

WAVE



Medical Rehabilitation Centre
of East London



2023-2024 MA Interior Design
Super Reuse Platform

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WAVE

Project Proposal

In the architectural exploration of 23-24 Gillender Street, a site originally marked by its industrial past, a unique investigation into the tactile sensations of curved bricks and filleted corner edges has unfolded a narrative of touch and comfort within the inhuman expanse of a factory setting.

This initial inquiry, rooted in the contrasts between industrial harshness and human sensitivity, has evolved into a visionary proposal for transforming the space into a sanctuary of healing, a rehabilitation center dedicated to the care and recovery of sports injuries patients. Recognizing the need for a space where individuals can transition smoothly from hospital surgery to recovery, this design aims to humanize the former industrial site, crafting an environment that supports patients through their healing journey.

The project leverages spatial qualities to design the center with a sense of care and comfort. By addressing existing challenges and integrating specific functions and zoning requirements, the design strategy focuses on creating a facility that not only aids in physical rehabilitation but also fosters emotional and psychological well-being. This rehabilitation center aspires to be a place of contrast itself, where the industrial becomes intimate, and recovery is not just a process but an experience grounded in the human feeling.





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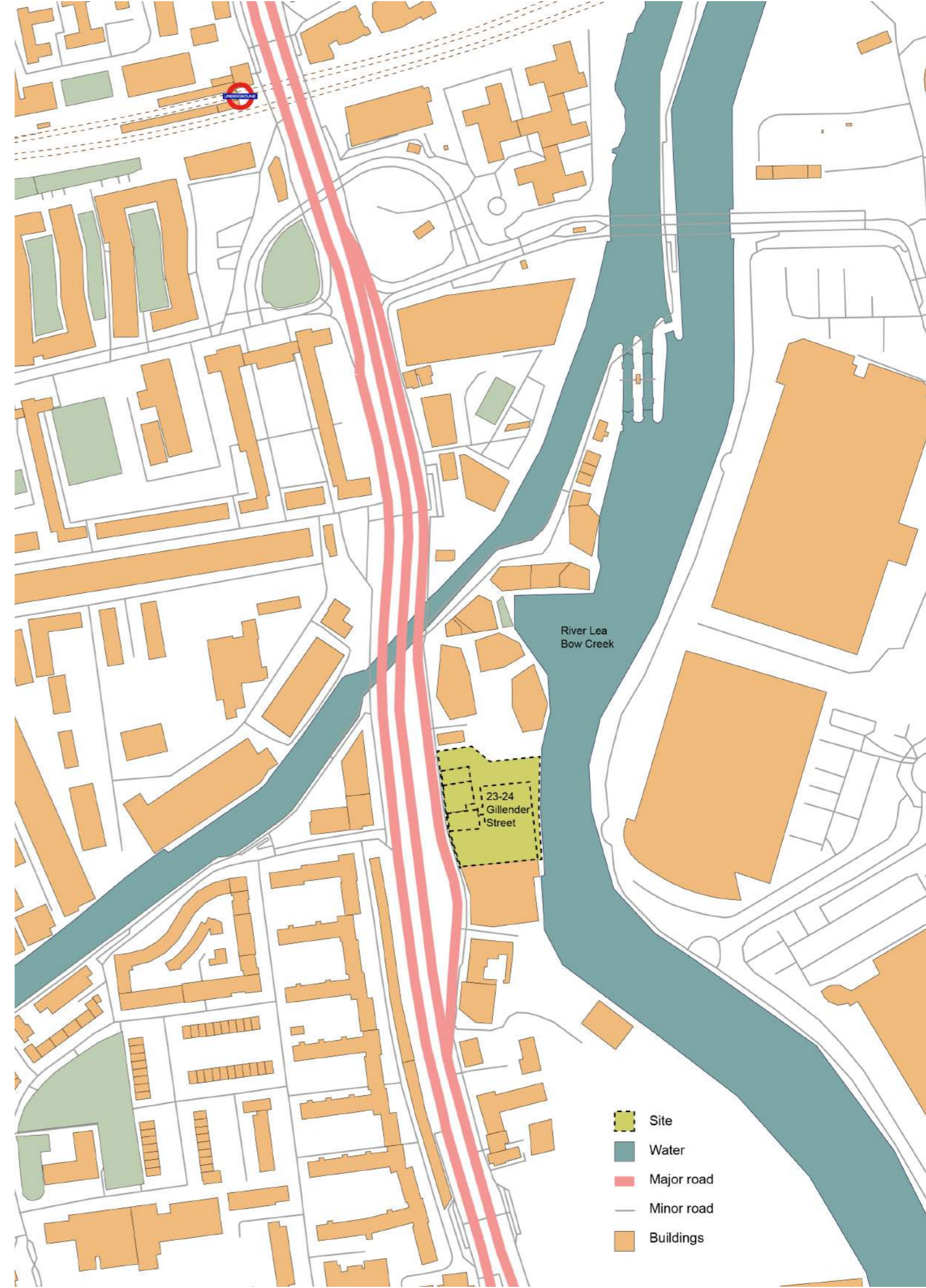
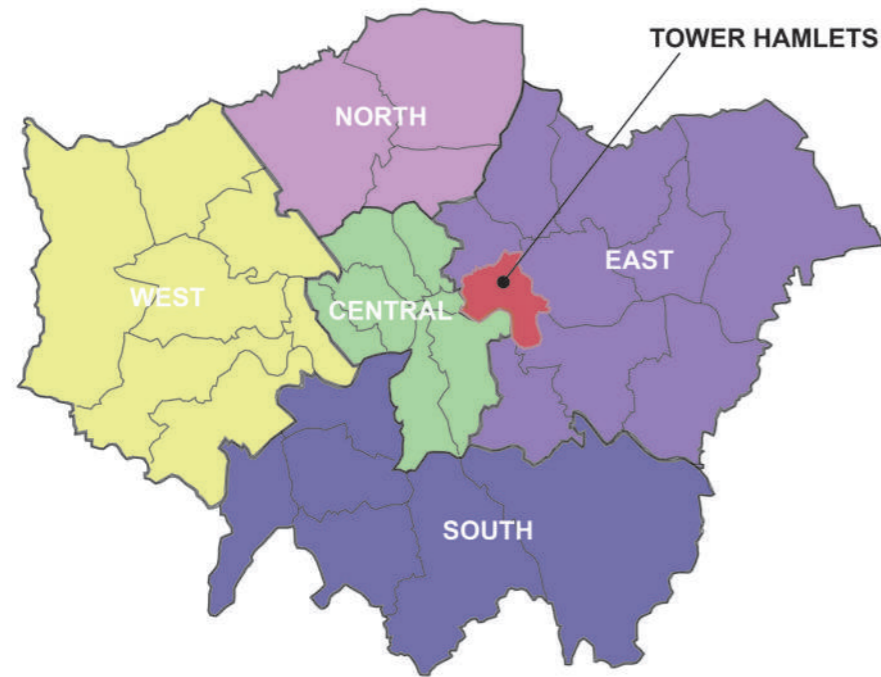


CONTEXT

01 SITE ANALYSIS

23-24 Gillender Street

23-24 Gillender Street in London is a mix of Victorian and 1930s architecture, offering a versatile 170,000 sq ft space across four levels with up to five-meter-high ceilings. It's part of Tower Hamlets' industrial heritage and conservation area, neighbored by historic buildings, residential developments, and the River Lea. The site includes two service yards, poor air quality zones, and is moderately accessible by public transport, with a notable flood risk.





Functionally, the site features two service yards, each with its own vehicle access. The southern yard includes a standalone structure near the waste management site and former fire station, and the northern yard contains a water tank near the river wall.

A main big building, a small building, a outside area and a connection between two buildings.

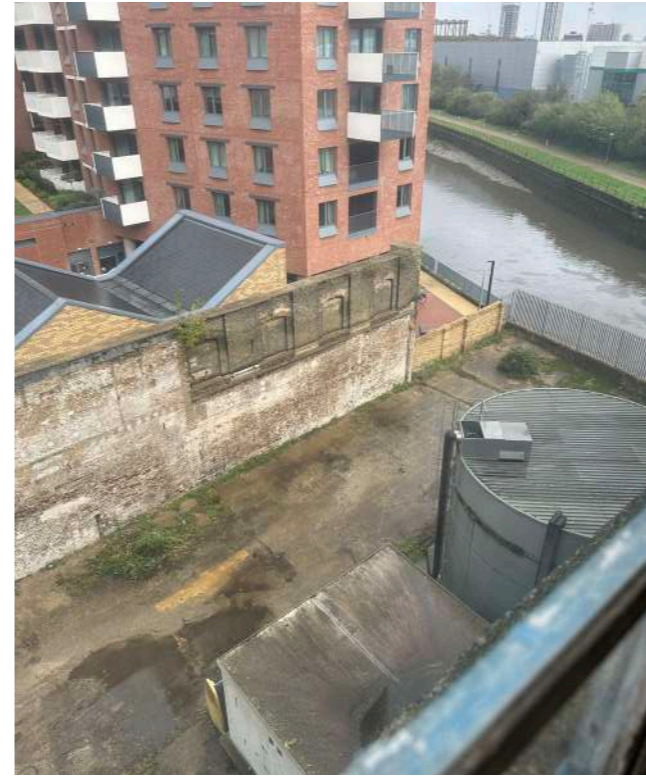
01 SITE VISIT



View towards the outside facade of 24 Gillender Street, a water tank is located on the outdoor space.



A bridge connecting 23-24 Gilldender Street, where the bridge is really dark without light. It is new added bridge compare to the Victorian style.

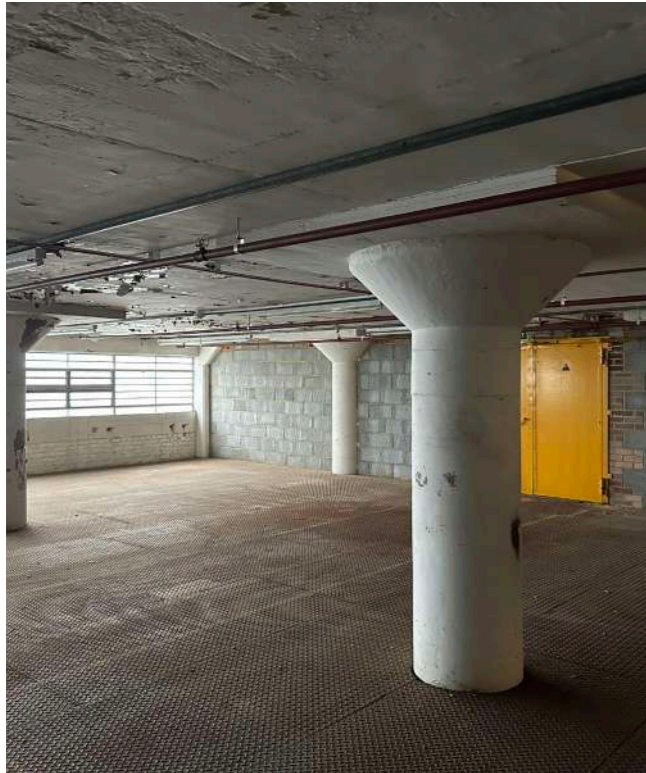


An empty outdoor space surround the building with an old broken wall suited on the side.

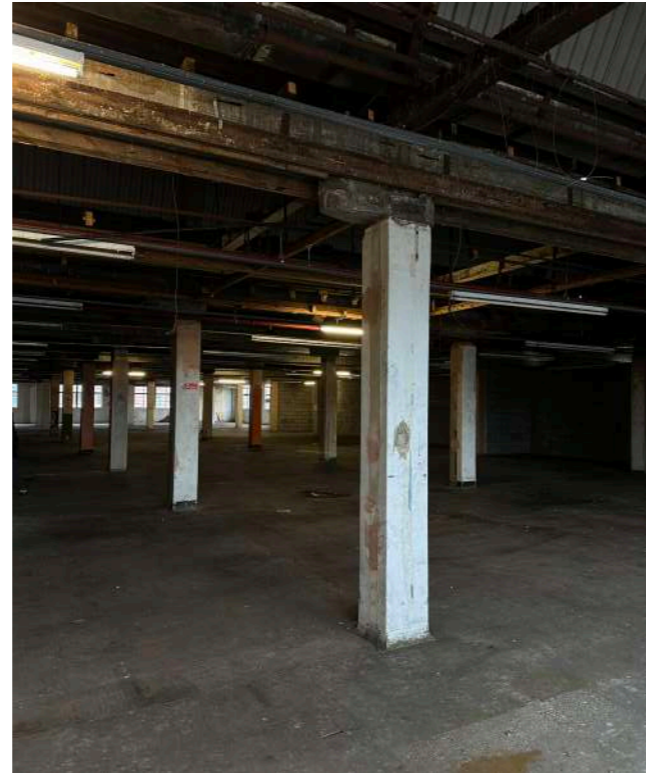


Factory dangerous signage located everywhere inside and outside the building, which provide a completely a factory/warehouse feeling.

01 SITE VISIT



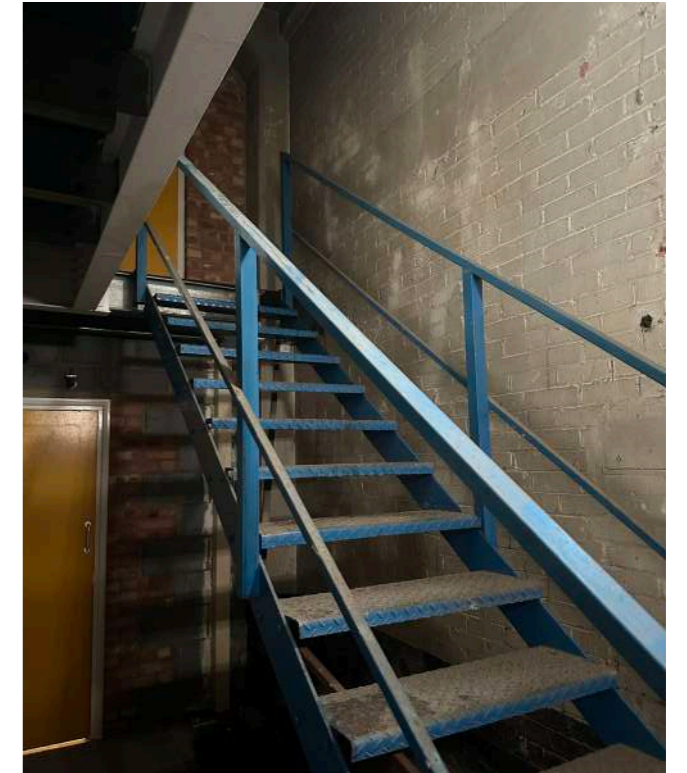
Shape of the columns, which this is the mezzanine level, and the flooring is like metal plate.



Top level of 24 Gillender street, where the columns become in square shape but still repetitive.



Mezzanine level where got lower ceiling, which extremely shows non-caring aspect in the building.

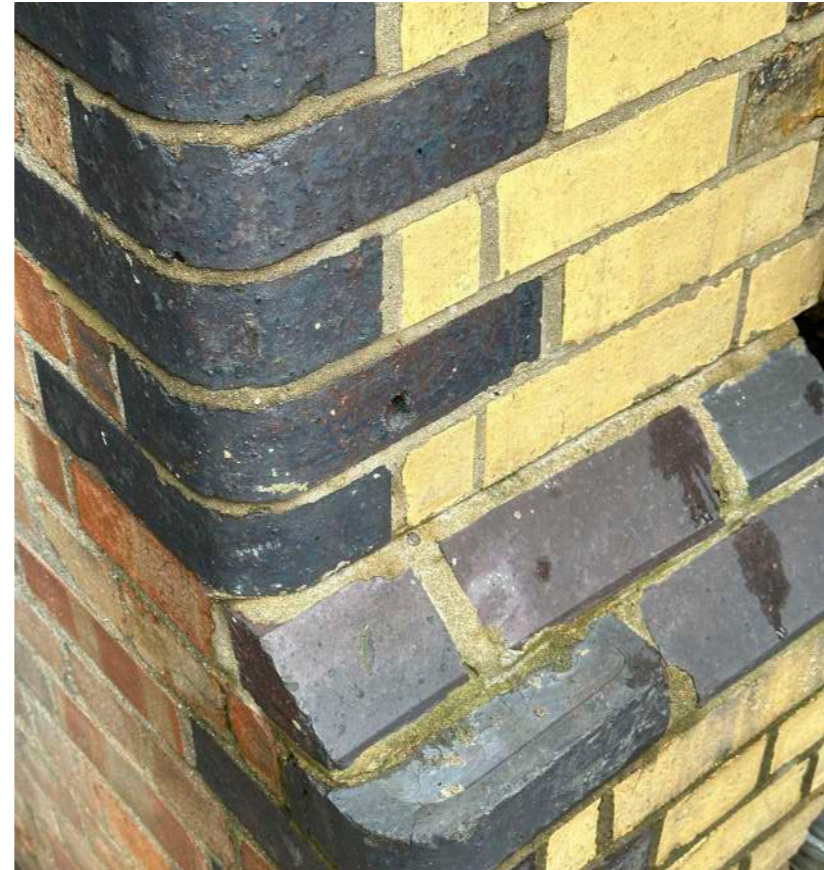


Staircases area where the metal staircase seems dangerous and handrail is old and prevent people touching it.

CONCEPT

02 INITIAL OBSERVATION

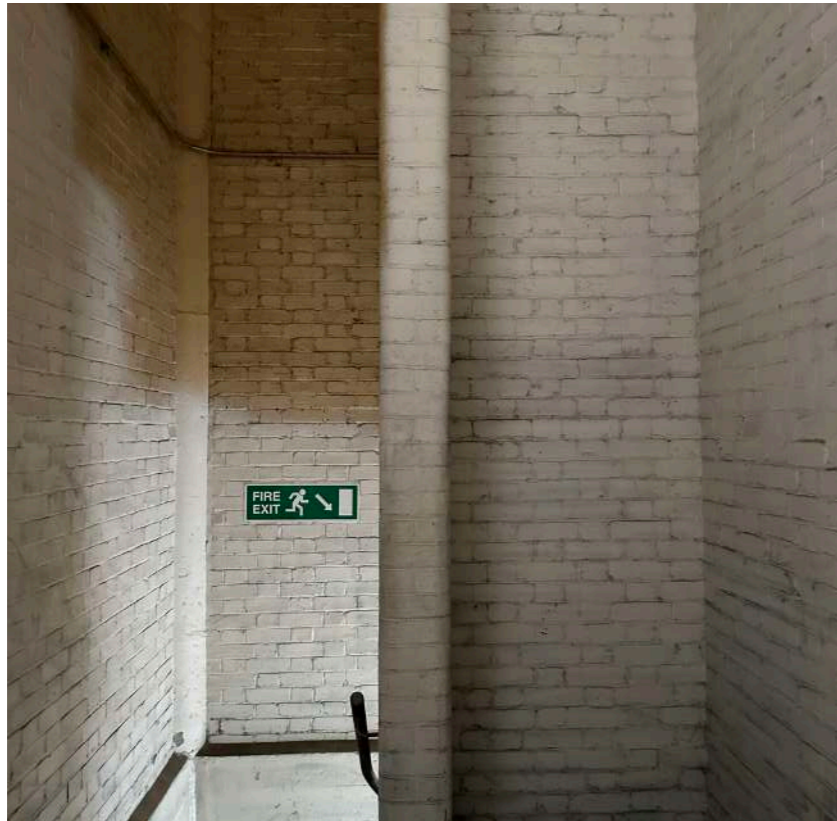
Curve bricks & fillet edges



- Bullnose bricks
- Human scale / engagement
- Different colour, texture and density
 - Contrast
- Softness / safety

02 INITIAL OBSERVATION

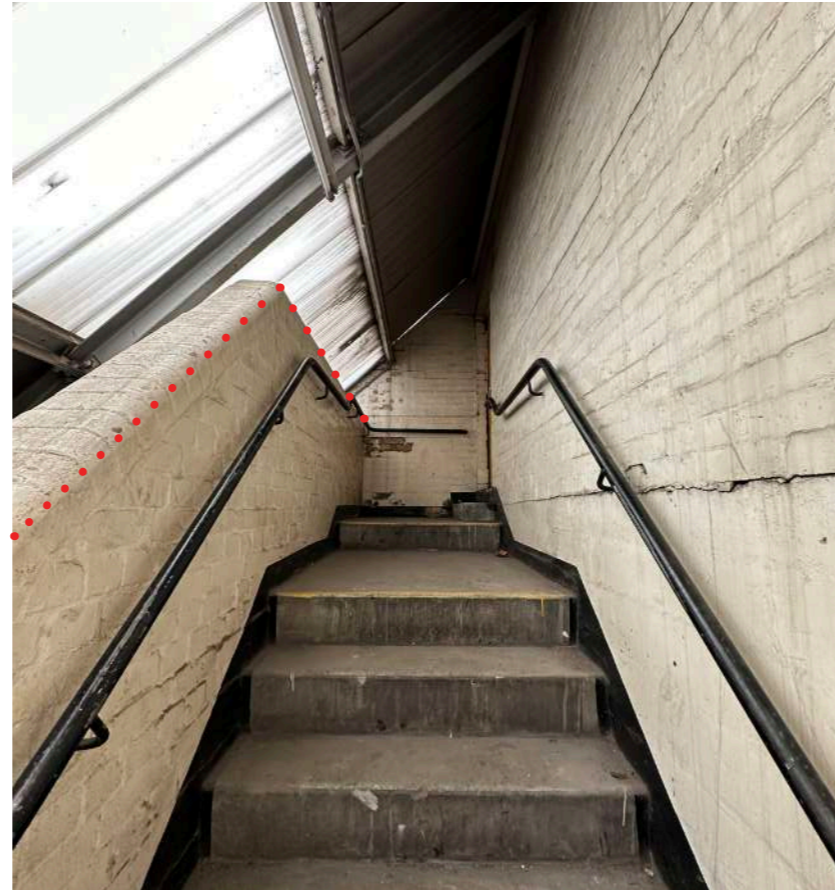
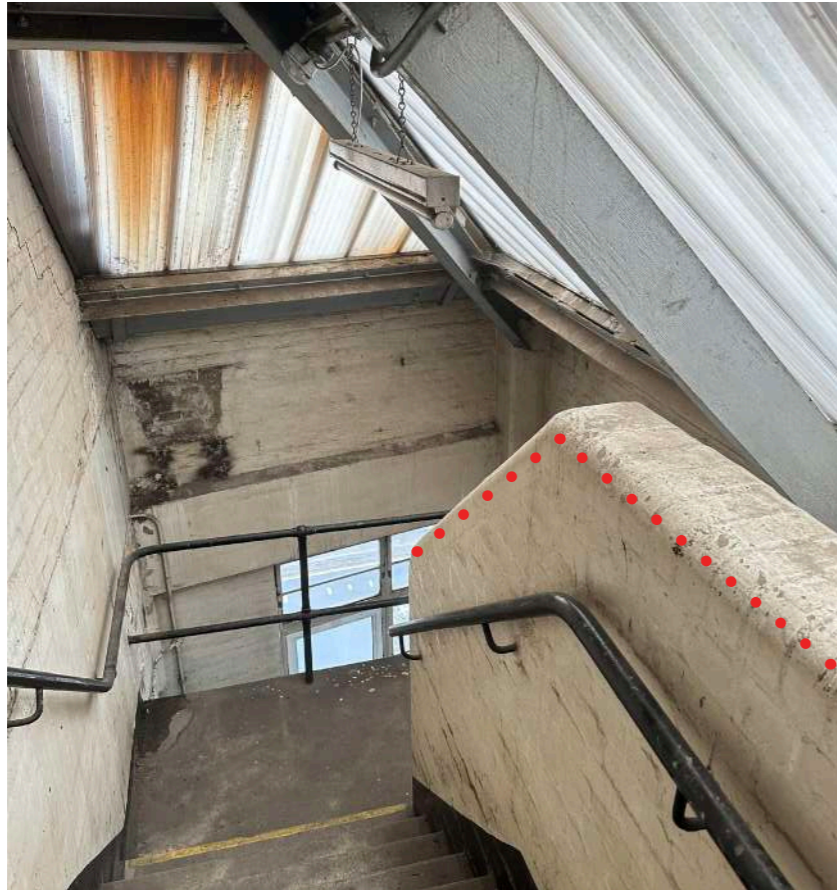
Internal walls / corners / edges



- Main area on one of the top staircase level
- Influence human experience
- Visual impact
- Humanise
- Softness

02 INITIAL OBSERVATION

Staircase / handrails



Main area generates into compression artefact

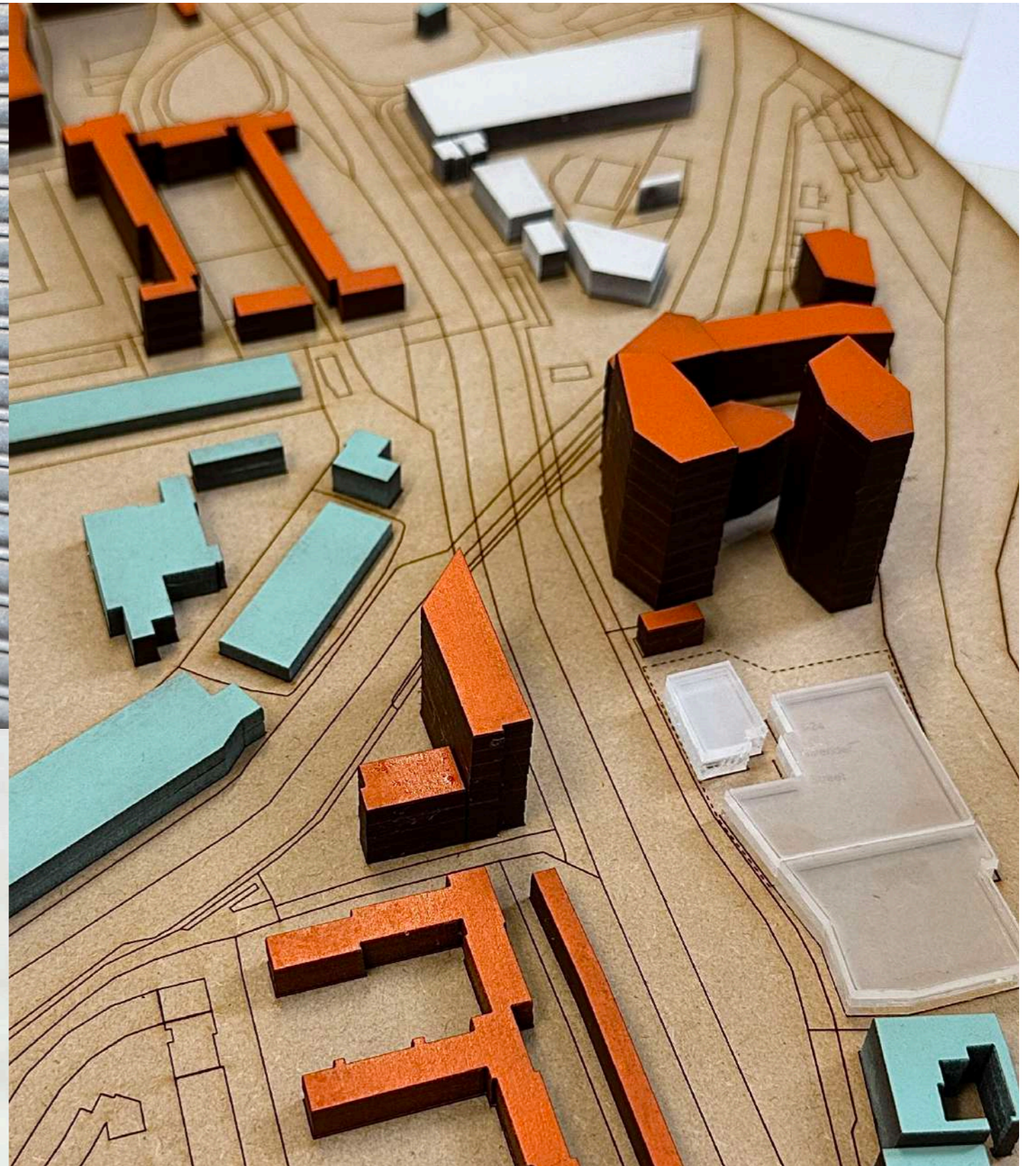
- Cownose bricks
- Human scale / engagement
- Sensory interation, express TOUCH
- Detail safety hint

02 INITIAL OBSERVATION

Staircase / handrails



In my exploration of compression artefact, was particularly struck by the staircase area discovered on site. This space, with its intimate and enveloping design, inspired me to delve deeper into the themes of touch and comfort. By reimagining how we interact with our surroundings, I seek to transform spaces into havens of tactile engagement and emotional warmth.



At the outset of this project, an exploration of the site at 23-24 Gillender Street revealed a space dominated by harsh industrial elements that starkly contrasted with subtle human-centric details, such as curved bricks and softened edges. These observations sparked an inquiry into the potential transformation of this inhuman space. This project aims to explore how the existing structures can be adapted to create an environment that keeps the original heritage structure but also significantly enhances its new purpose.

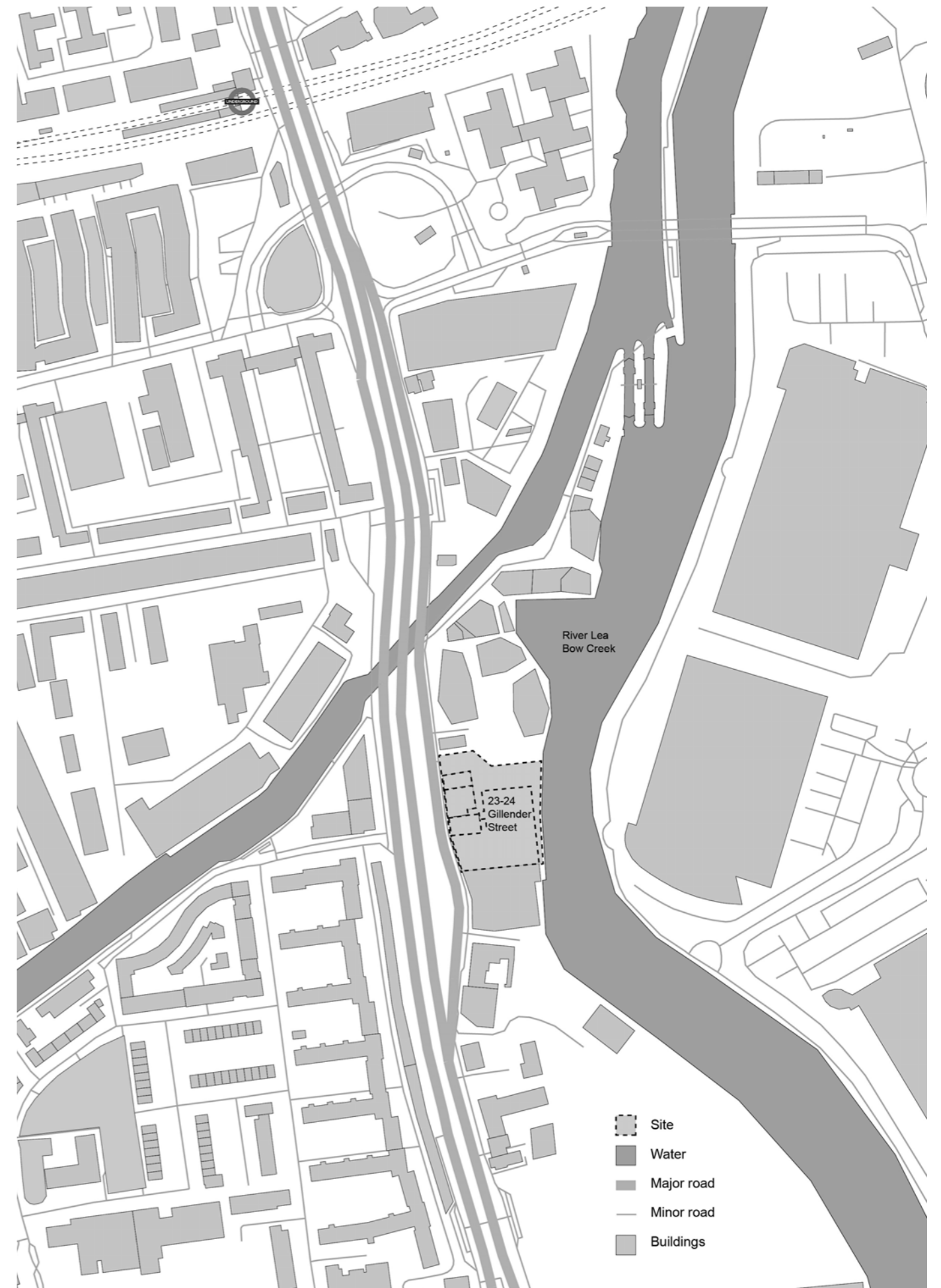
PROGRAMME

03

REHABILITATION CENTRE

Why a rehabilitation centre here?

After carefully consideration, I will redesign this place into a rehabilitation centre which also tying with human aspect found in the existing space.



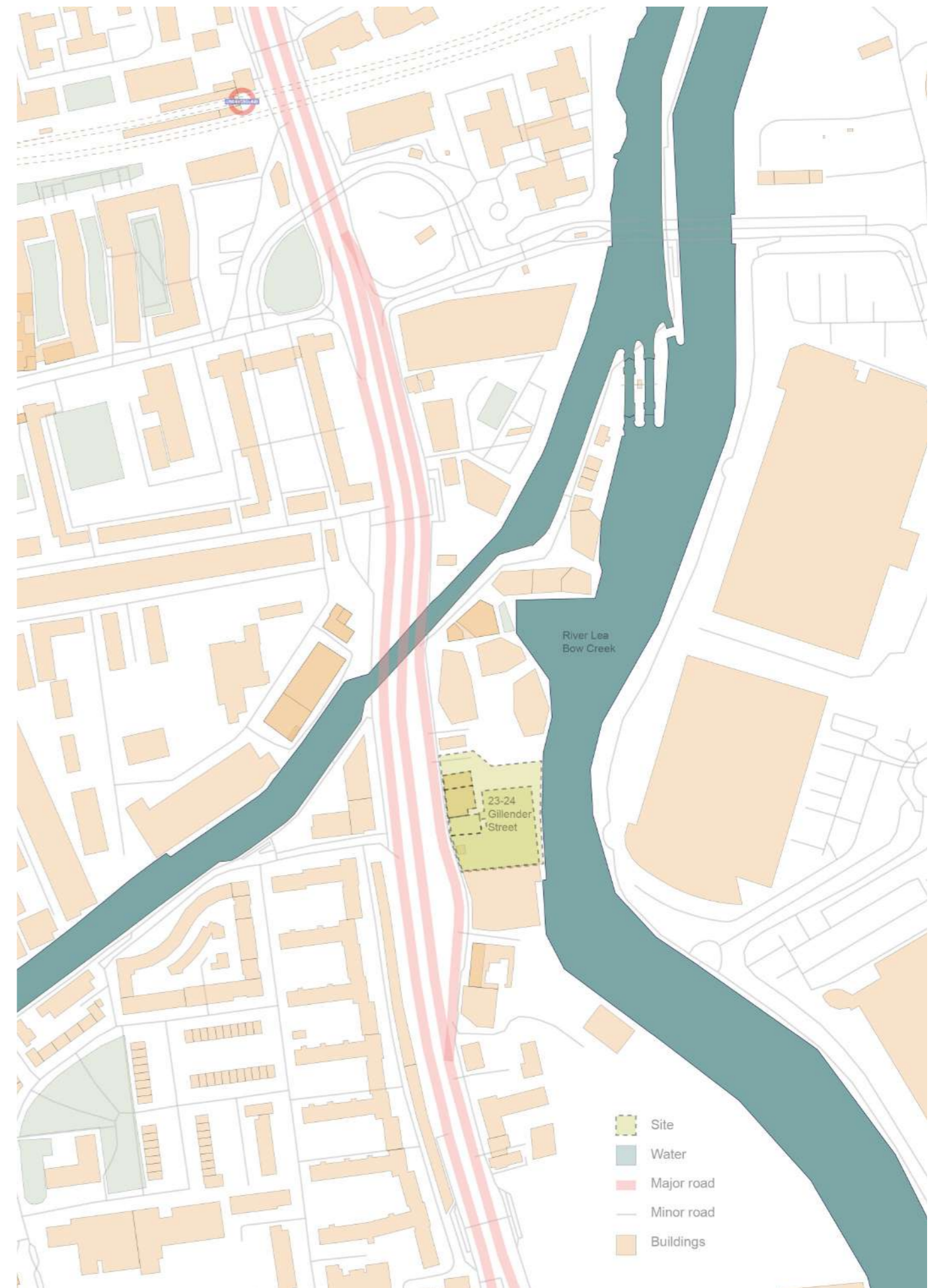
03

REHABILITATION CENTRE

Why a rehabilitation centre here?



Next to River Lea, which provide a good environment surrounded, and also quiet in a way.



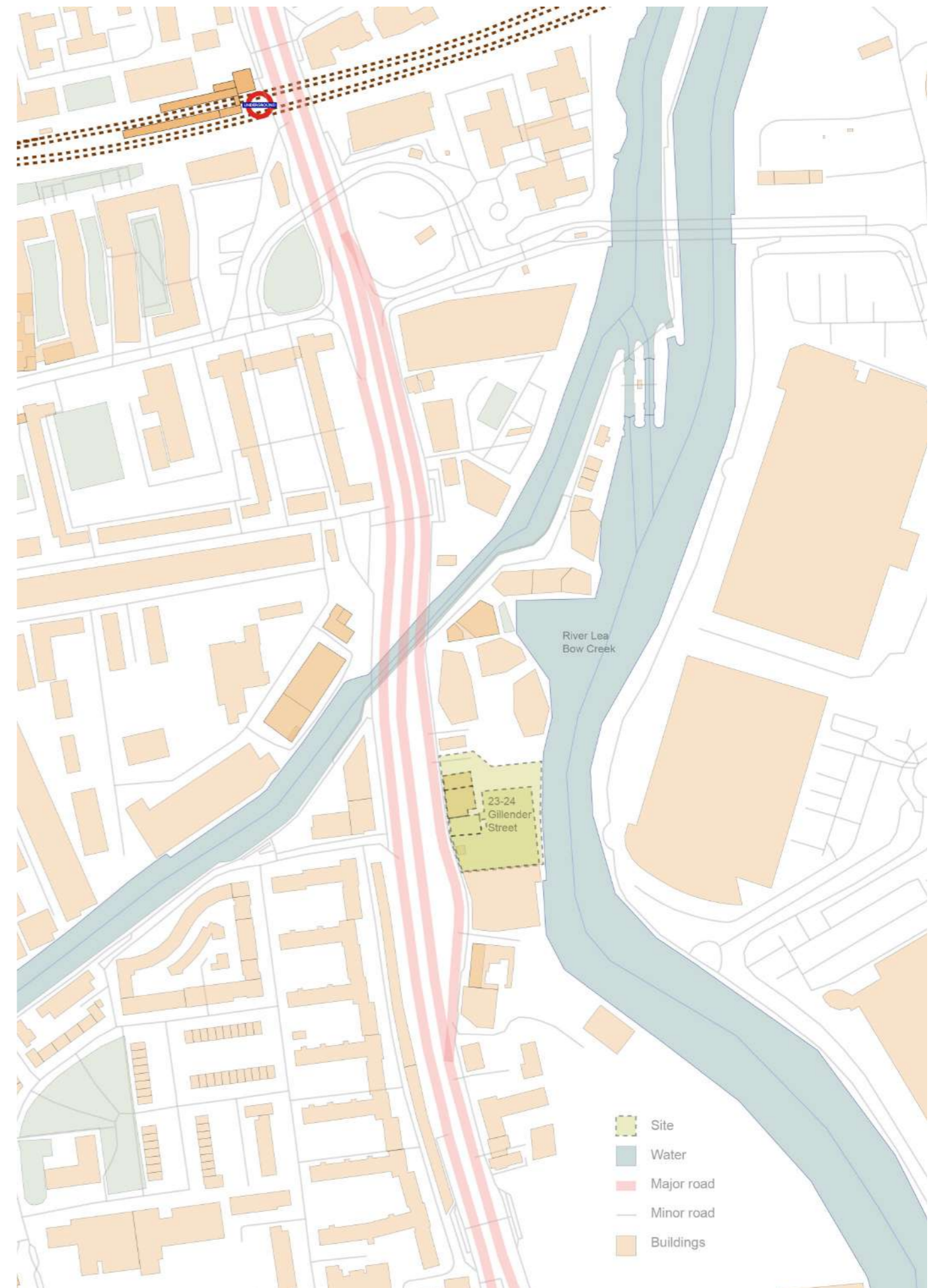
03

REHABILITATION CENTRE

Why a rehabilitation centre here?



The relative distance from the nearest underground station ensures a peaceful atmosphere, away from hustle city life.



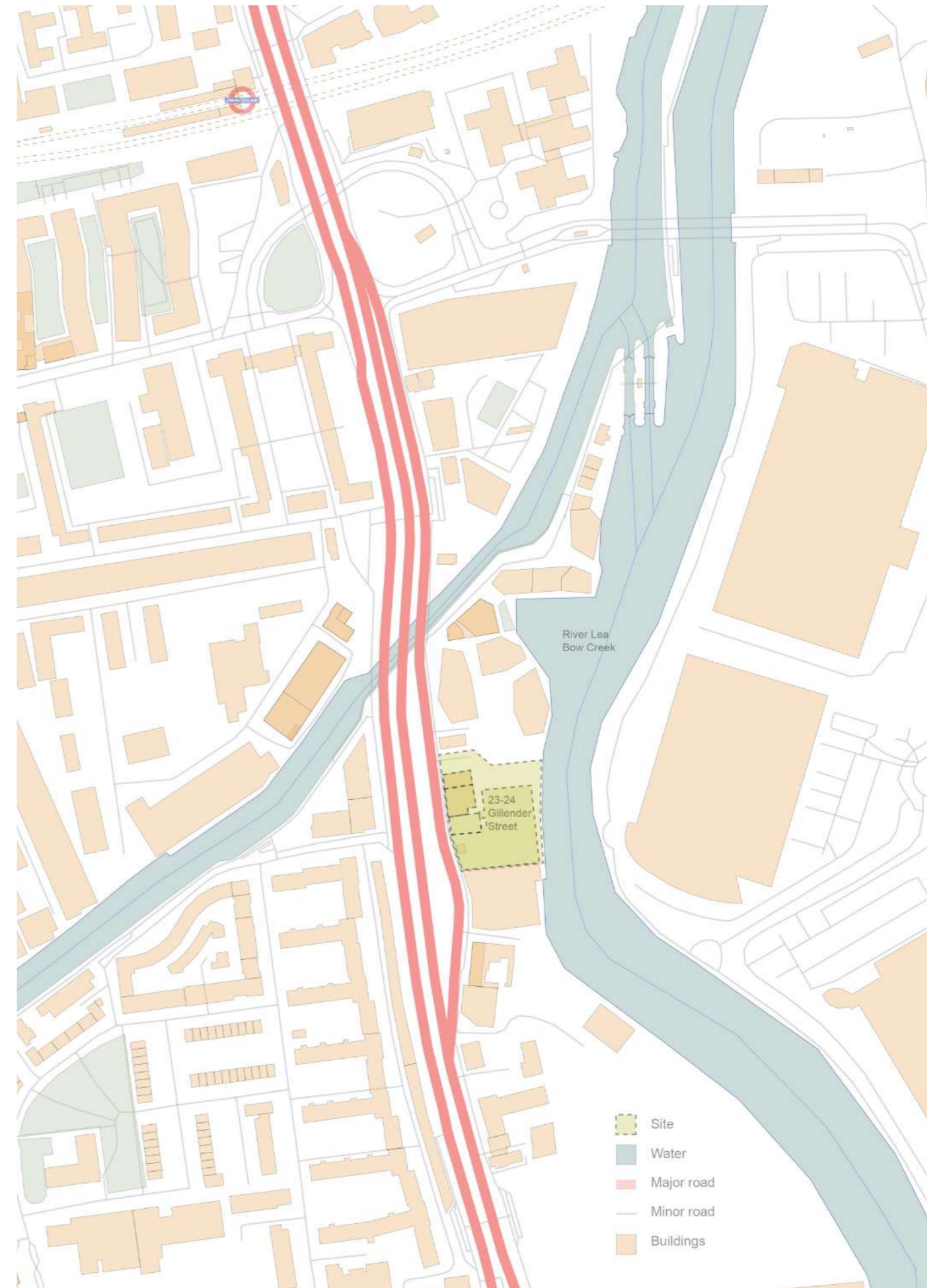
03

REHABILITATION CENTRE

Why a rehabilitation centre here?



It is next to the main highway, combined with poor public transportation options, suitable for doing something quiet without transporting a lot.

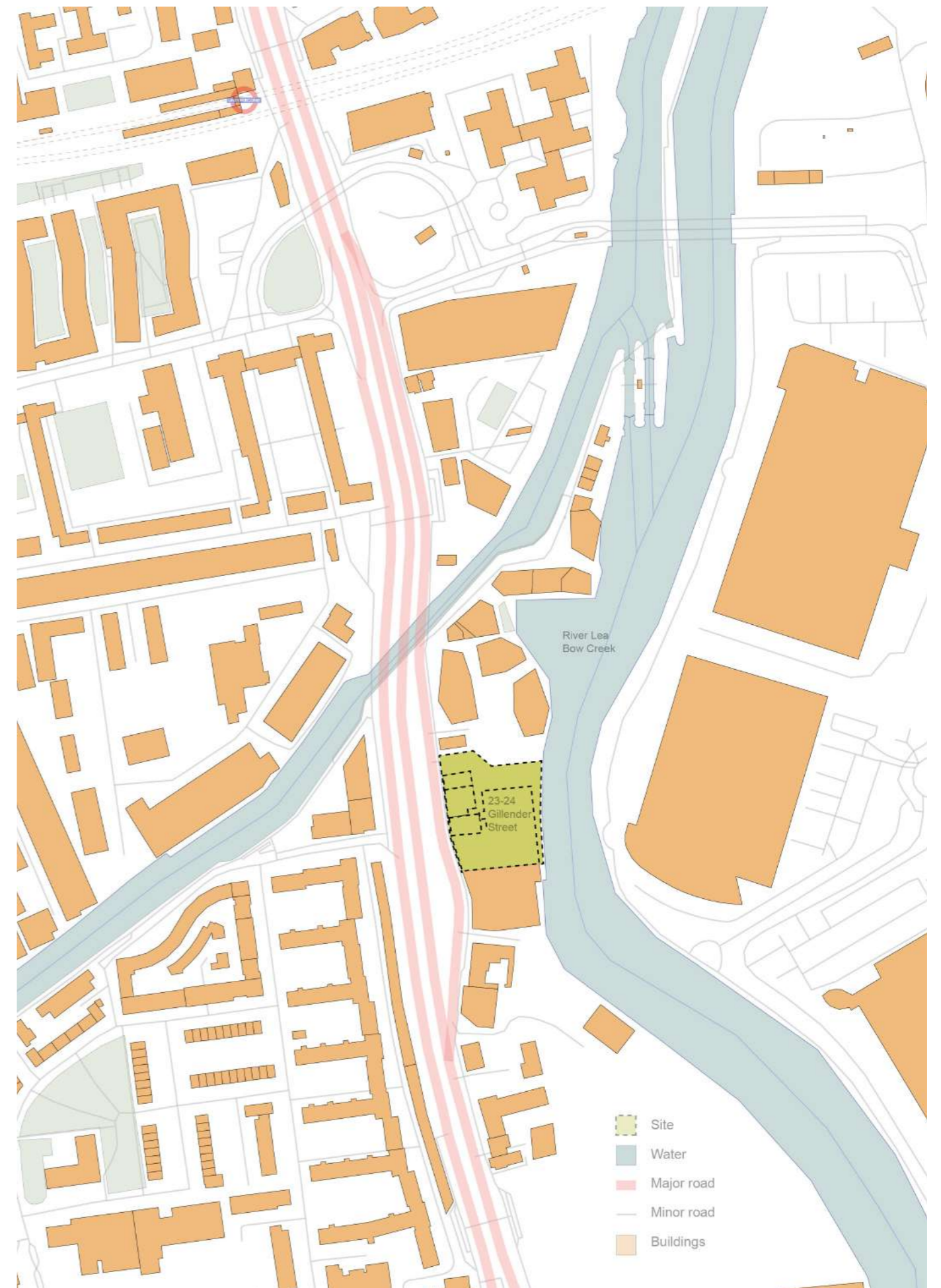


REHABILITATION CENTRE

Why a rehabilitation centre here?



The building around the site are residential buildings and schools, promoting a healthier lifestyle for the local community.



03 REHABILITATION CENTRE

Why a rehabilitation centre here?



03 REHABILITATION CENTRE

Tying with initial observation



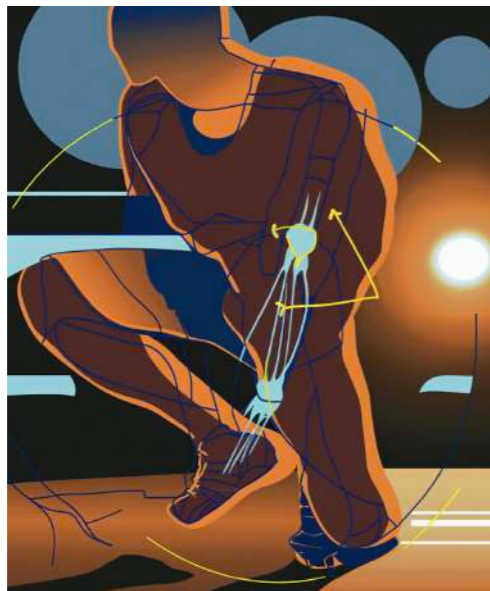
CARE, HUMANIZED, SOFT, COMFORT

A red curved arrow pointing from the text towards the bottom-right photograph.

03 TAILORED FOR INJURY RECOVERY

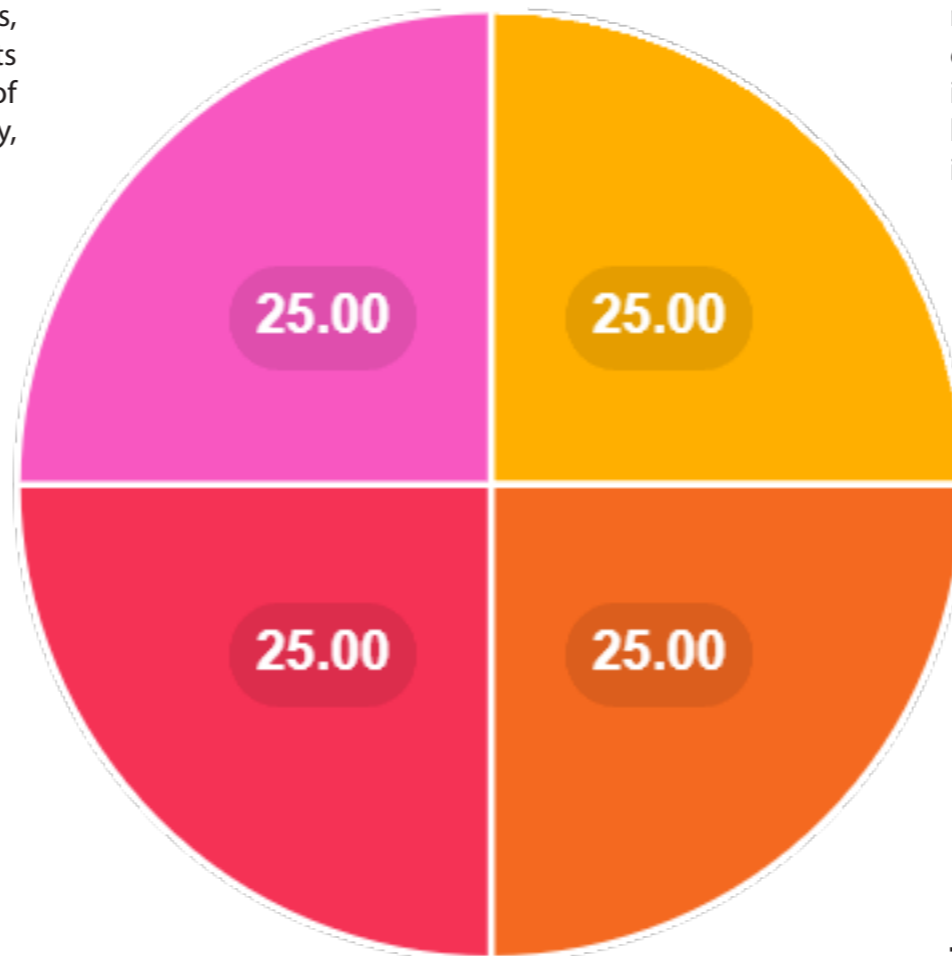
What is this?

A rehabilitation center for injury is a specialized facility focused on helping individuals recover from physical injuries, such as those resulting from accidents, surgeries, or sports activities. These centers offer a comprehensive range of services, including physical therapy, occupational therapy, and pain management.



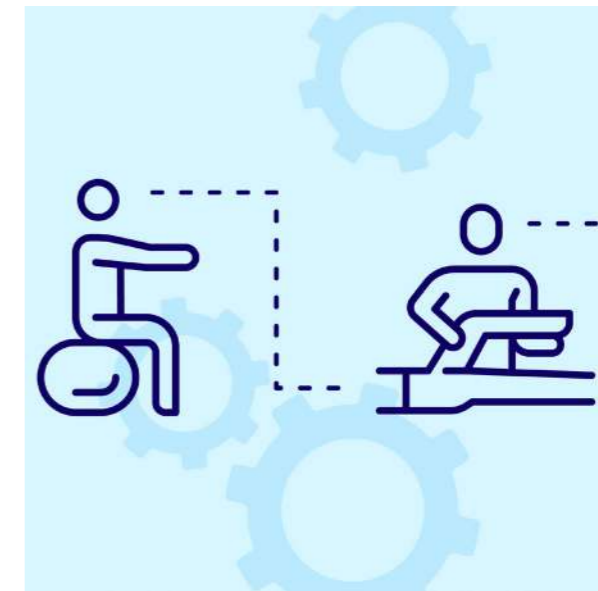
Key components?

Rehabilitation program for injuries integrates physical therapy, occupational therapy, hydrotherapy, and pain management to support holistic recovery. Together, these components create a synergistic approach to achieving optimal patient recovery.



Why it become vital?

Due to the rising number of injuries and chronic conditions resulting from modern lifestyles and accidents. It plays a crucial role in helping individuals regain independence, improve physical and mental health, and enhance quality of life. With developments in this particular area and technology, it offers personalized and effective treatment address needs, promoting faster and sustainable lifestyles.



Towards future...

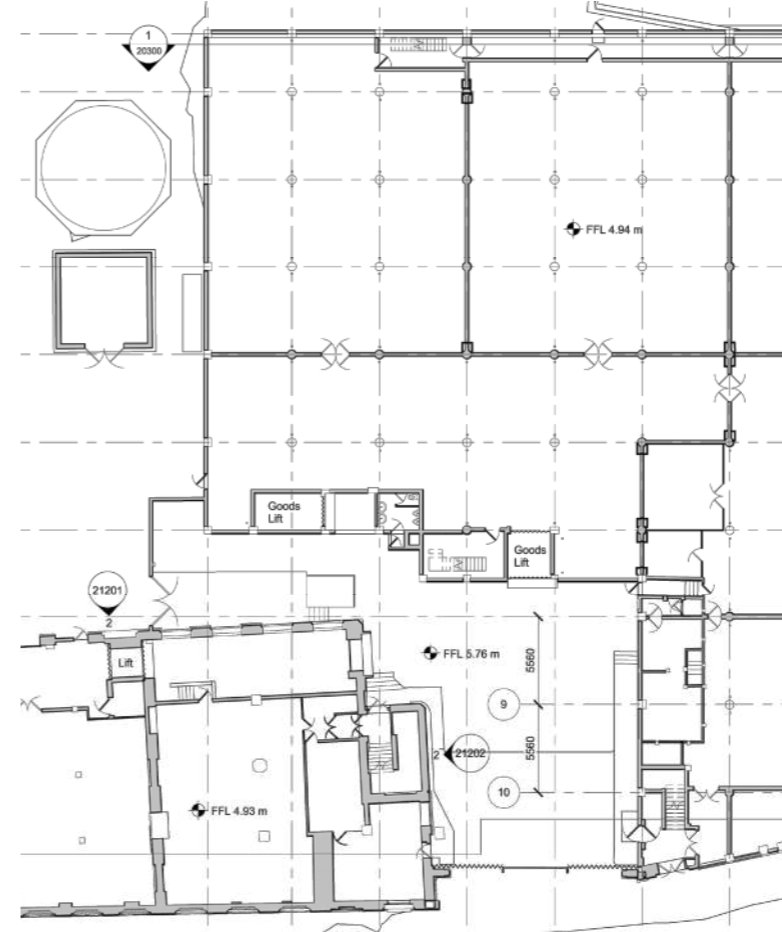
Advancements in medical technology, robotics and personalized medicine are transforming rehabilitation, making treatments more effective and accessible. Investing in research and development in this field is crucial. The continued evolution of rehabilitation practices will be essential in promoting health, independence and well-being in the society.

03 REHABILITATION CENTRE

Detailed program introduction + users



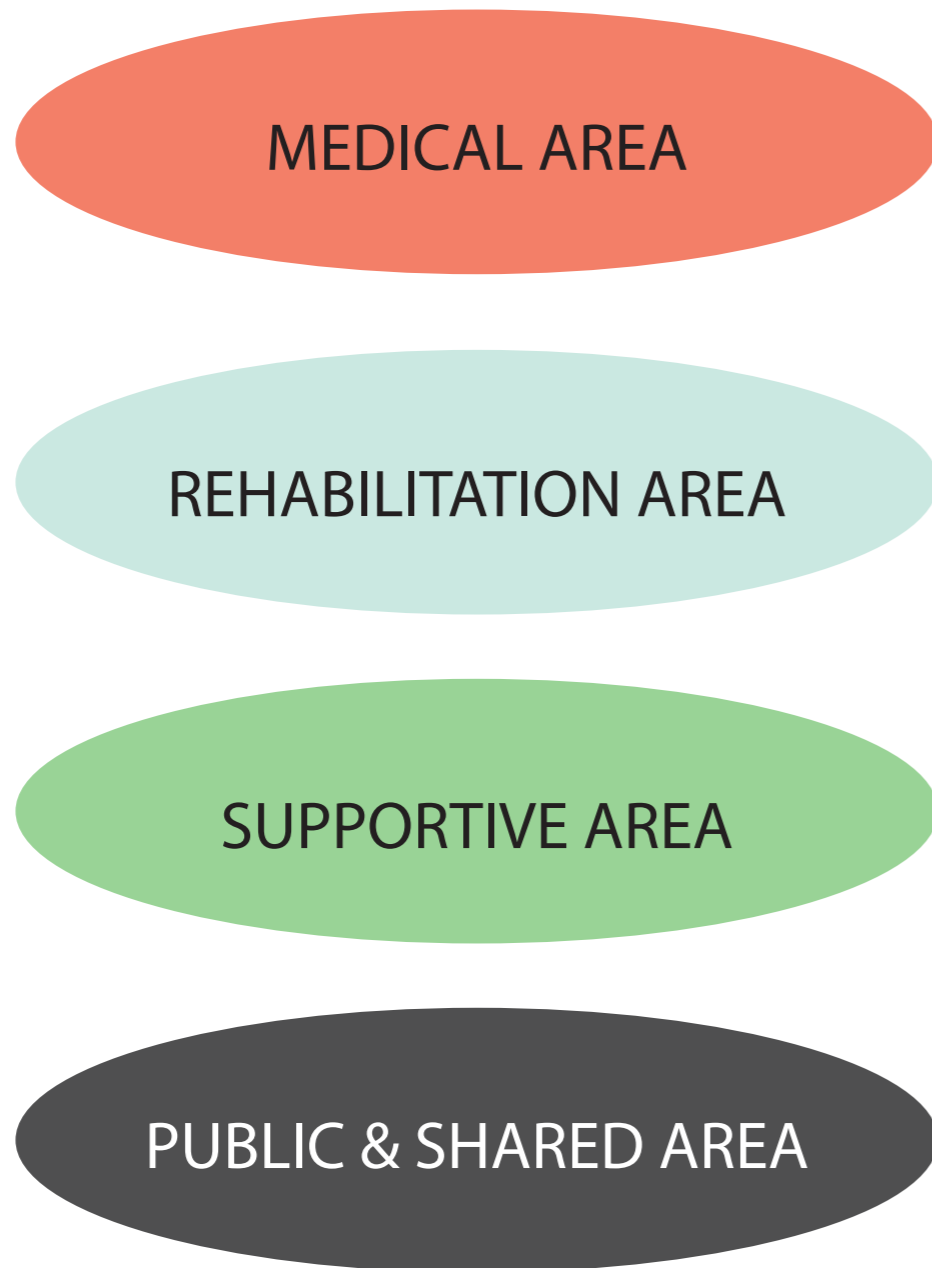
The center is provided to individuals recovering from sports injuries, focusing on those who face challenges in mobility and require time for healing.



Medical area, rehabilitation area, supportive area, public & shared area

03 DEFINE MASSING PROGRAM

FOUR main areas



.....

All these areas will have specific small function zone which will be allocate to each level with particular need of space.

03 FOUR MAIN AREAS

Medical area



Consultation room



Treatment room



Surgery room



Diagnostic imaging



Pharmacy

03 FOUR MAIN AREAS

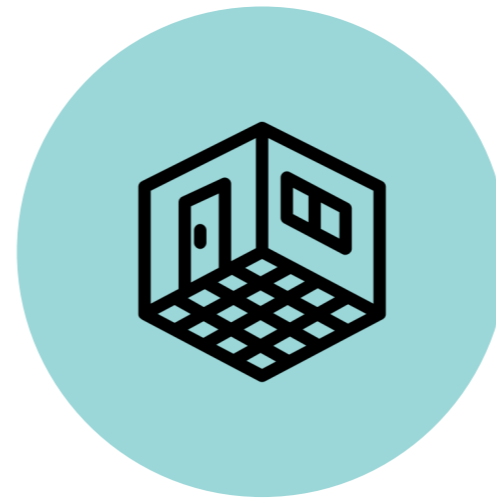
Rehabilitation area



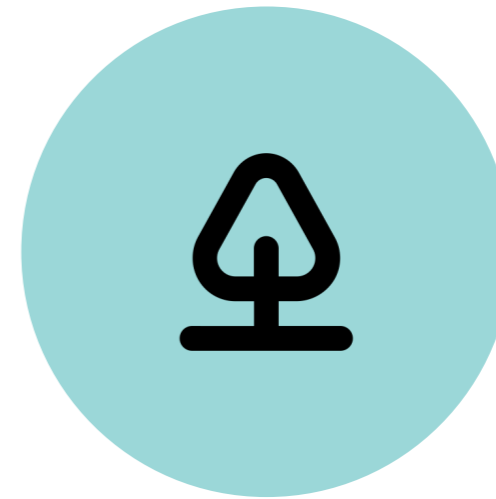
Rehabilitation gym



Hydrotherapy



Occupational
therapy
suites



Outdoor therapy area

03 FOUR MAIN AREAS

Supportive area



Patient accommodation



Nursing stations



staff office



Laundry and housekeeping



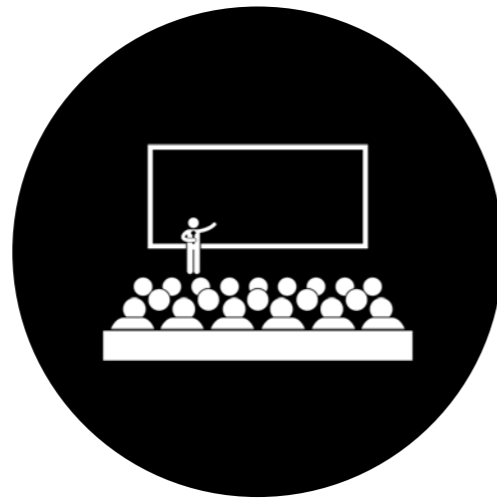
Research room

03 FOUR MAIN AREAS

Public & shared area



Reception & waiting area



Multi-hall



Cafe & canteen



Parking lot & drop-off area



Communal space

03 RESEARCH ON FACILITIES

Special hydrotherapy facilities

- Specialized hydrotherapy pool x1
- *General rehabilitation, exercise*
 - *For various conditions*
 - *Slope, handrail, different shape*



- Aquatic treadmill x2
- *For low-impact cardiovascular and strength training*
 - *Enhances endurance, balance, and muscle tone without stressing joints*



- SPA pool x1
- Relaxation and stress reduction
 - Warm water and hydrotherapy jets
 - promoting mental well-being alongside physical recovery



- Individual pool x2
- *for supportive exercise*
 - *According to different rehabilitation activities*



- Contrast water therapy pool x1
- Recovery and treatment of muscle injuries
 - Alternating between hot and cold water



Incorporating hydrotherapy facilities into rehabilitation center can significantly enhance the range of treatments and services offer to patients. From a professional standpoint, focusing on versatility and the ability to address a wide range of rehabilitation needs is crucial.

Ensure each facility has enough space for safe use, including access for those with mobility aids.

03 RESEARCH ON FACILITIES

Special physical therapy facilities

Physical Therapy

- Treadmills, stationary bikes, ellipticals, balance equipment
- improve mobility, enhance motion



Strength Training

- *Free weights, resistance machines, cable machines, resistance bands*
- *Build muscle strength, endurance, support injury prevention and rehabilitations*



Functional Training

- Kettlebells, medicine balls, agility ladder
- Improve ability to perform daily activities



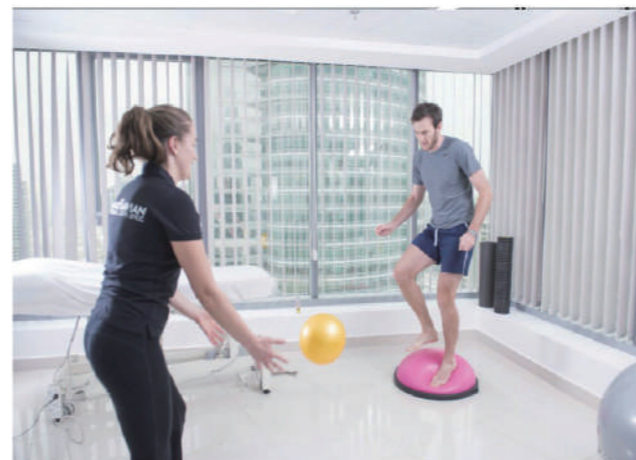
Neurological Rehabilitation

- Balance boards, virtual reality therapy systems
- *With neurological conditions or injuries*



Sports Therapy

- Plyometric boxes, simulation tools
- Address sports-related injuries and conditions, helping athletes return to performance



Relaxation and Recovery

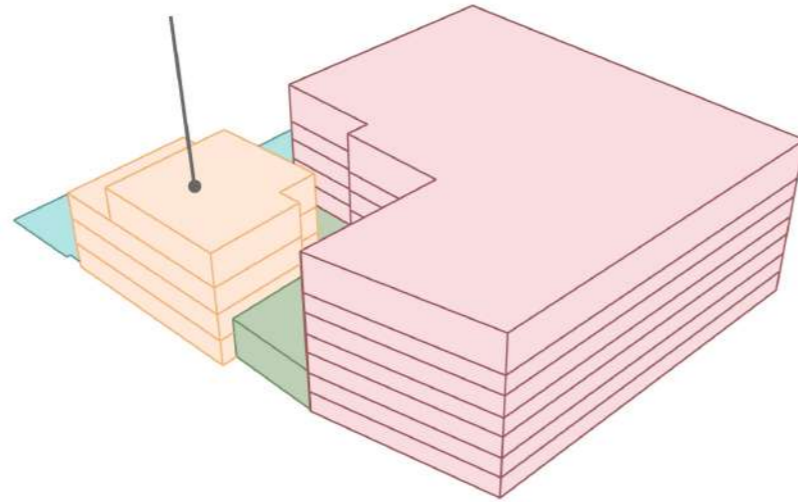
- Foam rollers, relaxation aid
- Reduce stress, promote relaxation, support overall well-being



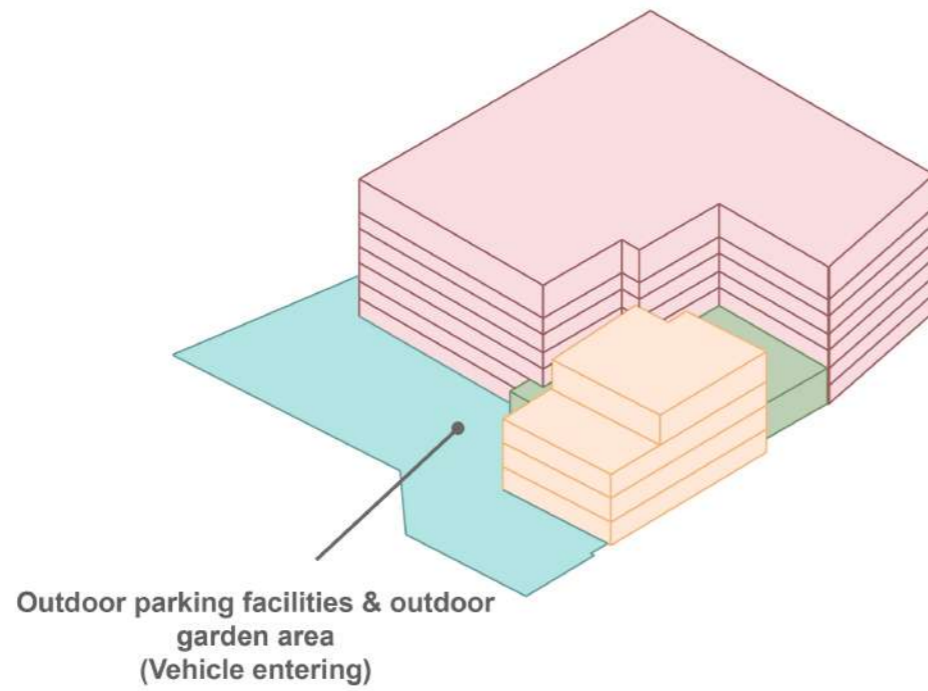
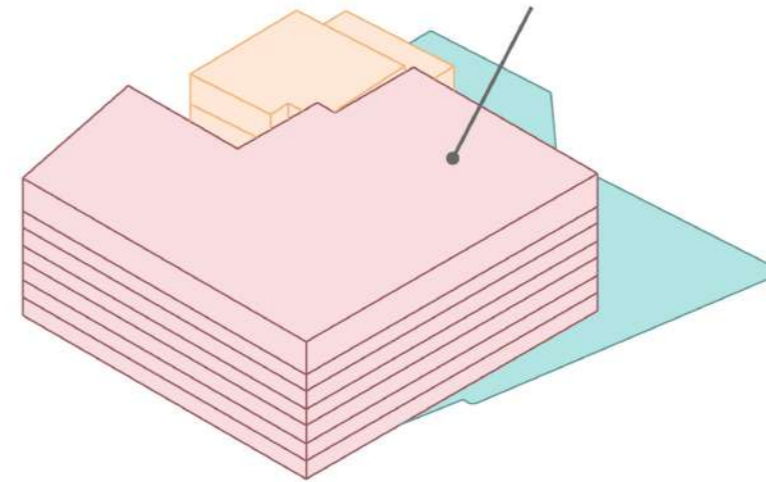
03 REHABILITATION CENTRE

Massing diagram (Big program planning & allocation)

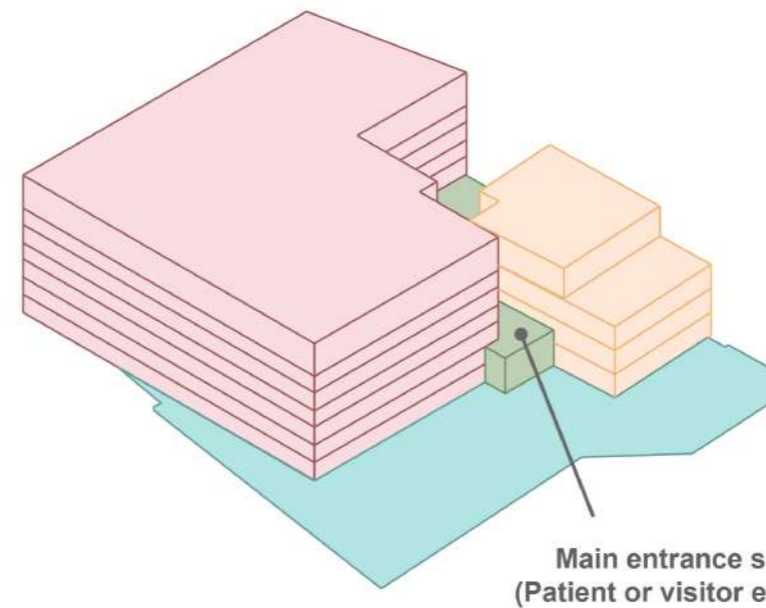
Functionality, consultation, medical, office
(professional clinic design)



Rehabilitation, living, home, communication
(professional rehabilitation design)



Outdoor parking facilities & outdoor
garden area
(Vehicle entering)

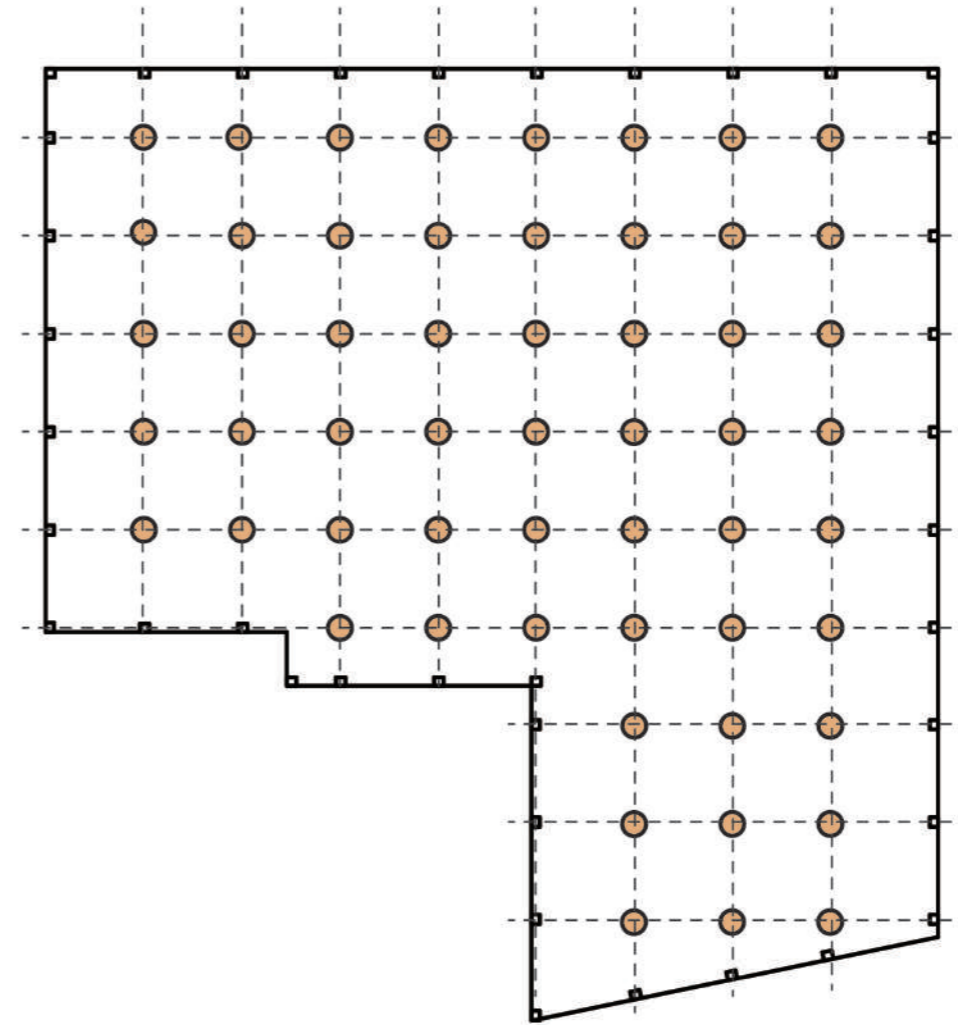


Main entrance space
(Patient or visitor entering)

DESIGN STRATEGIES

04 WORKING FROM EXISTING

Existing problem with columns



04 DESIGN GOALS TO ACHIEVE

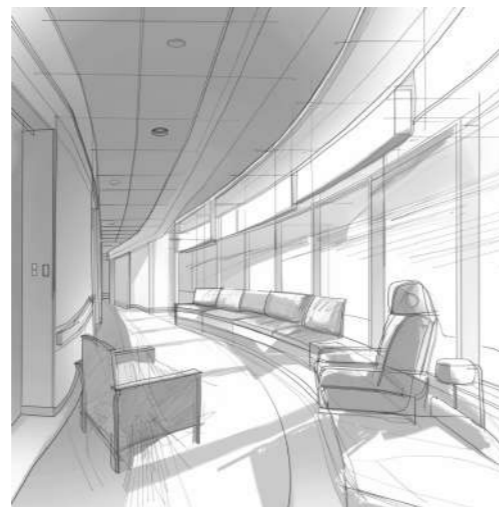
Consider professional medical point of view

Cover existing, not deleting



Because there are so many columns, let columns get wrapped, passed through by curves, and eaten away by curves, which weakens the sense of repetition of the columns

Prevent right angles corners



Let the rehabilitation space have no sense of right angles, remove the edges and corners, and use curves to create a soft and beautiful space. Let patients get soft and quiet vision here

Guide system in space



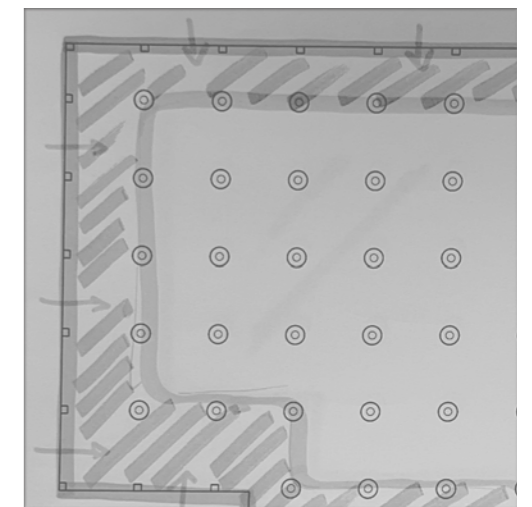
The curve can be a guiding system in the space, create self-guided circulation system

Create wider view



The curved shape allows nurses or doctors to have a wider visual observation point, preventing patients who fall down from blind spots

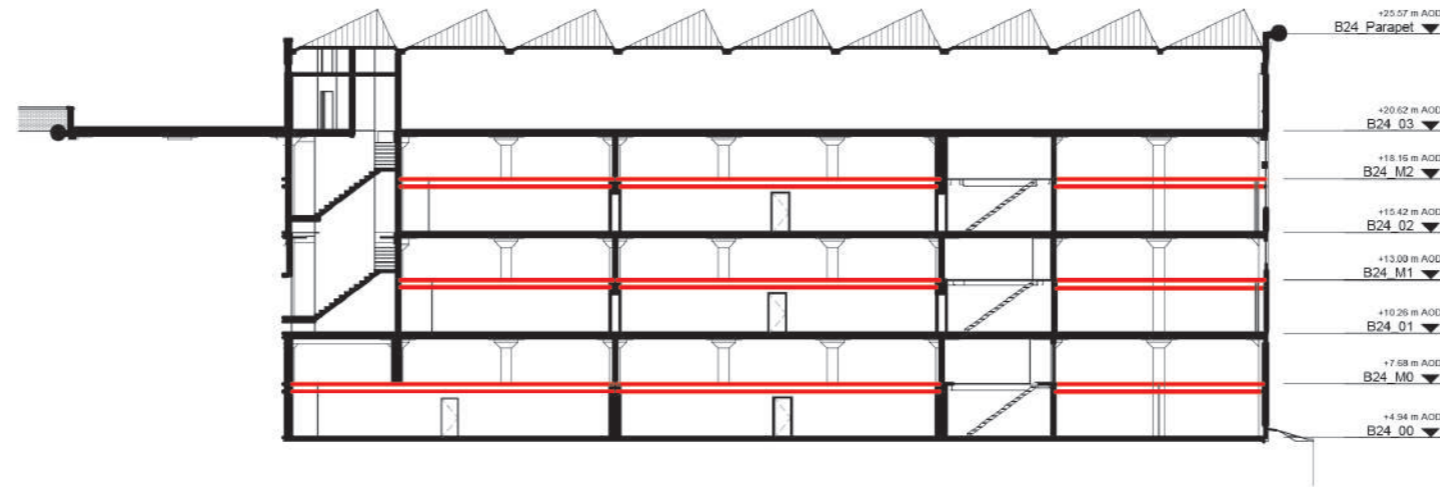
Openness of outside facade



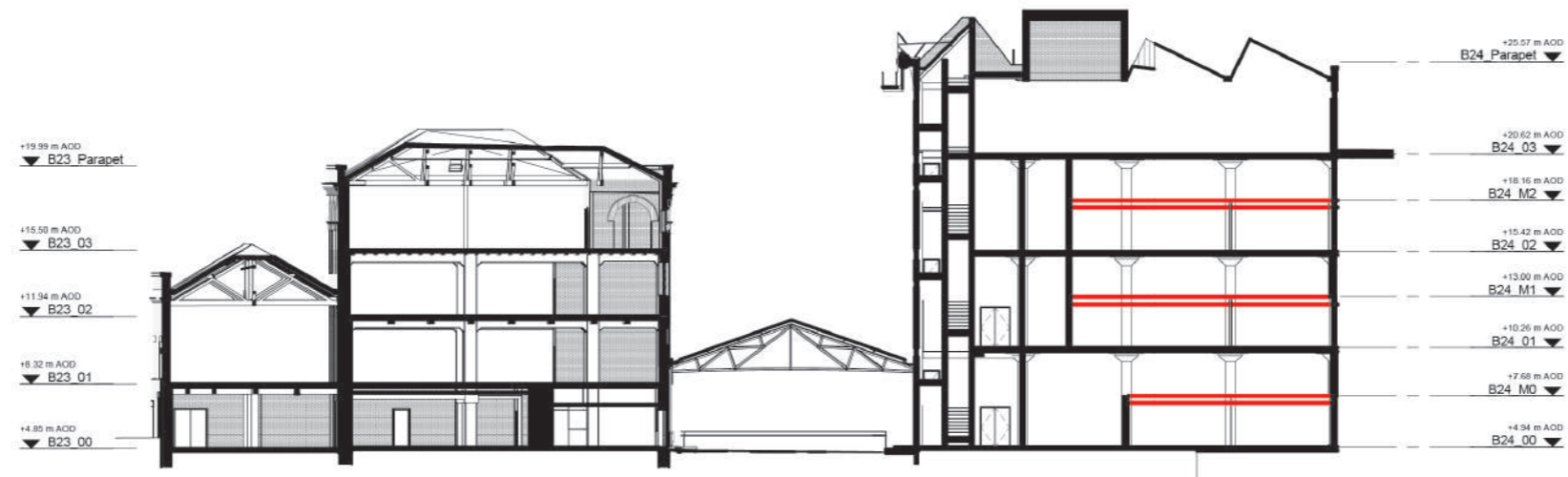
The breakthrough in the exterior wall makes the flow of movement and circulation in and out more comfortable and humane

04 INITIAL DESIGN DECISION

Remove mezzanine levels



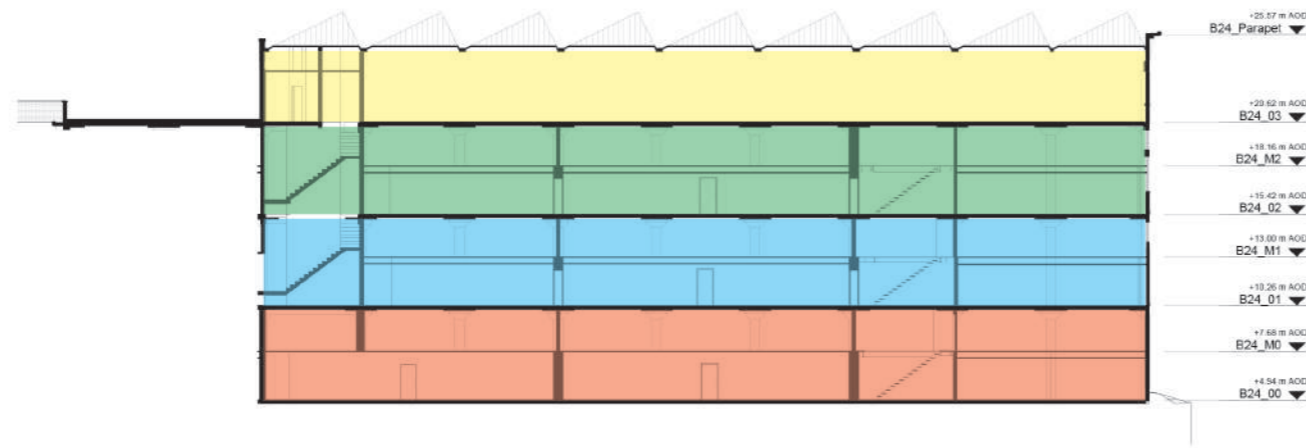
1 Section A GL1-2 without Grid
20310 1 : 200



2 Section B GL9-10 without Grid
20310 1 : 200

04 INITIAL DESIGN DECISION

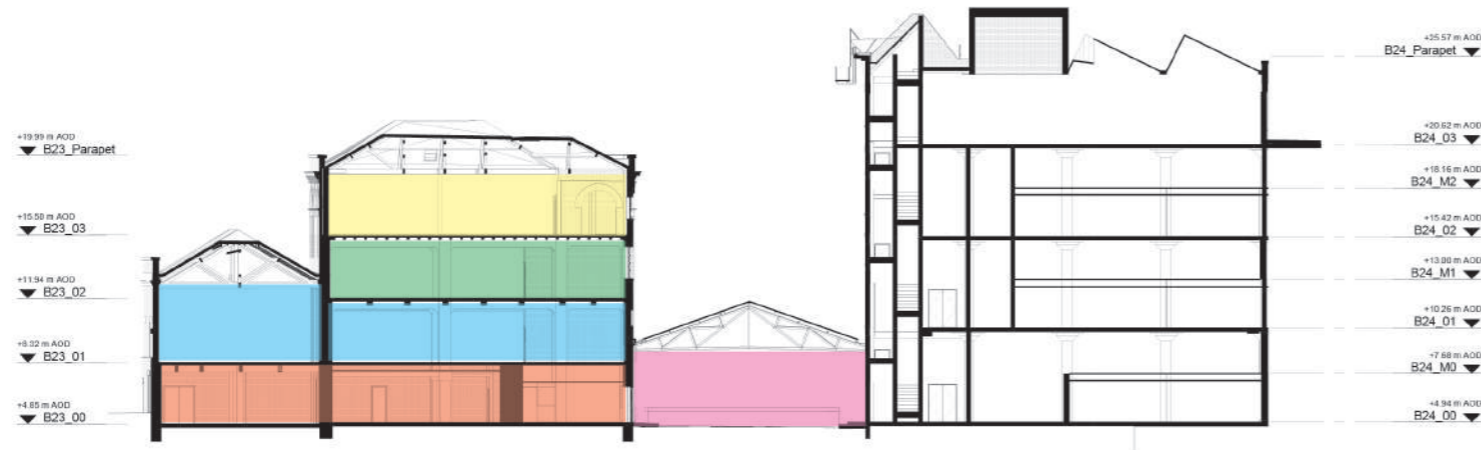
Zoning division



1 Section A GL1-2 without Grid
20310 1 : 200

HOME, LIVING, REHABILITATION

- Canteen, Multi hall, Research room
- Patient room, Nursing station
- Rehabilitation gym, Communal space
- Cafe, Waiting area, Hydro facilities



2 Section B GL9-10 without Grid
20310 1 : 200

CONSULTATION, CLINIC, SURGERY

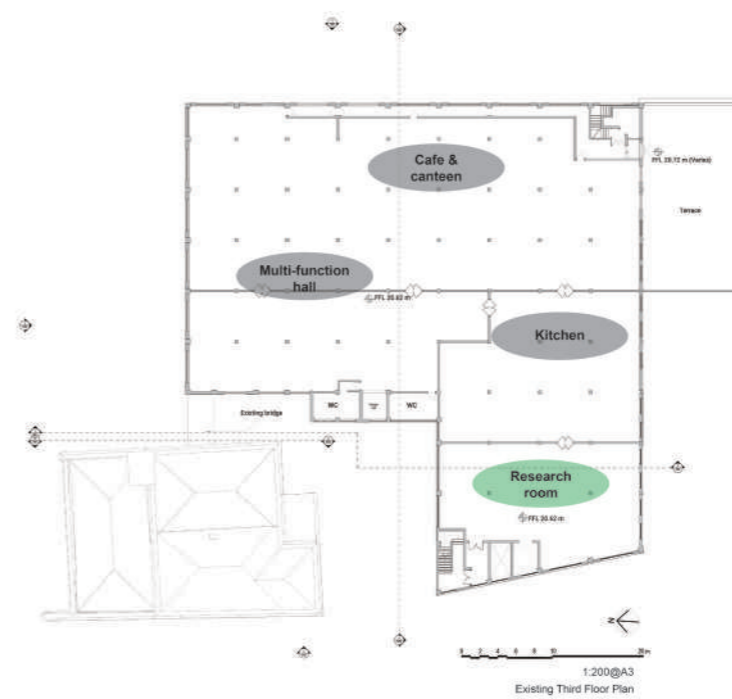
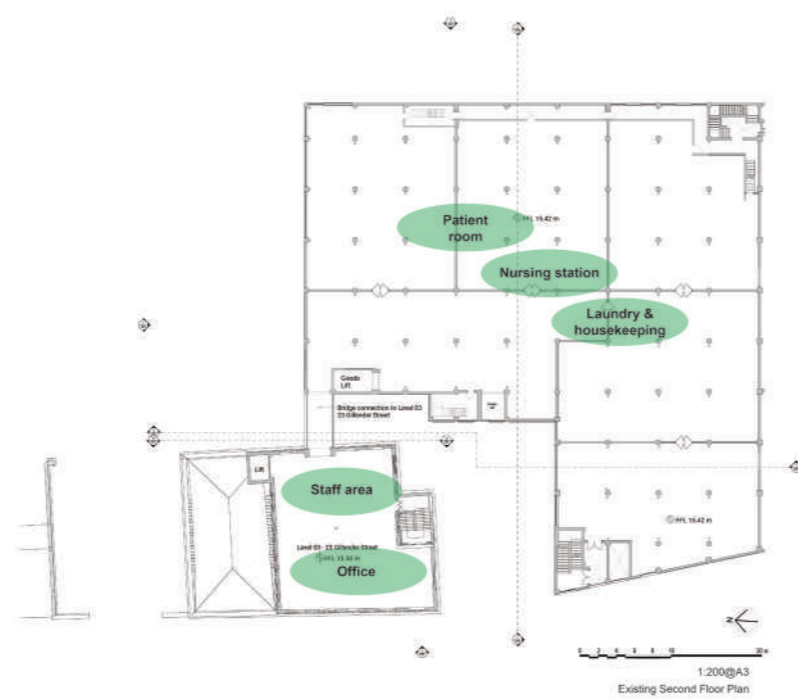
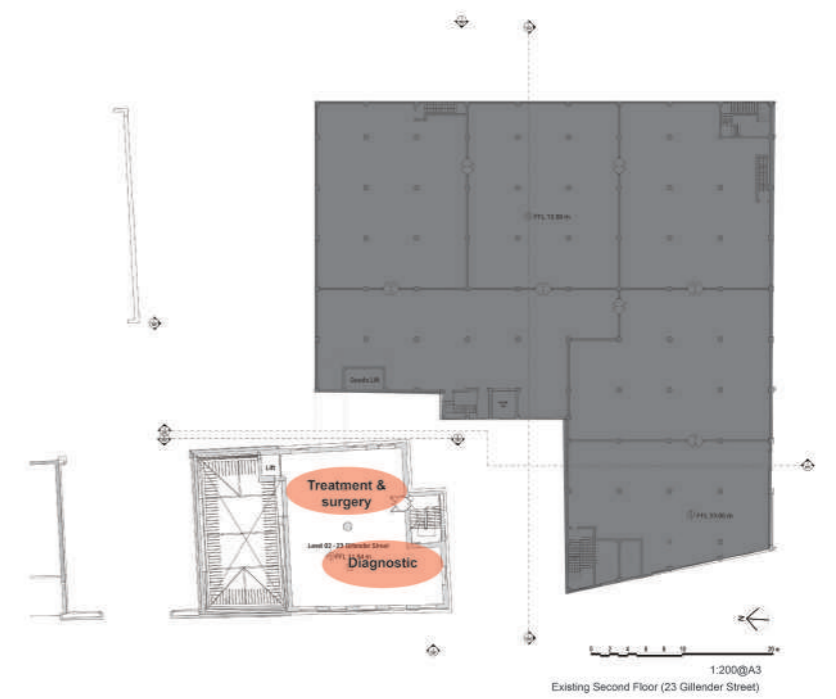
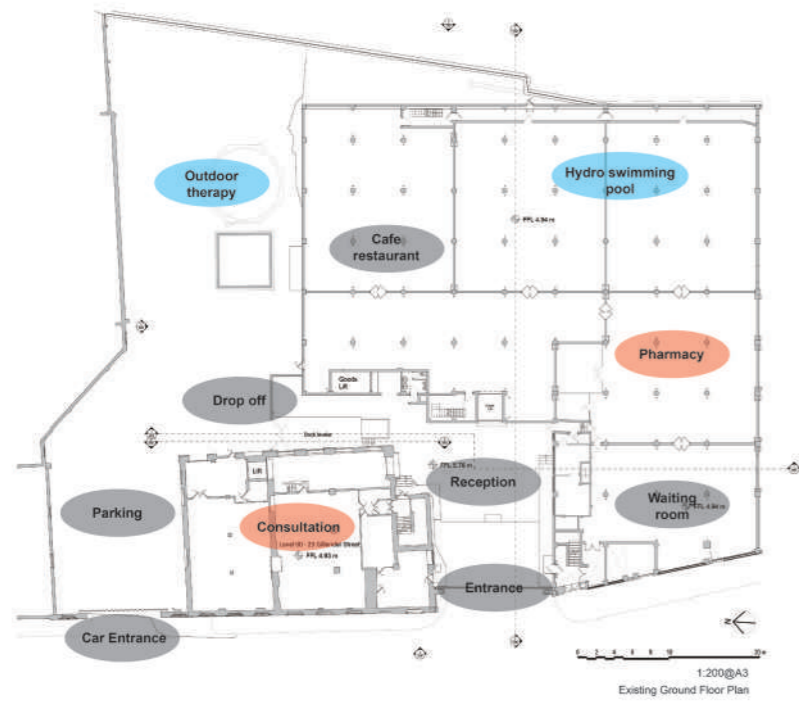
- Staff room, Office
- Surgery, Diagnostic
- Treatment room, Interventional therapy
- Consultation, Clinic
- Entrance, Reception



Program allocation

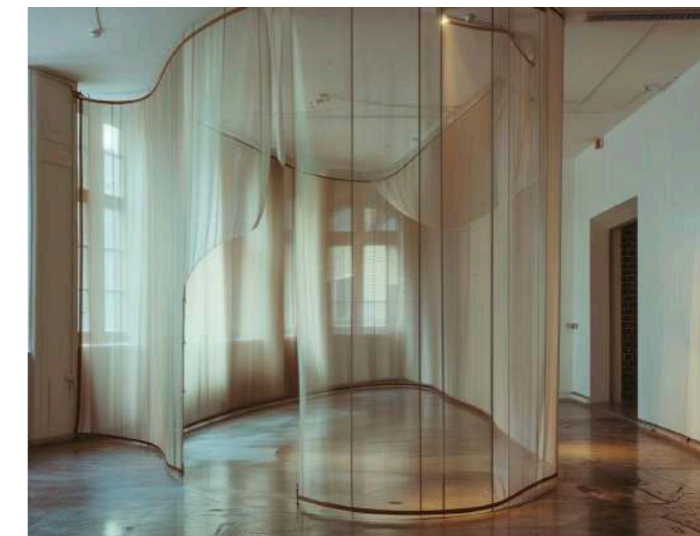
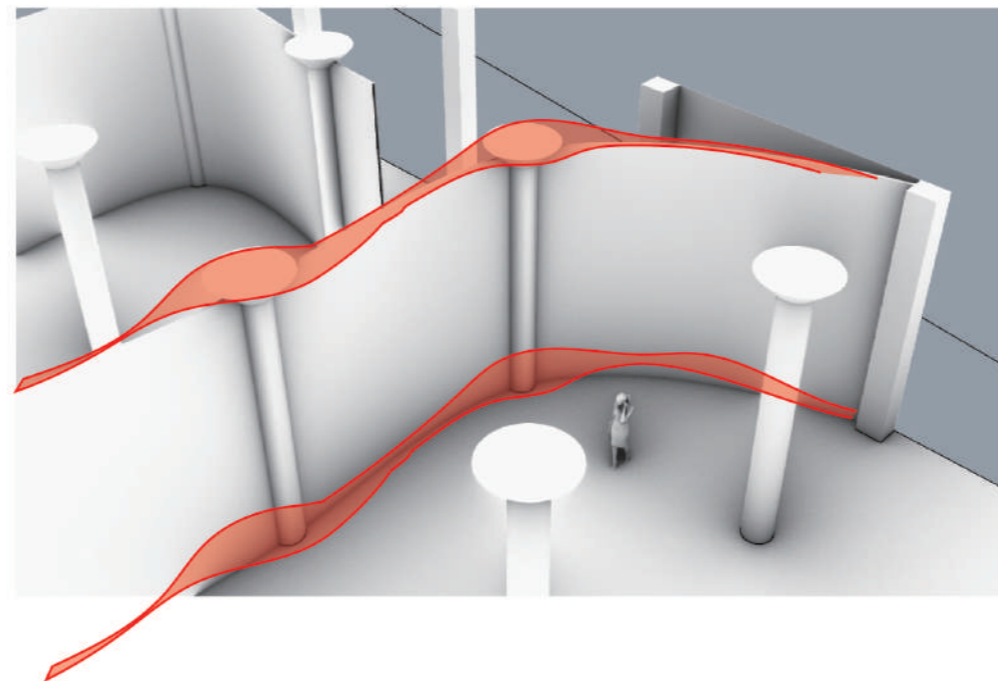
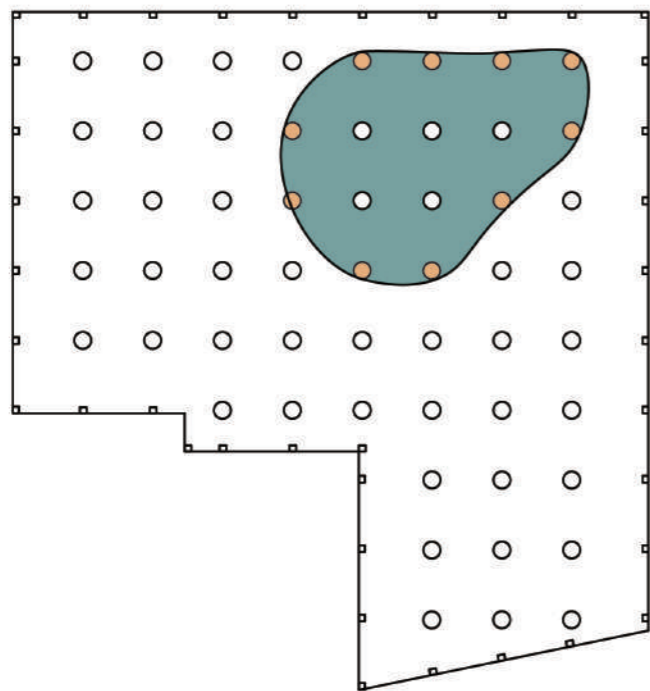
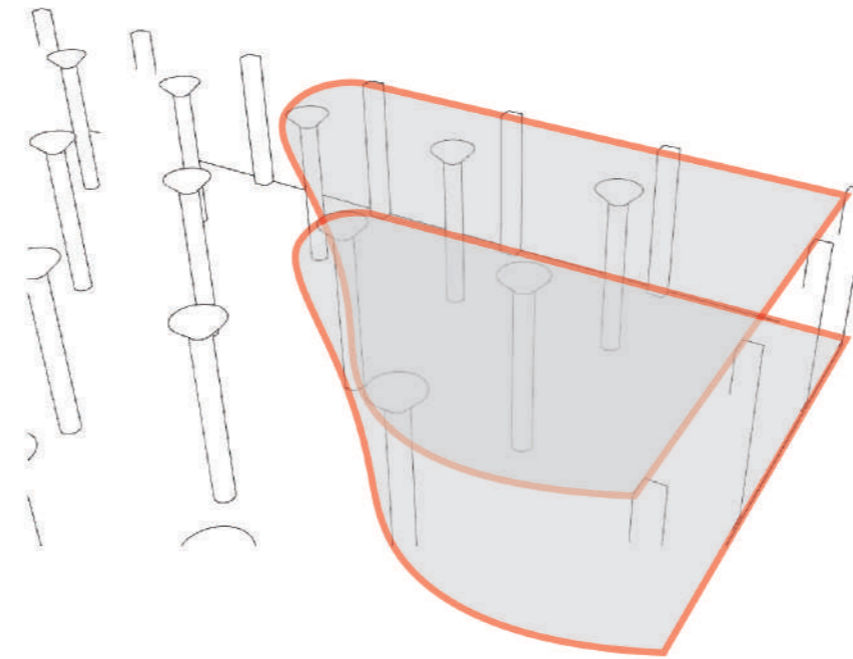
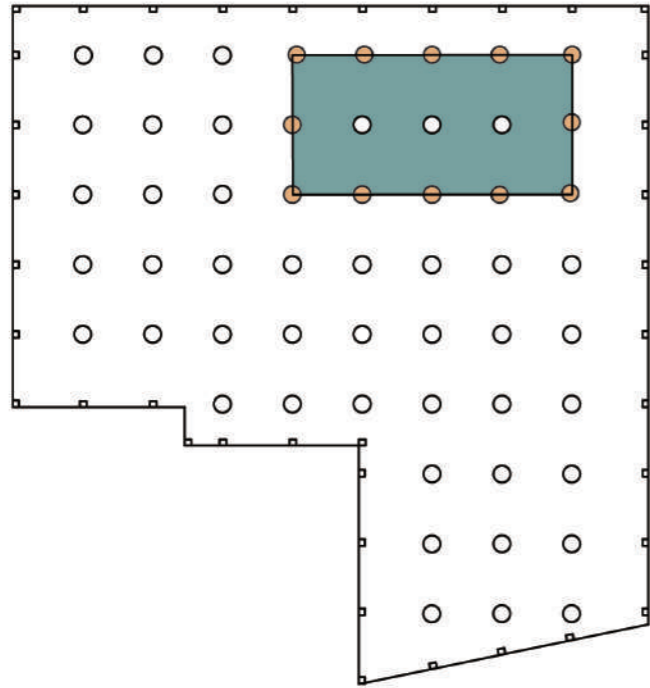
04 INITIAL DESIGN DECISION

Zoning division (In plan)



04 RE-DESIGNING

Cover existing without deleting

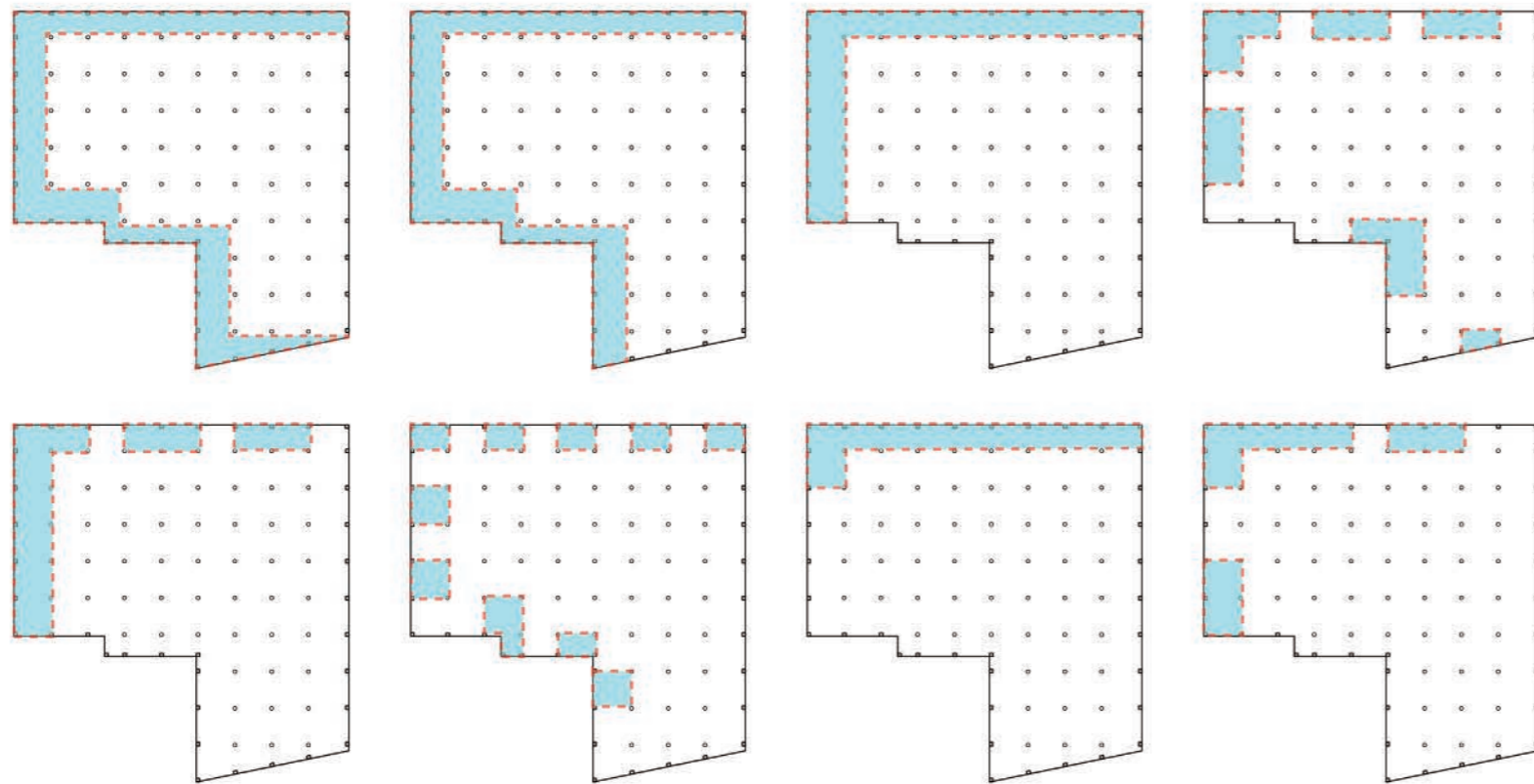


In reimagining the spatial layout, the decision to transition from traditional straight lines to curved connections between columns marks a significant departure towards fluidity and organic form. This approach aims to soften the rigidity imposed by the repetitive columnar structure, thereby creating a more harmonious and engaging environment.

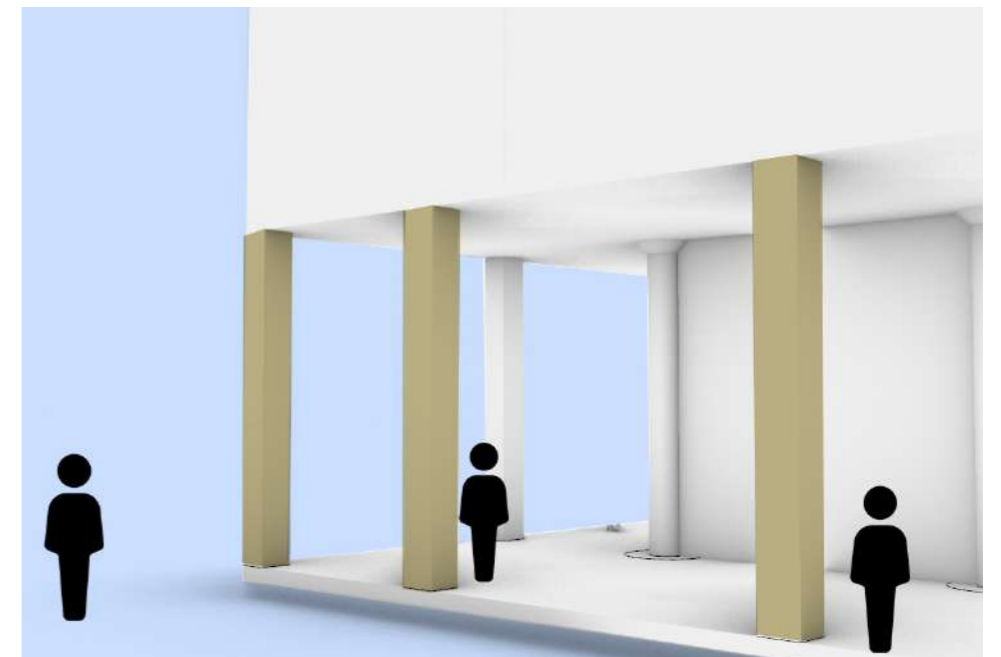
This strategy seeks to enhance spatial dynamics, making the area more inviting and reflective of a more natural, human-centric approach to space.

04 RE-DESIGNING

Openness of outside facade

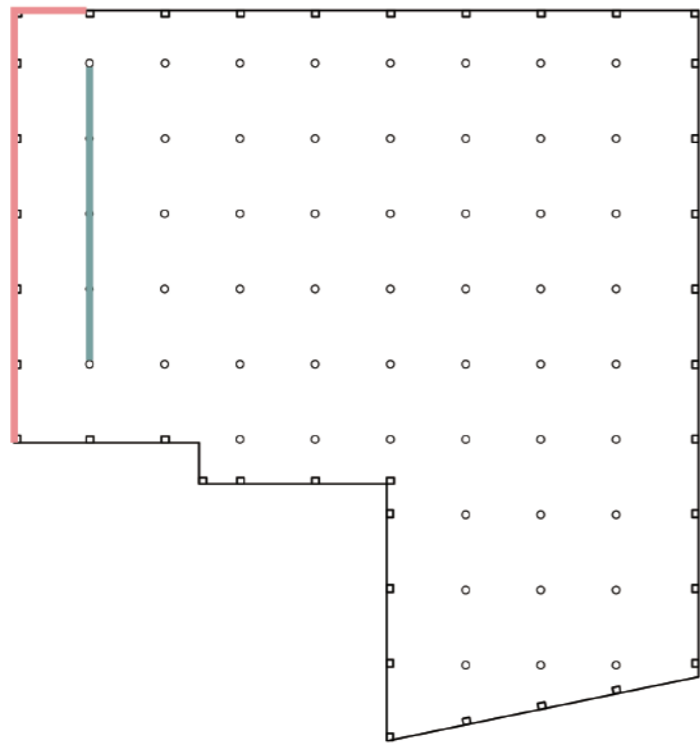


Consider about re-design the outside facade by pushing the existing, to form connection between inside and outside. From this corridor, either can be a glasshouse cover by glass, or leave open it is a semi-outdoor feeling. But there are more iteration can be taken where consider on upper level.

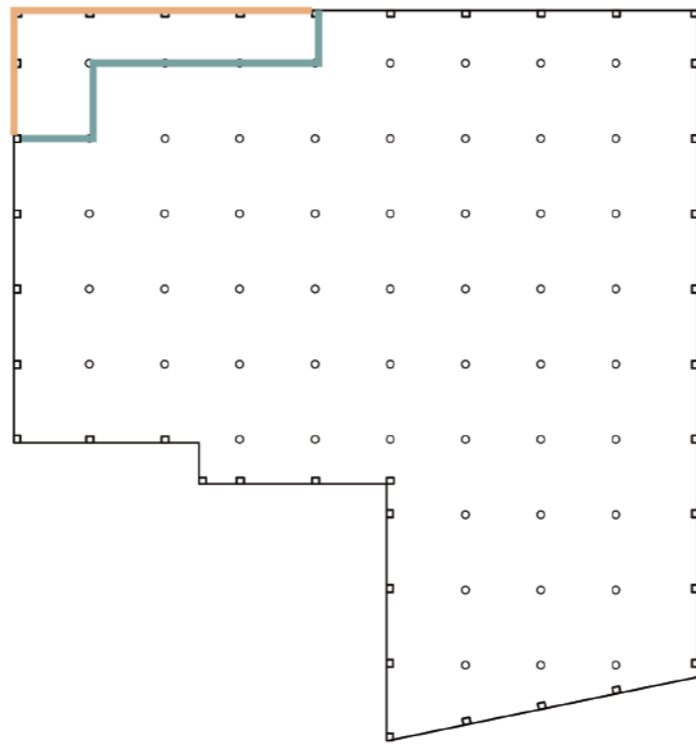


04 RE-DESIGNING

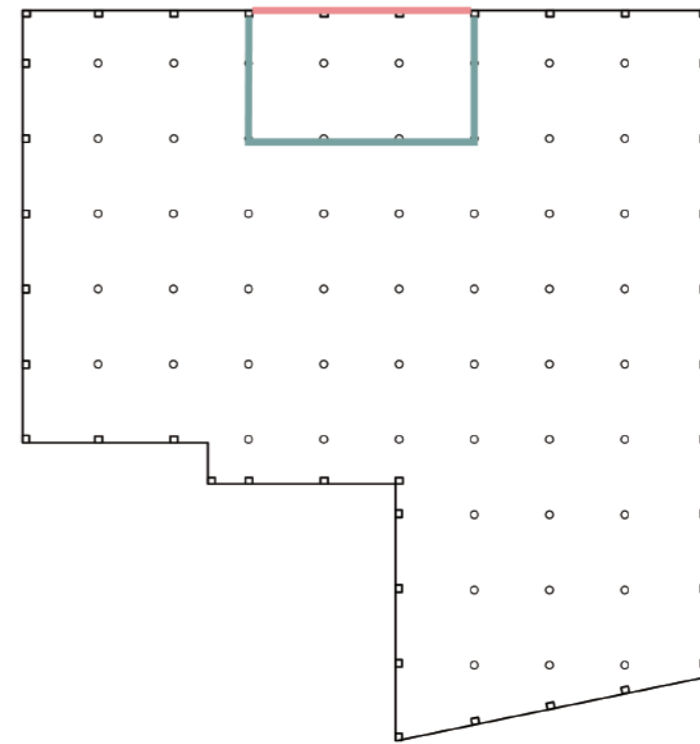
Different openness iterations






Create semi-outdoor (For ground floor)



Create glasshouse area

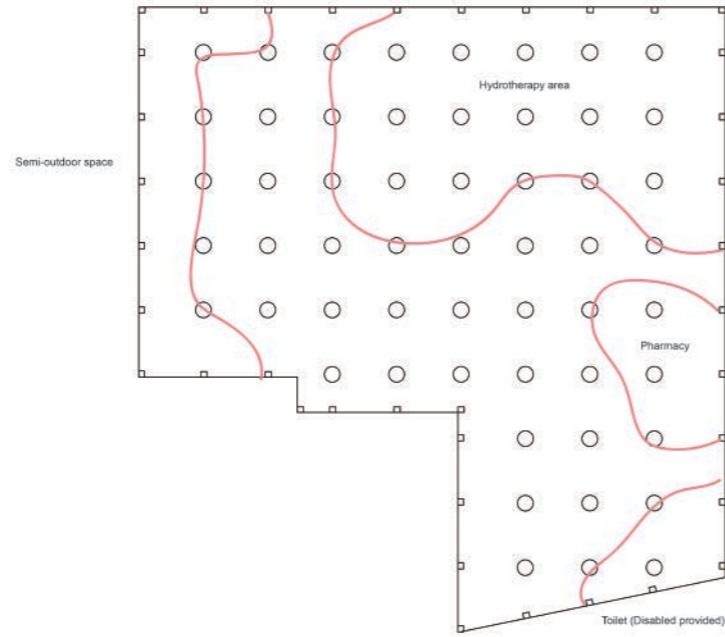


Create balcony / terrace

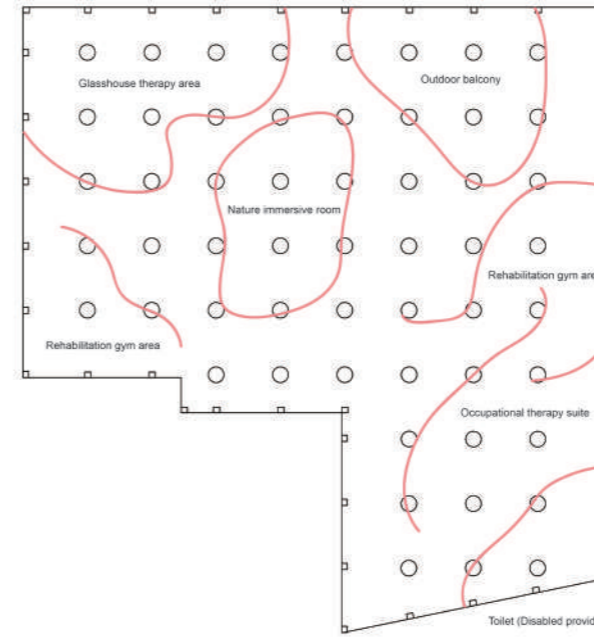
-  Delete existing facade wall
-  Add new partition
-  Change existing material to glass

04 RE-DESIGNING

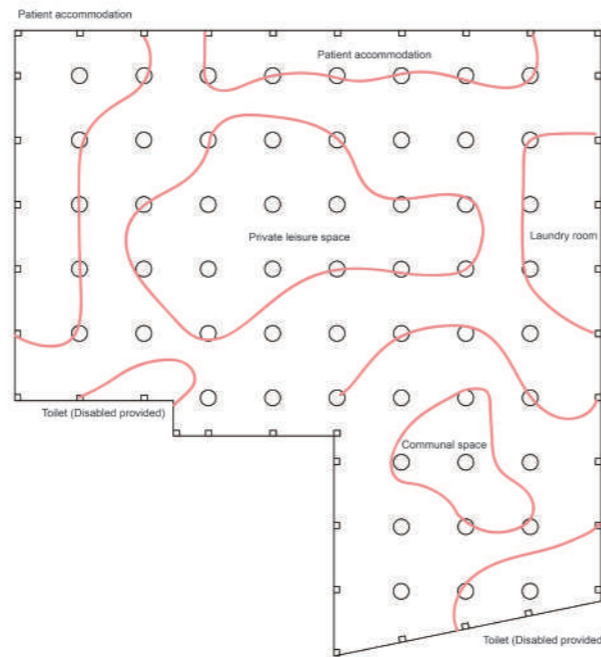
Function allocation for each level



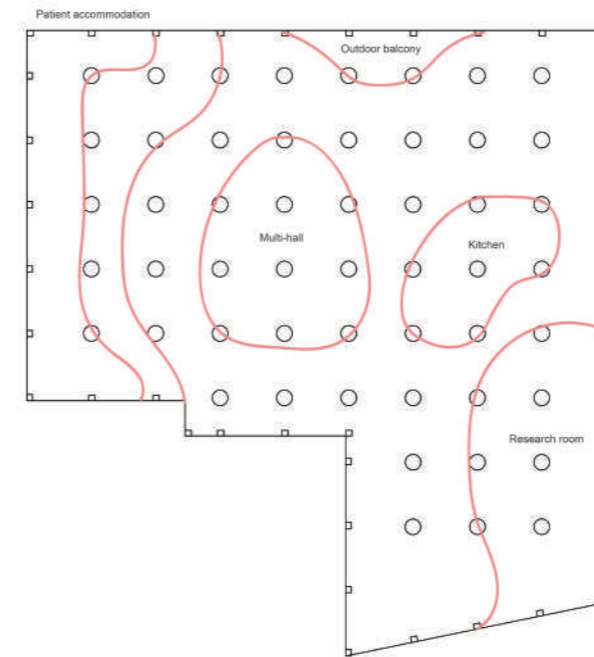
Ground floor



First floor



Second floor

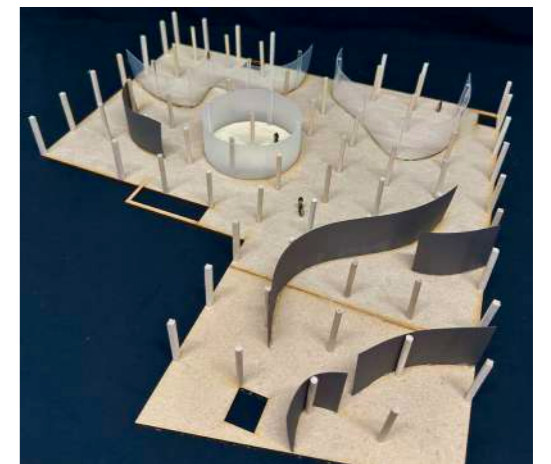
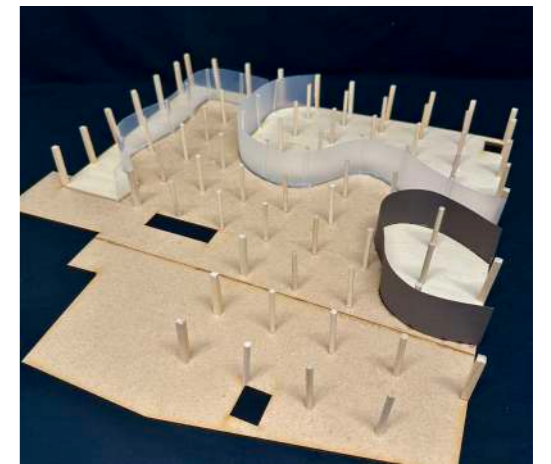
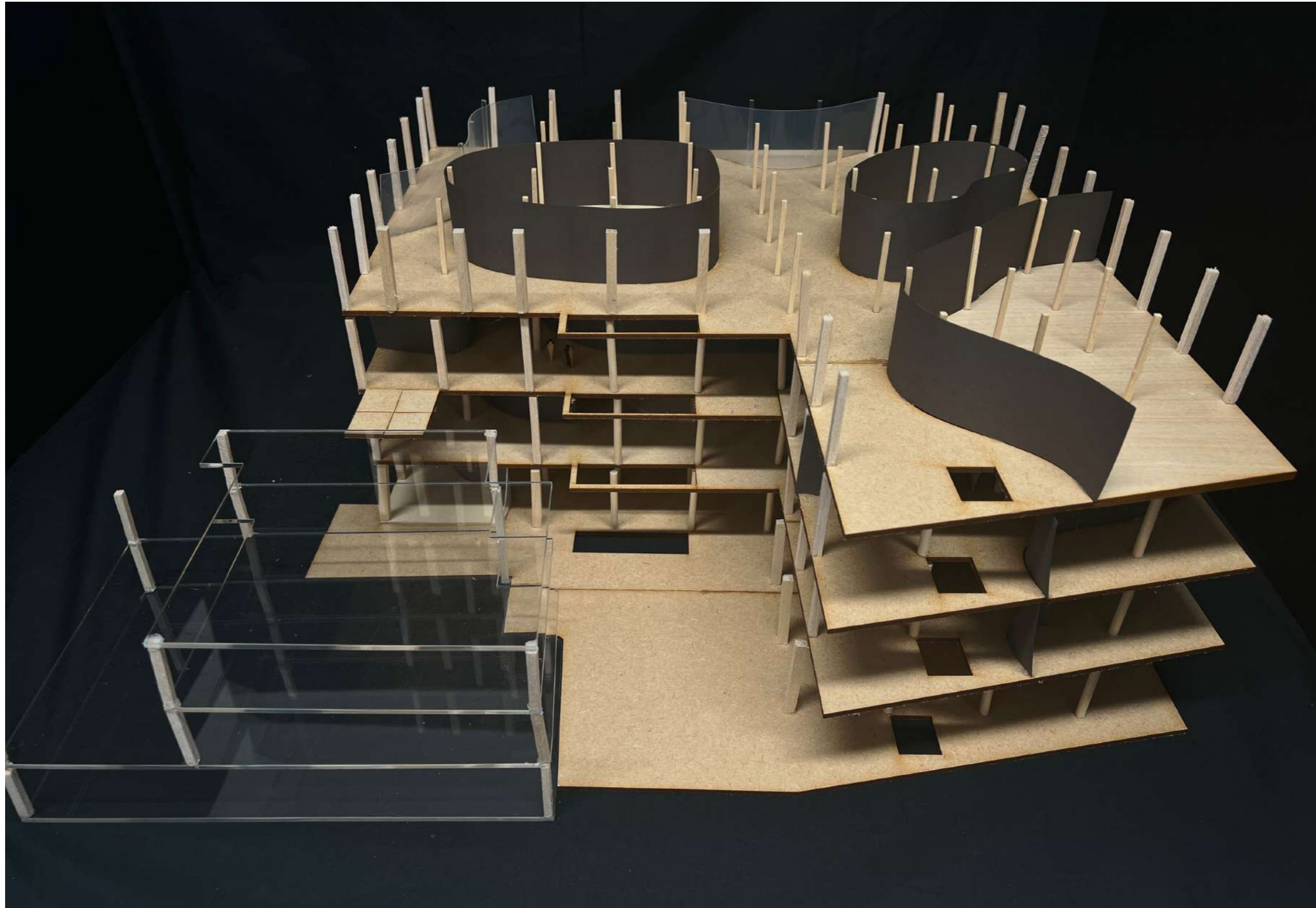


Third floor

FINAL PROPOSAL

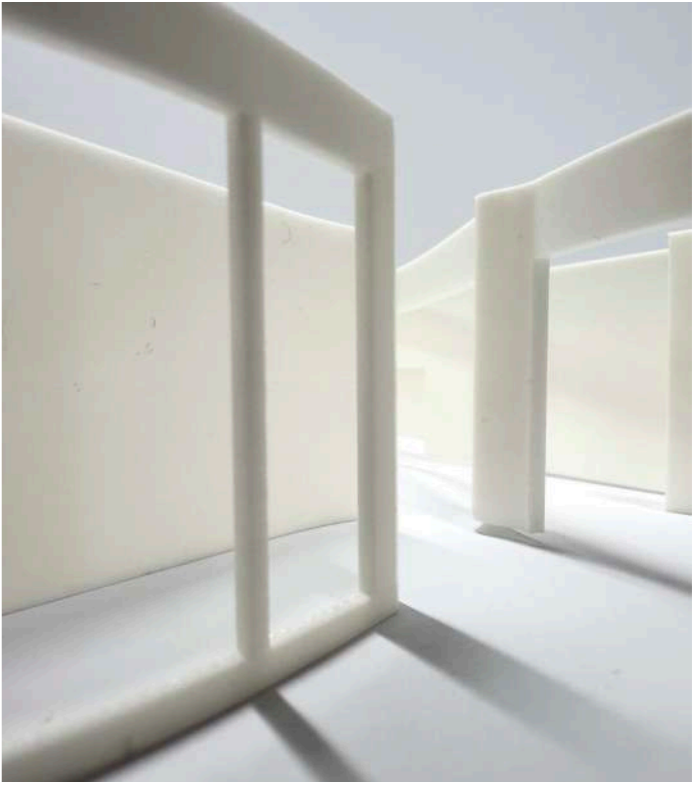
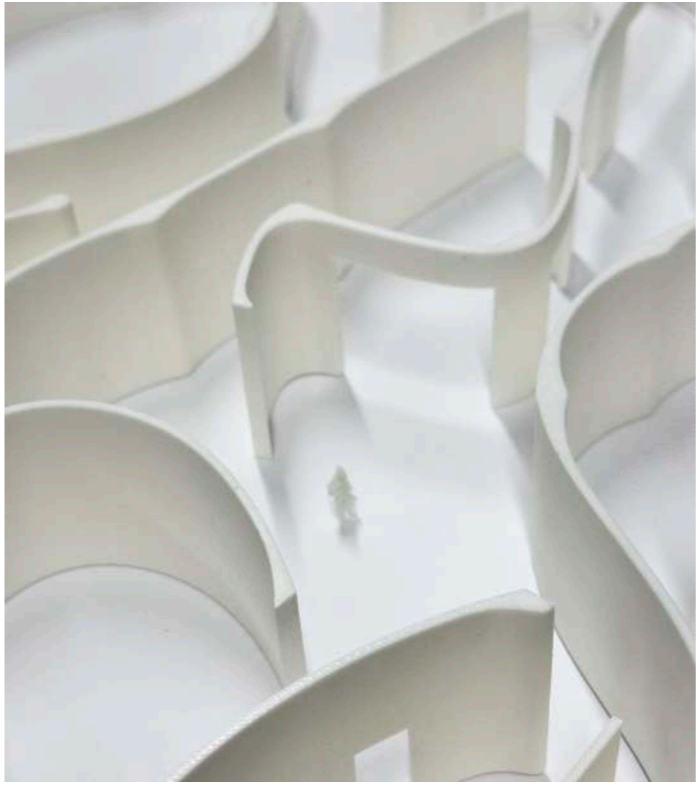
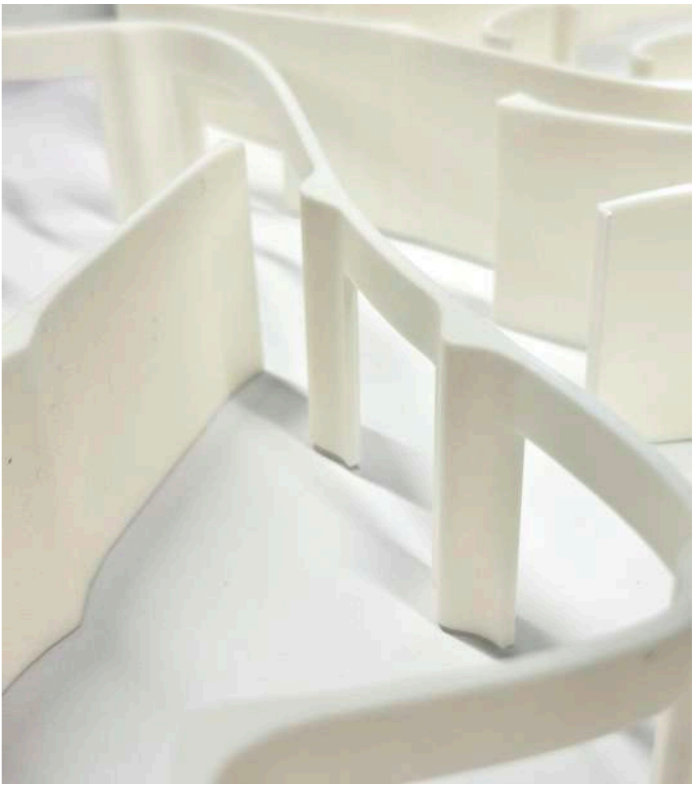
05 CONCEPTUAL MODEL

Term 2 physical model 1:100

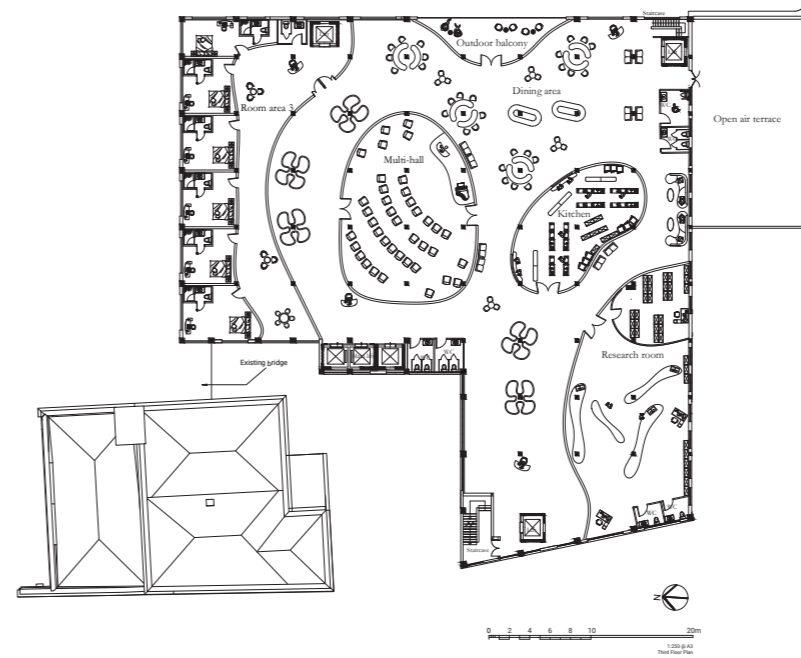
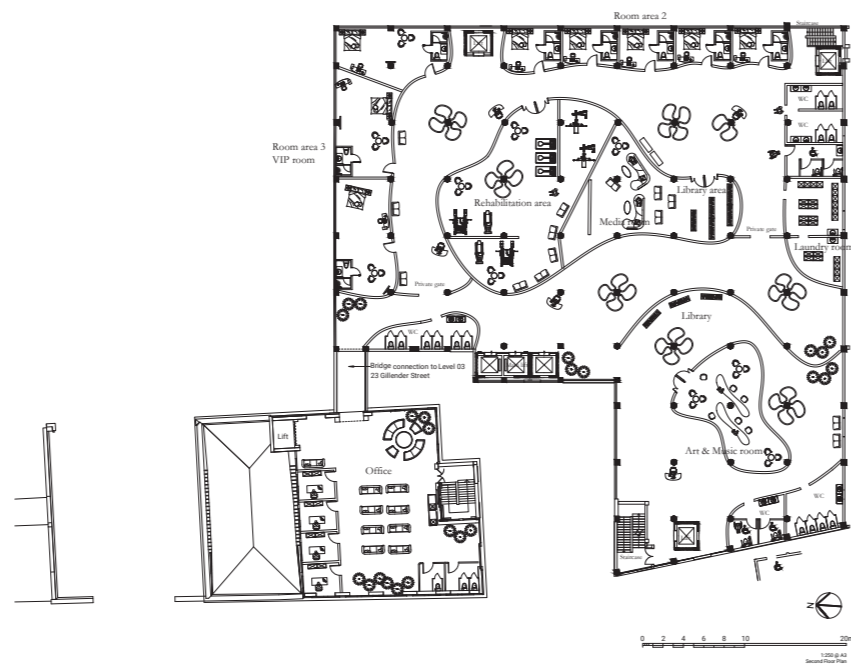
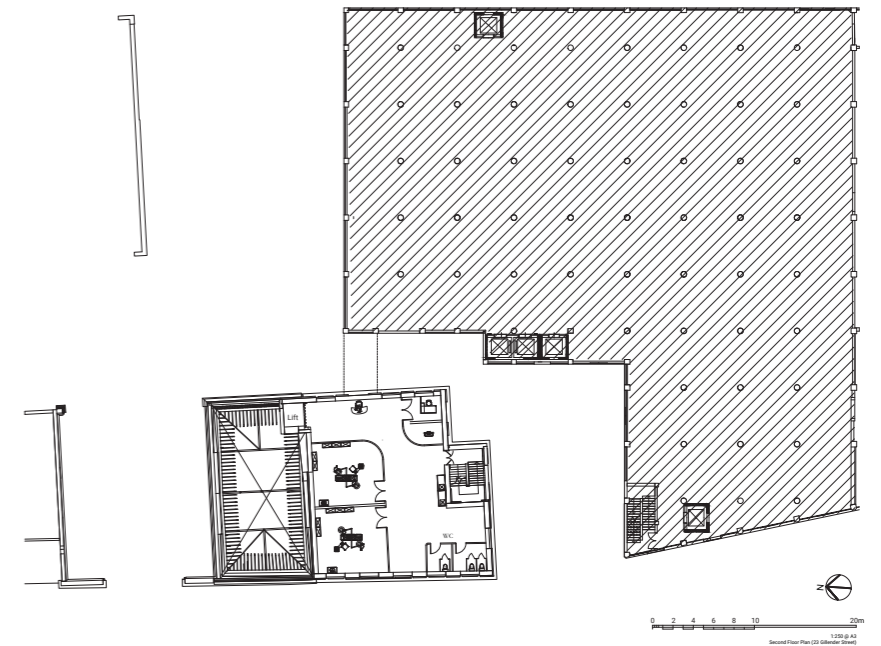
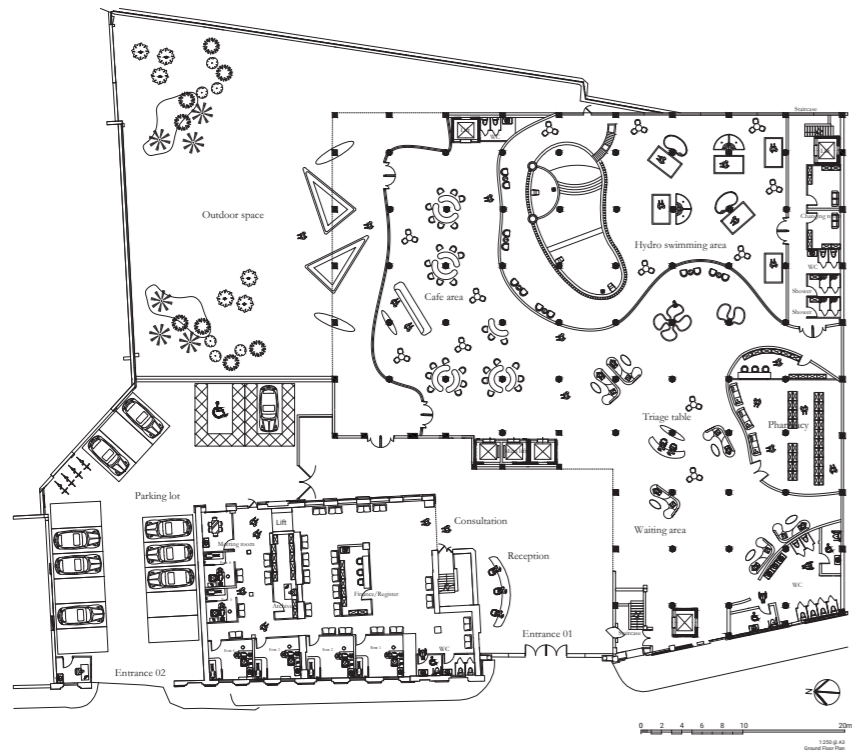


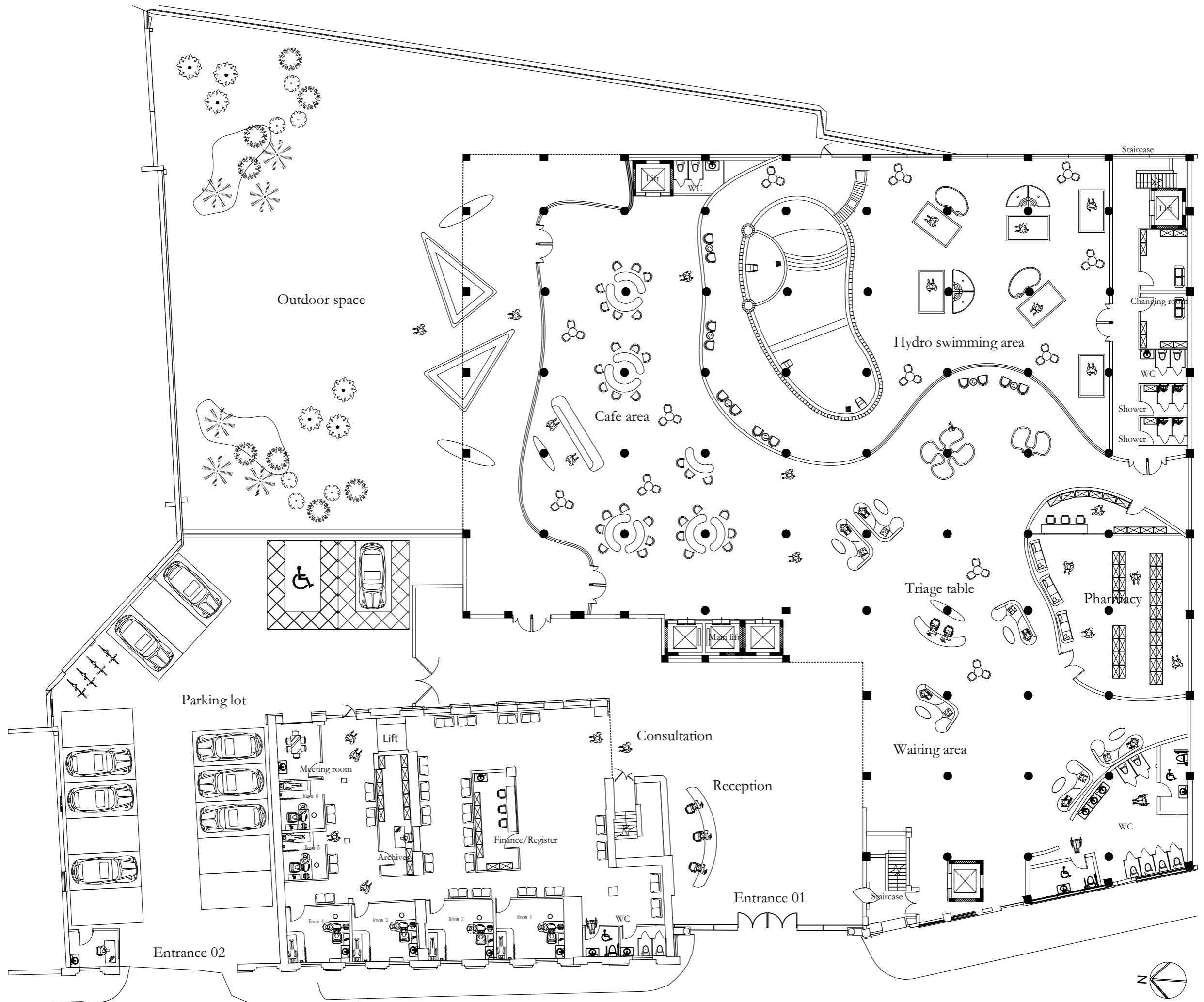
05 CONCEPTUAL MODEL

3D print partition



05 PLAN DRAWING





Outdoor space

Parking lot

Entrance 02

Meeting room

Archives

Finance/Register

Room 3

Room 2

Room 1

WC

Room 5

Room 6

Lift

Consultation

Reception

Entrance 01

Waiting area

Triage table

Pharmacy

WC

Cafe area

Hydro swimming area

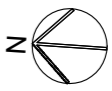
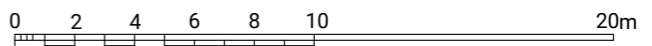
Shower

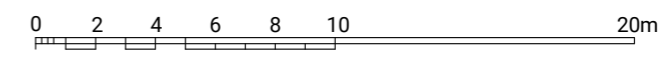
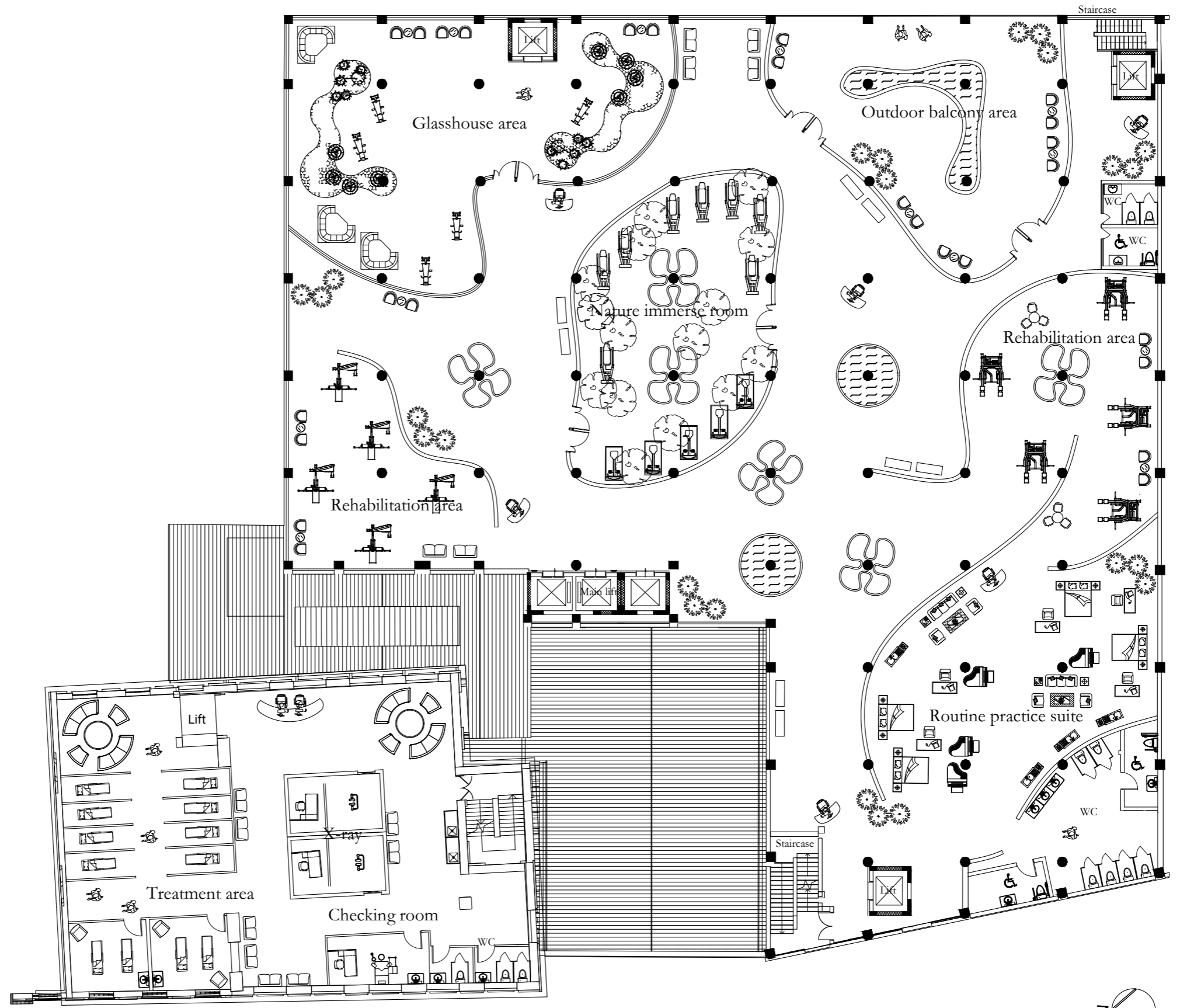
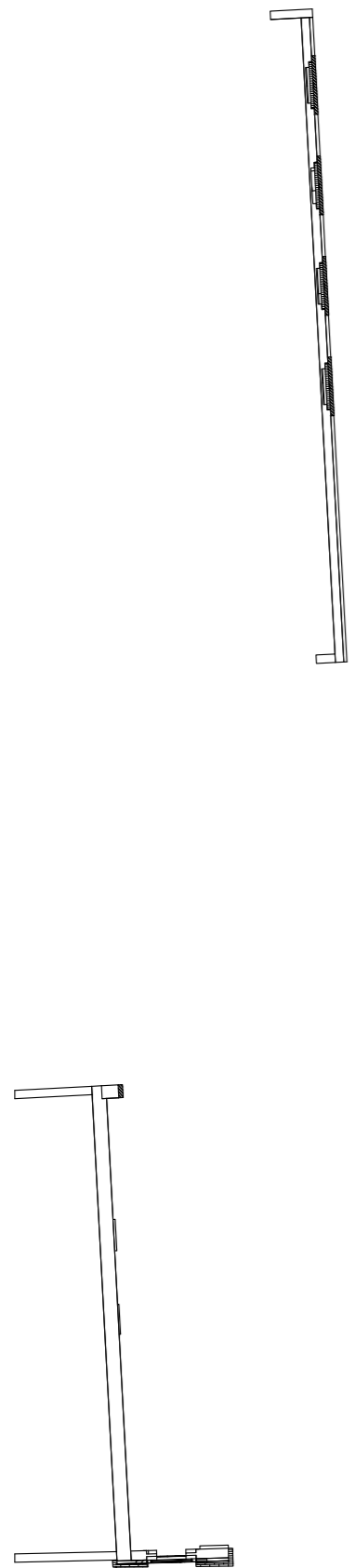
Shower

WC

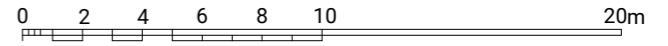
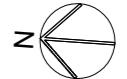
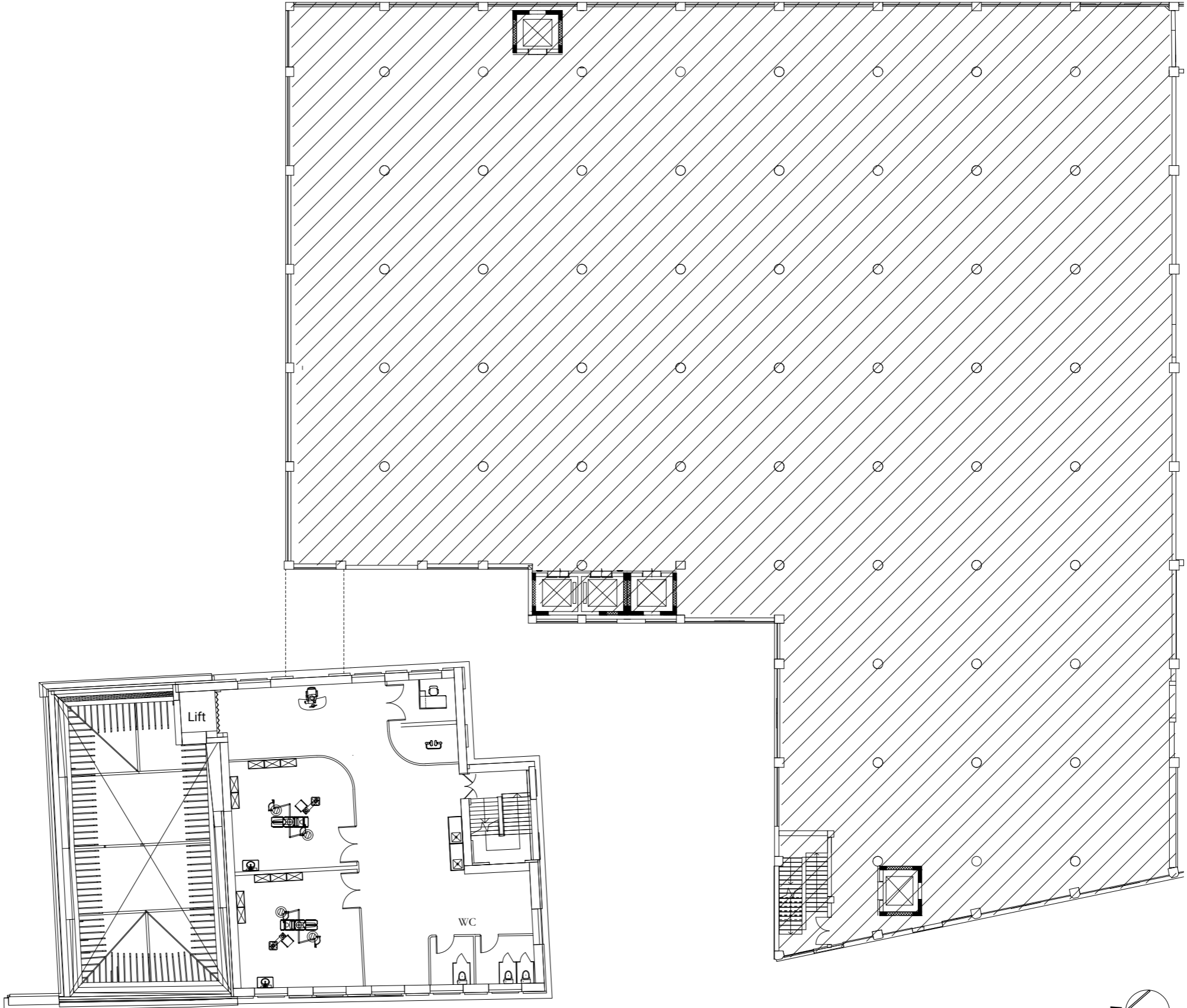
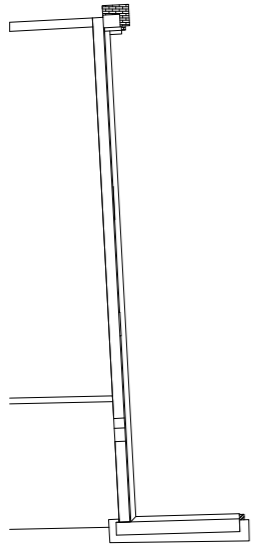
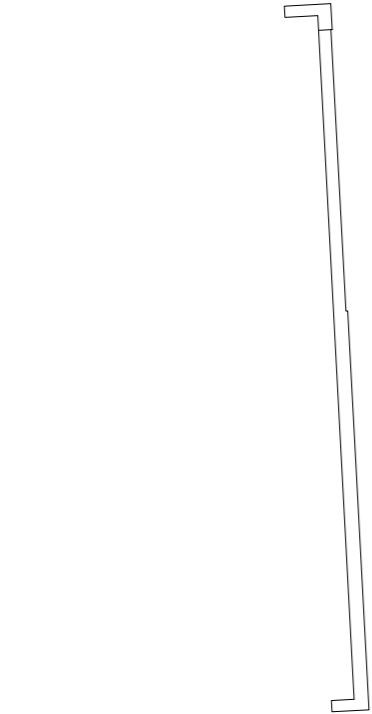
Changing room

Staircase

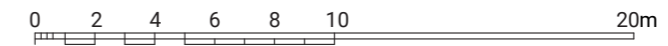
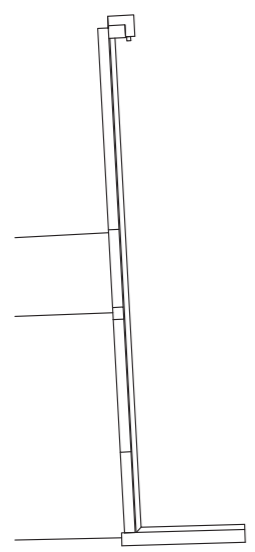
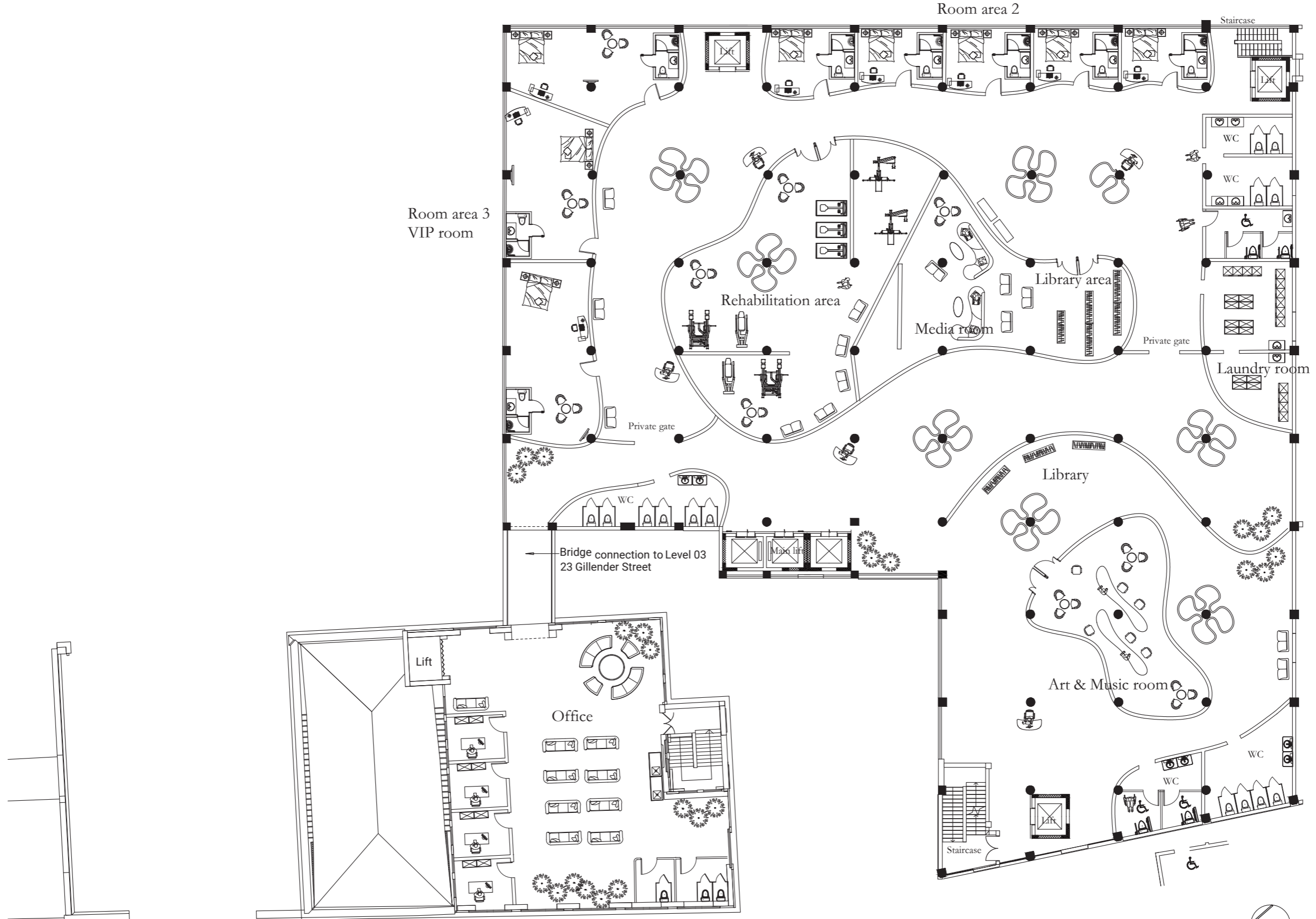




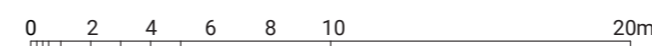
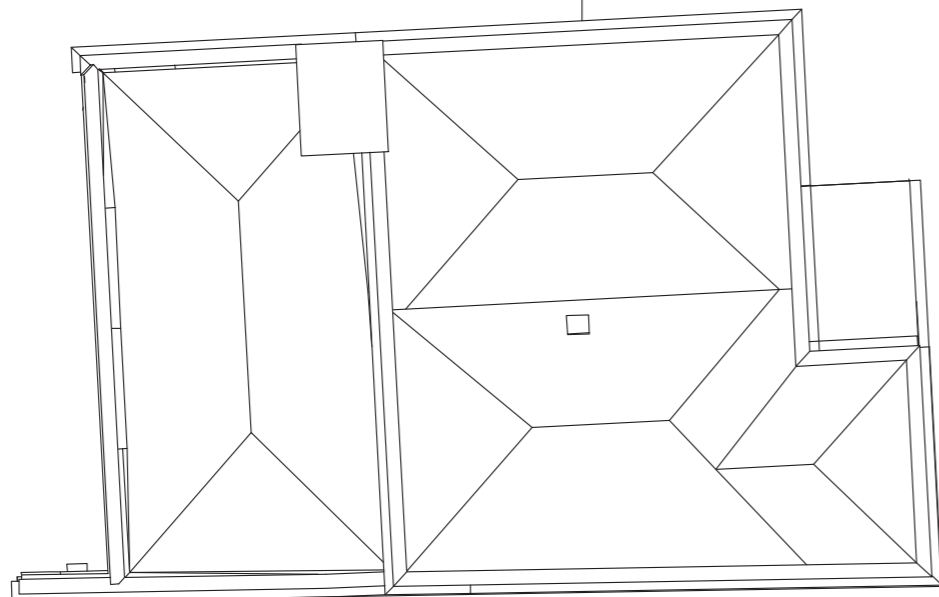
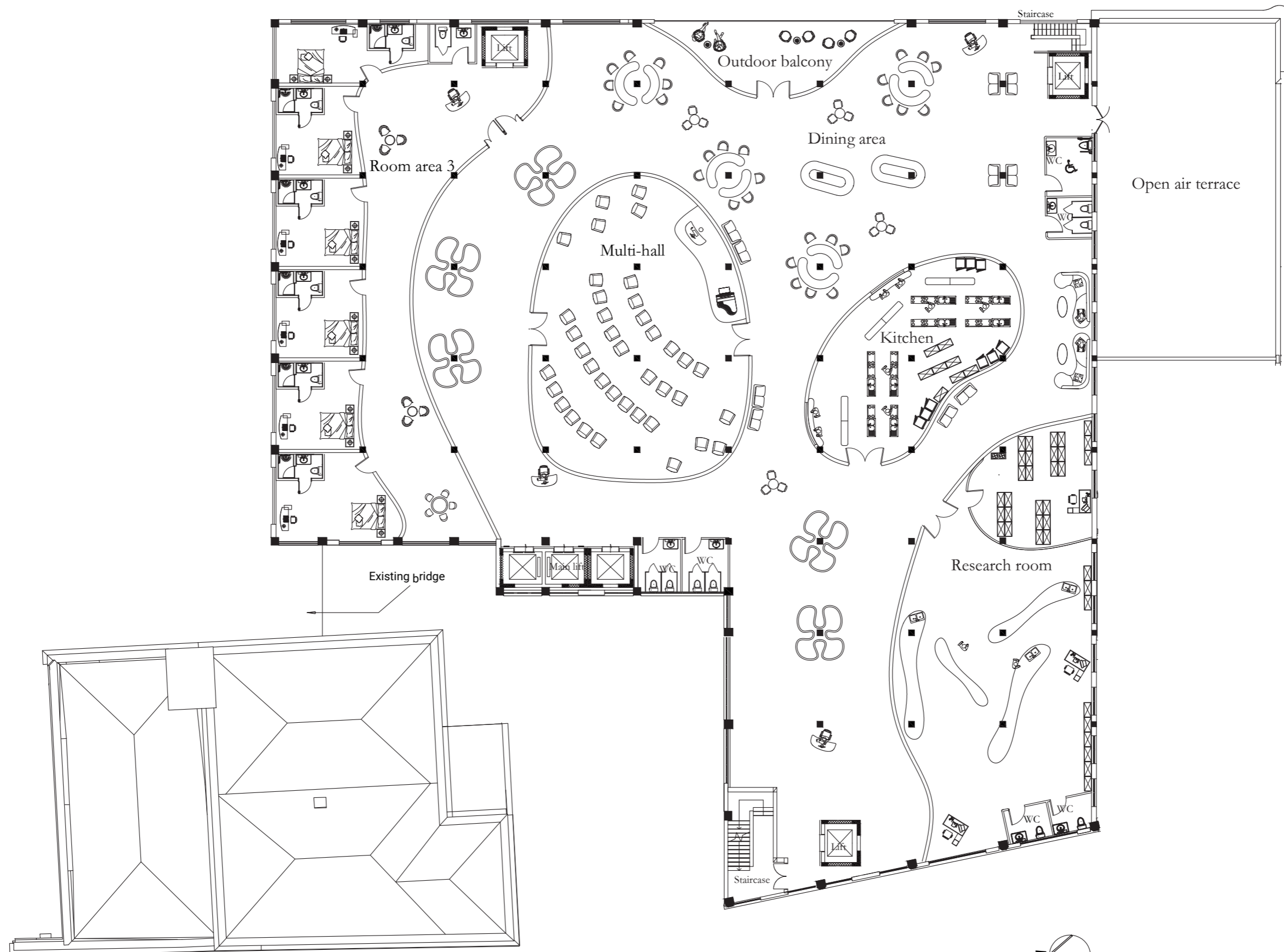
1:250 @ A3
First Floor Plan



1:250 @ A3
Second Floor Plan (23 Gillender Street)

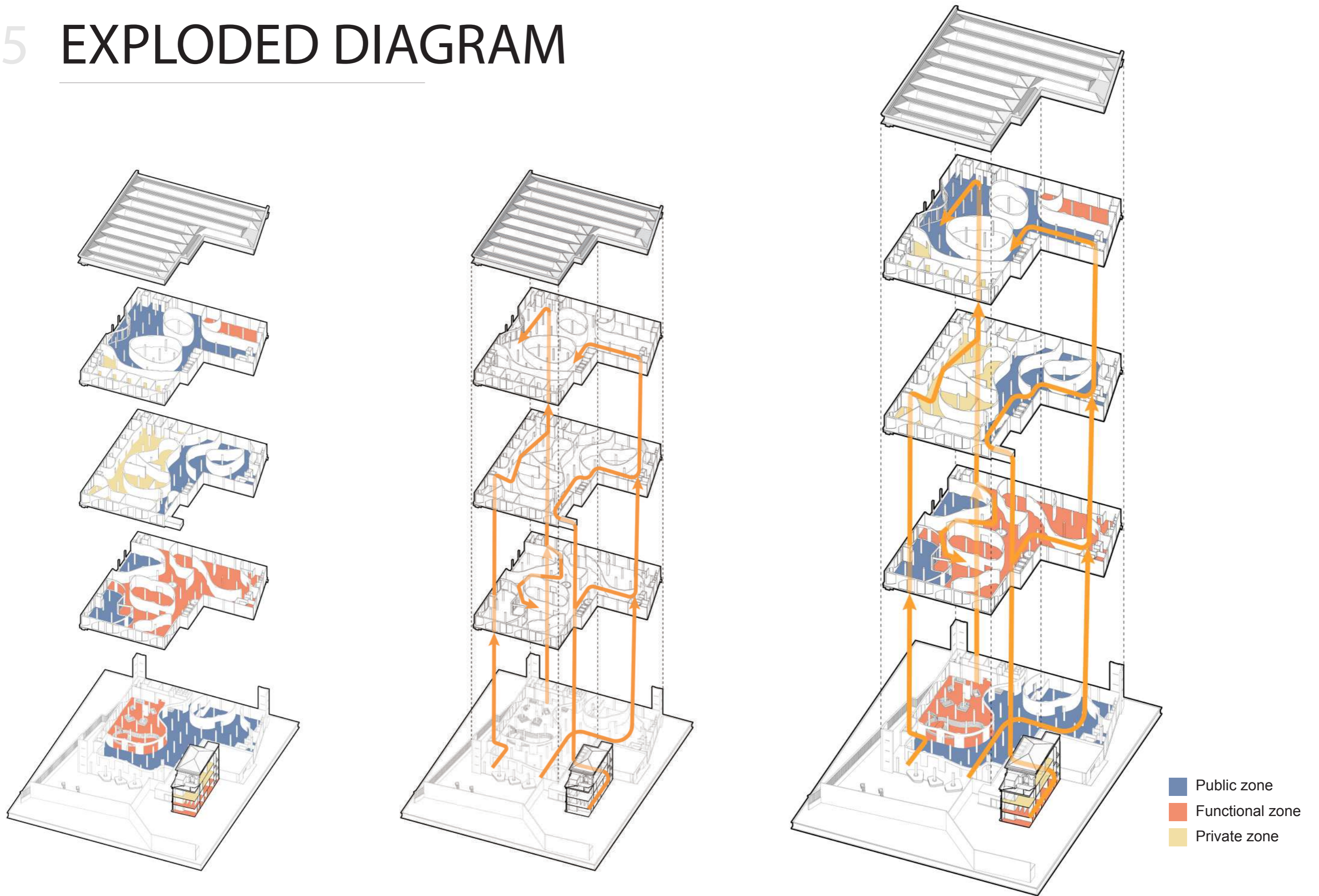


1:250 @ A3
Second Floor Plan

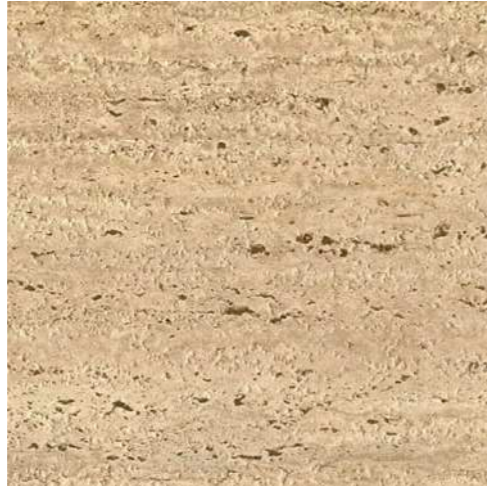


1:250 @ A3
Third Floor Plan

05 EXPLODED DIAGRAM

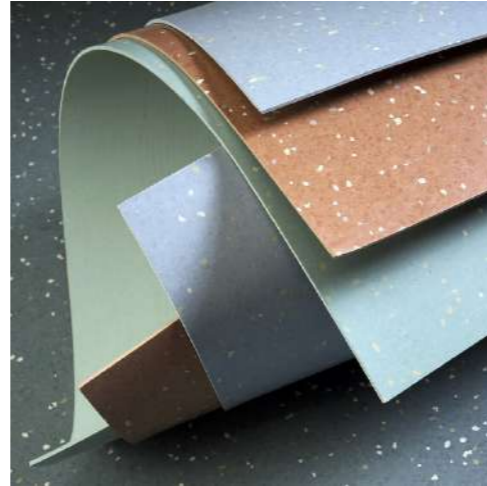


05 MATERIAL CONSIDERATION



Travertine
Internal partition

Travertine, a form of limestone deposited by mineral springs, is chosen for the internal partition due to its natural beauty and durability. When applied over concrete, travertine offers an elegant finish while maintaining structural integrity.



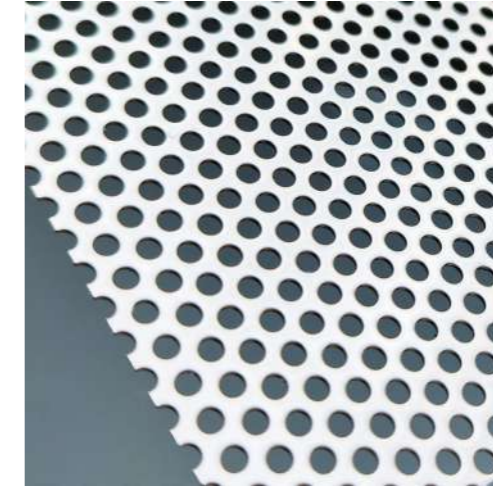
Rubber
Internal flooring

For flooring, rubber flooring is selected for its non-slip properties, making it ideal for patient safety. This type of flooring is specifically designed to provide a stable and secure walking surface, reducing the risk of slips and falls.



Solar panel
With roof

The roof will be equipped with solar panels, integrating renewable energy solutions into the building's design. Solar panels are chosen not only for their environmental benefits but also for their ability to reduce long-term energy costs.



Perforated Metal Panels
Ceiling

For the ceiling, perforated metal panels are chosen due to their excellent acoustic properties and modern appearance. These panels, made from durable metals like aluminum or steel, are designed with a series of small holes that help absorb sound, reducing noise levels and improving the overall acoustics of the space.

05 SECTION



05 BRANDING



VISUALS



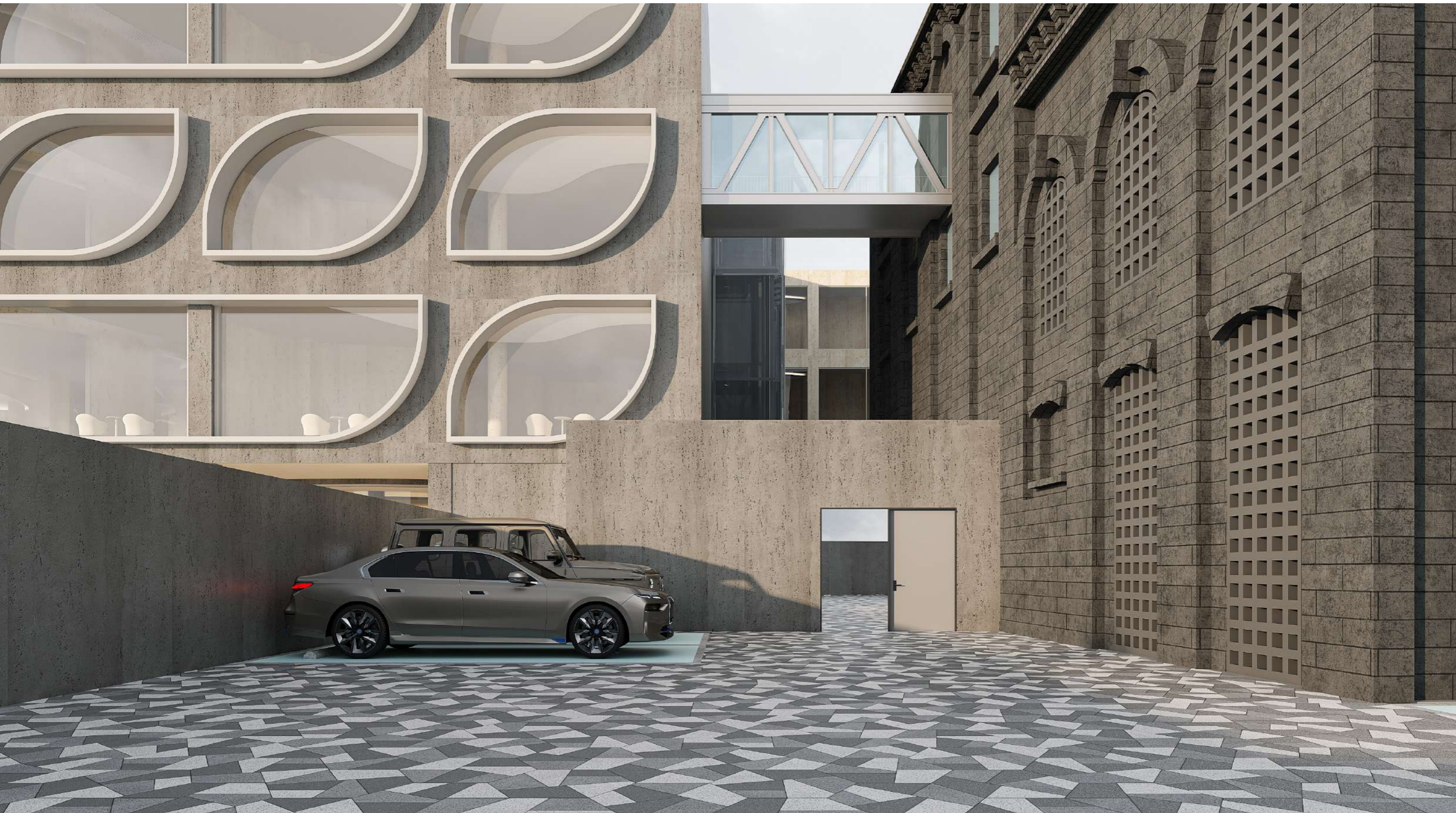
Overall view



Detail semi-outdoor

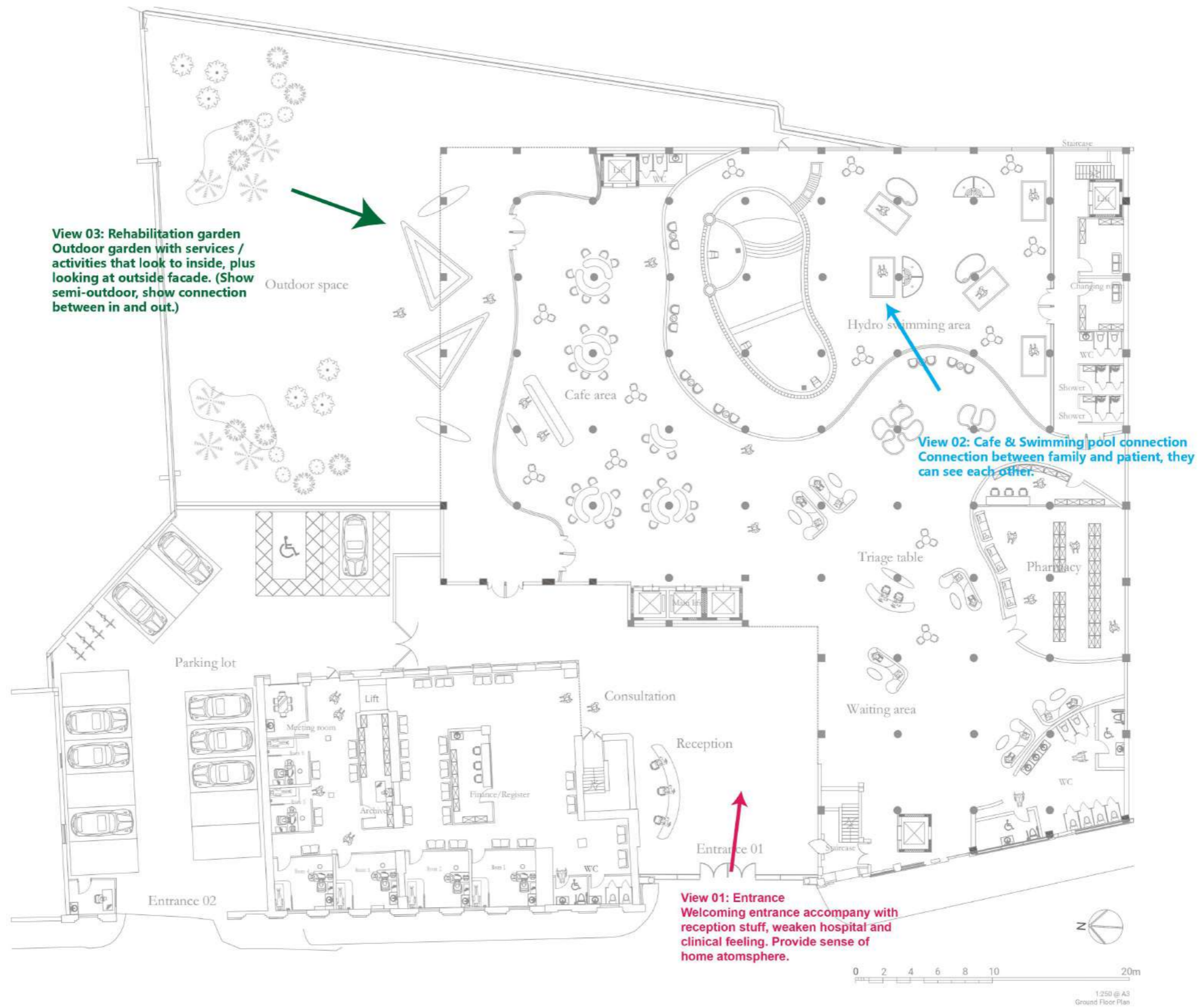


Side elevation



Parking area + side entrance

06 TEN MAIN VIEW POINTS





Medical view 01

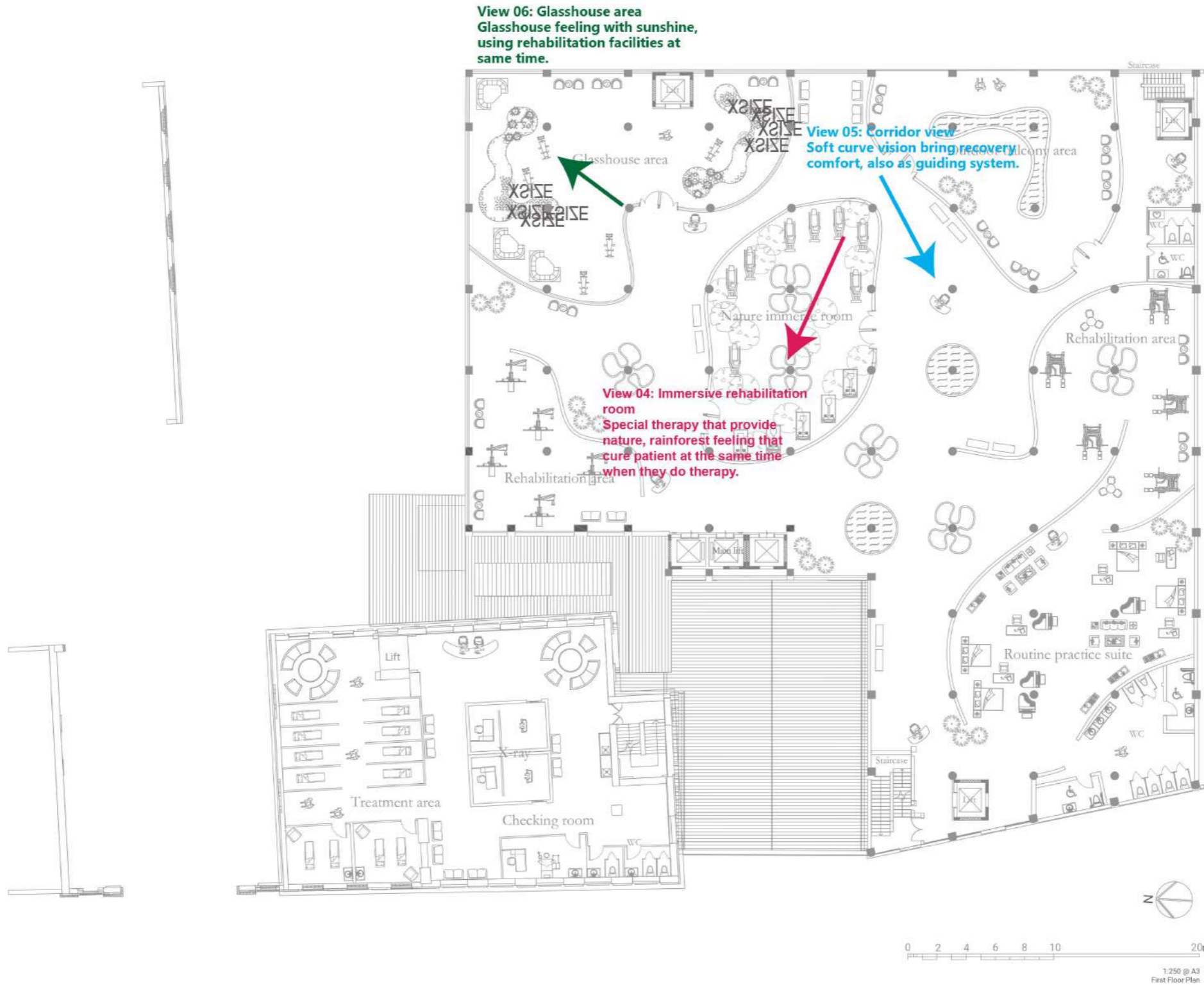


View 02



View 03

06 TEN MAIN VIEW POINTS





View 04



View 05

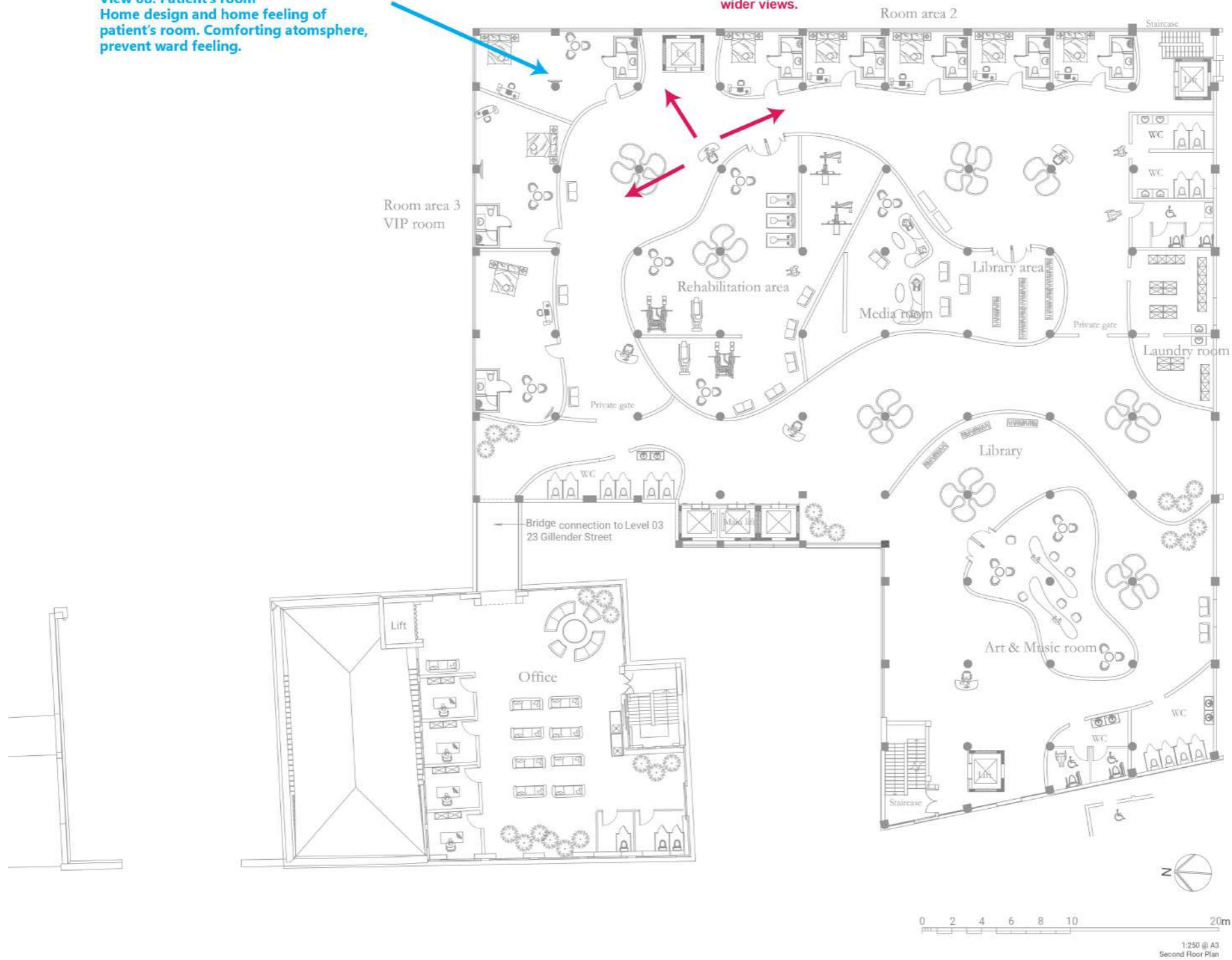


View 06

06 TEN MAIN VIEW POINTS

View 08: Patient's room
Home design and home feeling of patient's room. Comforting atmosphere, prevent ward feeling.

View 07: Nurse station
Set multiple nurse station in the centre to monitor each patient with wider views.



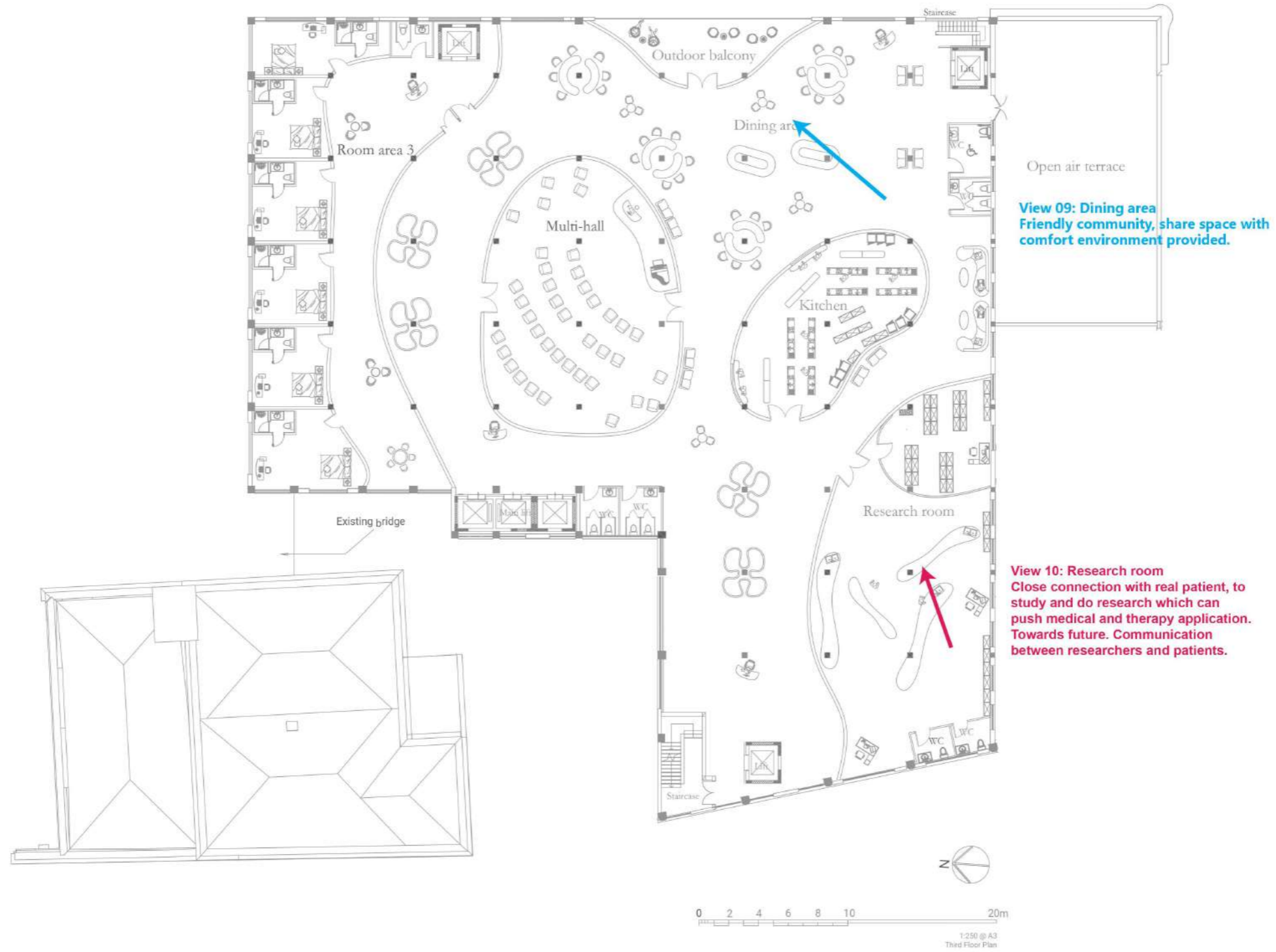


View 07



View 08

06 TEN MAIN VIEW POINTS





View 09



View 10