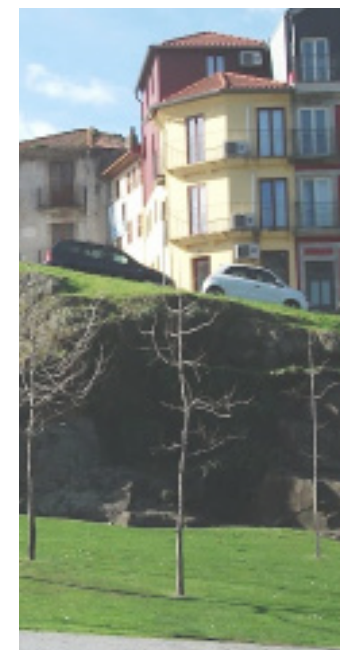


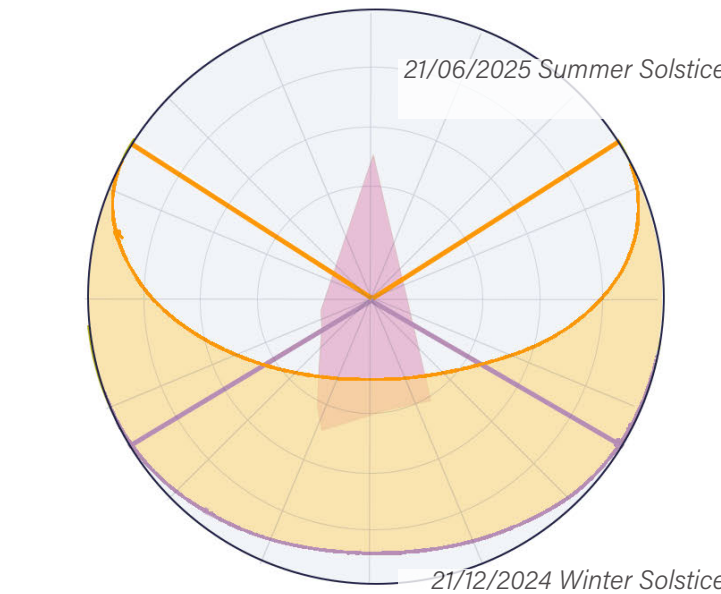
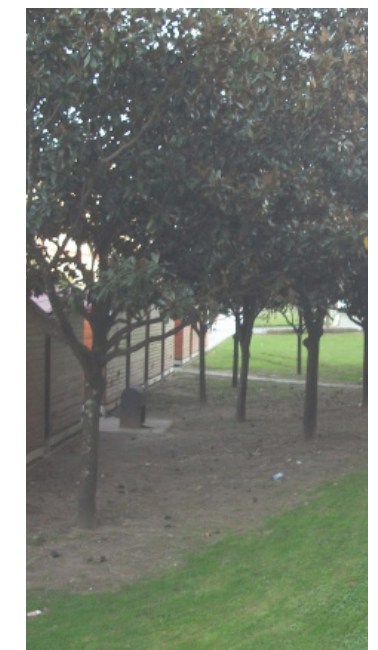


The site's longest sides are East and South facing, meaning it has good access to light in the mornings and midday, but is shaded by the topography and neighbouring buildings on the West face. Porto is one of the wettest major cities in Europe, with particularly wet and mild winters, but this location has very low flood risk because of its height above sea level. Buildings require heating and insulation in winter, however summer temperatures can reach relatively high meaning they also need cooling systems in place. Prevailing winds are from the Northwest and Southeast, but the site is quite protected by surrounding buildings.

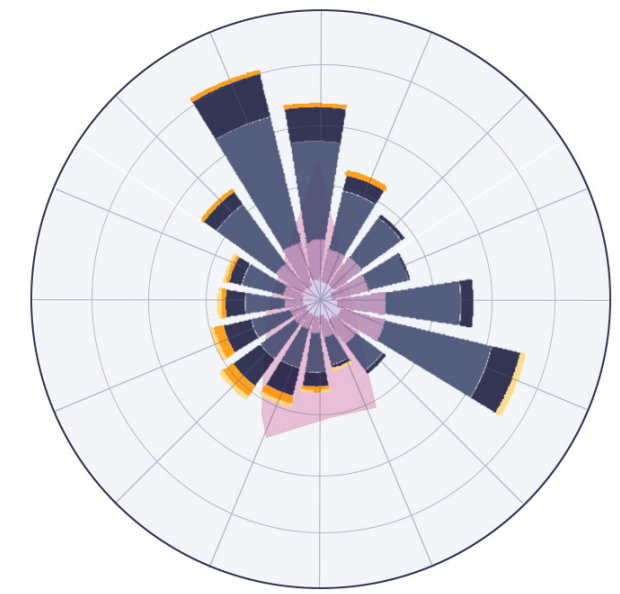
The Site is positioned along a major road with a bus stop immediately outside, creating lots of noise and air pollution. To the north of the site sits Sao Bento Train Station, another historic building that brings further visitors and pollution. The air quality index of this area is 52, which is moderate. Health recommendations for this level include keeping windows closed, and for sensitive groups possibly reducing outdoor exercise, using air purifiers or wearing a mask outside.



Vegetation on Site

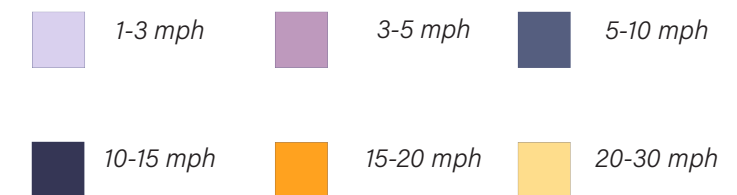


Sun Path



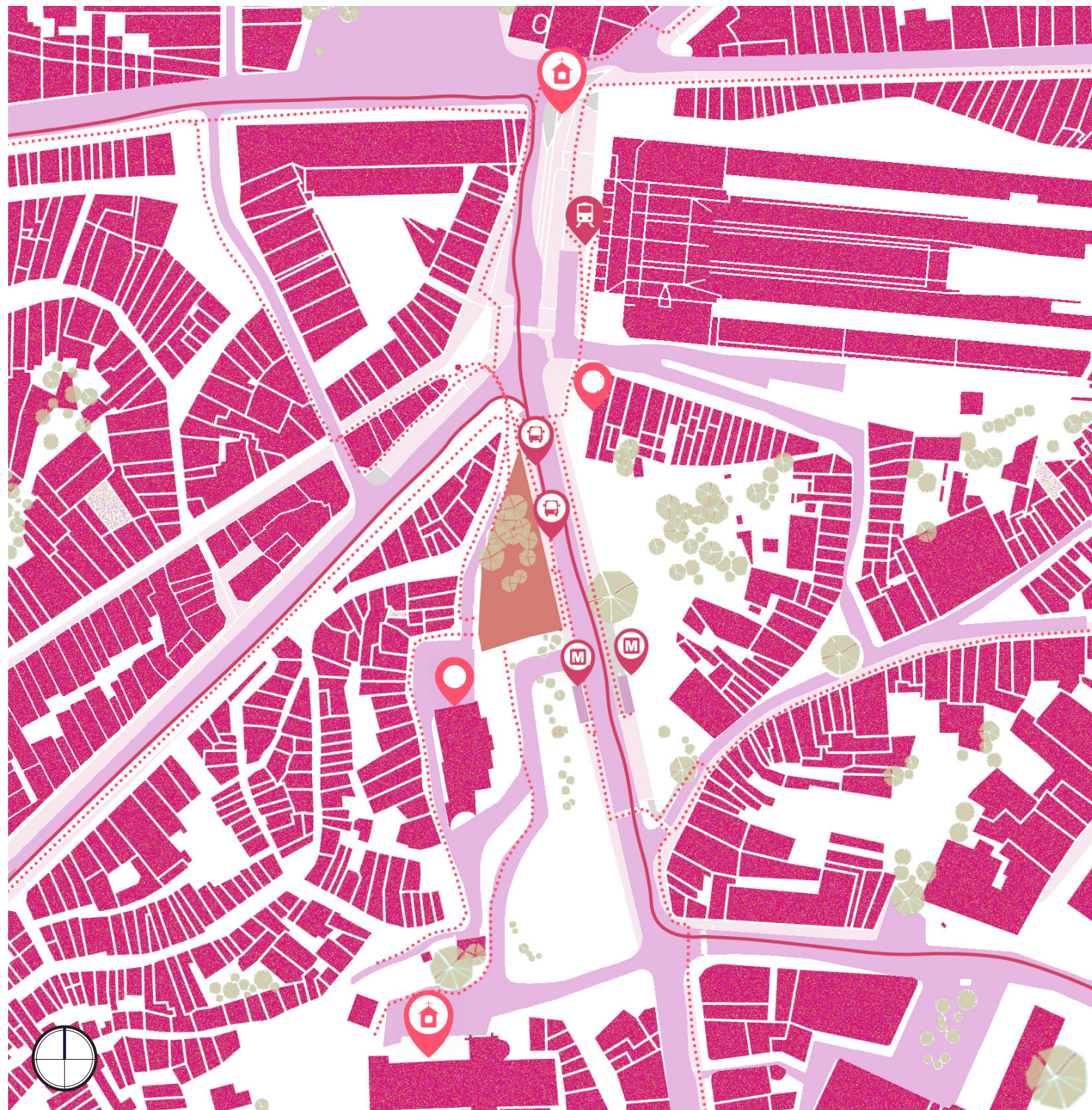
Wind direction + speed

There is pre-existing green space on site, so my programme intends to preserve a portion of public green space and the existing trees. The weather in Porto means the building must be well shaded and insulated, and can collect rainwater to slow surface run-off.



CLIMATIC SITE ANALYSIS

SUN, WIND, POLLUTION + BIODIVERSITY



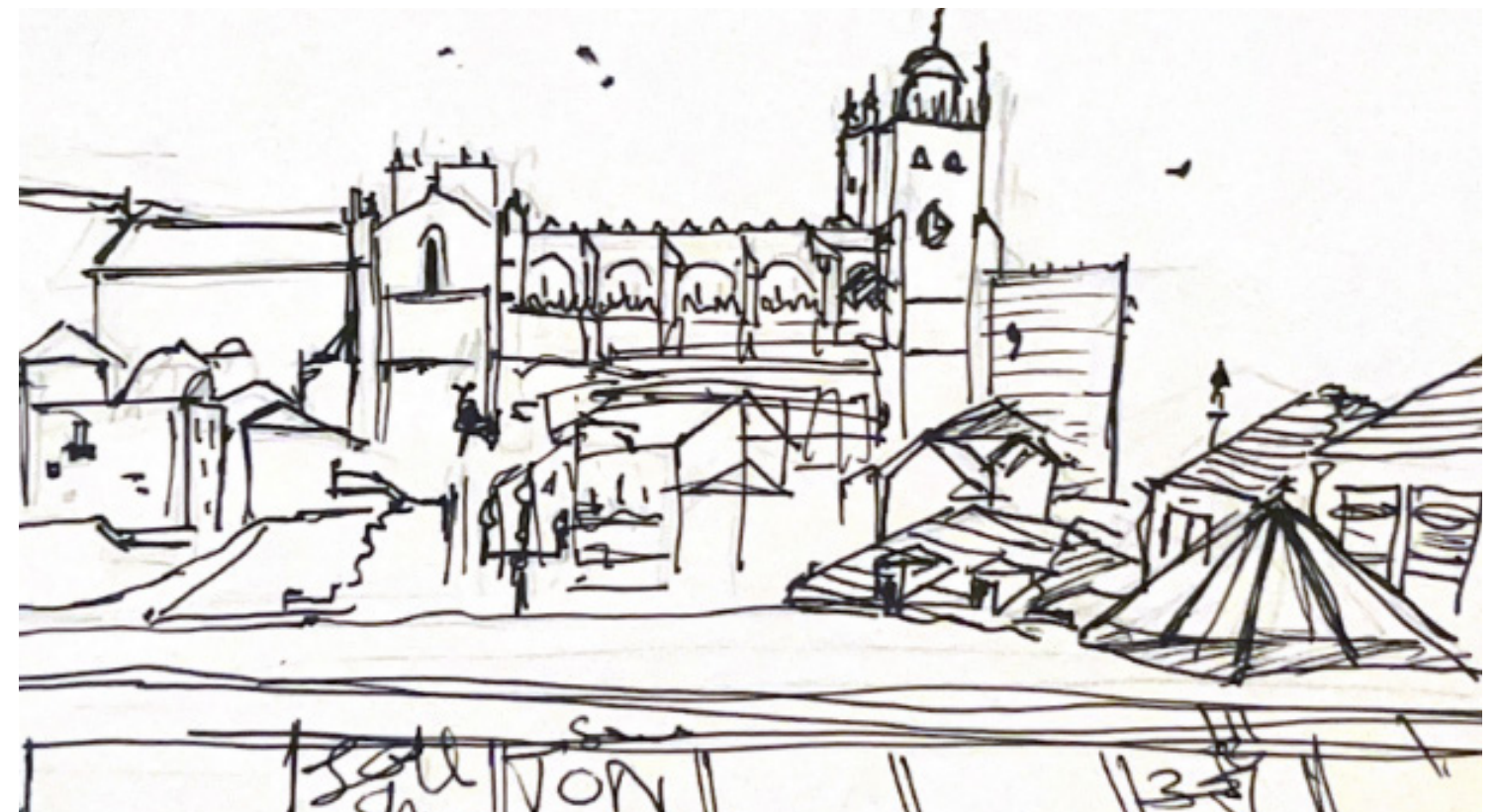
Site views, public transport + pedestrian access

20m 40m 100m 1:2000

The site on Dom Afonso Henriques is a prime position in the Ribeira district of Porto, one of the oldest neighbourhoods and a UNESCO World Heritage site. This is a busy intersection in Porto's historic centre, with 3.7 million people visiting the adjacent Porto Cathedral in 2019. It has views of Porto Cathedral, the São Bento Train Station and the Igreja de Santo António dos Congregados church.

It is very accessible with great transport links: the nearby train station, bus stops and tramline as well as the Sao Bento underground metro station with a light rail line beneath the site.

The surrounding area is a tourist hotspot, meaning the site has more chances for engagement and people to gather for performances and demonstrations.



Porto Cathedral



Site photo



Site view: São Bento Station and Church

SITE ADJACENCY ANALYSIS

VIEWS + ACCESS

A collage of protest signs and a person shouting into a megaphone. The background is a blurred image of a protest. Overlaid on this are several yellow and white rectangular boxes containing text. In the foreground, there are three cardboard signs: one on the left that says 'MY RENT IS HIGHER THAN SNOOP DOG', one in the center that says 'TOURIST GO HOME', and one on the right that says 'EAT YOUR LAND LORD'. A woman is visible in the center-right, shouting into a blue megaphone. Other signs in the background include 'Justa de un enton pegos' and 'JUSTA'.

**1. FOSTER CREATIVITY
THAT MOBILISES
SOCIAL CHANGE**

**3. CREATE A
CENTRE FOR
COLLABORATION
OF DIVERSE
VOICES**

**6. RECLAIM +
DISRUPT
PUBLIC
SPACE**

**7. ALL PRACTICES
MUST BE
ENVIRONMENTALLY
CONSCIOUS**

**2. MAKE +
TAKE SPACE
FOR
DISCUSSION
+ DEBATE**

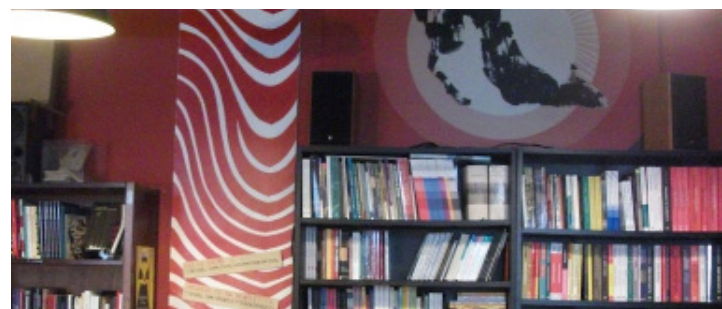
**4.
EMPOWER
LOCALS AND
GO GLOBAL**

**5. INCLUSIVE,
INTERSECTIONAL
AND ACCESSIBLE
FOR ALL**

**8. HONOUR +
RE-IMAGINE
PORTO'S
IDENTITY**



Gato Vadio



Casa da Horta



Gato Vadio is a coffee house, bar, library and book store run by a non-profit association of volunteers. It is a space for artists, anti-racism activists, anarchists, feminist collectives, poets, musicians and “people from all places” (Vidal, 2019). They host a variety of events including thematic cinema and poetry nights, intimate concerts and exhibitions. Porto’s coffee houses have a history of affiliation with art movements and culture, but due to gentrification caused by over-tourism and ‘floating’ city users, organisations like Gato Vadio are being evicted from the city. When I visited, one of the members told me how their previous location (that they were pushed out of by rising rents) had more space to accommodate a diversity of creative people, who could stay there for free in exchange for the sharing of their art, music or writing.

Another non-profit in Porto is Casa da Horta, a cultural and environmental association that run activities to encourage critical thinking and alternatives to unethical consumerism. They have an eco-shop, a shop for money-free exchange of goods, a library and vegan kitchen. Activities they run include protest actions, seminars, debates, film screenings, benefit dinners, free portuguese language courses, jam sessions, art exhibitions, soup kitchens and educational projects for young and elderly people. Their cultural, art and ecology programmes aim to support local and international artists, raise awareness for social and environmental issues, and promote cultural and idea exchange and re/upcycling. (CASA DA HORTA, s.d)

These cultural spaces are often modest but homely, and I want to provide larger spaces for these range of activities without losing the comforting feel. The programmed spaces will be named after places in the home, for example the 'garage' and 'playroom'. The centre is providing spaces for locals in Porto being pushed out of their homes and will create an anchor to the city.

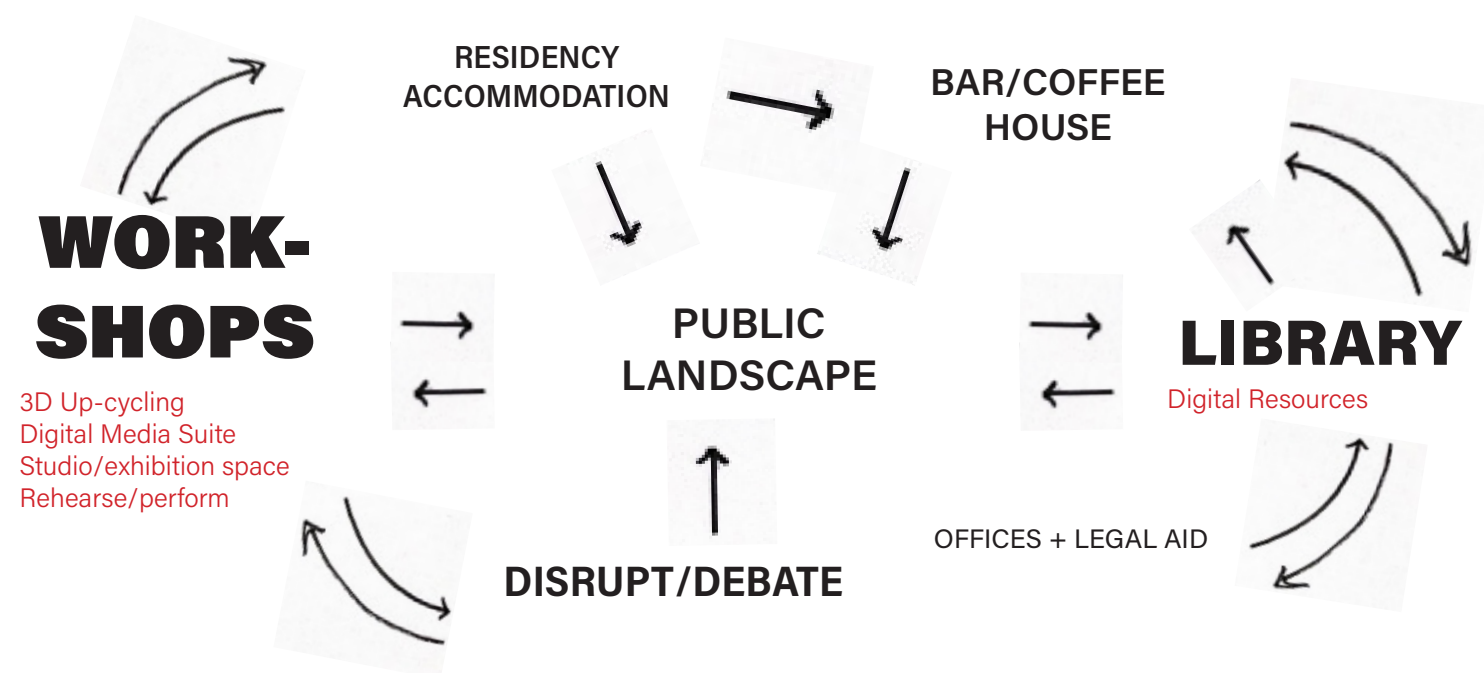
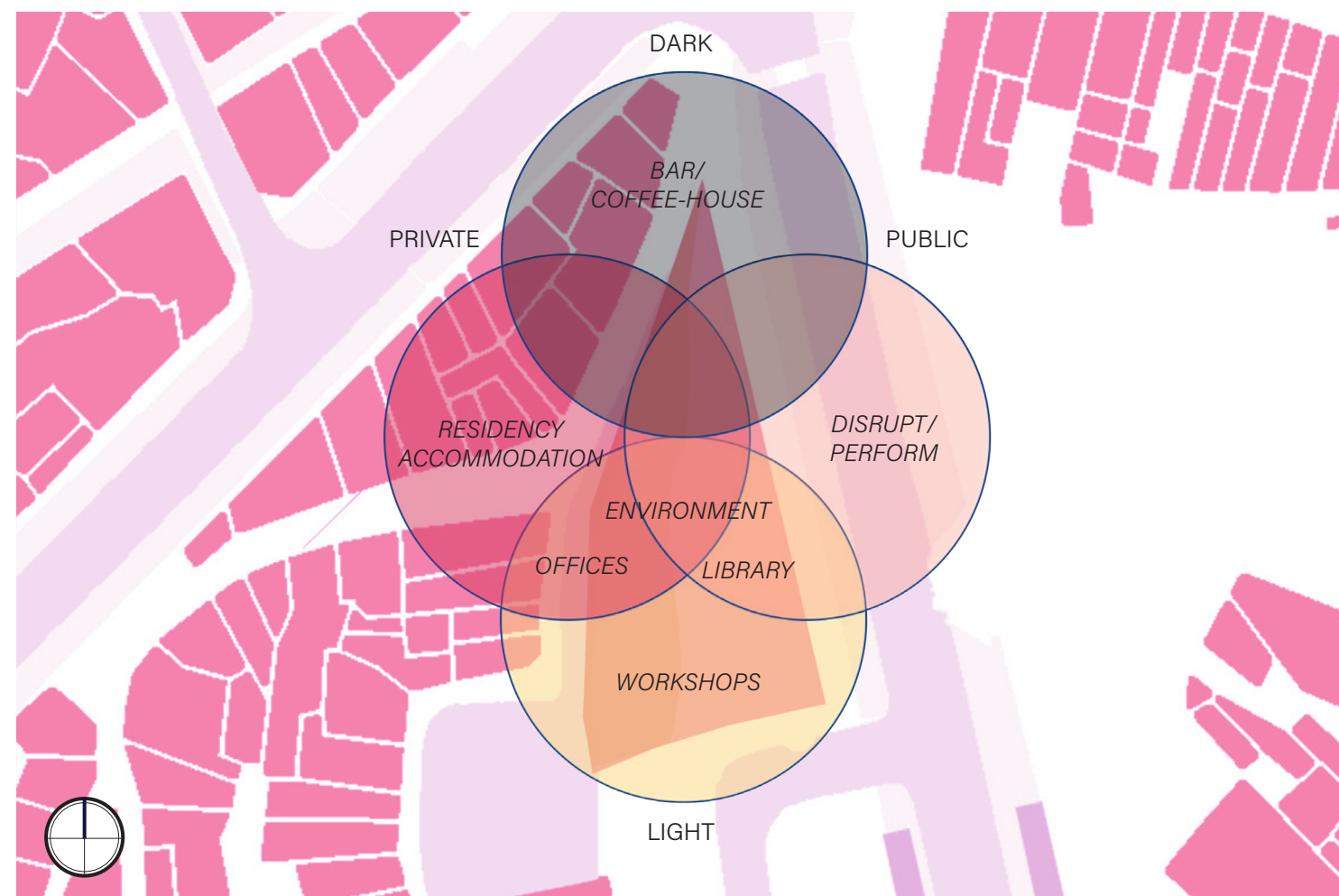


Creative activism in Porto

"Artistic Activism is a dynamic practice combining the creative power of the arts to move us emotionally with the strategic planning of activism necessary to bring about social change."

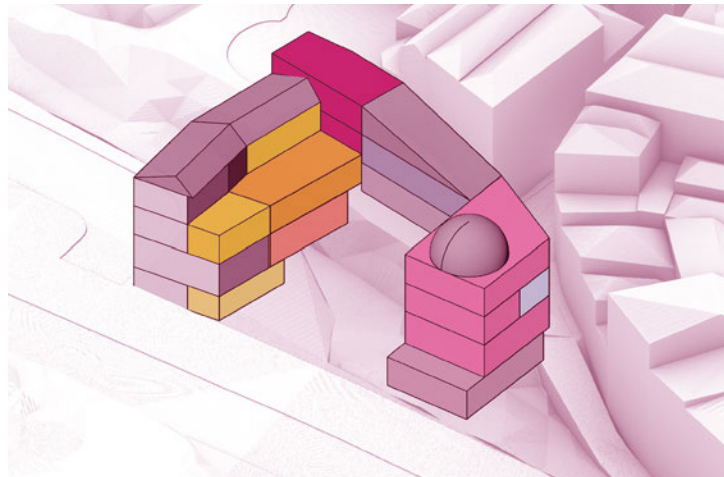
(Duncombe and Lambert, 2018)

Sparked by the 'Carnation Revolution' of 1974, a military coup that ended the longest conservative dictatorship in Europe, there is a tradition of artistic collectivism among Portuguese artists, collaborating for social and political actions. In recent decades, there has been a significant surge in artist collectives in the city of Porto, with this cultural organising spreading among the young artists at the Faculty of Fine Arts (FBAUP). Historically, arts and culture institutions were mainly centred around Lisbon, and even though Porto houses the first Portuguese contemporary museum, Serralves, these spaces are inaccessible to emerging artists. Along with the lack of a 'vibrant cultural scene' in the city, this led to a movement of artists taking efforts into their own collective hands, creating self-organised, democratic practices of participation. (Ermida, 2024)

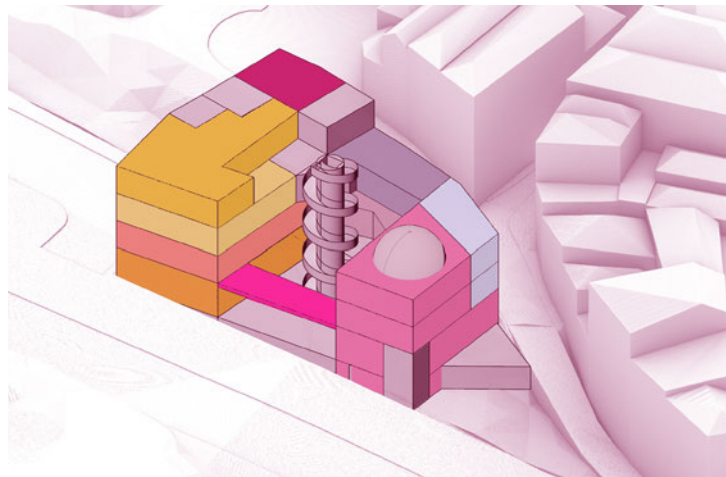


BRIEF RESEARCH + SPATIAL ADJACENCIES

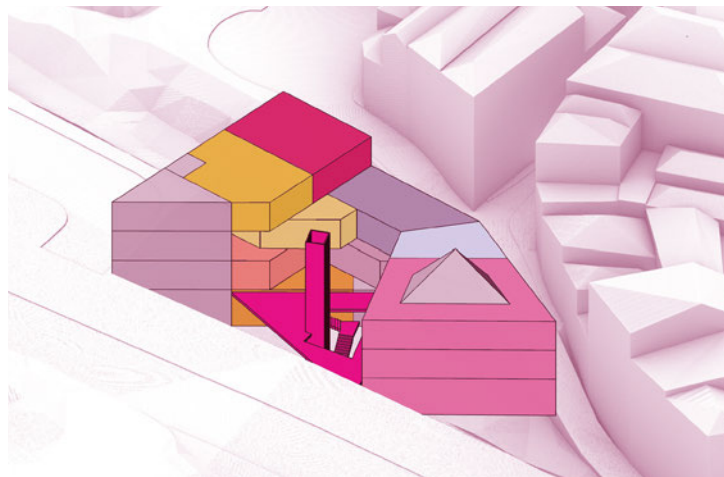
ARTISTIC ACTIVISM IN PORTO



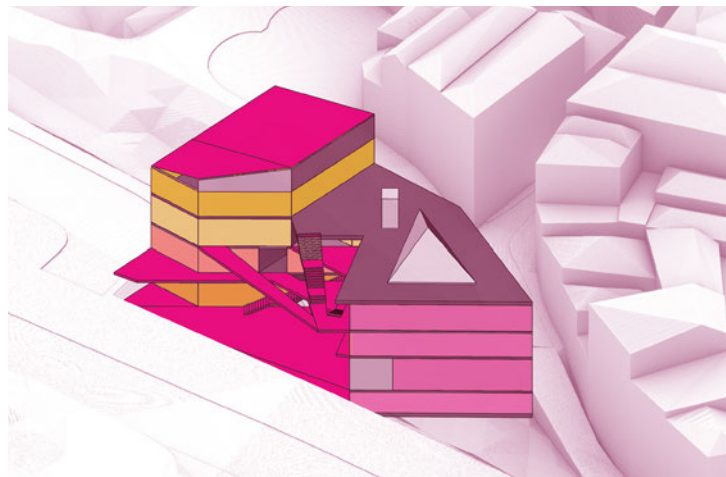
I wanted a design with a central courtyard for the feature circulation and demonstration platform. I stacked the programmes and separated the functions based on the most public, private, light and dark parts of the site.



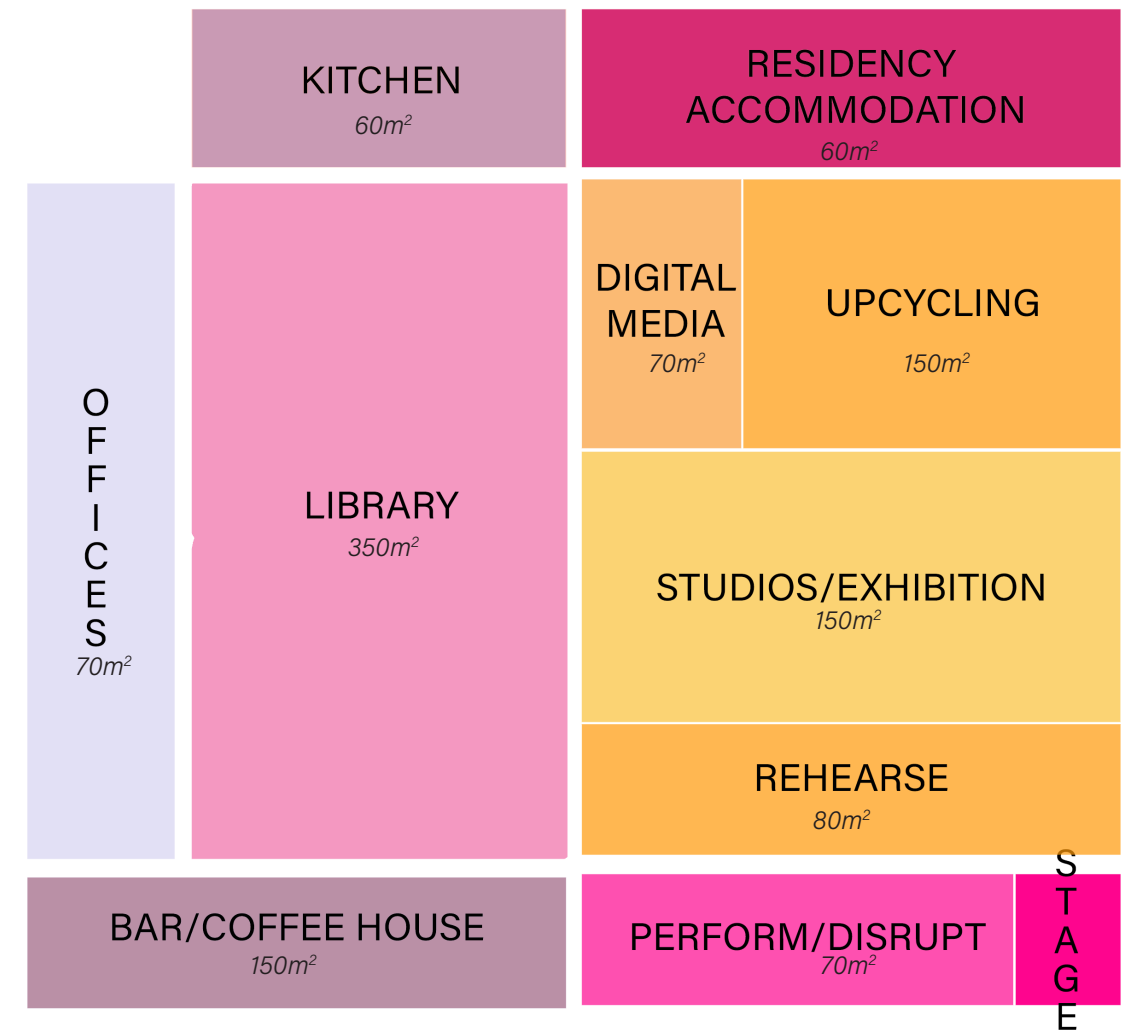
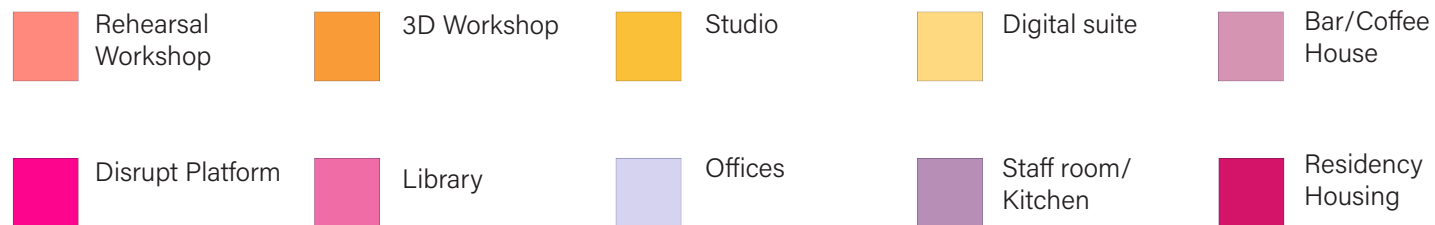
I wanted the workshops and the library to be public facing and the other more private programmes on the west side of the site. The original form of my design was combining too many architectural languages, so I decided on triangular geometries to fit the angular site context.



Triangular massing test

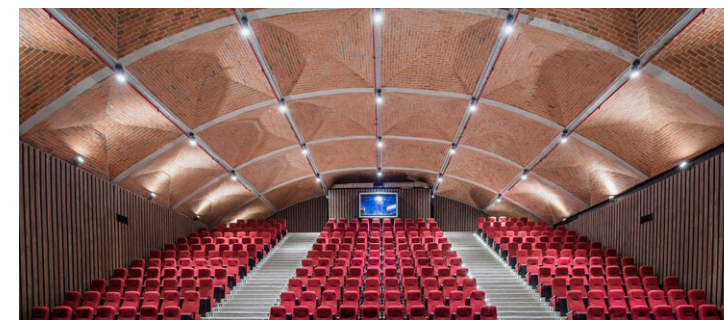
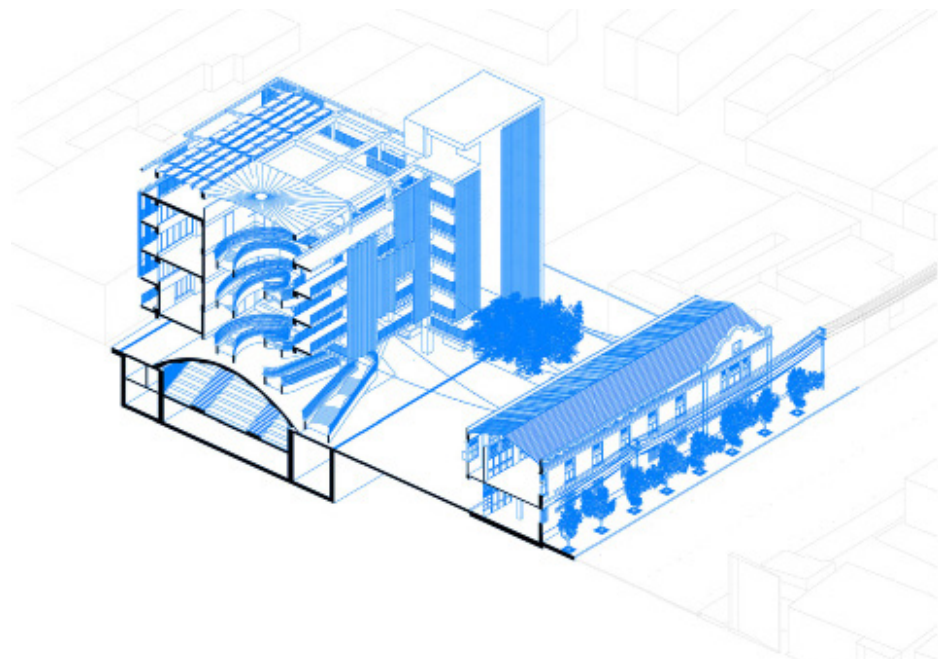
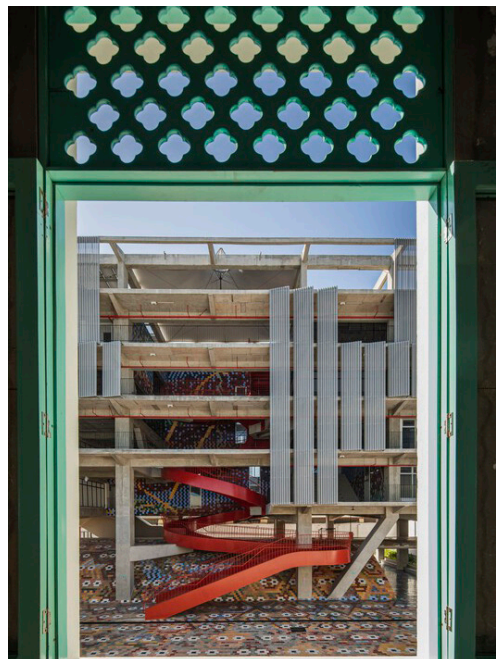
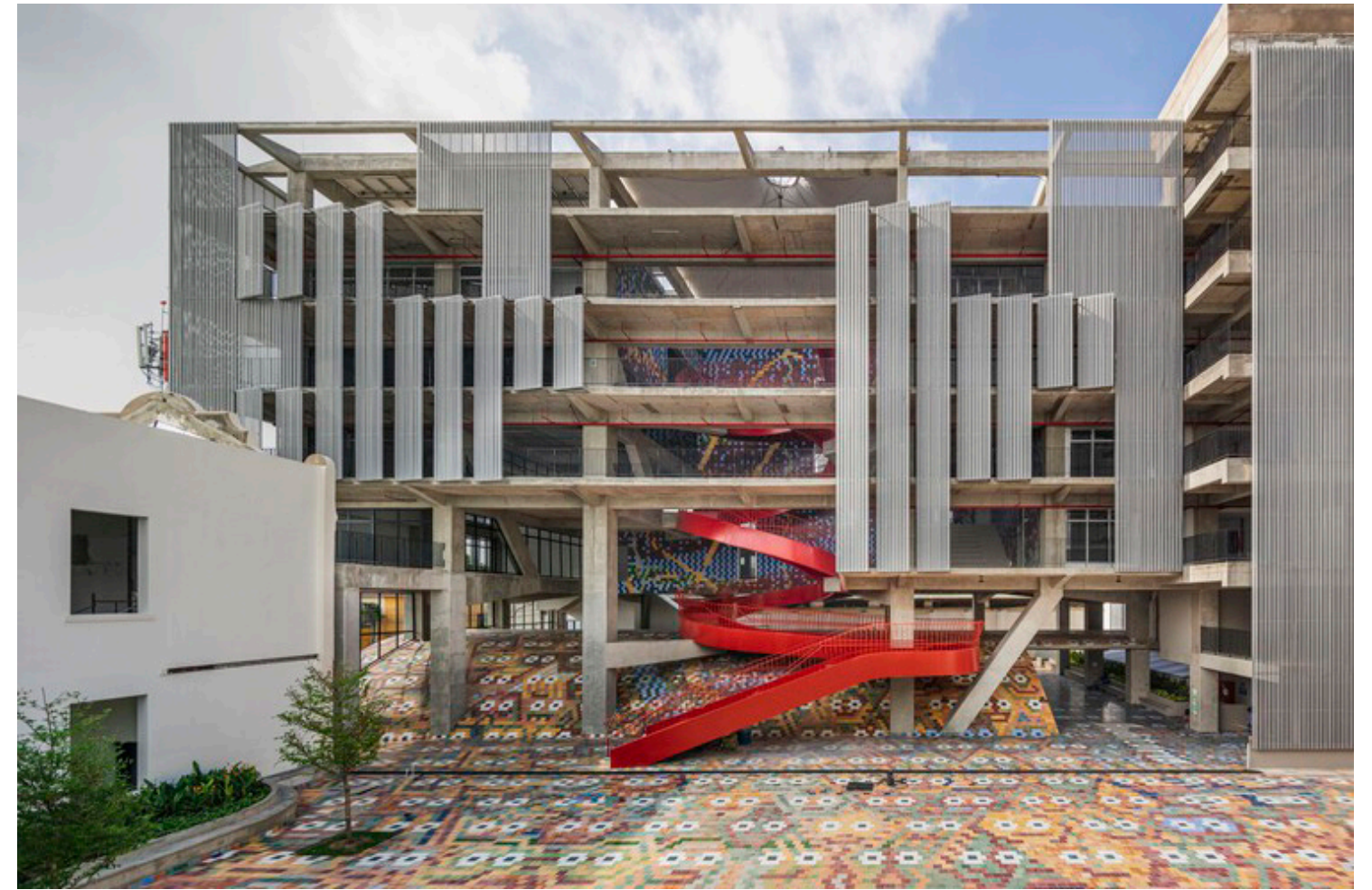
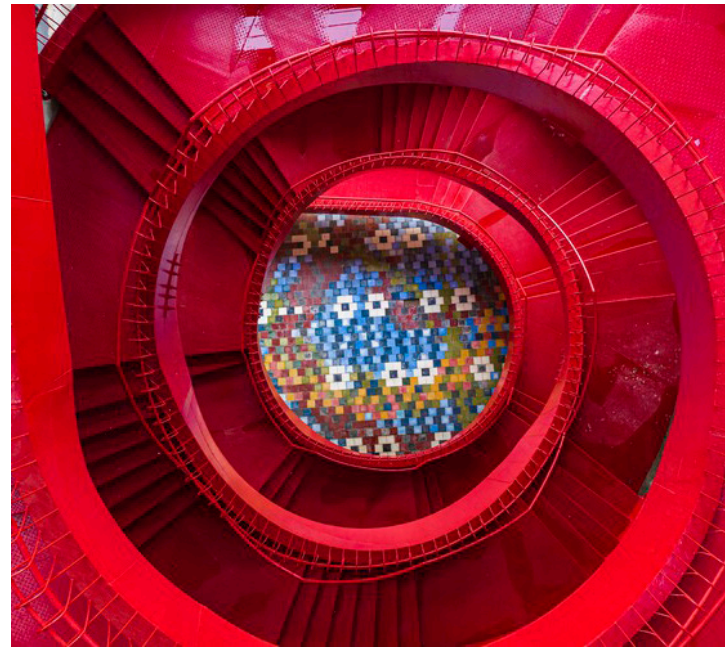
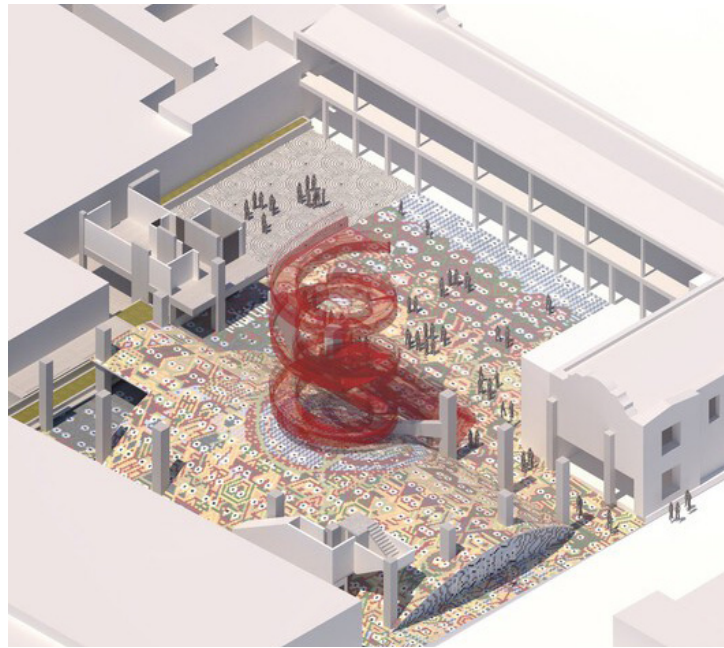


Final massing



I based the programmes of my building off of my research into existing cultural organisations in Porto and mapping the points of my Brief Manifesto into spaces. For example:

- **Fostering Creativity** in the workshops
- **Reclaiming and disrupting public space** through the platform for demonstrations
- **Making Space for discussion and debate** in the Bar/Coffee House



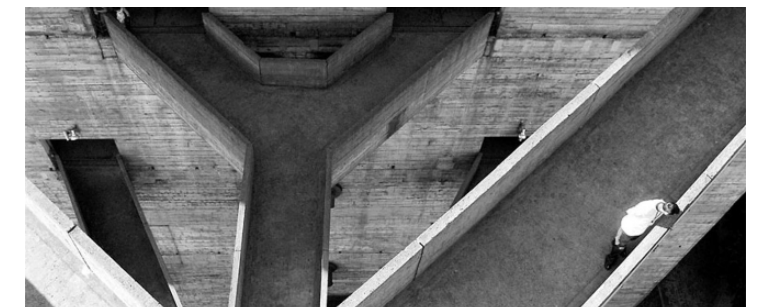
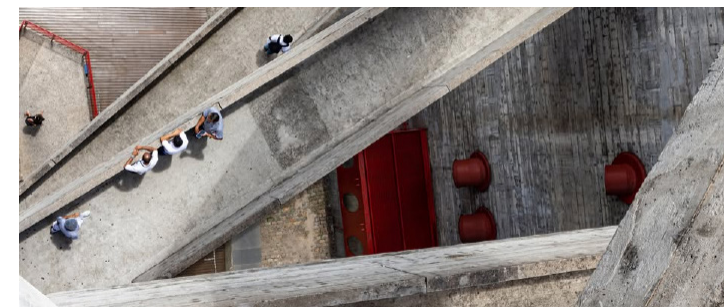
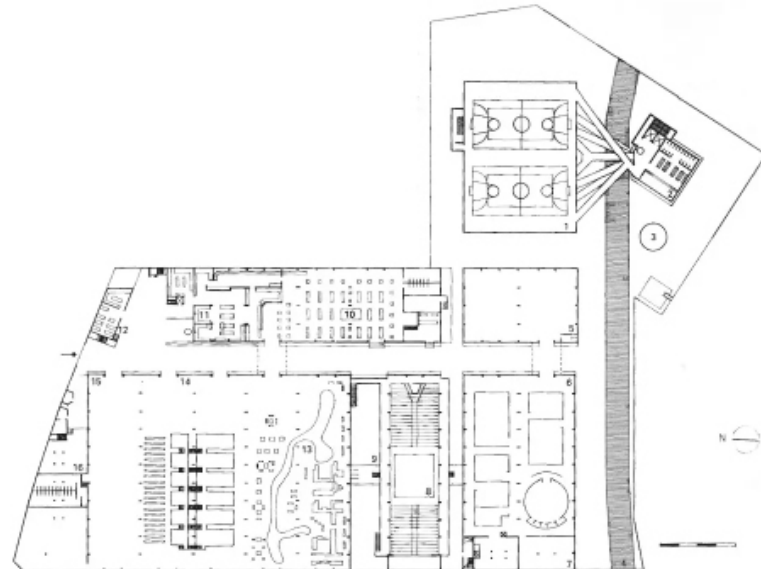
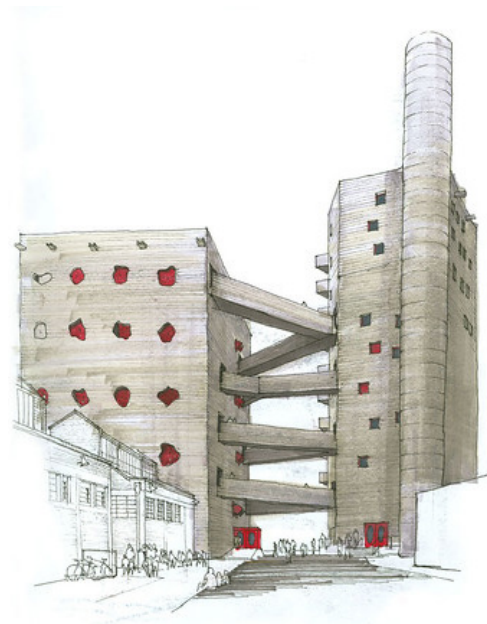
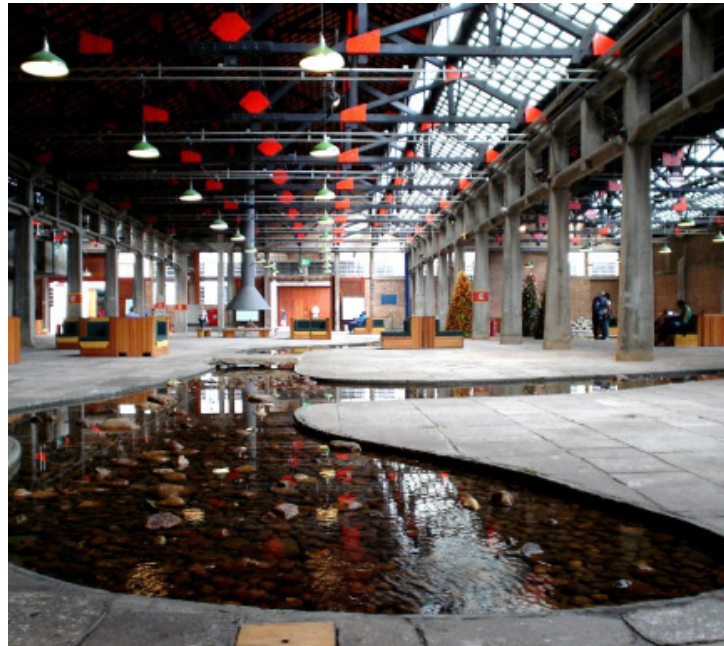
This adaptive reuse of a Tobacco Factory in Columbia into a public 'Culture Factory' and art school struck me for its bold palette of materials, colour, shapes and patterns. The idea grew from a desire for a Carnival Museum to celebrate the cities UNESCO World Heritage Event of the Barranquilla Carnival. Many skilled artisans work to make the brilliant creativity of the Carnival, and the collaborators developed a centre to bring together and pass on the knowledge used for the event. The project was part of the Urban Transformation Program, aiming to improve the working class neighbourhood of Barrio Abajo. The maker space supports a wide range of programs in the arts and crafts disciplines, including open-air platforms for acting, music, dance, art and sculpture. The spaces are made up of stacked covered and uncovered spaces that are adaptable to reprogram over time. The Fábrica de Cultura has an exposed concrete frame, with expanded metal mesh enclosures, a bold, public spiral staircase and vast auditorium with a vaulted brick ceiling.

I want to adapt the idea of a multidisciplinary creative space with stacked flexible programs and flexible spaces into my own creative centre in Porto. I want to create a more informal performance space, but am inspired by the use of bold forms and materials that mirror the heritage of the area it is built in. I also like the way they have weaved public space into the building by opening it up and inviting visitors in with the staircase that is also used as informal seating, and have taken this as inspiration for a feature red public staircase in the courtyard of my design.

Area: 11,500 square metres
Development: 2014-2021
Built: 2018-2021
Location: Barrio Abajo, Barranquilla, Columbia
Collaborators: ETH Zurich (D-ARCH Chair of Architecture and Urban Design Hubert Klumpner) and University of the North of Barranquilla (UniNorte)
Architects: Hubert Klumpner, Diego Ceresuela, Manuel Moreno, Sergio Chirivella

FÁBRICA DE CULTURA

SCHOOL OF ART AND POPULAR TRADITIONS, BARRANQUILLA, COLUMBIA



The SESC Pompéia Factory is a Leisure centre in the working class district of Pompéia in São Paulo, Brazil. Italian born architect Lina Bo Bardi was tasked with turning the site into community sports facilities by the non-profit organisation SESC, who originally intended on demolishing the 1920s steel barrel factory buildings. Instead, Bo Bardi decided to keep the reinforced concrete and brick buildings while connecting them new buildings via aerial walkways, built in the same rough concrete exterior. She exposed the materials and conserved the site's industrial heritage. The brick sheds house a subsidised public canteen, library, theatre, workshop and exhibition spaces, while the towers contain sports halls and a swimming pool. As well as preserving the original buildings, she also preserved the informal community activities that already occurred here and challenged São Paulo's attitude towards its industrial estates.

I am inspired by this preservation of existing community activities and materials of the area, and also Lina Bo Bardi's belief that "undistinguished acts of play, communal dining and community theatre were where true meaning and beauty were to be found - not in rarefied culture as a form of betterment." (Pinto, 2021).
This project is a beautiful example of external circulation between conjoining buildings, and I was inspired to create passageways across a central courtyard at different heights and directions.

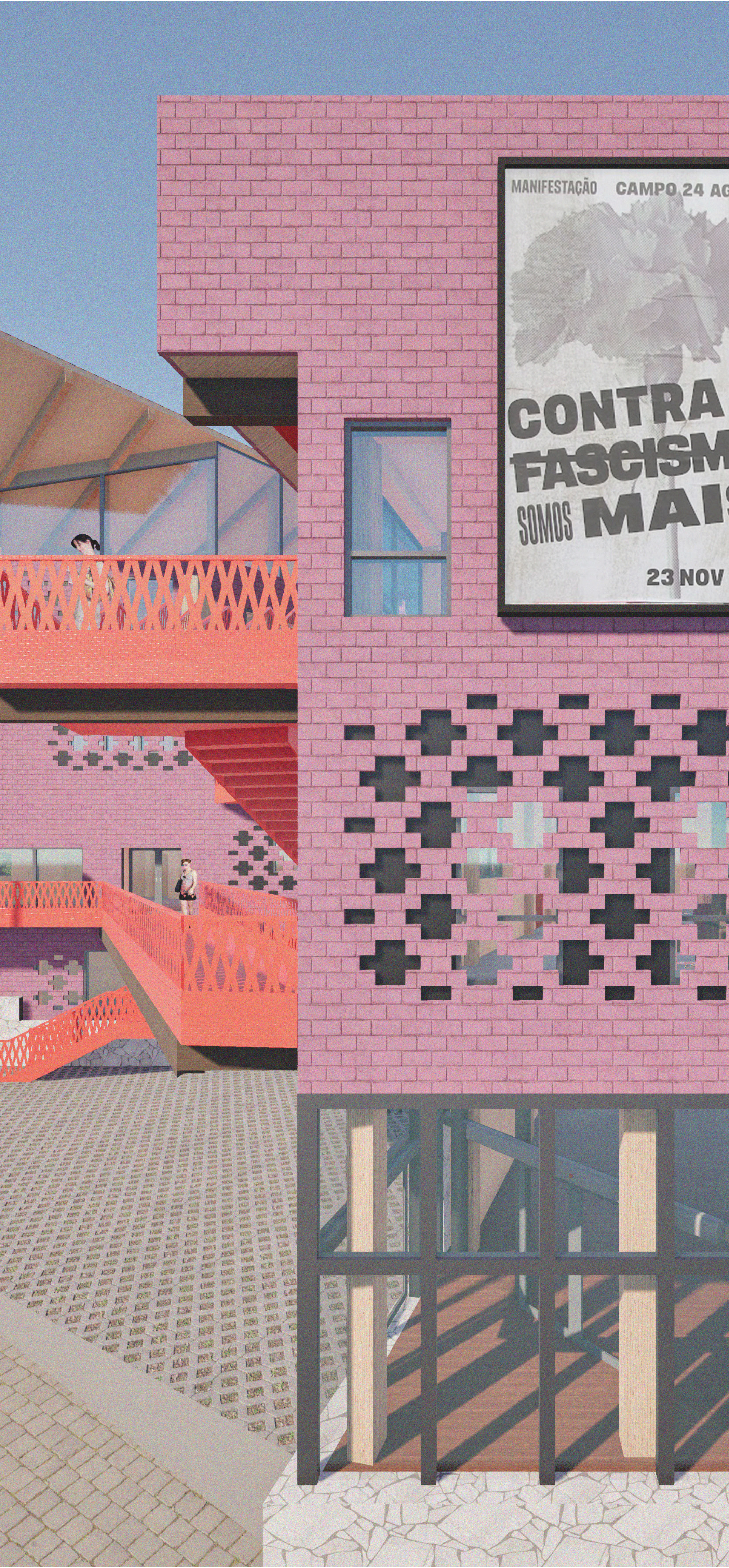
Area: 23,500 square metres
 Designed: 1977
 Built: 1977-1986
 Location: Pompéia, São Paulo, Brazil
 Organisation: Serviço Social do Comércio (SESC)
 Architect: Lina Bo Bardi

SESC POMPEIA

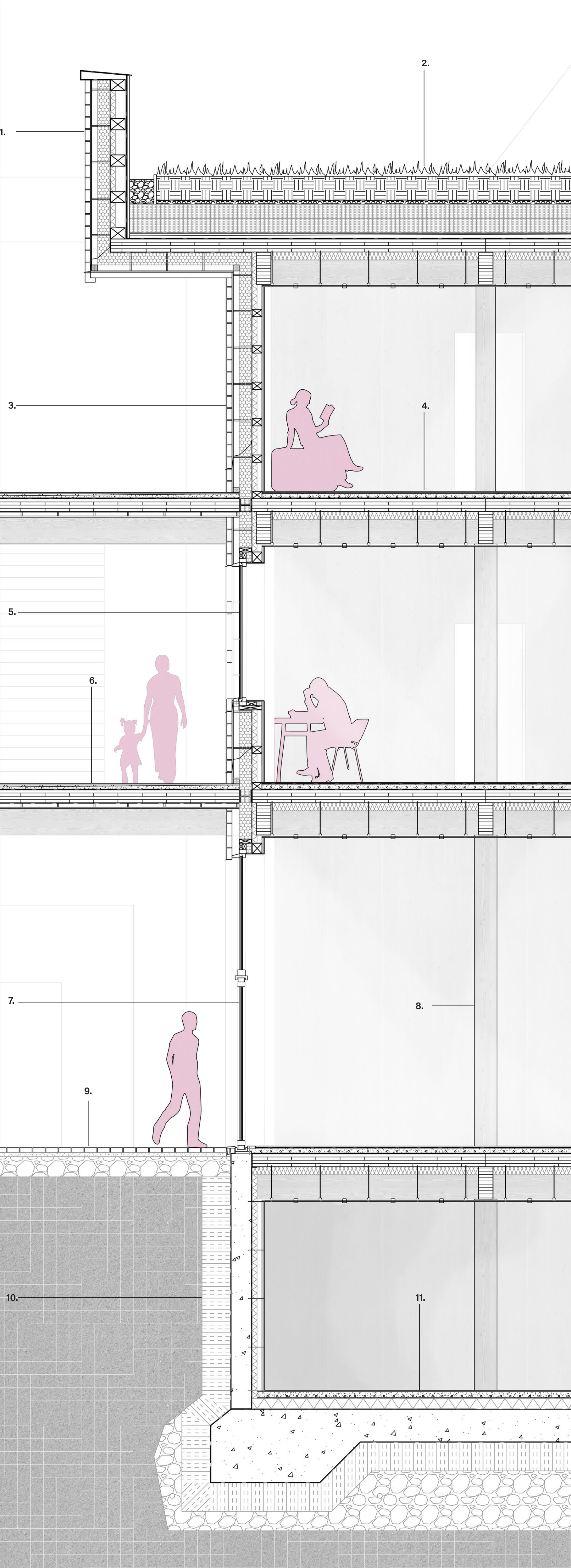
LINA BO BARDI, SÃO PAULO, BRAZIL



CONTEXTUAL AERIAL VIEW
NORTH-EAST



1. **PARAPET:** 65x150 mm Gillespie magenta K-Briq cladding, steel frame, 75mm cavity, 150mm mineral wool insulation, water-proof sealing layer, 60mm infill cellulose insulation, 60mm services cavity, 180x140mm timber framing, flashing, water-proof sealing layer, 30mm timber board finish
2. **EXTENSIVE GREEN ROOF:** Vegetation, 300mm Growing medium, filtration layer, 40mm drainage layer and root barrier, waterproof membrane, 360mm rigid insulation, vapour control layer, 60mm screed to falls (2%), PE foil separating layer, 160mm CLT, 100mm infill cellulose insulation, 180x400mm glulam beams, 300mm service cavity, 15mm gypsum board suspended ceiling
3. **TYPICAL WALL BUILD-UP:** 65x150 mm Gillespie magenta light K-Briq, steel frame, 75mm cavity, 150mm mineral wool insulation, water-proof sealing layer, 60mm infill cellulose insulation, 60mm services cavity, 120x90mm timber framing, x2 15mm timber finish board
4. **UPPER FLOORS:** x2 15mm timber finish board, 10mm acoustic underlay, 60mm screed, PE foil separating layer, 160 mm CLT, 100mm infill cellulose insulation, 180x400mm glulam beams, 300mm service cavity, 15mm gypsum board suspended ceiling
5. **TRIPLE GLAZED WINDOW:** visible between perforated bricks
6. **CANTILEVER WALKWAYS:** galvanised steel finish, height adjustable feet, water-proof sealing layer, 160 mm CLT, water-proof sealing layer, suspended steel
7. **SLIDING TRIPLE-GLAZED DOUBLE DOORS**
8. **GLUE-LAMINATED COLUMNS**
9. **PERMEABLE PAVING:** 60mm permeable asphalt pavers, 50mm grit bed, 250mm aggregate sub-base
10. **RETAINING WALL:** 350mm rigid insulation, water-proof sealing layer, 250mm reinforced concrete, sealing layer, 60mm infill cellulose insulation, 60mm services cavity, 120x90mm timber framing, x2 15mm timber finish board
11. **FOUNDATIONS/BASEMENT FLOOR:** x2 15mm timber finish board, 75mm screed, PE foil separating layer, 125mm mineral wool insulation, sealing layer, 400mm concrete foundation slab, water-proof sealing layer, 350mm rigid insulation







STREET VIEW

CIRCULATION + DEMONSTRATION PLATFORM

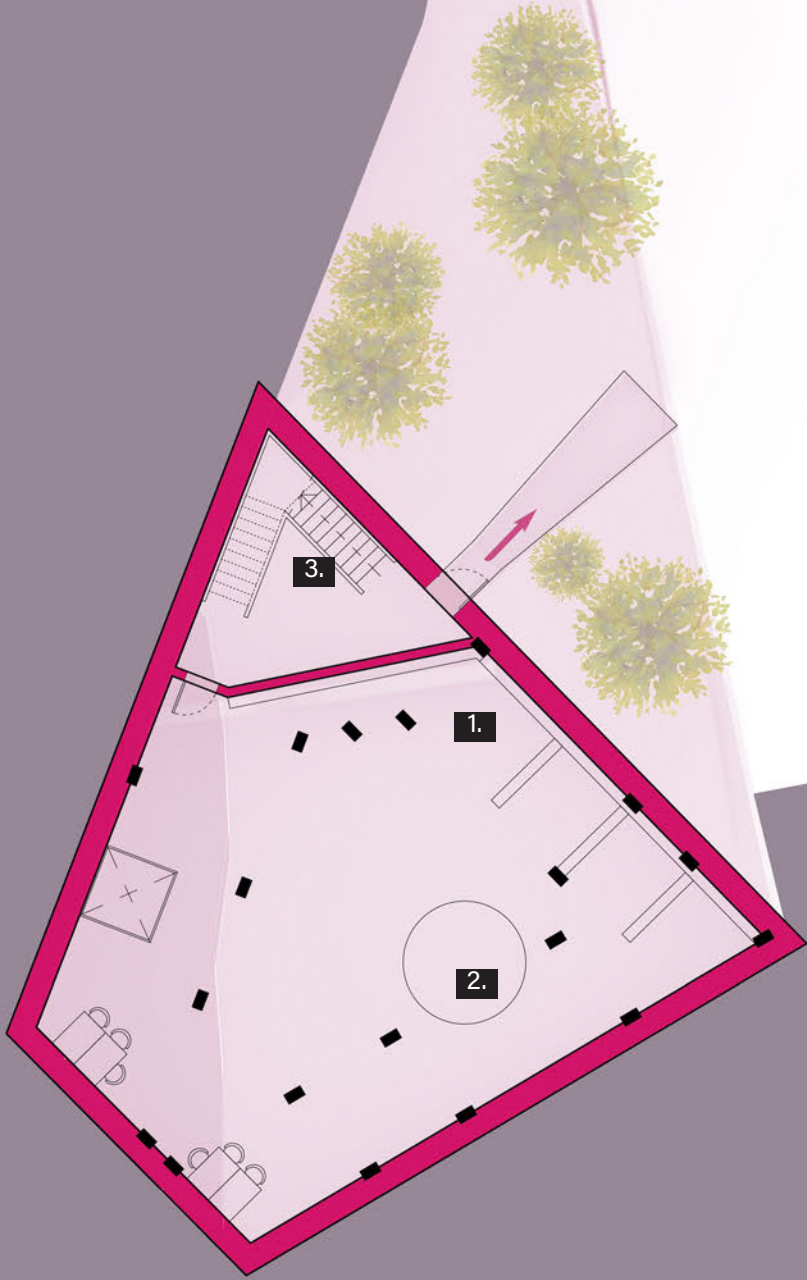


NIGHT-TIME STREET SCENE
EXTERNAL VIEW





- 1. UNDERGROUND ARCHIVE
- 2. STORM-WATER STORAGE TANK
- 3. FIRE-ESCAPE STAIRWELL



- 1. LIBRARY ATRIUM
- 2. THE GARAGE: UP-CYCLING WORKSHOP
- 3. FIRE-ESCAPE STAIRWELL
- 4. EXTERNAL CIRCULATION
- 5. TOILETS
- 6. STORAGE
- 7. ENTRANCE
- 8. LOBBY/RECEPTION



2m 10m 1:200

Cut: 15m

GROUND FLOOR PLAN 1:200

- 1. LIBRARY ATRIUM
- 2. THE PLAYROOM: REHEARSAL/
PERFORMANCE SPACE
- 3. FIRE-ESCAPE STAIRWELL
- 4. EXTERNAL CIRCULATION
- 5. DEMONSTRATION PLATFORM
- 6. CHANGING ROOMS
- 7. OFFICE
- 8. THE LOUNGE: BAR/
COFFEEHOUSE



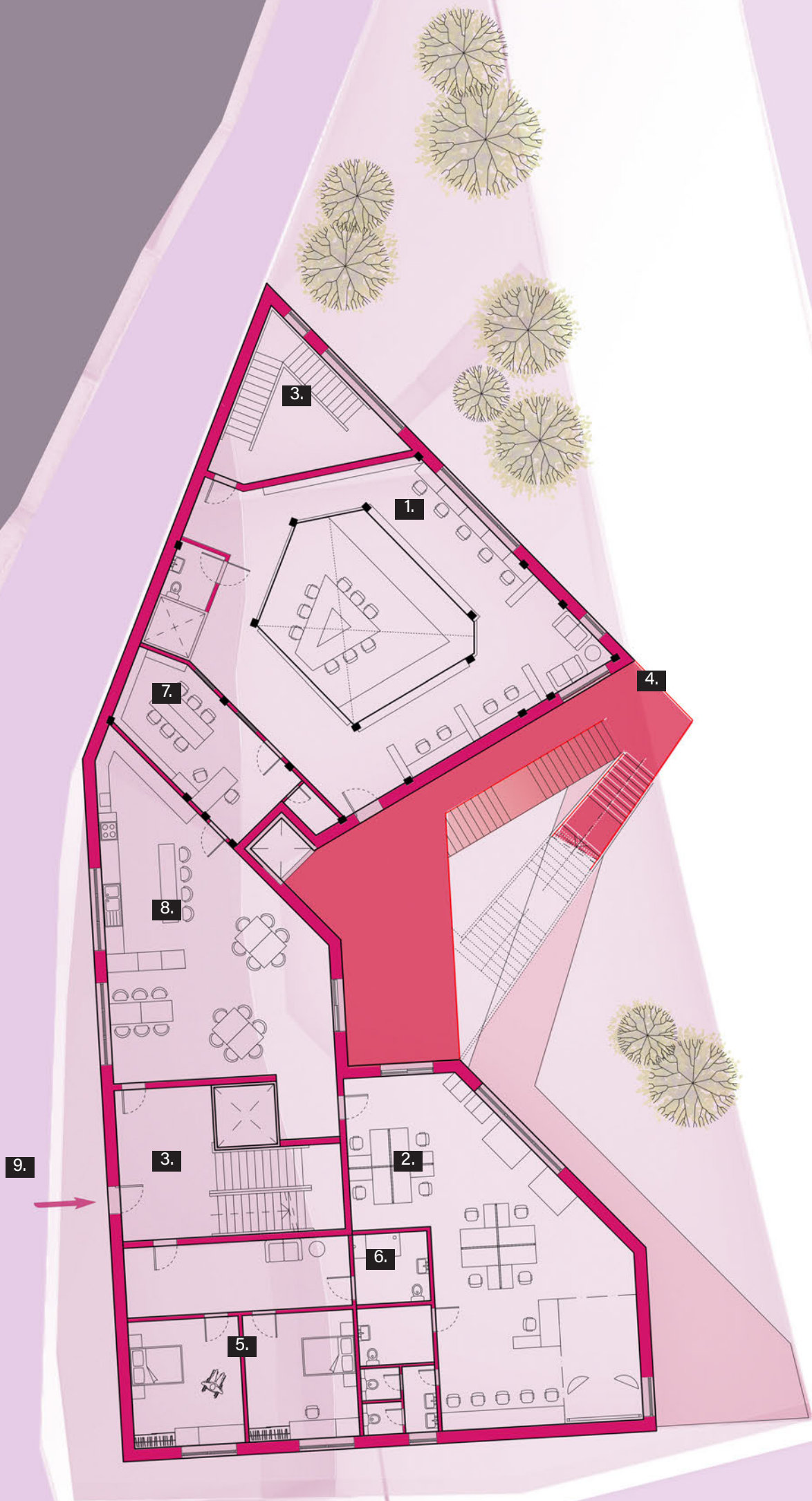
2m 10m 1:200

Cut: 6m

FIRST FLOOR PLAN

1:200

- 1. LIBRARY ATRIUM
- 2. DIGITAL STUDIO
- 3. FIRE-ESCAPE STAIRWELL
- 4. EXTERNAL CIRCULATION
- 5. RESIDENCY BEDROOMS
- 6. BATHROOM
- 7. OFFICE
- 8. KITCHEN
- 9. PRIVATE ENTRANCE

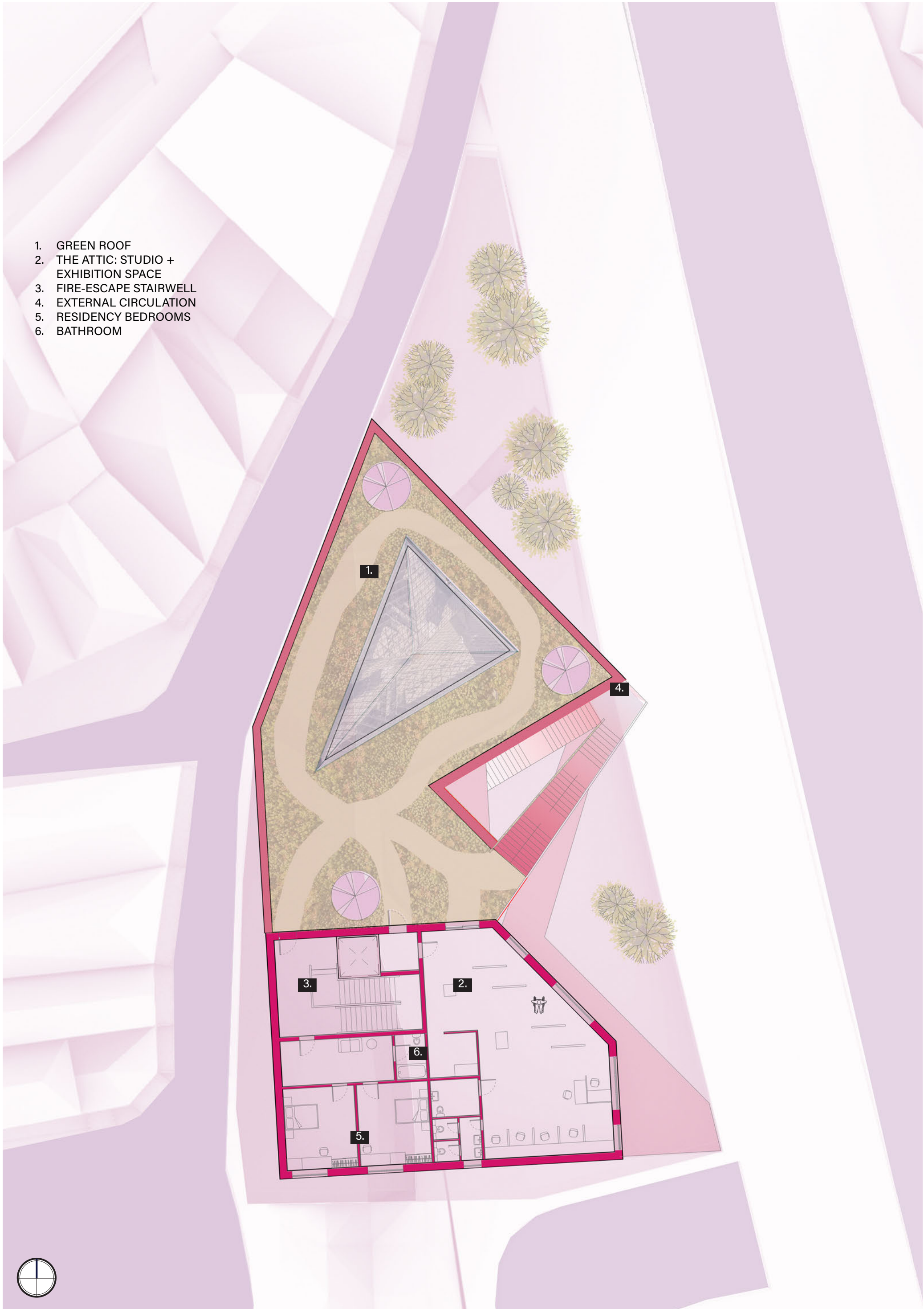


2m 10m 1:200

Cut: 9.6m

SECOND FLOOR PLAN 1:200

- 1. GREEN ROOF
- 2. THE ATTIC: STUDIO + EXHIBITION SPACE
- 3. FIRE-ESCAPE STAIRWELL
- 4. EXTERNAL CIRCULATION
- 5. RESIDENCY BEDROOMS
- 6. BATHROOM

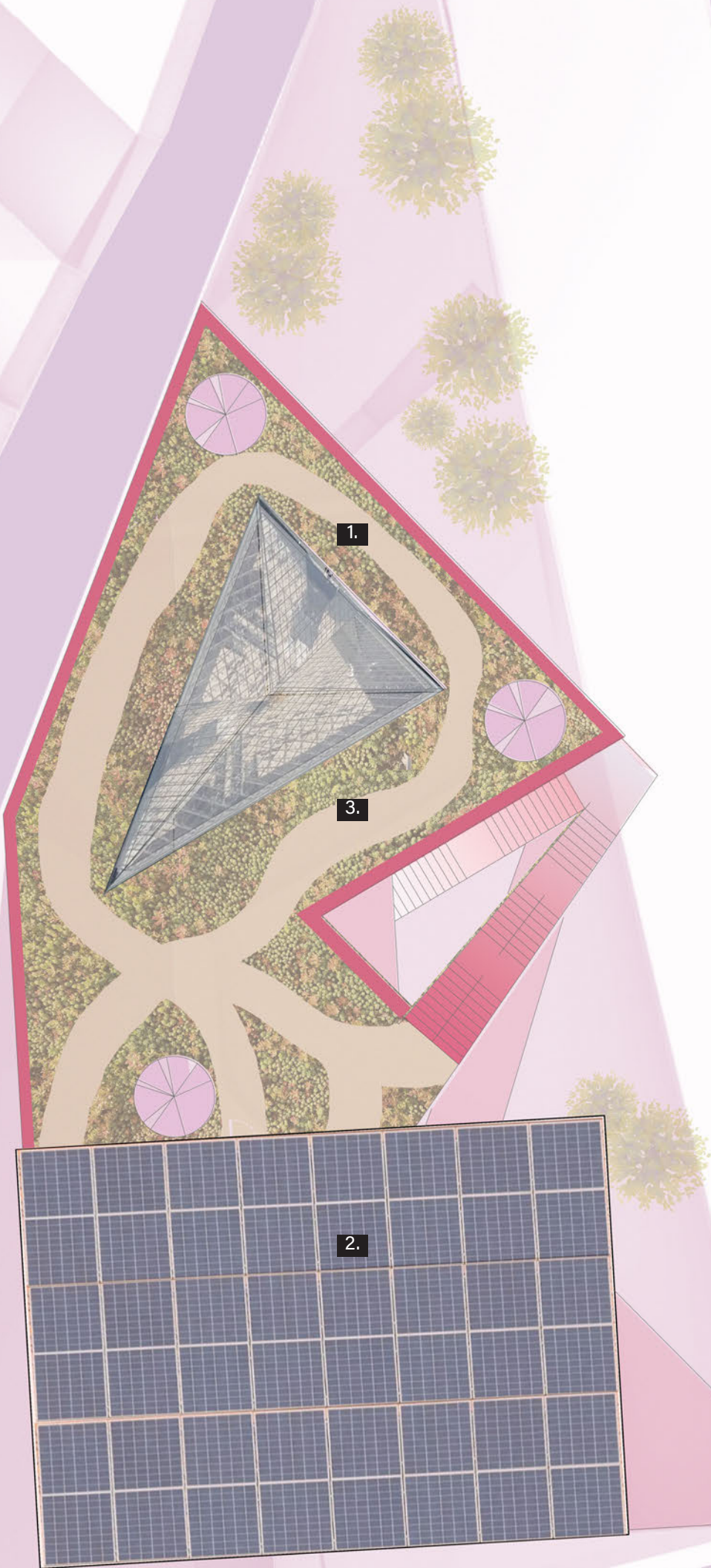


Cut: 13.2m

THIRD FLOOR PLAN

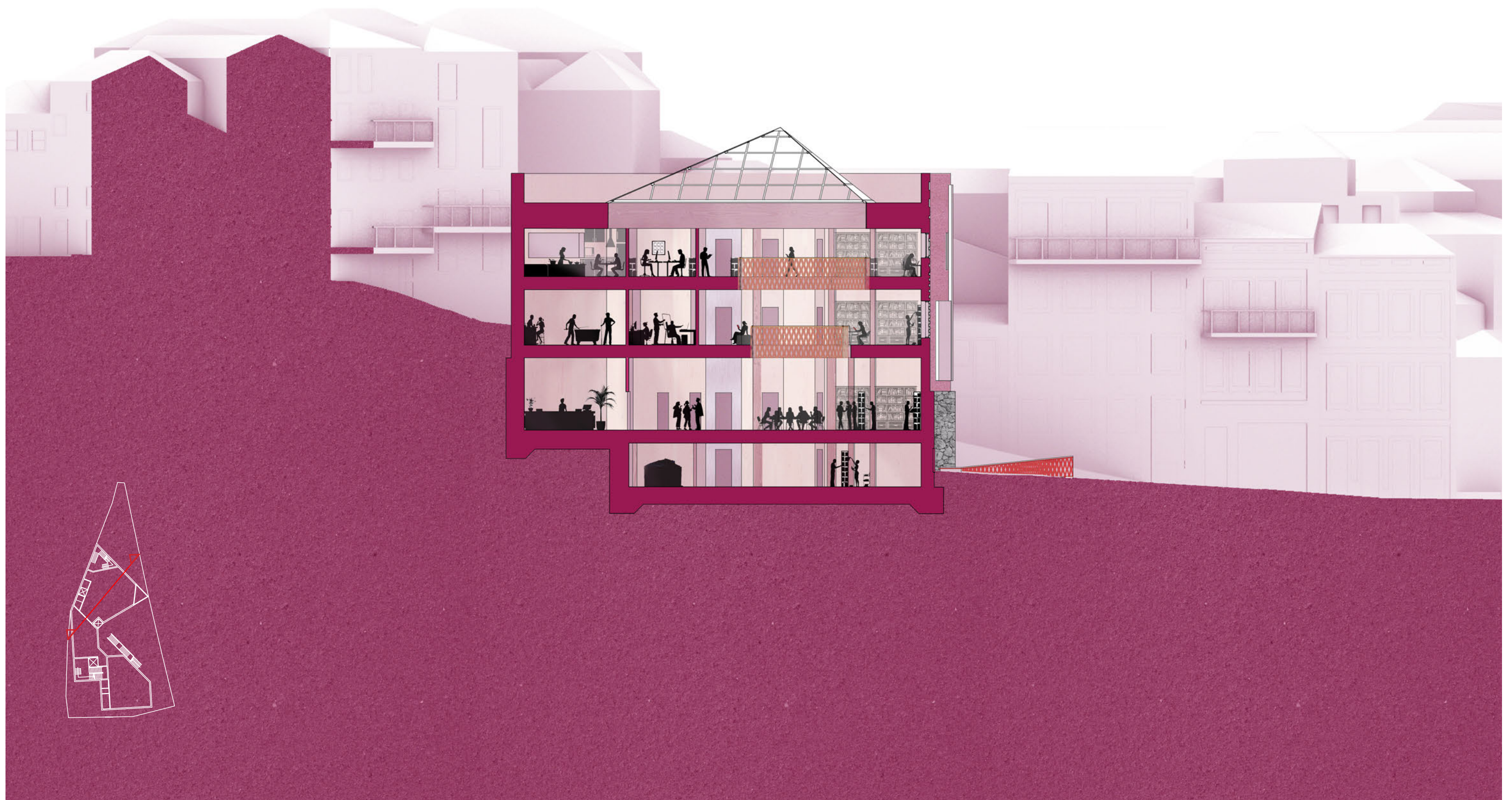
1:200

- 1. GREEN ROOF
- 2. PV PANELS
- 3. GLASS PYRAMID SKYLIGHT



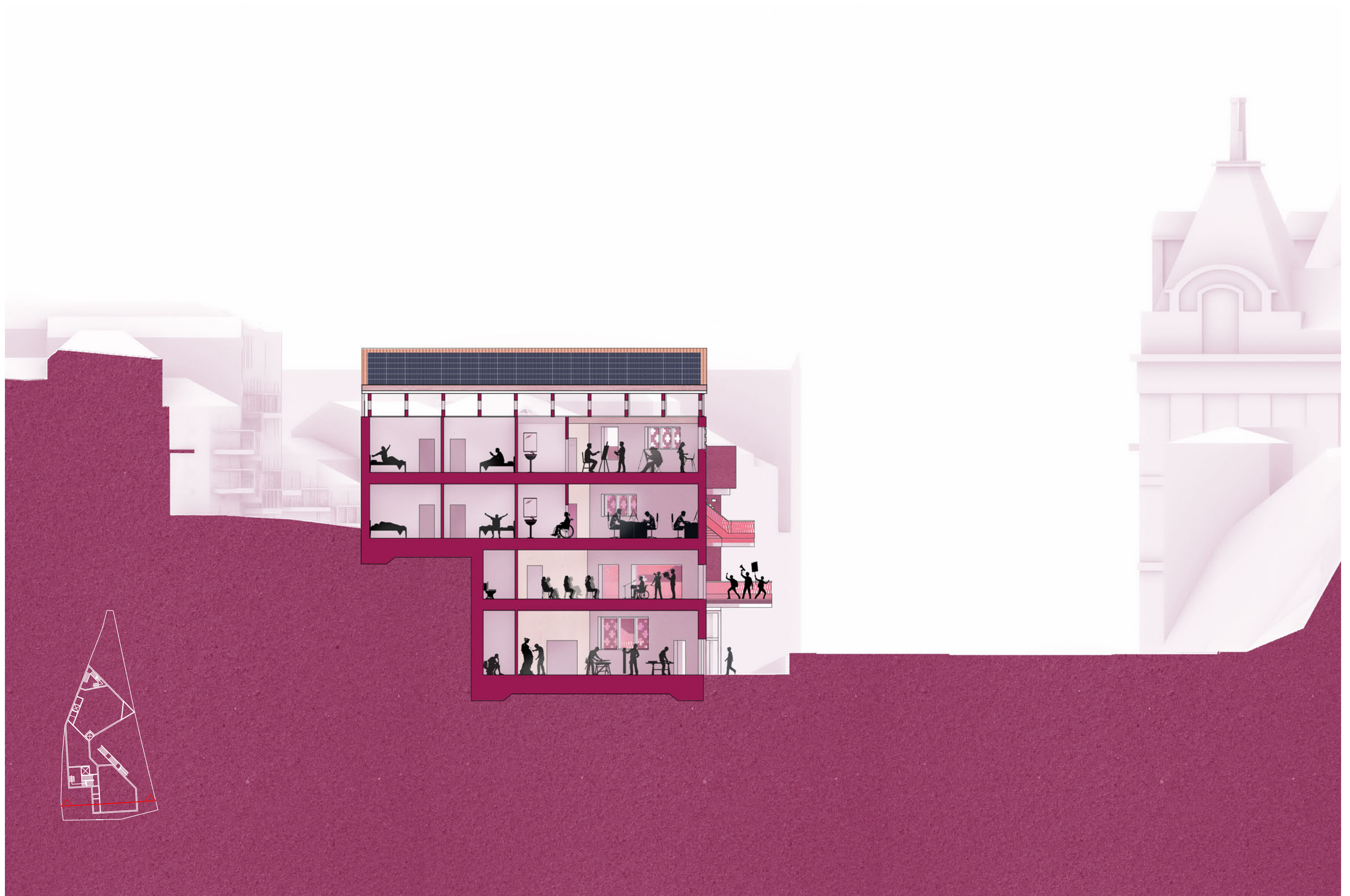
2m 10m 1:200

ROOF PLAN
1:200



2m 10m 1:200

LIBRARY SECTION SW/NE
1:200



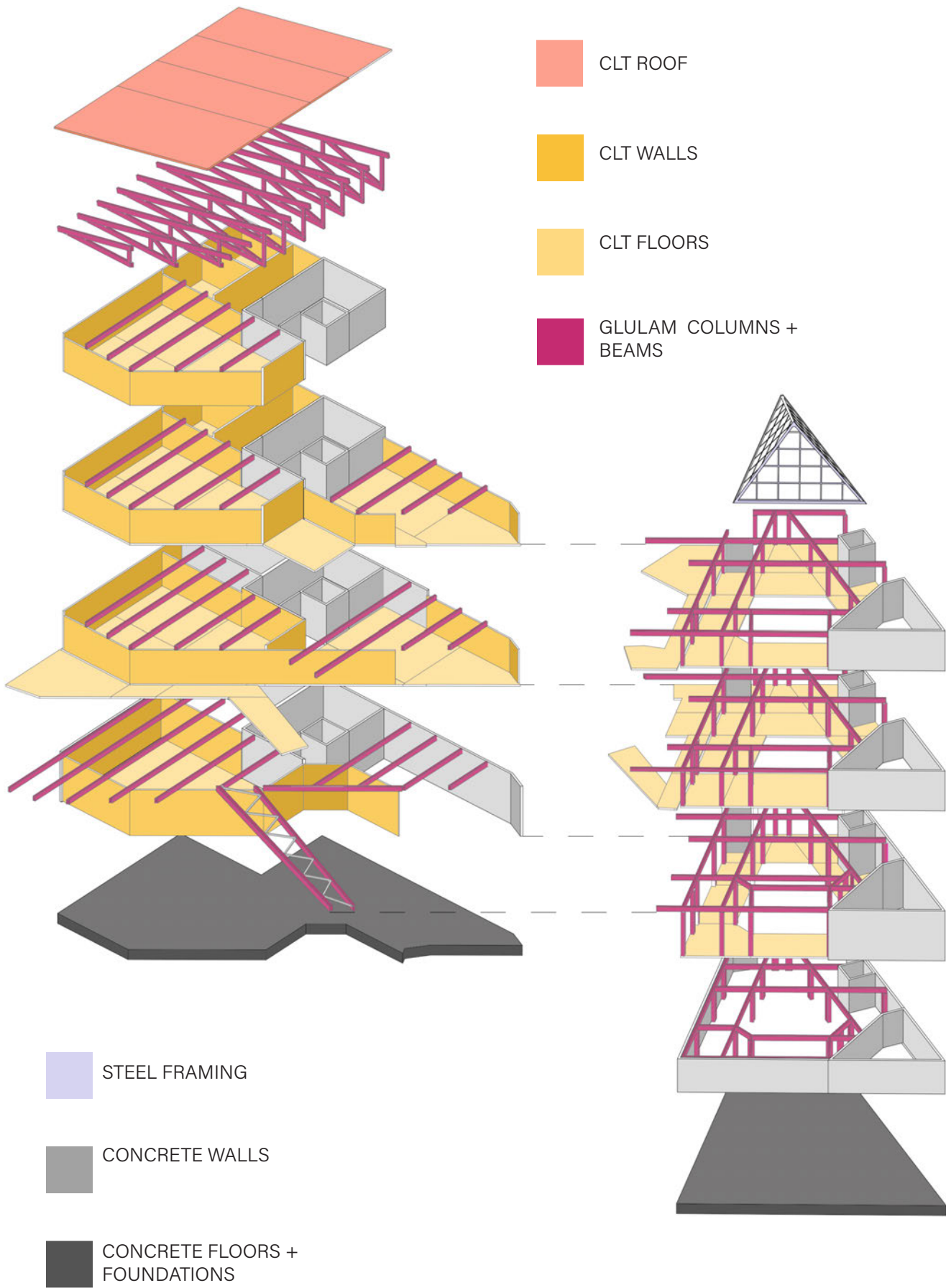
2m 10m 1:200

WORKSHOP SECTION W/E
1:200





MATERIAL STRATEGY



1:400 EXPLODED AXONOMETRIC OF STRUCTURAL ELEMENTS



CLT PANELS



GILLESPIE MAGENTA K-BRIQ

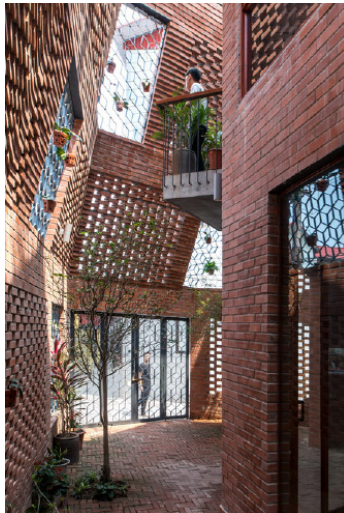


RE-CONSTITUTED GRANITE



GLULAM BEAMS

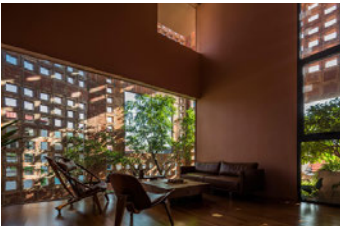
The primary structural material is cross-laminated timber (CLT) panels and glu-laminated timber (glulam) beams and columns. Three wood species are used to produce CLT in Portugal by Ledinek, including Pine, Spruce and Larch. The key facade materials include rough and natural cut Granite that will be excavated from the site and recycled. This means the waste material from site is being re-used and reduces transporatation, disposal and raw material costs in both money and carbon emissions. Above ground floor level, there will be a system of perforated K-Briqs, which are sustainable bricks made from recycled construction waste and come in many colours including magenta. The perforation will act as an extra skin on the building, providing insulation, ventilation and solar shading. It will filter the sunlight so that the building doesn't overheat in summer. It will be attached to a metal railing system with weatherproofing and glazing behind it. On the roof of the Library, there is a glass dome with steel detailing that provides some solar shading.



BRICK CAVE, H&P ARCHITECTS, VIETNAM



THE LOUVRE PYRAMID, PARIS



BAT TRANG HOUSE, VTN ARCHITECTS, VIETNAM



K-BRIQS CUSTOM BAR COUNTER, SCOTLAND



GRANITE + PINK CONCRETE, STEFANO RIVA, PORTUGAL



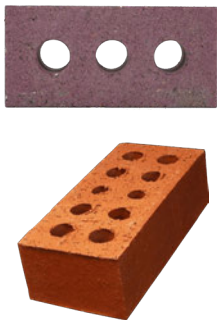
CLT HOUSE, UNKNOWN WORKS, LONDON



TIMBER ROOF, STUDIO BOTTER + STUDIO BRESSAN, ITALY

K-BRIQ
16.8 gCO₂e/unit
(Kenoteq)

CLAY BRICK
454gCO₂e/unit
(Circular Economy, 2019)

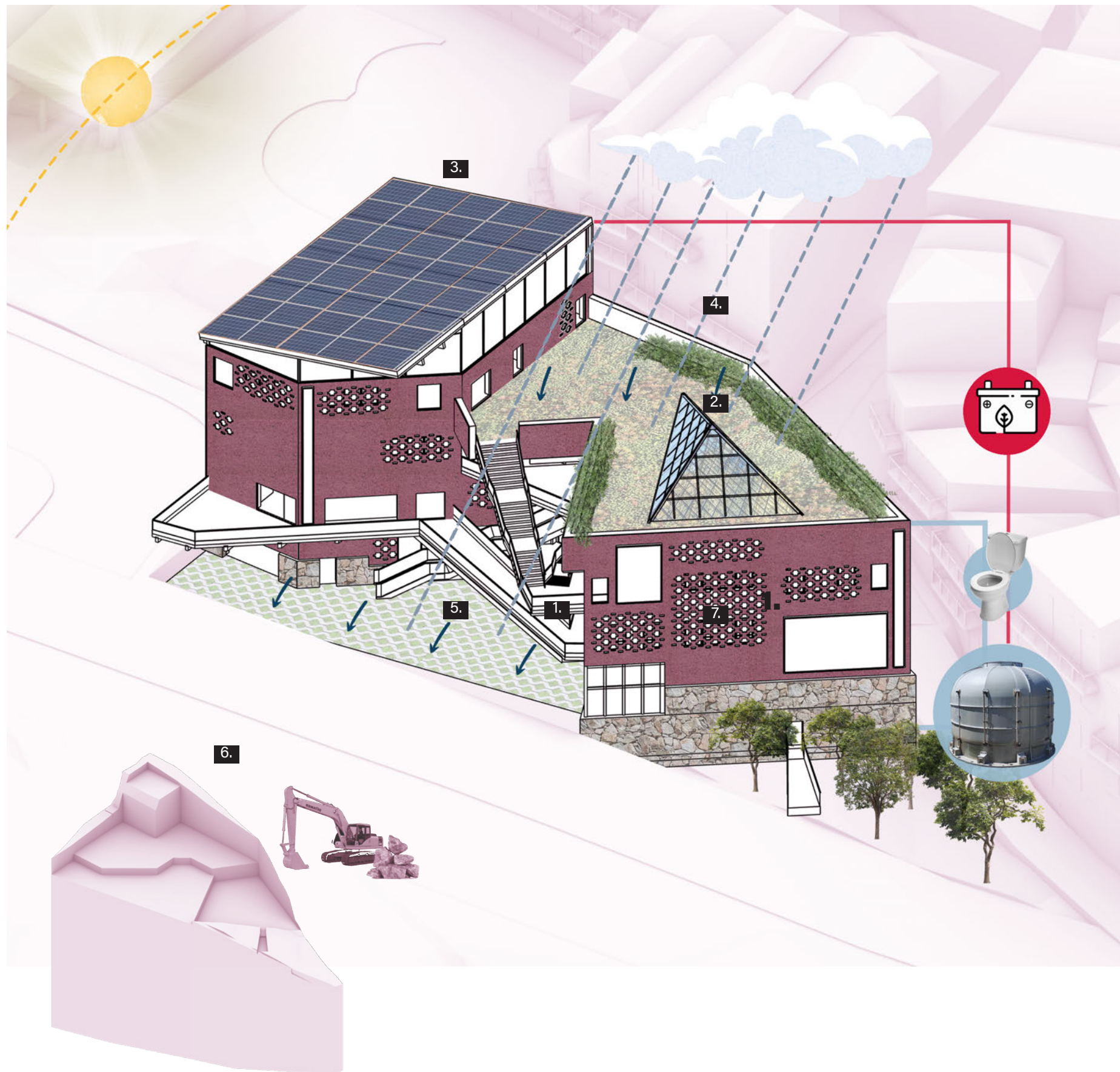


EMBODIED CARBON CALCULATION

A standard sized Gillespie Magenta K-Briq by Kenoteq (215 x 102.5 x 65mm) contains **27x** less CO₂ than a traditional clay brick:

$$454g / 16.8g = 27.02$$

MATERIAL + STRUCTURAL SYSTEMS



SOLAR STRATEGIES

- 1. SOLAR SHADING**
Perforated Bricks covering the windows to dissipate solar energy entering the building fabric, as well as cantilevering walkways shading the windows from high summer sun angles
- 2. NATURAL DAYLIGHT**
Building oriented for large north-facing glazing and glass pyramid skylight to allow plenty of in-direct sunlight in, meaning less need for artificial lighting in the day
- 3. SOLAR ENERGY**
Photovoltaic panels angled toward the South on a mono-pitch roof with large surface area, to self-generate energy for the building and supply excess to the national grid

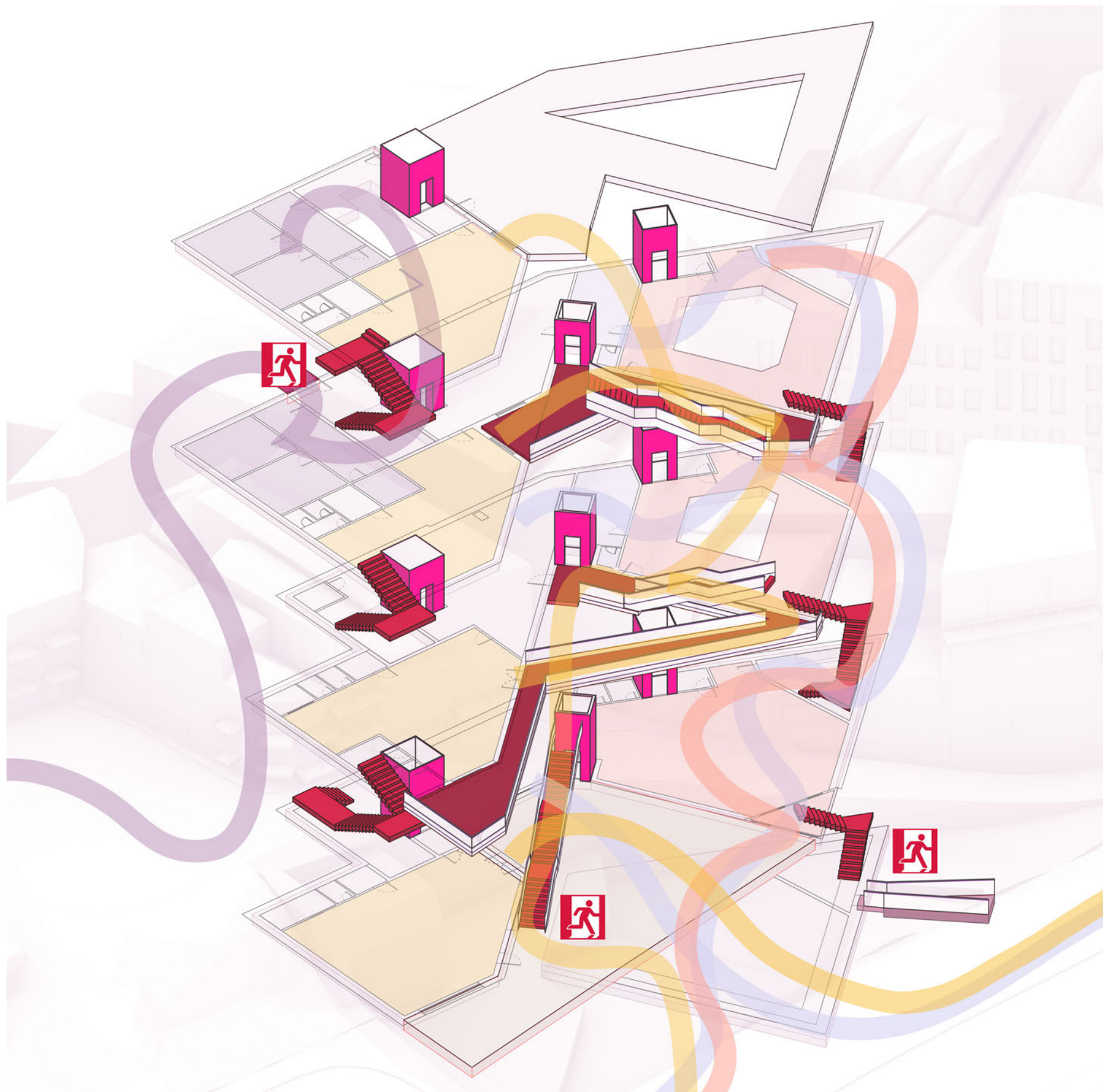
WATER STRATEGIES

- 4. EXTENSIVE GREEN ROOF**
Slows surface run-off, increases biodiversity and captures excess rain-water in water-tank in the basement for use as grey-water to flush toilets
- 5. PERMEABLE PAVING**
Allows for slower absorption of rain-water, reducing strain on the city's sewage and drainage systems therefore reducing flood risks

LOW-CARBON MATERIALS

- 6. SITE-EXCAVATED GRANITE**
Reducing carbon emissions from transporting materials to and from site by using granite stones mined from the site when excavating for the foundations
- 7. SUSTAINABLE BRICKS**
K-Briqs that are made from almost 100% recycled construction waste and do not require firing so have significantly lower embodied carbon than traditional clay bricks

ENVIRONMENTAL STRATEGIES



CIRCULATION KEY



LIFTS



STAIRS



WALKWAYS



RAMPS



FIRE ESCAPES



USER GROUPS

There are four key user groups for the centre, with key zones for each that overlap



THE PUBLIC//ACTIVISTS

All members of the public are free to come and use the library, watch performances and view exhibitions



MEMBERS//CREATIVE ACTIVISTS

Members of the organisation have access to all the creative workshops, as well as the bar and library



STAFF//LEGAL ADVISORS

Staff will be predominantly working in the offices, reception and as library/workshop technicians, with access to the kitchens

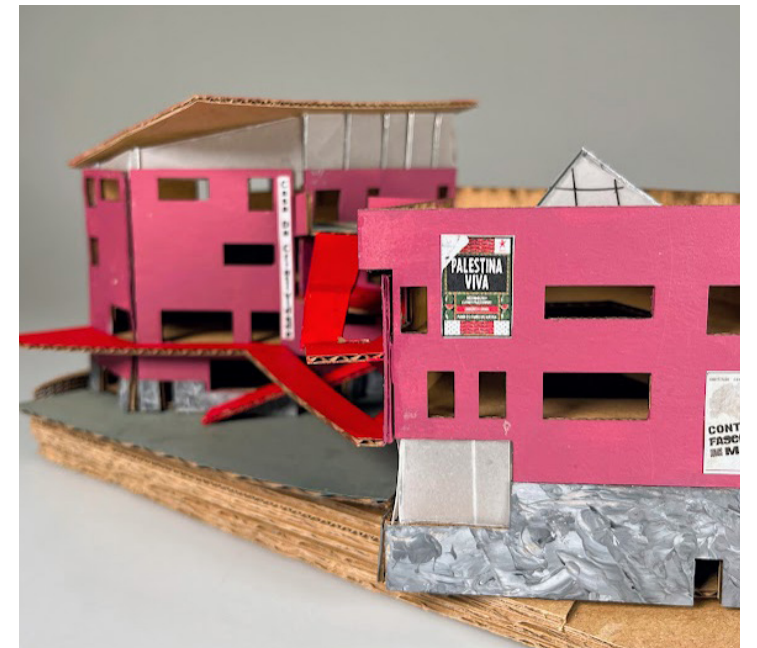
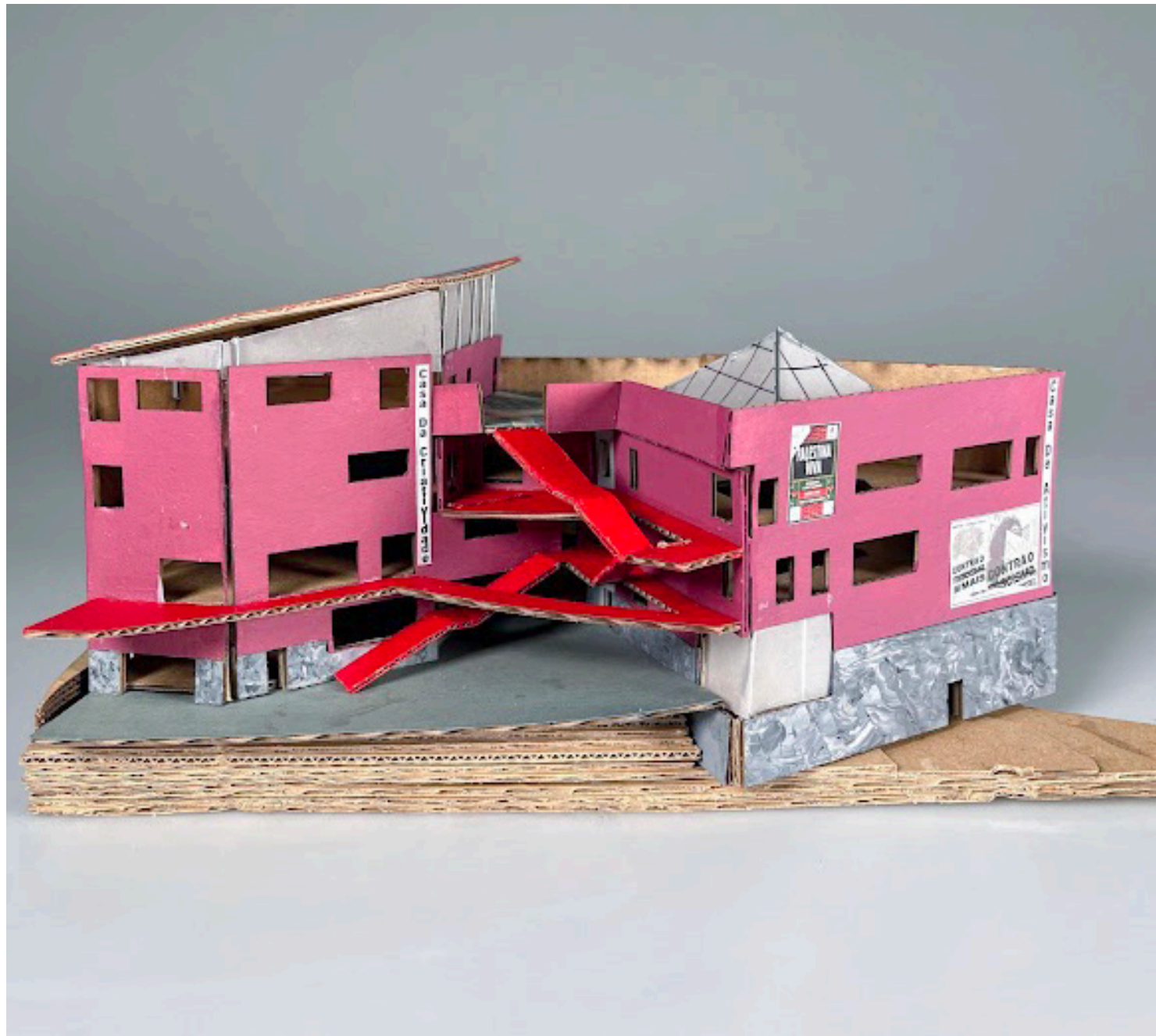


CREATIVE ACTIVISTS IN RESIDENCE

There is a private entrance from the West of the building into the accommodation. As well as the bedrooms and kitchen, they have the same access as members to use the workshops and library

ACCESS STRATEGY

USERS, ENTRANCES + EXITS



MODEL IMAGES
1:200 CARD. WIRE + PAPER MODEL