RELINK: LEIDEN UNIVERSITY
RISING ABOVE THE EXISTENT

Leiden University, Faculty of Humanities

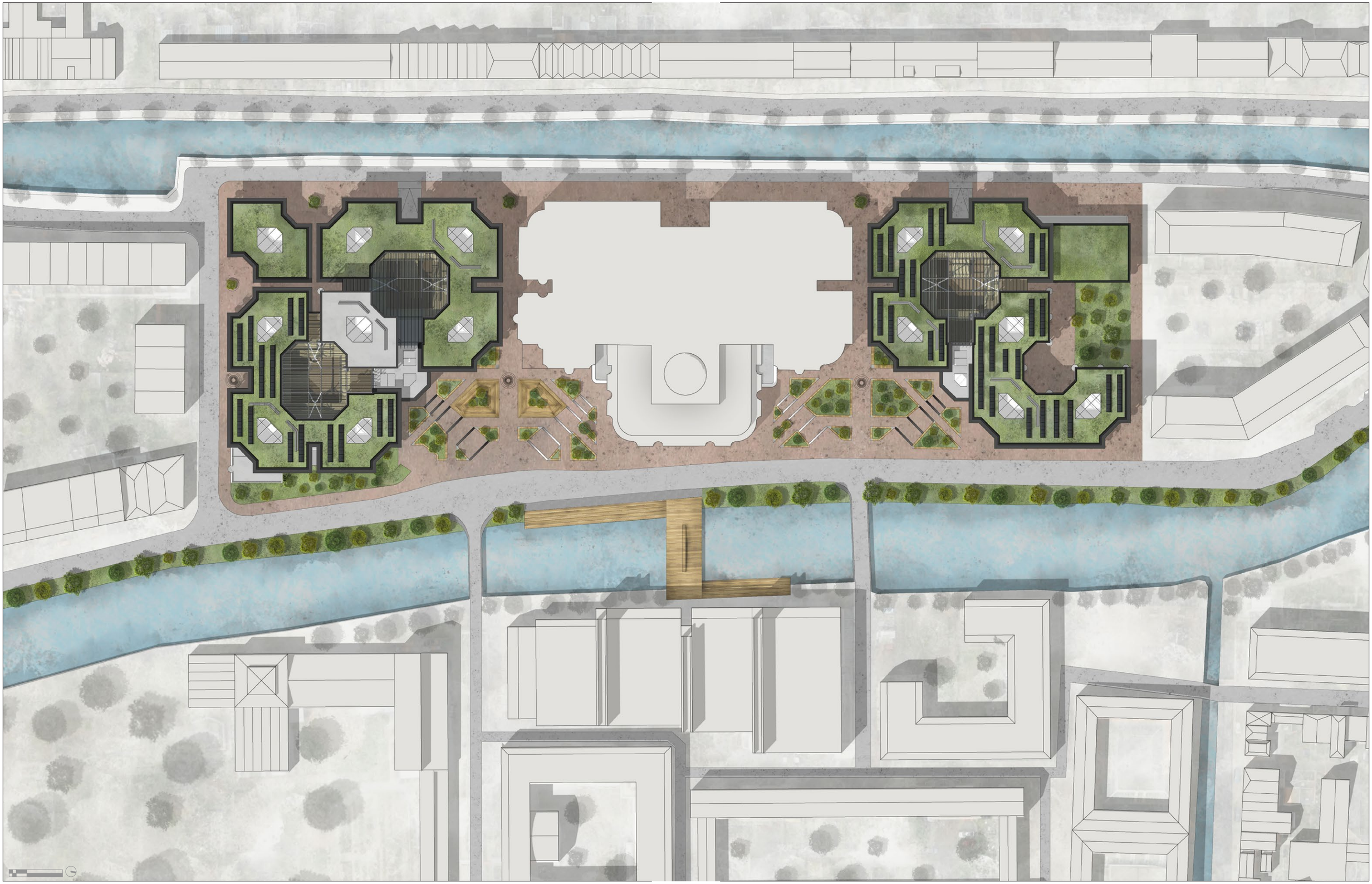
PROJECT DRAWINGS

YIANNOS MEXIS

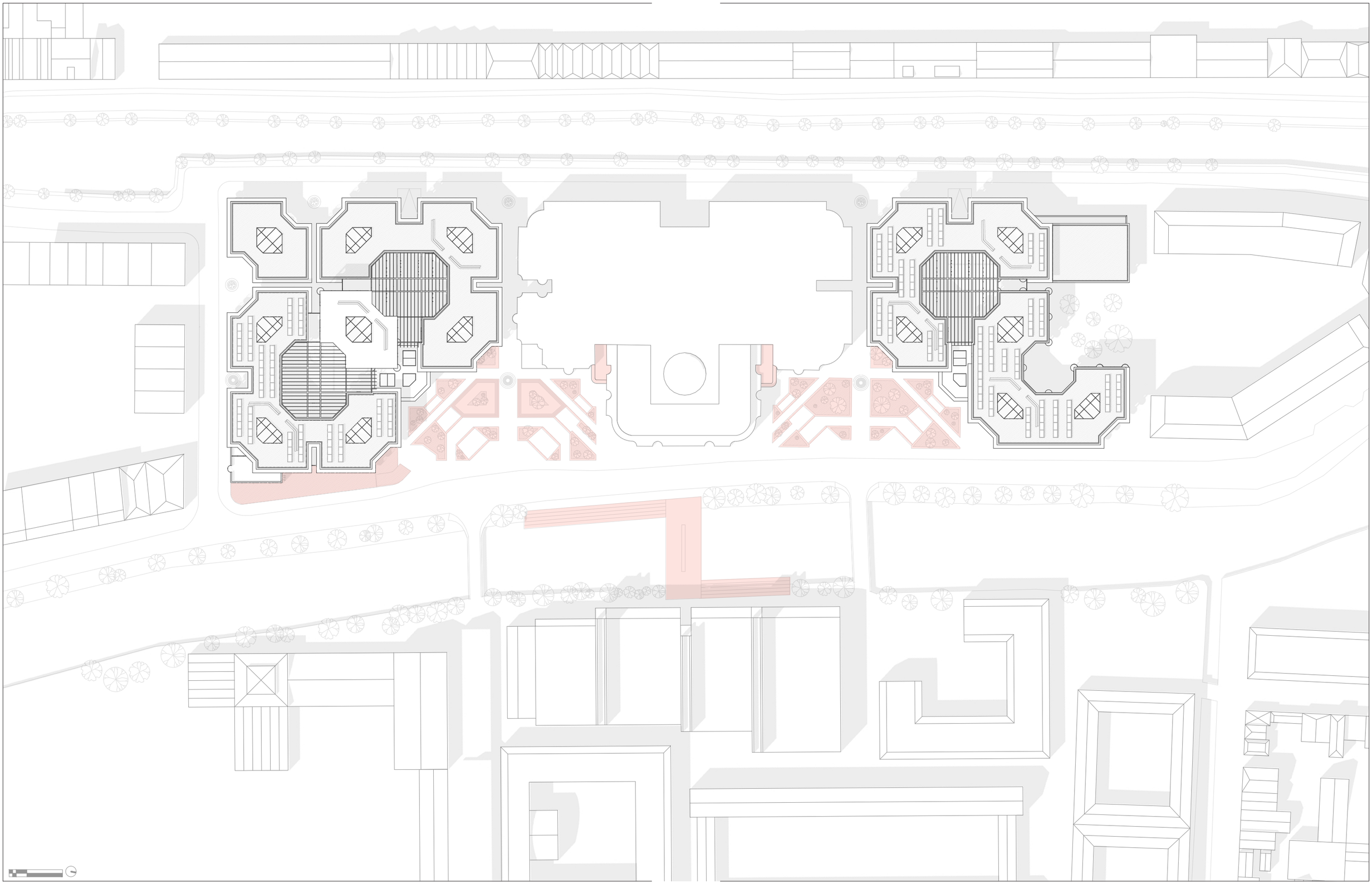
CHAIR OF HERITAGE & ARCHITECTURE
STUDIO: FUTURE OF STRUCTURALISM
MSc 3, Faculty of Architecture and the Built Environment
Delft University of Technology

Axonometric View

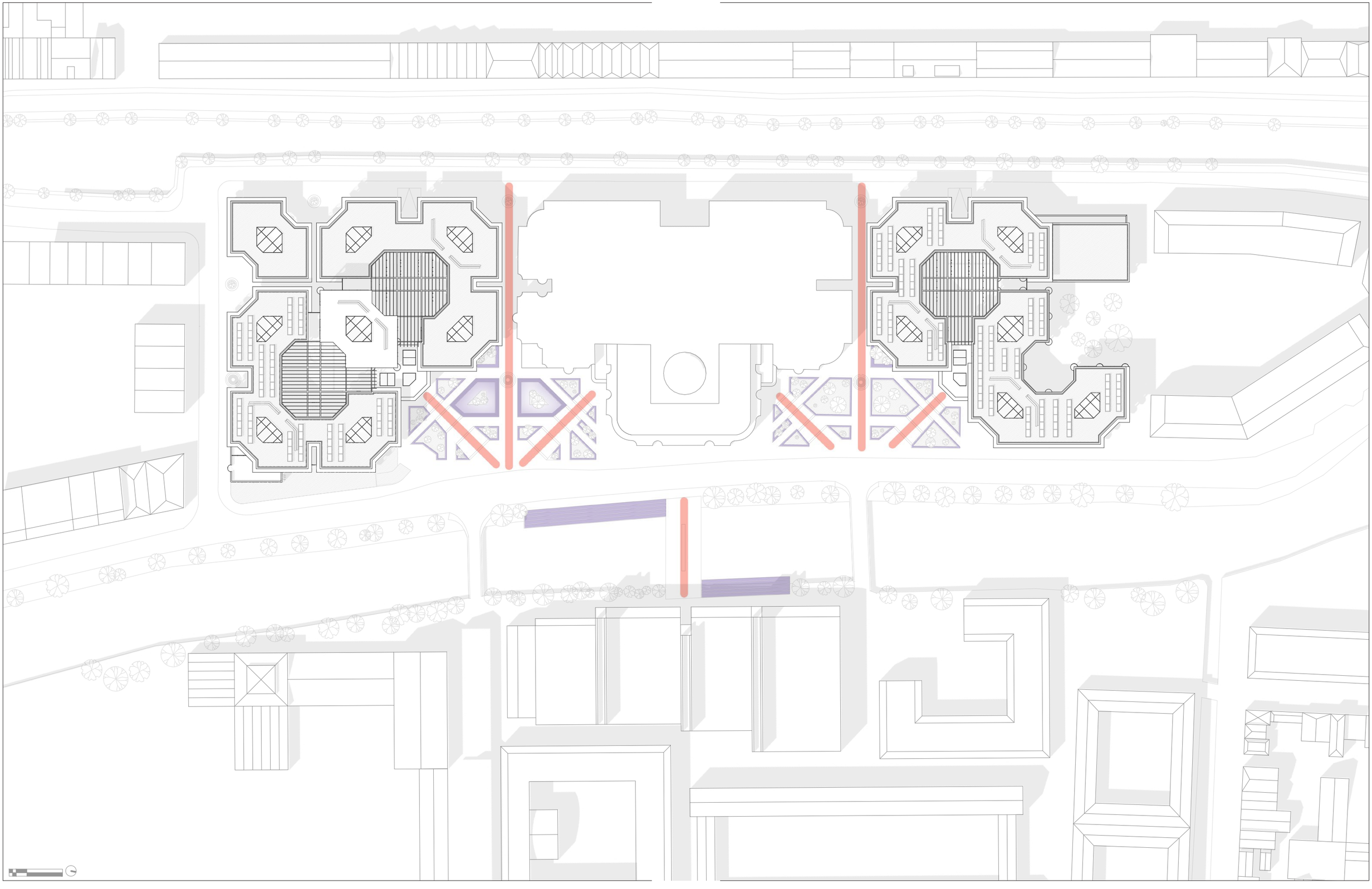
Masterplan



Masterplan

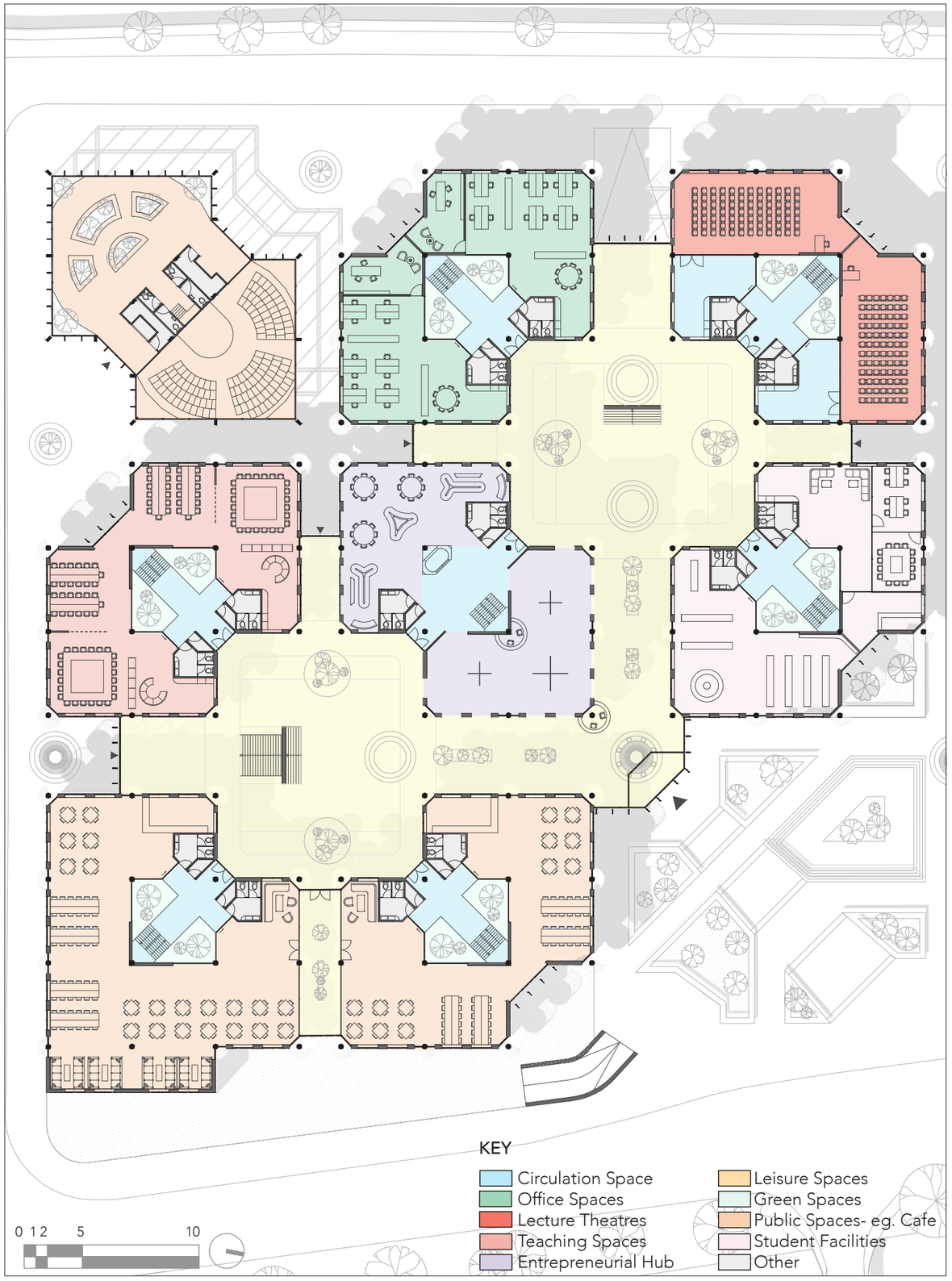


Masterplan

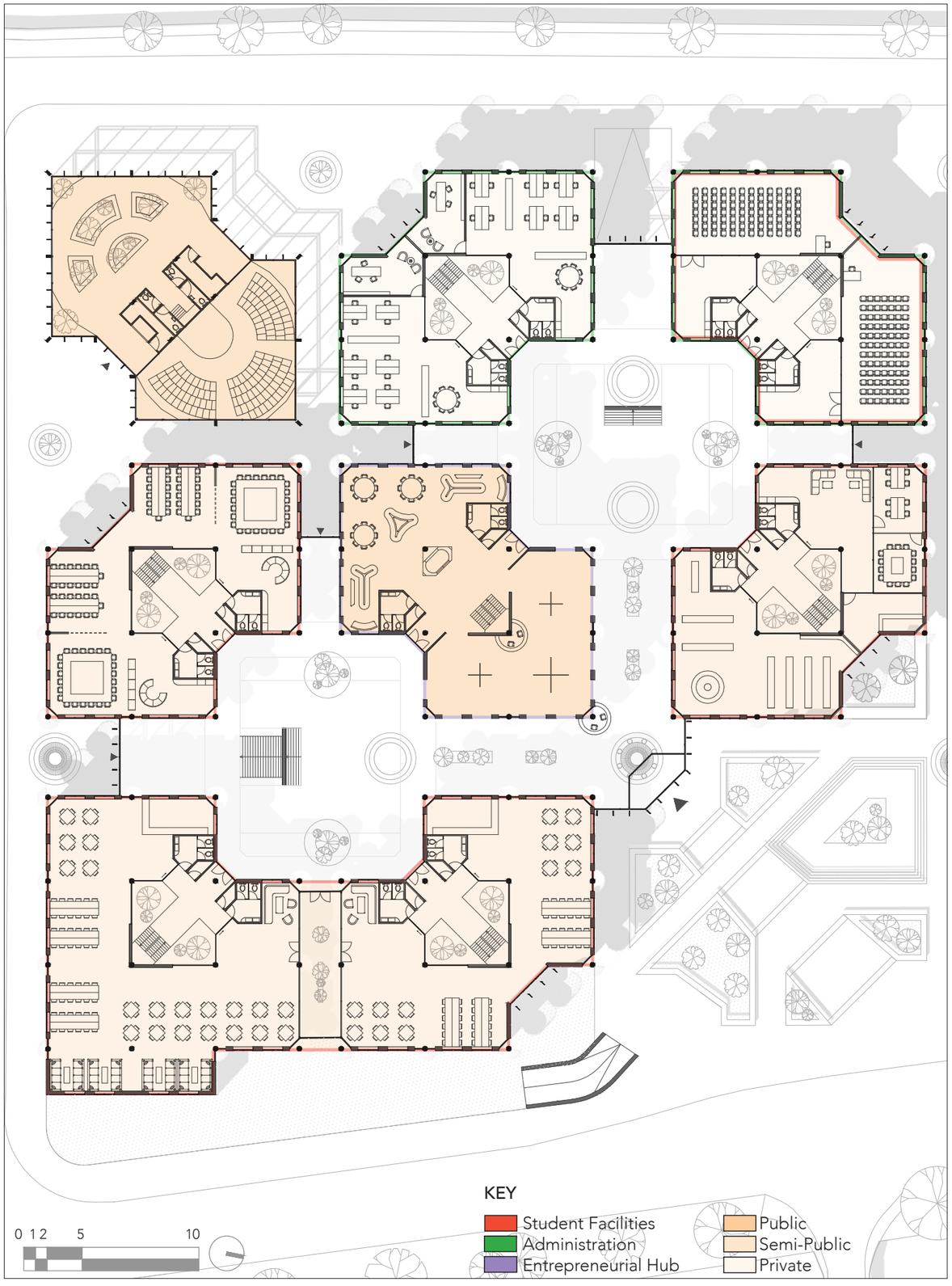


Ground Floor Plan

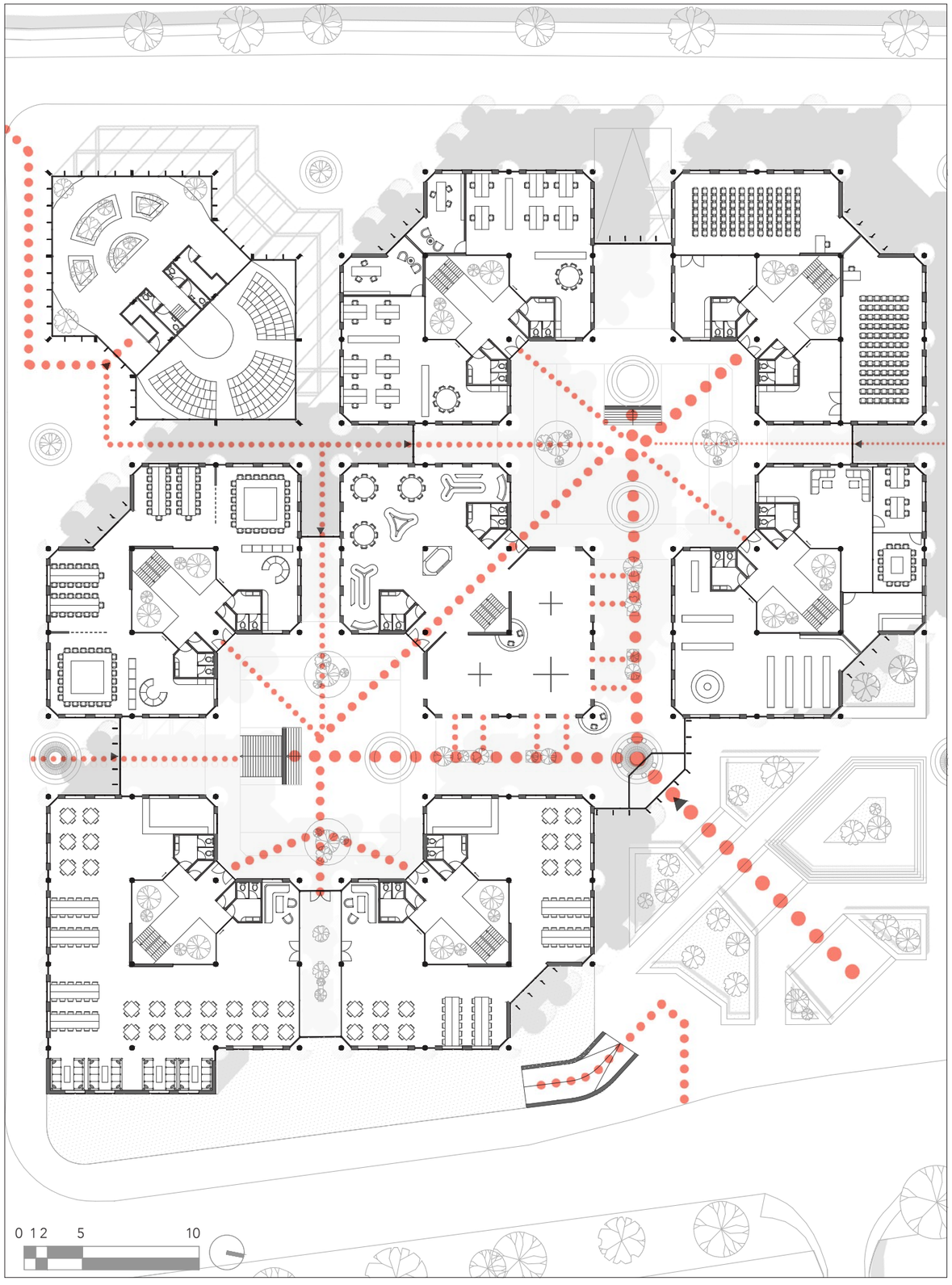
Ground Floor Plan - Analysis



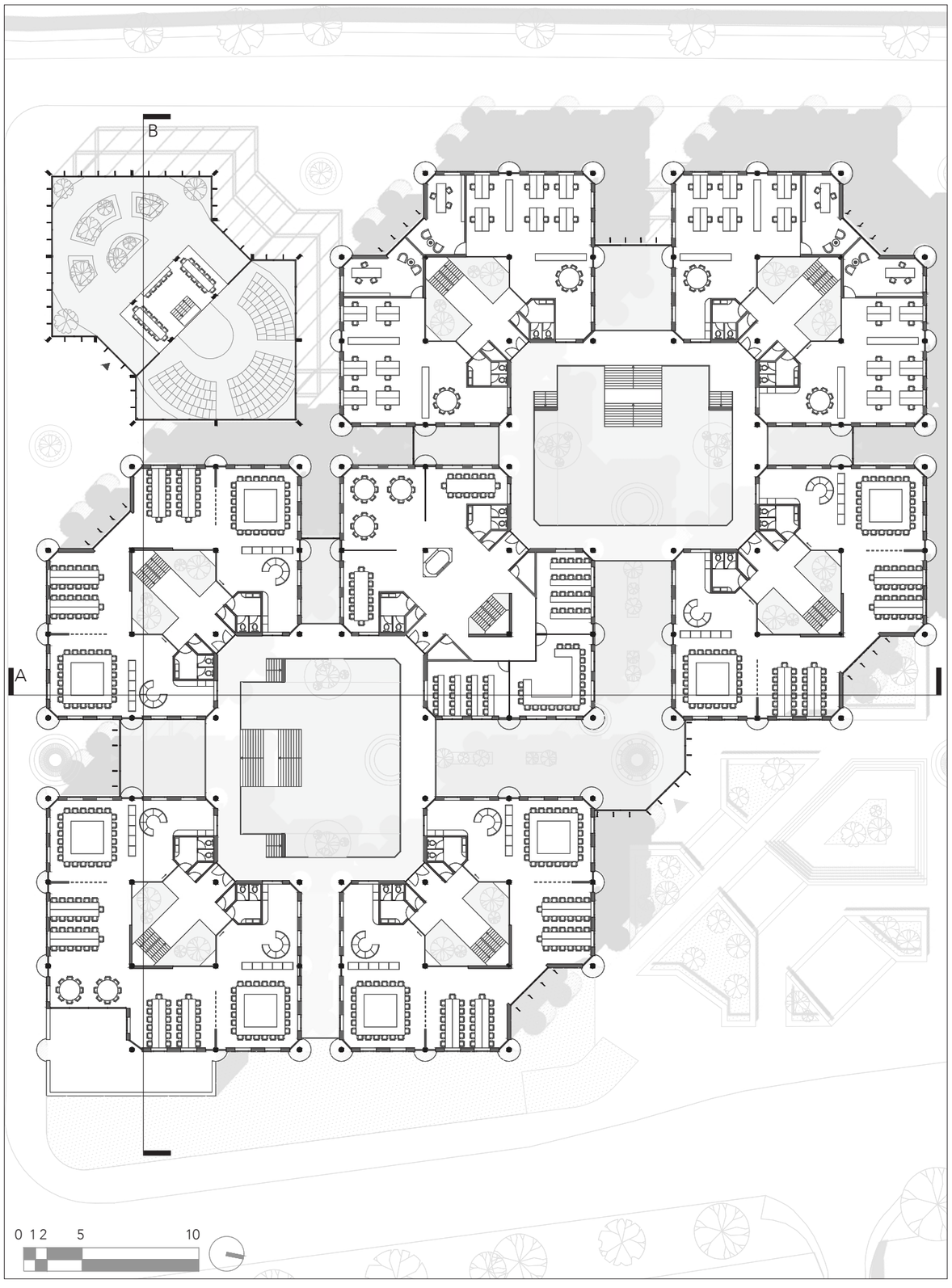
Ground Floor Plan - Zoning



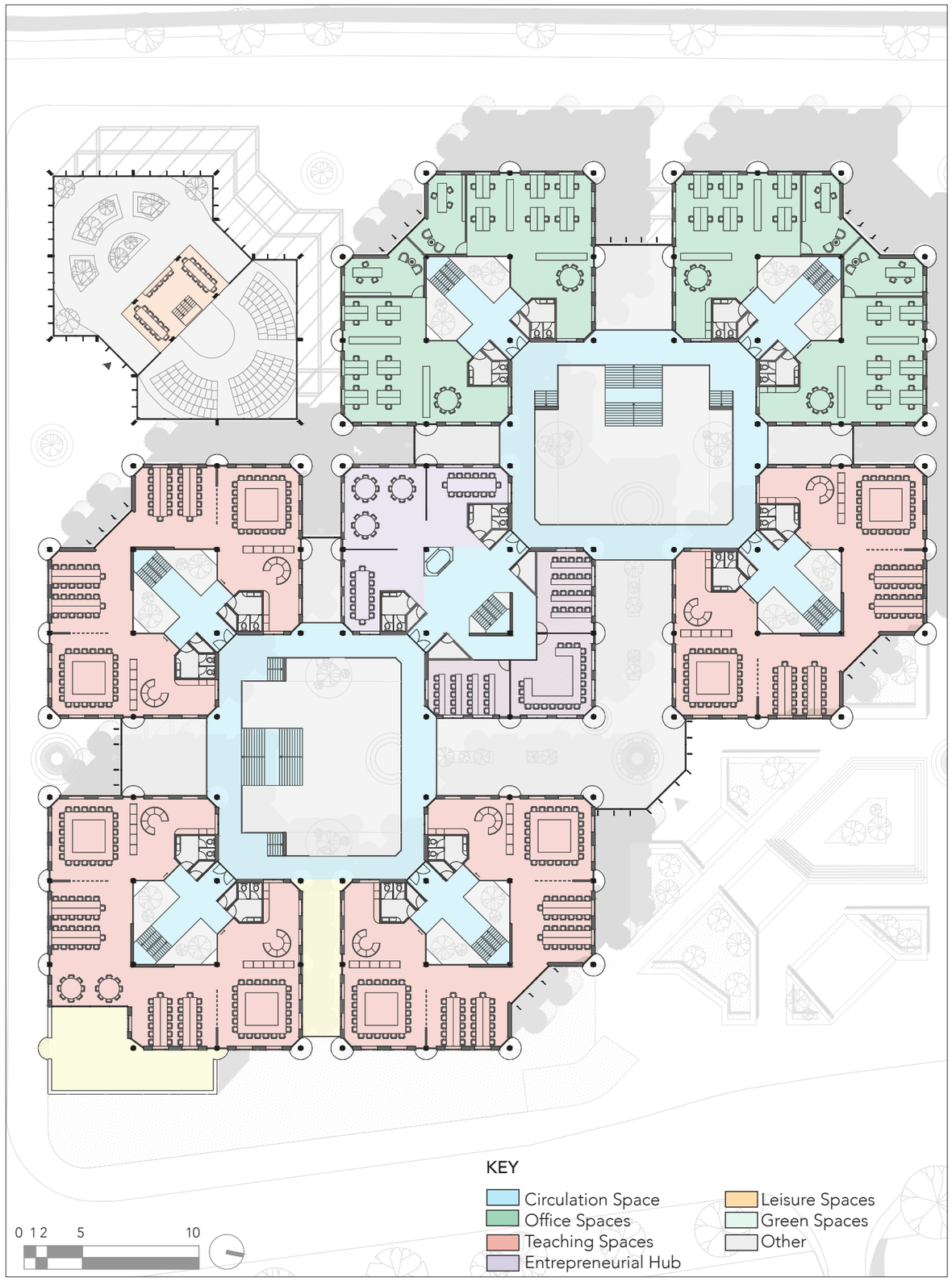
Ground Floor Plan - Circulation Diagram



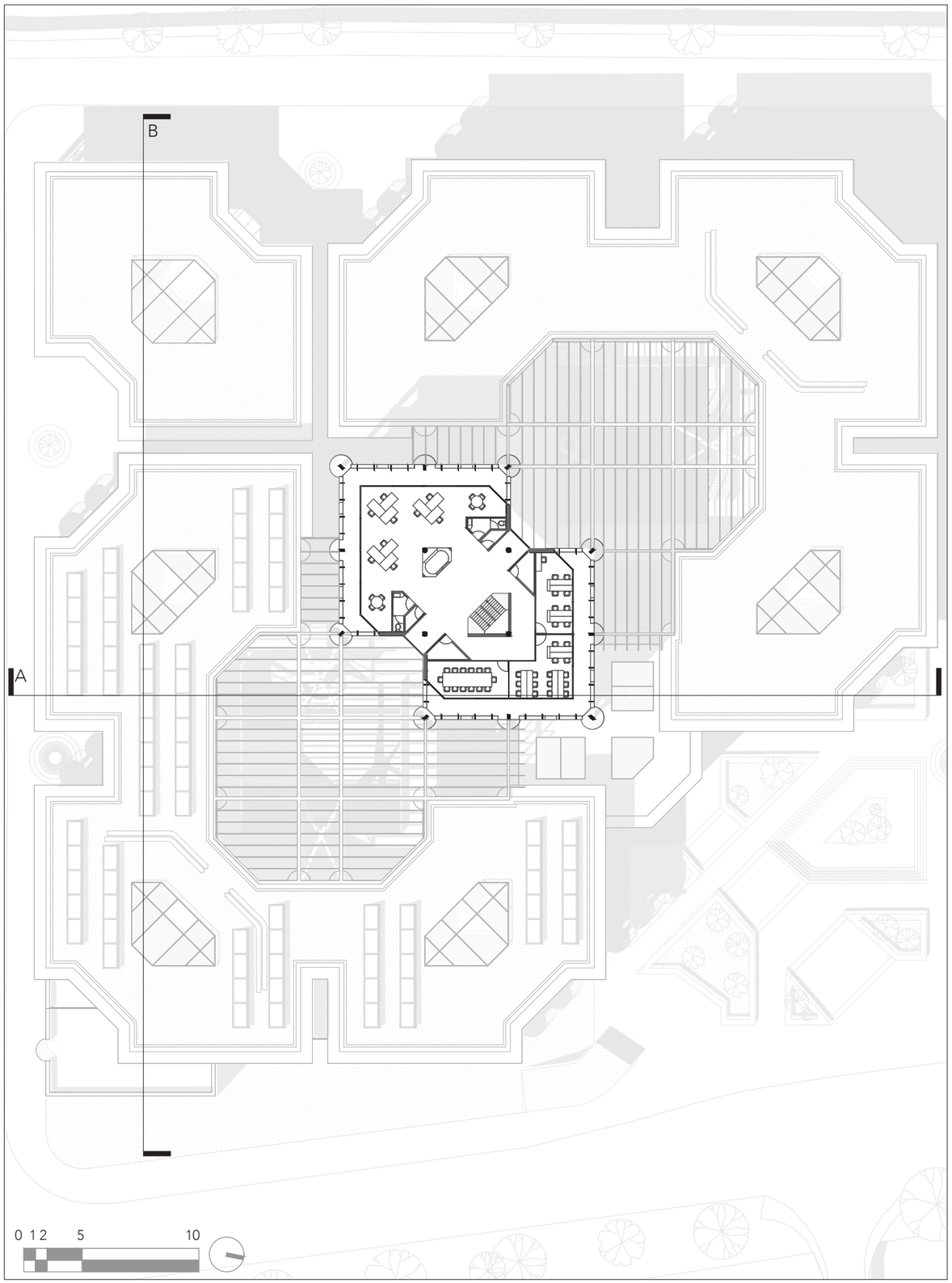
First Floor Plan



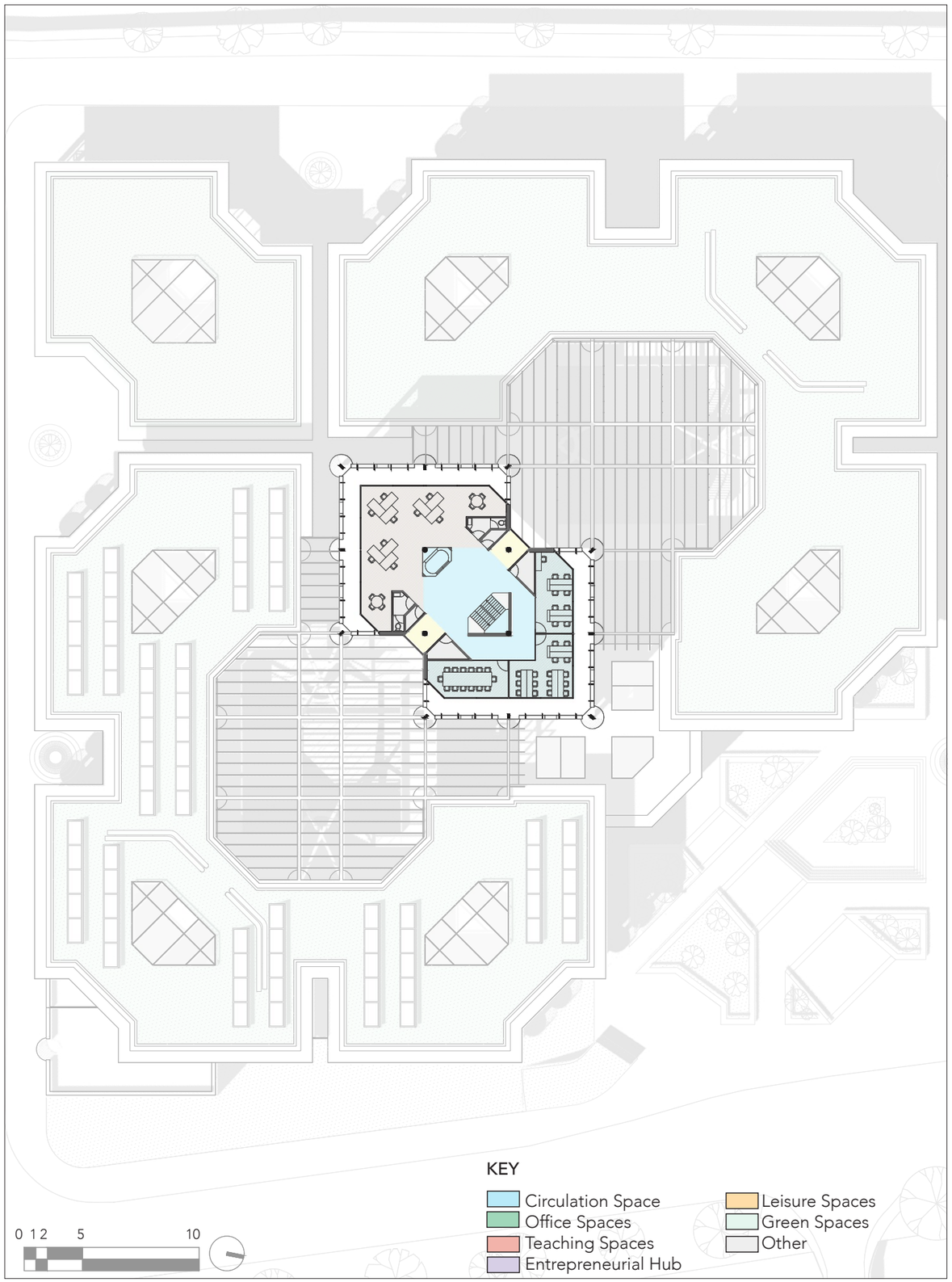
First Floor Plan - Analysis



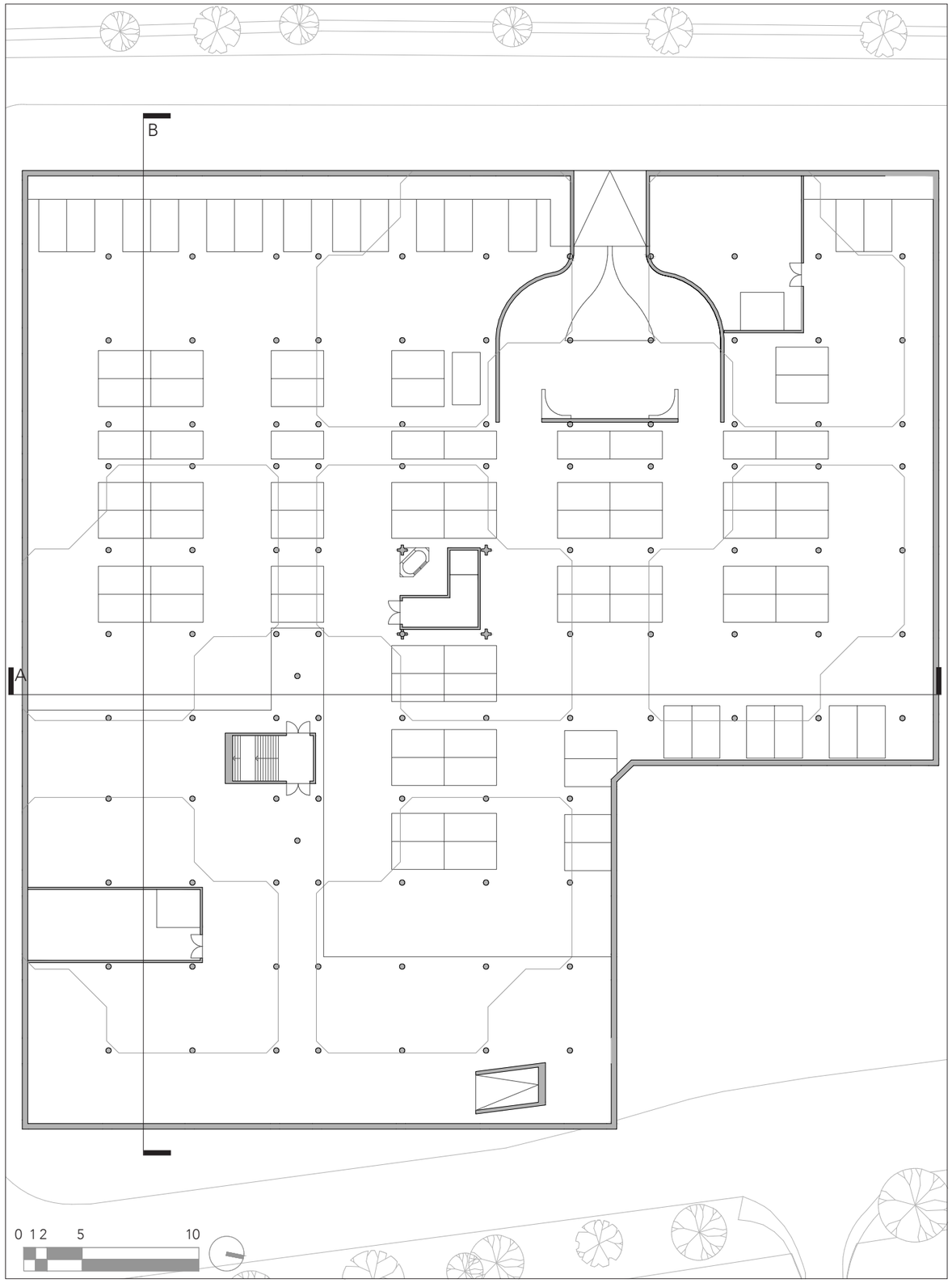
Fourth Floor Plan



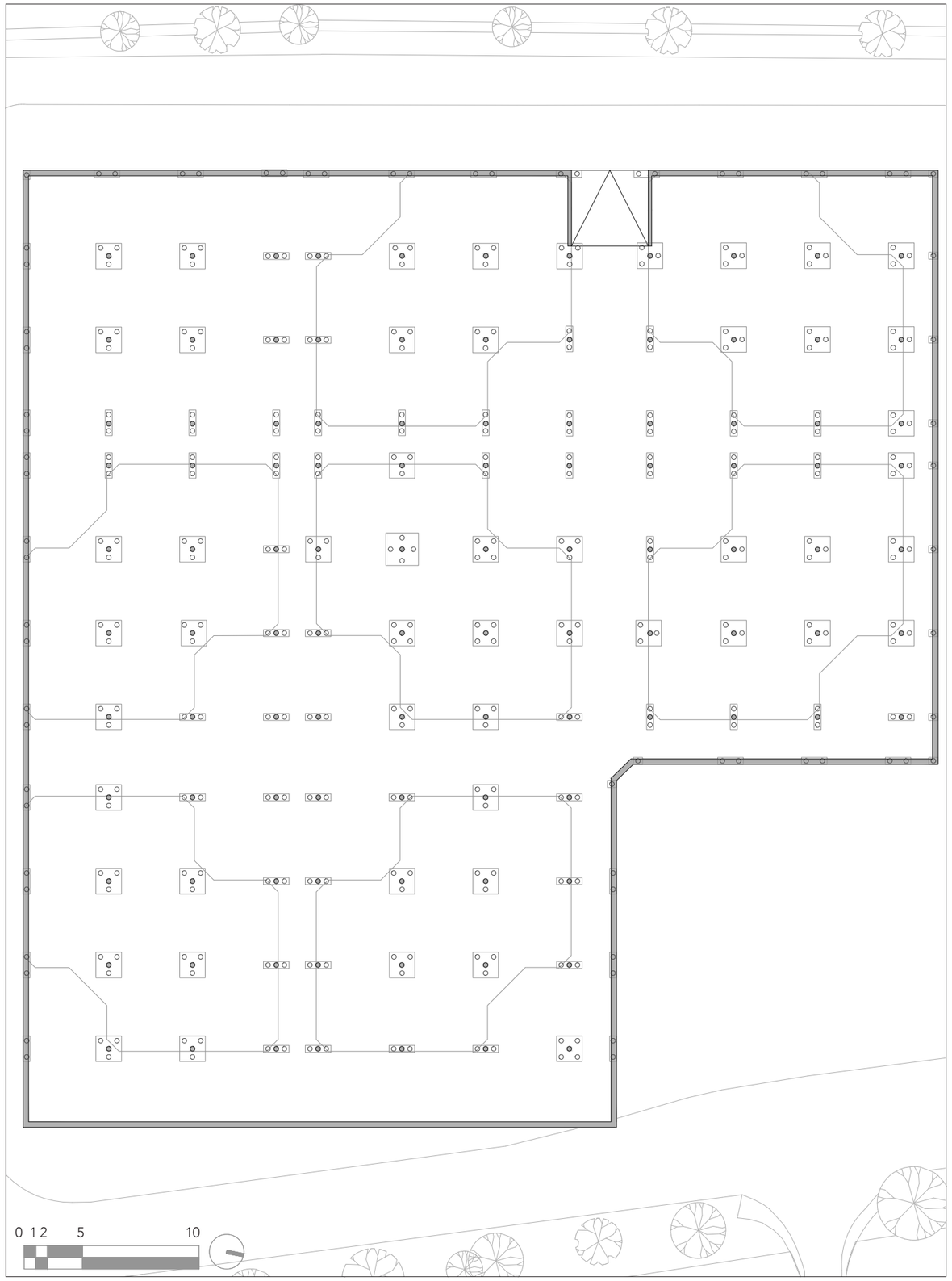
Fourth Floor Plan - Analysis



Basement Plan



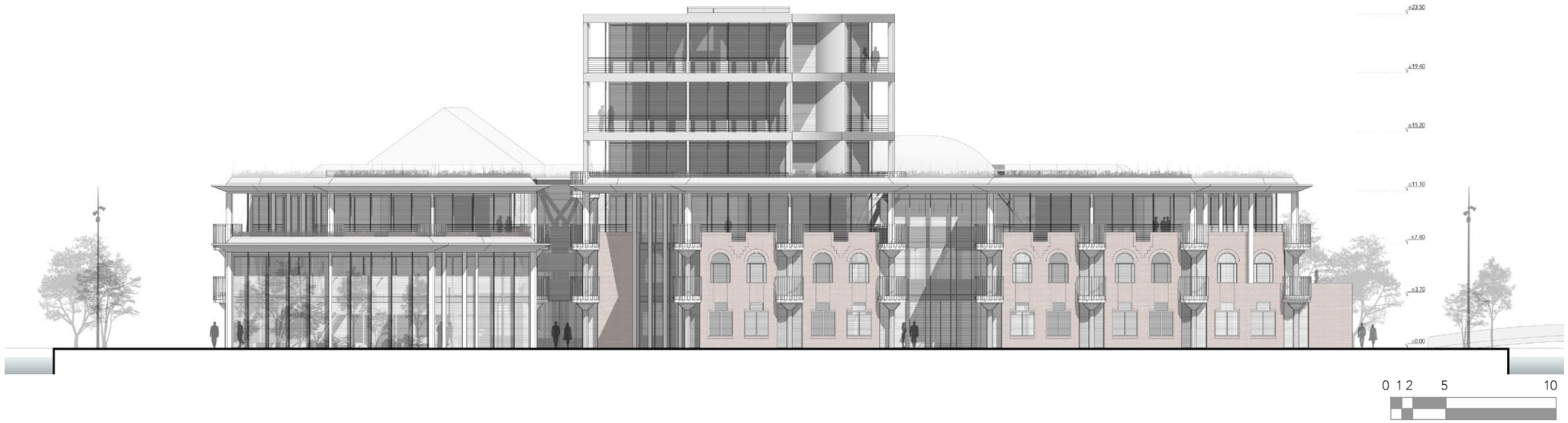
Foundation Plan



East Elevation

Section A

South Elevation



Section B

Sectional Perspective

Exterior Perspective

Exterior Perspective

Exterior Perspective

Exterior Perspective

Exterior Perspective

Exterior Perspective

Perspective View

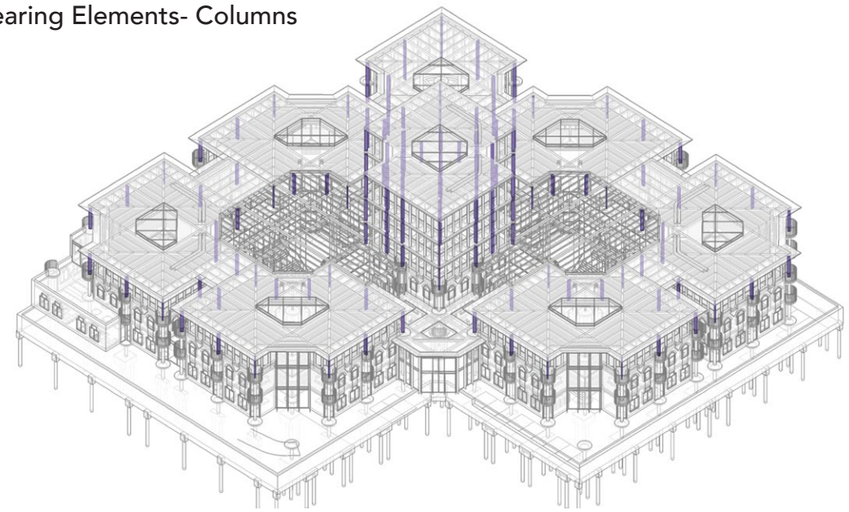
Perspective View

Perspective View

Perspective View

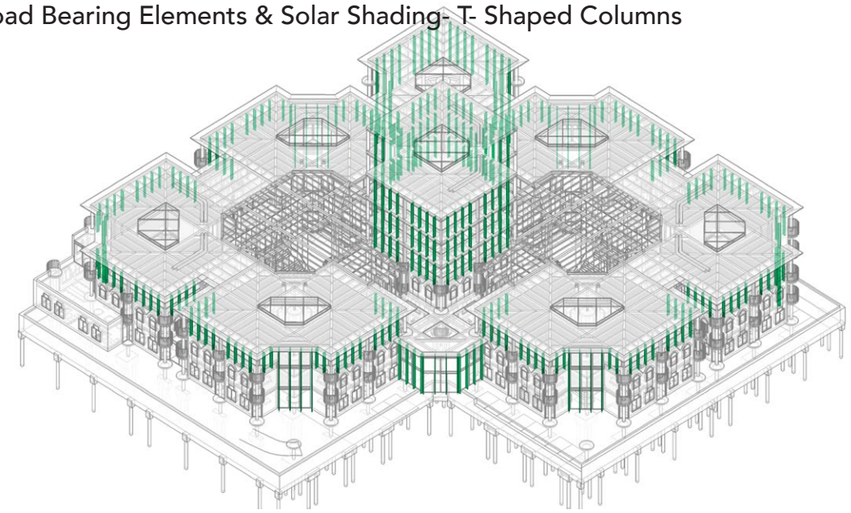
Structural Axonometric

Main Load Bearing Elements- Columns

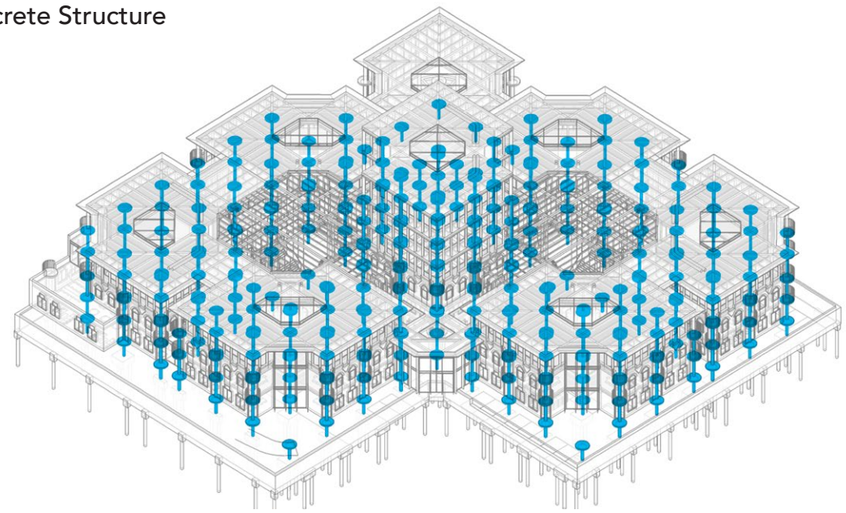


Secondary Timber Structure- Timber Joists

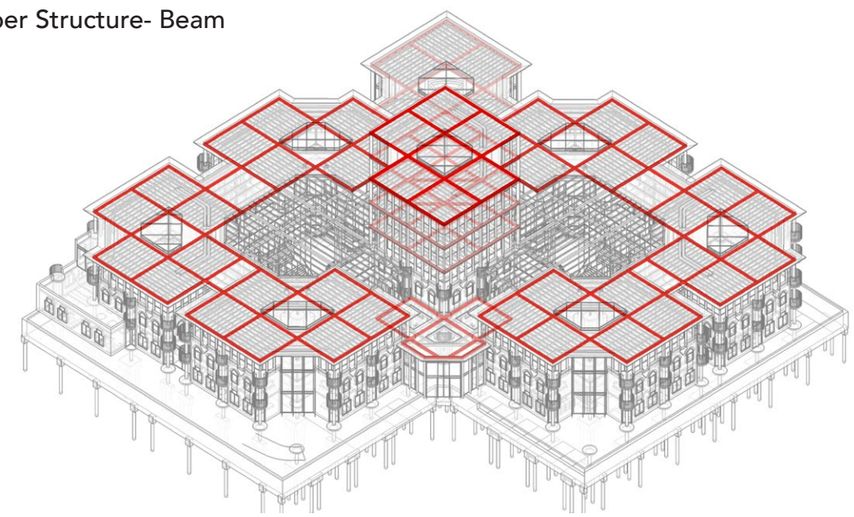
Secondary Load Bearing Elements & Solar Shading- T- Shaped Columns



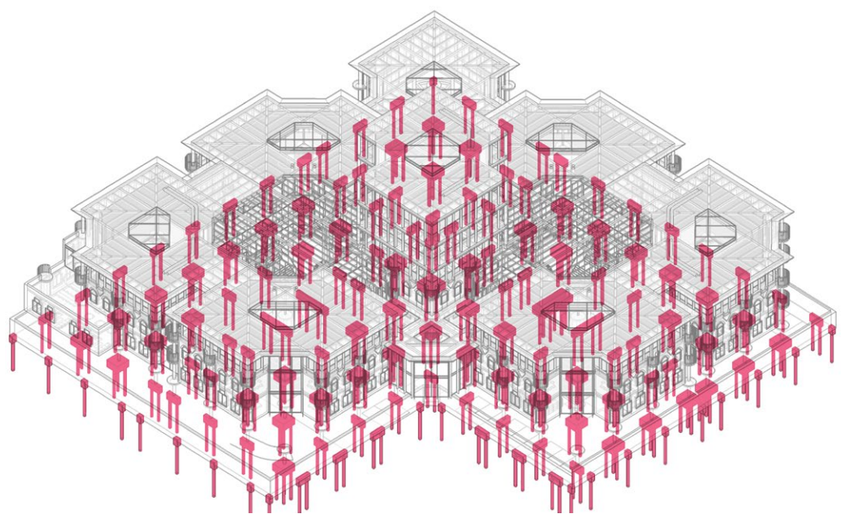
Existing Concrete Structure



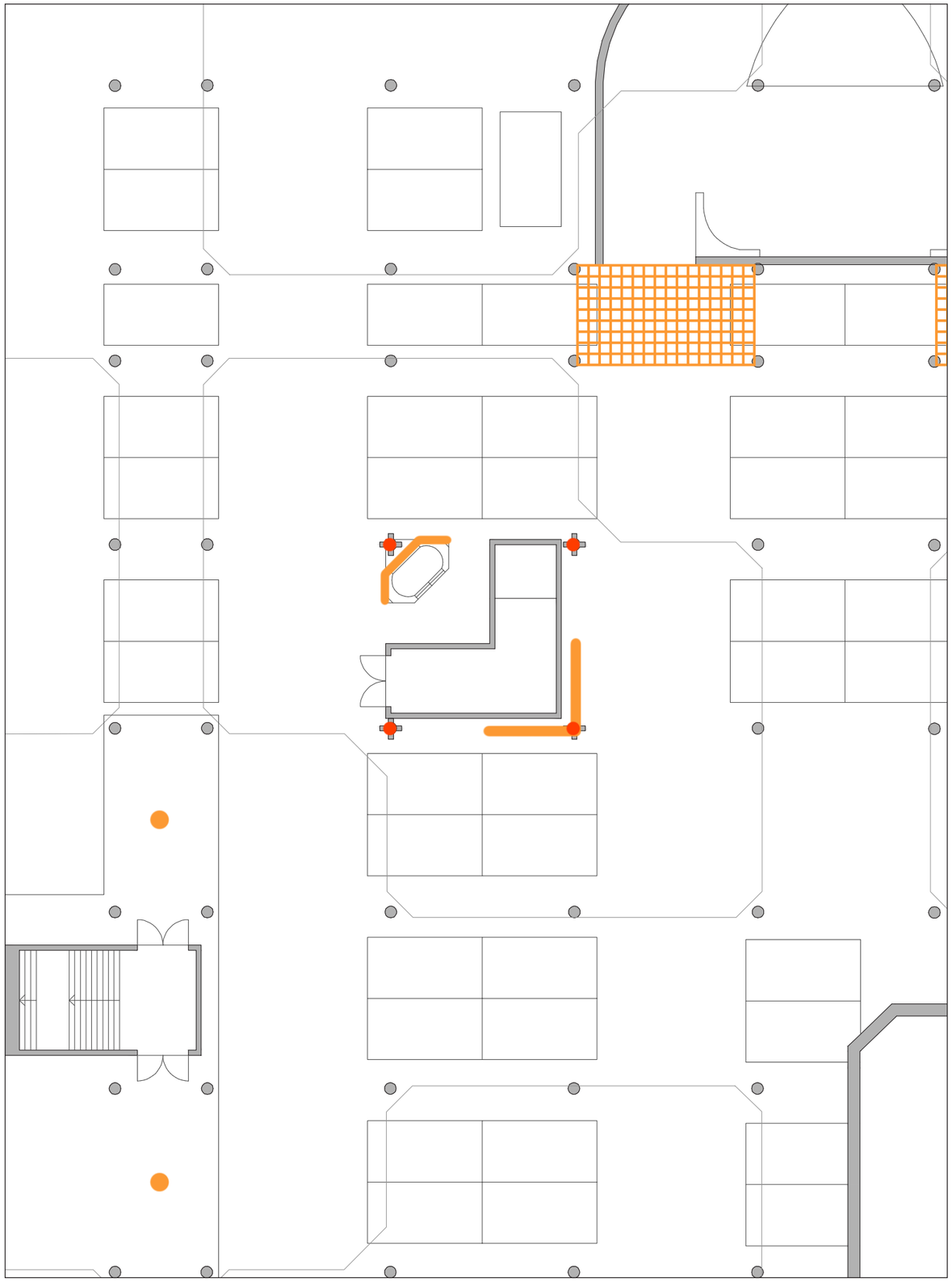
Primary Timber Structure- Beam



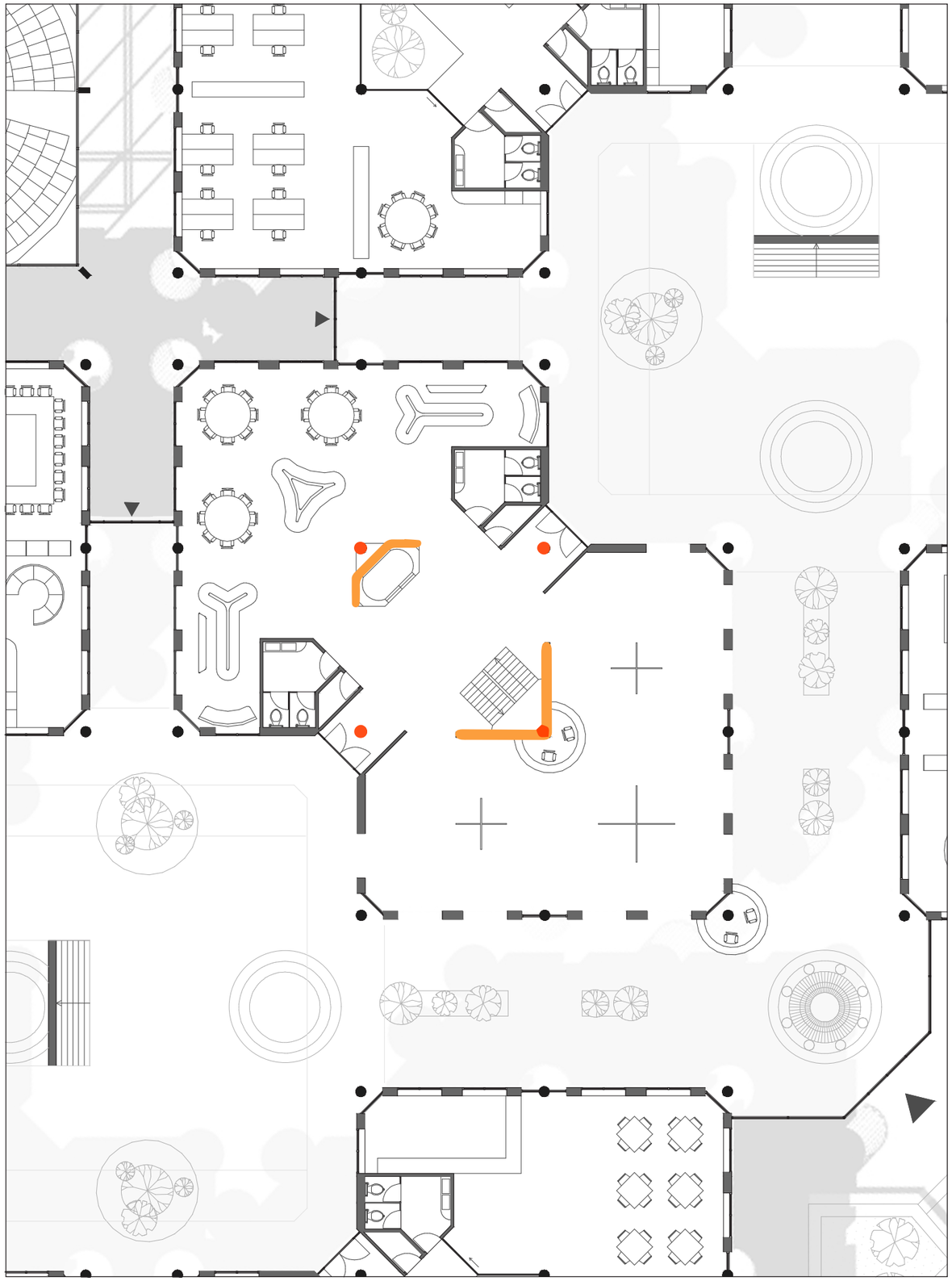
Foundations



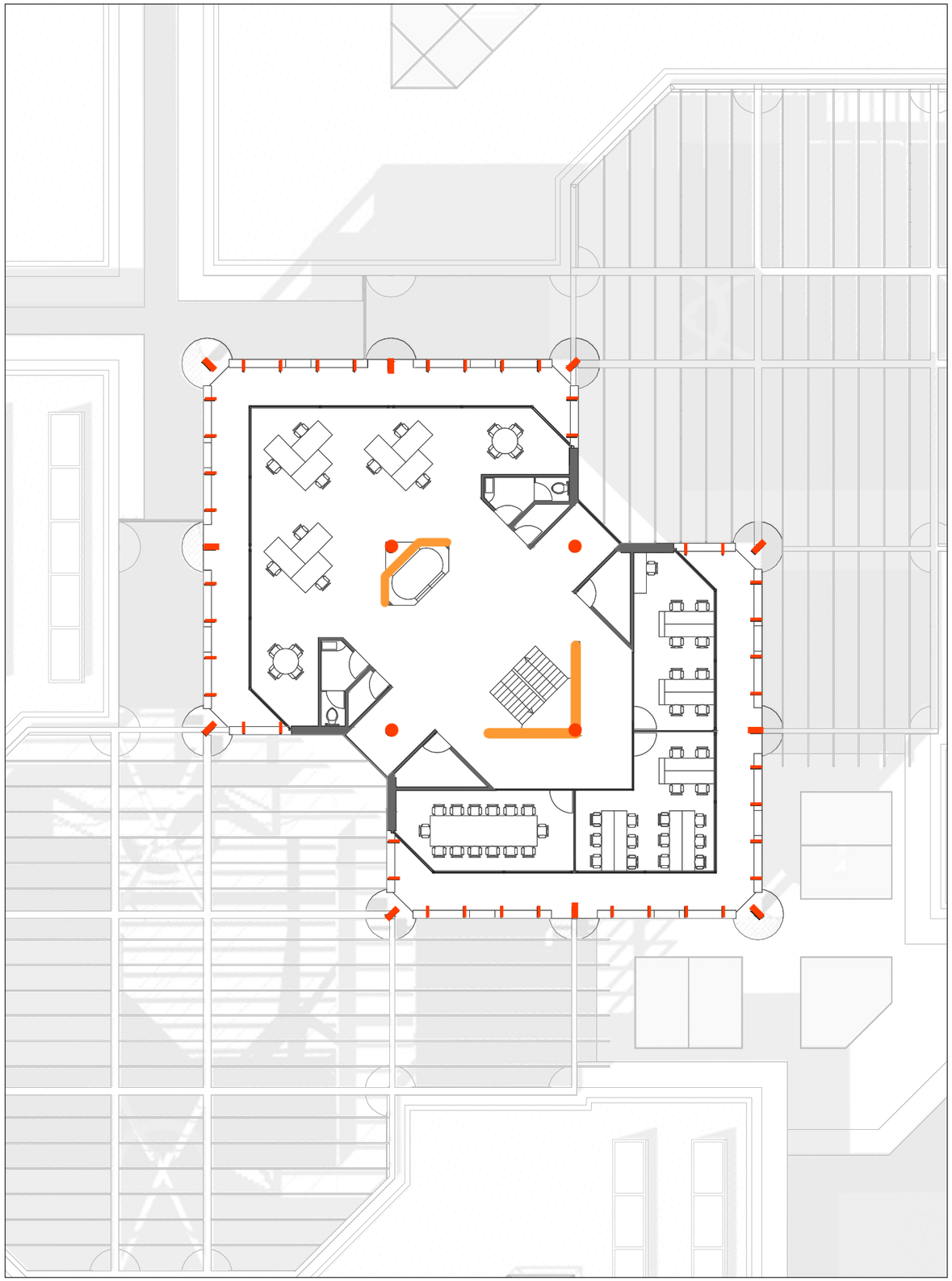
Existing Structure - Basement Reinforcement



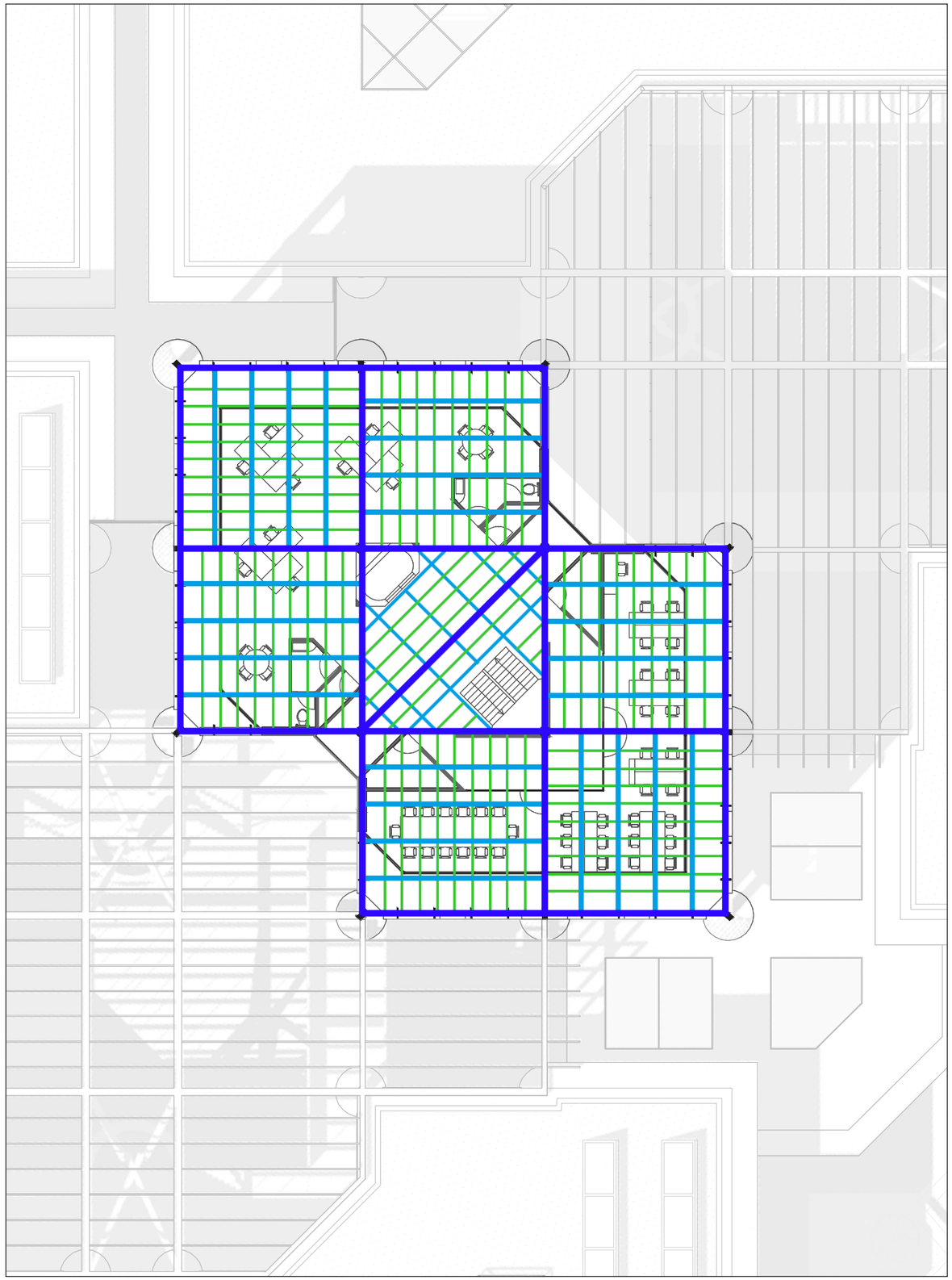
Existing Structure - Ground-floor Reinforcement



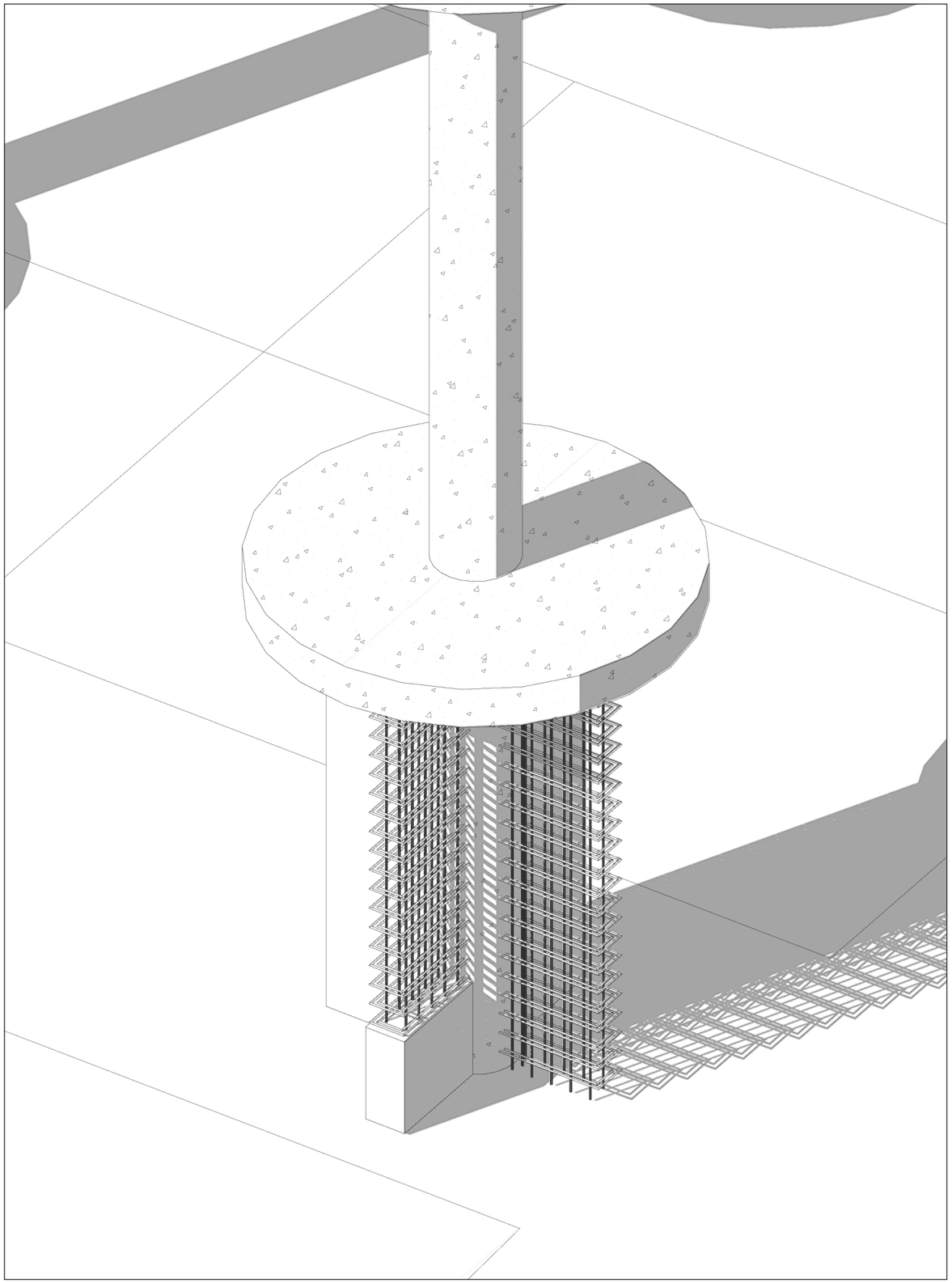
Proposal Structure - Columns



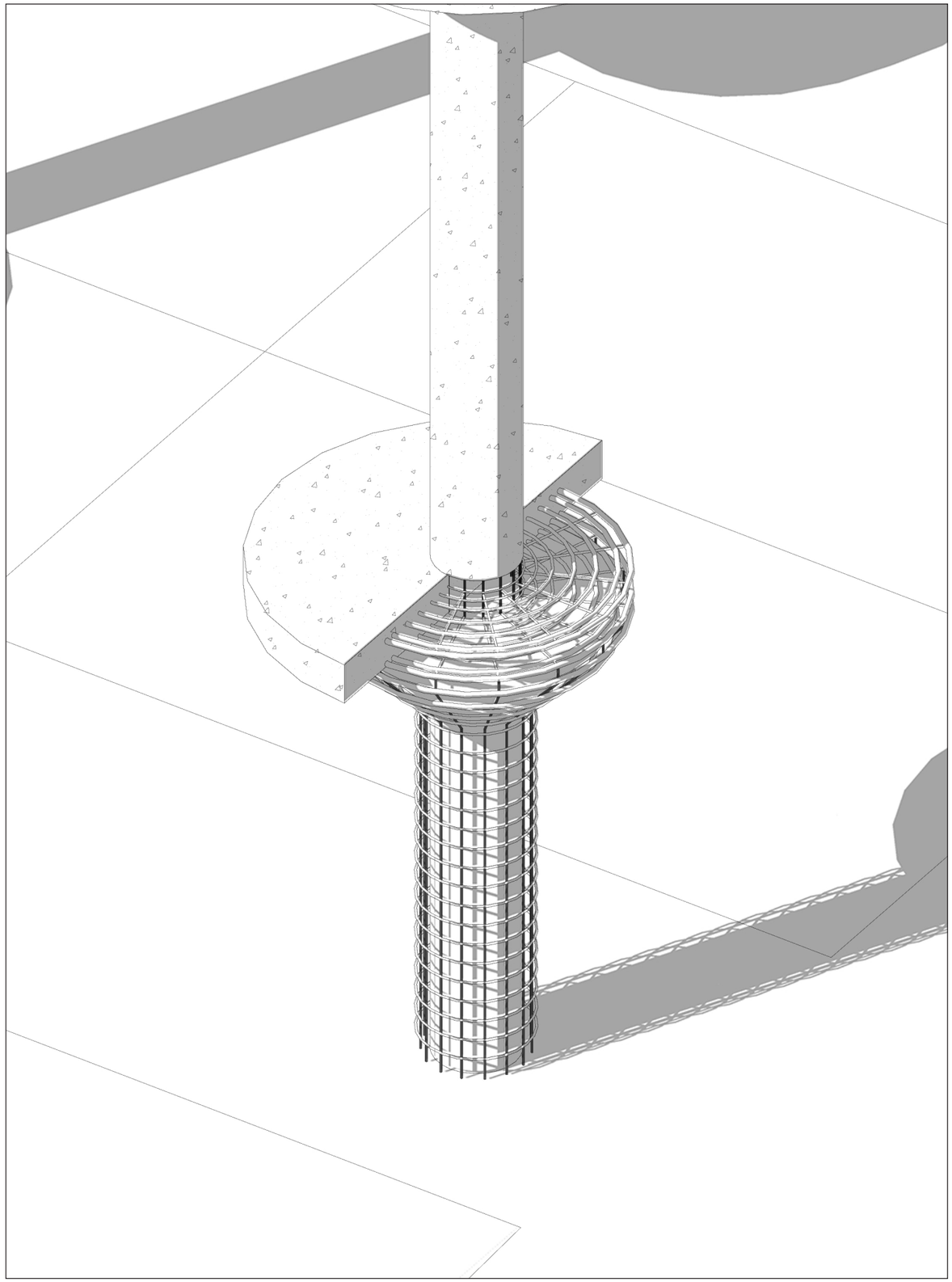
Proposal Structure - Beams



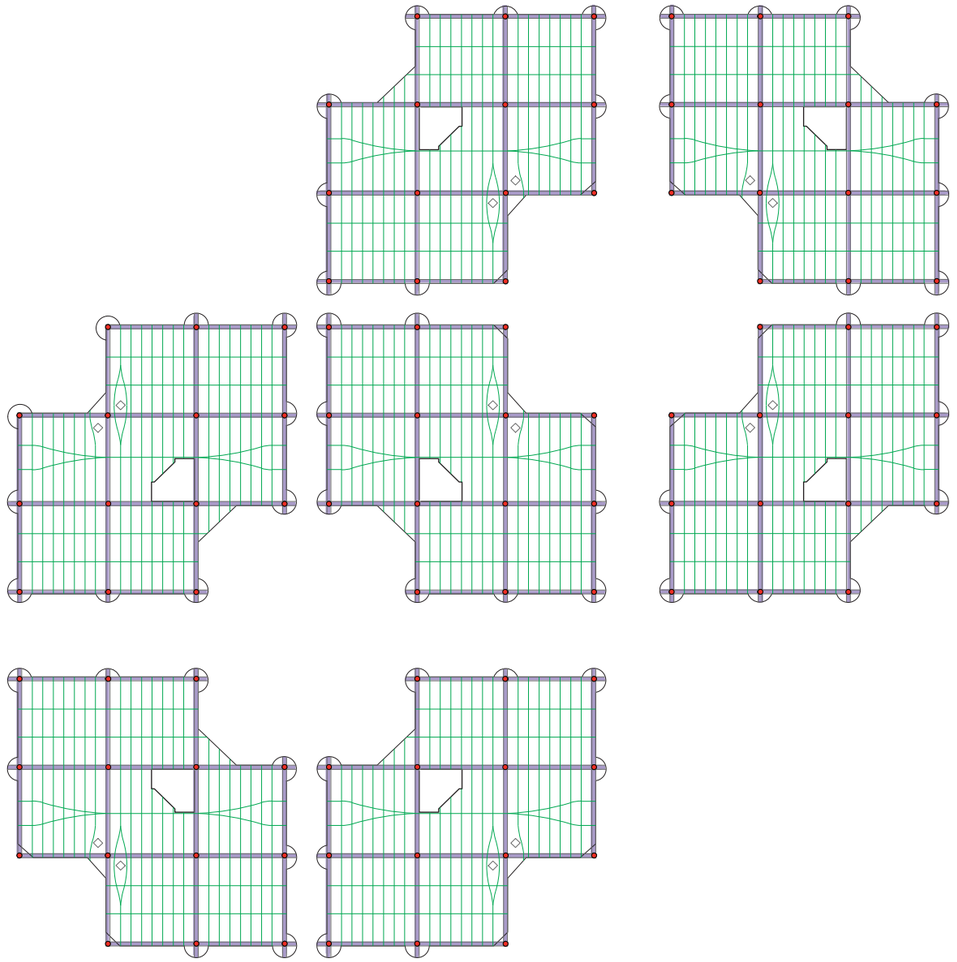
Column Reinforcement on Basement



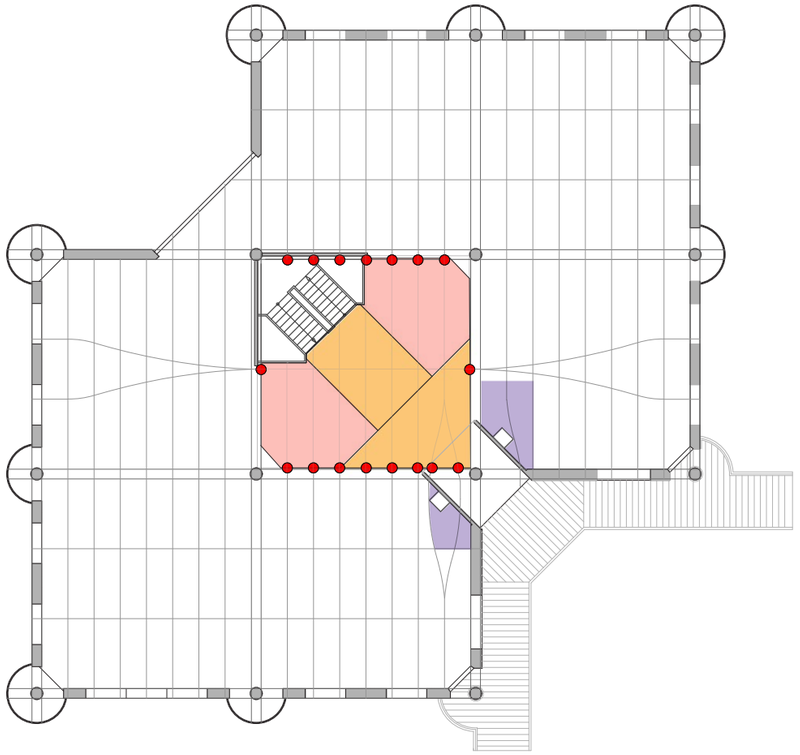
Column Reinforcement on Overground Levels



Void Study - Structural Analysis



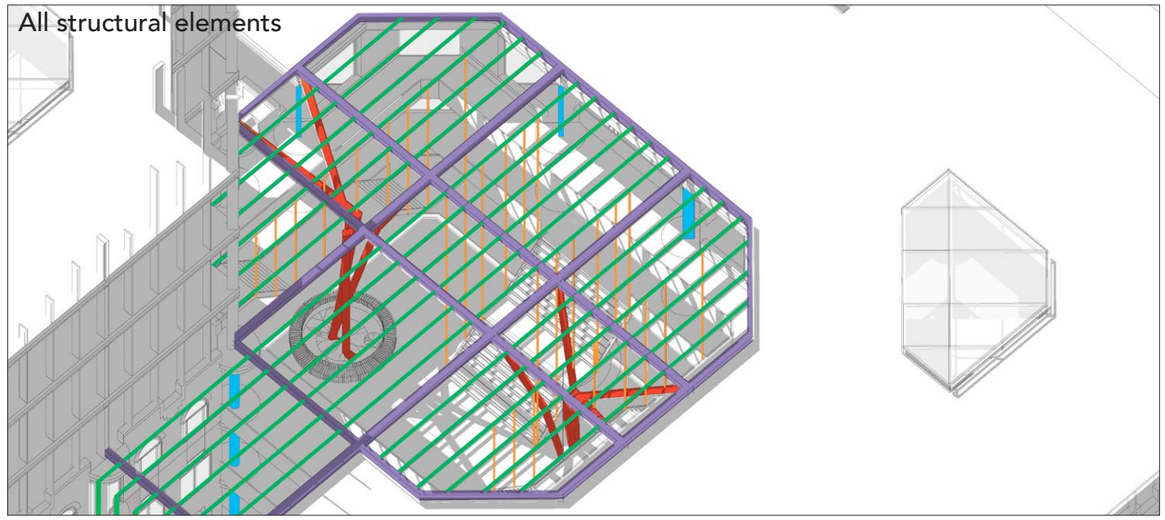
KEY
- Primary Structure- Columns
- Primary Structure- Steel reinforcement
- Secondary Structure- Steel reinforcement



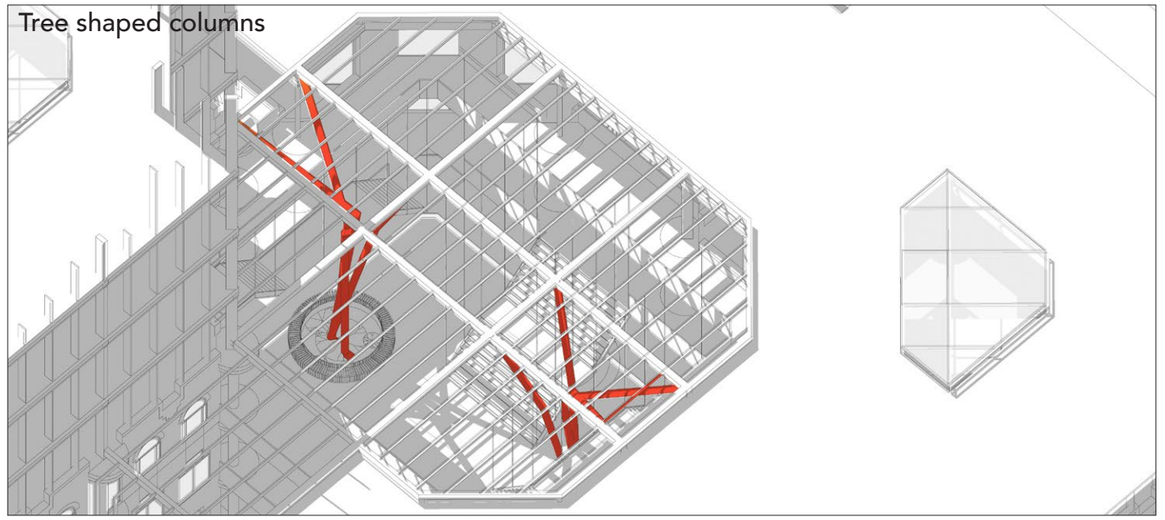
KEY
- Fix in place the pre-stressed cables
- Remove floor slab
- Replace floor
- Possible positions for new services voids. (Steel cables should remain intact)

Structural Axonometric- Courtyard

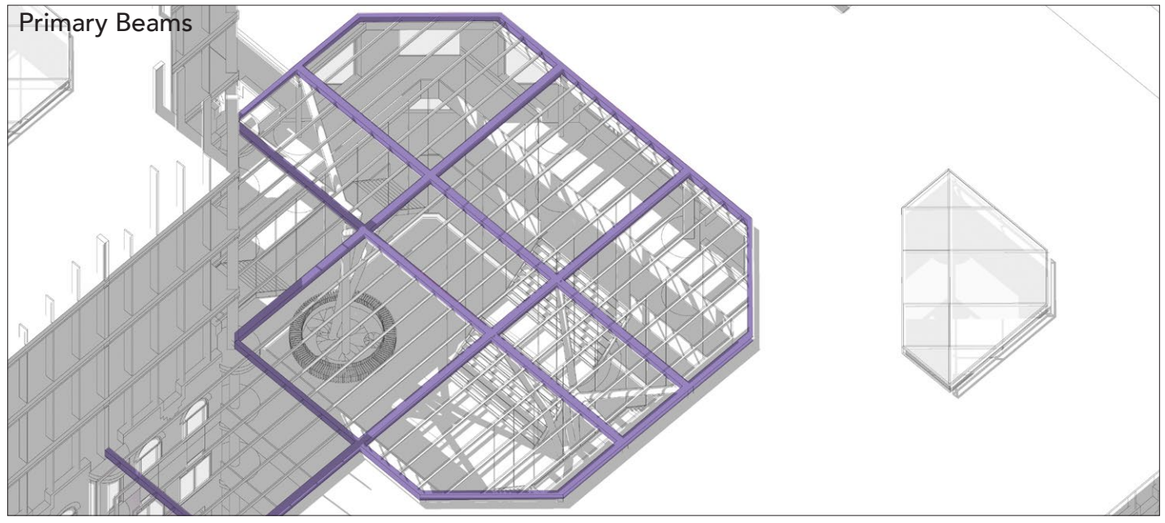
All structural elements



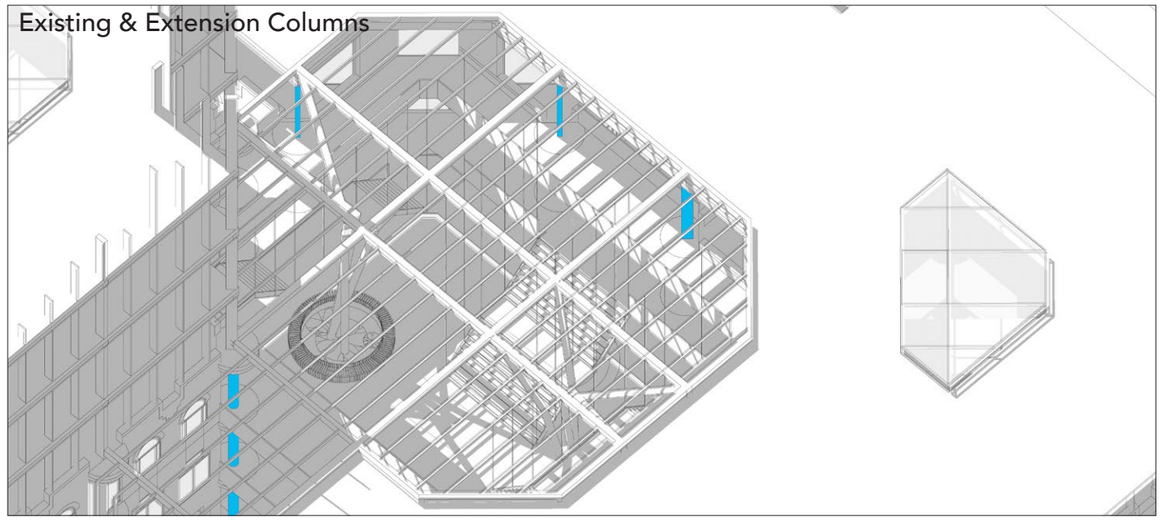
Tree shaped columns



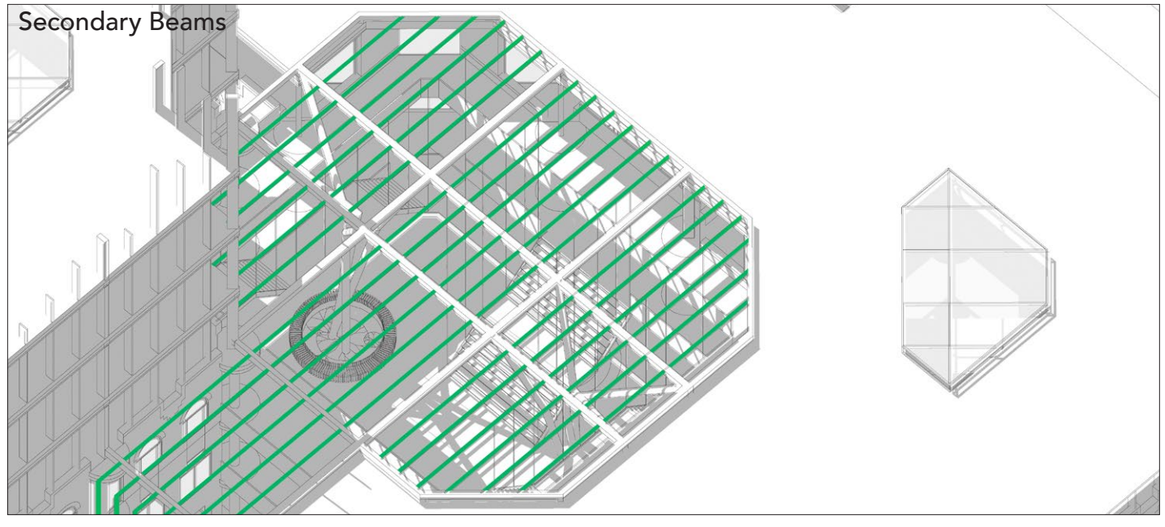
Primary Beams



Existing & Extension Columns

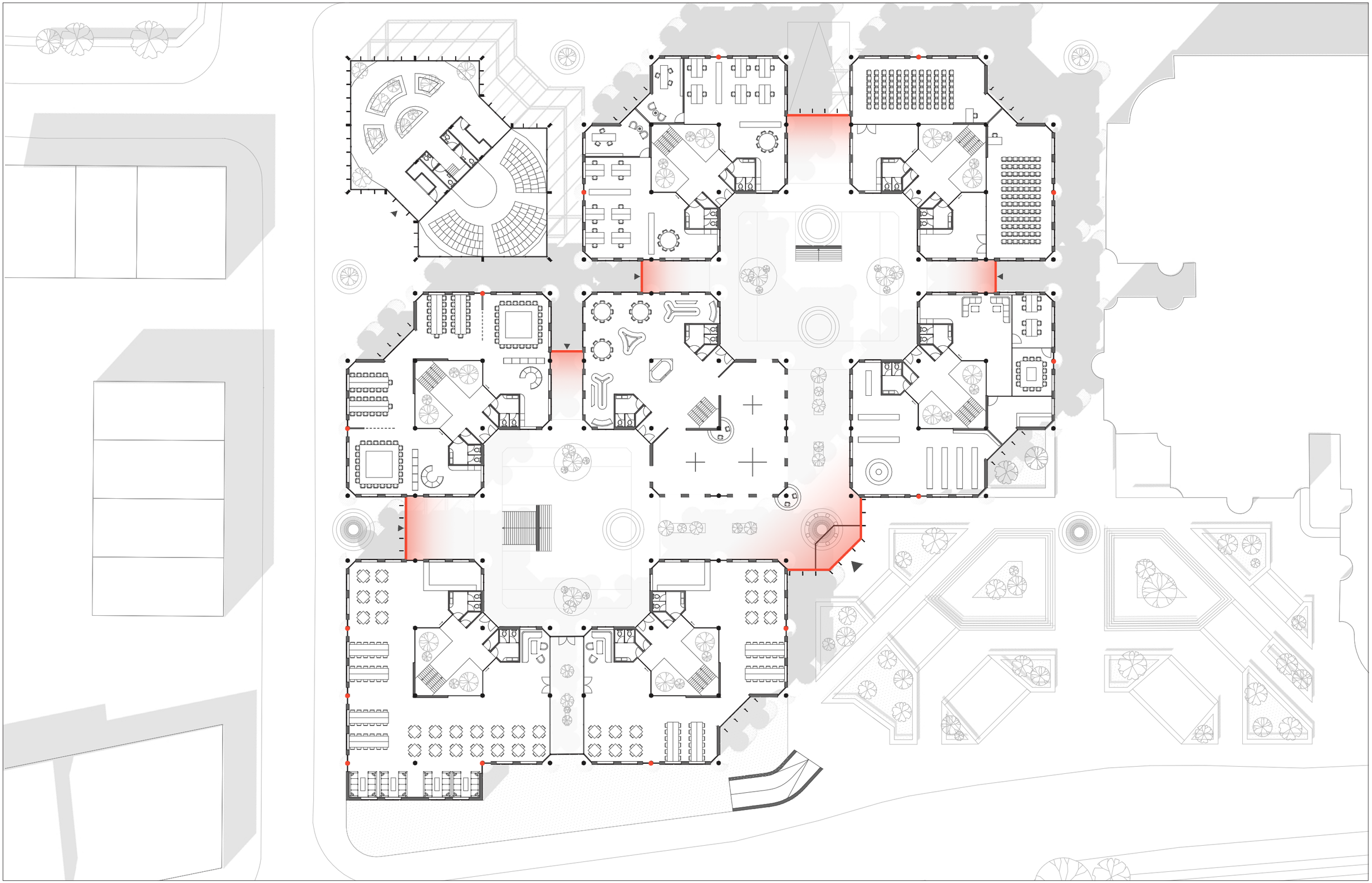


Secondary Beams



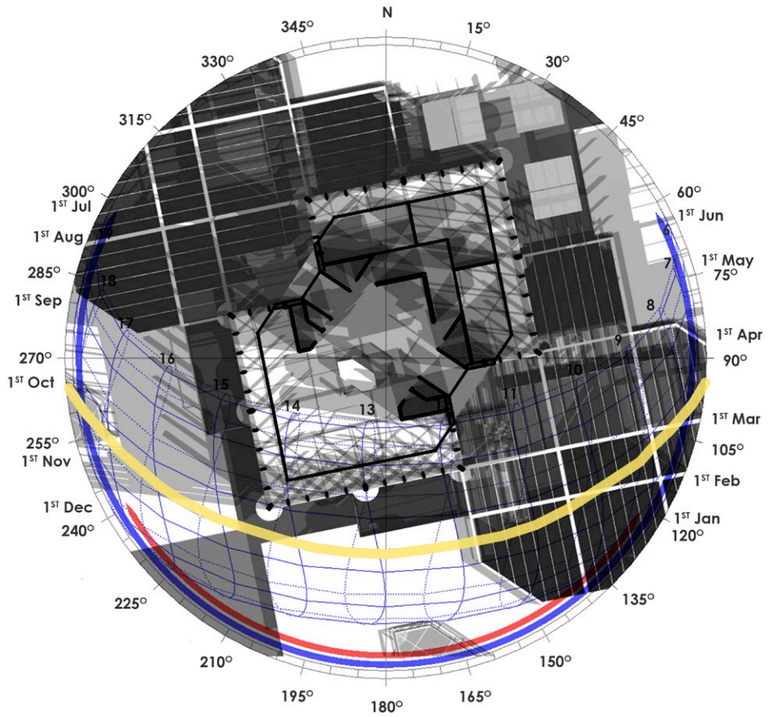
Staircase Supporting Cables

Thermal Bridge - Plan



Shadow Study & Solar Analysis

21 March



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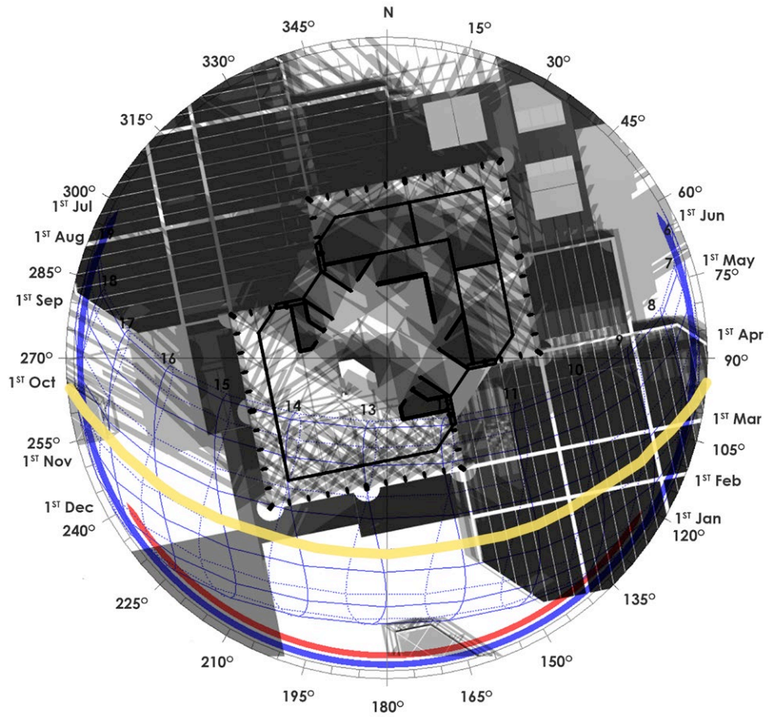

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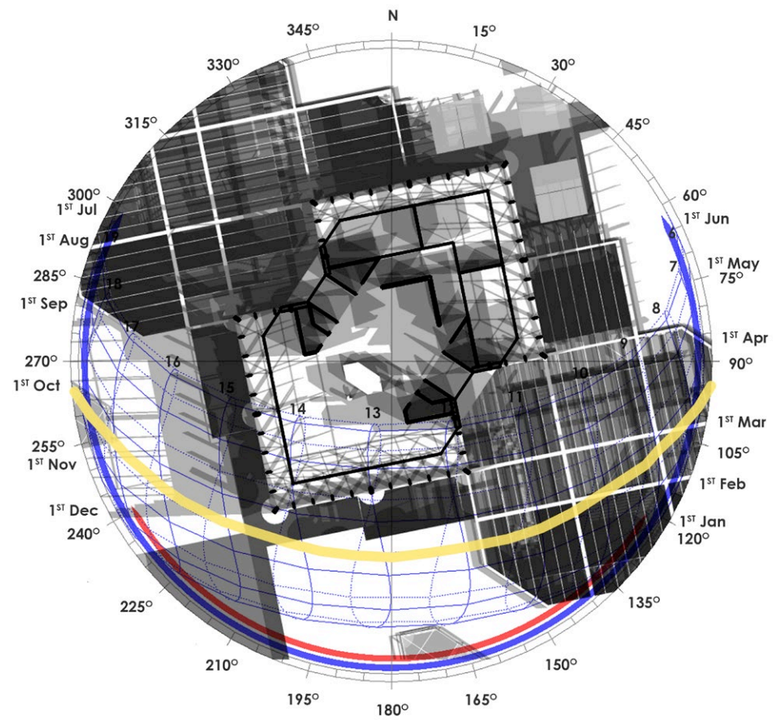
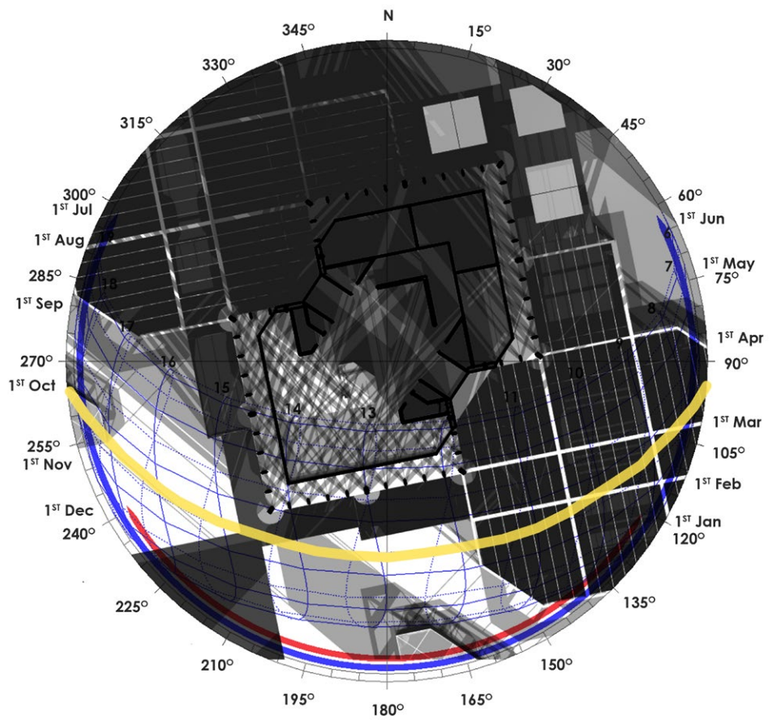


21 December

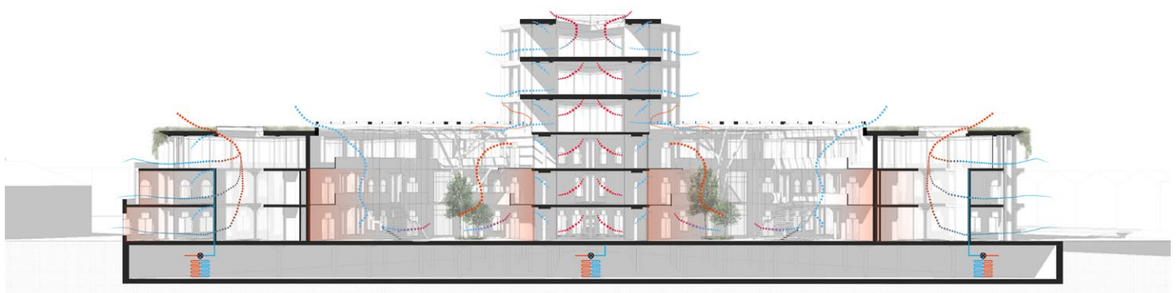


Environmental Strategies Diagram

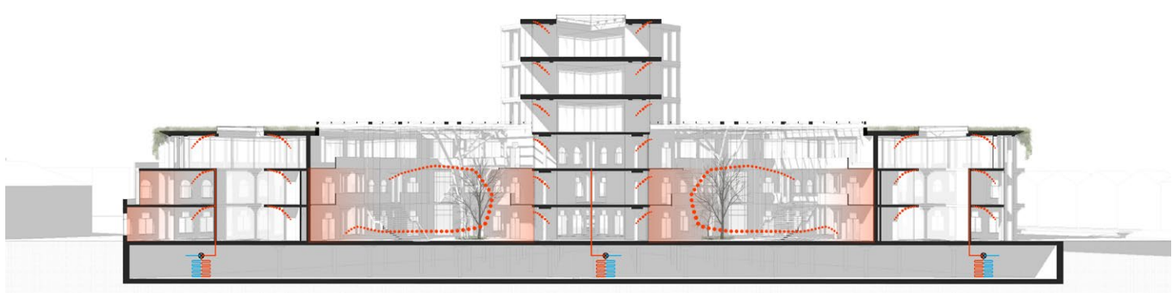
Summer Day

Winter Day

Summer Night

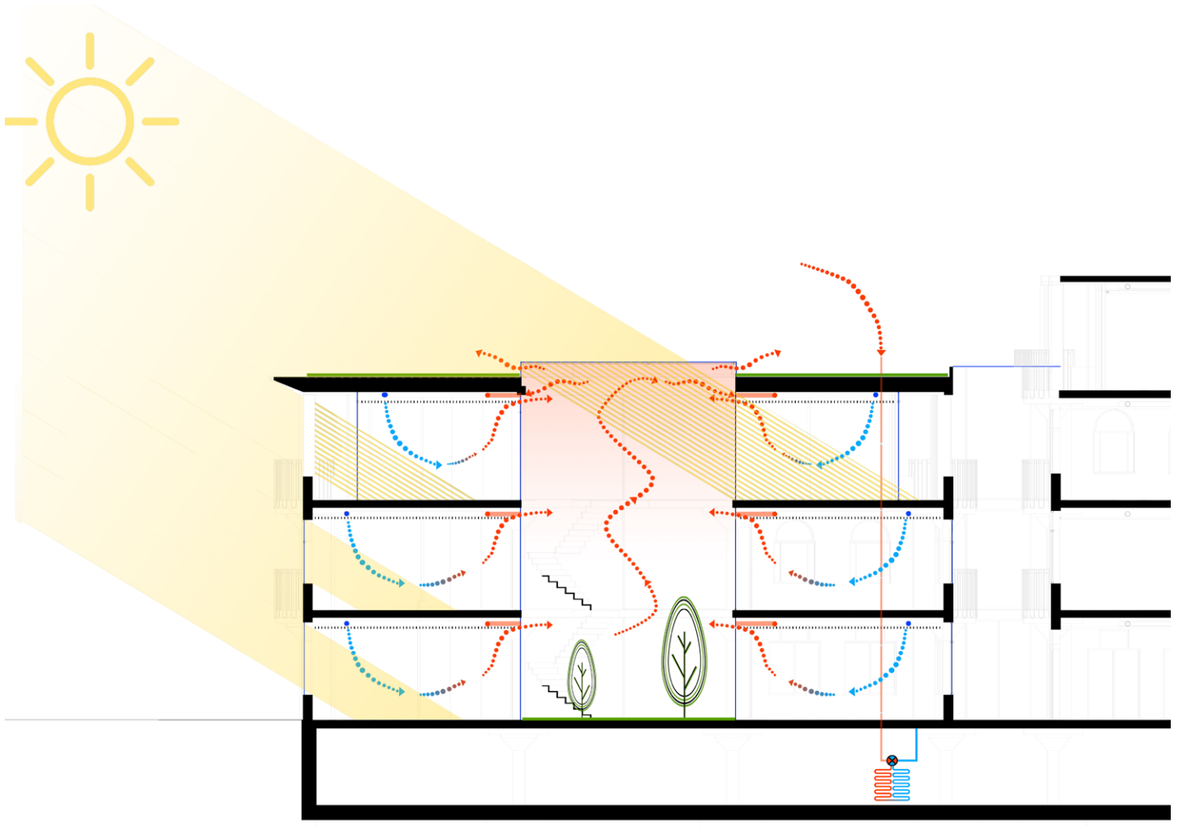


Winter Night

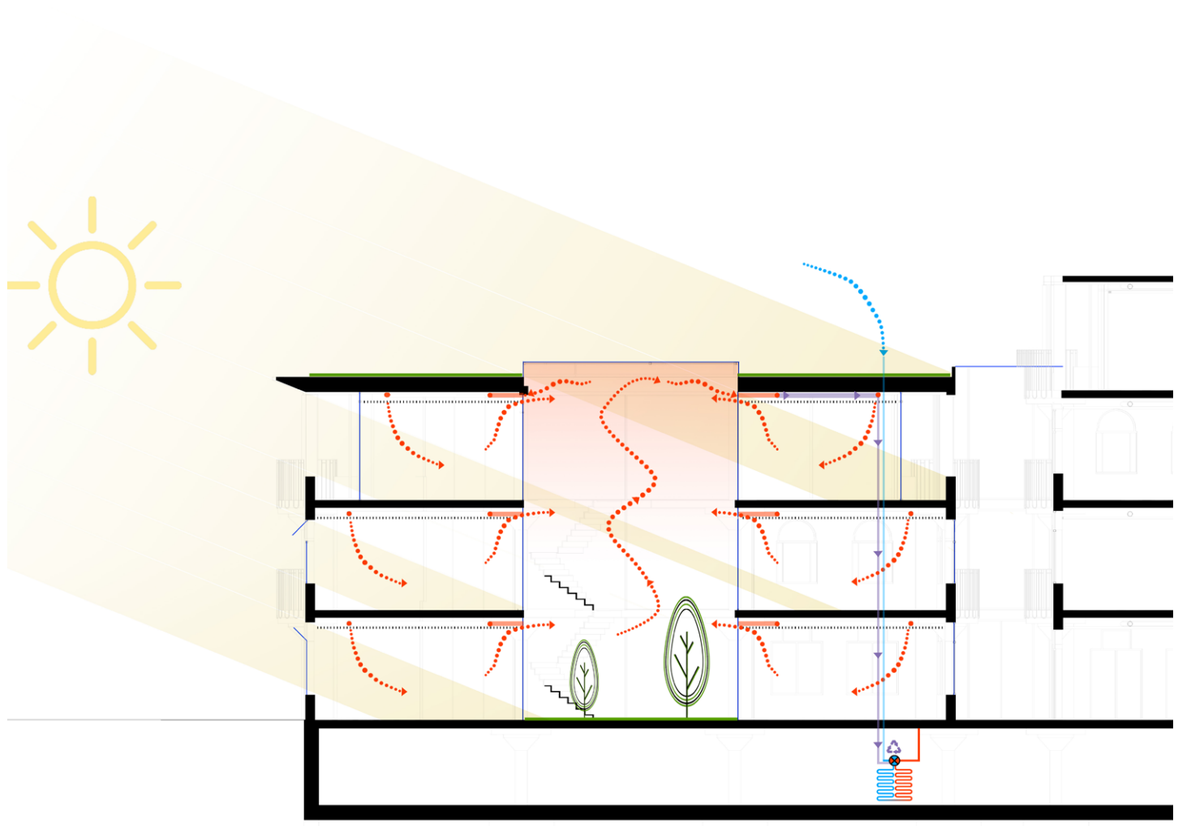


Environmental Strategies Diagram

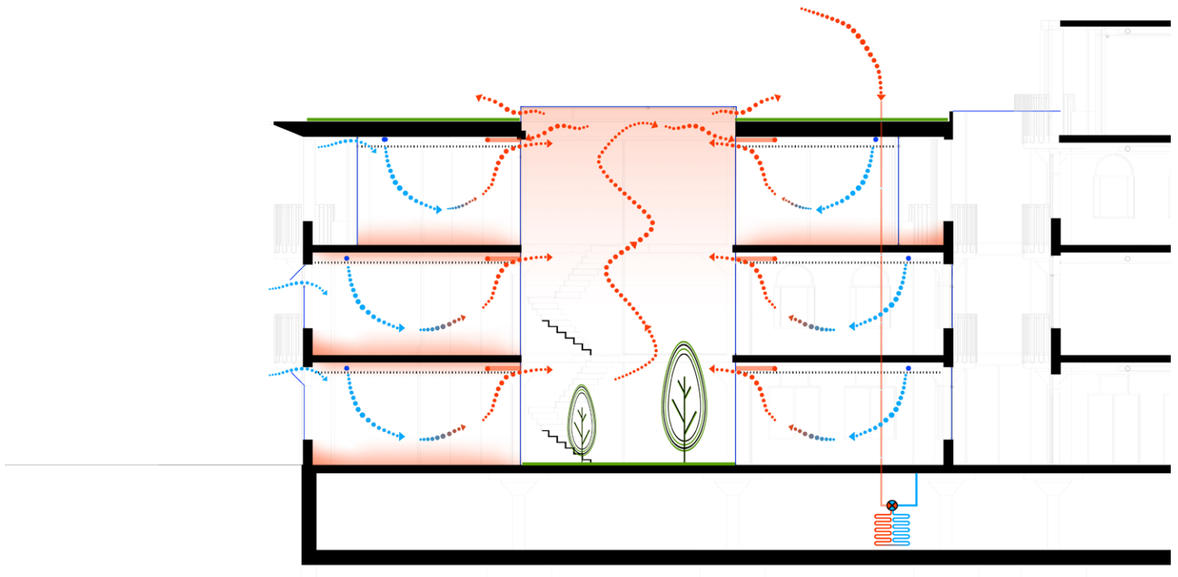
Summer Day



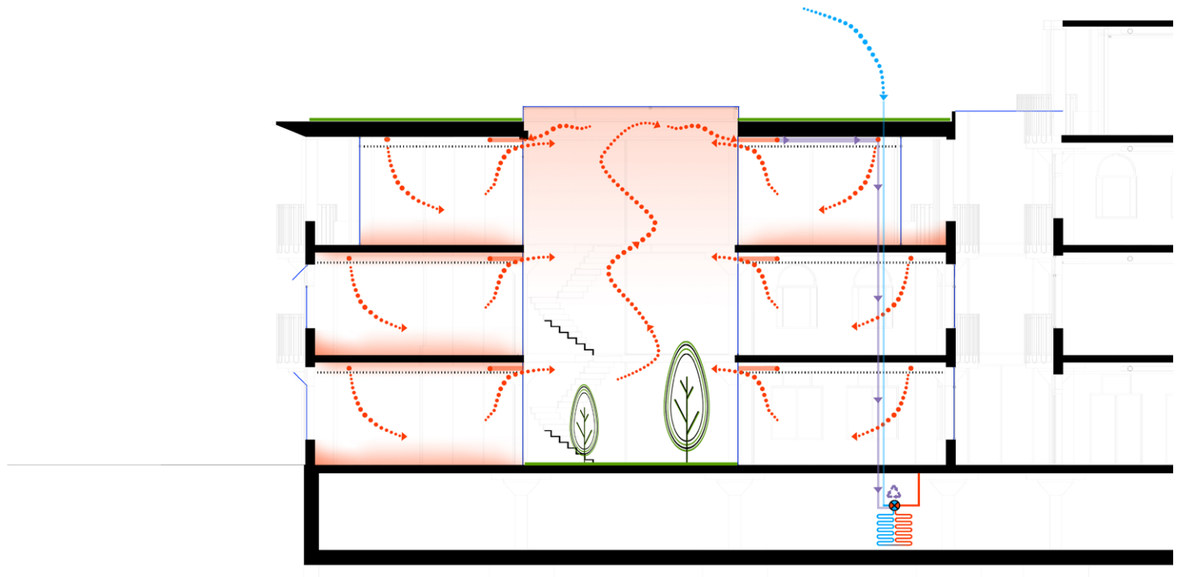
Winter Day



Summer Night

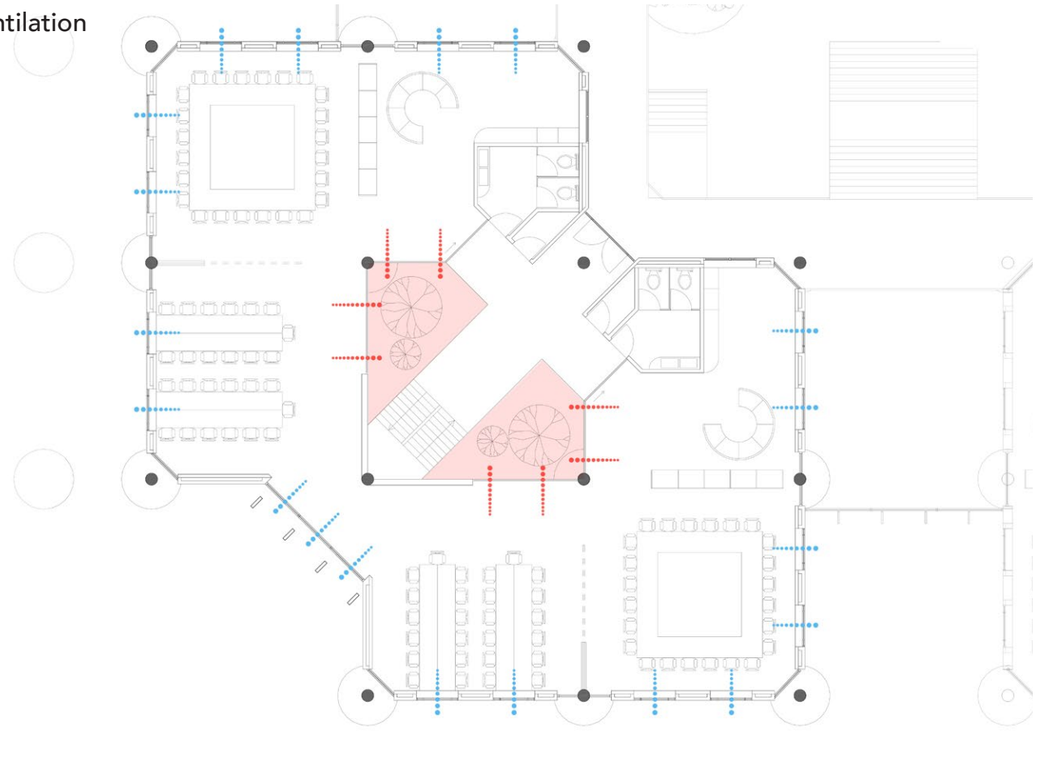


Winter Night

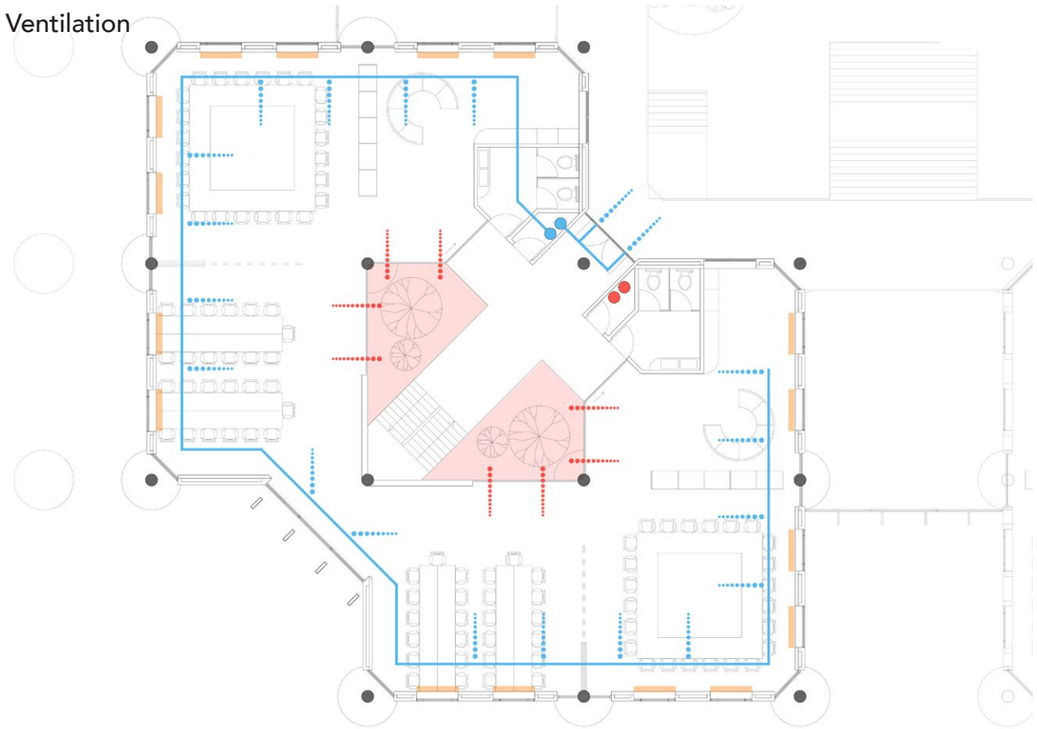


Ventilation Diagram - Existing Buildings' Plan

Natural Ventilation

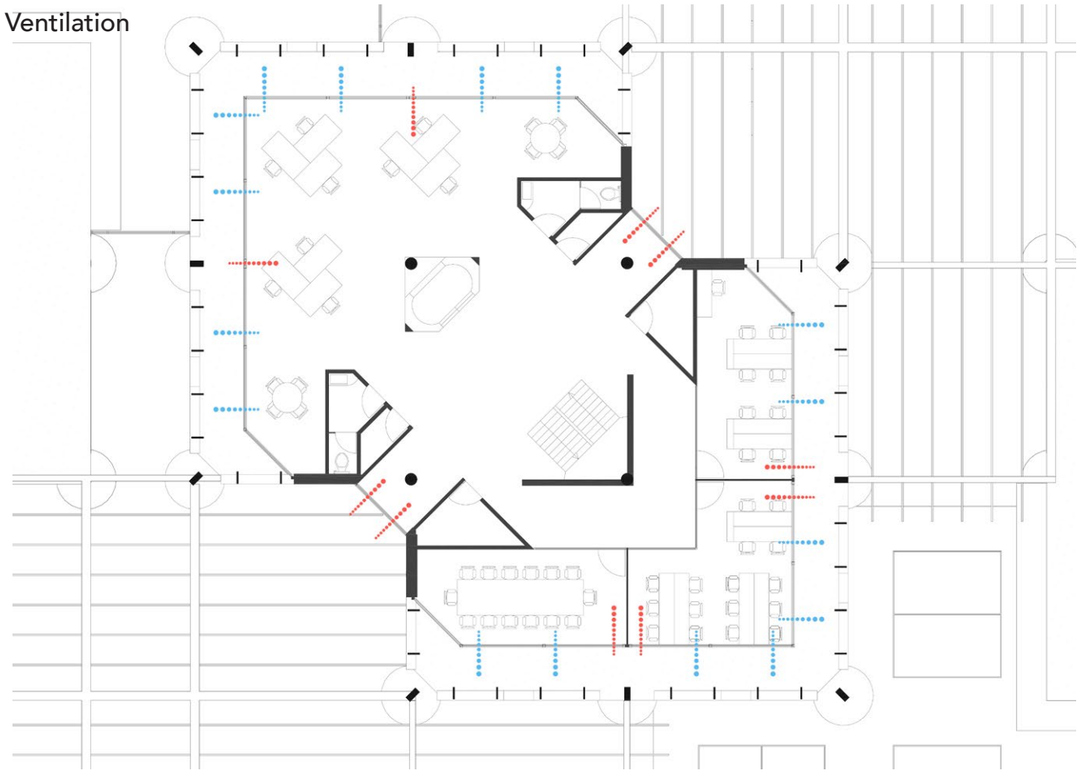


Mechanical Ventilation

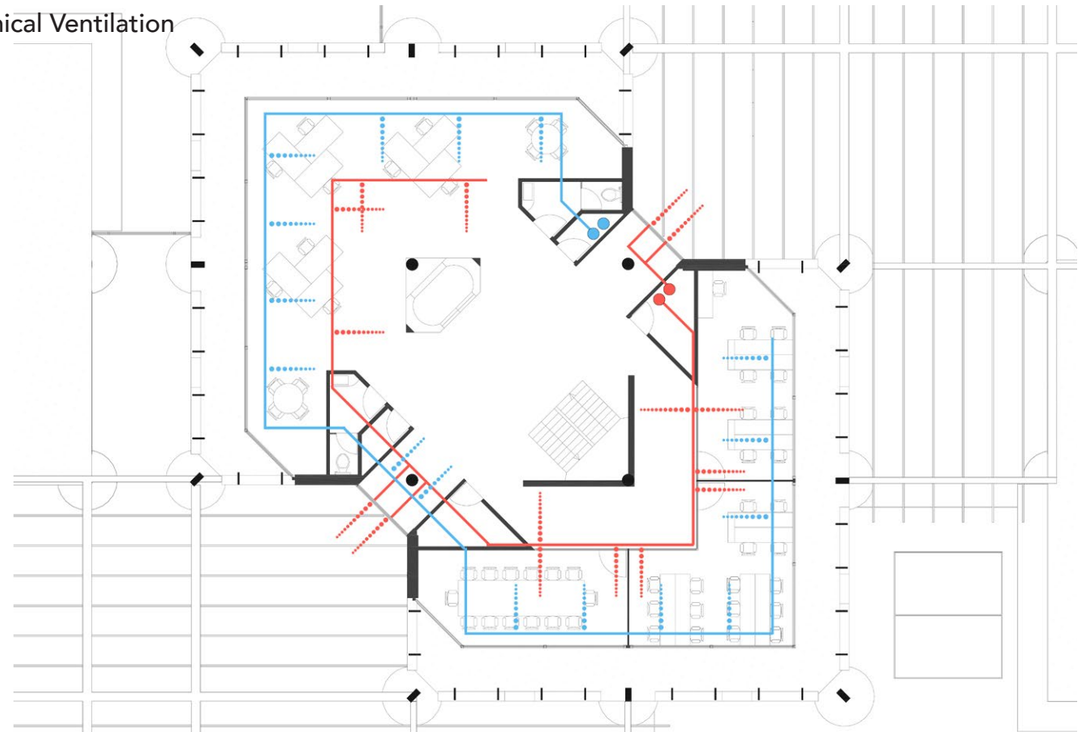


Ventilation Diagram - Extensions' Plan

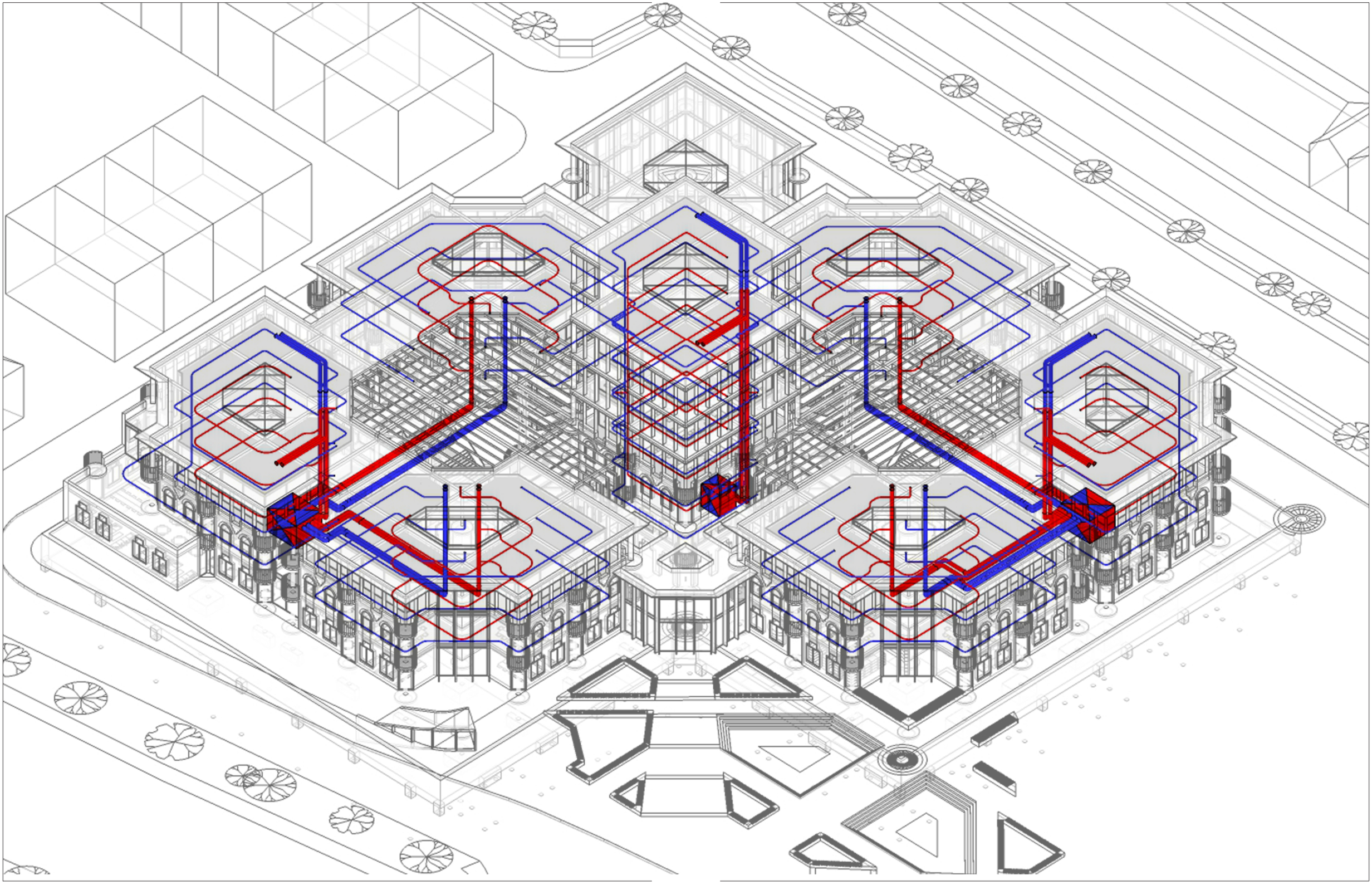
Natural Ventilation



Mechanical Ventilation



Axonometric Diagram- Mechanical Ventilation



Details - Section, 1:50

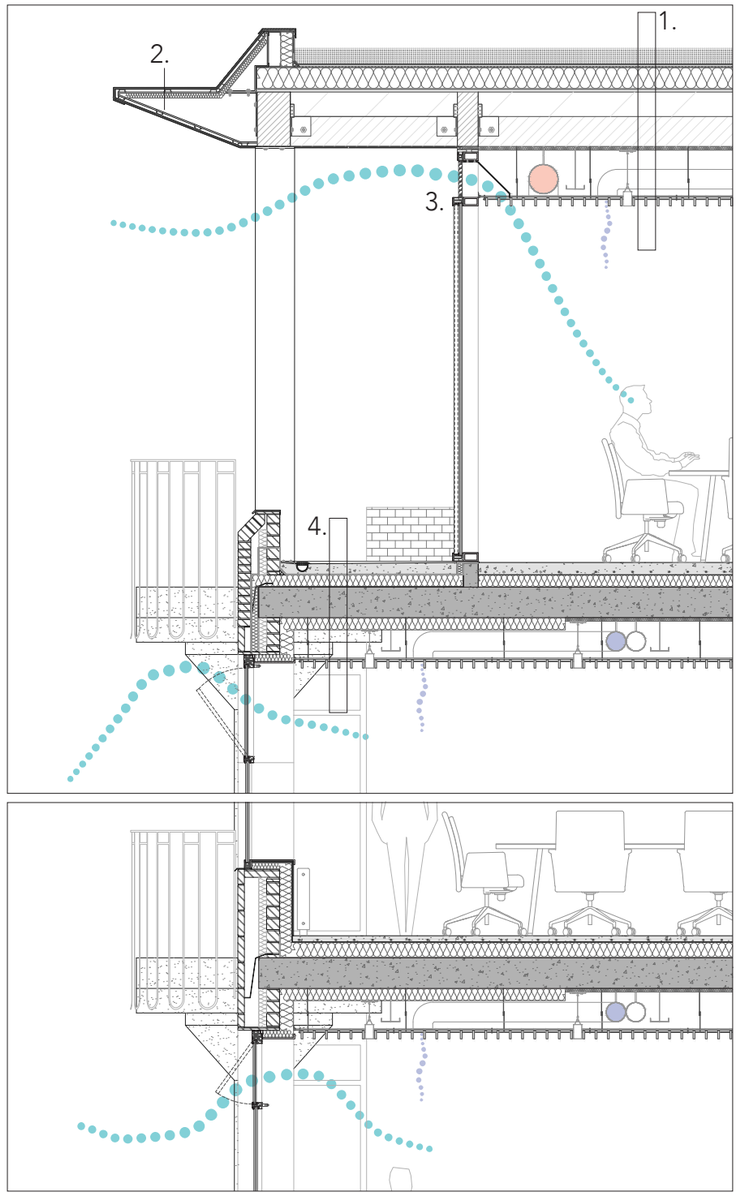
1. 300mm Lightweight Soil
   16mm Geotextile
   Drainage Panel
   Waterproof Membrane
   180mm Insulation
   Vapour Barrier
   18mm Plywood
   450 x 300mm Accoya Timber Beam
   30mm Insulation
   400mm Gap bet. Roof & Suspended Ceiling
   Suspended Timber Ceiling, reusing the timber from the existing ceiling

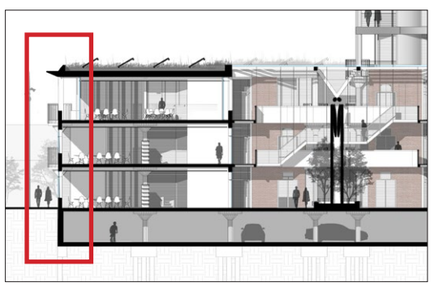
2. 4mm Steel Sheet
   Frame of Steel Omega Profiles 20mm
   40mm Insulation (Rain noise absorption)
   Steel Plate with T-Shaped Edges

3. Air Inlets

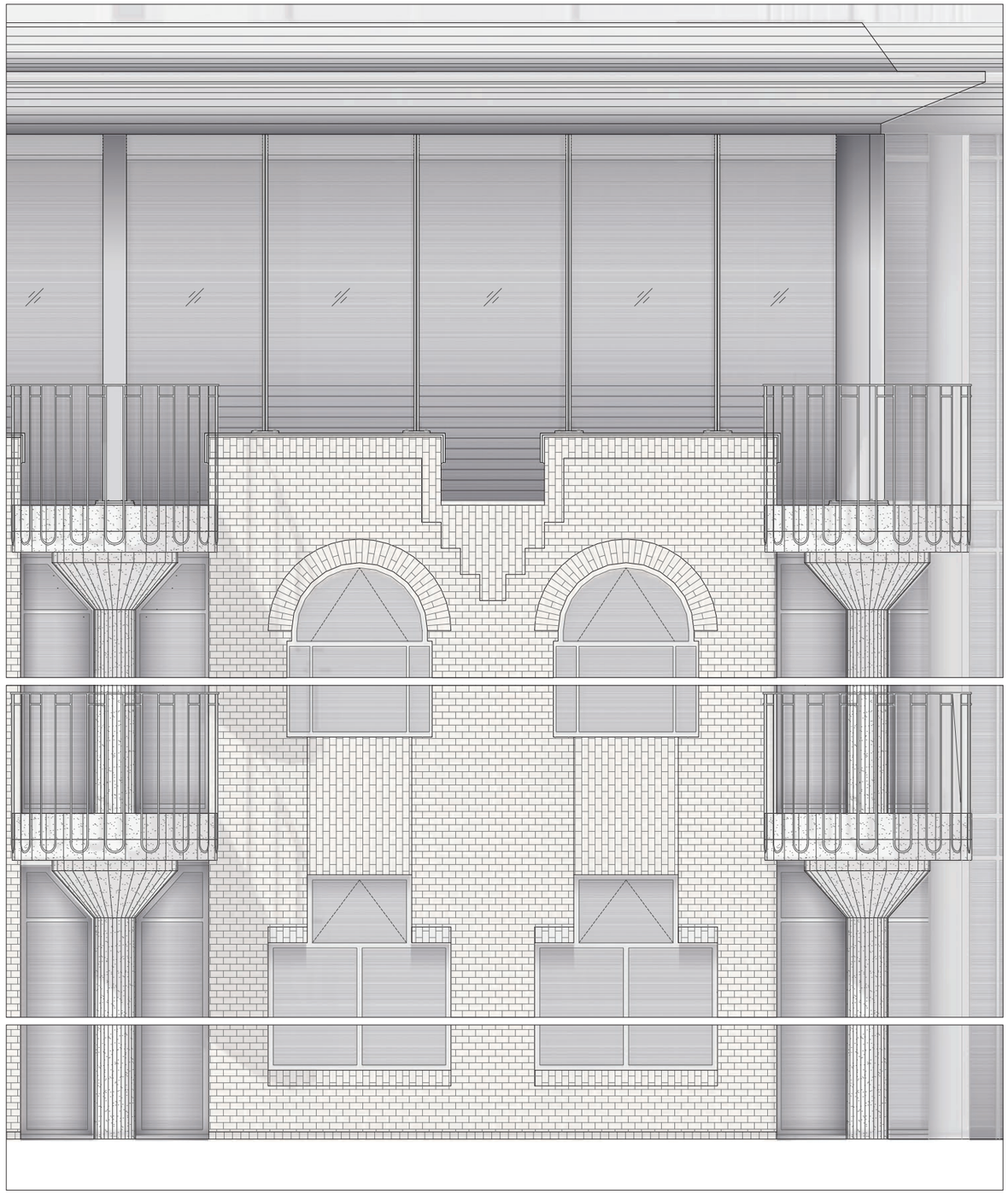
4. 80mm Cast in-situ Concrete
   Waterproof Membrane
   100mm Insulation
   Vapour Barrier
   250mm Existing Concrete Floor Slab
   100mm Insulation
   400mm Gap bet. Roof & Suspended Ceiling
   Suspended Timber Ceiling, reusing the timber from the existing ceiling

5. 105mm Red Brick
   65mm Cavity
   65mm Insulation (Existing)
   105mm Concrete Blocks
   Waterproof Membrane
   100mm Insulation
   Vapour Barrier
   Plasterboard

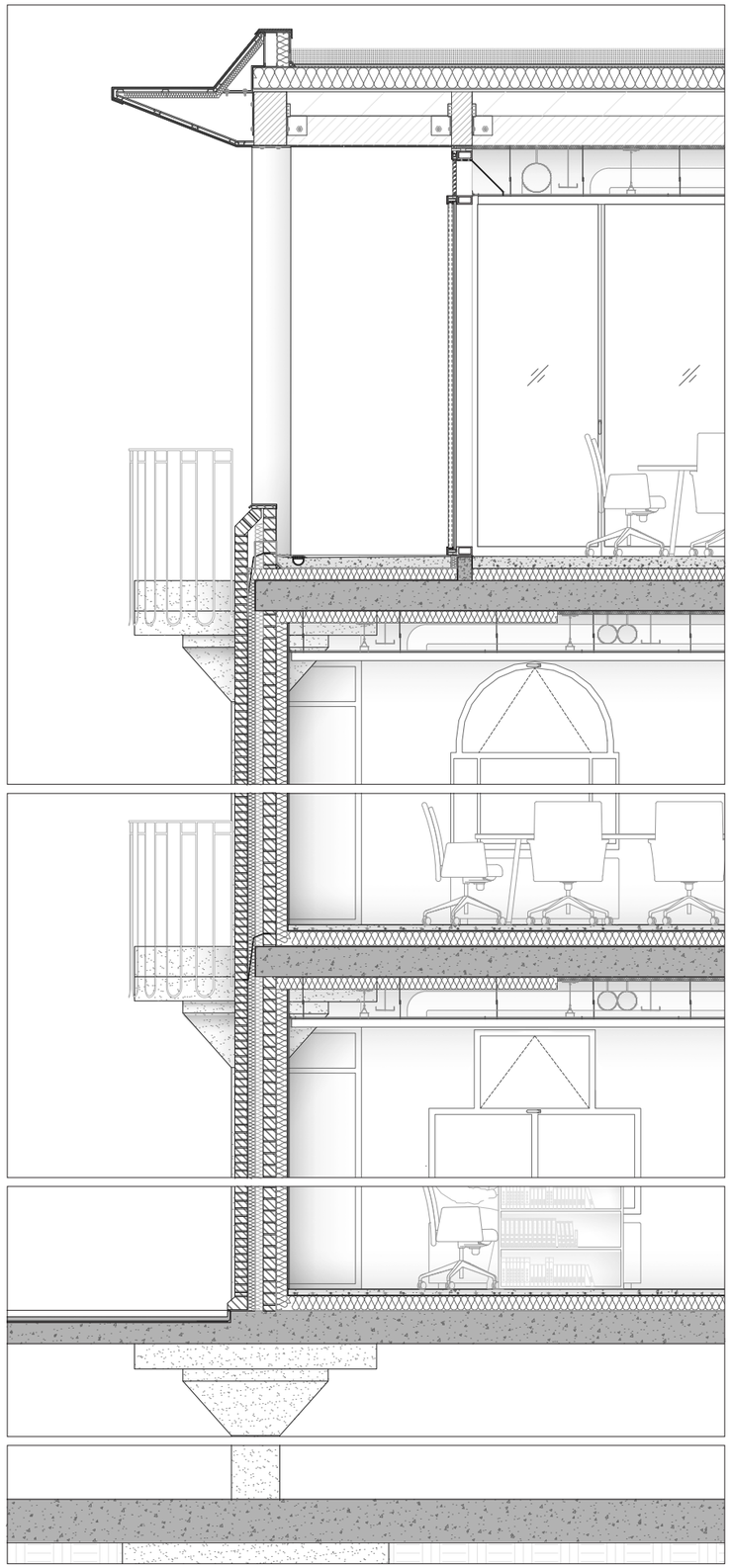




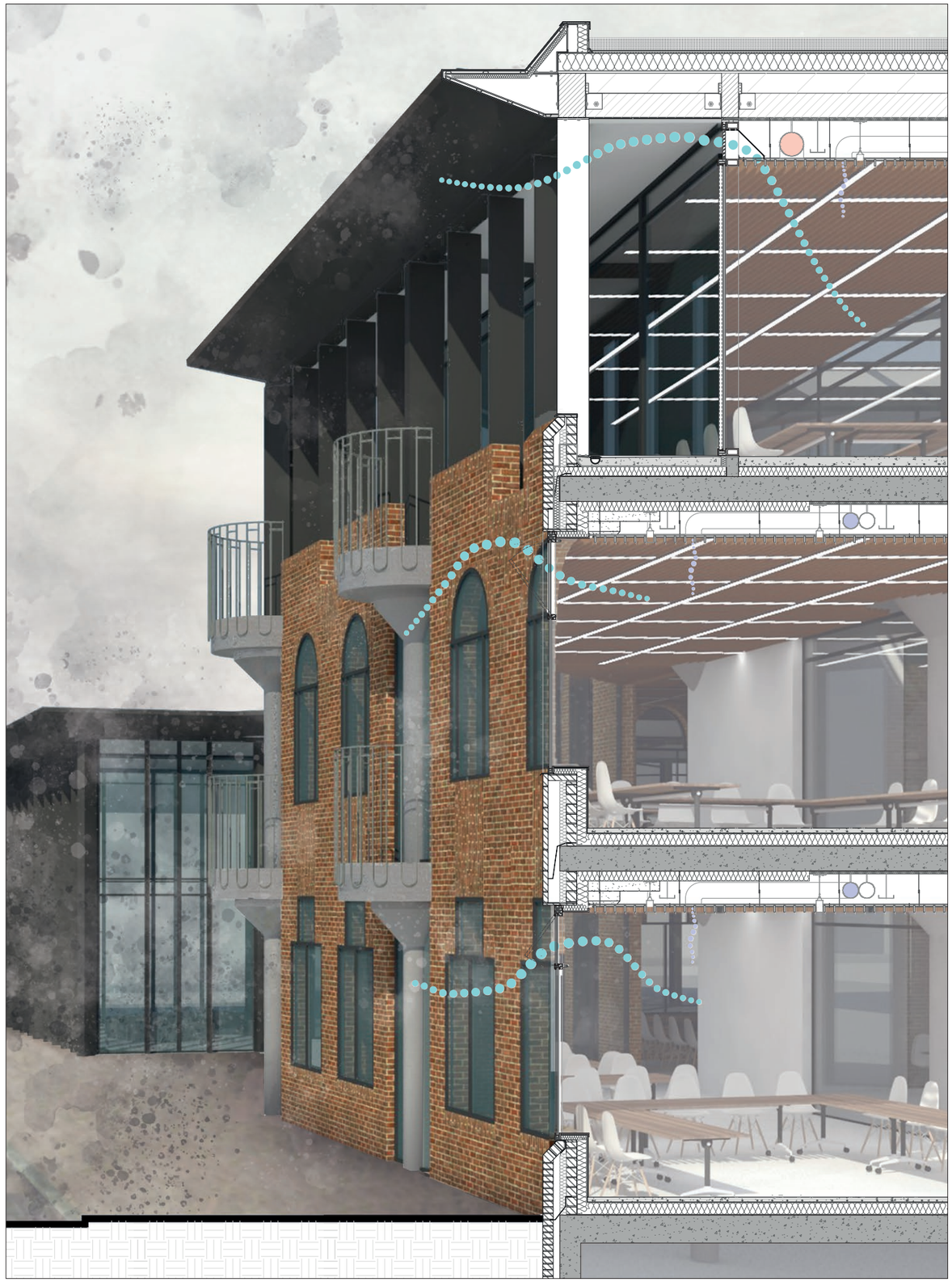
Details - Elevation, 1:50



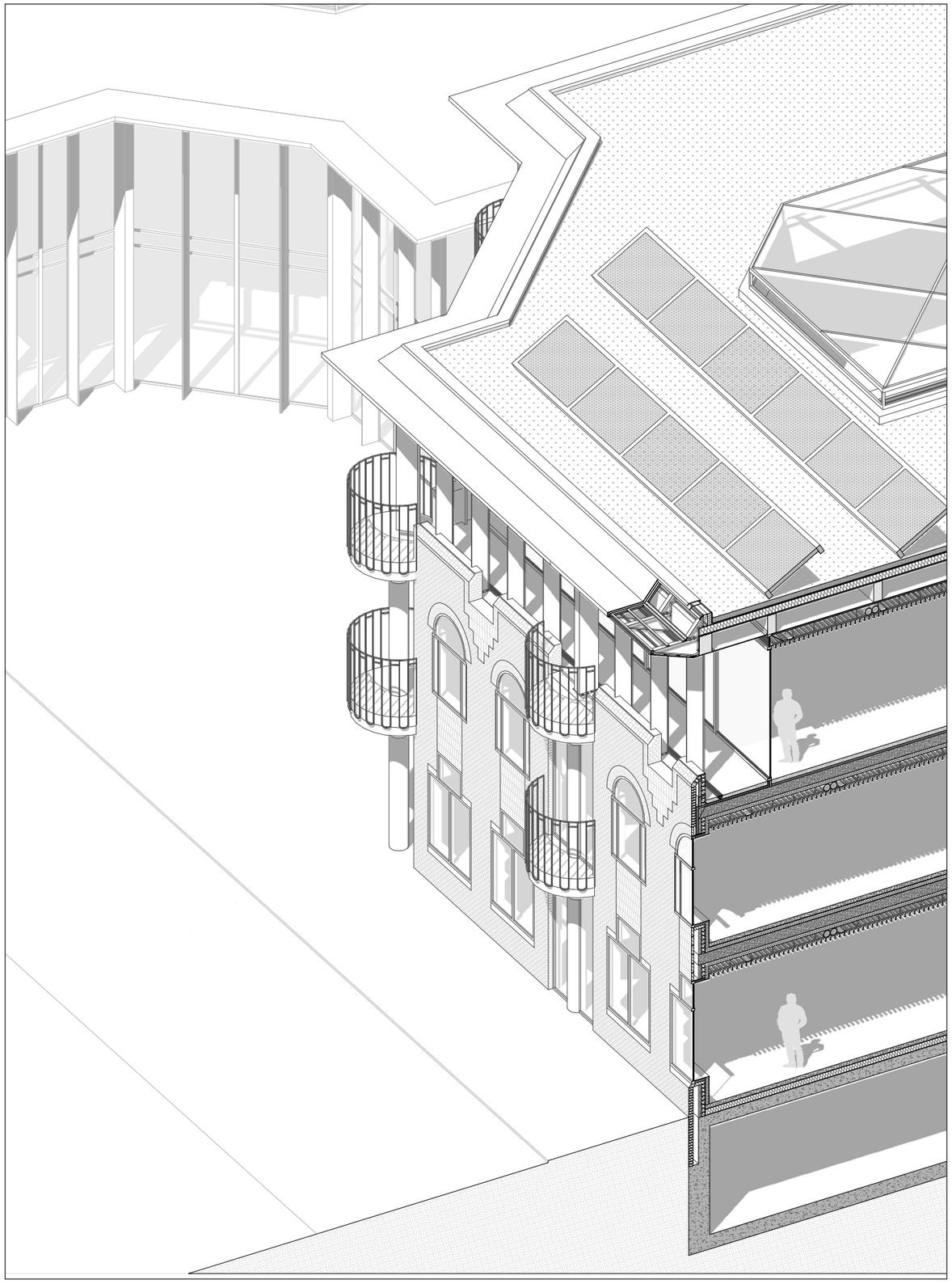
Details - Interior Elevation, 1:50

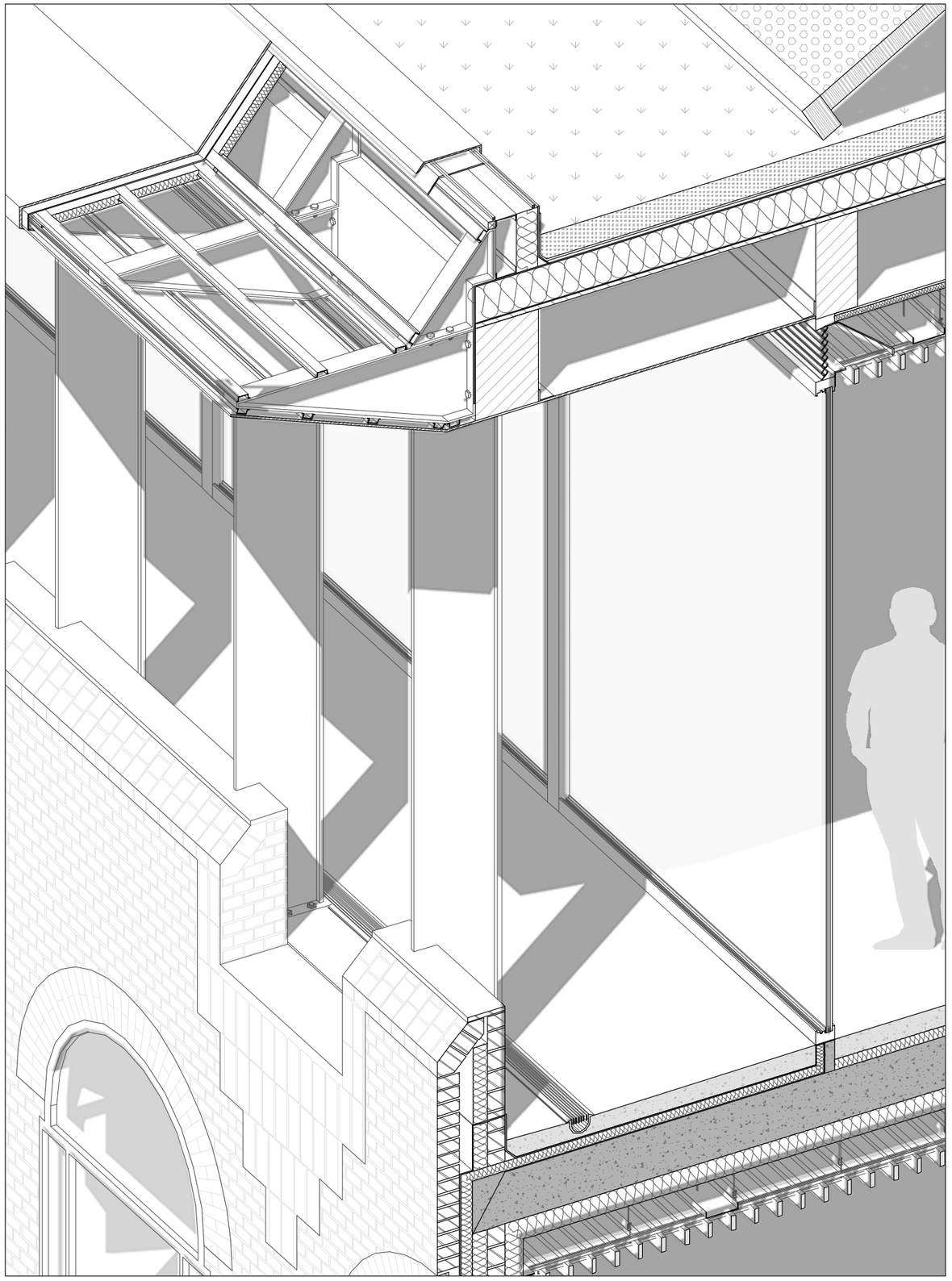


Details - Sectional Perspective, 1:50

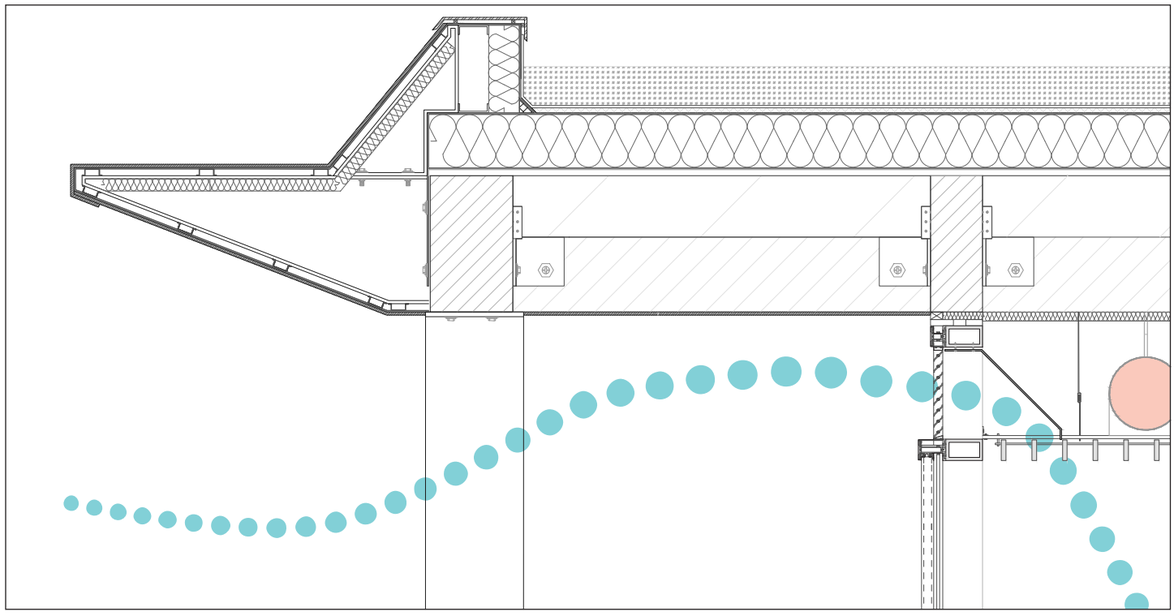


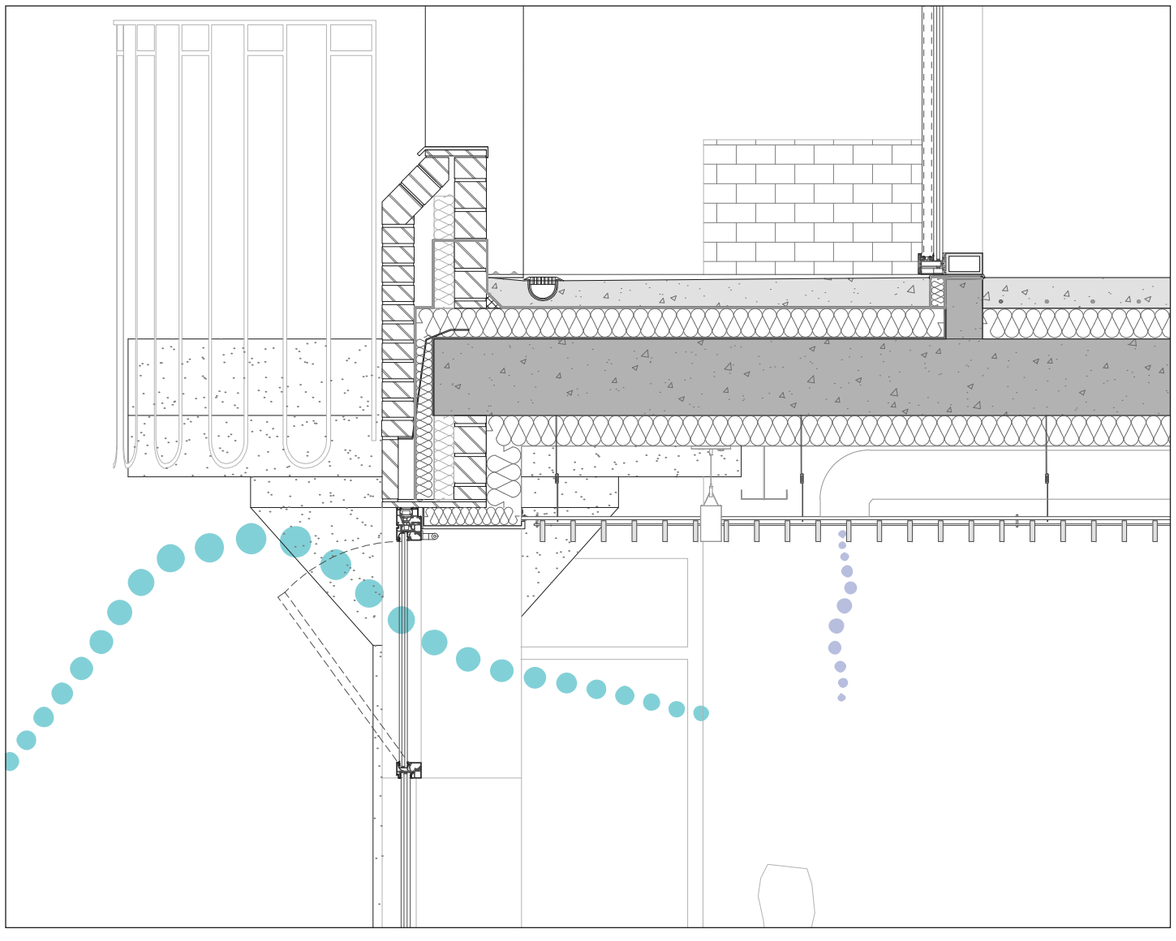
3D Axonometric Detail

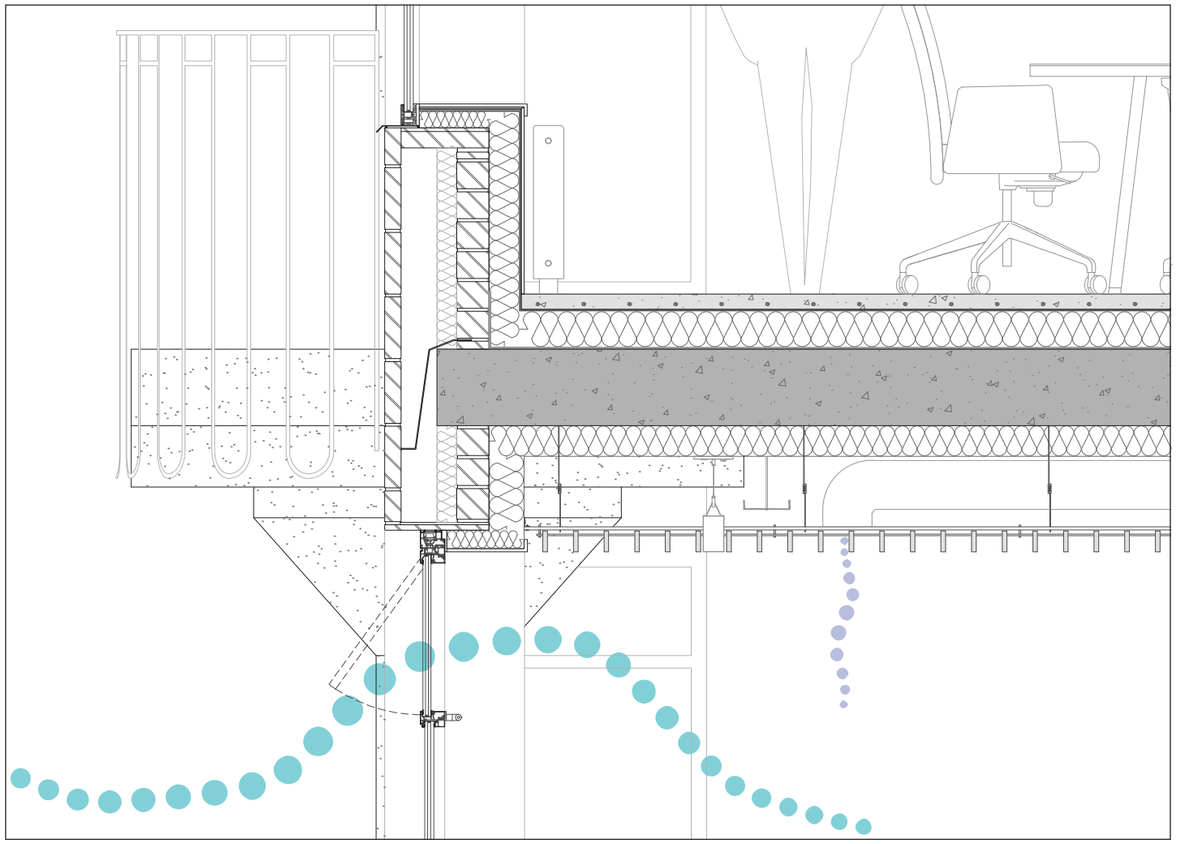


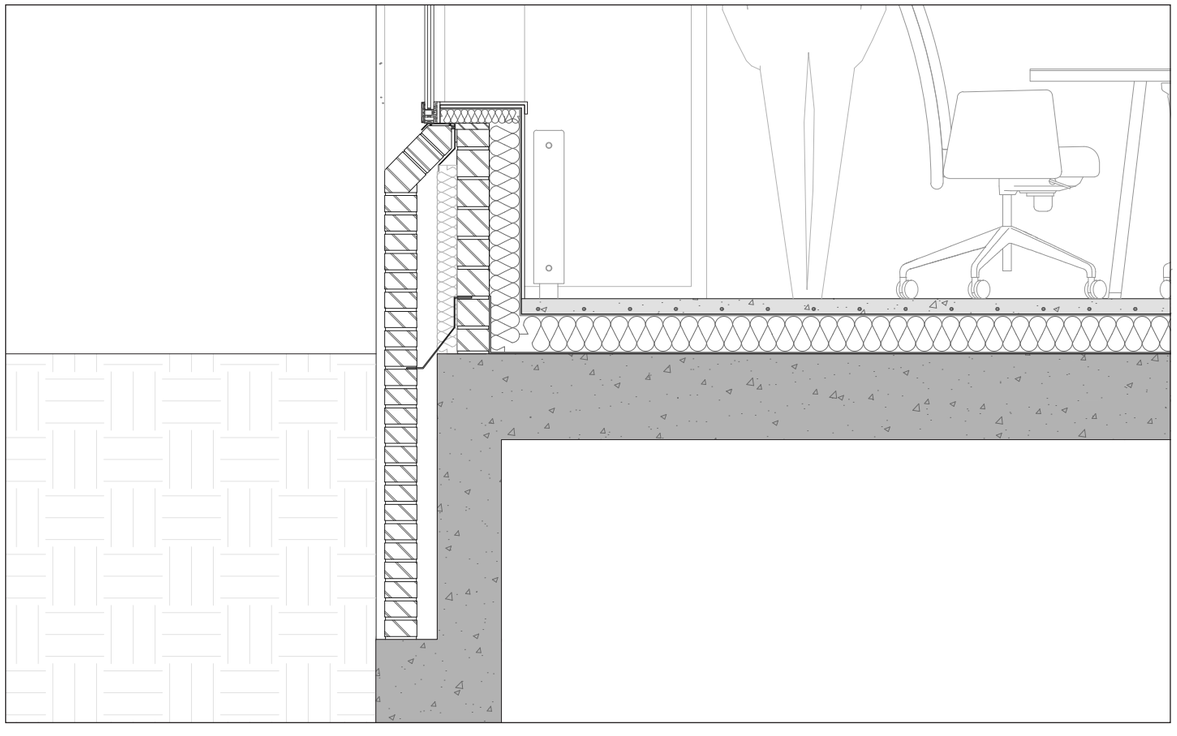


Details - Section, 1:20

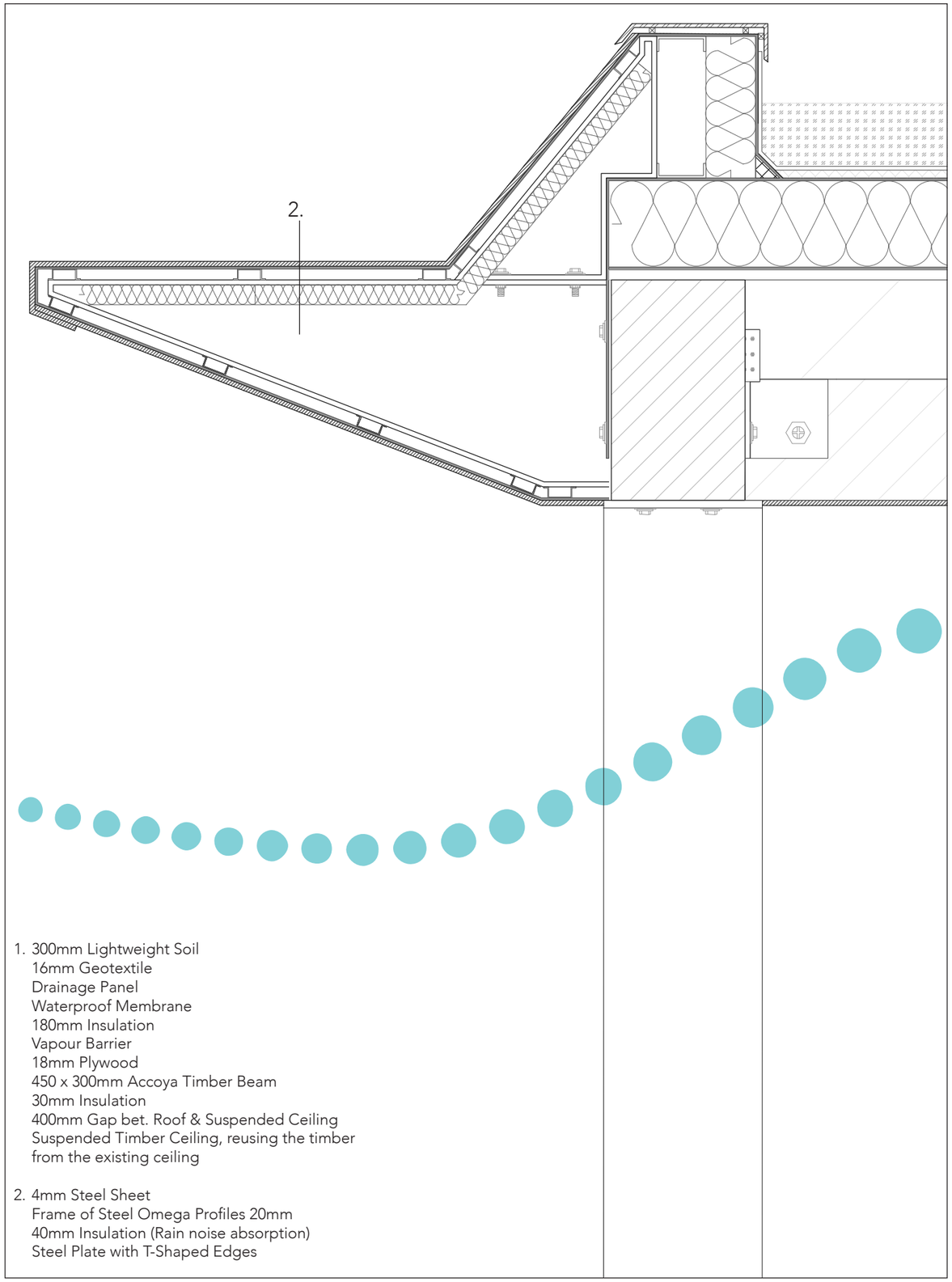






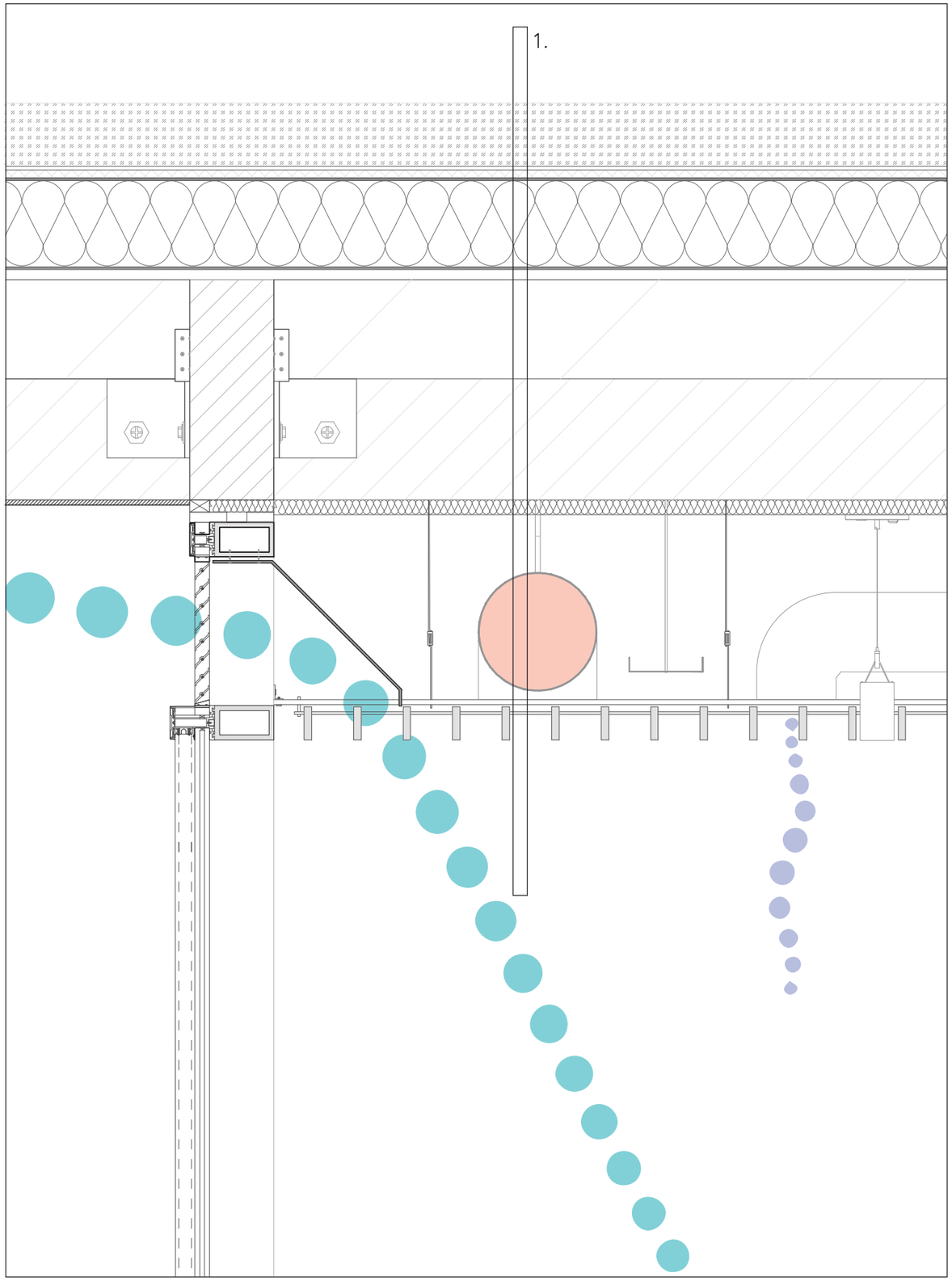


Details - Section, 1:10

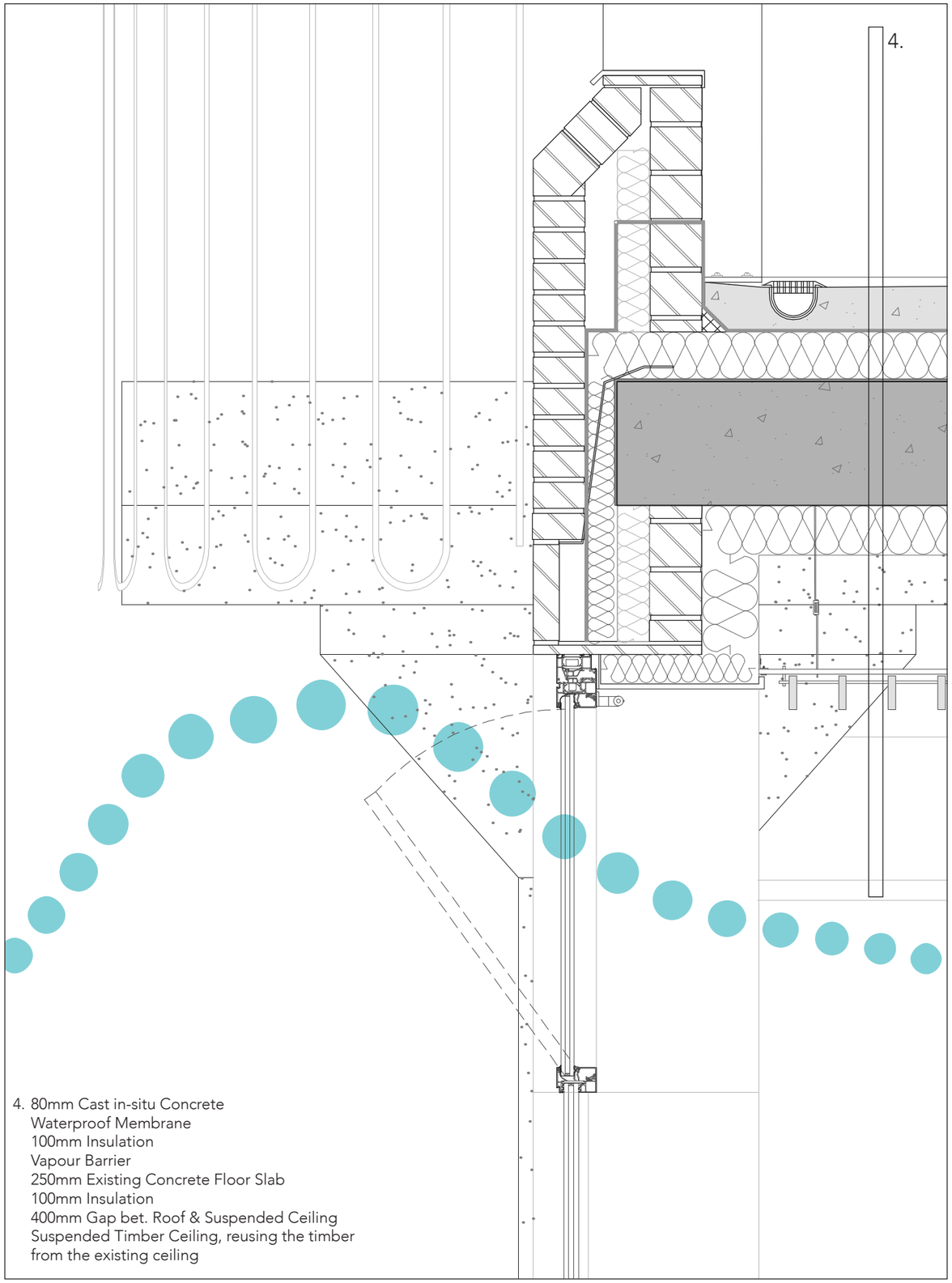


1. 300mm Lightweight Soil
   16mm Geotextile
   Drainage Panel
   Waterproof Membrane
   180mm Insulation
   Vapour Barrier
   18mm Plywood
   450 x 300mm Accoya Timber Beam
   30mm Insulation
   400mm Gap bet. Roof & Suspended Ceiling
   Suspended Timber Ceiling, reusing the timber
   from the existing ceiling

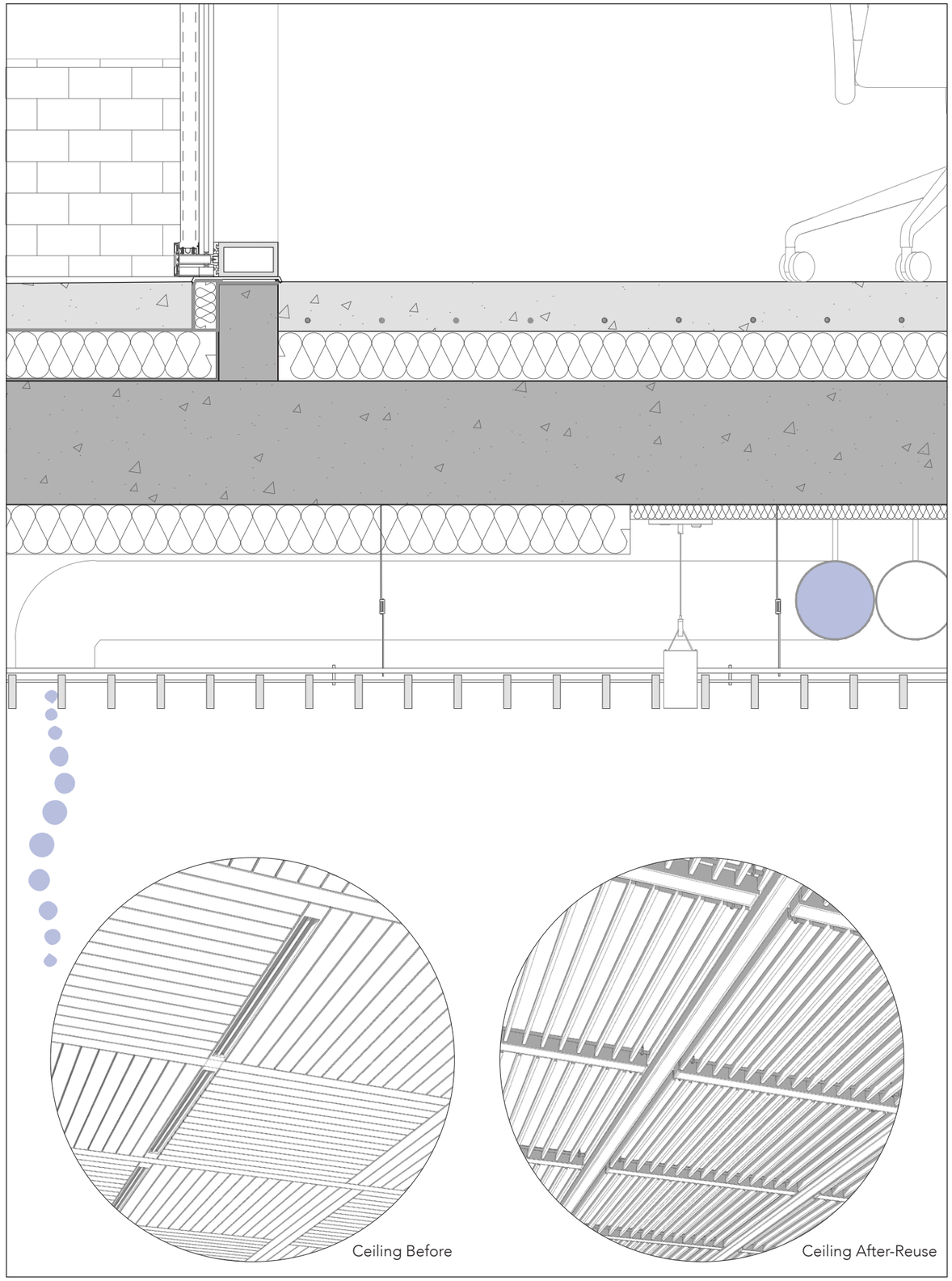
2. 4mm Steel Sheet
   Frame of Steel Omega Profiles 20mm
   40mm Insulation (Rain noise absorption)
   Steel Plate with T-Shaped Edges



Details - Section, 1:10



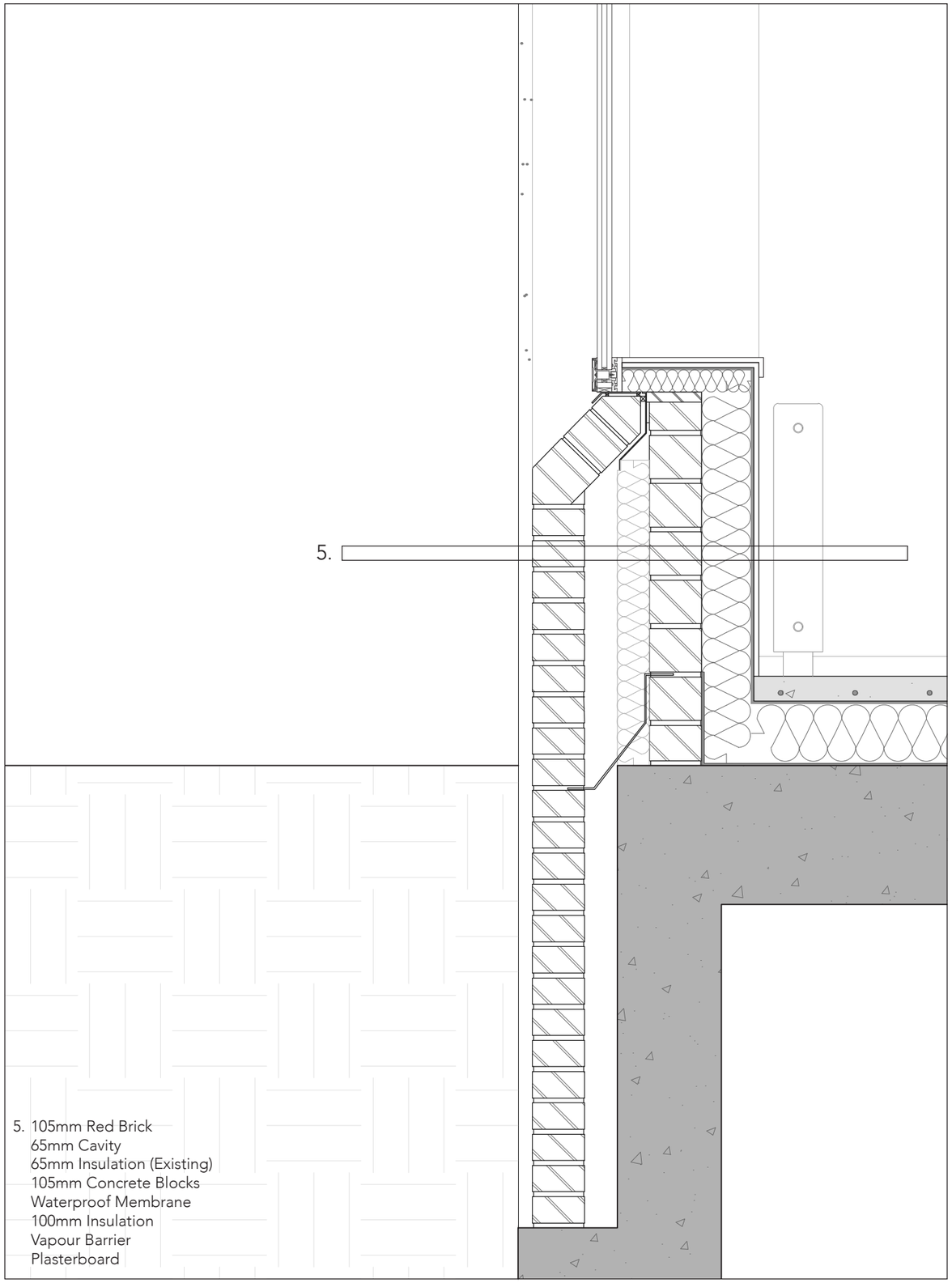
4. 80mm Cast in-situ Concrete
   Waterproof Membrane
   100mm Insulation
   Vapour Barrier
   250mm Existing Concrete Floor Slab
   100mm Insulation
   400mm Gap bet. Roof & Suspended Ceiling
   Suspended Timber Ceiling, reusing the timber
   from the existing ceiling



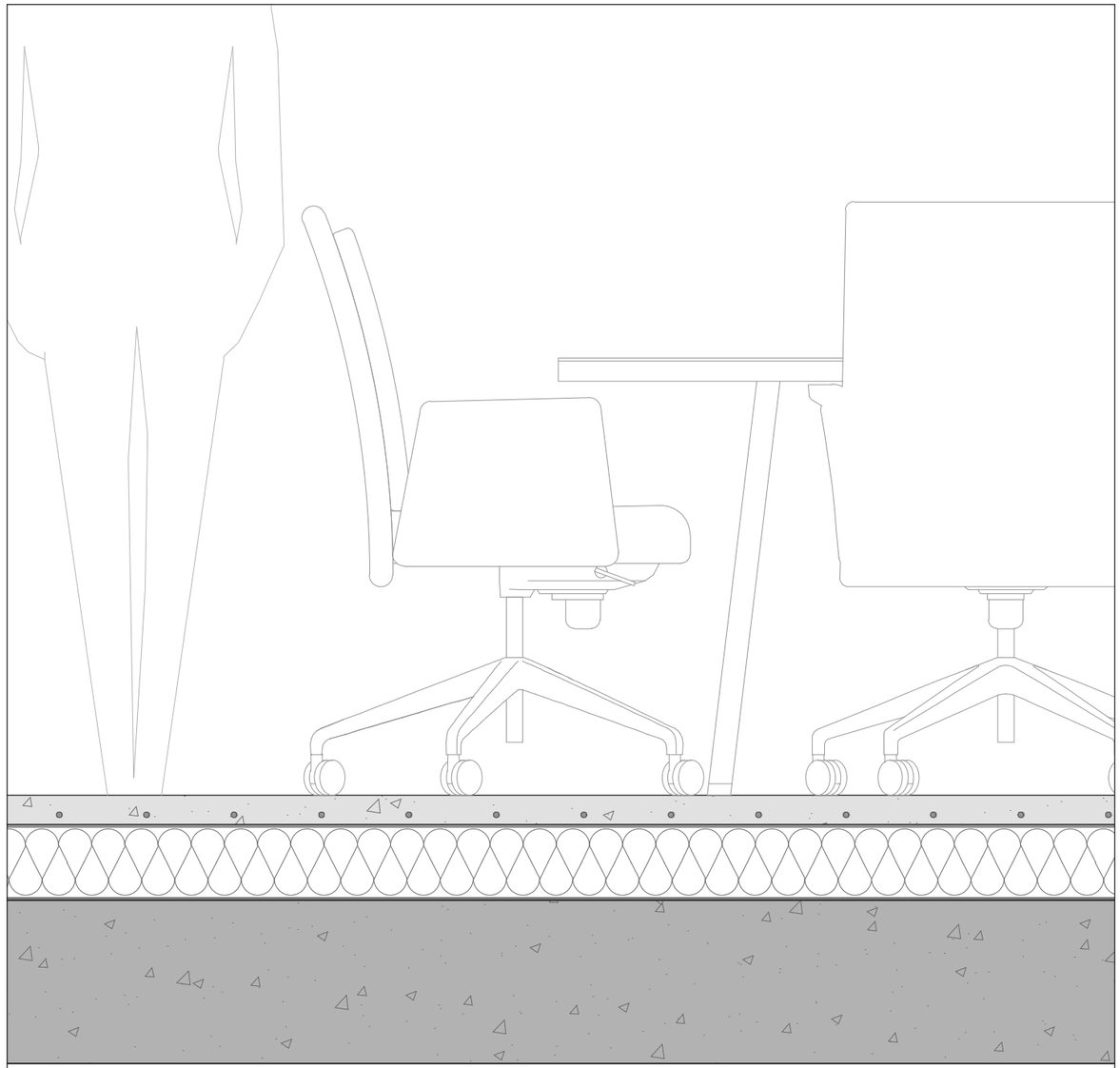
Ceiling Before

Ceiling After-Reuse

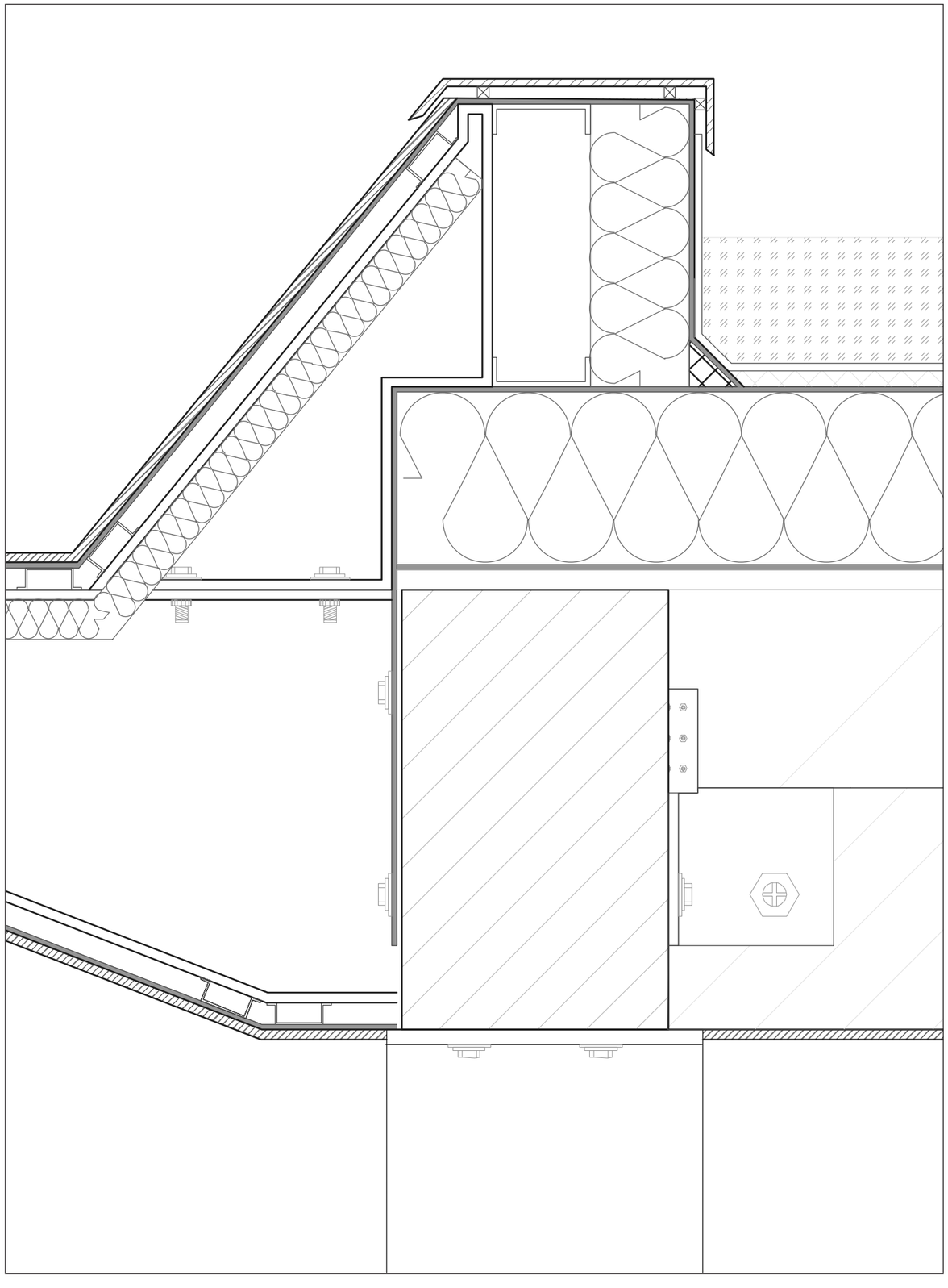
Details - Section, 1:10

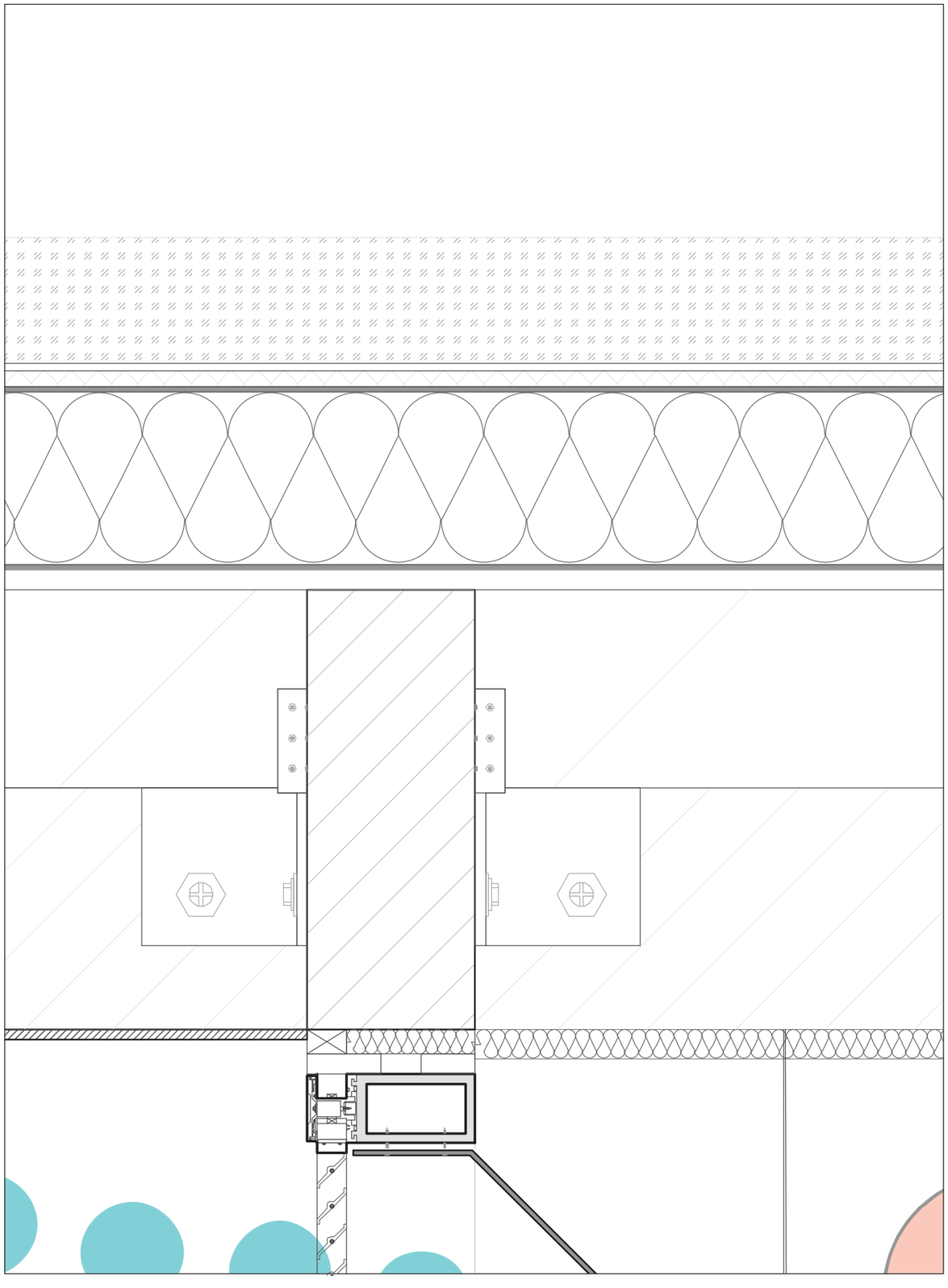


5. 105mm Red Brick
   65mm Cavity
   65mm Insulation (Existing)
   105mm Concrete Blocks
   Waterproof Membrane
   100mm Insulation
   Vapour Barrier
   Plasterboard

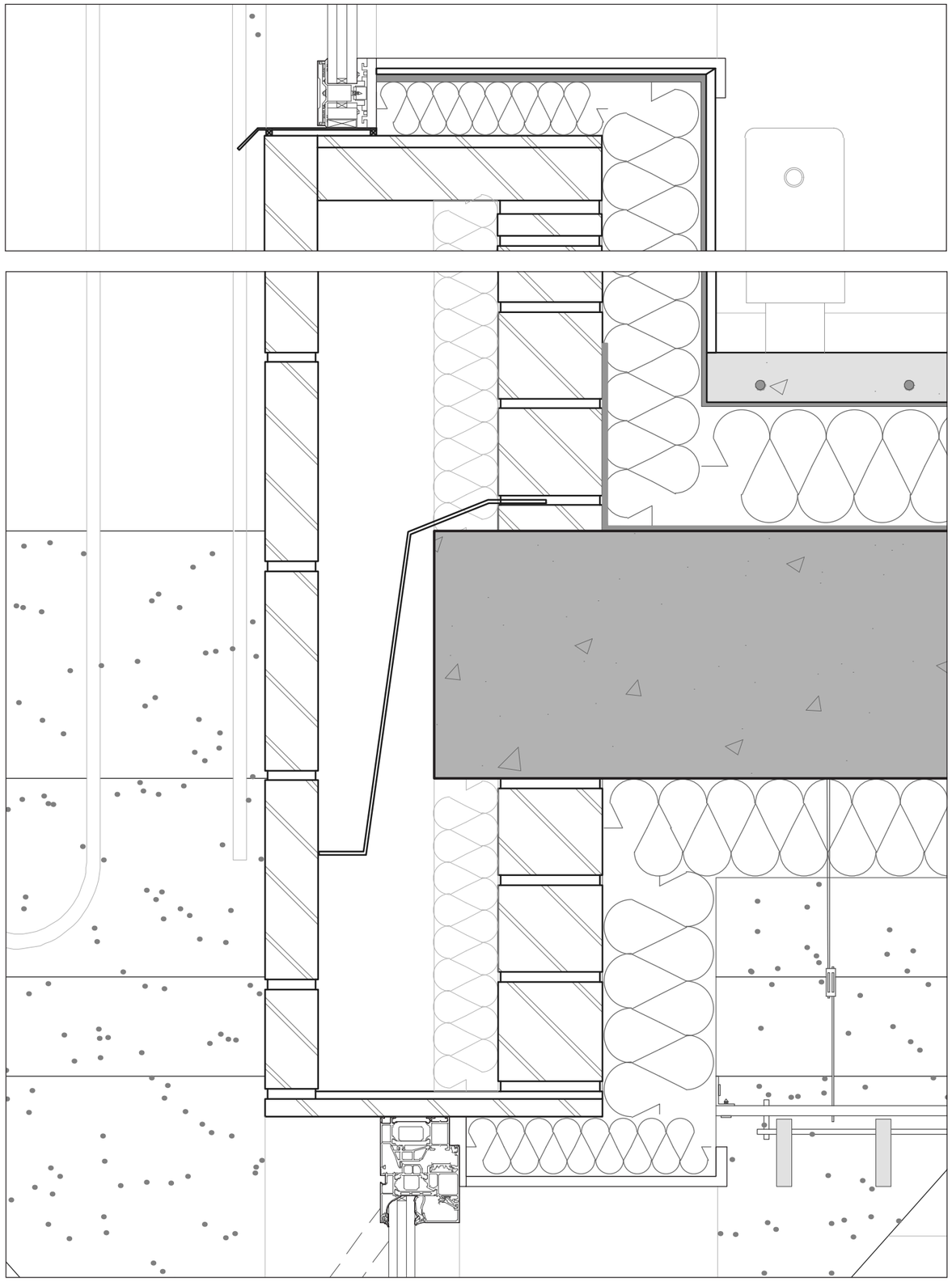


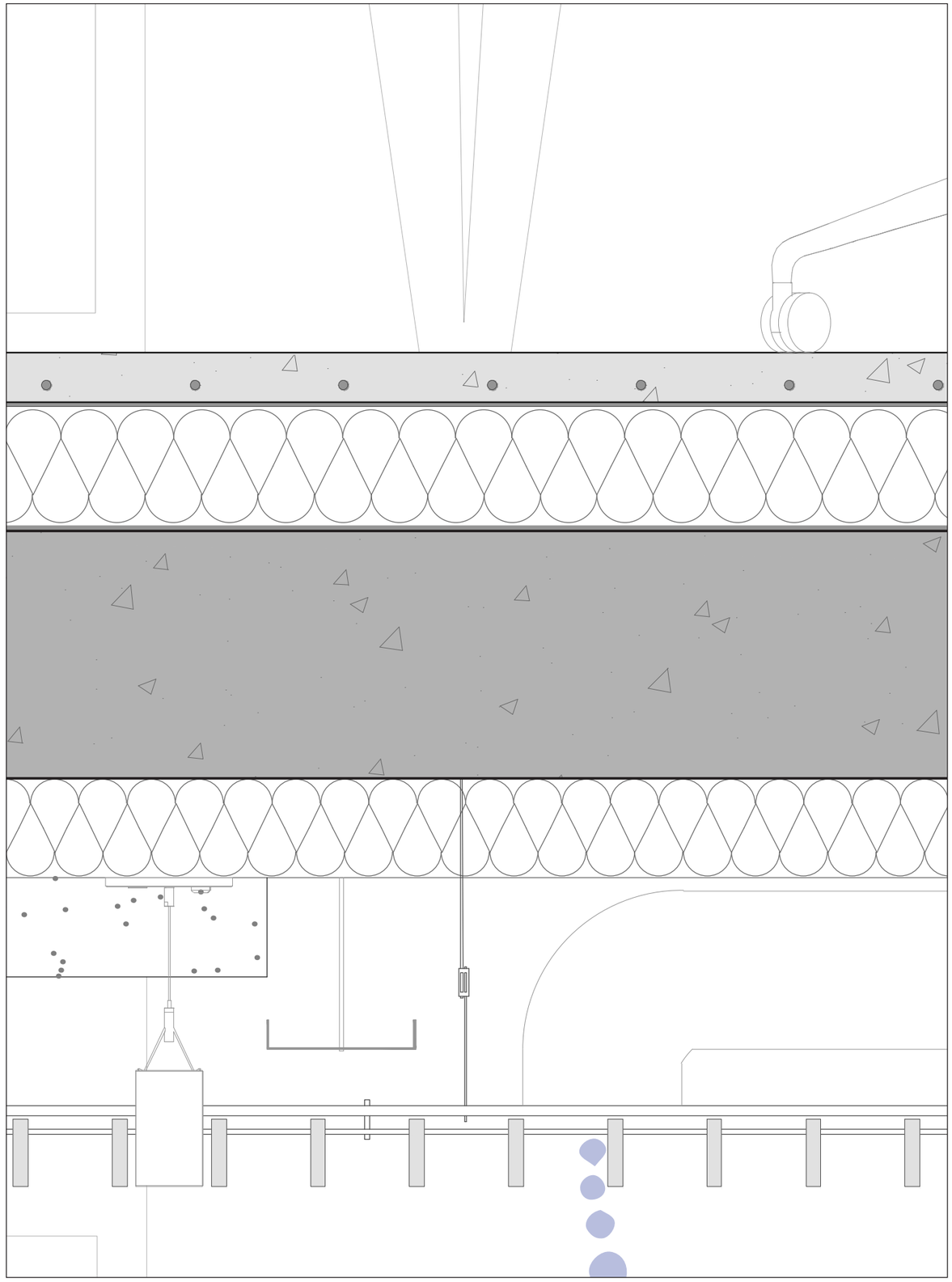
Details - Section, 1:5



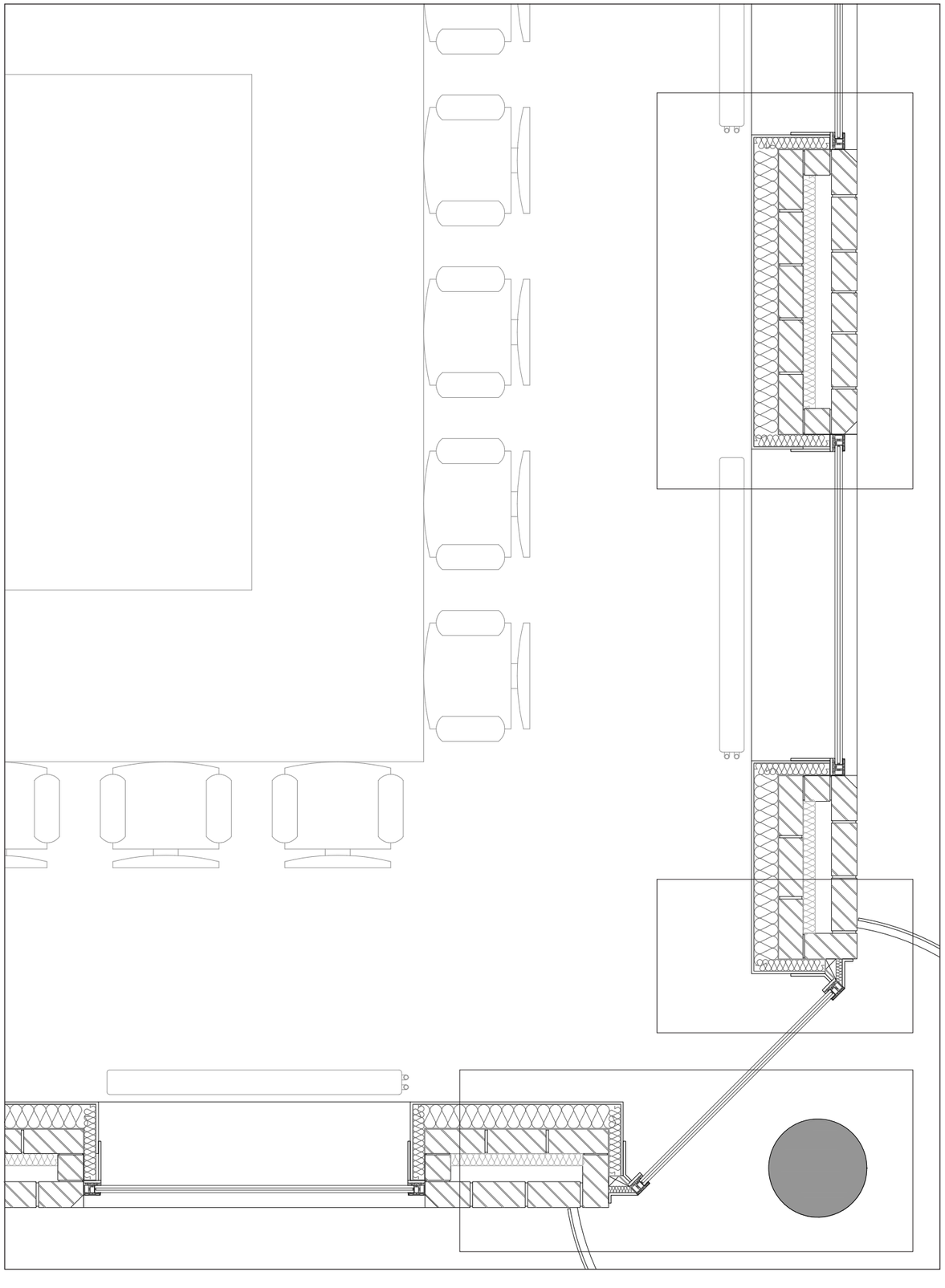


Details - Section, 1:5

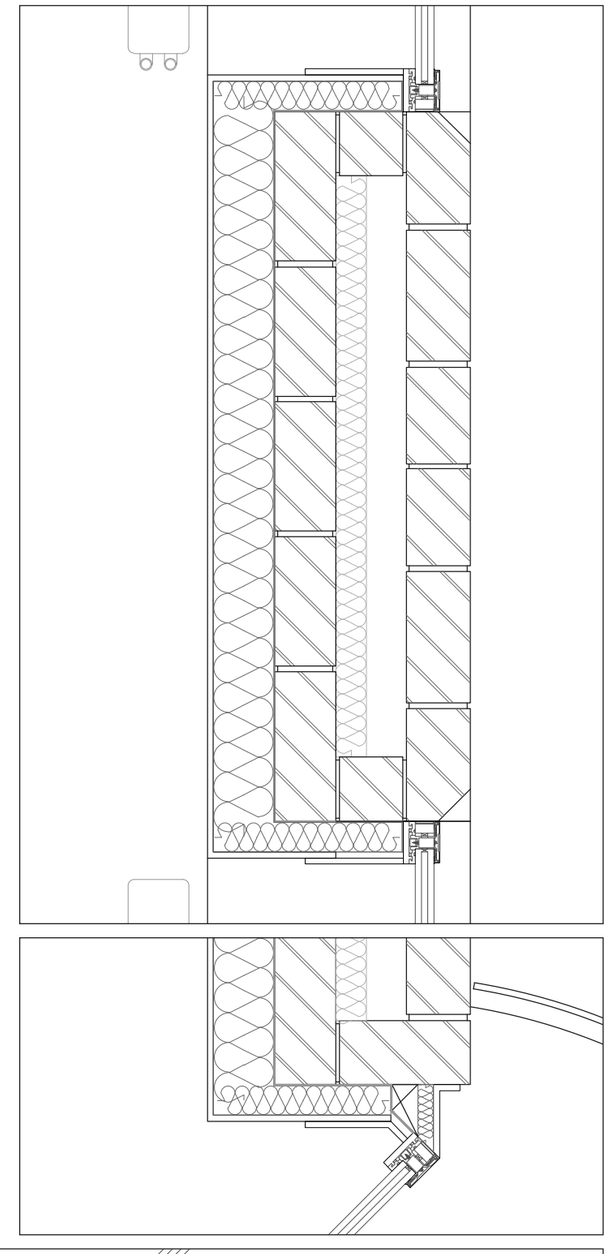


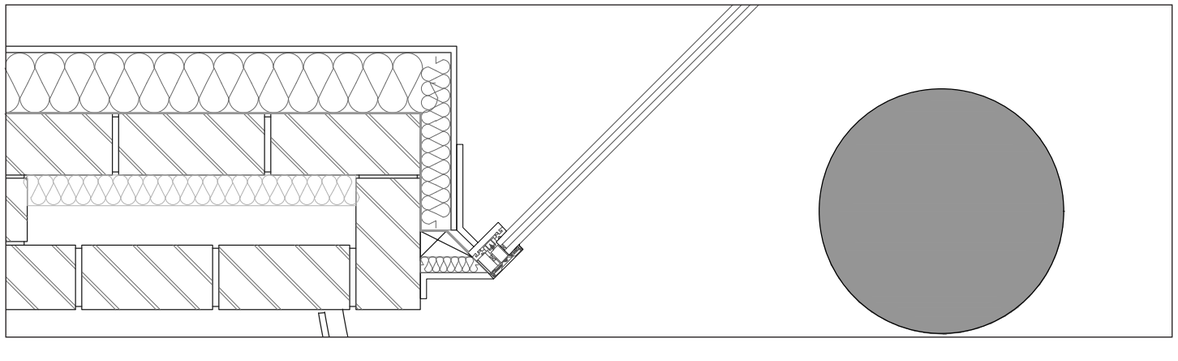


Details - Existing Plan, 1:20

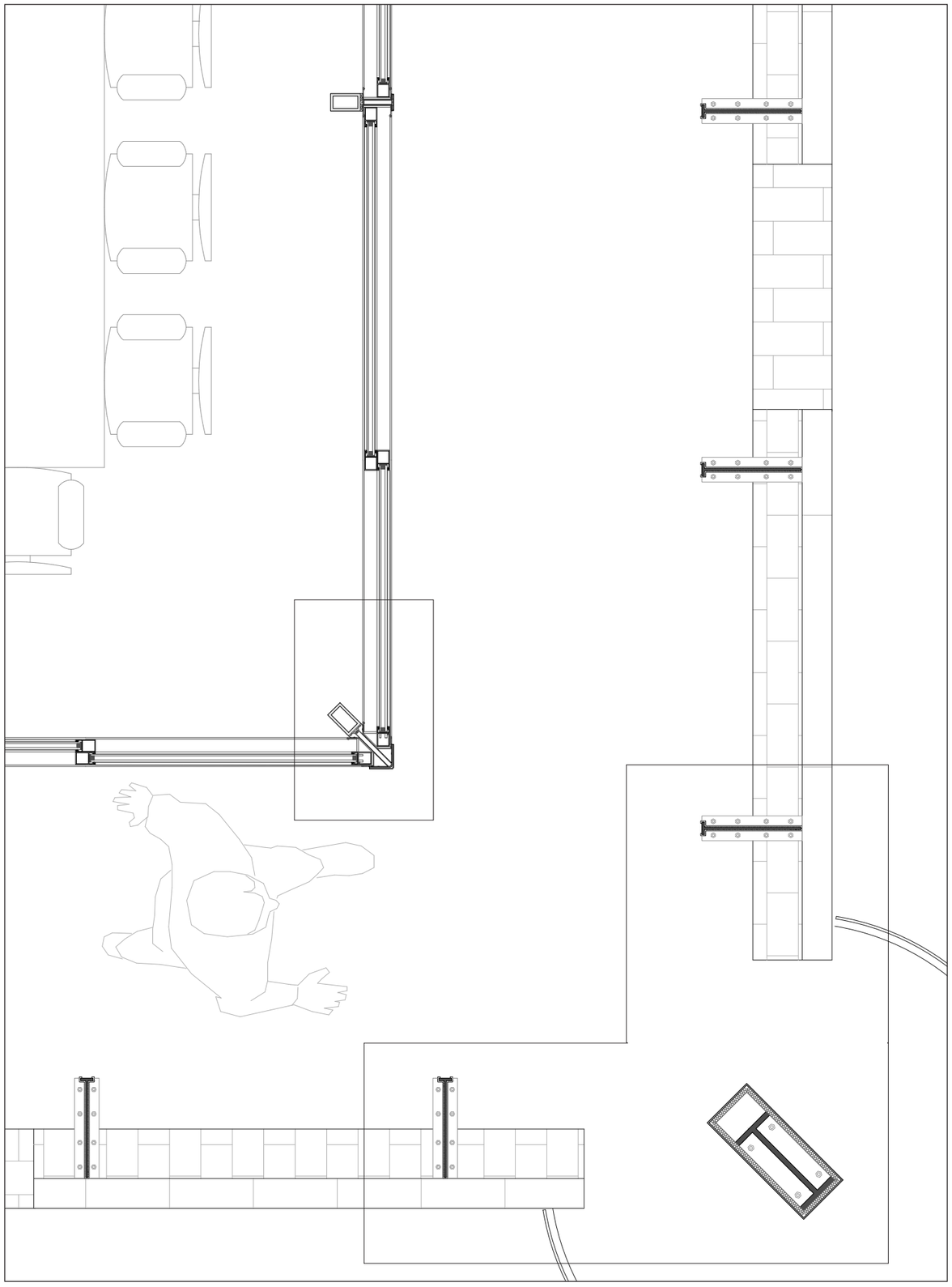


Details - Existing Plan, 1:10

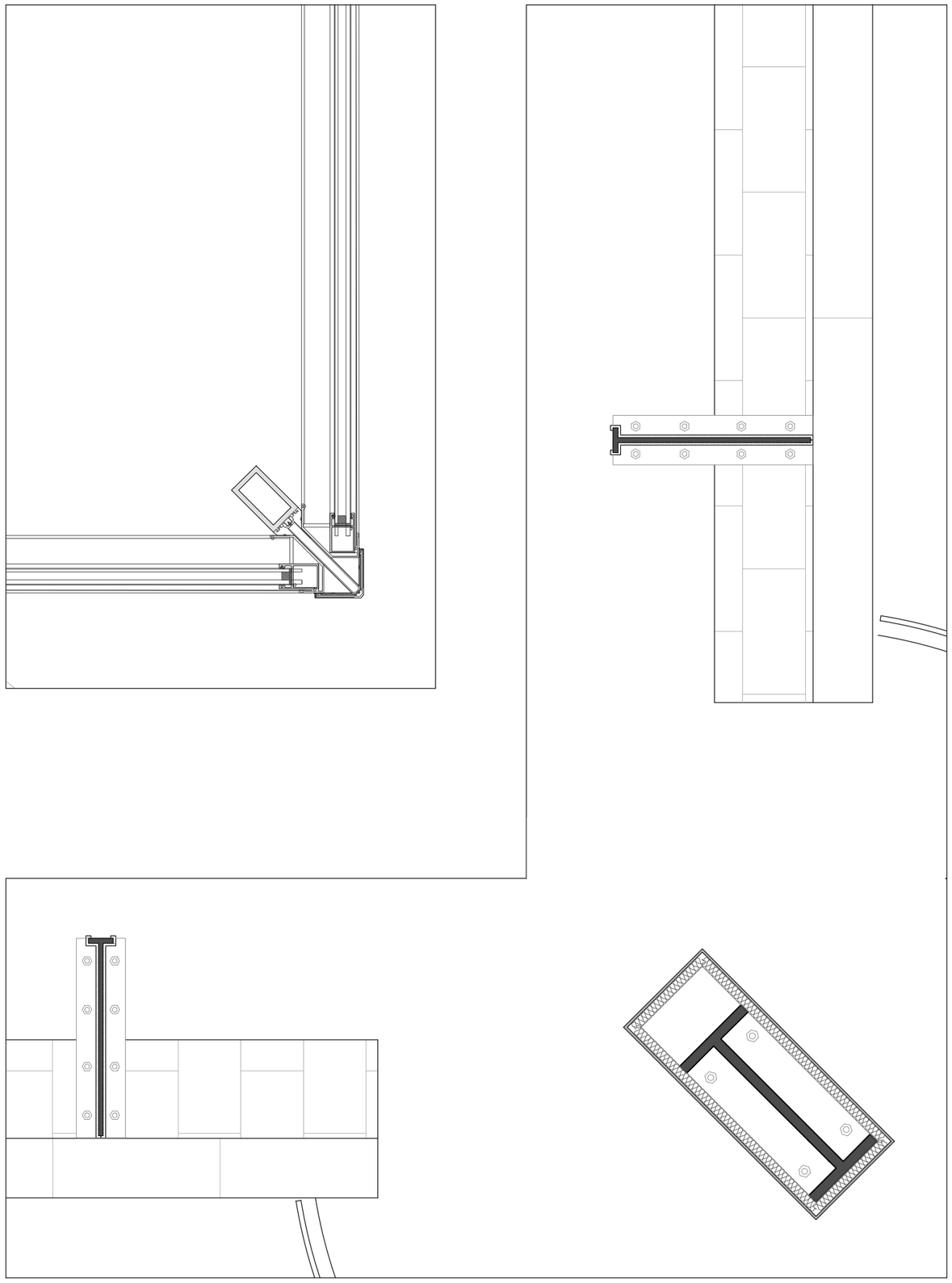




Details - Extension Plan, 1:20



Details - Extension Plan, 1:10



Physical Model