



Synaptic Sanctuary

BY ABIGAIL COOPER (22146558)

Birmingham, with its ever-evolving urban landscape, offers countless opportunities for growth and transformation. Yet, in the midst of constant movement and noise, individuals often lose the chance to pause to reflect not only on their surroundings but on their own personal journey's.

Throughout this project I aim to envision a 'fourth place' - a conceptual and physical escape located in the heart of Birmingham's Jewellery Quarter. Distinct from the traditional realms of home (first), work (second), and social spaces (third), this fourth place invites user's into a transitional environment that bridges public and private spaces.

Rooted in neuroarchitectural principles, the space is designed to intuitively respond to the emotional and cognitive needs of its users. Drawing inspiration from synaptic connections and neural oscillations, the interior becomes an experience that adapts to its users. Whether its seeking an regenerative wellness space to an innovative maker-space. The architecture guides individuals to what they need most in that moment.

This is not just a place - it's an experience.

A spatial journey designed to embrace change, cultivate balance and inspire forward movement. A sanctuary in the city, where design becomes a catalyst for inner alignment and creative flow while also combating social isolation.



INSPIRED BY URBAN DESIGN THEORIES

(THIRD/FOURTH PLACES)

Third places play an important role in our lives by offering a break from the demands of work-home life. They help us maintain a healthy work-life balance, providing spaces where we can relax, enjoy ourselves, and engage with different types of people. Many of us are able to work remotely at least some of the time, and working from a third place like a library or a coffee shop can be a happy medium between going into the office and working at home in isolation.

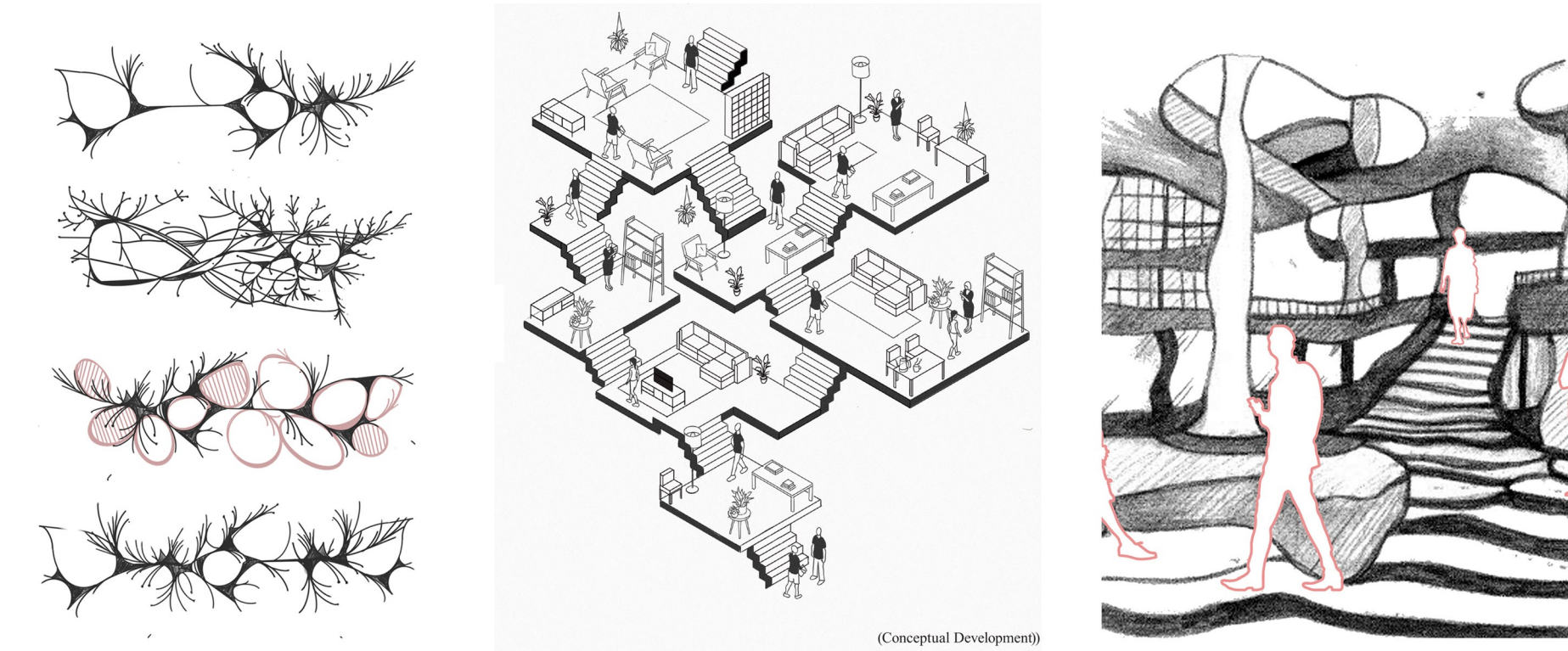
However, this does mean that some of our third places can be filled with people who, while physically present, aren't interacting with one another. Creating a need to promote social interaction.

Third places are essential, as they can help alleviate feelings of boredom and loneliness, and are key to fostering a sense of community." (Very-well mind, March 2024)



"GIVEN THAT WE SPEND 80% OF OUR TIME IN BUILDING'S. SHOULDN'T WE HAVE A BETTER UNDERSTANDING OF HOW THEY MAKE US FEEL?" (Happy by Design 2018)

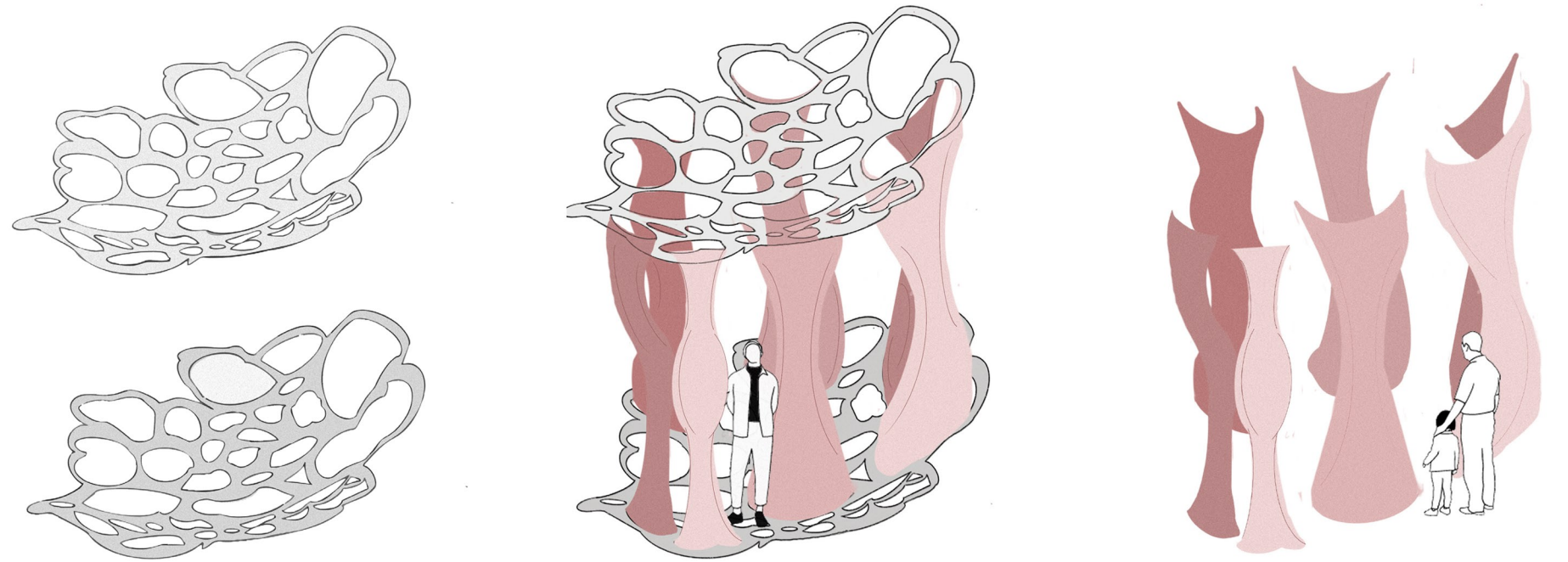
INITIAL CONCEPT DEVELOPMENT



INSPIRED BY CEDRIC PRICE (CREATING USER DRIVEN EXPERIENCES)

One of the most inspirational principles of The Fun Palace was its emphasis on user-driven experience. This principle challenged at its time traditional approaches to architecture and cultural spaces. Rather than dictating how people should use the space, the Fun Palace was designed to be shaped by its visitors, making it an interactive and evolving immersive environment.

This created a space where the user became the author/architect as the space could be changed to suit every need and desire. Instead of a traditional building, it was designed to be a dynamic structure that could be continuously reconfigured based on user needs, using modular and moveable elements. Rethinking the unthinkable in architectural design.



ARTIFICIAL LIGHTING AND WELLBEING (NEUROARCHITECTURAL PRINCIPLES)

The use of lighting can also have an impact on enhancing social connection within a space. By using lighting with a space, it can change in many ways how the user feels creating a socially inclusive atmosphere by using spatial distribution and shade of light. By designing a space that have access to colour changing lights it allows users to create spaces that suited to specific environments.

Coldshades(6-10,000Kelvins),canboostyourfocusandproductivity compared to using Warm shades of yellow light (1-5,000 Kelvins) which can promote social interaction and group work activities. Artificial lighting is also a great way to create pockets of calm. Generating environments to allow users to escape for a moment.

THE NEUROSCIENCE BEHIND PERCEPTION :

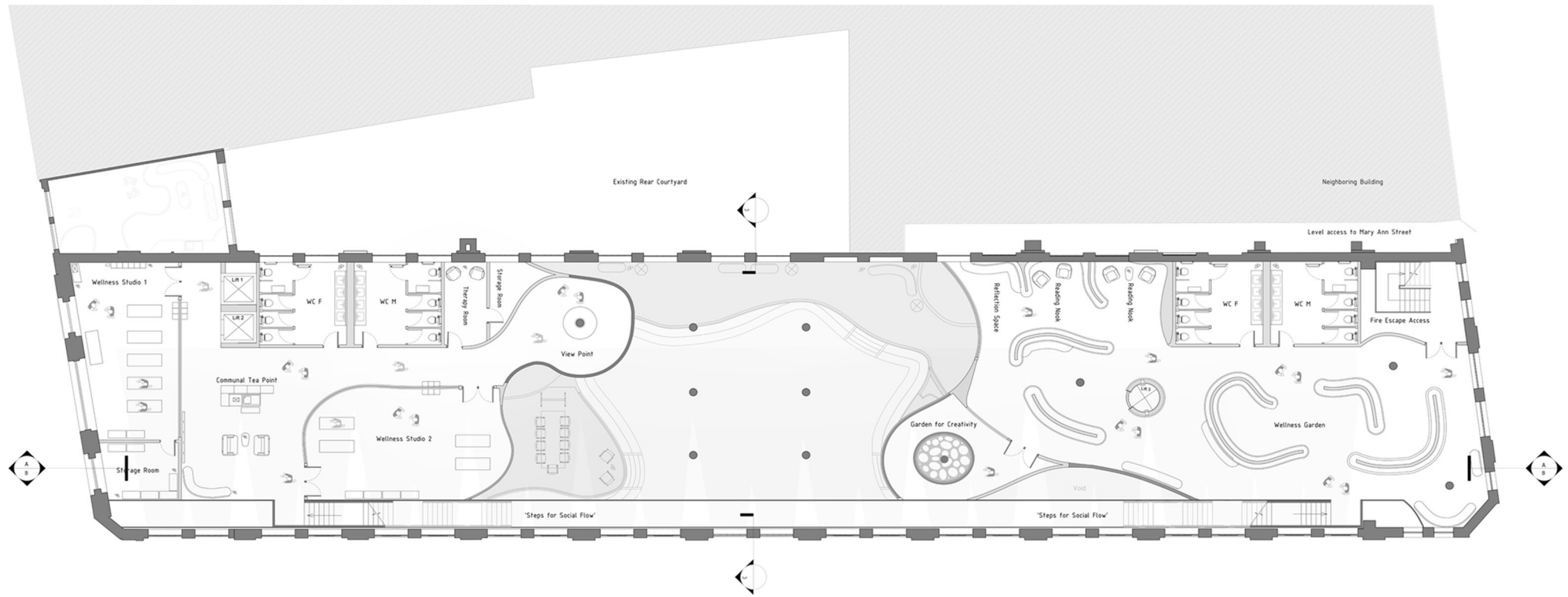
The brain adapts to the visual perception of surroundings through a variety of processes. When a user is presented with a visual image, an interior space for example, the human brain reacts with a wave of activity. This reaction begins when the light hits the eye’s retina, which sends a message to the brain.

“Our surroundings reveal a complex visual processing hierarchy, where architecture not only serves as a physical backdrop but also as a dynamic participant in shaping our cognitive and emotional experiences”. (Abbas,S,2024)

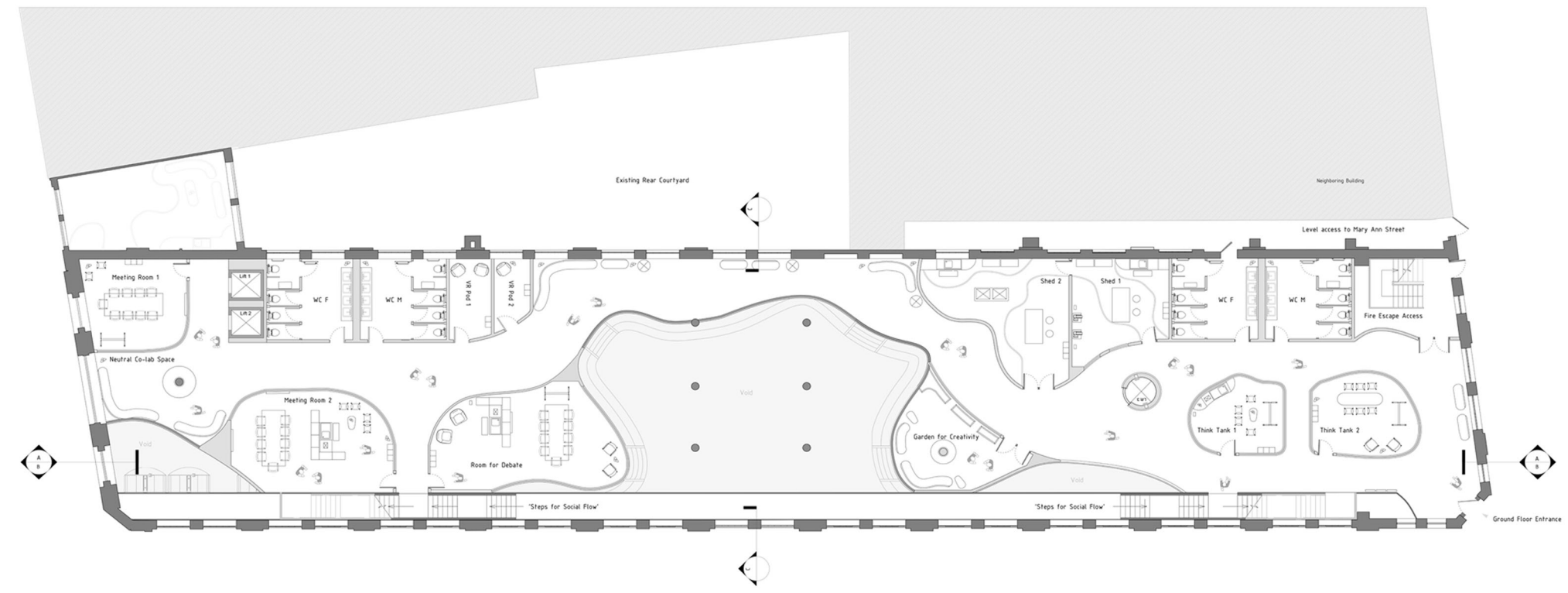
Way finding is proven to be a critical principle in relation to how perceive our surroundings as it helps users navigate a space more effectively and intuitively. Its found that incorporating distinction landmarks or focal points can significantly aid way finding especially in interior spaces.

The brain interprets sensory data accordingly through neural networks. The pre frontal cortex, responsible for higher thinking and emotional regulation, processes this information, helping us react appropriately to our environment.

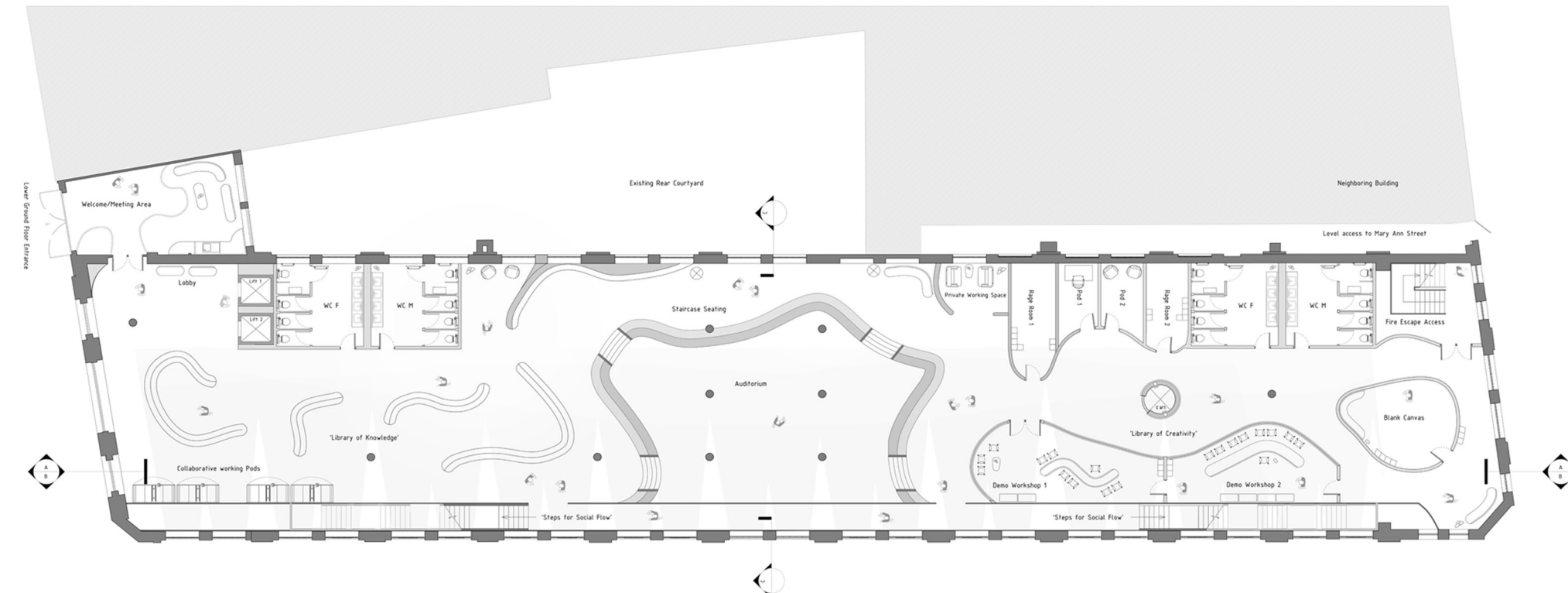
TECHNICAL WORK



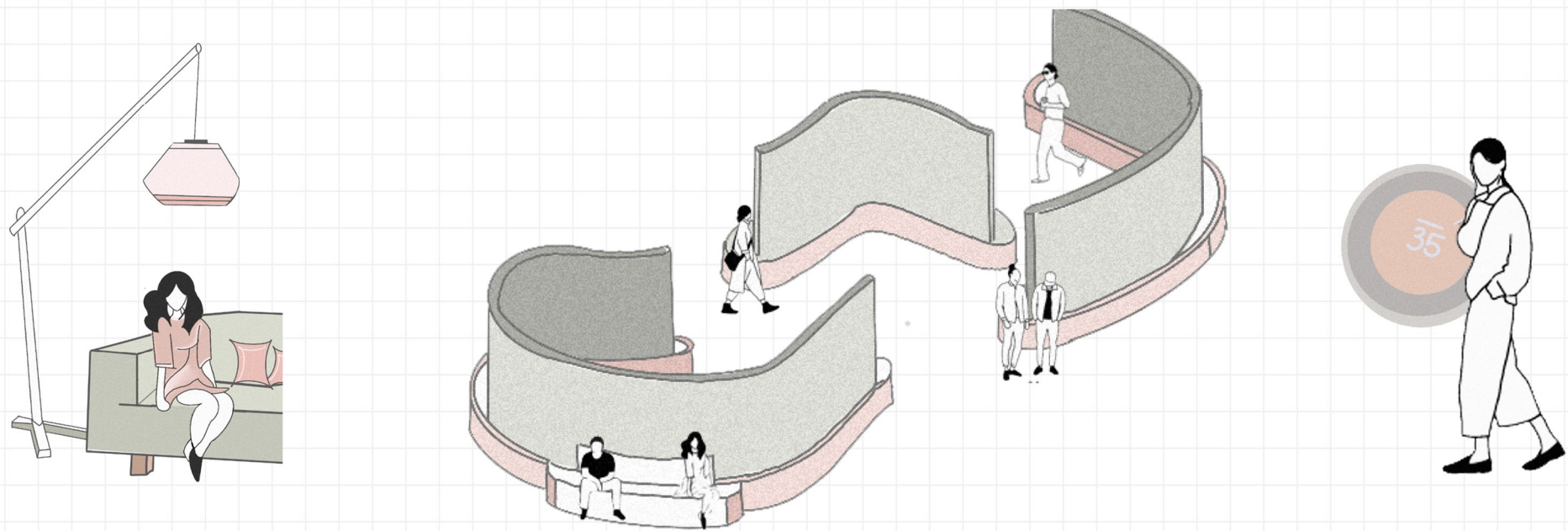
Proposed Lower Ground Floor GA Plan (Not to Scale)



Proposed Ground Floor GA Plan (Not to Scale)



Proposed 1st Floor GA Plan (Not to Scale)



CREATING POCKETS OF CALM:

Similar to using natural lighting, artificial lighting has lots of benefits when used in the right way.

“Strategically placed light sources can help highlight area’s where users may wish to retreat to read, study or relax.” (Riba, Happy by Design, 2018). This also allows individuals to escape from the environment they find themselves in.

However, when using artificial lighting its important to consider the lighting temperature.

“Lower lighting levels (150lux versus 1500lux) and warm white light induce calmer and more relaxed feelings which also influence a positive social attitude.” (Daniels, S. ,1992, Effects of Indoor Lighting)

ALLOWING CONTROL OVER ENVIRONMENTS:

Throughout design it is important to give users the tools to adapt to their immediate environment. This can be promoted by accessibility, such as providing a lighting control switch rather than the choice of having them on or off.

“Having (or simply perceiving to have) more control over our environment has been shown to improve happiness”.

EXPERIENCE OVER PURPOSE:

While buildings are often heavily designed based around regulations and structural limitations, its equally important to create spaces that resonate with individuals creating an experience rather than just a space.

Within my design i aim to push the boundaries and create these moments of joy for the user so that the design of the space can help each individual map out the space based on what they need most at the time.

By creating unexpected voids/ use of materials within the space it becomes more dynamic, encouraging exploration and emotional connection.”

THE IMPORTANCE OF CONTROL

Users need feel excitement when entering their space of work to create a more productive at-mosphere that they are connected to. Focusing on how “spatial layout influences the informal communication networks critical to creativity within organization”(Wineman, 2009,428)

The perception of control is closely linked to happiness and psychological studies have shown that if we believe we have more control, we actually feel more content.



PROVIDING ENVIRONMENTS FOR EVERYONE

“A good building should provide spaces for activity and places for calm.” (Riba, Happy by Design, 2018).

By designing spaces with various functions it allows users to have direct control over the type of environment they choose to be in at that time of need. By allowing users to have full control on spaces that they need at any given time it promotes better mental wellbeing. Which directly supports emotional regulation and cognitive performance.

Its important to also consider neurodiverse individuals and how they need spaces to be accessible. For example, spatial zoning is important to divide spaces into low-, medium-, and high-stimulation zones. Giving user’s the

choice into what they need at the time. This a design driver that The Arup Offices, Birmingham have utilised fully.

“Experts estimate that between a third and a half of people are introverts, preferring environments that are not over-stimulating and relying on quiet time to re-energise.”

NATURE AND WELLBEING

“Natural environments reduce stress and improve mental health, which can be emulated indoors through biophilic design elements such as plants, natural materials, and organic patterns.” (Wilson,1984,85)

By incorporating natural organic materials in a design allows the space to look aesthetically pleasing to eye but also works as a method to promote more positive thinking. By using organic materials such as wood, brick or stone will help support this.

“Nature is an important need for many and vital in keeping us emotionally, psychologically and physically healthy.”(Mental Health Foundation,2021,2)

PROSPECT AND REFUGE THEORY

Jay Appleton’s 1975 theory of ‘prospect and refuge’ argues that humans have evolved to feel innately safer in spaces that allow us to see without being seen. This highlights also the importance of privacy within an public interior space. Promoting happiness throughout the space.

By designing refuge elements such as quiet corners or partially screened seating. Promotes a sense of psychological safety, allowing users to feel secure and grounded. At the same time, areas of prospect such as open views, atrium, transparent partitions) foster clarity, openness, and connection.

EXPLODED AXONOMETRIC VIEW (NOT TO SCALE)

4mm Plywood sheet
(With brick work etched into to add detail)

3mm Clear acrylic sheet
(For the back acrylic sheet i originally wanted to use acrylic with a grey tint two show more defintion.However this was not accesible through the university CAD workshop)

Routed plywood base
(to slot in pannels)

Staircase
(Detailed out of 3mm MDF and Cocktail sticks for the newel posts)

3mm Clear acrylic



LEFT SIDE:

LOGICAL WELLNESS (THETA/DELTA)

- Public/Private wellness studio's
- 1:1 Therapy Pods
- Communal Tea Point
- View Point

LOGICAL CO-LAB (GAMMA/ALPHA)

- Private VR pods x2
- Public/Private meeting rooms x2
- 'Room for Debate'
- Neutral collaboration areas

LIBRARY OF KNOWLEDGE (GAMMA/BETA)

- Private Entrance.
- Private sound proof reading pods.
- Public/Private library space.

AUDITORIUM

- Private Entrance.
- Private sound proof reading pods.
- Public/Private library space.

RIGHT SIDE:

CREATIVE WELLNESS (THETA/DELTA)

- Public wellness garden
- Semi Private reading nooks x2
- Reflection space
- 'Garden of Creativity' View point

CREATIVE CO-LAB (ALPHA/DELTA)

- Public entrance.
- 'Shed 1' Private wood working workshop for individuals/groups.
- 'Shed 2' Private 3D printing workshop.
- Think Tank x2 Semi Private collaboration rooms.
- 'Garden of Creativity' Public space that acts as a viewpoint for the space.

LIBRARY OF CREATIVITY (ALPHA/BETA)

- Private Rage rooms x2
- 1:1 Private rooms x 2
- 'Blank Canvas' Blank room for creative exploration.
- Public/Private demo workshop x 2



MATERIALS :

- 1. Cracked Pepper Ppu18-01: Dulux
- 2. Waxed Floors - Oak White: Architexture's
- 3. H01L OLIVA, Stretcher4: Alted
- 4. Polished Plaster, Spatula: ArmourCoat
- 5. Sculptural Plaster, Aesis: ArmourCoat
- 6. Terracotta Stack: Architexture's
- 7. Lamninate Flooring: Tarkett
- 8. Mesa Knob, Brushed Satin: Marathon
- 9. Original Brickwork (Site)
- 10. Senator upholtstered finishes