

HOUSING TERRITORIES

STUDIO 12

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Module / Year
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Higway 4PA

A SOCIAL HOUSING PROJECT

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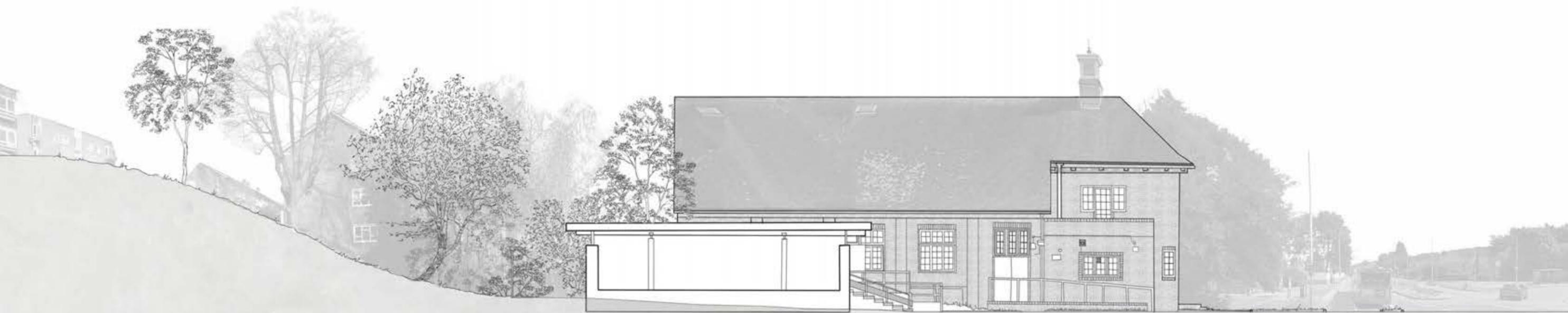
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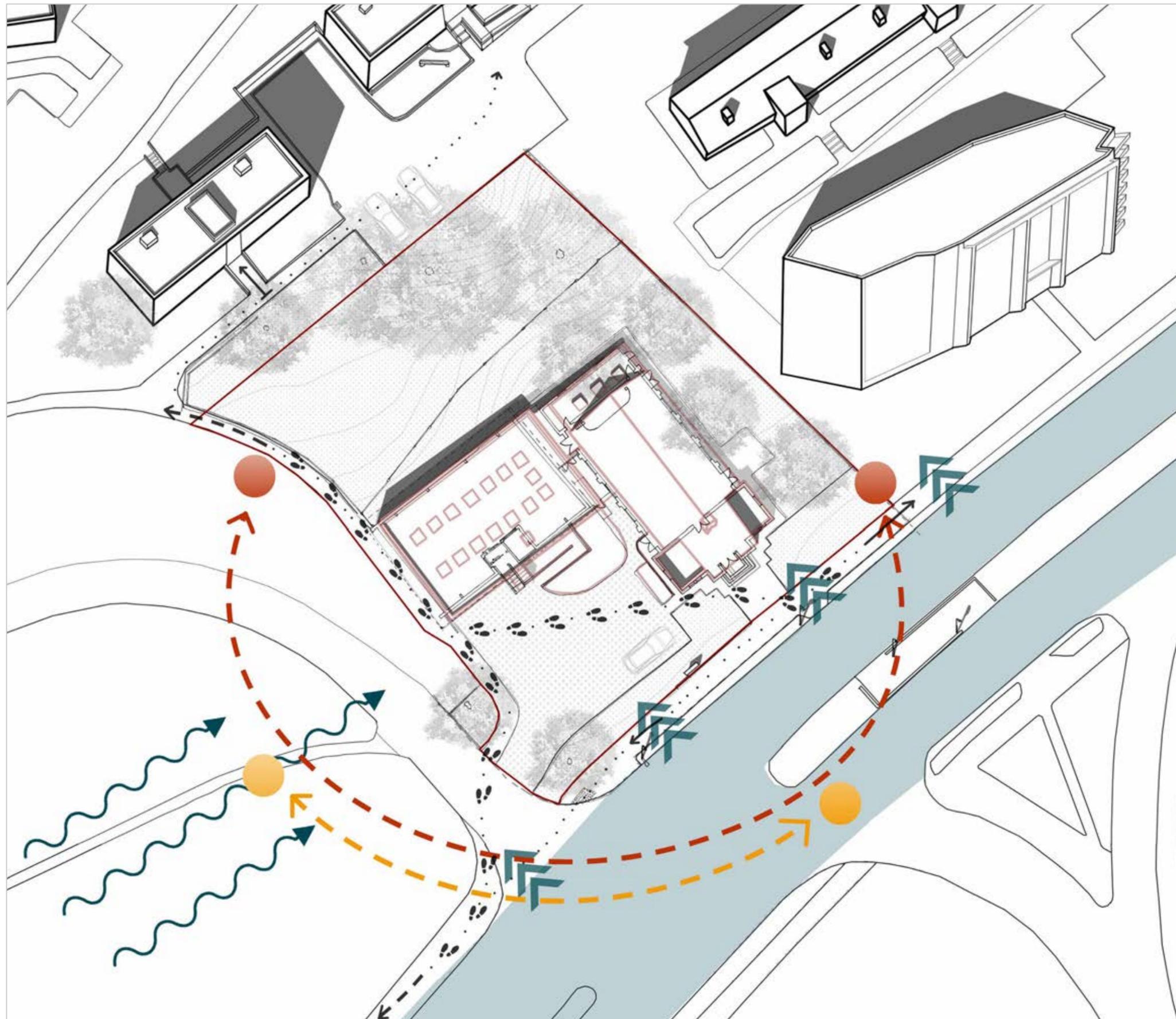
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Conclusion

This portfolio details the development of a social housing project on the site of the Moulsecomb Library and Community Hall. The design brief was to develop between 30 - 60 dwellings, comprising 1 - 4 bedrooms, while achieving three core objectives.

Firstly, in keeping with the 'Future We Want', it was important for this project to incorporate as much of the existing site as possible to avoid demolishing and losing valuable material resources. Secondly, it was important to challenge the current trend of creating monotonous, 'cookie cutter' housing typologies by designing a space that encouraged and provided opportunity for communal living; a much-needed form of engagement amidst the UK's isolated and often times lonely existence. Finally, it was important to propose housing designs that recognise the dramatically growing need for affordable, eco-friendly housing.







MAP KEY

- Pedestrian Traffic
- Wind Direction
- Road Noise
- Winter Solstice
- Summer Solstice
- Aerial drawing of Hall & Library



WIND

The wind path indicates that most of the wind hits the site from a south-western direction. This means it would blow through the small amount of vegetation located at that entrance of the site. This would influence orientation as avoiding creating wind tunnels is very important to the project.

SUN

The sun will hit the south-western face of the building, therefore glare and visual discomfort will be a problem. The positioning of large windows and glazing will heavily be affected by this. It also has implications on the types of shadows that will be cast on the site. The eastern side of the building will struggle to get light, especially the lower flats in the corner.

ROAD NOISE

The site sits next to a major road which would mean that the road noises would need to be mitigated.

SITE SLOPE

The images below show the slope which sits right behind the site. This has implications on the type of foundations that might be used on site.

00 NEIGHBOURHOOD + COMMUNITY
Lewes Road Collage



1
CAR
24.6%

CAR OWNERSHIP

The percentage of households in an area have X amount of cars or vans available for use. This includes company vehicles that are available for private use.

IMPLICATIONS AND POSSIBILITIES

This mean that since less than 30% of people own cars in this area, therefore the prioritisation of creating parking spaces is not necessary. Instead we could provide a bicycle rack for residents and even have a second rack of people in the larger area.

2
CARS
2.2%

3
CARS
1.4%

1
Person
44.9%

HOUSEHOLD SIZE

The percentage of households in the area have X amounts of residents.

1
Dependant
30.5%

HOUSEHOLD SIZE

The percent of households where there is X dependent child in the family.

2
Dependants
5.3%

IMPLICATIONS AND POSSIBILITIES

Meaning: this influences the size of bedrooms needed in my proposal. It would be more useful to have multiple two-bedrooms flats rather than proposing fewer four-bedroom flats. There is very high percentage of people living alone therefore it would be worth providing a sizable portion of one-bedroom flats in the proposal.

3
Dependants
5.1%

60.1%

HOMEOWNERSHIP

The percentage of households in an area that are rented socially either from the Local Authority or another social landlord.

96.4%

HOUSING TYPOLOGIES IN THE AREA

The percentage of households in an area that are flats or apartments.



To make an informed design decision on scale, number of units, accessibility, etc. an understanding of the surrounding social context was developed. From this research a potential end user(s) was defined; their unique needs and speculated living habits could be outlined. Facts around car usage, the average size of families and even data on health, revealed a fuller picture of the area.

00 NEIGHBOURHOOD + COMMUNITY
Other Buildings in the Neighbourhood



Sustainability

The full effects of climate change on our environment requires a deep investigation into the materials available and the techniques we employ. Tackling this issue would require sustainable, creative and quality solutions, which are accessible to everyone. This is important to me because buildings and construction are responsible for a staggering 39% of all carbon emissions globally. I understand that addressing these mammoth issues is an interdisciplinary effort, however I will respond to this problem by questioning common building practices, optimizing space and being critical about materials used.

Affordability

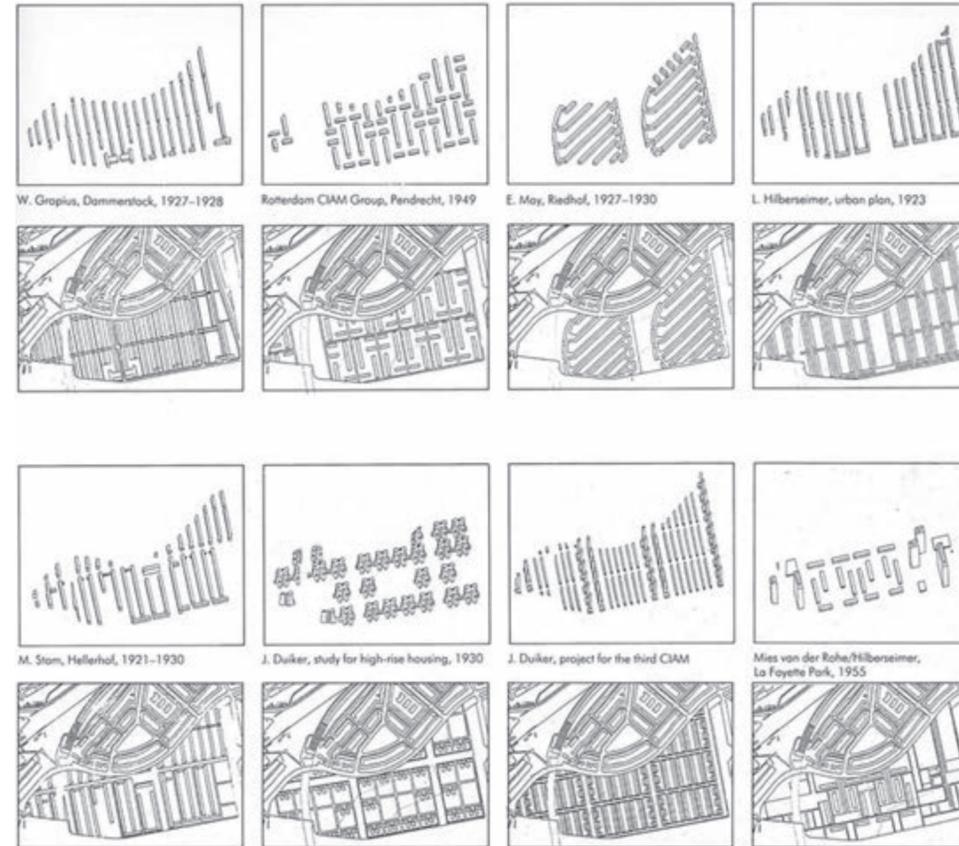
This project aims to provide financially viable homes at the highest architectural quality possible. With 54% (United Nations, 2016) of the world's population residing in an urban landscape, the issue of providing decent housing for the masses has become a global challenge and personal interest. I believe architecture should integrate basic human values and principles, such as the vision of a world where there is no homelessness and where everyone can have access to decent, affordable safe housing.

Providing low cost, high quality housing for residents may be achieved through removing all the unnecessary features, e.g. interior timber wall panels exposed. Creating compact spaces and potentially providing shared services between two units. Ultimately, the most viable methods of cost reduction will be selected and implemented in the design proposal.

Community

It is important that this project can contribute back to the local neighbourhood. This will be achieved through the creation of connected communities, active street frontages, a strong pedestrian experience for passers-by, and prominent balconies.

This project aims to provide gardens, seating areas, and a nursery on the ground floor, while shared facilities, such as laundry services and bike racks, on the first floor. These features help foster a way of living that is communal and will encourage residents to know their neighbours and partake in a shared life.



Rem Koolhaas, OMA, Precedent testing on IJPLEIN site in Amsterdam North

"The above image from OMA is for an urban design for a large tract of land in Amsterdam North. The practice began by testing various existing strategies to get a sense of how different structures and geometries work on site as well as understanding how many units can be accommodated... the approach was to extend the pattern to fit the site allowing for an analysis of what its particular structure provides in terms of order; pattern, orientation, relationship between open and closed space and so on." - L. Diaz

The first exercise shows a similar approach to specific building precedents that were each uniquely manipulated to fit the site. The relationship between unit types, organisation and the number of dwellings that could be provided on the site become more apparent through this process. Simultaneously I learnt about the housing precedents themselves thinking about their structure, material, circulation, and housing typologies.

Location: Bellevue, Australia

Year: 2019

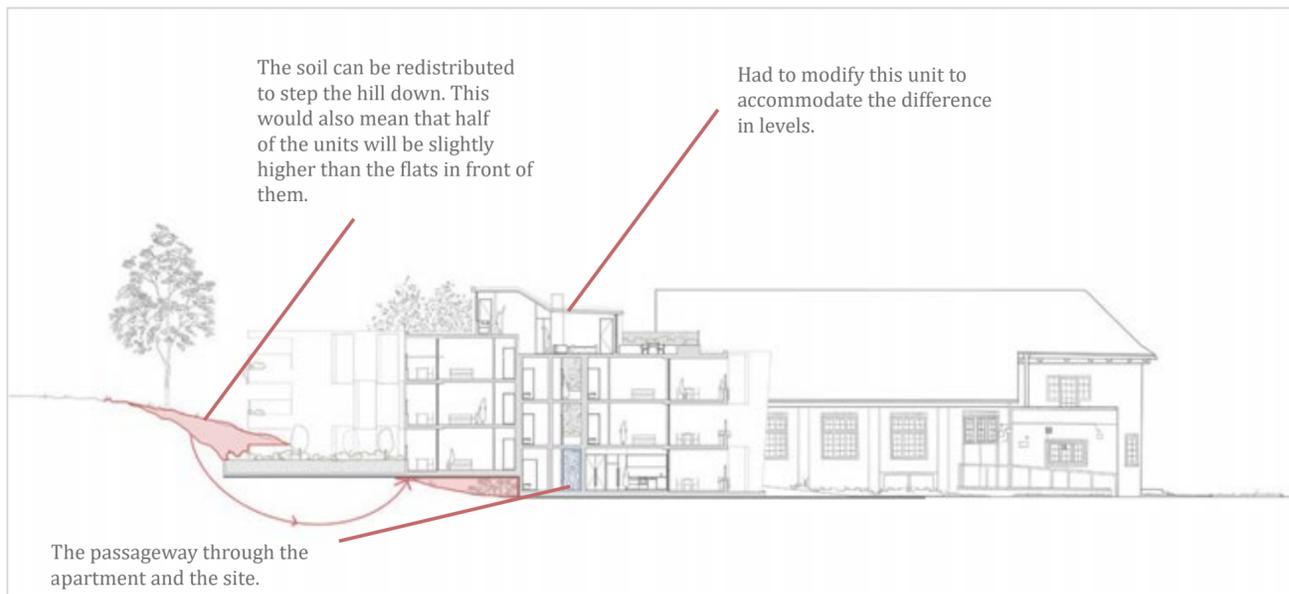
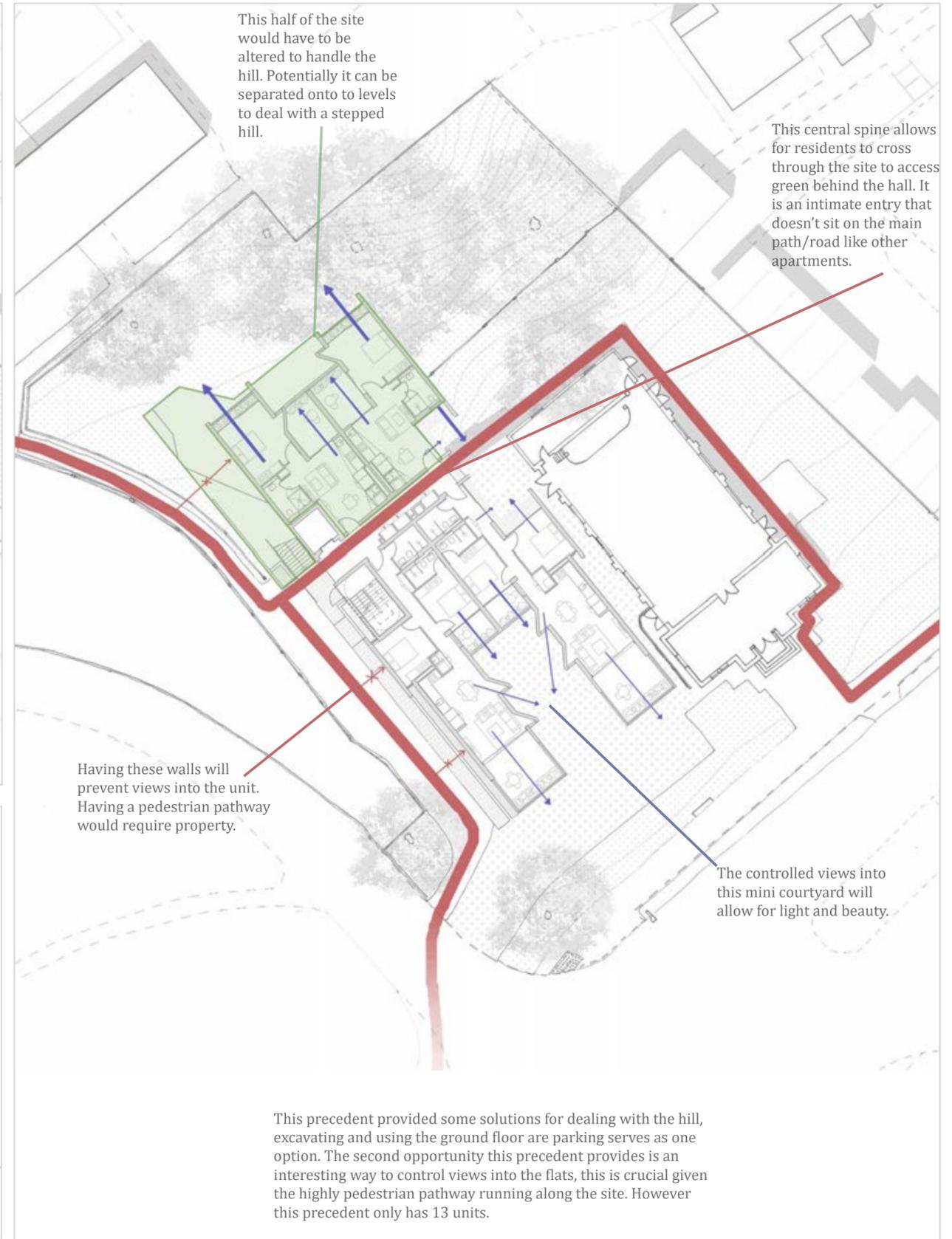
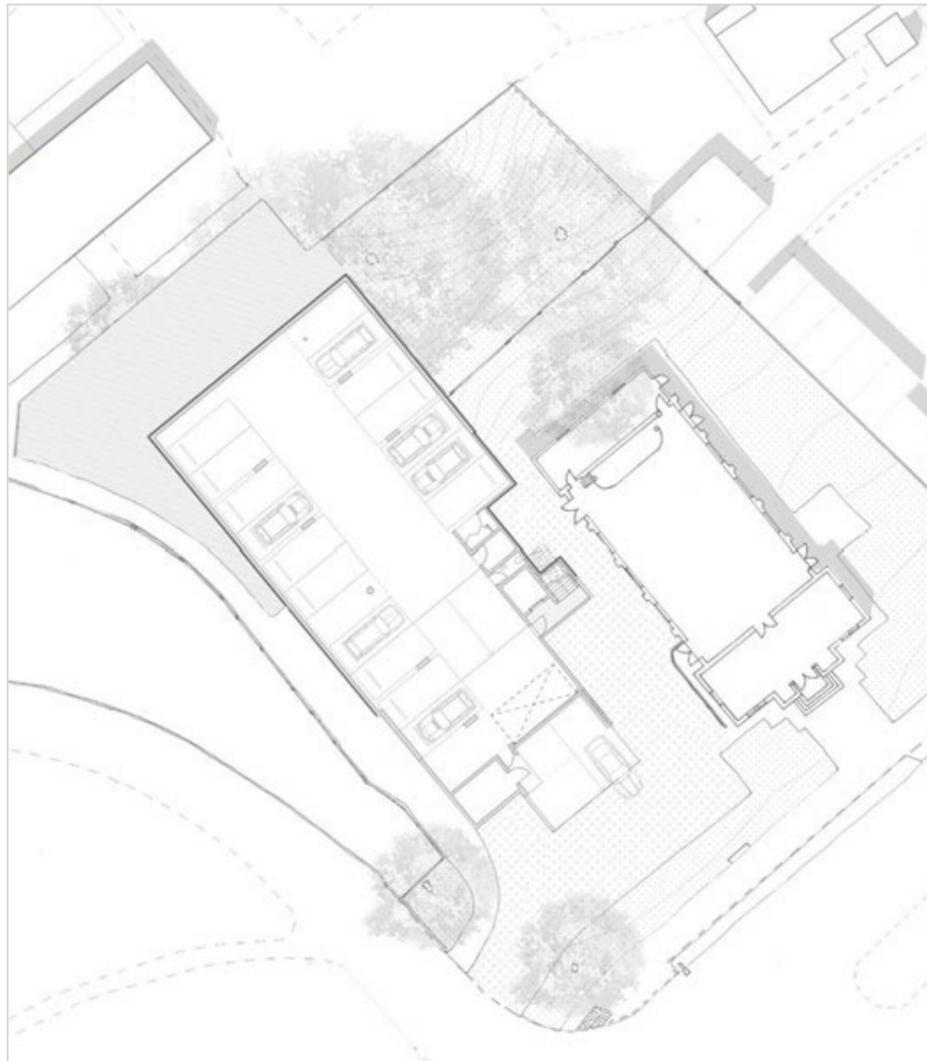
Area: 865.m2

Number of Units: 13



'Text description provided by the architects. Our design for this site was primarily a reaction to the overlooking and minimal separation from neighbouring apartment buildings to the east and west. Carving out courtyards in the middle of the building meant we did not have to rely on the boundaries as much for views, light, and air.'

- Archdaily



01 THE COMMONS

Breathe Architecture



Location: Brunswick, Australia

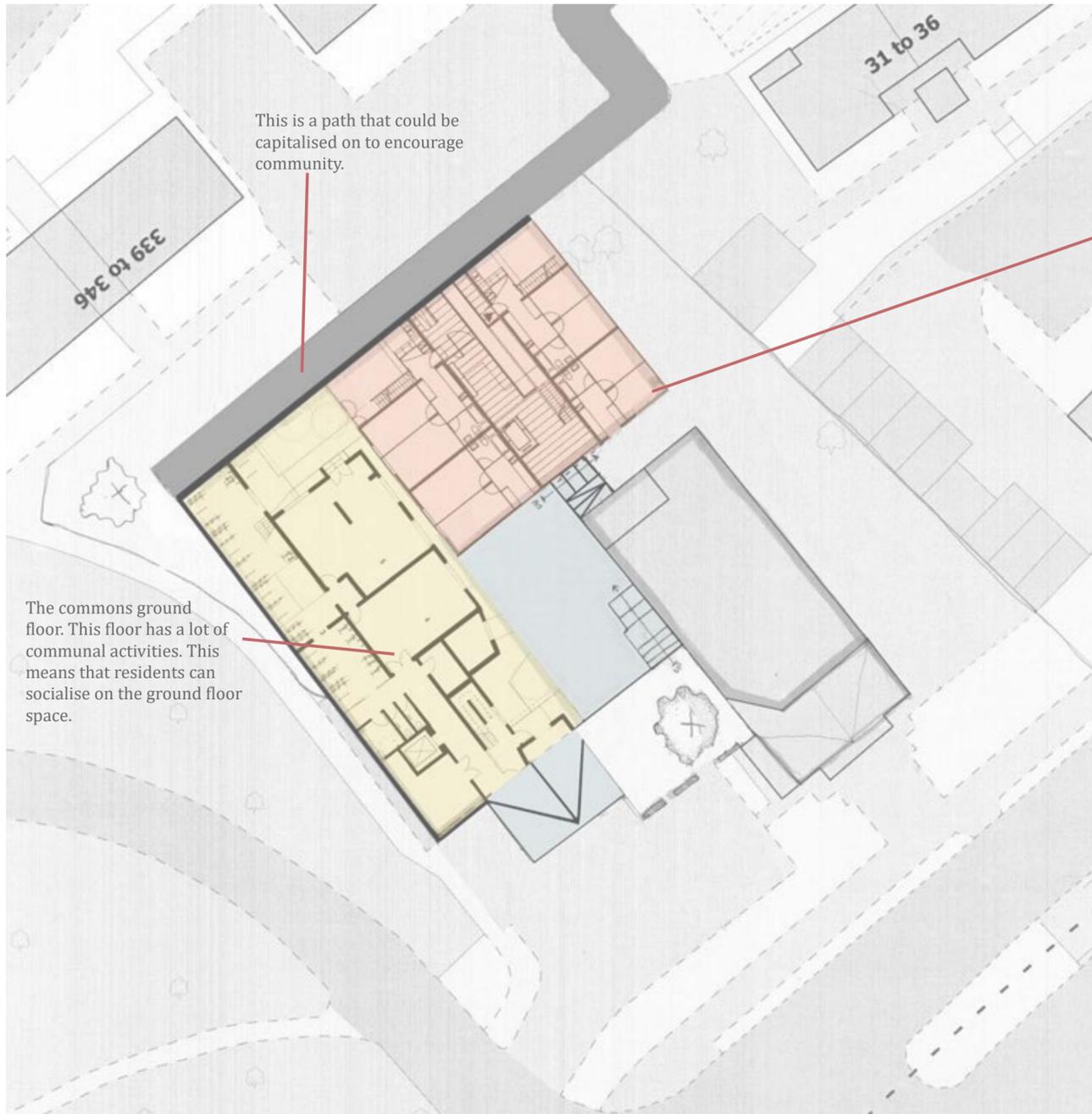
Year: 2013

Area: 3460.0m2

Number of Units: 24

This precedent by Breathe Architecture was an interesting precedent because of the building's long and slim shape. Secondly, the communal space in this project is very well suited for my project because it is already situated on the ground floor.

I have also collaged in a second precedent that provided an opportunity to



01

RESIDENTIAL TOWERS Henri Cirini, Jean-Pierre Crousse

Location: The Hague, Netherlands

Year: 1993-1994

Area:

3-room apts, 83m² (32 units)

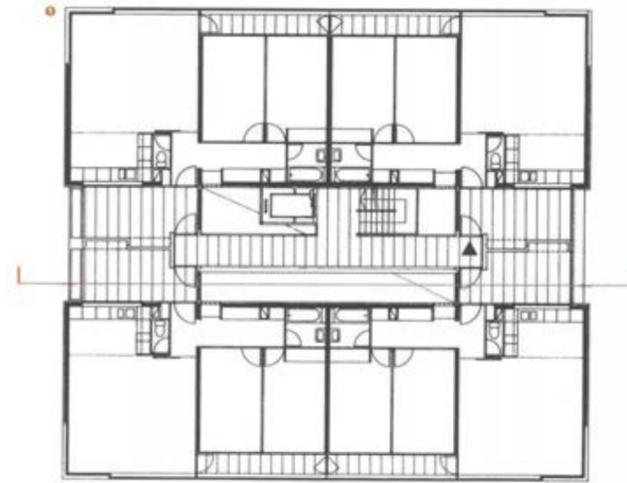
5-room mais., 138m² (4 units)

2-/3.5-room penthouse, 105m² (2 units)

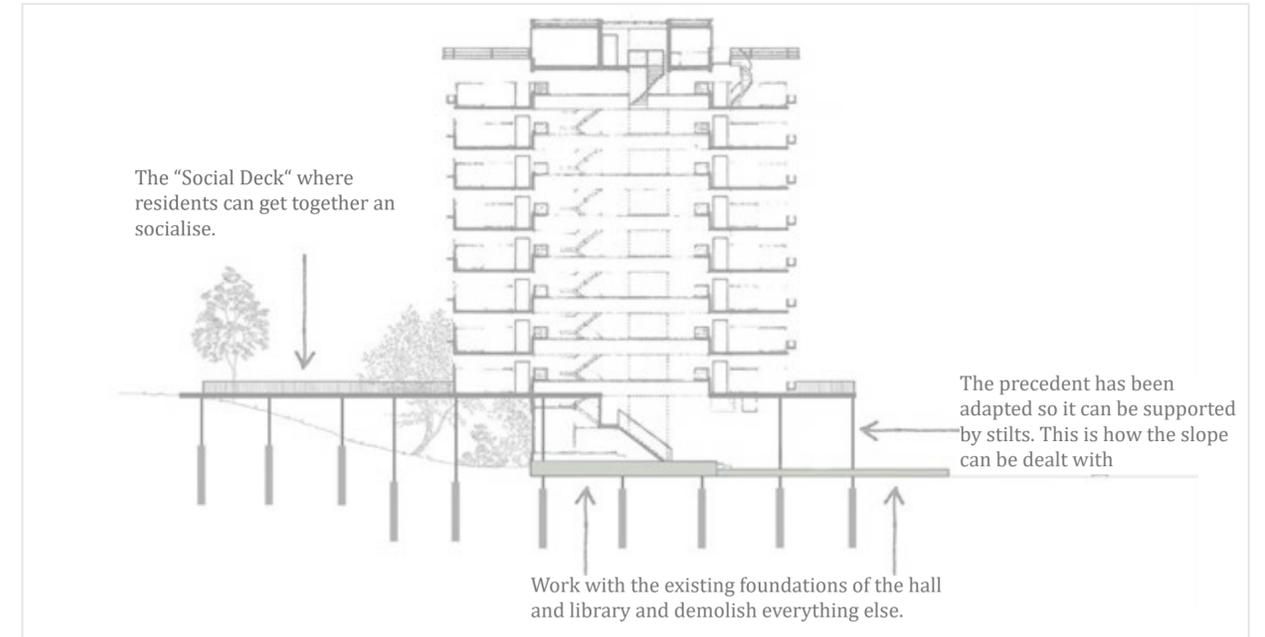
Number of Units: 38

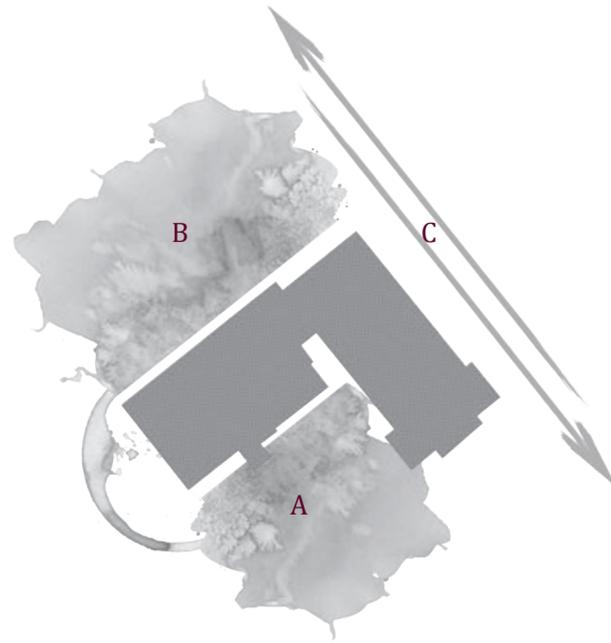


This precedent was interesting to me because of the unique design of the balconies and staircase between the flats. There is an opportunity for the residents to feel a sense of ownership over their space beyond their front door, and secondly there is the opportunity for community.



Typical floor plan with 3-room apartments 1:200





Section A

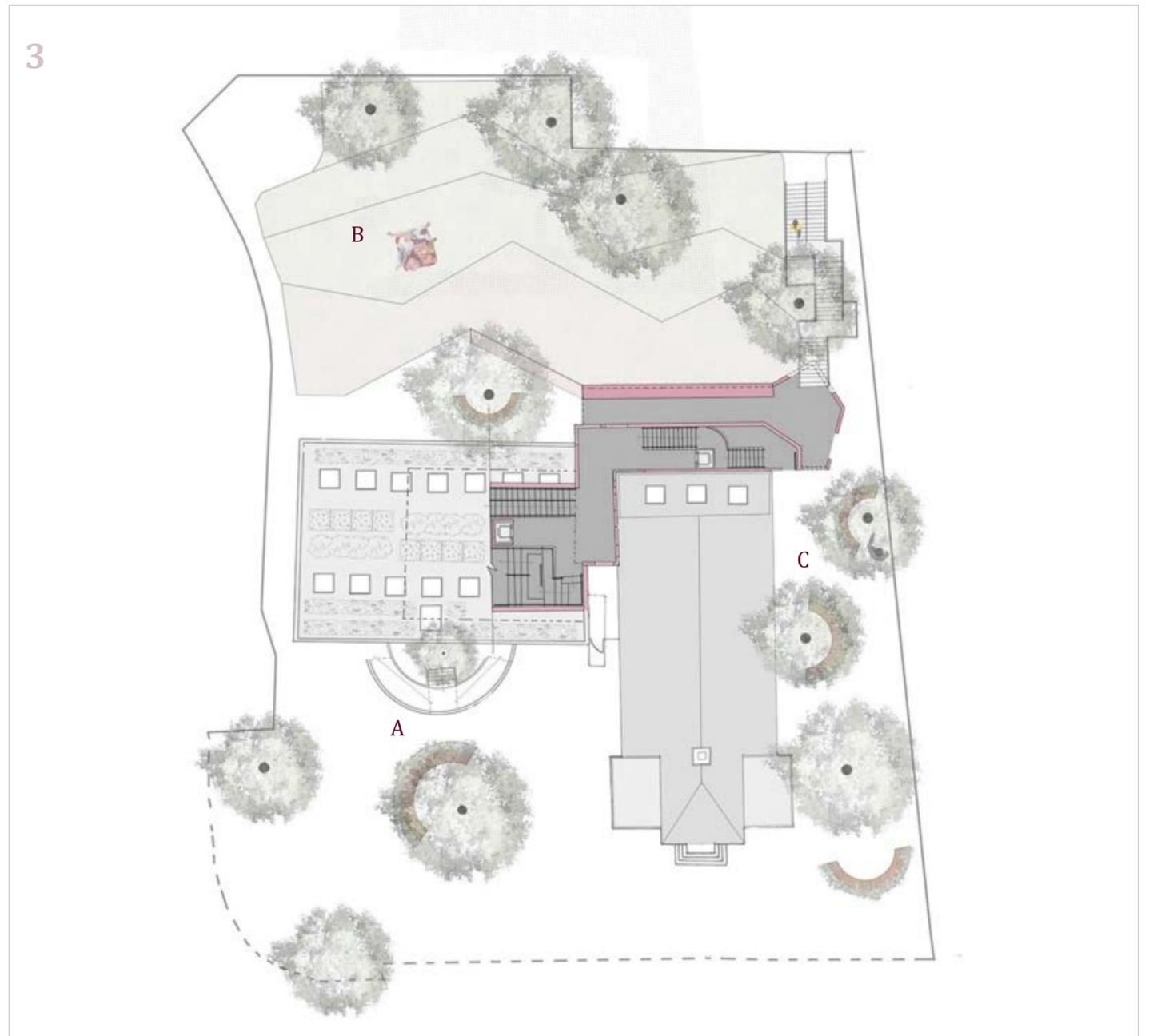
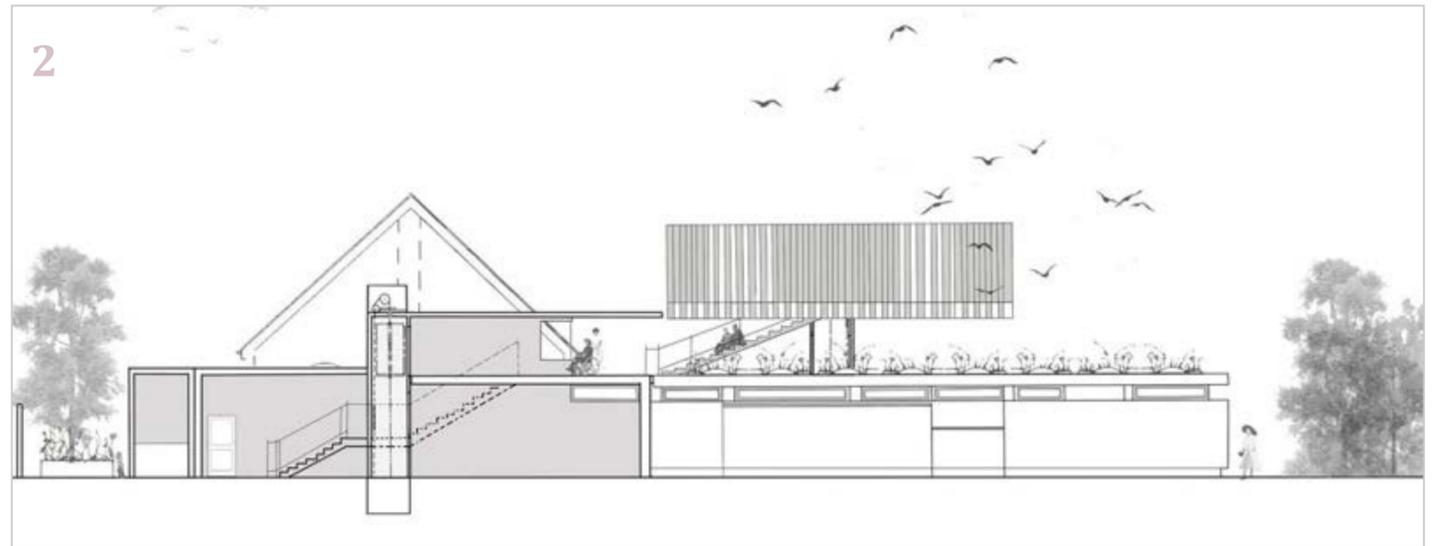
This was the most understated part of the proposal and there is little one can take from here into this project.

Section B

From the final proposal plan (3) section B shows a stepped slope which allows residents and people within the community to take advantage of the green. Maintaining some form of greenery that is open to the rest of community is important to carry through into this project.

Section C

This section offers a quick pathway through the site (1), it is probably the most defined area of landscaping in the proposal. However, the final proposal (3) was not as strong as the earlier version (1). The softer route up with the seating around the trees doesn't have the same clear route and organisational strength. This can be re-attempted in this project with the little 'rooms' off the path leading to homes instead.



02 BRAINSTORM OF IDEAS

Early Development

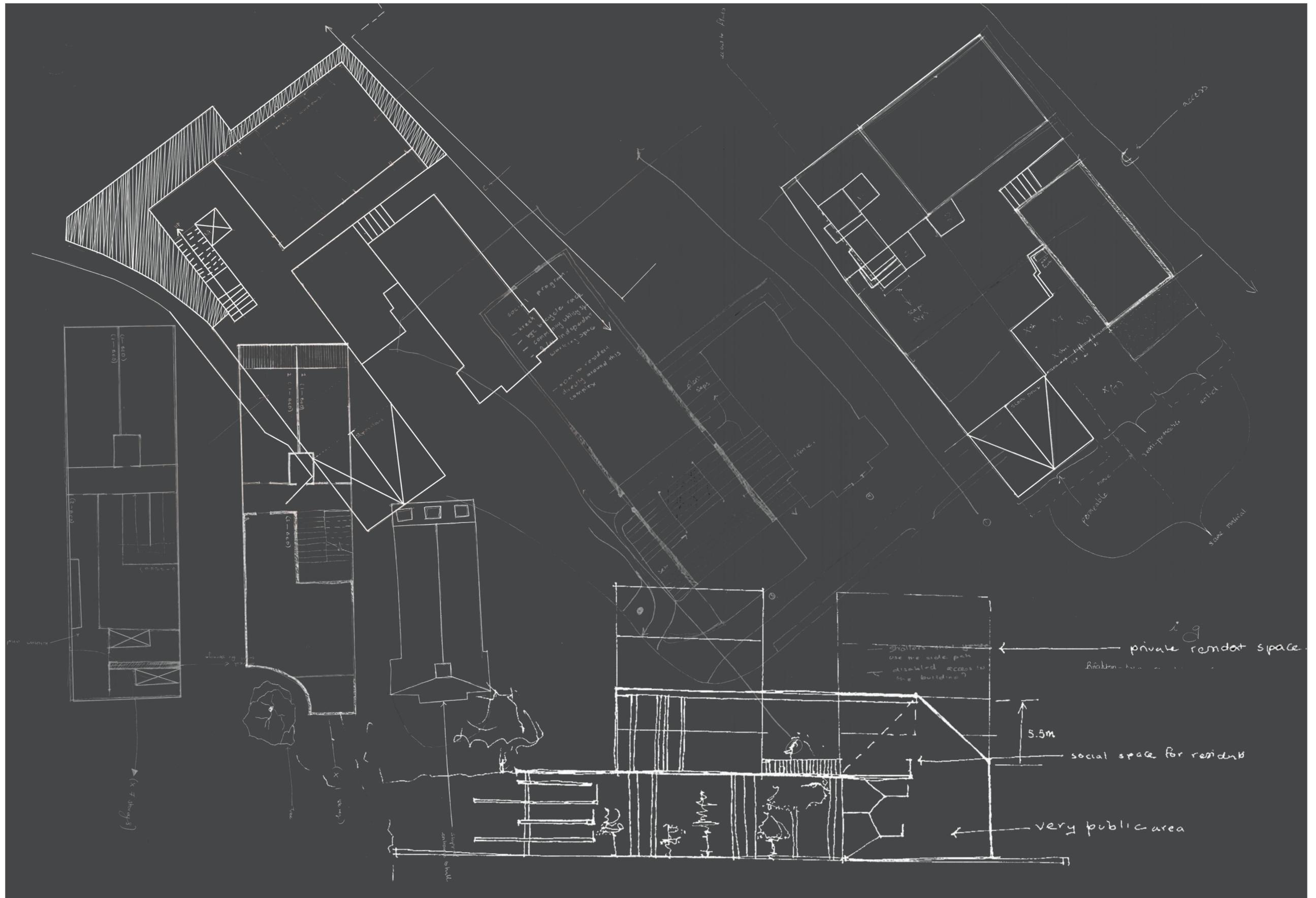


Annotation: The sketch above and models below were some quick exploration into the two themes. The first was the idea of having a public 'social deck' that can be accessed by both residents and community members. The second theme was overlapping apartment units

Annotation: The models above and below are quick challenge what the standard methods to moving between levels.

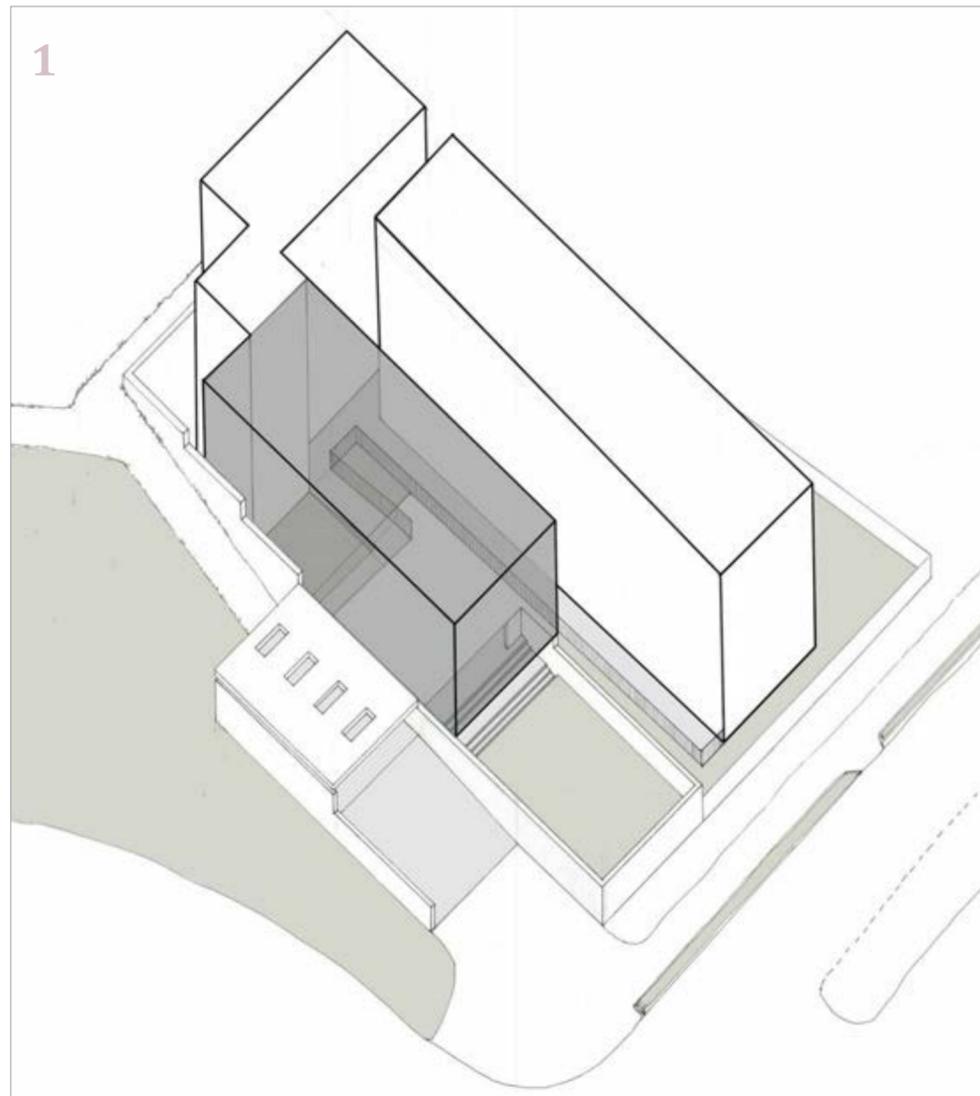
Annotation: The model below explores using 'soft' and 'hard' boundaries to signify transitioning from one space to another. This space could be the transition between a unit and the balcony and corridors.

A Quick Burst of Ideas



02 BRAINSTORM OF IDEAS

Initial Sketch Development

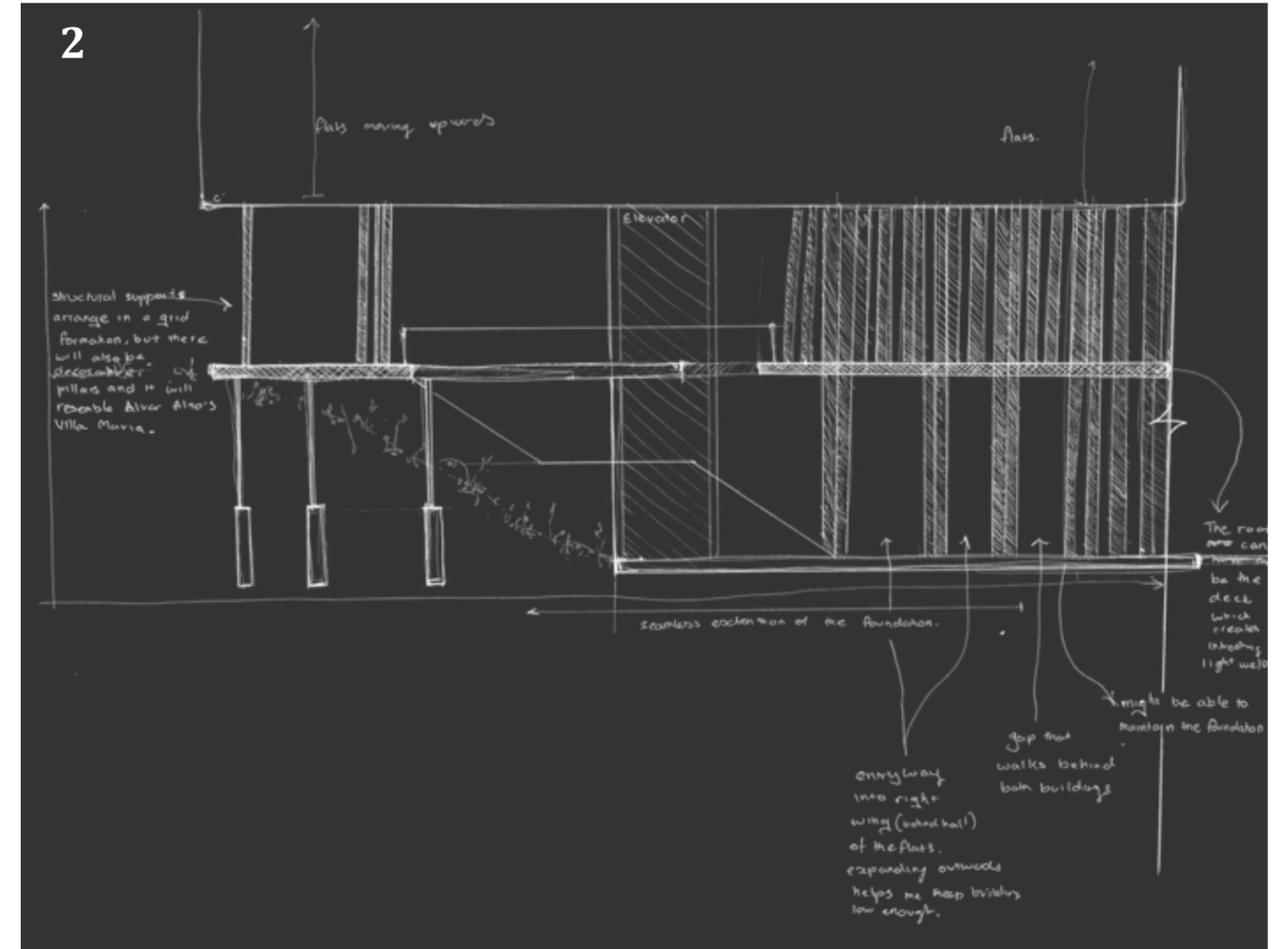
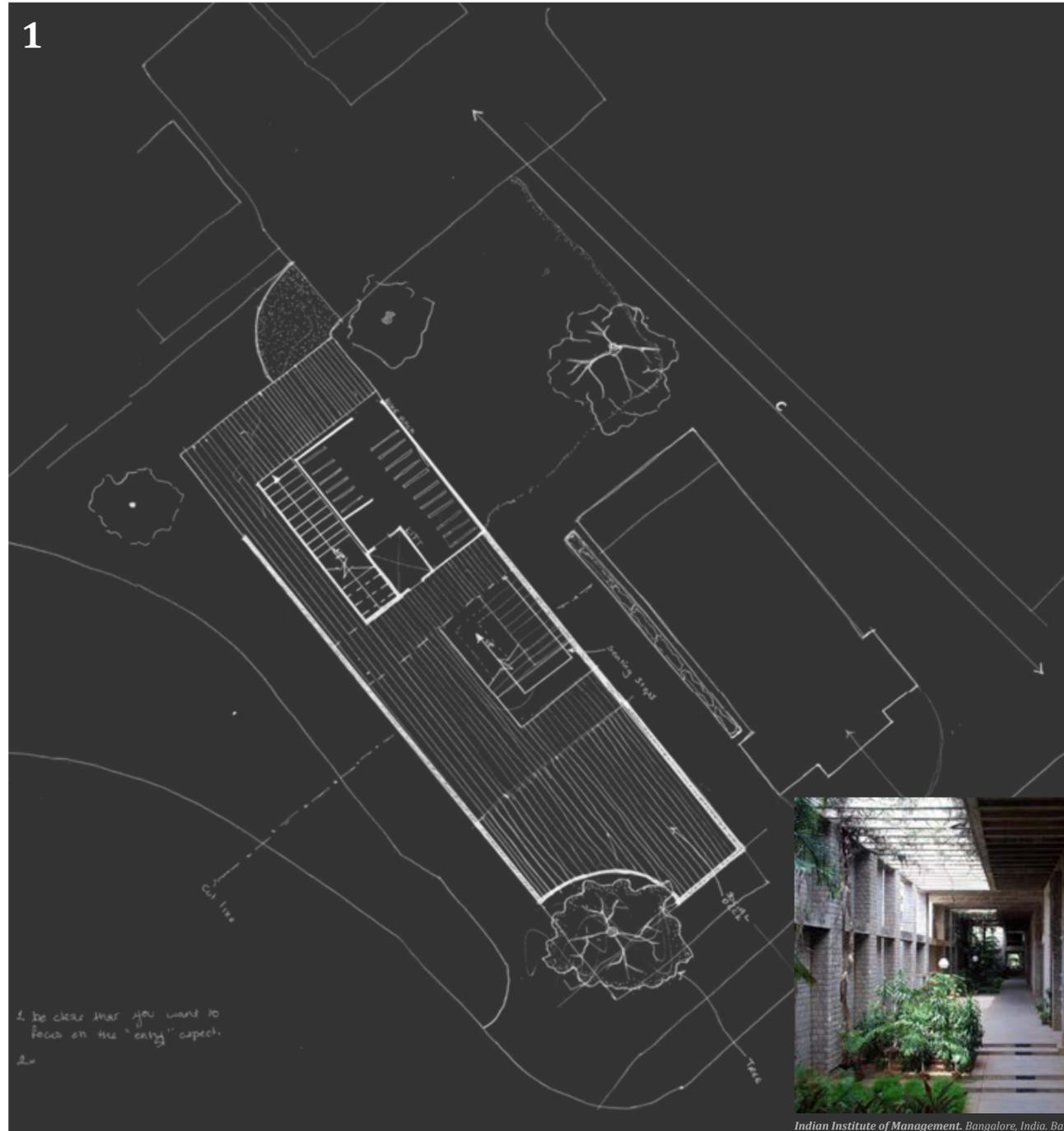


At this stage in the design process a simple U-shape form is beginning to emerge. Drawing one presents a central courtyard, a clear pedestrian path running alongside the building and parts of the library that have been retained and used as an entrance.

The section drawing above (2) begins to show how the internal spaces might relate to each-other. On the right hand side there might be duplexes and on the left side there might be single story flats. This creates an interesting opportunity for the circulation routes and also makes the building layout less predictable.

02 BRAINSTORM OF IDEAS

The Deck + Holding the Building Up



Indian Institute of Management, Bangalore, India. Balkrishna Doshi



Rohan Ananta Phase I by Rohan Builders And Developers, Tathawade, Pune, India

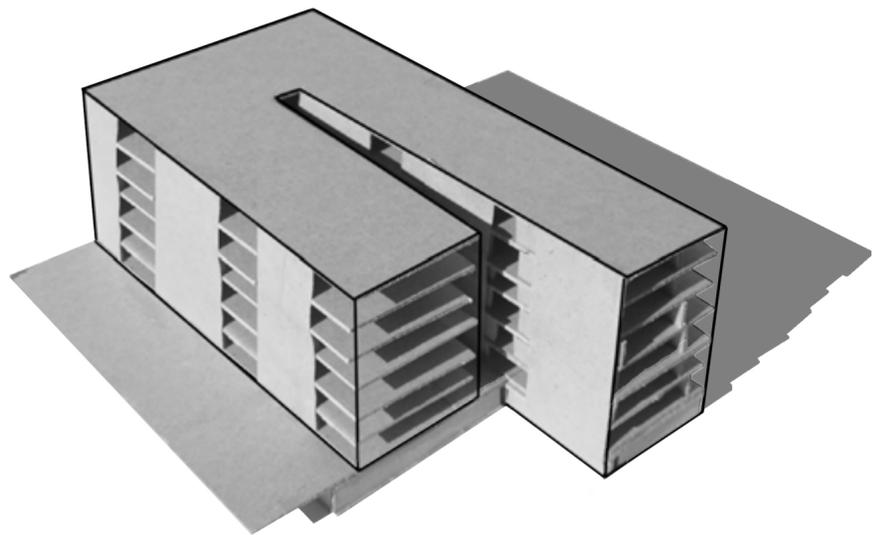


Indian Institute of Management, Bangalore, India. Balkrishna Doshi

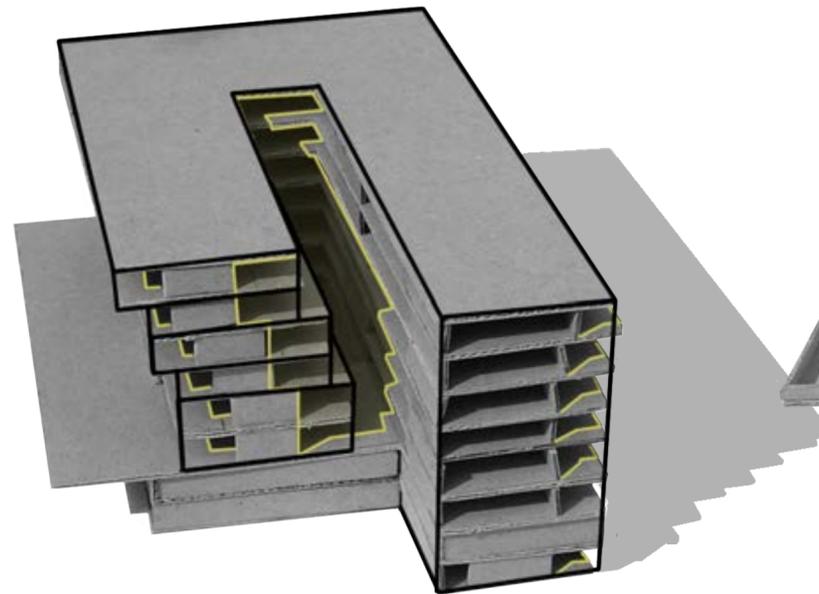
Sketch one shows a deck that extends out from the top of the hill. This grand gesture can be a place for community and socialising. The long timber deck could act a place to park bikes, hang out with friends, and an entry level to the flats above.

Sketch two shows ideas of how the building could be help up, resting on columns providing a secondary space below.

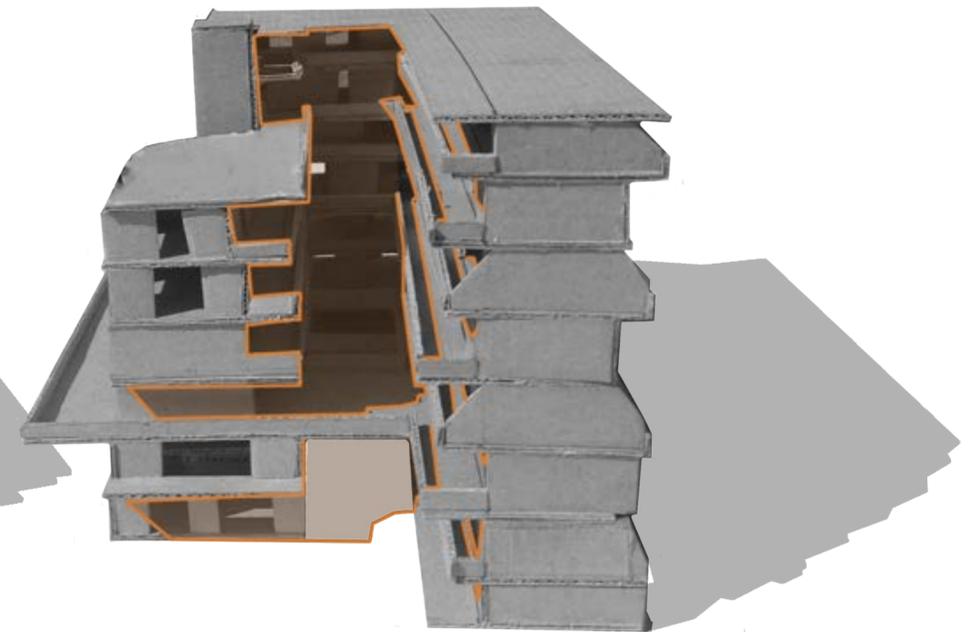
1



2

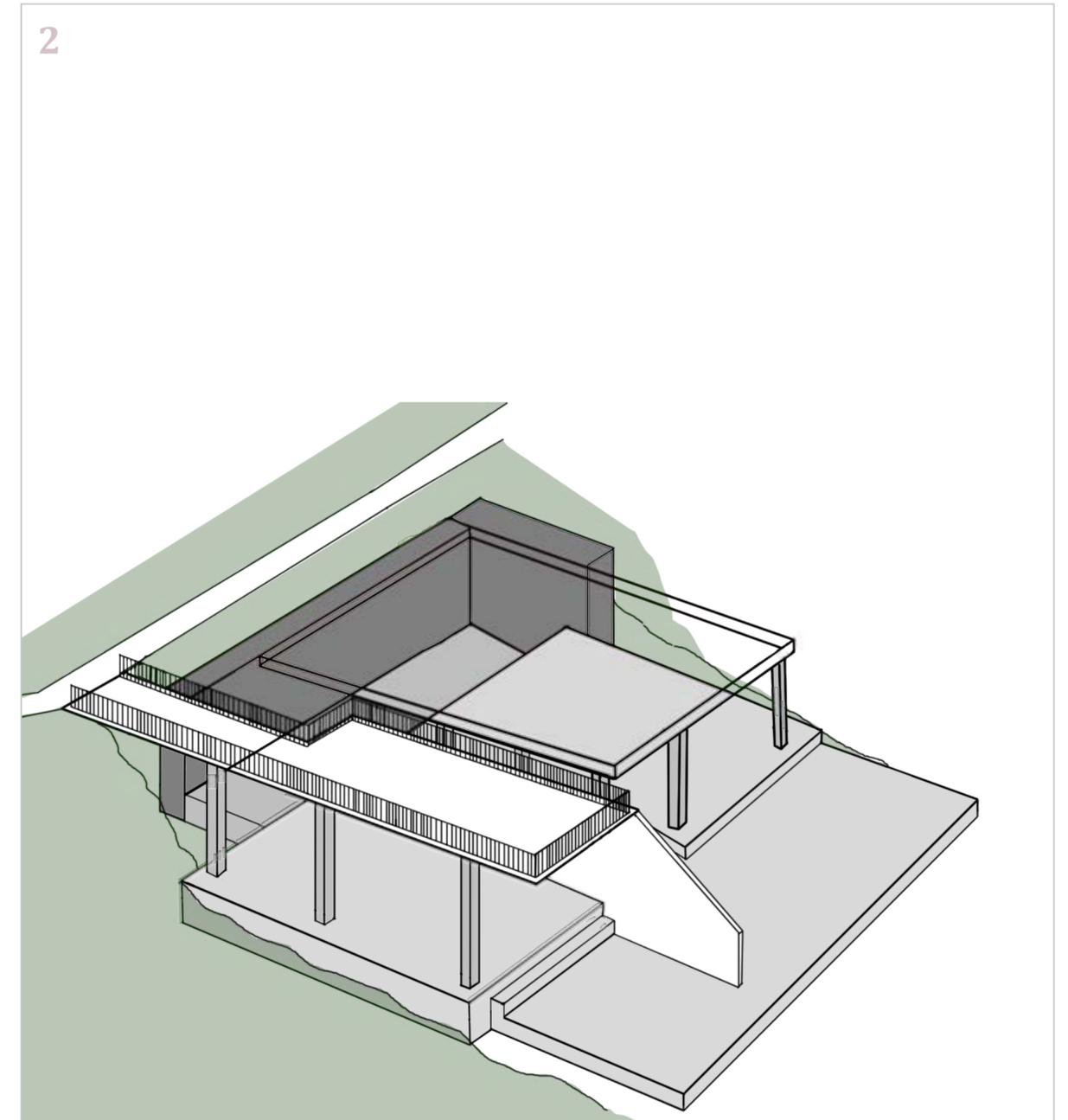
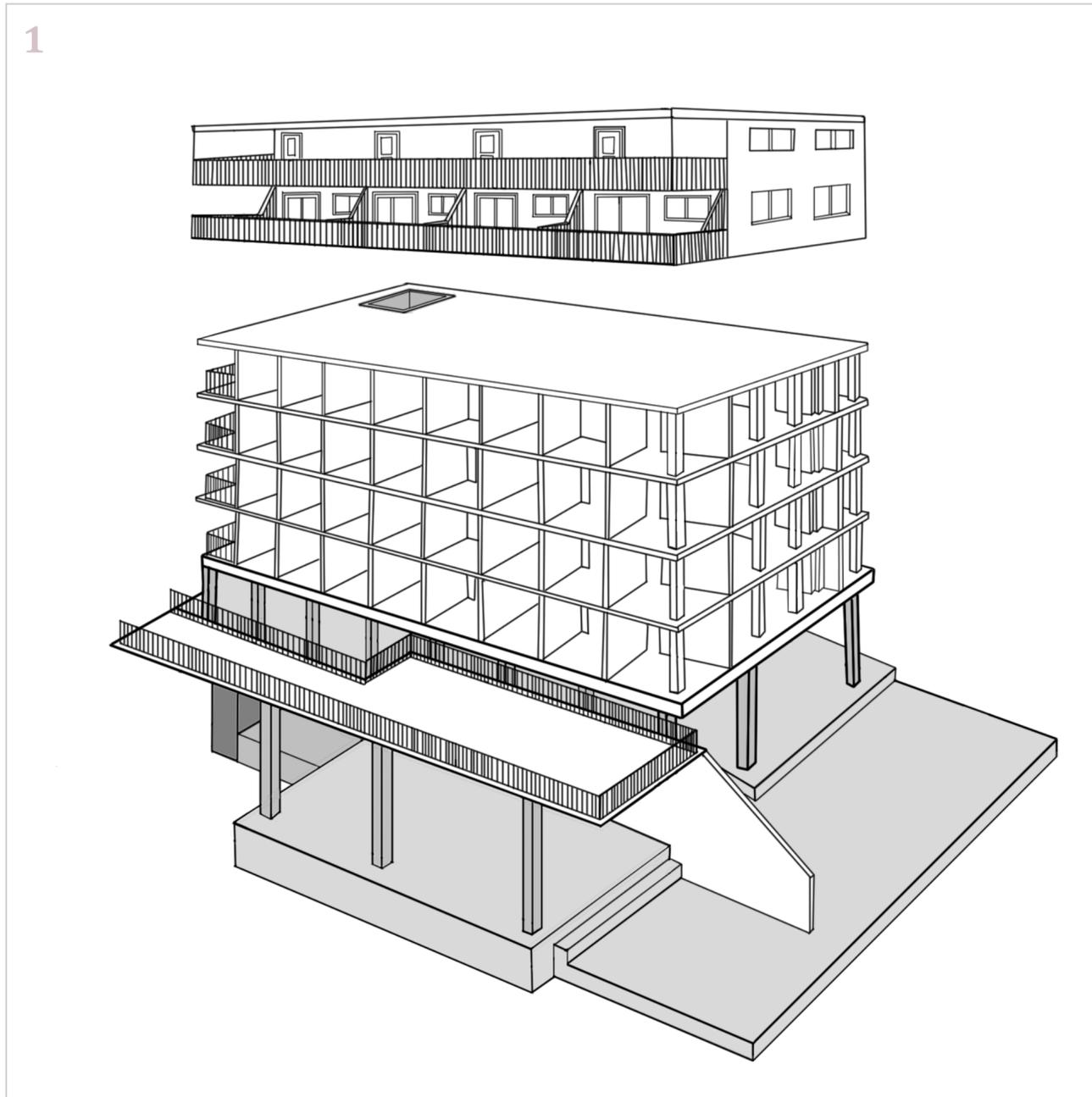


3



With a U-shaped apartment decisions surrounding lighting must be addressed. Strategies for addressing the shadows created in the courtyard include; rotating the building and/or widening the gap, and potentially even Stepping the building down.

The option two, stepping the levels back, makes the most sense for the project as it does not affect the number of flats like option three and yet more light can enter the building.



In drawing number one a concrete ground floor "basement" could potentially provide space for a small parking lot, storage, shared facilities and an entry level to the building.

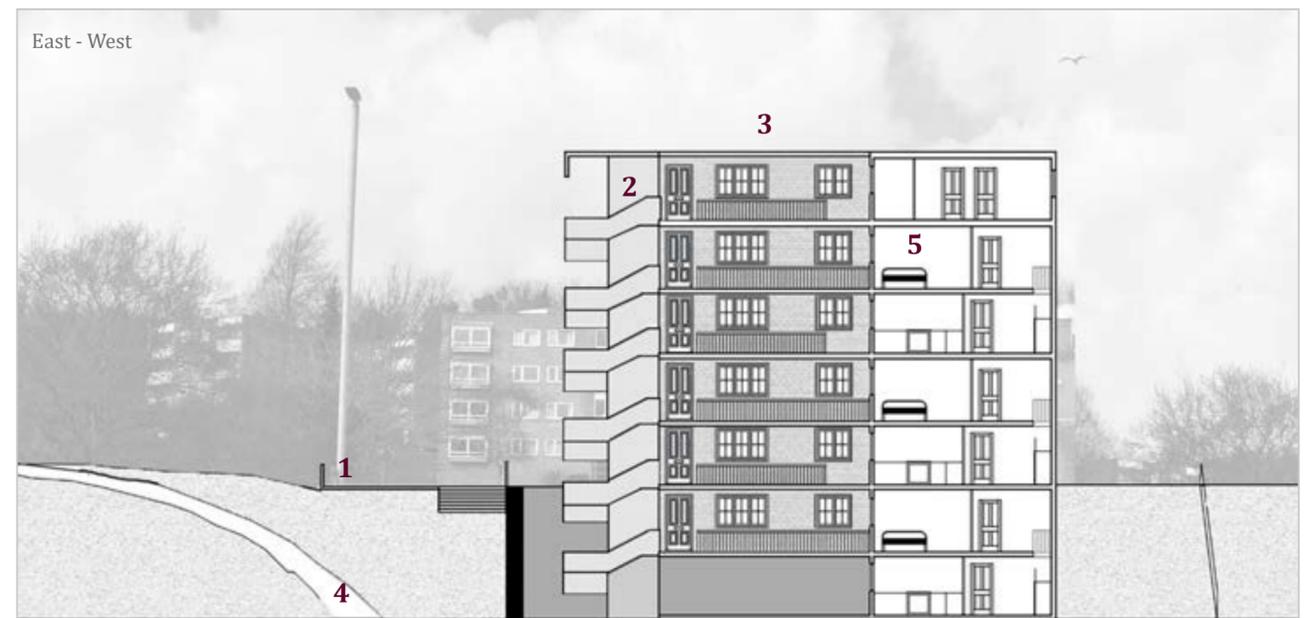
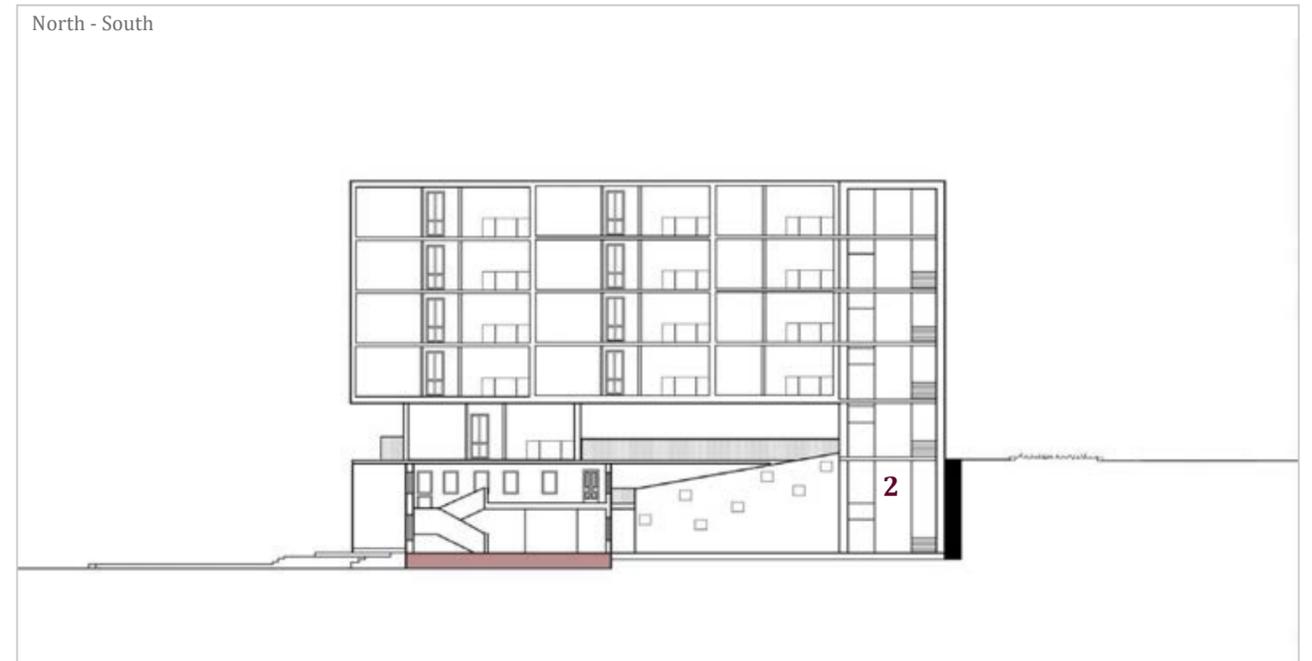
The deck above extends out from the hill over the ground floor. This deck would be a place where members within the community can socialise and get to know each other.

The rest of the superstructure will be made from cross laminated timber panels. Using CLT would mean a quicker construction time therefore it isn't very disruptive to local residents and it is also better for the environment. However using this material means that the superstructure has to maintain a consistent floor plan.

Drawing number two gives a better perspective of the space created on the lowest levels. This also brings up questions about challenges of the hill. Excavating the soil and making it a flat surface means it becomes a partial basement. Therefore, artificial lighting would most likely be needed in these spaces. This means there will probably be no living spaces on this level.

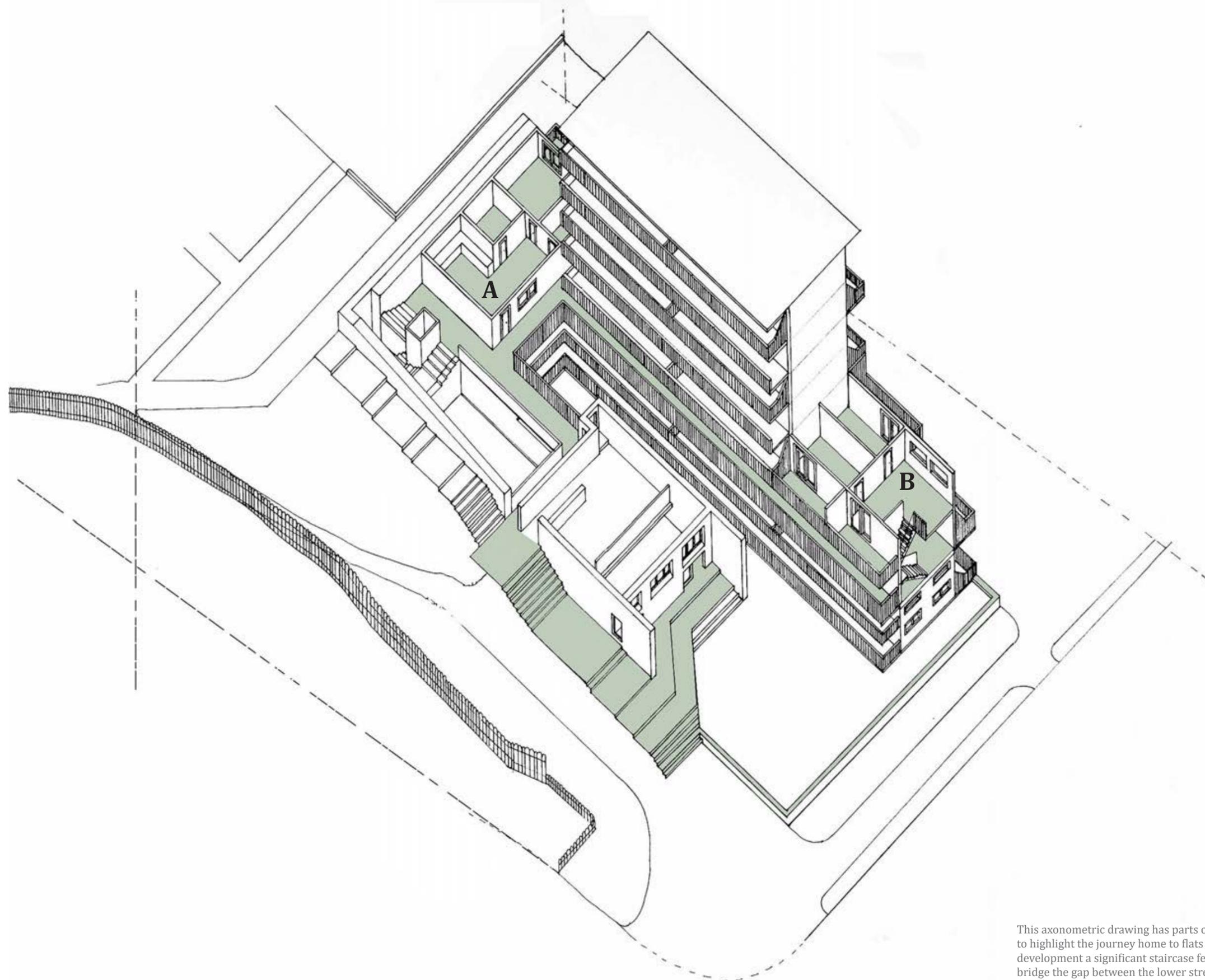
02 FIRST ITERATION

Floor Plans and Sections

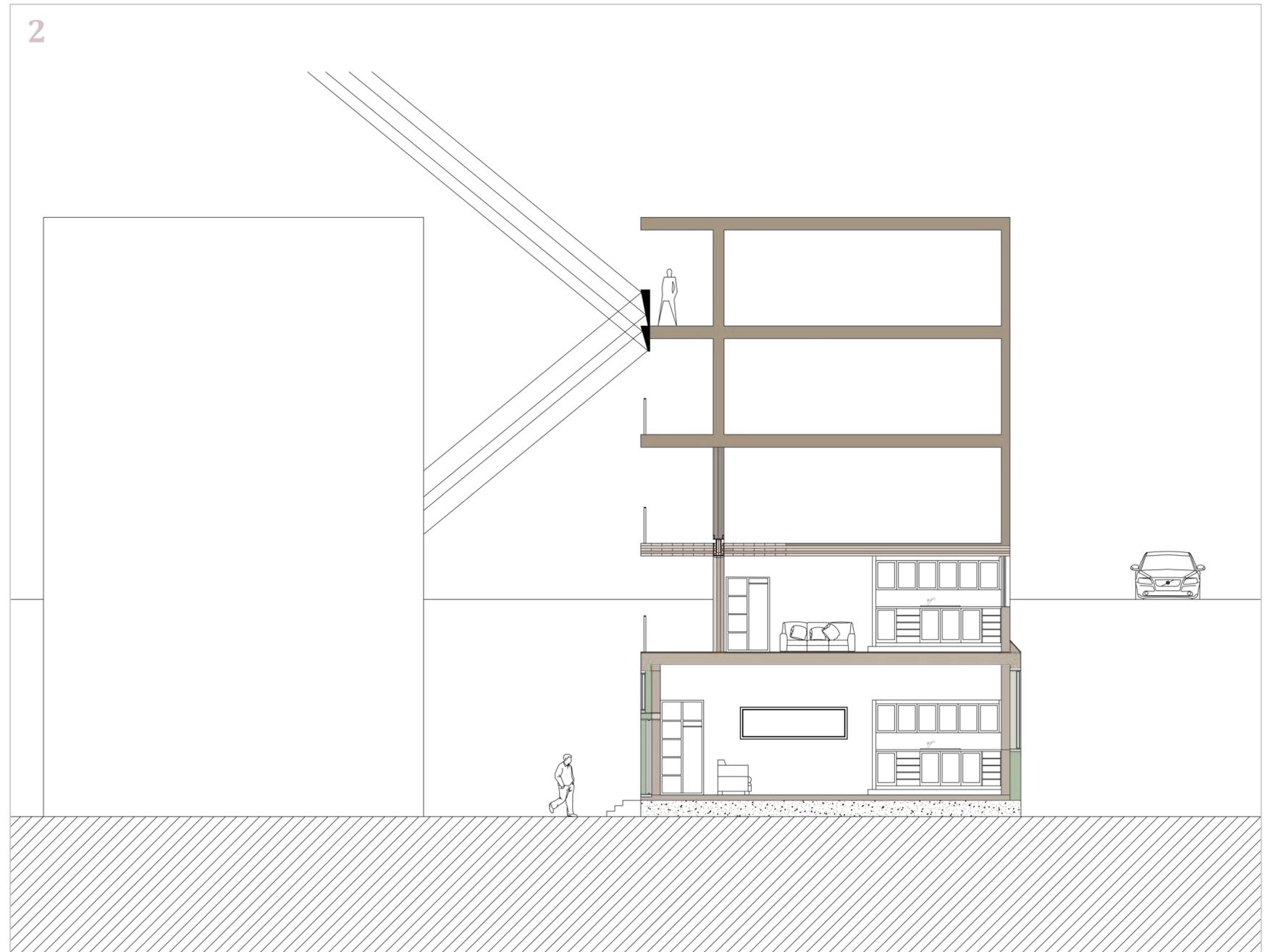
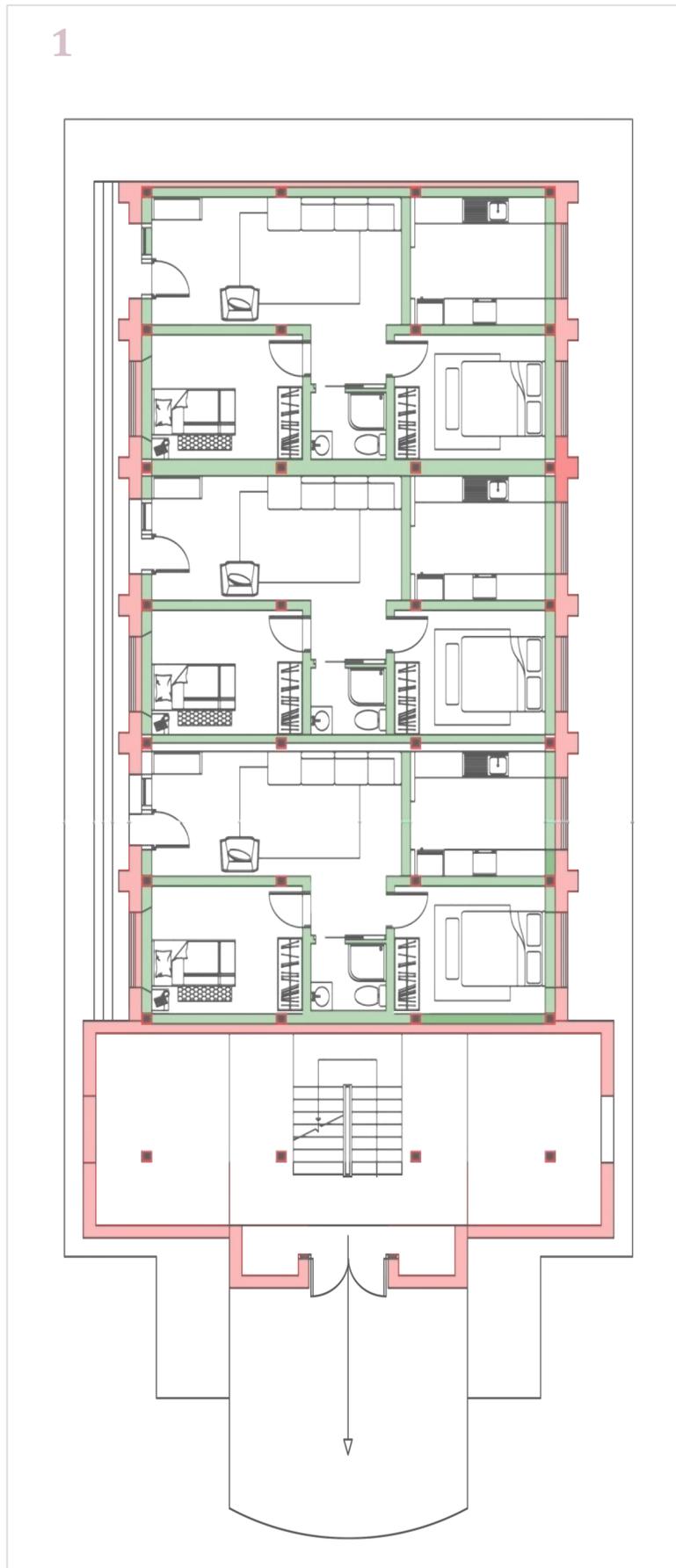


- 1. Large Deck for Socialising
- 2. Staircase and lifts
- 3. Central Courtyard
- 4. Pathway
- 5. Unit 1 - Four Bedroom Duplexes

These are the first set of drawings that begin to show how the U-shaped building might begin to work as a residential block. With the library being converted into a two-storey nursery and the hall being demolished.



This axonometric drawing has parts of the building missing to highlight the journey home to flats A and B. At this stage of development a significant staircase feature has been added to bridge the gap between the lower street level and the flats behind sitting on the hill. The staircase also acts as an access point for residents of the social housing.

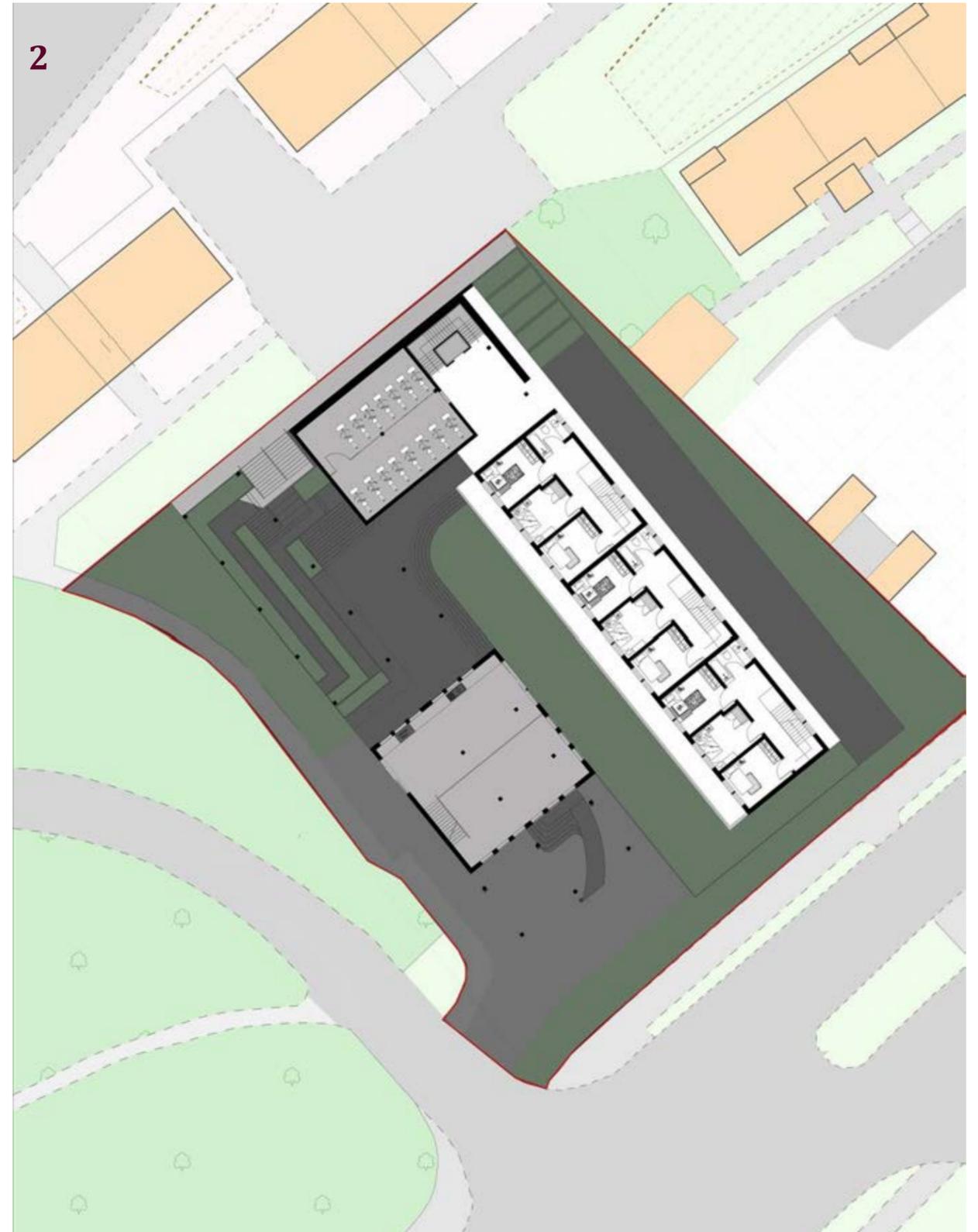


The development of this project took a short detour as the idea of building inside the existing structure of the Moulsecoomb Hall emerged. Ultimately this idea was left behind as the cost of cutting a hole in the existing foundation just to retain the shell of the hall for preservation was too high. Secondly The footprint (foundation) of the hall was small and not strong enough to build on. As this building doesn't have much historical significance it will probably be demolished and the materials may be reused in the new proposal.

Image 1:
Red = Existing Moulsecoomb Hall exterior walls. Non- structural in new plan.
Green = New structure erected inside shell of the hall; made from CLT Panel walls.

Image 2:
Brown = New structure erected inside shell of the hall; made from CLT Panel walls.
Green = Existing Moulsecoomb Hall exterior walls. Non- structural in new plan.
Balconies: Designed to reflect light to lower flats on opposite side of the building.

03 SECOND ITERATION Plans



**(1) Ground Floor Changes:**

The current Layout for the terraced “retaining wall staircase” needs to be improved on.

The pathways between this building and neighbouring buildings can be improved.

Borrowing for lesson learnt in AD670 the “corridor” between the flats and neighbouring site can be improved.

The entrance into the original what was the library can be.

(2) First Floor Changes:

The bike rack is in an impracticable place, it should be on the ground floor or second floor.

The staircase and lifts seems hidden and dark.

The general Layout is very uninteresting and there are many large but empty space. The spaces can't be appropriated for anything due to their location.

(3) Second Floor Changes

There needs to be more “diversity” between the floors, each floor could offer something different from the one below. Or potentially two floors could be significantly different from one another, making the building layout less precipitable.

There should also be a way to access the parking lot behind the building from this floor, because although this is the second floor it is “ground floor” level from the top of the hill.

**1. Staircase and Elevator**

- The staircase wraps around the elevator shaft all the way to the top floor.

2. Social Deck

- This might have to be removed as it doesn't serve as an observation and socialising space very well.

3. Storage (Bike)

- The residents can store bikes here, it can also be used as a utility storage.

4. Four-bedroom Duplex

- Could consider shared spaces between the two adjacent duplex.

5. Two-bedroom Unit

- There could be variety in the styles of two bedroom flats.

- The East and west wing could have different architectural styles.

6. Central Courtyard

- The courtyard doesn't have to be so linear.

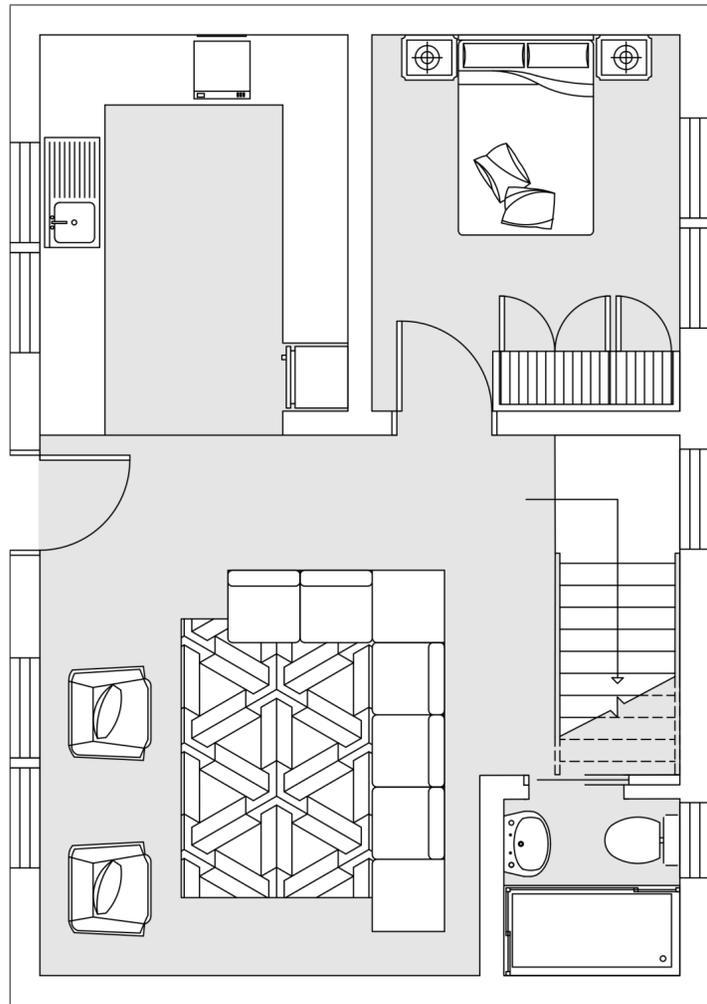
7. Small Courtyard

- The large amounts of concrete from the retaining wall makes the spaces feel cold and unwelcoming.

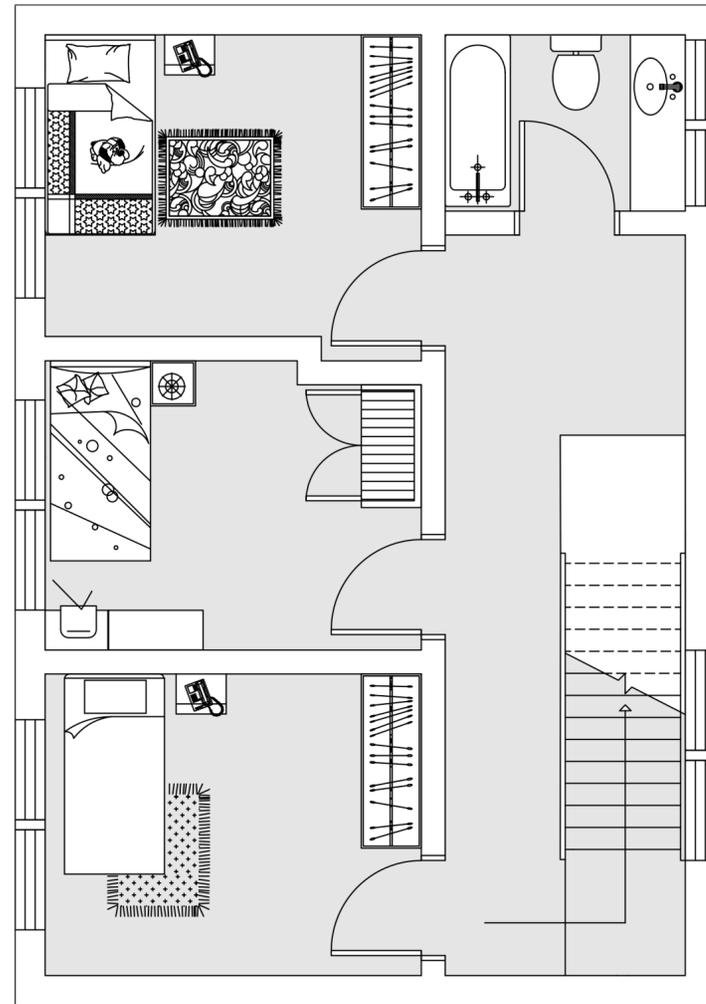
03 SECOND ITERATION

Unit Plans - First Draft

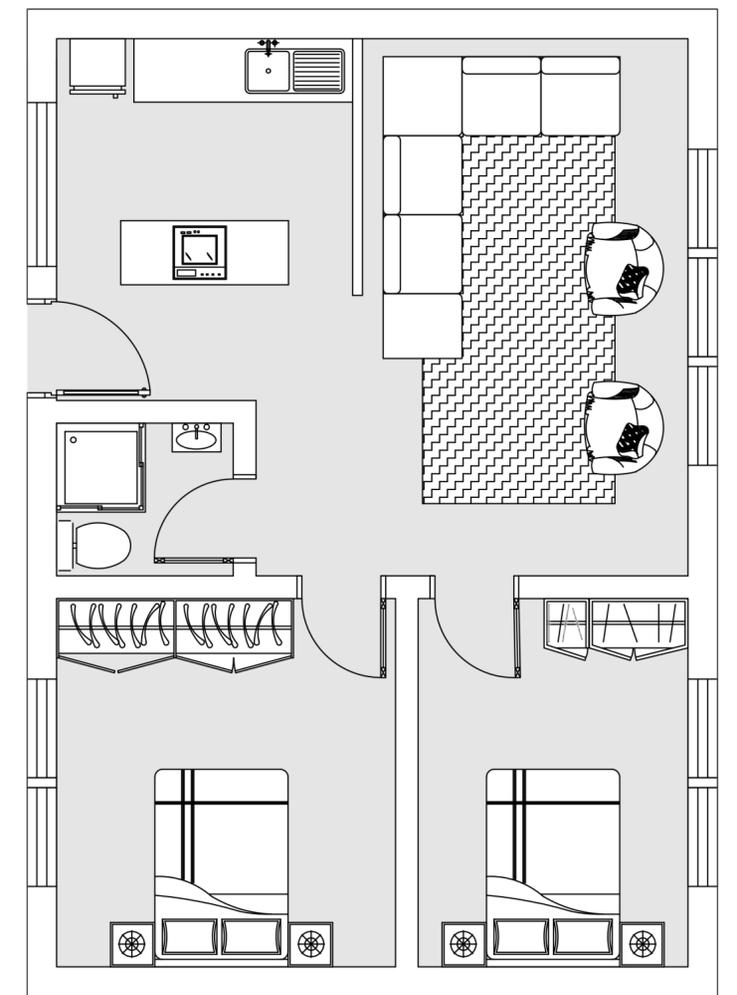
Duplex Unit
First Level



Duplex Unit
Second Level



Two-Bedroom Flat
First Level



Currently this flat is simple and appears to have many conventional attributes of a two-bedroom flat. There are asymmetrically sized bedrooms with small bathroom directly before the bedrooms. The kitchen and living room are open-plan with a half wall demarcating the separation of the two spaces. This allows for adequate cross ventilation and light in this space.

The entryway can be reconsidered to establish a stronger sense of identity to the flats. The relationship of the two adjacent rooms can be further explored.

03

STEPS, STEPPING, STEPPED Redefining How We Move Between Levels



This is...
A Staircase;

A place to eat,
A place to play,
A place to tie your shoe,
A place to people watch,
A place to meet with friends,
A place to put your groceries down,

This is a place that will be defined by the residents.
It's definition will constantly change depending on...

The amount of sun,
The presence of rain,
The agility of the user,
The time of day or night,
The creativity of the user,
The amount of free time kids have after school,

There are a multitude of ways for the residents to use this space, the only limiting factor is their imagination.



Brion Cemetery, Italy by Carlo Scarpa



Monumento alla Partigian by Carlo Scarpa



Fondazione Querini Stampalia by Carlo Scarpa



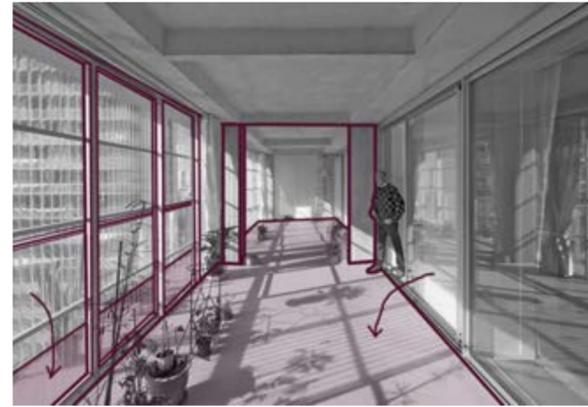
Olivetti Showroom by Carlo Scarpa

03 IDENTITY + CHARACTER

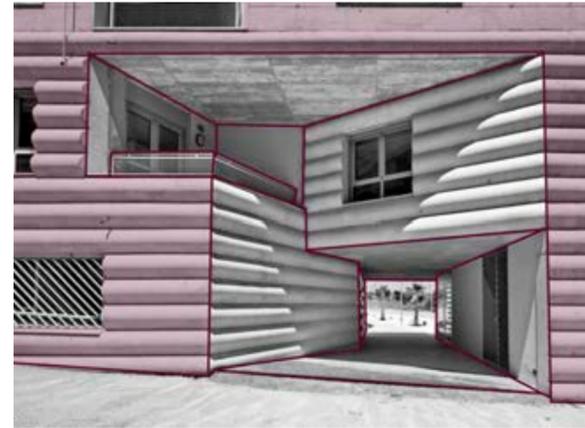
Study



Maison Planeix by Le Corbusier's in Paris, France



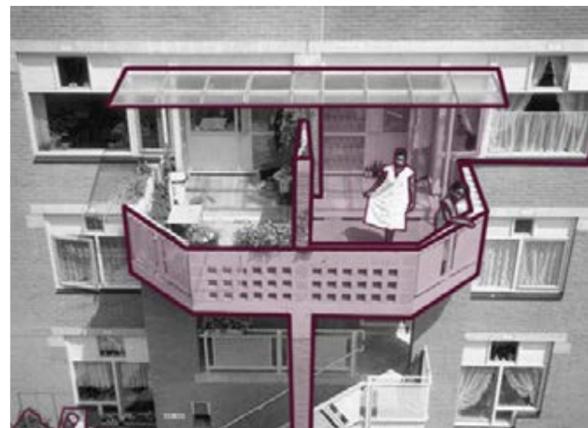
Transformation of 530 dwellings - Grand Parc Bordeaux by Lacaton & Vassal + Frédéric Druot + Christophe Hutin architecture in Bordeaux, France.



111- Building by Flores i Prats in Terrassa, Spain.



111- Building by Flores i Prats in Terrassa, Spain.



Haarlemmer Houttuinen Housing Project by Herman Hertzberger in Amsterdam, Netherlands.



Lindenstrasse Markgrafenstrasse Housing by Herman Hertzberger in Berlin, Germany.



Weissenhof Estate: Terraced houses by J.J.P. Oud in Stuttgart, Germany.



Housing terrace, Winscombe Street by Neave Brown in London, England.



079 Stories Centre for Arts by Vastu Shilpa Consultants in Ahmedabad, India.



A Psychiatric Clinic by De Vylder Vinck Taillieu in Melle, Belgium.



Unknown



Aranya low-cost housing by Balkrishna Doshi in Indore, India.

03 IDENTITY + CHARACTER

Apply

The Passageway

This section focuses on how the terraced retaining wall was adapted to accommodate stairs. This then creates a new path through the site and up the hill.

I want to provide the opportunity for inhabitants and residents of the neighbourhood to interact in a intimate place. The staircase has many twists and turns, this encourages the users to move slower through the space.

Although the precedent image has a very direct path, they still provide a similar service to my proposal; a clear rout through the site.



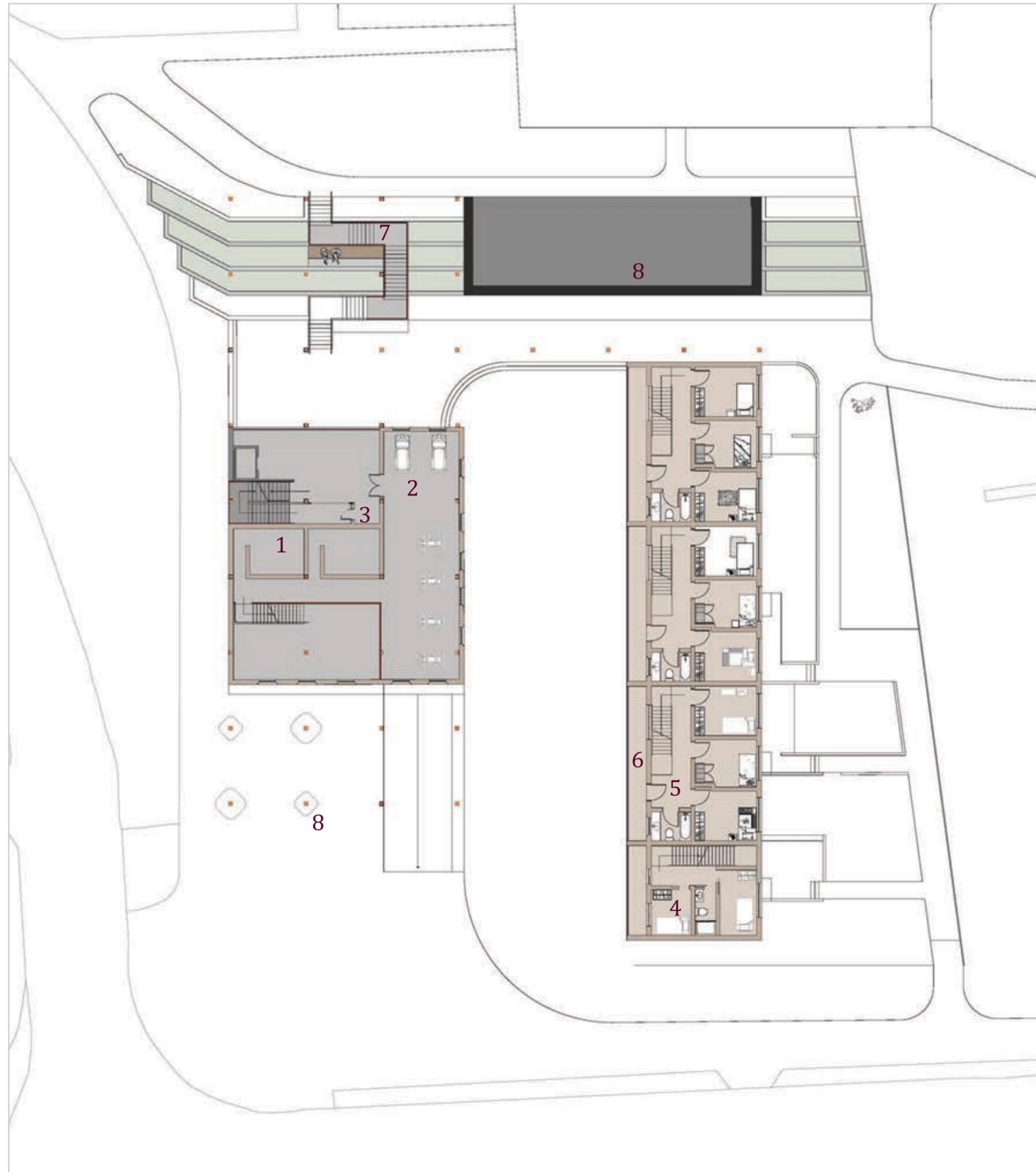
03 IDENTITY + CHARACTER

Apply



- 1
The creation of a play area for kids can alleviate the stress that comes from not having enough space for them to play indoors.
- 2
This open space has a more relaxed and mature atmosphere. If developed further it can become a secondary place for residents to meet with guests or neighbours outside the home.
- 3
This drawing shows a different version of the ground and first floor could be like. There could be a duplex flat that is accessed from the first floor (Lady/purple sweater/phone). Also the second floor can be opened up at street level which “welcomes” people into the building. The bike rack is also placed on the second floor for easy access to the road above (Man/green coat/ bicycle).





- 1: Woman and men's changing rooms
- 2: Entrance to gym
- 3: Entrance to staircase leading to flats
- 4: Two-bedroom duplex
- 5: Four-bedroom duplex
- 6: Private balcony for the duplex
- 7: Terraced retaining wall with landscaping and a staircase
- 8: Structural column holding structure above.
- 9: Concrete retaining wall



- 1: Pathway to building entrance
- 2: Communal laundry space
- 3: Communal Mail/Letter box Collection Point
- 4: Bike rack (in place of a car park)
- 5: Kids Play area
- 6: Lifts and staircase
- 7: Two-bedroom flat (version 1- smallest)
- 8: Two-bedroom flat (version 2)
- 9: Two-bedroom flat (version 3)
- 10: Two Bedroom Duplex



- 1: Two-bedroom flat (version 3)
- 2: Seating area
- 3: Seating area "attached" to the adjacent flat
- 4: Two-bedroom flat (version 3.A)
- 5: Two-bedroom flat (version 3.B)
- 6: Work/study - Transforms into second bedroom for guests.

Project Highlights + Lessons

During this project, a few moments stood out for me, first from the design process and then from the overall term period.

This was my first housing project and it allowed me to ask many questions about and seek solutions to a topic I am passionate about. My dissertation this year was centred around affordable housing in Abuja, Nigeria's new capital city. The project allowed me to compare the housing market in a developed nation like the UK and a fast-developing country like Nigeria.

Throughout my design projects from first year to-date, I have always explored how to use levels, steps, stairs and other techniques to transform a space. This project was no exception. The terraced-retaining wall that sits behind the library was one of the more enjoyable and thought-provoking parts of the project to design.

The country's unprecedented lockdown and restrictions due to COVID-19 has been particularly challenging. Motivated not to let a crisis go to waste, I took advantage of the lockdown period to develop my Autocad skills shown in this project. Making this leap from hand drafting to fully computer aided design was challenging and liberating.

Future Questions

Working through this project led me to re-think what is considered "too communal", "too shared" and "too awkward". One of the major challenges with social housing is cost, which limits the overall quality of any housing. In this project, houses in the neighbourhood were predominately occupied by couples. This brought to my mind the idea of creating shared spaces and shared facilities among the units.

Today's reality is that 'house shares' are the only way many people can afford to live in Brighton due to the high rents and low wages. In the future, therefore, I would like to explore how formalising and normalising shared accommodations can be beneficial to both government and private markets. With 68% of the world's population projected to live in urban areas by 2050 (UN, 2018), the issue of social housing will only become more and more important.

How can we create shared spaces among multiple homes, while maintaining separate spaces with their own individual identities?

Could expanding the communal areas of homes also help address the crisis described as "incredibly damaging to our humanity" by the former Prime Minister, Theresa May, when she launched the national loneliness strategy in October 2018?

Conclusion

Social housing is something I am very passionate about, as I view it as a human rights issue. I believe that everyone should have a right to an adequate standard of housing. I therefore aim to contribute my part towards providing a dignified living space especially for those who are less fortunate financially. Although the built environment is the result of many processes and factors outside the control of an architect, we still have a moral and professional responsibility to the world we design for. As designers, we can act as catalysts or agents of change, and we can certainly use the practice of architecture as a tool to engage, interrogate and challenge the way we live.