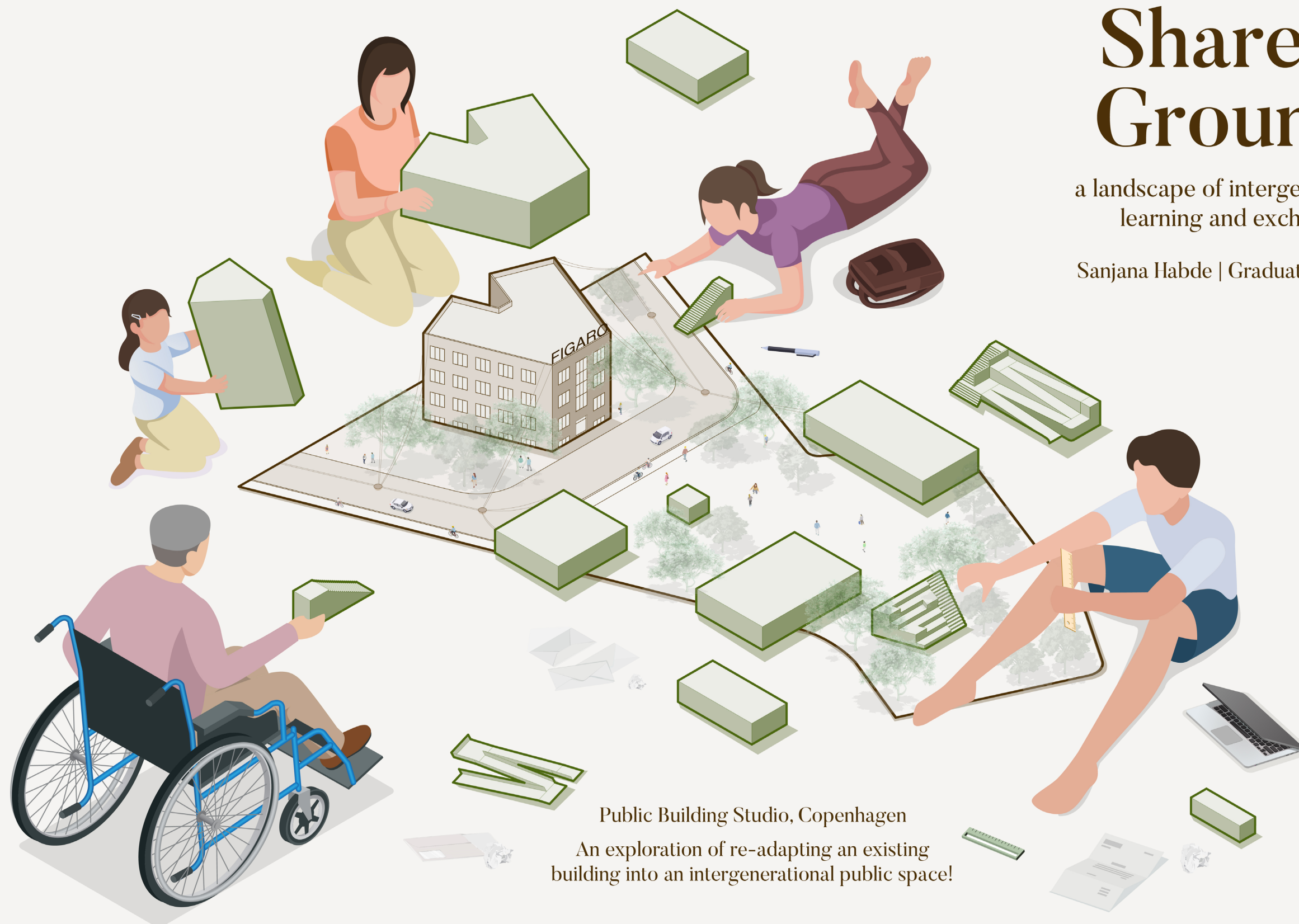


Shared Grounds

a landscape of intergenerational
learning and exchange!

Sanjana Habde | Graduation Project



Public Building Studio, Copenhagen

An exploration of re-adapting an existing
building into an intergenerational public space!

Abstract

A safe and vibrant neighborhood thrives when its community members interact, form connections, and feel welcome in its spaces. Buildings, while often designed for specific functions, should actively engage with their surroundings, creating diverse contact zones that invite interaction. These zones become catalysts for learning, leisure, rest, and activities, enhancing the safety, health, and cohesion of the urban environment.

This thesis explores adaptive reuse strategies for an existing building in the Haraldsgade neighborhood of Copenhagen, transforming it into a dynamic hub that integrates seamlessly with its urban and landscape context. The design fosters interconnected movement, encouraging exploration across multiple levels and spaces while creating a fluid transition from private student housing to collaborative spaces and an inviting urban landscape.

This project offers valuable insights, encouraging us to view buildings not as isolated structures, but as vital components of the urban fabric that foster interaction and connection throughout the neighbourhood.



“ It is to bring people together in purposeful, mutually beneficial activities which promote greater **understanding** and **respect** between generations and contribute to building more cohesive communities... [They are] inclusive, building on the positive resources that the young and old have to offer each other and those around them.”

Matthew Kaplan, Leng Leng Thang,
Mariano Sánchez and Jaco Hoffman
(Intergenerational Contact Zones, 2020)



Public Building Graduation Studio

Tutors

Project Design | Nathalie de Vries

Project Design | Antonio Cantero

Technical Building Design | Ger Warries

Theory & Delineation | Sang Lee



Acknowledgement

As an international student, embarking on my masters journey has been both a challenging and deeply rewarding experience. Leaving everything behind to start a new life in a different country was not easy, but it has been a truly transformative period for me. The architectural context here is vastly different from what I was familiar with in India. Designing for a colder climate, where spaces are less organically occupied, pushed me to rethink how architecture can actively invite and engage people. A central question in my work became: how do we draw people into spaces, how do we create movement, and how do we make buildings a part of daily life, rather than isolated structures?

Having been a part of the Public Building Studio during my first year and then again for my graduation project has been instrumental in shaping my architectural thinking. This studio allowed me to explore and refine my understanding of how people interact with space, and how public buildings can be made truly multifunctional serving not only a primary purpose but also becoming inclusive, inviting, and adaptable places for the community.

I would like to sincerely thank my tutor, Antonio, for his unwavering guidance, encouragement, and belief in my ideas throughout this journey. Your insightful feedback continually pushed me to expand the boundaries of my project. I am also deeply thankful to Ger for his technical expertise and valuable knowledge on sustainable design ideologies, and to Sang for intellectually challenging and strengthening the theoretical foundation of my concept.

To my parents - *aai*, *baba*, and *didi*, thank you for your unwavering emotional and financial support. Studying abroad came with its fair share of challenges, but your constant belief in me gave me the strength to persevere.

Finally, a big shoutout to Parth for being a steady presence throughout this entire process, your support and encouragement made a world of difference. And to Jabez, Prithvi, Anuj, and my amazing DISS Board, thank you for patiently listening to my rants, wild ideas, and last-minute panics, and still managing to make me laugh through it all!

Contents

01 Contextual study of Copenhagen and Haraldsgade

02 Design Methodologies and Spatial Logic

03 Flows and Functions

04 Integrated Design and Climate Analysis

05 Facade fragment and details

06 Graduation Plan and Reflection



01 Contextual study of Copenhagen and Haraldsgade

COPENHAGEN

SYMBOLIC IDENTITIES



NYHAVEN



THE LITTLE MERMAID



CITY CENTER

HARALDSGADE NEIGHBORHOOD
COPENHAGEN'S INDUSTRIAL PAST TURNING RESIDENTIAL!



INDUSTRIAL PAST



TRANSFORMING THE PAST INTO HOUSING



STREETS GRID AND PATTERNS

MAPPING DIVERSE USER GROUPS
IN HARALDSGADE NEIGHBORHOOD



BOLSJEFABRIKKEN IS A CULTURAL CENTER FOR NON-PROFIT MUSIC AND EVENTS
YOUNGSTERS



CPH VILLAGE IS A STUDENT AND WORKING PROFESSIONALS HOUSING
STUDENTS

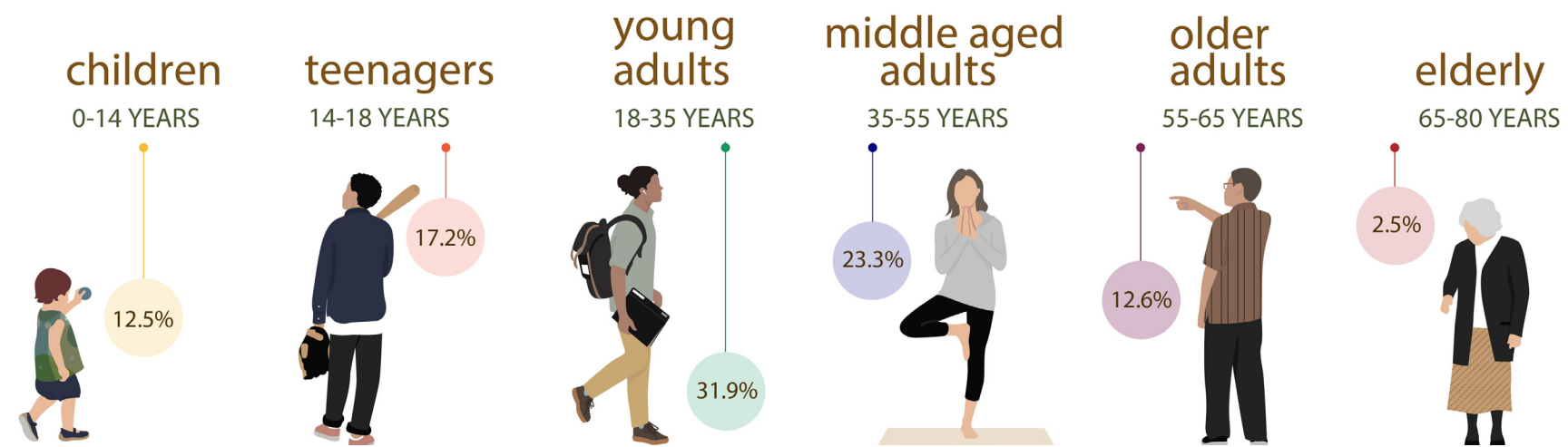


RÖRT IS A YOGA AND MOVEMENT COMMUNITY SPACE
FAMILIES

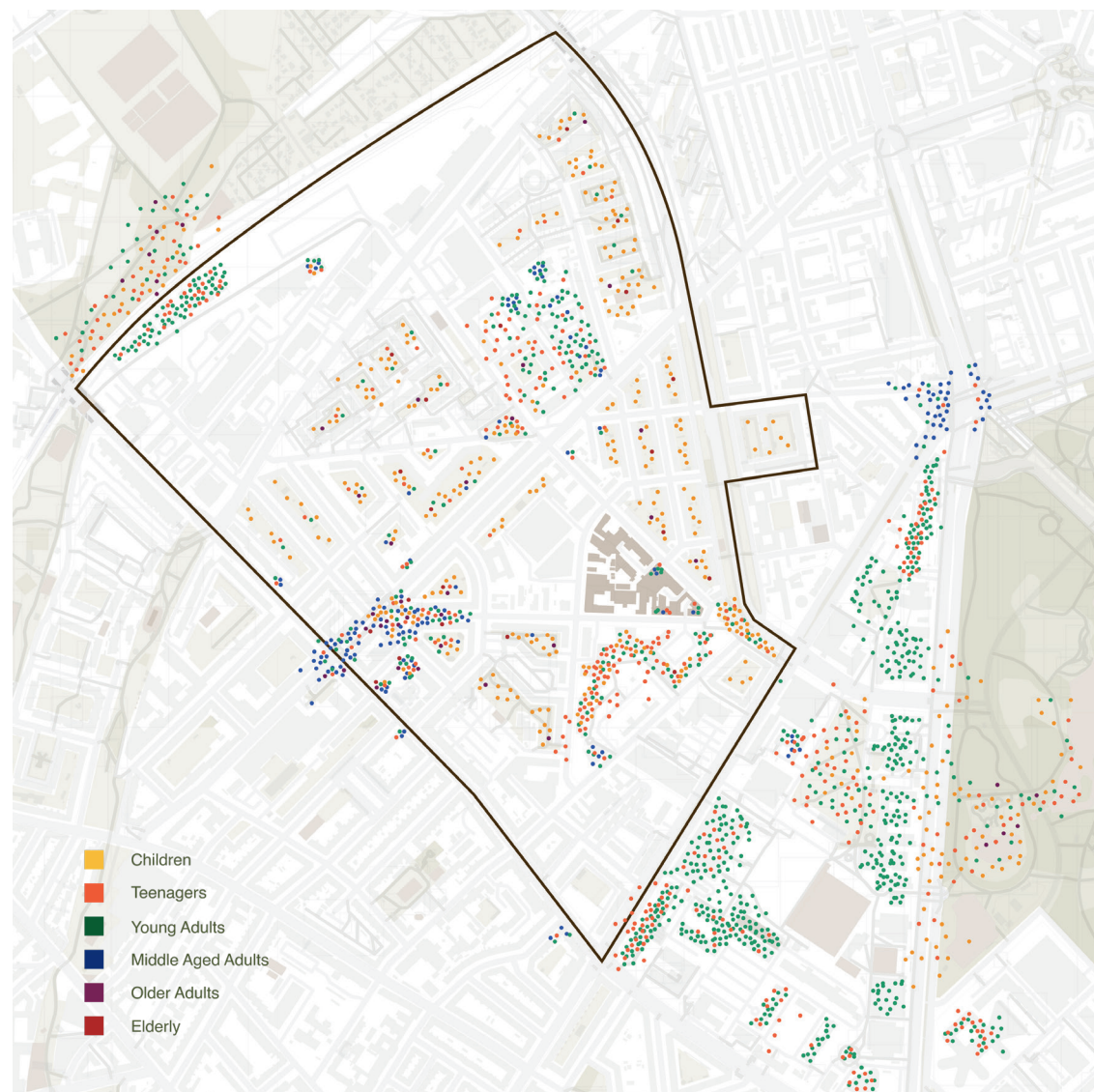


PARK AS A SHARED SPACE FOR ELDERLY INDIVIDUALS AND THEIR CHILDREN
ELDERLY

MAPPING DIVERSE USER GROUPS IN HARALDSGADE NEIGHBORHOOD



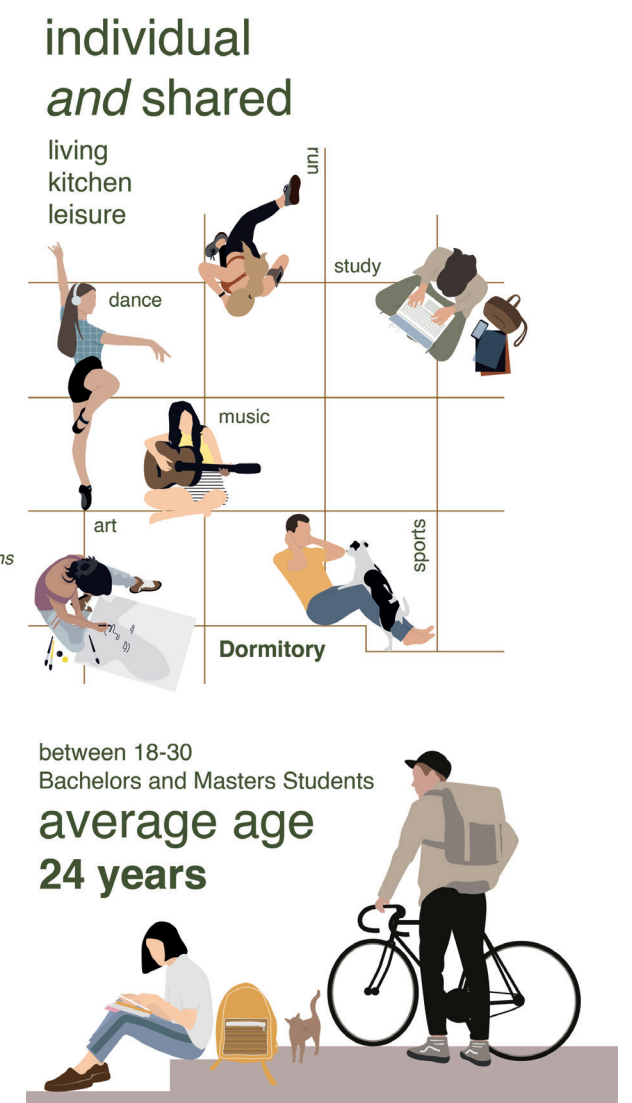
STATISTICS OF ALL USER GROUPS IN THE NEIGHBORHOOD



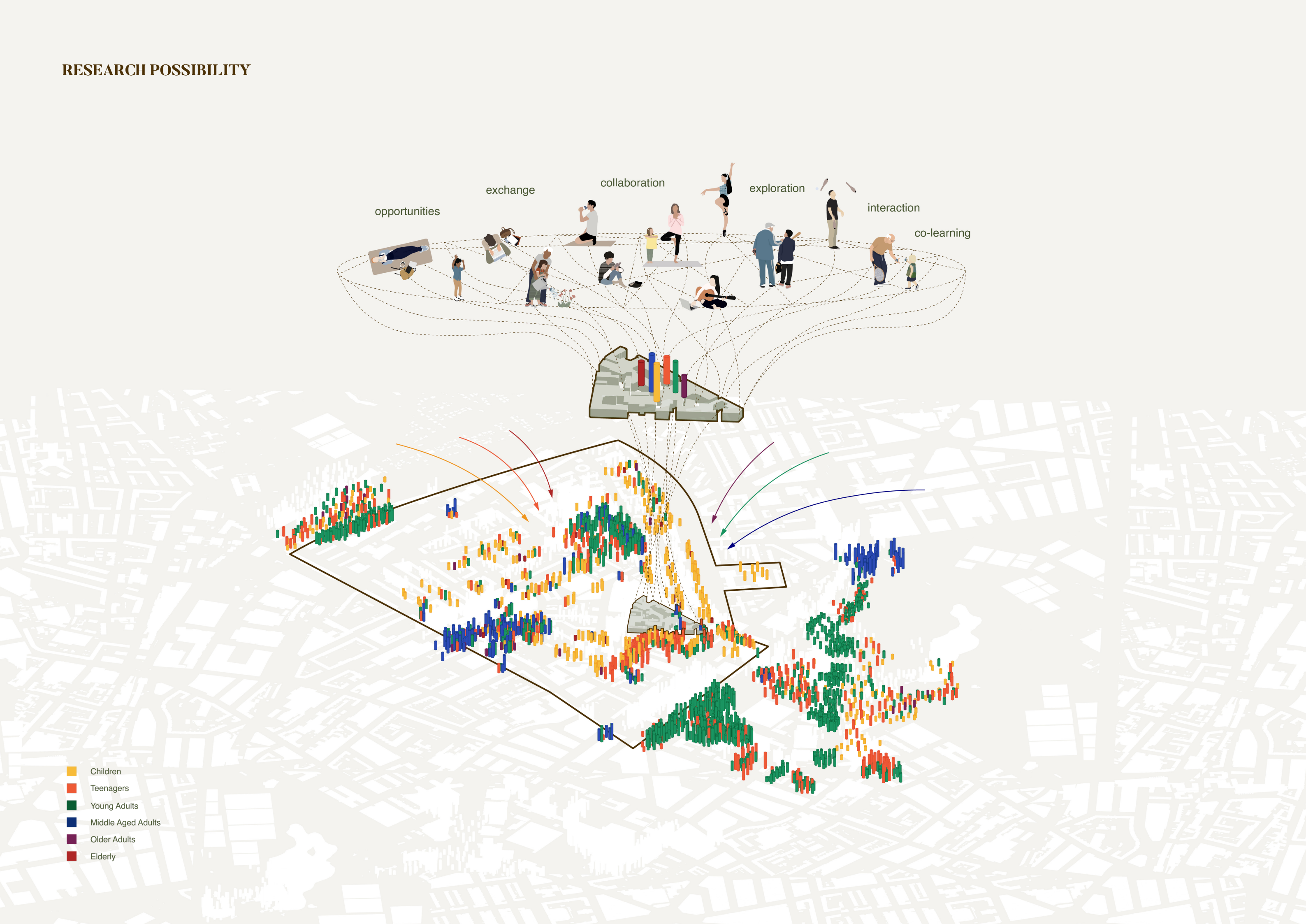
MAPPING MOVEMENT PATTERNS OF ALL USER GROUPS



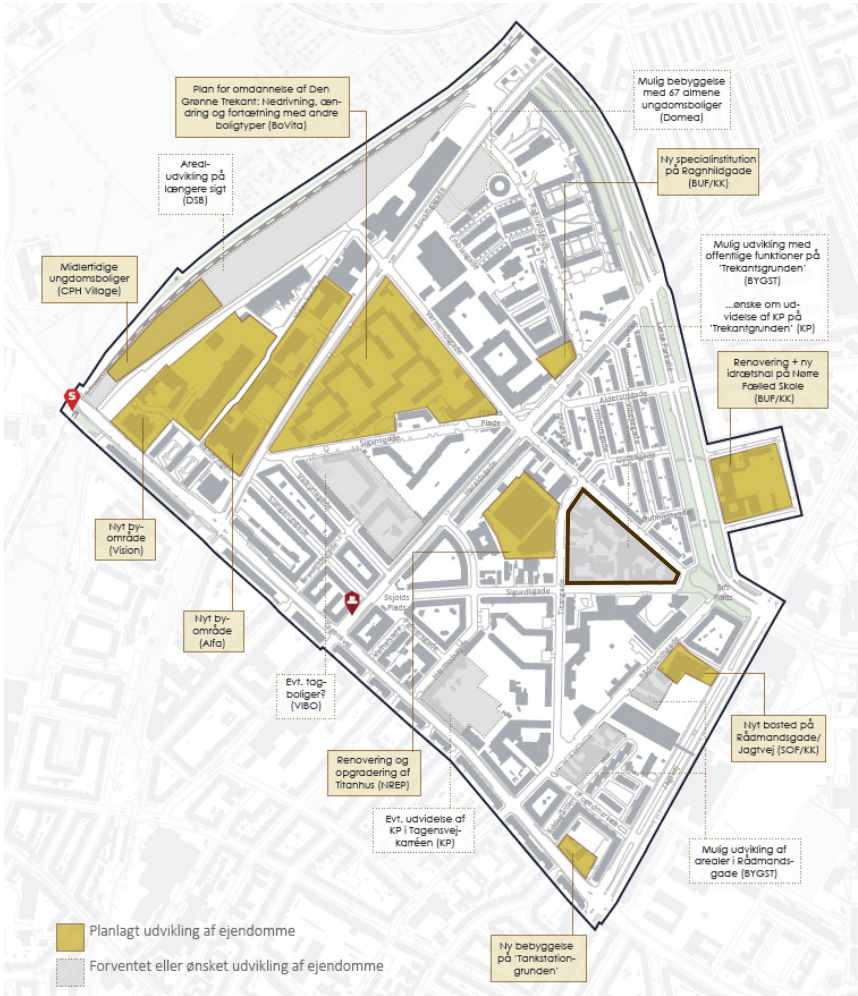
ANALYZING THE RELATIONSHIP BETWEEN UNIVERSITY BUILDINGS AND STUDENT MOVEMENT



RESEARCH POSSIBILITY



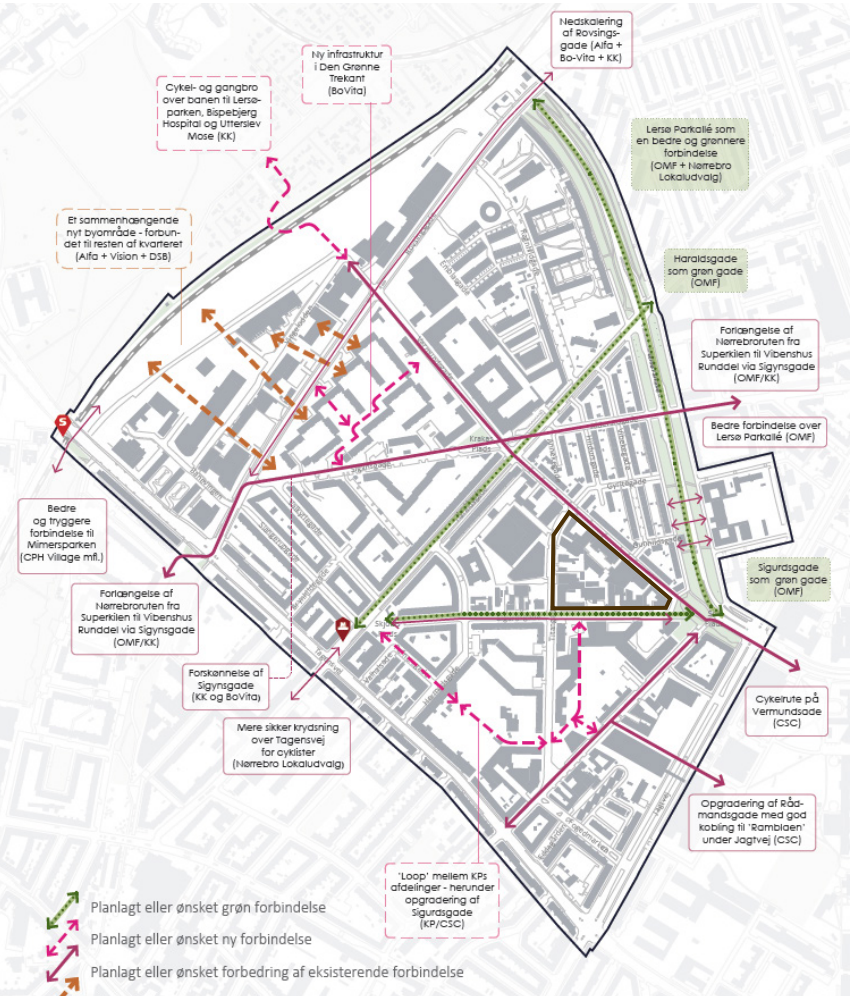
NEIGHBORHOOD RENEWAL PLANS



UNDER DEMOLITION
“POSSIBLE DEVELOPMENTS WITH PUBLIC FUNCTION”
STUDY SPACE FOR STUDENTS + HOUSING + ACTIVITY ZONES



IMPROVED CONNECTIVITY TO THE GREEN



IMPROVED CONNECTIVITY OF THE JUNCTION +
NEW BUILDINGS TO OPEN UP TO THEIR SURROUNDING

RESEARCH QUESTION

How can a public building be designed by readapting Figaro to foster intergenerational learning and collaboration for the community of Haraldsgade?

02 Design Methodologies and Spatial Logic

PROJECT SITE

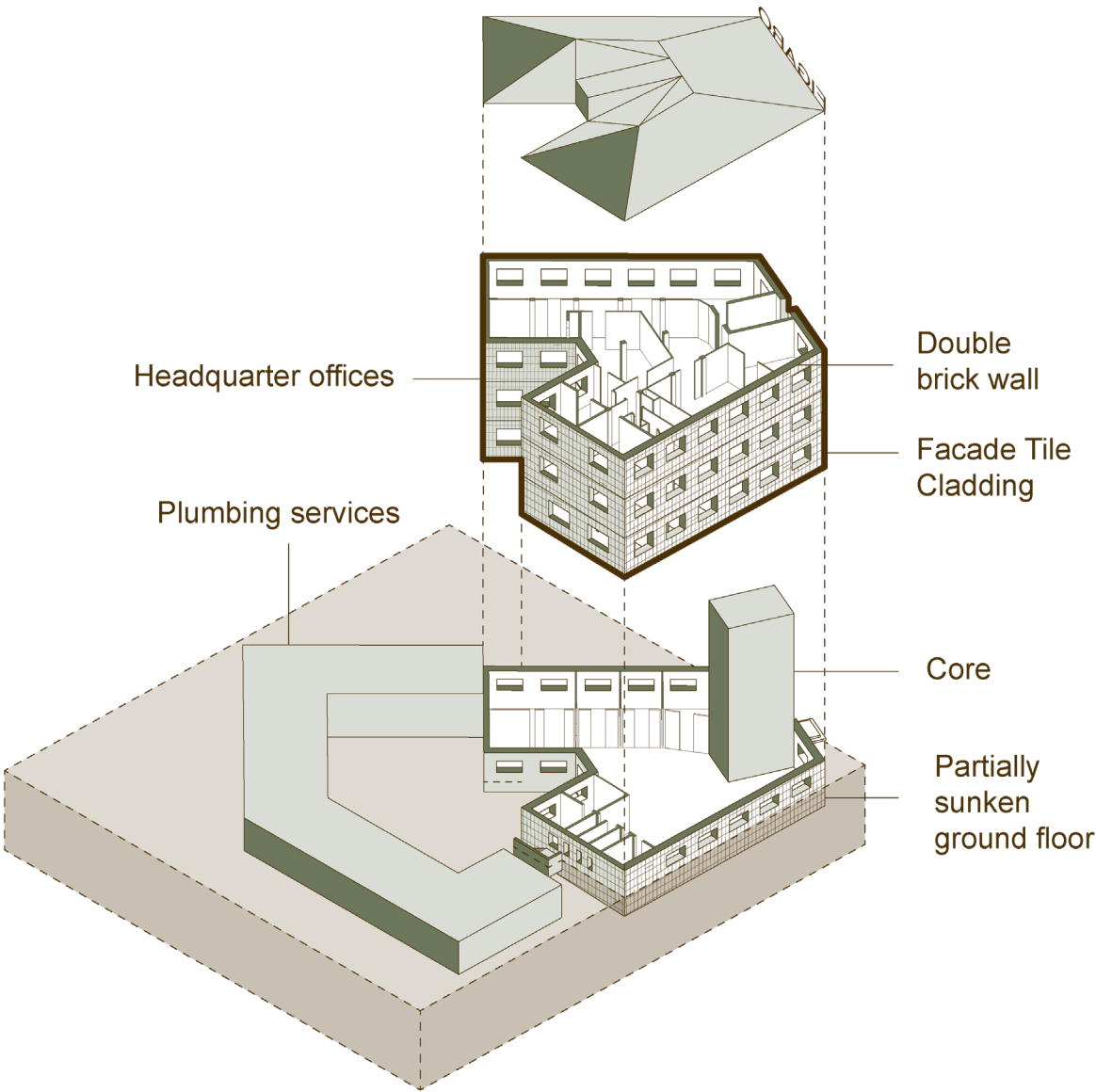
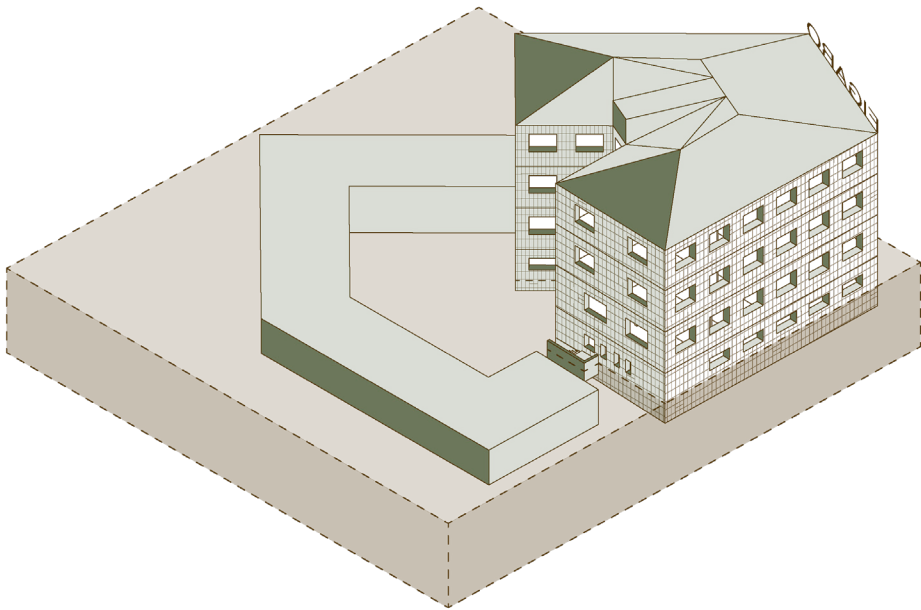


FIGARO IS CENTRALLY LOCATED WITH EDUCATIONAL INSTITUTIONS ON ONE HAND AND RESIDENTIAL ZONE TO THE OTHER

UNDERSTANDING FIGARO

Figaro, a factory and is the
Headquarter of the Danish Hair Dressers &
Cosmeticians Associations, 1935

In response to a conflict, the organization constructed an
octagonal building resembling a fortress or castle, where
Social Democrats and union activists gathered to have
their hair cut.



UNDERSTANDING FIGARO'S URBANSCAPE



FIGARO

ROAD ACCESS FOR CARS

PEDESTRIAN ZONE AND GREENSCAPES

CYCLE AND PEDESTRIAN PATHWAYS

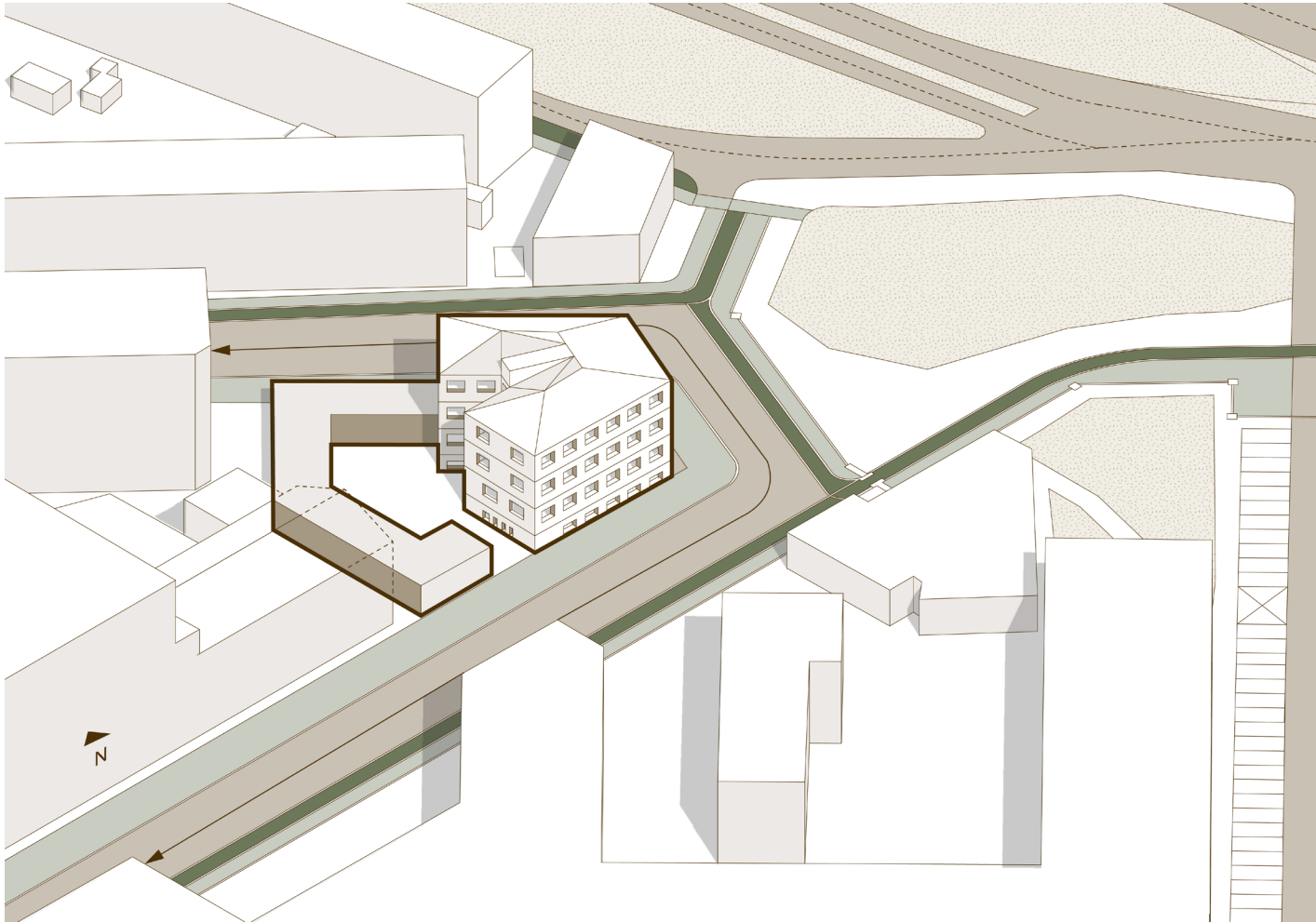
RE USE?

A DIVISION?

ELEVATED? DOES IT HAVE ANY PURPOSEPOSE?

PERIPHERAL MOVEMENT?

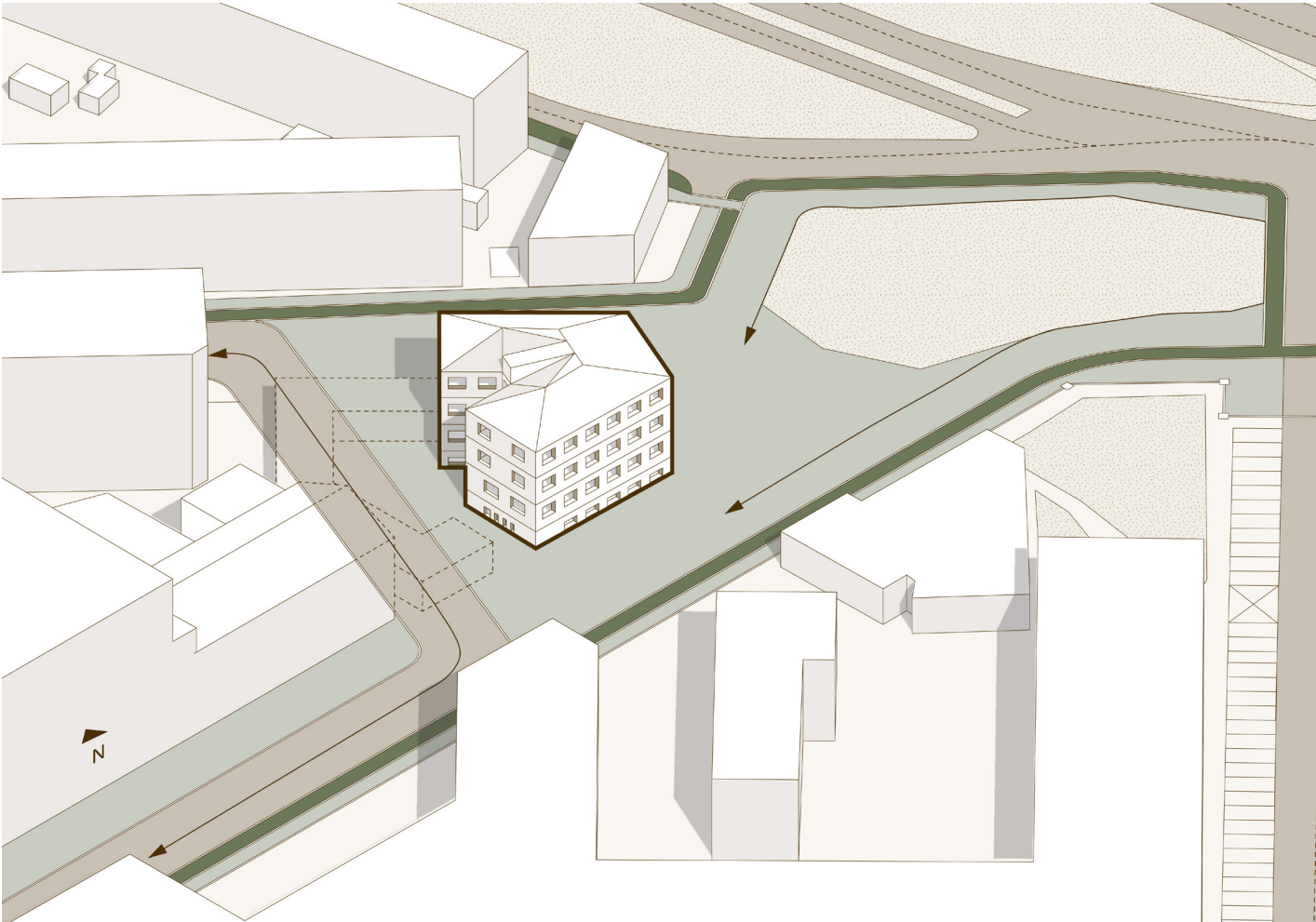
FORM STRATEGIES | 01 CLEAR MOVEMENT



EXISTING URBANSCAPE

existing road, cycle and pedestrian access

- cycle access
- pedestrian access
- road access

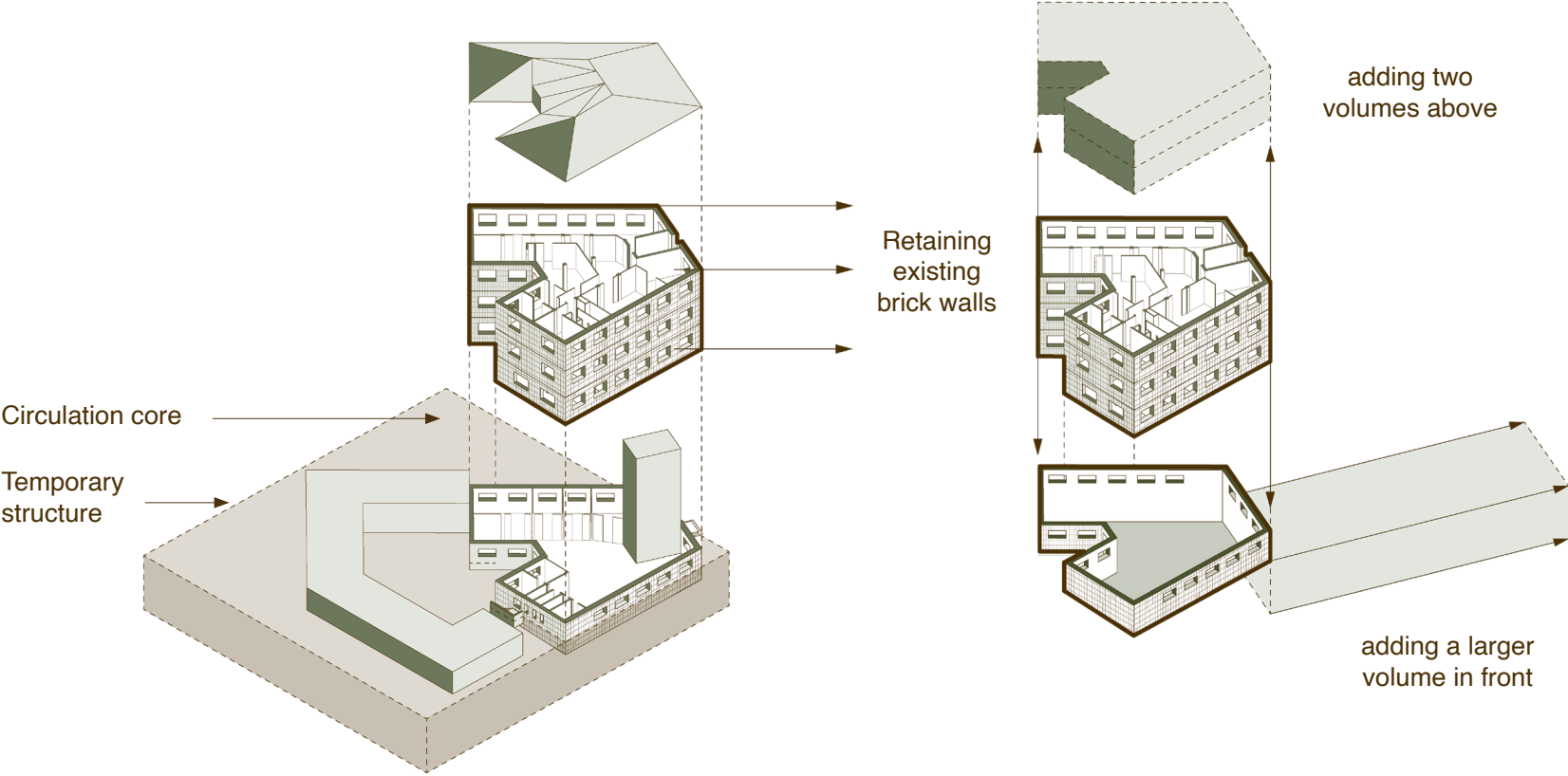


PROPOSED URBANSCAPE

shifting the road and opening up the building front as a pedestrian zone

- cycle access
- pedestrian access
- road access

02 FORM TRANSFORMATION

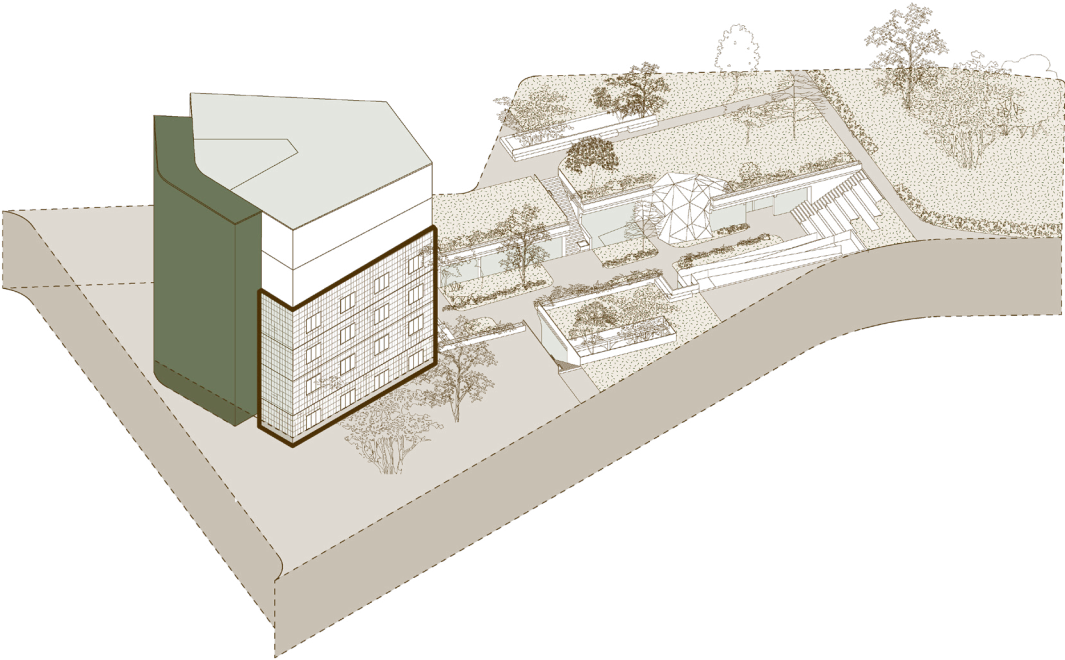


ELIMINATE

Eliminating the circulation core and the adjacent structure

ADD

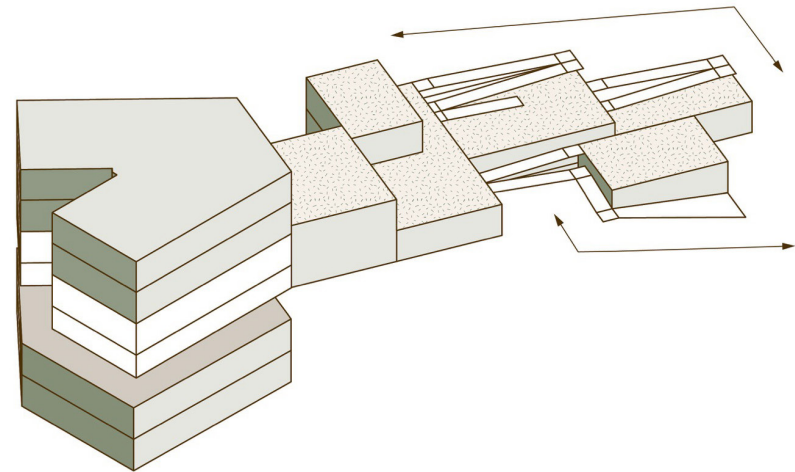
Adding volumes as per new programmatic needs



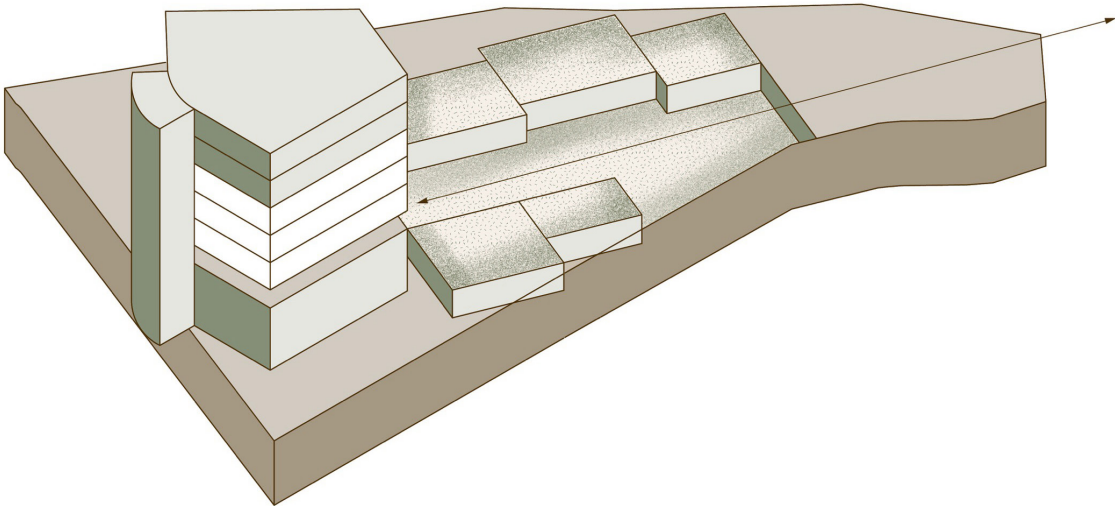
REIMAGINE

Reimagining the front edge as an extended green landscape and pedestrian zone, providing safe and accessible entry for all

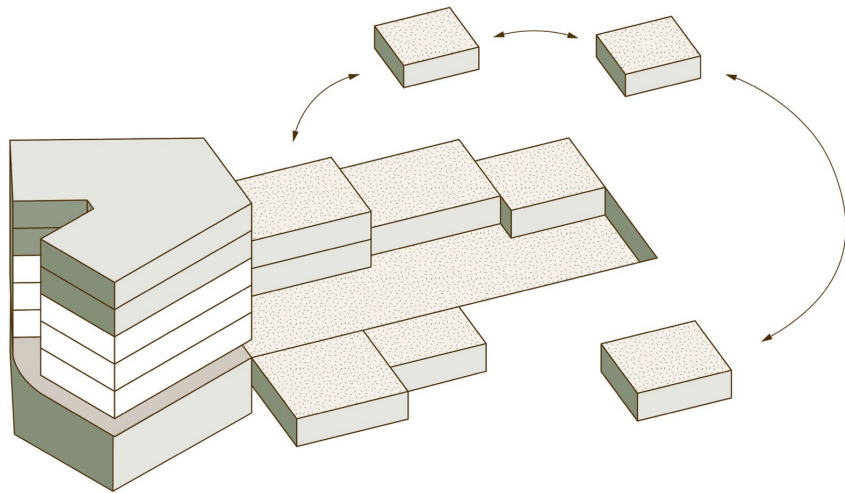
03 LANDSCAPE ITERATIONS



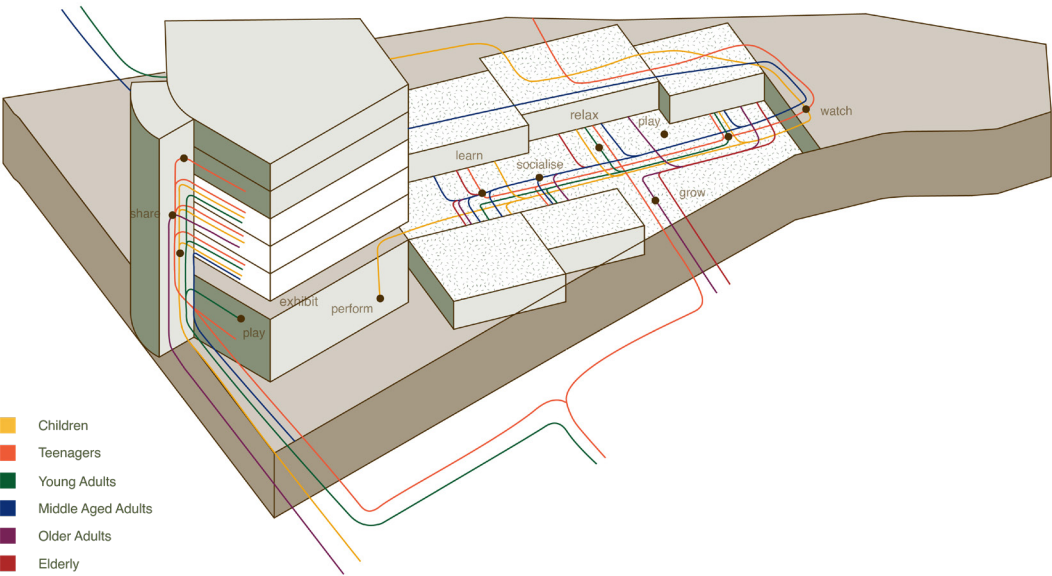
ON ONE SIDE



UNDERGROUND LINEAR FORM TO
MAXIMISE GREEN SPACE & ACCESSIBILITY



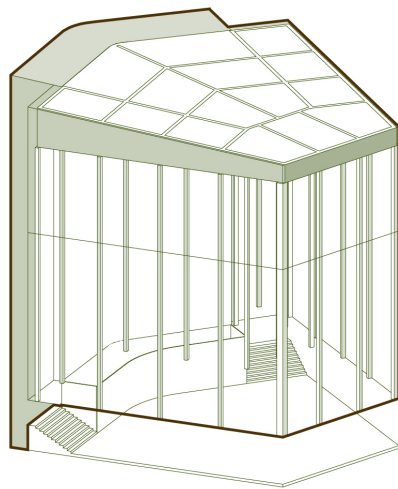
A SCATTERED LANDSCAPE



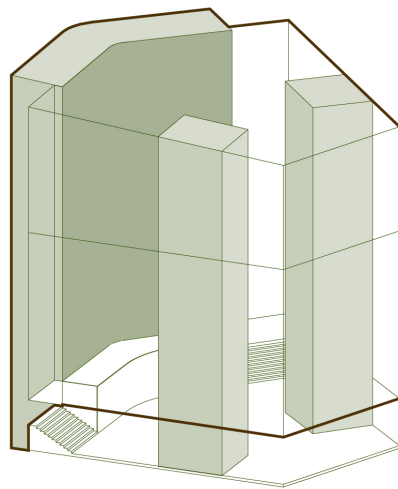
- Children
- Teenagers
- Young Adults
- Middle Aged Adults
- Older Adults
- Elderly

USER GROUP MOVEMENT PATTERN

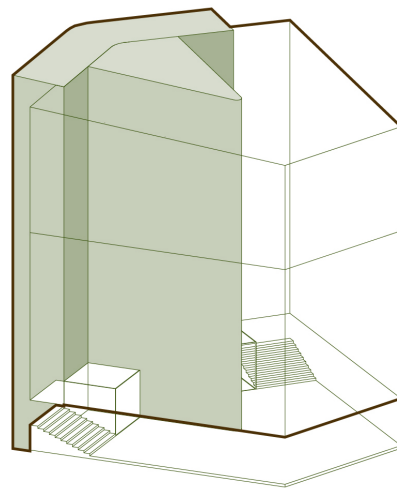
04 FIGARO STRUCTURAL ITERATIONS



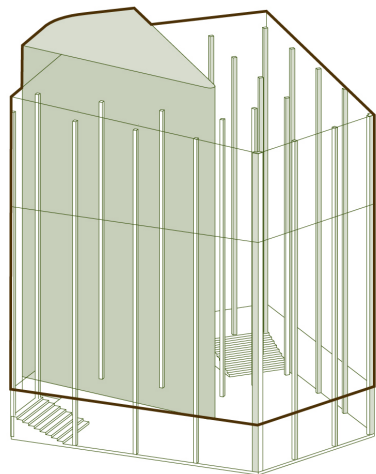
CANTILEVERED ON ONE CORE



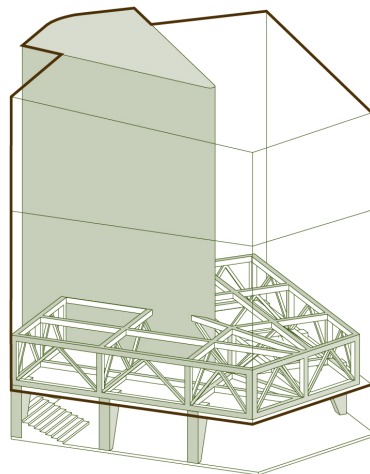
TWO CORES IN THE CENTRE



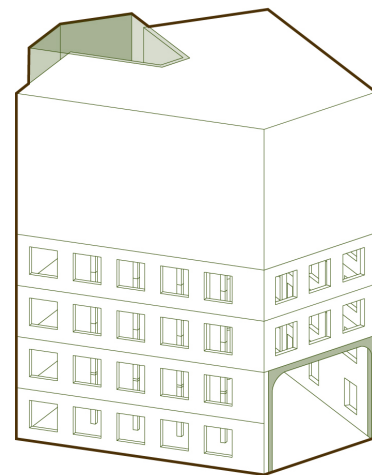
T SHAPED CORE TO
COVER MORE AREA



PERIPHERAL COLUMNS



STEEL GIRDER TAKING THE LOAD

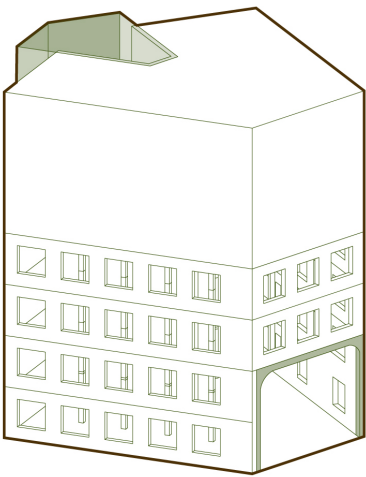


STEEL PORTALS

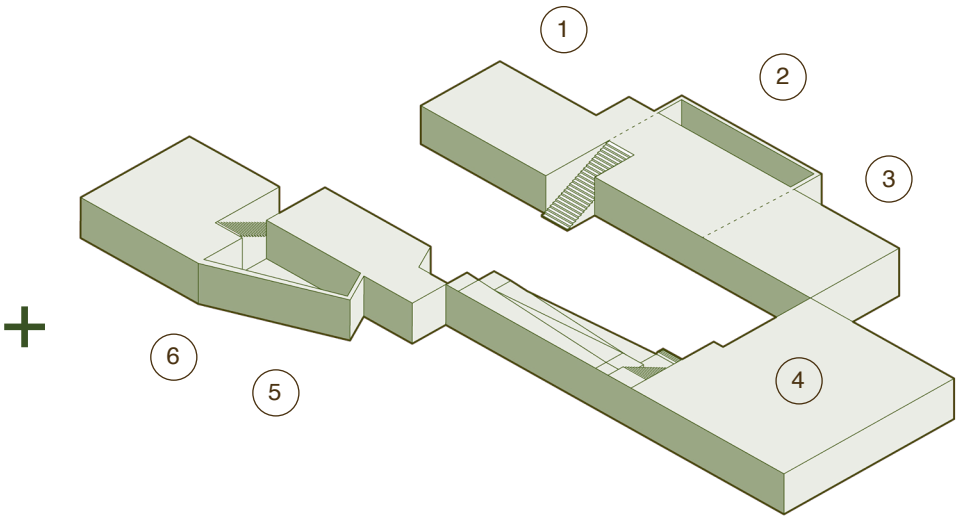


FORMAL EXPLORATION FOR LIGHT ANALYSIS

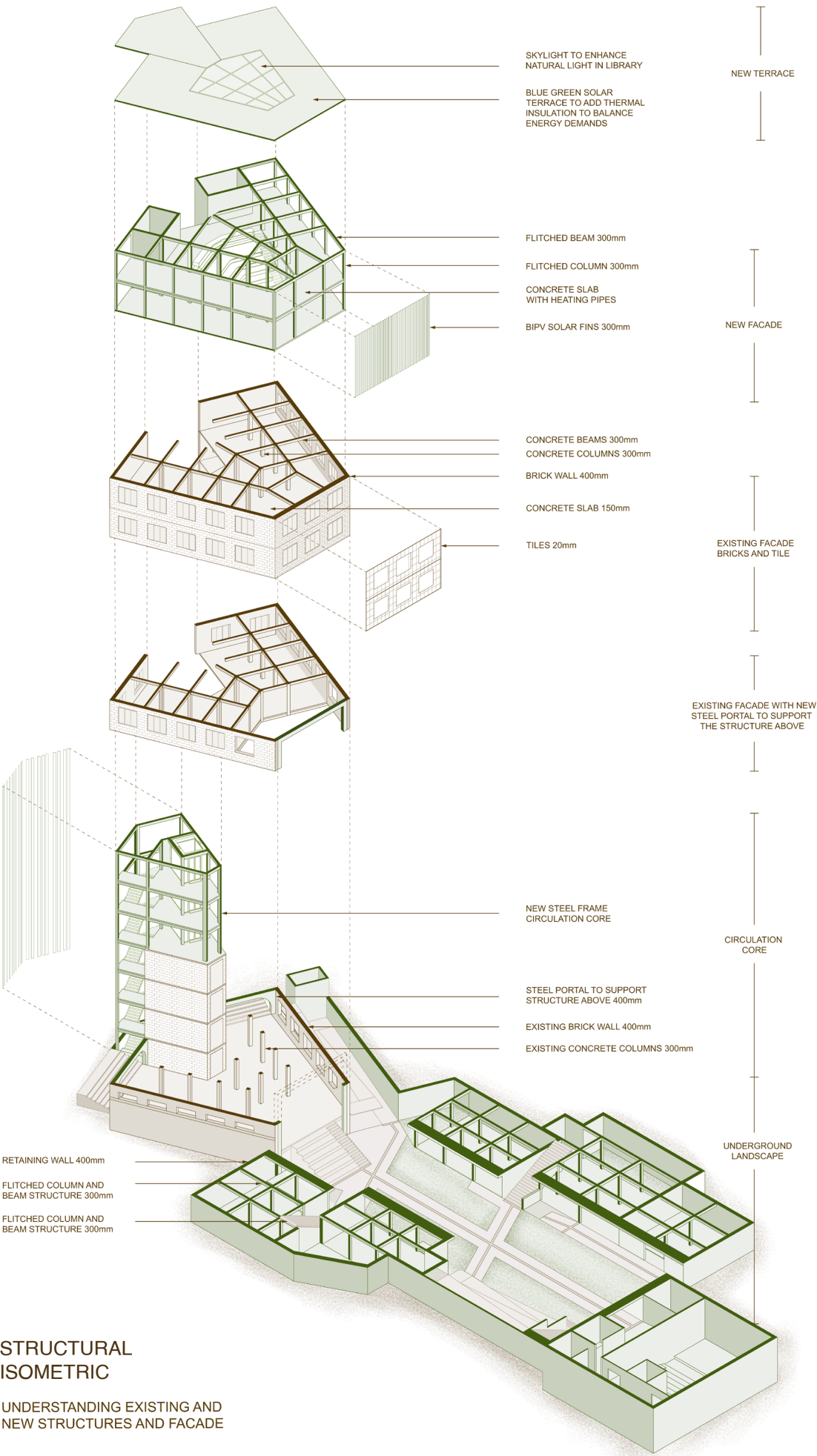
05 FINAL FORM



RETAINING FIGARO'S
EXISTING FACADE



AN INVITING LANDSCAPE WITH
PROGRAMS UNDERGROUND





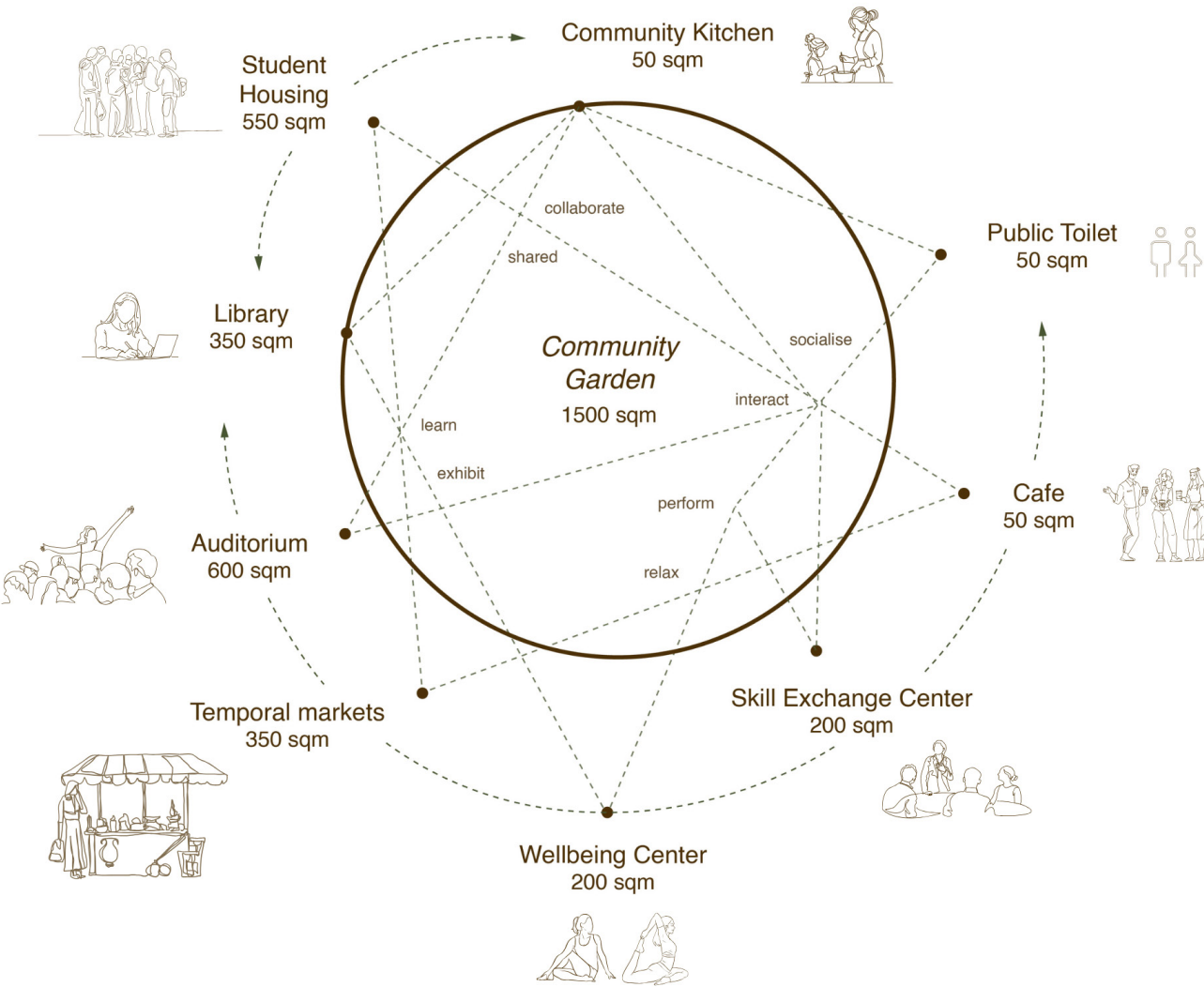
EXISTING URBANSCAPE OF FIGARO



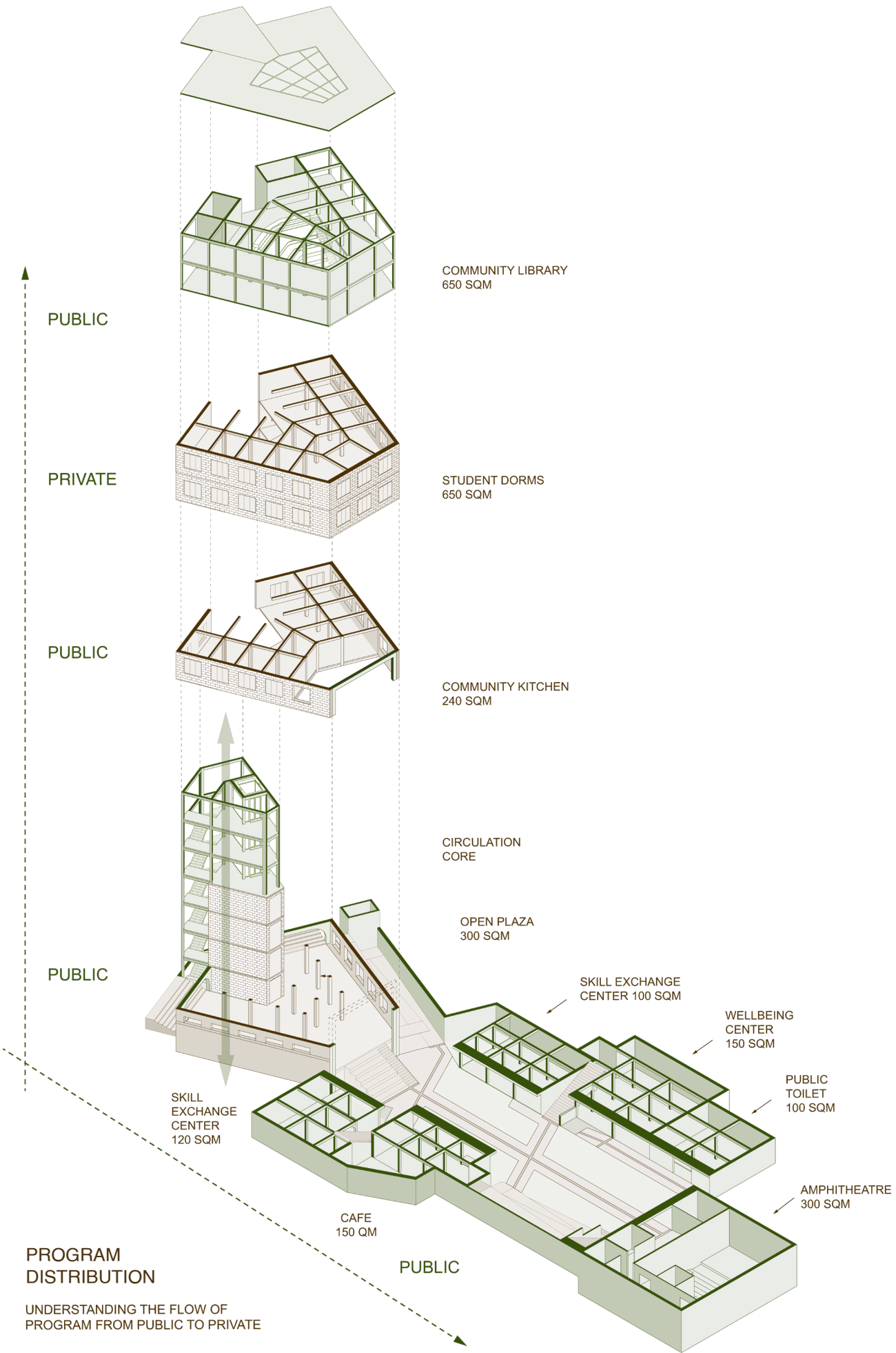
TRANSFORMED URBANSCAPE OF FIGARO

03 Flows and Functions

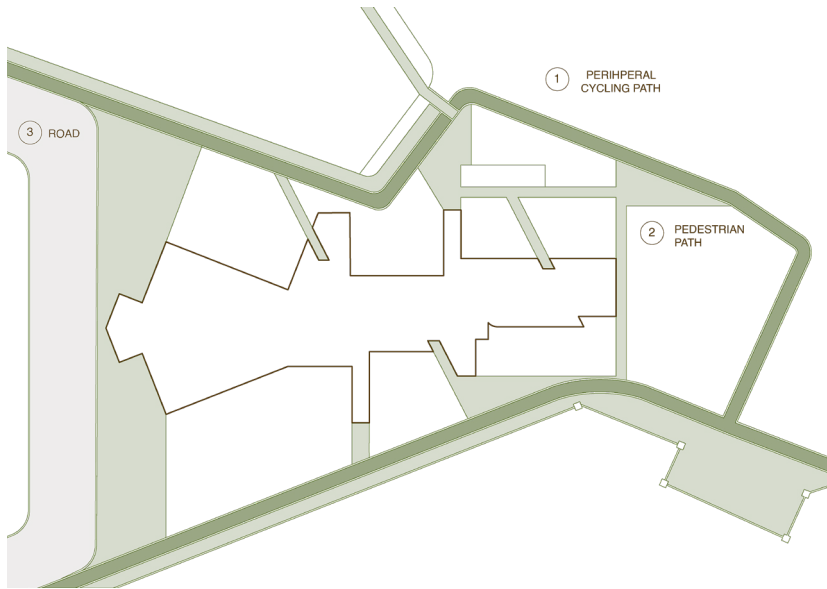
PROGRAM DIAGRAM



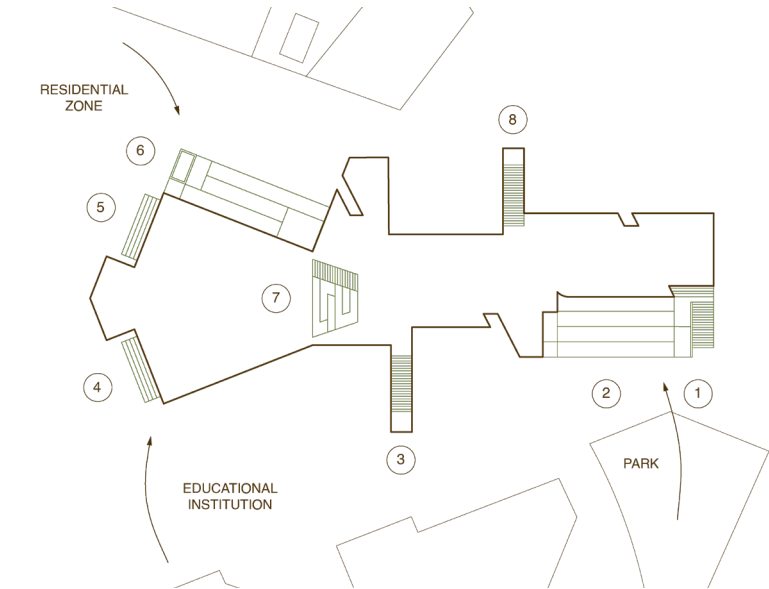
THE COMMUNITY GARDEN SERVES AS A CENTRAL MAGNET,
ANCHORING AND CONNECTING ALL THE PROGRAMS OF THE BUILDING



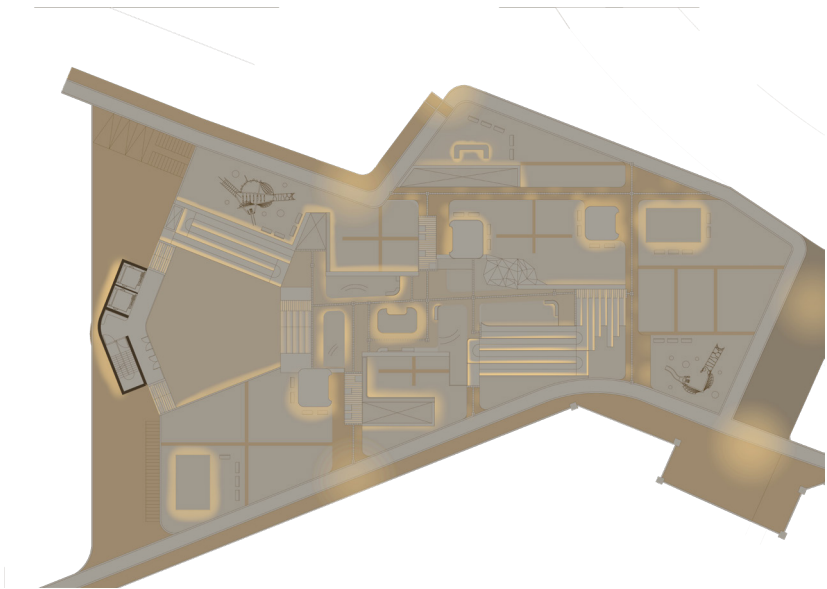
LANDSCAPE STRATEGIES



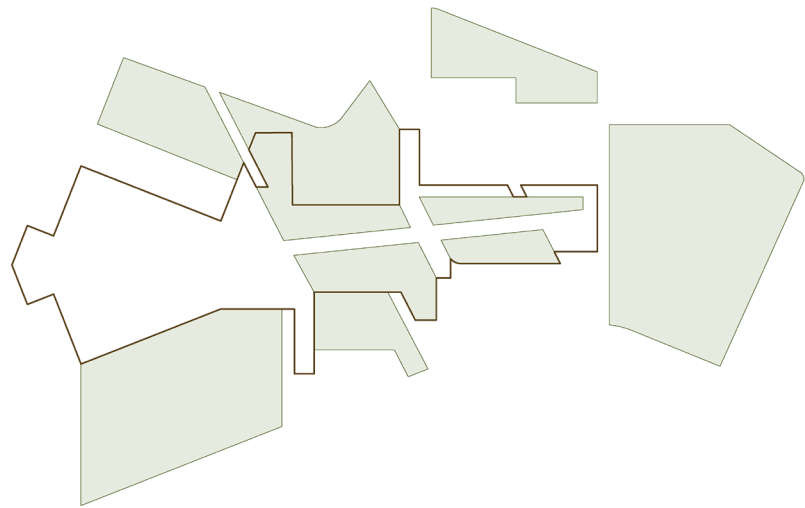
PERIPHERAL MOVEMENT



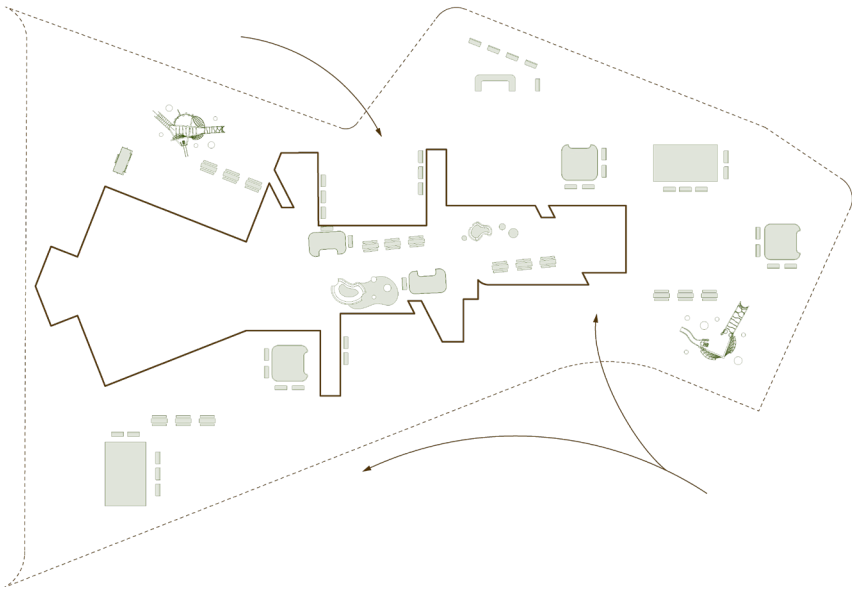
ACCESS POINTS



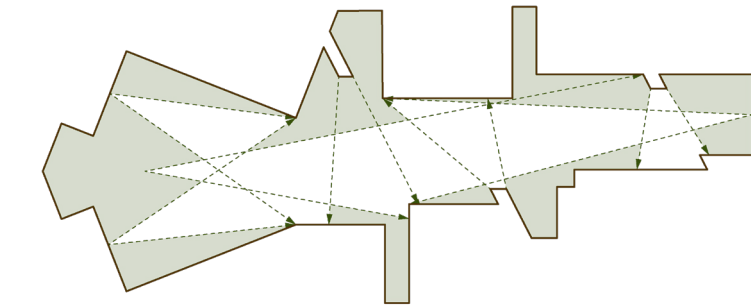
SAFETY



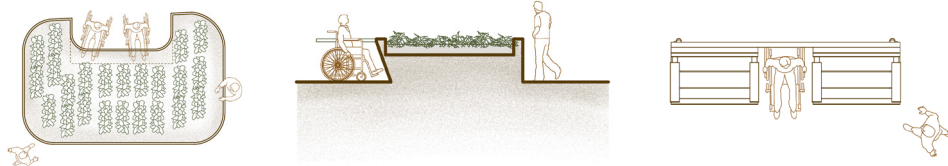
GREEN ZONES



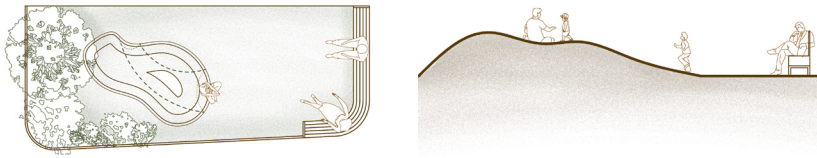
SOCIAL ZONES



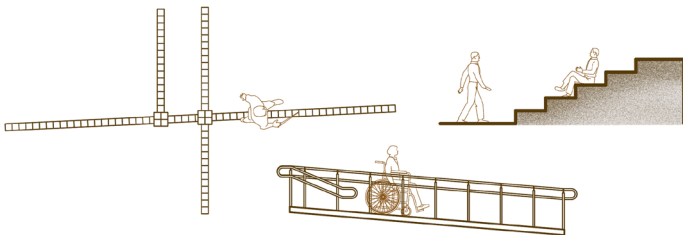
SIGHT LINES



INCLUSIVE SEATING SPACES

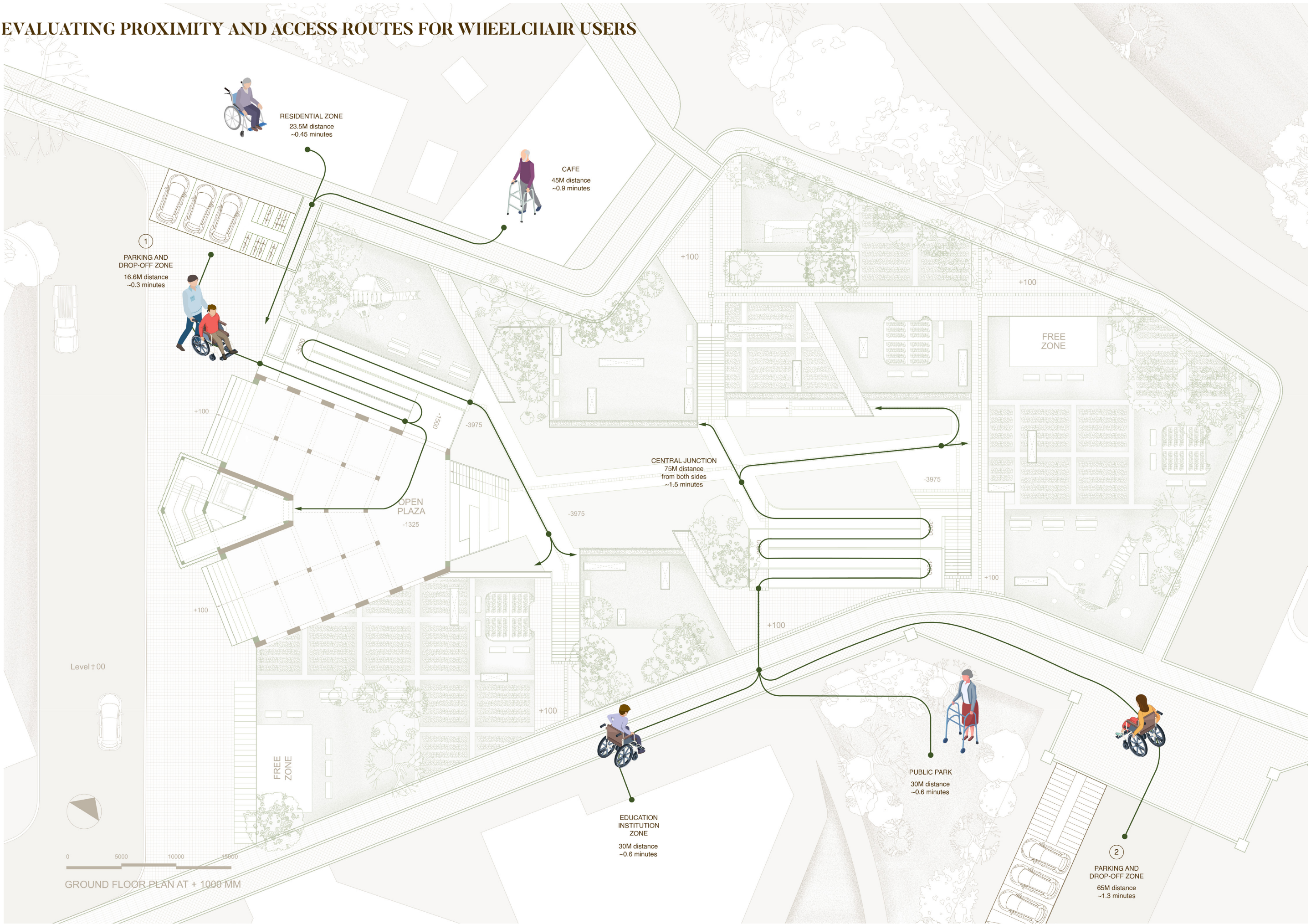


PLAY ZONES



INCLUSIVE ACCESS

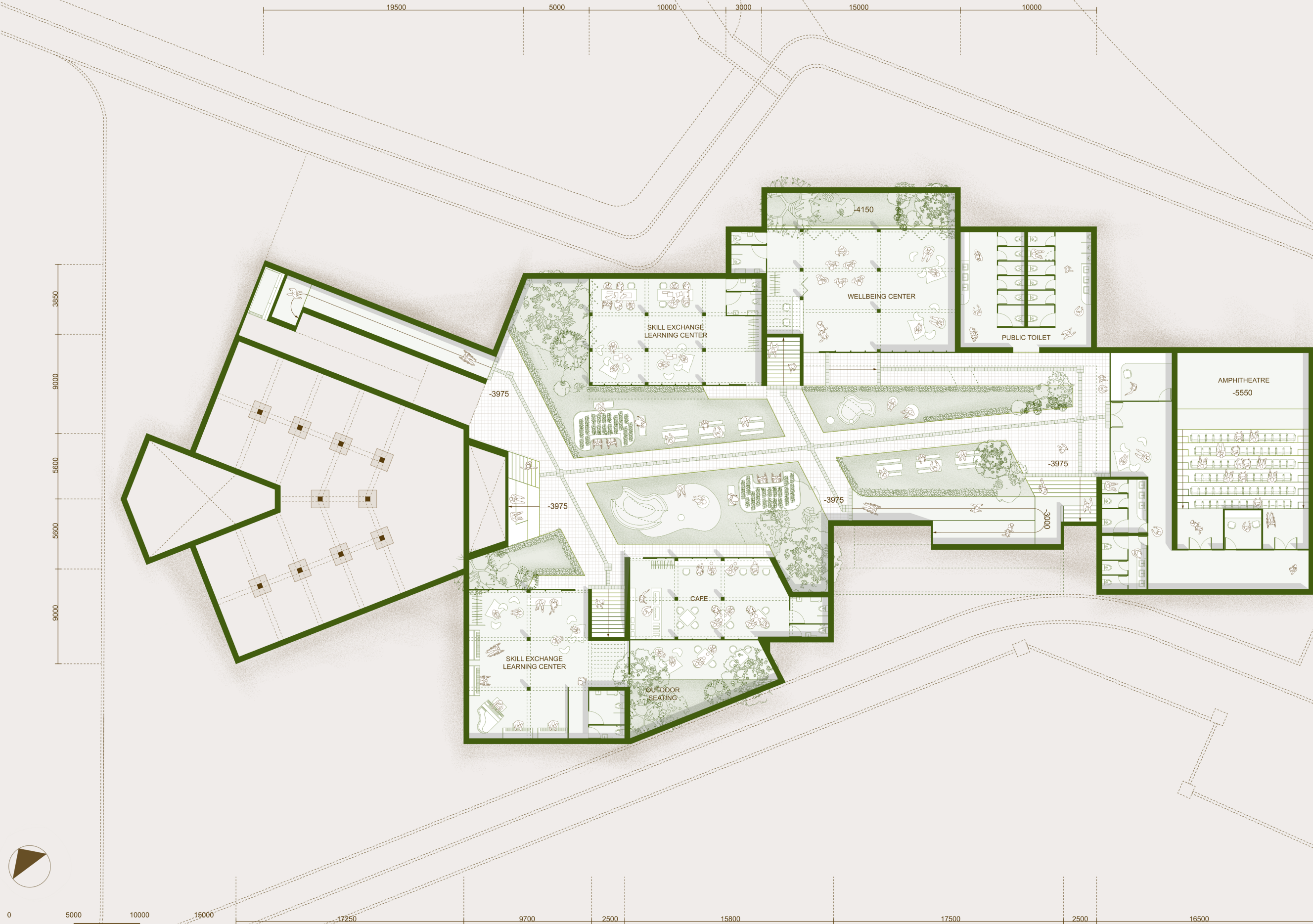
EVALUATING PROXIMITY AND ACCESS ROUTES FOR WHEELCHAIR USERS



EVALUATING PROXIMITY AND ACCESSIBILITY FOR DIVERSE PASSERBY

The ground floor plan illustrates a proposed cycling path network at Level +1000 MM. Key features include:

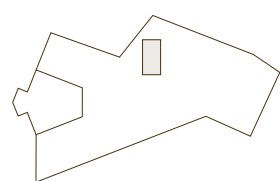
- Zones and Landmarks:** Residential Zone, CAFE, OPEN PLAZA, EDUCATION INSTITUTION ZONE, PUBLIC PARK, FREE ZONE.
- Elevation Contours:** +100, -3975, -3000, -2000.
- Cycling Path Network:** A dashed green line traces the path, with a total length of 265M.
- Proximity Data:**
 - RESIDENTIAL ZONE: 30M distance (~0.45 minutes)
 - CAFE: 17M distance (~0.3 minutes)
 - CENTRAL JUNCTION: 75M distance from both sides (~1.5 minutes)
 - PUBLIC PARK: 16M distance (~0.3 minutes)
 - EDUCATION INSTITUTION ZONE: 15M distance (~0.2 minutes)
 - EDUCATION INSTITUTION ZONE: 21M distance (~1.5 minutes)
- Scale and Orientation:** Scale bar from 0 to 10000 MM. North arrow pointing towards the top-left.

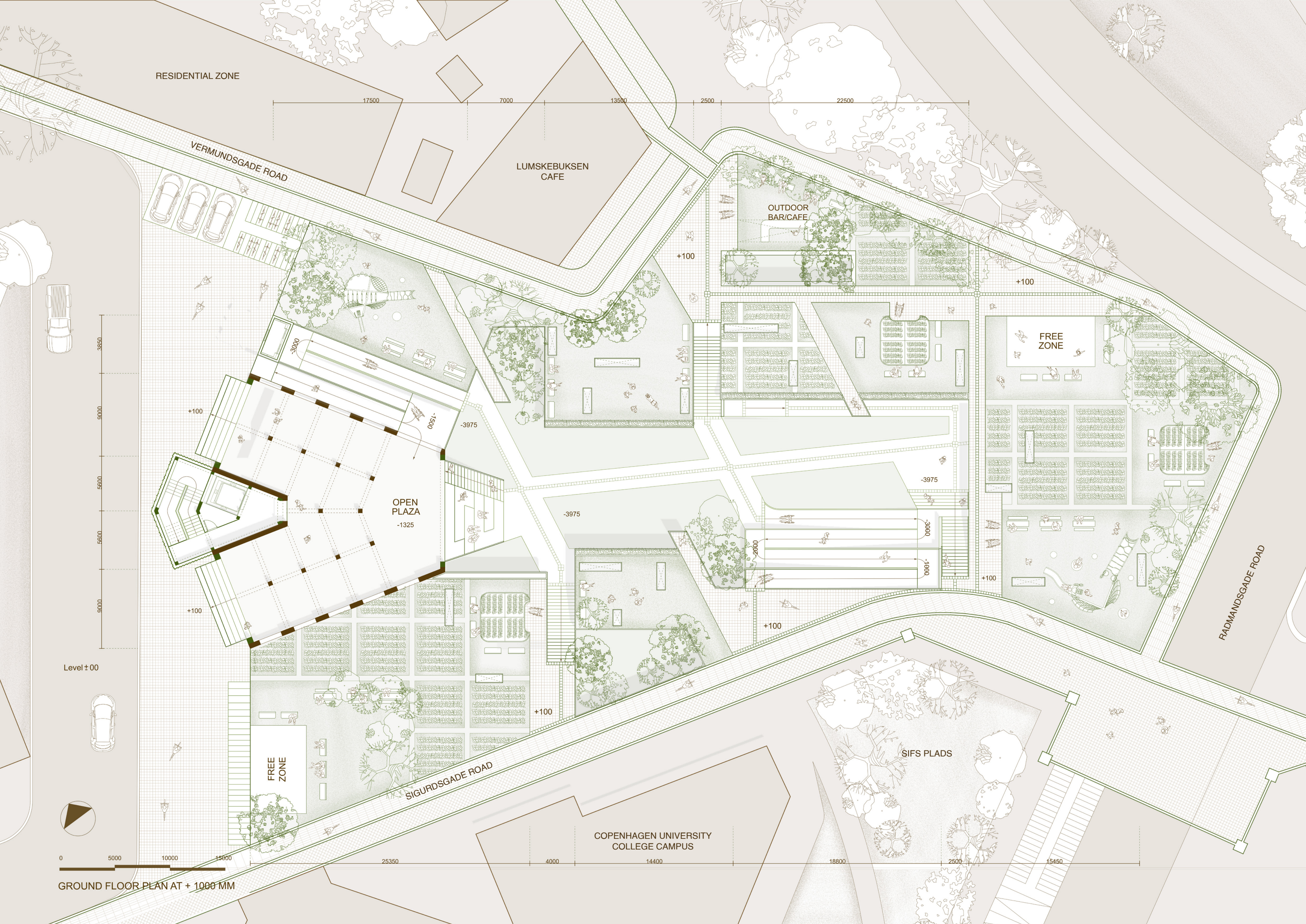


GROUND FLOOR PLAN AT -2000 MM



SHARED LEARNING SPACE FOR INTERGENERATIONAL DIALOGUE





RESIDENTIAL ZONE

LUMSKEBUKSEN
CAFE

OUTDOOR
BAR/CAFE

FREE
ZONE

OPEN
PLAZA

SIFS PLADS

COPENHAGEN UNIVERSITY
COLLEGE CAMPUS

VERMUNDSGADE ROAD

SIGURDSGADE ROAD

RADMANDSGADE ROAD

Level ± 00

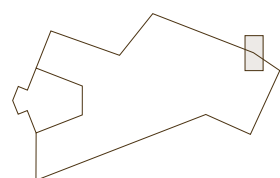
GROUND FLOOR PLAN AT + 1000 MM



ISOMETRIC VIEW HIGHLIGHTING SHARED GROUNDS

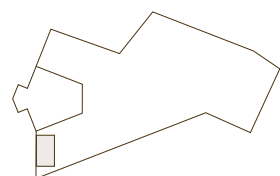


COMMUNITY FREE ZONES FOR POP-UP STALLS AND ACTIVITIES



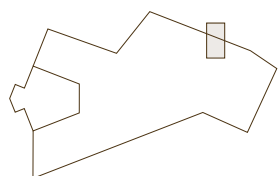


FREE ZONES FOR FOOD TRUCKS



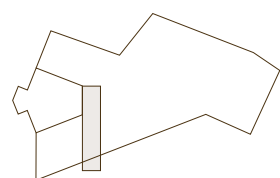


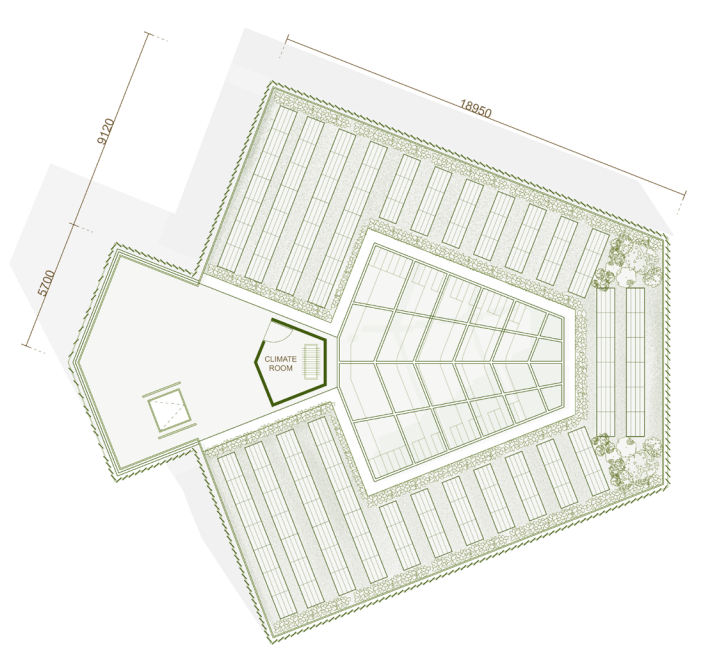
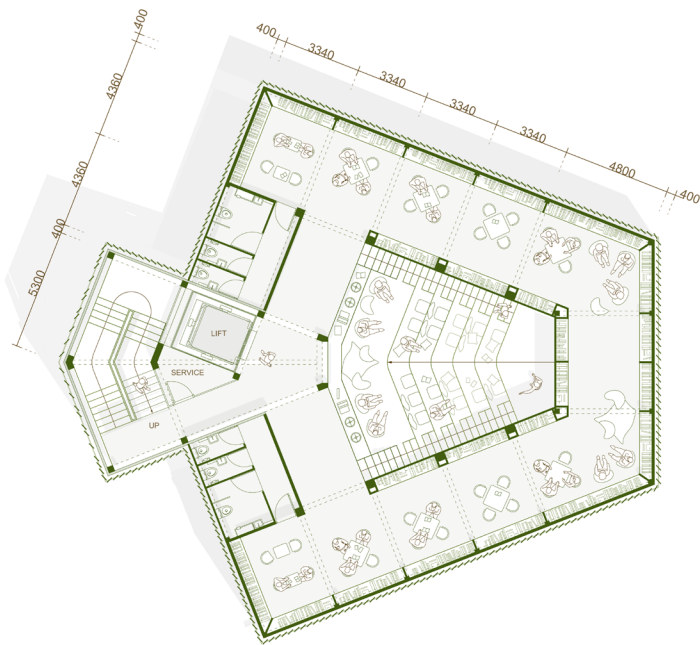
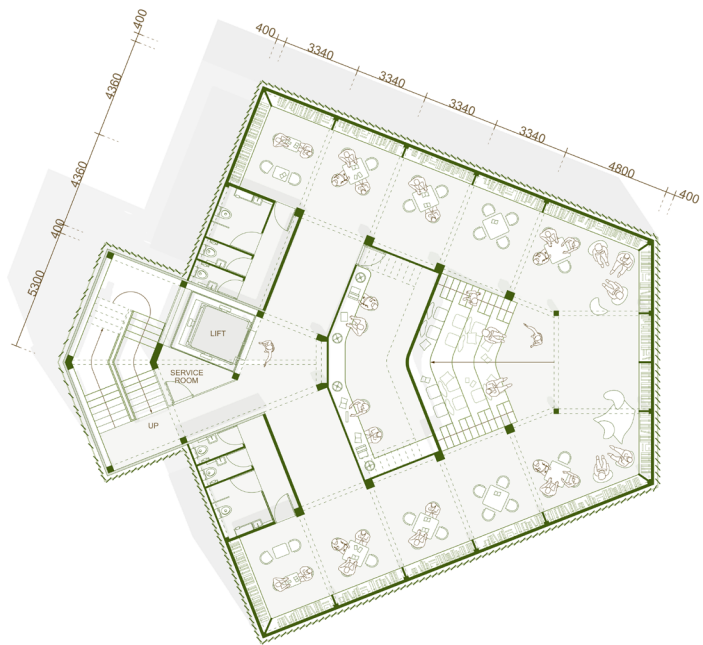
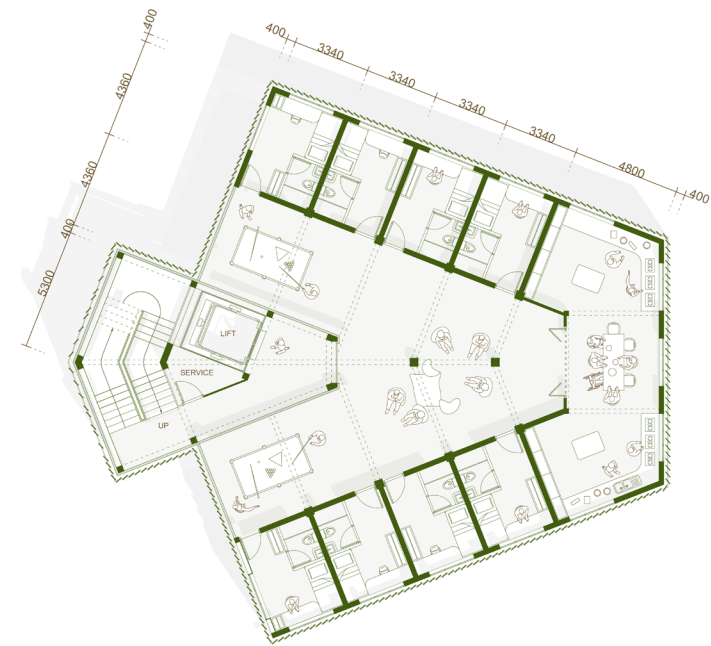
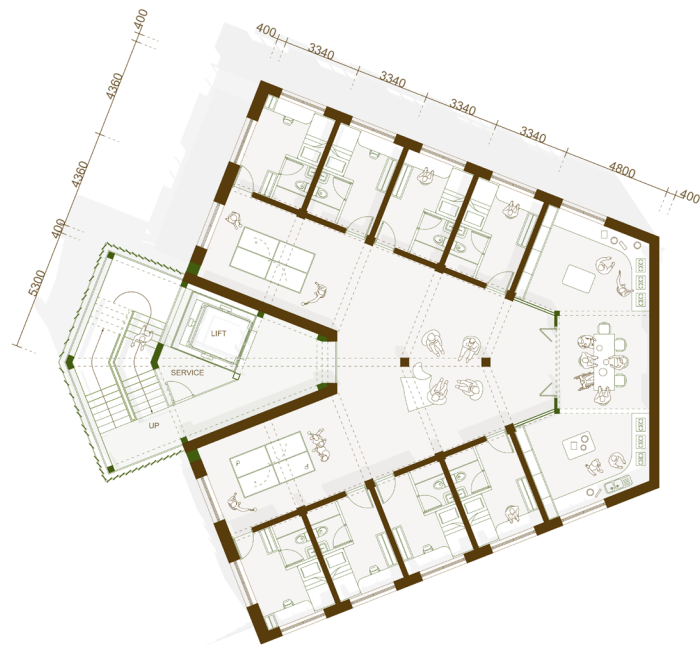
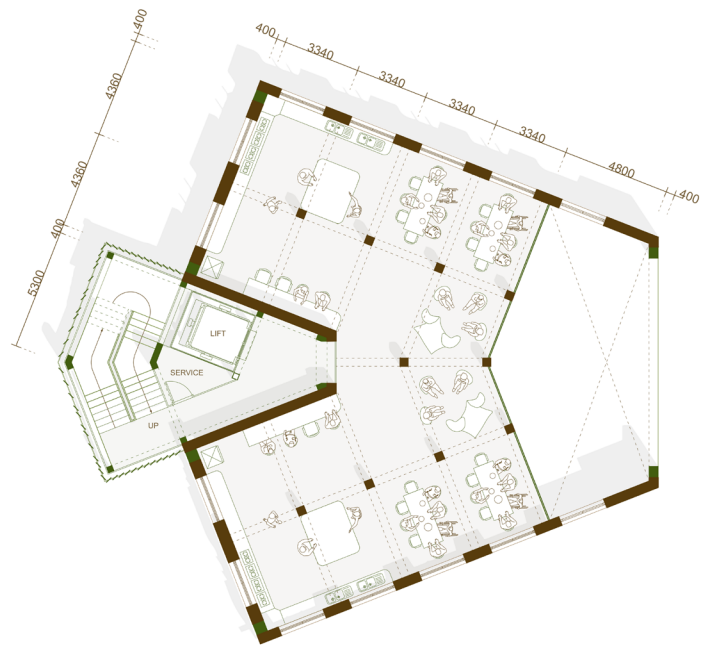
SEATING DESIGNED FOR DIVERSE USER GROUPS





PLAZA AS A SHADED RESTING SPACE AND TEMPORARY MARKET HUB







COMMUNAL KITCHEN OPENING UP TO THE SHARED LANDSCAPE



STUDENT LIVING AND SOCIAL SPACES



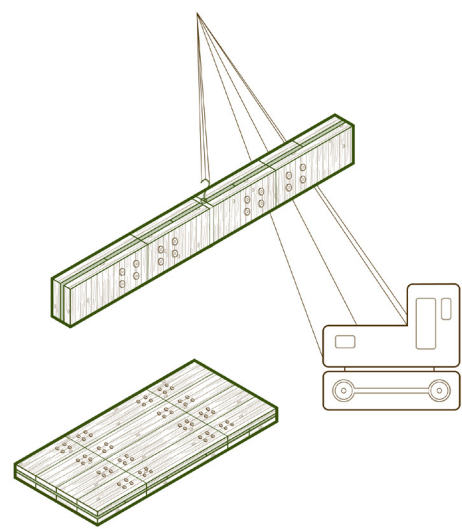
A COMMUNITY LIBRARY DESIGNED FOR PUBLIC ENGAGEMENT

04 Integrated Design and Climate Analysis

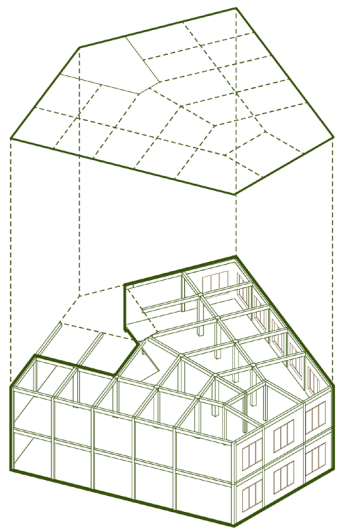
INTEGRATED DESIGN
AND CLIMATE ANALYSIS



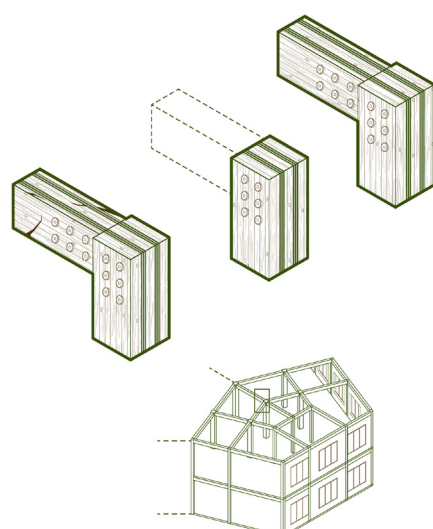
CHOOSING TIMBER AS THE NEW MATERIAL



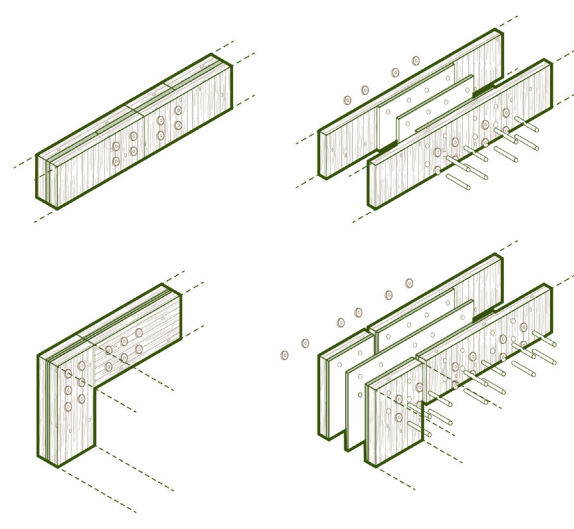
PREFABRICATED TIMBER MEMBERS



ADAPTING TO THE EXISTING GRID



MODULAR MEMBERS



DRY INSTALLATION PROCESS



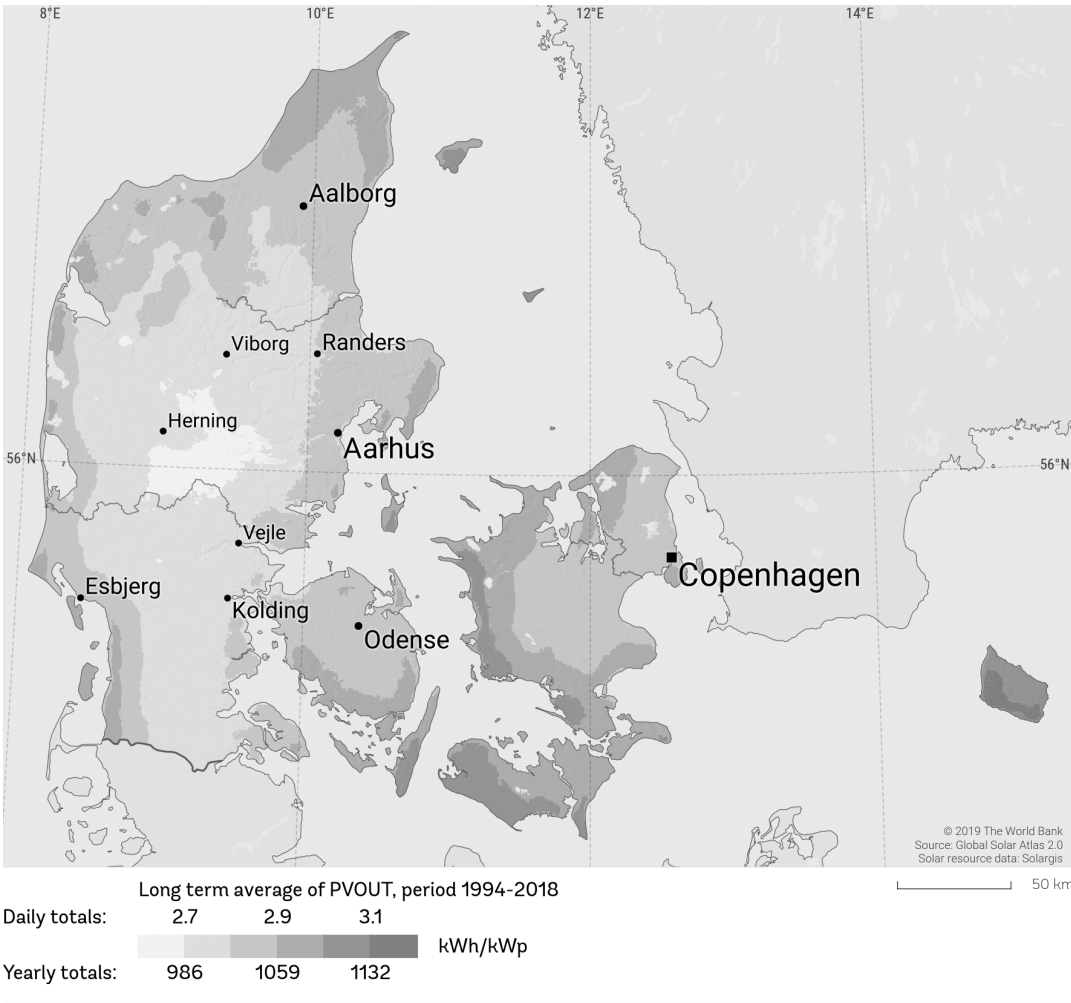


P5 | 1:200 | Sectional Model



P5 | 1:200| Sectional Model

NEED FOR SOLAR
PHOTOVOLTAIC POWER POTENTIAL DENMARK

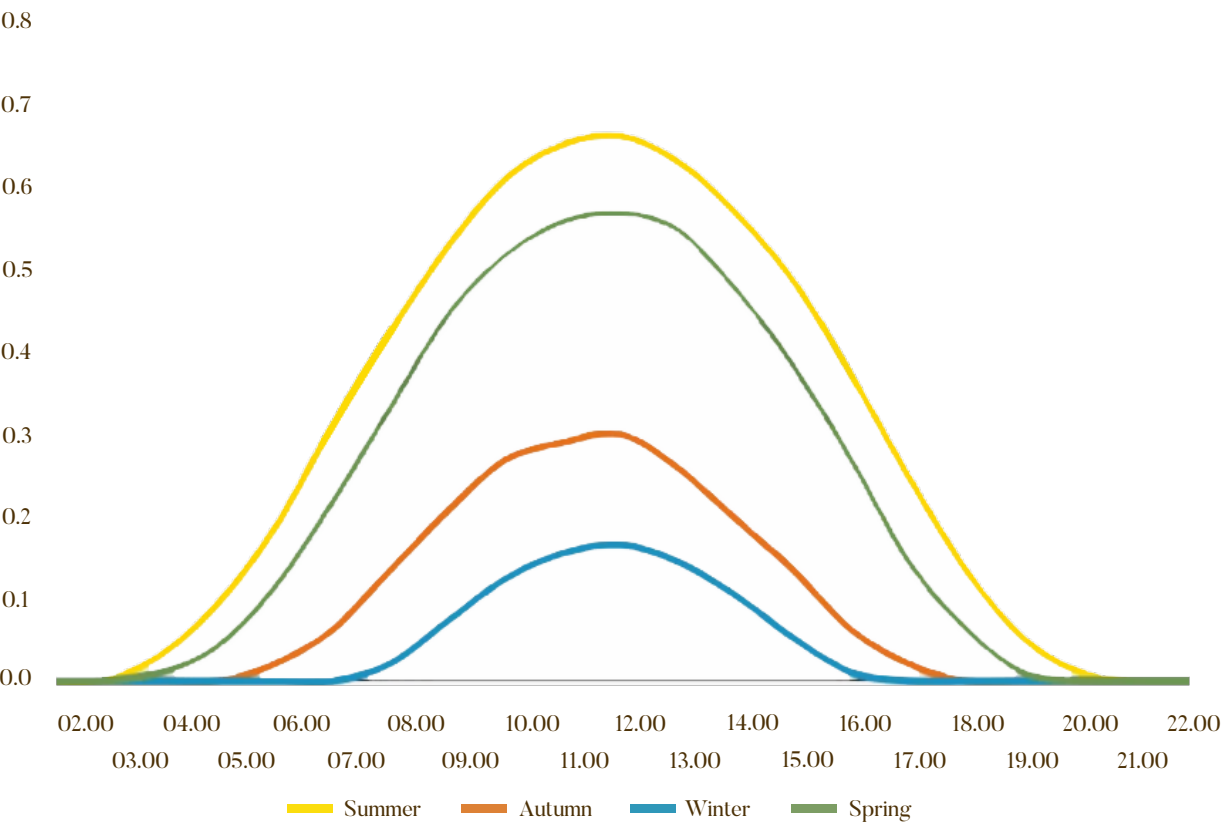


While Denmark gets a large portion of energy from wind, **solar energy complements wind** by providing power during less windy periods (especially in summer)

Copenhagen aims to become **carbon-neutral by 2025**. To support this, Copenhagen plans to **install 60,000 m²** of solar panels on municipal buildings, contributing to a **40% reduction** in energy consumption in building.

Source | <https://profilesolar.com/locations/Denmark/Copenhagen/>

IMPACT OF SOLAR ENERGY ACROSS SEASONS
SOLAR PV ANALYSIS OF COPENHAGEN, DENMARK



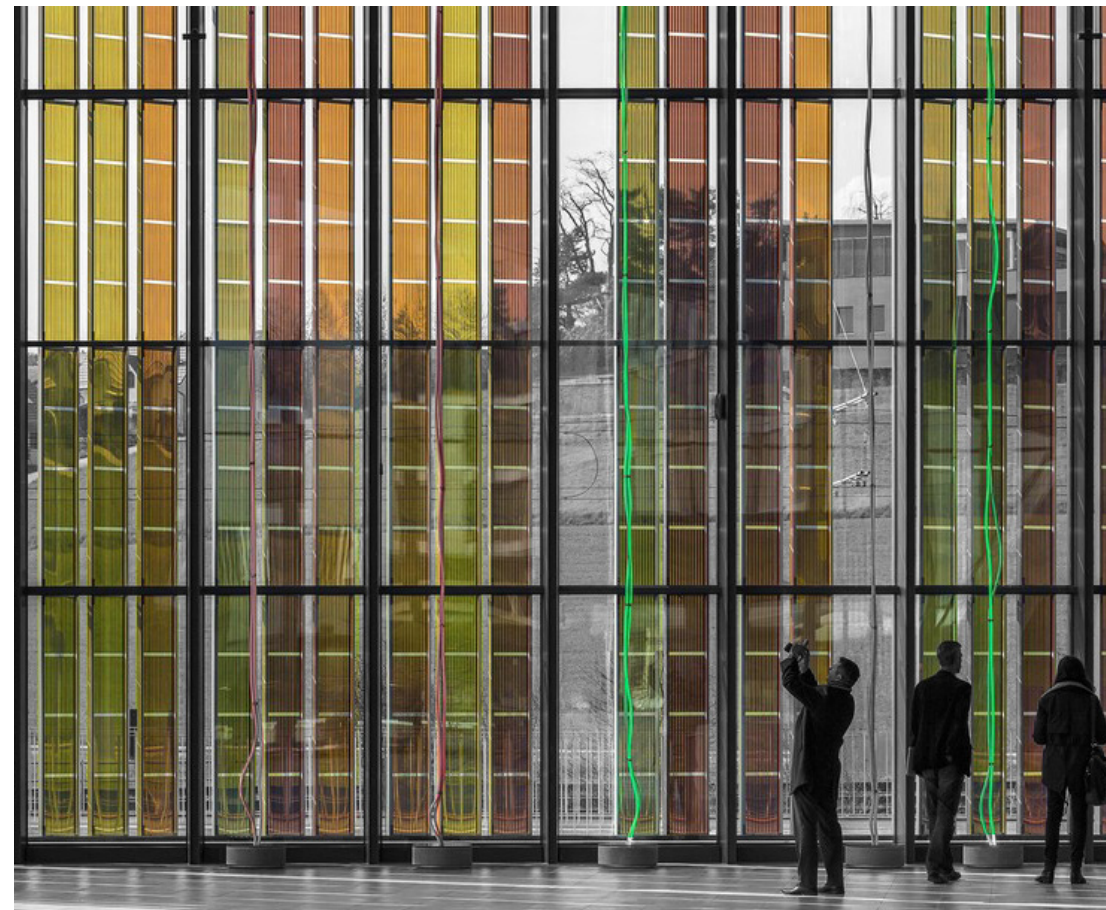
IDEAL TILT OF SOLAR PANELS IS 47° SOUTH IN COPENHAGEN, DENMARK

The **ideal tilt of Solar panels is 47° South** in Copenhagen, Denmark. Seasonally adjusted solar panel tilt angles are as follows :

Summer	Autumn	Winter	Spring
39° South	58° South	68° South	47° South

CASE STUDIES

SWISS TECH CONVENTION CENTER



DYE-SENSITIZED SOLAR CELLS convert light into electricity through photosensitizers dye compounds that absorb light and inject electrons into an array of oxide nanocrystals which subsequently are collected as electric current.

MANUFACTURER | Solaronix, Switzerland

- coloured transparent panel
- cheap to produce
- lightweight
- flexible (choice of colour)
- shade the building from direct sunlight
- each one 35 by 50 cm in size

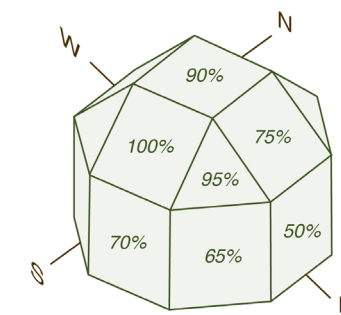
AN EXPERIMENT

SOLAR PAVILION WITH RED DYE-SENSITIZED SOLAR CELL MODULES

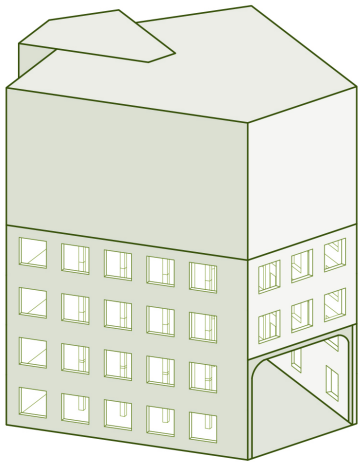


Danish Technological Institute (DTI), Roskilde University (Denmark), EPFL (Denmark) and Solaronix (Switzerland) have experimented by making a pavilion with dark red tiles but will soon scale up.

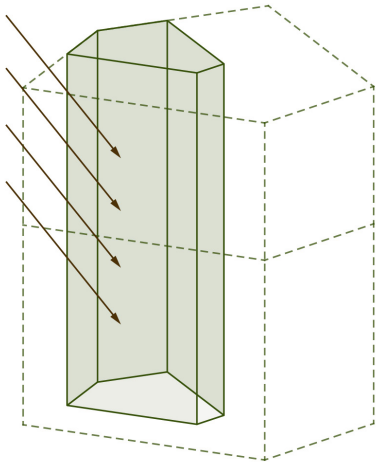
While surfaces tilted towards the sun receive the most energy, secondary and tertiary surfaces can still contribute meaningful amounts of PV generated electricity.



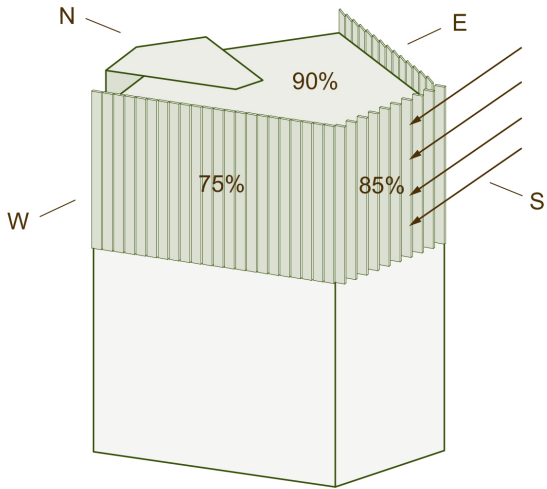
USING SUNLIGHT AS A DESIGN TOOL



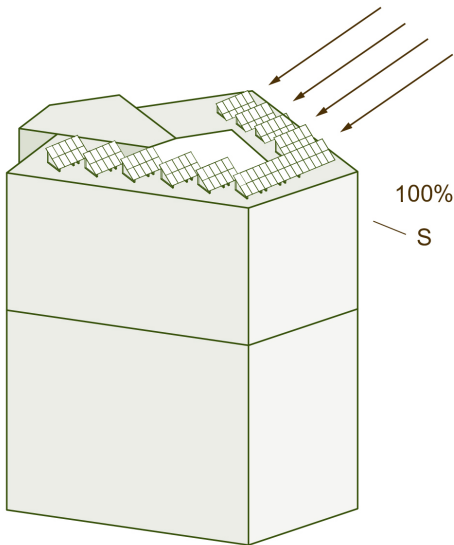
DOUBLE HEIGHT OPEN PLAZA



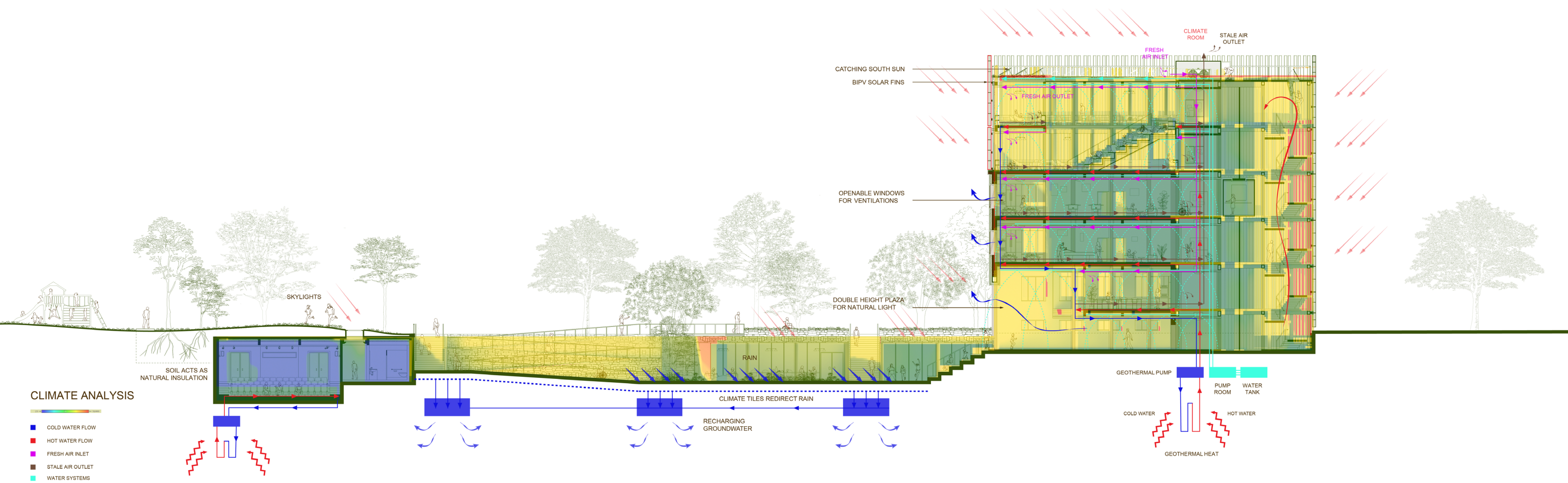
TRANSPARENT CORE



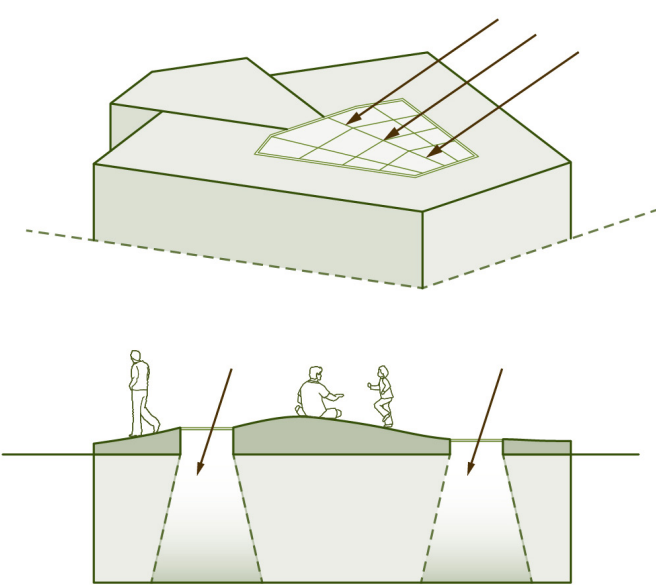
BIPV SOLAR FINS



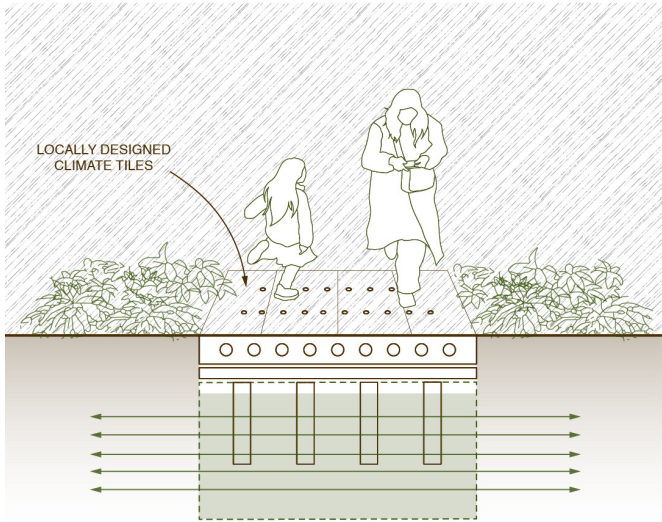
BLUE GREEN SOLAR TERRACE



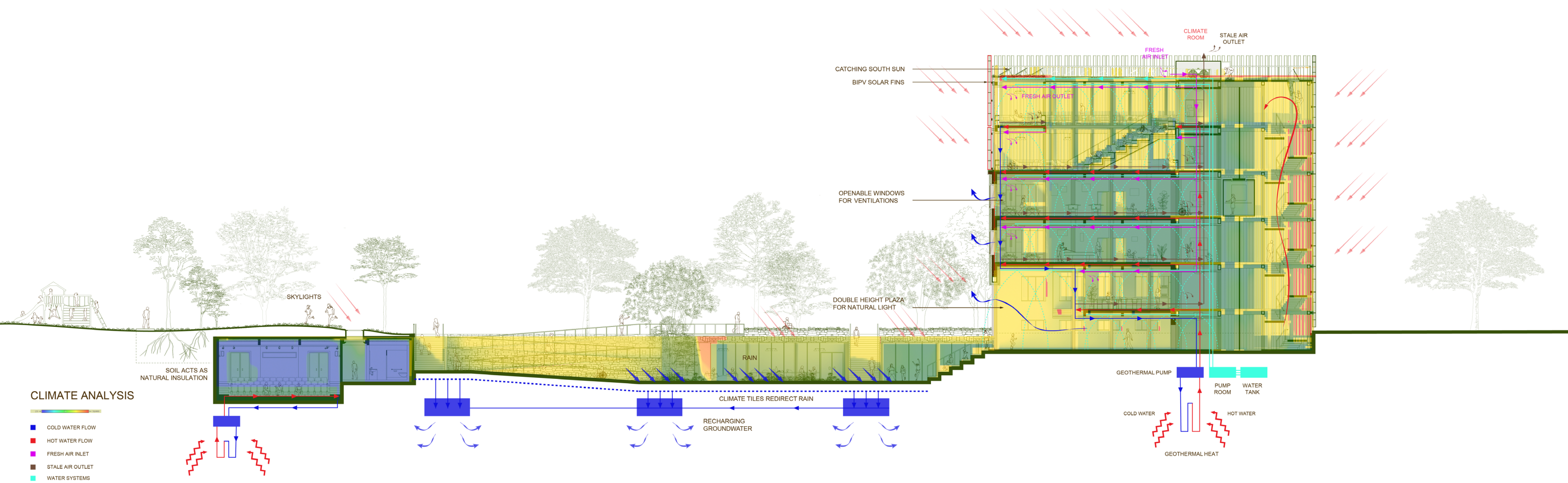
USING SUNLIGHT AND WATER AS DESIGN TOOLS



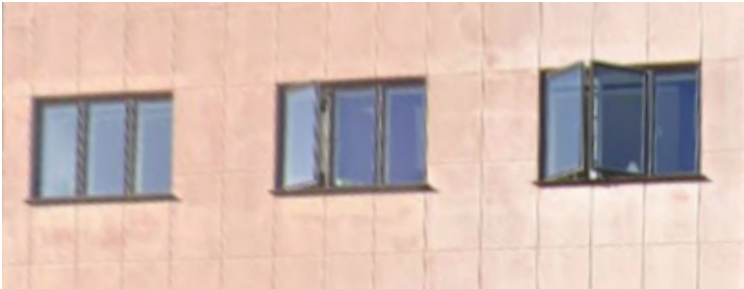
SKYLIGHTS



CLIMATE TILES



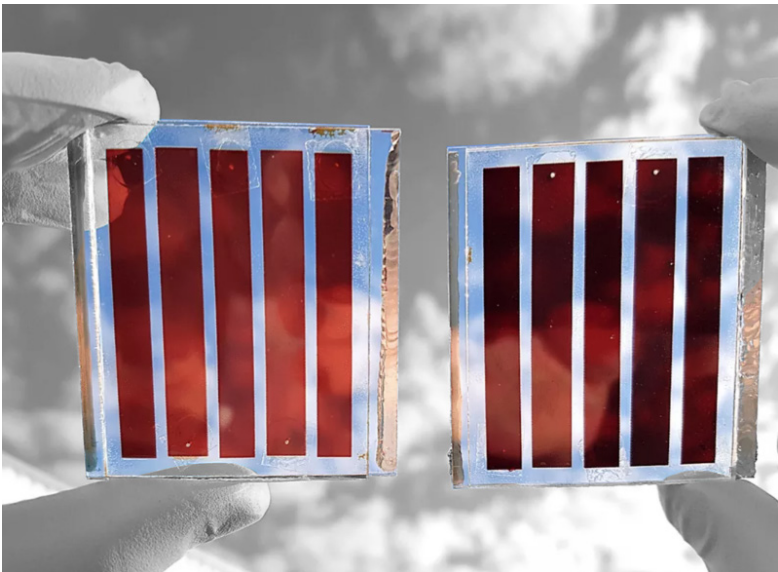
IMPLEMENTATION IN DESIGN



FIGARO EXTERNAL TILES



DYE SOLAR CELL COLOURS



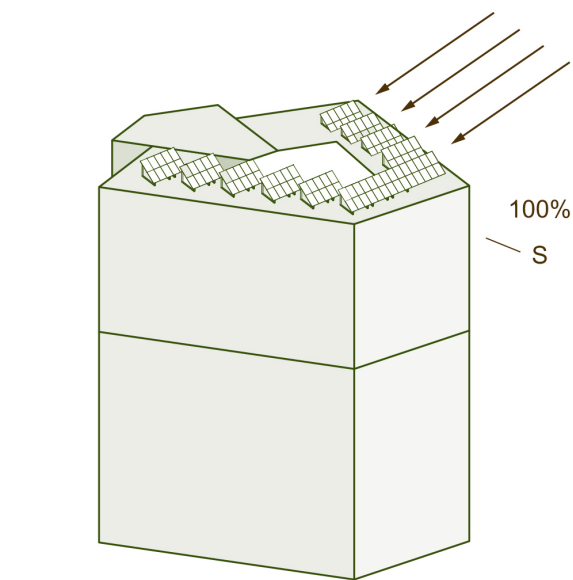
DYE-SENSITIZED SOLAR CELLS (DSCS)
PAVILION EXPERIIMENT IN DENMARK





SHARED LANDSCAPE WITH MULTIDIRECTIONAL ACCESS AND VIEWS

SOLAR CALCULATION



BLUE GREEN SOLAR TERRACE
19,260 kWh/year

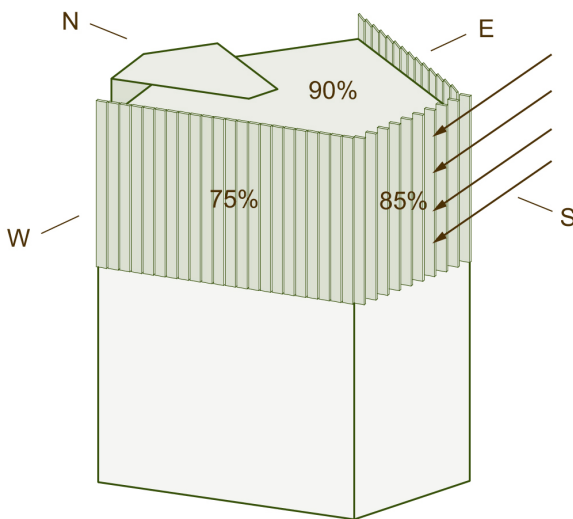
A **Blue-Green roof** has vegetation and water retention below the panels. Benefits: Cool the panels, improve air circulation around them and reduces overheating

Cooler panels = higher efficiency
Studies show this boost is around 5–10% more than typical roofs.

Solar panel area: 100 m²
South-facing at optimum tilt

Energy Calculation

Facade	Solar irradiance on horizontal roofs (kWh/m²/year)	Area	Panel Efficiency	Boost from Blue Green Roof	Total Annual Energy
South	1000	100	18%	7%	19,260 kWh/year

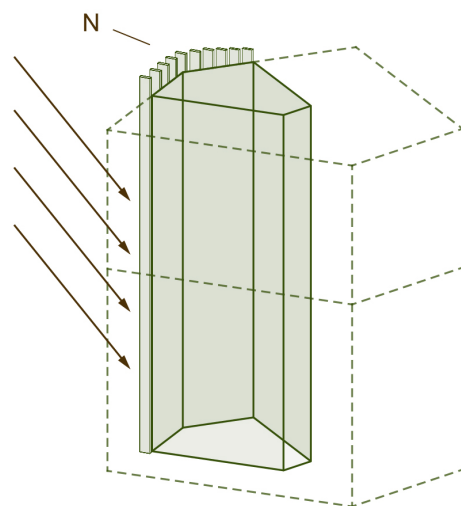


DSSC SOLAR FINS (SMALLER FINS)
15,523.5 kWh per year

Dye-Sensitized Solar Cells (DSSC) are lightweight, semi-transparent, and work well in diffused sunlight, making them suitable for vertical applications like fins on facades in places like Copenhagen, which gets less direct sunlight than sunnier regions.

Energy Calculation

Facade	Solar irradiance on vertical surfaces (kWh/m²/year)	Number of Fins	Area per Fin m²	Total Area	DSSC Efficiency (realistic for vertical application)	Total Annual Energy
South	700	36	2.12	76.32	7%	3,739.68 kWh/year
East	500	62	2.12	131.44	7%	4,600.4 kWh/year
West	500	62	2.12	131.44	7%	4,600.4 kWh/year
North	300	58	2.12	123.0	7%	2,583 kWh/year

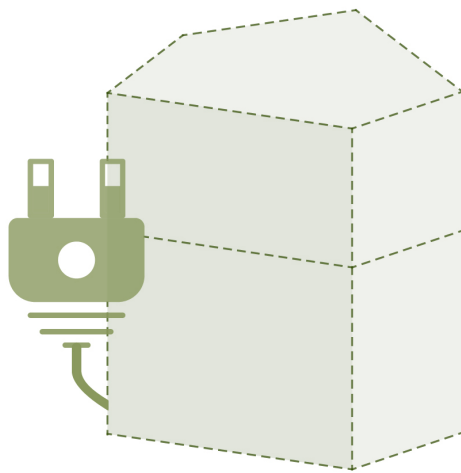


DSSC SOLAR FINS (BIGGER FINS)
5,418 kWh per year

Dye-Sensitized Solar Cells (DSSC) are lightweight, semi-transparent, and work well in diffused sunlight, making them suitable for vertical applications like fins on facades in places like Copenhagen, which gets less direct sunlight than sunnier regions.

Energy Calculation

Facade	Solar irradiance on vertical surfaces (kWh/m²/year)	Number of Fins	Area per Fin m²	Total Area	DSSC Efficiency (realistic for vertical application)	Total Annual Energy
East	500	10	4.5	45	7%	1,575 kWh/year
West	500	10	4.5	45	7%	1,575 kWh/year
North	300	24	4.5	108	7%	2,268 kWh/year

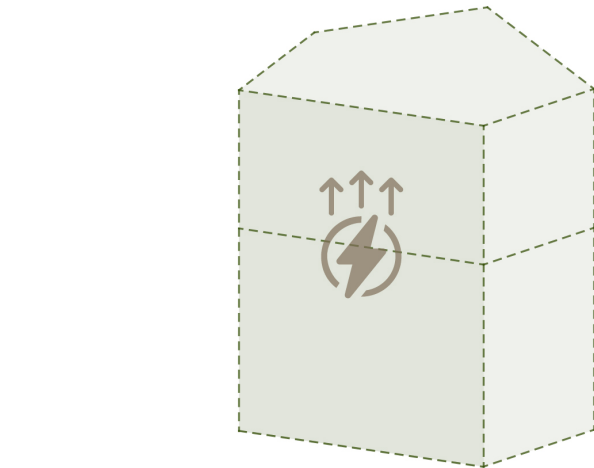


Total Energy generation through Solar in this project

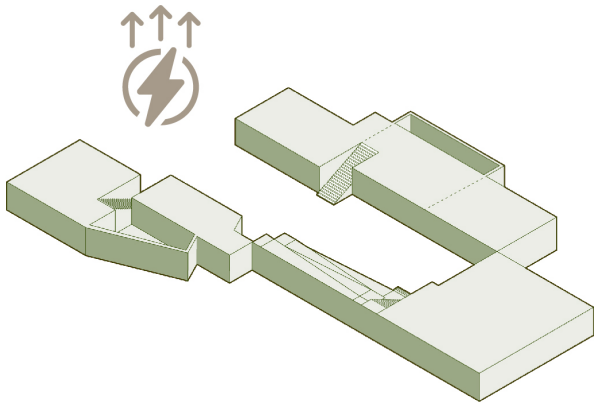
= Blue green solar roof + smaller fins + bigger fins
= 19,260 + 15,523.5 + 5,418
= 40,201 kWh per year

ENERGY GENERATED 40,201 kWh per year

SOLAR CALCULATION



FIGARO
Subtotal
= 263,200 kWh/year



SHARED LANDSCAPE
Subtotal
= 105,520 kWh/year

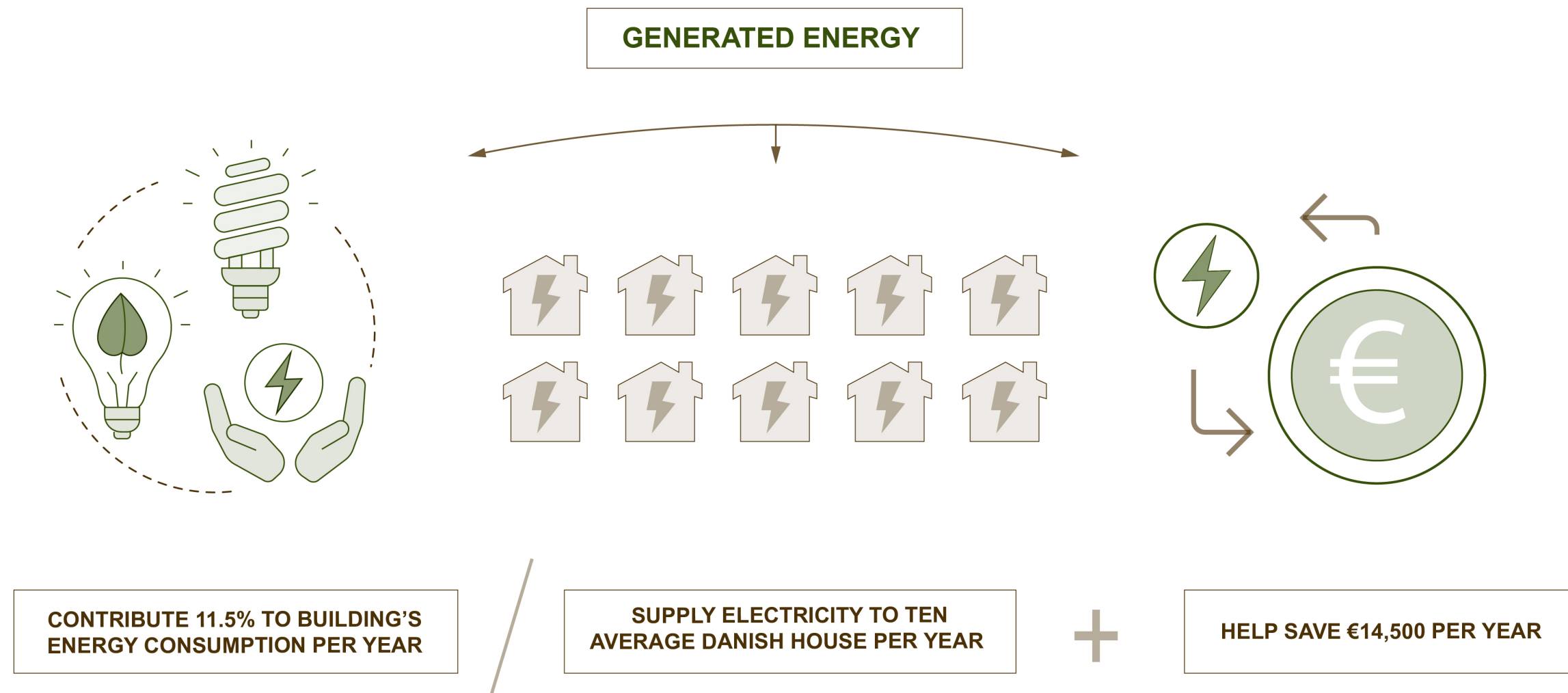
Energy Consumption Calculation

EUI (Energy Use Intensity) is the average annual energy consumed per square meter for a particular use type. These are estimated values based on data from EU building standards, BREEAM/LETI benchmarks, and general architectural practices for public buildings.

Program	Area (m²)	EUI (kWh/m²)	Annual Energy (kWh)
Ground floor plaza	300	130	39,000
Community kitchen (first floor)	235	250	58,750
Student housing (second + third floor)	600	310	93,000
Library (Fourth + fifth floor)	565	260	73,450

Program	Area (m²)	EUI (kWh/m²)	Annual Energy (kWh)
Skill exchange centre	180	119	21,420
Well-being centre	150	136	20,400
Public toilet	100	102	10,200
Auditorium	250	170	42,500
Cafe	100	110	11,000

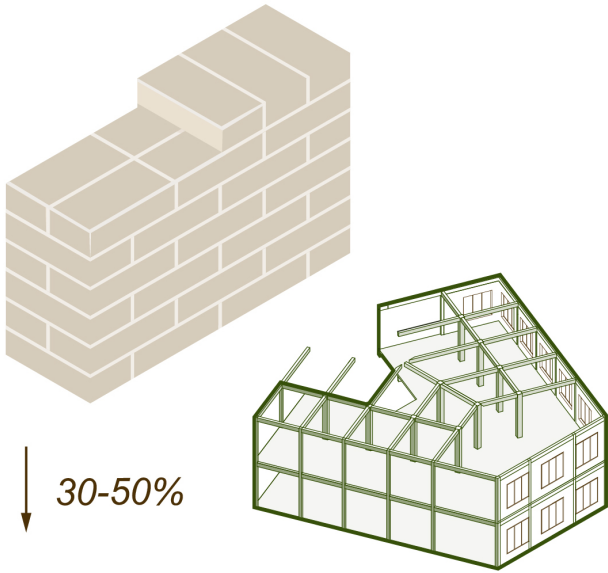
ENERGY CONSUMPTION 3,68,720 kWh per year



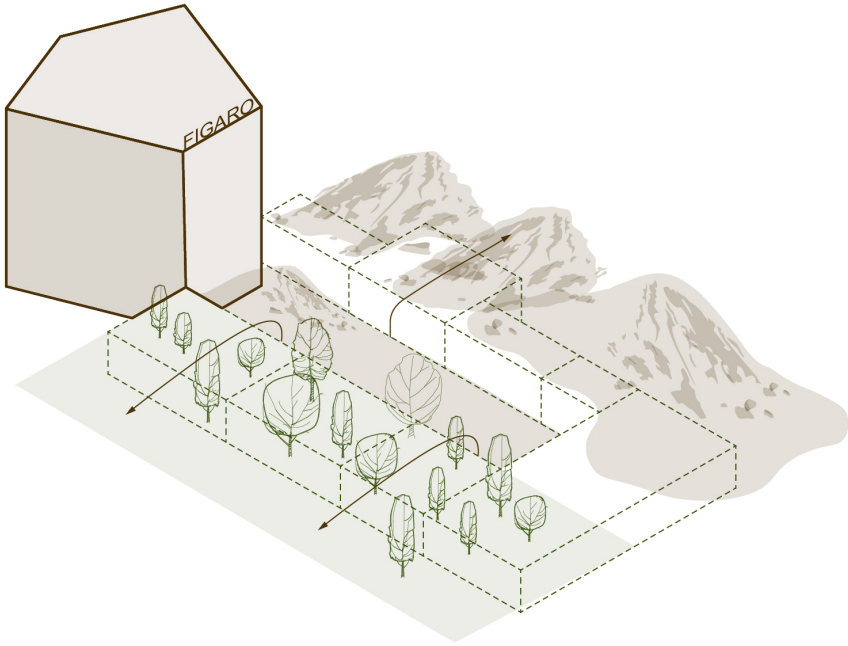
THROUGH THE LENS OF SUSTAINABILITY
AND COPENHAGEN LESSONS



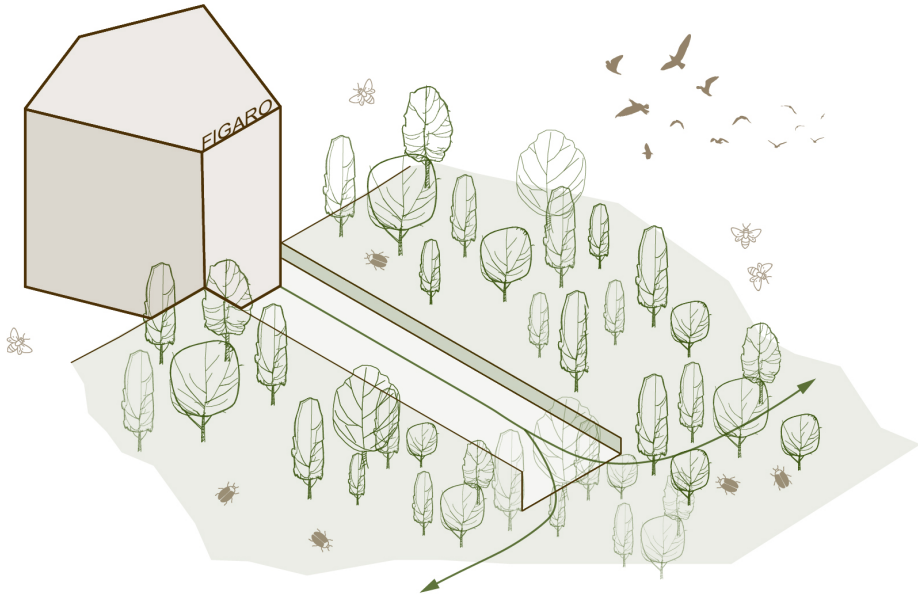
REDUCE CONSTRUCTION WASTE



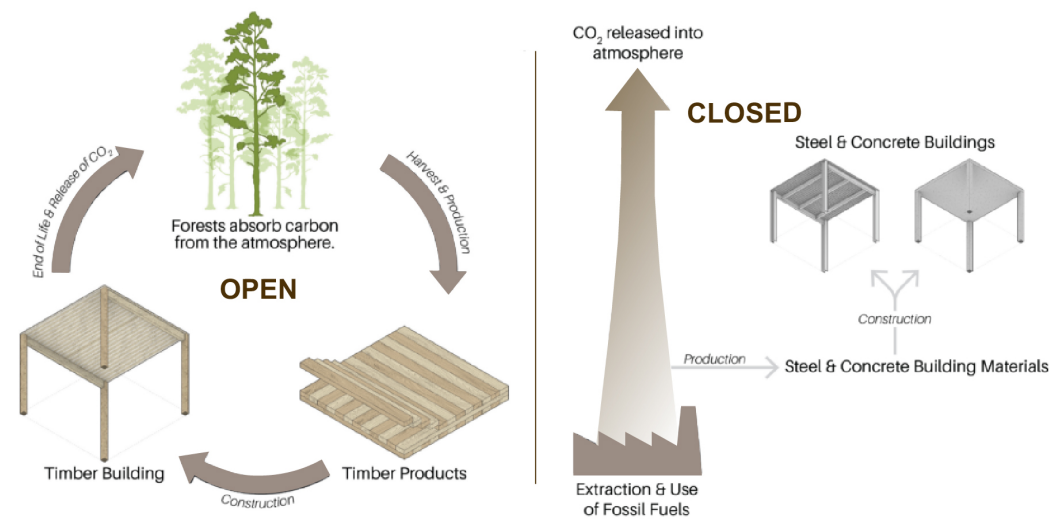
REUSE EXISTING MATERIALS TO
PRESERVE EMBODIED CARBON



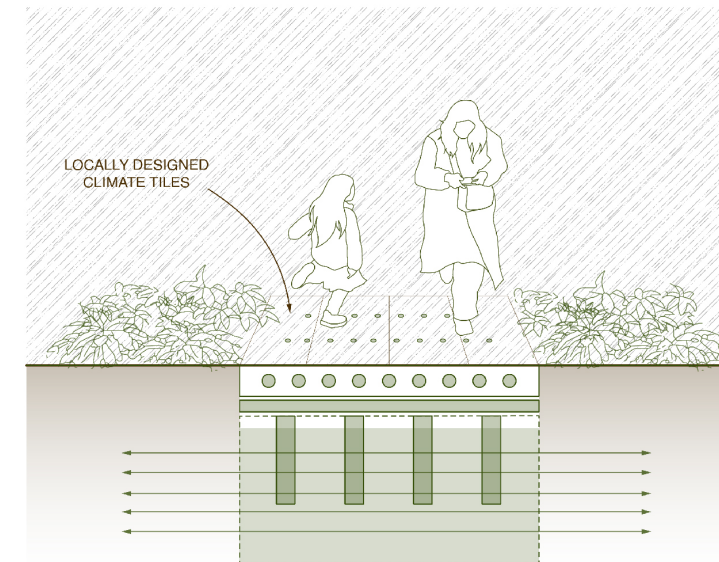
REINTEGRATING EXCAVATED
SOIL INTO THE LANDSCAPE



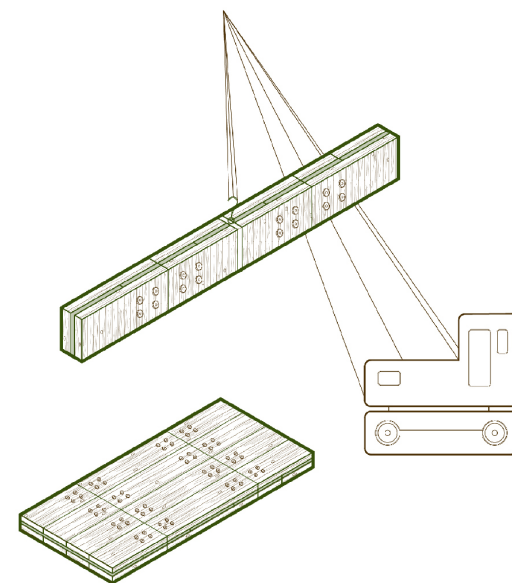
RESTORING ECOLOGICAL BALANCE BY INTEGRATING
THREE TIMES MORE GREEN IN THE URBAN FABRIC



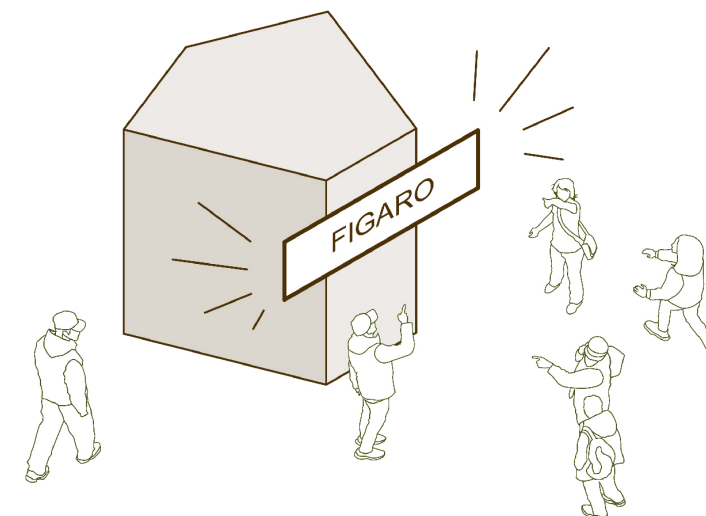
RENEWABLE BUILDING STRATEGY:
USING TIMBER FLITCH STRUCTURE



RECHARGE GROUND WATER AND REDUCE
SURFACE RUNOFF USING CLIMATE TILES



USING PREFABRICATED TIMBER
TO AVOID CONSTRUCTION WASTE



RESTORING NEIGHBORHOOD IDENTITY

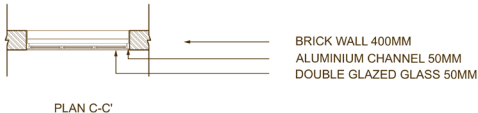
05 Facade fragment and details

FACADE FRAGMENT AND DETAILS



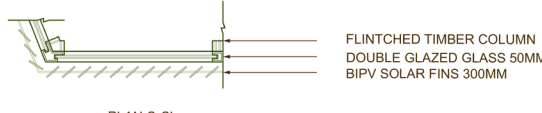
EXISTING FACADE FRAGMENT
PLAN, SECTION, ELEVATION AND DETAILS

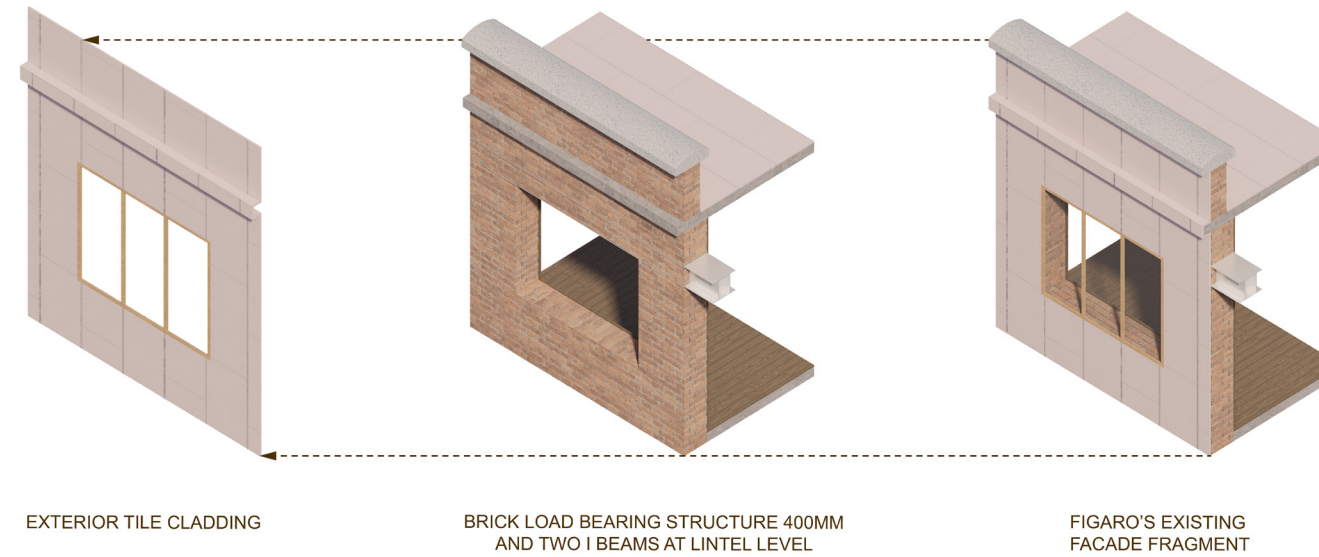
0 2500 5000 10000



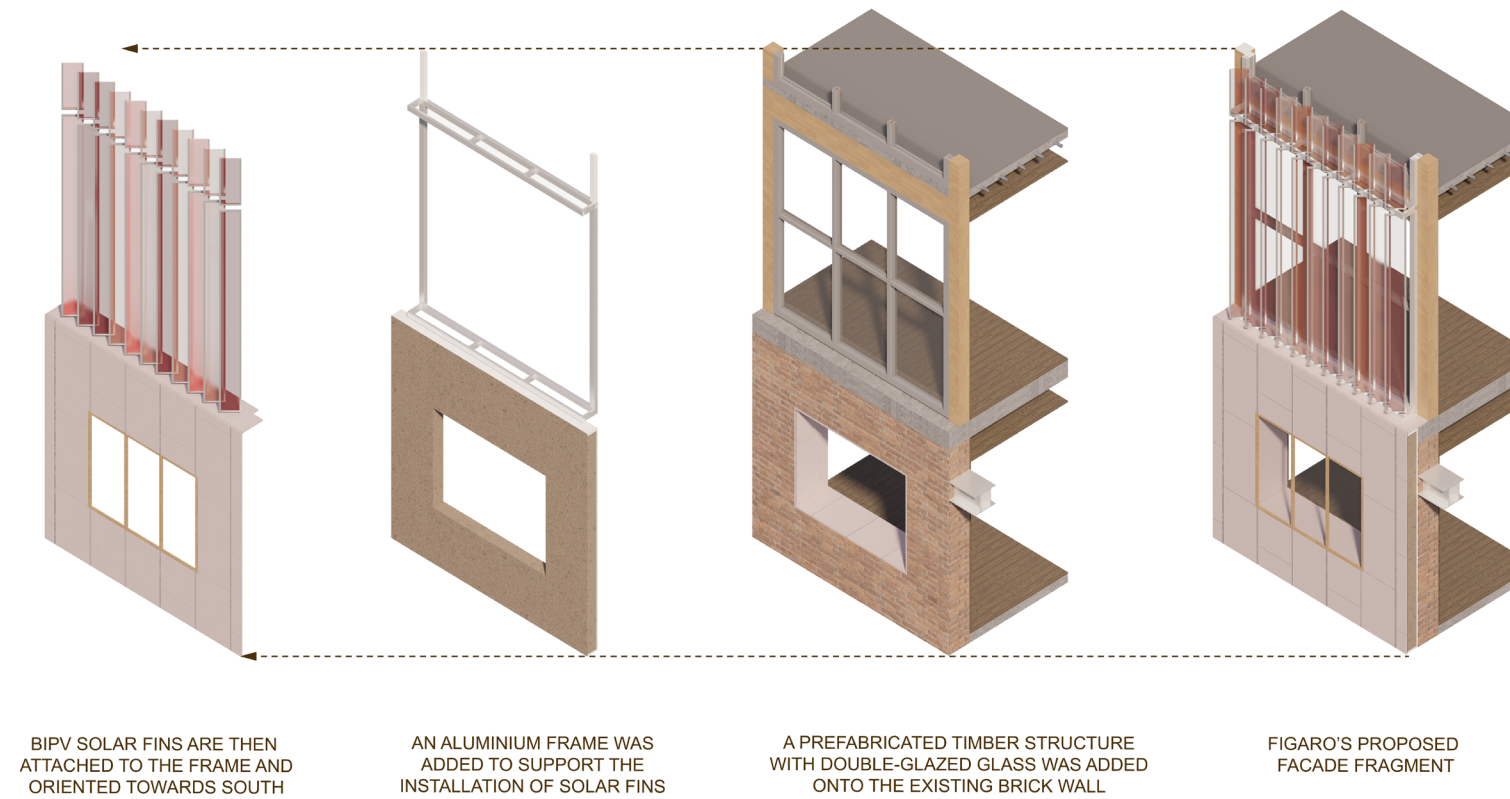
TRANSFORMED FACADE FRAGMENT
PLAN, SECTION, ELEVATION AND DETAILS

0 2500 5000 10000

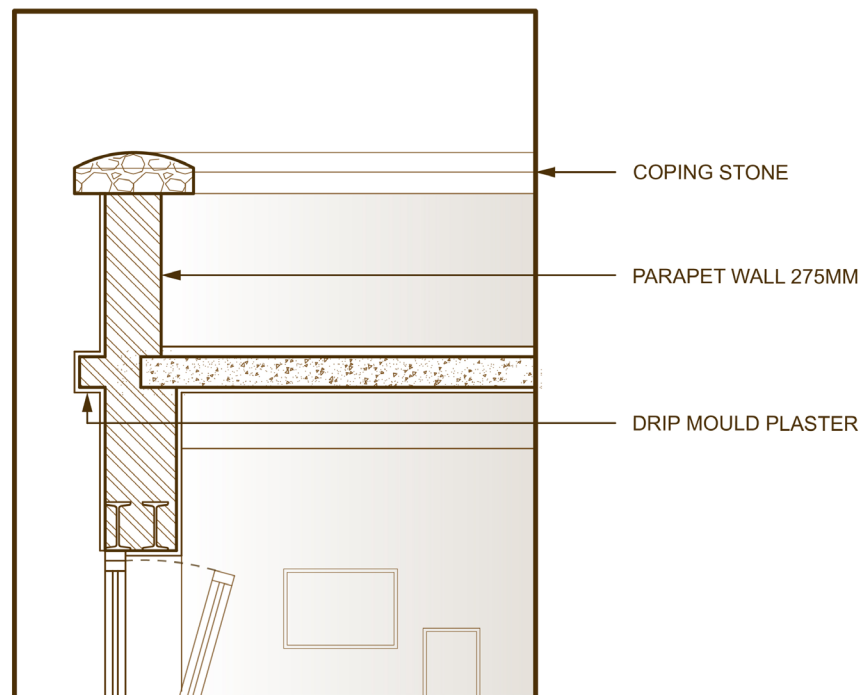




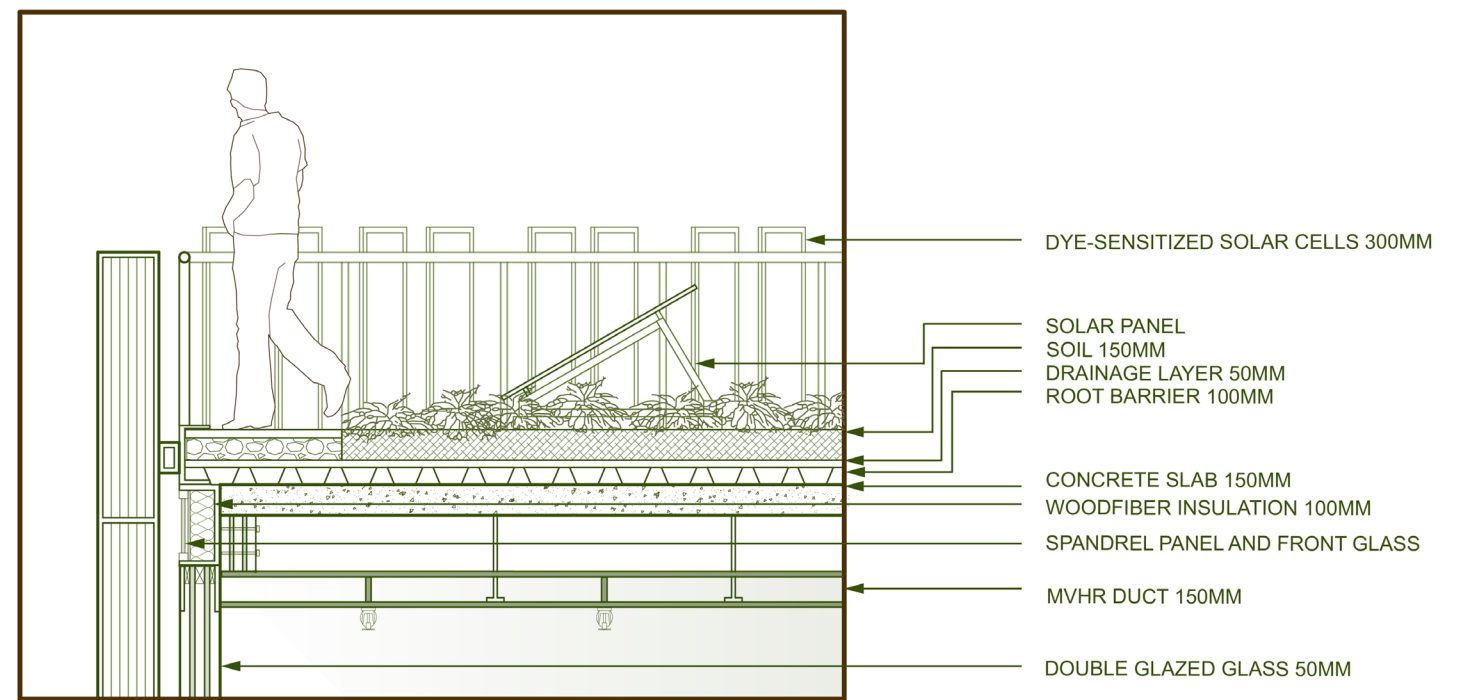
UNDERSTANDING EXISTING FACADE LAYERS



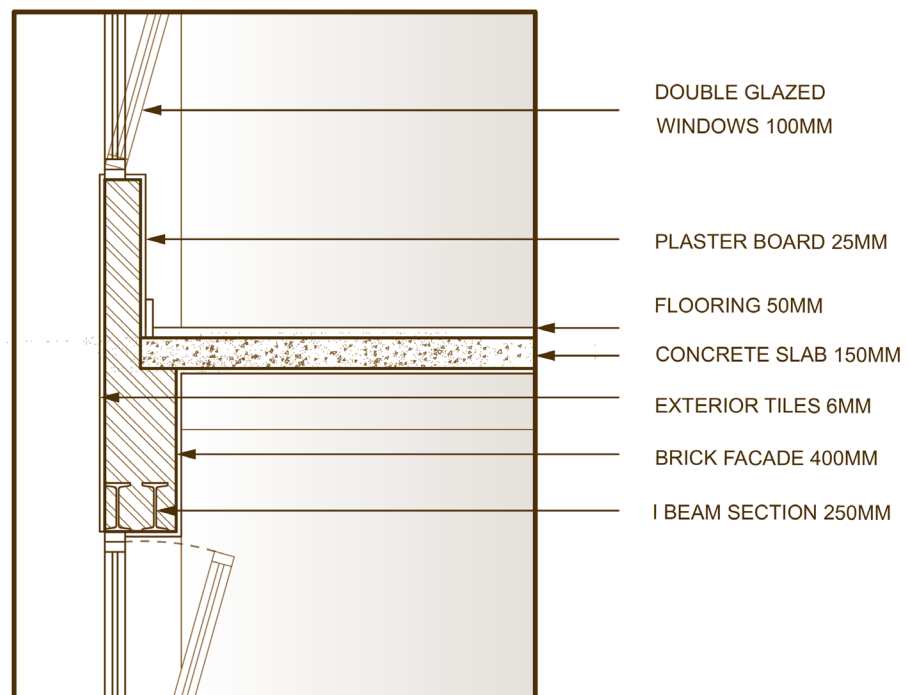
UNDERSTANDING TRANSFORMED FACADE LAYERS



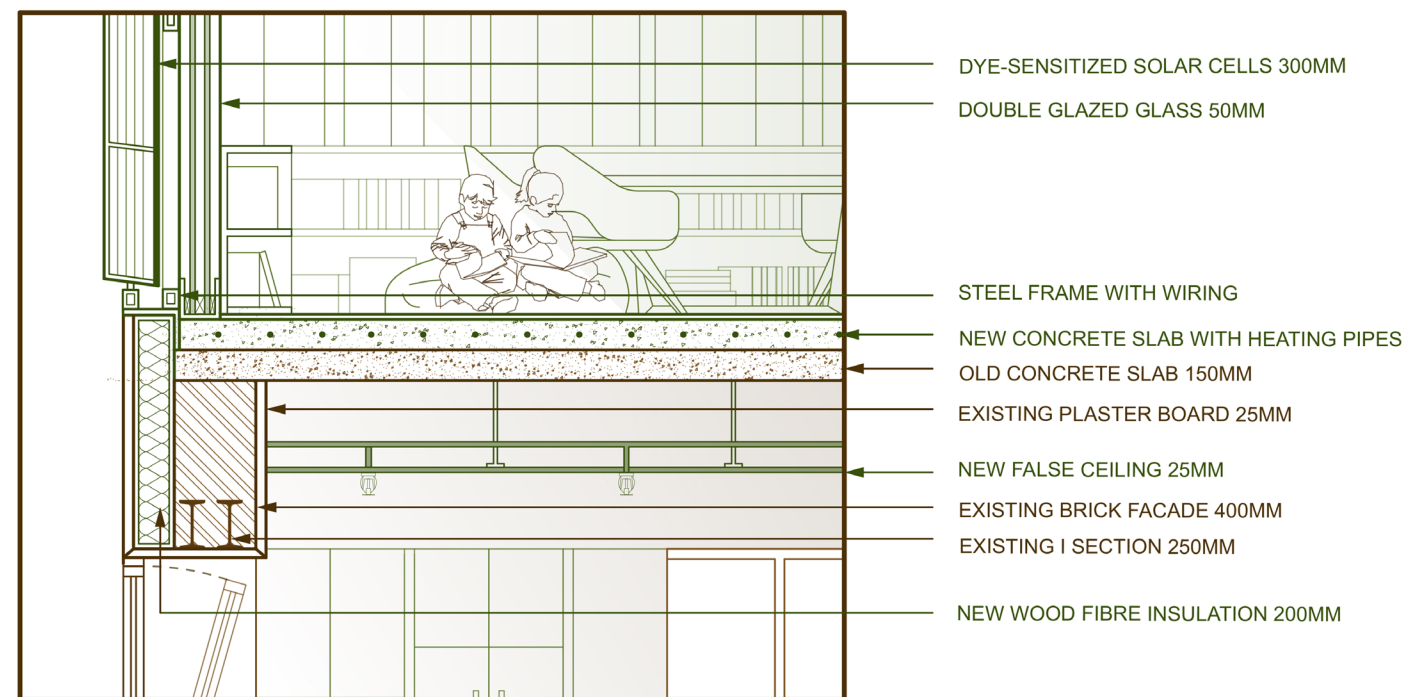
① EXISTING ROOF TERRACE



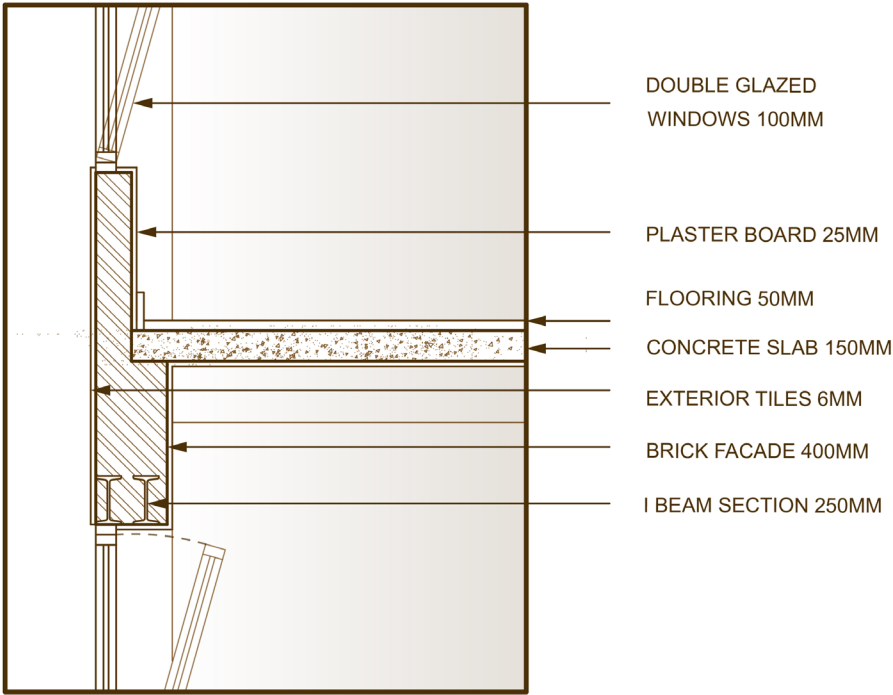
③ BLUE GREEN SOLAR TERRACES



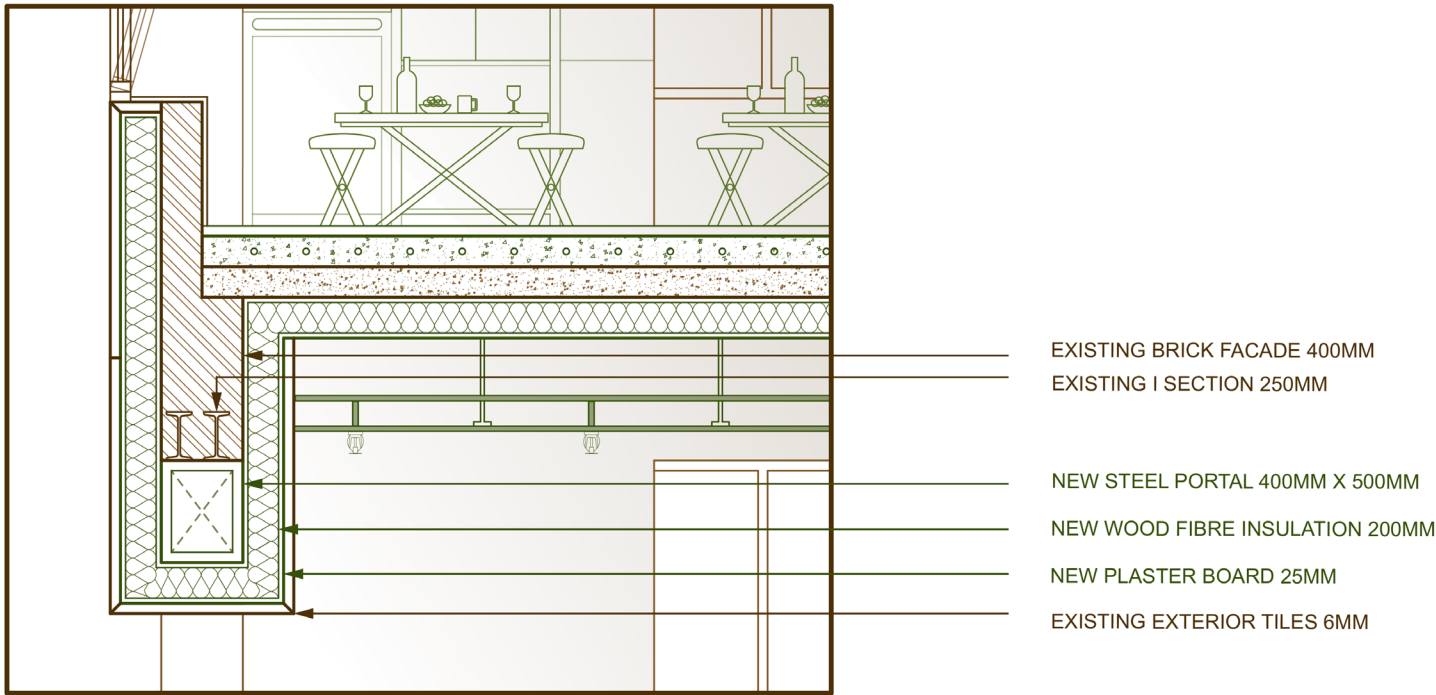
② EXISTING BRICK FACADE



④ INTERSECTION BETWEEN OLD AND NEW



③ EXISTING BRICK FACADE



⑤ STEEL PORTAL FOR DOUBLE HEIGHT PLAZA

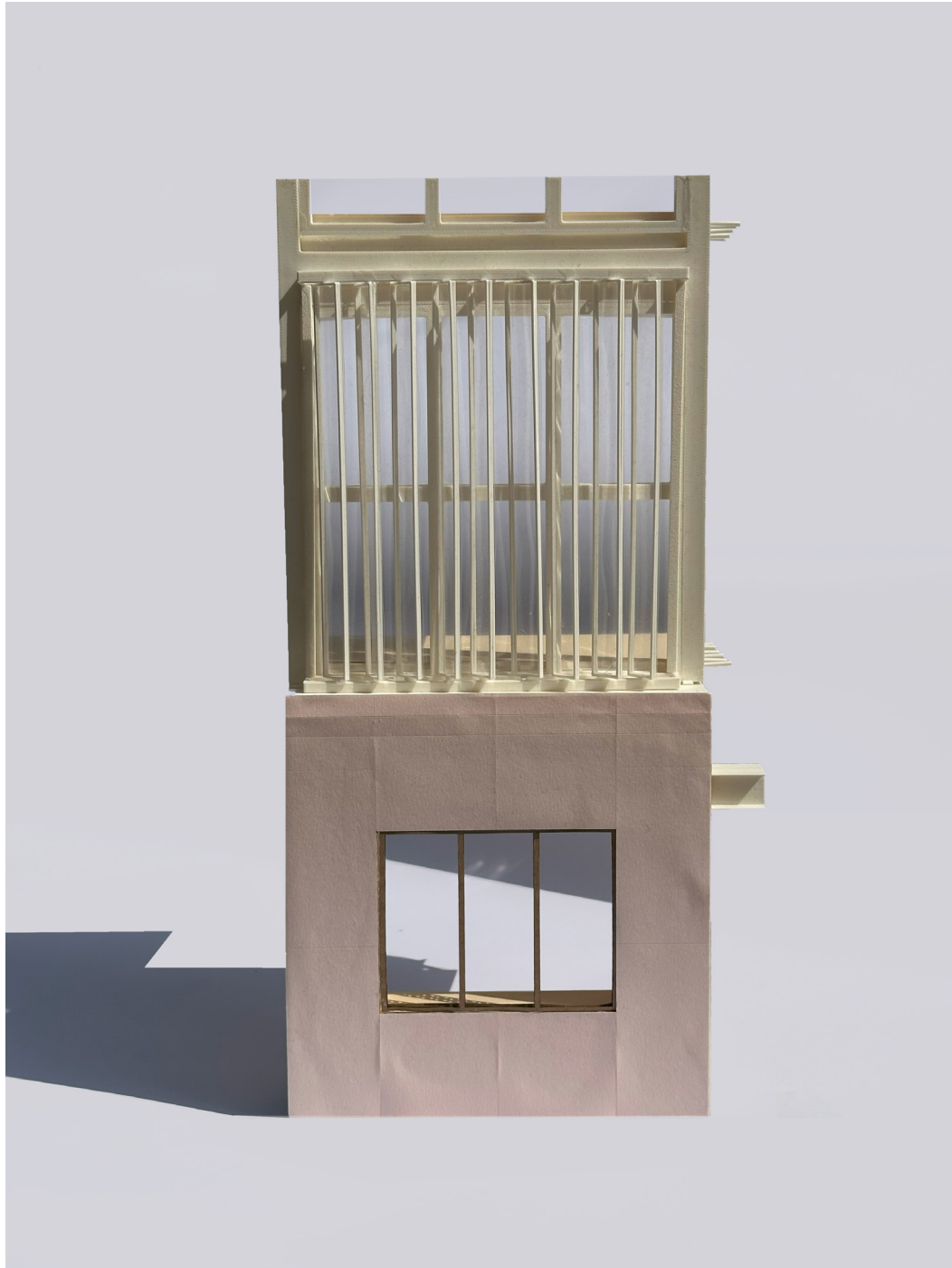


P5 | 1:25 | Facade Fragment Physical Model



P4 | 1:500 Model





P4 | 1:25 | Facade Fragment



06 Graduation plan and Reflection

GRADUATION PLAN

Graduation Plan: All tracks

Submit your Graduation Plan to the Board of Examiners (Examencommissie-BK@tudelft.nl), Mentors and Delegate of the Board of Examiners one week before P2 at the latest.

The graduation plan consists of at least the following data/segments:

Personal information		
Name	Sanjana Rajendra Habde	
Student number	5983711	
Studio		
Name / Theme	AR3AP100 Public Building Graduation Studio 2024-25: Public Condenser, Copenhagen	
Main mentor	Antonio Cantero	Project Design
Second mentor	Ger Warries	Technical Building Design
Third mentor	Sang Lee	Theory and Delineation
Argumentation of choice of the studio	The term "public," which signifies inclusivity, belonging, and connection to all people within a community or neighborhood, carries immense potential for fostering facilities and building robust communal networks. My curiosity about exploring different ways to create overlapping and inclusive spaces for diverse user groups, with the goal of enhancing community bonds and reinforcing communal identity, inspired me to choose this focus.	
Graduation project		
Title of the graduation project	Shared Grounds a landscape of Intergenerational Learning and Exchange	
Goal		
Location:	North-Ydre Nørrebro, Haraldsgade, Copenhagen	
The posed problem,	<p>The spatial and social dynamics of Haraldsgade, a neighbourhood in Nørrebro, reflect its industrial past, with large industrial lands, transformed factories, social housing, and educational institutions. Following the decline of production in the mid-1900s, many factories were closed and repurposed for social housing, shifting the area into a predominantly residential zone. While some factories were converted for other functions, this blend of industrial and residential spaces has contributed to social fragmentation and spatial isolation within the neighbourhood.</p> <p>One of the main issues in Haraldsgade is the separation of spaces by age group, leading to social fragmentation. Children typically occupy playgrounds, youth gather at places like Bolsjefabrikken, university students are concentrated in dormitories, and the elderly often walk alone in public spaces. According to the owner of Buddha Bikes, a bike shop on site; families tend to leave the neighbourhood once they have children, possibly due to safety concerns or lack of amenities. The elderly, in particular, struggle to find spaces designed for their needs, often resulting in isolation. Studies such as the Loneliness in the Population report highlight the health risks associated with loneliness, especially among older adults, with the risk of illness and early death</p>	

	<p>increasing by 50% for those lacking meaningful social connections.</p> <p>The lack of student housing, coupled with limited public amenities and few opportunities for interaction, contributes to the area's high crime rates and reliance on CCTV surveillance. This highlights the demand for centrally located, engaging student housing and cultural hubs where everyone can connect and spend their time in enjoyable ways.</p> <p>In response to these issues, the concept of “intergenerational spaces” is proposed as a design strategy to promote social inclusion, cohesion, health, and well-being across generations. These spaces would enable intergenerational exchange, where different age groups: youth, elderly, and children can interact, learn from each other, and strengthen community ties. By integrating these spaces into the neighbourhood, it is possible to address issues of social isolation in Haraldsgade.</p>
research questions and	<p>[Main question] How can a public building be designed to foster intergenerational learning and collaboration to build resilient and inclusive communities in Haraldsgade?</p> <p>[Sub-questions] 01. How can Figaro, a building in Haraldsgade slated for demolition, use adaptive reuse strategies to support intergenerational programs? 02. How can Figaro and its surrounding urban landscape be reimaged to create inviting and accessible environment for the public?</p>
design assignment in which these result.	
<p>The design goal is to employ adaptive reuse strategies to transform Figaro, a building slated for demolition, into an intergenerational public condenser. The vision is to create inclusive and inviting spaces that cater to all user groups, including individuals with disabilities, while ensuring seamless movement throughout the building.</p> <p>The project emphasizes the integration of urban design strategies to establish a welcoming pedestrian zone for community engagement. By prioritizing key access nodes in relation to surrounding buildings, their pathways, and vertical circulation elements such as stairs, ramps, and lifts, the design aims to ensure accessibility for everyone.</p> <p>A key focus is the creation of "contact zones”, dynamic spaces that act as magnets for diverse age groups, fostering interaction and strengthening intergenerational relationships. By thoughtfully integrating the existing with the new, this approach aims to transform Figaro and its urban surroundings into a dynamic, inclusive, and socially connected community condenser.</p>	
Process	
Method description	

The process of creating an intergenerational public condenser through adaptive reuse strategies in Figaro can be approached using the following methods:

01.Site Documentation and Observations

Document and study the existing structure, façade, materials, and urban context of Figaro through archival drawings, photography, and digital tools. Observing pedestrian movement, daily routes, and areas of leisure will help establish zoning patterns and identify active use spaces.

02. Interviews

Engage with government officials and architects to gain insights into the neighbourhood’s diversity, interests, and future plans, which will inform urban design strategies. Interviewing individuals from different age groups will help understand their needs, daily activities, and points of communal interest.

03. Literature Review and Case Studies

The literature review will focus on academic research on intergenerational communities, examining the needs of different age groups and abilities in public spaces, and strategies for creating inclusive environments. Further exploration on adaptive reuse techniques, including methods for retaining and transforming existing structures while sensitively working with their façades. Analyzing case studies related to intergenerational living, urban and landscape strategies, and adaptive reuse will provide valuable insights, helping to translate initial concepts into practical design strategies.

Literature and general practical references

Literature Review

Community and Social Interactions

- 01. Co-Create Copenhagen. (2015). City of Copenhagen Technical and Environmental Administration.
- 02. Gehl, J. (1996). Public Spaces, Public Life.
- 03. Gehl, J. (1971). Life Between Buildings.
- 04. Royo, R. A. (2023). Collaborative Tools for Community Architecture.
- 05. Whyte, W. H. (1980). The Social Life of Small Urban Spaces.

Intergenerational

- 01. Gorlitz, D., Harloff, H. J., Mey, G., & Valsiner, J. (1998). Children, Cities, and Psychological Theories: Developing Relationships.
- 02. Kaplan, M., Thang, L. L., Sanchez, M., & Hoffman, J. (2020). Intergenerational Contact Zones: Place-based Strategies for Promoting Social Inclusion and Belonging. Routledge.
- 03. Pain, D. R. (2005). Intergenerational Relations and Practice in the Development of Sustainable Communities.
- 04. Punch, S., Vanderbeck, R. M., & Skelton, T. (2018). Families, Intergenerationality, and Peer Group Relations.

Adaptive reuse

- 01. Merlino, K. R. (2018). Building Reuse: Sustainability, Prevention, and the Value of Design.
- 02. Roe, J., & McCay, L. (2021). Restorative Cities + Urban Mental Health Roundtable: Challenges and opportunities for the next decade.
- 03. Vafaie, F., Remoy, H., & Gruis, V. (2022). Adaptive reuse of Heritage Buildings: A systematic literature review of success factors.
- 04. Wong, L. (2023). Adaptive Reuse in Architecture: A Typological Index.

Case studies

Intergenerational/Community projects

- 01. Yusuvara Community Library / Yururi Yusuvara, / Japan
- 02. The Qinghuayuan Intergenerational Community Center Renovation / ATELIER XI /China
- 03. Los Mangos Community Center / Entornoy Contexto / Mexico

Student Housing

- 01. Stacked Student Housing / Thirdspace Architecture Studio / India
- 02. St. Andrews Hostel Block / Zed Lab / India
- 03. Veermata Jijabai Technological Institute Student Housing / MO-OF / India

Adaptive re-use

- 01. SESC Pompéia Factory Technical Information / Lina Bo Bardi / Brazil
- 02. Baltimore Design School /Zinger| Snead Architects / United States

Reflection

- 1. What is the relation between your graduation (project) topic, the studio topic (if applicable), your master track (A,U,BT,LA,MBE), and your master programme (MSc AUBS)?

An architectural project achieves its full potential when it responds effectively to its context and the needs of the people it serves. This project enhances the value of a public building by engaging with multiple layers of design. It combines an adaptive reuse strategy for an existing building with the transformation of its surrounding urban landscape to create a more inviting space. In doing so, this project reflects several learnings from the studios I participated in during my first year of master’s studies, allowing me to integrate those learnings into a cohesive and meaningful design.

- 2. What is the relevance of your graduation work in the larger social, professional and scientific framework?

A neighbourhood feels safe when its community members know each other, interact, and when the spaces within the neighbourhood are welcoming to all. While each building is designed for a specific function, it should always engage with and open up to its surroundings, creating multiple contact zones where people can interact. These zones foster opportunities for learning, leisure, rest, and activity, thereby enhancing safety and promoting the overall health of the neighbourhood.

This project proposes strategies to adapt an existing building, its urban and landscape context, creating smoother, more interconnected movement that encourages people to explore different levels and spaces. The design envisions a seamless transition from a private student housing through collaborative spaces into an urban landscape, inviting the neighbourhood.

This project provides valuable insights for architects, urban planners, and landscape designers, encouraging them to consider buildings not as isolated structures, but as vital components of the urban fabric that foster interaction and connection throughout the neighbourhood.

GRADUATION REFLECTION

A visit to Nørrebro, Copenhagen

The graduation project began with preliminary research aimed at understanding Copenhagen's urban fabric, its Five Finger Plan, Danish culture, and the diverse communities that inhabit the city. The neighborhood of Haraldsgade in Nørrebro district was then virtually explored through google street views and pictures, with a focus on understanding its historical evolution. The spatial and social dynamics of the neighbourhood is characterized by large industrial land, transformed factories, social housing, and educational institutions. Shaped by its industrial past, the area experienced a decline in production in the mid-1900s, leading to the closure of factories, many of which were converted into social housing. This shift transformed the urban landscape into a predominantly residential area, with only a few factories repurposed for other functions. The blending of industrial and residential spaces contributed to social fragmentation and spatial isolation within the neighbourhood.

Typology of Intergenerational spaces

As one moves through the neighbourhood, there is a clear separation of spaces used by different age groups. Children are commonly seen in playgrounds, while youth occupy places like Bolsjefabrikken or self-established community spaces, university students are concentrated in dormitory spaces, and the elderly are often found strolling outdoors alone. In an interview with Buddha Bikes, a representative shared that families tend to leave the neighbourhood once they have children, potentially due to concerns about safety or a lack of adequate amenities for children. Furthermore, unlike other age groups, the elderly often lack spaces specifically designed for their needs, leaving many to wander alone in their neighbourhoods.

The University of Copenhagen has around 13 departmental buildings in the southern part of the neighbourhood but only two student dormitories. These dormitories resemble enclosed "shoeboxes" with no balconies and minimal engagement with the surrounding environment. This suggests a strong demand for a permanent and centrally located student housing and cultural hubs where young people can spend their time in engaging, enjoyable ways.

In response to these observations, the public building is designed through the concept of "intergenerational spaces to foster social inclusion, cohesion, health, wellbeing, and understanding across different generations. It can be envisioned as a space that fosters intergenerational exchange, where the elderly, youth, and children can learn from one another, while also strengthening community ties and keeping the neighbourhood engaged and connected.

Aaptive reuse as a design strategy

The concept of intergenerational spaces guided the search for a location that could bring together different user groups. A triangular plot in Haraldsgade, marked for demolition due to the closure of surrounding industries, stood out as a suitable option. Within this plot, a building located at the central edge Figaro, a former hairdresser's headquarters was chosen. The building offered a unique setting, as it opened up to a green zone, with a café on one side and an educational institution on the other. This intersection naturally served as a pause point for people, especially with the cafe's outdoor seating encouraging social interaction.

Figaro, a small three storey building with an octagonal shape, posed challenges in fitting all the required programs inside. Since the adjacent green zone was elevated and not easily accessible, the decision was made to reroute the road and extend the landscape directly to the building. This not only created a long, continuous pedestrian zone but a new cycling and walking path around the edge of the site was also introduced to make the area more inviting and safer for all age groups, encouraging broader use of the space.

The project focused on reusing Figaro by keeping its facade while redesigning the interior layout. It also involved a close study of the existing surroundings and rethinking how people move through the area. A new landscape strategy helped smooth out movement patterns and aimed to attract and connect users of all generations.

With this idea of a 'public condenser' and considering the observations during the site visit, following **research question** has been investigated as guidance in my design process:

How can a public building be designed by readapting Figaro to foster intergenerational learning and collaboration for the community of Haraldsgade?

Research and Design influence

The research played a key role in shaping the design by providing insights into the needs and preferences of different user groups, as well as identifying programs the neighbourhood currently lacks. It formed the foundation for the idea that Figaro should act as a public anchor point, drawing people in through a variety of engaging functions.

At the same time, the design process influenced the direction of the research. As the project progressed, it became clear that creating an inclusive environment required more detailed consideration such as incorporating ramps for accessibility, textured pathways for users with mobility aids, and amphitheatres to offer spaces for rest and gathering. The landscape strategy had to support multiple access points from surrounding buildings, prioritising ease of movement and connectivity.

To address this, two ramps were placed at either end of the site, along with a lift and multiple staircases and amphitheatres spaced out at regular intervals. This resulted in eight access points, allowing flexible circulation and providing safe evacuation routes if needed. Another key design decision was to guide movement vertically by arranging the programs in a sequence that transitions from public to more private uses, and then back to public functions at the top. This not only encourages users to explore the upper levels but also offers them panoramic views of the neighbourhood.

Approaches and Challenges

While the core concept of the project was clear from the beginning, the design process involved multiple rigorous iterations particularly regarding how much of the existing Figaro structure should be retained and how the surrounding landscape could be optimized to enhance green space. One of the major challenges was the existing condition of Figaro's ground floor, which was partially sunken and received limited natural light, making it unsuitable as a welcoming public area. This led to the initial idea of removing the ground floor entirely to create an open, accessible space at street level.

However, as the project focused on adaptive reuse, any intervention had to ensure structural stability between the preserved and new elements. Several structural strategies were explored, including suspending the building using a central core, introducing large trusses at the first-floor level to bear the load, and experimenting with various configurations of columns and cores. These iterations revealed the complexity of working with an existing structure, which inherently imposes constraints on spatial experience and user flow.

Overtime, it became clear that some of these interventions compromised the original character of Figaro and were neither cost-effective nor environmentally sustainable. During the P3 review, with guidance from tutors Antonio, Ger, and Sang, a more balanced approach emerged. Their input helped steer the project towards retaining most of Figaro's structure while improving openness and daylight access. Their suggestion of removing the front and rear facades of the first two floors facing the landscape, and introducing a double-height entrance space created a more inviting environment.

This stage of the project provided a valuable insight into the importance of striking a careful balance between preservation and transformation when retrofitting existing buildings, ensuring that functional requirements are met without compromising spatial quality.

Academic & Societal value

Academically, the project aligns with themes of hybridity and architectural re-adaptation. It integrates a mix of functions, including private student dormitories, flexible communal spaces, and a public community library located at the top level, which also serves as a panoramic viewing point of the surrounding neighbourhood. The design adopts a sustainable and circular approach, retaining over 80% of the existing façade, and responds sensitively to its context by considering both pedestrian flows and connections with adjacent buildings.

At its core, the concept of intergenerational communities aims to bring people together by acknowledging and accommodating their diverse backgrounds, abilities, and cultural identities. As architects, it is our responsibility to create inclusive environments where everyone feels welcomed. In this context, repurposing a structure previously marked for demolition serves as a strategic approach not only supporting sustainability, but also contributing in the revitalisation of neglected or underutilised urban areas.

Thank you!

