Graduation Plan

Master of Science Architecture, Urbanism & Building Sciences

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	Giammarco Emili
Student number	5622158

Studio		
Name / Theme	Public Building Graduation Studio The Vertical Campus A Public Hub of the Future in The Hague	
Main mentor	Henk Bulstra	Project Design
Second mentor	Ger Warries	Technical Building Design
Third mentor	Sien Van Dam	Theory and Delineation
Argumentation of choice of the studio	A fascination towards the topics of the studio is inspired by the innovative approach and expected outcome which characterize it, all calling for creative and unexpected solutions to current and arising challenges. Additionally, its public vocation is a source of intense attraction, one welcomed with enthusiasm – as well as a sense of responsibility – when tasked with reflections and decisions that can affect the wider public in so intense and extensive ways. Lastly, a sincere interest in spatial solutions concerned about educational offerings leads me to elect "Public Building Graduation Studio, The Vertical Campus, A Public Hub of the Future in The Hague" as my Graduation Studio.	

Graduation project	
Title of the graduation project	M.A.G.N.O.L.I.A. Metropolitan Academy for Global Networking, Outstanding Learning, Innovation, and the Arts
Goal	
Location:	The Hague Central Station Area
The posed problem:	Our present is under the influence of extensive and intense challenges. Among these, are societal and economic ones, like an ageing population and market specialization. Also, environmental issues assume a major relevance, directly linked to spatial concerns like urban sprawl, or

	increase pressure on cities. In addition, technological advancements like digitalization and virtualization of processes and products are responsible for constant, quick shifts affecting our lives from several perspectives: for example, demanding new competencies, or opening up new possibilities, for both companies and individuals. In this complex scenario, the role of education is as significant as ever. In fact, education is the instrument capable of empowering individuals and communities with adequate tools to respond to these challenges in an effective and efficient way. Through Knowledge, we are capable of addressing change. Clearly, the institutions (and their spaces, to introduce the spatial focus of our reflection) entrusted with the fostering and transferring of this knowledge acquire the greatest relevance, and a discussion over the adequacy of their existing models is accordingly raised. Understood from an historical perspective, a first reflection is concerned with the common division recognized between the urban fabric and university campuses, which, therefore, tend to act as "isolated islands", less integrated into their surrounding context. This question of integration is, in turn, linked with their accessibility, a character understood to be crucial to ensure the extended scope and reach that distinguish higher-education institutions nowadays. Indeed, these institutes are now more than ever reaching a vaster – and highly diversified – public, coming from heterogeneous communities, and, also, given the influence of life-long learning perspectives. Our discussion is thus one also concerned with the issue of "Publicness" of these spaces, leaving us wondering over a future model of a campus where a highly diversified public can find a suitable space. A fourth, last issue is related to the sustainability of

	such models, which from an environmental perspective are now demanded a far better use of existing resources, a conscious employment ensuring renewal over depletion.
research questions:	The set of conditions introduced calls for new spatial models to better address change and its intrinsic challenges and potentials. Consequently, a central research question is raised and formulated as: "How can architectural planning promote interrelation, openness among activities through innovative spatial solutions in educational fields?" Sub-questions can be derived from the main, focused on addressing the specific challenges and issues as presented above. Linking to the urban perspective of the discourse, our concern is about "How can we promote a stronger integration between the existing city fabric and the campus?" Related to this first sub-question, focusing on the extensive and intense exchange to be established between the educational domain and the urban (and beyond) realm, a second sub-question addresses: "How can we provide efficient accessibility to a campus at the urban level, and beyond?" Complementary, a societal, public perspective on the dialogue wonders: "How can a campus become an open social activator?" Finally, aware of the urgent environmental concerns as introduced above, we are interested in "How can a campus address a demand for sustainability?"
Goal: Ambition of this research is to understand and express the potential of a new spatial solution to respond with adequacy, innovativeness and significance to the challenges introduced. The envisioned Vertical Campus is one entrusted with the potential of becoming an explorative reference model, owing to a set of project-specific objectives which translate into specific architectural solutions. Firstly, aiming at establishing a deeper connection between the educational facility and the city, deeper urban integration is assumed as a central objective. The Vertical Campus is understood as one entity part of a civic eco-system. At the same time, an objective of extensive accessibility is recognized as fundamental to enable the Campus to participate in the	

wider urban fabric. This concept of interrelation, openness at the spatial level is also present at the social level, led by an ambition to promote publicness, which is understood as a defining character of the "Campus of the Future". Such a campus can, by doing so, foster the transfer of social and moral knowledge, aside an academic one. Lastly, as presented by the set of questions introduced, sustainability is certainly comprehended as a major goal of the proposal.

Process

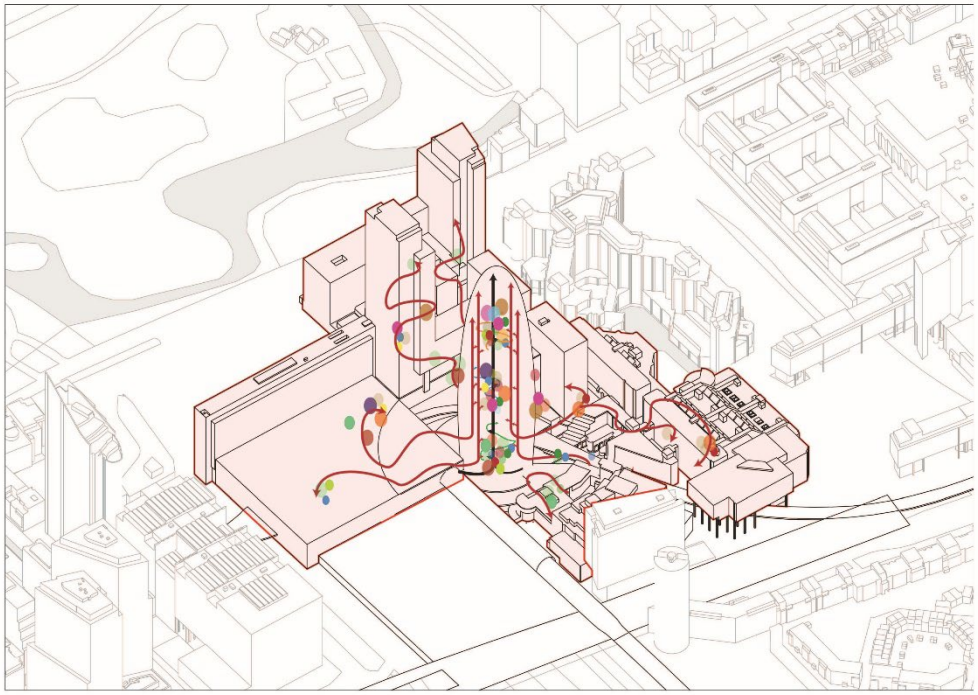
Method description

To understand adequate, innovative and meaningful architectural solutions to the introduced challenges a specific methodology is identified. Influenced by a historical perspective and foundation of study, this method is one comprising in turn different tools. These include qualitative one, like literature review and analysis of academic and professional productions – e.g., papers, essays, articles. But, also, first-hand sources of analysis, like direct observation, surveys, questionnaires, implemented in the relevant and respective field of study recognized. But the spatial attribute of our discourse calls for additional tools to the ones above-mentioned. These include analysis of relevant case-studies – comprising projects, practices, studios – and use of field-specific tools – such as mapping, diagrammatic studies and visualizations. Goal is to promote the building of a fertile field of research and reference, and foster, in turn, a contemporary response. In addition, Research-by-Design is used as a tool to foster innovative solutions, driven by an explorative approach in which design work is assumed as a special form of research. Projection and Speculation, supported by the use of tools such as of modelling, formal and typological comparing studies, mapping in advanced forms, drive the exploration of new and original ways to address challenges and questions.

However, the methodology presented also comprises tools which are specifically related to the particular set of objectives introduced. In this respect, these instruments act as "linking devices" to connect the objectives recognized in the first stage to the spatial outcomes in which they result: they represent means of a strategy guiding the design process to the desired outcome. In particular, Multiplicity is understood as the privileged tool of this set, tasked with the objective of urban integration. As the design outcome will present, this tool enables us to consider a campus as a group of multiple, different entities belonging to the urban fabric. Consequently, a campus is understood as an "urban ensemble" of multiple spatial institutions, part of a system made of different parts belonging together, instead of a single entity. As is the objective of integration related to accessibility, so are their respective tools: multiplicity and connectivity. In particular, the proposal takes advantage of a specific urban entity among the multiple ones, part of this system, which is already characterized by a high degree of connectivity with the city – and the greater region, as the design outcome will present. Additionally, connectivity among these entities is also deeply enhanced and designed. Hybridity is the distinctive tool tasked with an objective of Publicness. As diverse is the public expected to use educational facilities in the future – and as diverse are their extrinsic and intrinsic demands as individuals – so is the spatial offering presented. Hybridity is therefore explored in terms of variety of programme, comprising highly diversified destinations, as well as variety of spaces, which heterogeneous character reflect and extend its functional multiplicity. Lastly, a sustainability objective is addressed, among the others, through the tool of adaptive re-use of existing spaces

and surfaces, to suggest an increasingly efficient use of spatial resources already present.	
Design assignment in which these result:	M.A.G.N.O.L.I.A. is the architectural proposal, outcome of a process that translates specific ambitions, using respective design tools, into a particular spatial entity. Multiplicity deeply informs the proposal, identifying the same as an urban system deeply rooted in The Hague Central Station area. In this respect, proximity to the Station acts as a fundamental principle of the project. Taking advantage of the already existing, highly extensive infrastructural network provided by this transportation Hub, the proposal can benefit from the highest degree of connectivity to the urban fabric, and the greater region beyond. The station, first among the multiple urban entities made part of such system, is co-joined by The National Archive, The Royal Library, Leiden University and New Babylon, in one integrated urban campus. Once the multiple parts are identified, connectivity is also addressed at the campus level: through the implementation of a network of ground and elevated pathways, these elements are extensively interconnected. This interrelated system takes advantage of the generous offer of existing surfaces and spaces already present, adaptively re-using rooftops and interior spaces to expand the possibilities of a single, centralized element. The vertical element, the tower, which is then understood in its full potential only in its relationship to this horizontal domain: an interplay of the vertical and the horizontal which is at the core of such a monumental system. This is especially informed by a hybrid approach, resulting in an extremely diversified combination of spaces for education, commercial activities, dwellings and offices, but also spaces for the intrinsic demands of a highly heterogenous public, in a spatial offer comprising places for meeting,

	chatting, relaxing, … Multiplicity is then understood, also, as a character of the various, different moments, formal and informal, that distinguish a public campus of the future: one that comprehends Publicness, Sustainability, Accessibility and Integration at the heart of its conceiving and its design.



Literature and general practical references

50 Hybrid Buildings: Catalogue on the Art of Mixing Uses = 50 Edificios Híbridos: Catálogo Sobre El Arte De Mezclar Usos. 2020. Madrid: a t research group.

Adjaye, David, Okwui Enwezor, Saskia Sassen, Nikolaus Hirsch, Kodwo Eshun, Whitechapel Art Gallery, Nederlands Architectuurinstituut, Studio Museum in Harlem, Museum of Contemporary Art/Denver, and Arario Gallery. 2006. *David Adjaye: Making Public Buildings: Specificity, Customization, Imbrication*. Edited by Peter Allison. London: Thames & Hudson.

Bareither, Harlan D, and Jerry L Schillinger. 1968*. University Space Planning: Translating the Educational Program of a University into Physical Facility Requirements*. Urbana: University of Illinois Press.

Baukunstarchiv Dortmund. 2020*. Monumental_: Public Buildings at the Beginning of the 21st Century.* Edited by Heike Hanada. Translated by Eric Zapel. Köln: Verlag der Buchhandlung Walther und Franz König.

Duin, Leen van, Francois Claessens, Roberto Cavallo, and Delft University of Technology. 2007. *Master Book 2007-2008: Hybrid Buildings for the Dutch City: Urban Architecture*. Cambridge: MIT Press.

Fenton, Joseph. 1985. *Hybrid Buildings*. Pamphlet Architecture, No. 11. New York: Pamphlet Architecture.

Hoeger, Kerstin, and Kees Christiaanse, eds. 2007*. Campus and the City: Urban Design for the Knowledge Society.* Zurich: Gta Verlag.

Kotnik, Jure, ed. 2017. *Designing Spaces for Early Childhood Development: Sparking Learning & Creativity.* Mulgrave, Victoria, Australia: Images Publishing Group Pty.

Kramer, Sibylle. 2010*. Colleges & Universities: Educational Spaces.* Salenstein: Braun.

OECD (Paris), and Organisation for Economic Co-operation and Development. 2011. *Designing for Education: Comendium of Exemplary Educational Facilities 2011.* Paris: OECD.

Pålsson Karsten. 2017. *Public Spaces and Urbanity: How to Design Humane Cities*. Translated by Karen Steenhard. Construction and Design Manual. Berlin: DOM.

Per Aurora Fernández, Javier Mozas, and Javier Arpa. 2011. *This Is Hybrid: [an Analysis of Mixed -Use Buildings by a t]*. Vitoria-Gasteiz: A plus T Ediciones.

Programme on Educational Building, and Organisation for Economic Co-operation and Development. 1996. *Schools for Today and Tomorrow: An International Compendium*

of Exemplary Educational Facilities. Programme on Educational Building. Paris: Organisation for Co-operation and Economic Development.

Public Space? Lost & Found (Symposium) (2014: Massachusetts Institute of Technology), and Massachusetts Institute of Technology. Program in Art, Culture and Technology. 2017. Public Space? Lost and Found. Edited by Gediminas Urbonas, Ann Lui, and Lucas Freeman. Cambridge, MA: SA P Press, MIT School of Architecture Planning.

RIBA Enterprises, and Higher Education Design Quality Forum sponsoring body. 2016. *Future Campus: Design Quality in University Buildings.* Edited by Ian Taylor. Newcastle upon Tyne, England: RIBA Publishing.

Unesco. 1976. *Planning Buildings and Facilities for Higher Education*. London: Architectural Press.

Reflection

Looking back, a first reflection is centered around how absolutely instrumental and influential every moment belonging to the Studio has been. This applies from the very beginning of our explorations: in particular, our London and Oxford journey have proved to be an extremely fertile ground of inspiration and reflection for future design discussions. The extensive and diversified set of projects and places visited have provided a solid foundation to start a debate over central themes, like Integration between Campus and the City, or Publicness, recalling our visits inside London Campuses. A fundamental moment of reflection is also represented by the site visit to the Central Station Area: here, I begun to reflect on how differently people – including us students, tutors and guides – access the city using various means of transport. A reflection over the theme of Accessibility which would later greatly influence my design positioning. Additionally, the lectures offered have provided a fertile ground for thinking, especially raising a deeper awareness towards themes such as Sustainability, Circularity in the built environment, again later comprised in my design positioning. The quality of this first stage of research is undoubtedly one the most influential dimensions which would later inform the project position. However, in this respect, the frequent dialogues with tutors over such themes proved to be crucial: indeed, their real potential, and their specific relevance in relation to the particular design assignment, have been understood thanks to that prolific exchange of ideas and perspectives. The positioning emerging from this first phase, which would represent the solid theoretical base for future design reflections, is a product of such a fertile dialectic methodology of confrontation. In the second phase, now confronted with the specific constraints and possibilities of the identified site, the design translations of those ambitions have been explored in their real potential owing to the same prolific debate, leading to, in a recursive process, adjustments and further architectural explorations. Feedback from

tutors profoundly supported design ambitions, providing invaluable suggestions about possibilities, constraints, real-life applicability of the presented design proposals. In this process, learning touched several different dimensions: the competencies developed belong in the fields of theoretical and pragmatic discussion and assessment of design ambitions, methodology and respective outcome – as the Theory-and-Delineation and Project-Design sessions have highlighted – and in the fields of technological and construction knowledge – as the Technical-Building-Design tutorings have emphasized. However, a design methodology which has a dialectic foundation at its core, one which takes a dialogue of ideas, possibilities, constraints, as its principle, is the great lesson I welcome in my professional and personal advancement.

A Campus as introduced in the discussion is certainly one with a profound public vocation: indeed, the public dimension of such a spatial entity has been understood as a primary means of comprehension since the very first phases and reflections. In this respect, knowledge, competencies, methodologies built across the several academic components that belong to the Architecture track all have come together to provide an essential set of instruments to address the particular topic effectively. A sensitivity towards the wider economic, social and environmental implications of spatial solutions has been fostered by past studio experiences – which have inspired a broader perspective on the designer's responsibility – while a methodology of research and analysis towards academic works has been promoted by theoretical courses. Furthermore, the project has been addressed in all its components and scales, from that of the city and beyond to the singular constructive and technical solution, owing to the collaboration and dialogue with the other disciplines belonging to the Master Programme. A work that acts as a moment of reflection and proposal, then, with an ambition to represent a positive contribution to the discussion happening in the practices and academic environments of the architectural field. But also to external agents and stakeholders, which may very likely find themselves represented in the set of groups and individuals touched and influenced, and pro-active part of a discussion whose foundations and implications are of the strongest scope. A first contribution may be recognized in its call for the building of a collective and individual conscience towards the phenomena acting as its principles, or foundation of research. A recognition of their urgence, of their influence over our lives, but also a recognition of the role the built environment has, and can have, in shaping our existence as a primal and final cause, acting as principle and objective. An architecture that is understood as a political act. But a contribution also as a work whose outcome is a proposal which can be looked at as a potential model for future interventions, promoting a creative exchange of analysis, studies, intentions, expectations, and a reasoned collection of spatial solutions, examples, items for the creative practice in the wider sense.

design brief

The Horizontal Brief | MSc 3

Urban Capacity Plan of 250.000 - 500.000 m2

The area around The Hague Central Station (CS Oost) has a high potential for densification because of the excellent accessibility by public transport. Many of the national and city government office buildings are in the vicinity. The pressure on the area is high, for one due to expanding demand for office space for the civil departments. This Studio is looking for a quality driven capacity plan for three dedicated zones: **1). The green border, 2.) The fly-over infrastructure, 3.) The high-density city fabric.**

The capacity plans should provide design solutions in which special attention is given to the meaning and nature of the public realm and how that is connected to its environment, the interaction between nature and program and the re-use of existing buildings. The Studio is also looking for concepts that allow for more flexible use of available space; during peak days the pressure on available space is high, but at other moments a lot of space is unused or empty. The total program is roughly divided by 3. For each zone the built program is **80.000 – 160.000 m2**, in which:

- 30-40% is public program and publicly accessible (excluding outdoor public space);
- 30-40% is (governmental) office program;
- 30-40% is housing.

Within the capacity plan you will identify a spot with a footprint of 50 x 50 m (NB: the exact rectangle will derive from each of the capacity plans) on which you will develop the design of the building in MSc 4, based on the Vertical Brief.

The Vertical Brief | MSc 4

Hybrid Building on Education, approx. 30.000 m2.

Lifelong learning is the voluntary, ongoing pursuit of knowledge, skills, and abilities through various forms of education. The building should facilitate the types of programs that support this for people/students of all ages. Lifelong Learning therefore calls for more diversity in the programmatic brief than the strictly educational functions and spaces. The overlap with other programs in the hybrid building is thought to be beneficial to Lifelong Learning, while at the same time it offers time- and space sharing in order to enhance efficiency in use. The brief is indicative and divided in zones that, as said, can overlap or be rearranged.

Entrance (400 m2)
Reception and information, elevator lobby, security center, gates to shielded areas, cloakroom, amenities, lounge.

Commercial Spaces (1.000 m2)
Divided in units of at least 100 m2 with their own amenities, accessible from the interior and exterior public space.

Café and Lounge (500 m2)
The building should have café and informal lounge areas for people to eat and drink, socialize, study alone or in groups, or just relax. These areas should integrate with the circulation and exhibition spaces of the building.

Play and Learn (2.000 m2)
Supervised/ safe play areas for the youngest, combined with day care center and (elementary) learning functions for approximately 200 students and 15 staff.

Learn and Discover; Studio Spaces (1.000 m2)
Studio spaces will provide an outstanding environment for interaction between staff and students as well as for peer-to-peer learning with a level of containment and acoustic privacy for approximately 20 groups of 16-20 students per group.

Library and Media Center (2.000 m2)
A range of spaces for individual and group study, enabling access to physical and electronic resources, as well as facilities for photocopying and printing, storage and display of books, art, and digital collections.

Workshops (400 m2)
Workshops containing tools and equipment suitable for producing small- to medium-scale timber and metal work, e.g.: models, furniture, or construction prototypes. The workshops need ground level access for delivery, storage, and display. Workshop spaces are min. 200 sqm.

Centre for Advanced Virtuality (500 m2)
The Centre allows students (and not only) to experiment with technologies of virtuality – Virtual Reality, Augmented Reality, Cinematic Reality, 360-degree videos.
The Centre consists of labs, immersive environments in which to reproduce imaginative experiences, meeting rooms, small working areas, and maker spaces, equipped with high-performance computers. The Studio supports creative projects and research endeavors, by bringing people together.

Learn and Develop; Research Spaces (2.000 m2)
A secure working environment, separated from the general teaching facilities, allowing a combination of quiet, solitary research work as well as collaborative group or team projects. This is likely to consist of traditional individual offices with storage for books as well as more open, interactive workspaces. Accommodation of 100 full-time staff; 200 part-time and 100 students.

Teaching, Learning & Development Spaces (1.000 m2)
These will provide acoustic and visual privacy for 10 small groups of 15-25 students. Spaces and furniture should be flexible, enabling access to physical and electronic resources.

(Lecture) Theatres (1.000 m2)
The building will include (lecture) theatres as follows:
One large theatre, seating 400+ people, possibly dividable into two smaller theatres,
Two medium theatres, each seating 120-150 people, and
Two small theatres, each seating 50-60 people.
This will also include foyer / breakout spaces large enough for the same number of people to gather and wait for the next lecture/event, which could have a dual function as an exhibition or casual seating space.

Exhibition Space (500 m2)
Any dedicated exhibition space will need to be serviced by a commercial-type kitchen for use at events, and be near to public amenities within the building.

Sports (500 m2)
One sports hall (height 7m) with sufficient changing rooms, lockers, and shower facilities. Additional multifunctional spaces for fitness, yoga, dance etc.

Office Spaces (10.000 m2)
The building will provide workspace for approximately 600 operational and support staff, and associated facilities such as file storage, meeting rooms, and reception.

Outdoor grounds
The spaces in the building should have easy access to outdoor spaces like a playground, terrace, park, square, etc.

Storage, Mechanical Utilities and Circulation Space
25-30% of total gross floor area

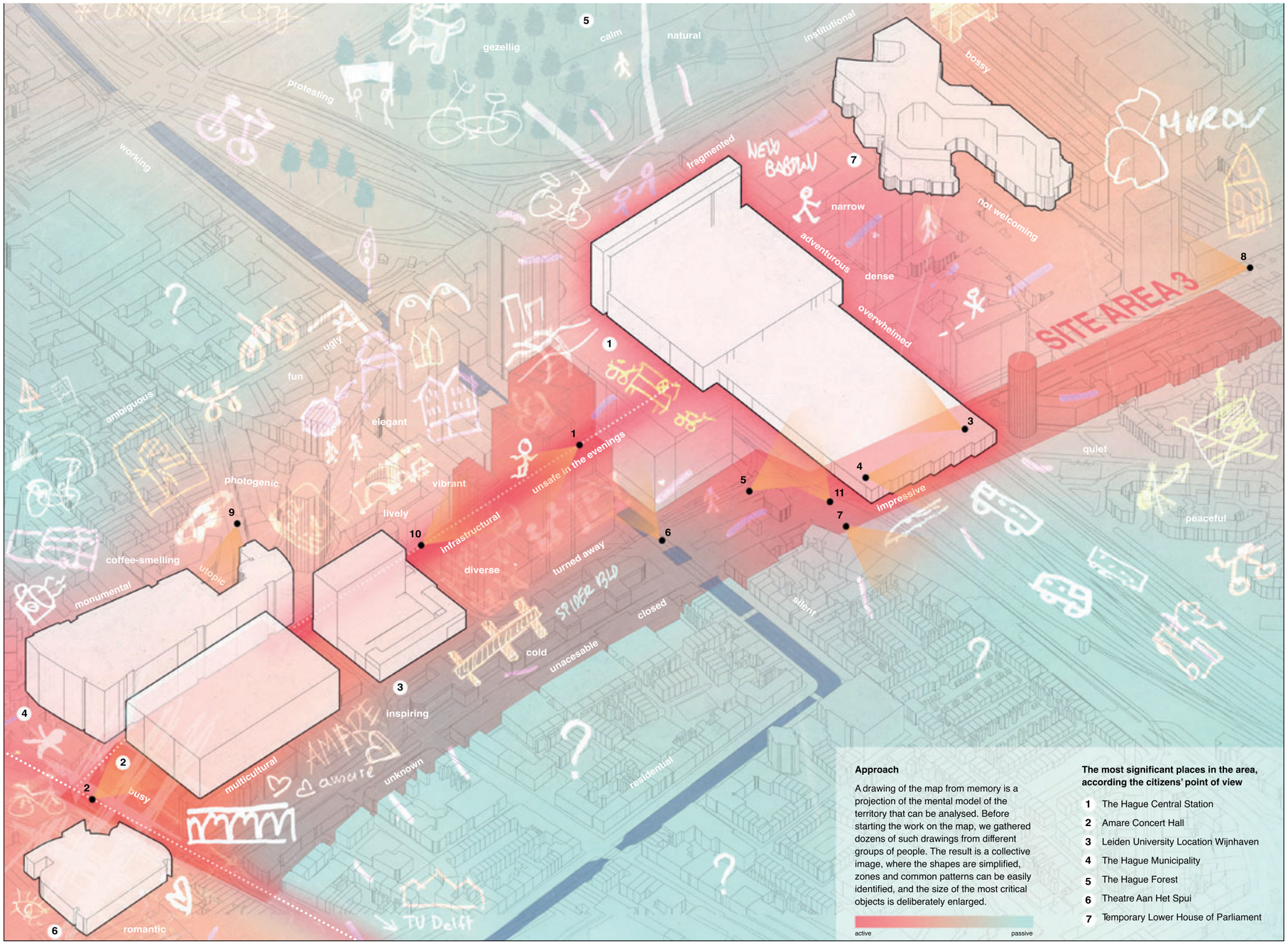
Bicycle Parking
for 800 bicycles (2 per 100 sqm)

Car Parking
(1 parking place per 250 sqm = 160 cars)

Delivery of Goods

SELECTION OF SEMESTER I MATERIALS

PSYCHOGEOGRAPHICAL MAP



Approach

A drawing of the map from memory is a projection of the mental model of the territory that can be analysed. Before starting the work on the map, we gathered dozens of such drawings from different groups of people. The result is a collective image, where the shapes are simplified, zones and common patterns can be easily identified, and the size of the most critical objects is deliberately enlarged.

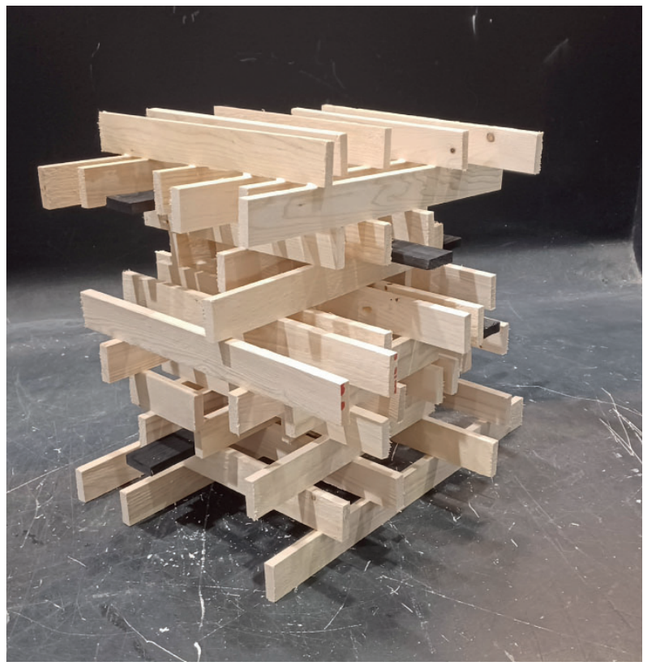
active — passive

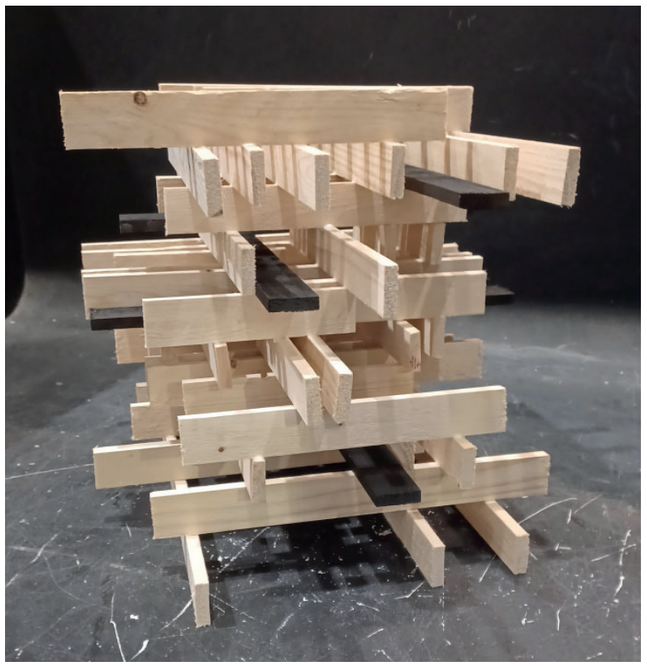
The most significant places in the area, according the citizens' point of view

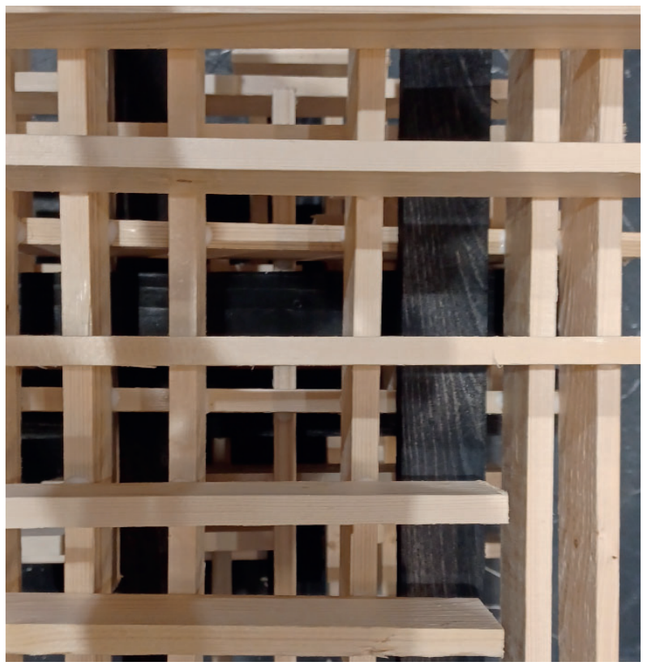
1. The Hague Central Station
2. Amare Concert Hall
3. Leiden University Location Wijnhaven
4. The Hague Municipality
5. The Hague Forest
6. Theatre Aan Het Spui
7. Temporary Lower House of Parliament

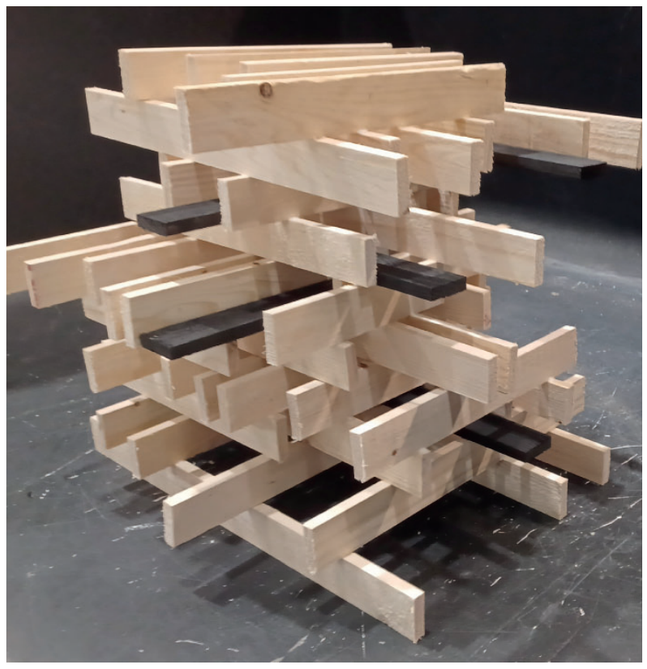
psychogeographical map

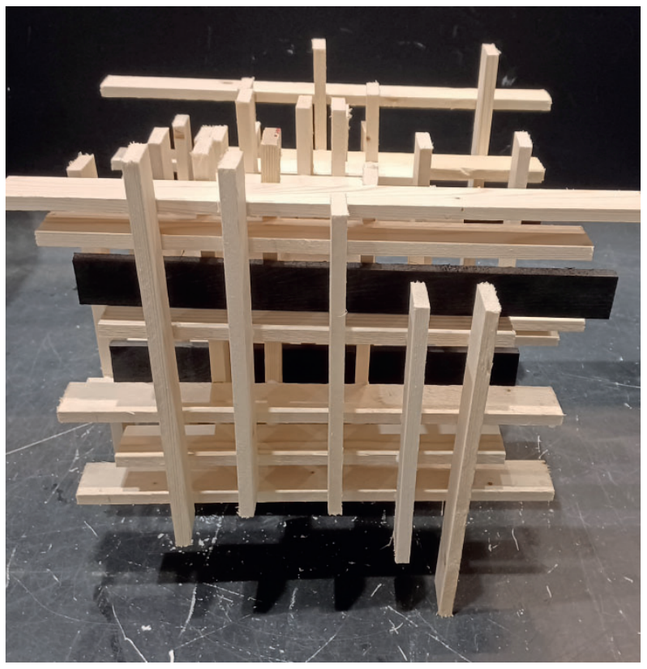
TECTONICS MODEL











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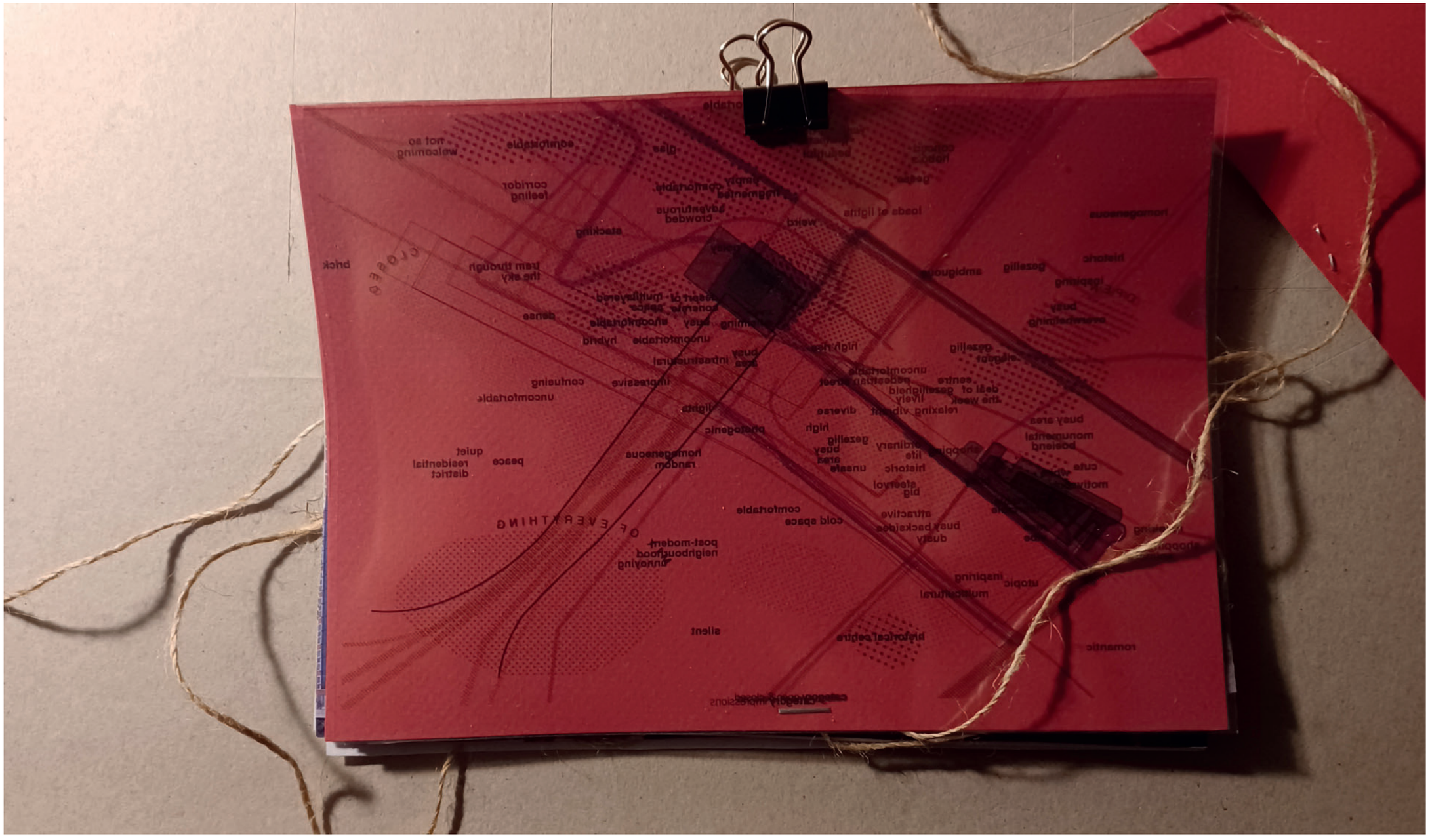

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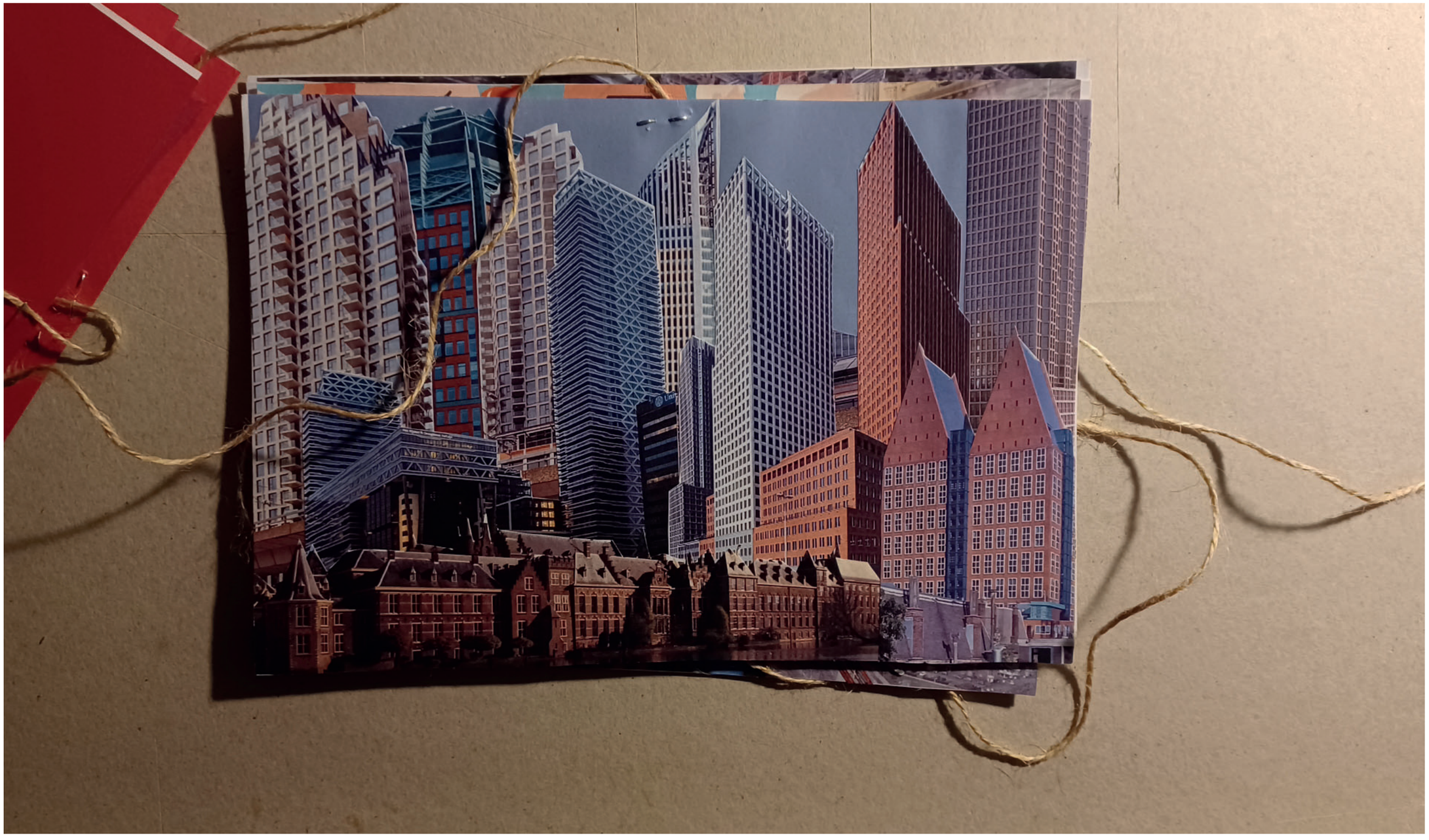


CIRCULARITY ASSIGNMENT

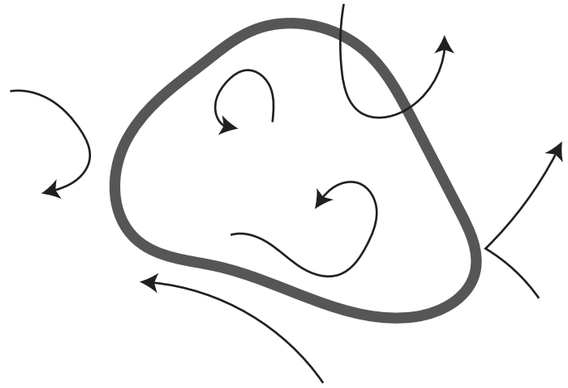
IDENTIFYING A SUSTAINABLE OPEN-ACCESS CAMPUS

Presentation on a vertical campus by Giammarco Emili

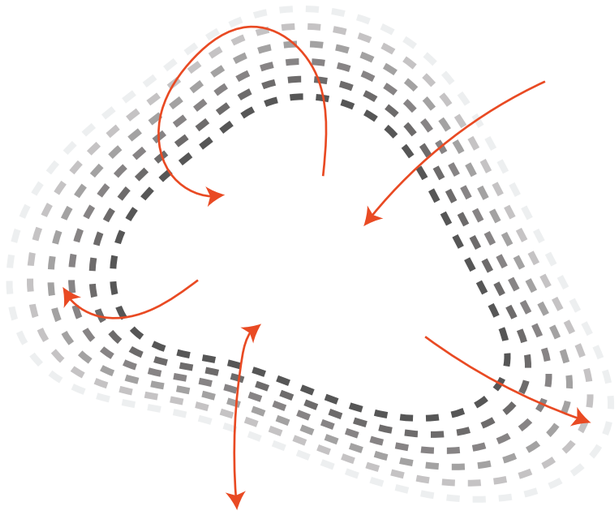
MOMENT I:
CHALLENGING THE SCOPE AND ROLE OF A CAMPUS

LONDON SCHOOL OF ECONOMICS DURING THE LONDON JOURNEY

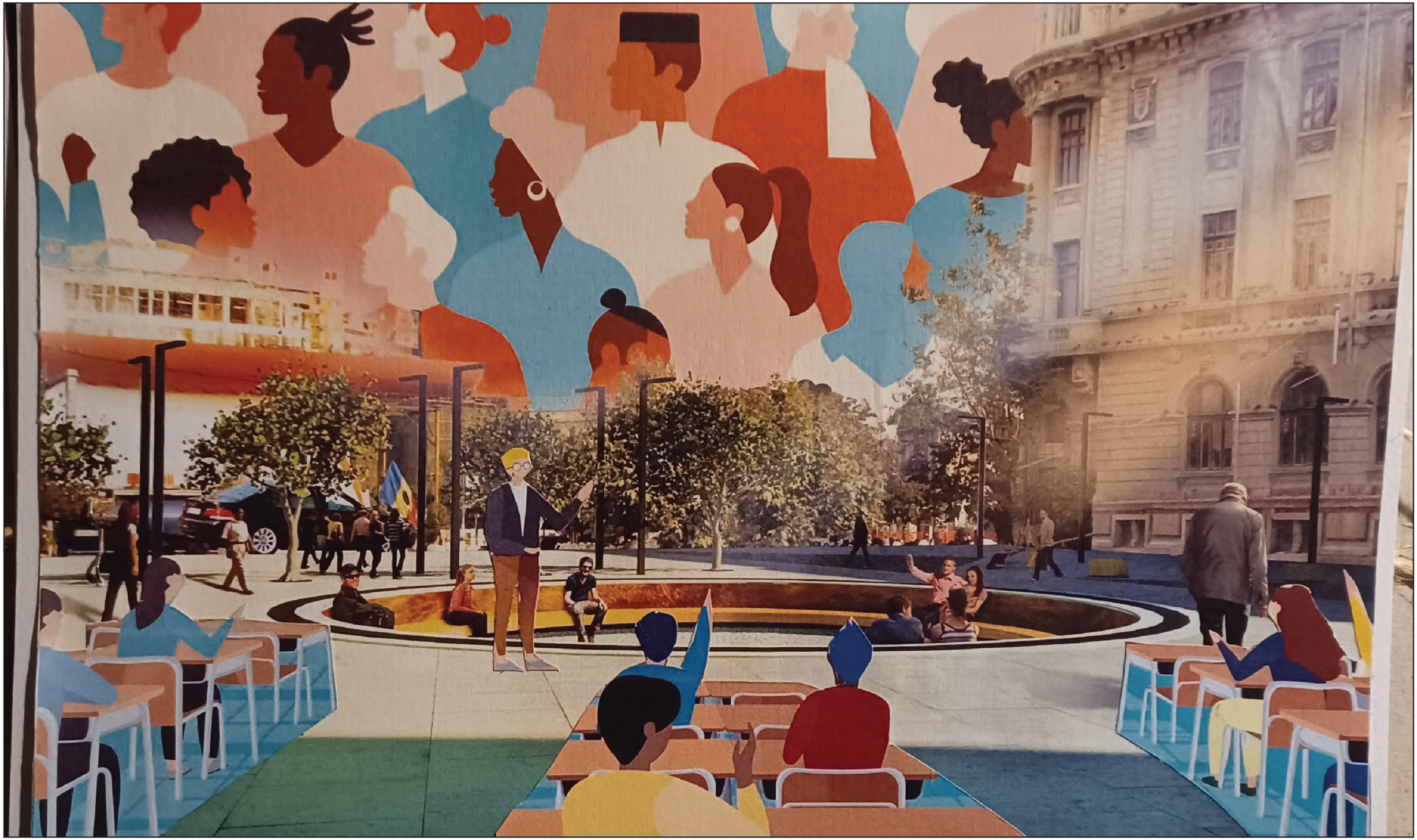
A FIRST AMBITION OF OPENNESS AND INVOLVMENT



"CAN WE IMAGINE A CAMPUS WHERE, THANKS TO A GREATER AND DEEPER REACH WITHIN SOCIAL STRATA, BECOMES A **SOCIAL ACTIVATOR** ?"



Expanding the scope of its spatial and social reach



ANALOG COLLAGE FROM TD IV ASSIGNMENT

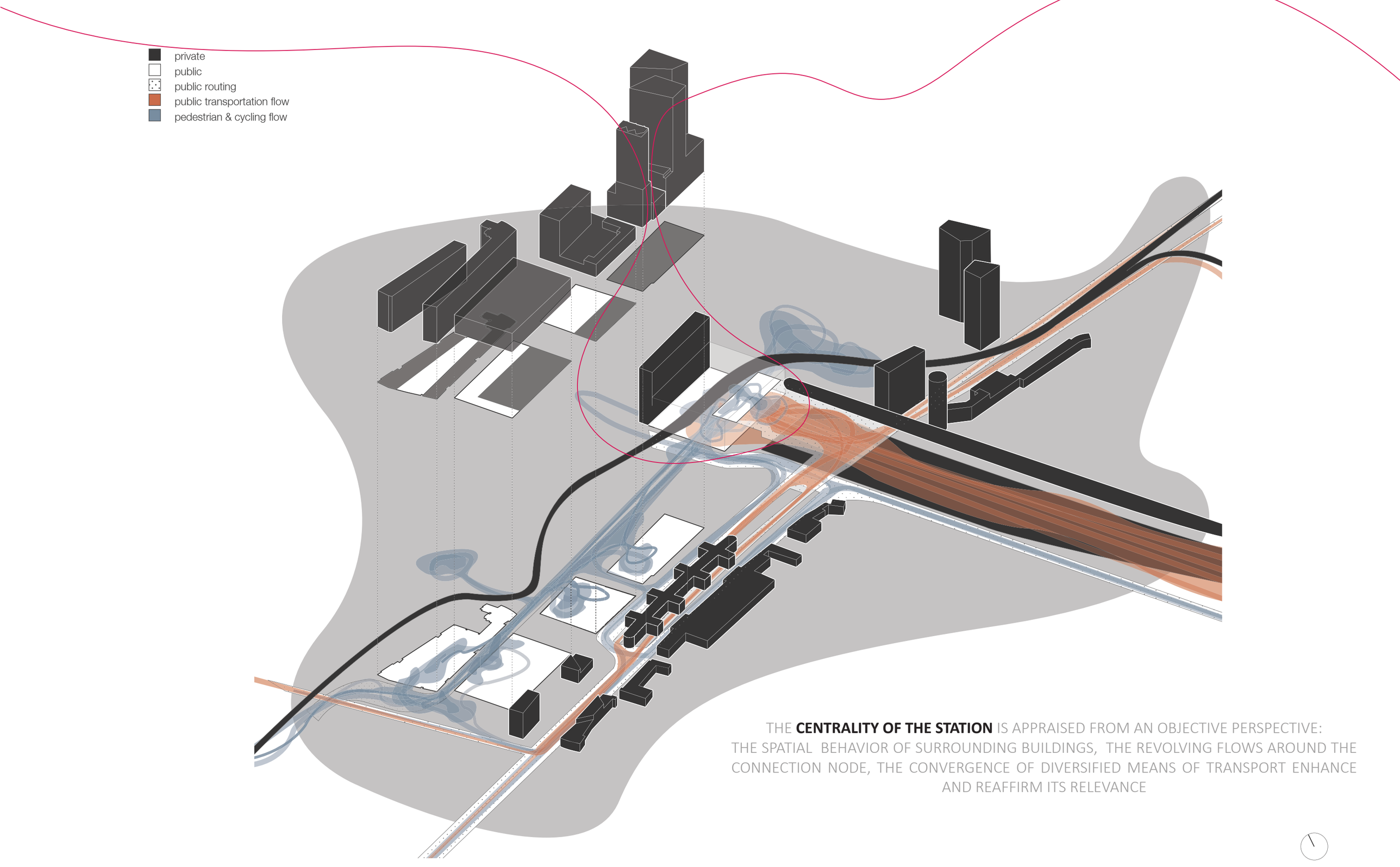
MOMENT II:
INTRODUCTION OF THE SPECIFIC CONTEXT OF THE HAGUE

THE **CENTRALITY OF THE STATION** FROM A SUBJECTIVE PERSPECTIVE BECOMES CLEAR

PHOTO FROM SEMPTEMBER 26TH SITE VISIT

MOMENT II:

INTRODUCTION OF THE SPECIFIC CONTEXT OF THE HAGUE



THE **CENTRALITY OF THE STATION** IS APPRAISED FROM AN OBJECTIVE PERSPECTIVE:
THE SPATIAL BEHAVIOR OF SURROUNDING BUILDINGS, THE REVOLVING FLOWS AROUND THE CONNECTION NODE, THE CONVERGENCE OF DIVERSIFIED MEANS OF TRANSPORT ENHANCE AND REAFFIRM ITS RELEVANCE

ANALYSIS DIAGRAMME FROM OBJECTIVE MAPPING GROUP PHASE

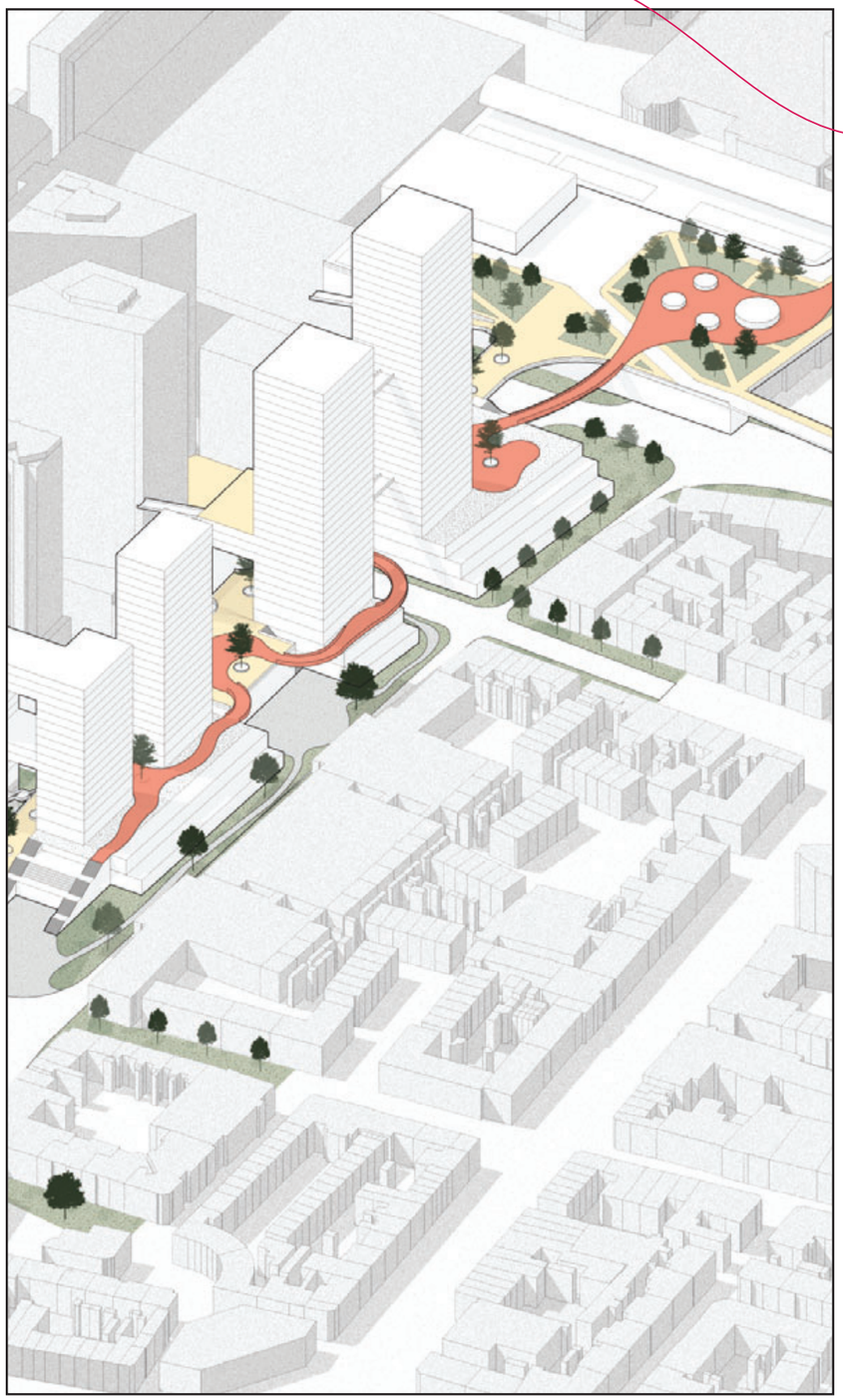
A VISUAL "URBAN ARCHIPELAGO" OF ELEMENTS IN A DENSE ENVIRONMENT

"How do we recognize, **IDENTIFY** an "Island" for the public in this archipelago?"

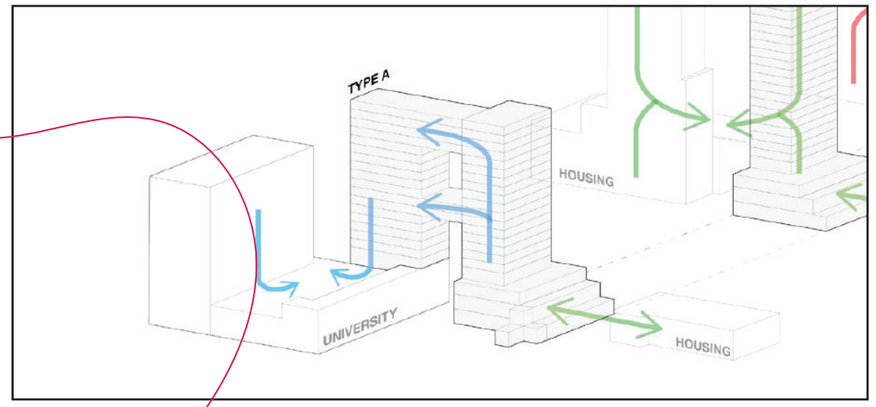
"How do we recognize one that promotes **PERMANECE**, Stability in this ever-flowing of people?"

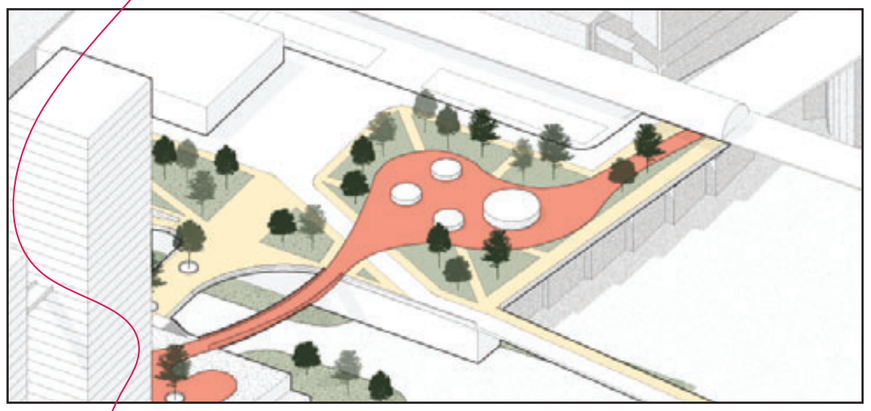
ANALOG COLLAGE FROM TD IV ASSIGNMENT

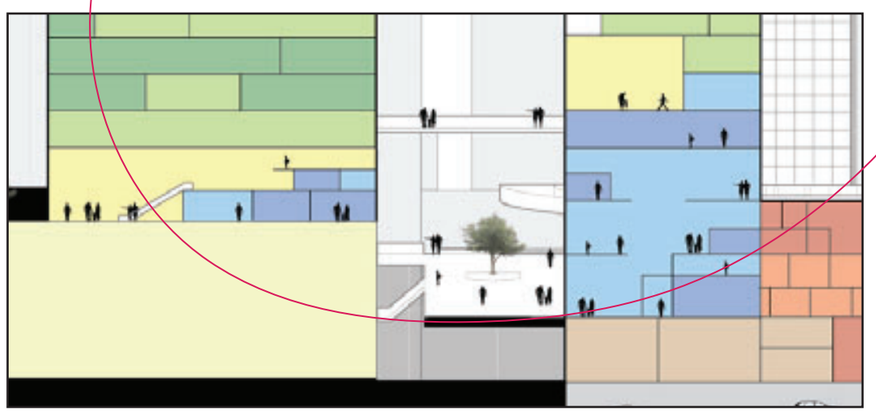
MOMENT III:
EXPLORATIONS OF THE HORIZONTAL BRIEF



CAPACITY PLAN FROM HORIZONTAL BIREF PHASE







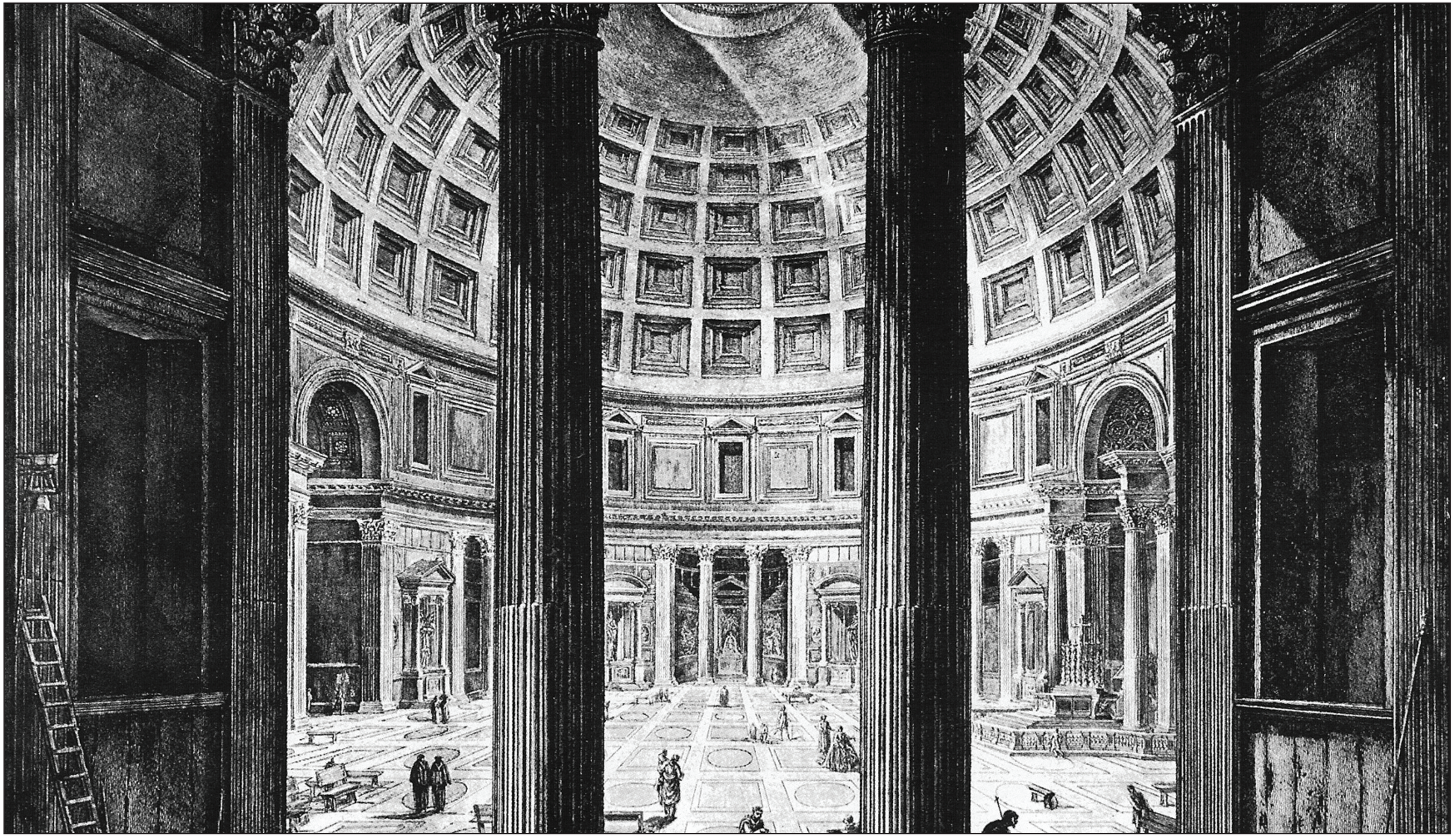
TOOLS:

INVOLVMENT OF **EXISTING BUILDING STOCK** THROUGH MULTI-LEVEL CONNECTION MEANS

USE OF ELEVATED SURFACES TO PROVIDE **ELEVATED SQUARES AND LEISURE SPACES** EASILY ACCESSIBLE

USE OF **ELEVATED PATHWAYS AND SKY-BRIDGES** TO DISTRIBUTE FLOWS IN A MULTI-DIMENSIONAL APPROACH

THE SPATIAL FLEXIBILITY OF A SPACE PROMOTES ITS USE AND REUSE THROUGH TIME: **ADAPTIVE REUSE AS A TOOL OF SUSTAINABILITY**



INTERNAL VIEW OF PANTHEON, GIOVAN BATTISTA PIRANESI

A LOOK BACK

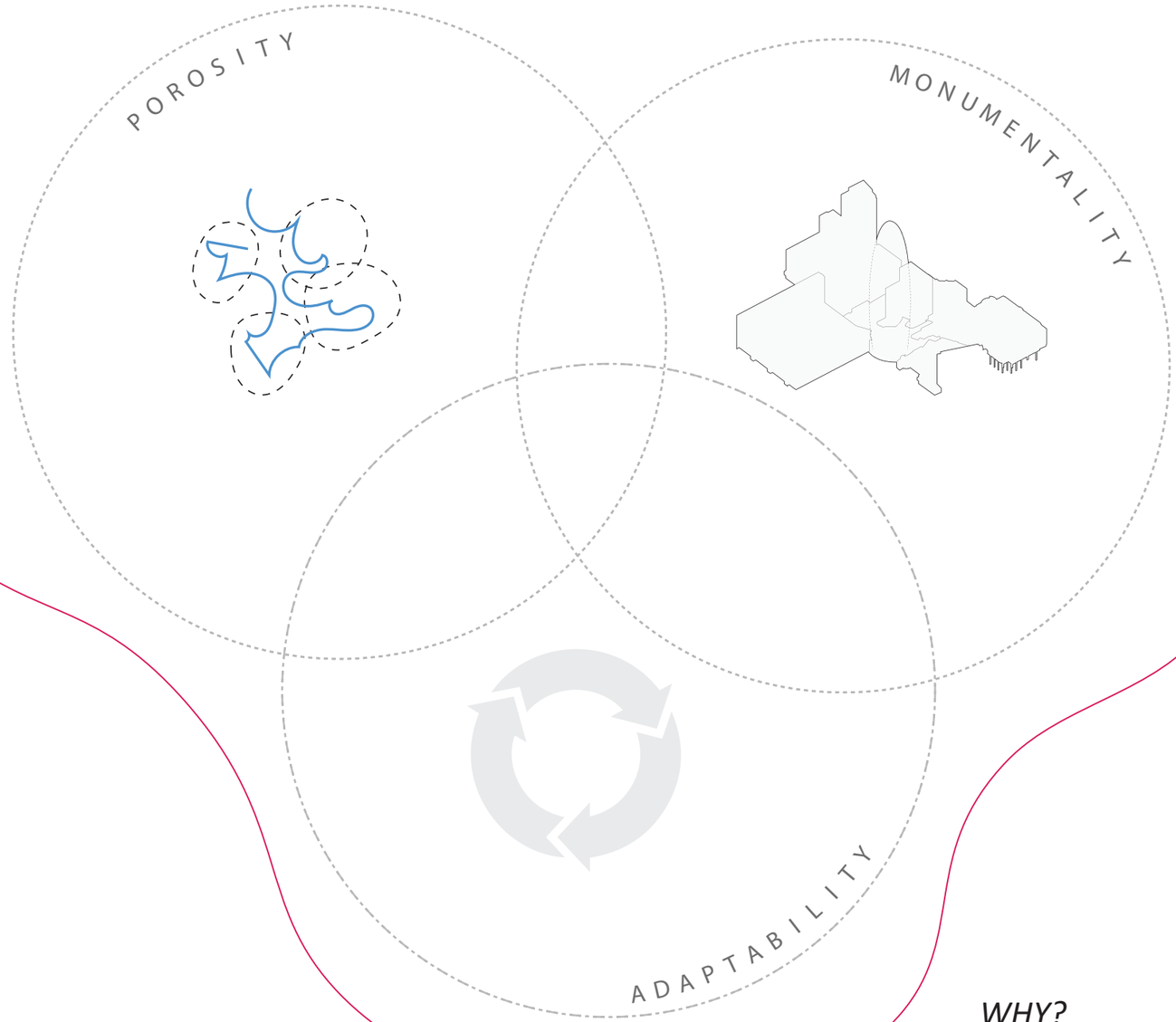
REFLECTIONS ON KEY CONCEPTS, THEMES, AMBITIONS COLLECTED SO FAR

SYSTEMATIZATION OF REFLECTIONS:
”WHAT IS THE AMBITION?”

TO IDENTIFY AN SUSTAINABLE OPEN-ACCESS CAMPUS

HOW?
TOOLS OF THE PRACTICE

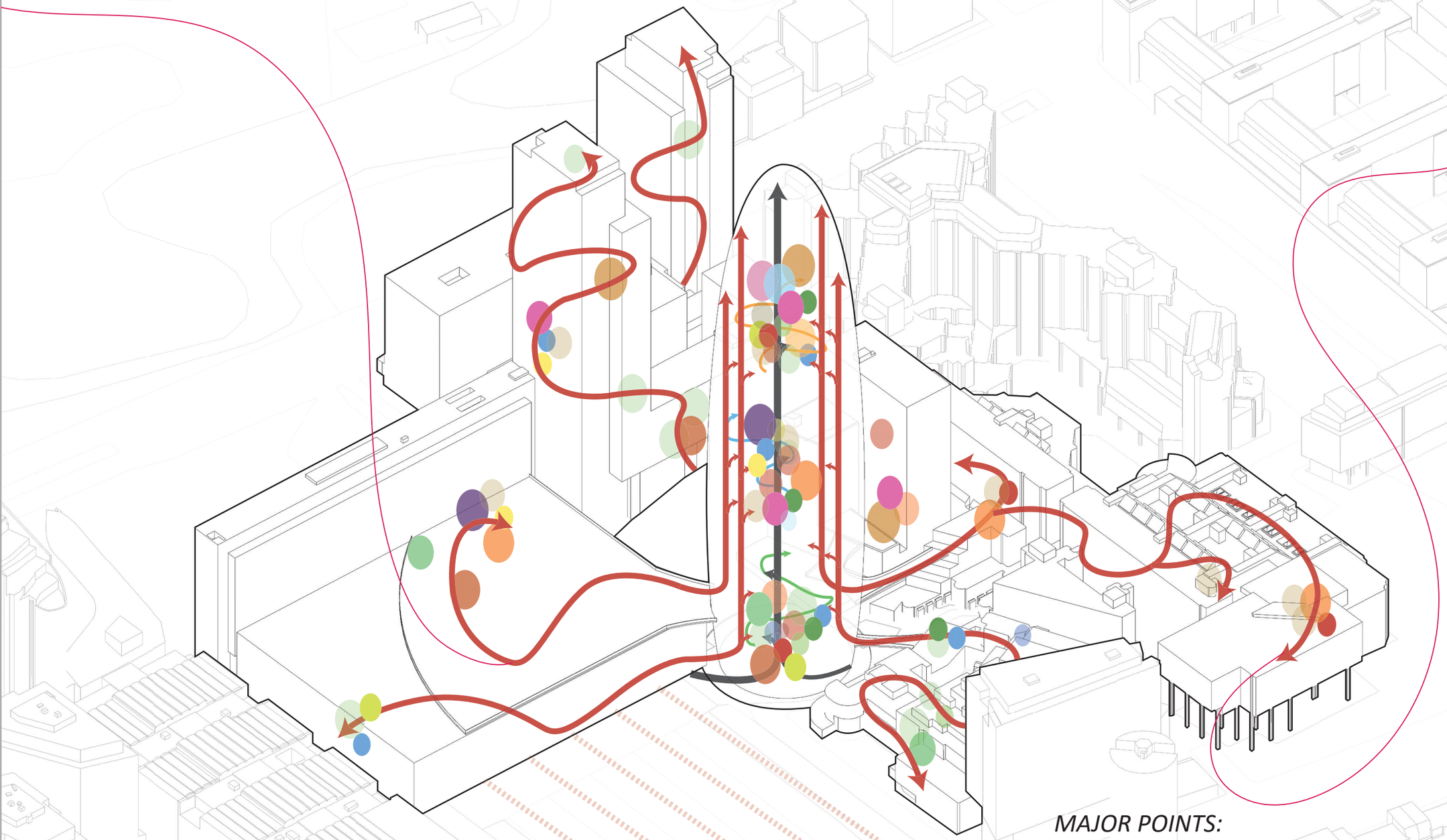
WHY?
MONUMENTALITY ENABLES THE RECOGNITION OF REFERENCE POINTS IN A CONTEXT



WHY?
POROSITY PROMOTES A EXCHANGE AMID THE ENTITIES OF A SYSTEM

WHY?
ADAPTABILITY SUPPORT A MORE DURABLE ENVIRONMENT

DIAGRAMME OF STRATEGY: **A MONUMENTAL SYSTEM**

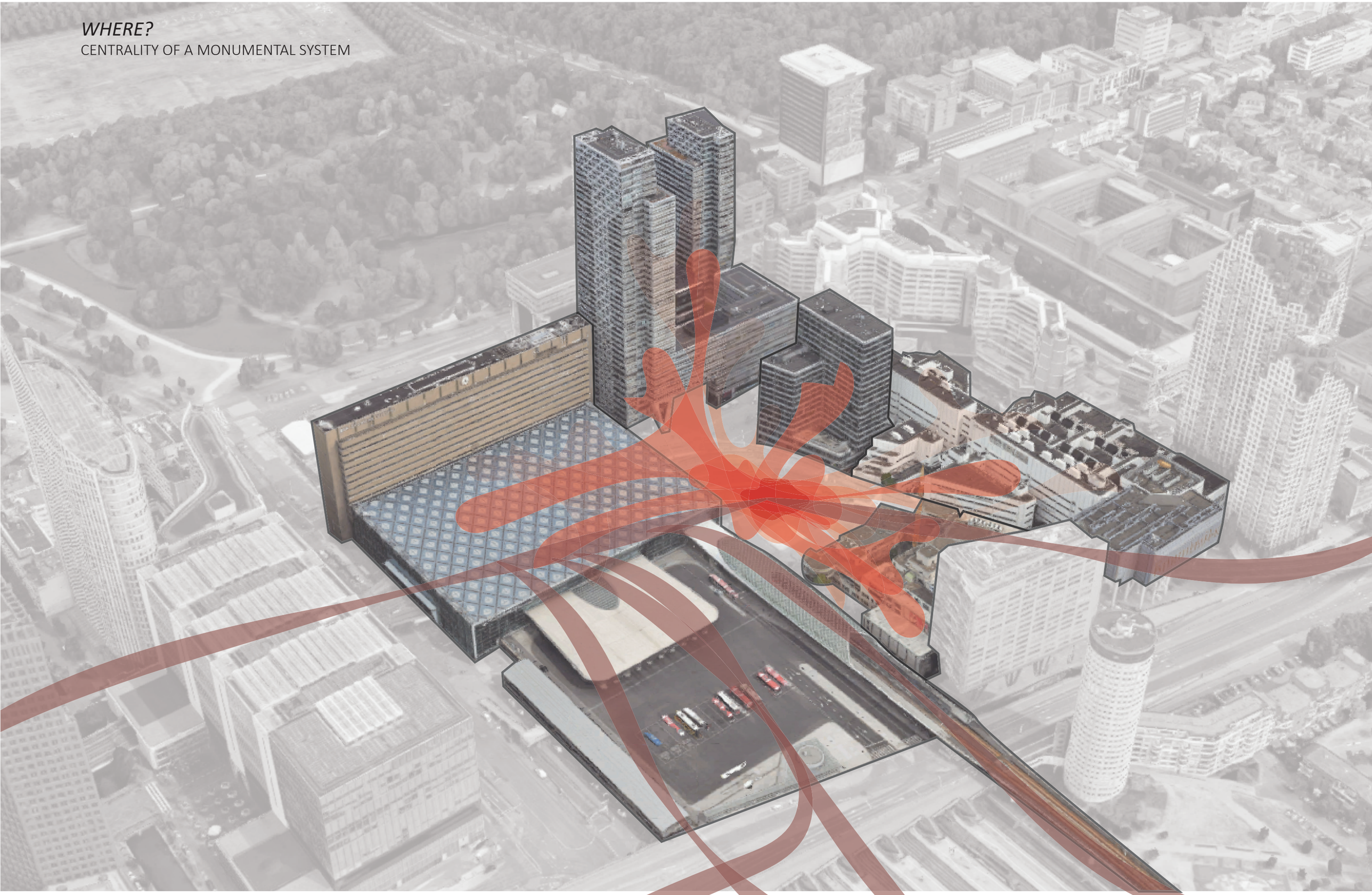


MAJOR POINTS:

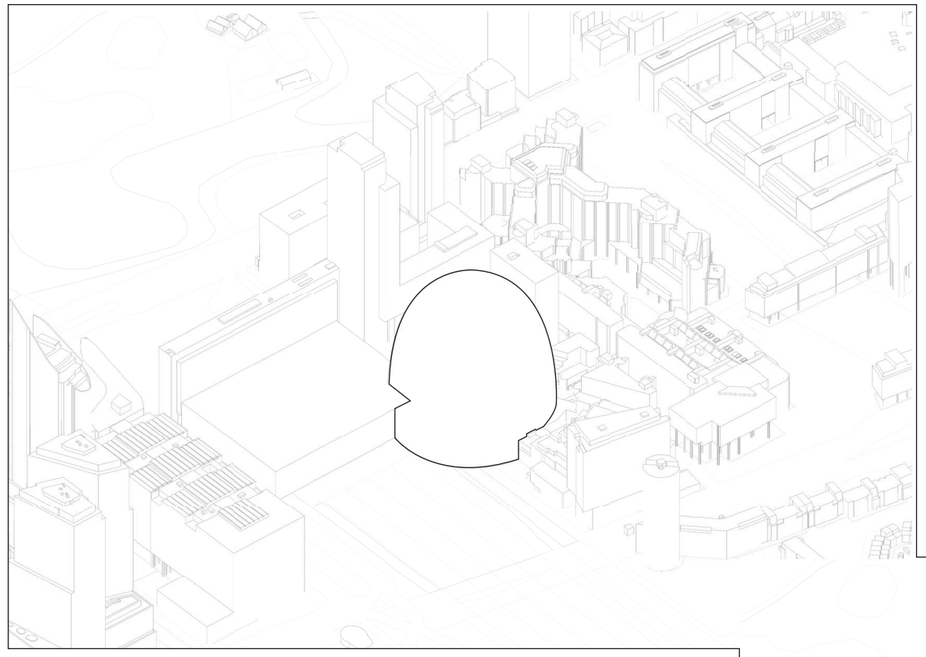
- MONUMENTALITY IN A SYSTEM BECOME FLEXIBLE, OWING TO **MULTIPLICITY** (ASSEMBLAGE OF ENTITIES)
- A **FIL ROUGE** IS THE MEDIATOR OF THIS MONUMENTALITY
- THE PROMINENCE, CENTRALITY, RECOGNIZABILITY OF THE TOWER ENABLES IT WITH AN **ORDERING, STRUCTURING ROLE**

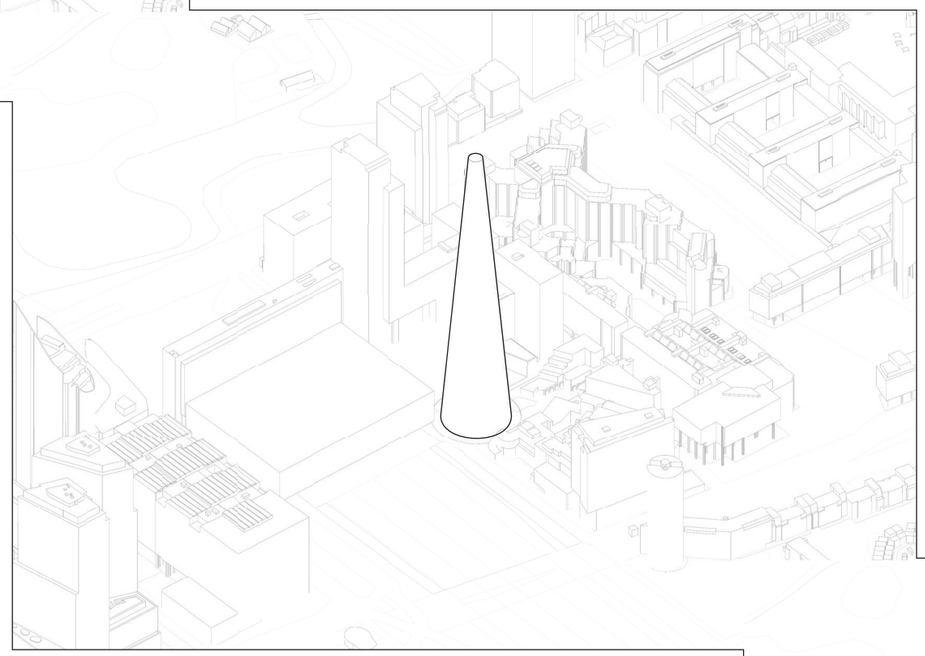
WHERE?

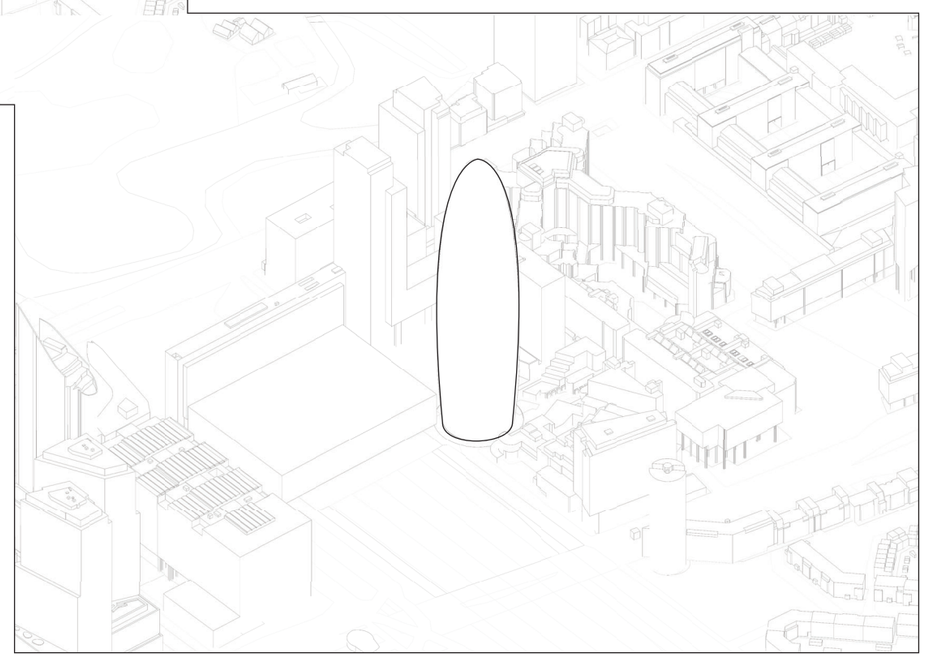
CENTRALITY OF A MONUMENTAL SYSTEM



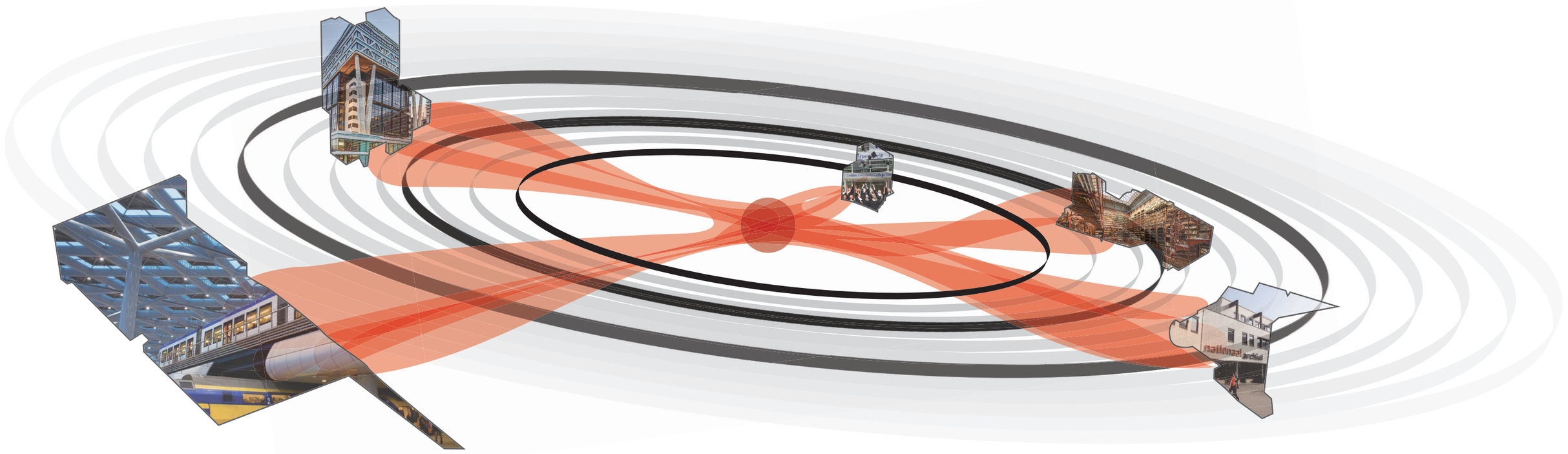
MASSING EXPLORATIONS





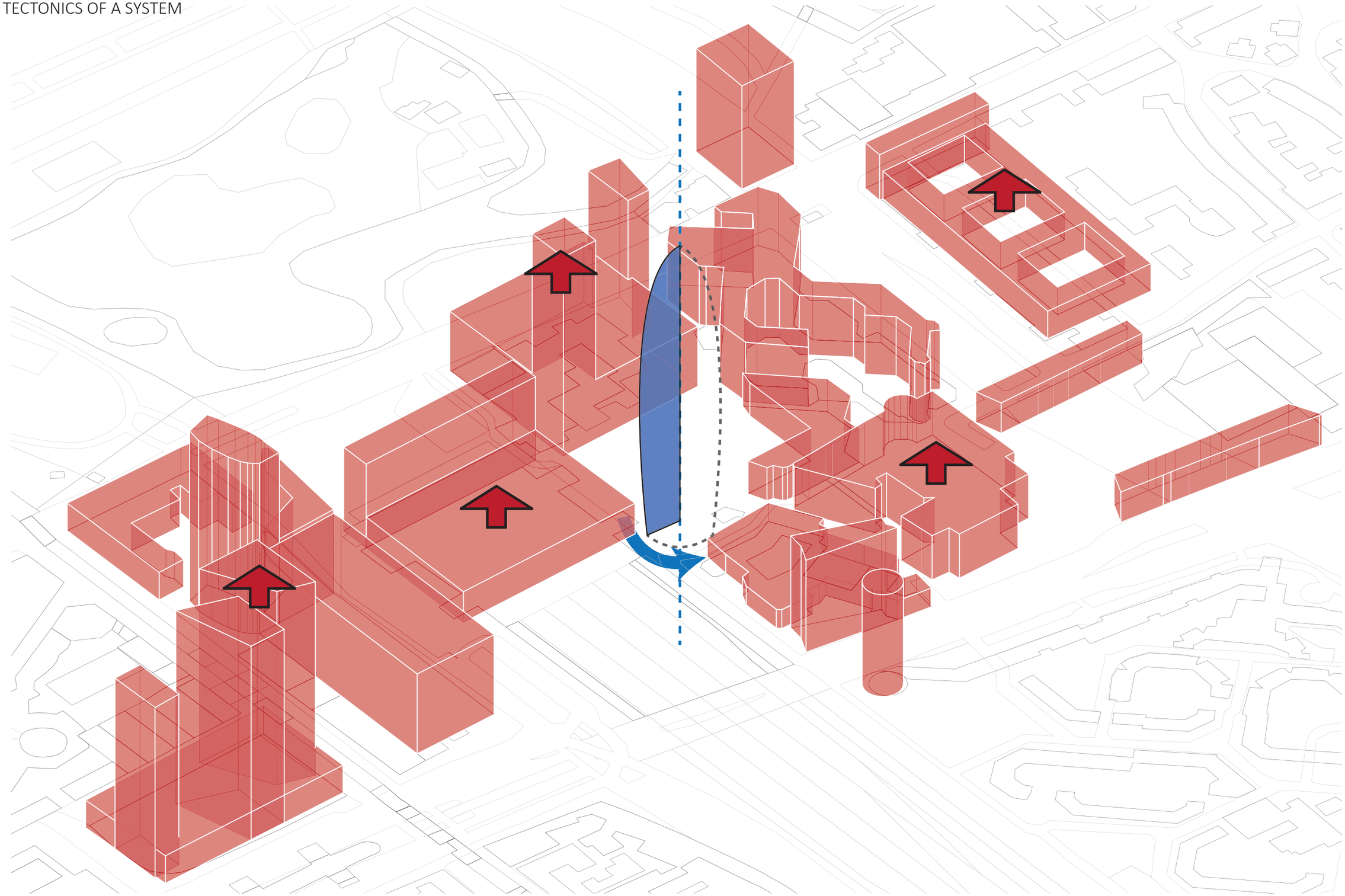


WHY CIRCULAR?



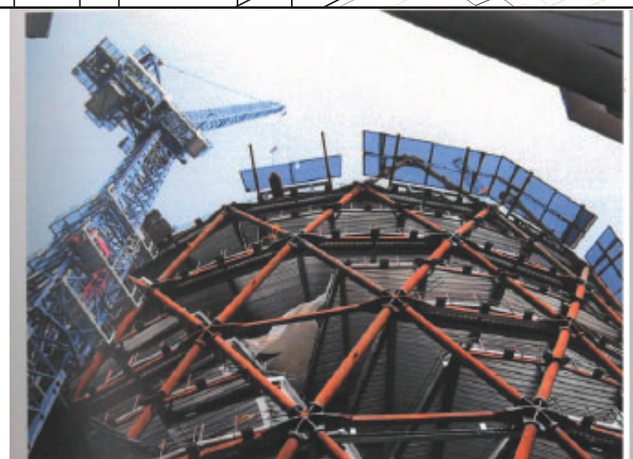
WHY REVOLVING?

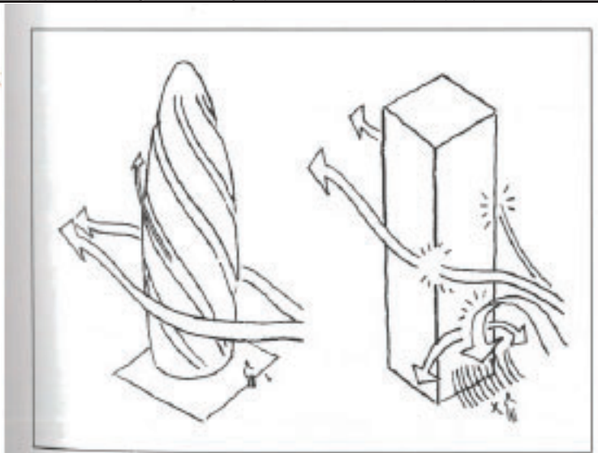
TECTONICS OF A SYSTEM

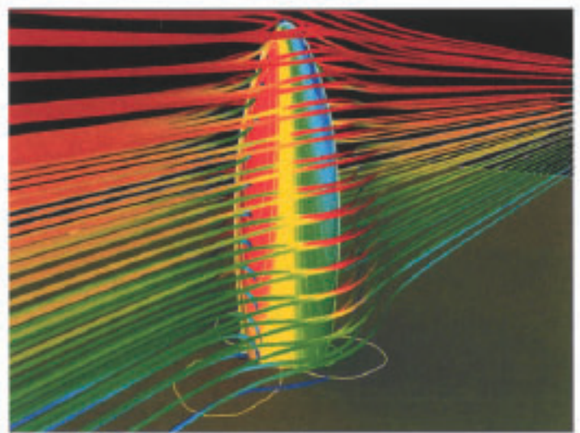


WHY THE FUSE BEHAVIOR

REASONINGS OF PRACTICAL AND LANGUAGE IMPLICATIONS

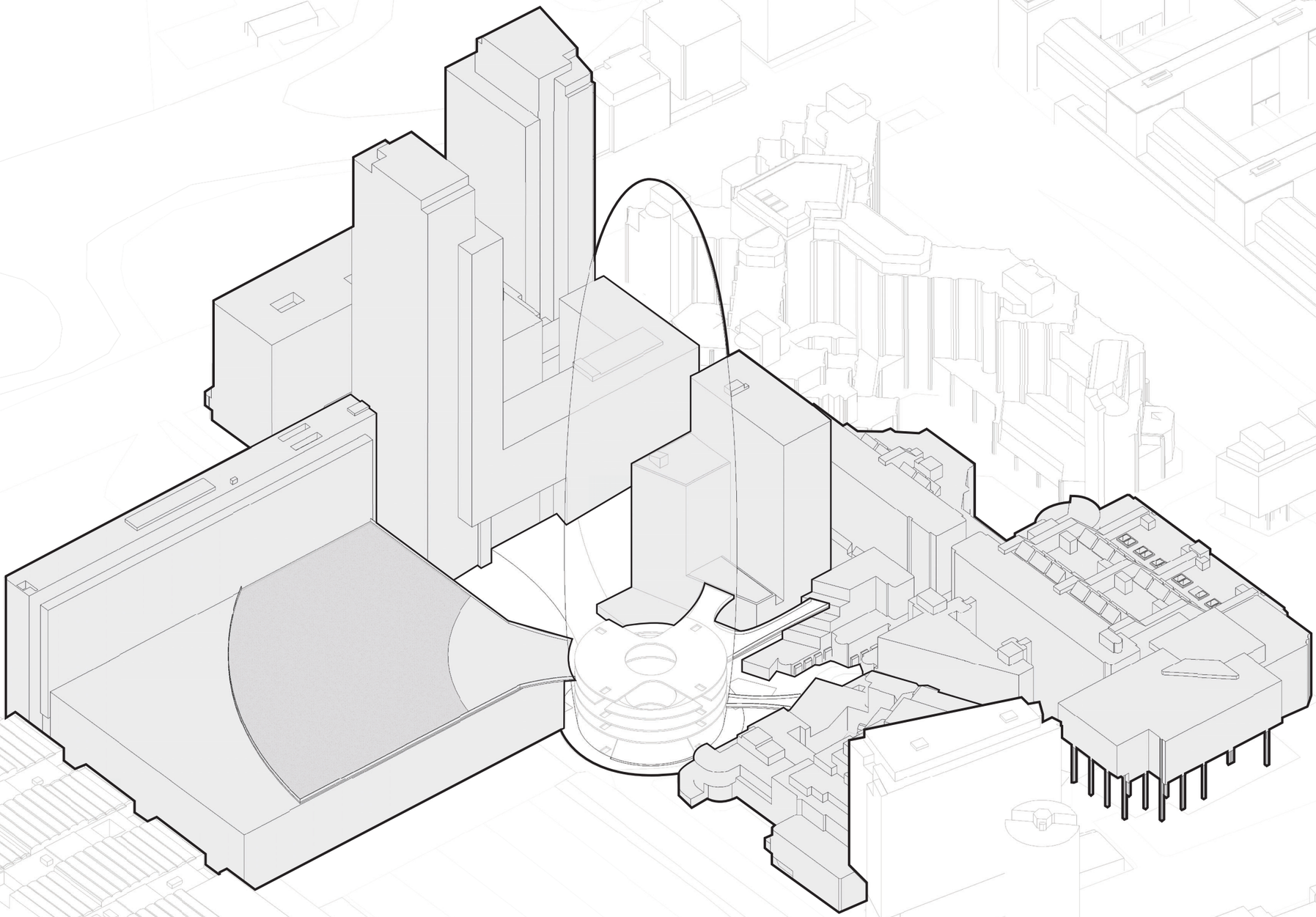




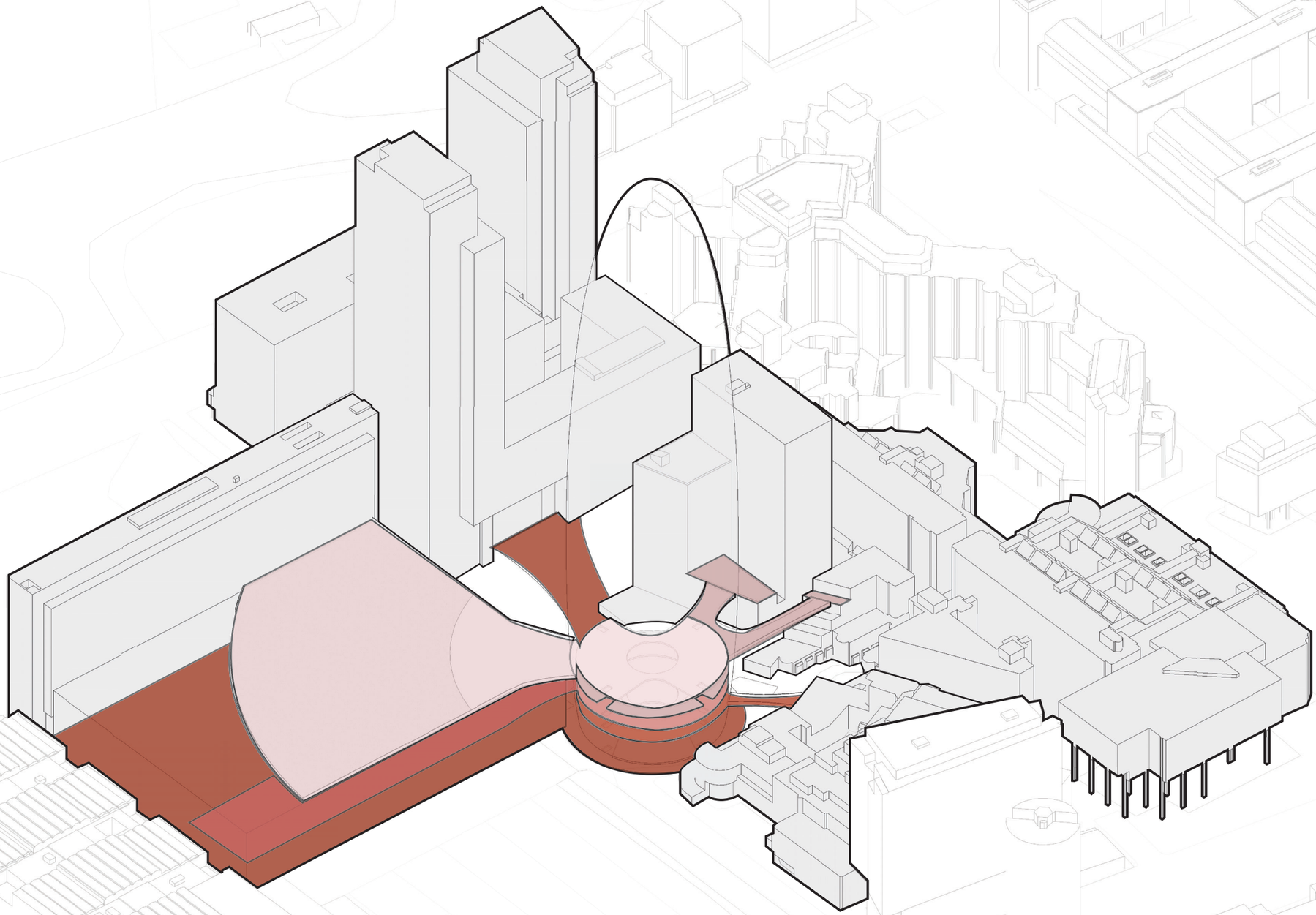


The wind flow patterns around Swiss Re as projected due to its form.

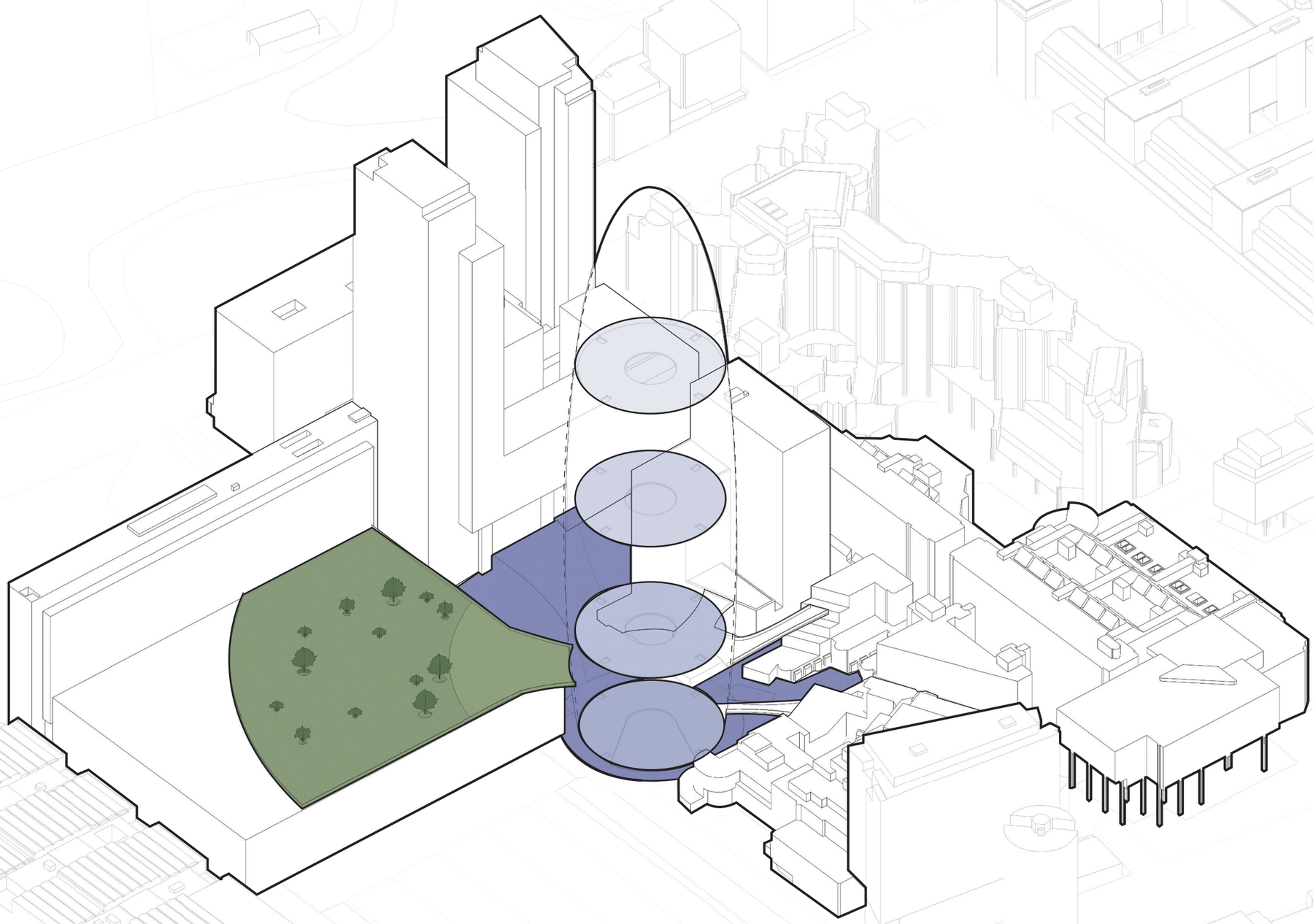
THE HORIZONTAL SYSTEM



THE HORIZONTAL SYSTEM

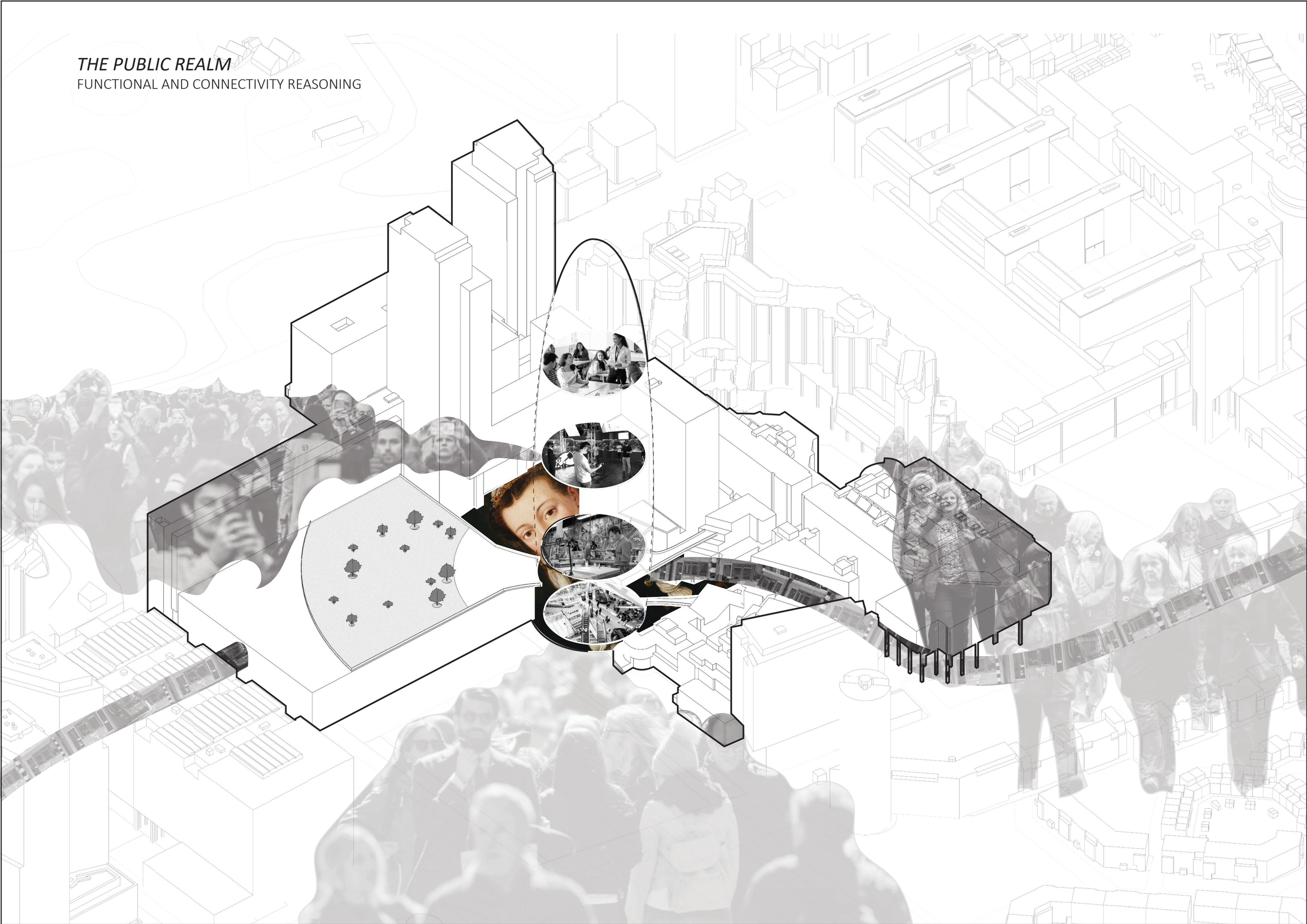


THE HORIZONTAL SYSTEM IN CONJUNCTION WITH THE VERTICAL SYSTEM

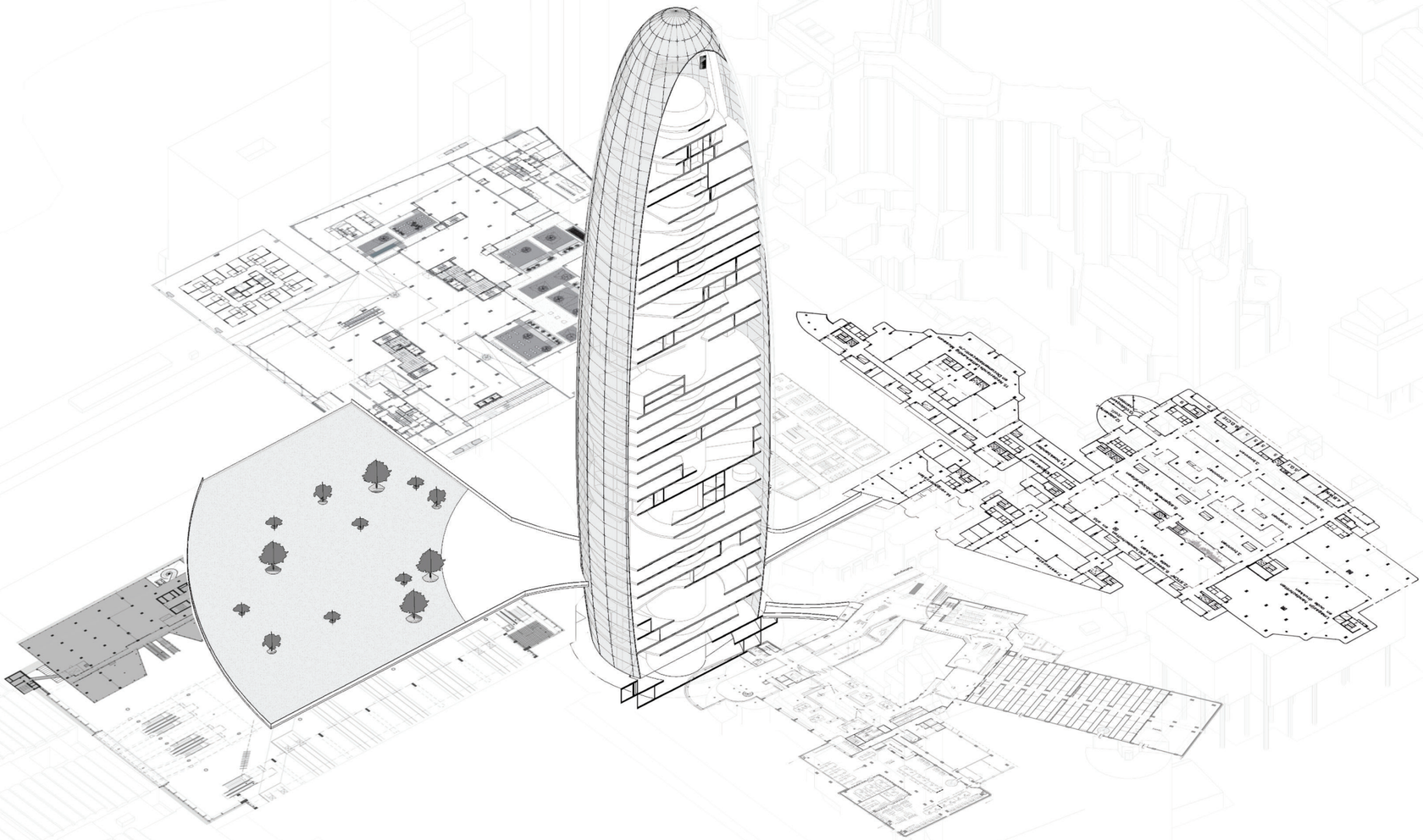


THE PUBLIC REALM

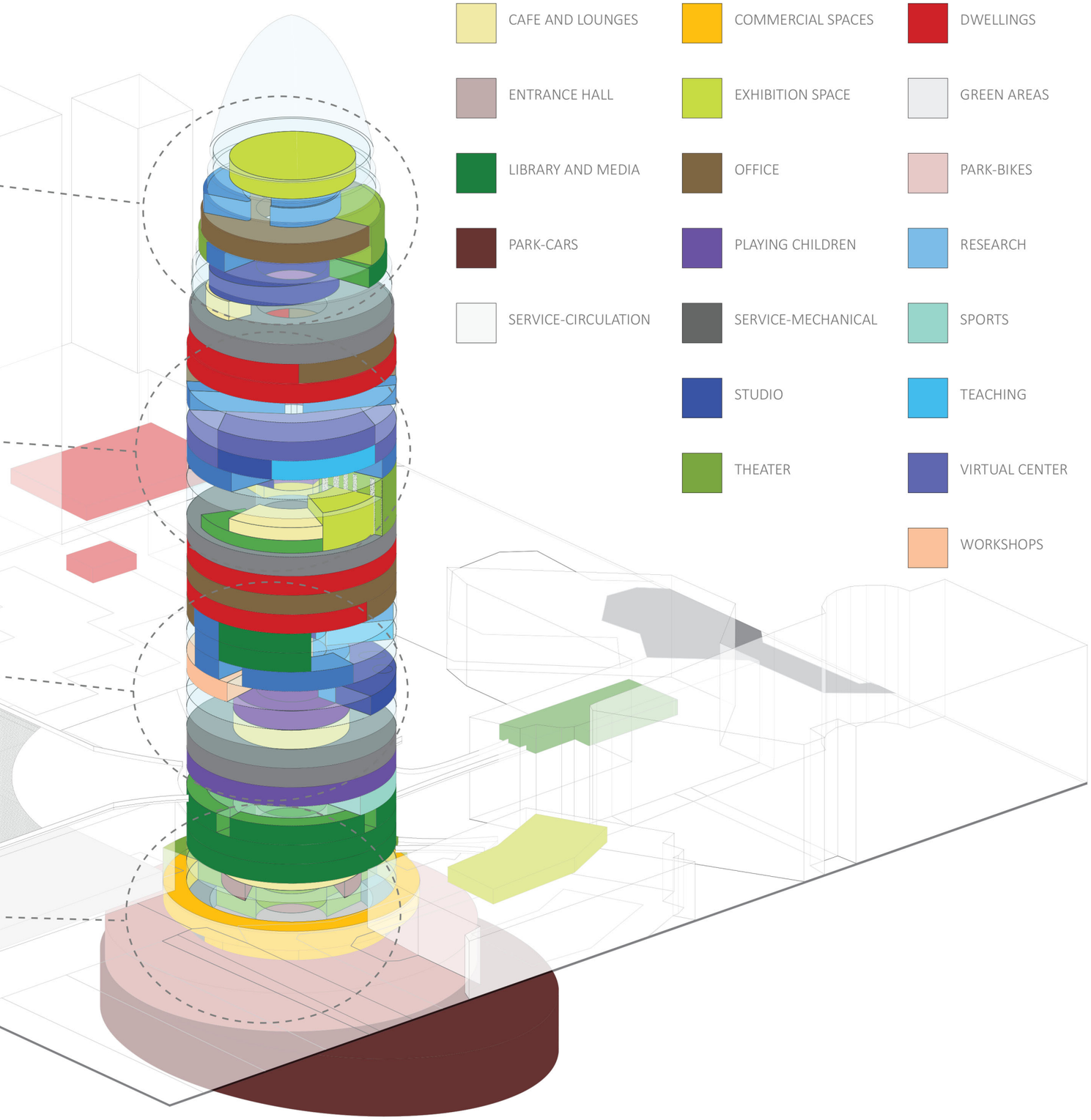
FUNCTIONAL AND CONNECTIVITY REASONING



A MEETING OF THE HORIZONTAL AND THE VERTICAL DIMENSIONS



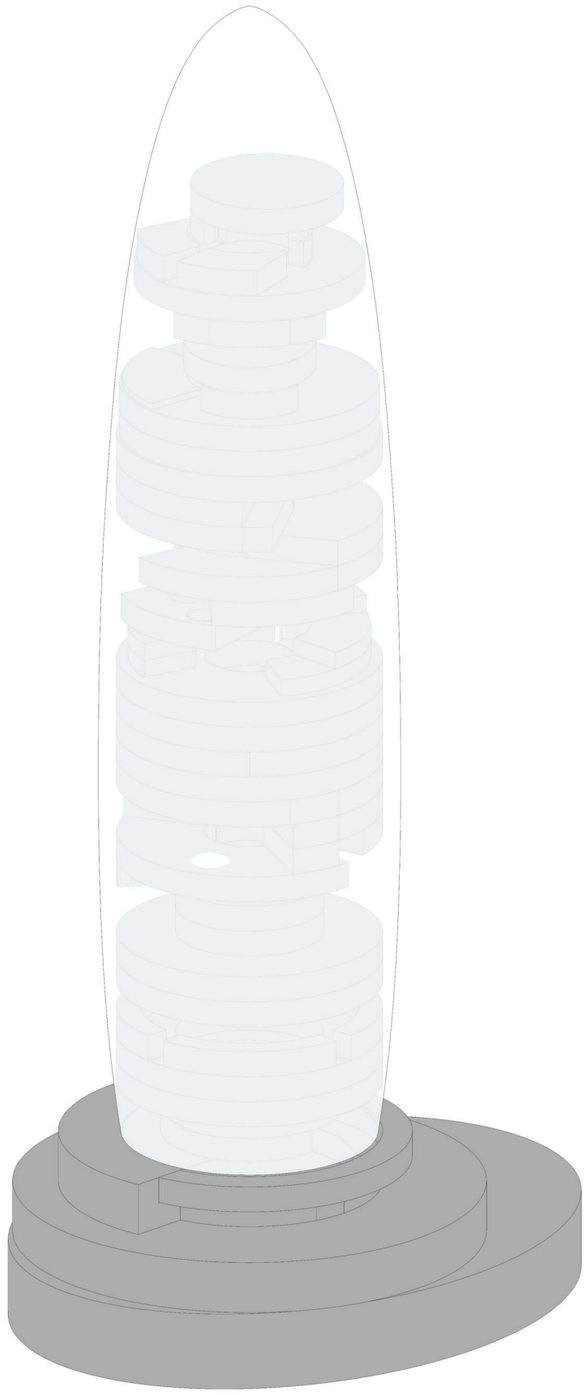
FOCUS: PROGRAMMATIC UNDERSTANDING

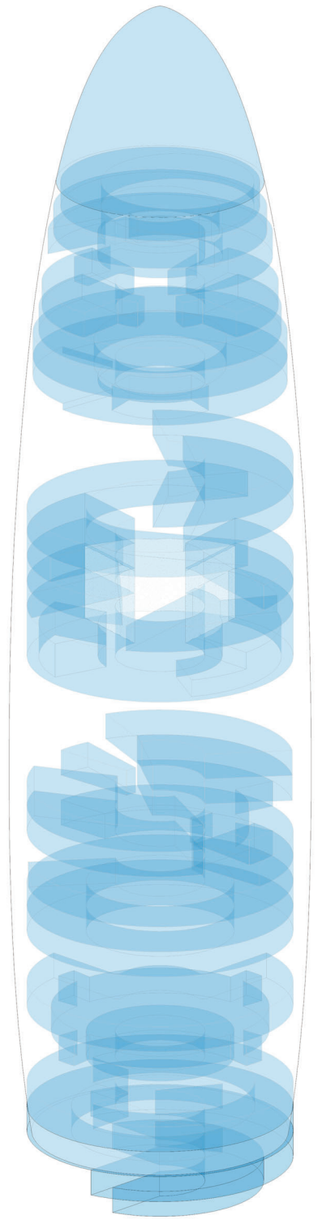


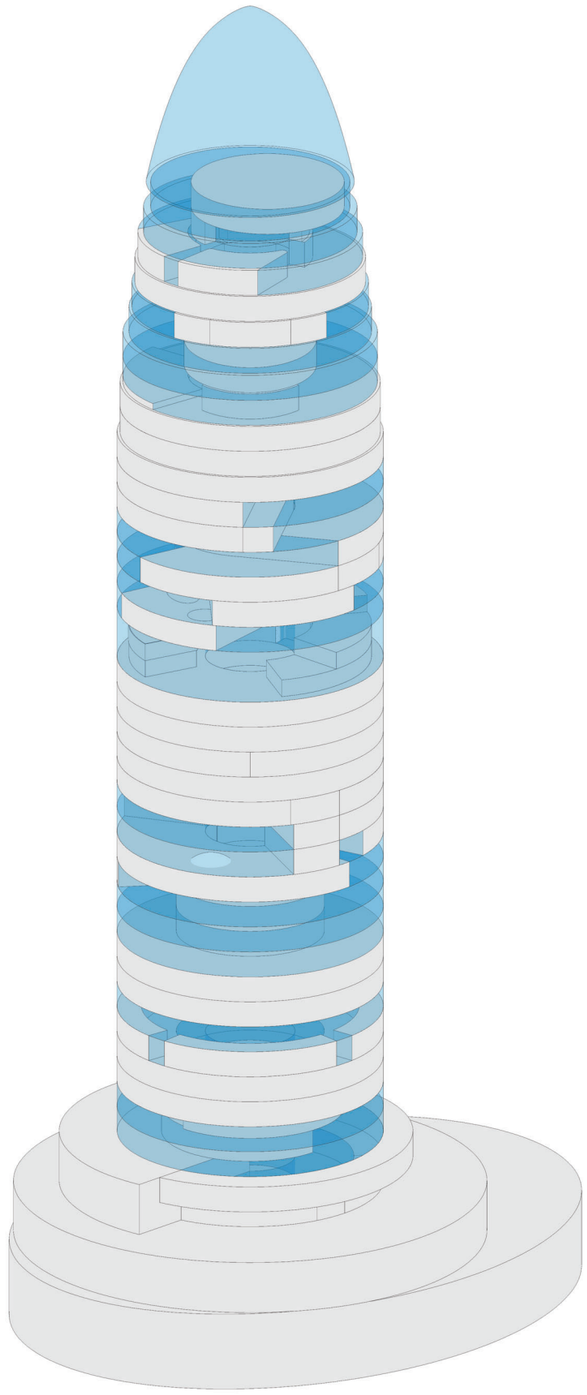
CAFE AND LOUNGES
COMMERCIAL SPACES
DWELLINGS
ENTRANCE HALL
EXHIBITION SPACE
GREEN AREAS
LIBRARY AND MEDIA
OFFICE
PARK-BIKES
PARK-CARS
PLAYING CHILDREN
RESEARCH
SERVICE-CIRCULATION
SERVICE-MECHANICAL
SPORTS
STUDIO
TEACHING
THEATER
VIRTUAL CENTER
WORKSHOPS

A MATTER OF SOLIDS AND VOIDS

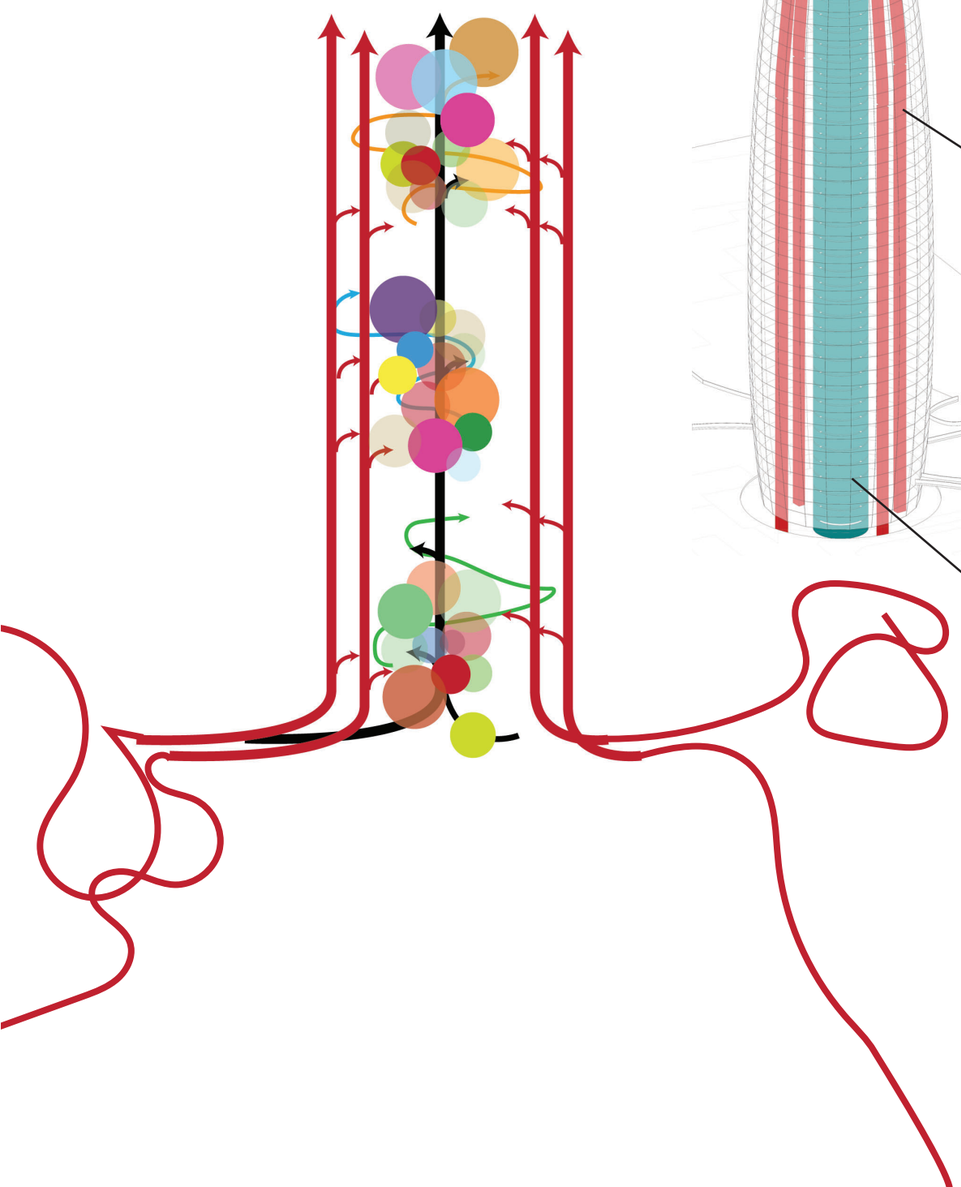
SPATIAL ROLE OF THE ARCHITECTURAL TOOL OF “VOID”

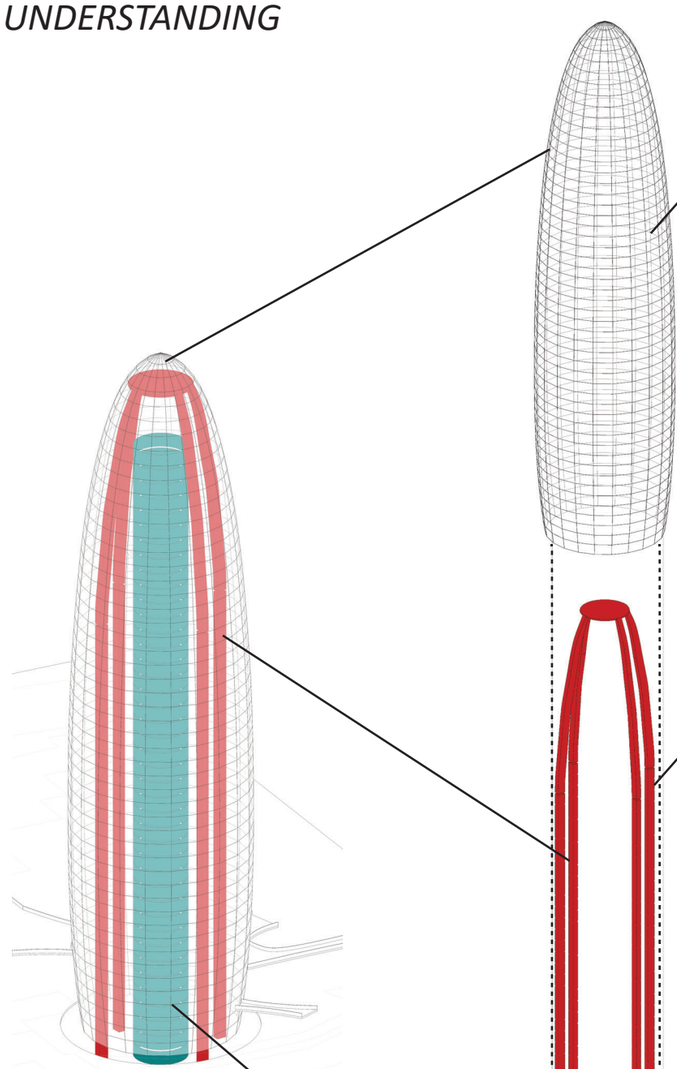






STRUCTURAL AND DISTRIBUTION UNDERSTANDING

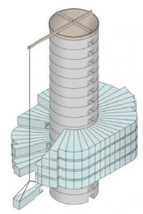


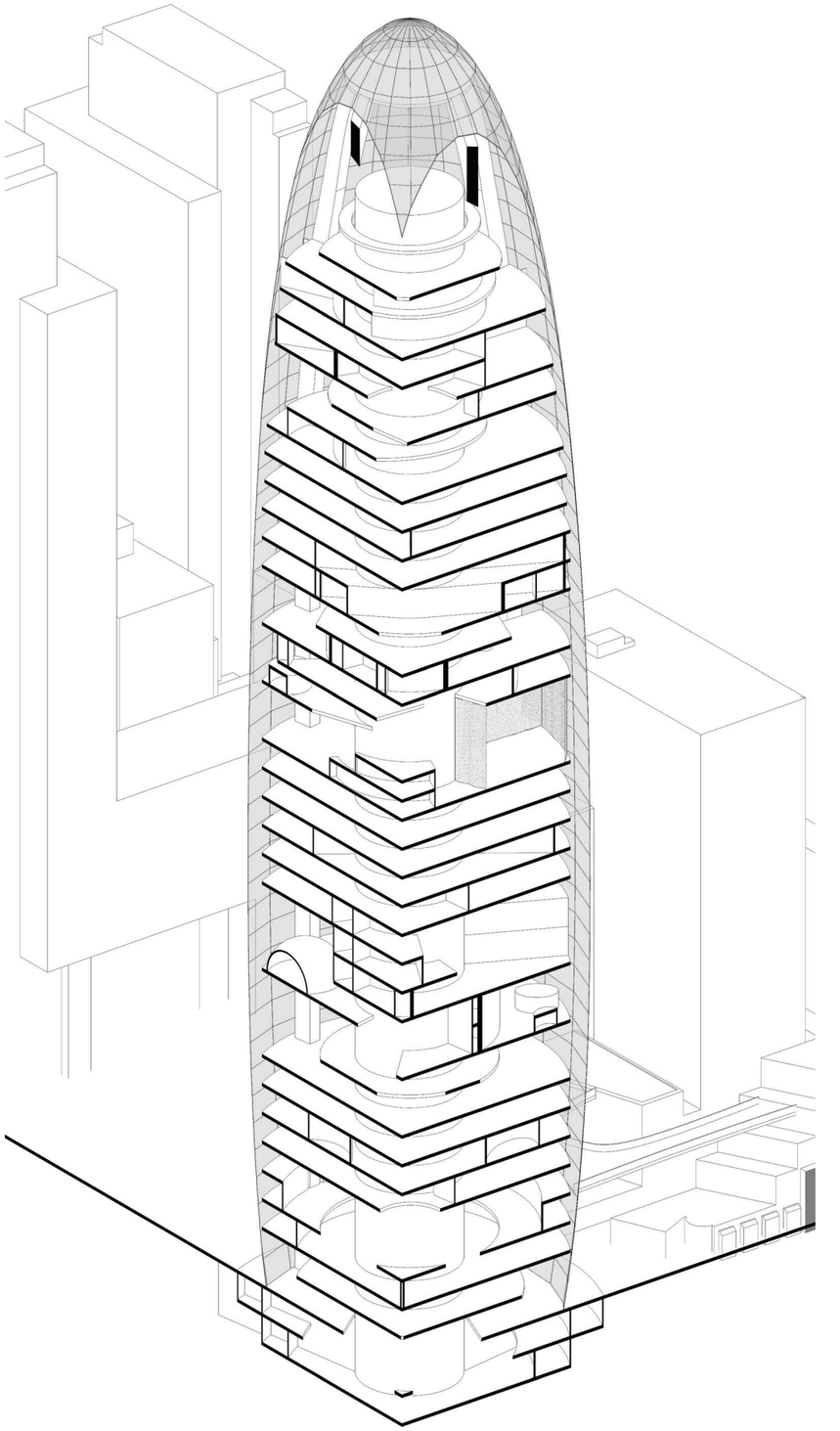


DIAGRID STRUCTURE

MEGACOLUMS

CENTRAL CORE



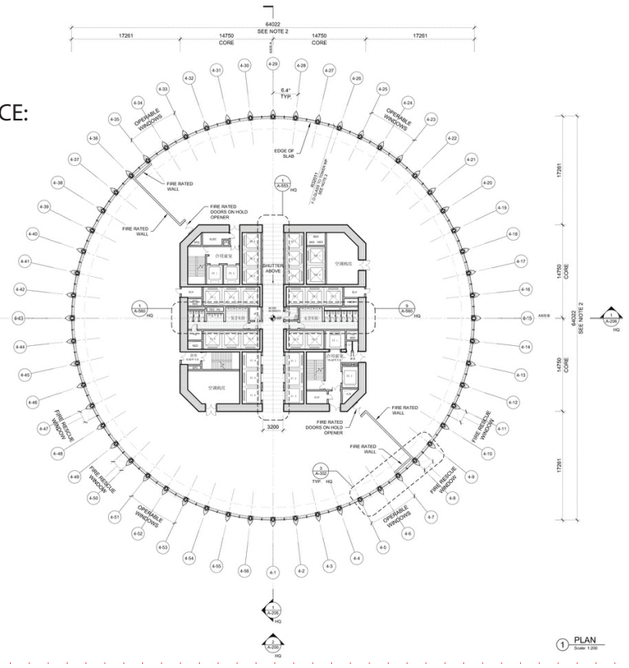


BUILDING DEPTH:
65 meters

RATIO CORE/FREE SURFACE:
26.8%

NUMBER OF LEVELS:
68 levels

NUMBER OF ELEVATORS:
29



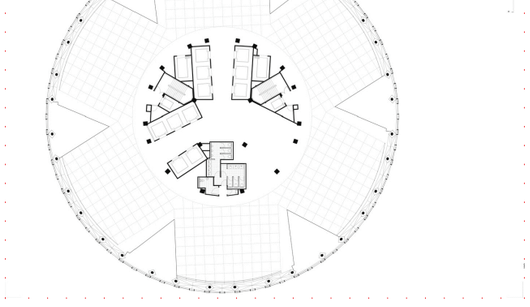
1 PLAN

BUILDING DEPTH:
55 meters

RATIO CORE/FREE SURFACE:
20.5%

NUMBER OF LEVELS:
41 levels

NUMBER OF ELEVATORS:
23

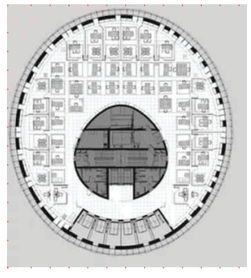


BUILDING DEPTH:
39 meters

RATIO CORE/FREE SURFACE:
17.2%

NUMBER OF LEVELS:
35 levels

NUMBER OF ELEVATORS:
11



- **DISTRIBUTION SCHEMES and STRUCTURAL PRINCIPLES**
  STUDY ON OPTIONS

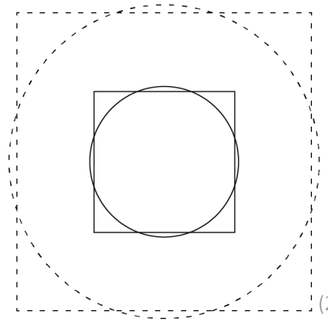
CORE + EXTERNAL LOAD-BEARING STRUCTURE

Advantages

- *Higher dynamicity in levels design*
- *Central point of reference*

Disadvantages

- *Higher dependancy on the core over:*
  - *structure*
  - *distribution*
  - *services*
- ***Greater portion of surface occupied***



(20-25% of area assumed)

- *Standard repetition of distribution and services layouts across all levels*

CORNER SUPPORTS STRUCTURE

Advantages

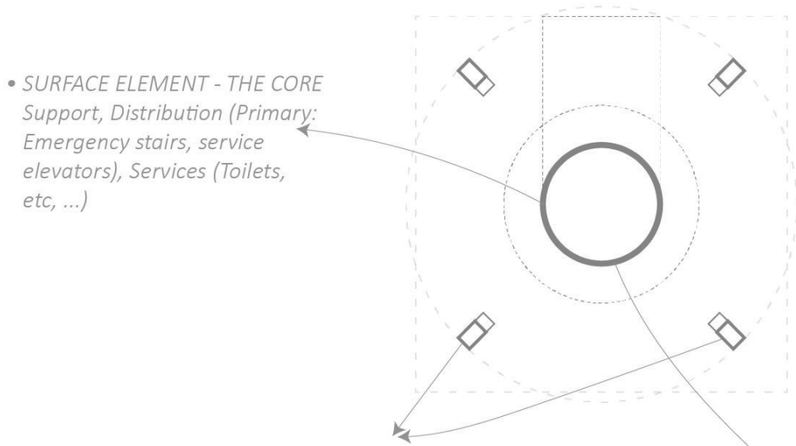
- *Dynamic distribution, flexible, de-centralized and more resilient to disruption*
- *Elevated plazas: possible to build on top of them as if elevated ground floor tout court*
- *Freeing up of central space thanks to the use of of **point elements***

Disadvantages

- *Inferior dynamicity in level designs*

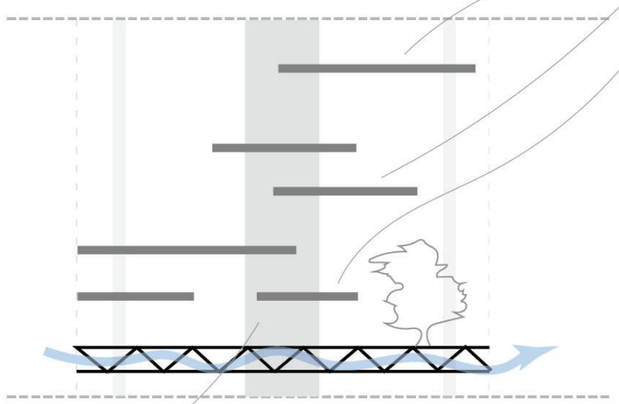
- **Devised solutions**

  STRUCTURAL, LAYOUT, DISTRIBUTION, SERVICES ASSESSMENT



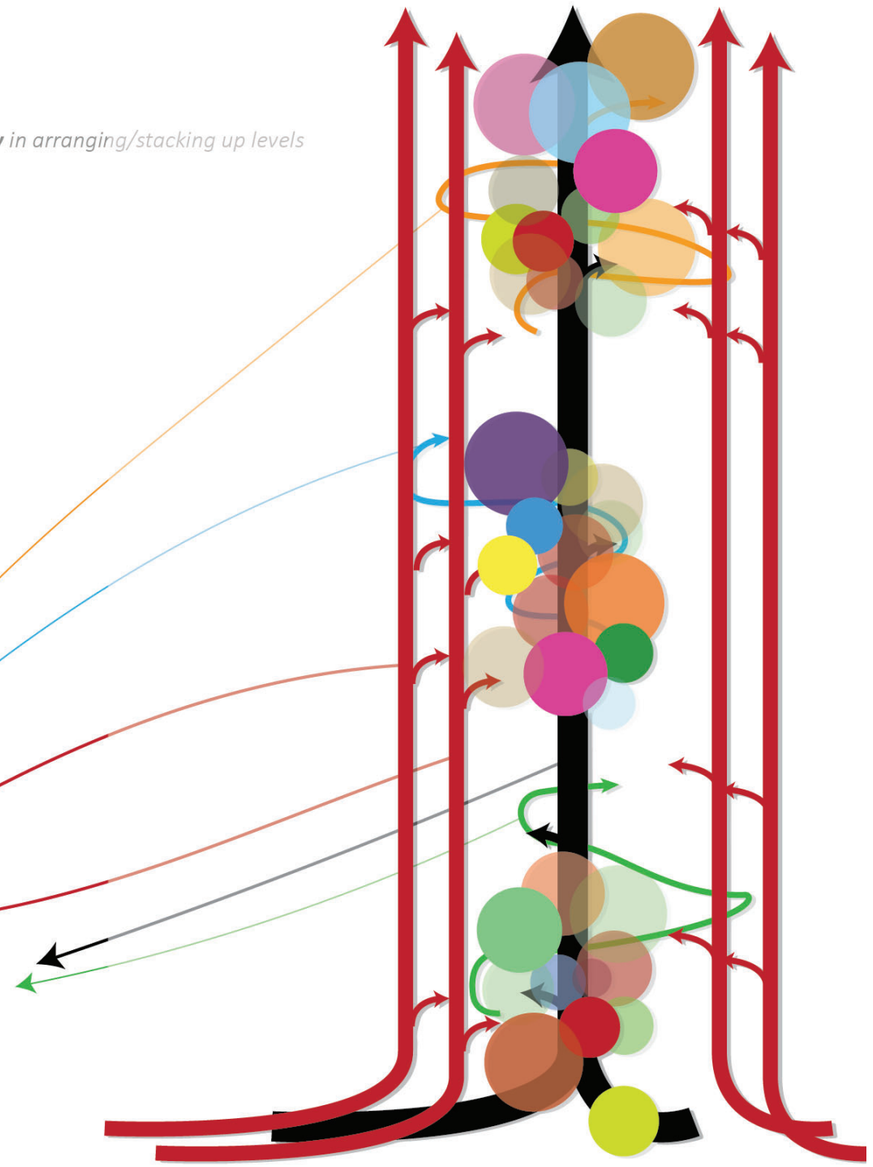
- *SURFACE ELEMENT - THE CORE*
  Support, Distribution (Primary: Emergency stairs, service elevators), Services (Toilets, etc, ...)

- *POINT ELEMENT - THE PILLAR*
  Support, Distribution (periferical: capsule elevators), Services (Toilets, etc, ...)



- *Increased **flexibility** in arranging/stacking up levels*

- *Substantial reduction in area occupied by the core: available for surfaces*

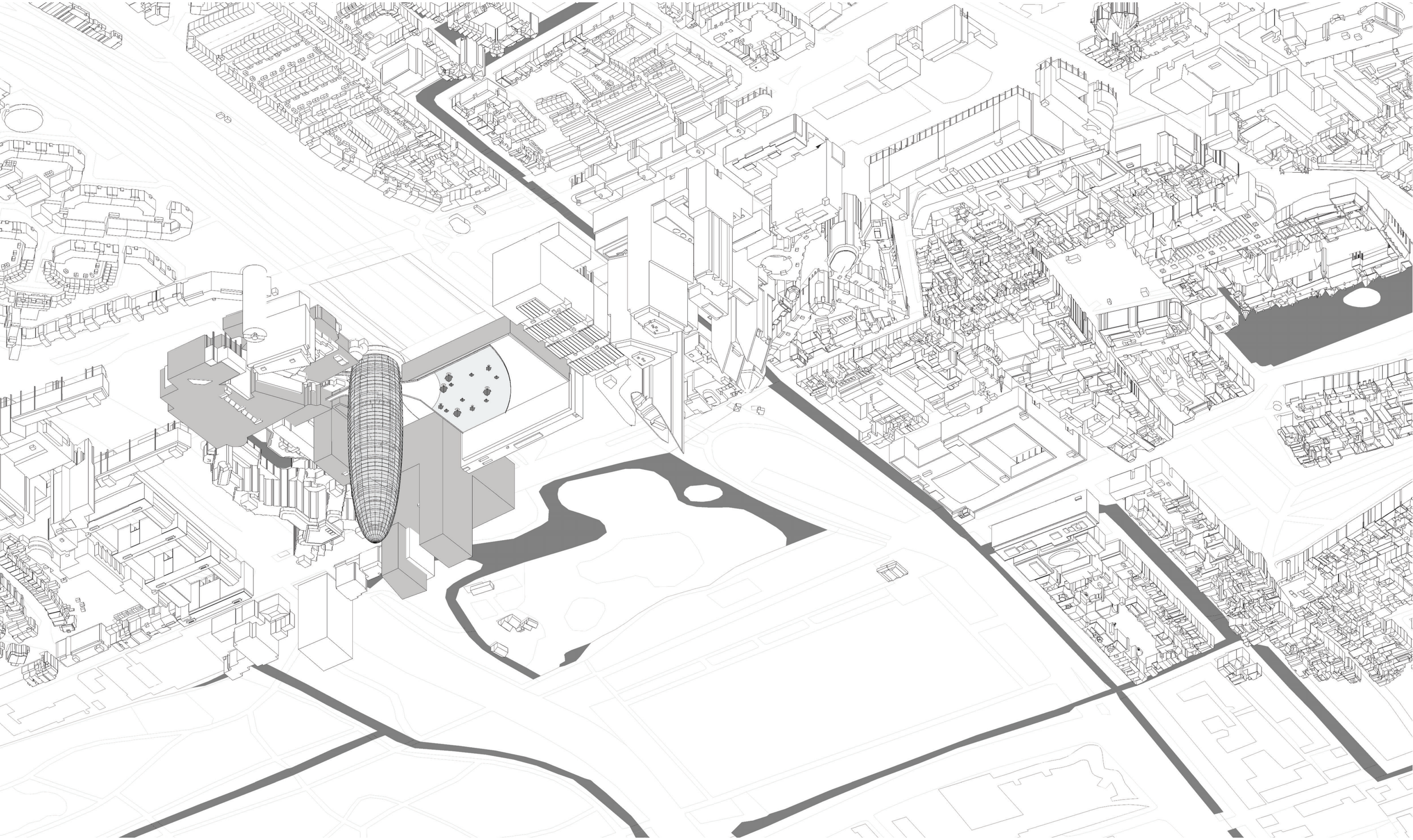


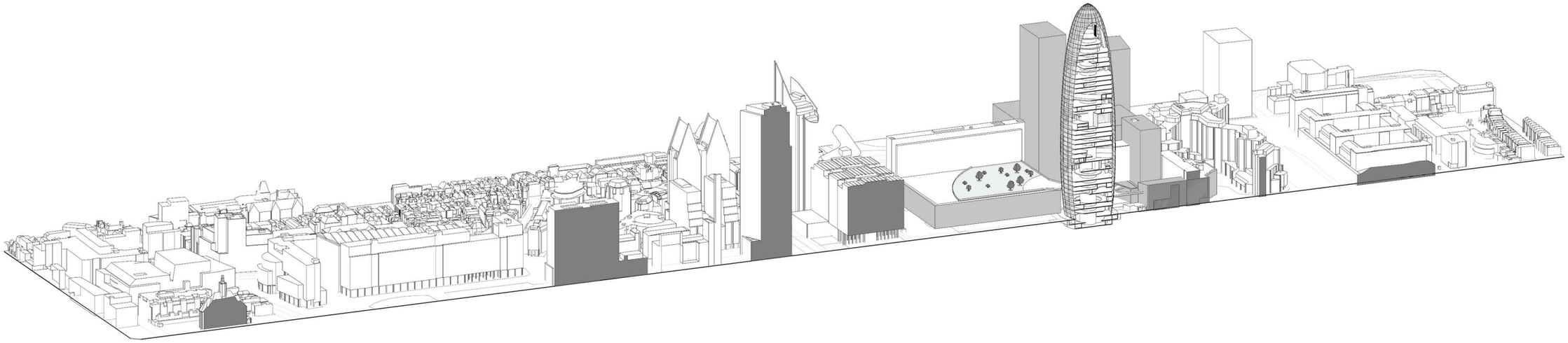
- *Highly diversified distribution*
  - *less dependent on single centre of gravity*

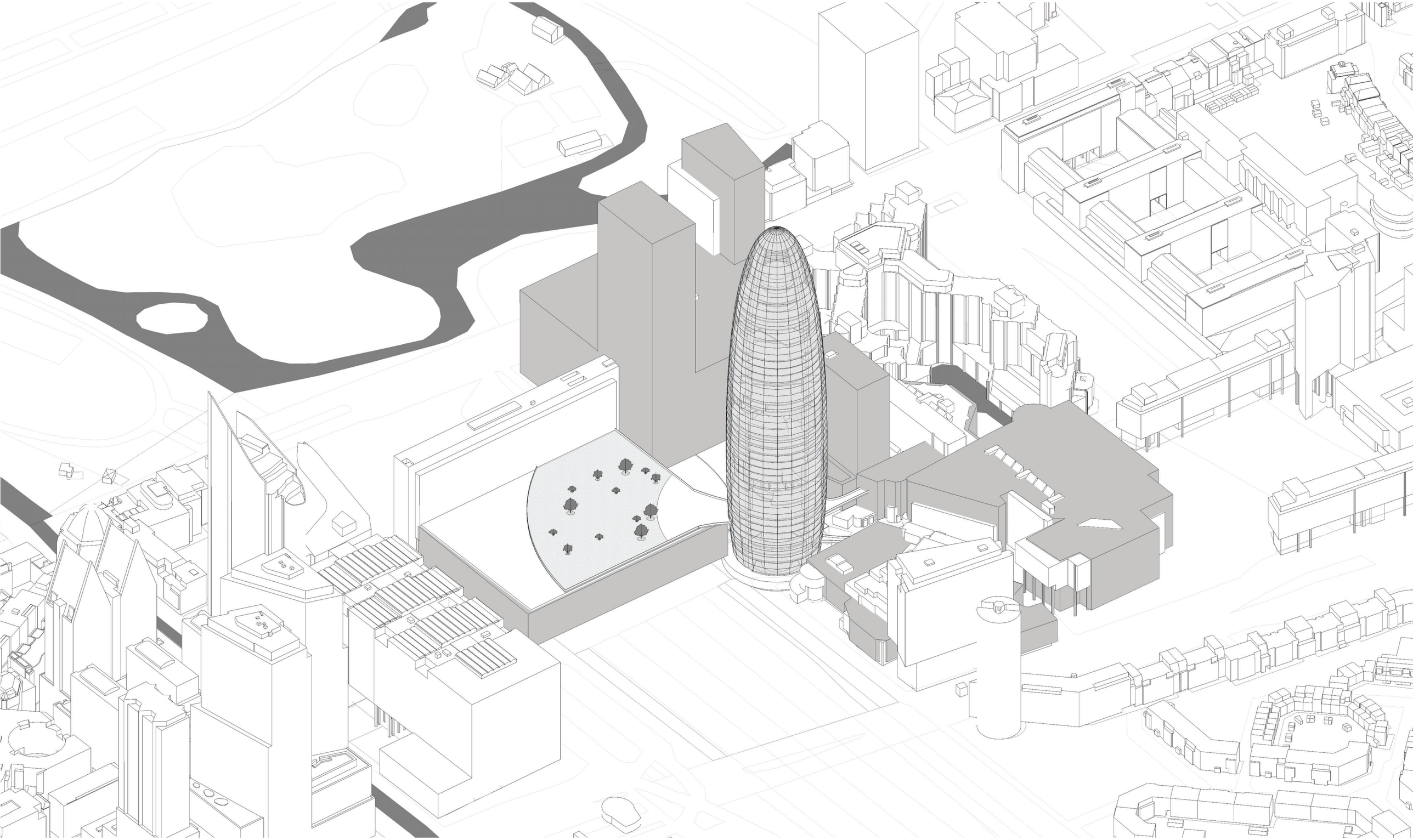
- *Freeing up of the stiffness of the core, and its closeness*
  - *possibility of changing position of services (toilets) across levels (vertical shafts in the pillars can also be used)*

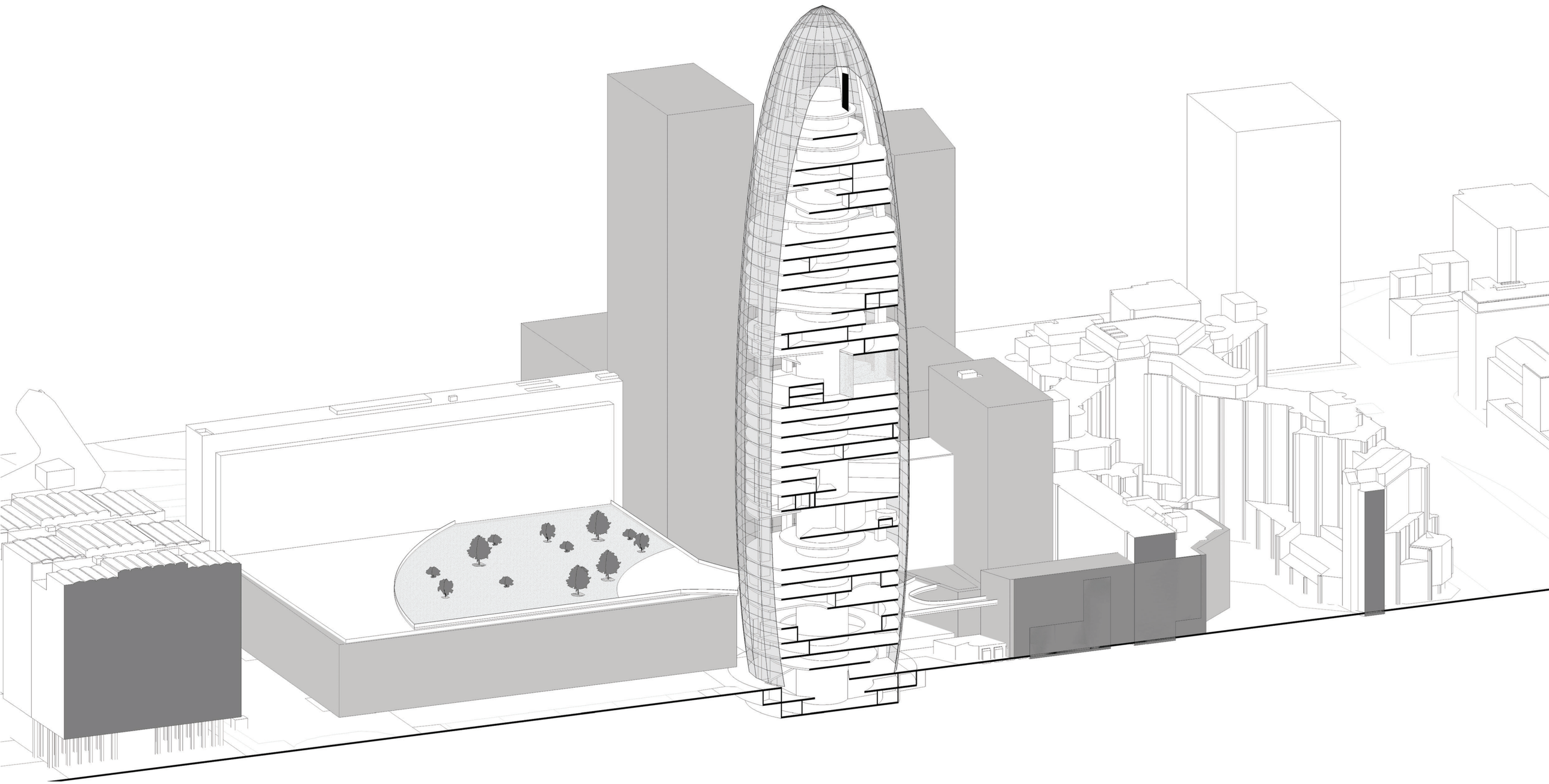
- *Increased structure stiffness*

  Potential in free facade (to open it up)









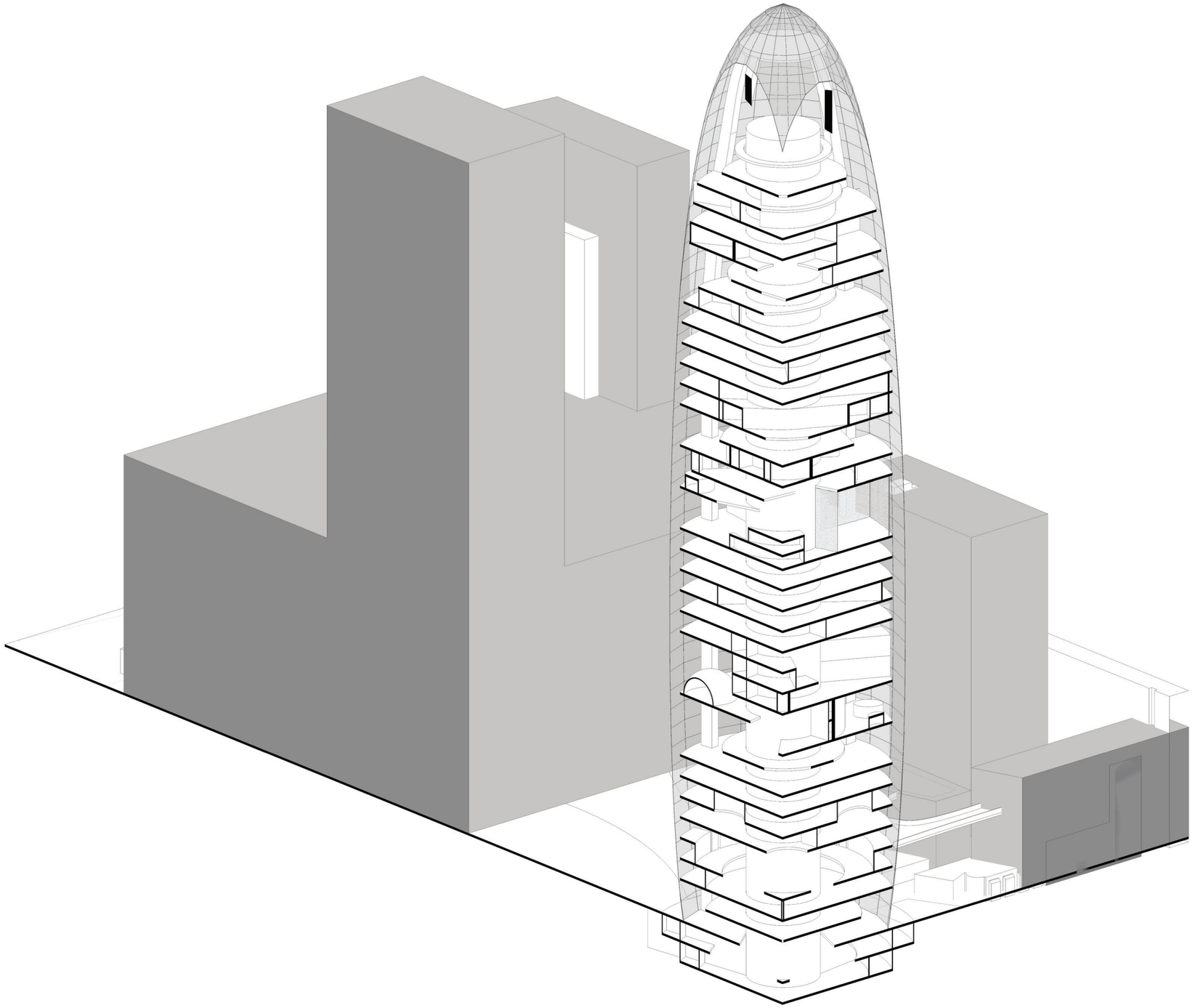
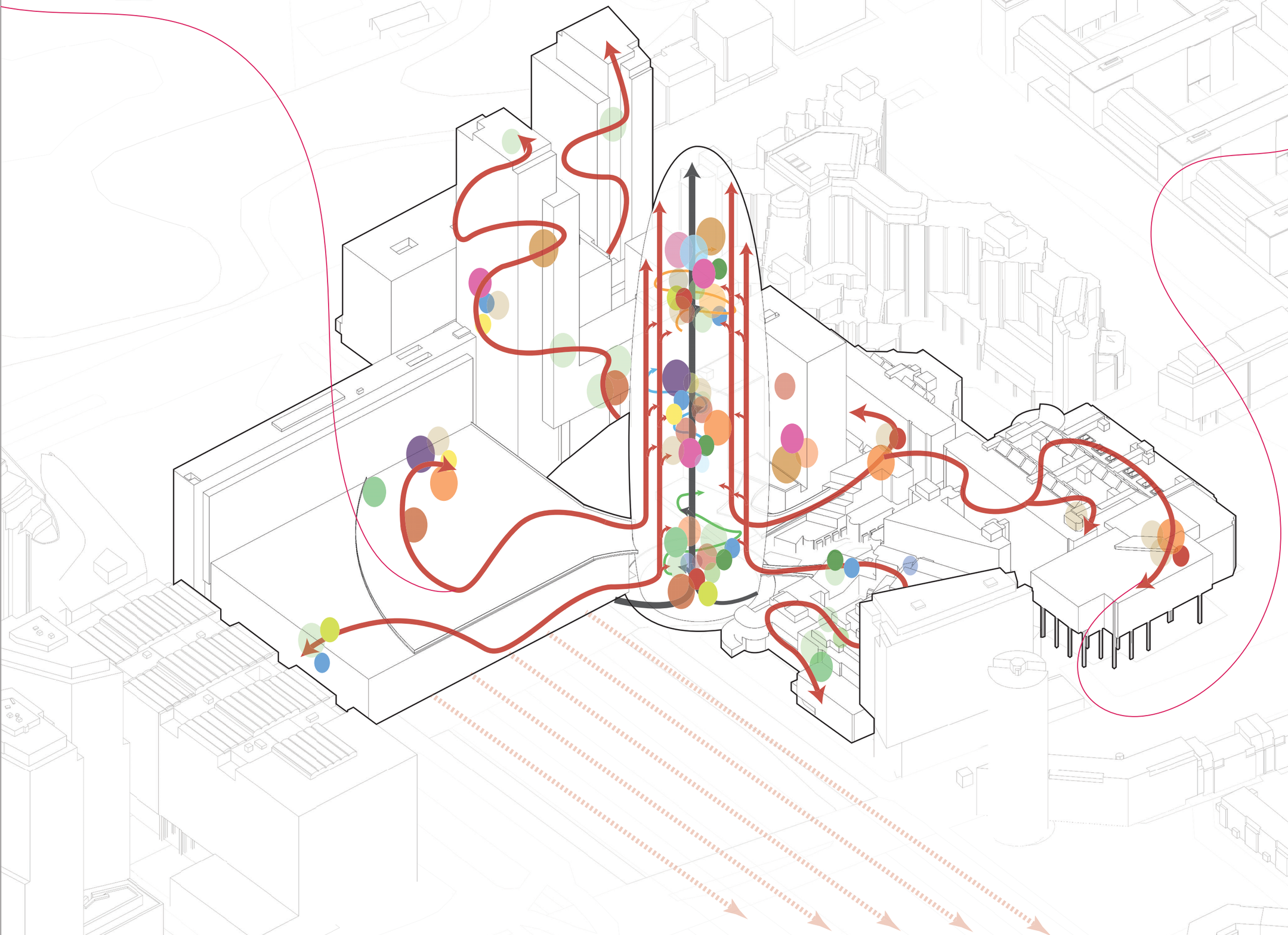
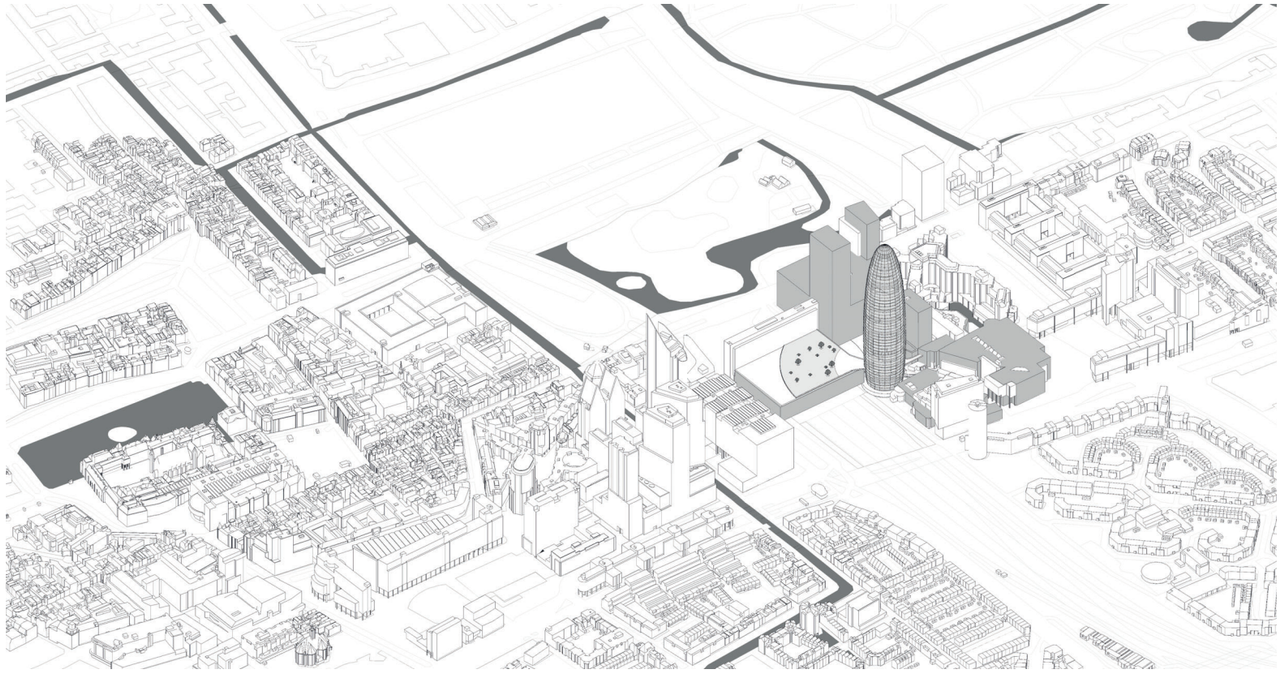


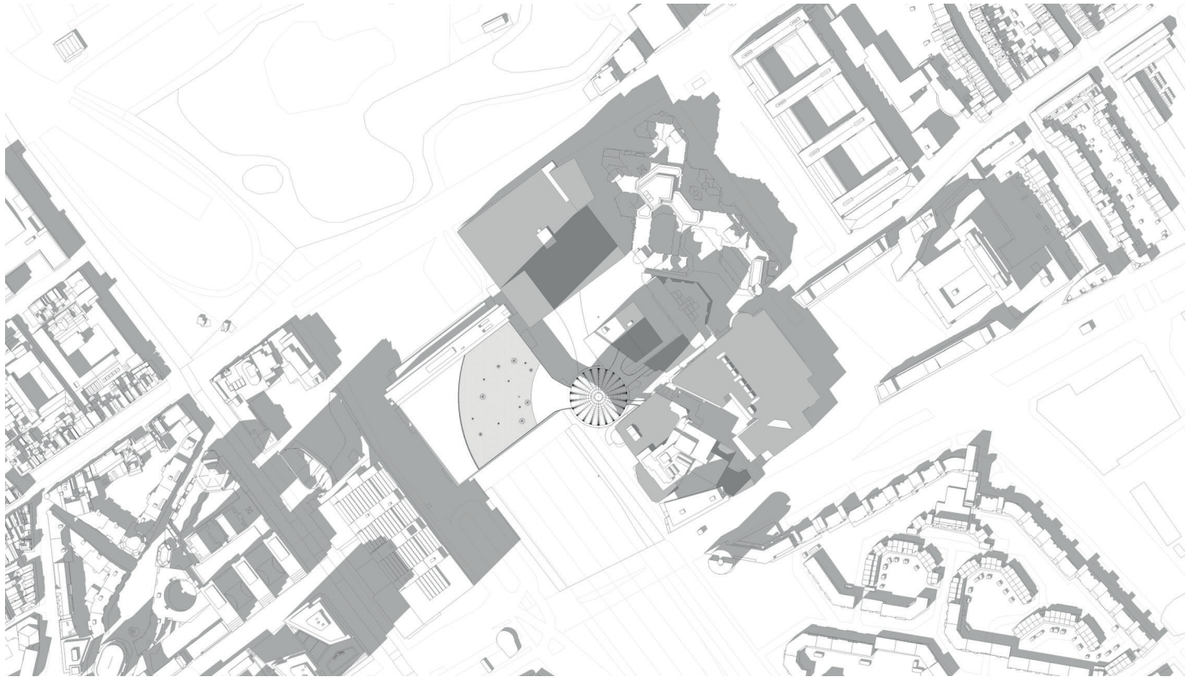
DIAGRAMME OF STRATEGY: **A MONUMENTAL SYSTEM**



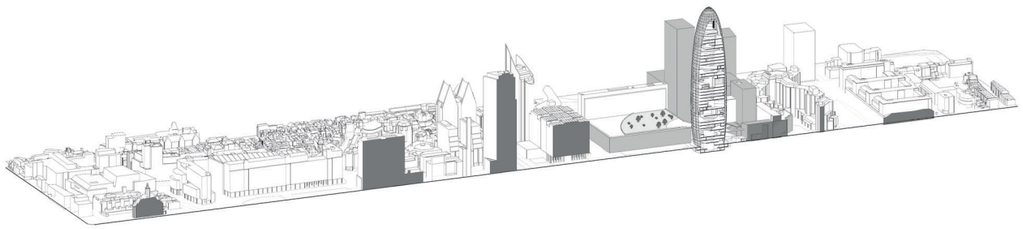
CONTEXT AXONOMETRY



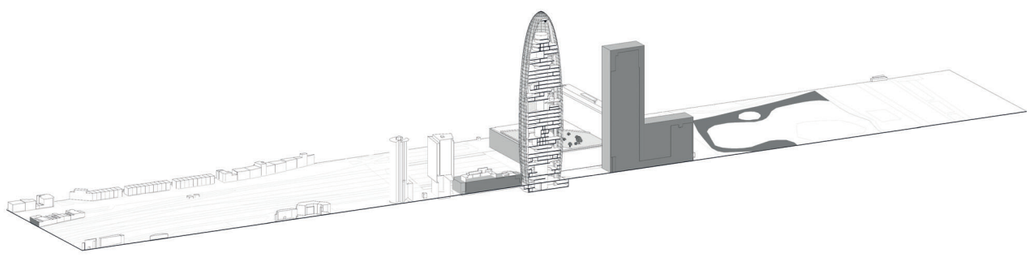
SITE VIEW



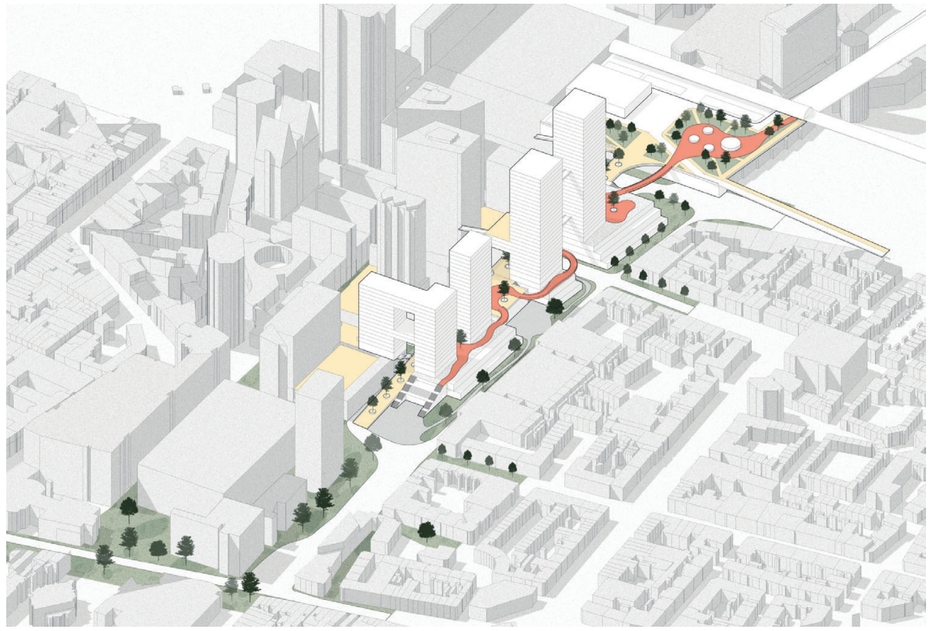
CONTEXTUAL SECTION I

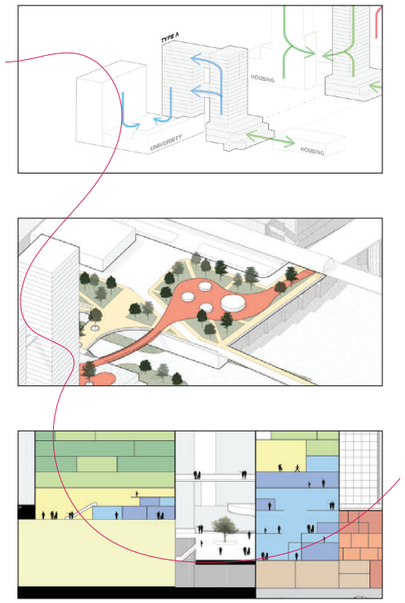


CONTEXTUAL SECTION II

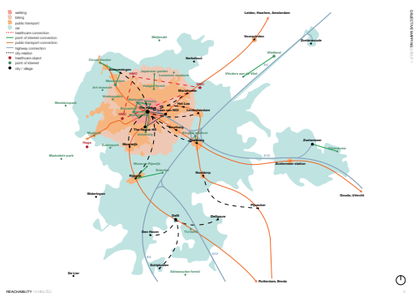


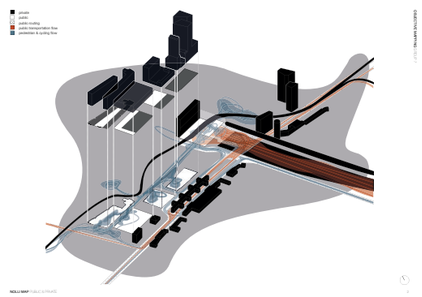
CAPACITY PLAN EXPLORATIONS

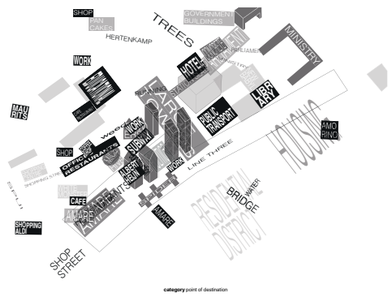


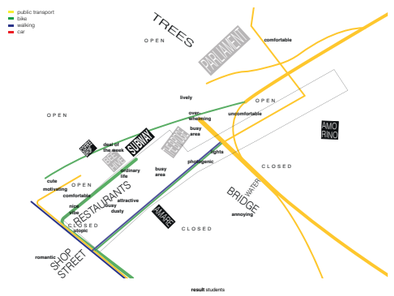


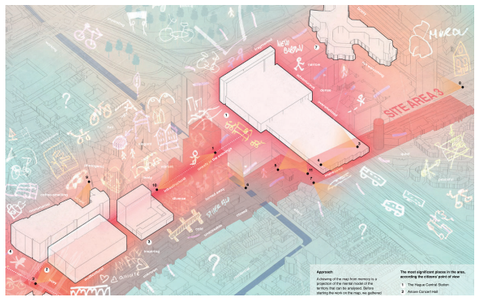
ANALYSIS STAGES-OBJECTIVE AND SUBJECTIVE COMPREHENSION



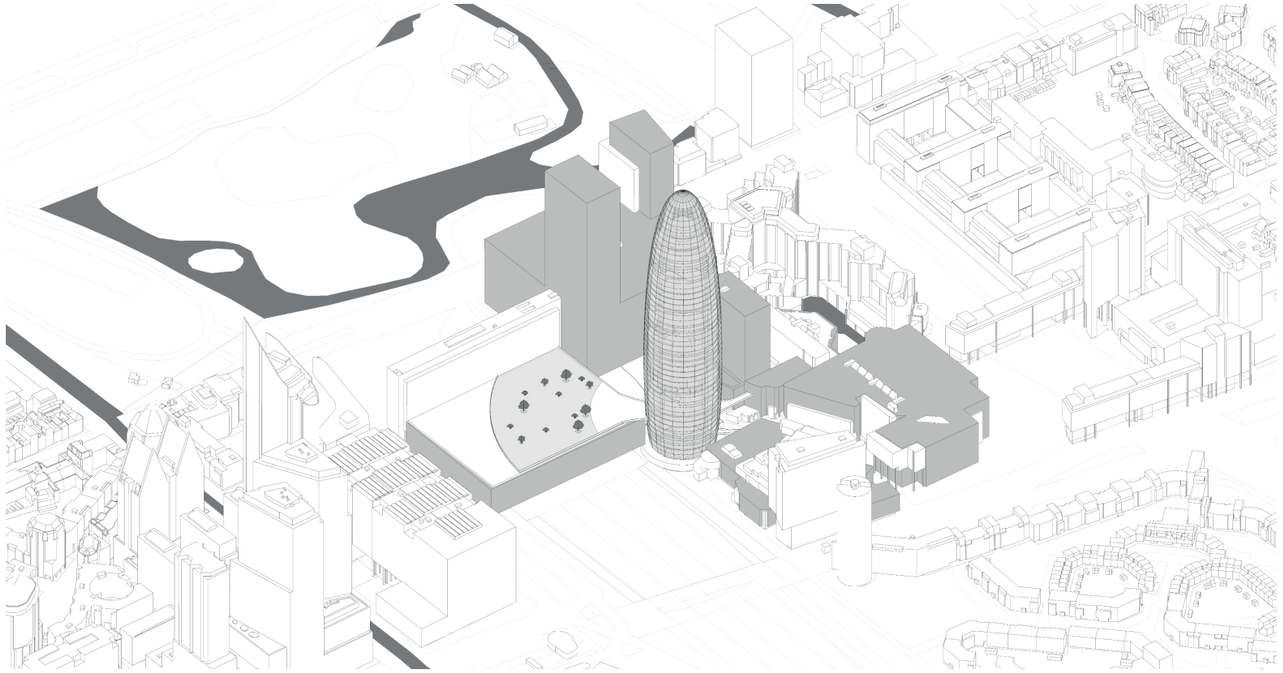




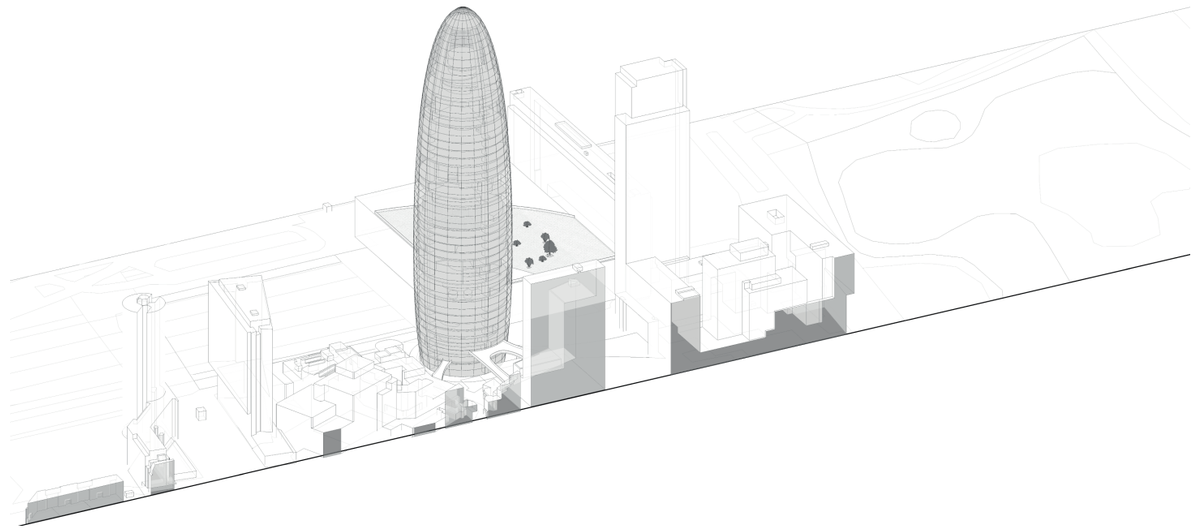




CONTEXT AXONOMETRY



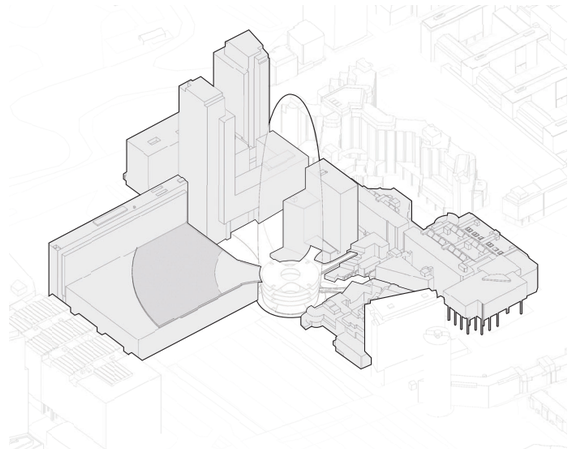
CONTEXT SECTION



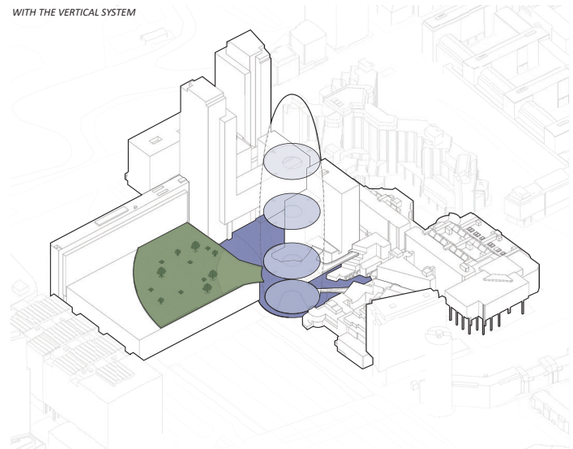
HORIZONTAL AND VERTICAL RELATIONSHIP

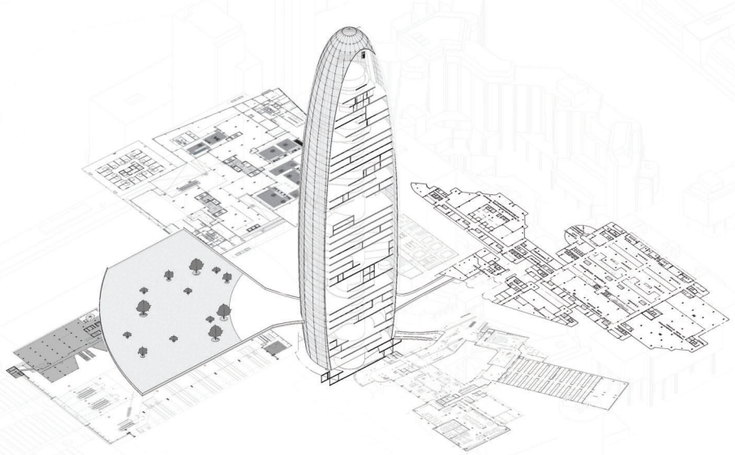
OPEN AXONOMETRY

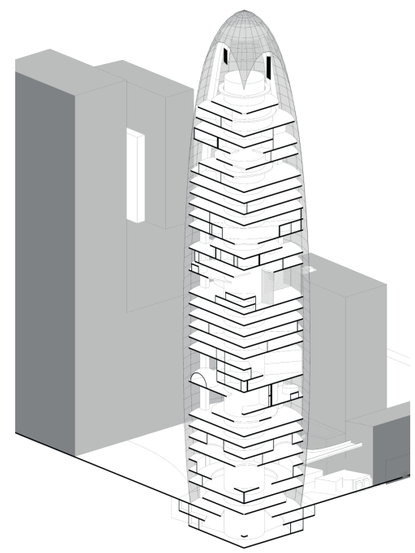
RELATIONSHIP WITH EXISTING BUILDING STOCK



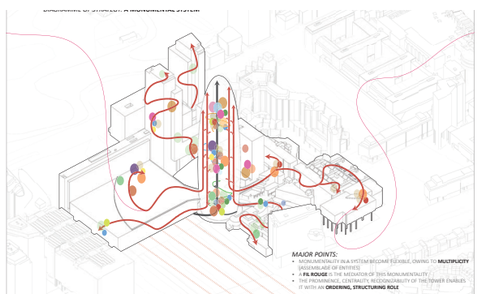
WITH THE VERTICAL SYSTEM

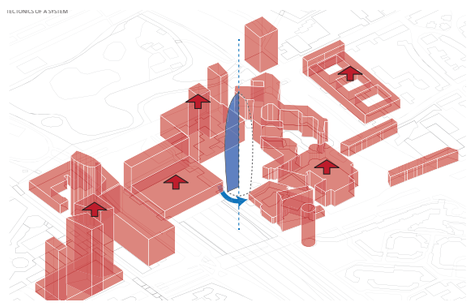


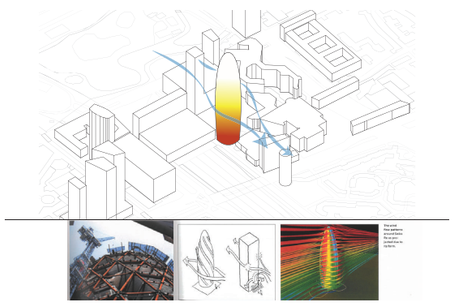


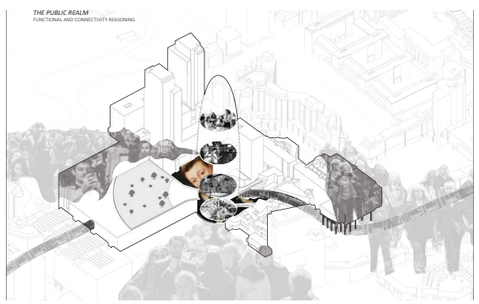


POSITIONING STAGES

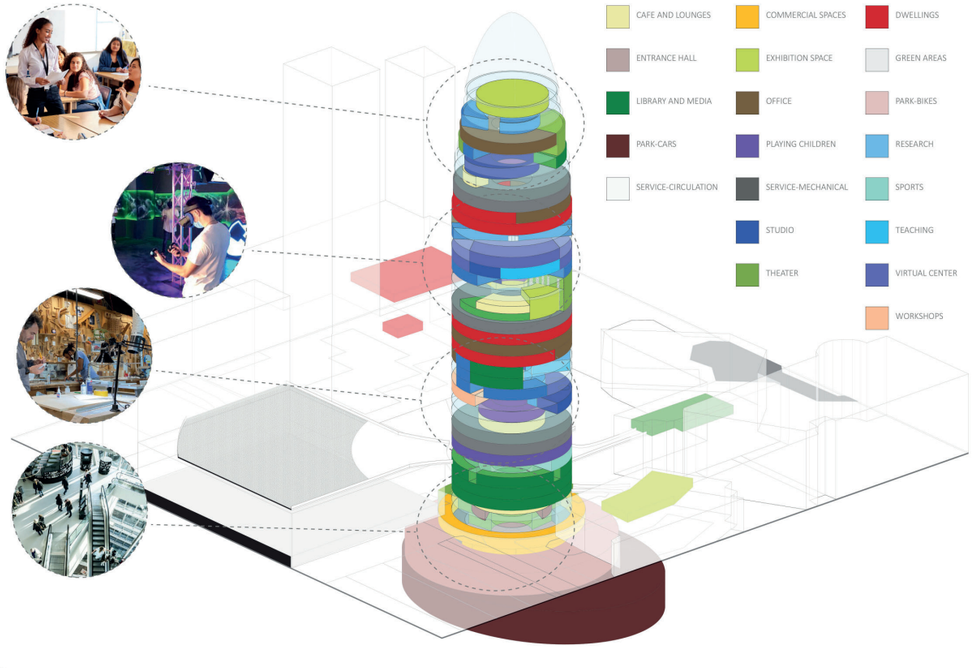




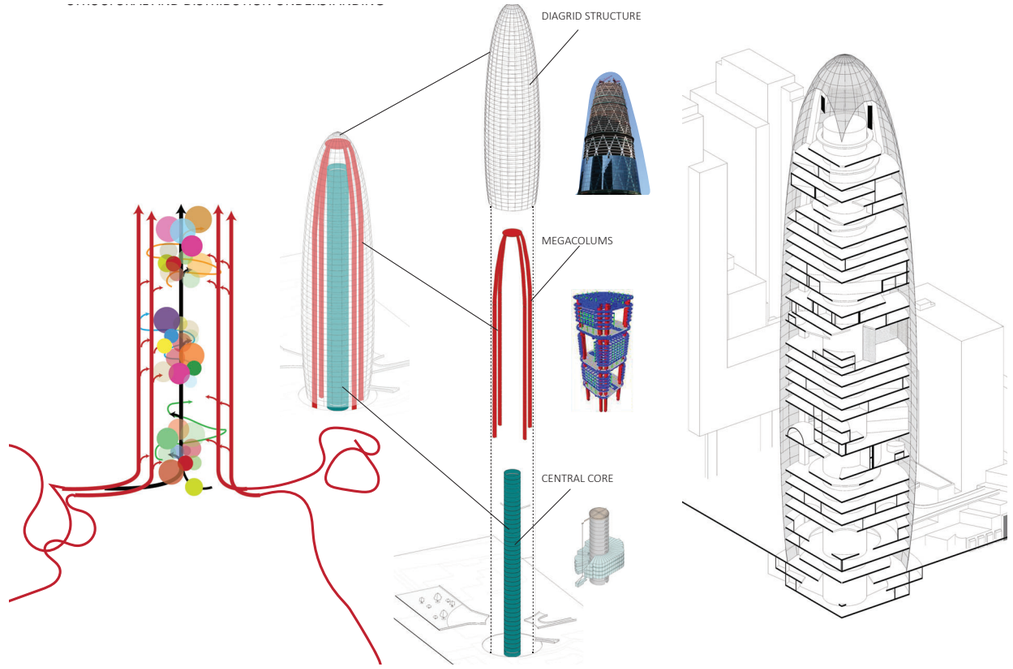




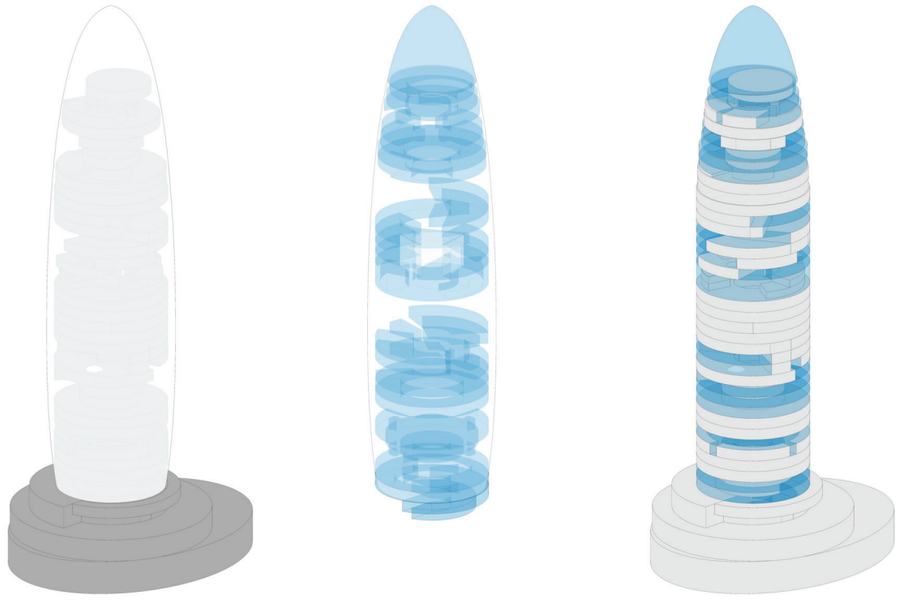
PROGRAMME OVERVIEW



STRUCTURAL OVERVIEW

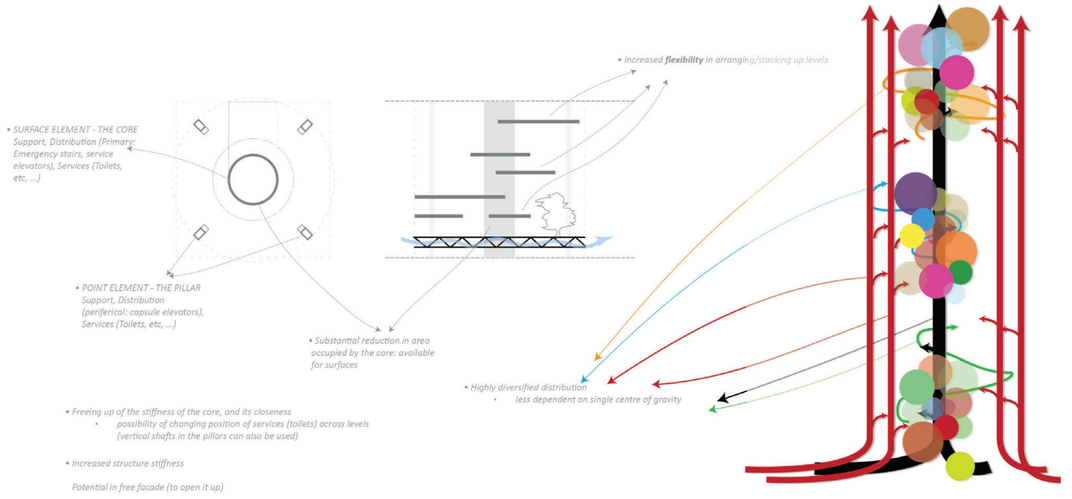


RELATIONSHIP BETWEEN SOLIDS AND VOIDS

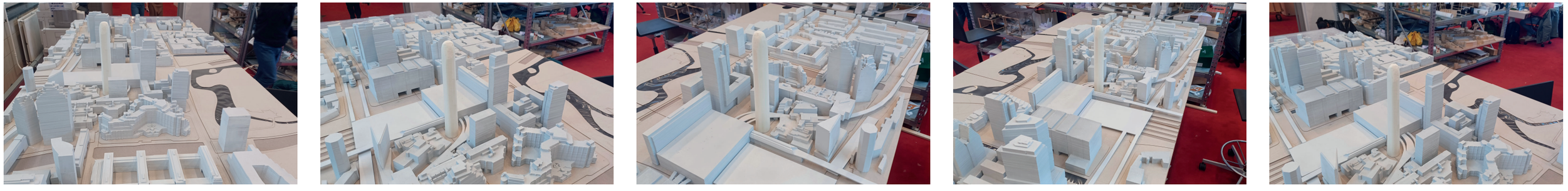


STRUCTURAL AND DISTRIBUTION REASONING

- **Devised solutions**
  STRUCTURAL, LAYOUT, DISTRIBUTION, SERVICES ASSESSMENT



PHYSICAL MODEL PHOTOS

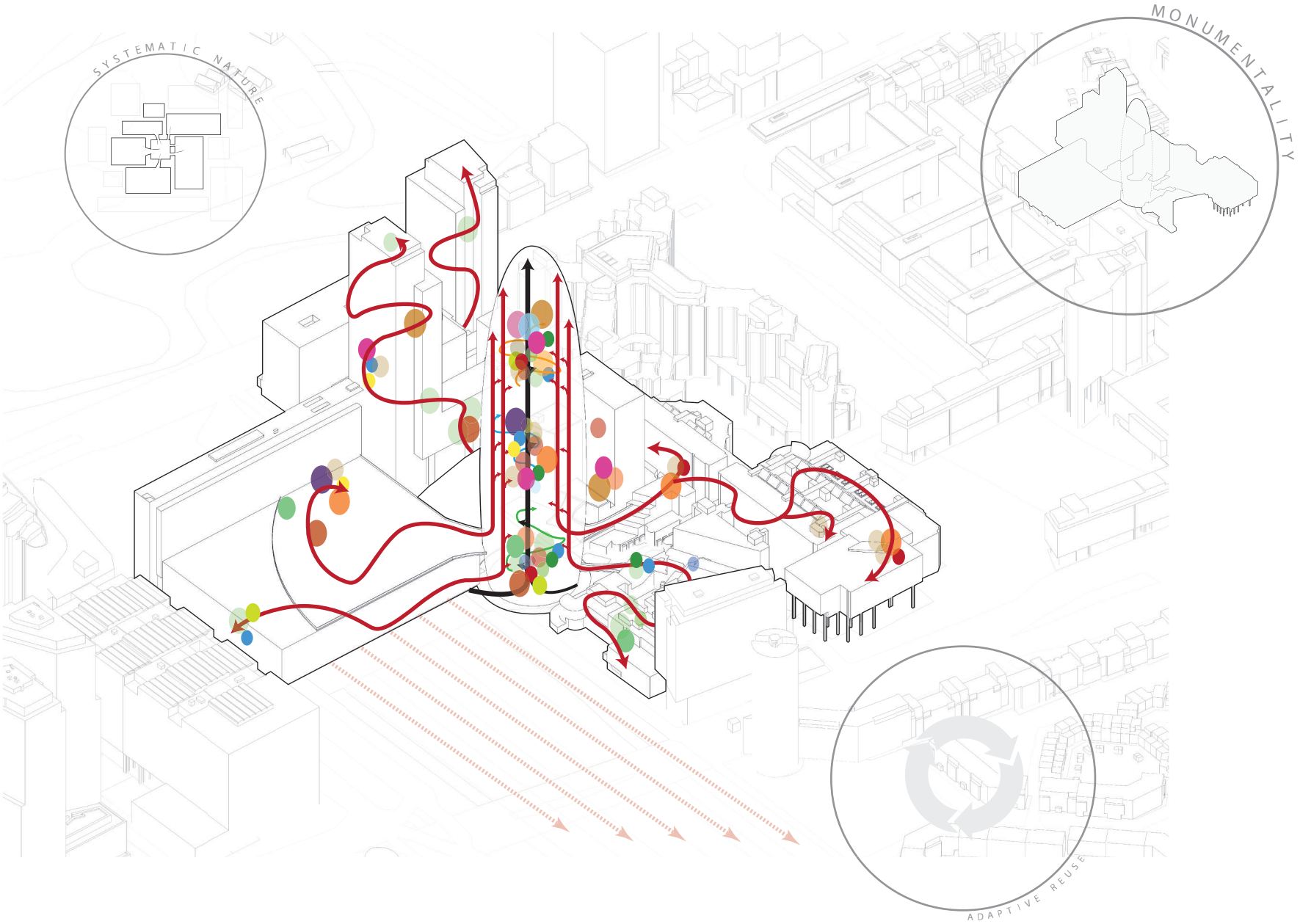


HYPERCAMPUS

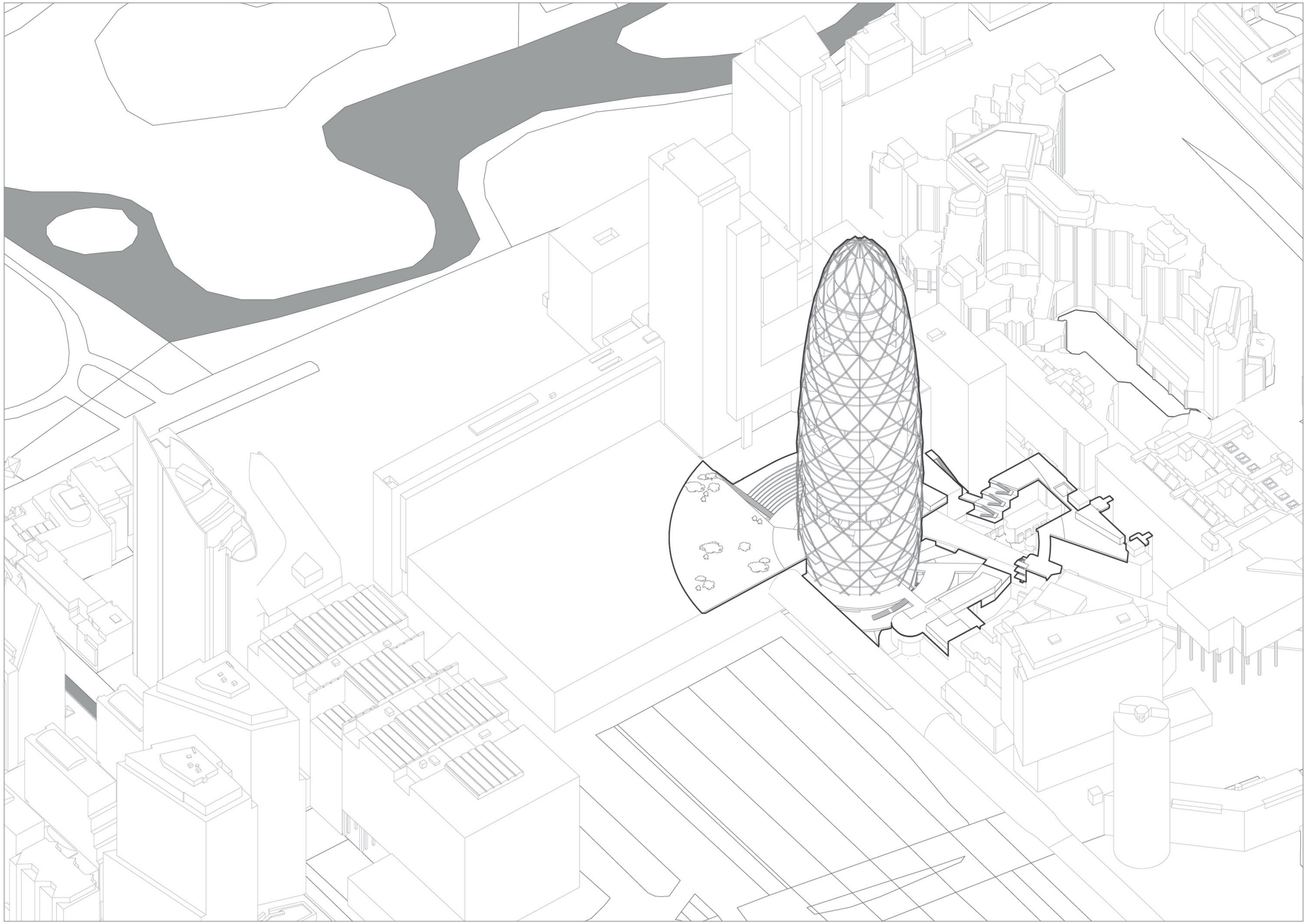
A vision for learning spaces

IDENTIFYING A SUSTAINABLE OPEN-ACCESS CAMPUS

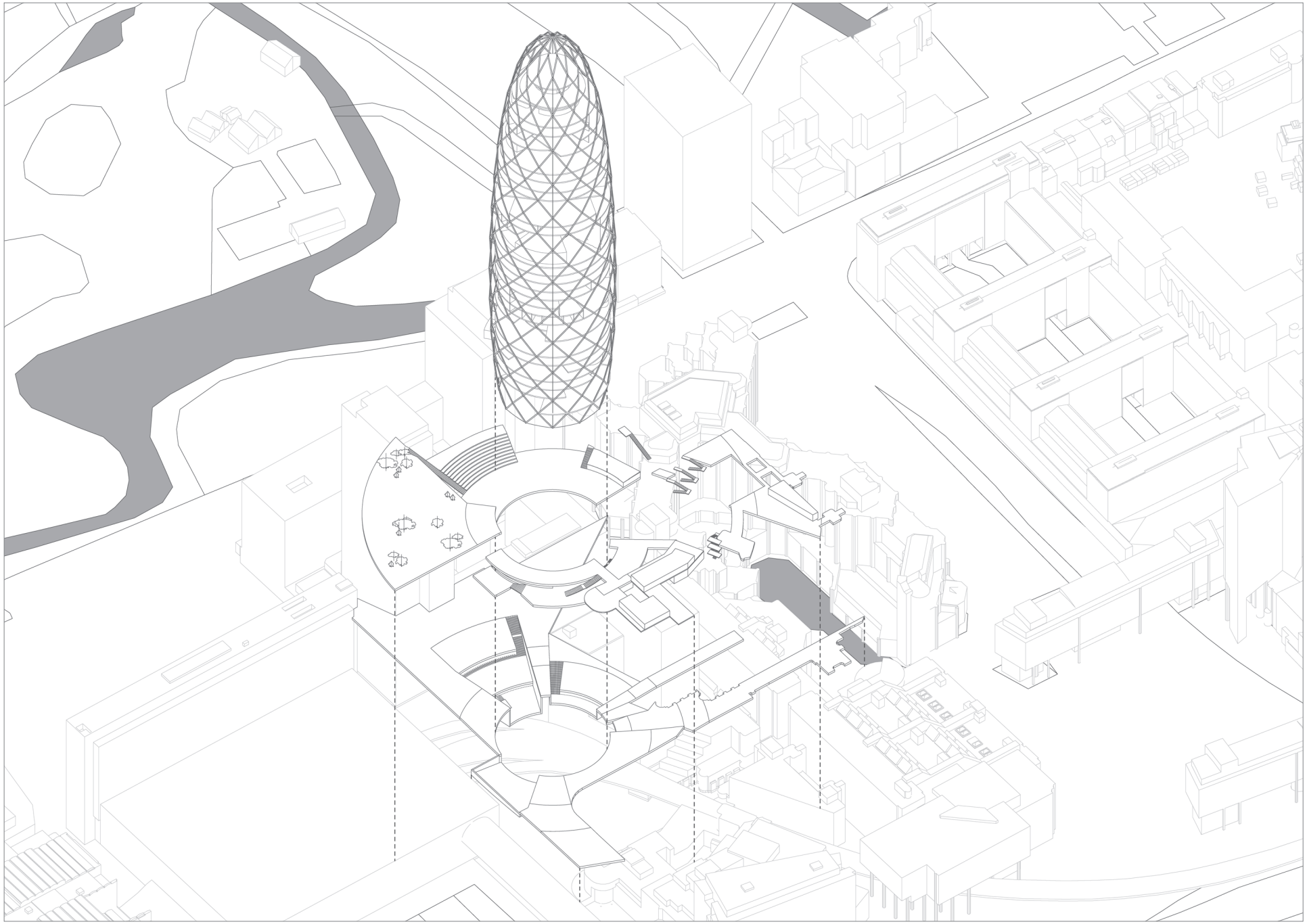
POSITIONING



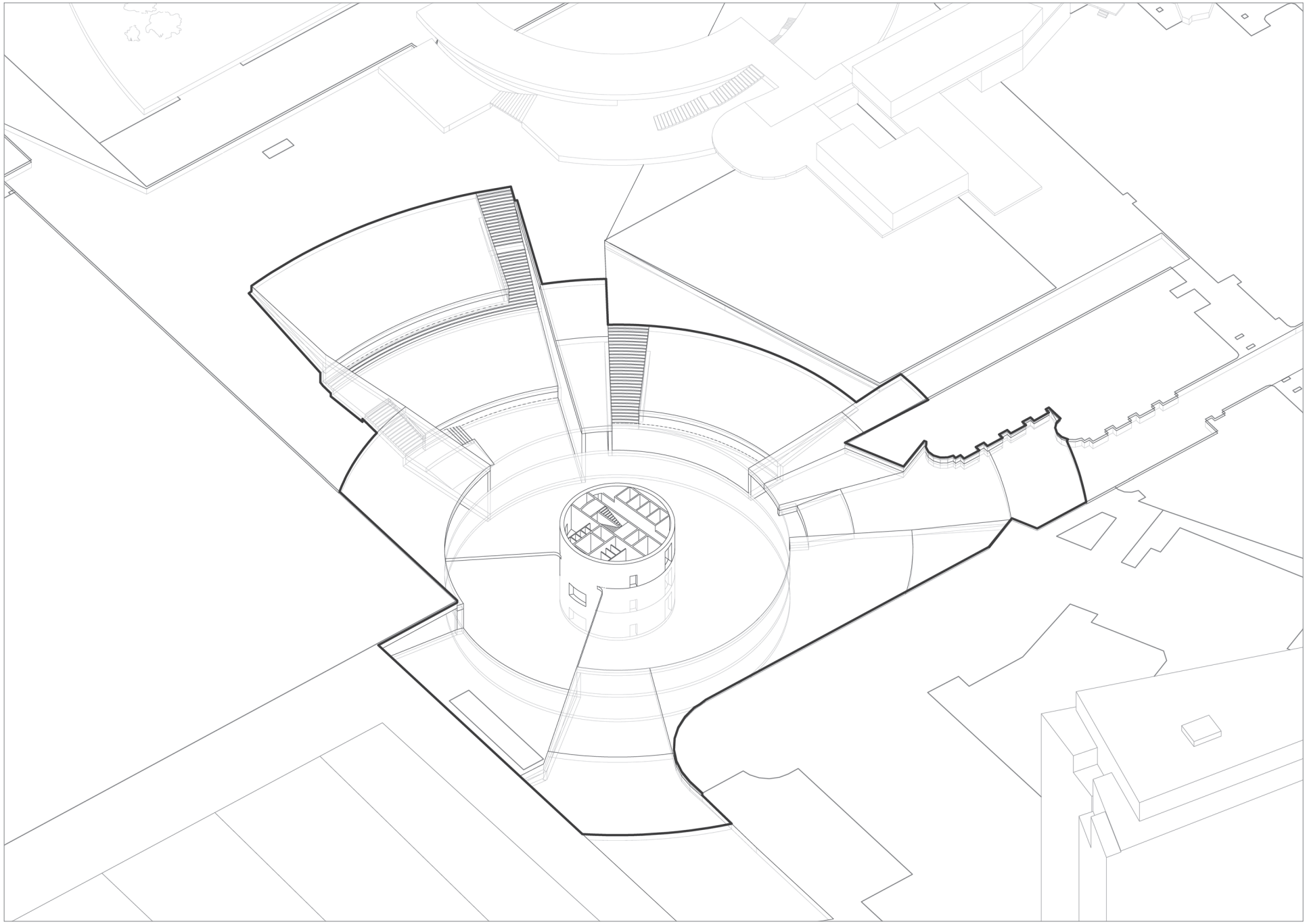
DESIGN INSTRUMENTS



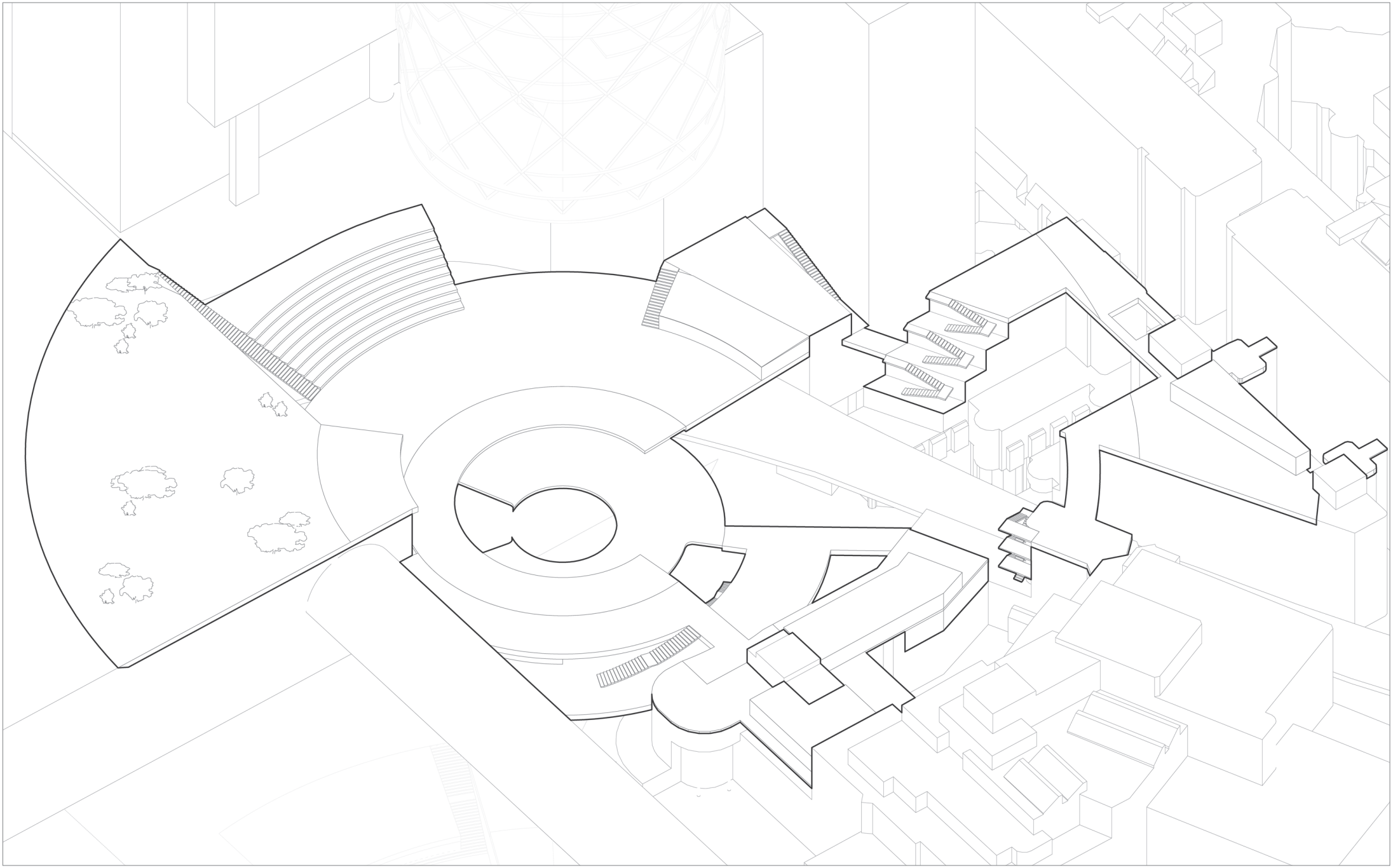
OVERVIEW



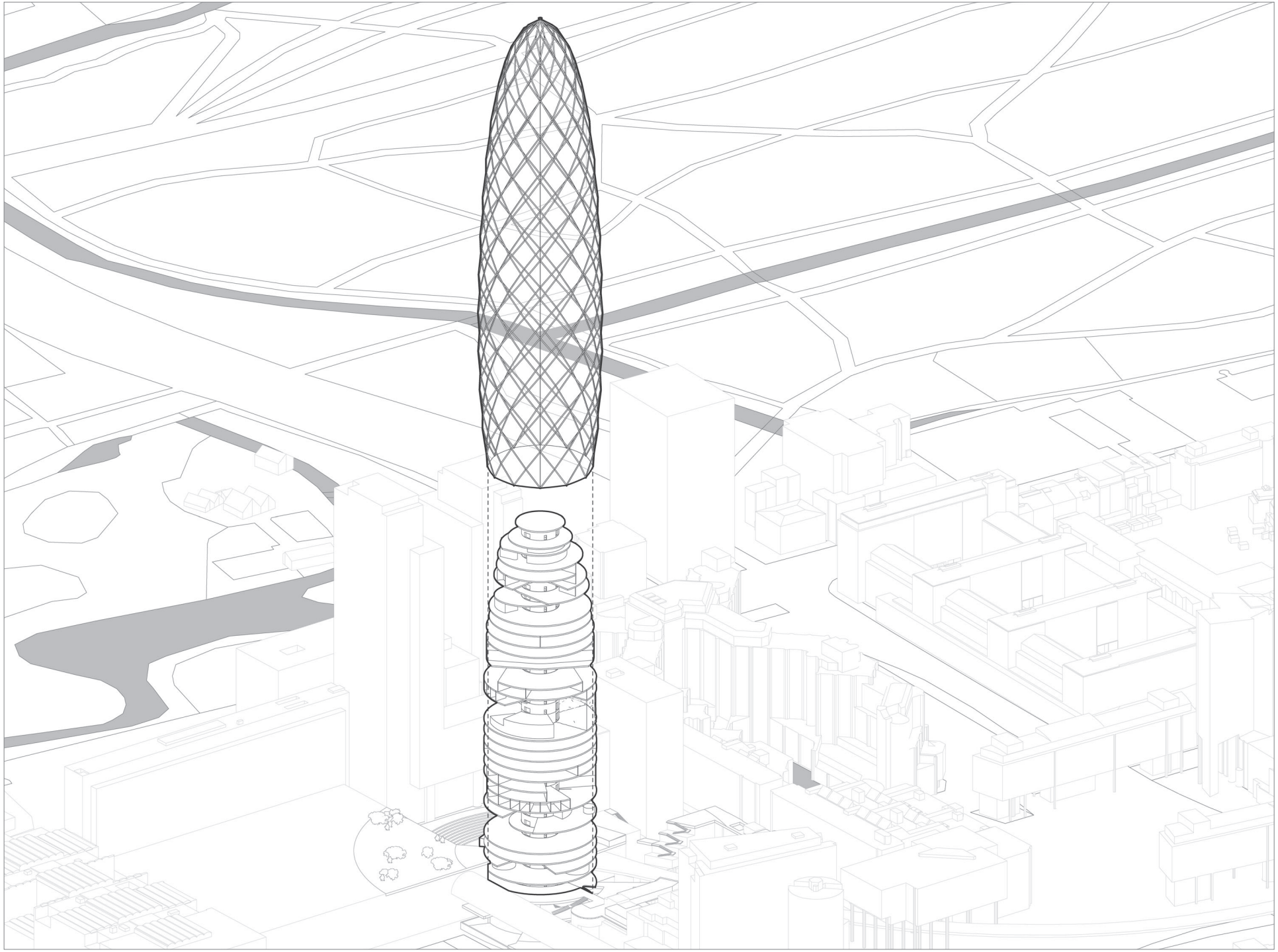
URBAN LEVELS INTERLACING



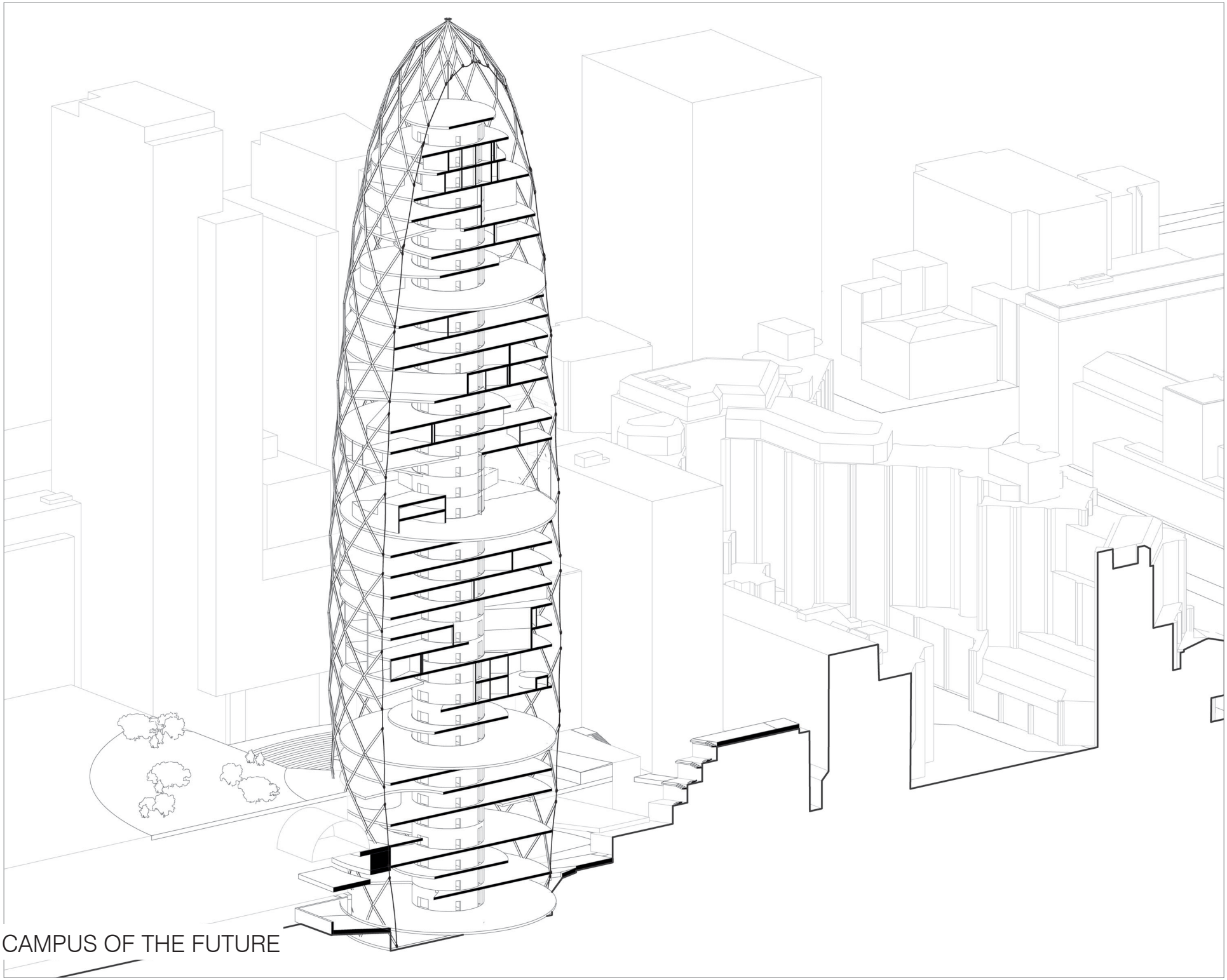
LANDSCAPING FOUNDATION



GRAVITATIONAL PLANES

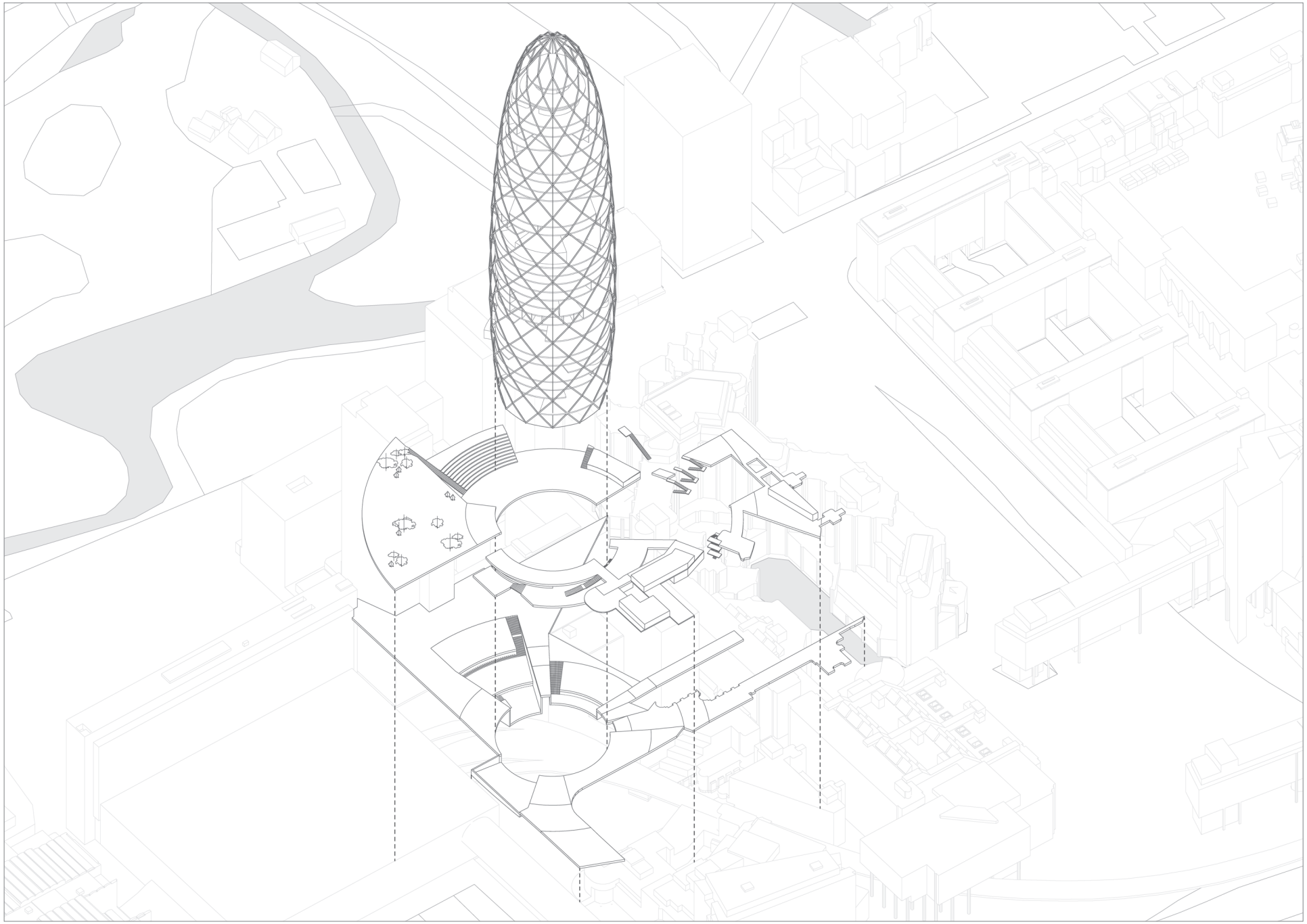


A SHARED CANOPY

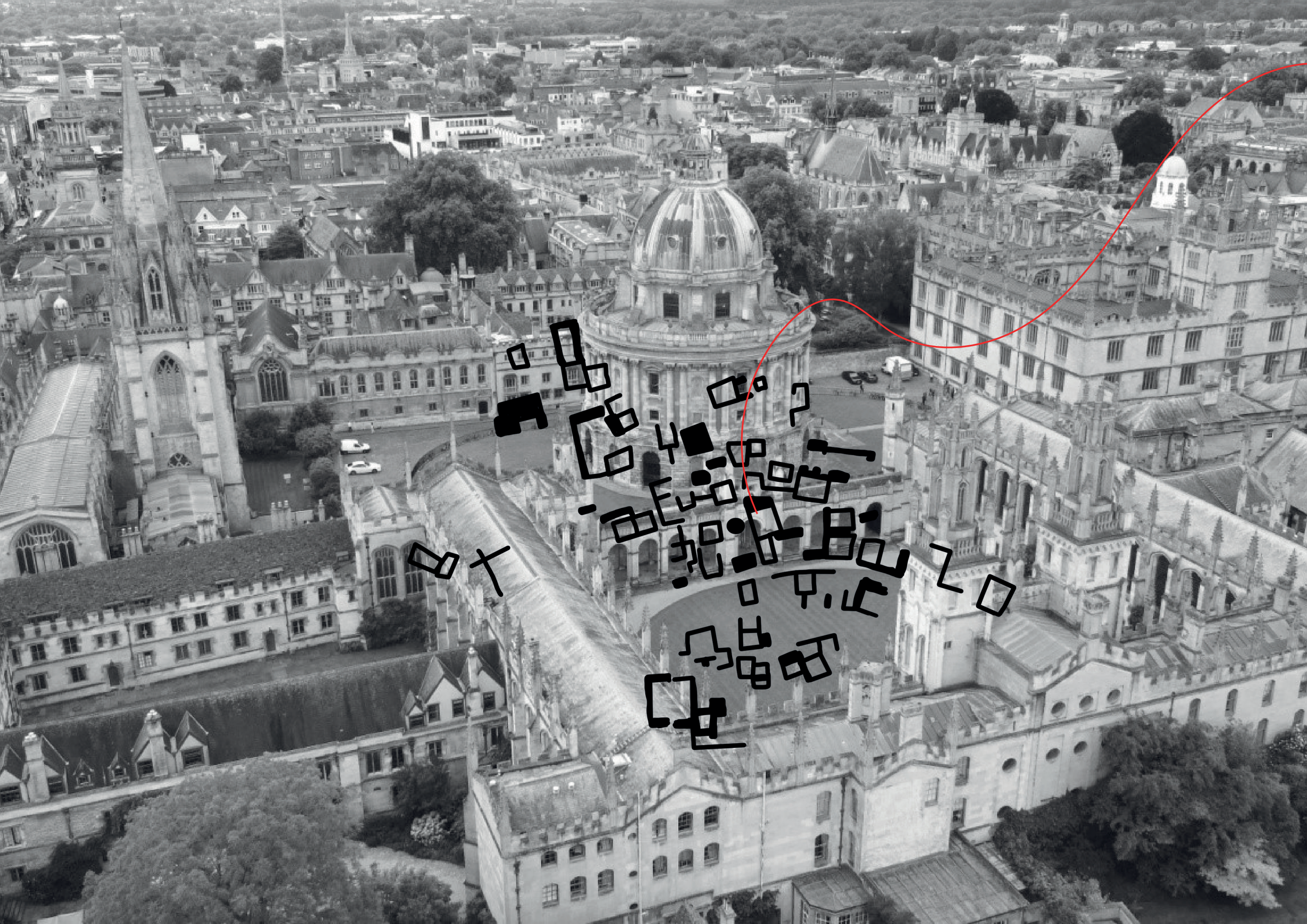


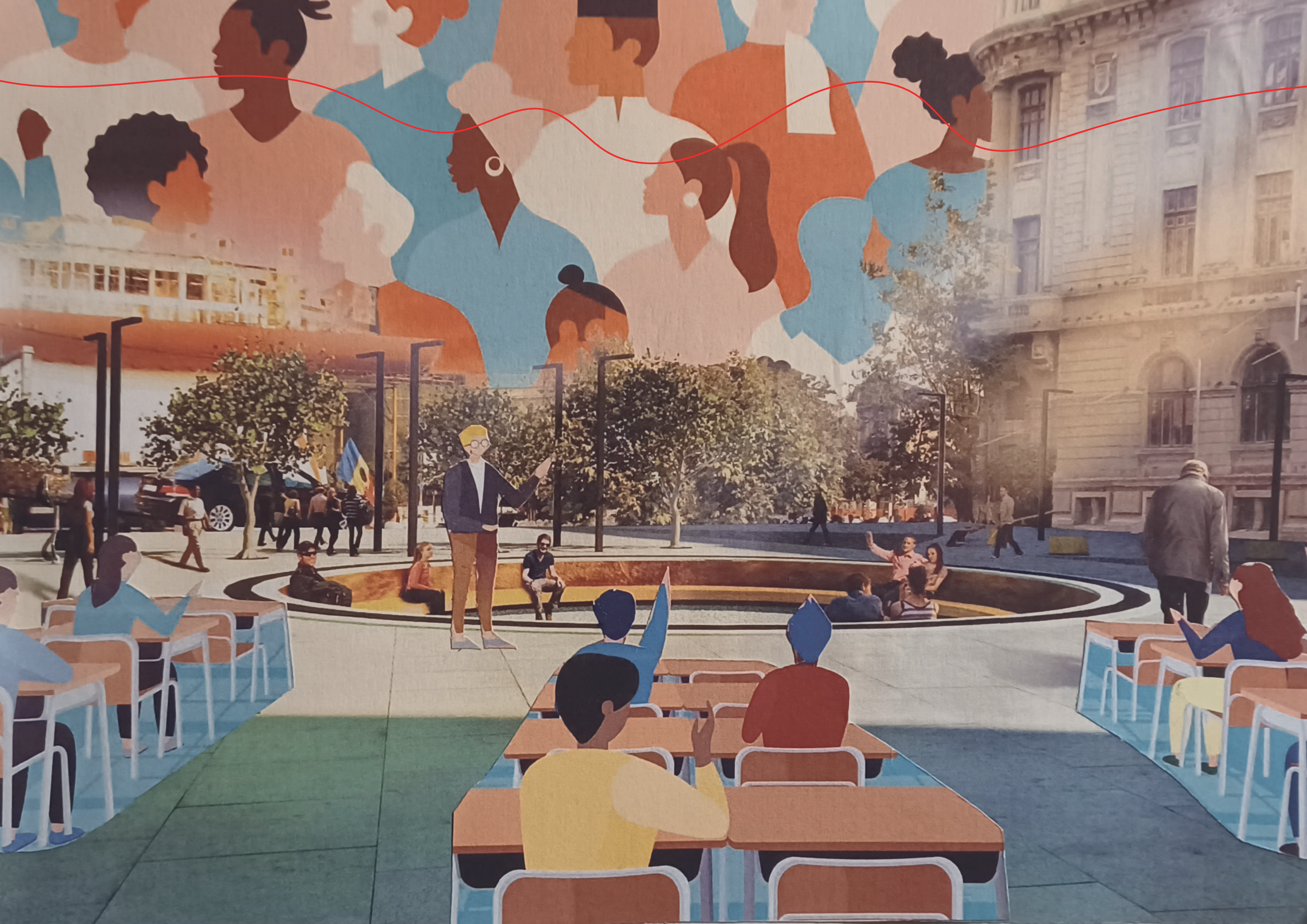
CAMPUS OF THE FUTURE

PUBLIC REALMS



M.A.G.N.O.L.I.A.






OPTIMIZATION
IoT
CONSERVATION
DURABILITY
SUSTAINABILITY
nest
70

A LOOK BACK

REFLECTIONS ON KEY CONCEPTS, THEMES, AMBITIONS COLLECTED SO FAR

URBAN INTEGRATION

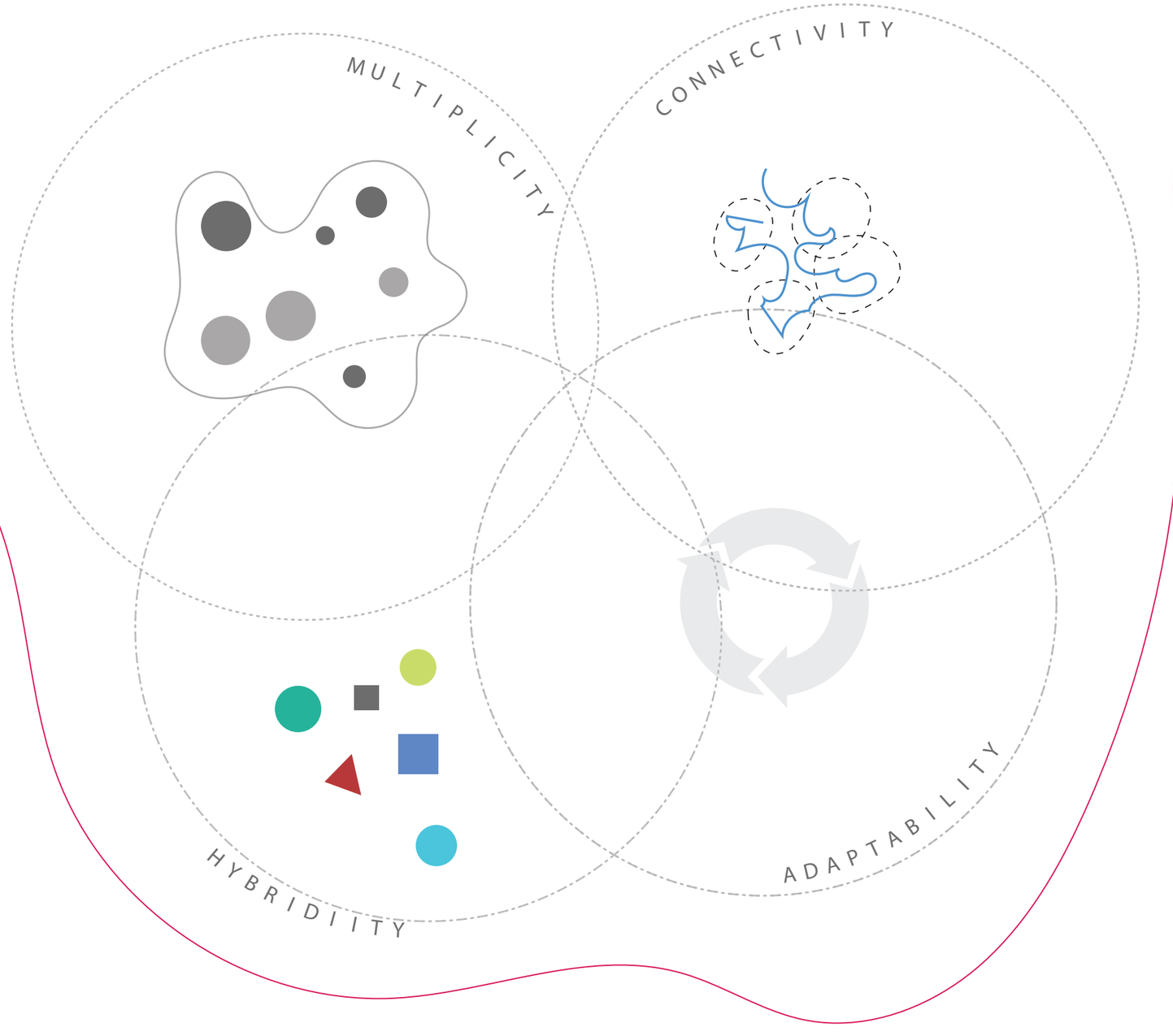
PUBLICNESS

ACCESSIBILITY

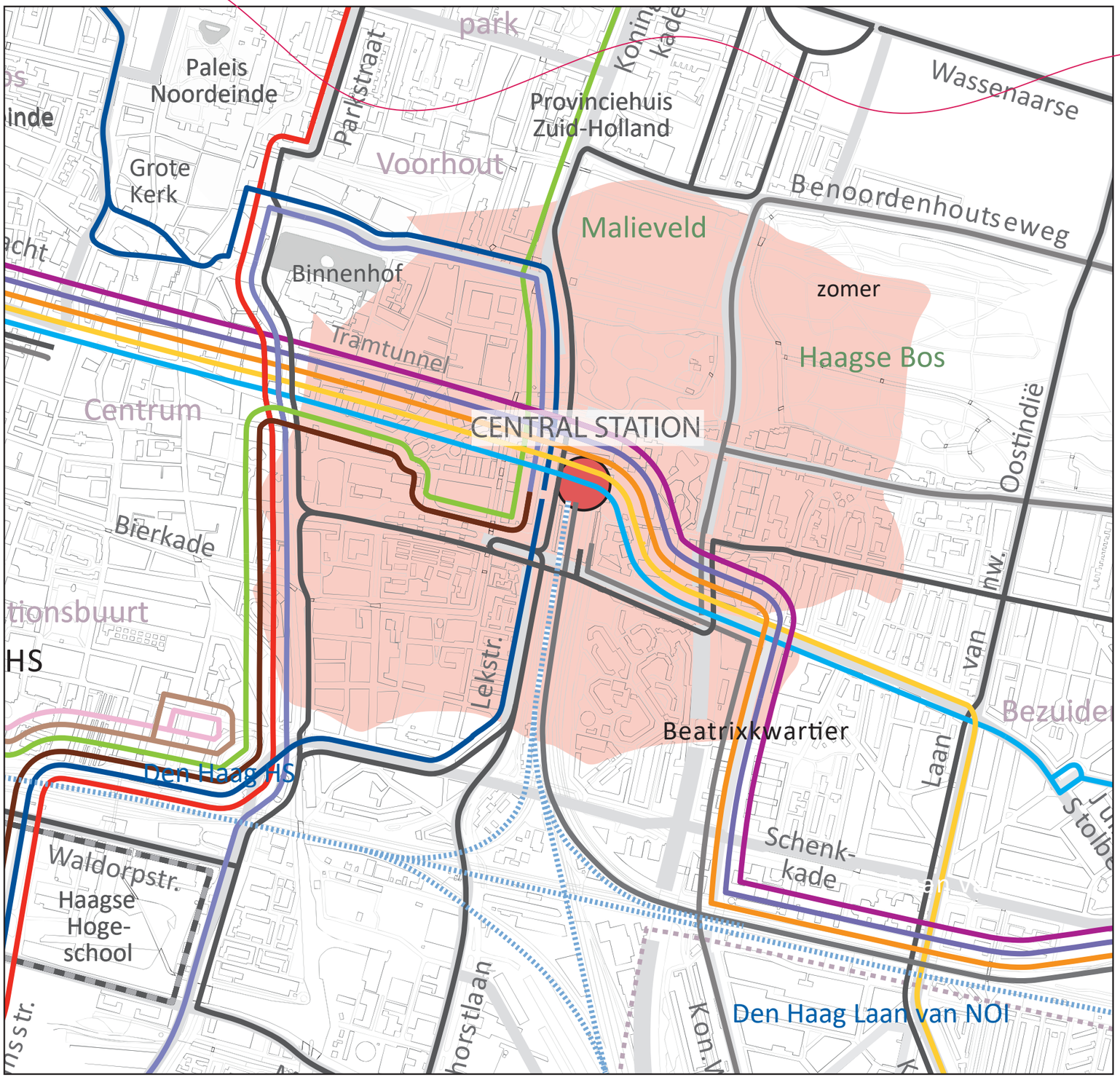
SYSTEMATIZATION OF REFLECTIONS:
”WHAT IS THE AMBITION?”

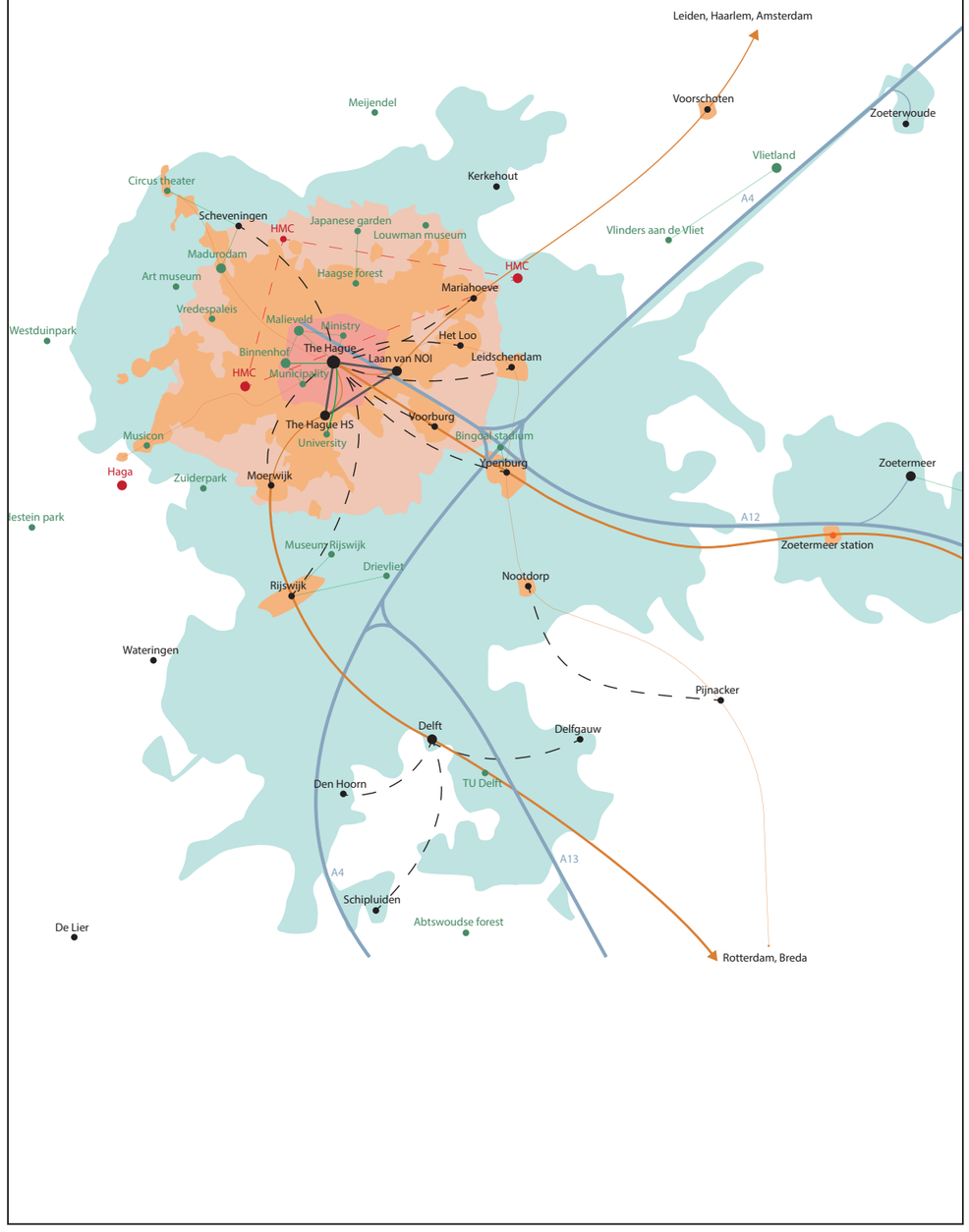
URBAN (AND BEYOND) INTEGRATION OF AN ACCESSIBLE CAMPUS FOR THE PUBLIC

HOW?
TOOLS OF THE PRACTICE



“FIFTH GENERATION CAMPUS” - START OF REFELCTION





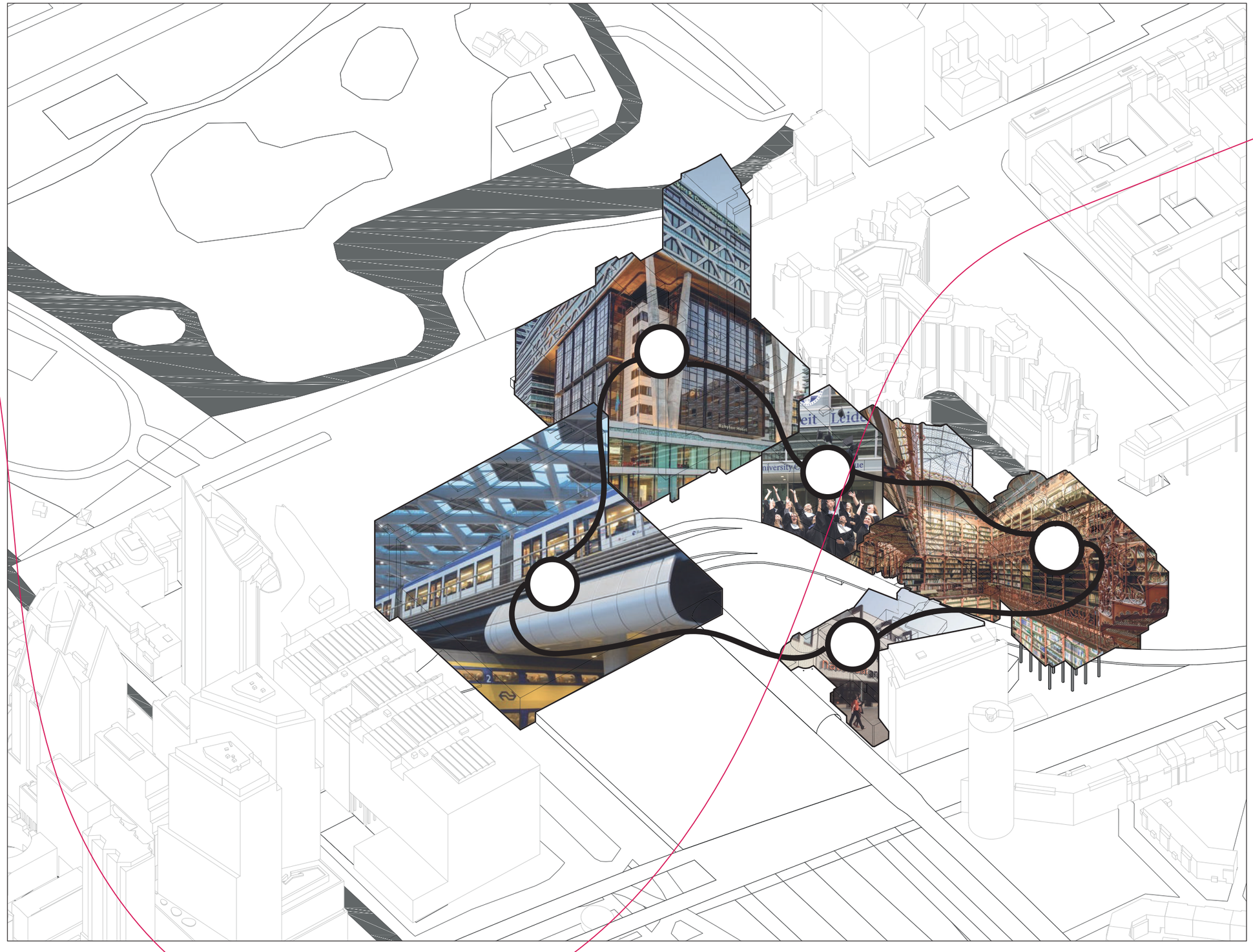
Legend

- Walking 5min
- Railways
- Public transport
- Carways

Legend

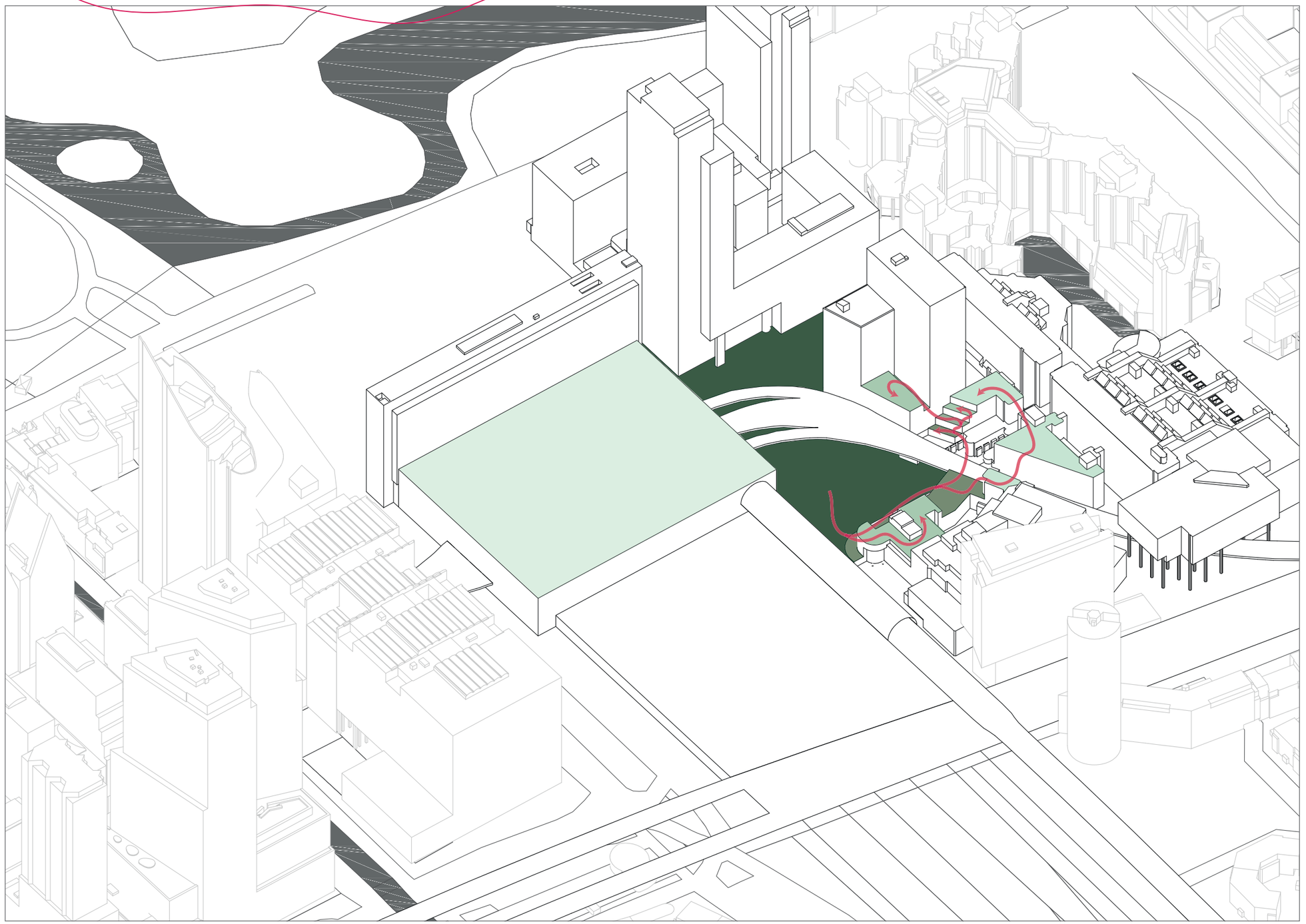
- Walking 15min
- Biking 15min
- Public transport 15min
- Car 15min
- Healthcare connection
- Interest connection
- Public transport
- Highways
- City relation

TO FOSTER (EXISTING) URBAN INTENSITIES

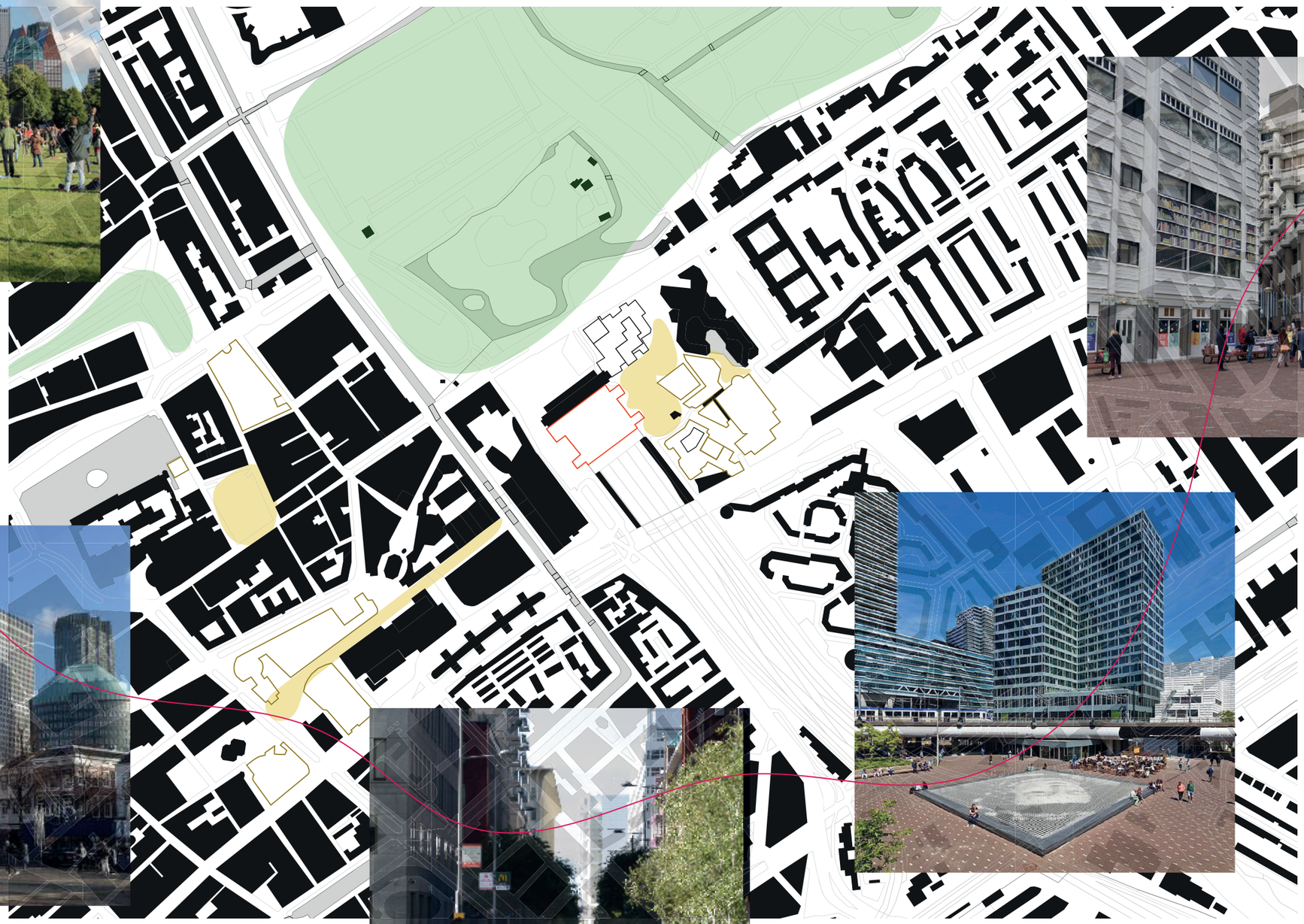


MULTIPLICITY *AT THE URBAN LEVEL*

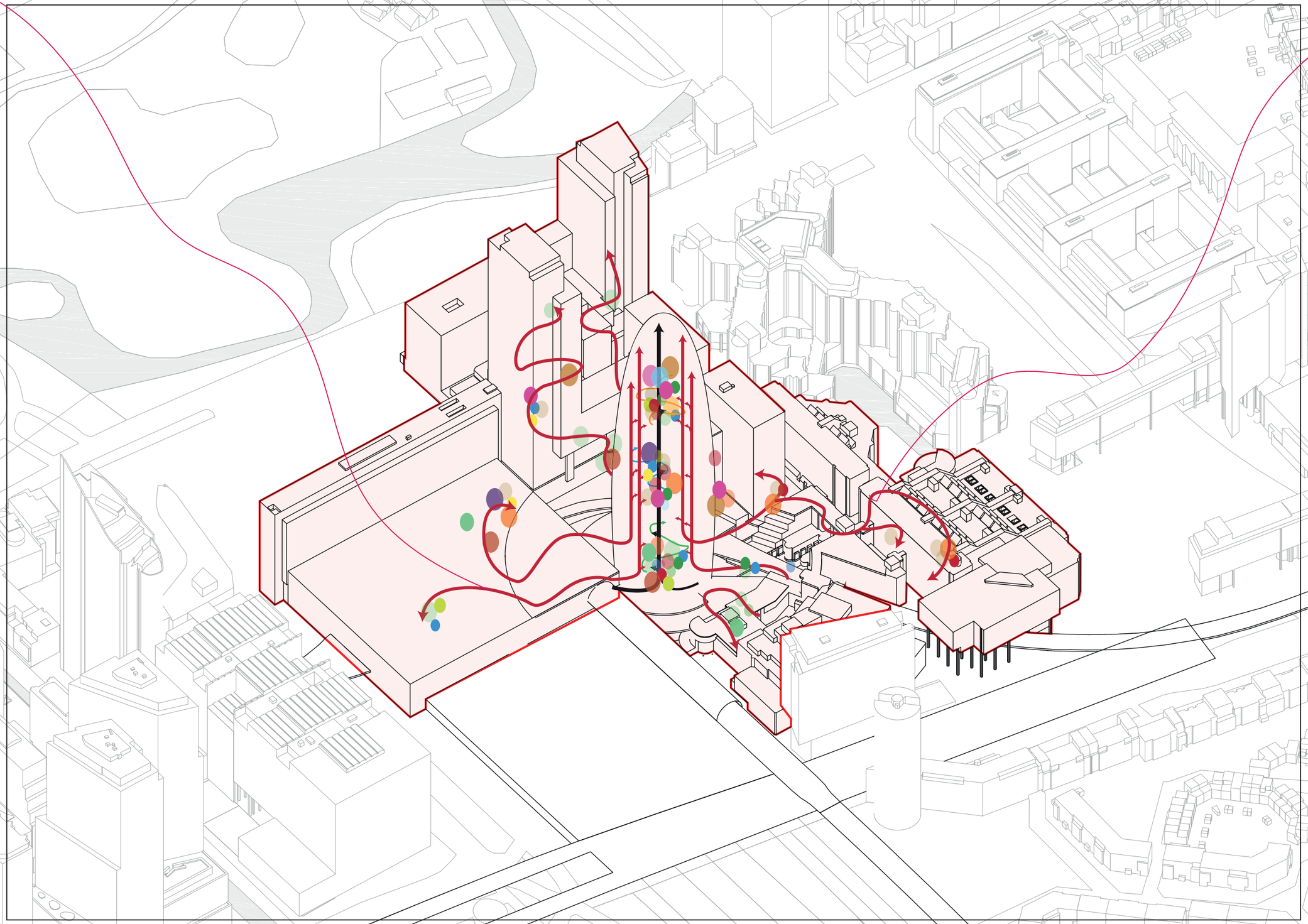
RELATIONSHIP WITH EXISTING BUILDING STOCK



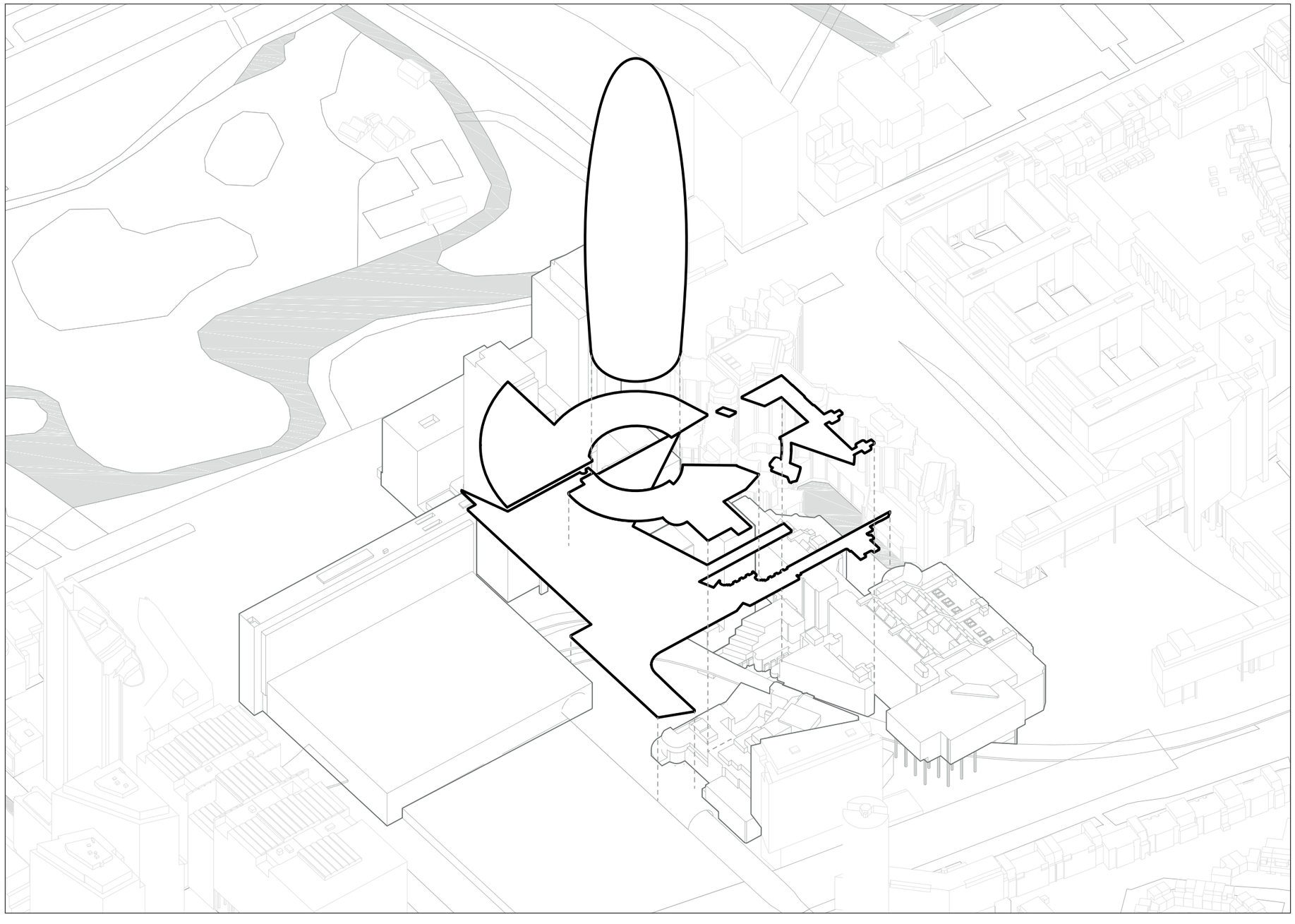
PUBLIC SPACE (?) IN THE SURROUNDINGS



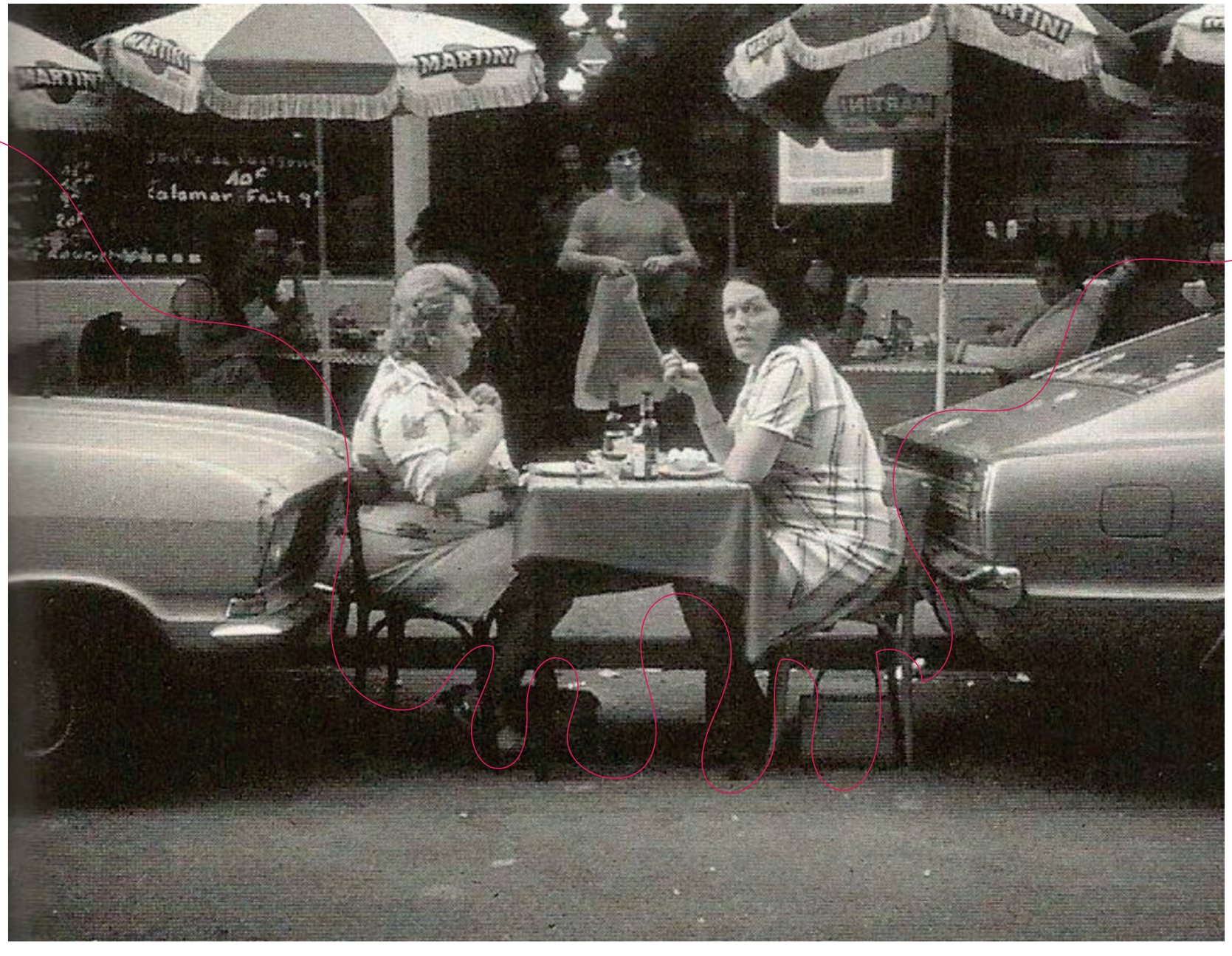
STRATEGIC DIAGRAMME - A “ZONE ROUGE” OF POTENTIALS



A FIRST STRUCTURING OF “DIMENSIONS”



“SQUEEZING IN”

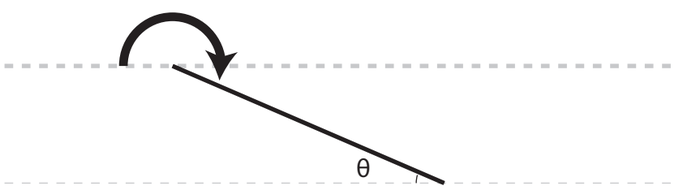


“LANDSCAPING”

A “FIFTH FACADE”

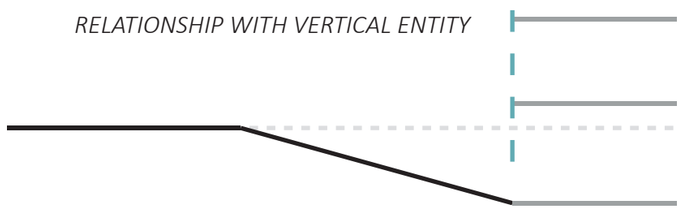
*A **MULTIPLICATION** OF THEMES*

TILT OF TERRAIN

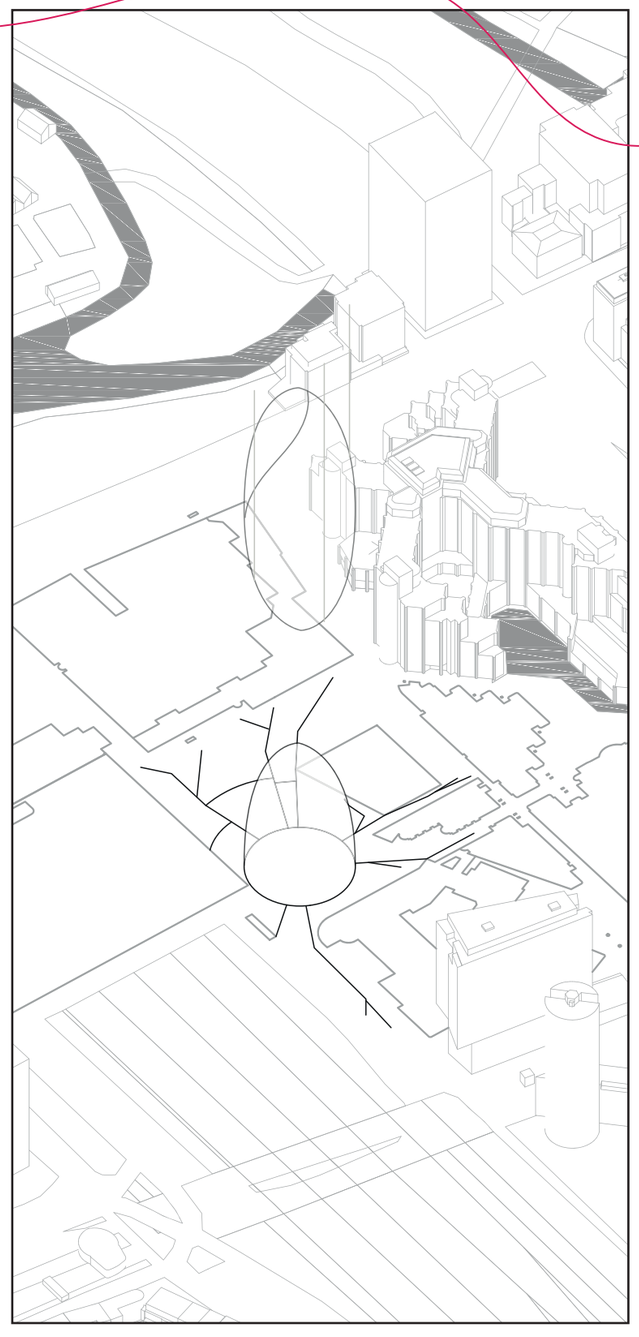


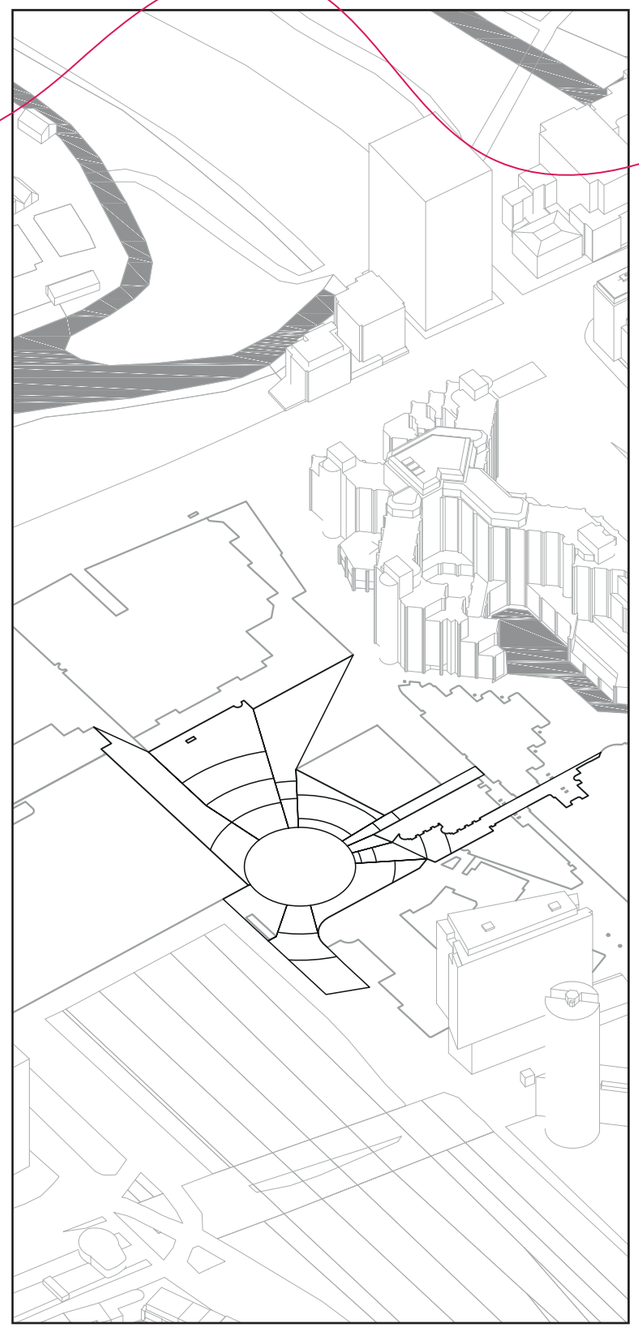
EXTENSION BY SECTIONING

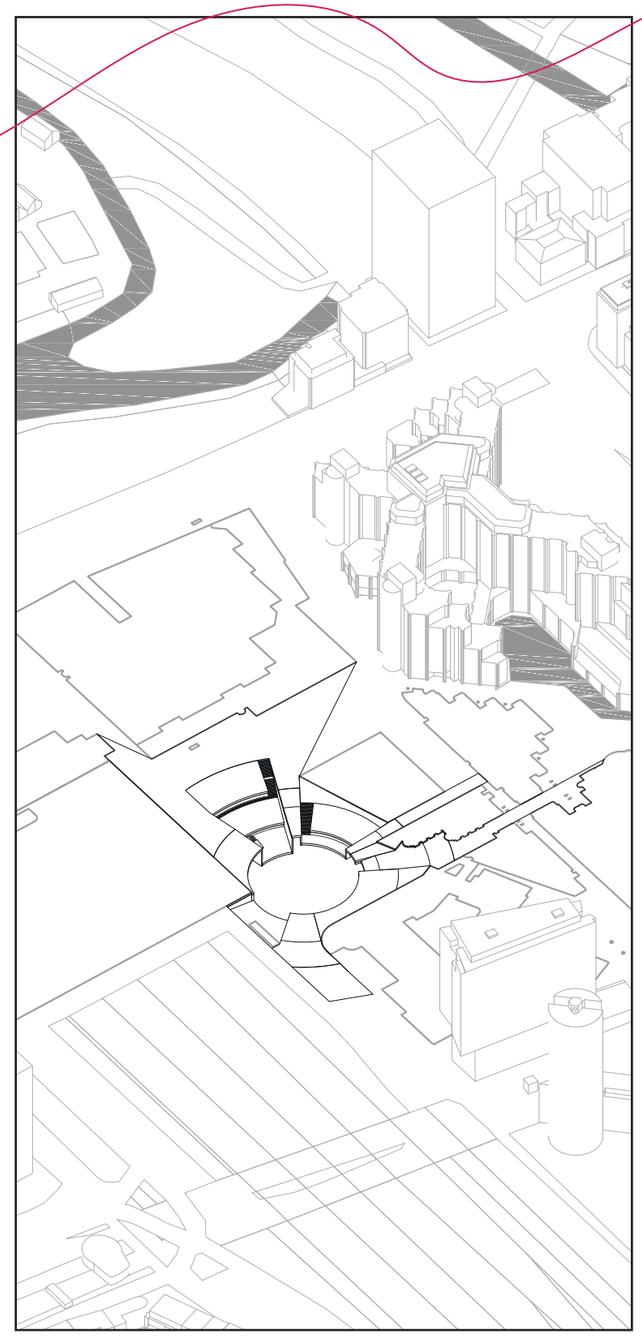
RELATIONSHIP WITH VERTICAL ENTITY



A SOLID NESTLING INTO THE SITE



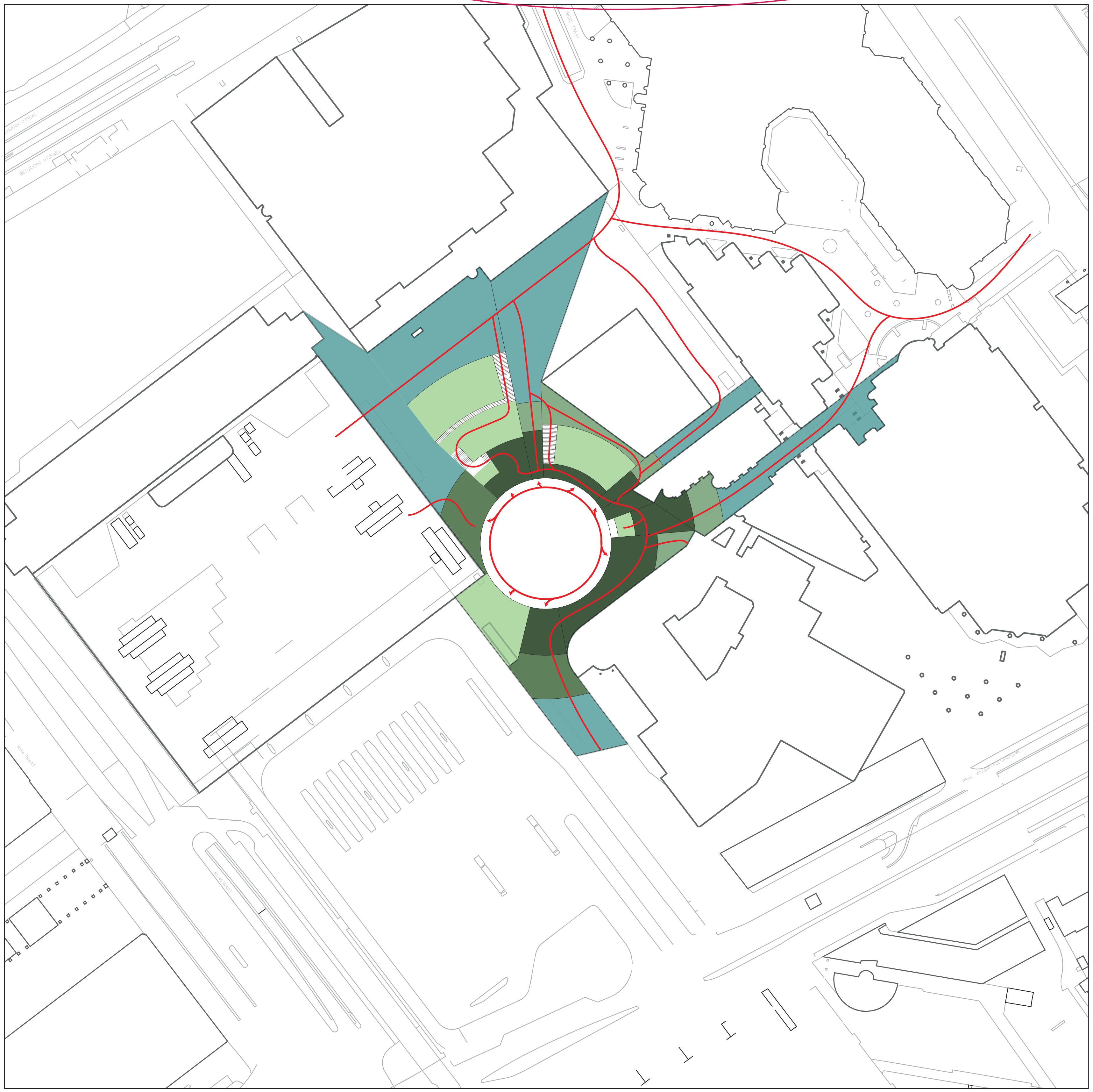




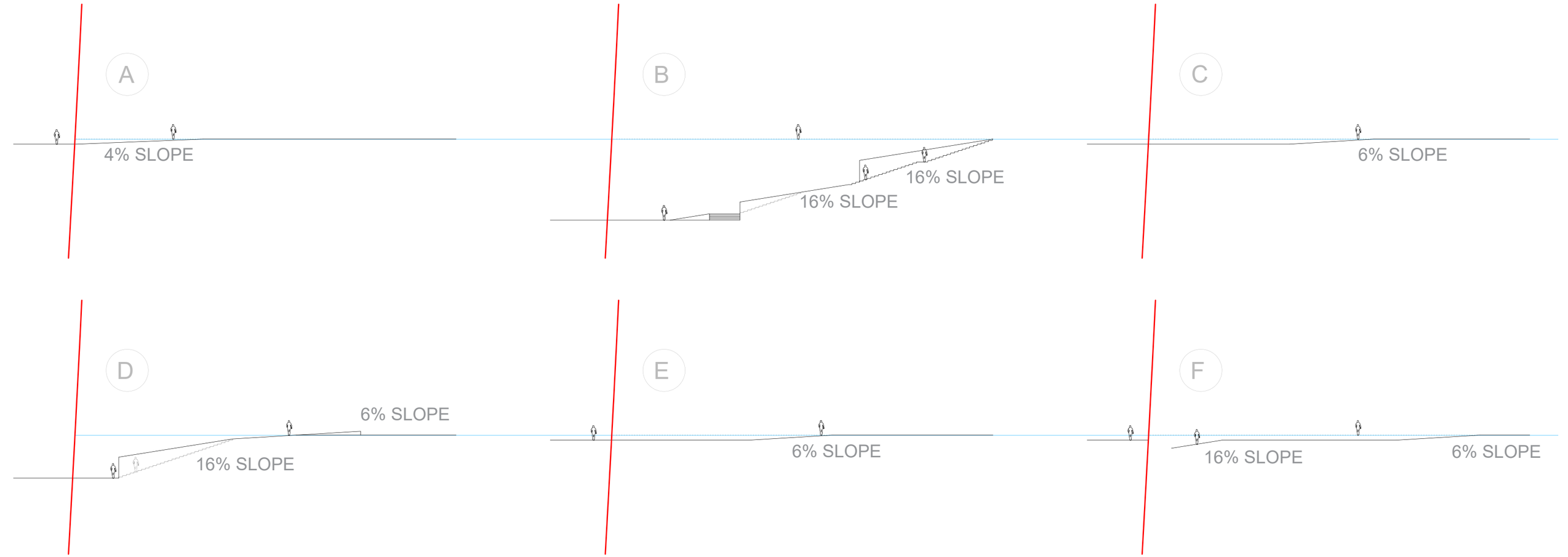
“SITE AWARENESS”

ACCESSIBILITY

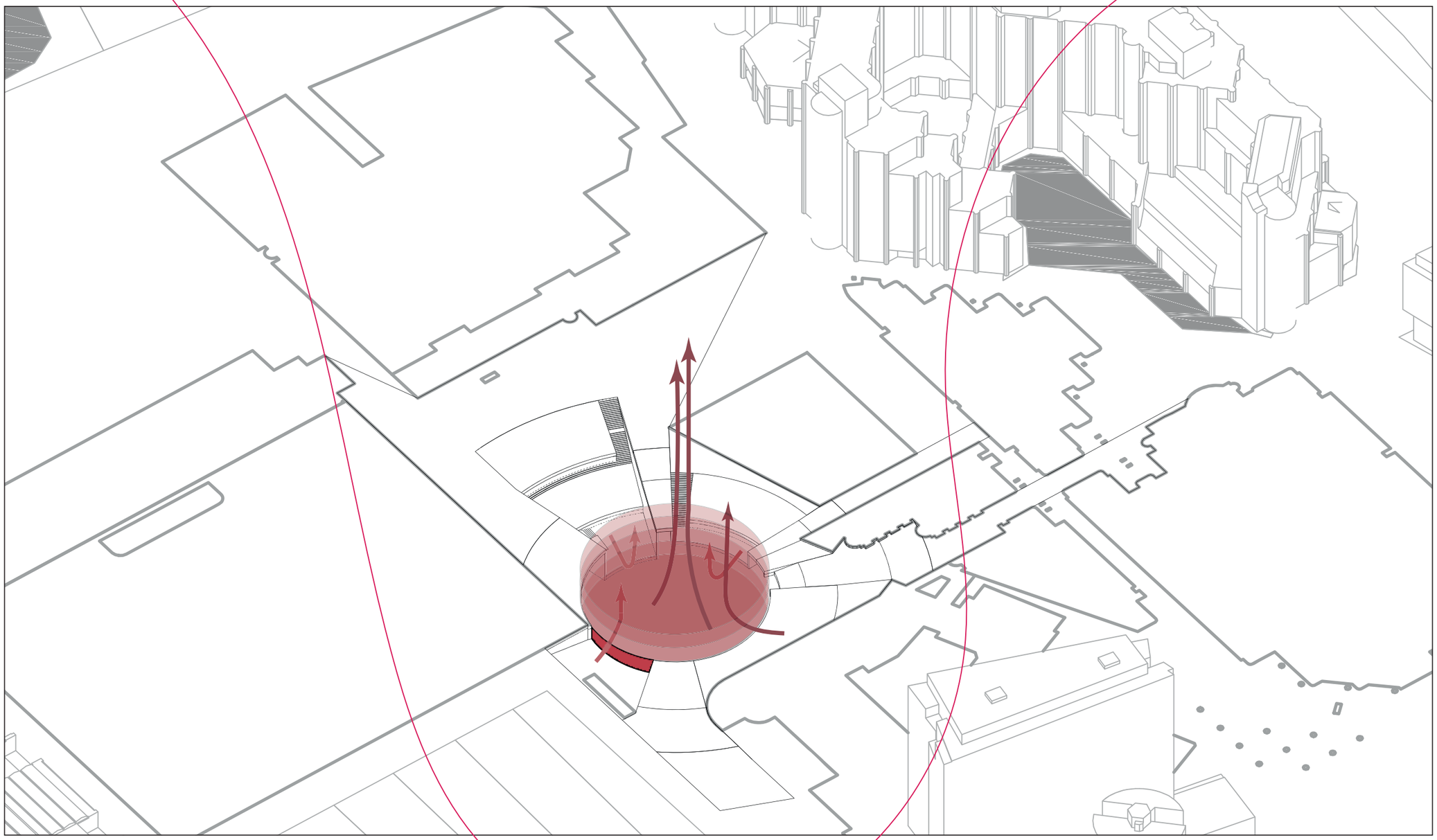
- FLOWS DIRECTIONS
- WALKING LEVEL-0°
- 16° ANGLE
- 6° ANGLE
- 4° ANGLE
- ENTRANCE LEVEL: -0.60m

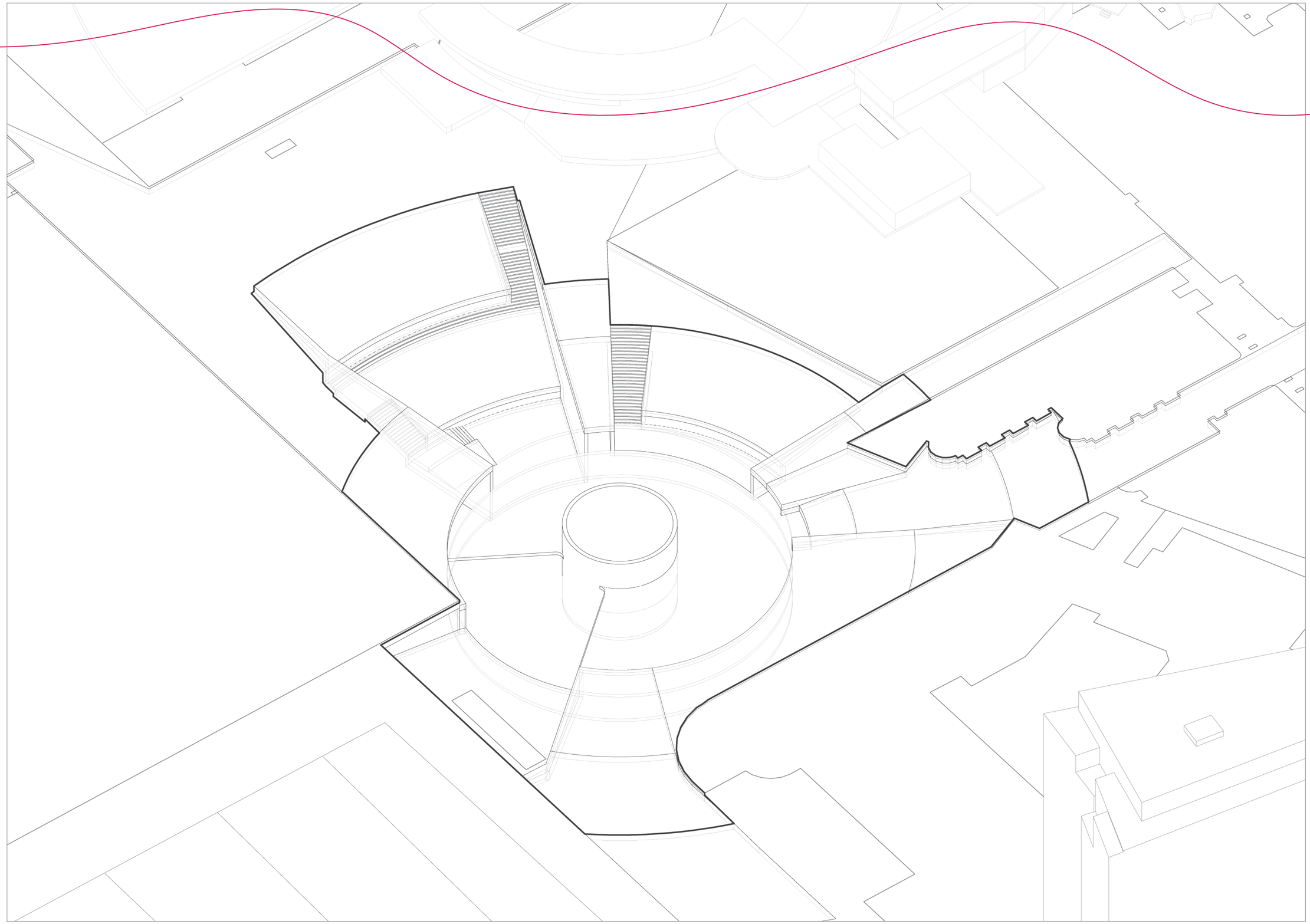


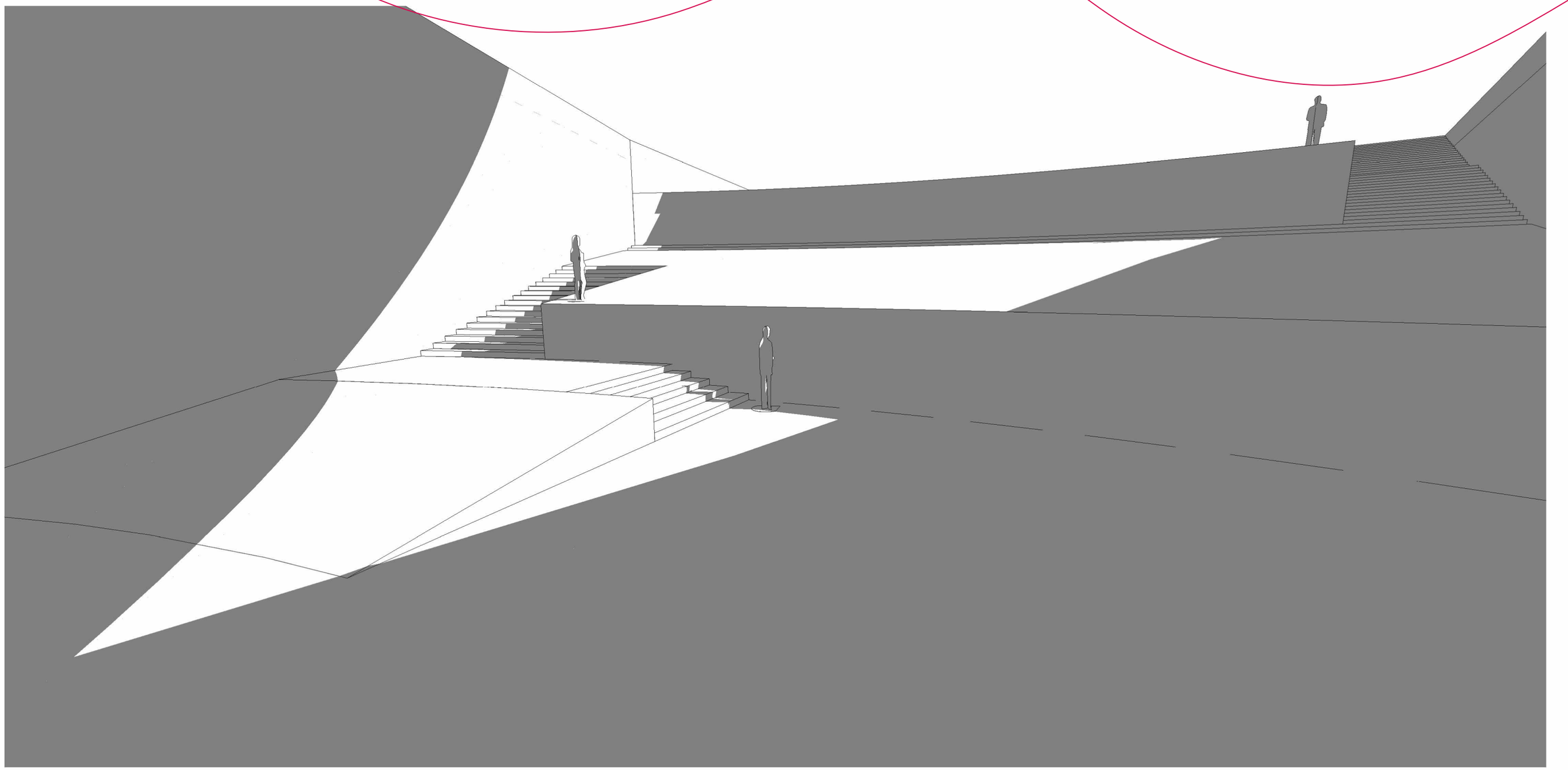
THE MULTIPLE RELATIONSHIPS



MULTIPLE ACCESSES AT DIFFERENT LEVELS - “GOING DOWN TO GO UP”

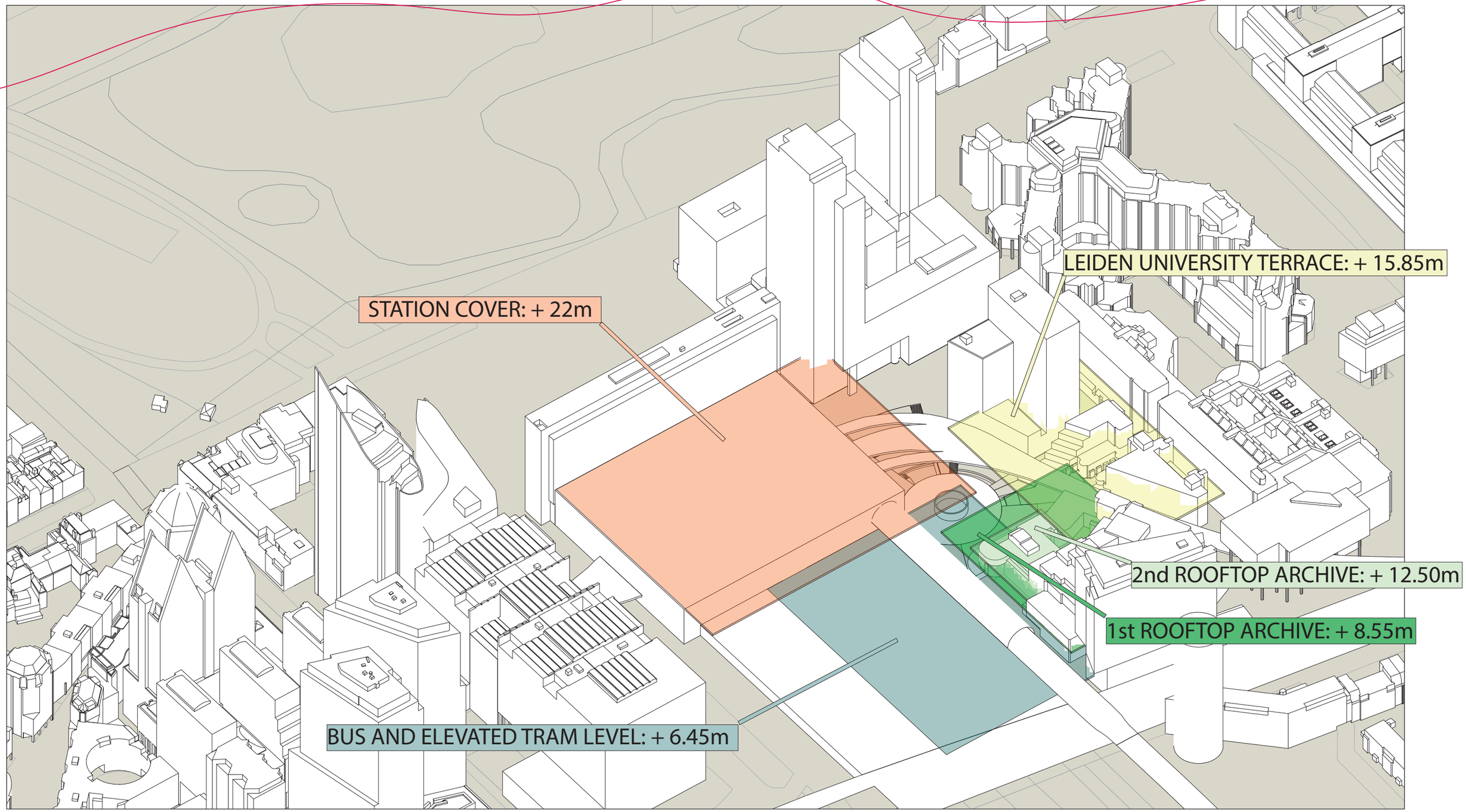


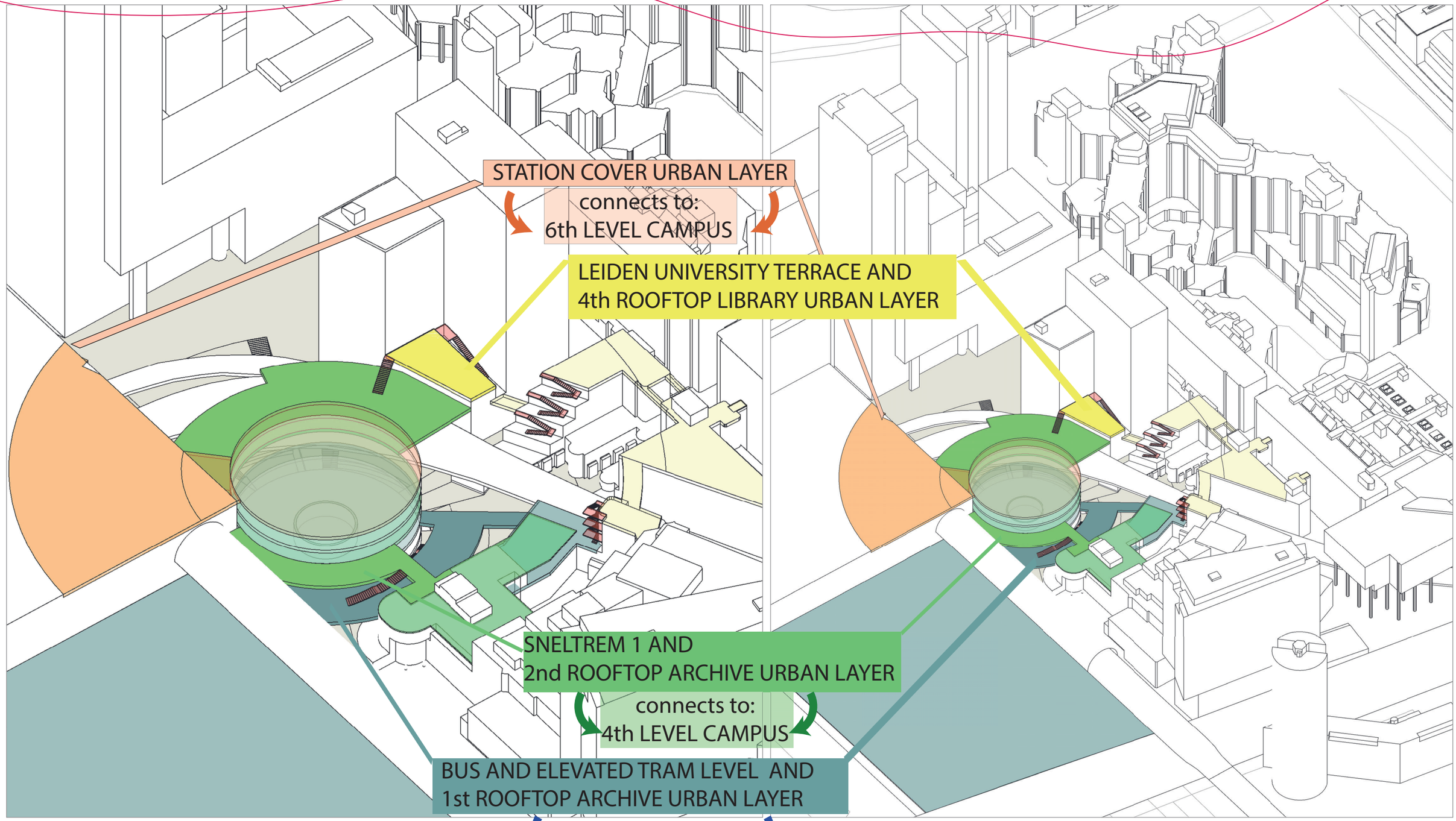




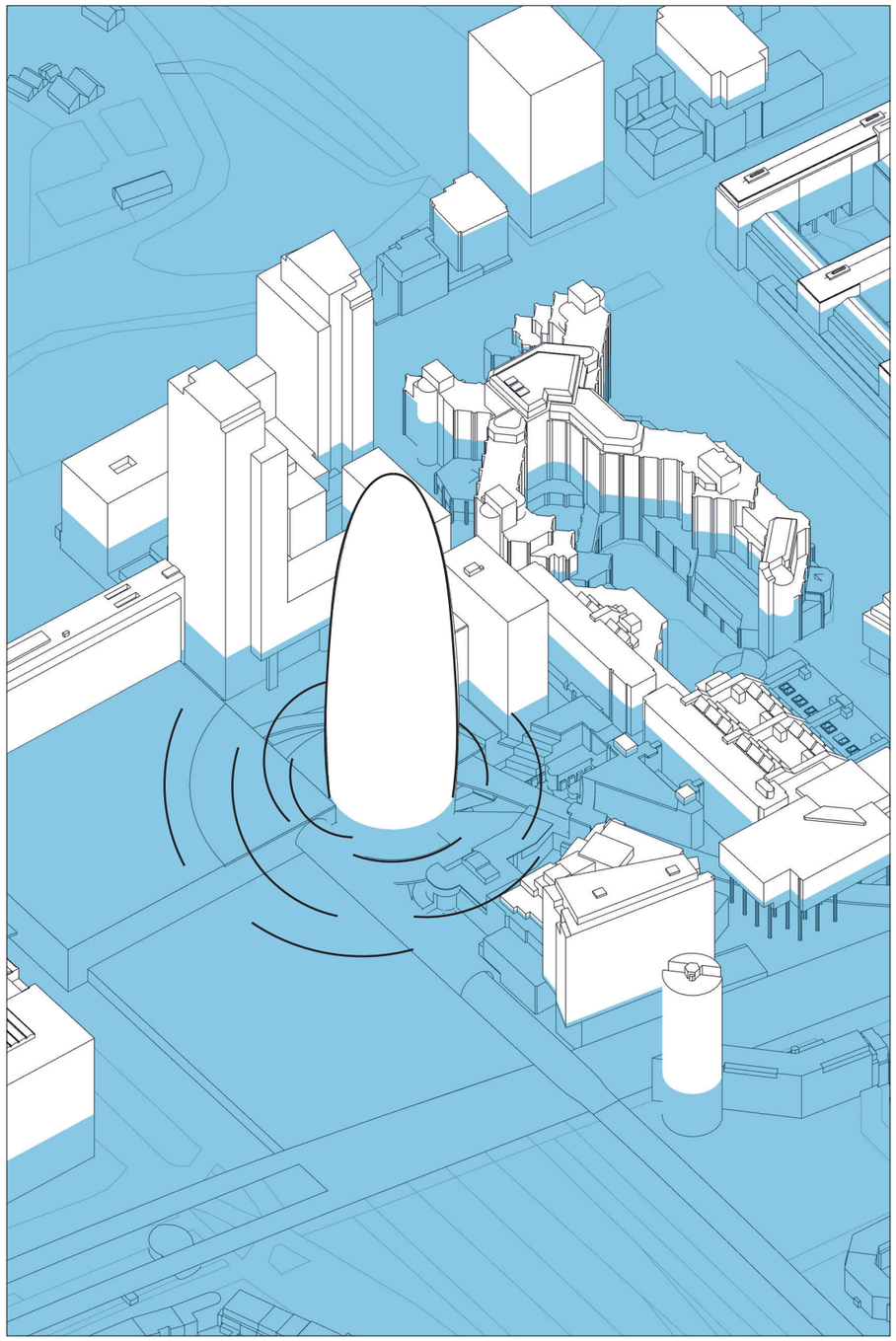
“FLYING OVER”

THE MULTIPLE URBAN LAYERS

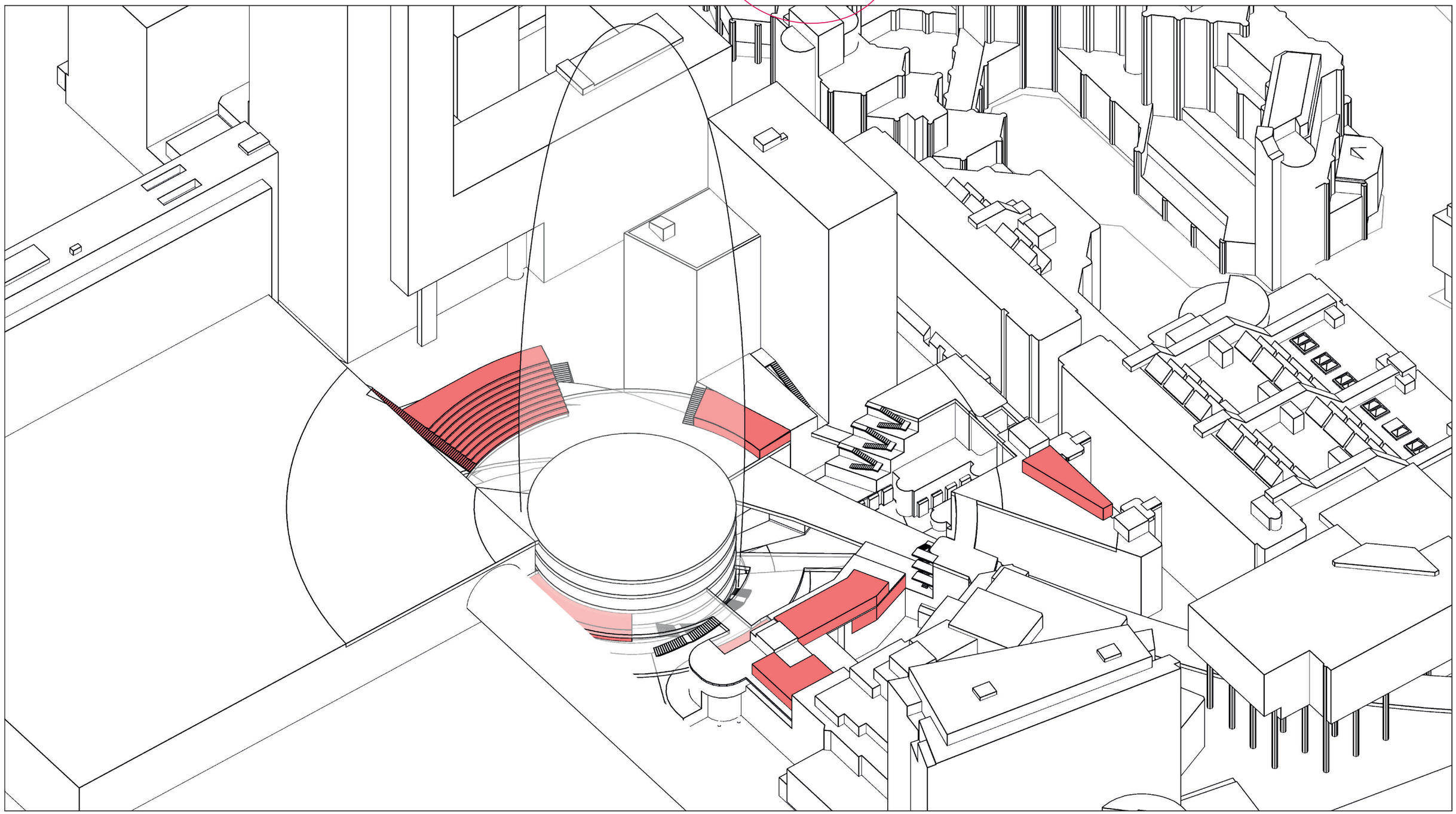


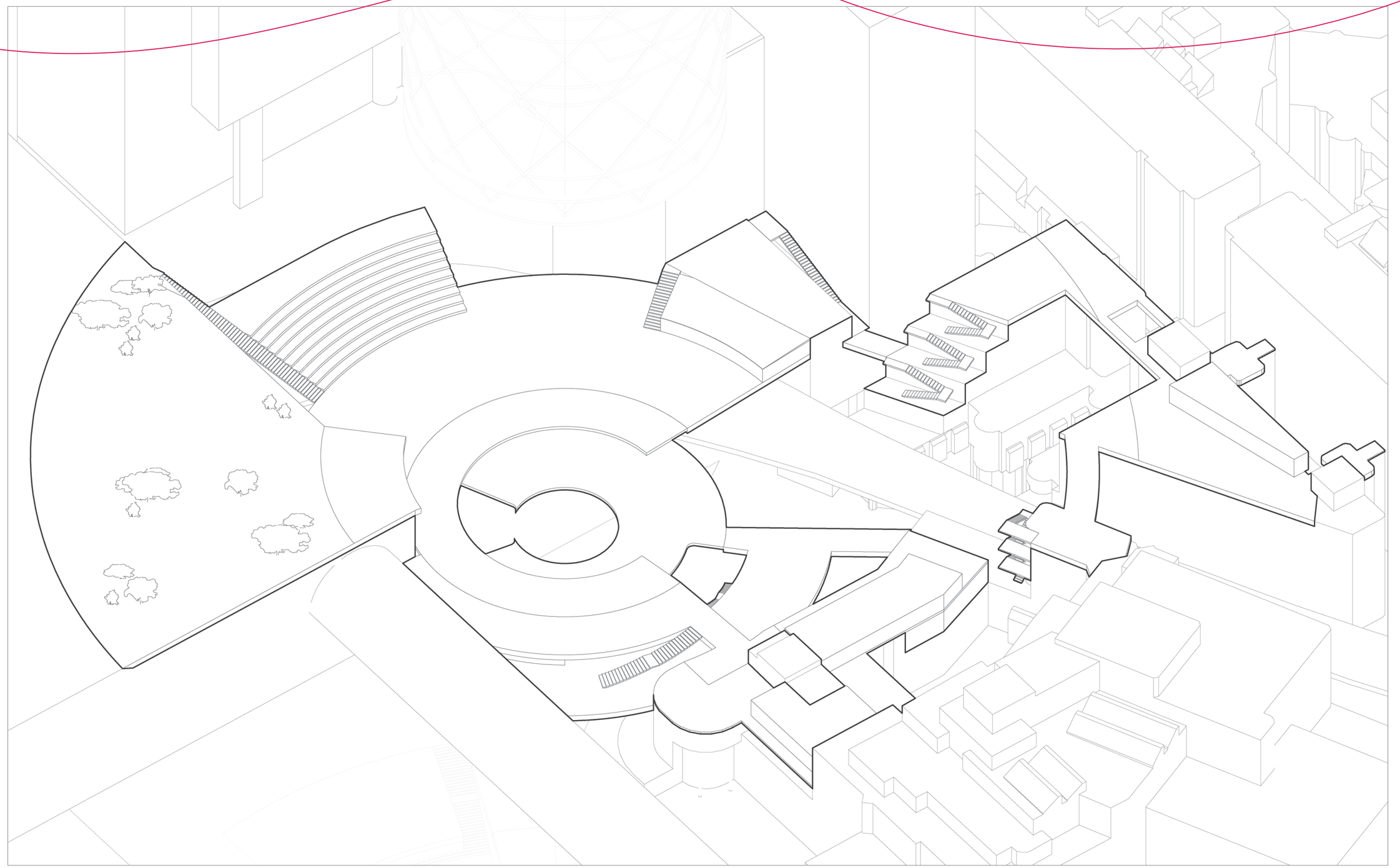

STATION COVER URBAN LAYER
connects to:
6th LEVEL CAMPUS
LEIDEN UNIVERSITY TERRACE AND
4th ROOFTOP LIBRARY URBAN LAYER
SNELTREM 1 AND
2nd ROOFTOP ARCHIVE URBAN LAYER
connects to:
4th LEVEL CAMPUS
BUS AND ELEVATED TRAM LEVEL AND
1st ROOFTOP ARCHIVE URBAN LAYER
connects to:
3rd LEVEL CAMPUS

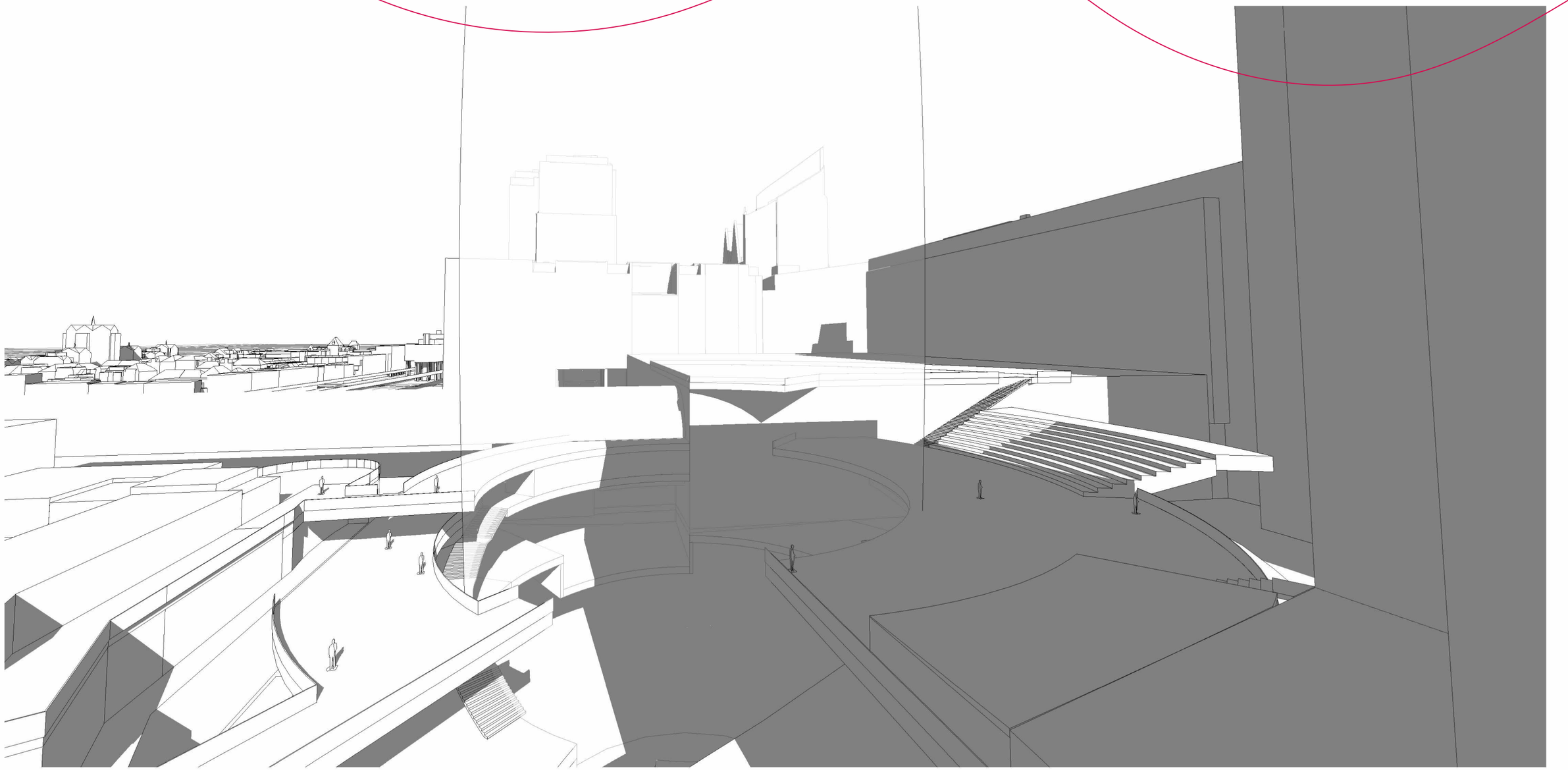
A PRINCIPLE OF "REASONANCE"



THE THEATRICAL NATURE OF THE ACT

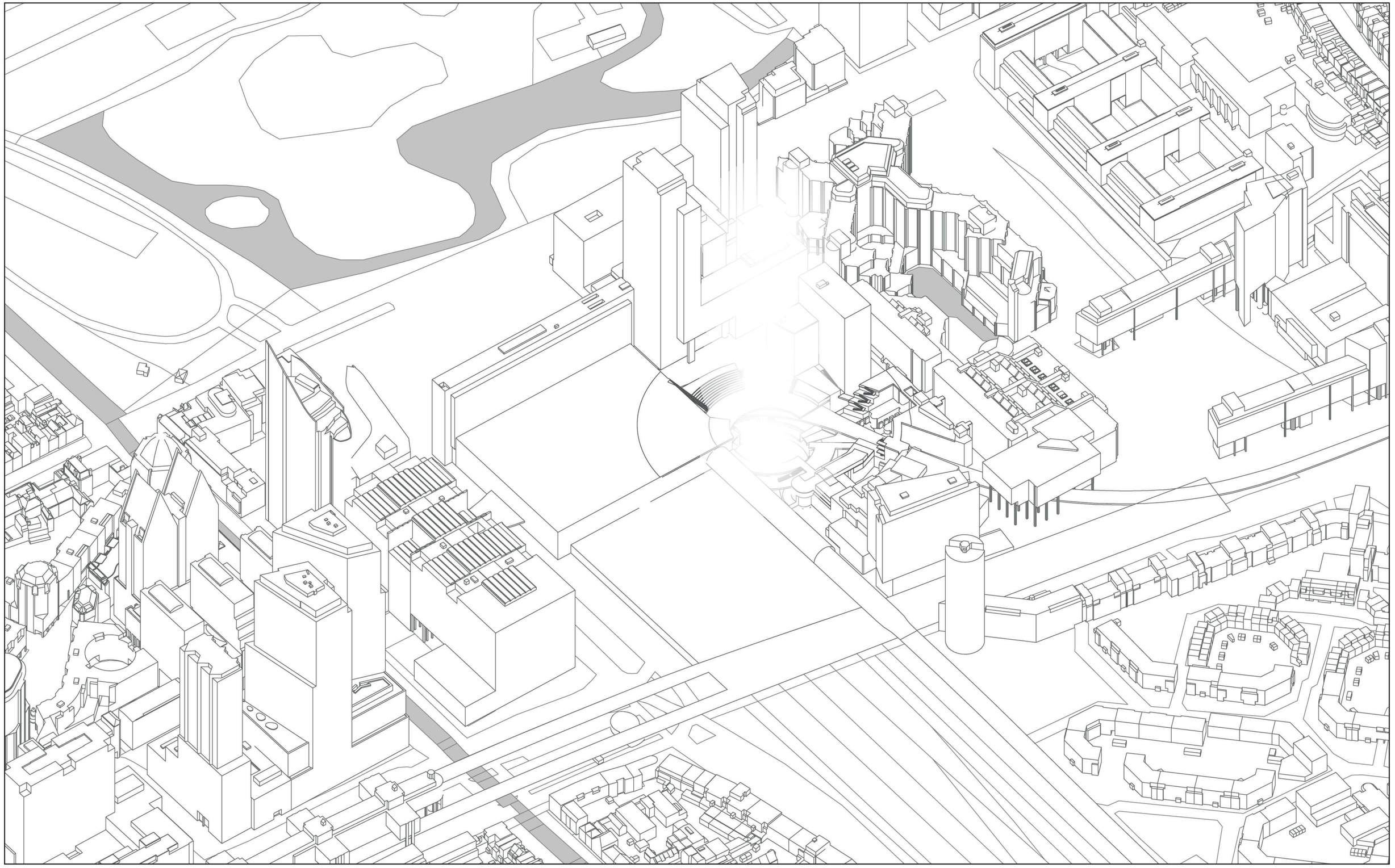




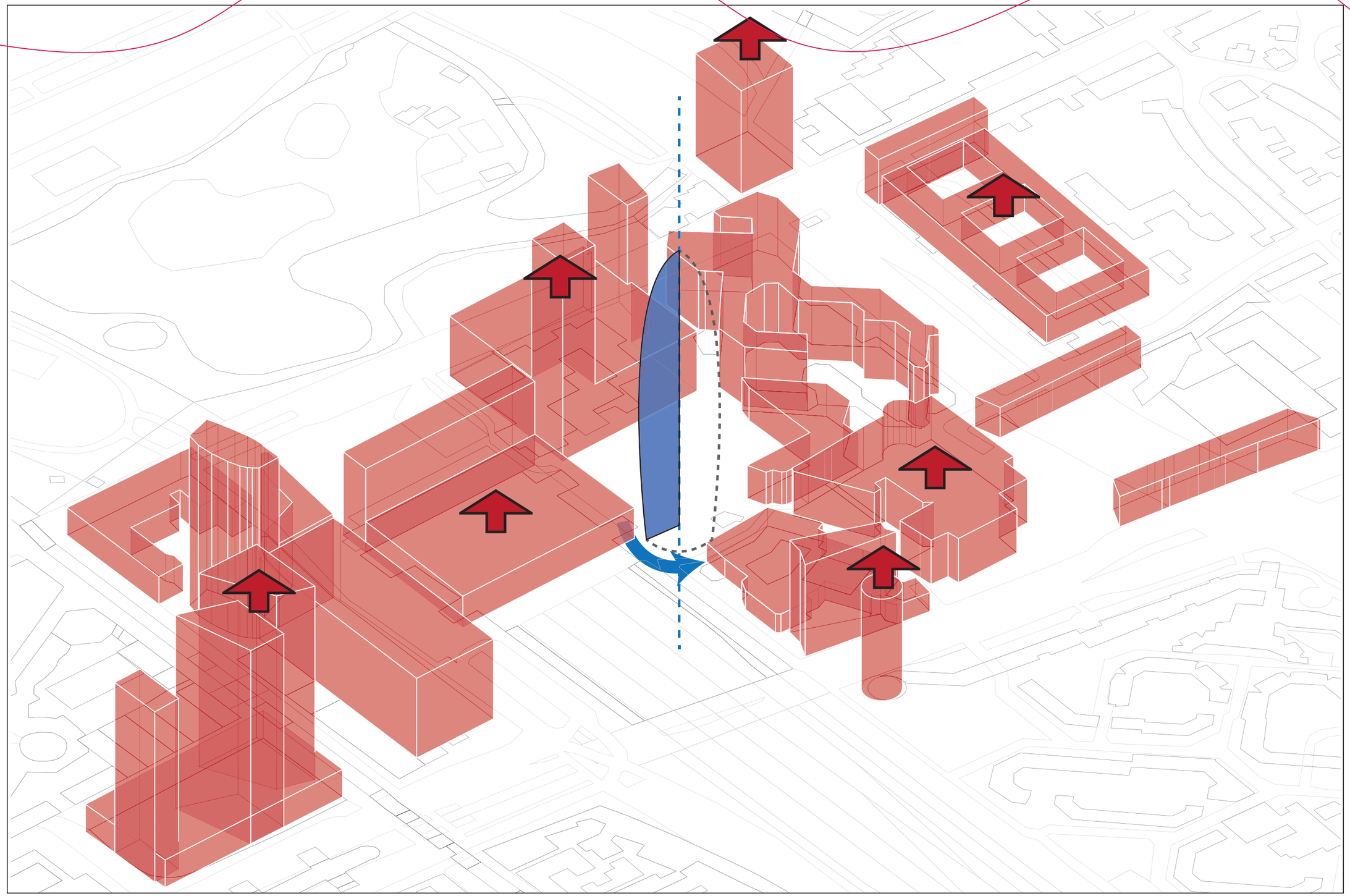


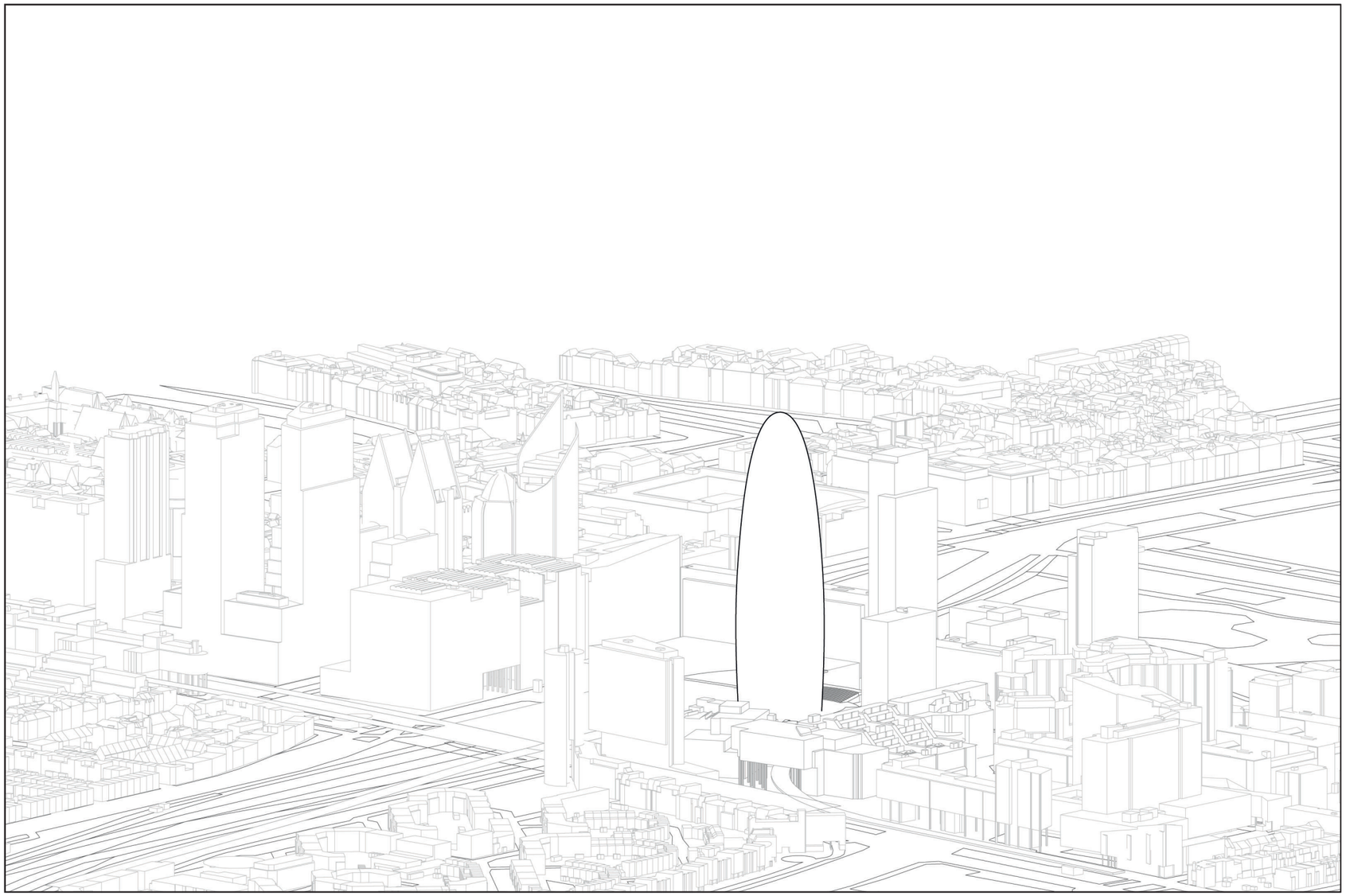
“RISING UP”

“RISING UP”

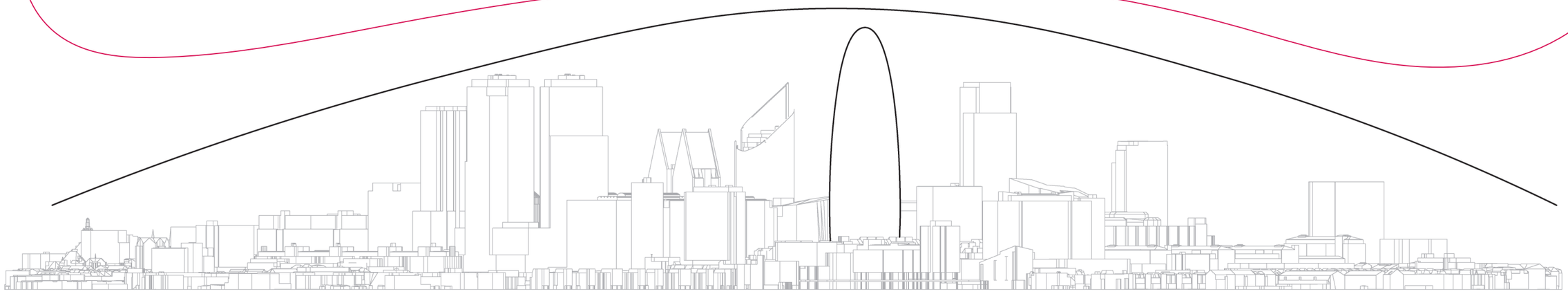


TECTONINCS



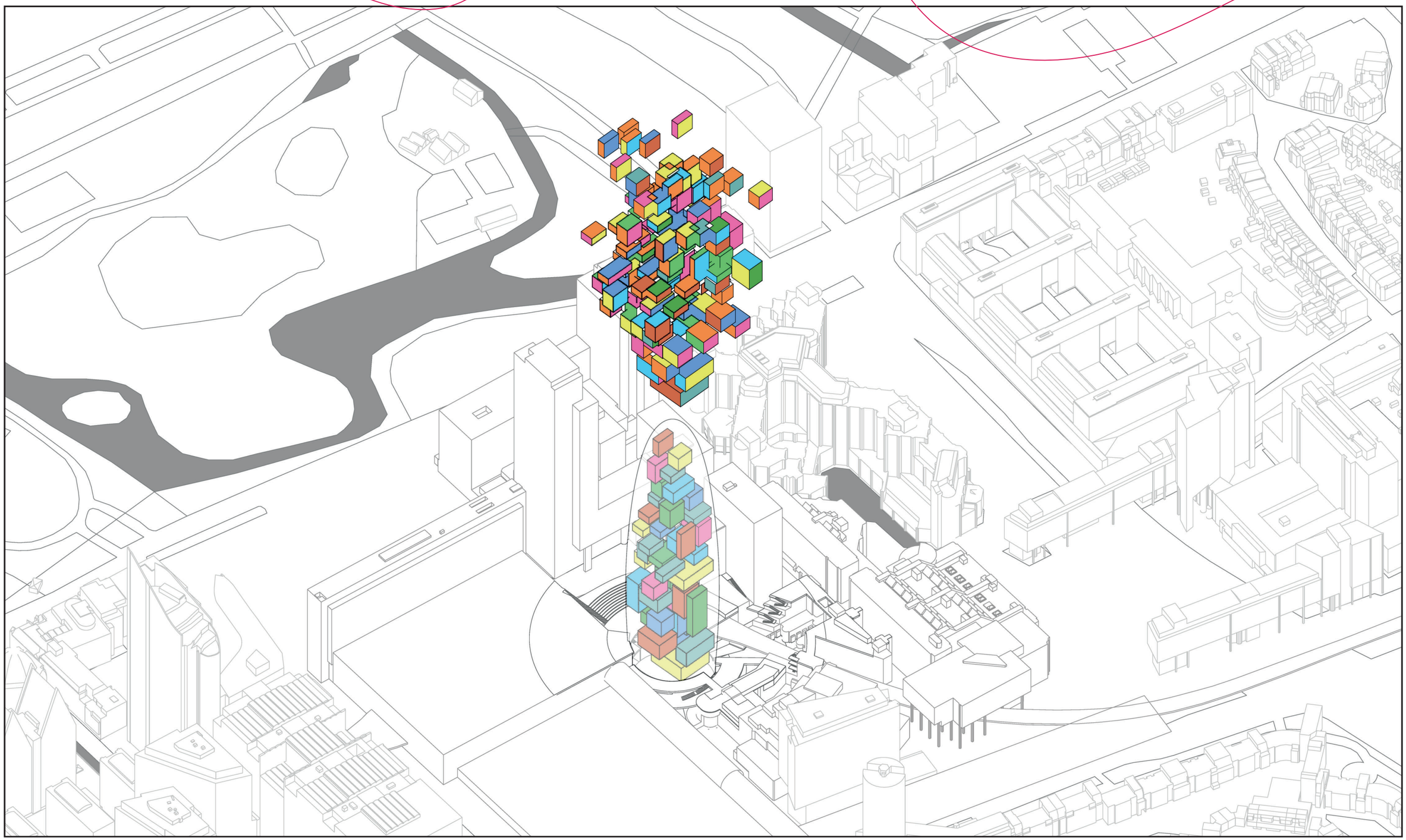


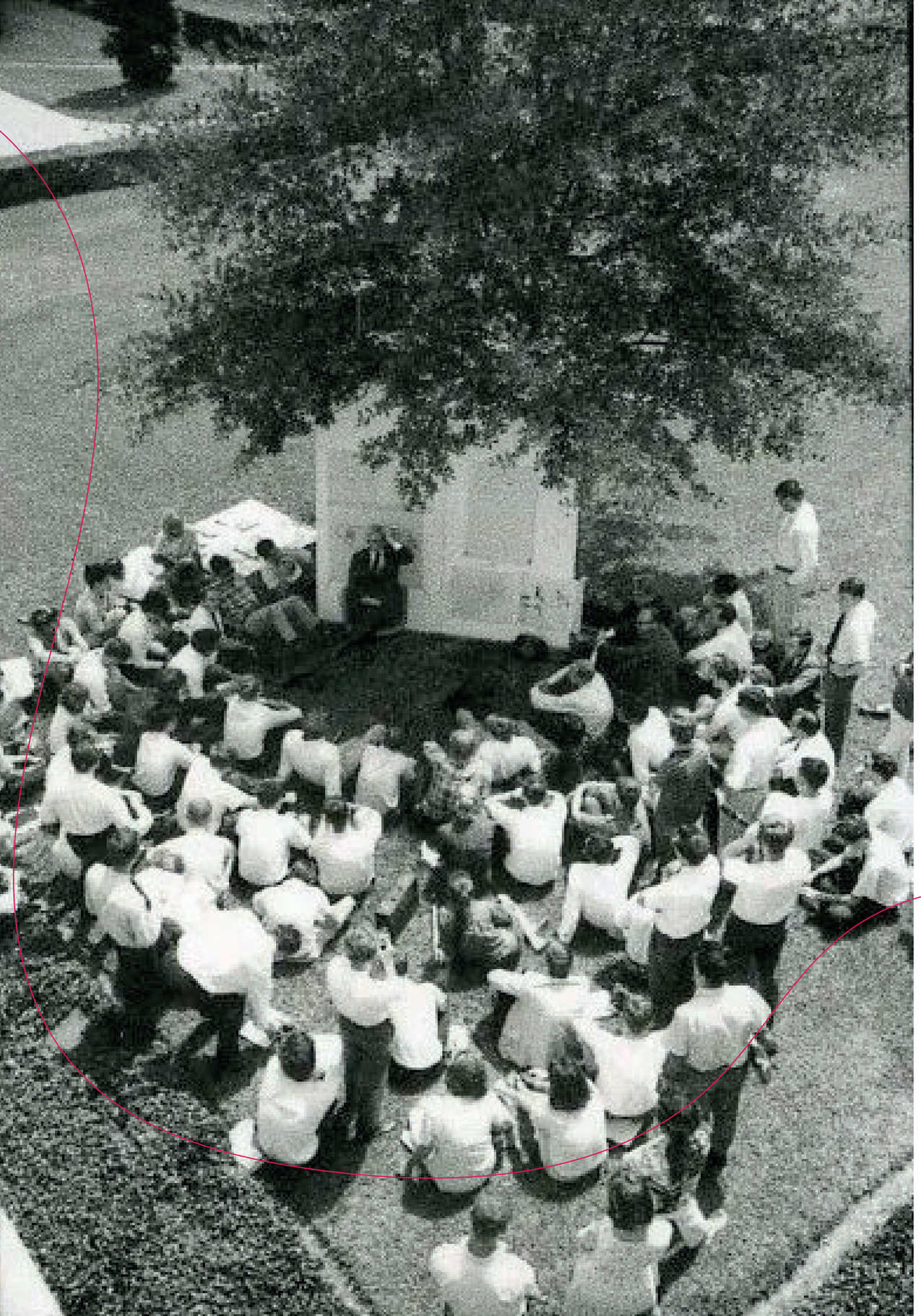
SCALE



THE INSTITUTION OF KNOWLEDGE

“BIGNESS”



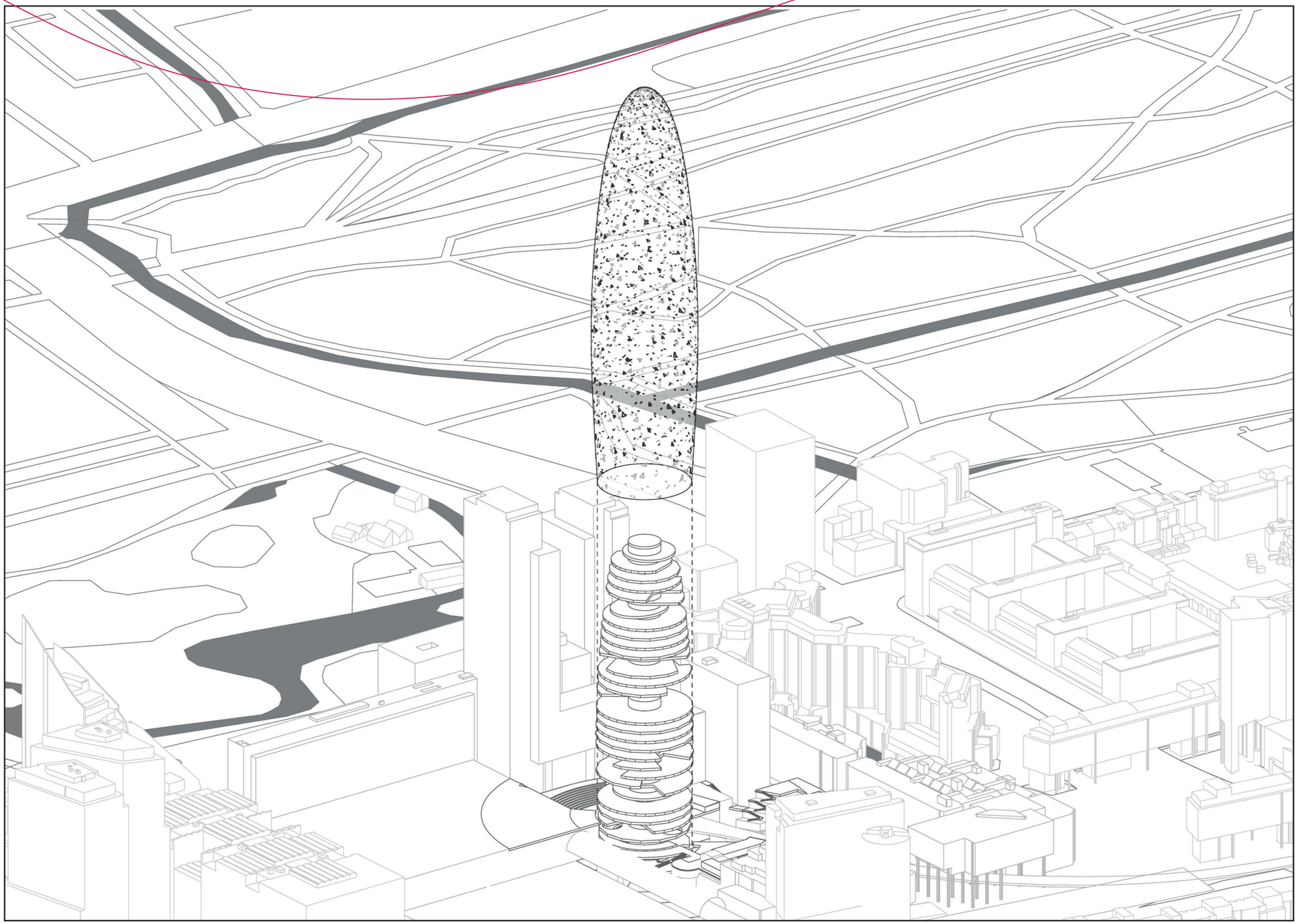


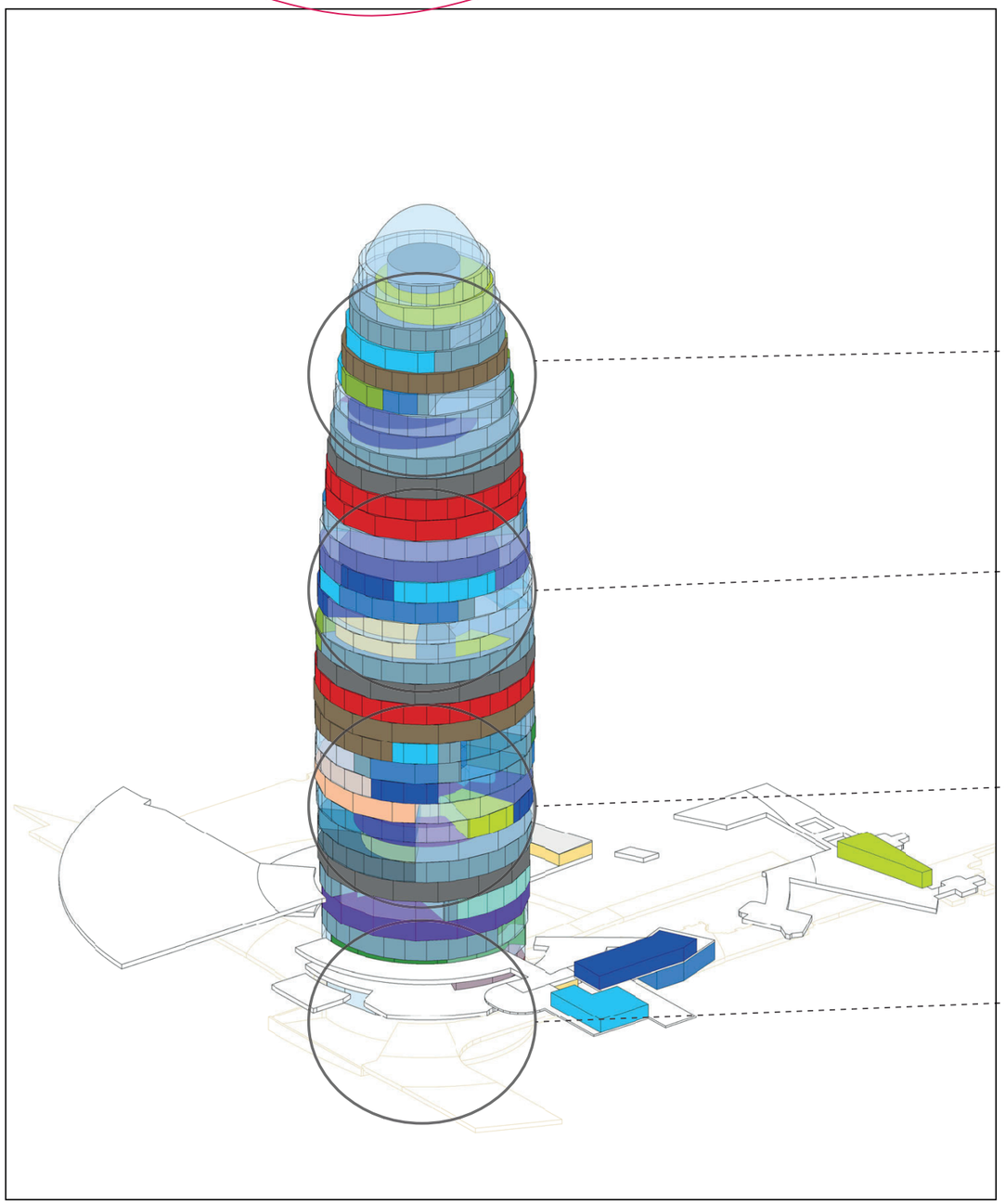
“Schools began with a man under a tree,
who did not know he was a teacher,
discussing his realization with a few,
who did not know they were students.”

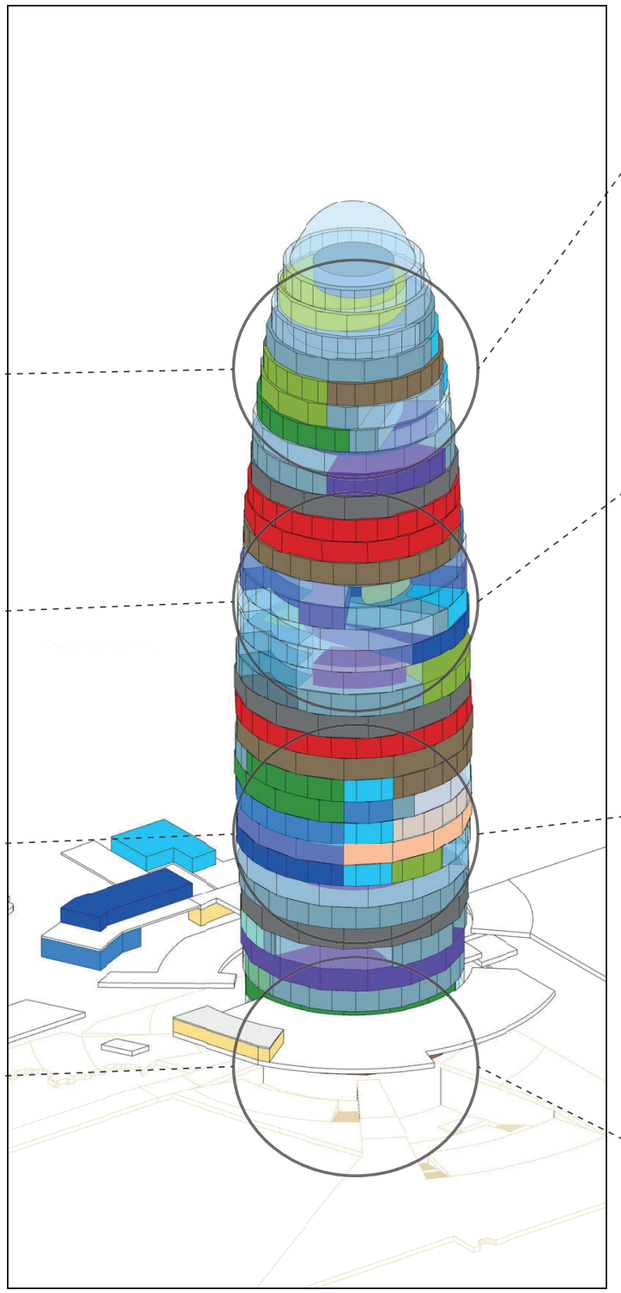
Louis Kahn

Architect Louis Kahn conducting an outdoor seminar at Rice University,1967.

AN OPEN SHELTER

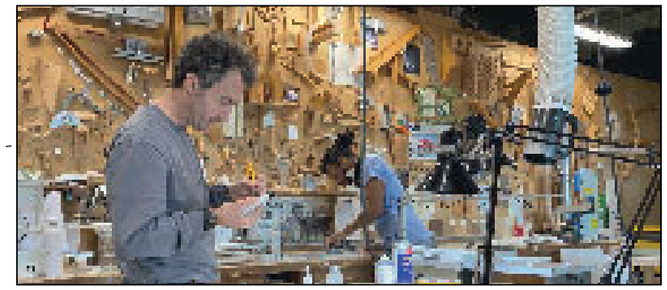






GENERAL LEARNING

VIRTUALITY

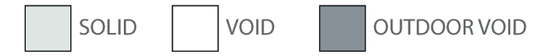


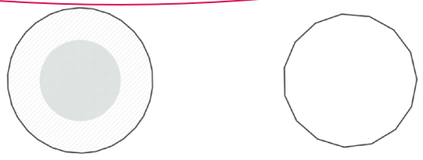
LEARN-BY-DOING

LOWER URBAN LAYERS

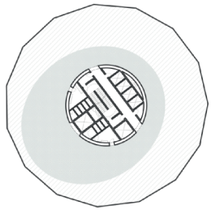
CAFE AND LOUNGES
COMMERCIAL SPACES
PLAYING CHILDREN
RESEARCH
THEATER
VIRTUAL CENTER
ENTRANCE HALL
EXHIBITION SPACE
SERVICE-MECHANICAL
SPORTS
DWELLINGS
WORKSHOPS
LIBRARY AND MEDIA
OFFICE
STUDIO
TEACHING

SPATIAL HYBRIDITY




Level 36

Level 37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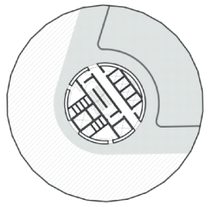
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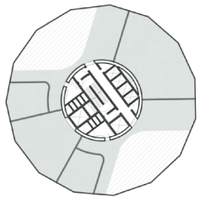
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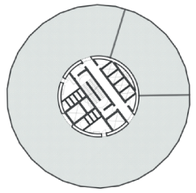
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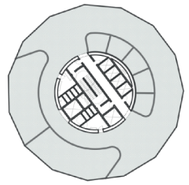
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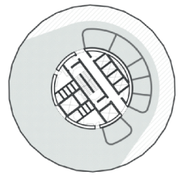
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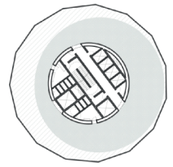
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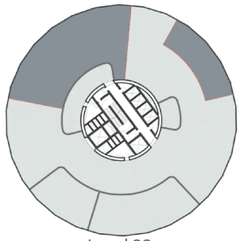
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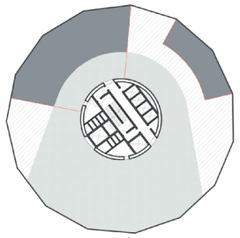
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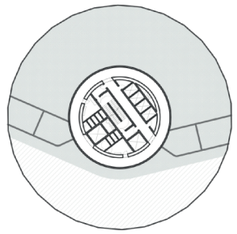
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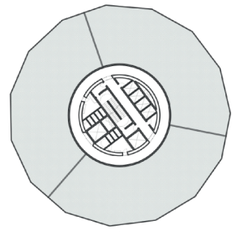
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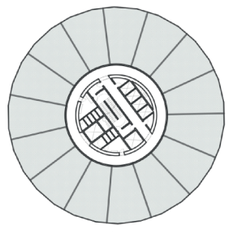
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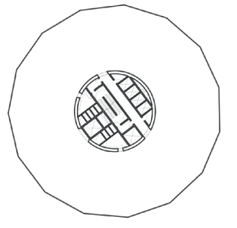
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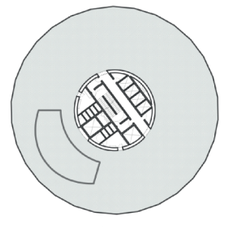
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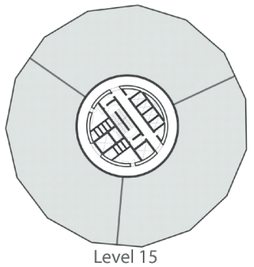
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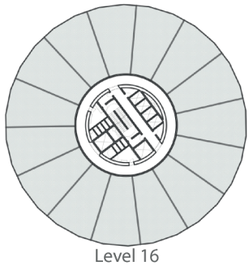
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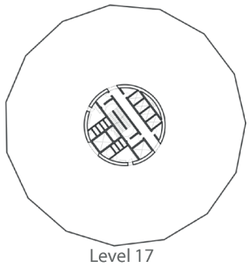
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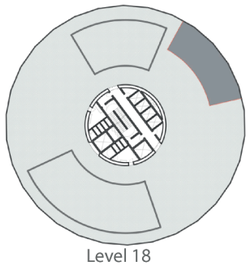
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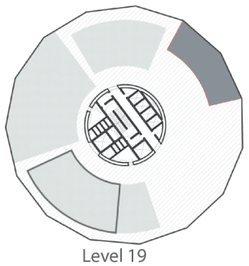
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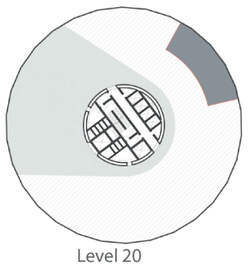
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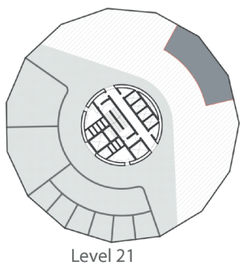
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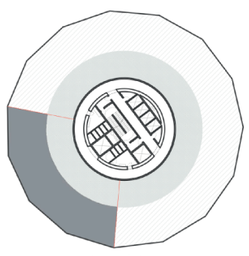
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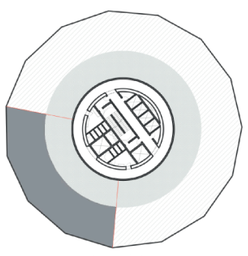
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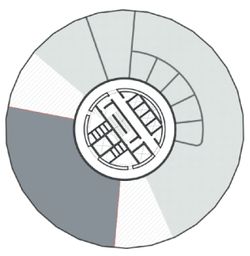
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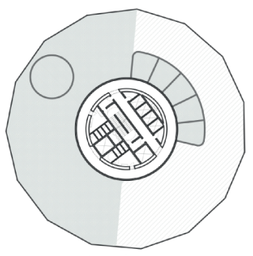
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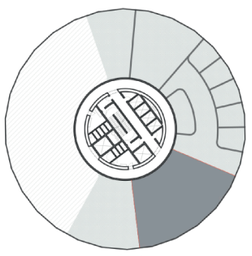
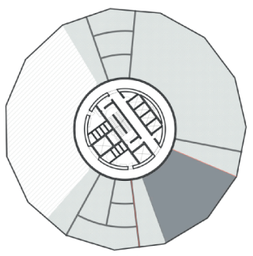

Level 12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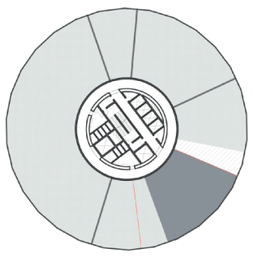
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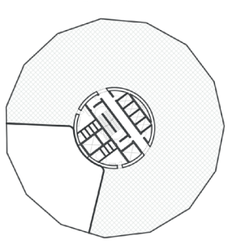
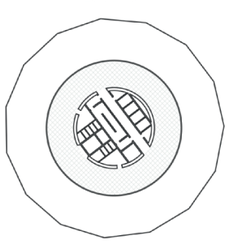

Level 1 - Ground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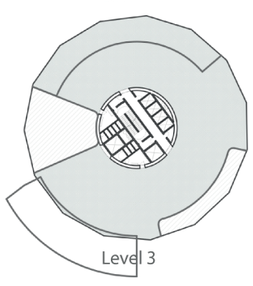
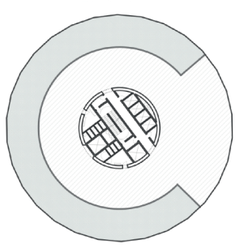
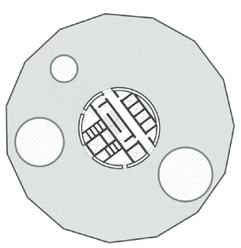

Level 3


Level 4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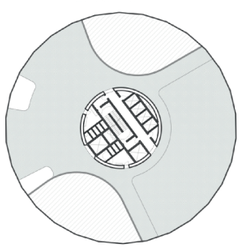
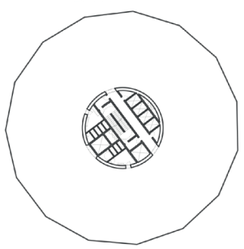
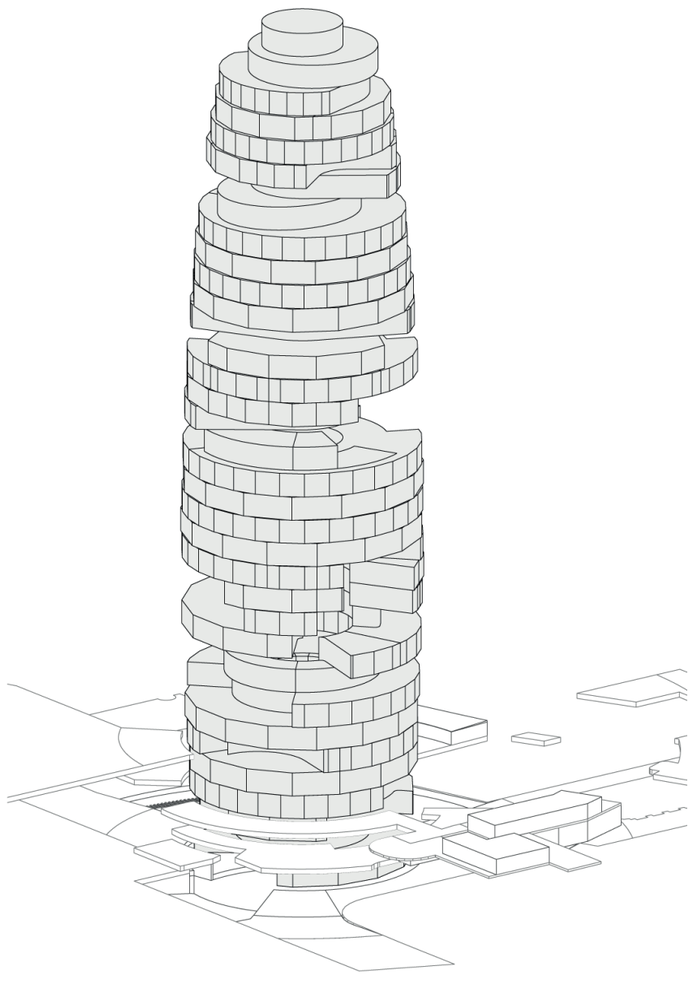
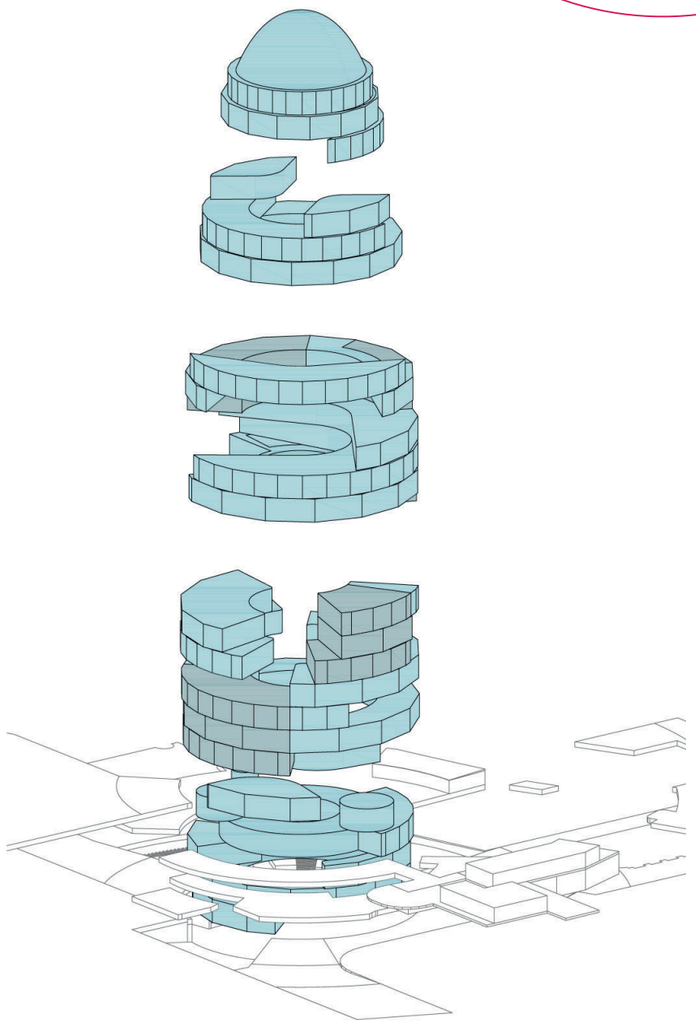
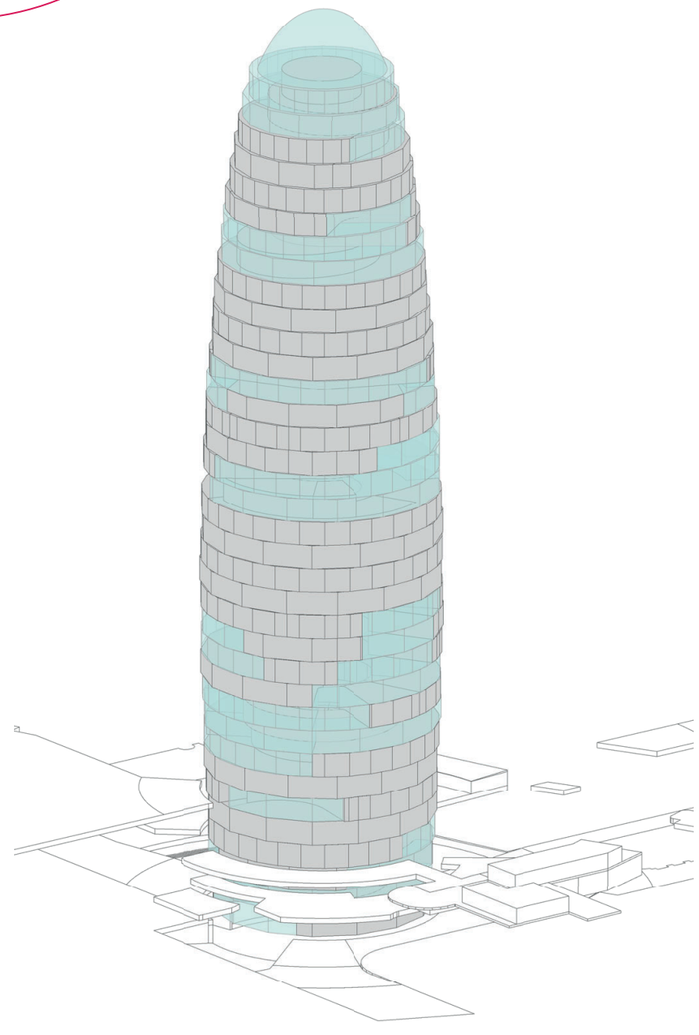

Level 6


Level 7

THE VOID AS A CONNECTIONG MEANS







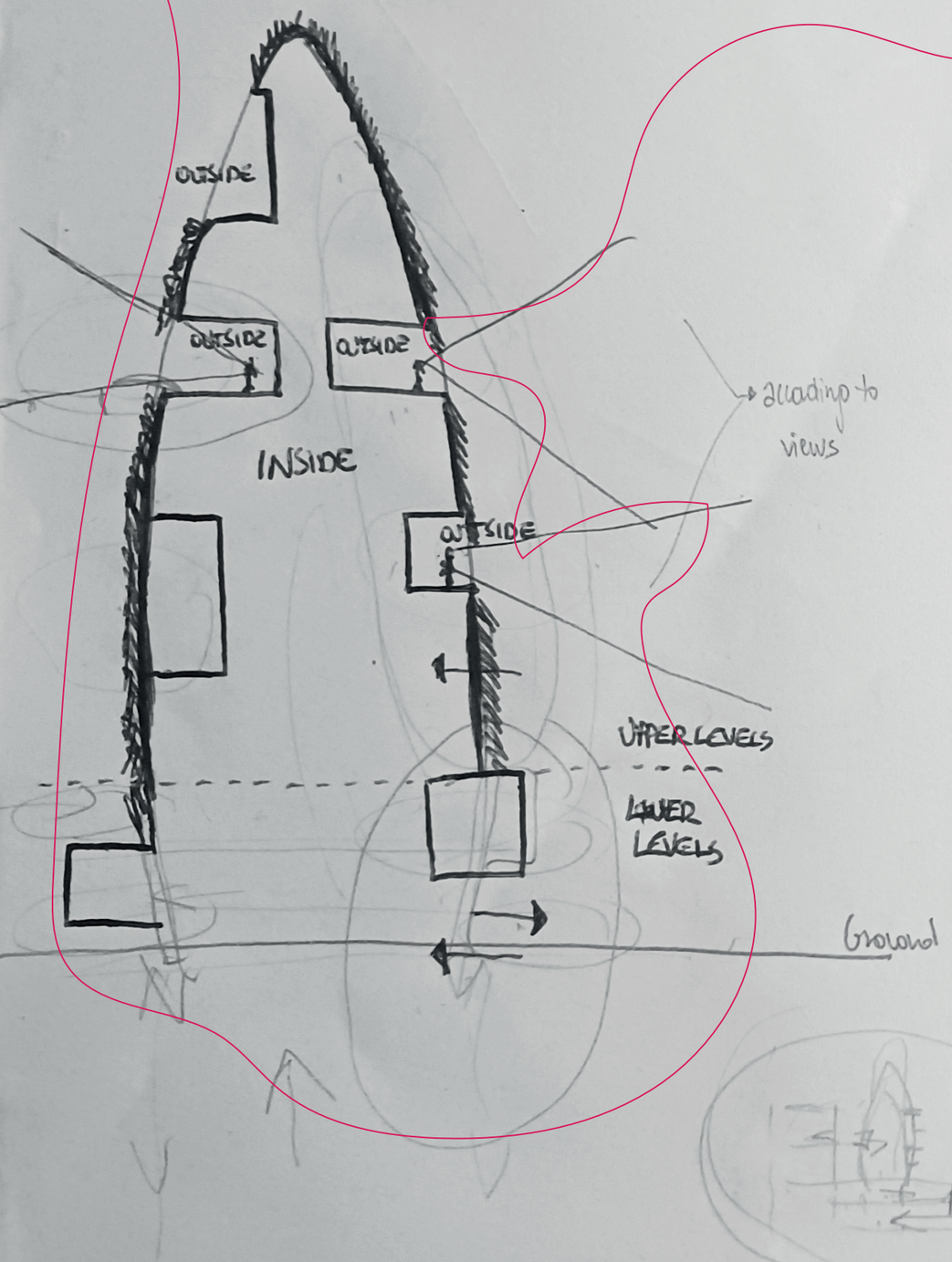
- Shade
- Porosity / depth
- Identity (leaves)

"To be outside at higher levels"

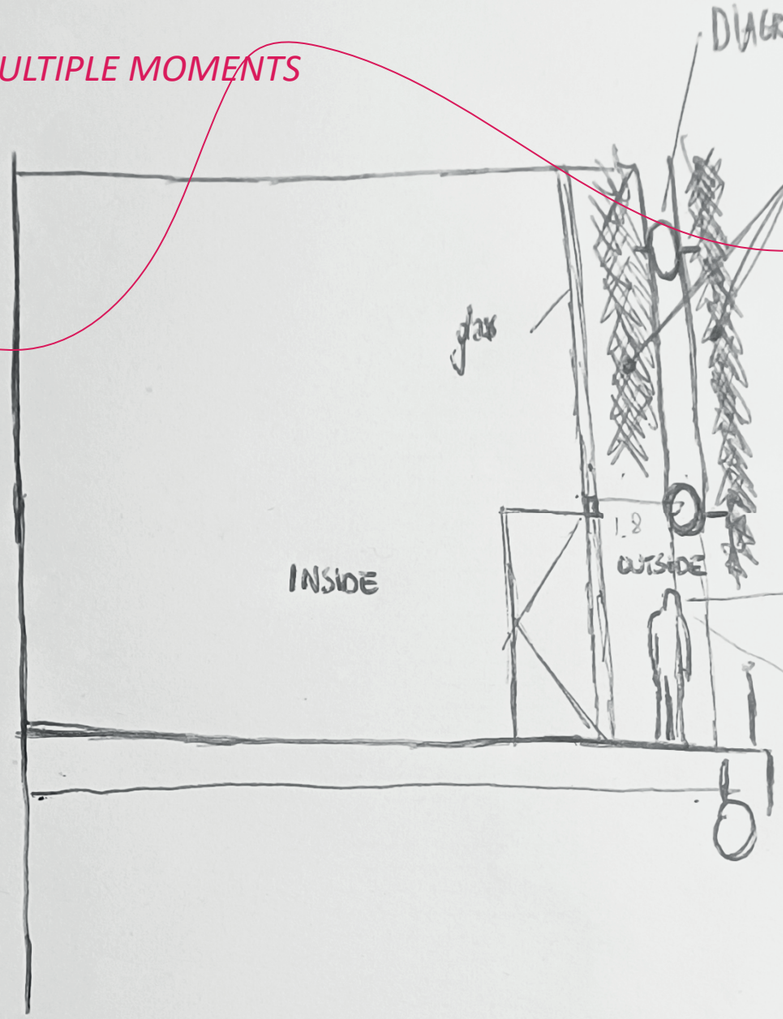
Black between (21/05 - 21/08)

AN INTERPLAY OF MULTIPLE MOMENTS

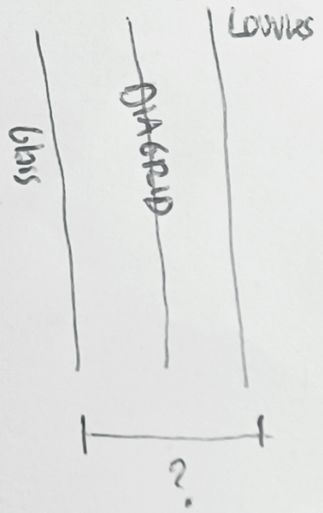
"Porosity", permeability, borderless

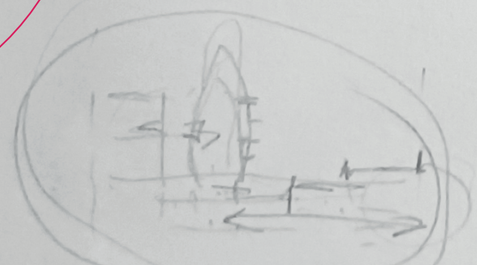


leading to views

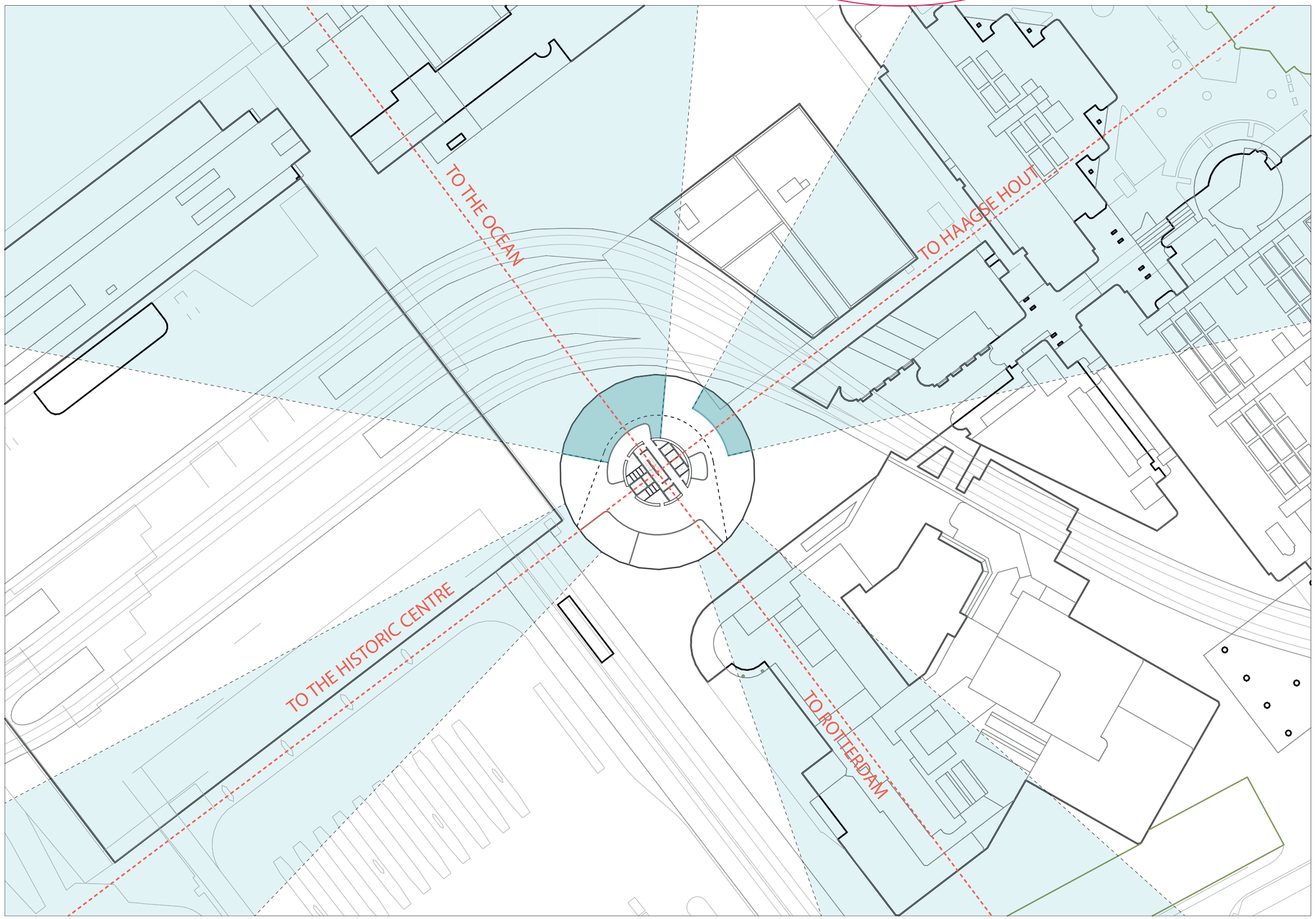


LAYERS:

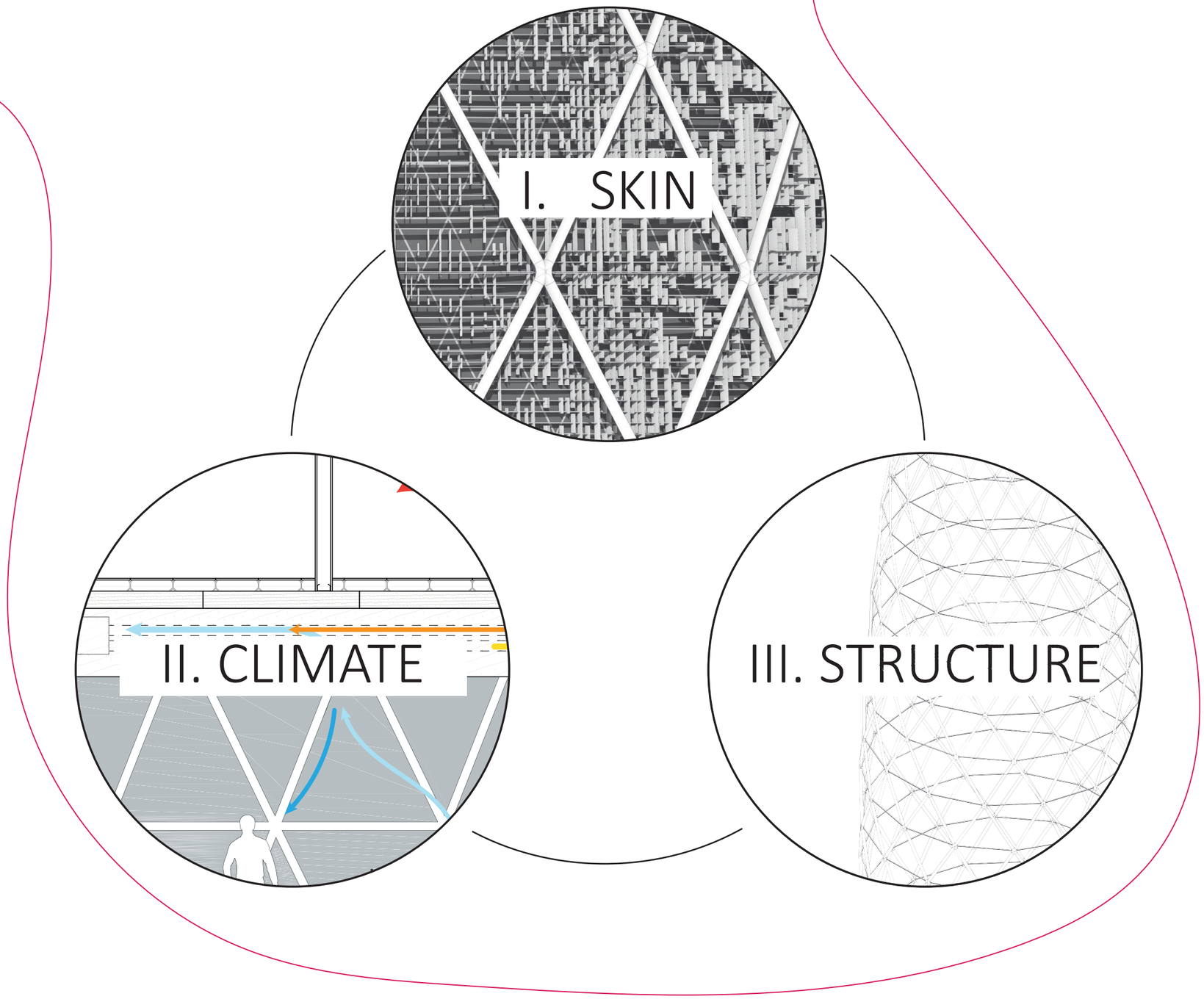




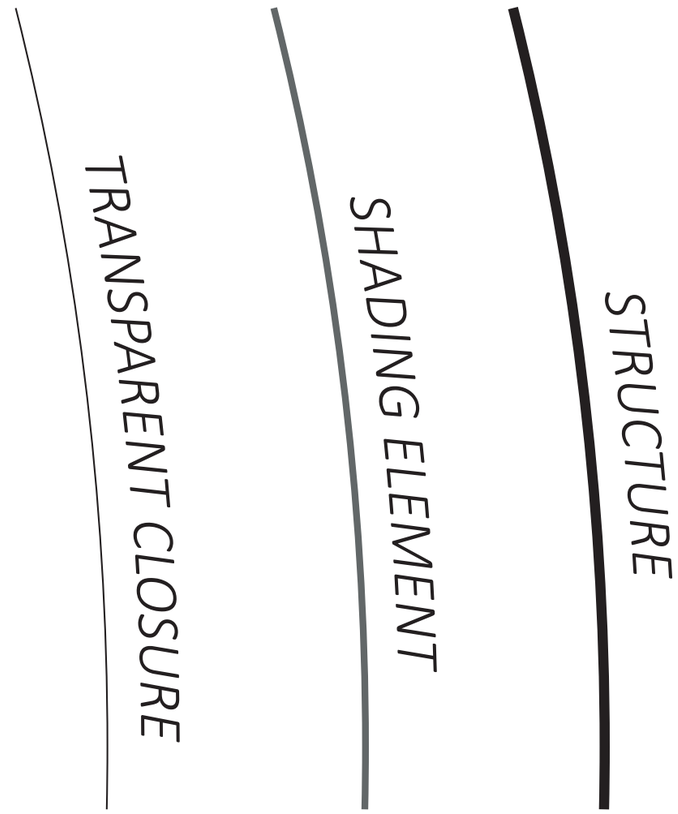
CONTEXTUAL VISUAL CONNECTION



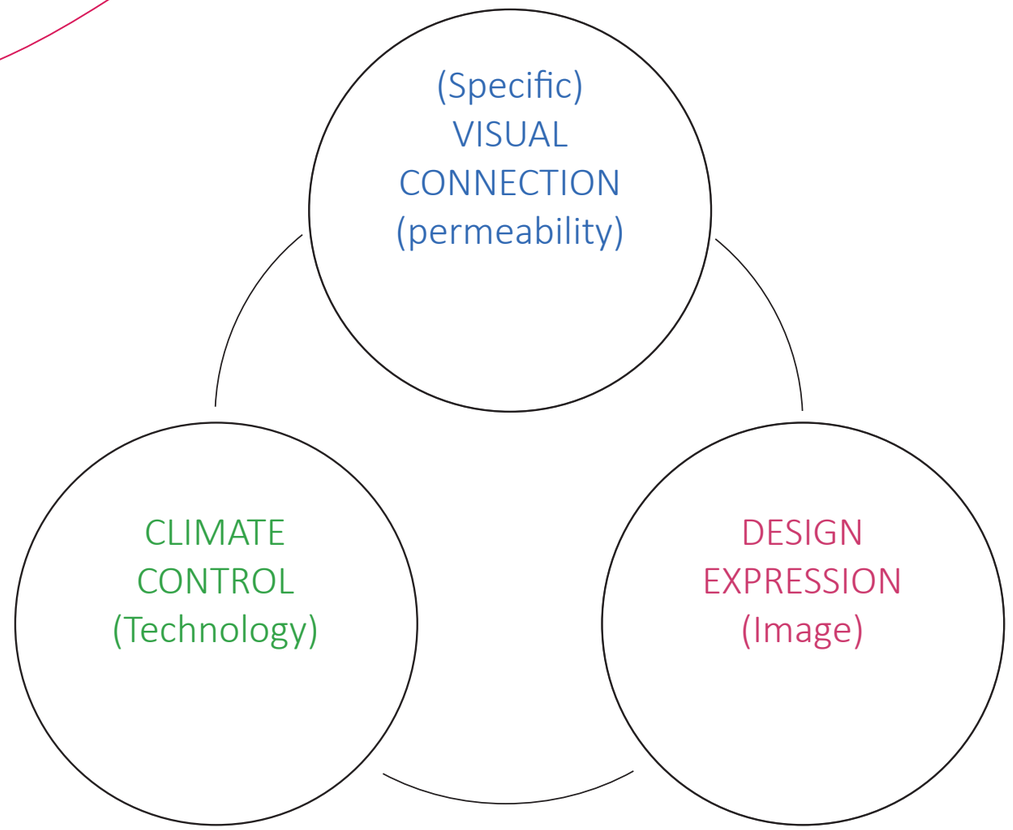
A “HOLY TRINITY” OF SUSTAINABILITY



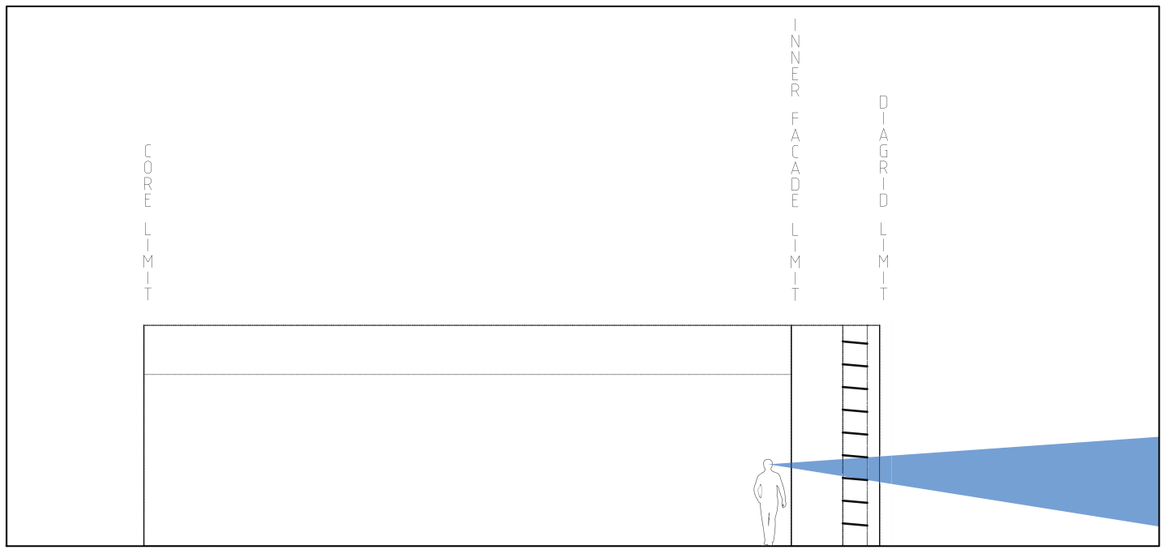
the THREE-FOLD NATURE OF THE BOUNDARY:

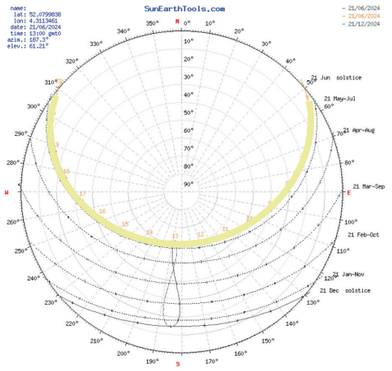


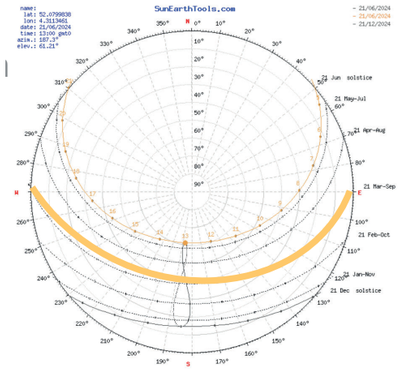
OBJECTIVES

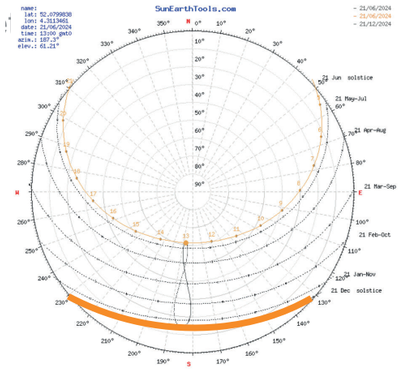


VISIBILITY AND SHADING PROPERTIES







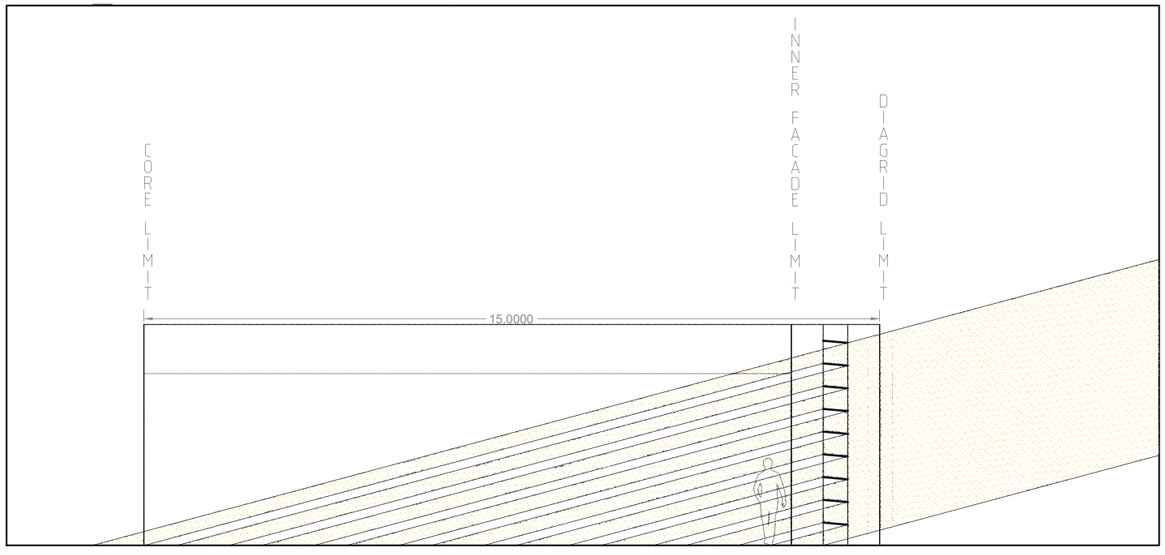


	January	February	March	April	May	June	July	August	September	October	November	December
Avg. Temperature °C (°F)	4.4 °C (39.9) °F	4.3 °C (39.8) °F	6.3 °C (43.3) °F	9.5 °C (49.1) °F	12.9 °C (55.3) °F	15.7 °C (60.3) °F	17.9 °C (64.3) °F	17.9 °C (64.2) °F	15.8 °C (60.4) °F	12.3 °C (54.1) °F	8.3 °C (47) °F	5.4 °C (41.7) °F
Min. Temperature °C (°F)	2.6 °C (36.7) °F	2.2 °C (35.9) °F	3.6 °C (38.5) °F	6.3 °C (43.3) °F	9.8 °C (49.6) °F	12.6 °C (54.6) °F	15 °C (58.9) °F	15.1 °C (59.1) °F	13.2 °C (55.8) °F	10 °C (50.1) °F	6.5 °C (43.7) °F	3.7 °C (38.7) °F
Max. Temperature °C (°F)	6.2 °C (43.1) °F	6.5 °C (43.7) °F	9 °C (48.2) °F	12.7 °C (54.8) °F	15.9 °C (60.6) °F	18.6 °C (65.5) °F	20.7 °C (69.2) °F	20.6 °C (69.1) °F	18.3 °C (65) °F	14.5 °C (58.1) °F	10.1 °C (50.3) °F	7 °C (44.7) °F
Precipitation / Rainfall mm (in)	71 (2)	57 (2)	56 (2)	51 (2)	62 (2)	64 (2)	79 (3)	83 (3)	82 (3)	81 (3)	81 (3)	80 (3)
Humidity(%)	83%	82%	80%	75%	75%	75%	75%	77%	78%	80%	84%	83%
Rainy days (d)	10	9	9	8	9	8	10	10	10	10	11	11
avg. Sun hours (hours)	3.5	4.4	5.8	8.3	9.4	9.9	10.1	9.2	7.1	5.5	3.9	3.3

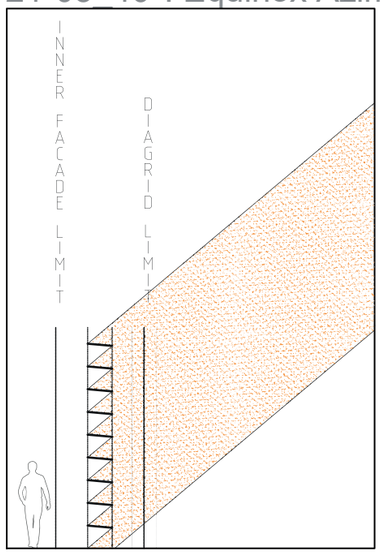
Data: 1991 - 2021 Min. Temperature °C (°F), Max. Temperature °C (°F), Precipitation / Rainfall mm (in), Humidity, Rainy days. Data: 1999 - 2019: avg. Sun hours

Source: SunEarthTools

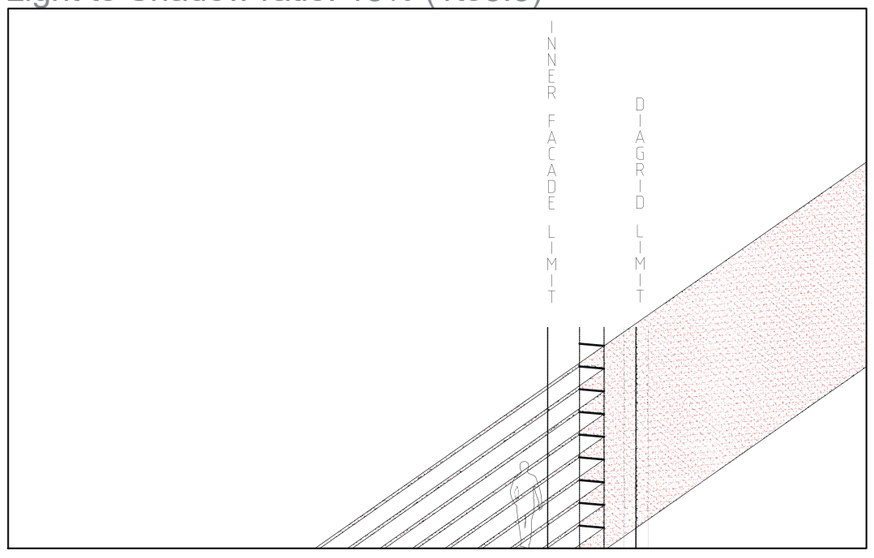
21-06_15°: Winter Solstice Azimut



21-03_40°: Equinox Azimut

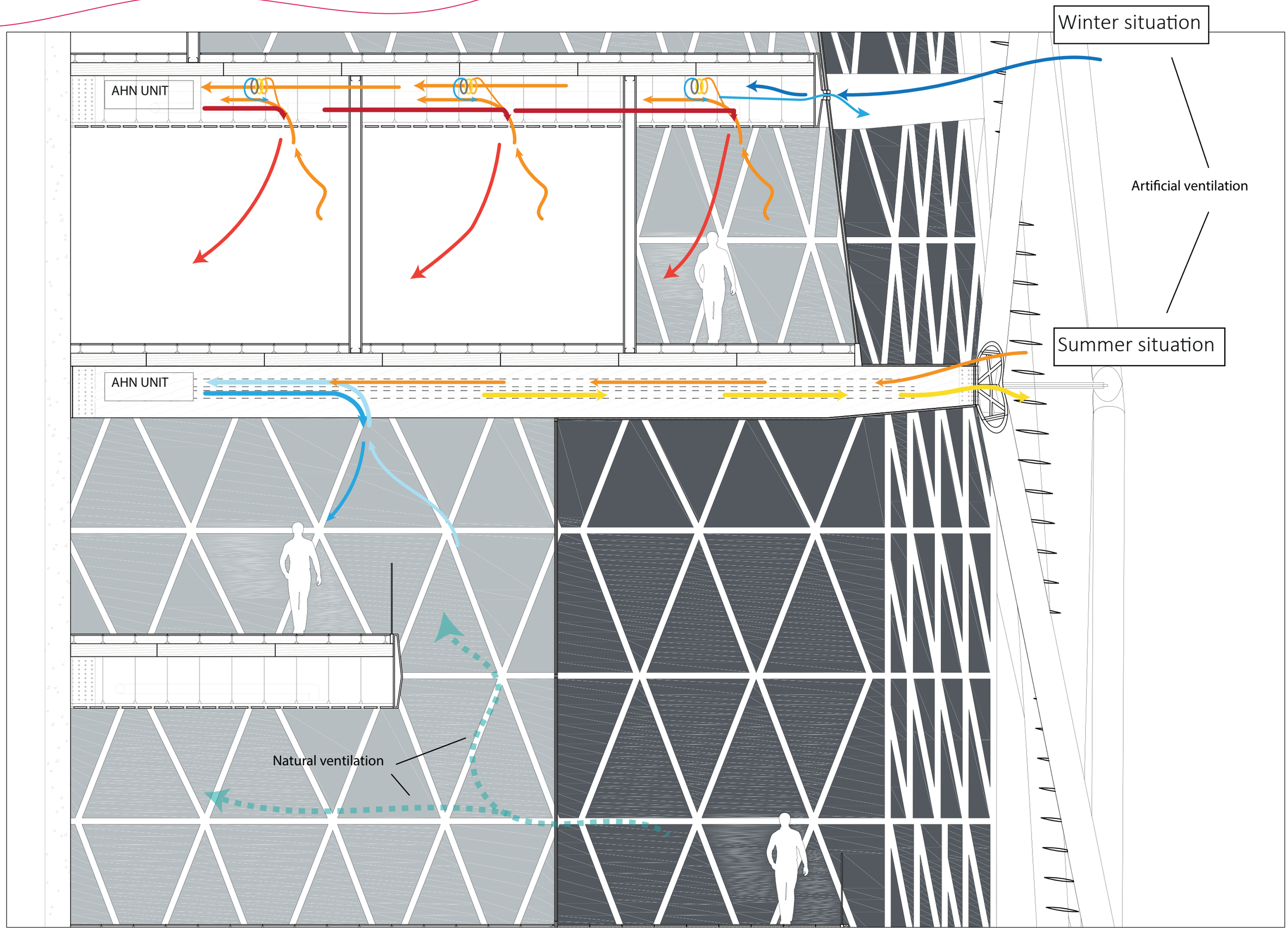


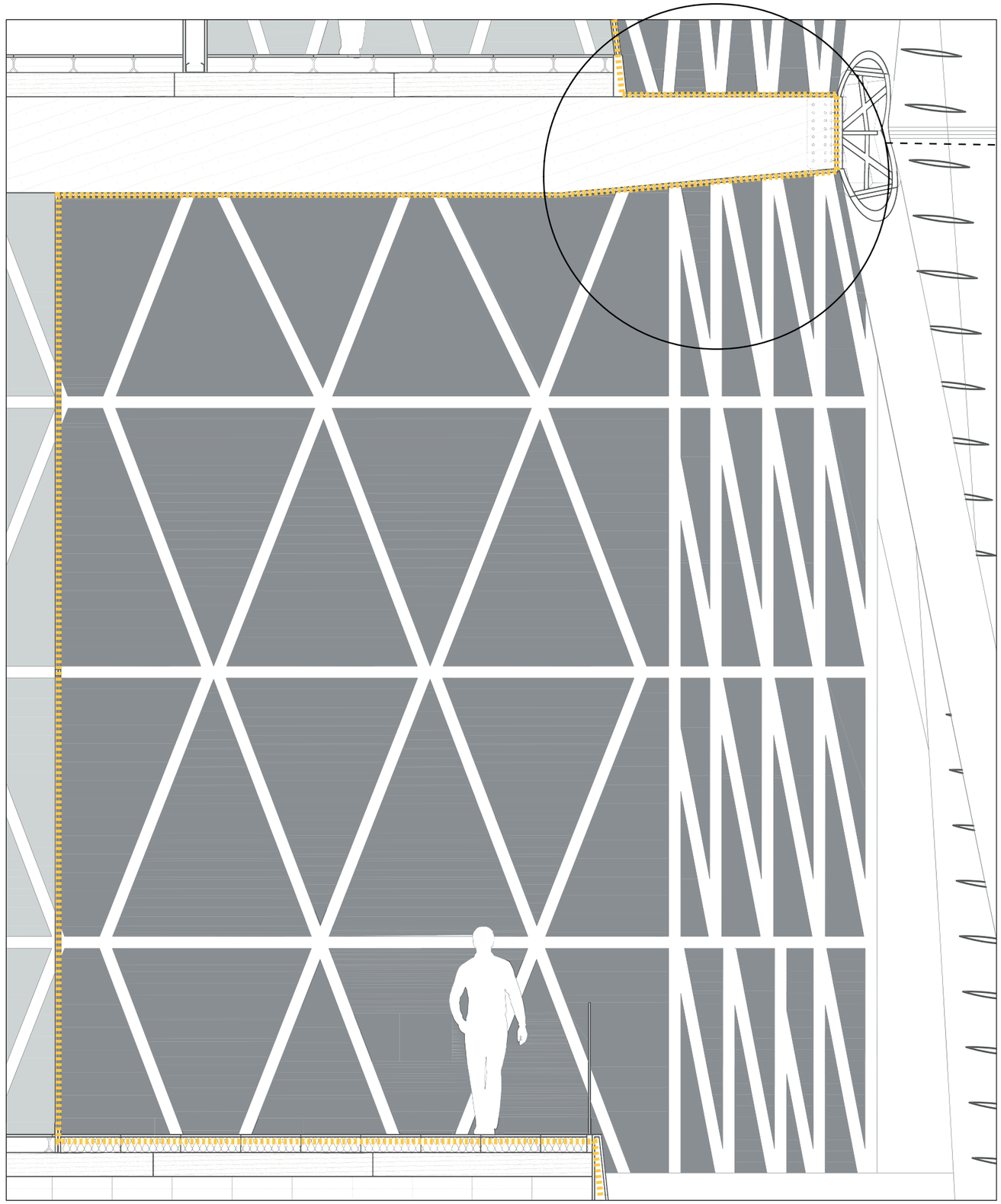
Light to Shadow ratio: 18% (1to5.5)

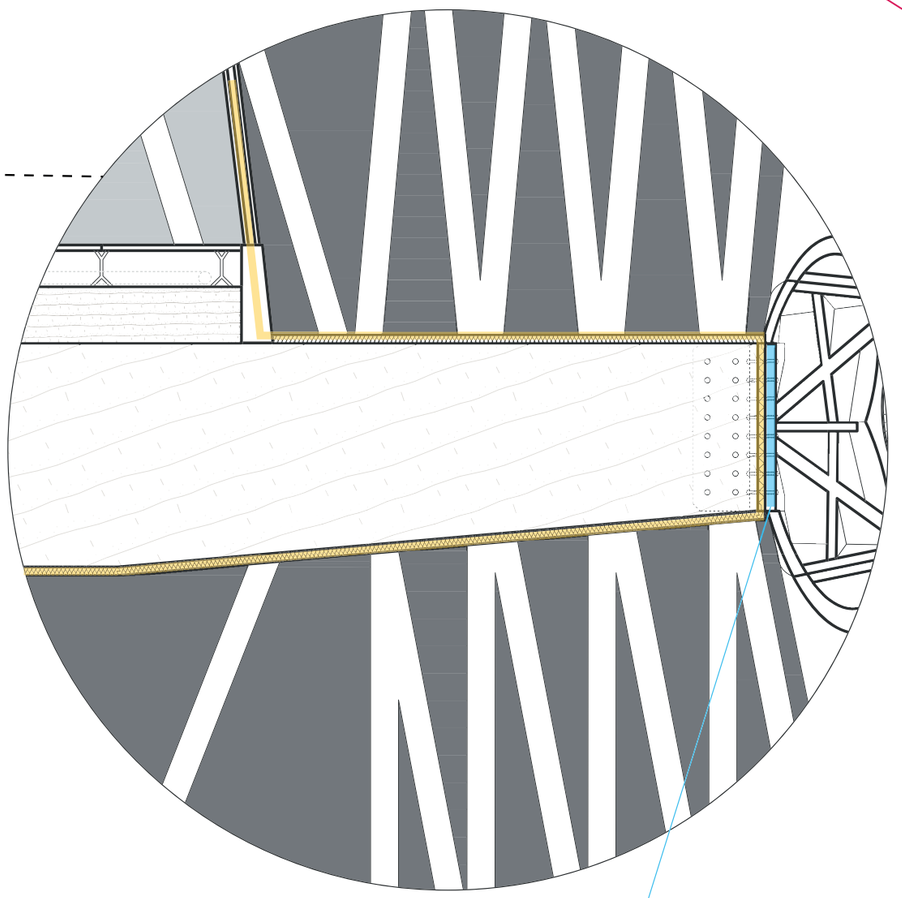


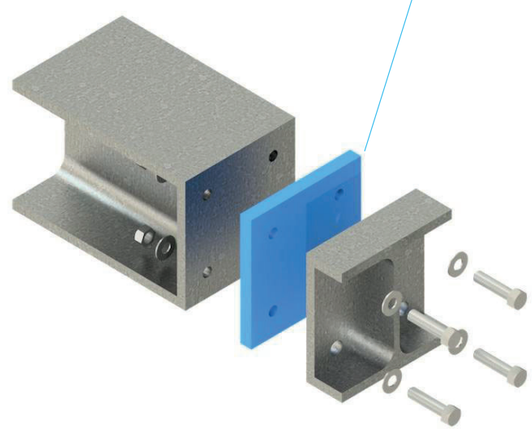
21-06: System offers complete shading between 9:00 and 16:00

CLIMATE SECTION

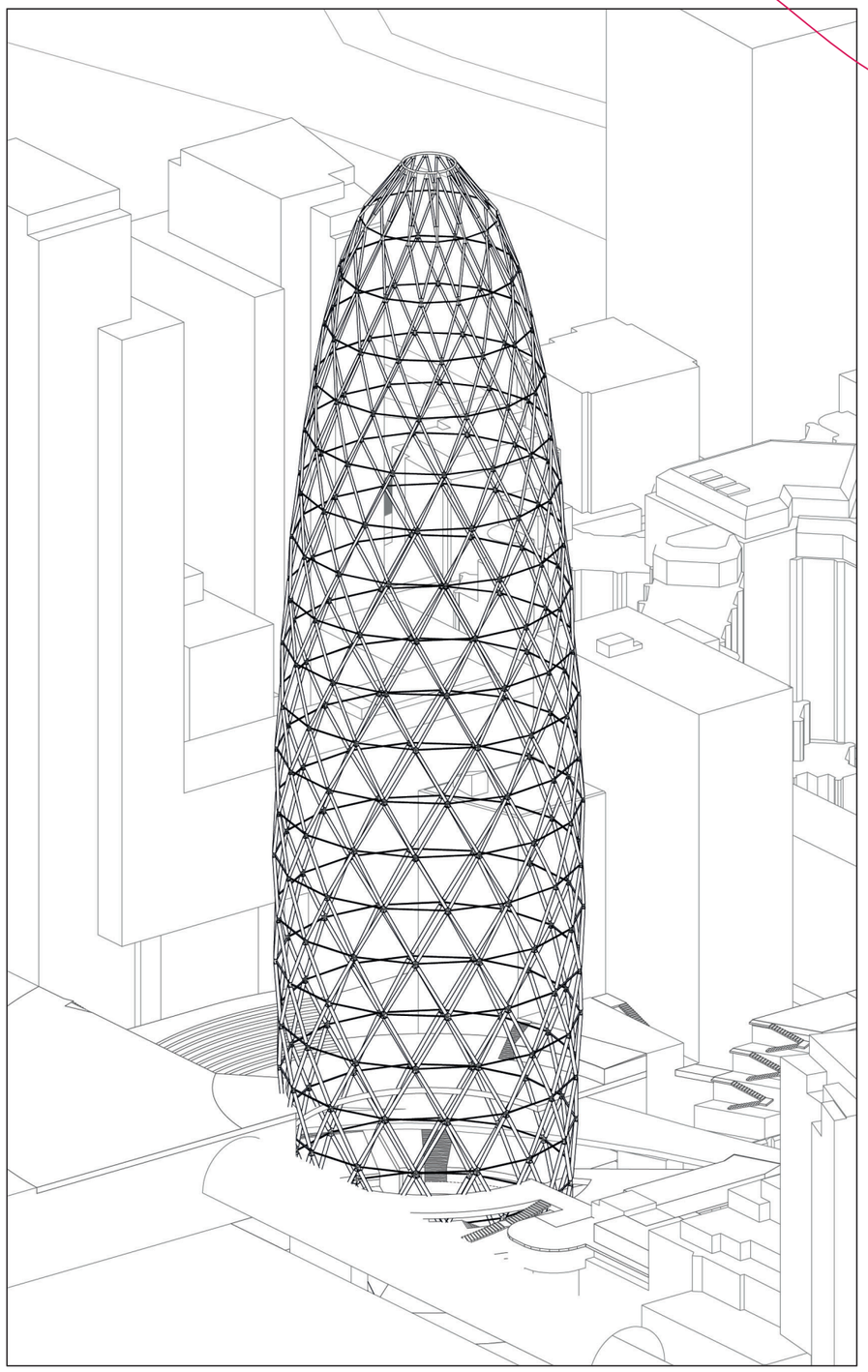


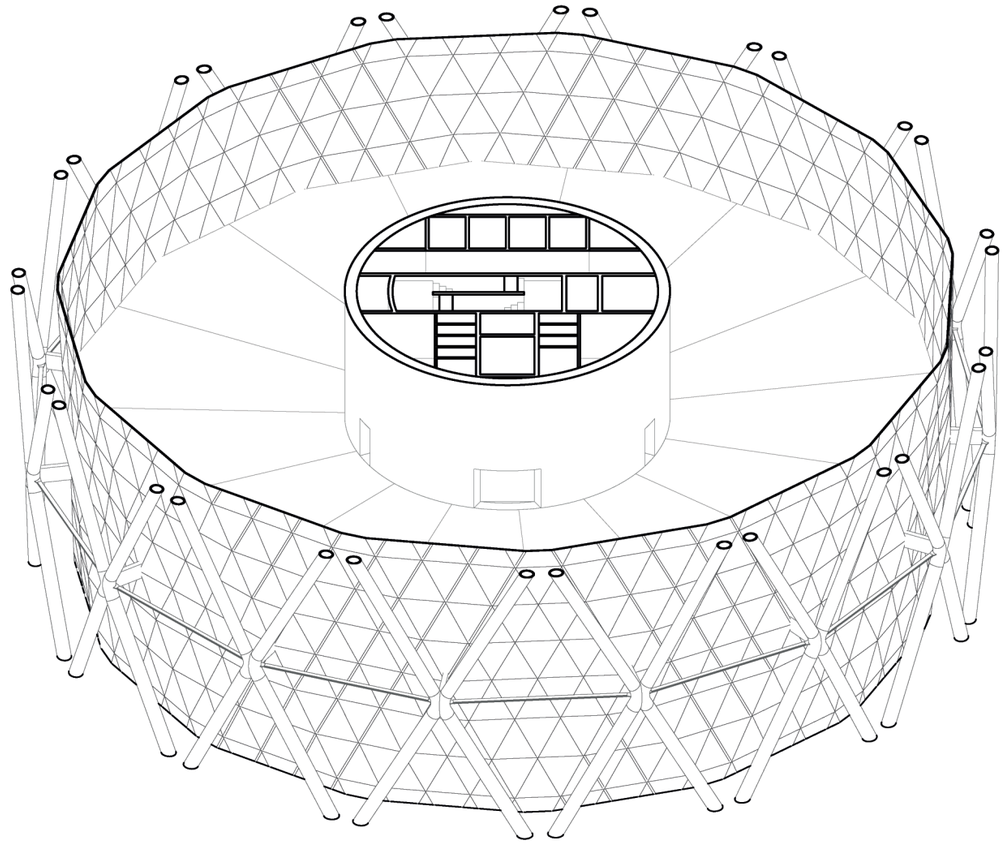




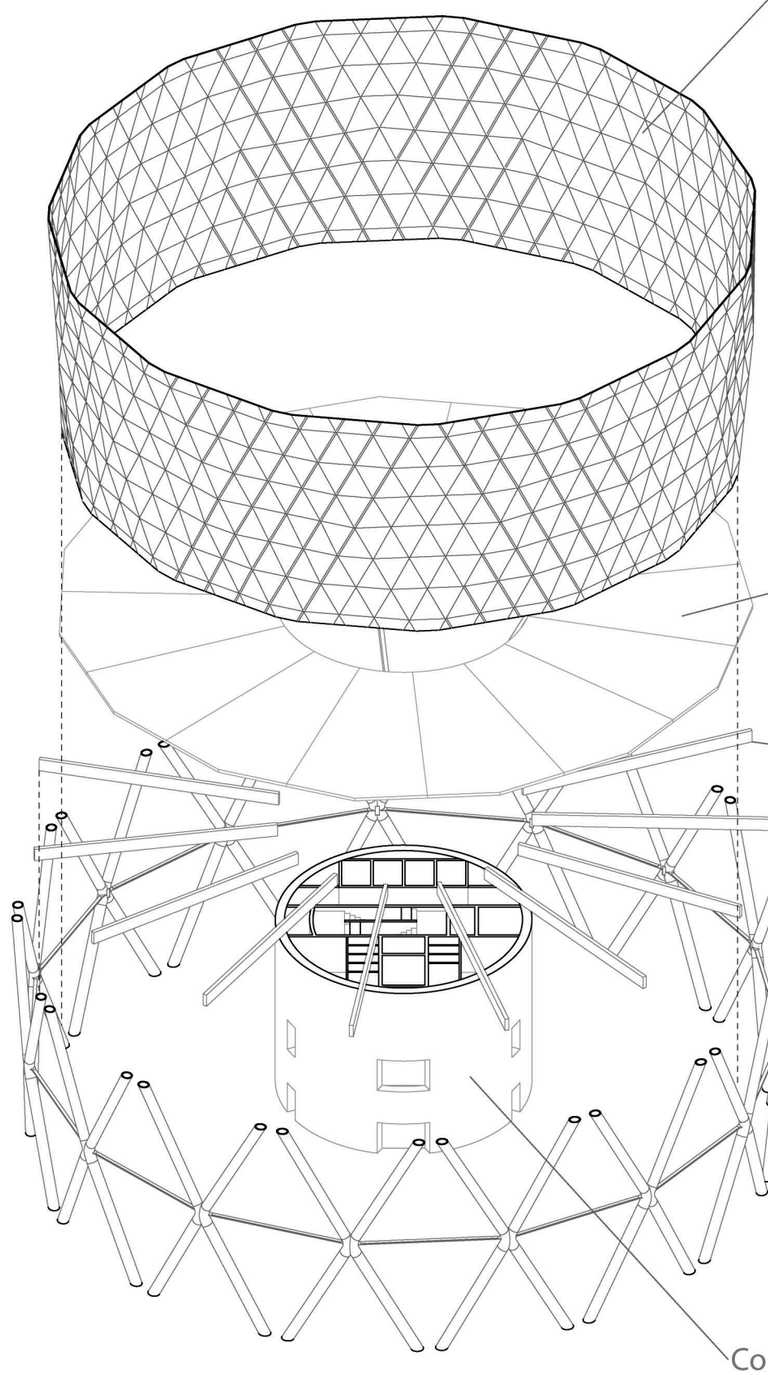


A DURABLE PLATFORM





MATERIALS



Transparent closure - Triple-glazed glass panels

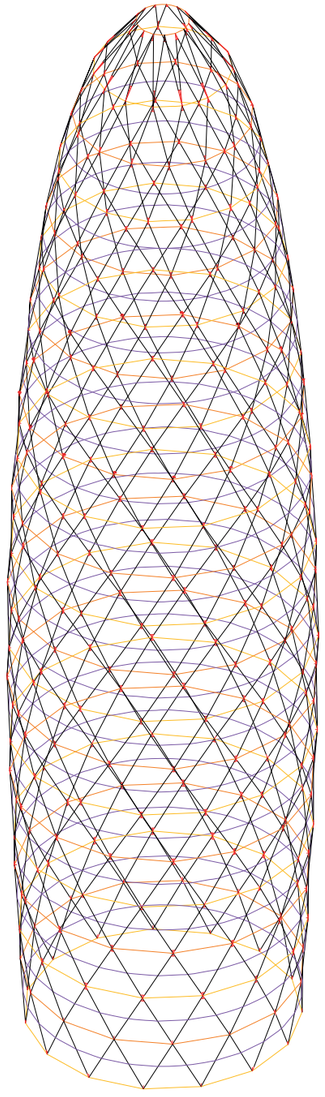
Structural slabs - Cross-lam panels

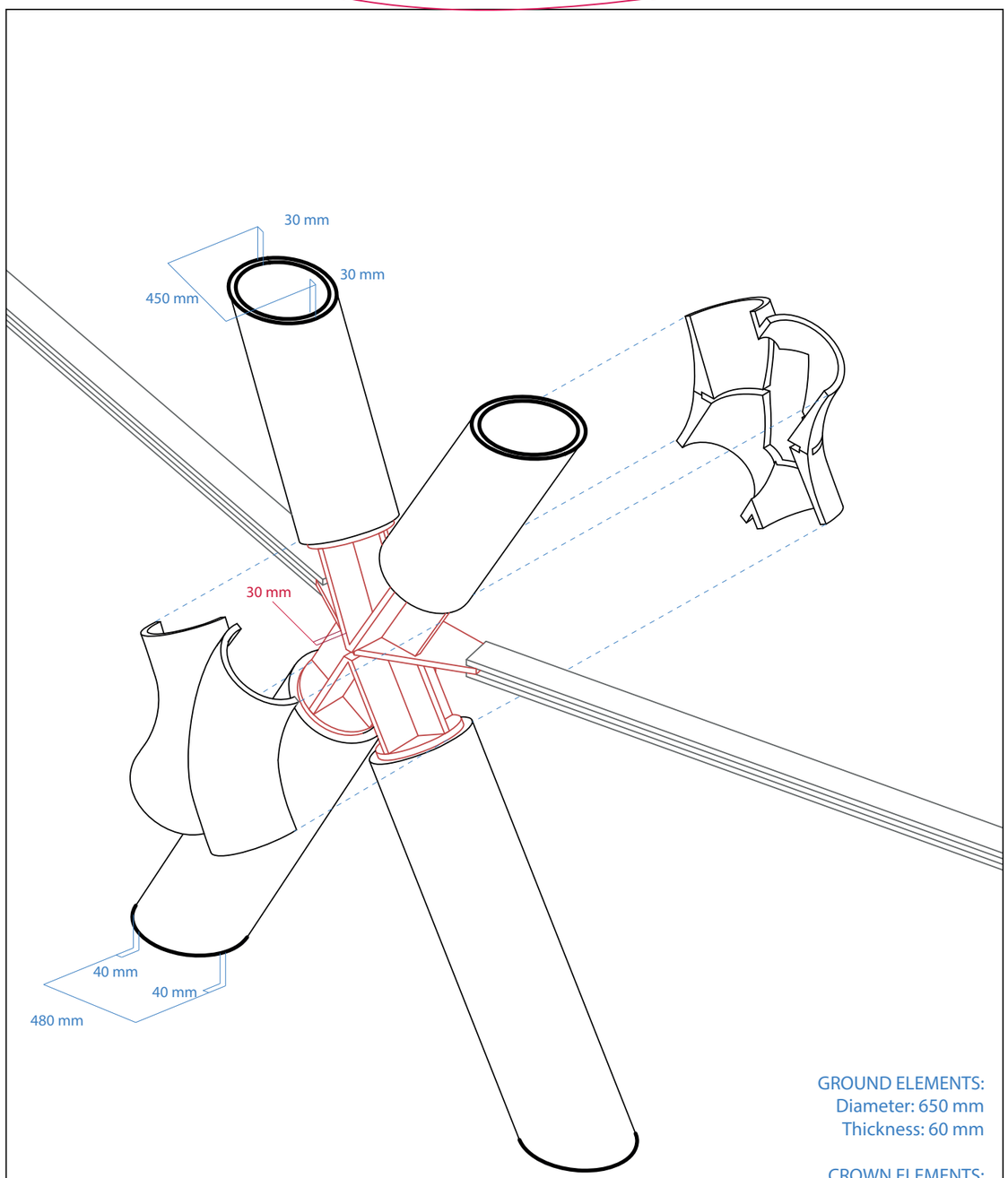
Beams - Glulam timber

Diagrid elements - Structural steel

Core - Concrete *in-situ* pour

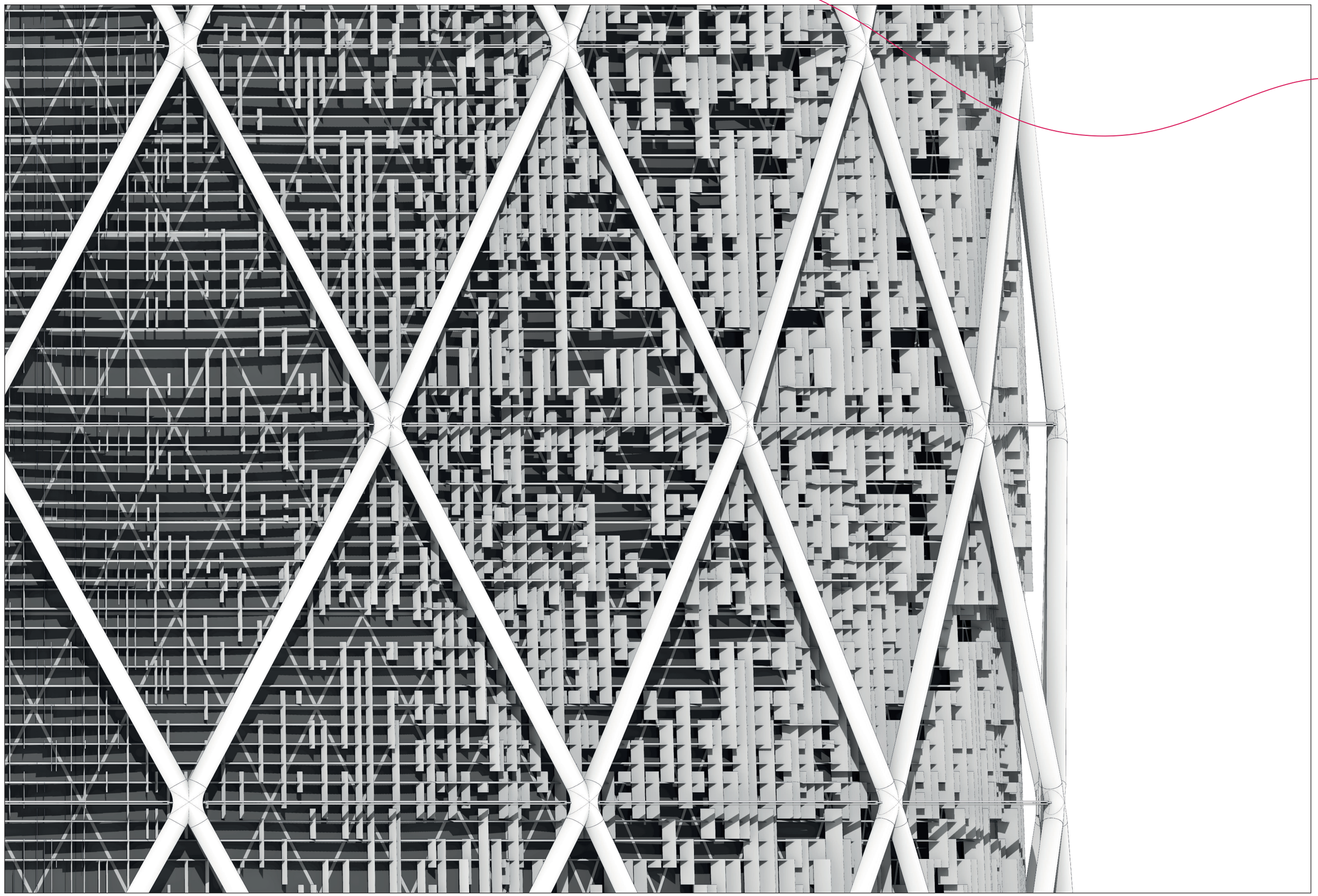
CONSTRUCTABILITY

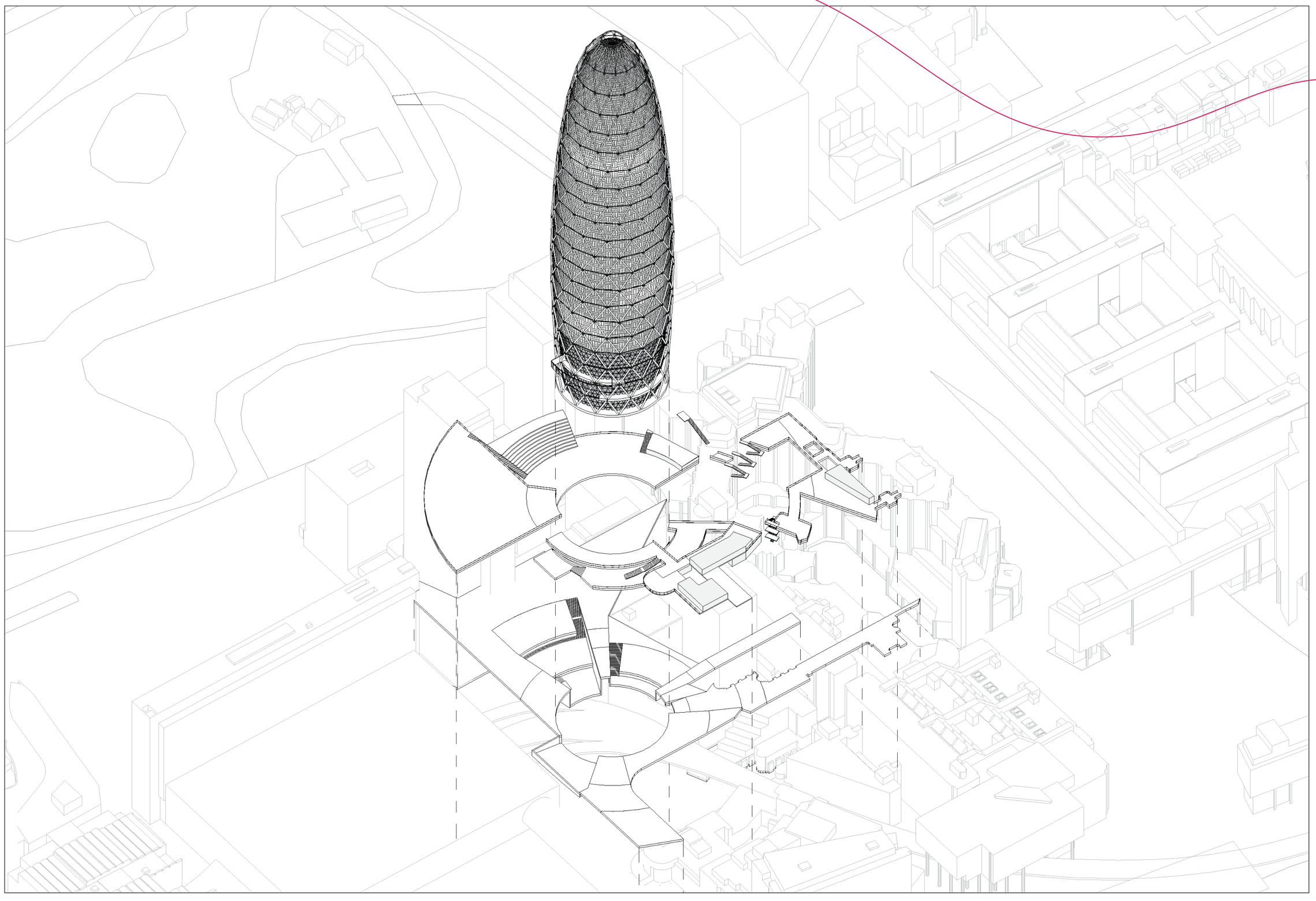


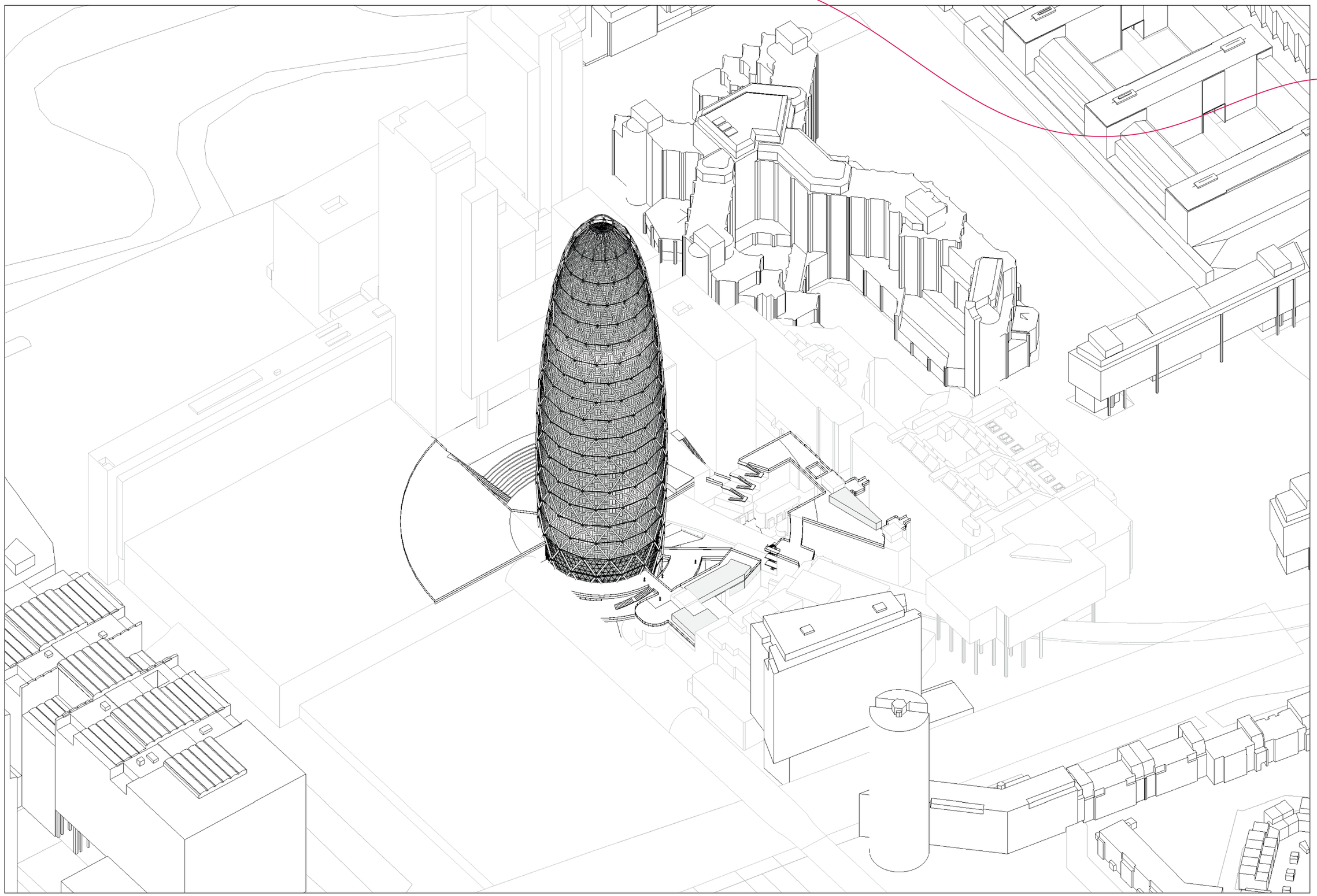


GROUND ELEMENTS:
Diameter: 650 mm
Thickness: 60 mm

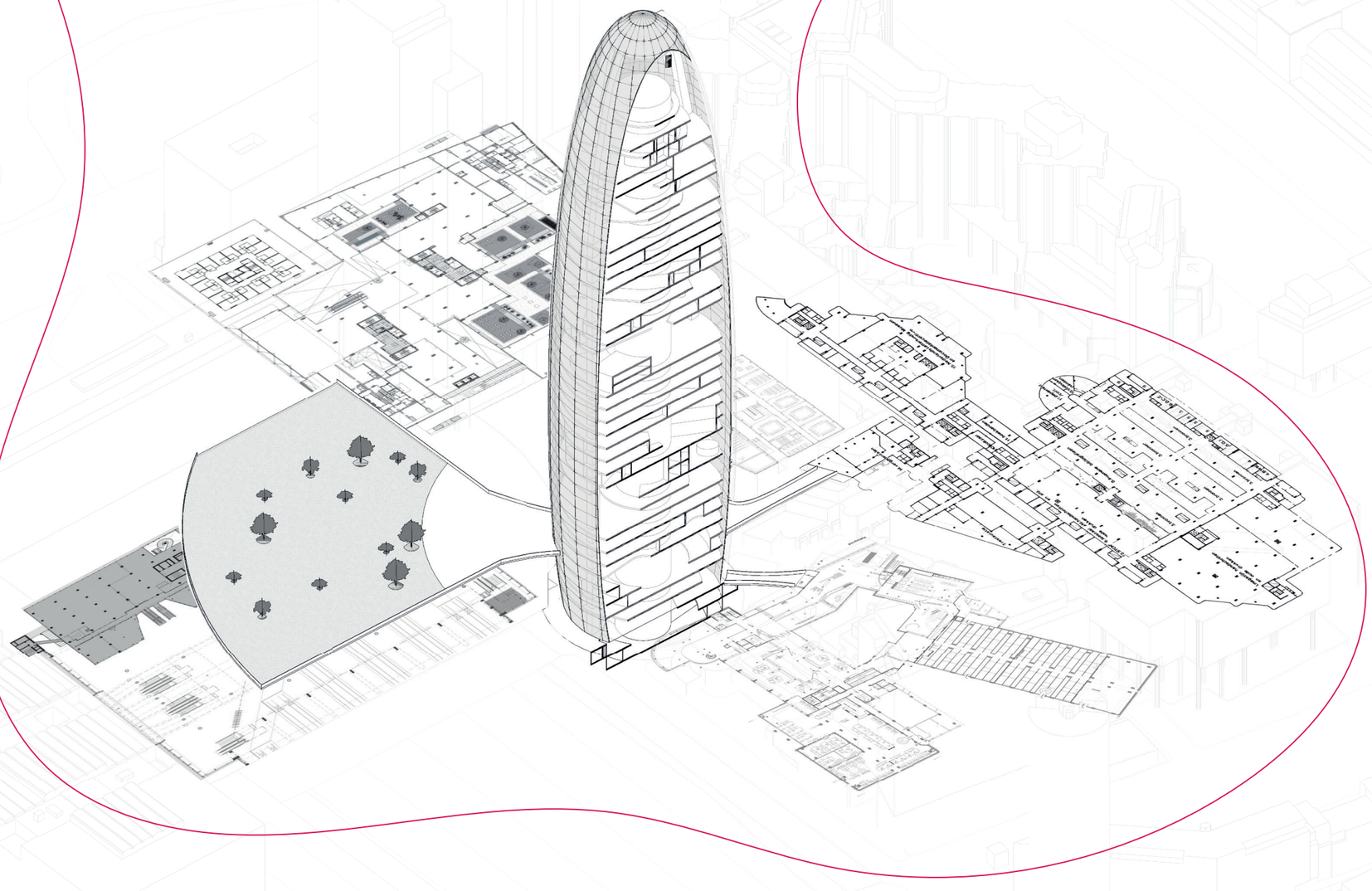
CROWN ELEMENTS:
Diameter: 300 mm
Thickness: 20 mm

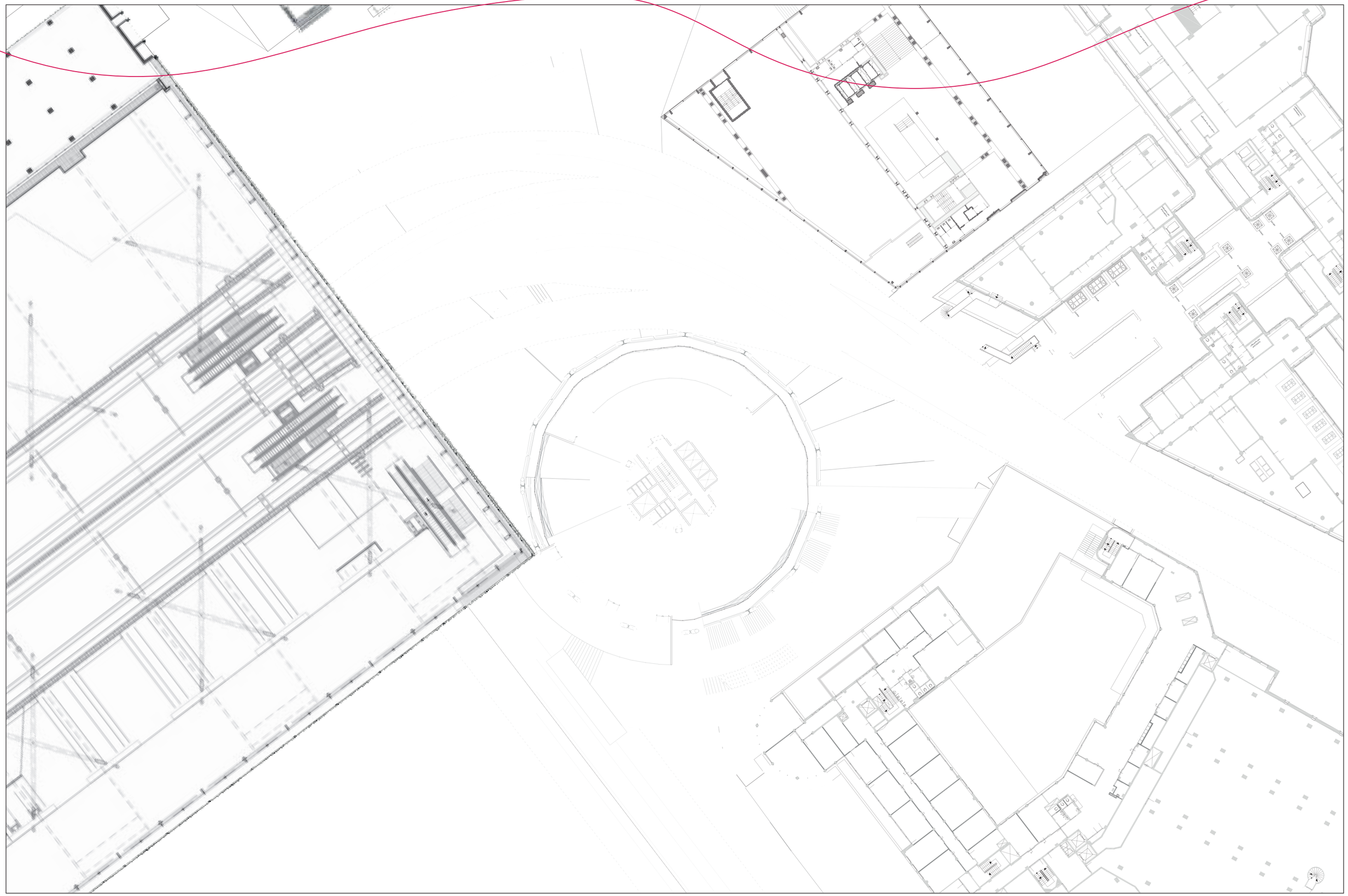


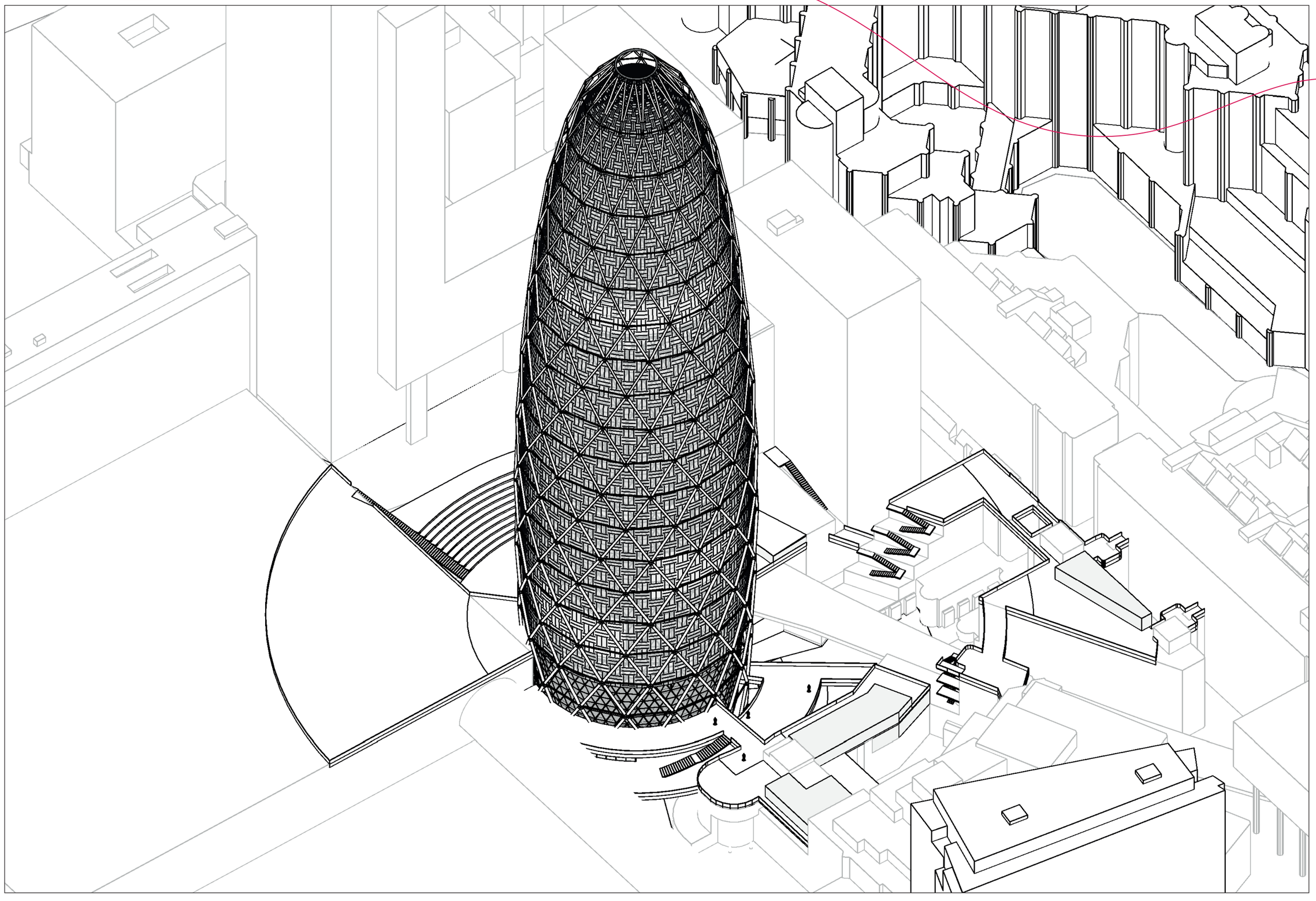


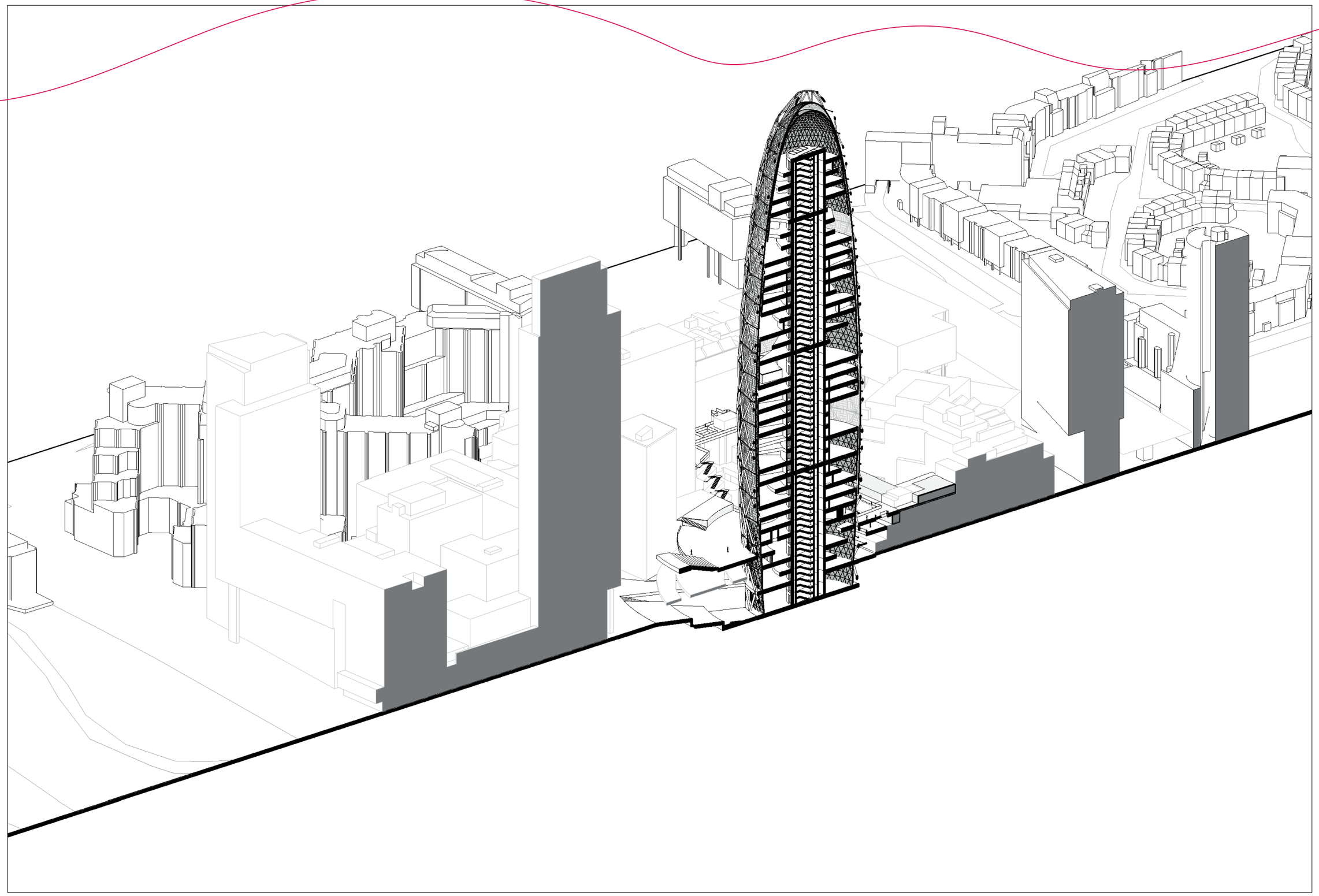


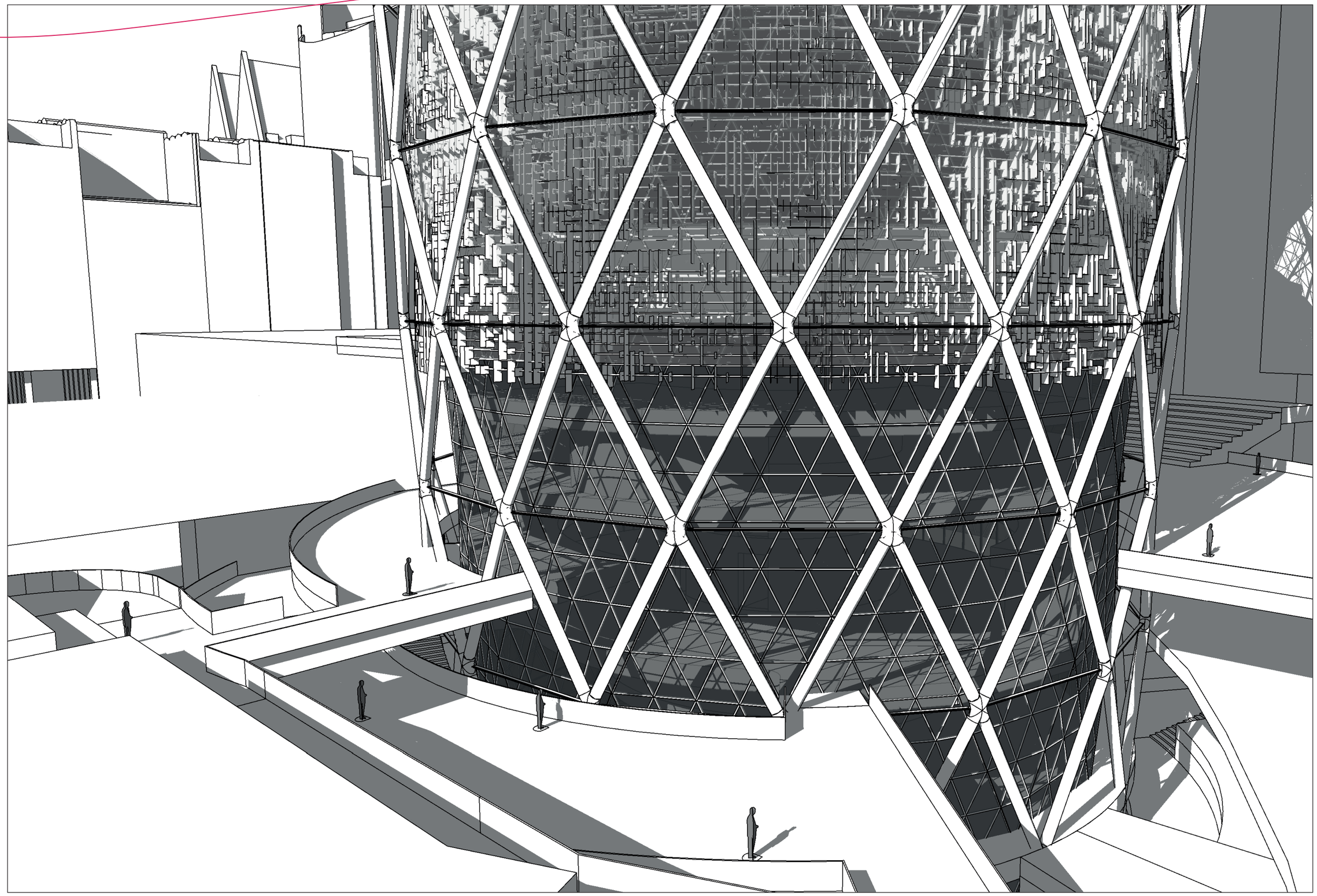
A MEETING OF THE HORIZONTAL AND THE VERTICAL

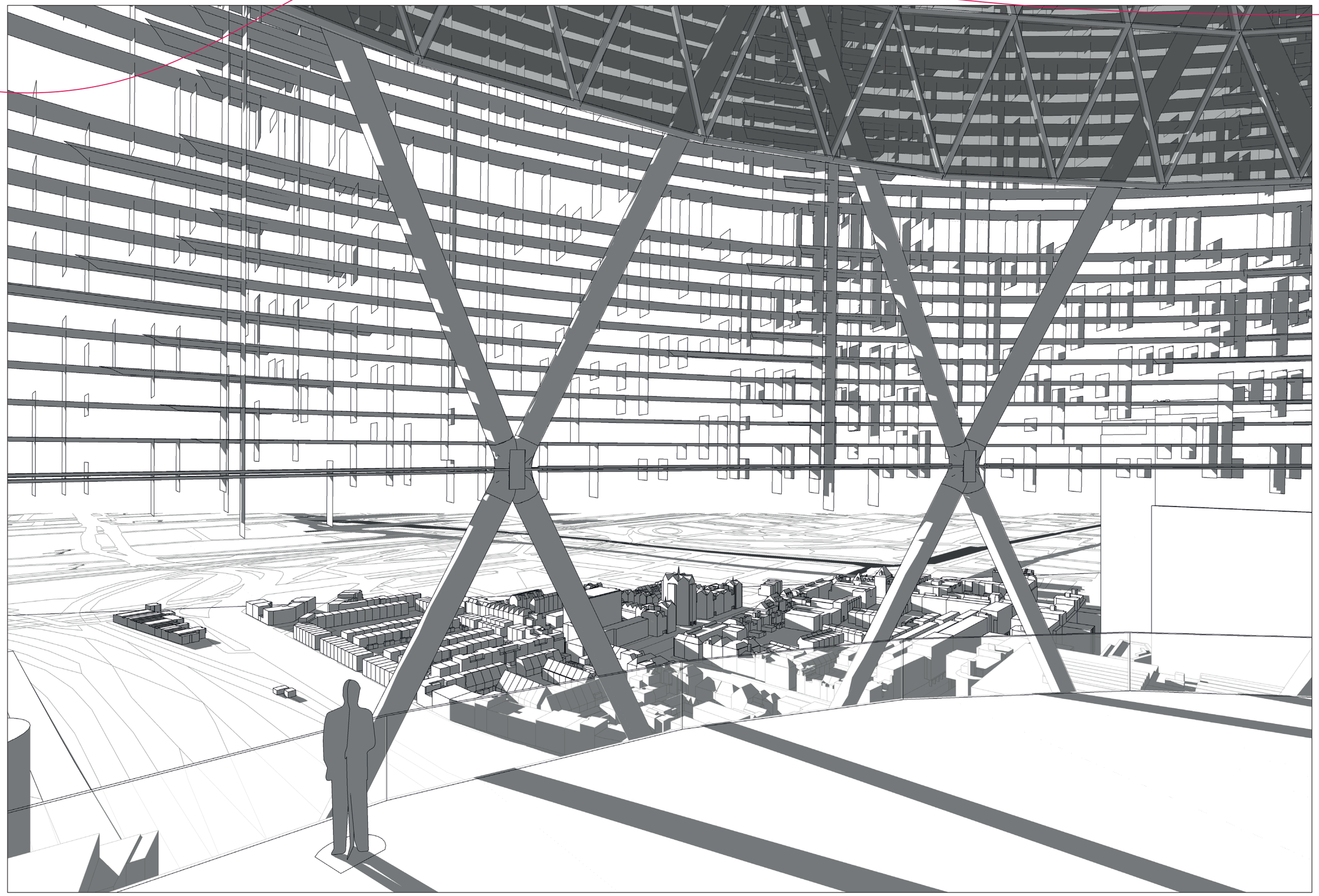










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