

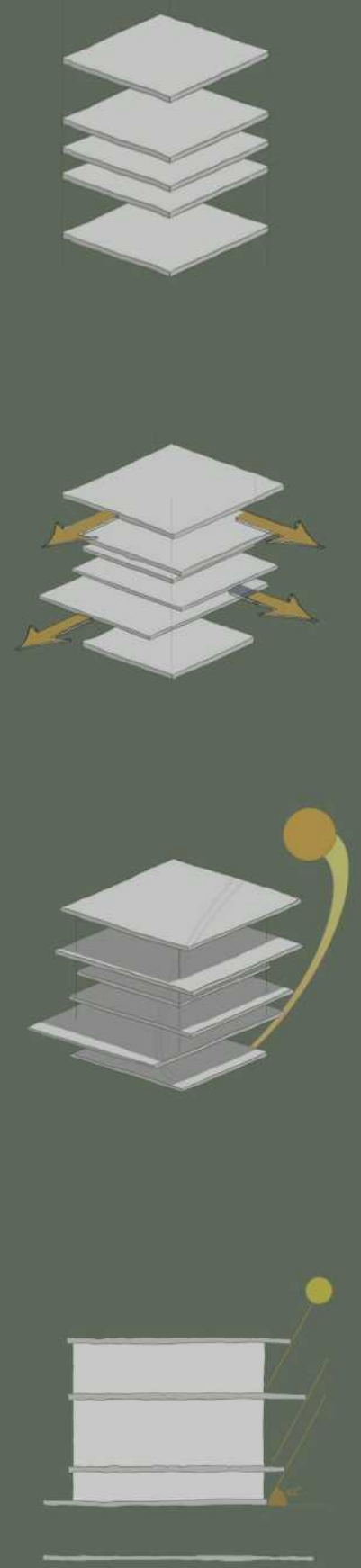


Vertical Farm

Urban Sprout

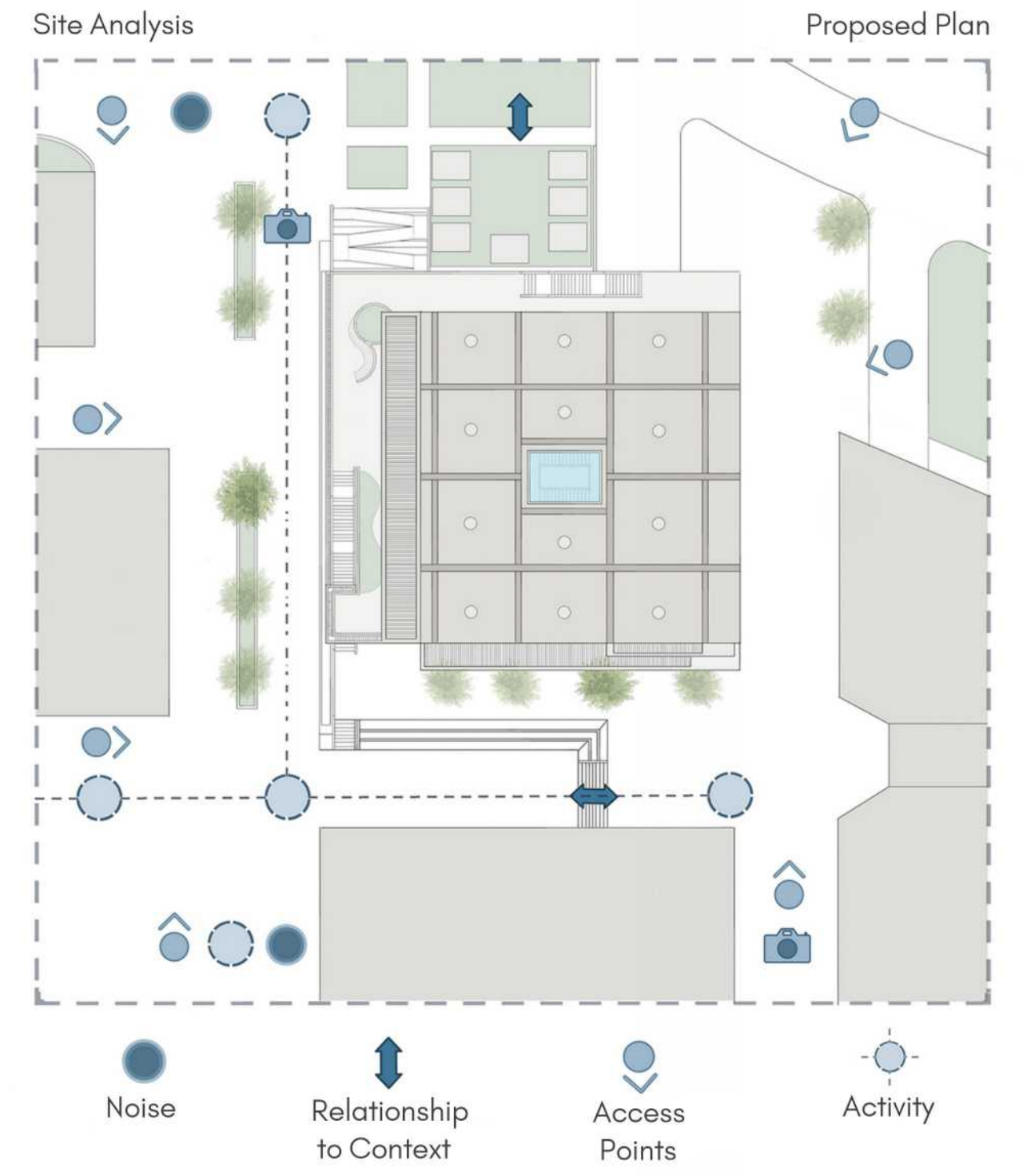
Concept

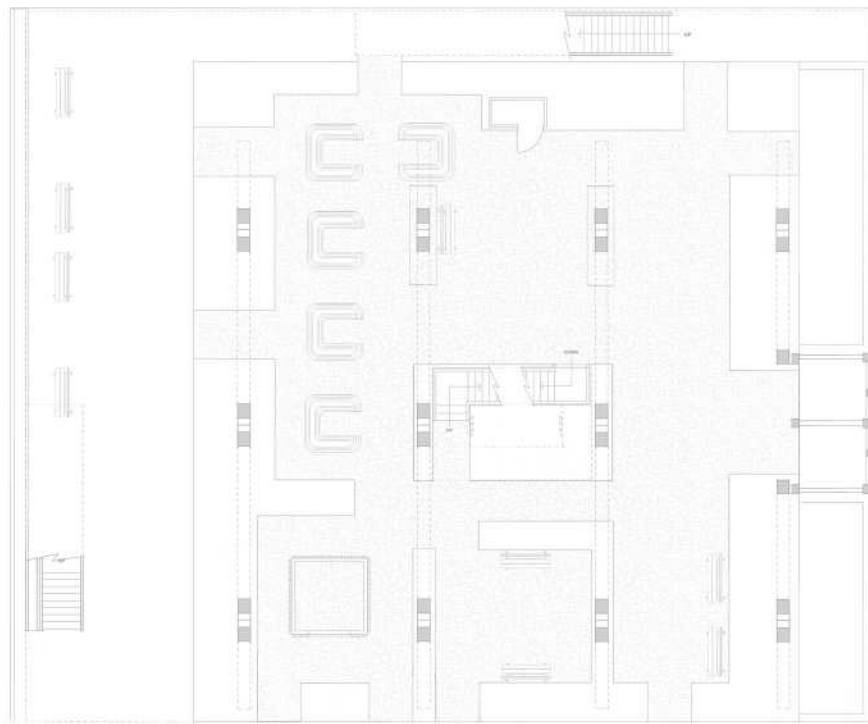
The primary idea for this project was to create a journey, expressing the processes involved in aquaponic farming to educate the public and to spread awareness. Derived from the acres of land used in traditional farming, each floor plane is emphasised through mass timber construction. The perimeter is finished entirely using a curtain wall system to maximise transparency.



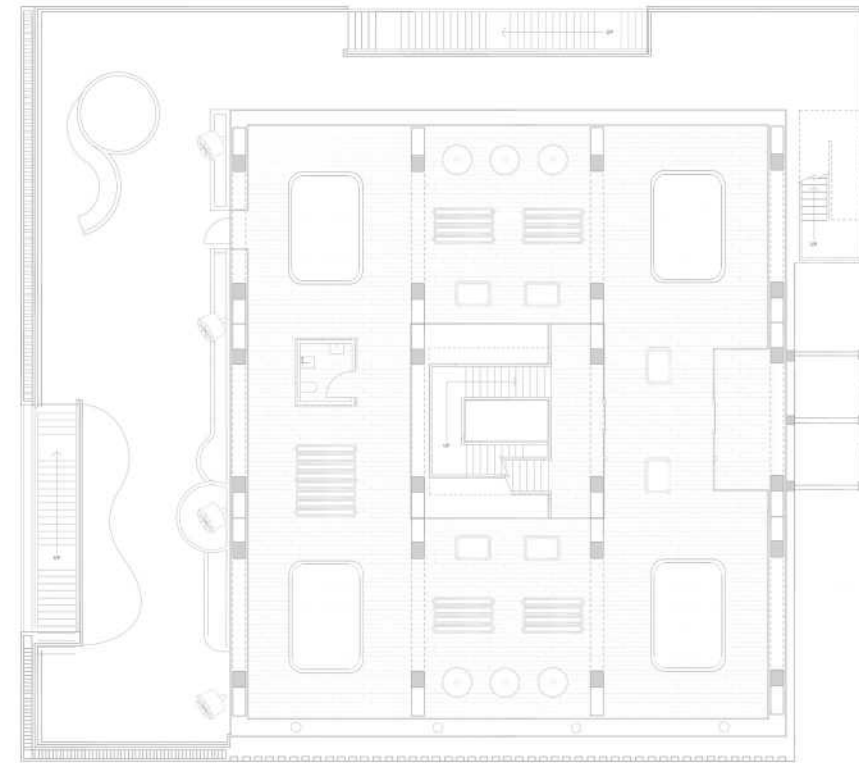
Connecting the Site into the Town :

Since the site's decommissioning as a bus station, the community has reported it being isolated from the centre. Currently, the area serves merely as a passageway to the High Street. With direct access to the mall and its location next to a main car park used by many for walking into the town, the site holds potential for development. Ideas were explored into how this space might be transformed into an extension of the High Street.

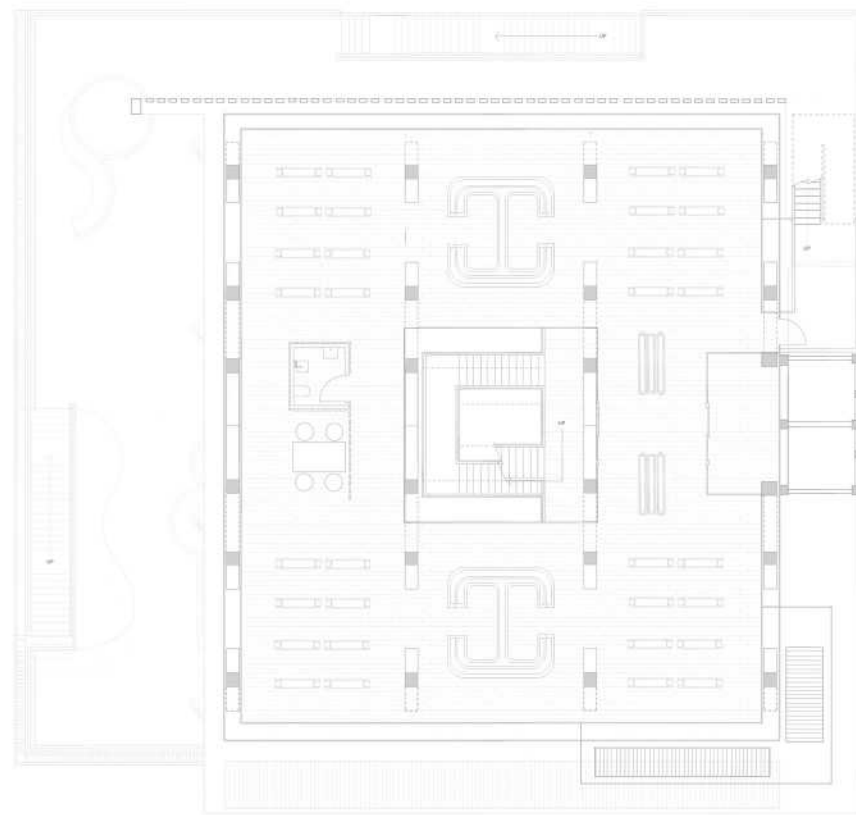




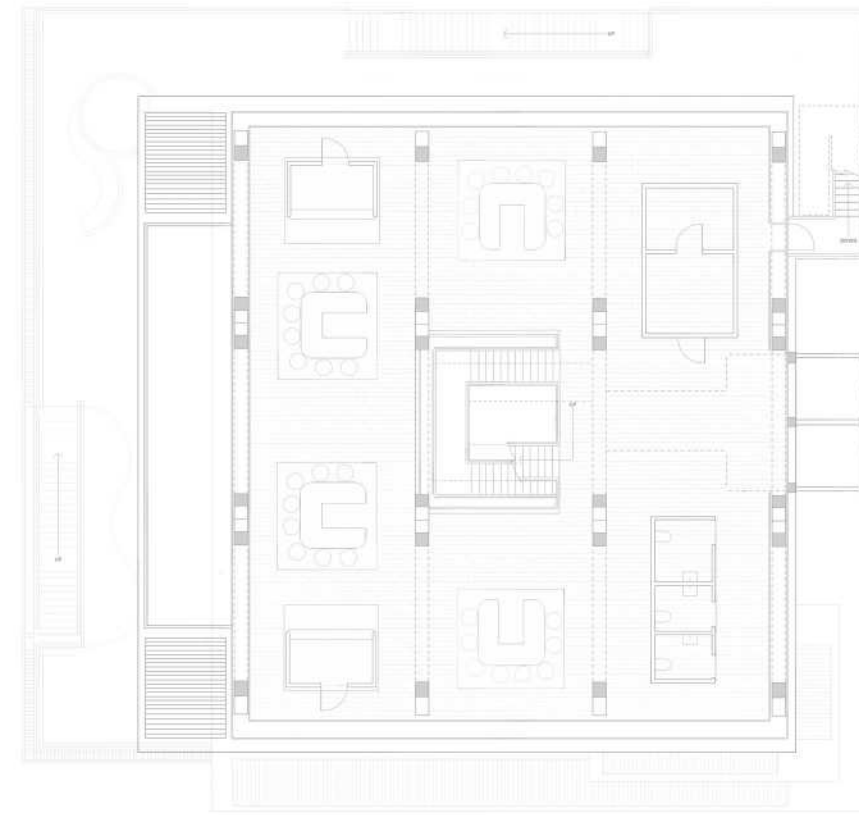
Ground Floor - Market



1st Floor - Aquaponics

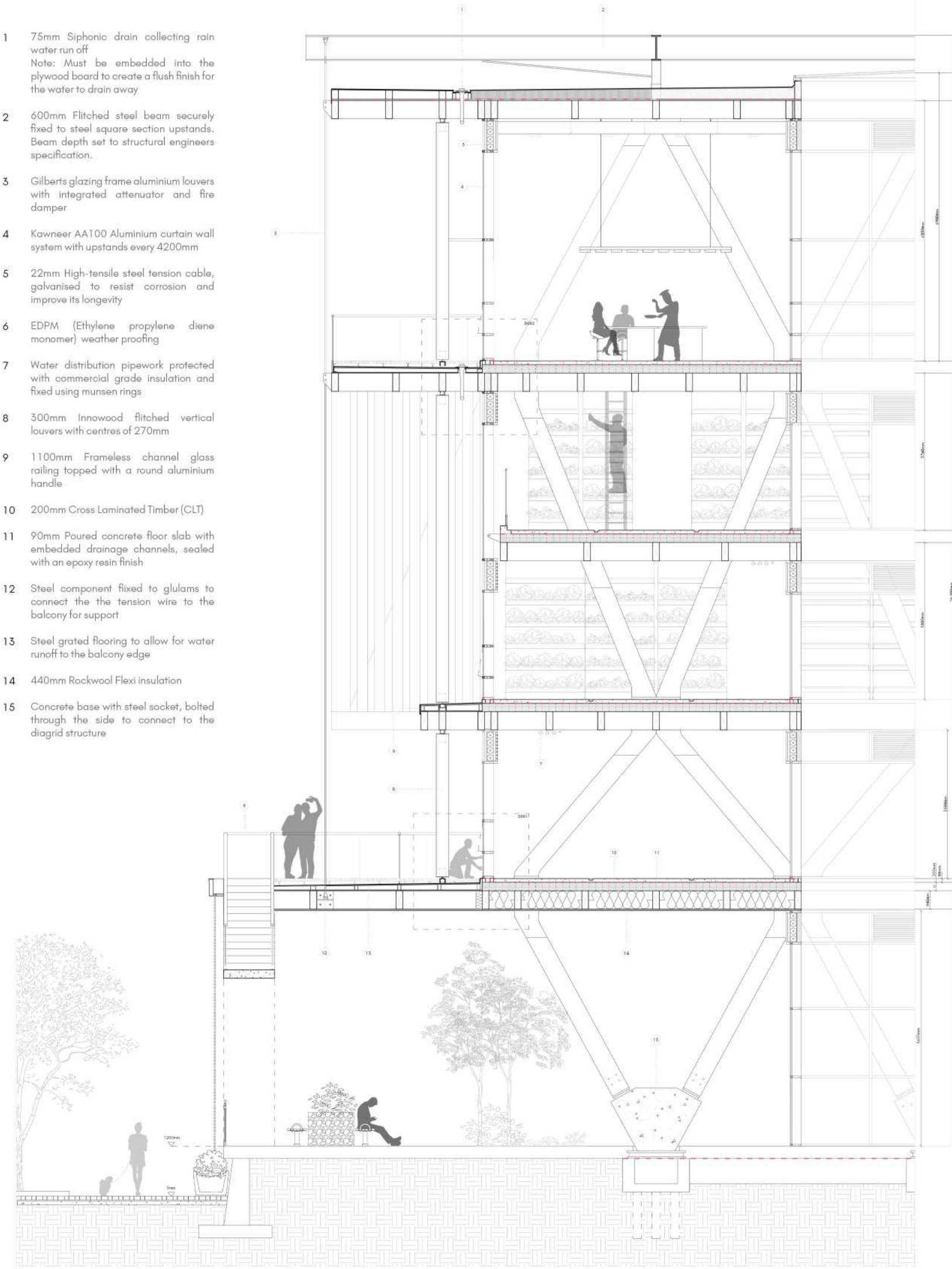


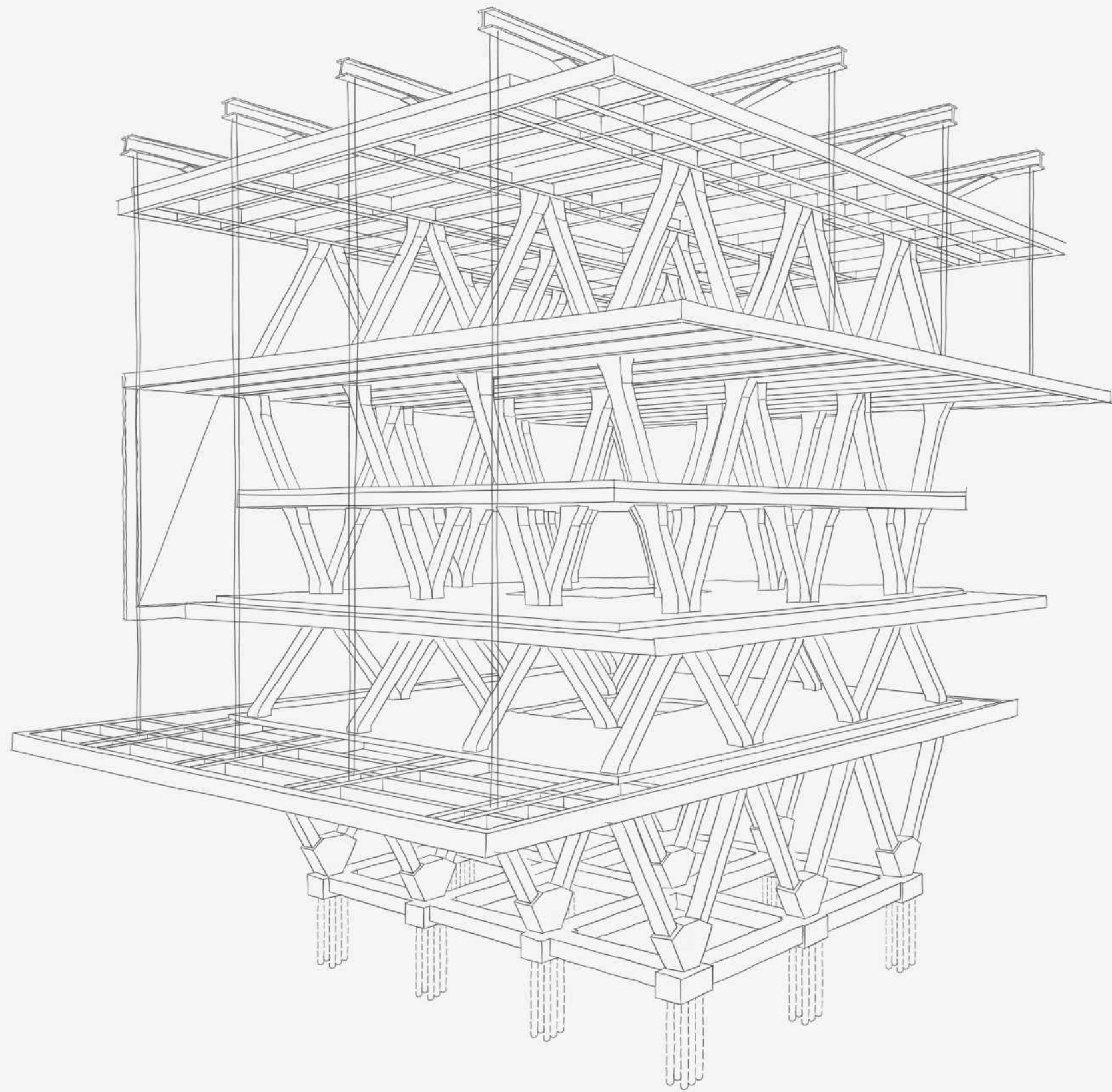
2nd & 3rd Floor - Planting



4th Floor - Restaurant

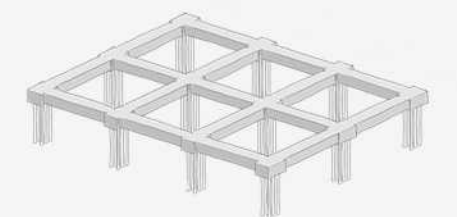
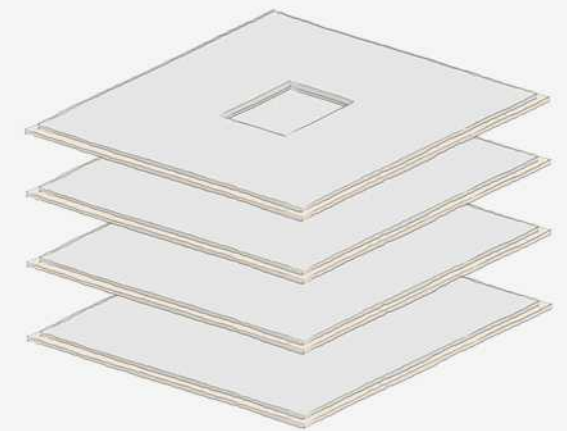
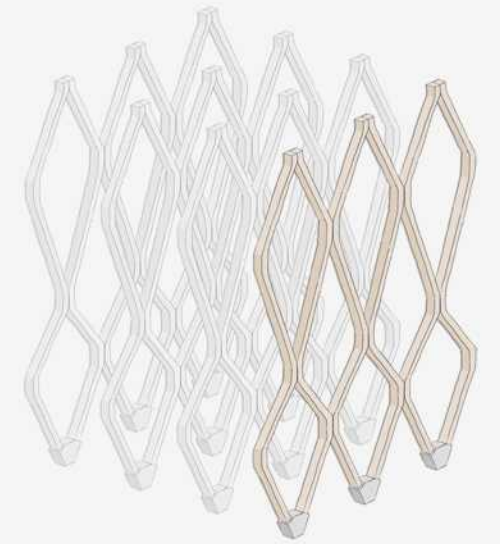
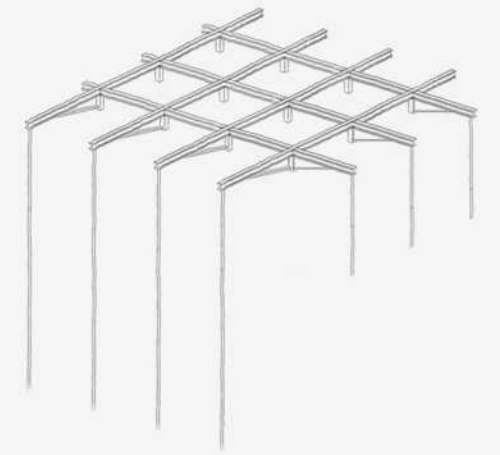
- 1 75mm Siphonic drain collecting rain water run off
Note: Must be embedded into the plywood board to create a flush finish for the water to drain away
- 2 600mm Flitched steel beam securely fixed to steel square section upstands. Beam depth set to structural engineers specification.
- 3 Gilberts glazing frame aluminium louvers with integrated attenuator and fire damper
- 4 Kawneer AA100 Aluminium curtain wall system with upstands every 4200mm
- 5 22mm High-tensile steel tension cable, galvanised to resist corrosion and improve its longevity
- 6 EDPM (Ethylene propylene diene monomer) weather proofing
- 7 Water distribution pipework protected with commercial grade insulation and fixed using munsen rings
- 8 300mm Innwood flitched vertical louvers with centres of 270mm
- 9 1100mm Frameless channel glass railing topped with a round aluminium handle
- 10 200mm Cross Laminated Timber (CLT)
- 11 90mm Poured concrete floor slab with embedded drainage channels, sealed with an epoxy resin finish
- 12 Steel component fixed to glulams to connect the the tension wire to the balcony for support
- 13 Steel grated flooring to allow for water runoff to the balcony edge
- 14 440mm Rockwool Flexi insulation
- 15 Concrete base with steel socket, bolted through the side to connect to the diagrid structure





Steel Timber Concrete

The structure is composed of a timber diagrid, a sustainable system with multiple advantages over traditional structures. Floor planes have been extruded to create canopies for shading the levels below. These are supported via tension wires suspended from haunched steel beams.





Interior

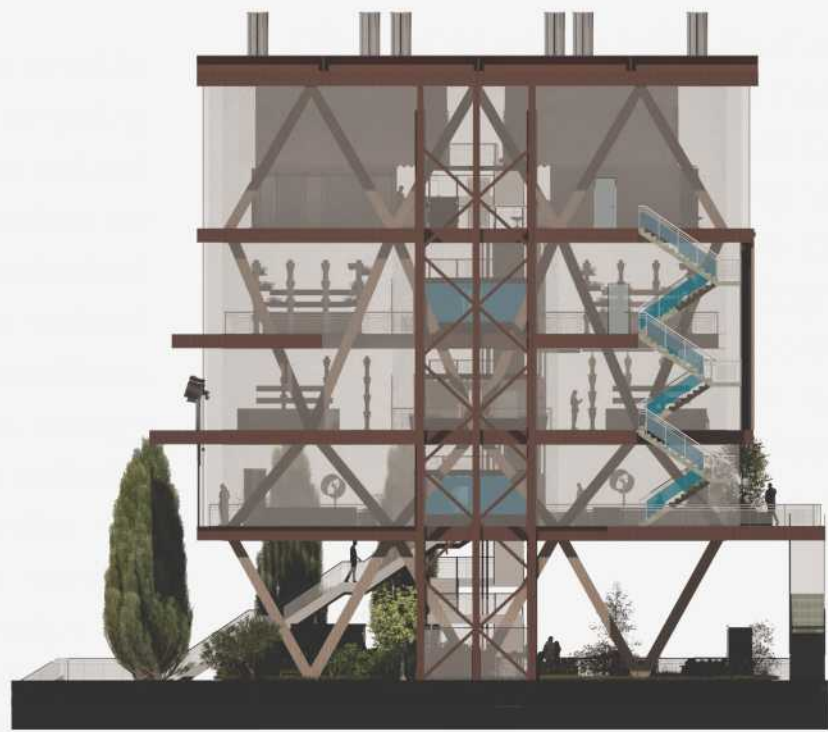


Planting

These planters were designed to reflect a structural technique exercised on the external facade. They are suspended from tension wires from floor to ceiling to maximise growing space. A fundamental idea about this farm is to offer transparency on the processes, so the planters are made from clear recycled plastic showing the network of roots as the plant grows.



North



East



South



West

