The Zone 5 Hub

2105707
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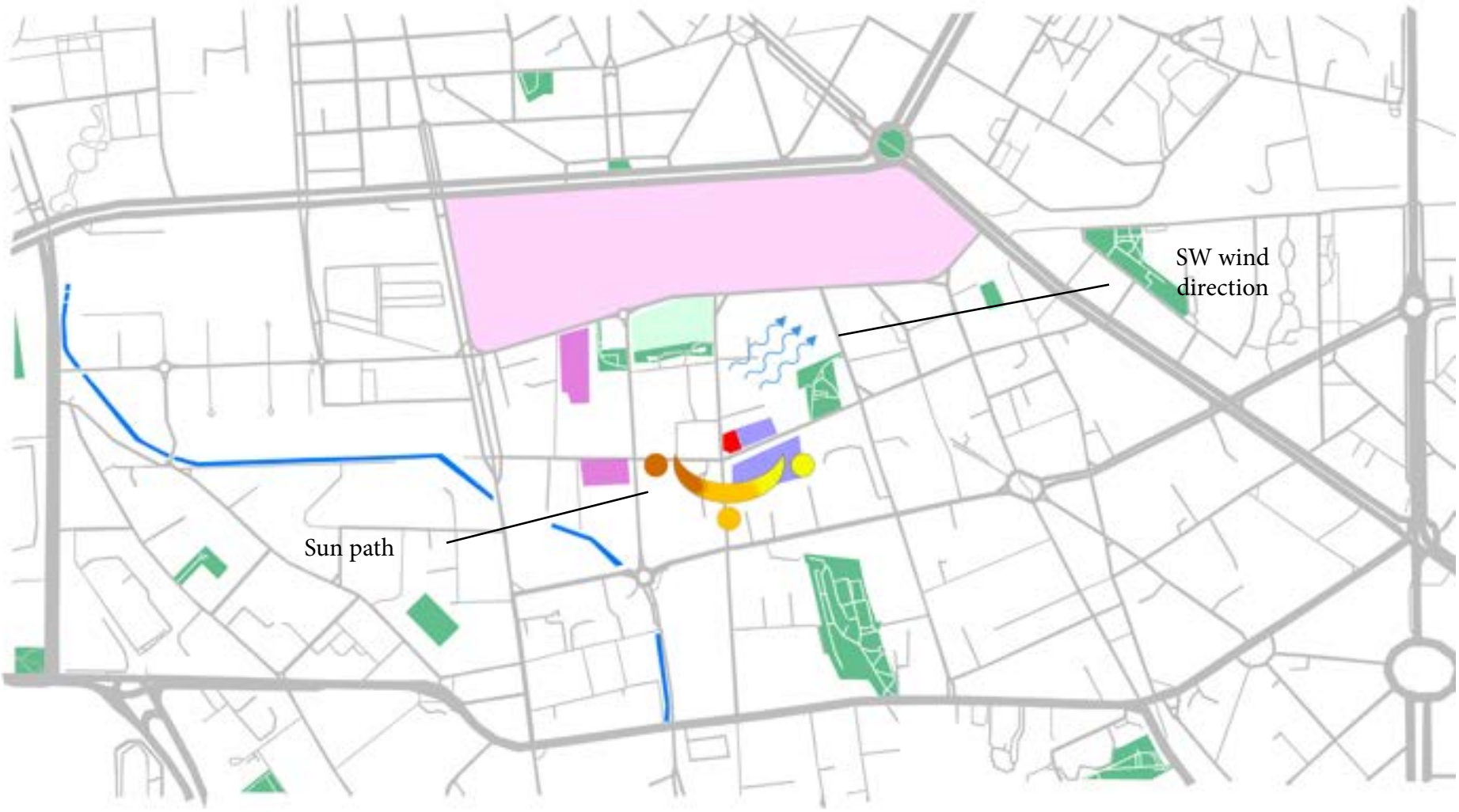
CARC6005: Project 06

The site is located in Zone 5 of Milan, Via Orobia, Via Via Balduccio da Pisa

The Site - Vigentino

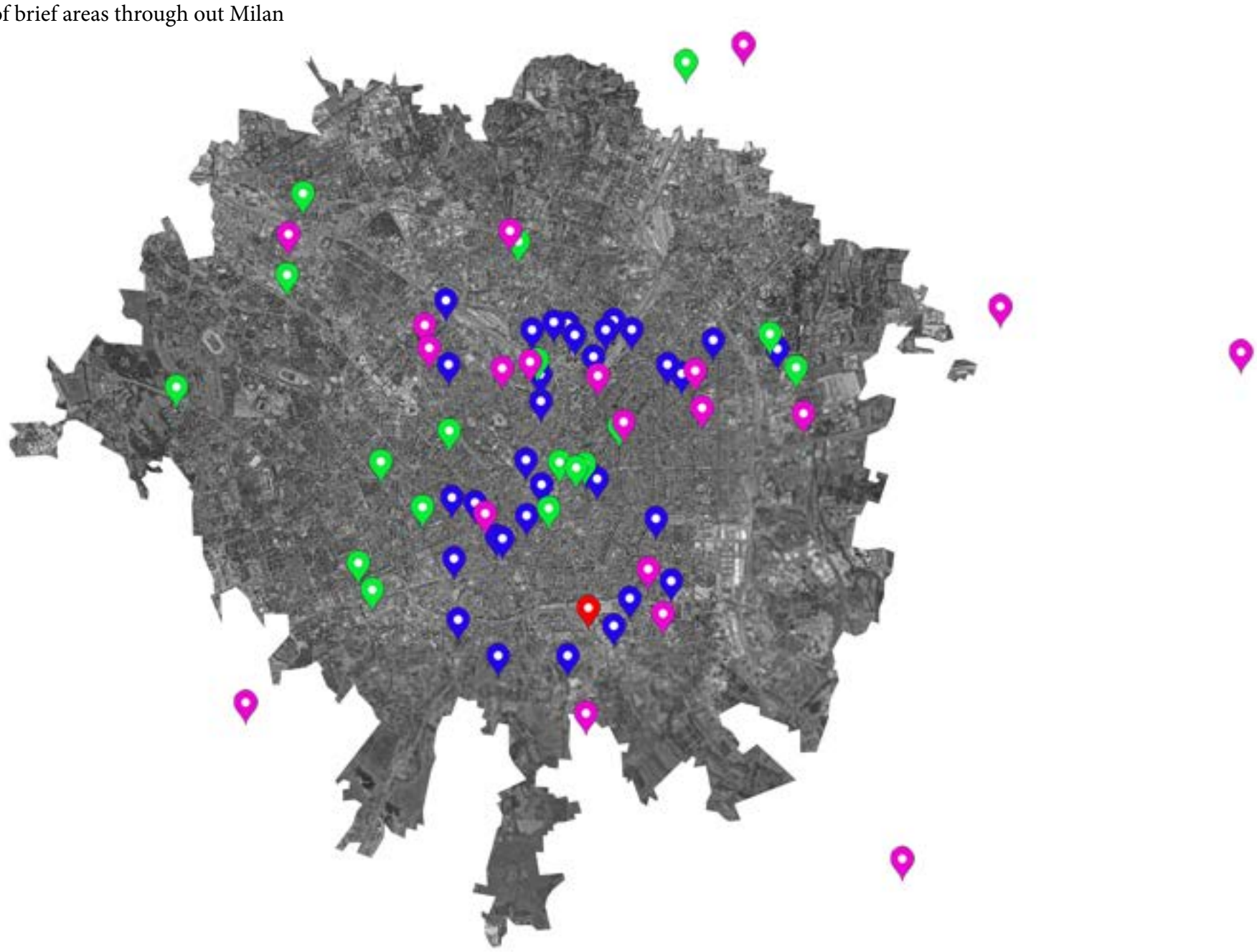
Mapping site conditions



Key

Site | Public Green | Roads | Prada Foundation | Future Olympic village | Currently being developed

Mapping of brief areas through out Milan



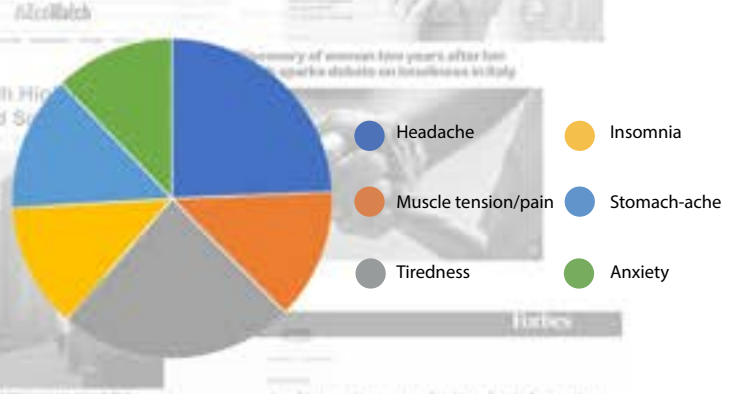
Key

Co Working | Community | Wellness | The Site

Site Mapping

Loneliness is perceived mismatch between the quality or quantity of social connections that a person has and what they like to have

85% of Italians suffer with stress related disorders - 45% having three or more of the bellow



The Government only allocates around 3% of healthcare to mental health services

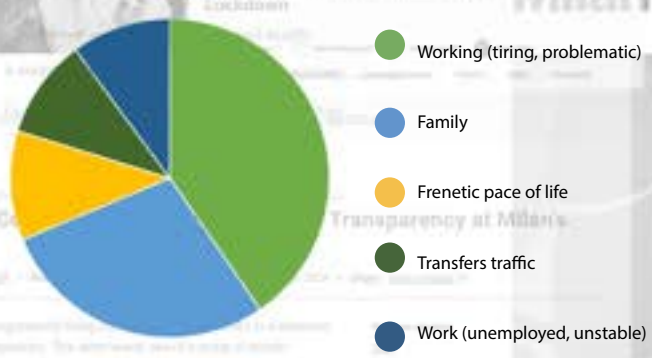
76% of 16-65 year old seeked care from a psychiatrist or psychologist

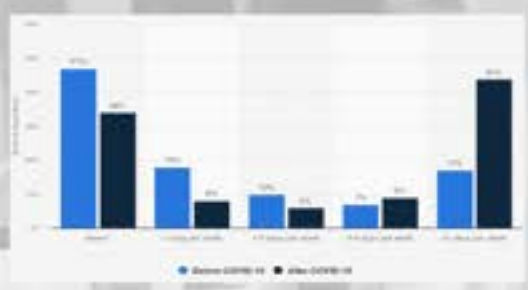
A mental health visit in Milan can range between 50 - 150 Euros per session

The average Italian salary is 35,500 Euros per year

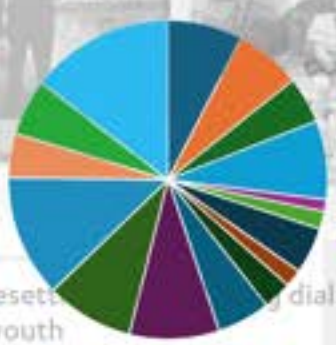
The average annual salary in Milan is around 39,000 Euros per year

Sources of stress in Milan





Wages Milan 2018 - 2022



Brief Research

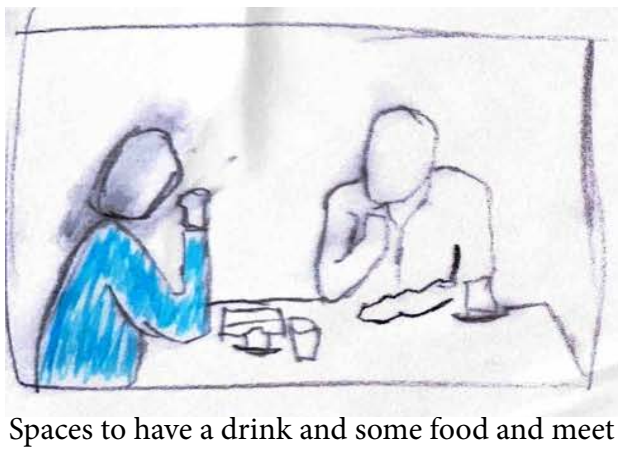
Co-Working - 50%
Desk + Chairs
Meeting Rooms/Tables
Toilets
Water Fountain
Showers?
Refreshments Station
Phone Booth
Paid Desks?
Library Space
Server room?
Printing Space
Break Spaces
Mail Room?

Wellness - 25%
Water Sounds
Carming Gardens
Greenery
Animal Friendly
Gravel
Safe Spaces

Community - 25%
Society/Club Rooms
Cafe/Bar
Events/Community Hall
Bike Store
Support Groups?

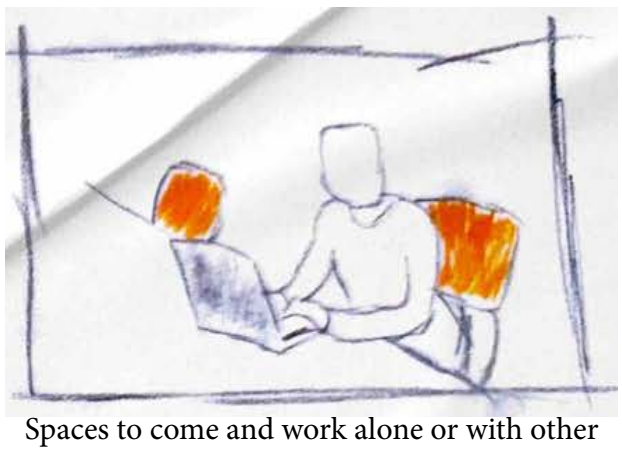
Following the statistics and news articles i found that there was over laps between within them all and that lead to my briefs main three topics Co-working, Wellness and Community. With the goal of my proposal to bring people together.

Spaces to relax talk to people and play some games



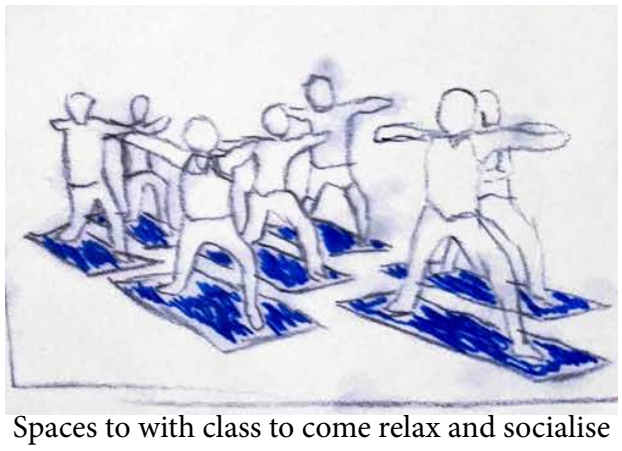
Spaces to have a drink and some food and meet up with friends

Spaces to hold meetings and work on group projects



Spaces to come and work alone or with other

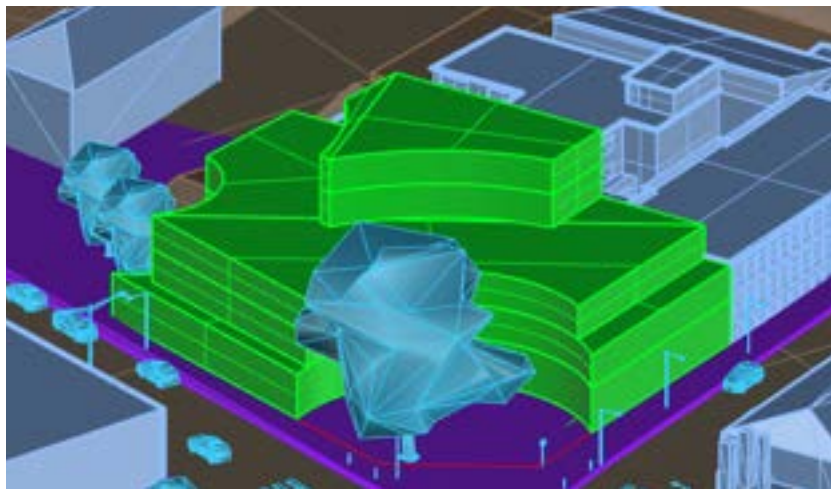
Spaces to surrounded by greenery to lose yourself in

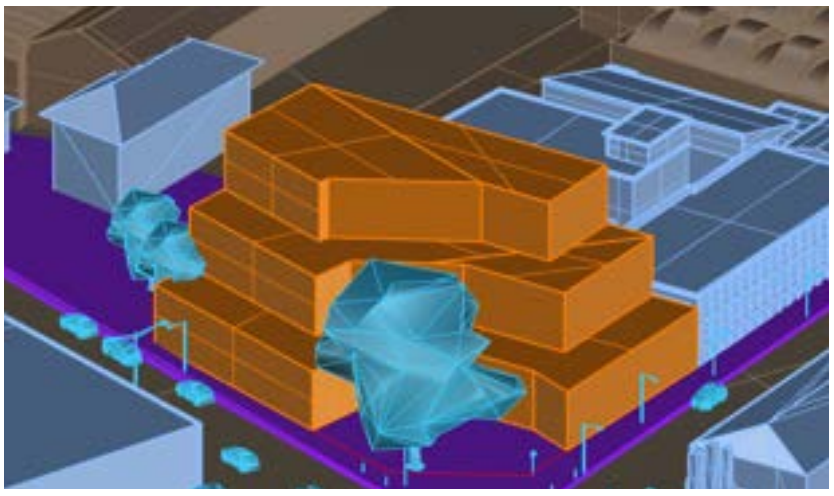


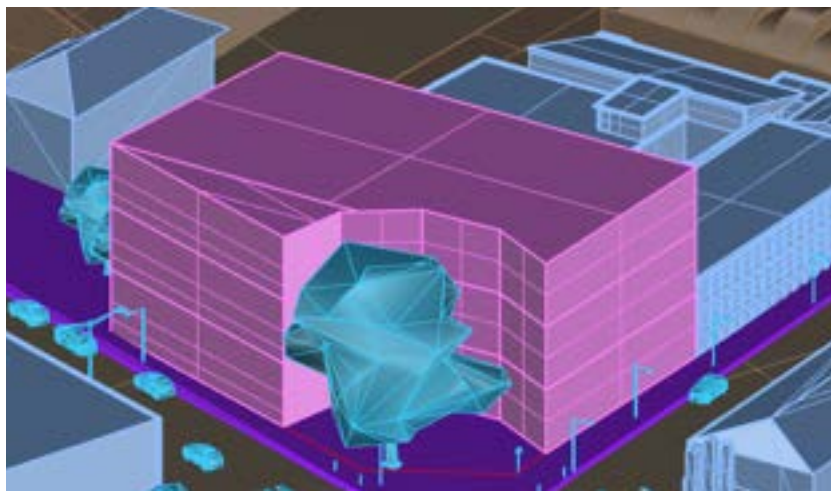
Spaces to with class to come relax and socialise in

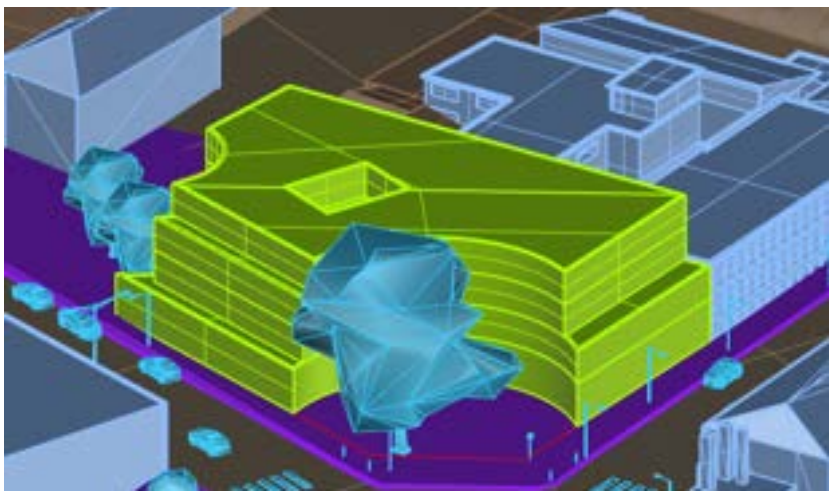
Narrative

Trail Massing

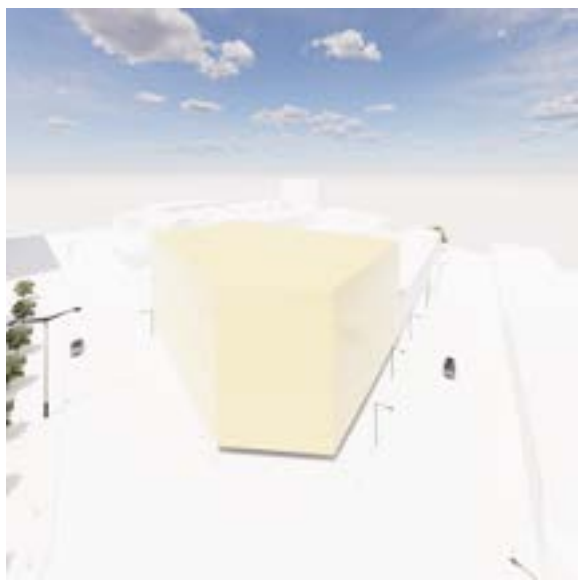








Final Massing



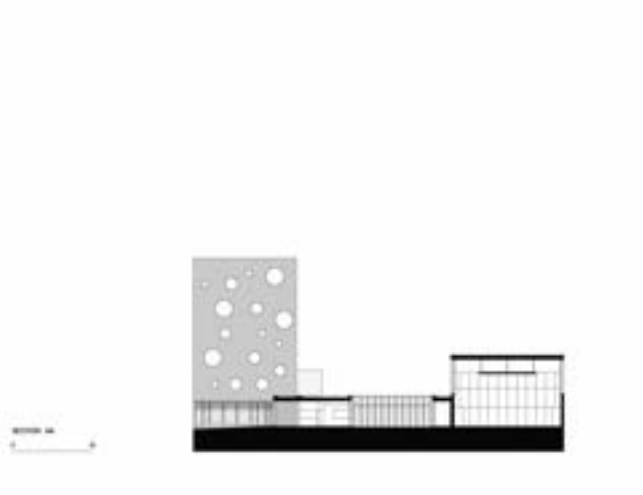
Initial extrusion of the sites entirety to height of exisitng tree

Curved cuts around trees the fall on site

Balconies set at neighbouring building heights

Massing

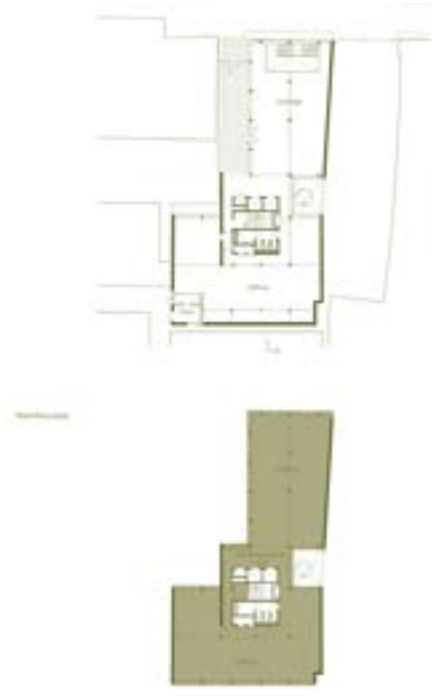
Sean O'Casey Community Centre - By O'Donell + Tuomey

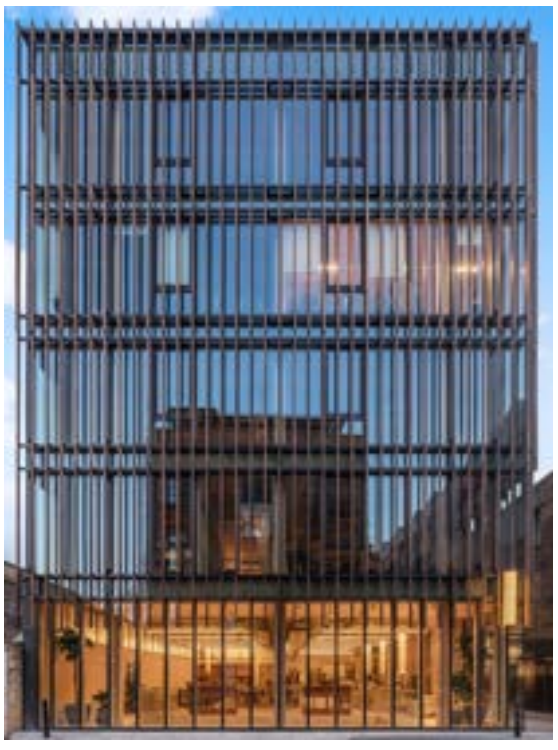


Shenzhen Skyscraper - MVRDV

Second Home Offices - Selgascano

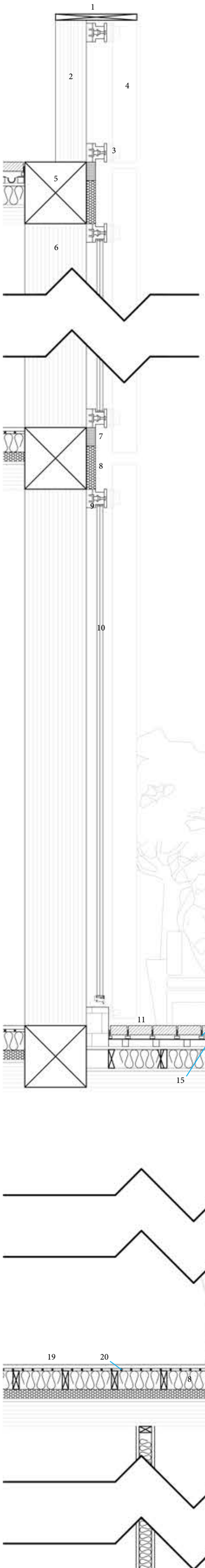
Black and White Building - Waugh Thistleton





Precedents

Aerial View



SCALE 1:20 (mm)

0 200 400 600 800 1000 1200 1400 1600 1800 2000

Key

1 - Balcony Finishing Piece
2 - CLT Panel
3 - Facade Fixing
4 - Weather Treated Timber Solar Shading
5 - LVL Beam Char Rated for min 1 Hour
6 - LVL Column Char Rated for min 1 Hour
7 - Facade Fire Break
8 - Insulation
9 - Glass Fixtures
10 - Triple Glazing
11 - Balcony Tile
12 - Roof Pedestals
13 - Fillet Piece
14 - Hidden Guttering
15 - Roof Membrane
16 - Weatherproof Board
17 - Timber Battens
18 - Timber Board
19 - Vinyl Flooring
20 - Under Floor Heating
21 - Concrete
22 - Hard Core
23 - DPM
24 - Stone Brick Work
25 - Pile Foundations

1-20 Detail

SCALE 1: 50 (mm)

0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000

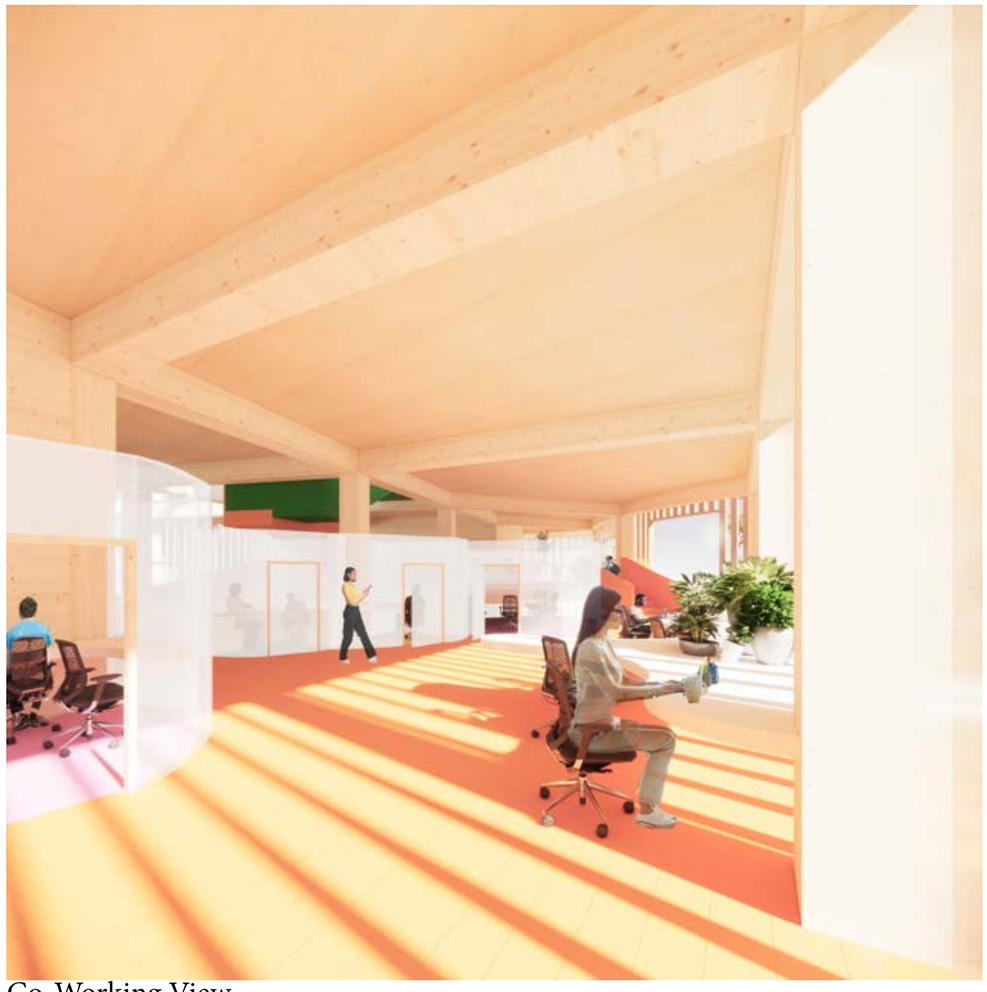
1-50 Section

Planted Balcony View

Entrance View

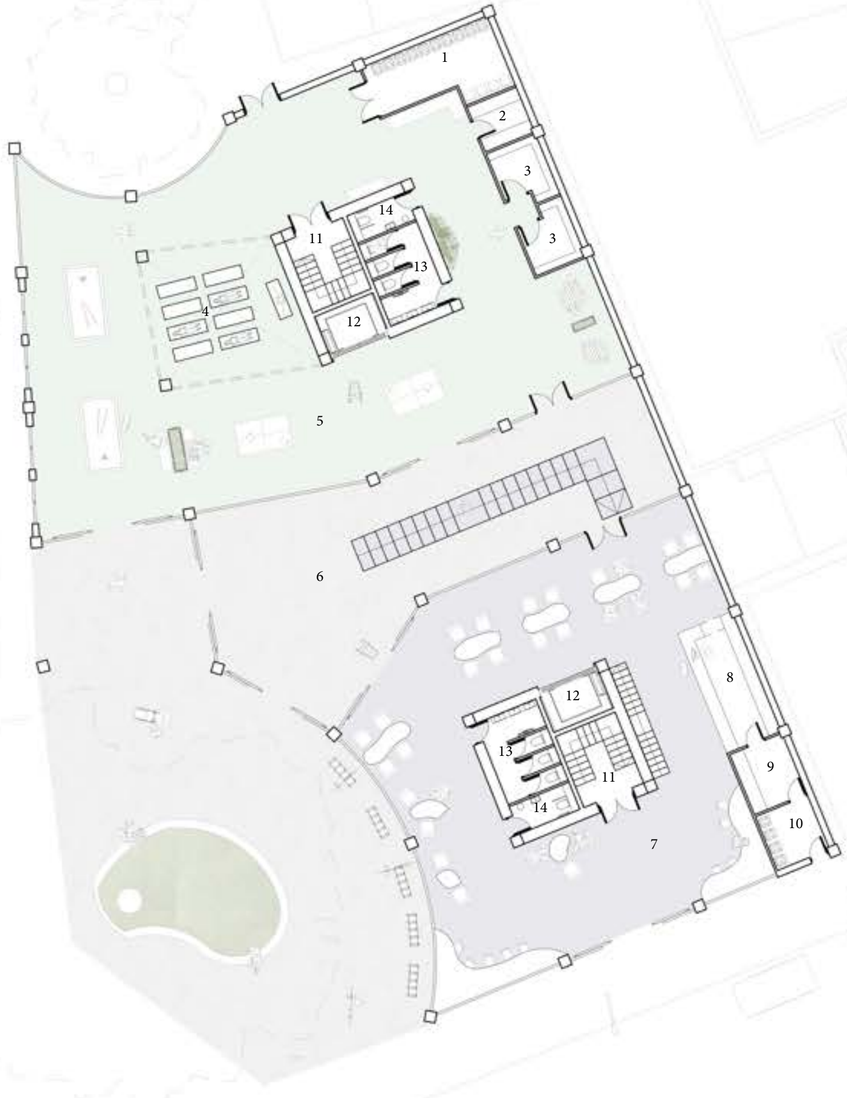
External Views

Atrium Stairs View



Co-Working View

Internal Views



Key

1 - Plant Room
2 - Server Room
3 - Changing Rooms
4 - Communal Hall
5 - Communal Games Space
6 - Atrium Space
7 - Cafe Space
8 - Cafe
9 - Cafe Prep Space
10 - Cafe Store
11 - Escape Stairs
12 - Elevator
13 - W/C
14 - Disabled Access W/C

SCALE 1:200 (mm)

0 2000 4000 6000 8000 10000 12000 14000 16000 18000 20000

1-200 Ground Floor

Key

1 - Library Space
2 - Class Room
3 - Planted Balcony
4 - Stair Seating
5 - Cafe Seating
6 - Escape Stairs
7 - Elevator
8 - W/C
9 - Disabled Access W/C

1-200 First Floor

SCALE 1:200 (mm)

0 2000 4000 6000 8000 10000 12000 14000 16000 18000 20000

Key

1 - Co-Working Space
2 - Solo Pod
3 - Small Pod
4 - Medium Pod
5 - Large Pod
6 - Printing Pod
7 - Chill Pod
8 - Balcony
9 - Escape Stairs
10 - Elevator
11 - W/C
12 - Disabled Access W/C

1-200 Second Floor

SCALE 1:200 (mm)

0 2000 4000 6000 8000 10000 12000 14000 16000 18000 20000

Key

1 - Co-Working Space
2 - Solo Pod
3 - Small Pod
4 - Medium Pod
5 - Large Pod
6 - Printing Pod
7 - Chill Pod
8 - Escape Stairs
9 - Elevator
10 - W/C
11 - Disabled Access W/C

1-200 Third Floor

SCALE 1:200 (mm)

0 2000 4000 6000 8000 10000 12000 14000 16000 18000 20000

Key

1 - Out Door seating
2 - Planted Benches
3 - Water Features
4 - Morning Class Space
5 - Evening Class Space
6- Escape Stairs
7 - Elevator
8 - W/C
9 - Disabled Access W/C

1-200 Roof Terrace

SCALE 1:200 (mm)

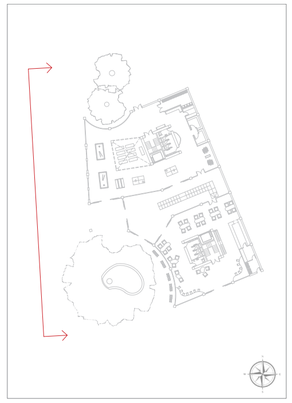
0 2000 4000 6000 8000 10000 12000 14000 16000 18000 20000

1-200 Roof Plan

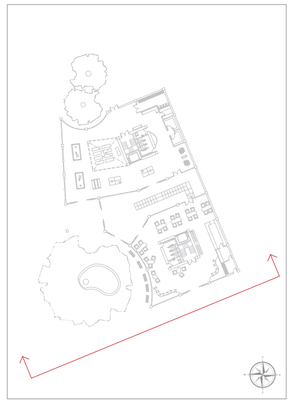
SCALE 1:200 (mm)

0 2000 4000 6000 8000 10000 12000 14000 16000 18000 20000

Communal Space Facing Elevation



Cafe Facing Elevation



1-200 Elevations

SCALE 1:200 (mm)

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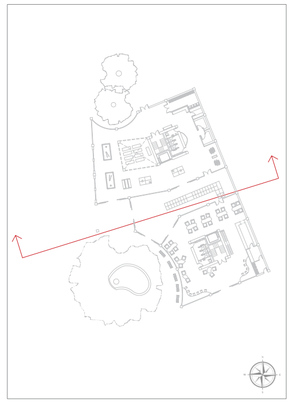
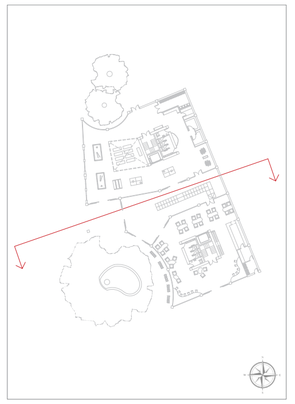
Section Through Atrium Facing Communal Space



Section Through Atrium Facing Cafe



SCALE 1:200 (mm)

0 2000 4000 6000 8000 10000 12000 14000 16000 18000 20000

1-200 Sections

Structural Strategy and Materials

Polycarbonate and Vinyl

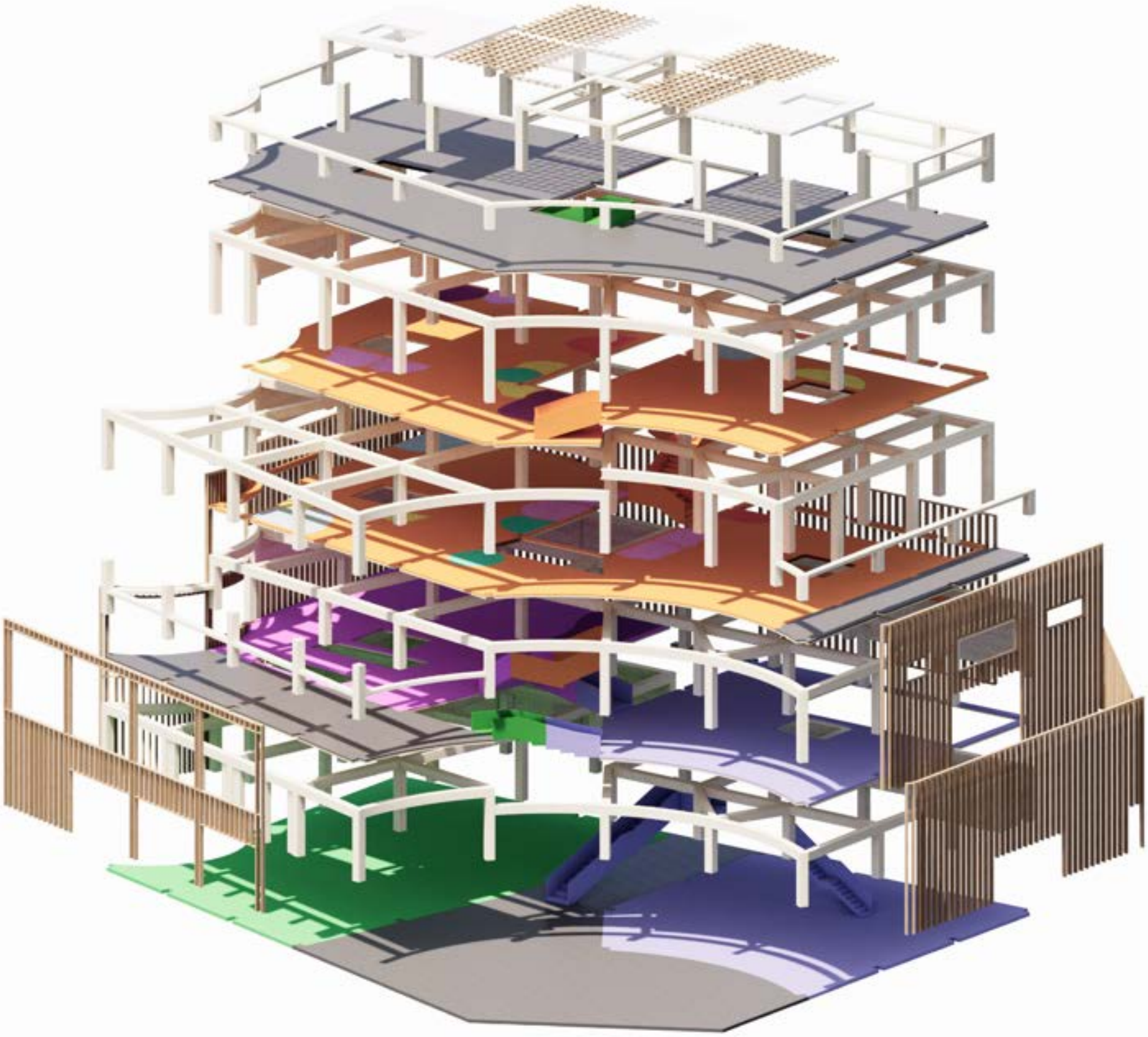
Polycarbonate is used to form various pods and separate them from other spaces creating little pods with some privacy from other areas.
A hard wearing vinyl is used for flooring throughout the internal spaces for its durability and its ability to take vibrant colours with are used to distinguish different spaces throughout, as well as its good performance with underfloor heating

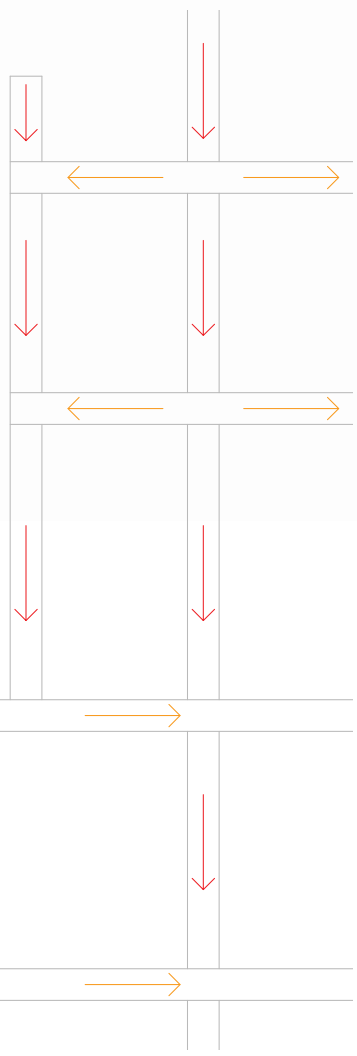
Sainless Steel and LVL and CLT

To create the Bridging stair cases across the atrium space stainless steel has been used coated with colour to reflect the spaces its bridging between, laminated veneer lubmer forms the primary structure of the building and cross-laminated timber is used over non glazed areas and also to form the two cores

Glass and Timber

Tripple glazed glass is used over the majority of the façades to bring in as much light as possible into the building as well as the high level of performance to retain heat inside, the light brought into the building is controlled by weather treated timber louvres stained to contrast the main LVL structure and a light inviting tone to them



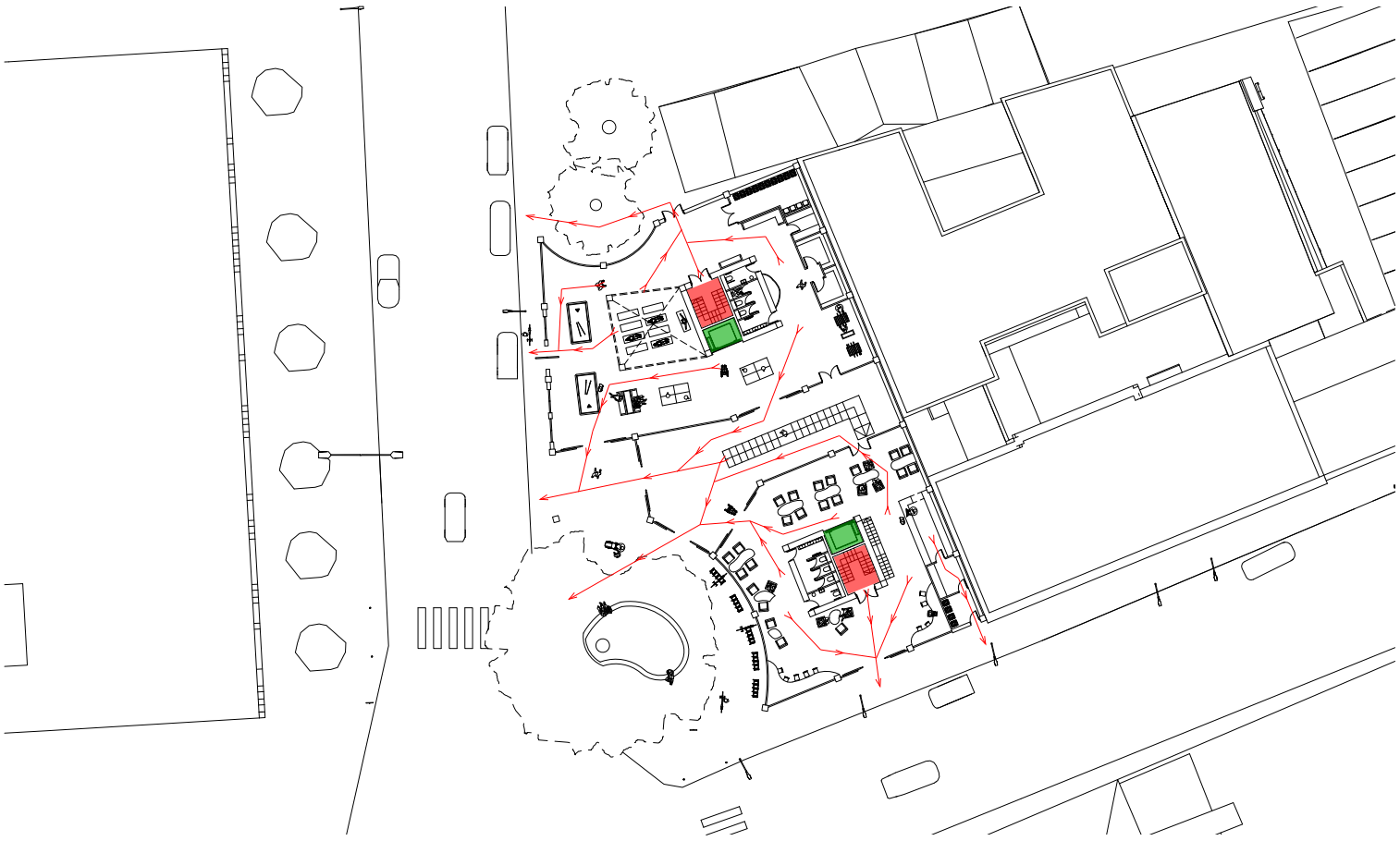


Loads Diagram

The loads of the building are typically from roof to foundations except where there is a stepped back balcony where the beam carries both the floor and the step back columns

Structural Axo

Ground Floor



First Floor

First Floor

Third Floor

Third Floor

Fire and Access

Embodied Carbon Calculation (Global Standard EN15978) (Stages A1-A5)

Material description	Density	Embodied carbon A+C KgCO2e/m3	Volume of material Used m3	TOTAL Embodied Carbon Materials
Aluminium (polyester powder coated)	2700	36484	0	0
Aluminium (virgin)	2700	31540	0	0
Aluminium (general)	2700	22814	0	0
Brass	8700	22306	0	0
Glavinised structural steel	7850	17276	30	518293
Aluminium (bar and rod)	2700	16636	0	0
Glass fibre Reinforced plastic (GFRP)	1500	14315	0	0
Glass fibre	2500	13327	0	0
Hot rolled structural steel	7850	11176	0	0
Intumescent paint for steel	50	5653	30	169575
PVC	1380	2814	0	0
Flat glass	2500	2823	180	508156
Clay Bricks	2400	1271	0	0
Viroc® Cement Bonded Particle Board	1350	948	0	0
Granite/Basalt/Marble	2600	541	0	0
Concrete 40 Mpa (unreinforced)	2400	495	0	0
Concrete Blocks 7.3MPa	2050	372	0	0
Bitumen Elastomer	1000	343	0	0
Light concrete (autoclaved aerated)	1000	338	0	0
Plasterboard	720	298	0	0
Limestone	2500	176	0	0
Natural Stone	2500	176	0	0
Sandstone	2400	171	0	0
Icyene (polyurethane)	30	142	0	0
Vapour barrier (polyethylene)	900	128	0	0
Fiber Felt	25	118	0	0
Rockwool	45	35	0	0
Thermacork Insulation	115	-133	150	-19935
Sustainably sourced MDF	700	-299	0	0
Laminated Bamboo	750	-349	0	0
Sustainably sourced plywood	620	-377	364	-137158
Sustainably sourced CLT (spruce)	470	-484	0	0
Sustainably sourced pine	420	-489	0	0
Sustainably sourced Douglas Fir	530	-549	0	0
Sustainably sourced Oak	770	-782	0	0

1,038,931	3,511	296
kgCO2e TOTAL	TOTAL m2	kgCO2e/m2 TOTAL

RIBA 2030 CLIMATE CHALLENGE
< 625 kgCO2e/m2

Only fill in the purple boxes (volume of material used and Total m2)

Carbon Calculation