need it.



For the homeless bunks I wanted to take a similar approach to the other residential homes, however, it did not work as well as I thought it would due to the practicality of having more homes available to the homeless.

The sketch below is a further development on the homeless bunks, I decided to double stack them with a more regular layout. Providing more of a communal walkway. It meant that there would be two main staircases that lead to the upper levels. This layout allows for more rooms to be stacked on top of each other.



THE AIM:

- to focus on how the unit would be stacked on top of each other.
- what about the gaps within the blocks?
- how will people move inbetween each block and how will they interact with the people around them.

REFLECTION

REFLECTION

WHAT?

Deciding a concept was difficult as it was hard to finalise what it should be. I wanted the concept to be transformed through out the building. The design driver GROWTH can be interpreted in several ways through out the scheme.

The concept of growth is primarily seen in the residential sector of the scheme.

HOW?

This has been achieved in designing residential homes that vary in size and type. This facilitates the idea of growth even further, this can also be seen through the homeless bunks designed as permanent or temporary accommodation.

WHY?

This concept is heavily based on how the building can support the users and this could only be achieved if there was a key driver that tied everything together.

USER JOURNEY

6.1 Schedule of Accommodation

6.2 Zonal Plans

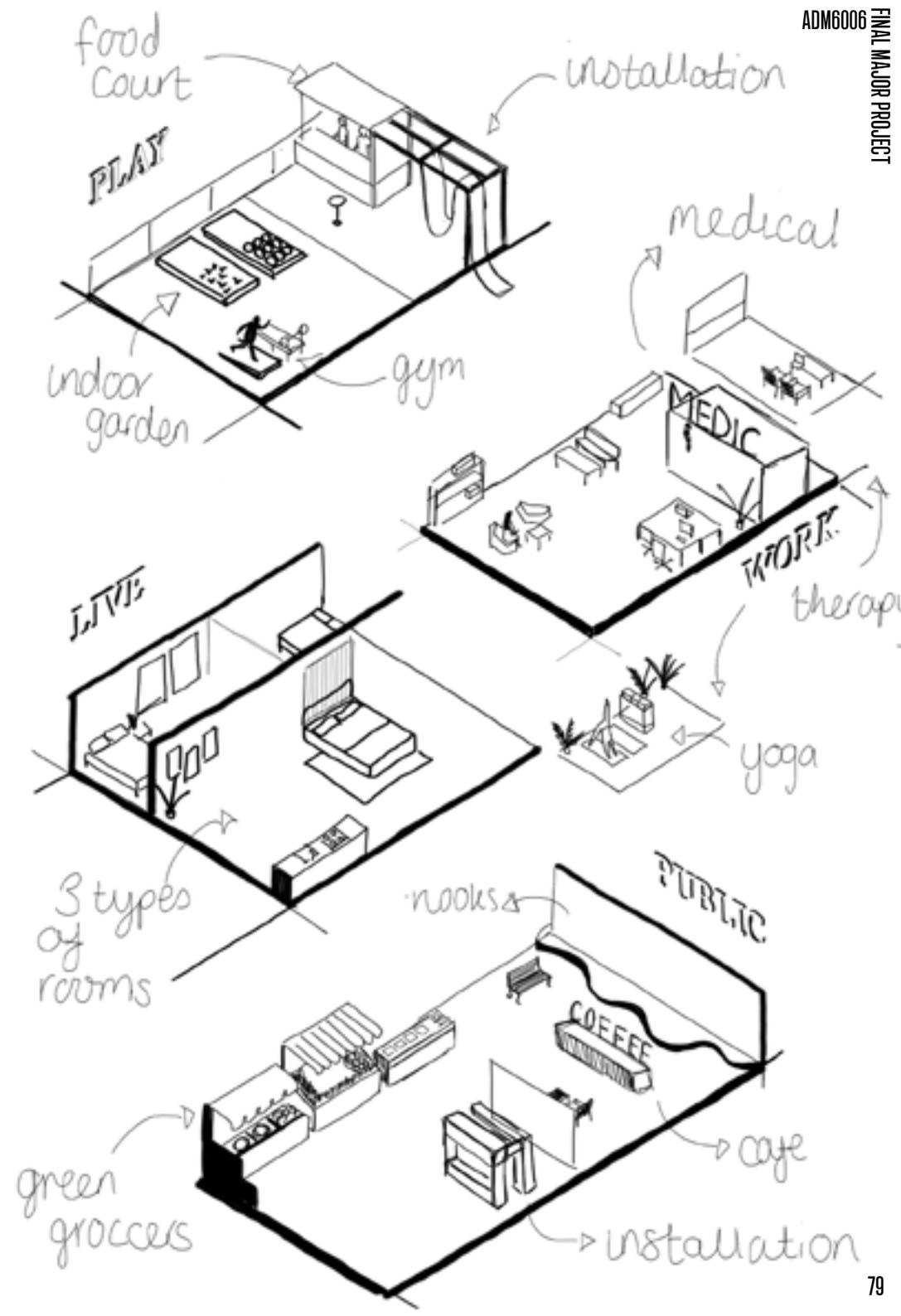
6.3 Circulation

6.4 Reflection

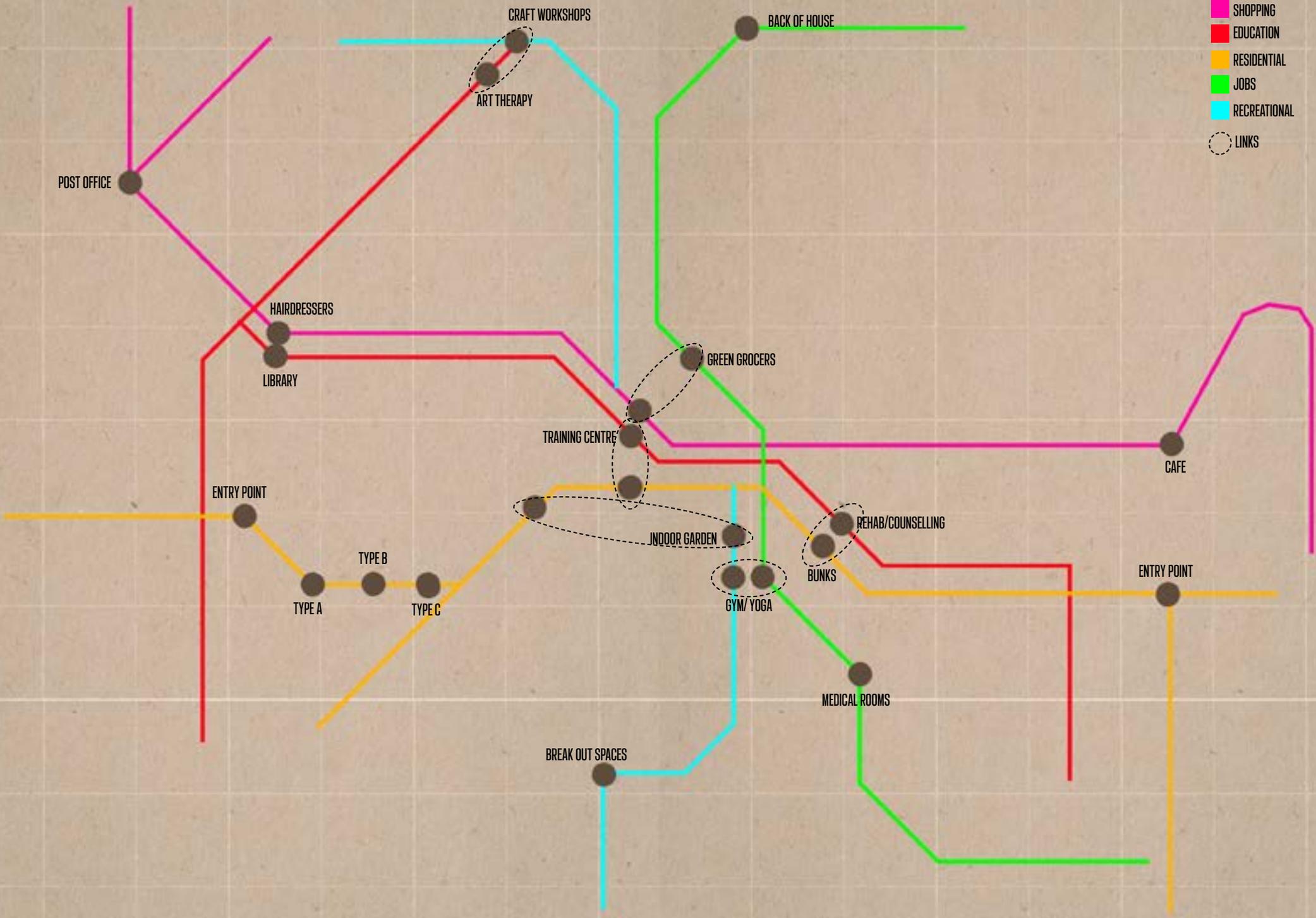
6

USER

JOURNEY



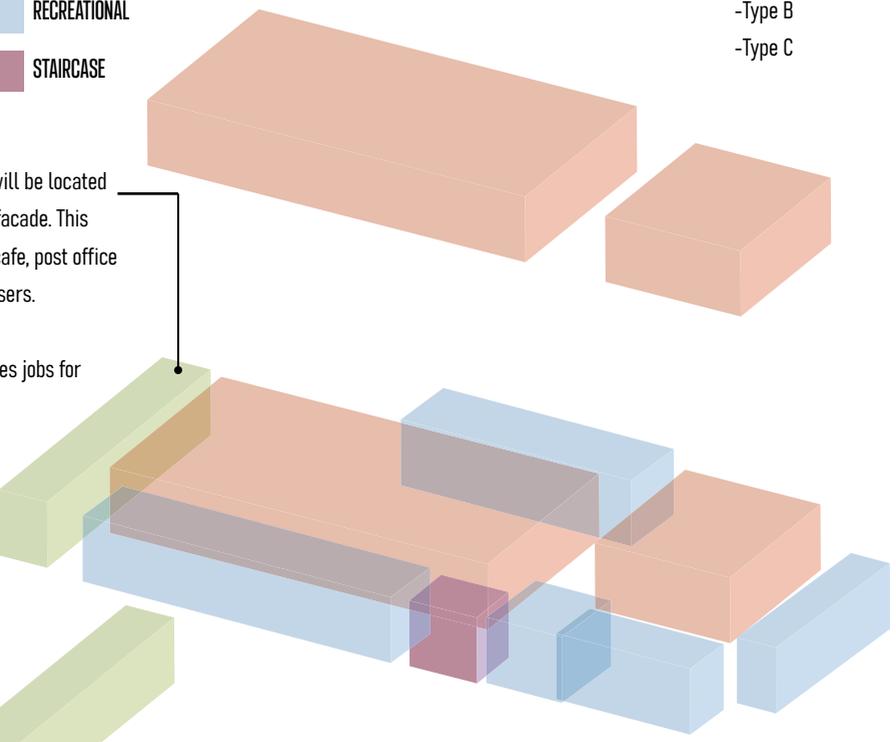
- KEY:
- SHOPPING
 - EDUCATION
 - RESIDENTIAL
 - JOBS
 - RECREATIONAL
 - LINKS



- RESIDENTIAL
- JOBS
- RECREATIONAL
- STAIRCASE

Three residential homes form the main residential sector
 -Type A
 -Type B
 -Type C

Main shops will be located at this front facade. This includes a cafe, post office and hairdressers.
 It also provides jobs for the users



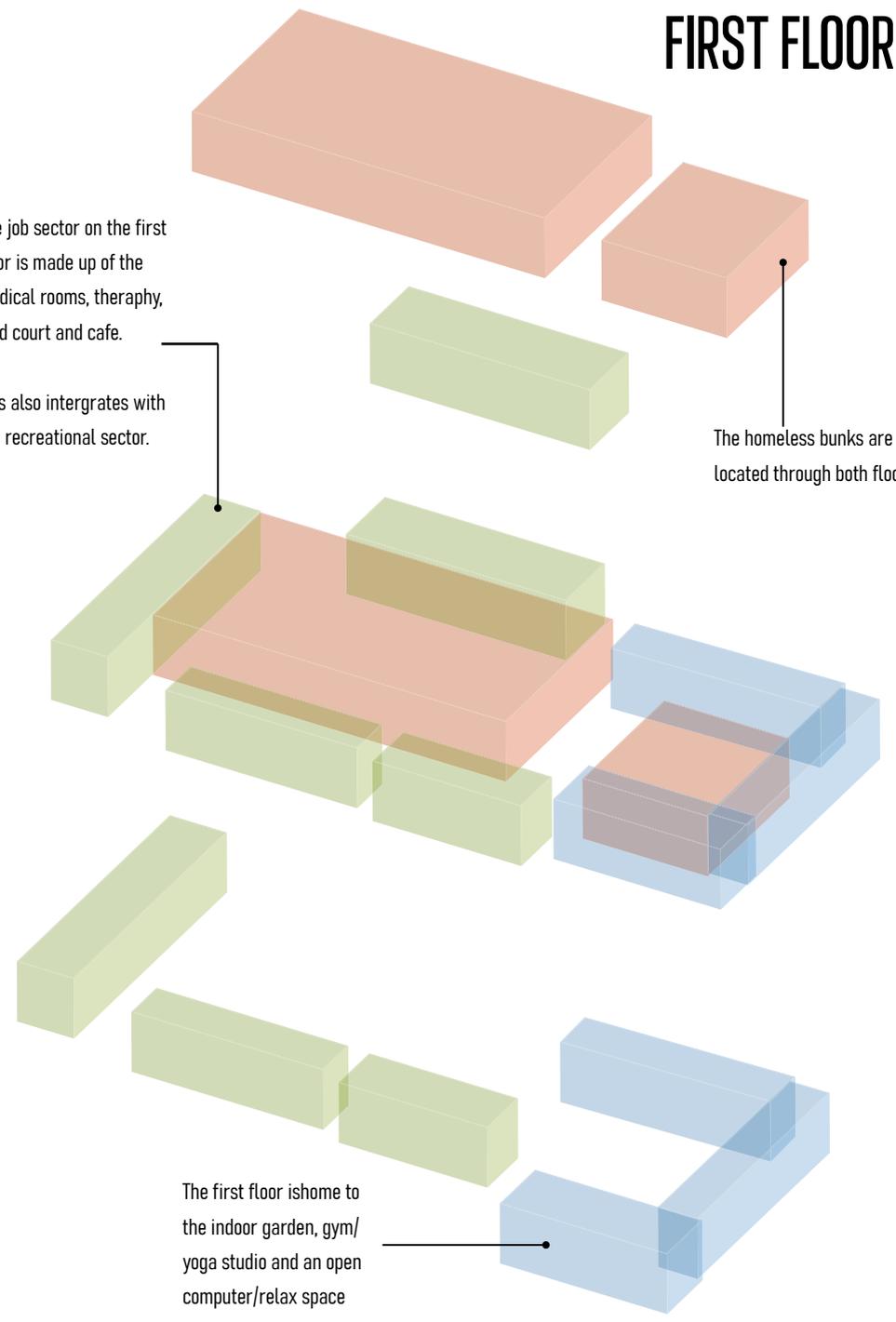
The recreational sector includes the installations as well as the communal nook spaces to relax in.

GROUND FLOOR

FIRST FLOOR

The job sector on the first floor is made up of the medical rooms, therapy, food court and cafe.
 This also intergrates with the recreational sector.

The homeless bunks are located through both floors



The first floor is home to the indoor garden, gym/ yoga studio and an open computer/relax space

REFLECTION

REFLECTION

WHAT?

Currently having done my schedule of accommodation and zonal plans it has allowed me to visualise the space a lot better. It has helped with planning out how to make the design work more efficiently and practically.

HOW?

This has been achieved by keeping the residential sectors in the middle of the building and arranging the rest of the facilities around the residential homes. Making sure that they are accessible to everyone and still private for those who want it to be.

WHY?

Carrying out zonal plans and defining the sectors is a key aspect of my design process. As mentioned it helps with designing a space that flows and works coherently together.

It was important to include the job and recreational sector within my design as from the research carried out earlier, it was clear that such facilities are needed to provide an all rounded residential hub that promoted a healthy well-being.

SPATIAL DEVELOPMENT

7.1 General Arrangement Development

7.2 General Arrangement Plans

7.3 Housing Development

7.4 Final Housing Plans

7.5 Installation 1

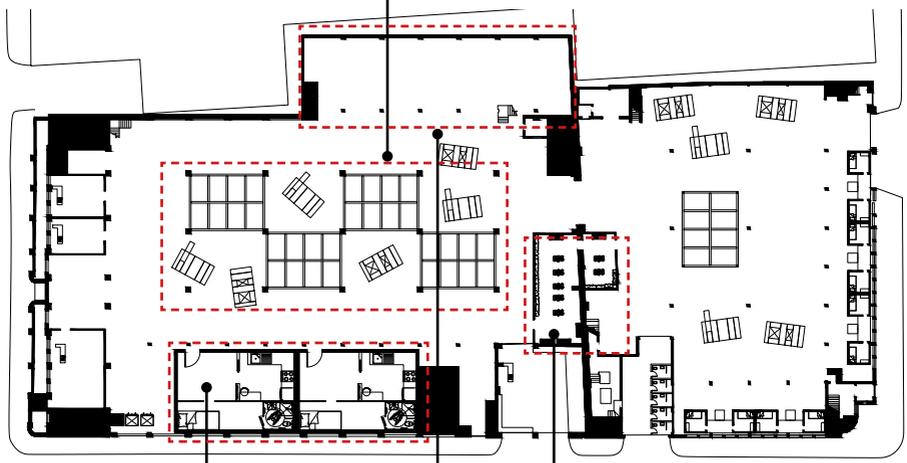
7.6 Installation 2

7

SPATIAL DEVELOPMENT

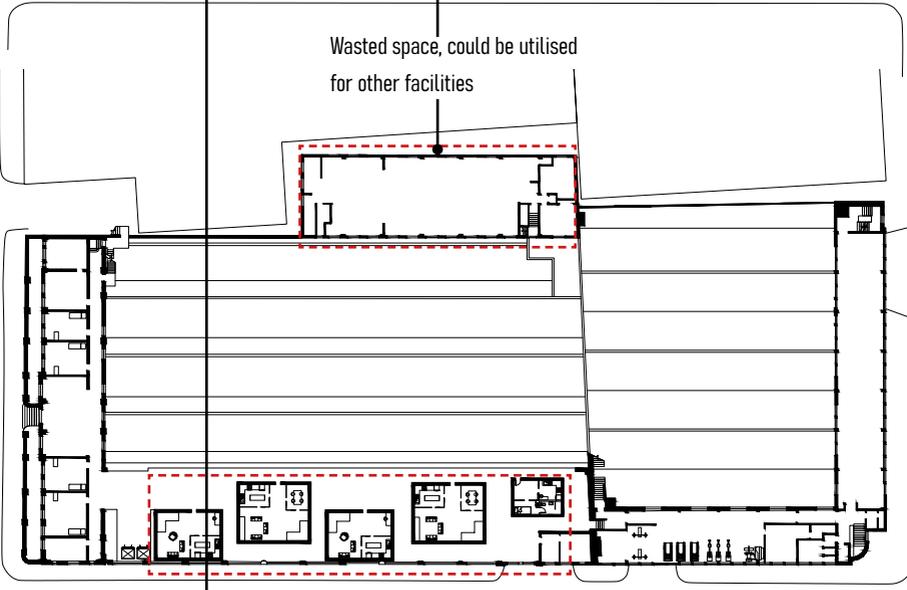
WHAT DIDN'T WORK

Placing my installations in the centre of the building was wasting space and meant there was too much empty and open space surrounding it



Lack of sunlight to indoor garden

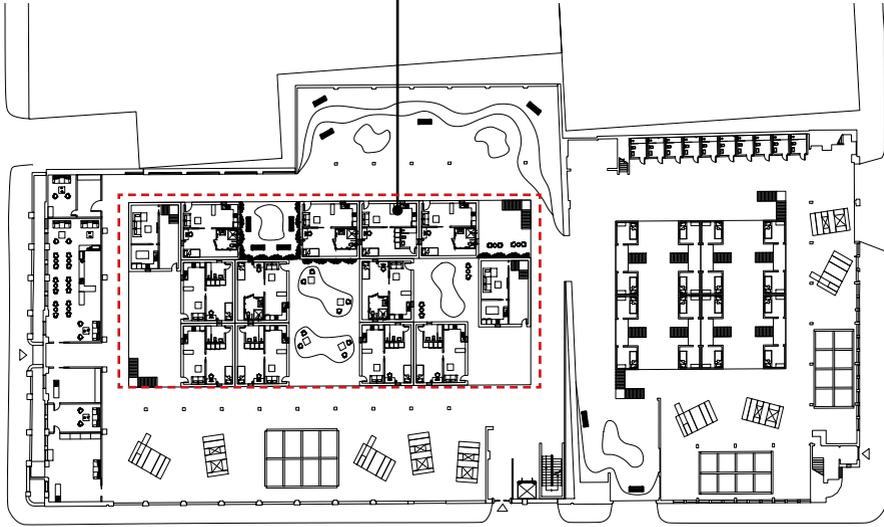
Wasted space, could be utilised for other facilities



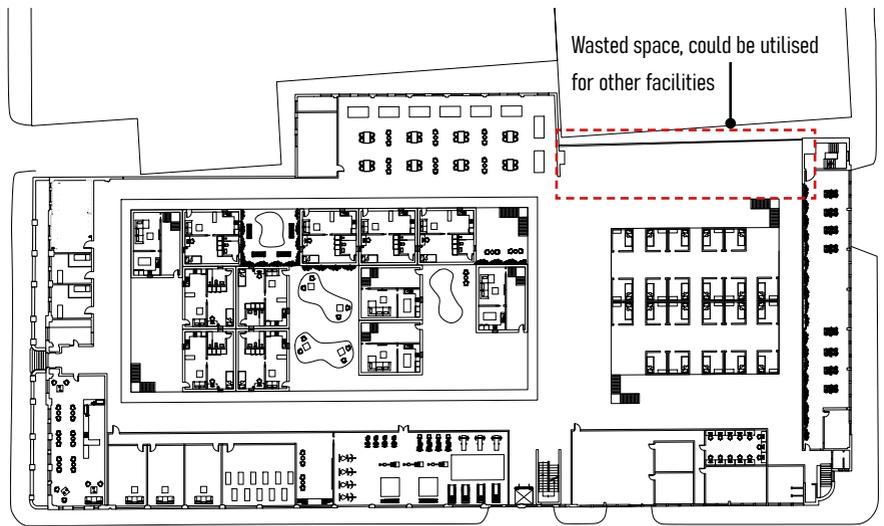
Although the aim was to place the residential homes by the window to maximise entry of light, the height restriction cause issues as well as not being able to place enough houses in the are

All in all these were very poorly thought out floor plans. It did not utilise the large space properly and was not practical in any way.

Placing the residential sector in the middle was more practical, however there were still issues with the layout of the homes.



Wasted space, could be utilised for other facilities



There was a better use of space with these plans, however, they still needed tweaking slightly to make sure that circulation of users was thought through.

Main residential sector, this is made up of three housing types and homeless bunks on the other side of the building.

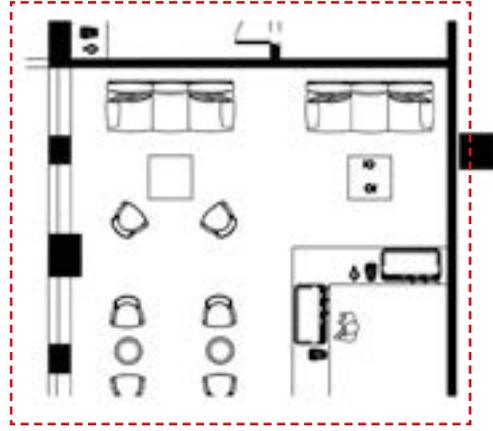
CAFE:
The front facade includes a cafe, hairdressers and post office. As well as two staff rooms and a storage room.

COMMUNAL NOOK:

CIRCULATION:

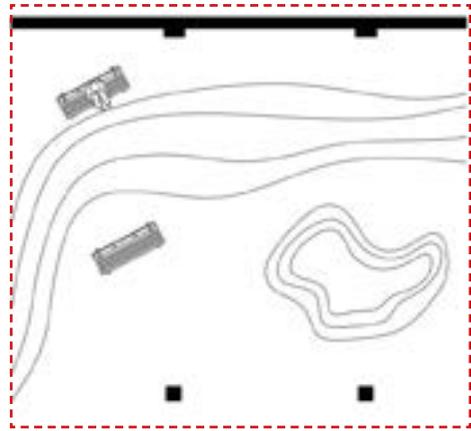
Shower facilities for the homeless are separated from the beds. This is due to them being accessed by all and can be cleaned on a regular basis

GROUND FLOOR
not to scale



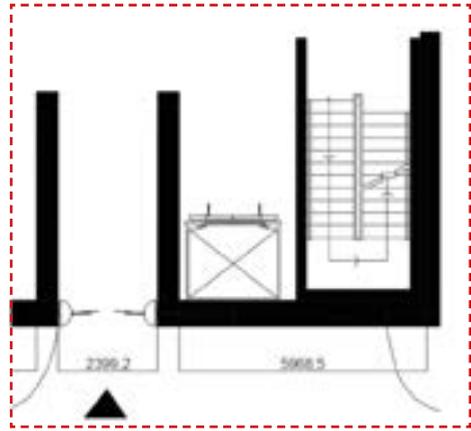
CAFE:

This is a close up of the cafe. This is located on the ground and first floor. It is accessible to both the residents and the public.



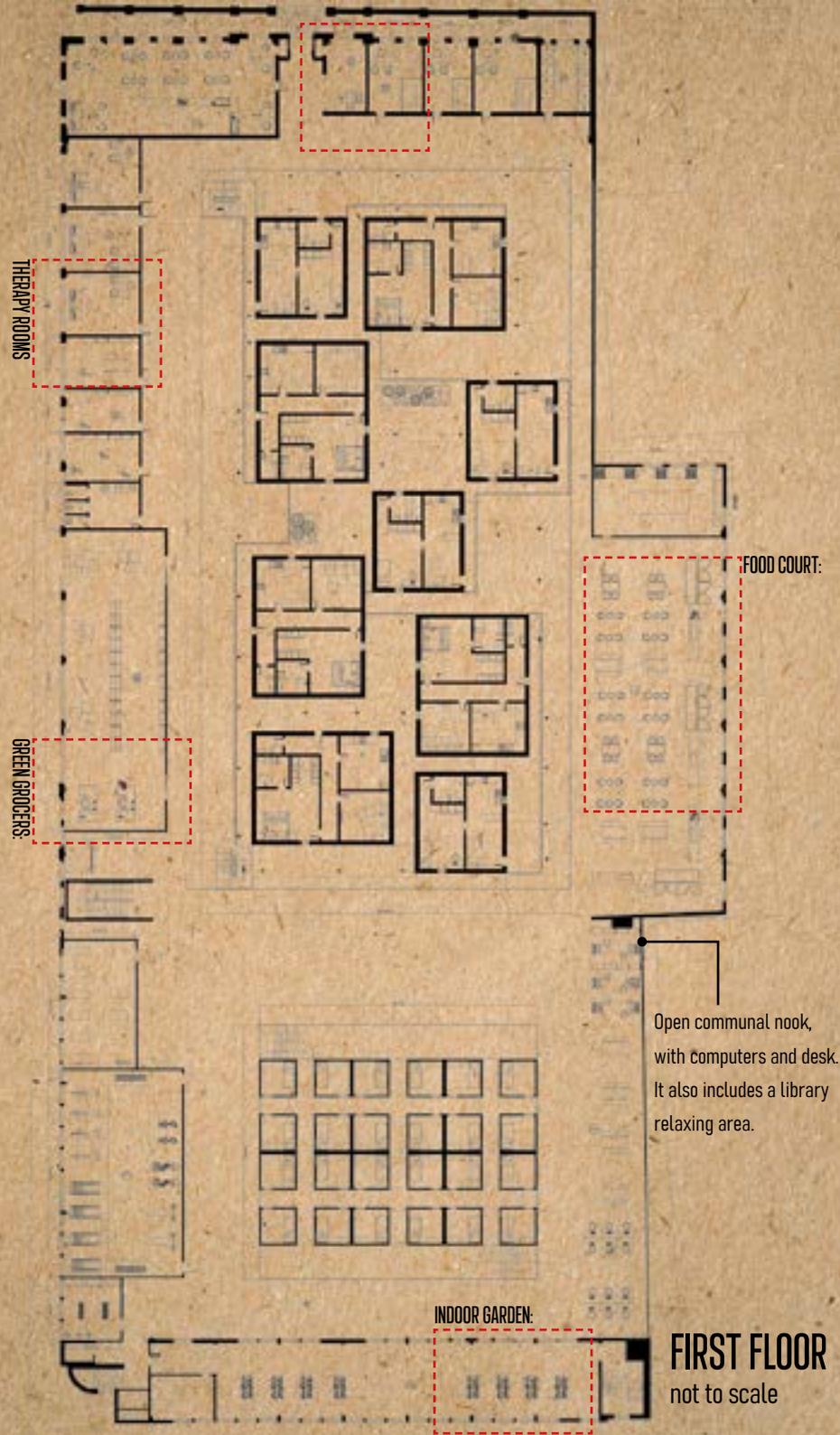
COMMUNAL NOOK:

This is a breakout space, that creates an indoor outdoor environment. It includes raised platforms covered with artificial grass as well as benches and lampposts for that outdoor aesthetic

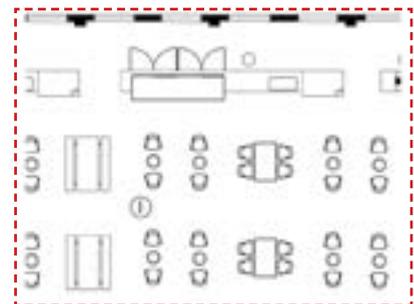


CIRCULATION:

There is only one main staircase, leading to all floors. Lift access for the disabled. There is also a pin accessed entry point for residents only.

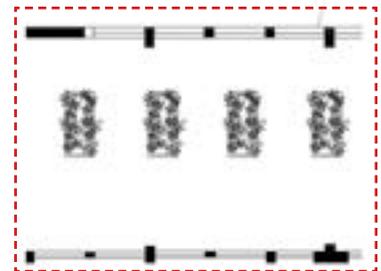


FIRST FLOOR
not to scale



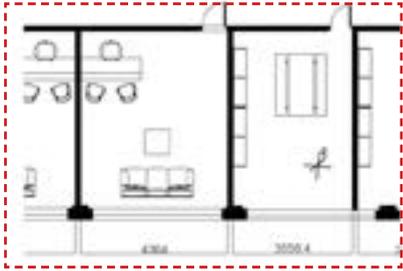
FOOD COURT:

Food court located on the first floor. Accessible to all. Includes various food stalls, hosted by off site caterers or the users that occupy the site.



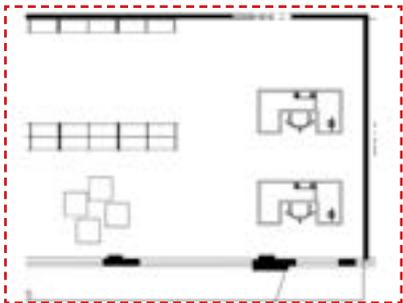
INDOOR GARDEN:

Plenty of natural sunlight accessed through windows, allows a calm and relaxing space for the users. It also allows them to grown their own produce to eat or sell.



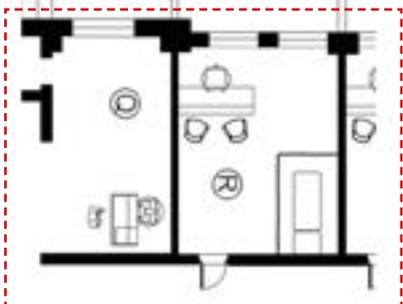
THERAPY ROOMS

There are two types of therapy rooms, one being a standard room the other being specific for art therapy.



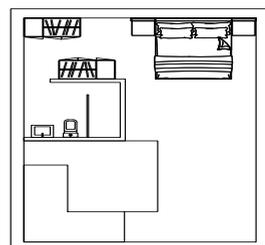
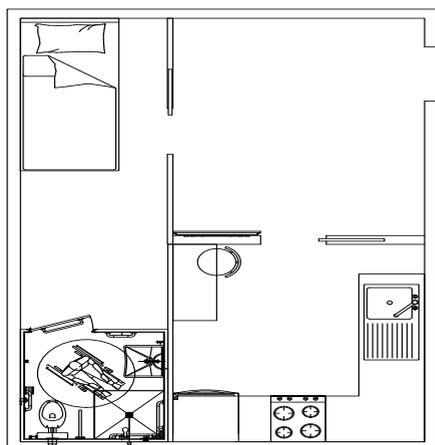
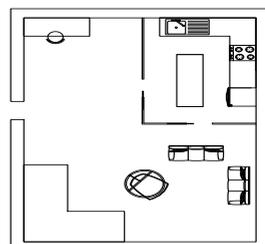
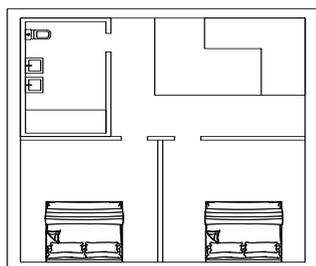
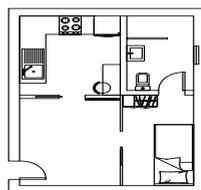
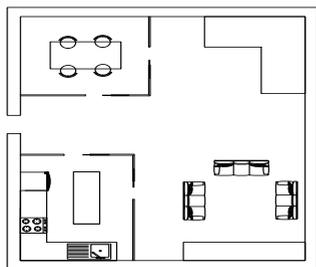
GREEN GROCERS:

Accessible for all, produce can be grown in the indoor garden. It will also provide the basic necessities for the users.



MEDICAL ROOMS & RECEPTION

Providing general health checks and appointments for those need them.



WHAT?

These are development plans for the residential homes. Three different types of housing were designed. The idea was that they would be double storey homes that included standard rooms but designed to suit the users.

WHY?

These plans did not work out as well as intended to within the space. Figuring out the height allowance was proving difficult. It also meant that fewer houses could be placed within the site.

The dimensions of the spaces designed were either too big or too small. I was trying to pack too much into one house.

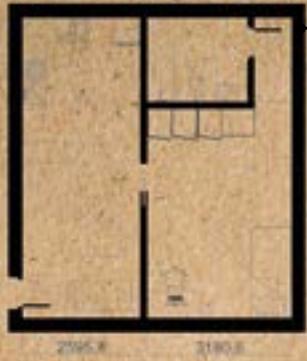
FURTHER DEVELOPMENT:

To develop these further, I had decided to remove the staircases and make them a bungalow style accommodation. This meant that I could allow space for more houses within the building.

It also meant that I was including the necessities and not adding too much to the design.

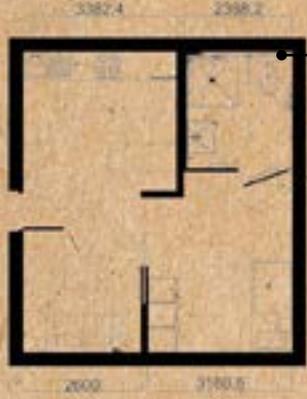
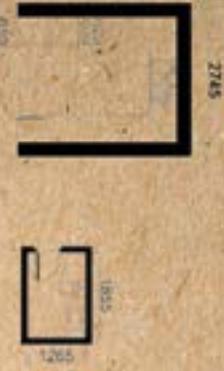
This was due to the homes being able to be prefabricated to a basic level, but any further furnishing details could be added by the user.

HOUSING DETAIL



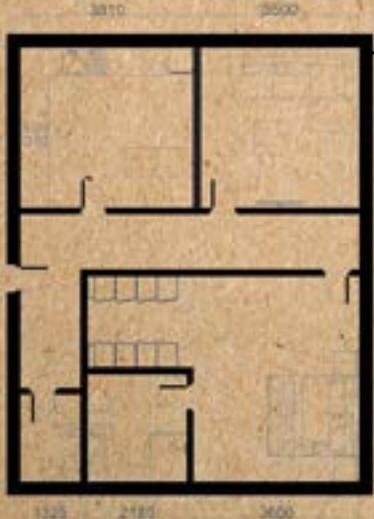
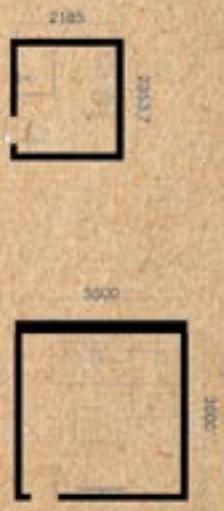
Type A

This accommodation type was primarily designed for single/ student users. It provided enough space for one person



Type B

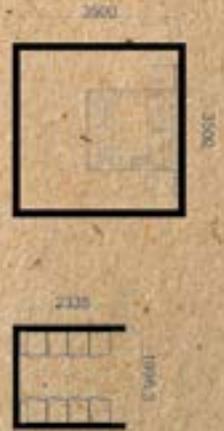
This is a replica of Type A however, it allows for wheelchair users as well.



Type C

This accommodation type is designed for couples or single parent families.

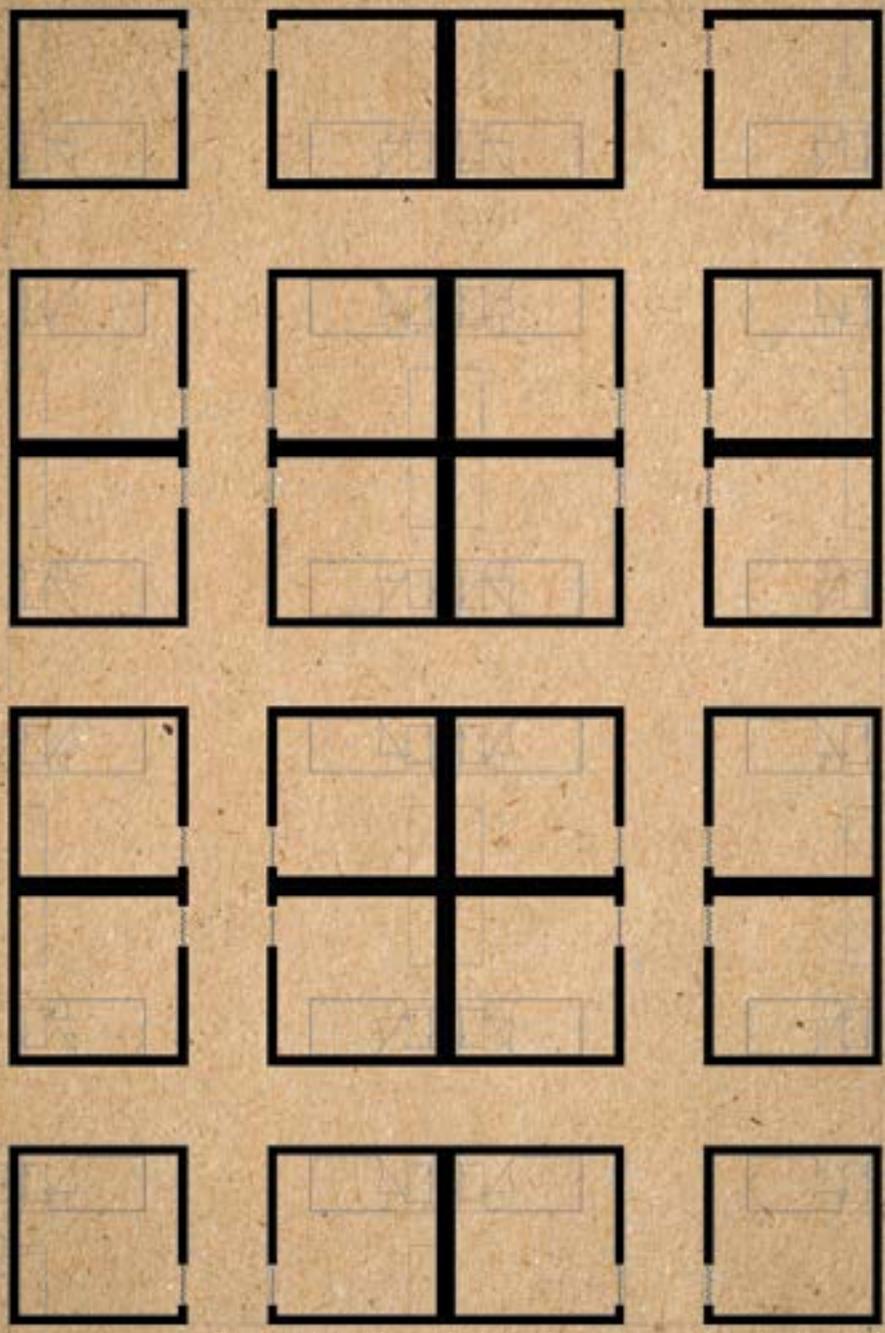
This accommodation type allowed for a double bed and more wardrobe space.



15766

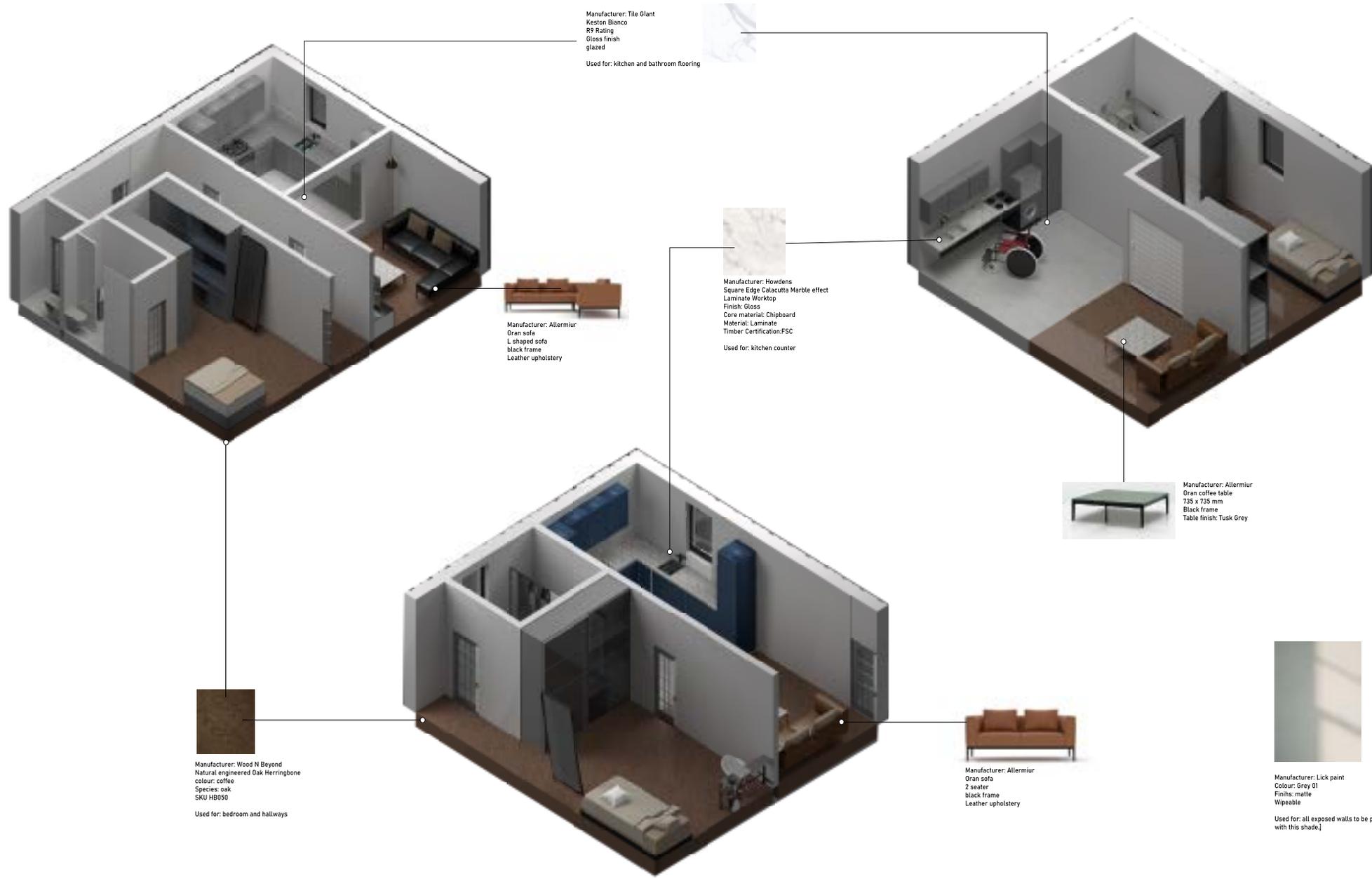
2700

2700



. This shows the bunk housign for the homeless, each room is identical to the one before. This is so that no jealousy can be crerated between the homeless.

Each bunk has a bend and storage facilities



Manufacturer: Tile Glant
Keston Bianco
R9 Rating
Gloss finish
glazed
Used for: kitchen and bathroom flooring

Manufacturer: Allermiur
Oran sofa
L shaped sofa
black frame
Leather upholstery

Manufacturer: Howdens
Square Edge Calacutta Marble effect
Laminate Worktop
Finish: Gloss
Core material: Chipboard
Material: Laminate
Timber Certification:FSC
Used for: kitchen counter

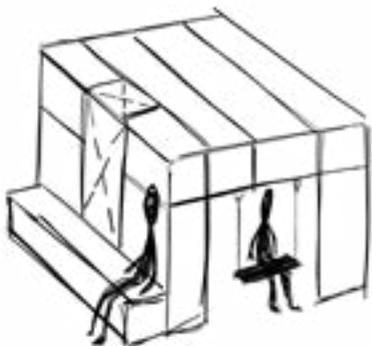
Manufacturer: Allermiur
Oran coffee table
735 x 735 mm
Black frame
Table finish: Tusk Grey

Manufacturer: Wood N Beyond
Natural engineered Oak Herringbone
colour: coffee
Species: oak
SKU HB050
Used for: bedroom and hallways

Manufacturer: Allermiur
Oran sofa
2 seater
black frame
Leather upholstery

Manufacturer: Lick paint
Colour: Grey 01
Finish: matte
Wipeable
Used for: all exposed walls to be painted with this shade

INSTALLATION 1



FRONT ELEVATION



SECOND ELEVATION



WHAT?

As part of my concept I designed installations that were influenced by my model making. The main idea was to create something that was fun and innovative but still practical.

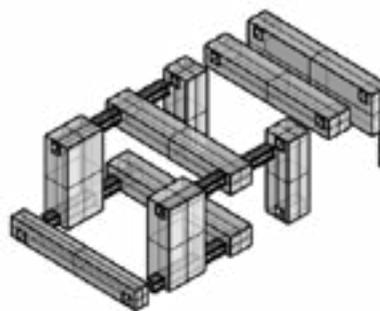
The basic idea was to have a installation that allowed the users to use it in many different ways. This could be sitting, relaxing or just walking through.

The design focused on structure and void, having spaces that were open so that the users could see through.

THE AIM:

The main aim was to create something that allowed for more social interactions between people. As well as trying to do this in a non conventional way.

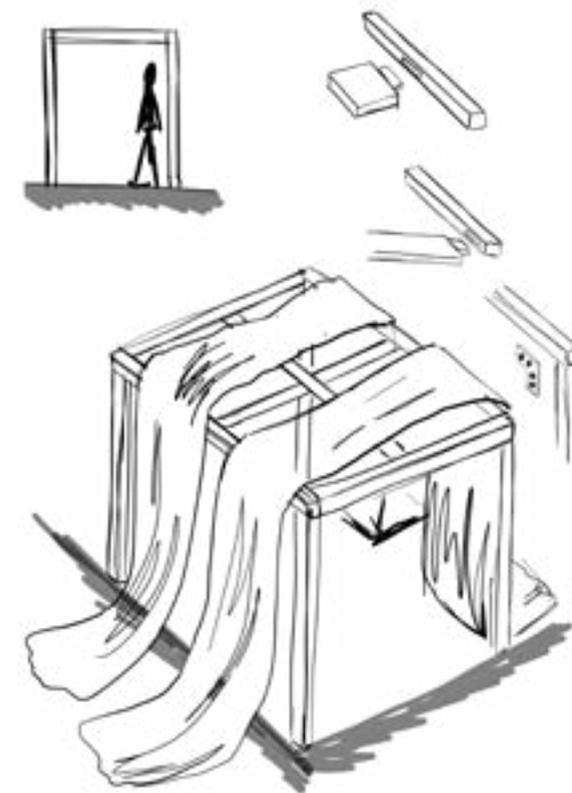
The images to the left show some exploration into how the design would come together. However after speaking to a technology specialist, it was clear that some things would not work practically. Such as how would the structure be assembled and what would it rest on.



The visual to the left shows that the structure would be made from timber blocks with a steel beam running through it to hold it together. Under each installation there would be artificial grass to provide more of an indoor outdoor feel and safety.



INSTALLATION 2



WHAT?

As part of my concept I designed installations that were influenced by my model making. The main idea was to create something that was fun and innovative but still practical.

The basic idea was to have a installation that allowed the users to use it in many different ways. This could be sitting, relaxing or just walking through.

The basic structure is like a pergola, however, there would be fabric draped over which could be pulled up or down so that it could be used in different ways. However, a safety concern was rassedied.

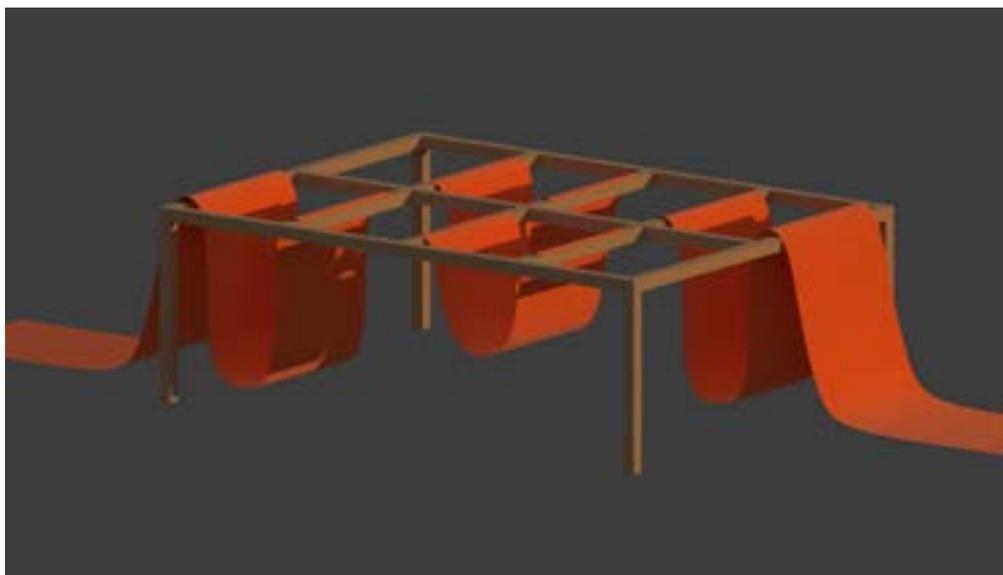
The design focused on structure and void, having spaces that were open so that the users could see through.

THE AIM:

The main aim was to create something that allowed for more social interactions between people. As well as trying to do this in a non conventional way.

The images to the left show some exploration into how the design would come together. However after speaking to a technology specialist, it was clear that somethings would not work practically. Such as how would the structure be assembled and what would it rest on.

The model to the left shows how the structure would come together. After further development I decided to bolt the fabric into place. Therefore the way the fabric can be used is fixed into place.



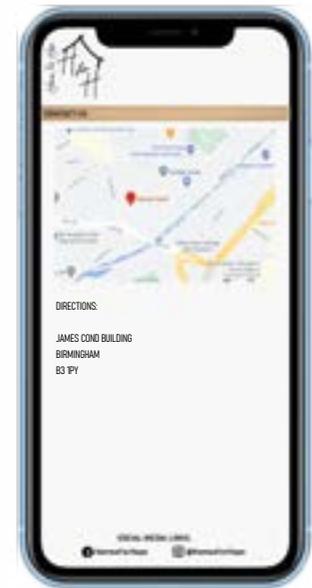
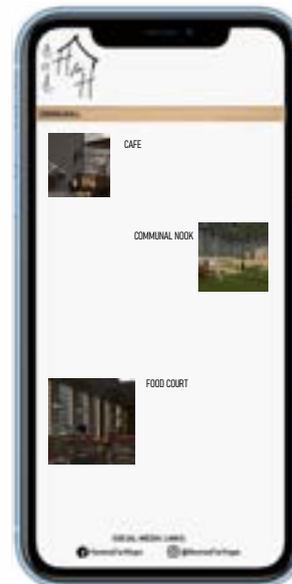
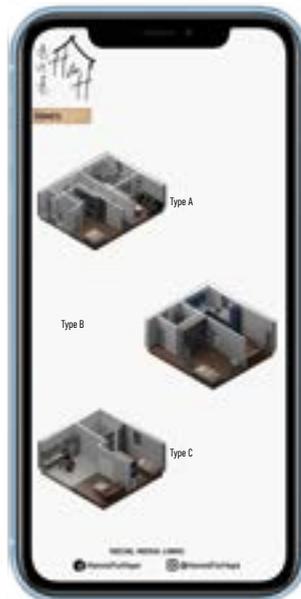
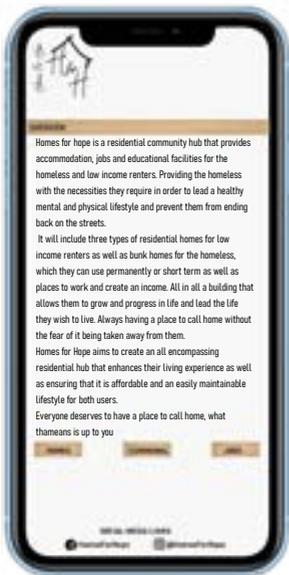




In order to promote the openign of Homes for Hope, an advert with a link will be posted to all social media sites. This mean that it will reach teh target users.

To proceed to the site they must click on the advert to then be taken to the following pages.

The screens below show a possible design for the layout and how it will be showcased to the users.



ArchDaily. 2021. ArchDaily | Broadcasting Architecture Worldwide. [online] Available at: <<https://www.archdaily.com/>> [Accessed 6 June 2021].

Birminghamchoice.co.uk. 2021. Home - Birmingham City Council. [online] Available at: <<https://www.birminghamchoice.co.uk/>> [Accessed 6 June 2021].

Cardwell, M., 2021. The places in Birmingham where homelessness is highest revealed. [online] BirminghamLive. Available at: <<https://www.birminghammail.co.uk/news/midlands-news/homelessness-figures-show-stark-disparity-19331653>> [Accessed 6 June 2021].

Council, B., 2021. Document downloads | Birmingham City Council. [online] Birmingham.gov.uk. Available at: <<https://www.birmingham.gov.uk/downloads>> [Accessed 6 June 2021].

Crisis. 2021. About Homelessness | Crisis UK. [online] Available at: <<https://www.crisis.org.uk/ending-homelessness/about-homelessness/>> [Accessed 6 June 2021].

Cyclestreets.net. 2021. CycleStreets » Photomap (cycling/transport images on map). [online] Available at: <<https://www.cyclestreets.net/photomap/>> [Accessed 6 June 2021].

Dezeen.com. 2021. [online] Available at: <<https://www.dezeen.com/2019/01/02/morris-company-housing-londons-homeless-new-horizon-youth-centre/>> [Accessed 6 June 2021].

Dezeen.com. 2021. [online] Available at: <<https://www.dezeen.com/2014/09/15/le-corbusier-unite-d-habitation-cite-radieuse-marseille-brutalist-architecture/>> [Accessed 6 June 2021].

En.wikipedia.org. 2021. Blue Story - Wikipedia. [online] Available at: <https://en.wikipedia.org/wiki/Blue_Story> [Accessed 6 June 2021].

Gouk, A. and Rodger, J., 2021. Scandal of Birmingham's 'affordable' housing that is anything but. [online] BirminghamLive. Available at: <<https://www.birminghammail.co.uk/news/midlands-news/birminghams-new-affordable-housing-anything-15826583>> [Accessed 6 June 2021].

Livingwage.org.uk. 2021. What is the real Living Wage? | Living Wage Foundation. [online] Available at: <<https://www.livingwage.org.uk/what-real-living-wage>> [Accessed 6 June 2021].

Malcolmpiper.co.uk. 2021. National Minimum Wage Birmingham : Malcolm Piper & Company. [online] Available at: <<https://www.malcolmpiper.co.uk/factsheets/employment-and-related-matters/national-minimum-wage>> [Accessed 6 June 2021].

Mortgage, F., 2021. The Housing Market in Birmingham - First Mortgage. [online] First Mortgage. Available at: <<https://www.firstmortgage.co.uk/branches/birmingham/area-guide/housing-market-in-birmingham/>> [Accessed 6 June 2021].

Rightmove.co.uk. 2021. House Prices in Birmingham. [online] Available at: <<https://www.rightmove.co.uk/house-prices/birmingham.html>> [Accessed 6 June 2021].

the Guardian. 2021. News, sport and opinion from the Guardian's UK edition | The Guardian. [online] Available at: <<https://www.theguardian.com/>> [Accessed 6 June 2021].

2021. About —. [online] Available at: <<https://www.port-loop.com/about-port-loop>> [Accessed 6 June 2021].

ArchDaily. 2021. ArchDaily | Broadcasting Architecture Worldwide. [online] Available at: <<https://www.archdaily.com/>> [Accessed 6 June 2021].

designboom | architecture & design magazine. 2021. victor pricop's entry for the west kowloon pavilion 2017 is a theatrical curtain. [online] Available at: <<https://www.designboom.com/architecture/victor-pricop-design-featured-entry-hong-kong-competition-10-23-2017/>> [Accessed 6 June 2021].

Dezeen.com. 2021. [online] Available at: <<https://www.dezeen.com/2020/05/20/centre-for-displaced-rohingya-women-built-from-bamboo-in-bangladesh/>> [Accessed 6 June 2021].

Diy.com. 2021. Round edge Whitewood C16 CLS timber (L)2.4m (W)63mm (T)38mm | DIY at B&Q. [online] Available at: <https://www.diy.com/departments/round-edge-whitewood-c16-cls-timber-l-2-4m-w-63mm-t-38mm/1798294_BQ.prd> [Accessed 6 June 2021].

Duracomposites.com. 2021. [online] Available at: <https://www.duracomposites.com/shop/product/dura-cladding-flush-resist-board-150x18-charcoal-3660mm-fr-b-s1/?gclid=Cj0KCQjwnueFBhChARIsAPu3YkSAq-EE4aVuXdc0N8LpgpDGsfd_M-V8MQfLgAHLzVLWAYNYVu5pf-laAkHFEALw_wcB> [Accessed 6 June 2021].

En.wikipedia.org. 2021. Blue Story - Wikipedia. [online] Available at: <https://en.wikipedia.org/wiki/Blue_Story> [Accessed 6 June 2021].

En.wikipedia.org. 2021. Grenfell Tower fire - Wikipedia. [online] Available at: <https://en.wikipedia.org/wiki/Grenfell_Tower_fire> [Accessed 6 June 2021].

Fibregrid.com. 2021. GRP Profiles, Pultruded GRP Profiles, Fibreglass GRP Profiles. [online] Available at: <<https://www.fibregrid.com/grp-grating-structures/pultruded-grp-profiles/h-beam-profile/>> [Accessed 6 June 2021].

Grass Warehouse. 2021. Zeus 40mm Artificial Grass. [online] Available at: <<https://www.grasswarehouse.co.uk/collections/best-sellers/products/zeus-40mm-artificial-grass>> [Accessed 6 June 2021].

Green, J., 2021. Revealed: Shocking number of Birmingham people classed as homeless. [online] BirminghamLive. Available at: <<https://www.birminghammail.co.uk/news/midlands-news/birmingham-homeless-total-hits-12000-13874412>> [Accessed 6 June 2021].

Internet, F., 2021. 200 x 200 Structural Green Oak Beams | Buy Structural Green Oak Beams Online | UK Oak. [online] Uk-oak.co.uk. Available at: <https://www.uk-oak.co.uk/product/200_x_200_Structural_Green_Oak_Beams> [Accessed 6 June 2021].

Natural Insulations. 2021. Acoustic insulation for the home - Thermafleecce UltraWool. [online] Available at: <<https://naturalinsulations.co.uk/product/thermafleecce-ultrawool/>> [Accessed 6 June 2021].

The Outdoor Look. 2021. Ignite Black Composite Decking | The Outdoor Look. [online] Available at: <https://www.theoutdoorlook.co.uk/product/cross-cut-ignite-black-composite-decking/?gclid=Cj0KCQjwnueFBhChARIsAPu3YkQLT Cm_hebH4EgIbcvTU-o4ADLazDJrTb5u07VlgHM_3-4tbEM6UaAhU4EALw_wcB> [Accessed 6 June 2021].

Thecollective.com. 2021. Co-living | Live Like You've Never Lived Before | The Collective. [online] Available at: <<https://www.thecollective.com/>> [Accessed 6 June 2021].

2021. [online] Available at: <<https://www.woodandbeyond.com/natural-engineered-flooring-oak-herringbone-coffee-brushed-uv-oiled-14-3mm-by-90mm-by-600mm-hb050.html>> [Accessed 6 June 2021].

2021. All products. [online] Available at: <<https://www.lickhome.com/paint/grey-01>> [Accessed 6 June 2021].

Amtico Commercial Flooring. 2021. Featured Oak: Commercial slip resistant safety flooring from the Amtico Spacia 36 Plus Collection - Amtico Commercial. [online] Available at: <<https://www.amtico.com/commercial/lvt/product-search/S65W2533/>> [Accessed 6 June 2021].

Bolts.co.uk. 2021. M8 x 180mm - Coach Bolt with Nut Grade 4.6 DIN 603 - BZP - Pack of 50. [online] Available at: <https://www.bolts.co.uk/m8-x-180mm-coach-bolt-with-nut-grade-4-6-din-603-bzp-pack-of-50-p-CSHMCZP0818050/?keyword=&matchtype=&device=c&campaign=&gclid=Cj0KCQjwnueFBhDvAR-IsAA67M72oiUNBhIN9mblBrSrrlEzpdhY4LExuKBrLhhWi70wZ4MeeweHlw4aAkGcEALw_wcB> [Accessed 6 June 2021].

Bracket, 1., 2021. 15mm L Shaped Stainless Steel Corner Brackets | GS Products. [online] Gsproducts.co.uk. Available at: <https://www.gsproducts.co.uk/15mm-stainless-steel-corner-bracket/?gclid=Cj0KCQjwnueFBhDvARIsAA67M70Vq7w-dp2 OYEIVPAOD3zo2JLu3533bnZ86Ra3qr0L-QqAN3Cz4zvgaAhqeEALw_wcB> [Accessed 6 June 2021].

- Carpetright.co.uk. 2021. Austin Saxony Carpet | Carpets | Carpetright. [online] Available at: <<https://www.carpetright.co.uk/carpets/austin-saxony-carpet/>> [Accessed 6 June 2021].
- Directwoodflooring.co.uk. 2021. Villa - Peterson Oak Laminate Flooring. [online] Available at: <https://www.directwoodflooring.co.uk/villa-peterson-oak-laminate-flooring.html?utm_source=google_shopping&gclid=Cj0KCQjwweyFBhDvARIsAA67M73fURXIWiUnitHLTqr7prCev15qCu4cp3tiSypbpi3Pol5n_9ycywwaAq9BEALw_wcB> [Accessed 6 June 2021].
- Group, T., 2021. Allermuir. [online] Allermuir.com. Available at: <<https://www.allermuir.com/en/products/soft-seating/oran>> [Accessed 6 June 2021].
- Howdens Joinery. 2021. CLH_DIGI_DET_A00600. [online] Available at: <https://www.howdens.com/joinery/floors/flooring?flooring_type=Wood> [Accessed 6 June 2021].
- Market, A., 2021. Heavy Duty Thick Waterproof Canvas Fabric Cordura Type Material - 150cm Wide. [online] AE Market. Available at: <https://aemarket.co.uk/collections/fabric-materials/products/d600-fabric-material?gclid=Cj0KCQjwweyFBhDvARIsAA67M700OuXySjgMZAihSykzpW2frlvQkylXHF6Kw7At92I46IGC21bm2z0aAhaUEALw_wcB> [Accessed 6 June 2021].

ph