

LEARNING ARCHITECTURE.

To initiate this project, I conducted research into the key factors which are shaping and defining the scene and attitude of architectural teaching and learning today. The research was the starting point for my exploration into how architectural education is evolving and the role which it is playing in contemporary society. This exploration developed the ambition to design a relevant and innovative architecture school, which I propose as a renovation project for the Chalmers department of Architecture.

The research project began with an inquisition into aspects of educational institutions in general, looking at the goals and aspirations of some influential schools today, and the methods and techniques they use to achieve their goals. A major reoccurring issue throughout this part of the research is how effectively an educational institution can maintain focus on quality of education, and at the same time pursue secondary goals such as research or industry involvement. Although my focus area is architectural education, I believe that there is practical application to all forms of learning and teaching.

In order to get an idea of how schools are operating, I identified different trends, both in the goals and initiatives of institutions and of students. I also looked into more historical trends in education, intrigued mainly in the shift from the classical, architectonic ideas of education to the rapidly changing and flexible models of todays education.

The backbone of most schools is the curriculum. Most schools define their *modus operandi* through the structure of their curriculum. The architectural equivalent to a curriculum is a buildings program. By studying the different programmatic aspects of educational institutions and we can use the architecture of a building to express the goals of the institutions curriculum and enhance learning environments.

The context of this research is the architecture school at Chalmers. Like many architecture schools Chalmers is striving to provide better education, and become a major player in the global architecture scene. In an attempt to reflect the dynamic ambition of the school in the building proposal, I first established a dynamic interface to document and measure this ambition. This interface took the form of the website, spaceplanner.se.

The inspiration for this thesis comes from being exposed to different environments and teaching methods in architectural education. I have been an architecture student, off and on, for nearly 10 years during which time I have been exposed to a number of different structures for teaching and learning. I have spent most of my recent life in some form of formal or informal learning environment which makes this subject very close to me personally. One of my goals for this work is to build a critical summary of my experience as a student, as well as a proposal for what could be improved.

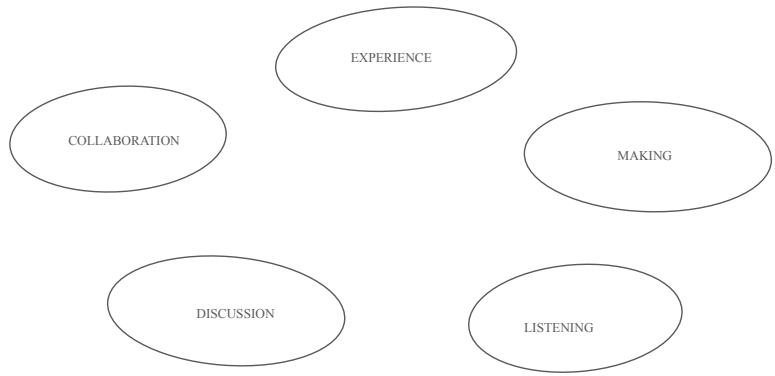
A lot of my criticism towards educational environments is from a similar standpoint to the one outlined by Jeremy Till in his book, *Architecture Depends*. Till describes an educational situation which is plagued by pretentiousness

and superficiality. He criticises [mainly architectural] education as 'avoiding engagement with the uncertainties of the world through a retreat into an autonomous realm'. After reading his book, I couldn't help but feel that this is incredibly obvious, and that this 'autonomous realm' dominates most educational institutions today.

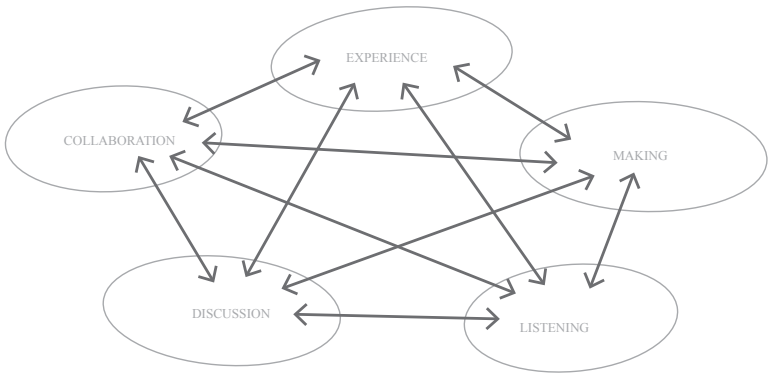
One of the most important pieces of advice I have gotten was from a professor early in my education when they told me 'not to let architecture school get in the way of my architectural education'. When I think about how I have learned about architecture, the most important or significant moments are when I have experienced architecture, as opposed to reading about, or learning how to draw it. Real world experiences are invaluable to the process of learning and understanding things, however, this value rarely gets considered in the design of educational curriculums or buildings.



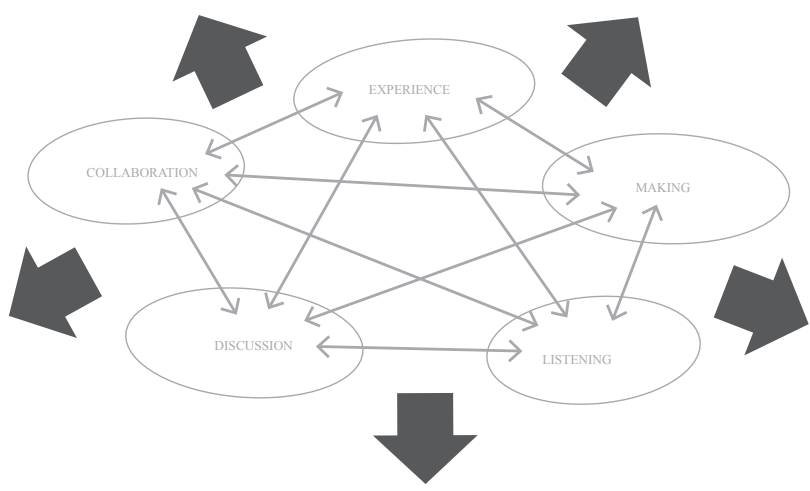
TYPES OF LEARNING.



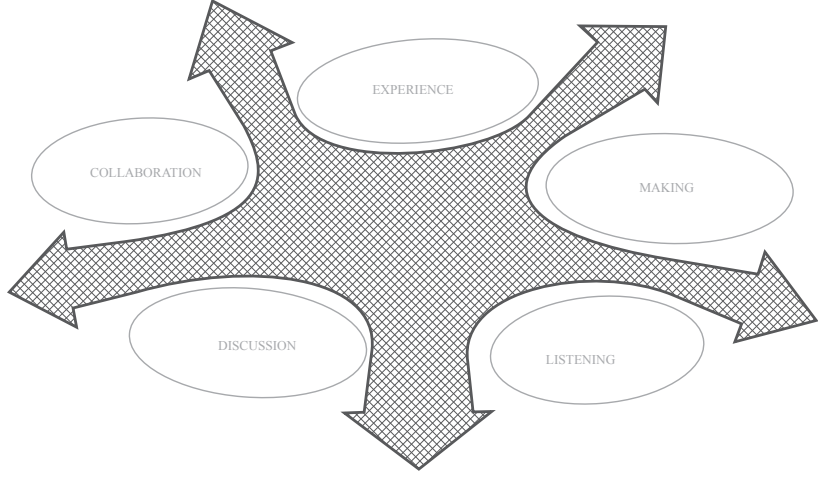
CONNECTING WITHIN.



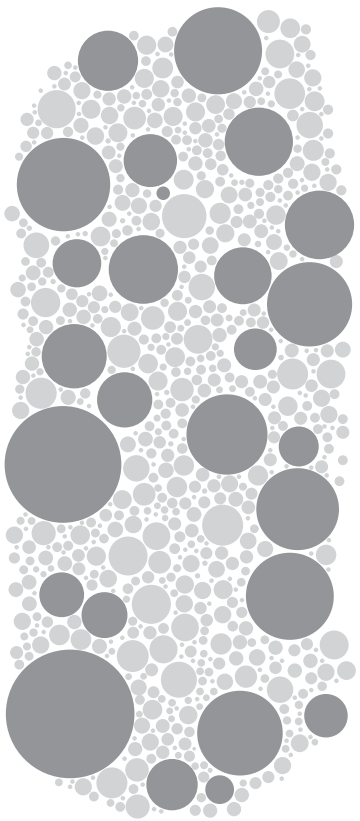
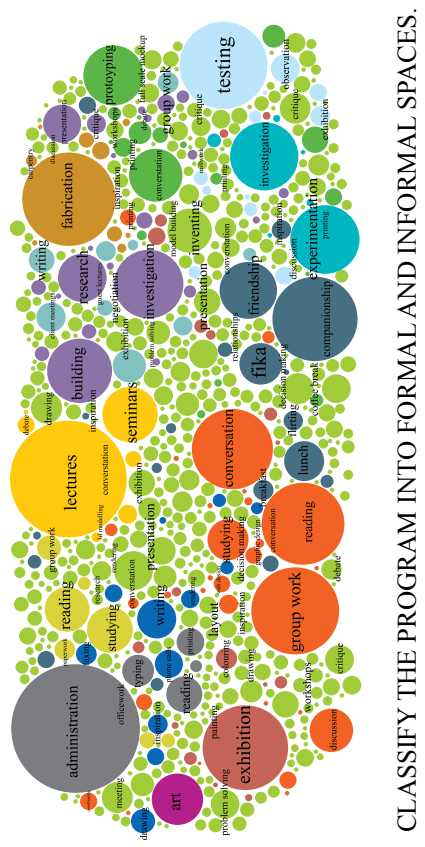
CONNECTING TO OUTSIDE.



WORKING TOGETHER.



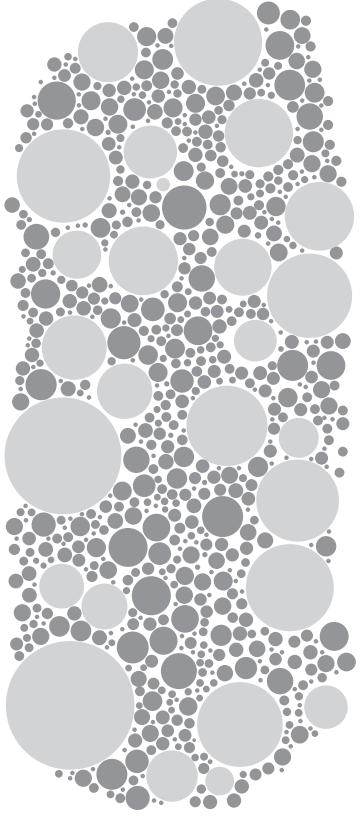
ARCHITECTURAL STRATEGY.



FORMAL SPACE



ORGANIZING THE FORMAL SPACES.
creating enclaves of focused activity.
what space can be reused?
what is available?
connections / barriers
thresholds.



INFORMAL SPACE



CONNECTING WITH INFORMAL SPACES.
creating the connections / access points.
maximizing spontaneous encounters.
creating a public environment.
building circulation.





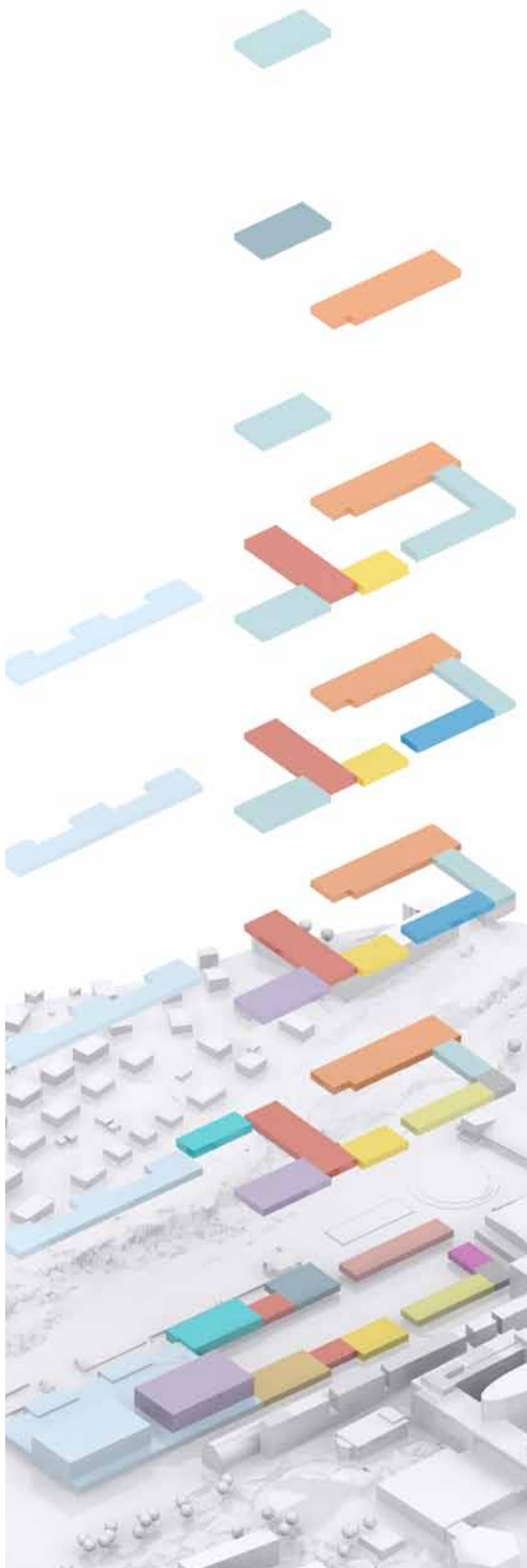
The planning of the formal spaces defines the basic massing of the building to the exterior and a series of enclaves to the interior.

A space is determined to be formal based on its programmatic function. In an educational institution there are many functions which require a high level of privacy such as offices, lecture halls and classrooms. Due to the fact that these spaces are regarded as private, they are often difficult to get to, or tucked away behind more lively or public places. At the same time, these spaces are some of the most important spaces for education. They are the spaces where concentrated, regulated learning happens, which is often the benchmark for how schools are evaluated.

In this project, the formal spaces are organized in a type of scattered pattern, in an attempt to avoid any large clusters of private space. Each formal space has a maximized amount of surface area to increase access and clarify navigation through the building. Additionally, these spaces make up the massing of the building, defining its presence on the site and relationship with the rest of the campus.

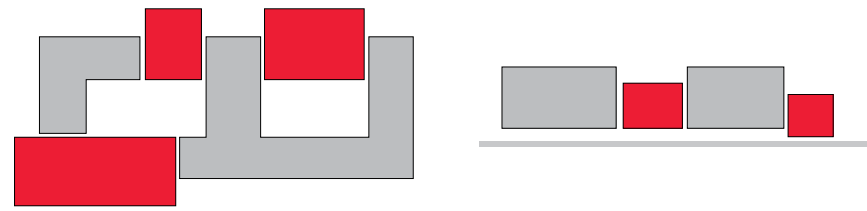
This method of organizing space is effective for achieving a lively program, an interesting building on the site, and a practical way of reworking the existing buildings on campus. This method is very similar to how the existing buildings were designed, following the same ideas about public and private space, but including all of the buildings which have been added throughout the years.

Working with these spaces also creates a number of interesting conditions and meeting points. These thresholds can be used to express and reveal the contrasts between the buildings and the education happening inside them. The contrasts between old and new, as well as between academic and research based education reveal the dynamic nature of learning. We can acknowledge the historical buildings and traditional methods of teaching at the same time as proposing new and innovative strategies for innovation and advance.



- OFFICES.**
Office space provides the institution an opportunity to engage the industry.
- CAFE.**
Exhibitions spaces should range in size and be scattered throughout the entire structure, serving many different groups ranging from the smaller private studios to the larger public.
- SEMINAR ROOMS / CLASSROOMS.**
Each studio, research project, and workgroup located in this building should have access to a presentation space. Like exhibition spaces, the presentation spaces should range in size and focus, but all provide access to light, sound and video equipment.
- LECTURE ROOMS.**
Lecture rooms should be very similar to presentation spaces, except that they should prioritize course scheduling.
At least one or two lecture rooms should be adaptable to accompany a large group of people, to facilitate large public events.
- RESEARCH DEPARTMENT.**
The seminar rooms will provide a space for students and teachers to gather for discussion.
- ACOUSTIC LAB.**
Two large cad labs should serve the school providing computers and software for courses and studios.
- PUBLIC CAFE.**
Small public cafes and kiosks are built into the infrastructure of the new building.
- PRIVATE CAFE.**
For office workers, researchers and teachers there is a private cafe to provide the opportunity to have casually professional business meetings.
- RESEARCH HALL.**
The research hall provides a space for large scale testing and experiments.
- WORKSHOP.**
The workshop is ideally on the ground floor, providing direct access to exterior doors and the research hall.
The workshop and research department work closely together to provide a wide range of woodworking, metalworking, and digital fabrication tools for model building and full scale mock ups.
- FIFTH YEAR / THESIS STUDIOS.**
Typical studio with easy access to workshops, storage space, toilets, presentation spaces, computer labs, and printing facilities. The masters studios should also have slightly more private workrooms for thesis students.
- SECOND, THIRD AND FOURTH YEAR STUDIOS.**
Large open studio space with easy access to workshops, storage space, toilets, presentation spaces, computer labs, and printing facilities. These spaces should facilitate an open and collaborative environment where all students from all of the disciplines of architecture can work under the same roof, the studios can be partitioned off according to temporary needs, but keeping an openness to all studio activity will help students' exposure to different activity and foster a lively social atmosphere.
- FIRST YEAR STUDIOS.**
The first year studio is located on the first floor to be closely connected to the public exhibition spaces and art studios.
- CAD LAB.**
Two large cad labs should serve the school providing computers and software for courses and studios.
- ART STUDIO.**
There should be at least on large art studio for painting, drawing and multimedia projects. The art studio could also manage and curate the exhibition spaces.
- ADMINISTRATION.**
Administration space should be scattered throughout the building to serve the respective functions. For example, studio instructors should have administration space which is easily accessible from their studio.
- EXHIBITION HALL.**
At least one large exhibition space should be located on the ground floor.
- LIBRARY.**
The library should compliment many of the other public spaces of the building. It could perform as an oasis amongst busy circulation or spaces. Within the library should be quiet zones and study areas.

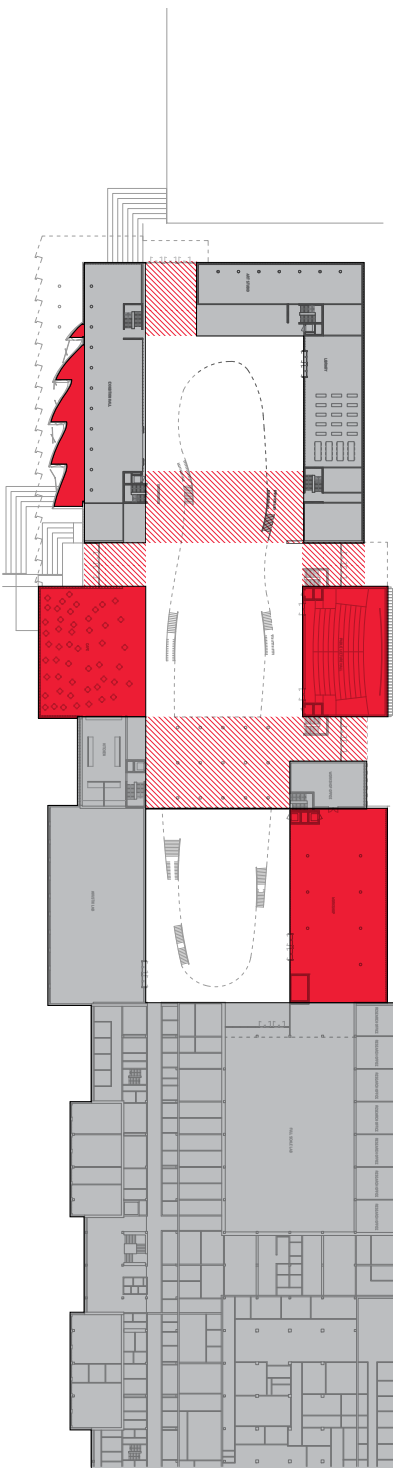
OLD / NEW



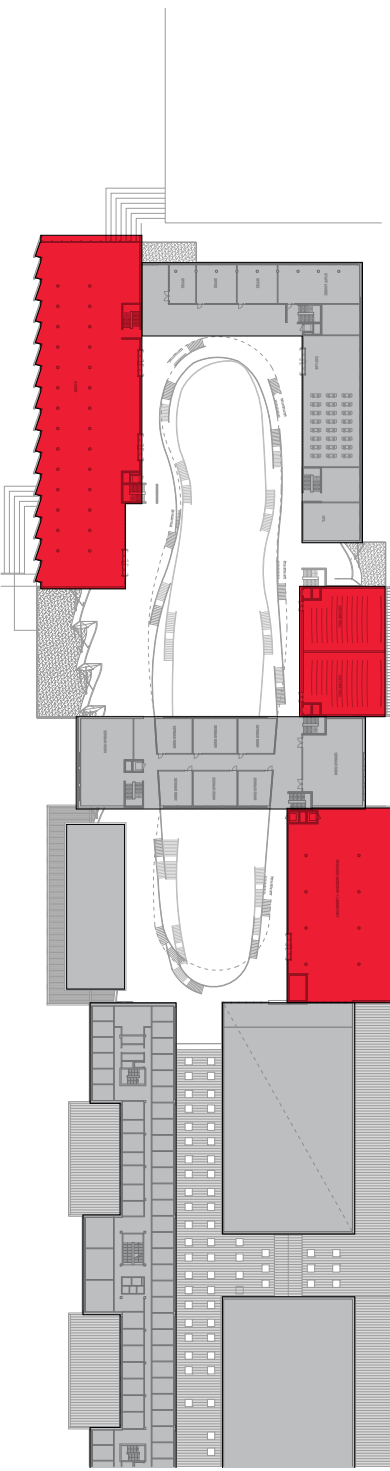
The relationship between old and new spaces is especially important in this project for two reasons. The contrast between these two types of space expresses the dynamic between historical ways and innovative views towards the future, while at the same time is a very practical and sustainable approach for renovating and restructuring old buildings. The relationship between the old (history) and the new (innovation) creates a series of architectural contrasts which reveal different techniques while at the same time document the historical progression of the building. As a metaphor this meeting point is especially relevant to the challenges that educational institutions are facing today.



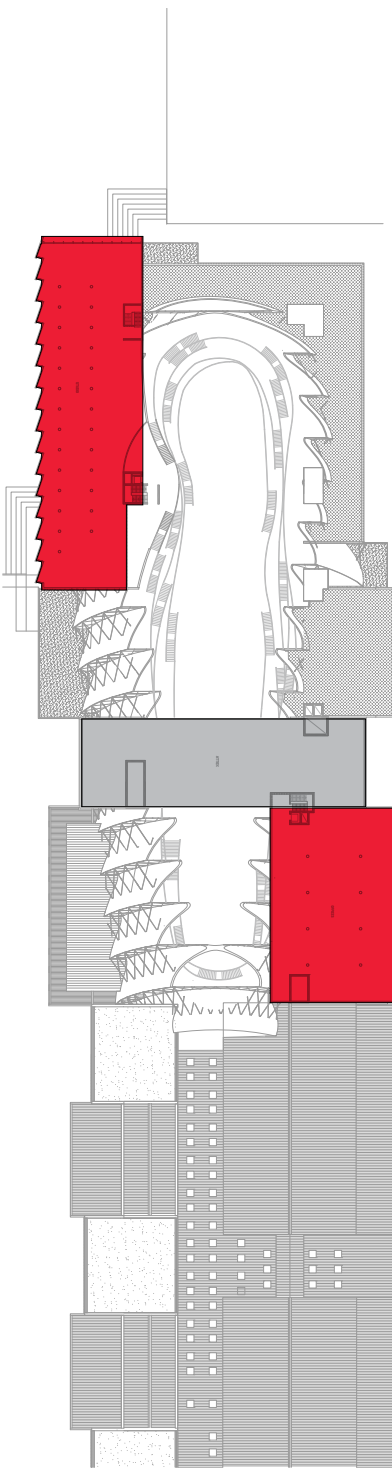
Caxia Forum Madrid, Herzog & deMeuron



ground floor

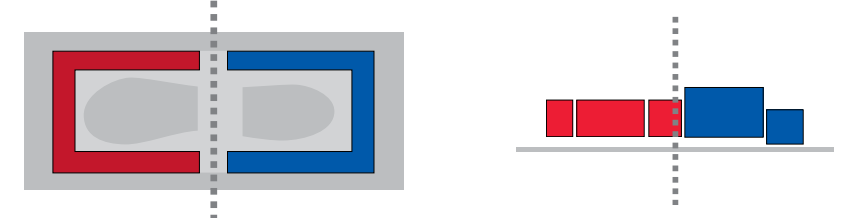


2nd floor



5th floor

ACADEMIC / PRACTICE

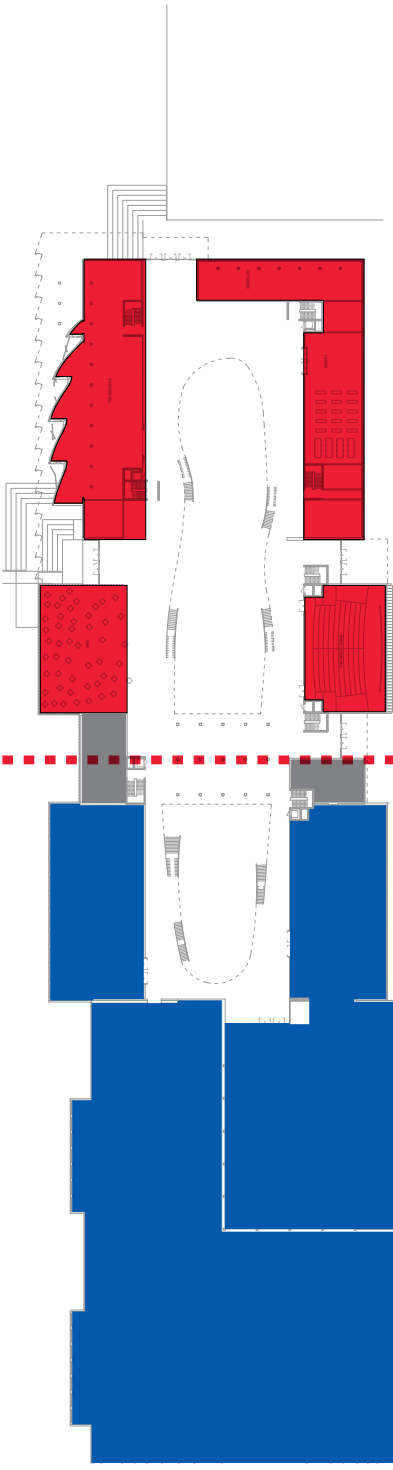


The contrast between the academic and practical sides of education has often been more of a disconnection than a relationship. This project tries to combine the two ways of thinking not by putting them in the same space together but exposing them directly to each other. Academic spaces have a significantly different set of requirements than practical or research based spaces, but the two are completely contingent on each other. That is to say that without practical implementation, there would be no reason to academically wonder about things and vice versa.

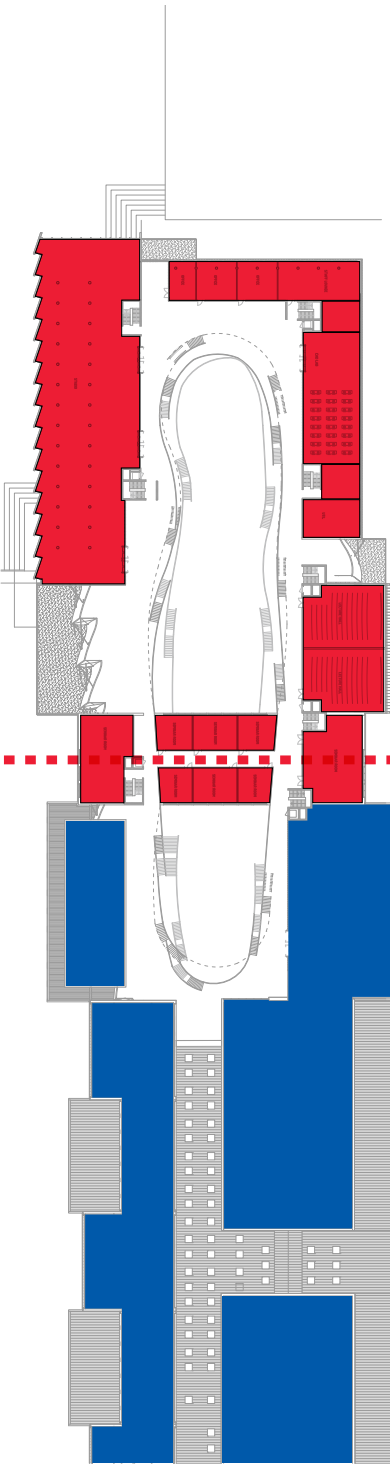
So a compromise between completely separate and completely together is to simply make each side look each other in the eye. The practitioners are directly exposed to the activities of the academics and vice versa, at the same time each have their own specific working areas.



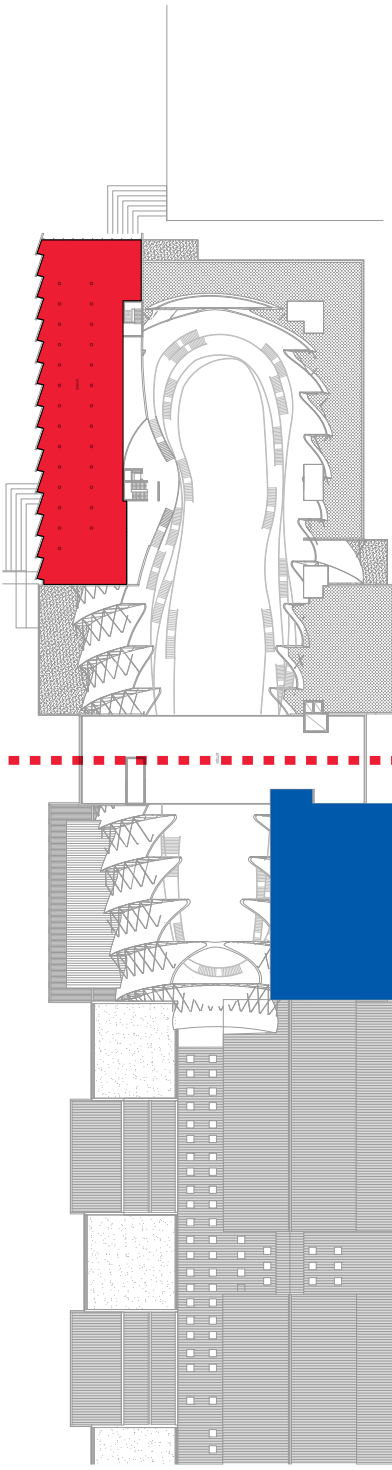
Center for Architectural Structures and Technology (C.A.S.T), Herb Enns



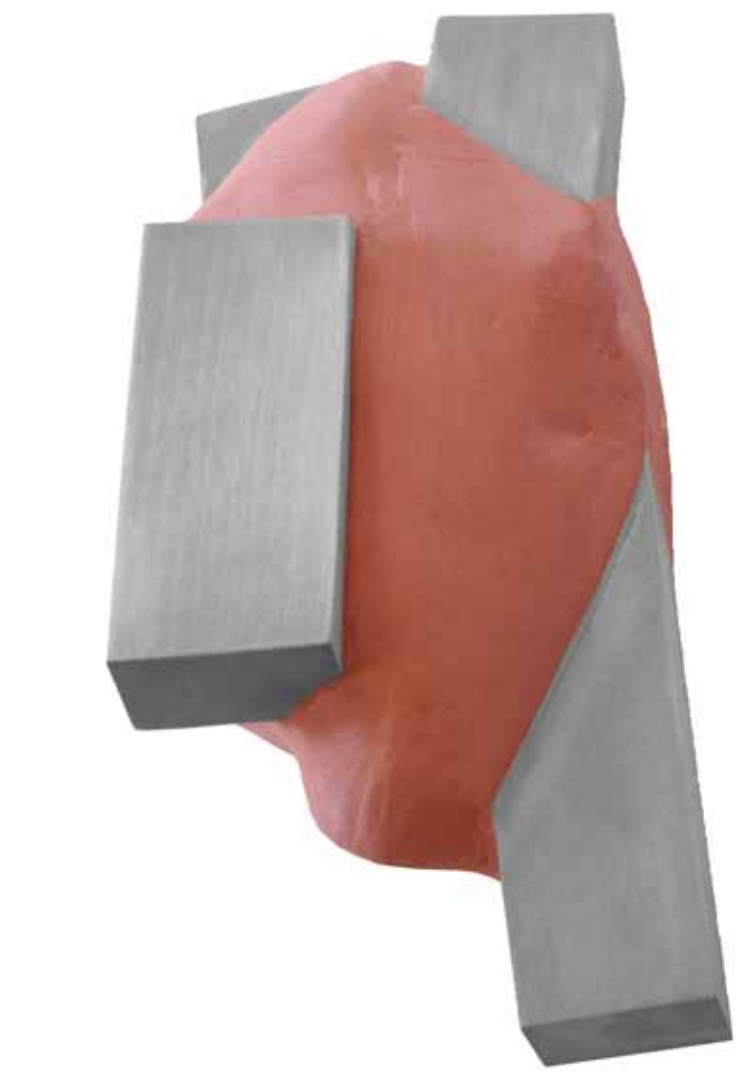
ground floor



2nd floor



5th floor

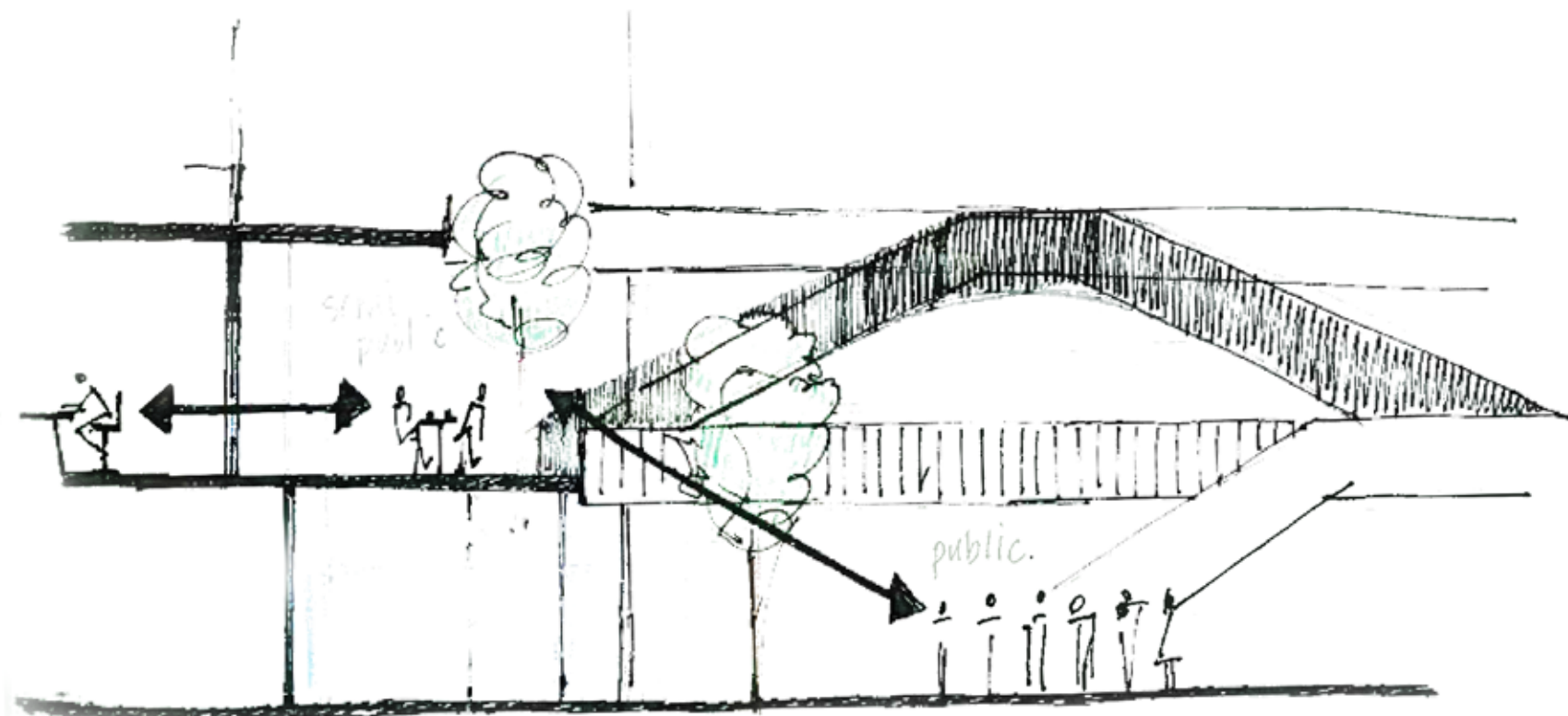


The informal spaces address and accomplish the vision for how the school will evolve in the future. The informal spaces are formed with two different architectural techniques. The first is a series of rings connected by staircases which creates a type of interior landscape connecting all of the formal spaces. The second is the roof structure which spans and encloses the interior courtyard, making it useable year round.

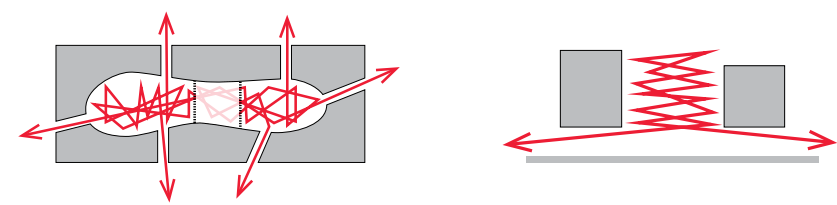
The landscape begins on the ground floor and occupies almost the entire footprint. The ground floor is completely public and provides a large space for public exhibitions, presentations and mingling. Continuing upward the landscape connects all of the formal spaces and creates a semi-public mixing zone directly outside every specific function. This space is intentionally over dimensioned to allow for the most amount of flexibility. It is intended that the informal space could be used for any number of spontaneous events, presentations or exhibitions. In as much as this space connects the functions, it provides a large mixing area for the users of the building to wander around and have some idea of what the other users of the building are doing or working on.

The roof structure encloses the entire atrium and becomes a collective roof for all of the informally planned space. The roof makes the atrium usable year round, but also acts as a regulator of sunlight, air and sound. On another scale, the roof performs as an icon of the school. The structure creates as powerful an architectural expression to the exterior as it does to the interior. As educational institutions become more and more branded as producers, the identity and reputation in a global market becomes more and more important.

The spatial relationships created by informal spaces are informed by looking at the interactions between the building/site/city and public/semi-public/private situations.



BUILDING / SITE / CITY



There are a number of techniques for connecting the building to the immediate site and to the city. The facades of the building are designed to connect and exhibit the activity within to the immediate site. The roof structure creates a large informal atrium and filters light for users of the building as well as creates a landmark structure which contributes to the global identity of the institute.

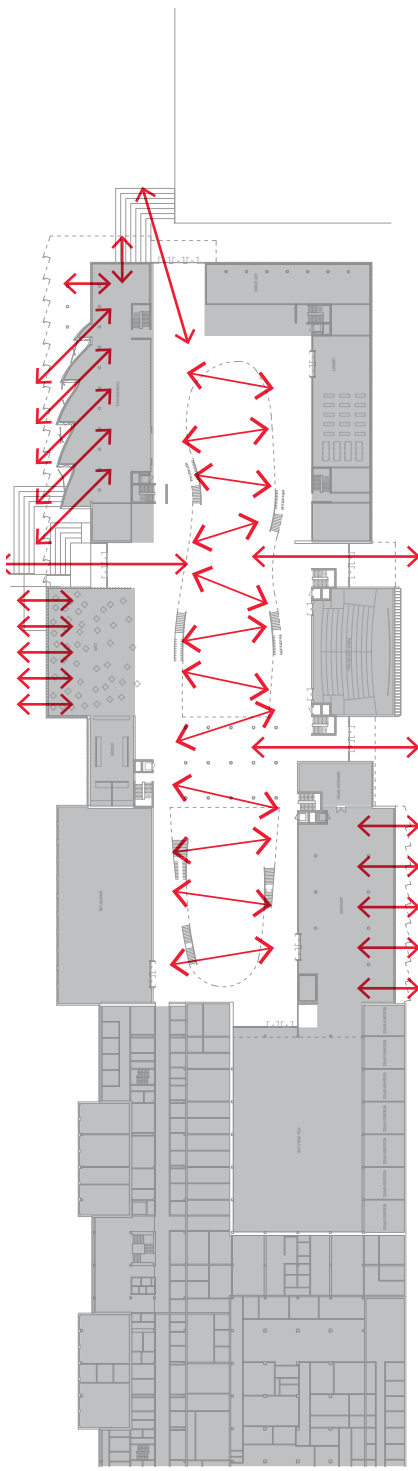
The filtering and exhibition of activity, light and sound are all elements of the building which create a strong architectural expression. These elements are also very important for regulating and controlling the energy consumption of the building.



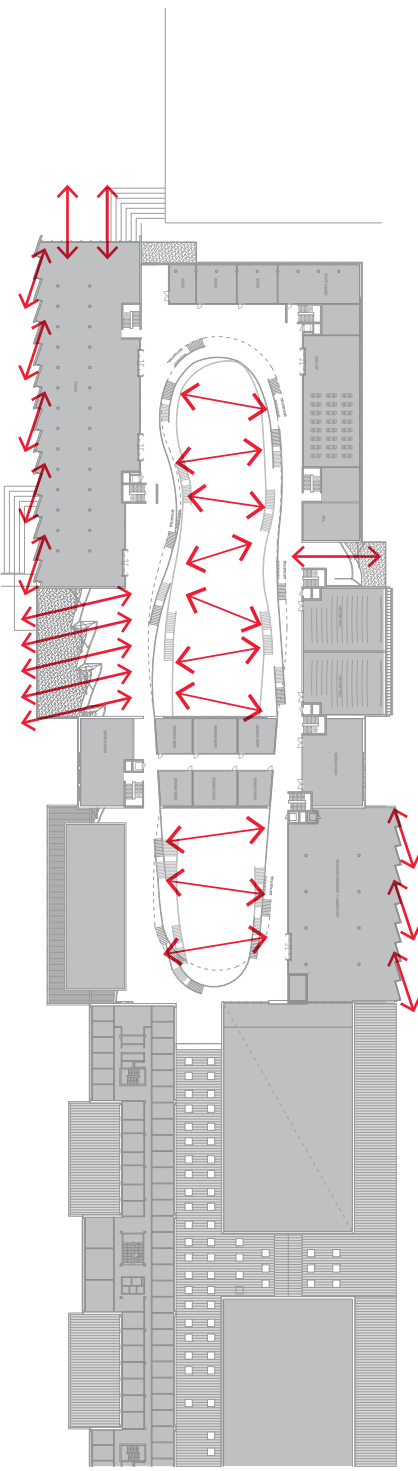
BRITISH MUSEUM, FOSTER & PARTNERS



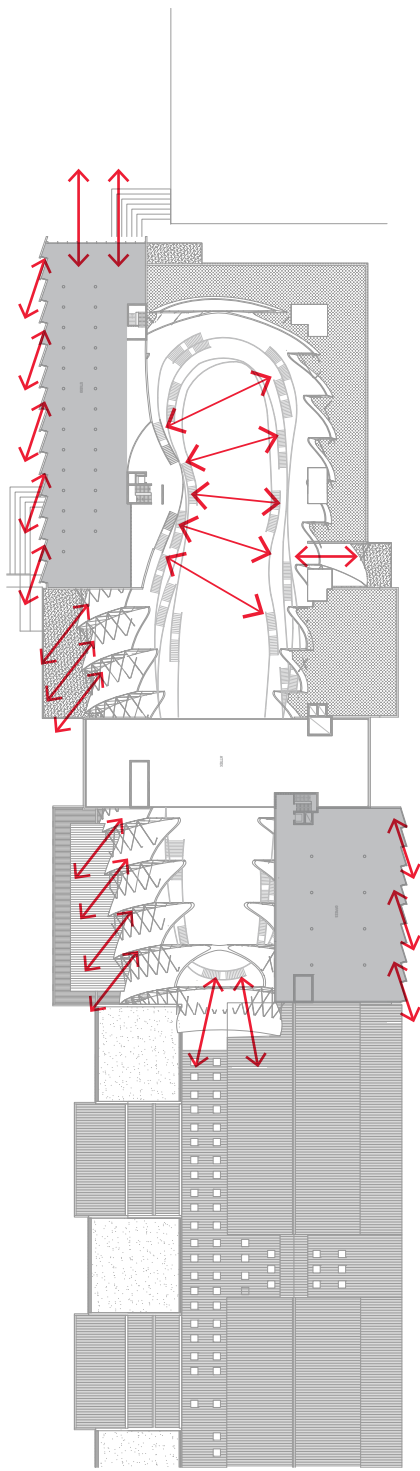
MILSTIEN HALL, OMA



ground floor

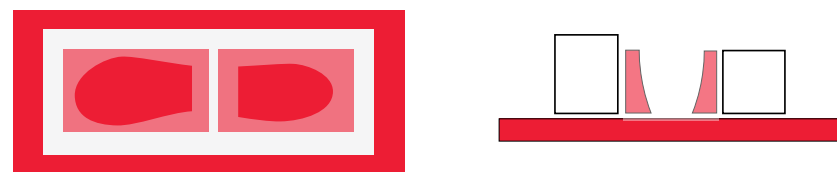


2nd floor



5th floor

PUBLIC / SEMI PUBLIC / PRIVATE

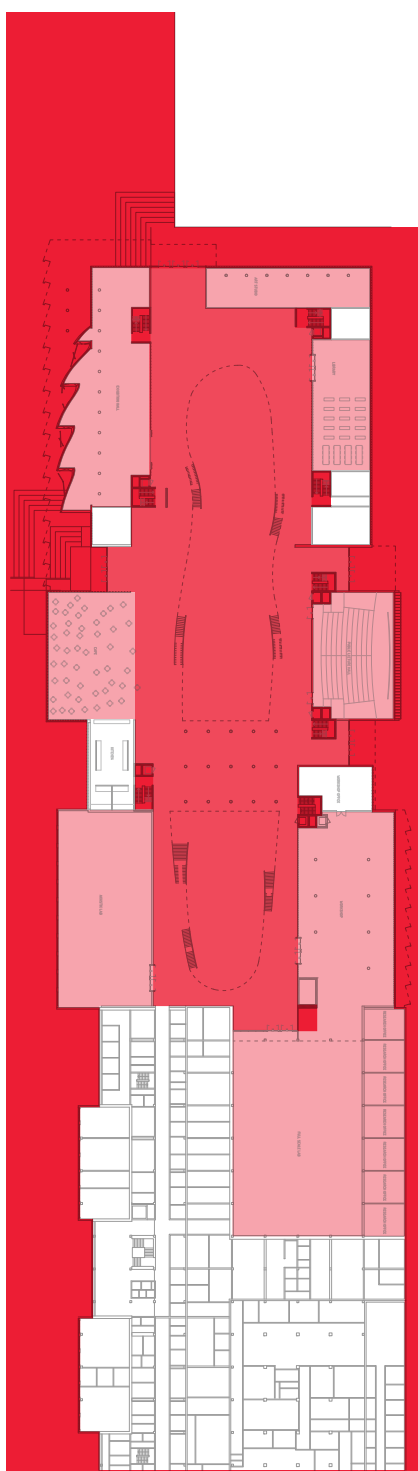


Loosely programmed informal space can be used to create a gradient between public and private places. These semi-public spaces provide a variety of functions, from practical circulation spaces to spontaneous meeting spaces. An important factor of semi-public space is its size. Semi-public spaces should be abundant in size to create comfortable 'chance-encounter' spaces as well as efficient circulation and navigation space.

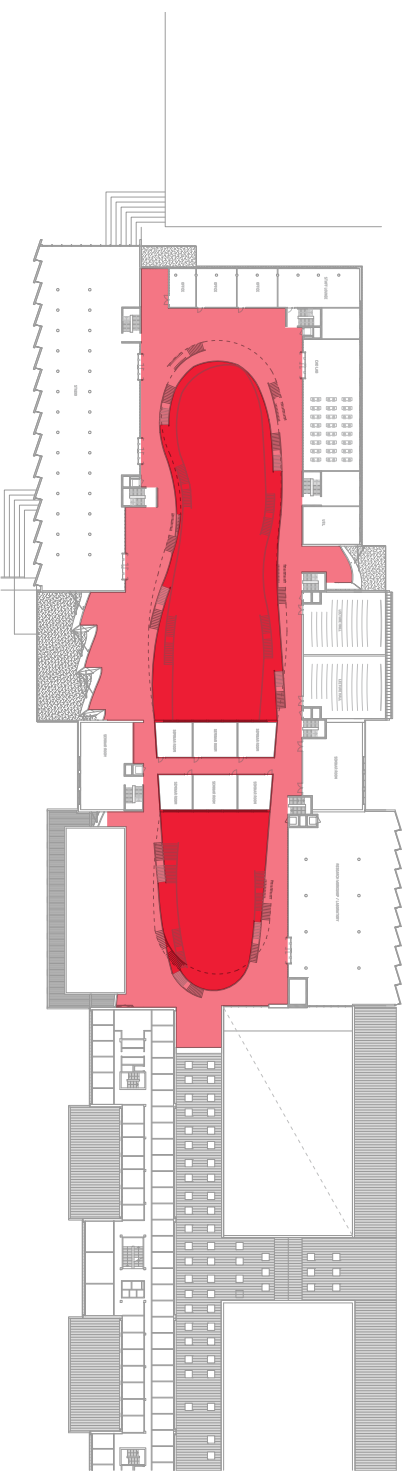
Although the semi public space doubles as circulation space, it is important not to design it to the minimum requirements. Over sized spaces and more diverse spaces create opportunities for users to become more creative with using those spaces, even if it is just to get from a to b.



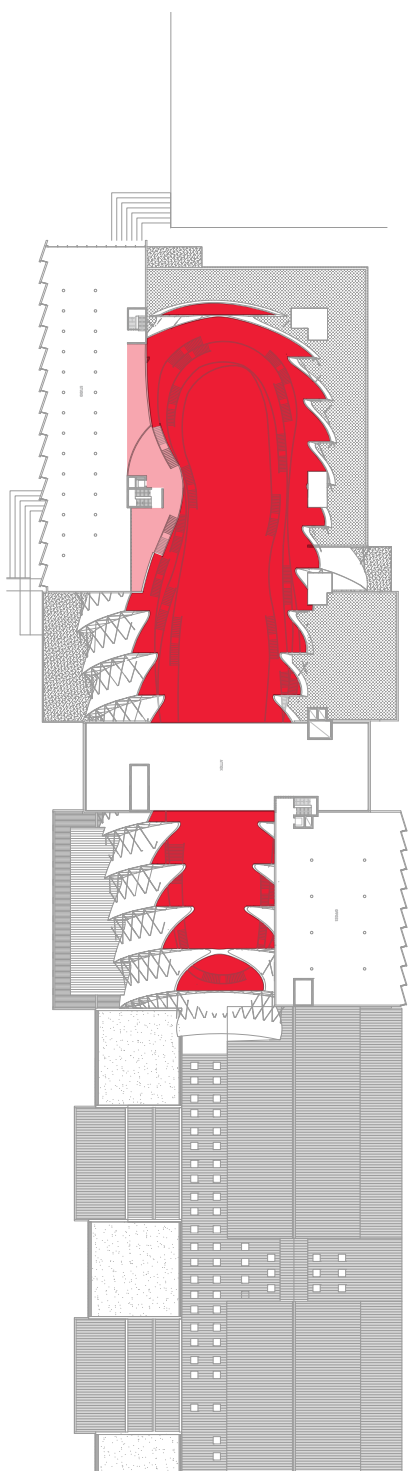
Ørestad Gymnasium, 3XN



ground floor



2nd floor



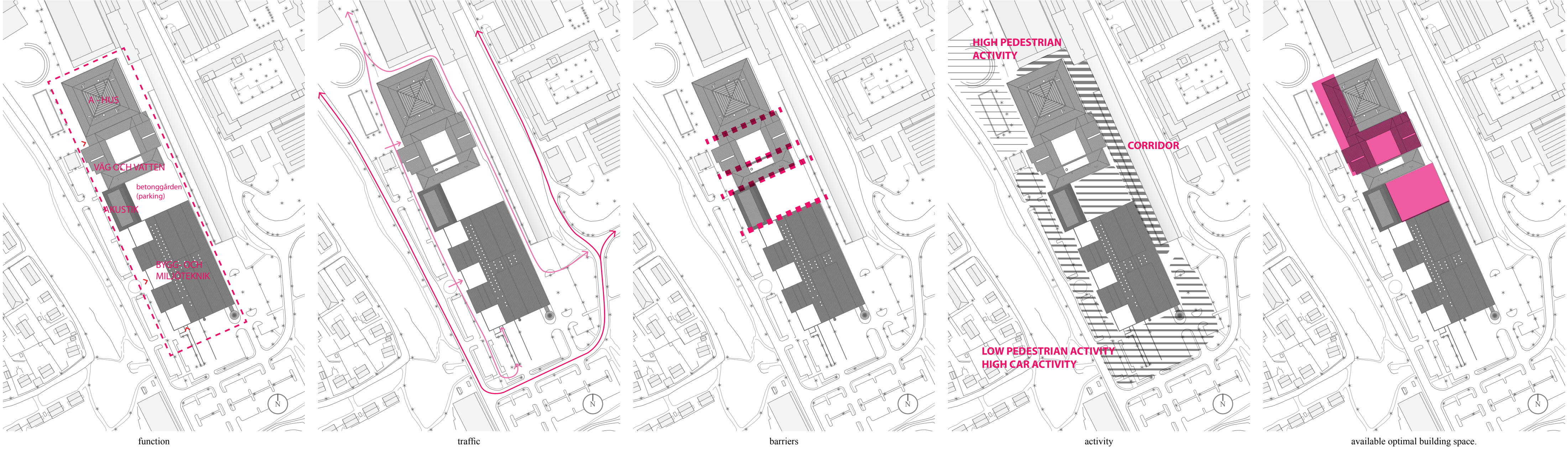
5th floor



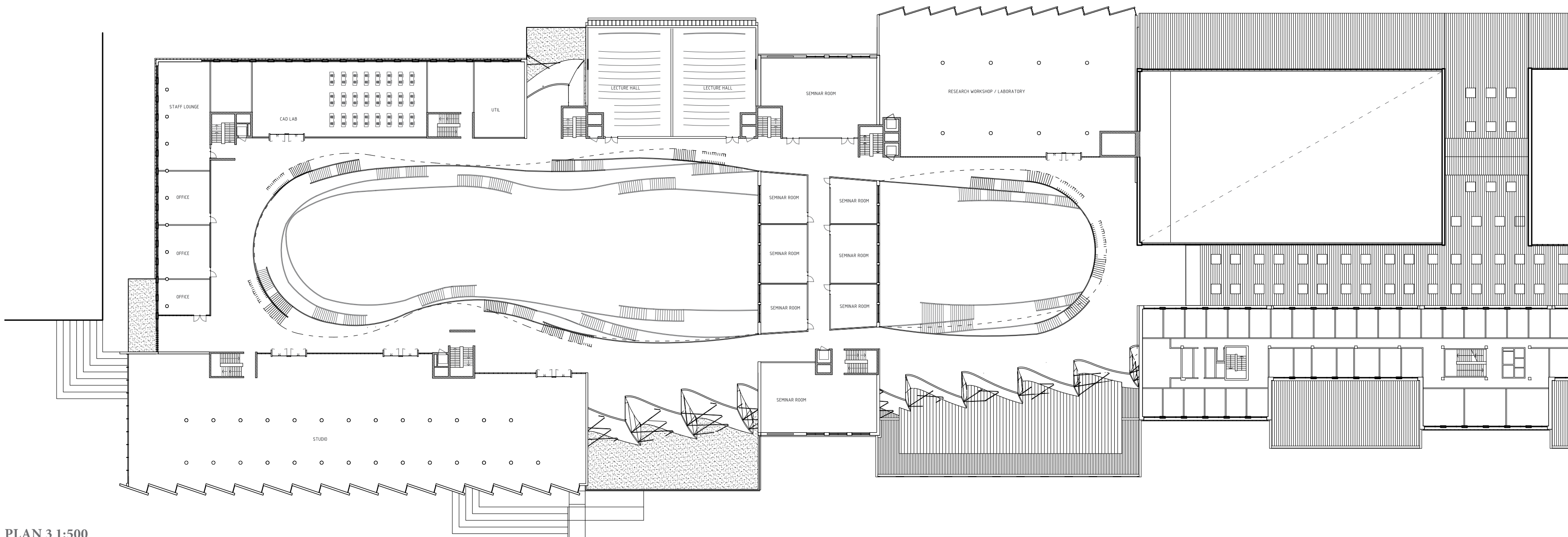
BIRDS EYE VIEW SOUTHEAST



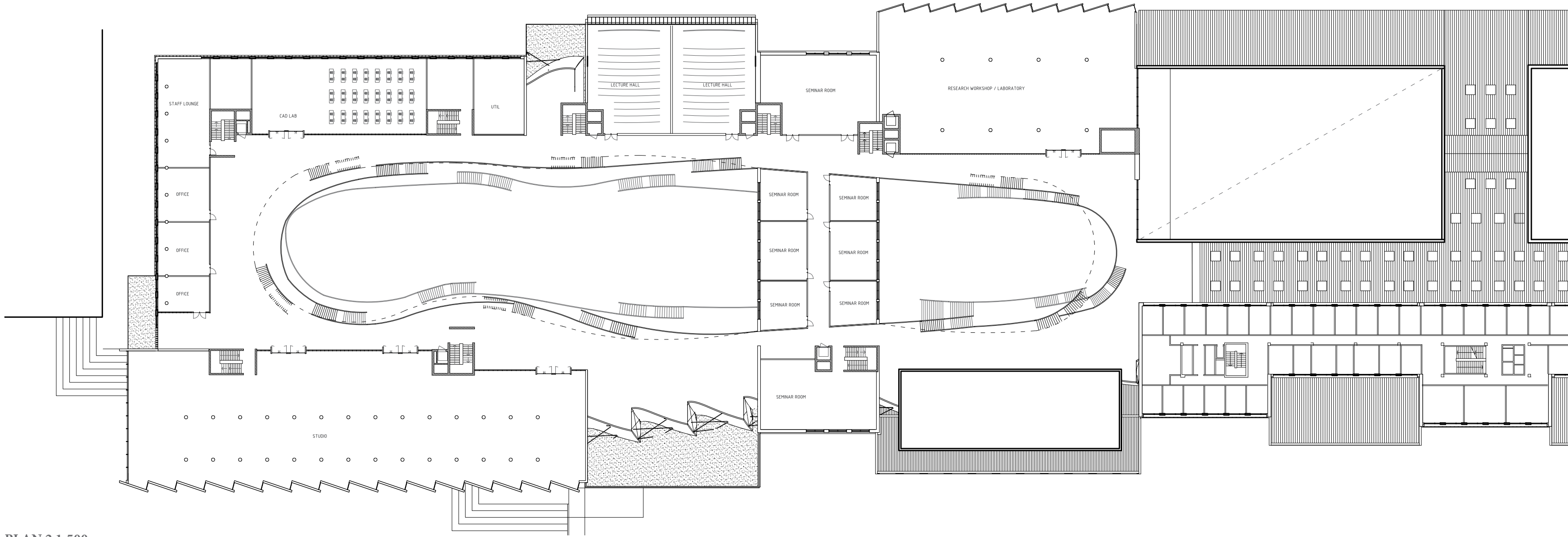
BIRDS EYE VIEW NORTHWEST



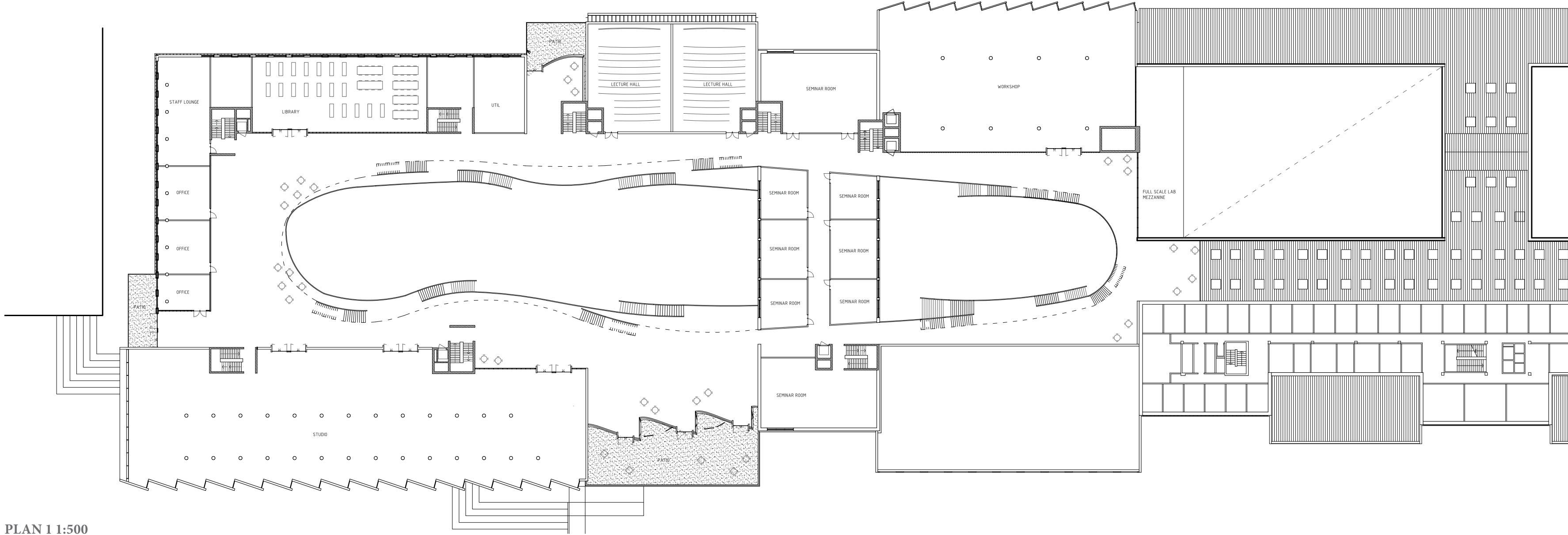
SITE PLAN 1:1000



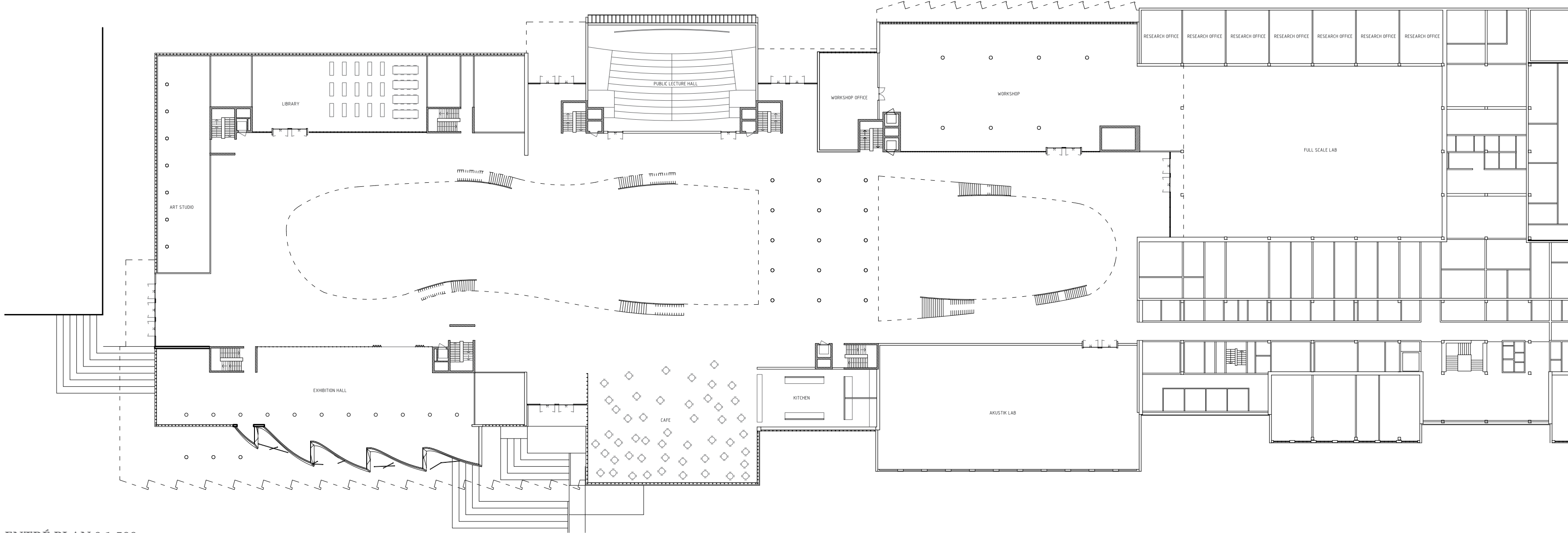
PLAN 3 1:500



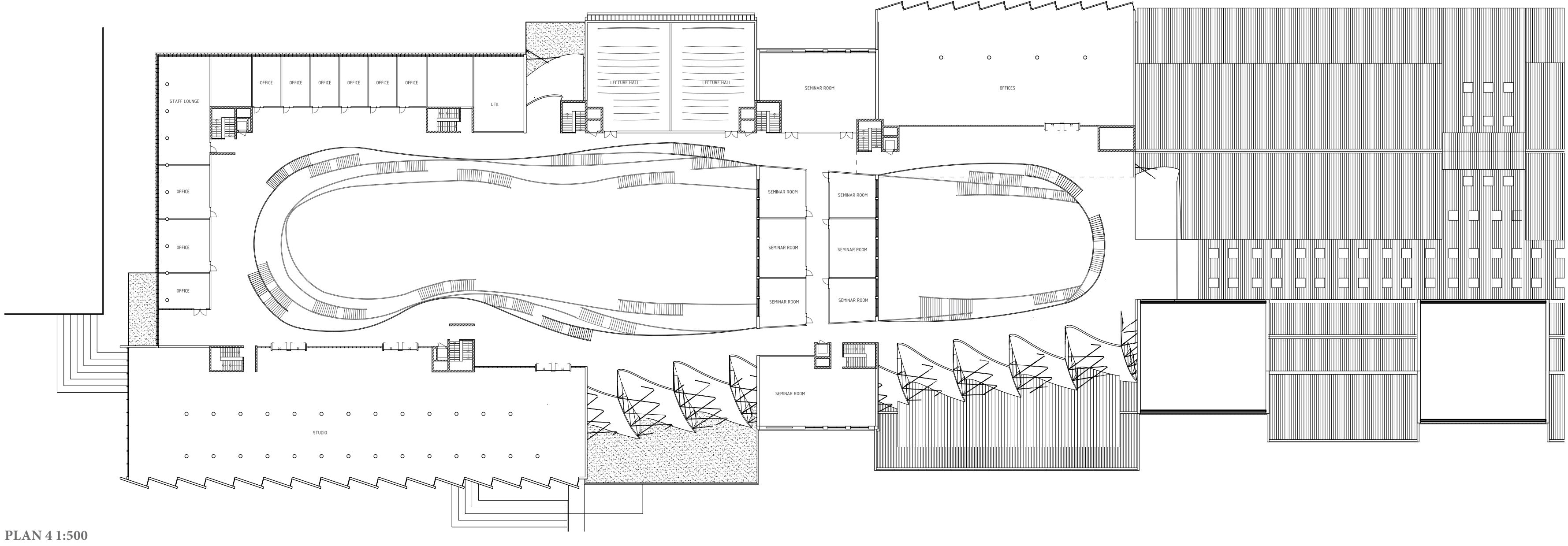
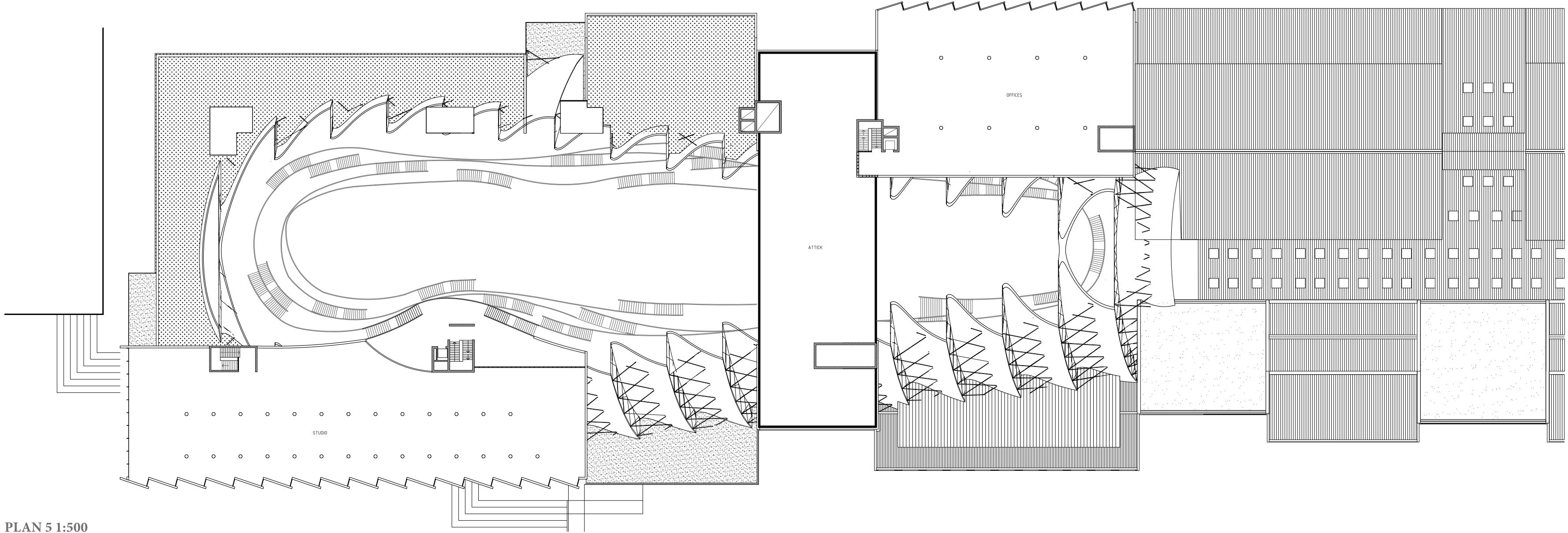
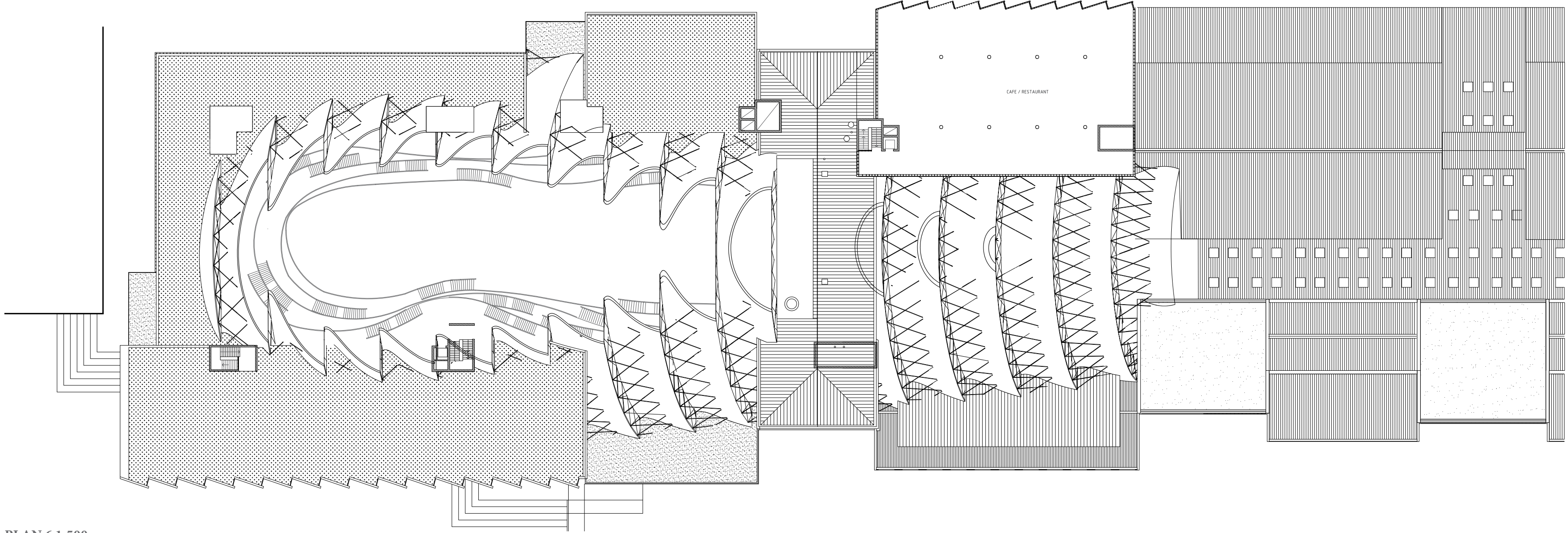
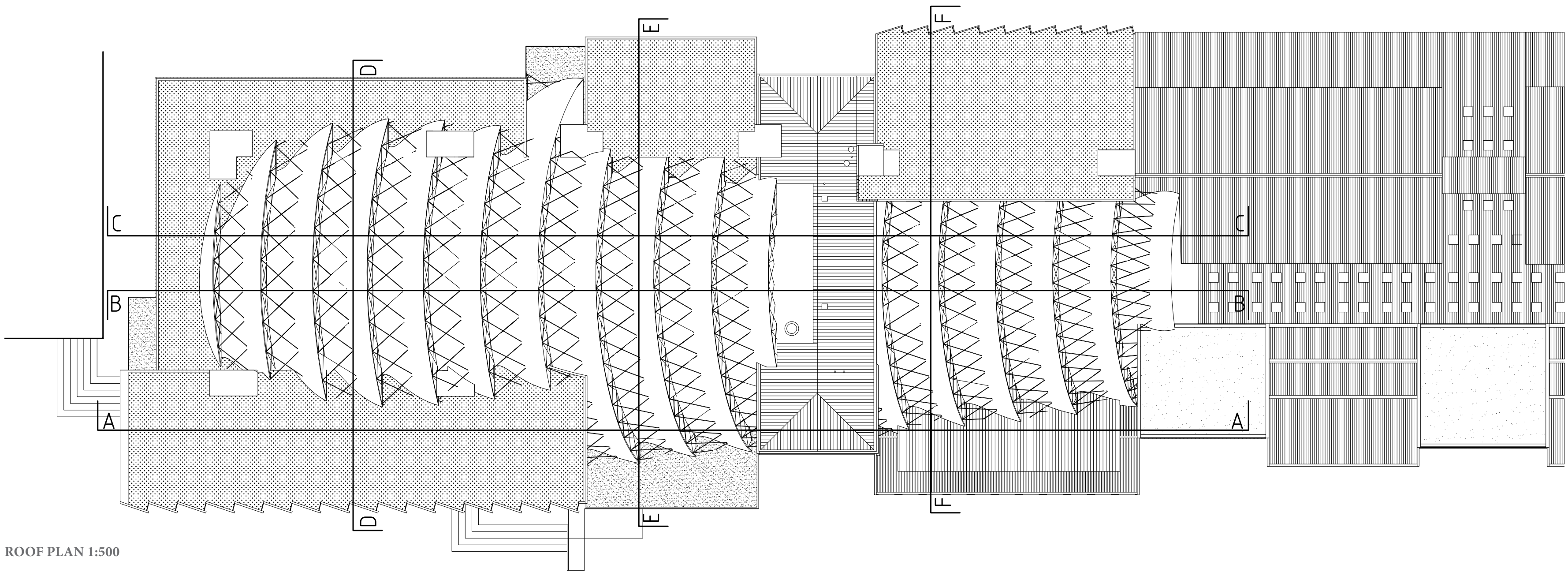
PLAN 2 1:500



PLAN 1 1:500



ENTRÉ PLAN 0 1:500

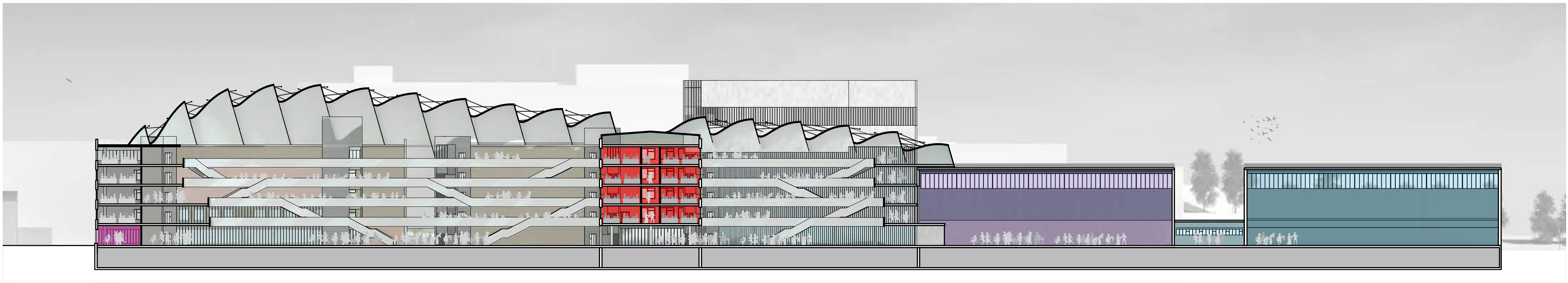




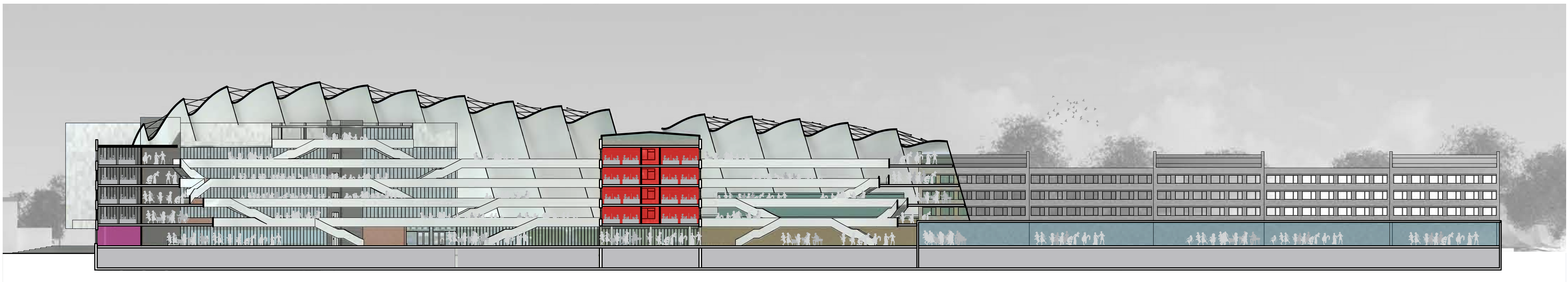
WEST ELEVATION 1:500



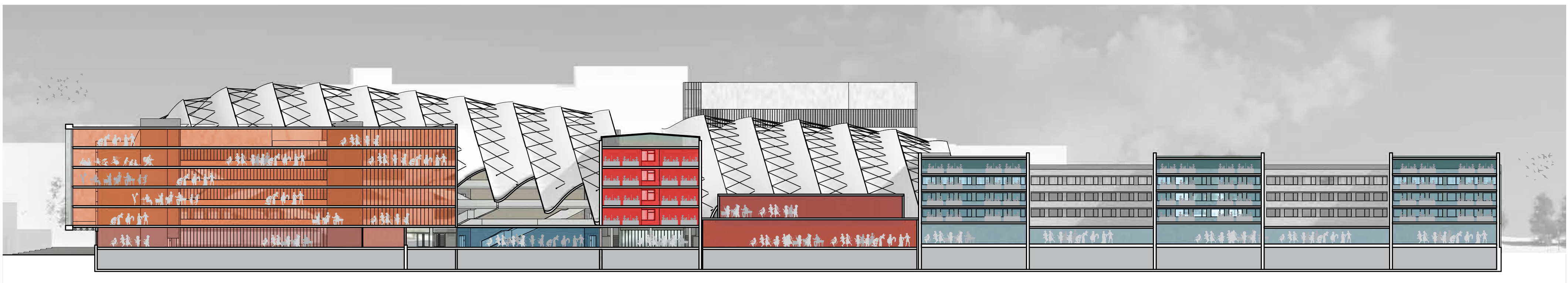
EAST ELEVATION 1:500



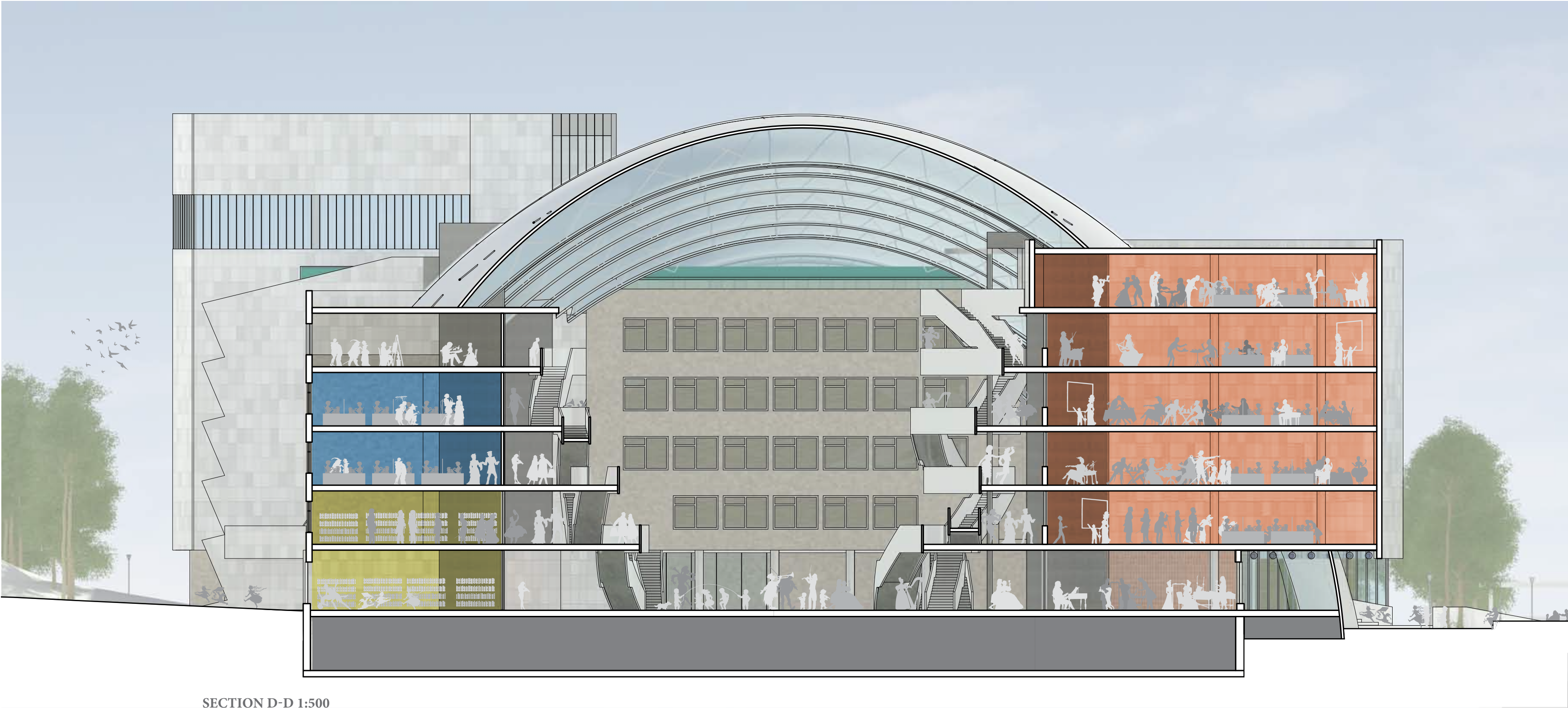
SECTION A-A 1:500



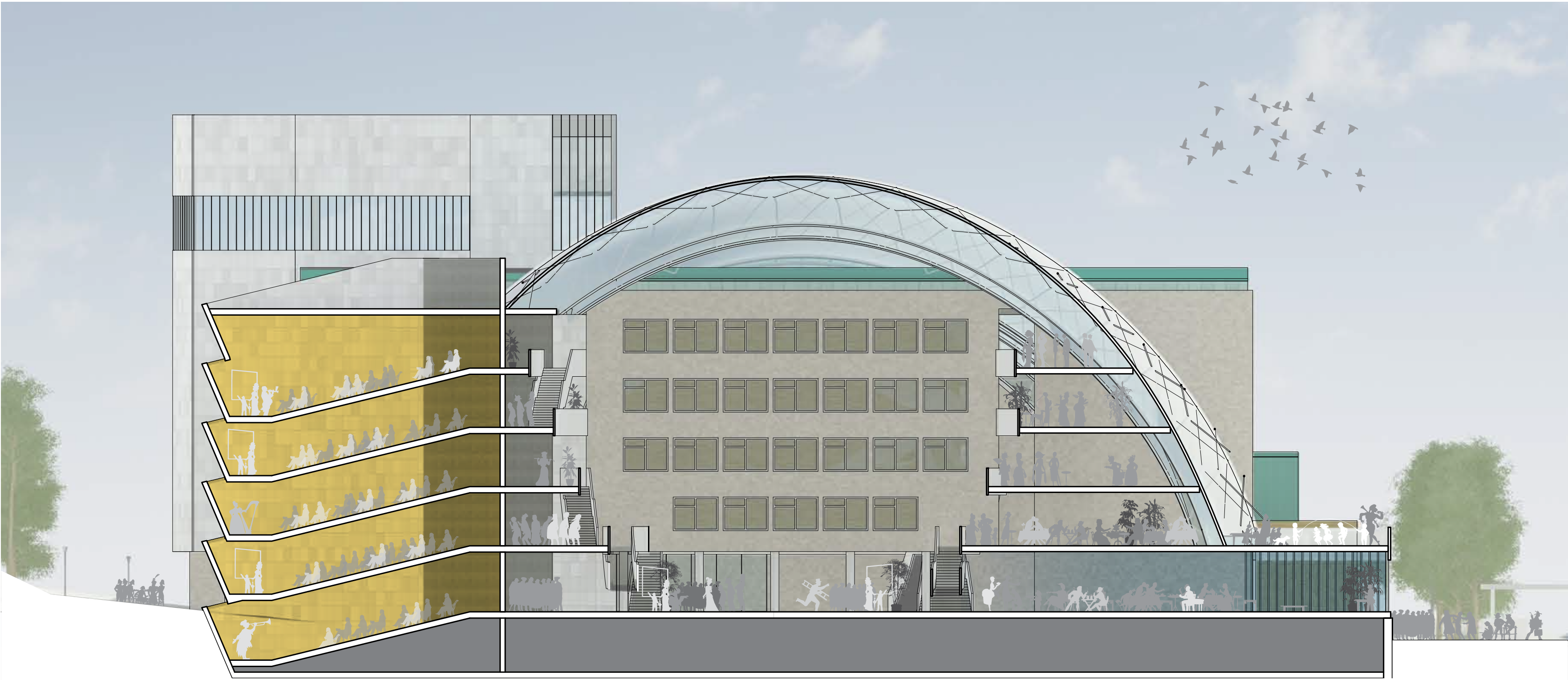
SECTION B-B 1:500



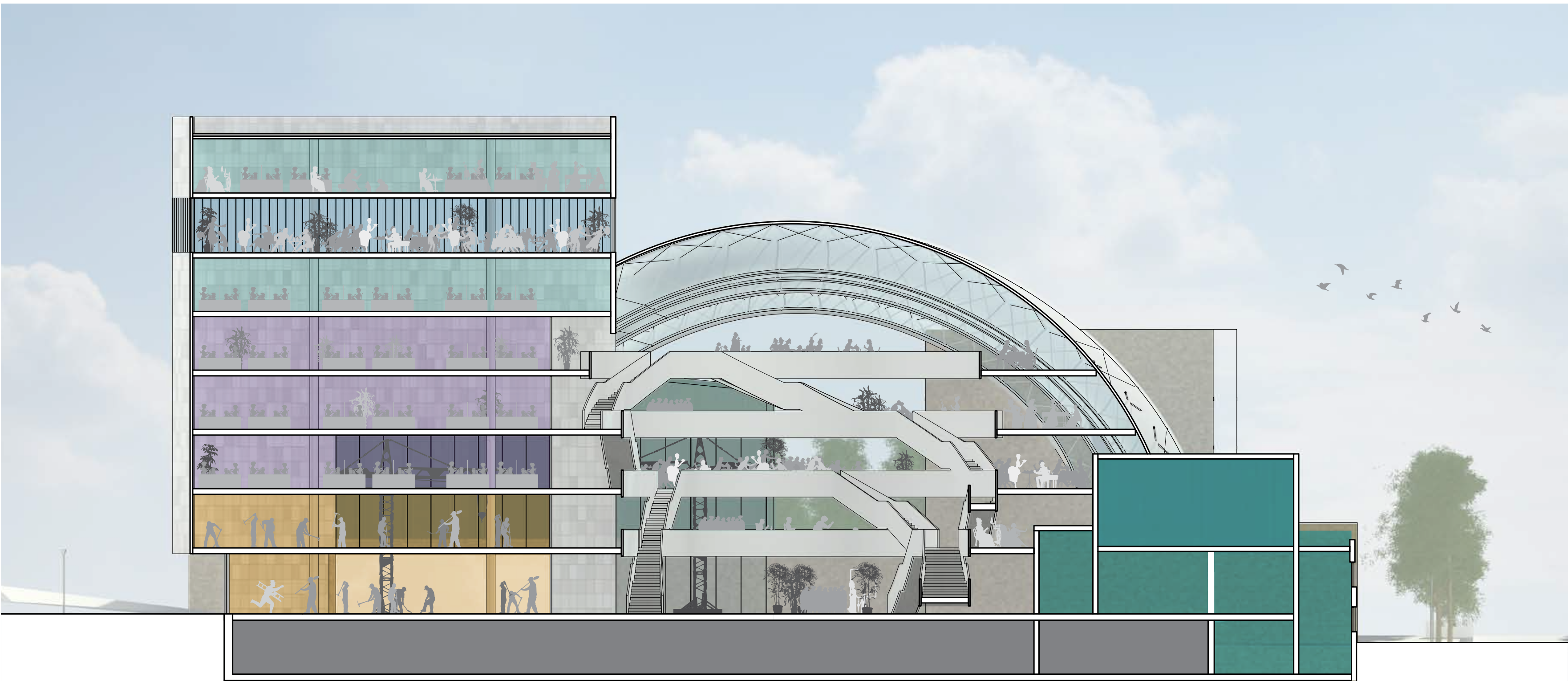
SECTION C-C 1:500



SECTION D-D 1:500



SECTION E-E 1:500



SECTION F-F 1:500



INTERIOR PERSPECTIVE



INTERIOR PERSPECTIVE