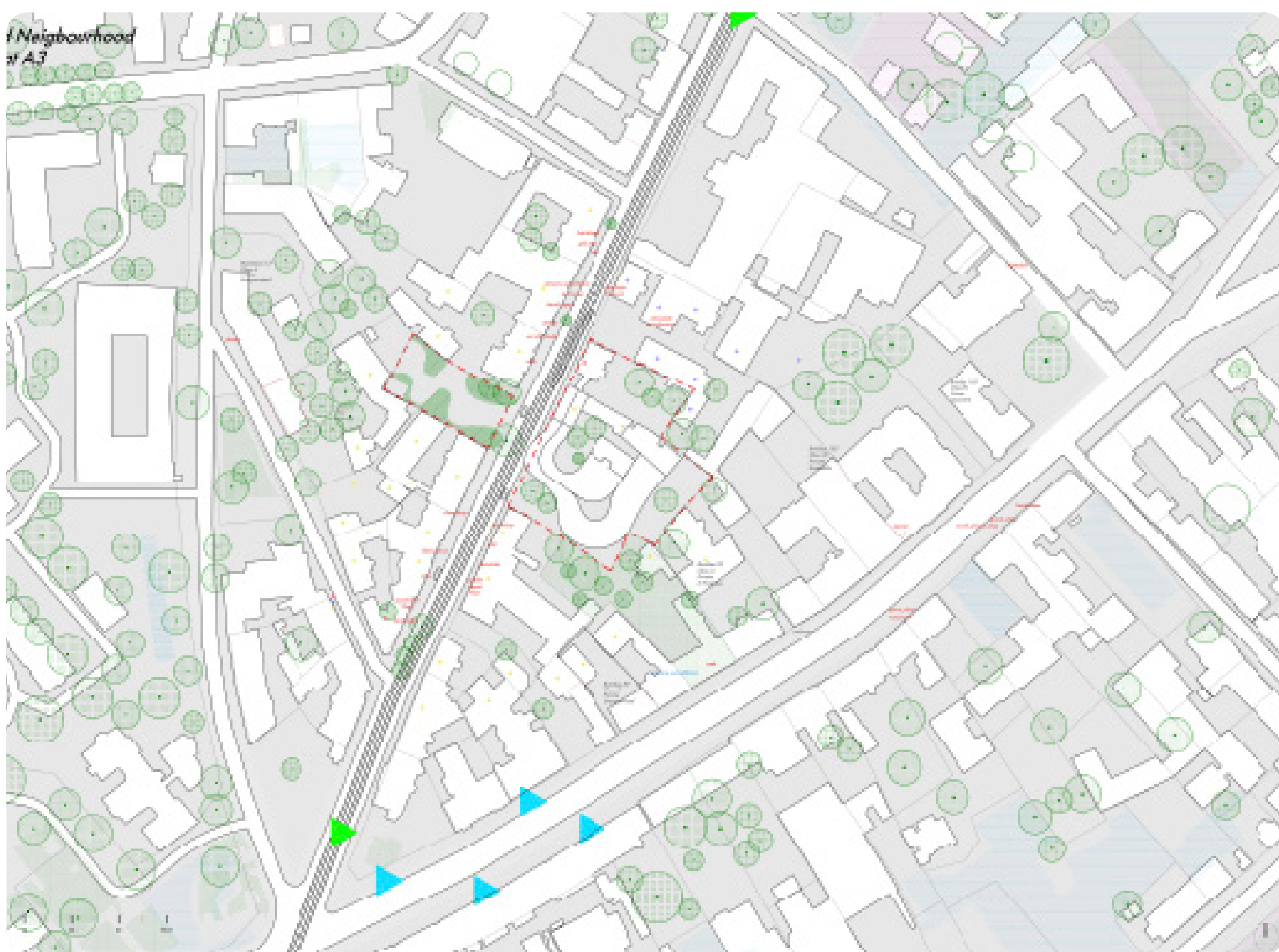
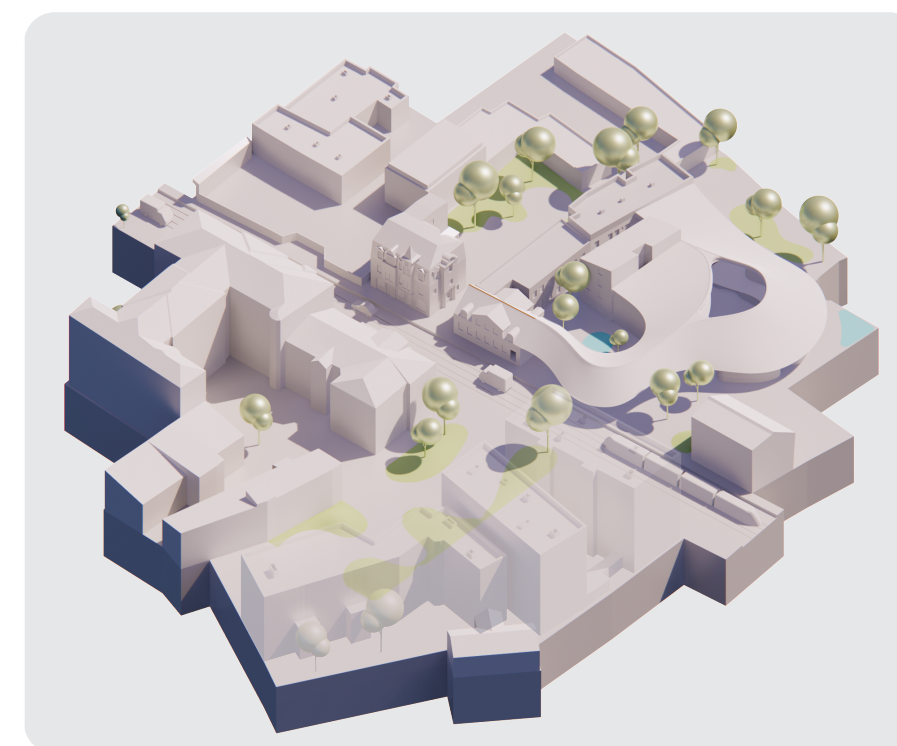
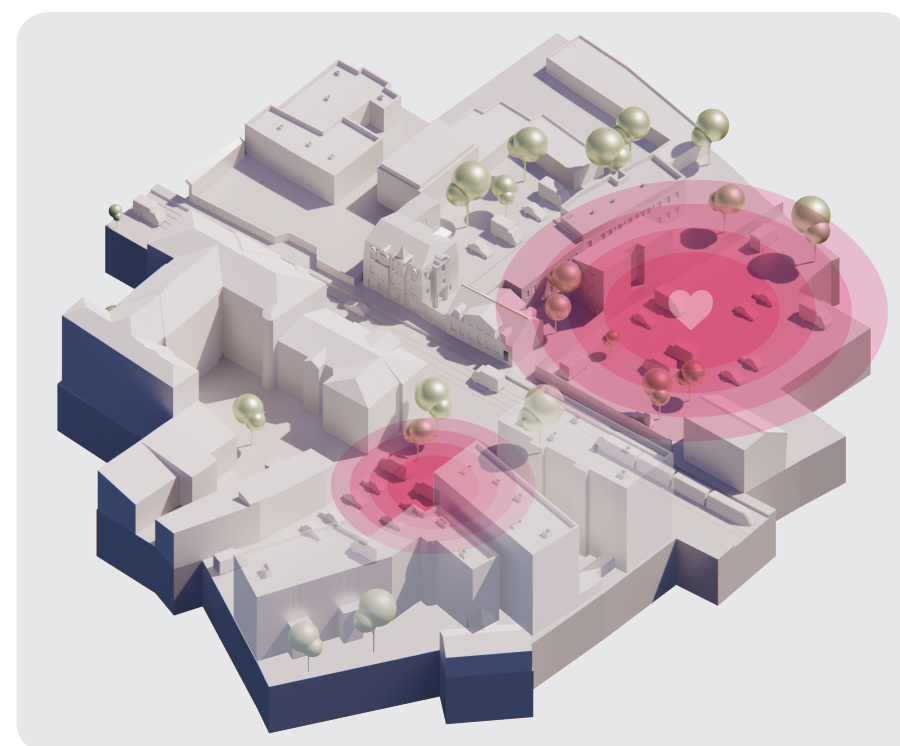
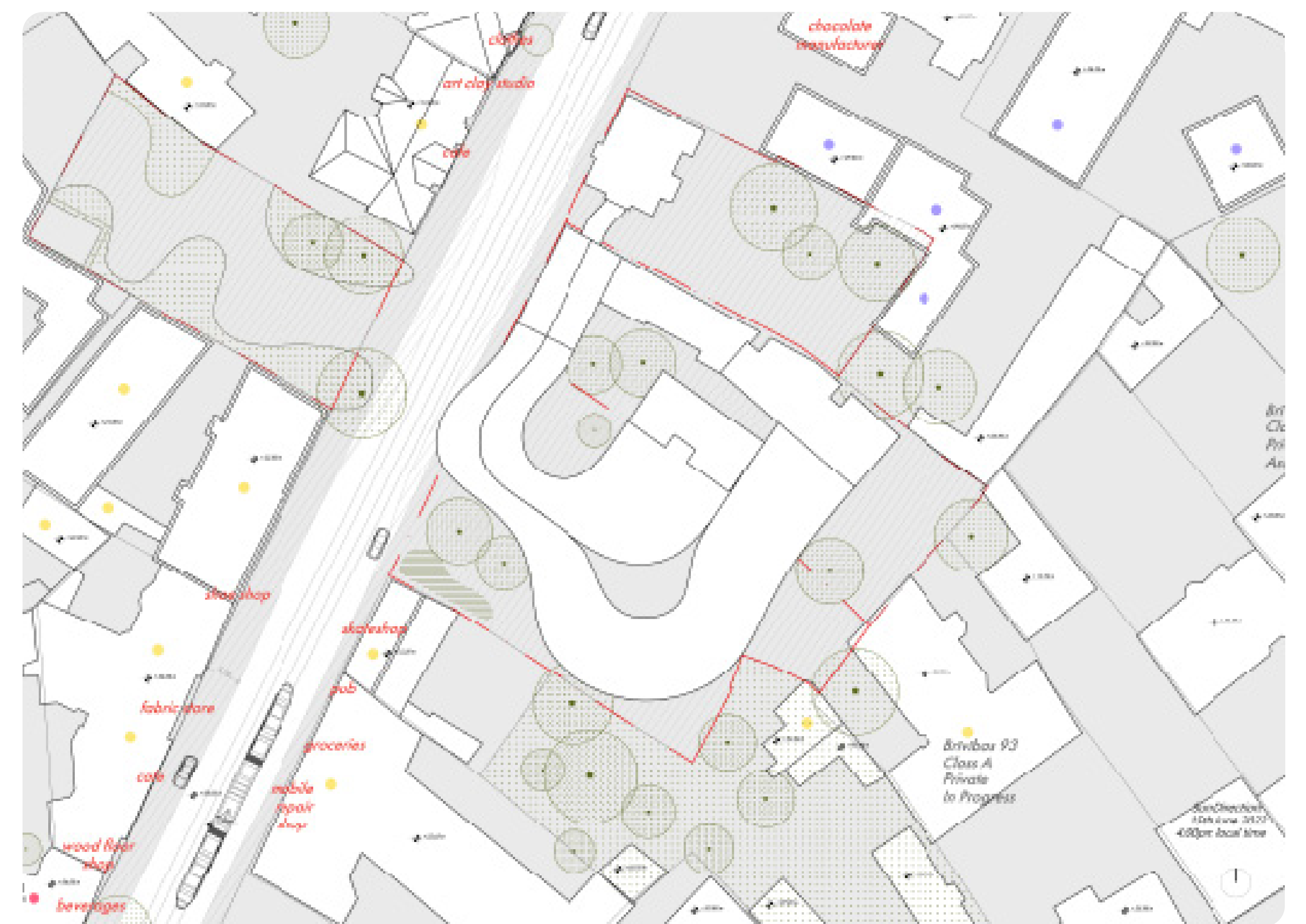


METVERSE

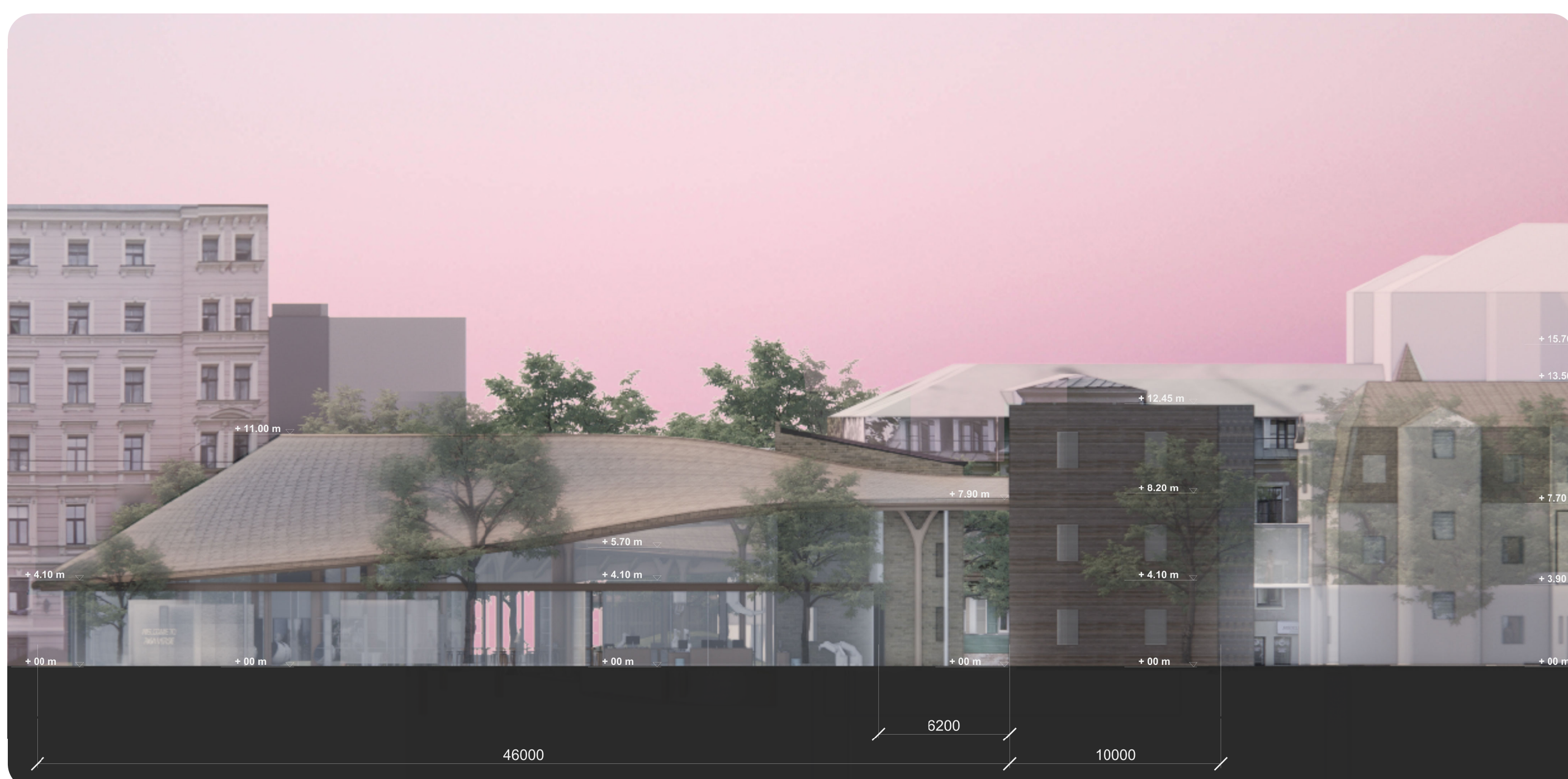
Transitioning Future Cities



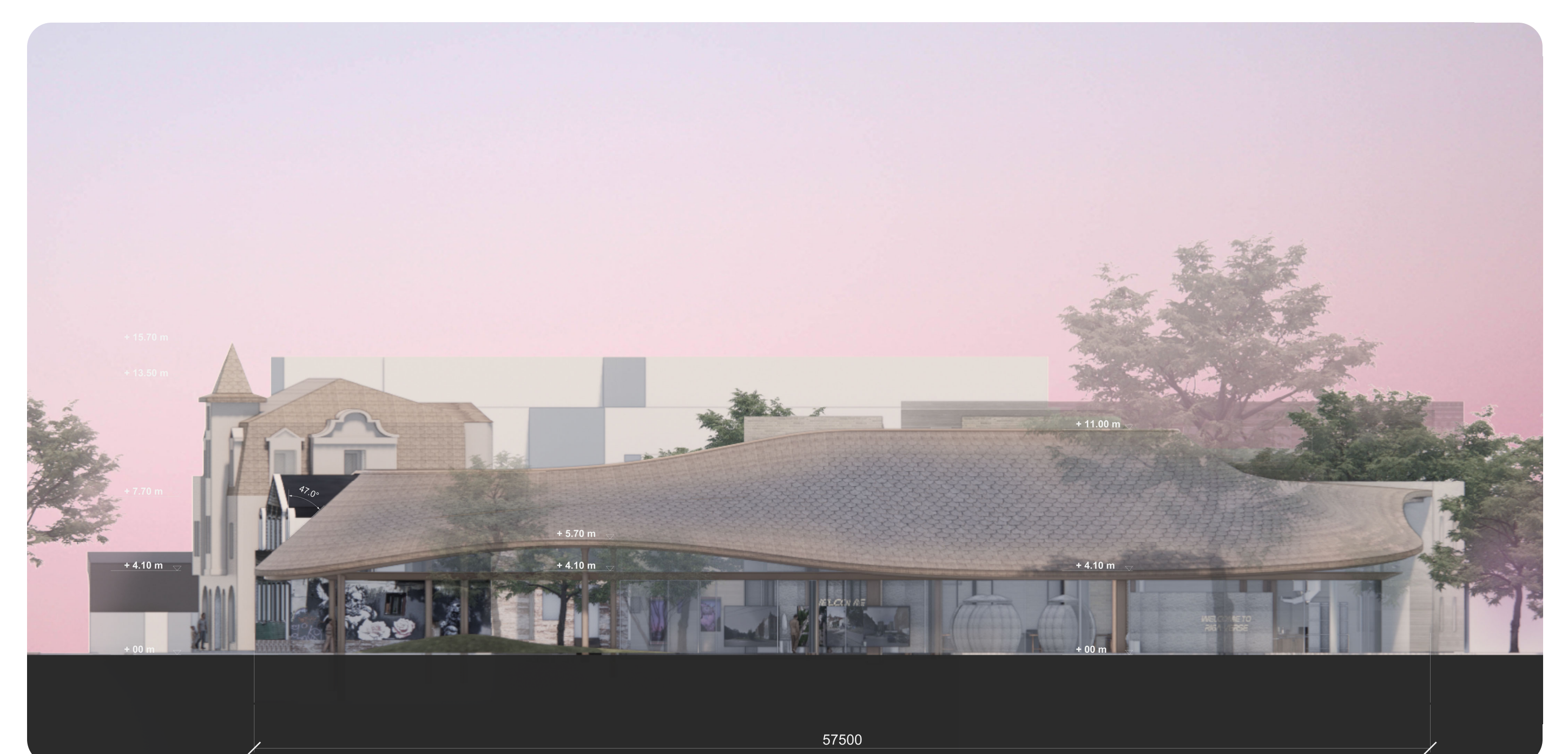
Proposed Roof Plan 1:1500



Situation Plan 1:500



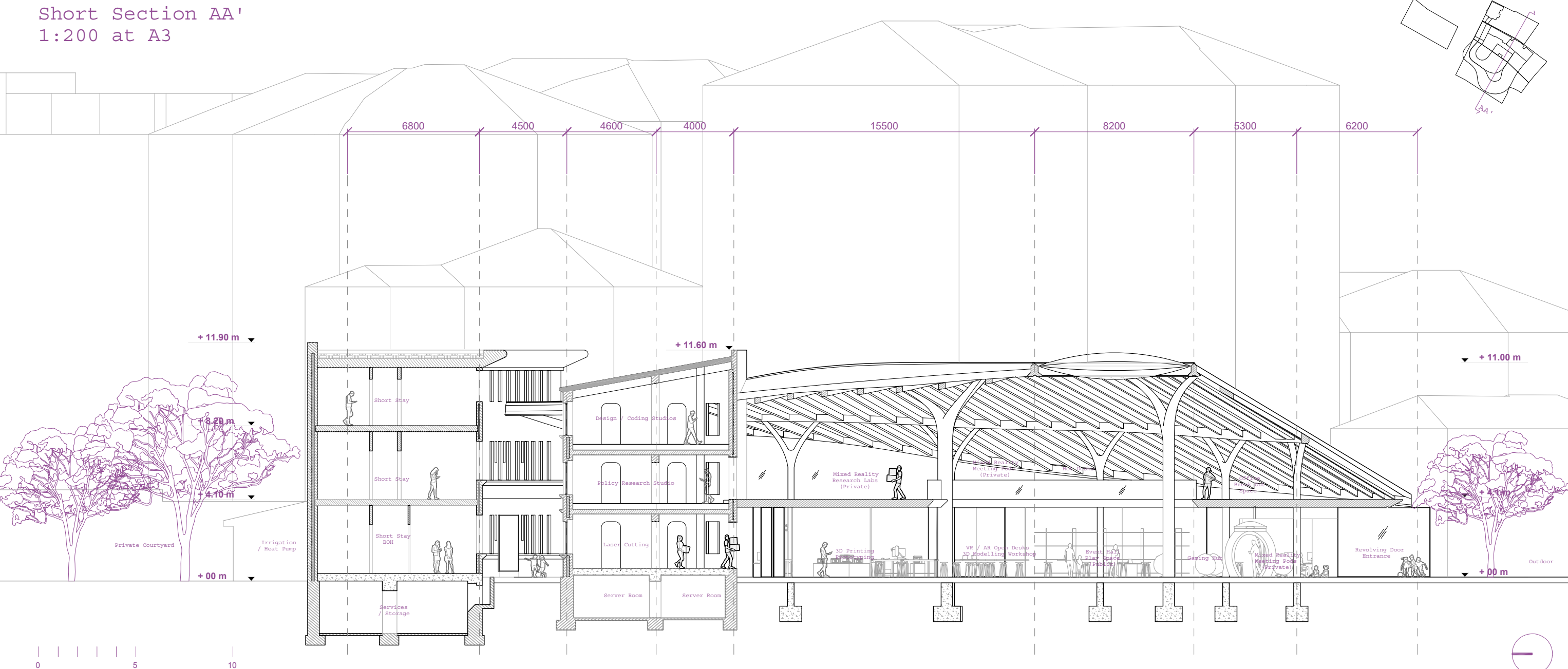
East Elevation 1:200



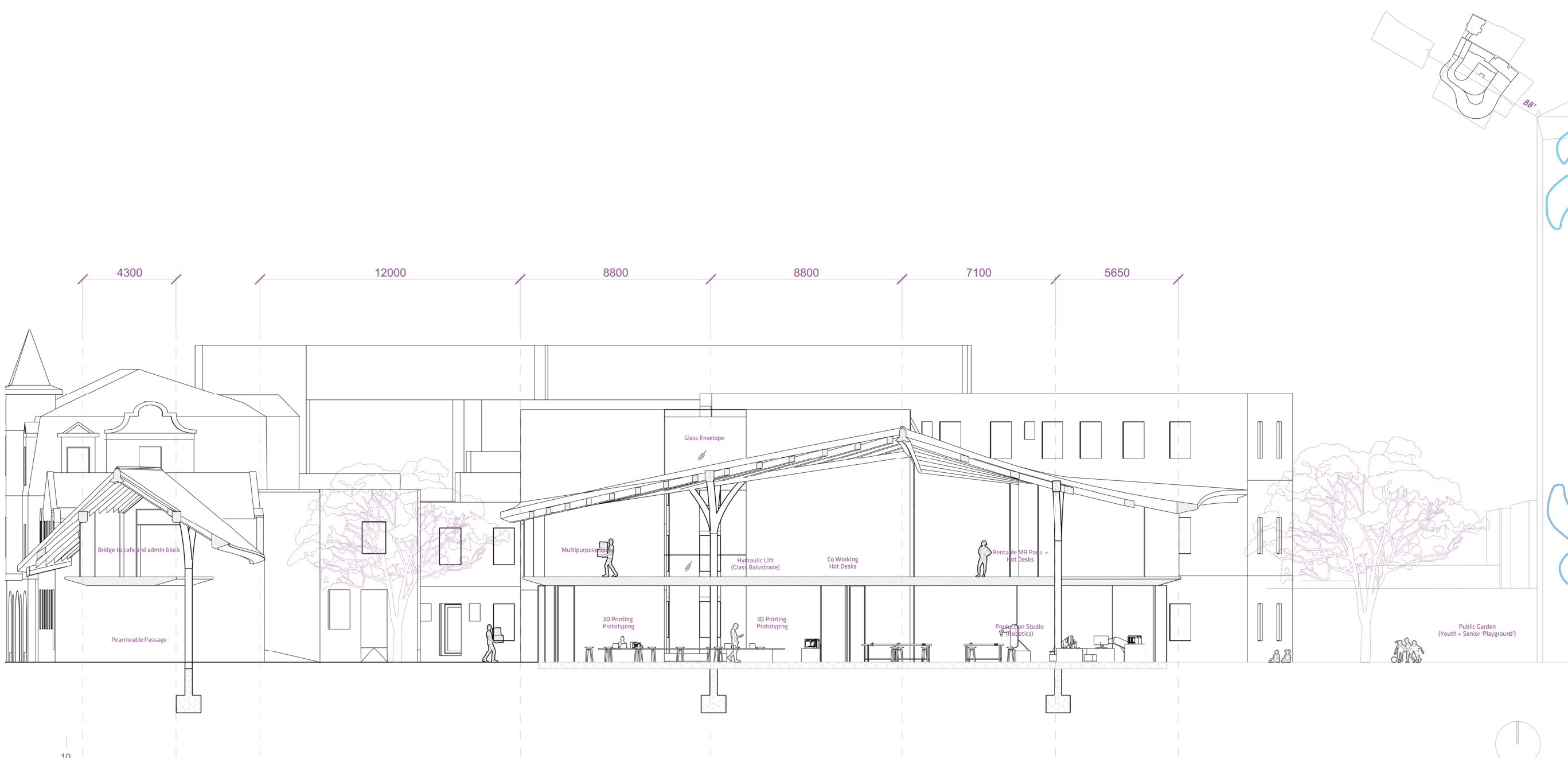
South Elevation 1:200



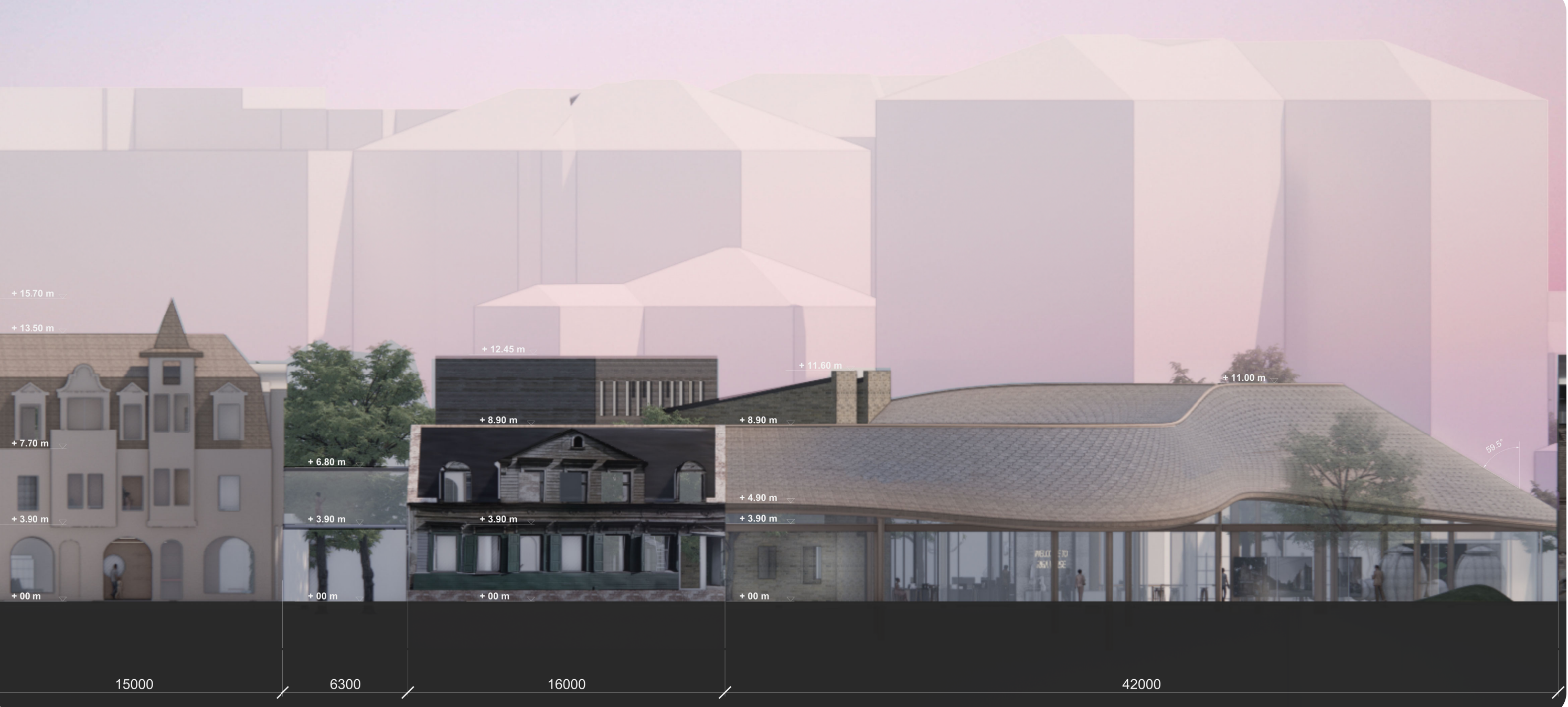
Short Section AA'
1:200 at A3



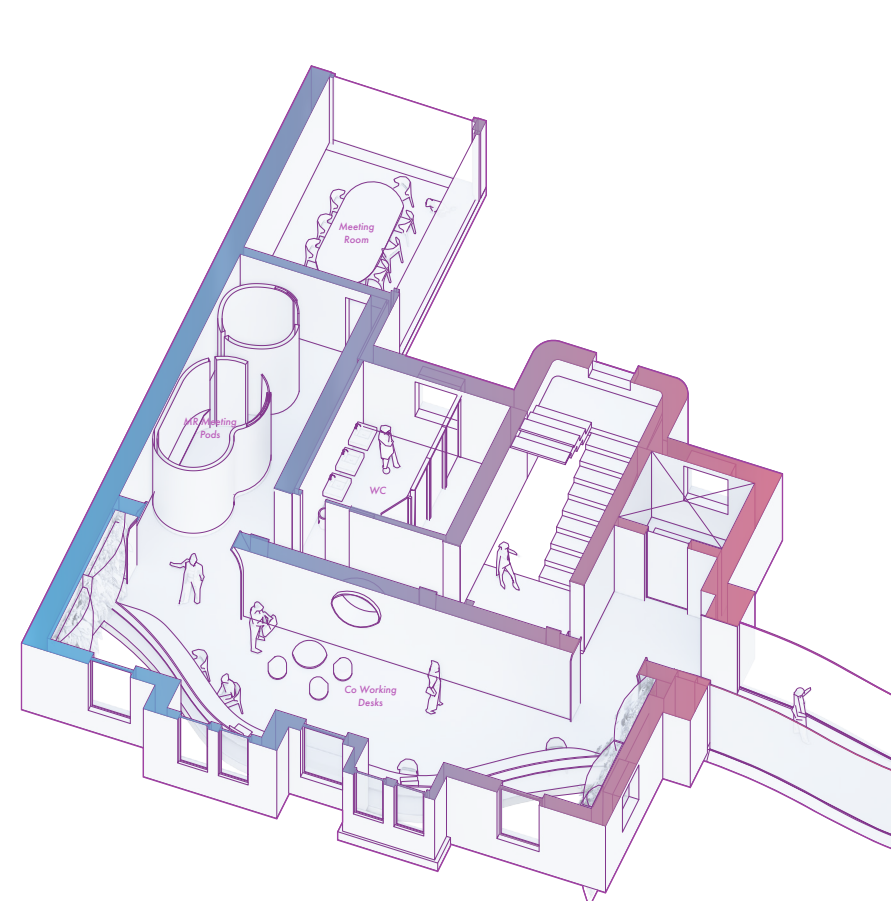
Section AA 1:200



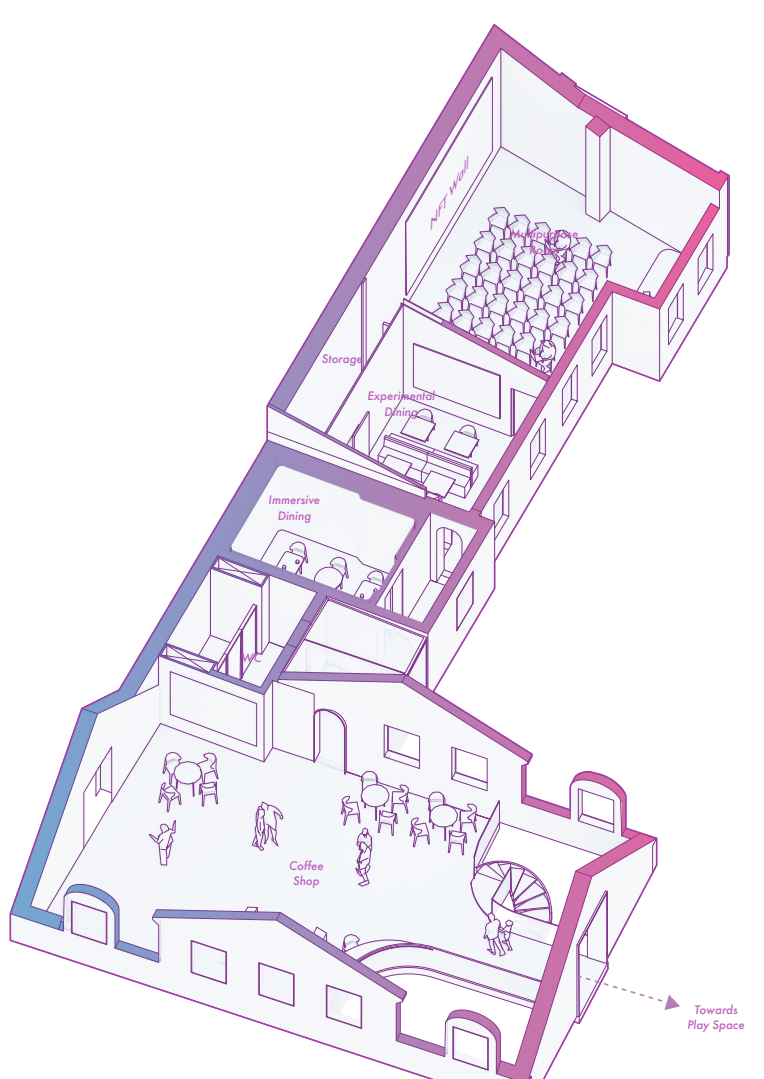
Section BB 1:200



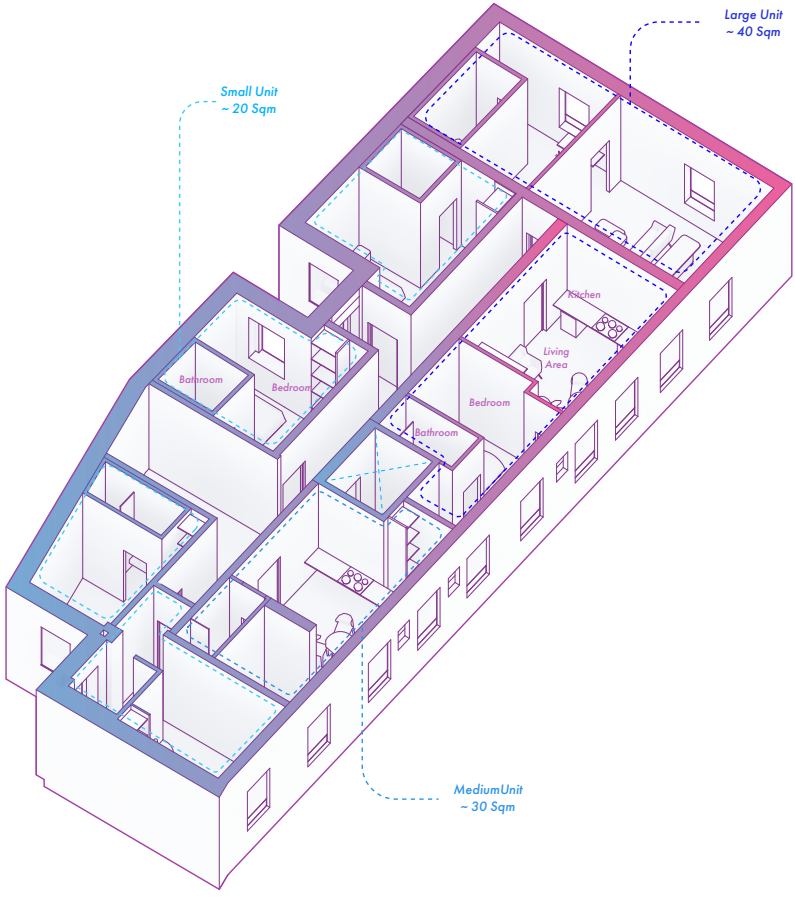
West Elevation 1:200



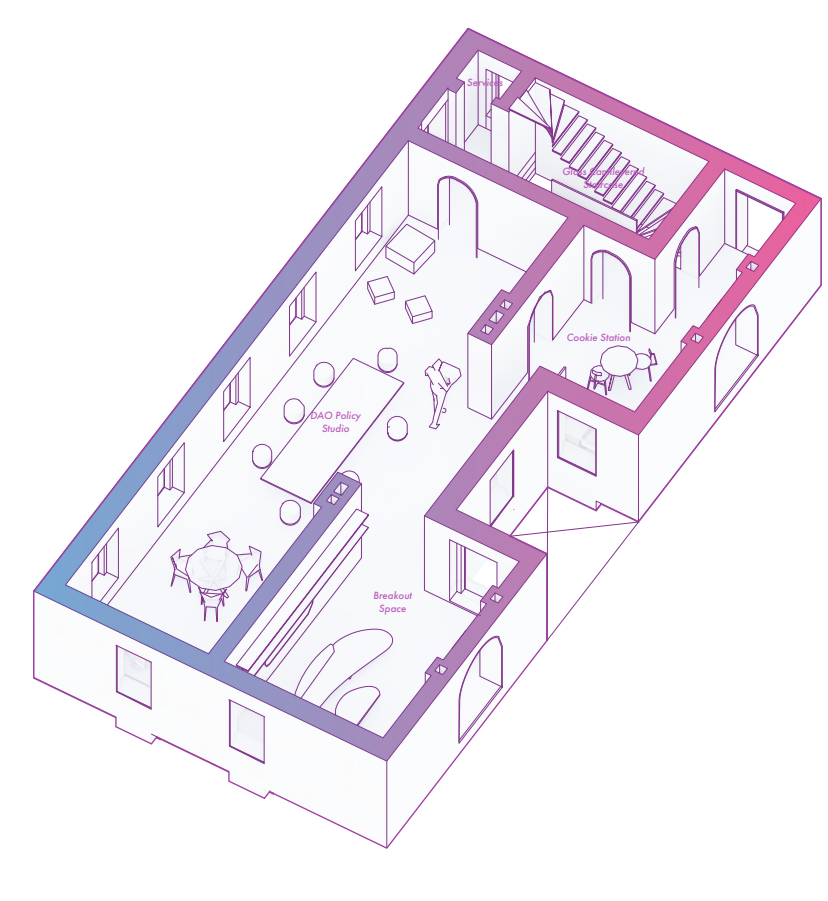
Typical Admin Level



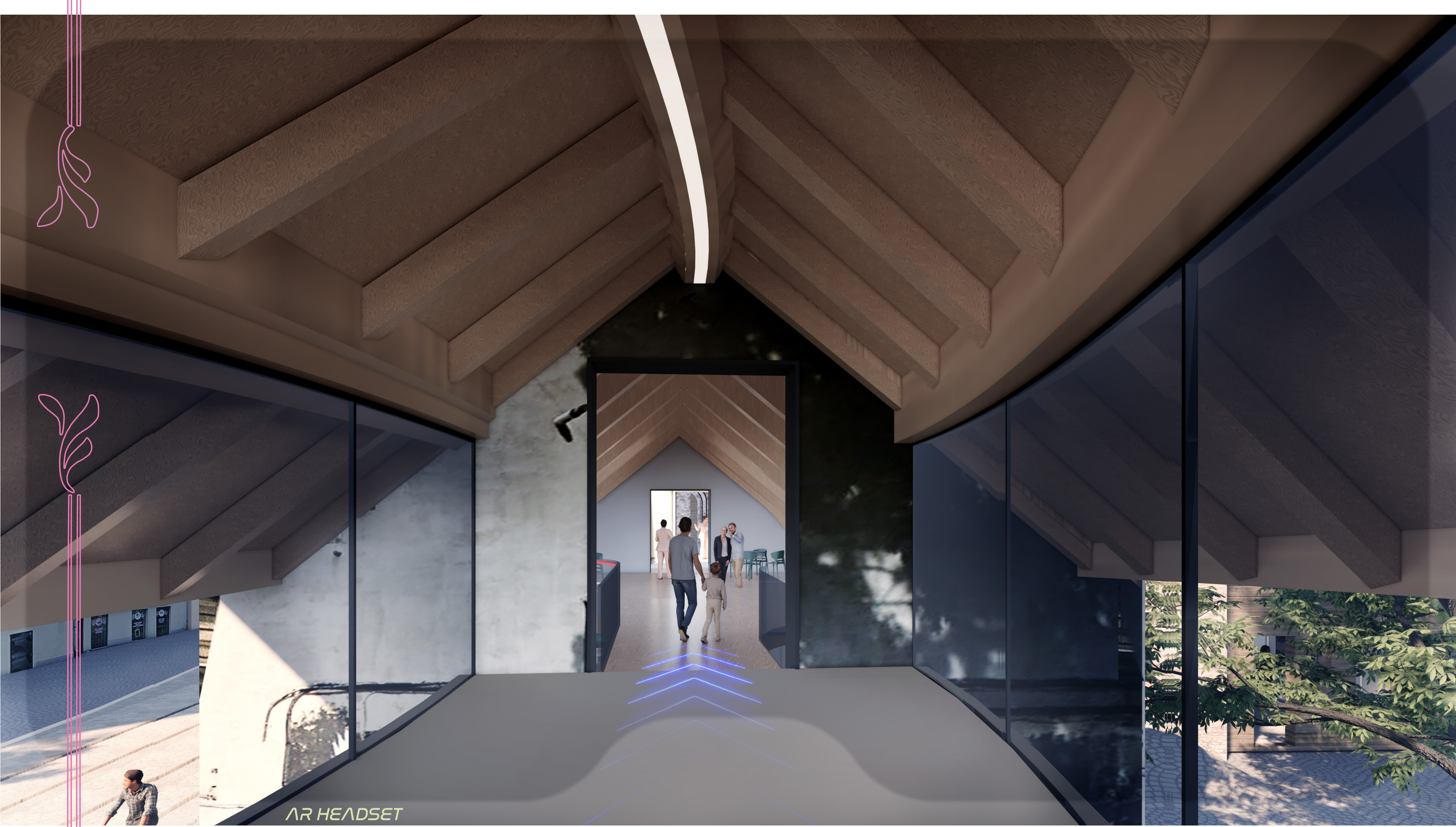
Typical Co Working Level



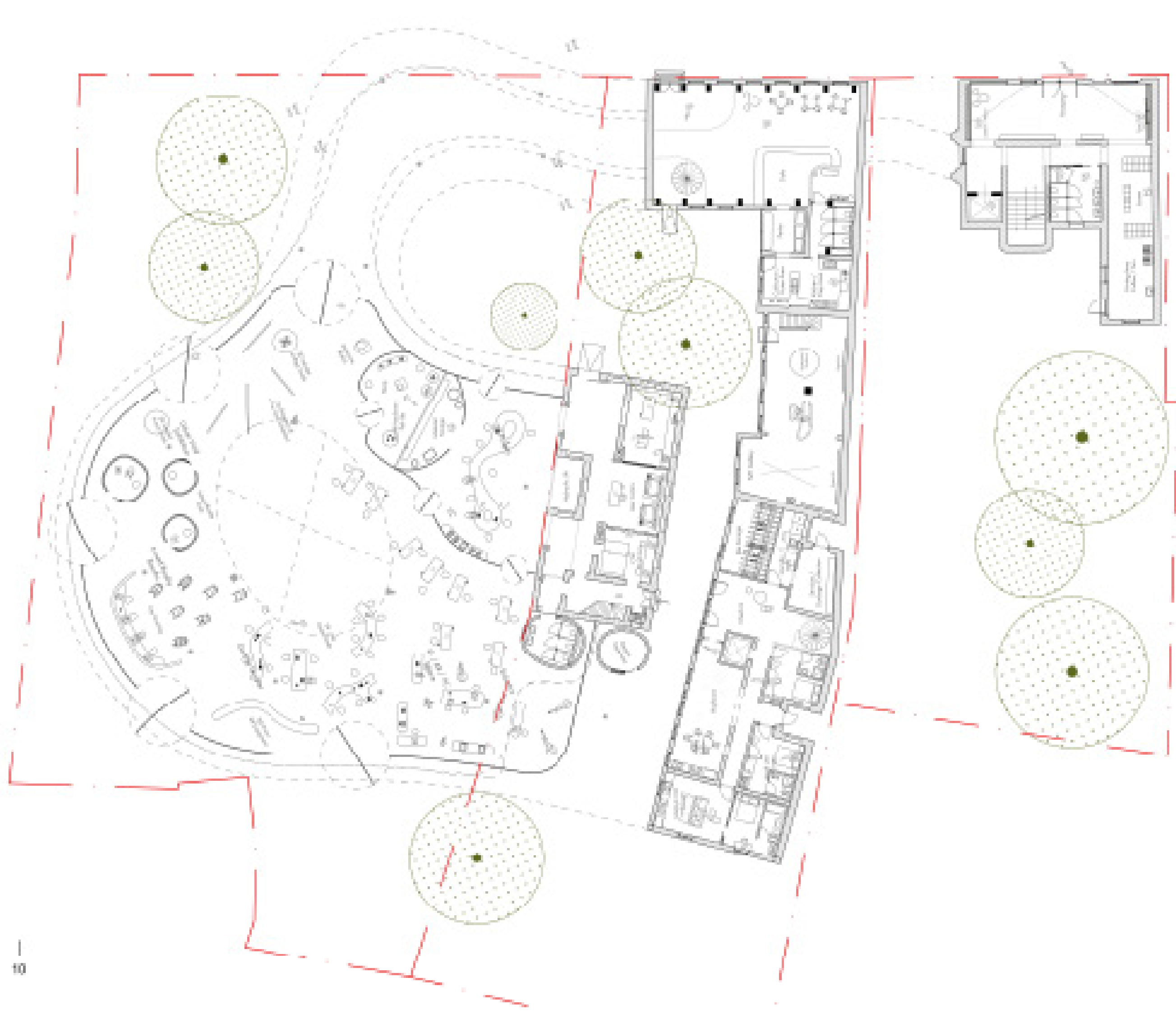
Typical Short Stay



Typical Policy Studio

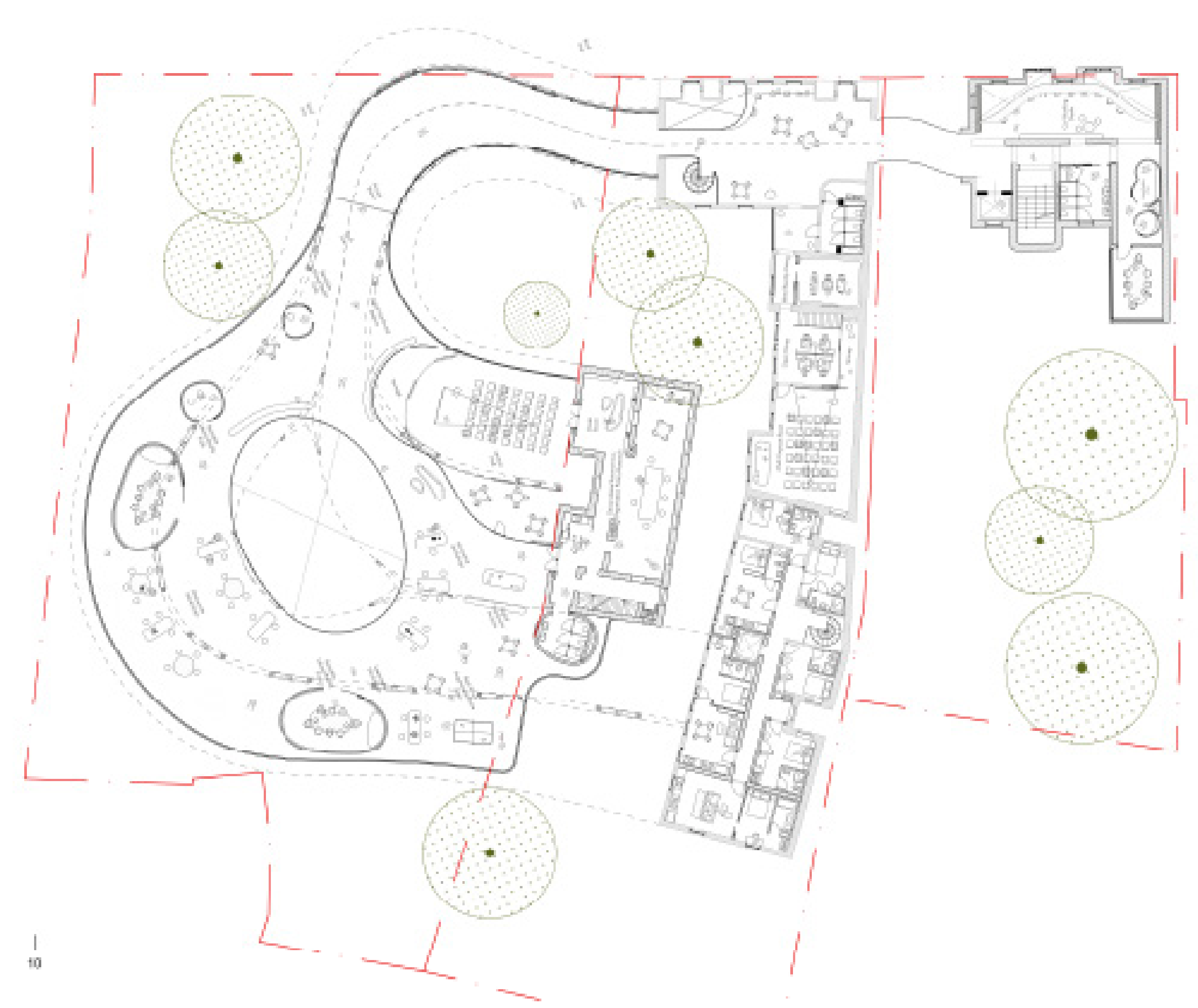


Second Level
1:250 at A2

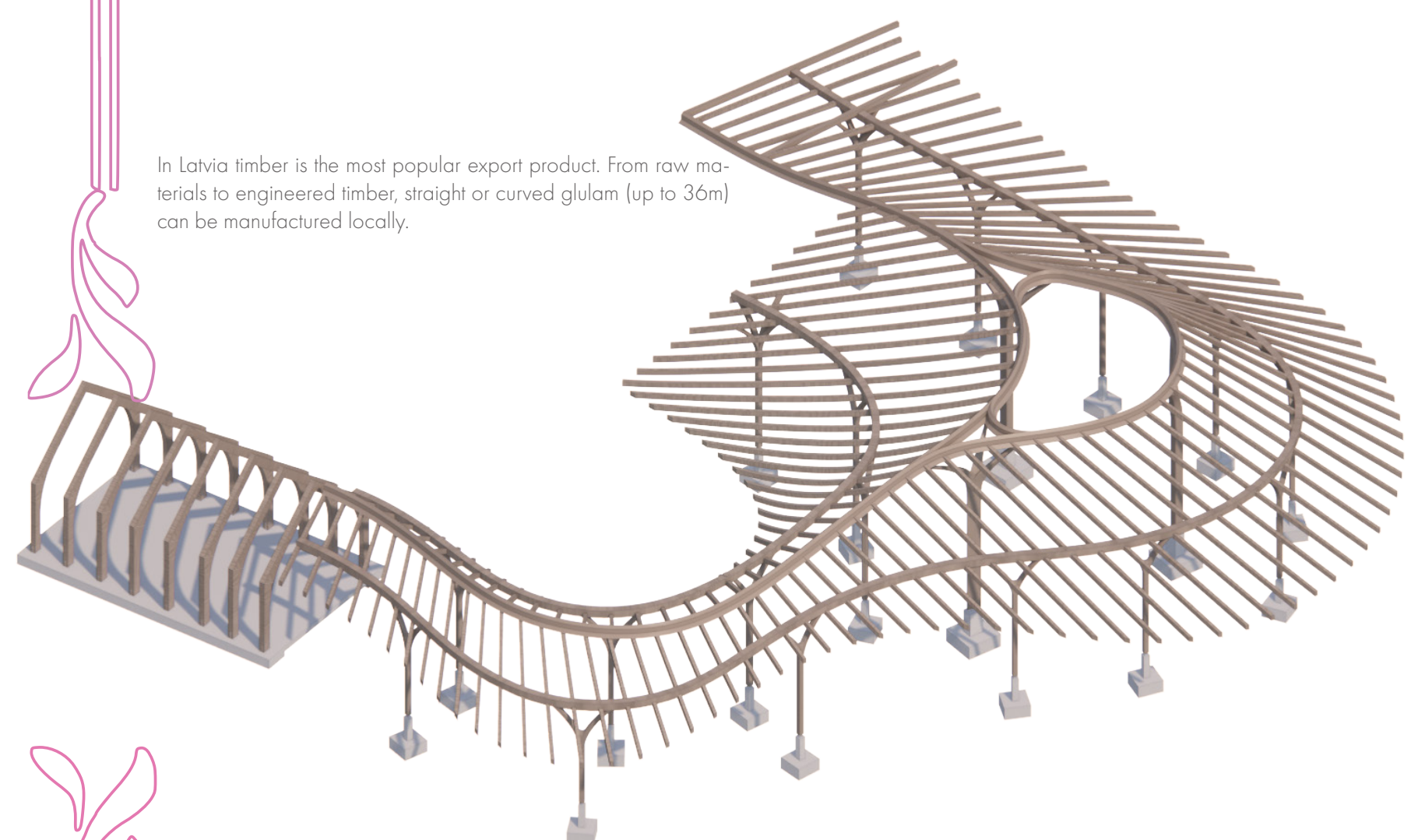
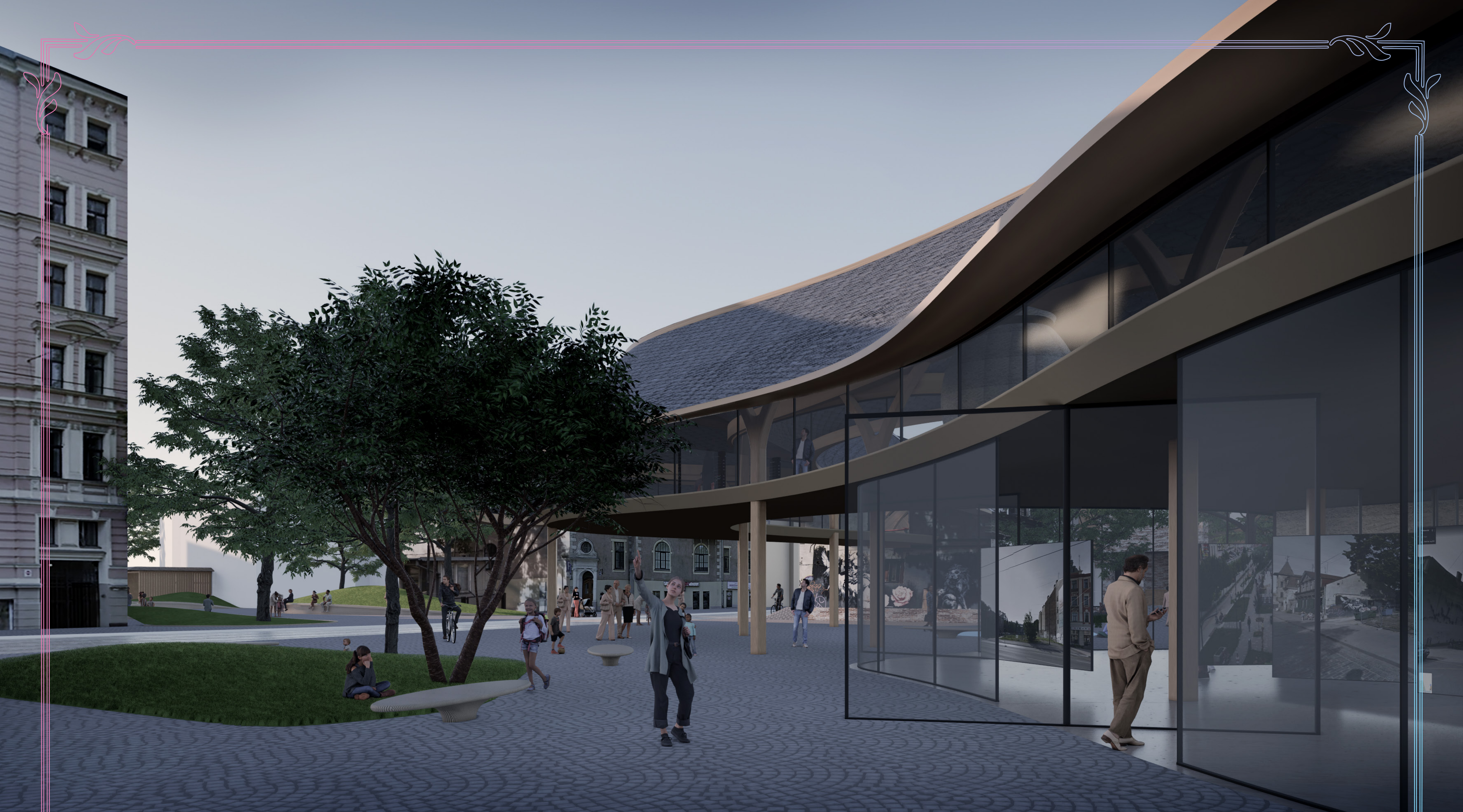


Ground Level 1:250

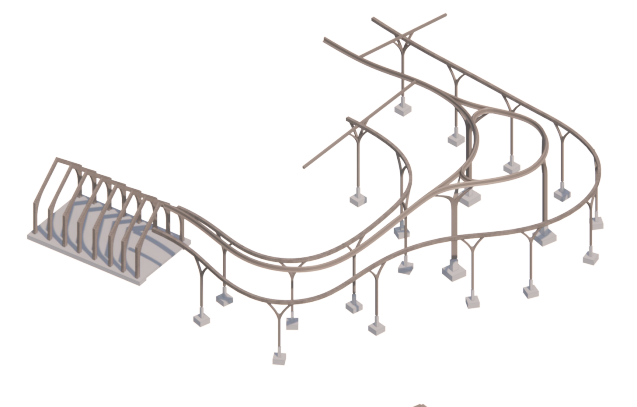
First Level
1:250 at A2



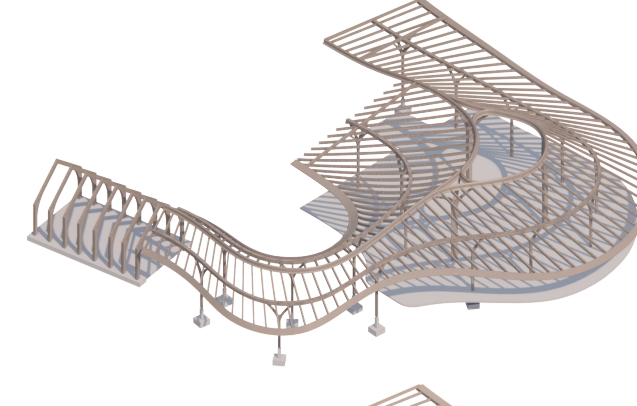
First Level 1:250



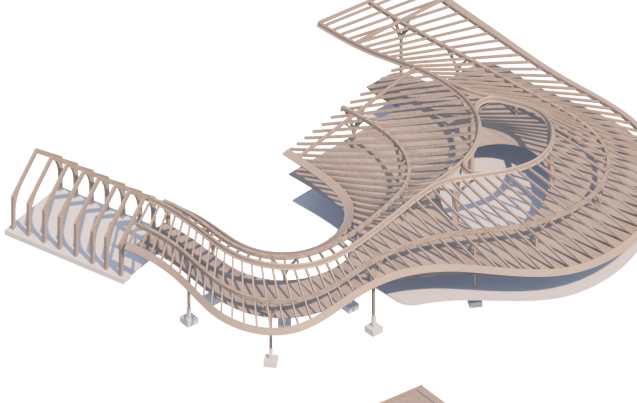
Primary Structure
(Singular system of Glulam Columns + Glulam Structural Ring)



Secondary Structure
(Glulam ribs operate as catenary beams, reducing stresses and increasing tension to stabilize the building from all sides. Reduces wind load)



CLT Slabs
(freestanding columns allow clt slab placement with concealed steel hooks)



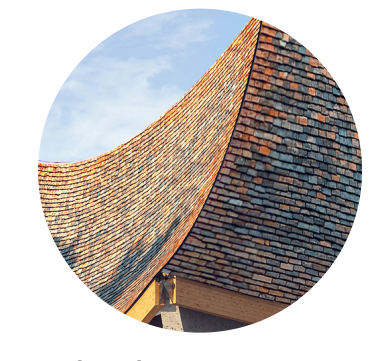
Structural Plywood Skin
(In-situ applied 35mm plywood acts as a lateral restraint, creating a continuous structural support for timber ribs.)



Glass Fins



Locally Sourced Wood



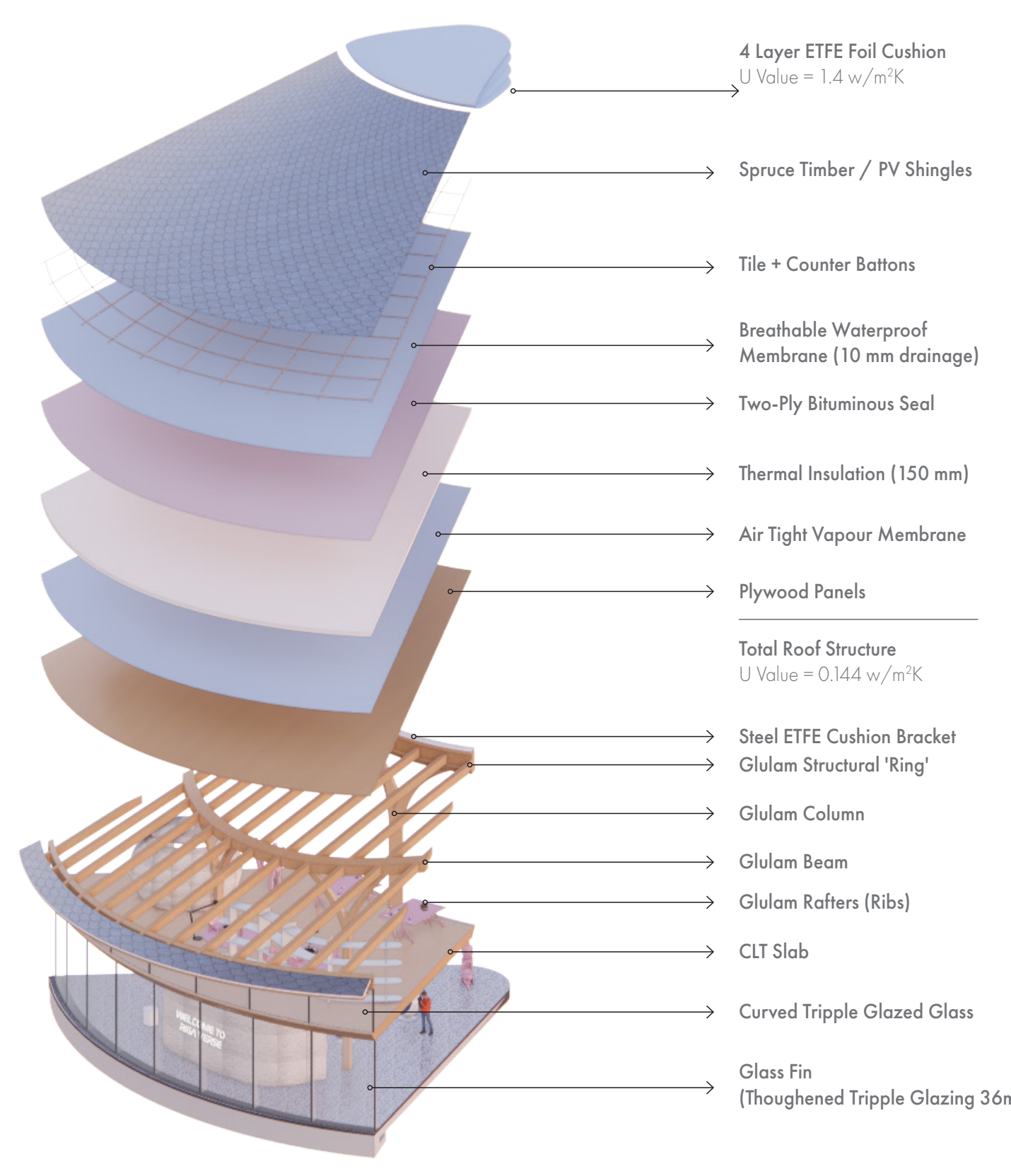
Shingle Composition



Roof Shingles



Material + Structural Composition
ASSEMBLY OF A SEGMENT



- 4 Layer ETFE Fall Cushion
U Value = 1.4 w/m²K
- Spruce Timber / PV Shingles
- Tile + Counter Battens
- Breathable Waterproof Membrane (10 mm drainage)
- Two-Ply Bituminous Seal
- Thermal Insulation (150 mm)
- Air Tight Vapour Membrane
- Plywood Panels
- Total Roof Structure
U Value = 0.144 w/m²K
- Steel ETFE Cushion Bracket
- Glulam Structural Ring
- Glulam Column
- Glulam Beam
- Glulam Rafter (Ribs)
- CLT Slab
- Curved Triple Glazed Glass
- Glass Fin
(Thoughted Triple Glazing 36mm)



Local Capacity
(On left, Zaza Timber is one of the largest timber product manufacturers, located around 100km from the site)

Structural Principle
Columns are positioned 4m apart, and sit on top of Pad Foundation, due to natural curvature of the structure, the structure acts as a table, that does not require a core stabilizer.

Connection Principle
As part of the project concept, I am using a concealed bracket (Alumini bracket). For secondary structure, a Self-lifting dowels are used to allow in-situ assembly.



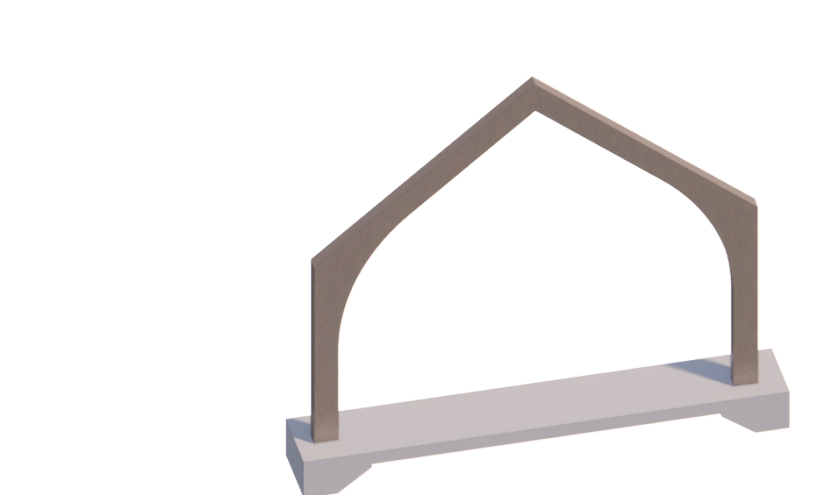
Primary Columns
3 Primary columns are supporting the central space, due to the unique shape of the roof, columns branch out at the top, referencing Jugertal.



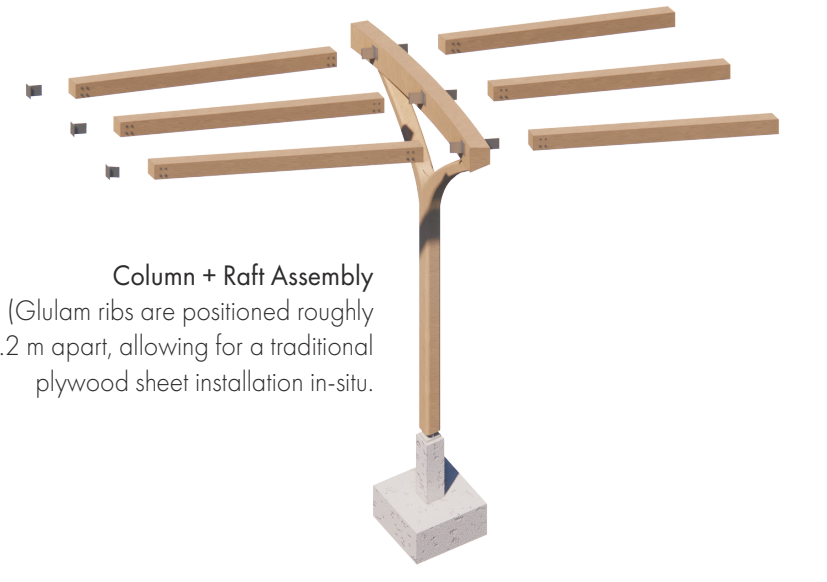
Secondary Columns
Two fold column carries the ribs



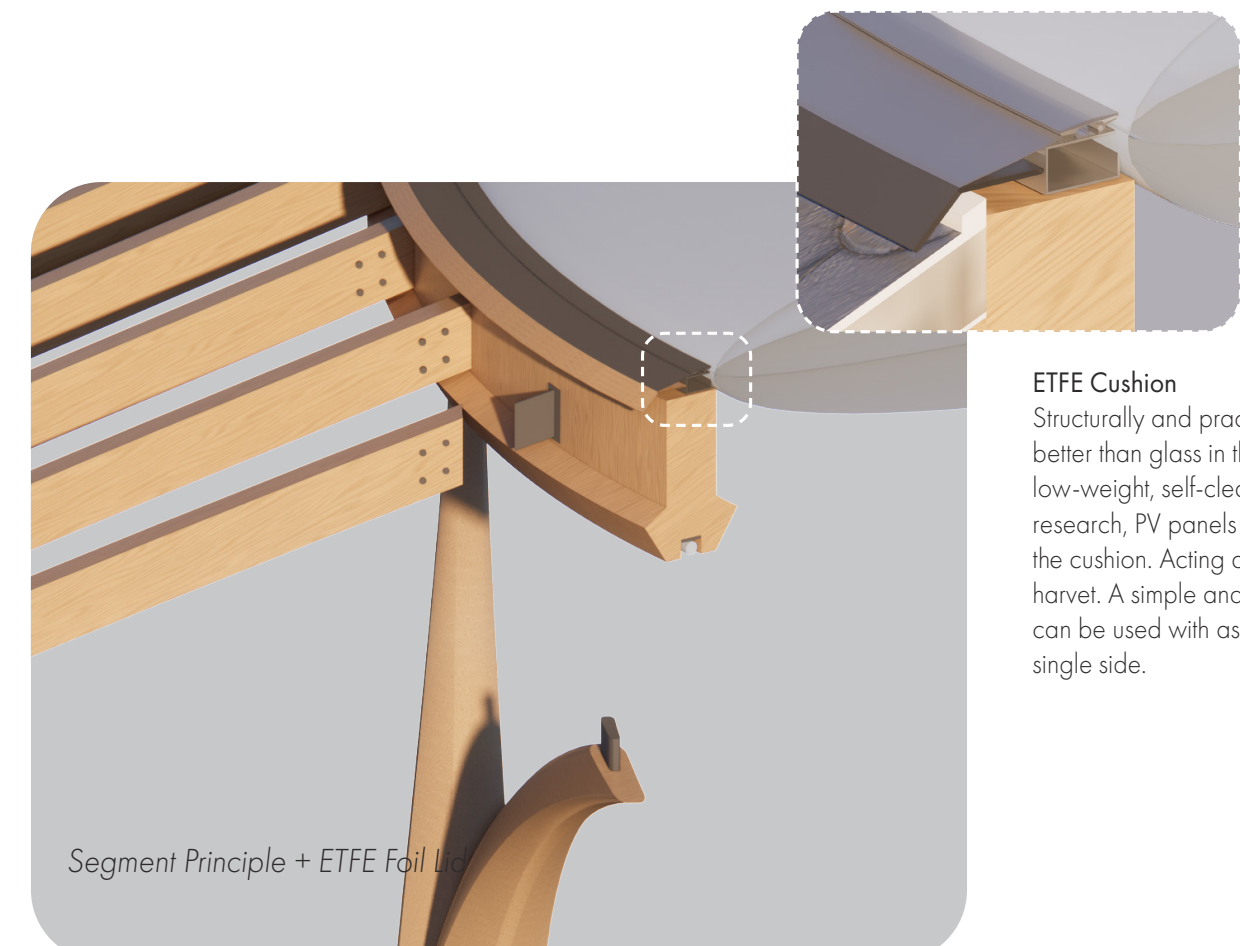
Secondary Columns +
Towards the end as the new built, columns branch out into four, to reduce dependency on existing brick cavity walls.



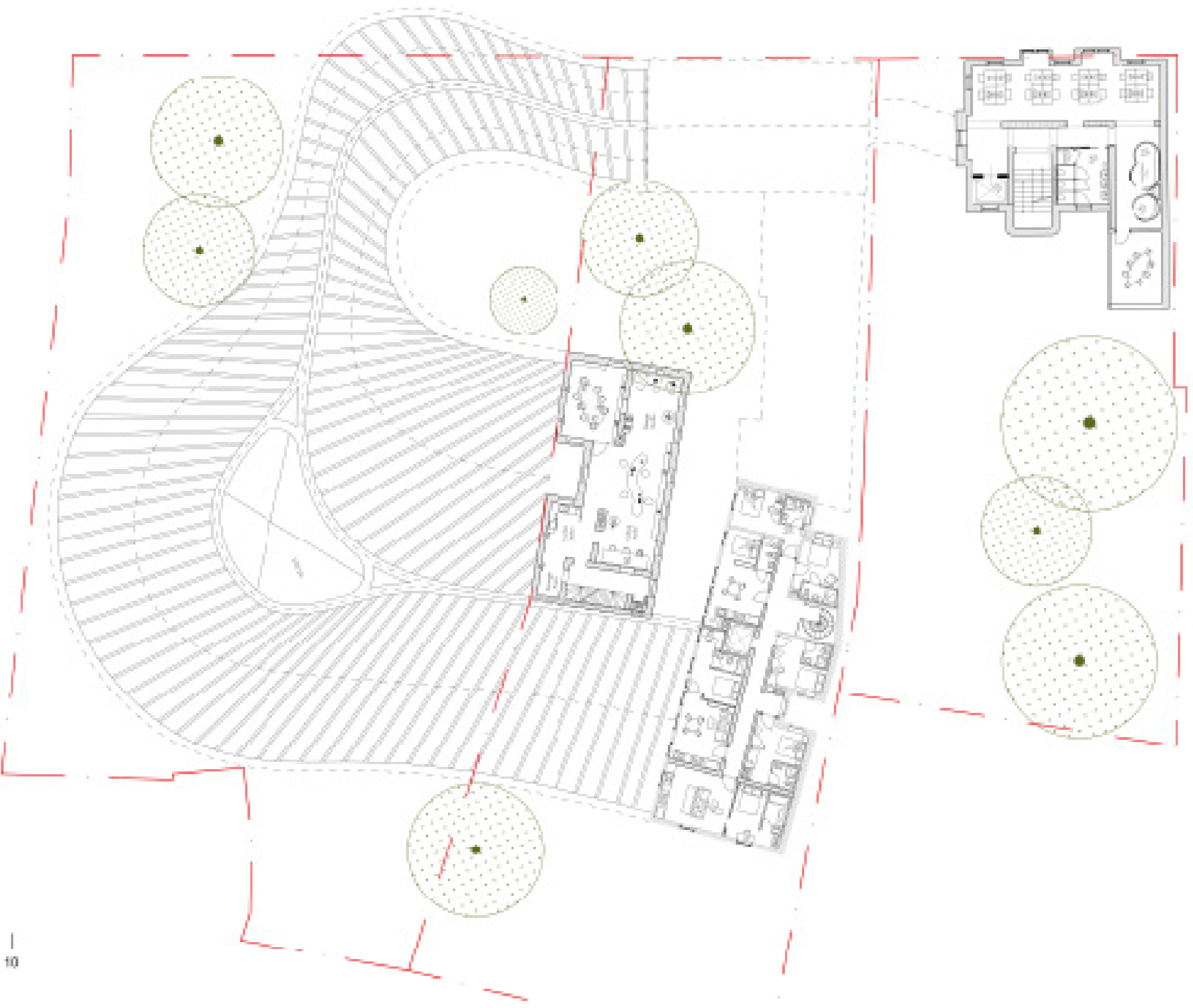
Existing Retrofit
The existing



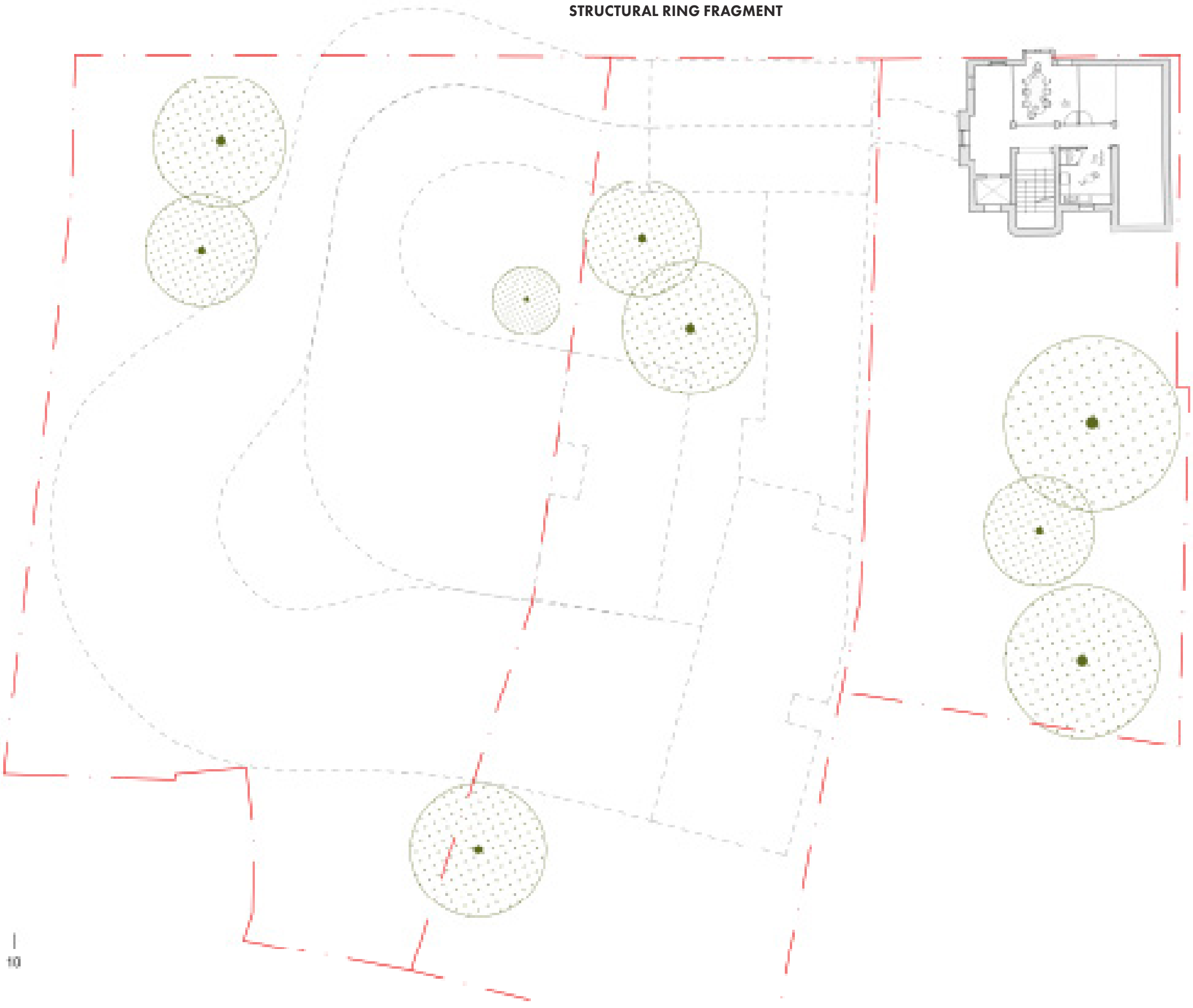
Column + Rafter Assembly
(Glulam ribs are positioned roughly 1.2 m apart, allowing for a traditional plywood sheet installation in-situ.)



ETFE Cushion
Structurally and practically ETFE cushions are better than glass in this instance. It is relatively low-weight self-cleaning and with further research, PV panels can be incorporated into the cushion. Acting as a shader and energy harvester. A simple and universal clamping system can be used with as it is attached from a single side.



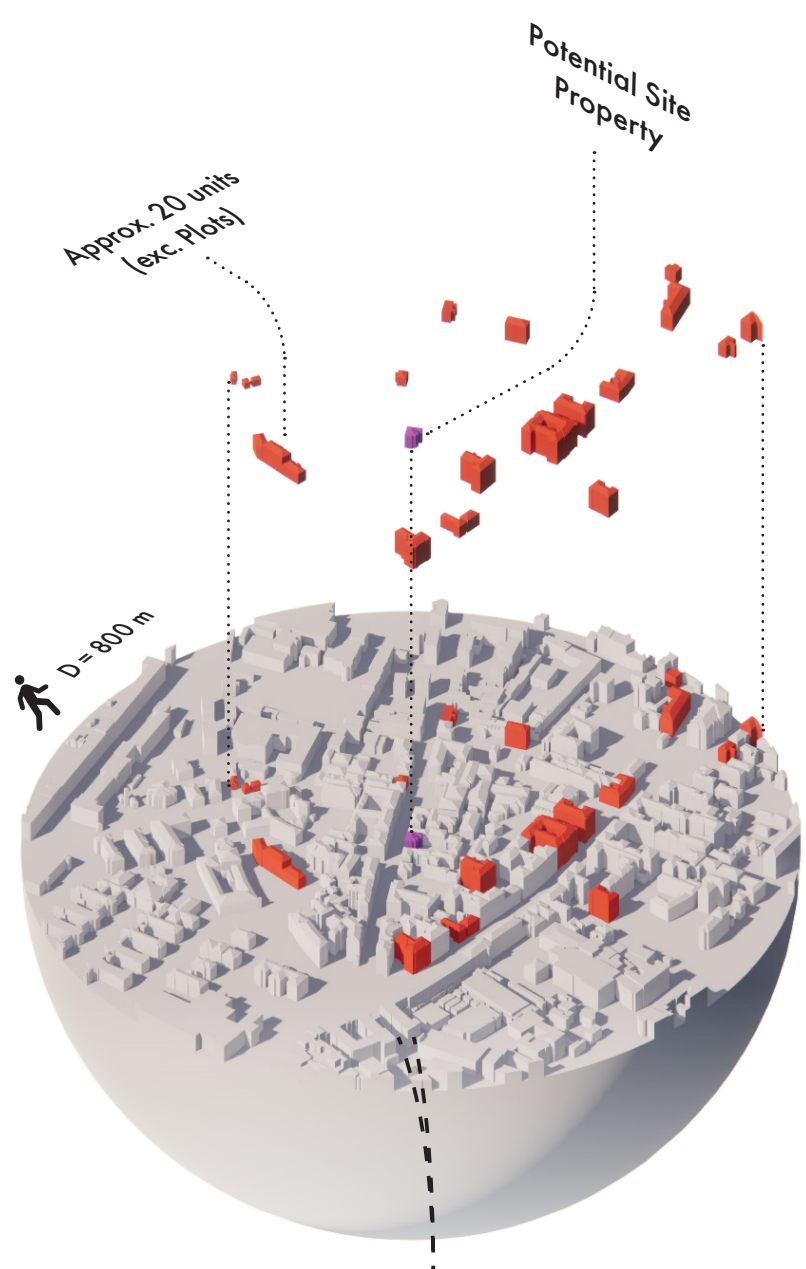
Third Level 1:250



Attic Level 1:250

Digital platforms catalyze community, bringing people together to co create and fix their city. But what if we had more tools, digital tools to act on the city around us? What if the same mechanisms of smart urban optimization allowed people to take ownership of their city and make improvements that only residents could dream up?

Carlo Ratti, 2016



Excessive Voids

There are around 20 neglected buildings within 400m radius from the site (purple building). Each building and plot can become part of the Metaverse world where locals can interact with the city, proposing alternative neighbourhoods.

URBAN VOID DASHBOARD

METAVVERSE: TRANSITIONING FUTURE CITIES

Second Level Admin
Private level dedicated for campus admin staff, focusing on day to day activities and event organisation.

Second Level Living
Short stay living rooms range from small 20sqm with shared amenities to large 40 sqm for extended stays with a private kitchen.

TimberStructure
New and retrofitted buildings are using glulam timber as the primary structural material. Locally sourced and manufactured spruce.

First Level
A semi-private area dedicated for metaverse policy and implementation exploration.

First Level
A semi-private area dedicated for metaverse policy and implementation exploration.

Basement Level
Private server room facilitating data storage and digital services of the site.

Regular Citizen

Digital Citizen

Access
The building is accessible from all sides, reducing hierarchy in the entrance which hopes to create a more permeable and serendipitous interaction with the metaverse and urban voids.

Mixed Experience
Mixed Reality pods are rentable experiences for meetings and social gatherings. The building can be experienced in two ways, through an MR pod or AR Headset.

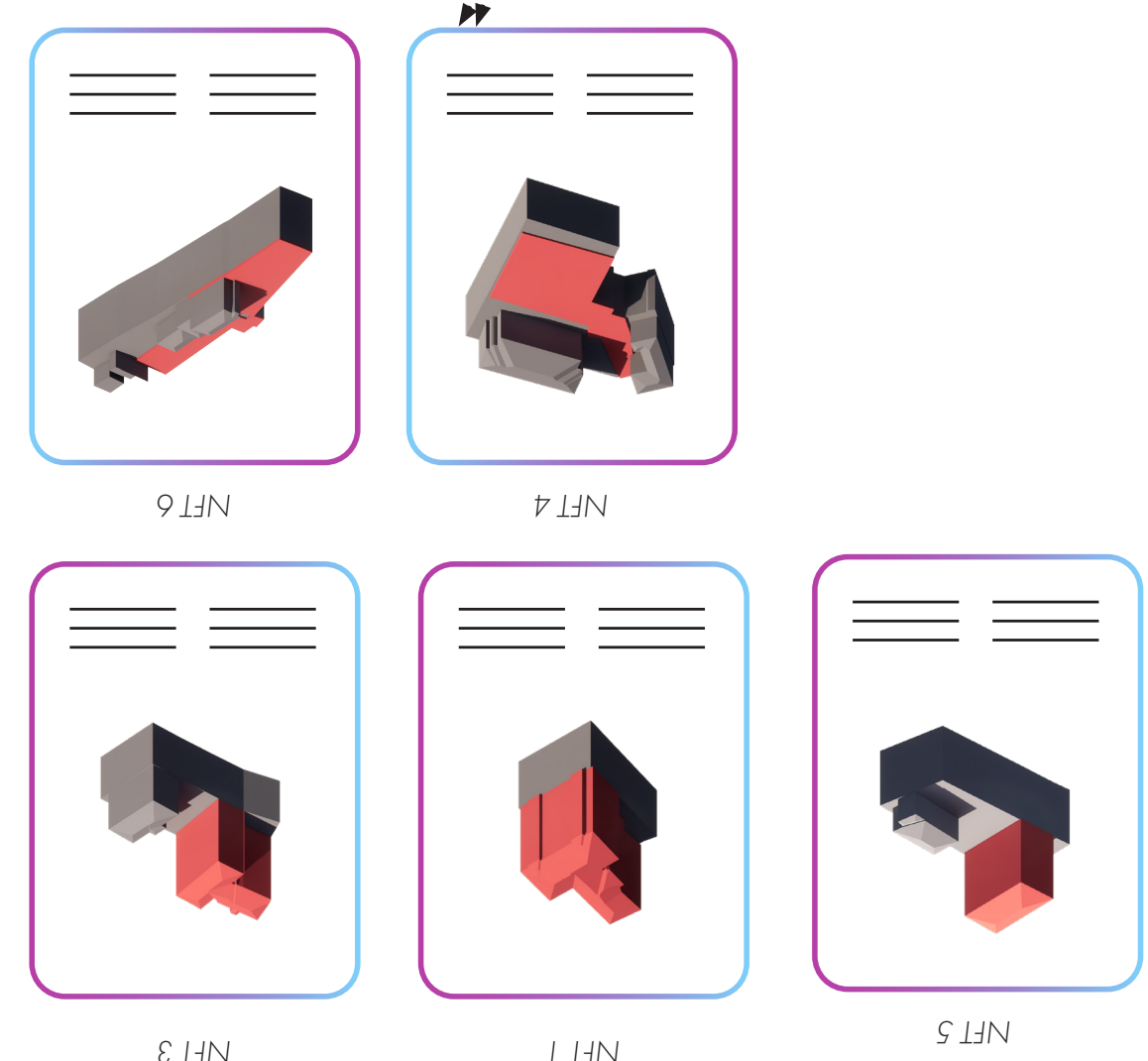
Virtual Dining
Immersive dining experience enhances individual's experience while enjoying once a meal.

METAVVERSE RESEARCH ACADEMY

Each urban void can become an asset an NFT or social crypto coin that individuals can purchase or invest in, exchanging money for equity by buying into the urban void metaverse. Individuals establish a digital identity and can become active citizens of the digital twins for interaction can create people centred neighbourhoods. Each void, through Smart Contracts, can have coded policies or building regulations such as Form Based Code. Form based codes address the relationship between building facade and types of public realm, the form and mass of building with one another and factors and types of public realm. This becomes a bottom up approach to city planning, as each urban void regeneration must consider the contextual implication. This can be tested in the metaverse, simulating the real world situations and opening up the void for regeneration. With a token one can participate in decision making, propose and vote for alternative solutions to urban void of rigs.



Digital Void Access Platform



Urban Voids As NFT

