



BARCELONA ARCHITECTURE CENTER

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BAC Barcelona Architecture Center

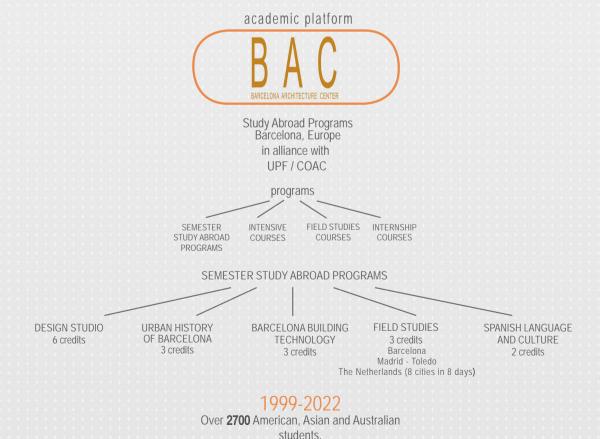


BCN Urban project

Barcelona Studio "Barcelona Collection Center"

Edited by Barcelona Architecture Center in colaboration with Clemson University, Texas A&M University and Roger Williams University

New Barcelona Museums Collection Center, Spring 2022 BAC, Barcelona Architecture Center



BACELONA ARCHITECTURE CENTER

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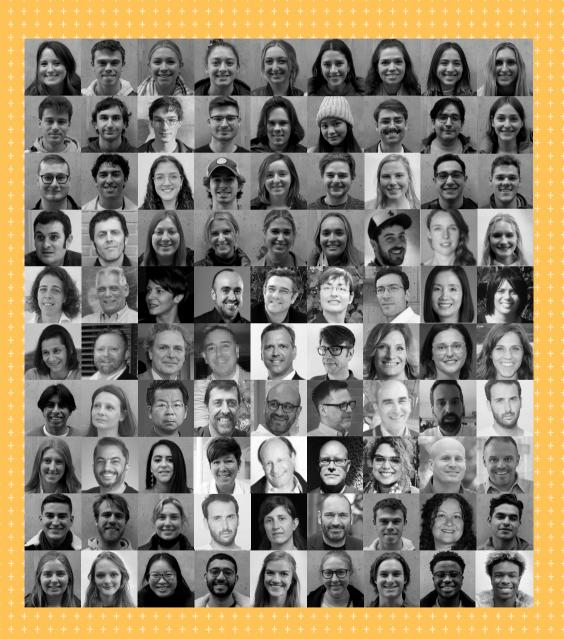
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BAC thanks to YOU ALL

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Spring 2022 BCN Urban project

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Executive Director



ROLDAN

BAC PROGRAM

Introduction letter by Miguel Roldán, Executive Director of BAC program.

The Barcelona Architecture Center, BAC is an educational organization that was founded in 1999 and is currently chaired by Miguel Roldán. The center offers custom designed architecture and urban design programs in Barcelona to international architecture students and schools.

The BAC was created with the aim of developing academic and research collaborations with other universities and higher education institutions across the globe. We are continually building and international network between universities to develop common architectural research projects.

This network includes new partners every year from a variety of geographical areas, as we are especially interested in focusing on local and global points of view. We are optimistic in our pursuits as we design the future of a professional environment in a global context, creating mechanisms to share tasks and to work in a worldwide team.

Having reached over 2,600 students since its foundation, the BAC currently collaborates with our local partners UPF, COAC, Catalan Association of Architects and La Capell. Our international partners include **Texas A&M University, Clemson University, Roger Williams University, Penn State University, CEDIM of Monterrey, Shibaura Institute of Technology** and a number of other Japanese universities.

The **BAC** has been participating in a variety of educational exchanges since 1999. Over the last more than 20 years, our directors have had many different experiences in organizing innovative programs and workshops designed to train architects in the frame of European architecture, urban and landscape design tendencies, as well as participation in teaching exchanges around the world. Over the past decade, the BAC has established a mission and designed its programs and research to this end.

For more information on this program visit our webpage http://barcelonaarchitecturecenter.wordpress.com/

Professors





Site description:

The project site this Fall 2021 Design studio project will be the plot used as a Zoo parking, located between Wellington, Villena and Ramón Trias i Fargas Streets and Icària Avenue. This site limits with Ciutadella's Park and Zoo to the South-West, Pompeu Fabra University Campus to the North-West, Carlos I Park to the North-Est and with the covered train tracks to the South-Est.

This site has remained unused even its potentiality as a privileged piece of the city, due to the difficulty of accessibility and also because of its infrastructural condition and the proximity of the train tracks. This 'remoteness' has built a site that could seem forgotten by most of the citizens. Even that it has a remarkable **urban condition** to become a central element for the reconversion of this area of the city.

The site needs to be re-interpreted, re-thought and re-use to transform it into a new "urban hinge" that makes possible the relation between the

This FALL 2021 project wants to research the site condition opportunities. Hence the transformation of this plot can contribute to a challenge for the reinterpretation of Barcelona Second sea façade to the Mediterranean but also a confluence between city and infrastructure. Architect can join their voice in this architecture opportunity.

Site location:

1. Ciutadella Park

Ciutadella Park is located on the area formerly occupied by the military citadel and it was transformed to held the 1888 Textile Industries World's

This is an enclosed, walled park, like a large pouch attached to the city. The Park project was done by the master builder Josep Fontseré, whose competition motto was "Parks are to cities what lungs are to people", and proposed that most of the 60 hectares should be given over to gardens and also that most of the military buildings should be demolished. The project was extremely important because it established relationships between different parts of the city that remain unchanged nowadays.

Ciutadella represents the legacy of 1888 World's Fair and it is the most important Public Park for Ciutat Vella although it has strange relationships between all the Eastern parts, La Barceloneta neighborhood in particular, and the rest of the city.



2. Zoo

The Southern part of Ciutadella Park was never completed until Mayor Porcioles decided to build the **Zoo**, that doesn't allow the **relation between** de Park and the Western part: Pompeu Fabra's Campus and Poblenou's neighborhood. This controversial project has been on debate in the last few years. In this area, the park is guarded by a **perimeter fence** and the Zoo is waiting to be moved away. That would finally give the park the opportunity to reach its original perimeter.

3. Pompeu Fabra Campus

Pompeu Fabra University Campus is located on the North-Est façade of the park, and it occupies two former military barracks as well as other satellite buildings next to them.

The team of MBM Arquitectes, Josep Maria Martorell, Oriol Bohigas and David Mackay, was commissioned to perform the renovation of the southern building that was inaugurated the year 2000. Esteve Bonell and Josep Maria Gil were in charge of the renovation of the northern building.

An intervention by Juan Navarro Baldeweg hosts the Pasqual Maragall Foundation for Research on Alzheimer's Disease and other UPF Research Park Buildings.

One of the highlights is the renovation done by Lluís Clotet and Ignacio Paricio on the former Water Tower. It was originally designed by Josep Fontseré in 1894 and converted into the new Central Library for the

4. Ring Road (Passeig de Circumval·lació)

Located in the South-Est part of the site, the Ring Road is a Street with no name, no neighbors and with non-urban condition. The Road follows the train tracks on one side, and the 700 Perimeter fence on the other side.

5. Train Tracks

The train track to Estació de França are a crucial infrastructure to build the city's morphology in the southern part of the plot.

6. Coast line

The site is related with the space between Barceloneta's neighborhood and Villa Olimpica, in the Poblenou's neighborhood, on the coast line of the city. Although its proximity, nowadays it is impossible to jump this urban gap between the pieces.

Plot description

The plot limits are with Wellington Street to the South-West, where are located the Zoo entrance and the end of the Tram, with the station of Ciutadella – Vila Olimpica. On the North-West there is the Pompeu Fabra Campus and a Housing Building that remained from the Military Barracks, with façade to Wellington Street. A private passage is located between them. On the North-Est we reach Carlos I Park, a small intervention next to the train tracks and Ring Road (Passeig de Circumval·lació), that are located in the South-Est limit of the plot and represent an urban defining element for the growth of the city.

The use of surface parking is totally underusing the site and has no relation with the **program** that is housed in neighboring buildings.





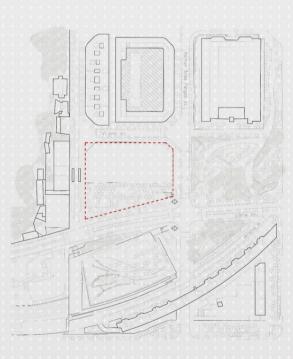
4. Theme description

Following a municipality requirement BAC proposes to FALL 2021 students to design the new Barcelona Museums Collection Center.

The building will be a collective storage and restoration space for the public Museums of Barcelona City. It will allow to preserve the local cultural heritage with suitable protection conditions and facilitate its accessibility for study and investigation.

These collections are composed by elements of different types: objects, furniture and documents. Their dimensions could be very unequal and requirements for their storage could be totally distinct. The building should be a piece that is capable of transforming itself in the future and adapting to new challenges.

The project theme will be strongly based on the site discussion at a functional, historical, and social components, paradoxically in a place that seems to be forgotten by the city. We ask to architects and landscape architects to participate in the debate. The course, within a simulation of a competition, could be a chance to test the role of our professional practice in this regard. the creation of knowledge, it has to allow to preserve in order to share, reinforcing the role of the museums in contemporary society with critics of generation and diffusion of knowledge.



Why a Collection Center?

The collections of the municipal museums are currently located in different buildings. In some cases, they are located in the same building of the museum, or they are in an external building of the museum itself. In other cases, they are in rental spaces under certain conditions that are not appropriate for them. This propitiates crowded spaces, outdated, in bad climatical conditions and that present difficulties to the access to the collections, making it impossible to think of an increase in the municipal cultural collection.

The municipal museums have the urgent need to share a multidisciplinary space, giving adequate conditions to the collections, with new laboratories, study and research areas, as well as collaborative spaces, training and interchange between the museums, cultural agents, universities, and other institutions and professionals at national and international scale.

The new Barcelona Museums Collection Center has to facilitate the accessibility to the collections not exposed to the professionals and researchers, but also to general public in a certain way. The building should give something to citizens of Barcelona and recover the relations people and our cultural heritage. The building has to promote the exchange and the creation of knowledge, it has to allow to preserve in order to share, reinforcing the role of the museums in contemporary society with critics of generation and diffusion of knowledge.

Design goals

City scale

- 1. Which is the relation between the new building and the city waterfront?
- 2. Is the **limit condition** of the site significant for the project?
- 3. Are the layers made during the history of Barcelona visible in the

Urban scale

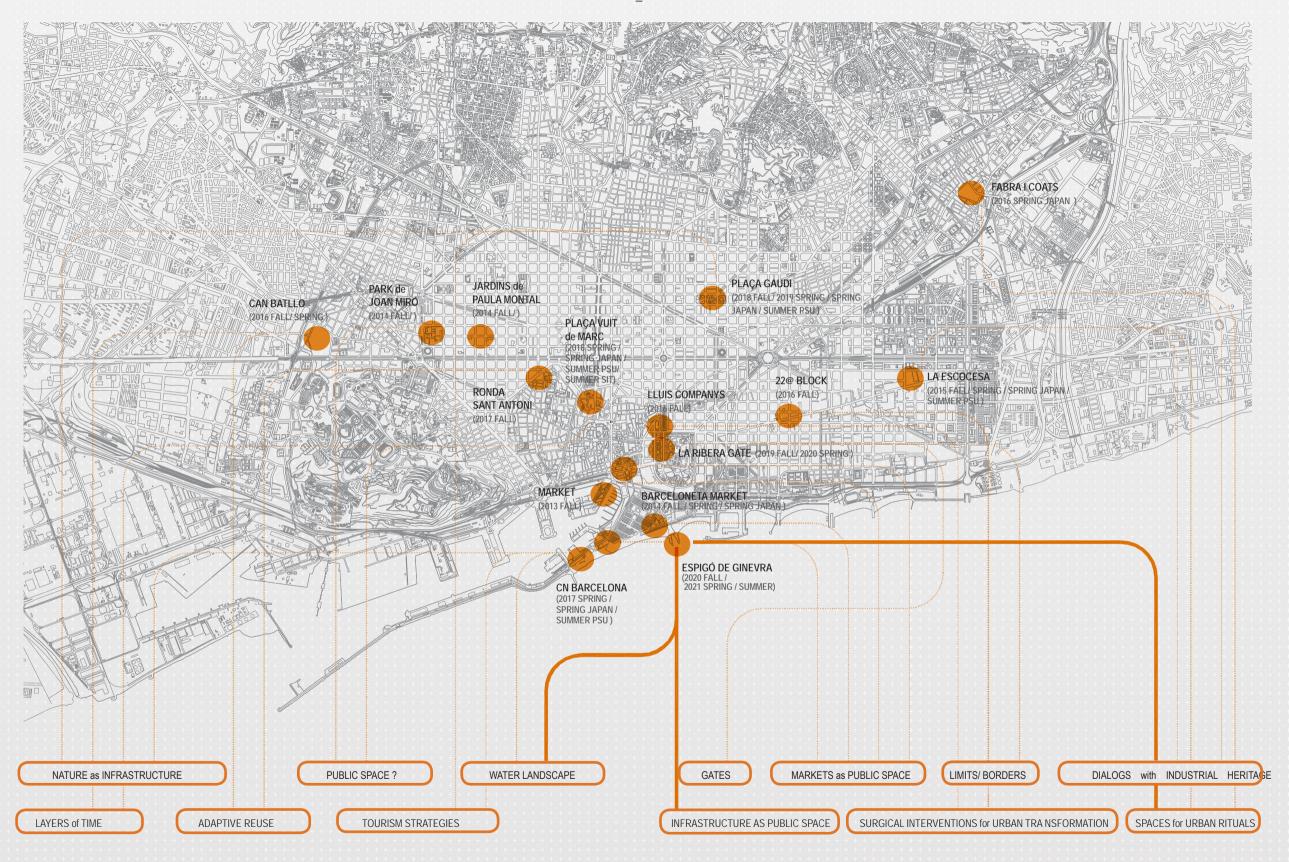
- 4. What is the role of Ciutadella Park in the project?
- 5. Is there a relation between the project and Pompeu Fabra Campus buildings and program?
- 6. Are the train tracks significant in this site?

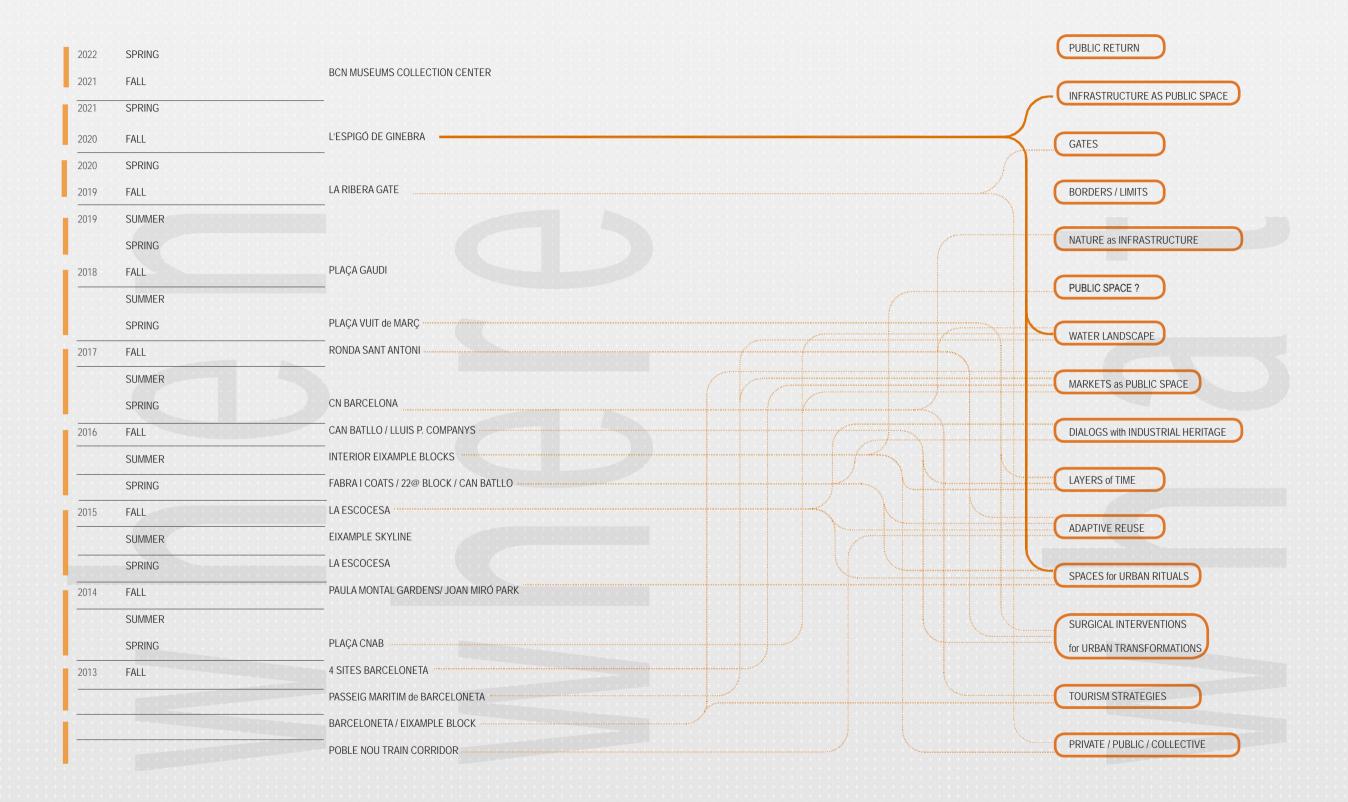
Architecture + Landscape scape

- 7. How are the entrances working in relation with the surroundings?
- 8. How do I move around the building? Is the building vertical? Horizontal? Underground? Overland? ...
- 9. What is the collection museum building in this city context?
- 10. Which is the public-social return with this building?

1. STORAGE and ARCHIVE	surface m ²	by total %
(OBJECT + DOCUMENT área) delivery -loading dock -disinfection room	840 400 440	4
storage	10.500	50
logistics and services - facilities	3.990 3.390	19
maximum surface 1	15.330 m ²	73%
2. PUBLIC area	+ + + + + + + + + + + + + + + + + + +	+ + + + + + + + + + + + + + + + + + +
2.1 public use entrance - atrium + services - information desk	420 220 200	2
public space - reception and public events - exhibition area	1.680 1.100 580	8
maximum surface 2.1	2.100 m ²	10%
2.2 private-public use offices - coworking space -10 private offices	630 430 20	3
conservation-restoration	1.050	5
research-study	1.470	5 7
photography study	420	2
maximum surface 2.2	3.570 m ²	17%
maximum total surface	21 000m ²	100%







Design Studio: Student Teams





























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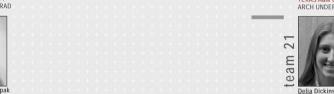


































ARCH UNDERGRAD





Jesse Edward Blevins ARCH GRAD

eam 11A











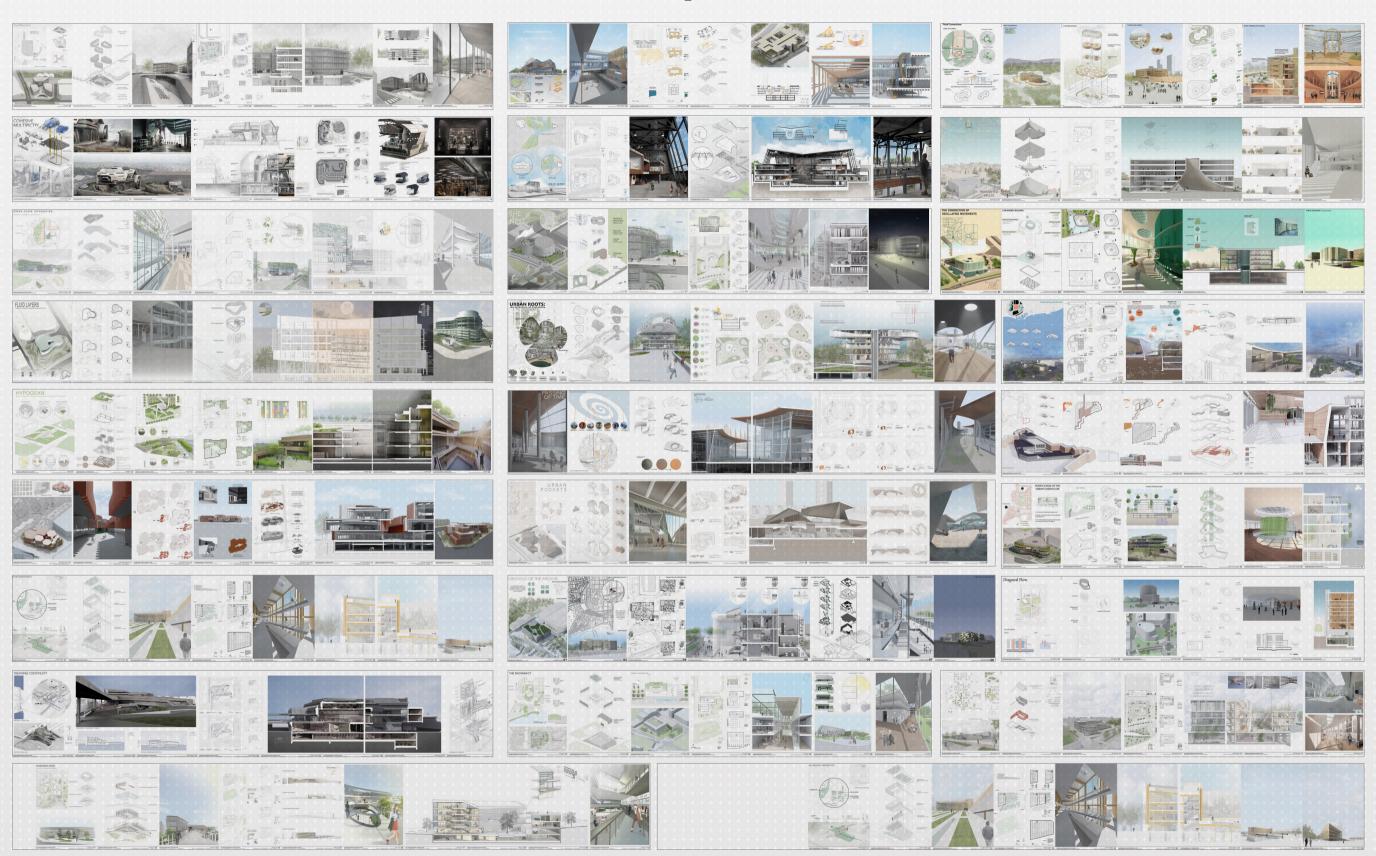




LAND ARCH UNDERGRAD ARCH UNDERGRAD

ARCH UNDERGRAD

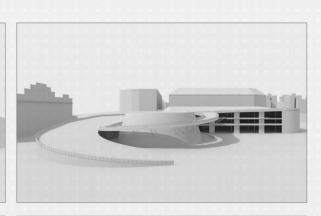
ARCH UNDERGRAD

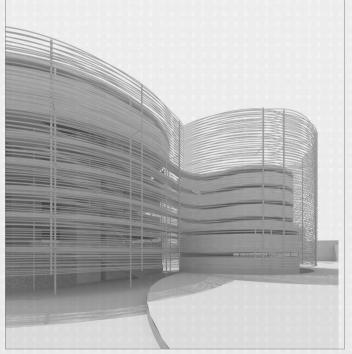


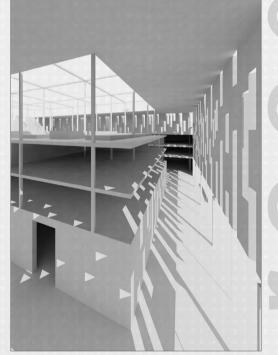


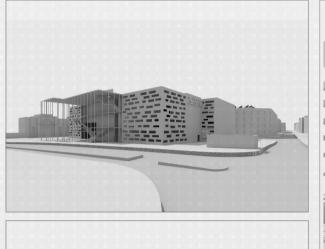


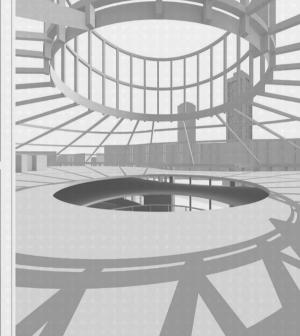


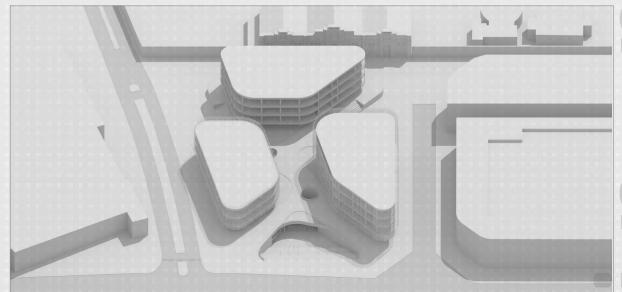


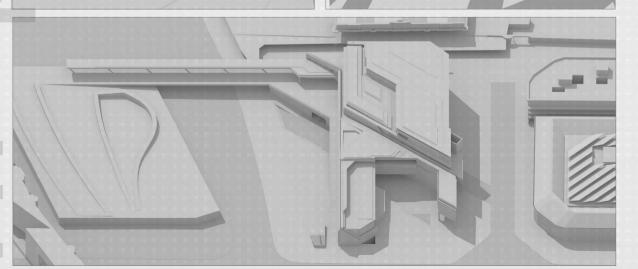


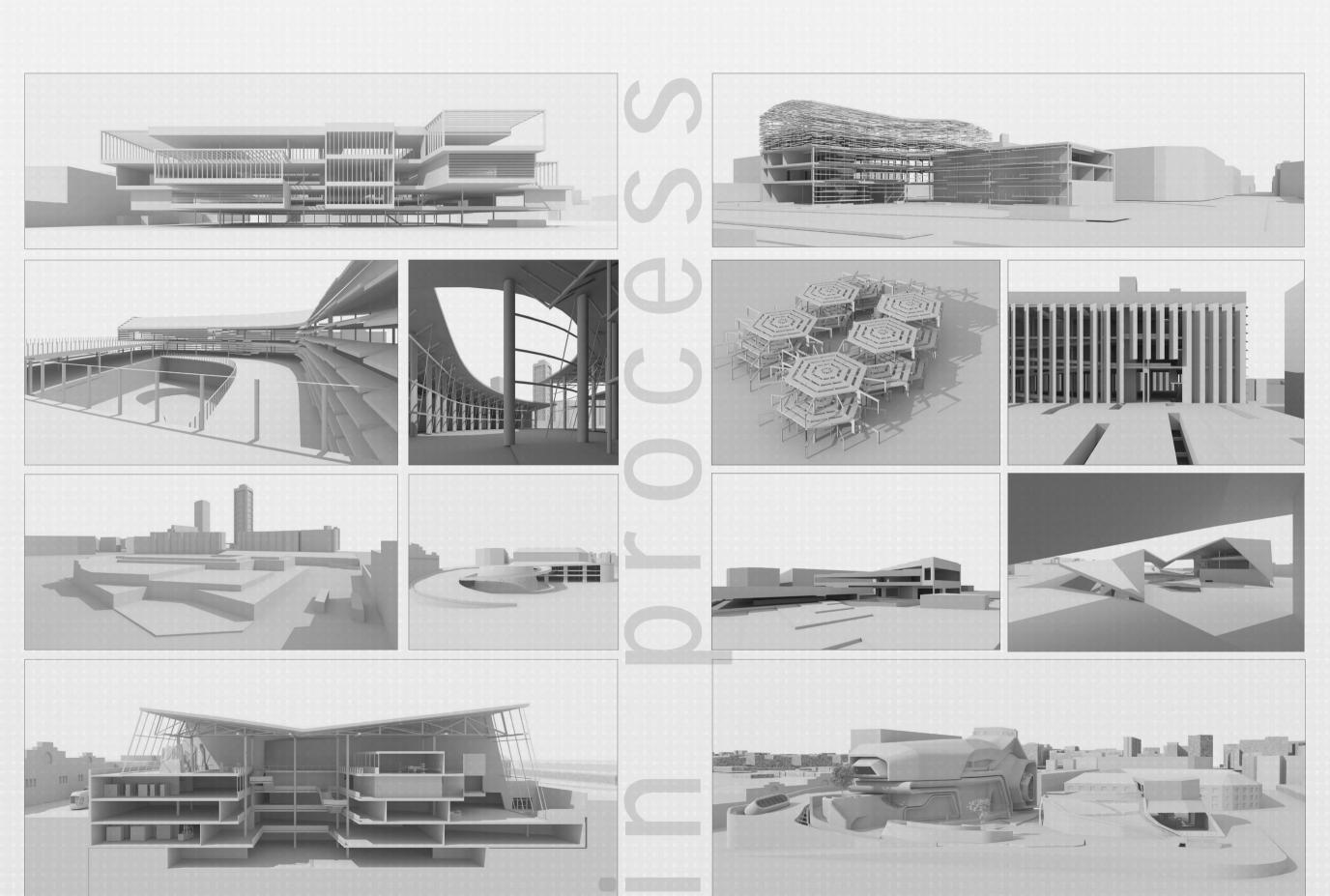














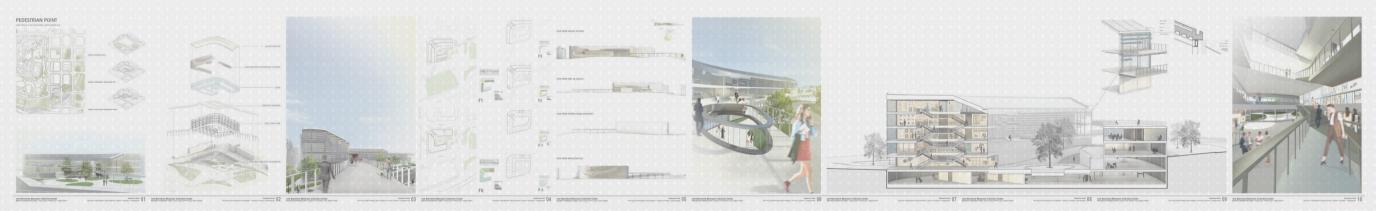






PEDESTRIAN POINT

Ellie Rhinehart, Clemson University, Architecture Undergraduate Gina Tecca, Clemson University, Architecture Undergraduate Becca Matalon, Clemson University, Architecture Undergraduate



Our site can be described as a midpoint between the historical Eixample District and a more modern development that arose due to the increasing importance of the Olympic Port. This invites the opportunity to design a building on the site with the intentions of synthesizing the two different conditions of the surrounding blocks. Our building, Pedestrian Point, proposes a more contemporary approach to the Eixample block that allows for a more fluid transition into the newer developments near the sea. Like Eixample, It will still hold the edge of the site and contain a central courtyard opening up entirely to the adjacent Parc de Carles I instead of remaining closed off. We will increase pedestrian foot traffic and encourage public activity within the site by creating a network of connectivity through two bridging systems and a morphed topography into an urban plaza.

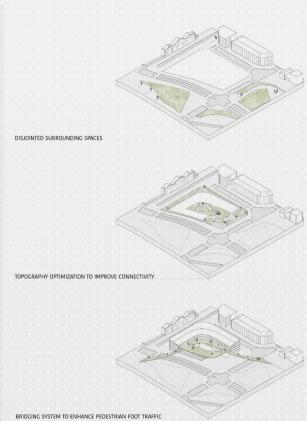
Our building will be shaded through horizontal photovoltaic louvres placed on all facades that are heavily affected by the sun. Each louvre is manipulated based on the summer solstice when the sun will be hitting the hardest. Behind these louvres will primarily be glass, but concrete walls will be in place where the archives will be stored to maintain necessary temperature conditions. It can be noted that there is a lack of louvres where our atrium is located. We will be putting a low emissivity glass here to minimize the amount of heat that can pass through, but still accomplish the design decision to showcase the public circulation and invoke curiosity for passers-by.

The interior form of circulation will be in the northwest corner of the site. This gives accessibility at ground level from the zoo and the neighbouring alleyway, while also providing access from the metro that enters our sunken public plaza.

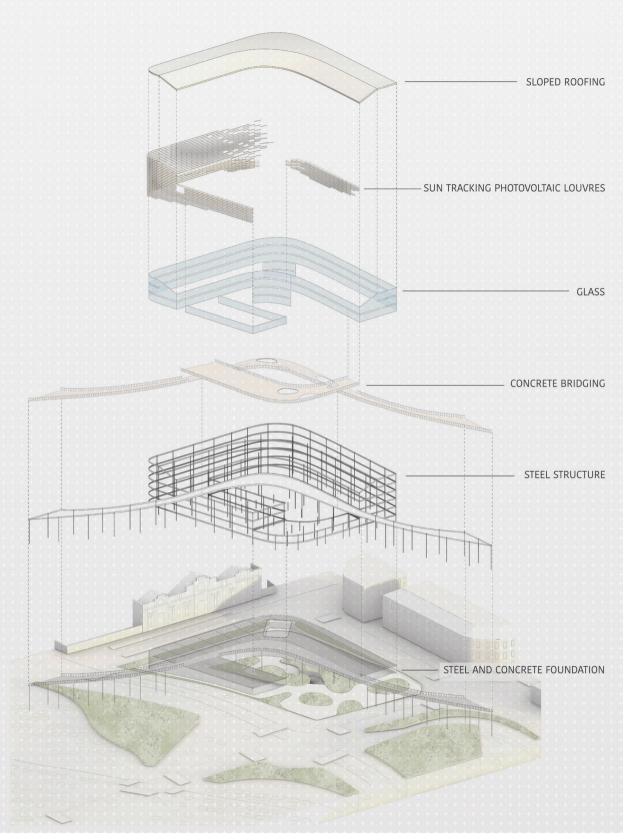
Our building's design is a combination of a bunker and a silo typography, with the two floors located underground mainly dedicated to storage. At large, our building's programming consists of public circulation towards the interior facade and the private circulation located towards the back. Increasing pedestrian foot traffic, forming connectivity between adjacent spaces, and the implementation of photovoltaic louvres are our three main concepts to not only create an archive museum, but an inclusive gathering area that attracts passers-by.

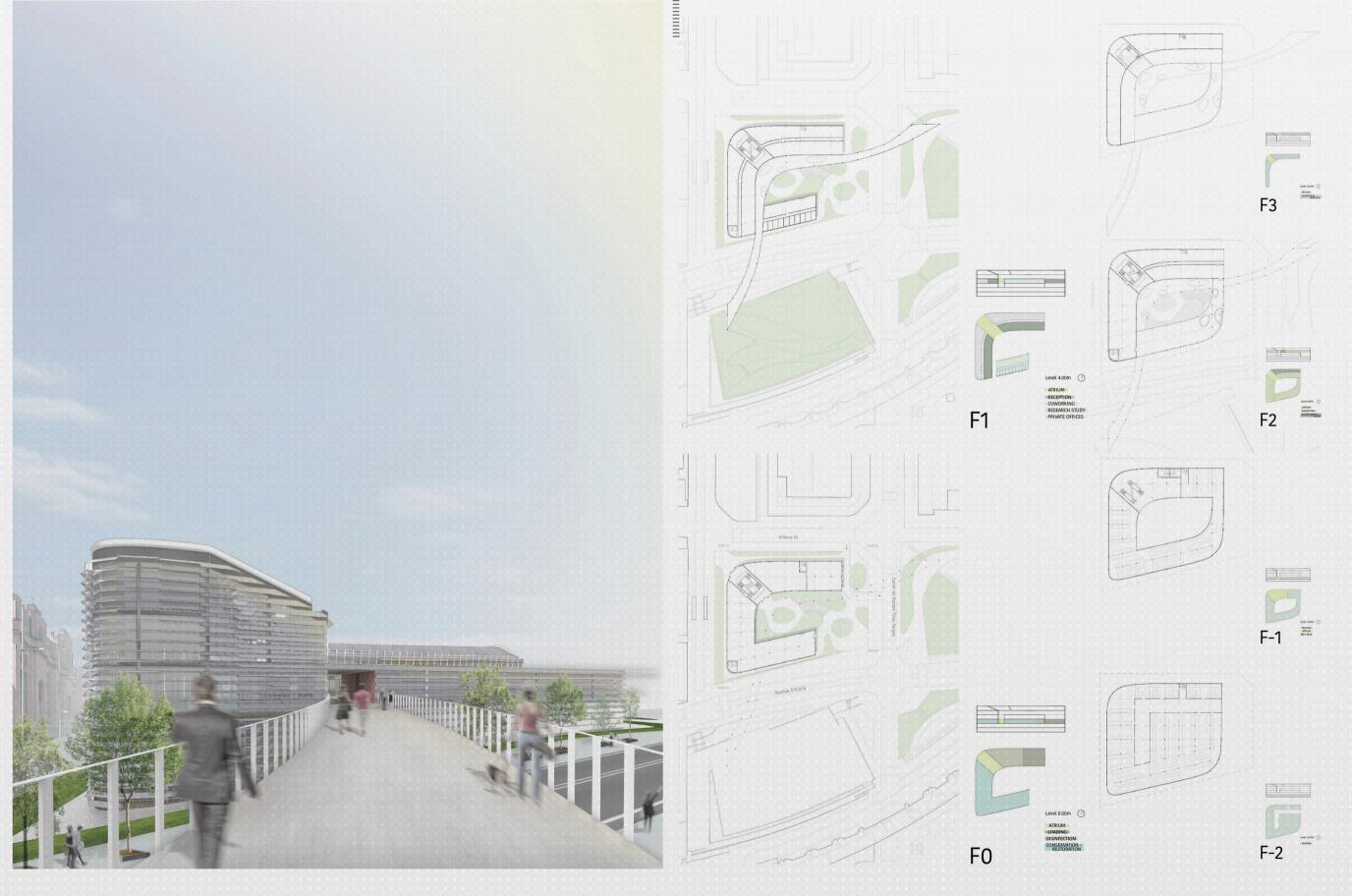
GINA TECCA, ELLIE RHINEHART, BECCA MATALON

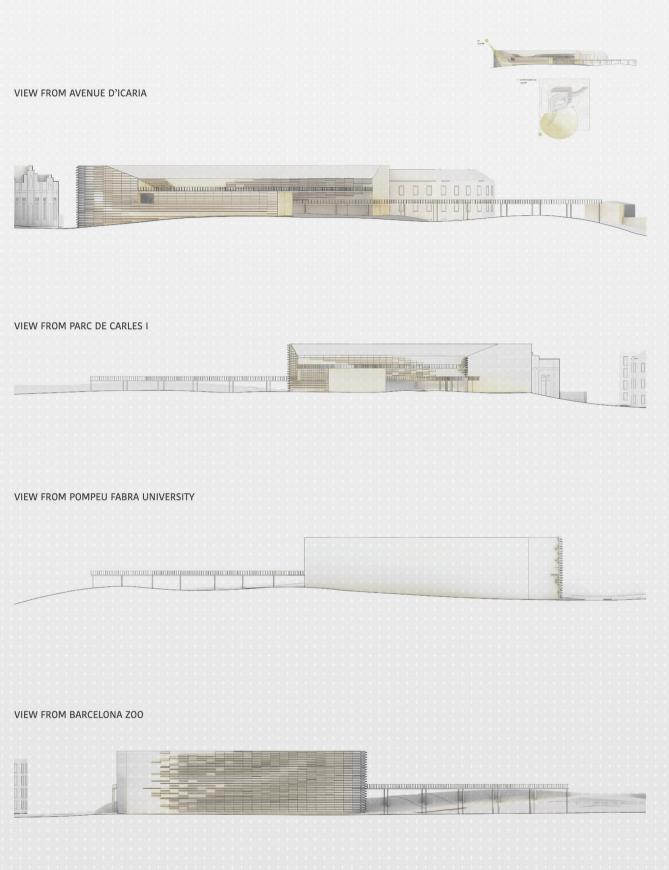
















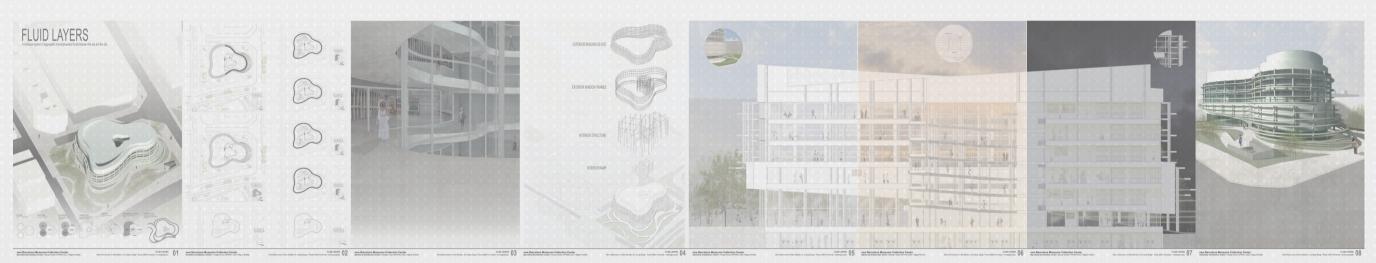








Olivia Mclemore, Texas A&M University, Architecture Undergraduate Emilie Barbier, Texas A&M University, Architecture Undergraduate Lindsay Bopp, Texas A&M University, Architecture Undergraduate

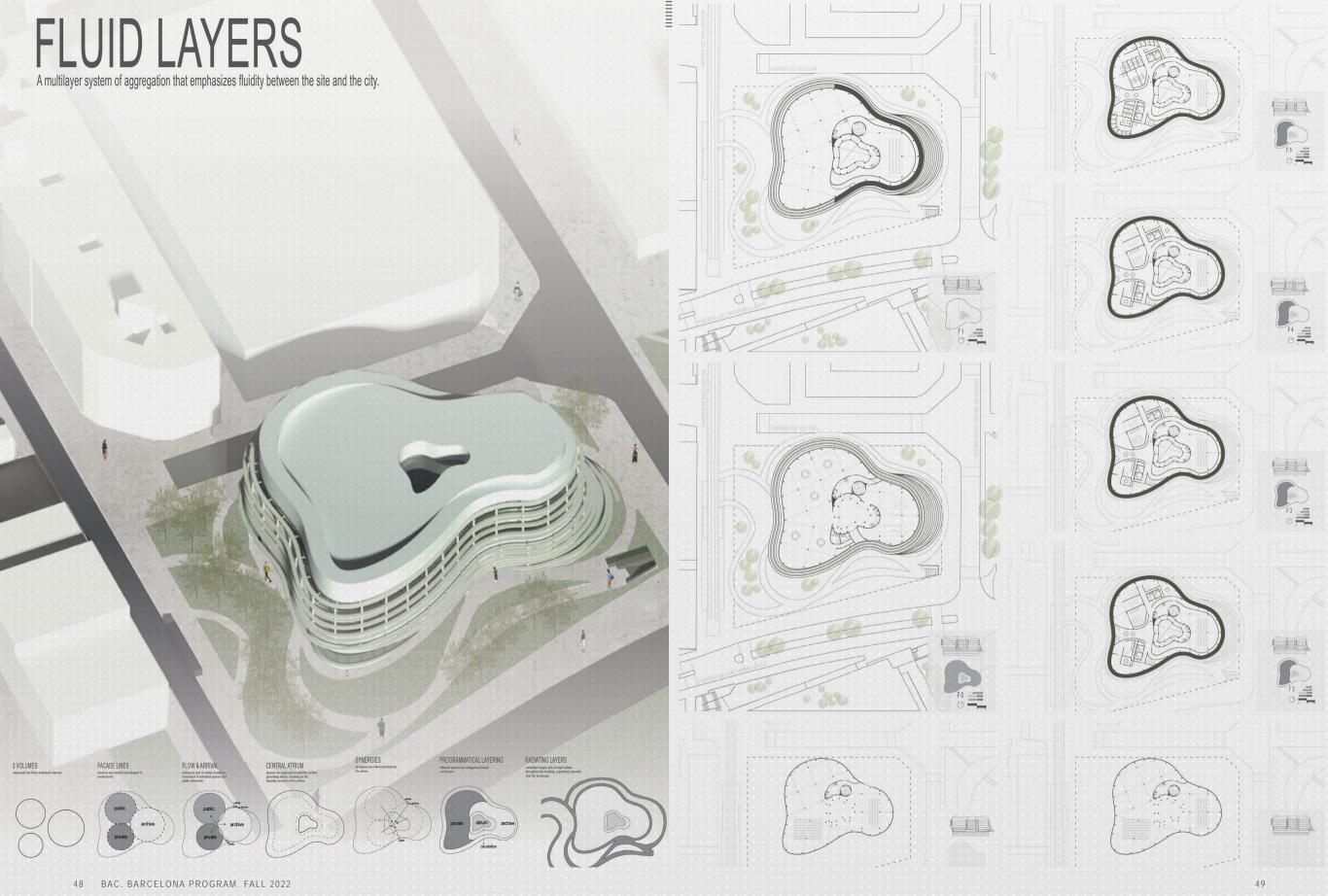


The project began with three individual cylinders, each with a separate function. As the project progressed the cylinders were melded together to create a unique and fluid shape, as well as interconnected spaces between the public, private, and archive. These key areas are centralized around the open atrium, which also acts as the main circulation path and the viewing point of the archive. The archive is displayed from the atrium ramp on each floor and allows an interactive cultural experience for visitors.

The building is a multi-layered system of aggregation that allows for fluid movement and ease of function. It serves to provide protective layers that houses the archive and therefore preserves the artefacts held inside. The layers radiate from the inside and are shown in the program, massing, and site to emphasize the fluent gestures of the project. This can also be seen in the development of the site which shows the interaction between the sidewalks, the landscape and the building.

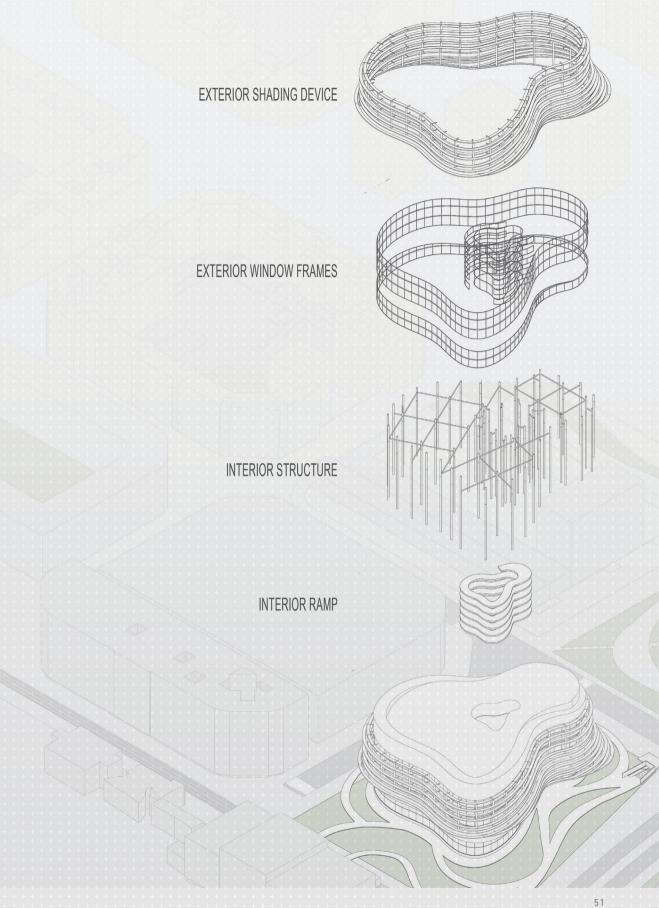
Most of the archive storage is placed underground to maximize public space, while still providing visibility to a selection of artefacts via the ramp overlooking the atrium. This is the main experience for visitors as they are able to view pieces from the centralized circulation path which can be accessed from the main entrance. While this acts as the principal role of the project, other programs reside within the building as well to aid in the restoration and conservation of artefacts on site, and manage other events or exhibitions present at the time.

Overall, this project aims to create fluid spaces in which visitors can interact with the history and culture of Barcelona through the viewing of artefacts and collections. It places emphasis on the interaction between the radiating layers created from the interconnected spaces and promotes an interest in the historical preservation of the city.











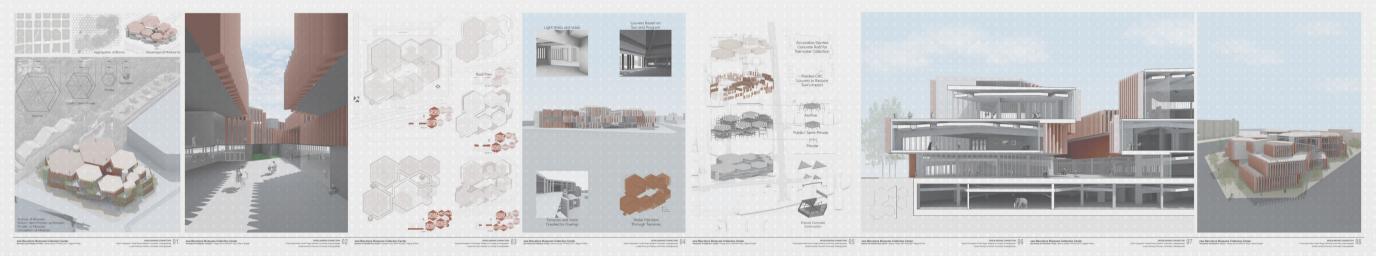






MODULARIZING CONNECTION

Eliana Greenstein Himle, Roger Williams University, Architecture Undergraduate Jordan Kenney, Clemson University, Architecture Undergraduate



An archive is a collection of things that need to be organized in a flexible and connected way. Our approach was to design a building that was a collection of things in the form of aggregated modular hexagons. We were inspired by the aggregation of the Cerda grid and the voids created by stacking the modules.

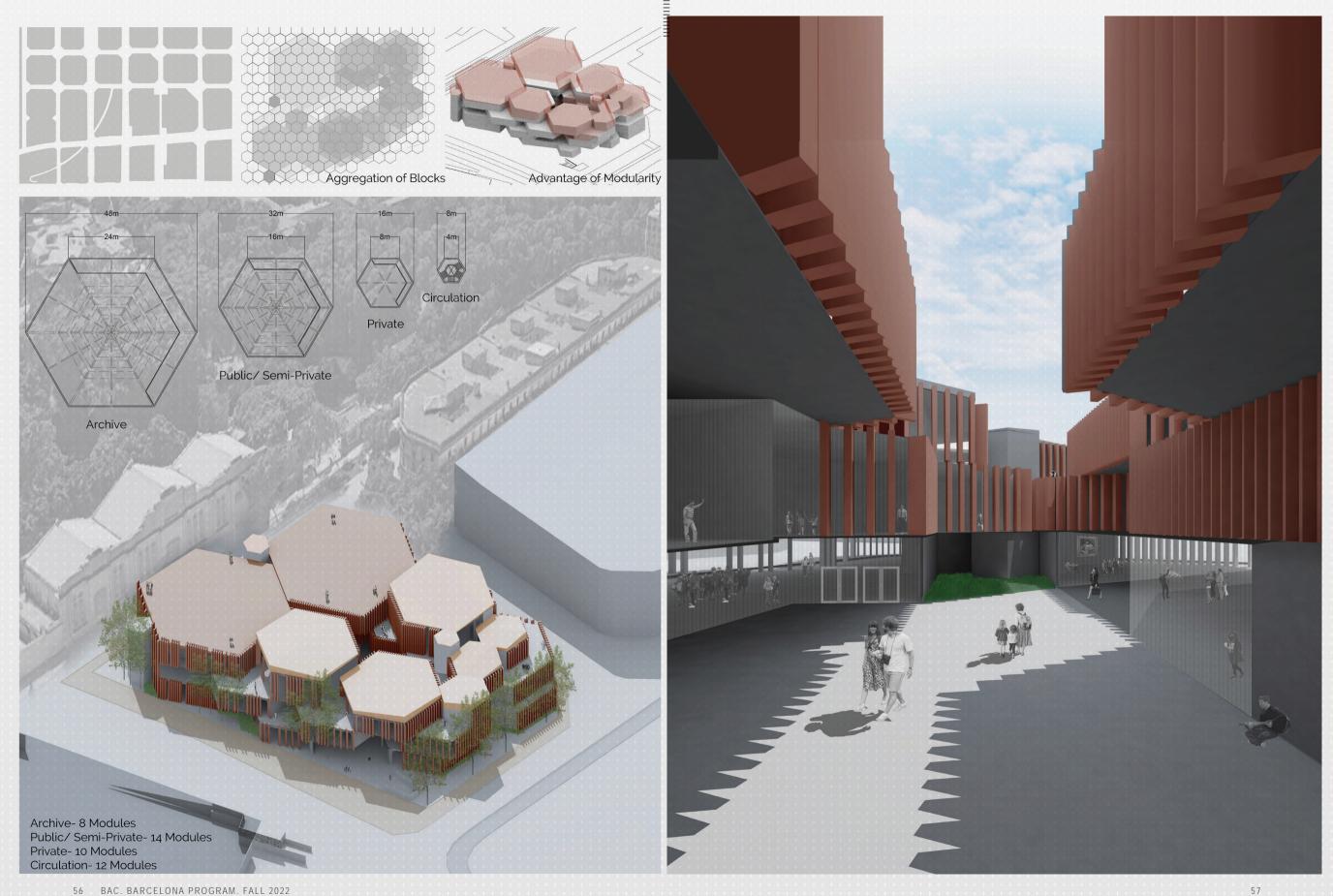
The modular system is very efficient in the sense that it allows for precast concrete construction, which is more cost effective and quicker to construct, making it environmentally sustainable. The modular system also allows for us to add and take away modules as the archive grows, making it socially sustainable. We have 4 module sizes based on programmatic needs. The biggest is for the archive, then public and semi-private, then private, and finally circulation. The modules are arranged to create an inner courtyard that is common in the Cerda grid. The arrangement of the underground level creates a few gaps that are used as light wells.

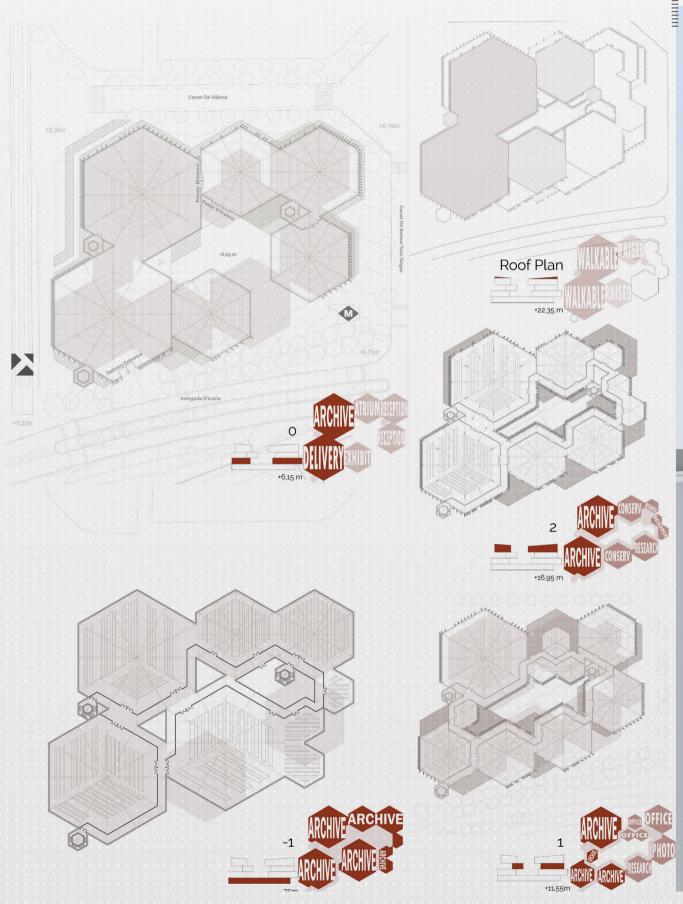
Because Barcelona receives a lot of direct southern sunlight, we have a louver system that is arranged based on the program of the module and the orientation of the sun. The south-facing archive spaces have the most dense louvers, and the north-facing public spaces have the least dense louvers.

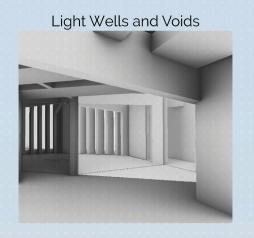
The overlapping of the modules create voids that are serving as terraces. The terraces help with ventilation into the private spaces and rainwater collection. In order to take advantage of the voids and combat the surface area of the building on the site, the roof and terraces guide and collect rainwater for use within the building.

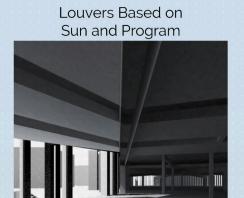
The building and roof are made of precast concrete that can be assembled onsite. The louvers are made of a very thin concrete called CRC and colored to relate to the colors found in Barcelona. With the main goals of being socially and environmentally sustainable, we are able to design a building that can easily fulfill the needs of the community for years to come.

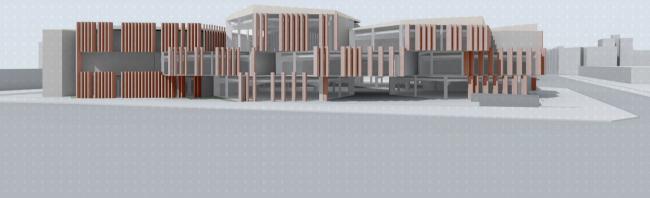
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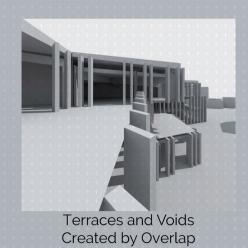


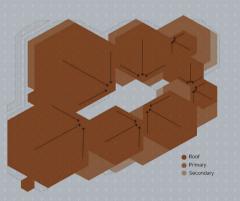




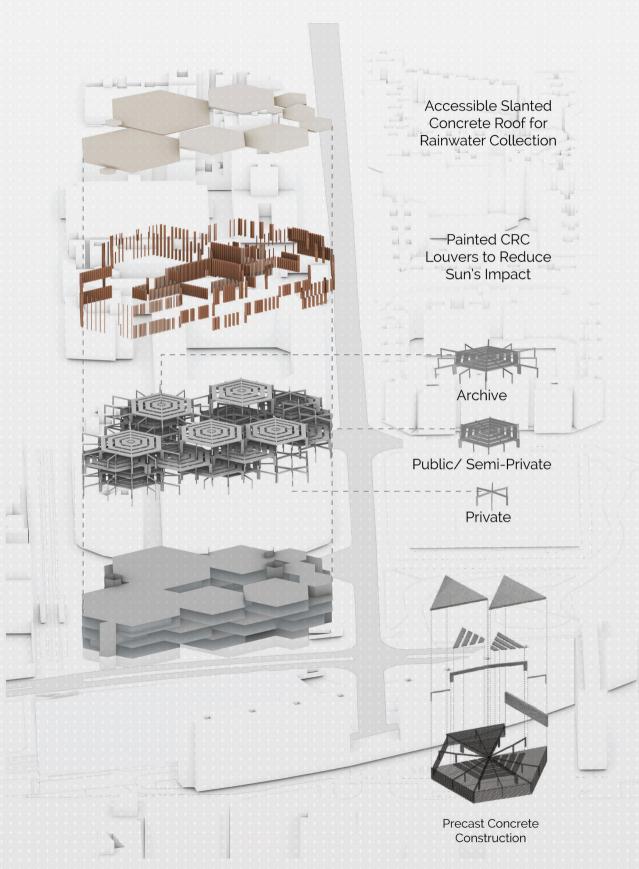


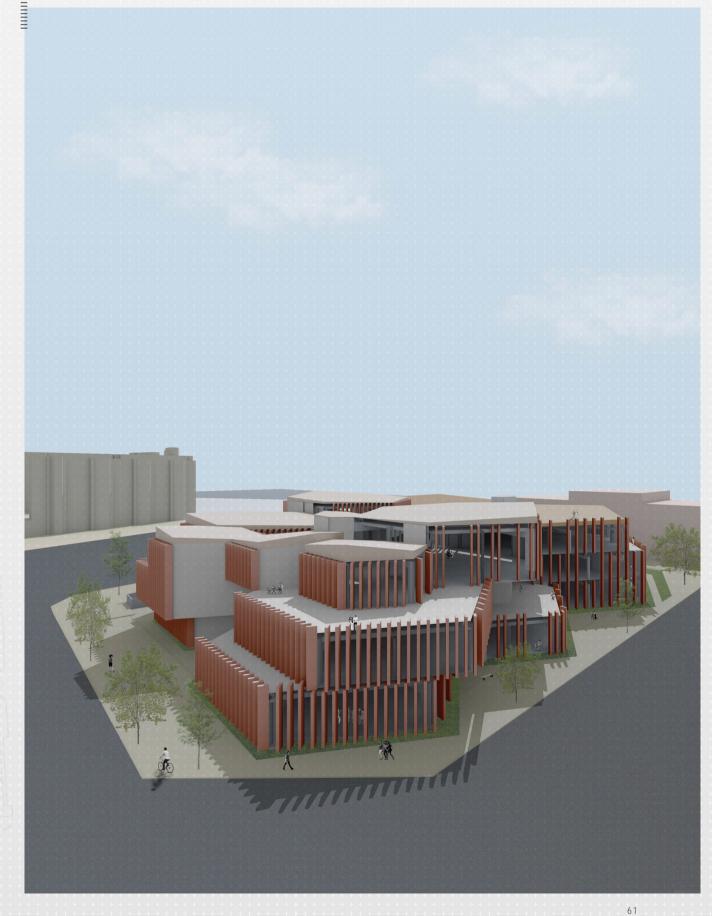






Water Filtration
Through Terraces





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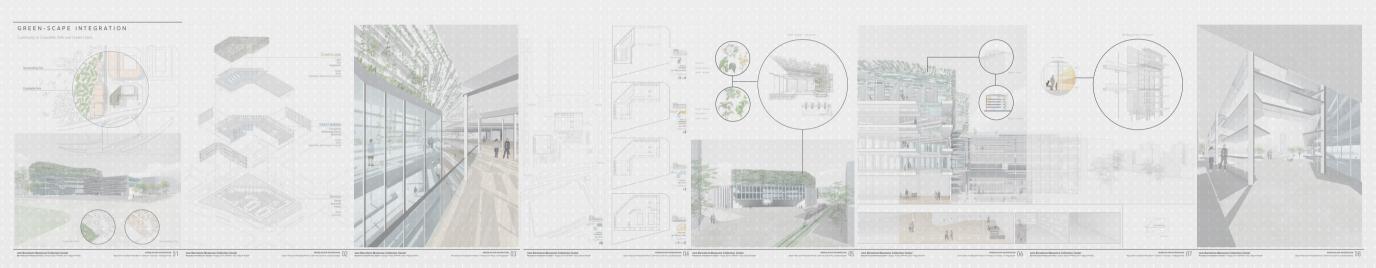






GREEN-SCAPE INTEGRATION CONTINUITY OF CIUTADELLA PARK + URBAN FABRIC

Allysa Ware, Clemson University, Architecture Undergraduate Samantha Mount, Clemson University, Architecture Undergraduate



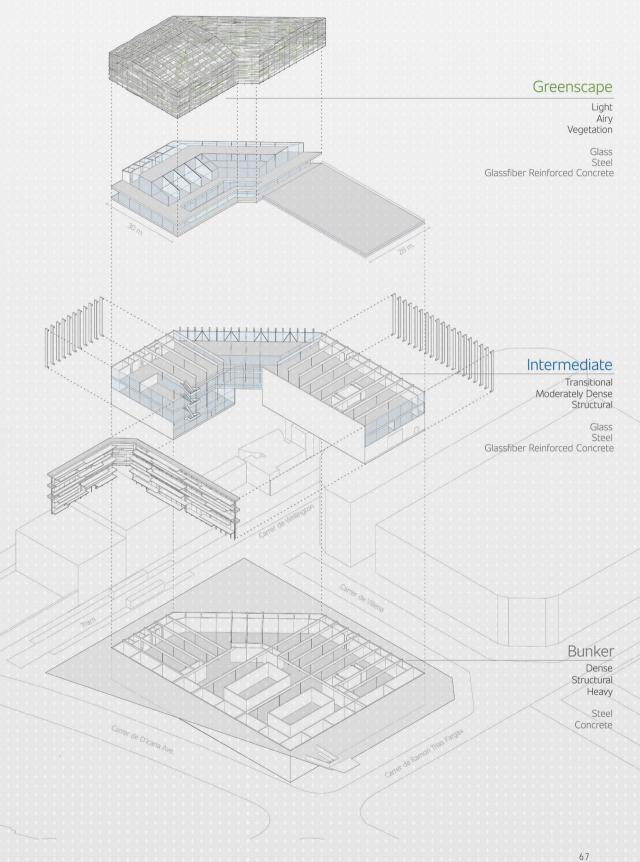
As the chosen site is a very active area located in Barcelona, we found it essential to create a continuity of the two main elements adjacent to the site: the Ciutadella Park and the surrounding city. As the park brings greenery and vegetation to the area, and the urban fabric is a constant characteristic in Barcelona, we aimed to design an archive that doesn't disrupt the experience of either element. As such, the design includes three main sections that integrate the greenery and the hardscape: the Bunker, the Intermediate, and the Greenscape.

The Bunker is very strong and dense with a steel structure and heavy concrete walls, holding the storage spaces for the archive- this is where the urban fabric is most evident. Following this is the Intermediate section, where it is still moderately dense and strong with steel and concrete, and glass elements help to create an airy and light space. This section includes most of the public programming such as the reception and exhibition space, and semi-private/public spaces such as the storage space, delivery area, photography study, conservation-restoration, and research spaces. Regarding the programming, the mechanical, electrical, and plumbing are located on the back facade, creating a backbone of load bearing walls and an array of steel columns for the structure. The Intermediate section is a transition from the bunker to the Greenscape.

The final section, the Greenscape, is very light and airy that encloses the co-working and office spaces in glass, and is encased in a skeletal steel shading system with GRC panels for the vegetation to stem upon and weave through. While growing in a hydroponic planting system, the Greenscape creates an ambiance similar to the Ciutadella Park. This GRC paneling continues down the facade, increasing in length as it enters the Intermediate section of the building, and works as a shading system for the balconies and glass facade.

These panels are held by steel rods and concrete columns to allow for more strength holding the balconies. Further down the facade and onto the ground plane, the benches designed in the public plaza space imitate a similar language of the facade, and a pathway is left open to encourage visitors to pass under the cantilevered space of the building. This plaza helps to further enhance the concept of continuing the greenery and hardscape by physically allowing visitors to pass through the site from the direction of the city, or the Ciutadella Park. Overall, the design of this archive aims to create a space of continuity of the Ciutadella Park and the Urban fabric through the building's structure, greenscape, and plaza.



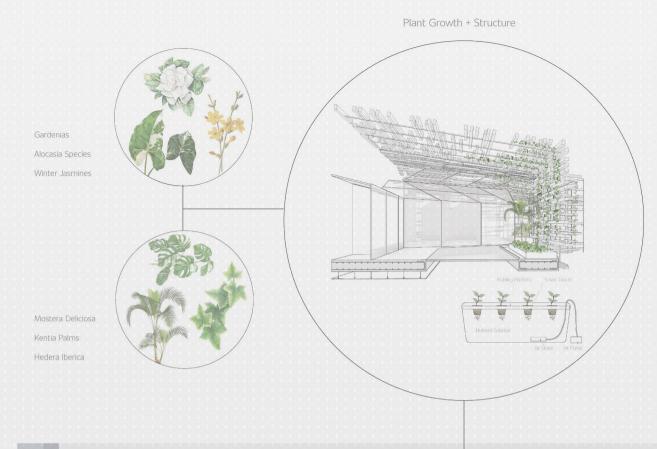


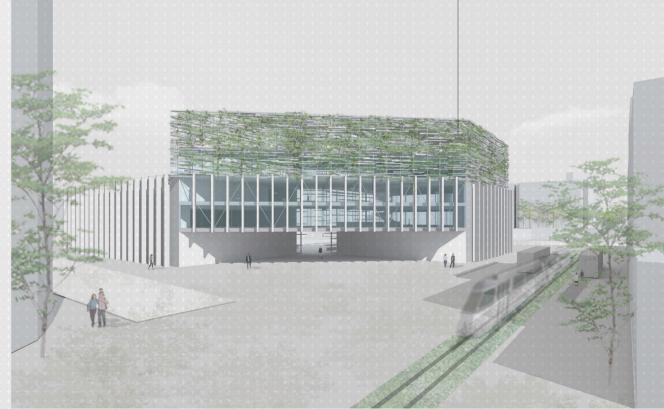
66 BAC. BARCELONA PROGRAM. FALL 2022

Ciutadella Park

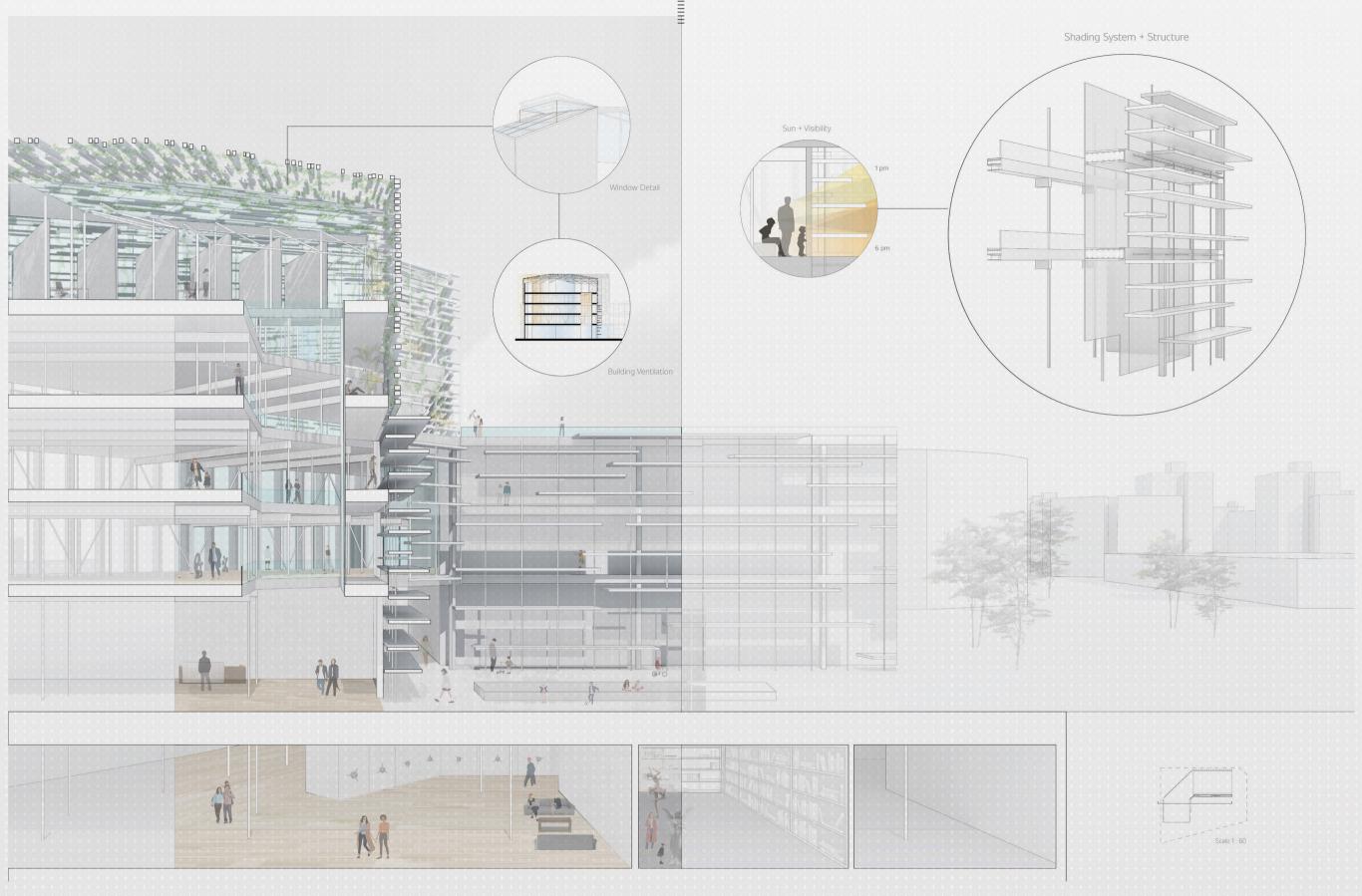
Surrounding City











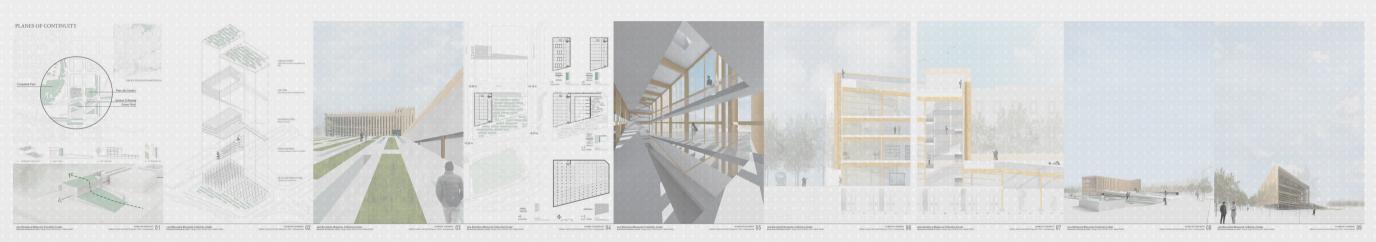






PLANES OF CONTINUITY

Noah Ellingwood, Roger Williams University, Architecture Undergraduate Matt Carlson, Roger Williams University, Architecture Undergraduate



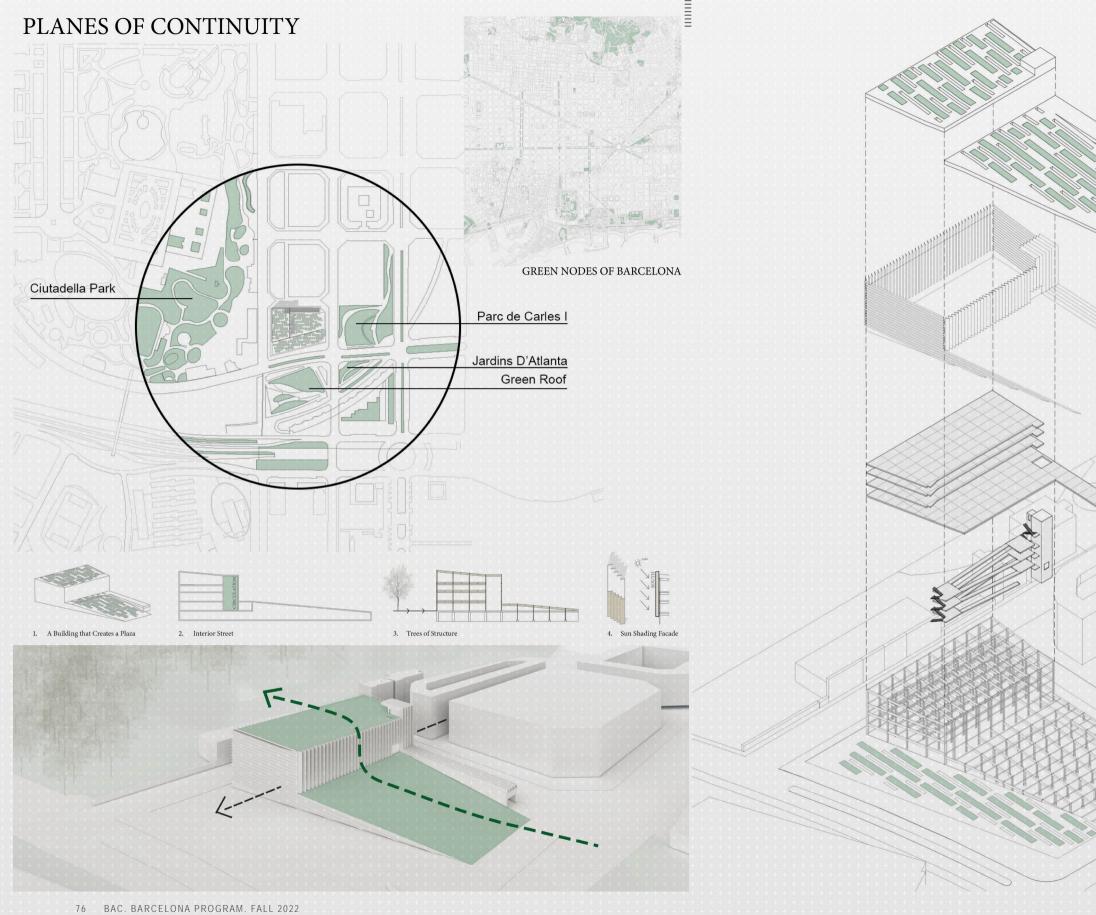
Barcelona, a densely populated cityscape with minimal green space. With the implementation of our proposal, more green space will be created. This will allow for new public spaces helping to create a healthier city. Our proposal is a place where people and history come together. Through beautiful open spaces used for relaxing and learning about the history and culture of the city.

The sites surrounding parks and green spaces, specifically Ciutadella Park and Pac de Carles I serve as inspiration for expanding the green net of Barcelona. The axis of topography for the inclined roof is the metaphoric extension of these parks; this topography becomes the green roof and entry into the archive. Open glass façades allow the continuation of sight from one park to another. Meanwhile, the axis of circulation within the building is on the same axis as the Universitat Pompeu Fabra creating a link between the archive, the students, and the city.

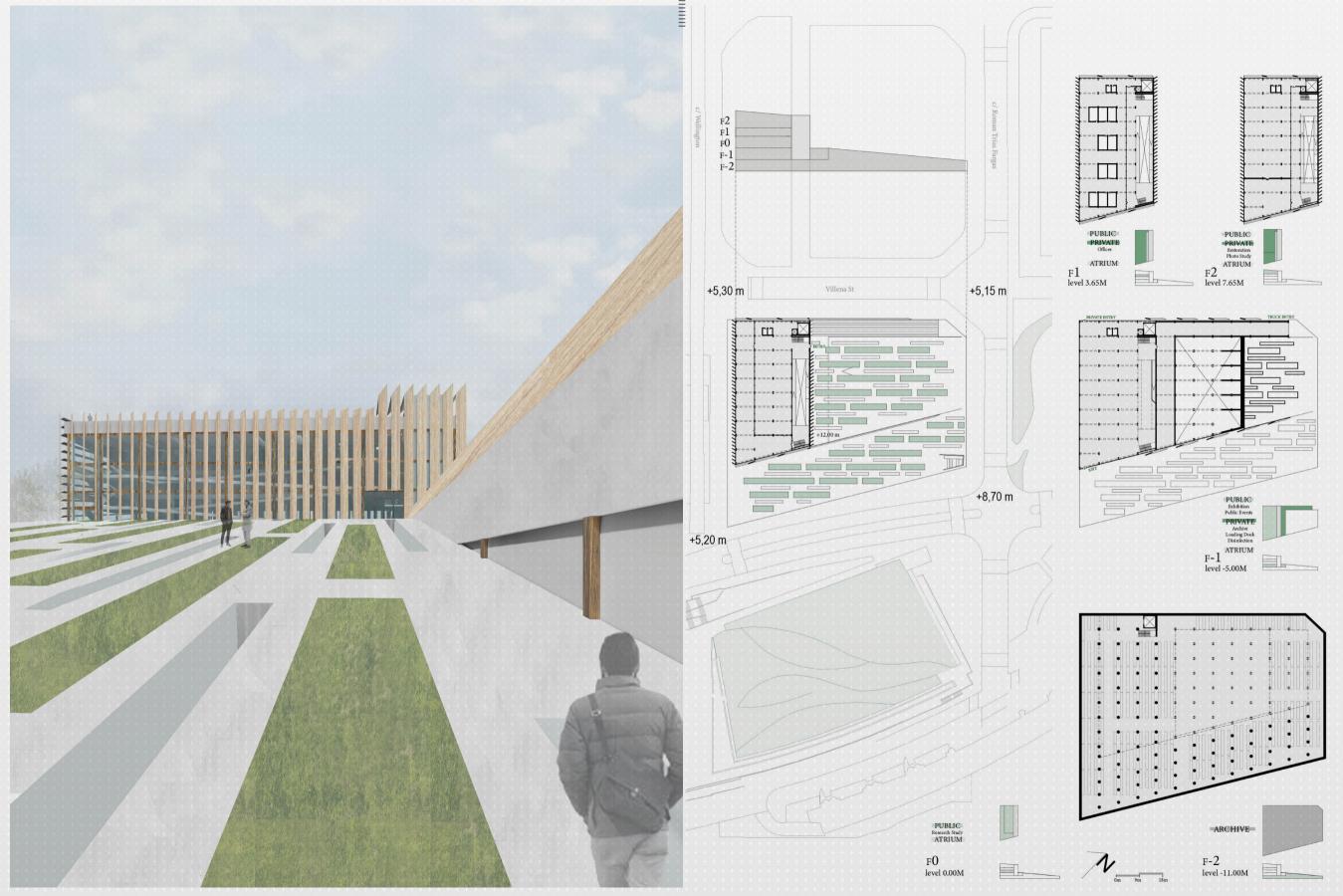
Our project not only connects these spaces but is developed as one of these spaces. The trees of the Ciutadella Park and surrounding green spaces become the structure of the archive, enforcing the idea of continuity. The glue-laminated timber structure holds up the green roof, as the branches of a tree hold foliage. Connected within this structure is a louver shading system working as the branches of a tree would, creating shade for the interior.

With an important emphasis placed on sustainability, our proposal is made up of renewable materials including a cross-laminated timber and precast concrete structure. A facade made up of a series of timber louvers redirects the sun's heat away from the interior of the building.

With this, we are not proposing a building, but rather a new public space that pedestrians can experience, meanwhile, learning about the city's history and development through exhibition spaces and studies.

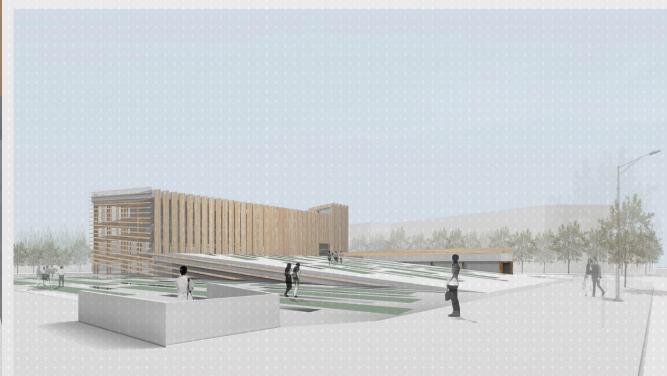


GREEN ROOF Light wells for interior ventilation and light FACADE Glass facade with sun shading louvers FLOOR PLATES CIRCULATION
Continues adjacent void for circulation GLULAM STRUCTURE
Exposed wooden structure









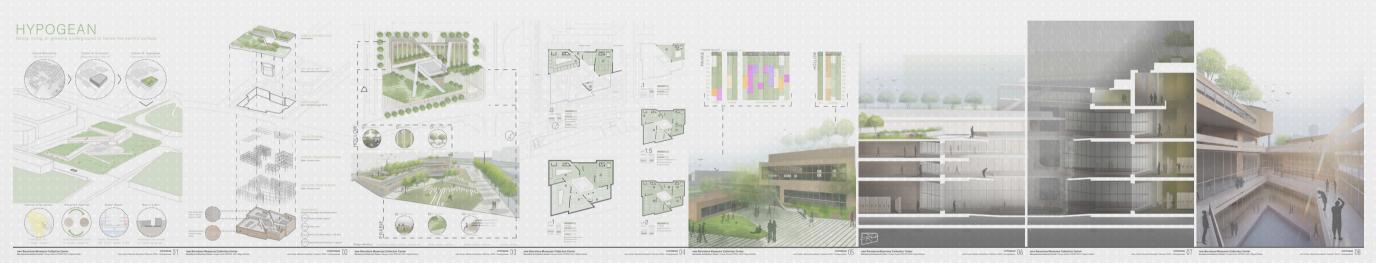






HYPOGEAN

Mauricio Escalante, Roger Williams University, Architecture Undergraduate John Carter, Clemson University, Land Architecture Undergraduate



Barcelona is a densely populated city that has begun to utilize green urbanization as it continues to grow. To combat the overwhelming density of the Archive's surroundings, we are pursuing a Hypogean design. Hypogean is an earth ship that represents being, living, or growing underground. This choice was made due to the extreme surface area requirements of the Archive. The typical extrusion of the building under the given conditions would require three times the area of the site. Therefore, our building is largely underground which allows the entire site to be given back to the community. The surface of the site is accessible to the public, and an urban greenscape is created.

Focus was also given in creating a virtually Zero Net Energy building. This was accomplished through a design that reused the soil from the excavation to create the building materials. The soil will be used to create the rammed earth and soil concrete that the building is made of. Along with a passive solar design, a passive rain collection system, and an addition of a prominent landscape.

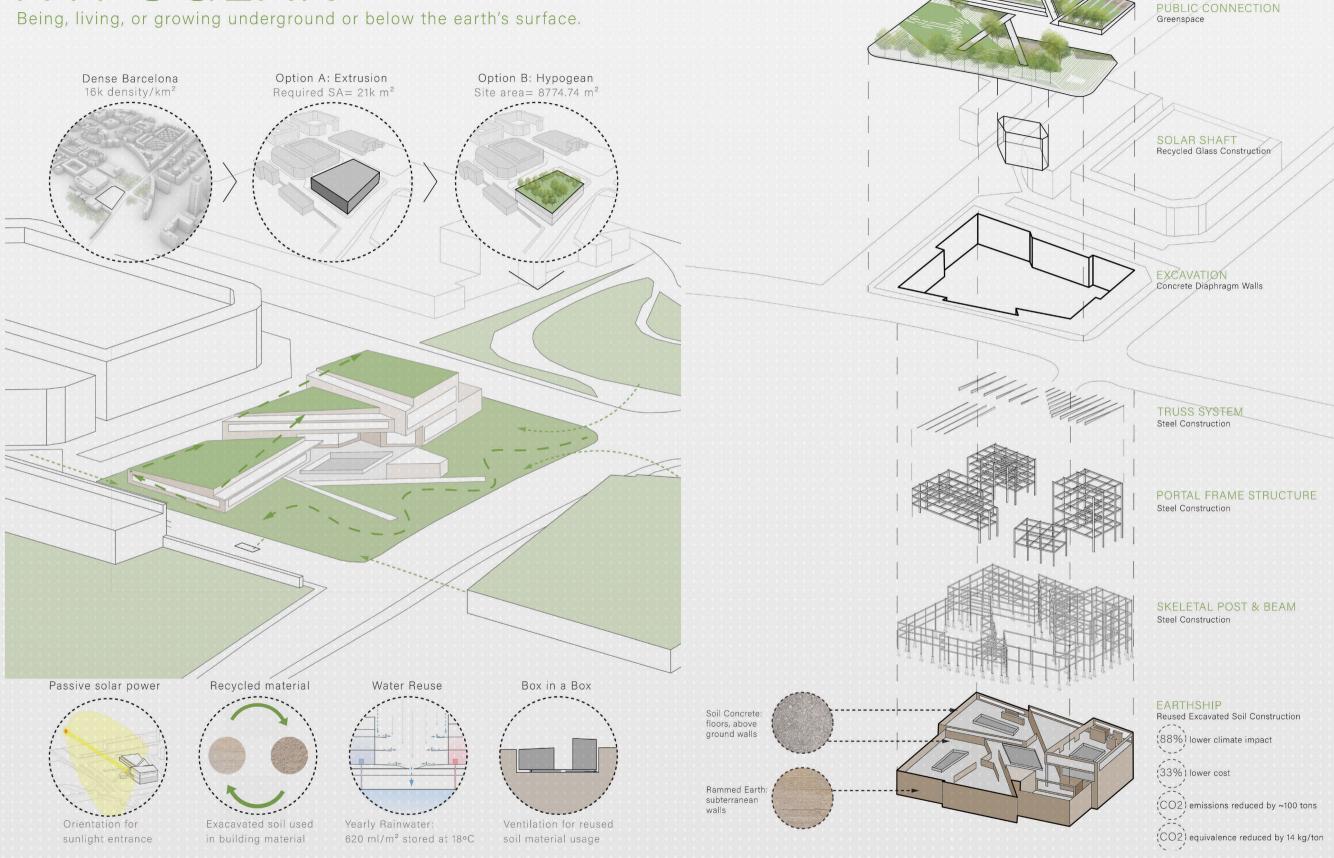
To bring in natural light into the underground areas, we are using a solar shaft that will create a central passive light well. The light that reaches the underground spaces becomes more diminished as the floors lower to reinforce seclusion and protection for the archive.

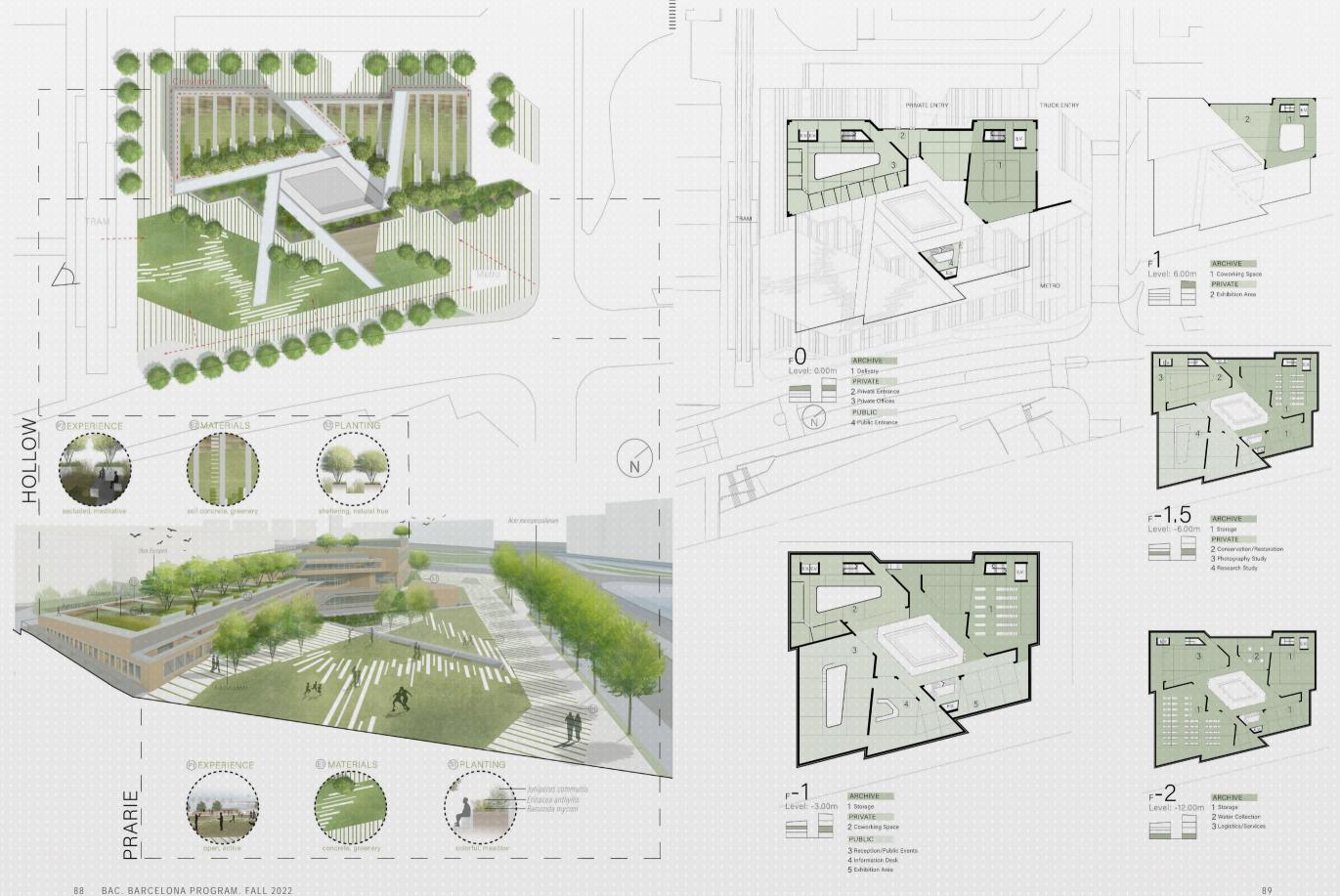
The landscape is divided into two main sections: the hollow and the prairie. The hollow defines the upper accessible green roof space, which is secluded, meditative, and relaxing. The prairie defines the lower section, which is easily accessible from the street, thus more open, inviting, and playful. It is a green plaza space where users can partake in activities of their choosing. Native plantings are carefully chosen in each section to reflect the desired emotions of the spaces. The soil concrete material utilized in the landscape has the conceptual appearance of creeping onto the site and breaking into more natural material. The soil concrete ultimately returns to its original state.

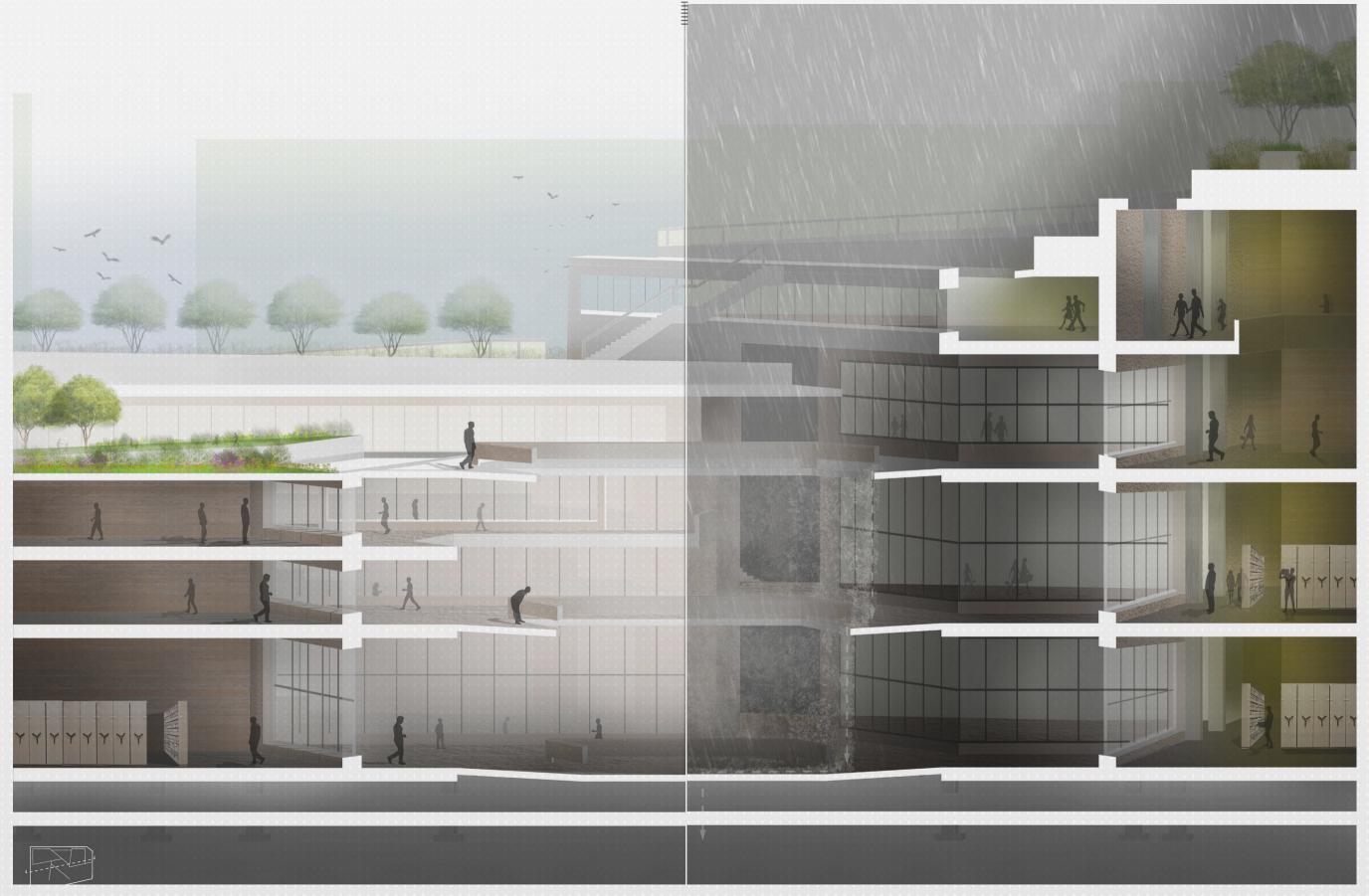
The programming of the building considers the views of the surroundings and the landscape that is being created. The archive space increases and becomes more prominent the further down the building you go. There is an emphasis on bringing in natural light through the solar shaft with the open circulation around the atrium.

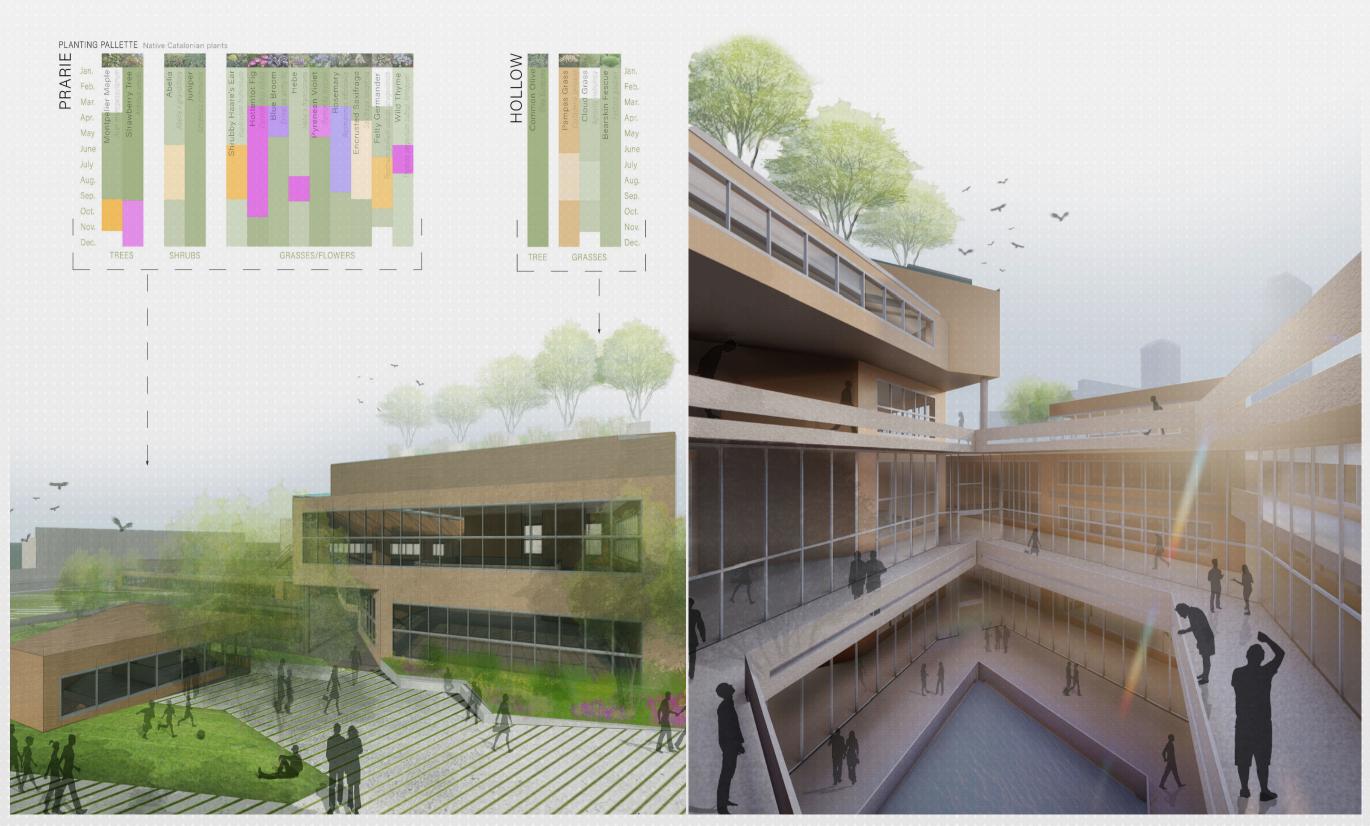
Hypogean is an extension of the surrounding urbanization and a connection to the surrounding nodes of circulation. The project promotes sustainability and public connection while still creating a fully functioning archive space.

HYPOGEAN









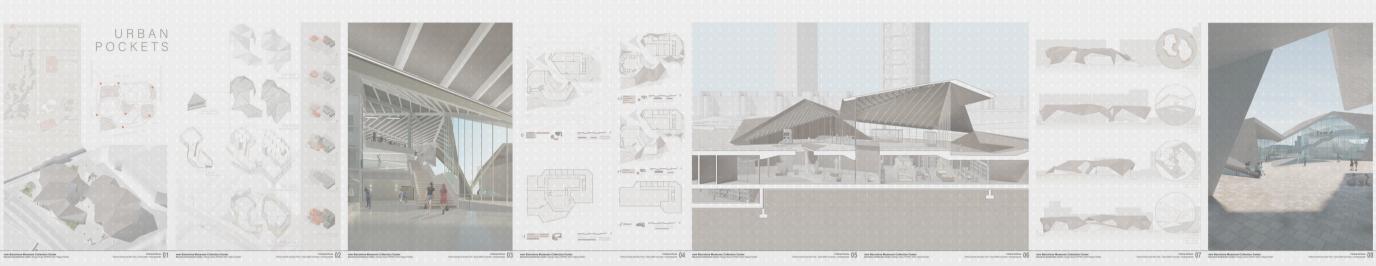






URBAN POCKETS

Patricia Rocha, Texas A&M University, Architecture Undergraduate Alexandro Pina, Texas A&M University, Architecture Undergraduate

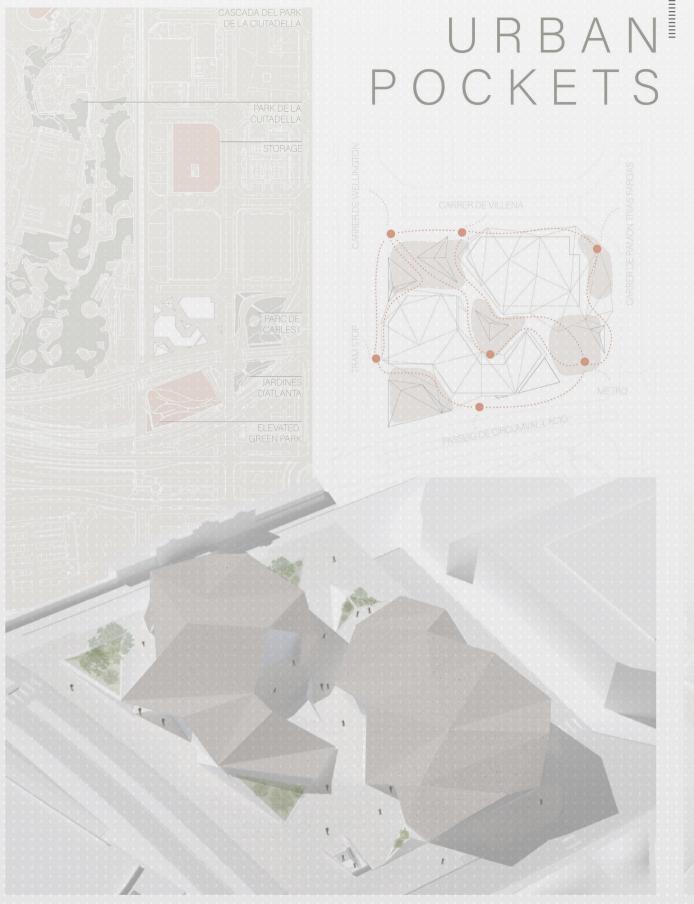


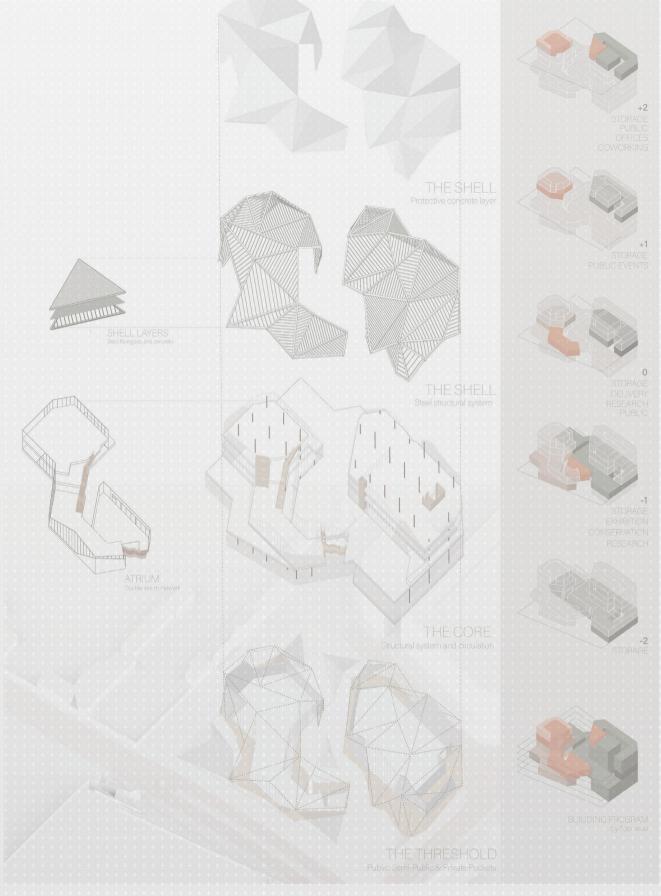
In this area of the city, the classification of what is private, semi private, and public, is completely different from the center of Barcelona. The public space of the Eixample blocks are typically on the ground floor and the private space is then concentrated above. In the area of our site, orientation is inverted. The density of the private decreases, and the context of the public varies in elevation. Through the design of urban pockets within our site, our project aims to rewrite the distribution of private, semi private and public in order for the threshold to be seamless. The building begins to fold from the ground up in a continuous system, creating a shell that extends past the building and into the urban pockets. The building acts as the core of the site, and the roof as the connection between landscape and interior program. This creates a connective quality that unifies the pragmatic needs but also a fluid circulation of the shell, the core and everything in-between.

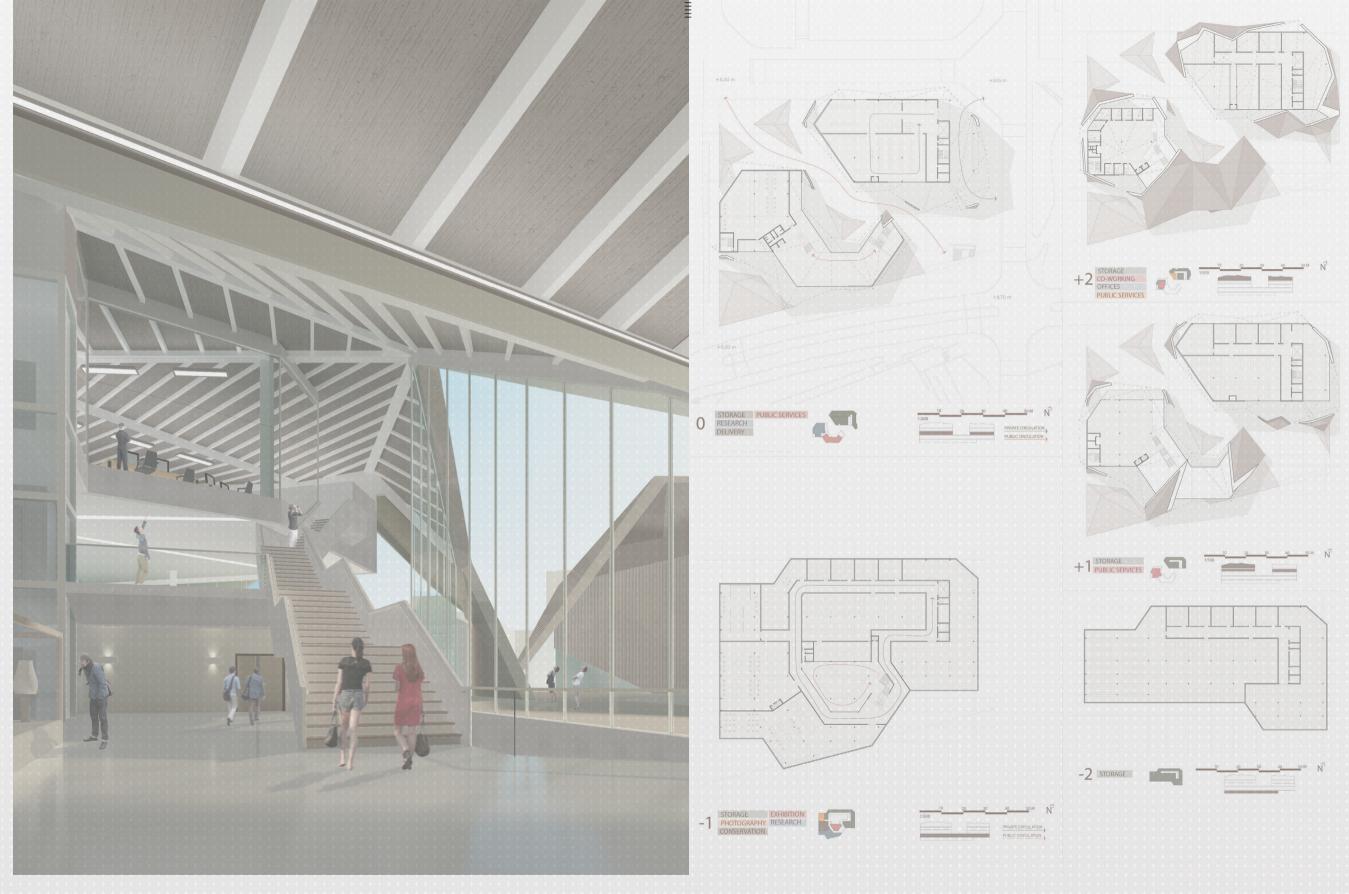
The design consists of a double structural system in order to reinforce the core and the shell as two independent elements. The roof, or shell, extends past the core, into the public pockets of the site to strengthen the interior to exterior relationship and provide shelter. The structure's folded plates are composed of exposed steel beams that are shown within the interior of the building. The exterior is composed of a protective layer of pigmented, fiberglass reinforced concrete. This idea maintains the appearance of the building emerging from the ground by continuing the mineral, earth tone of the context onto the roof.

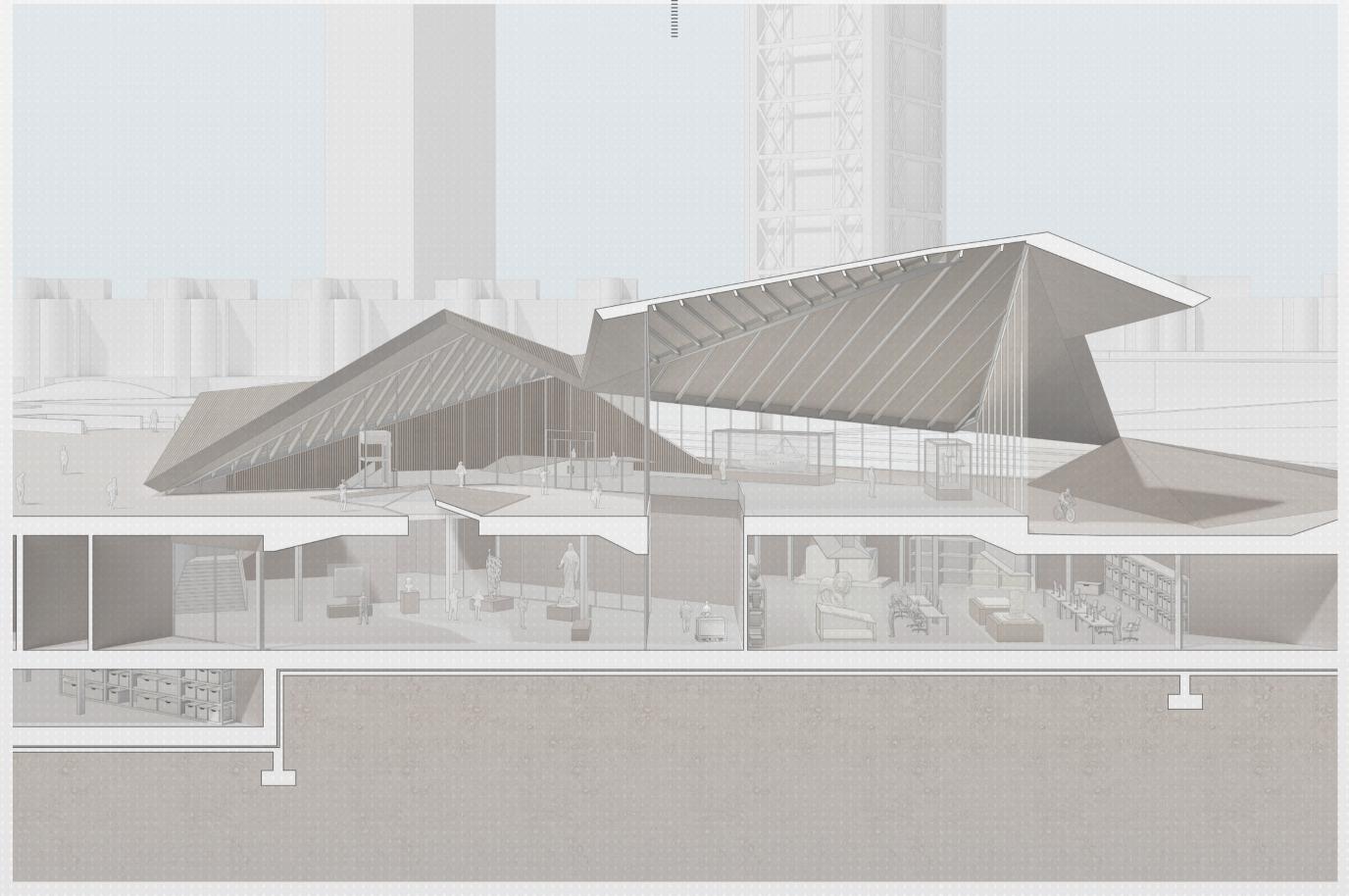
The roof folding system is derived from a series of strategies that dictate the push and pull of the seams. These strategies include sun exposure, entry points, specific views of the context and rainwater channels. By combining these formal strategies and structural systems, the roof is able to act as the threshold connecting public and private, while maintaining its independent component.

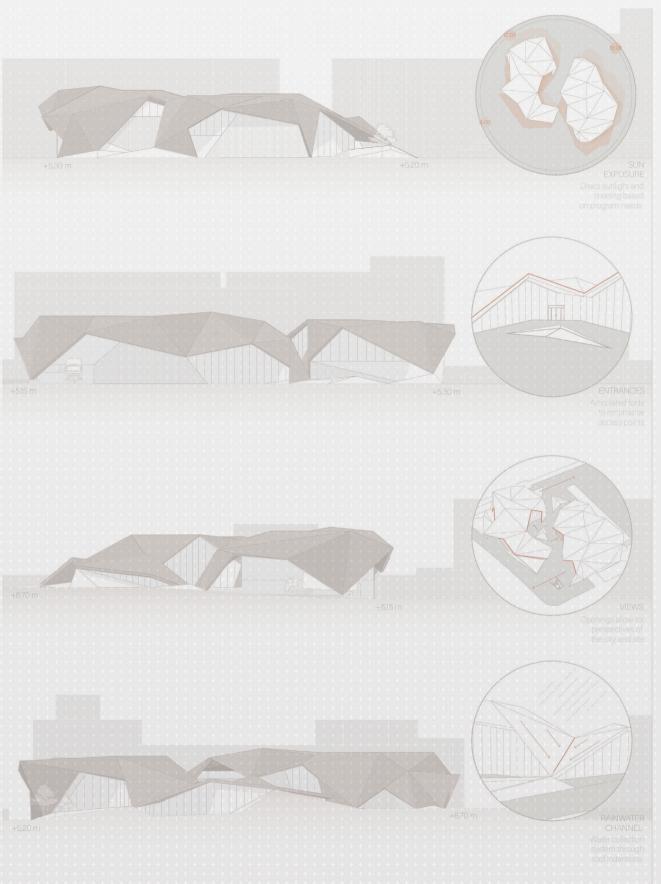
The core is organized in order to emphasize the main axis connecting the metro to the university and the pockets established on the site. Its orientation not only encourages the public circulation to weave through our site, but also into the building and through multiple levels within the interior. Above ground, the building presents itself as two separate programs extruding from the ground But below ground, these are supported by the interconnection of the different programs coexisting in one space. The access to the below ground exists within the double atrium located at the entrance of the building. The atrium facing up reflects the idea of an elevated public space displaying two upper levels of public access. The atrium facing down, descends underground and into the exhibition space which is surrounded by more privatized programs like storage, research and conservation. This notion reflects the exterior by allowing the private circulation to enclose the public, without them interweaving. The exhibition is located at the center of the site, making it a key component in connecting the public and private programs of the archive.

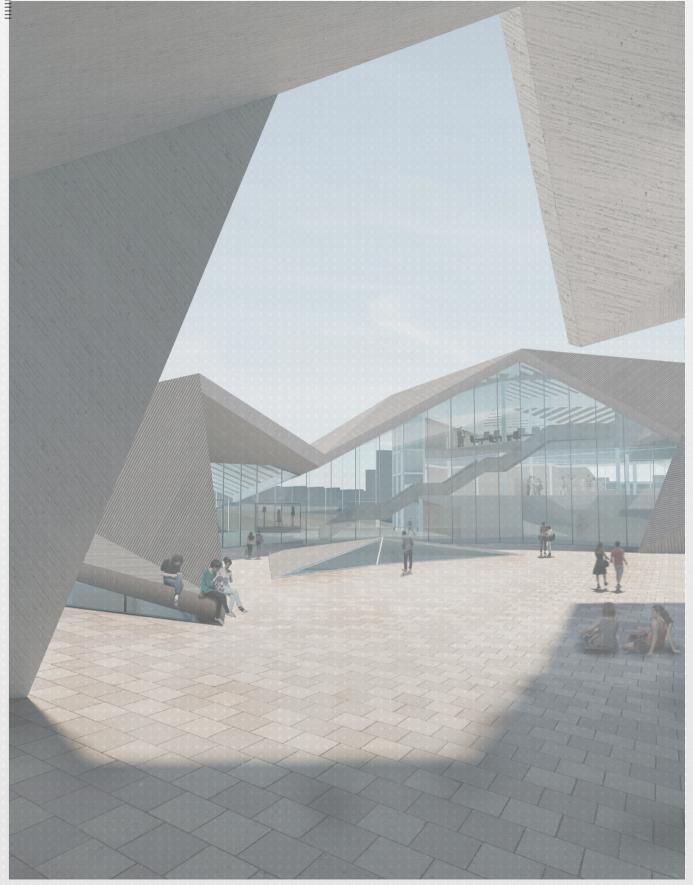


















VEILED ENTRY

Christian Martinez, Texas A&M University, Architecture Undergraduate Stephanie Shupak, Texas A&M University, Architecture Undergraduate

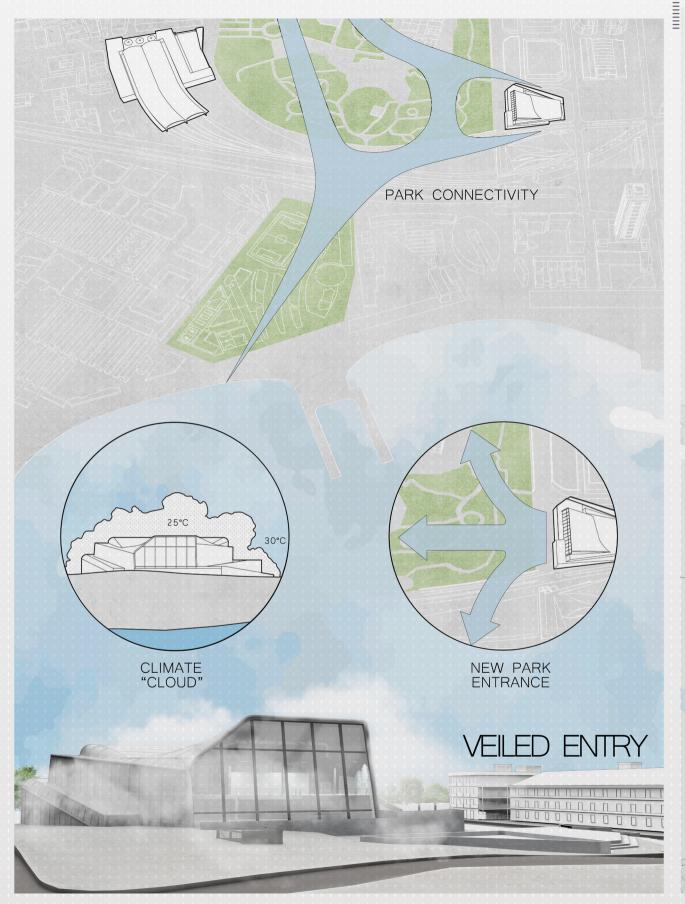


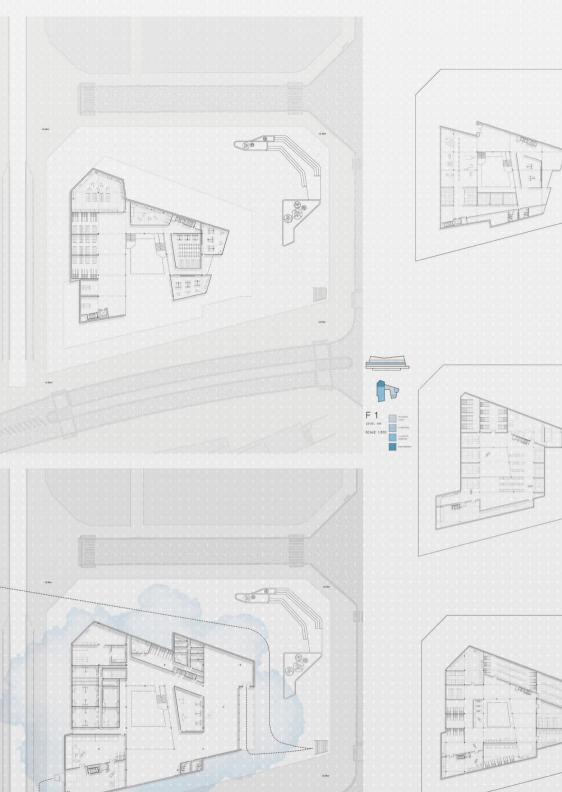
Veiled Entry is a proposal that serves the purpose of becoming the new gateway to Ciutadella park, while being a sustainable and impactful presence to the surrounding site. Looking to the future when the Zoo no longer resides in Ciutadella park, our proposal will become the symbol of entrance to the park, similar to how Estacion de Francia serves as the portal to Bareclona. Once exiting the metro, there are two points of entrance, one continuing along the side towards Barceloneta Park, the other towards the interior of Ciutadella. Through these motions, a deltoid of circulation is created between two major parks of the city producing a connection from public space to the sea.

While looking at the site, our building resides in a hot spot of transportation surrounded by the metro, tram, railroad, streets, and the foot paths. Our building aims to not only act as the entrance to the park, but to act as a cooling feature to the site. By tapping into the water table below, our proposal uses the water to disperse a hazy cloud of mist.

This serves the site by stabilizing the site temperature and maintaining a comfortable environment for the prominent and trafficked filled space. Working hand in hand with this system, the choice of material for our facade is I-Active Concrete which removes pollutants from the air and converts them into salts. Once these salts come in contact with water, they are washed off of the facade and removed entirely from the atmosphere. In addition to the surface dispersion of the water, the extraction of the resource below will be used to heat and cool the interior of the building, providing a sustainable source for water usage.

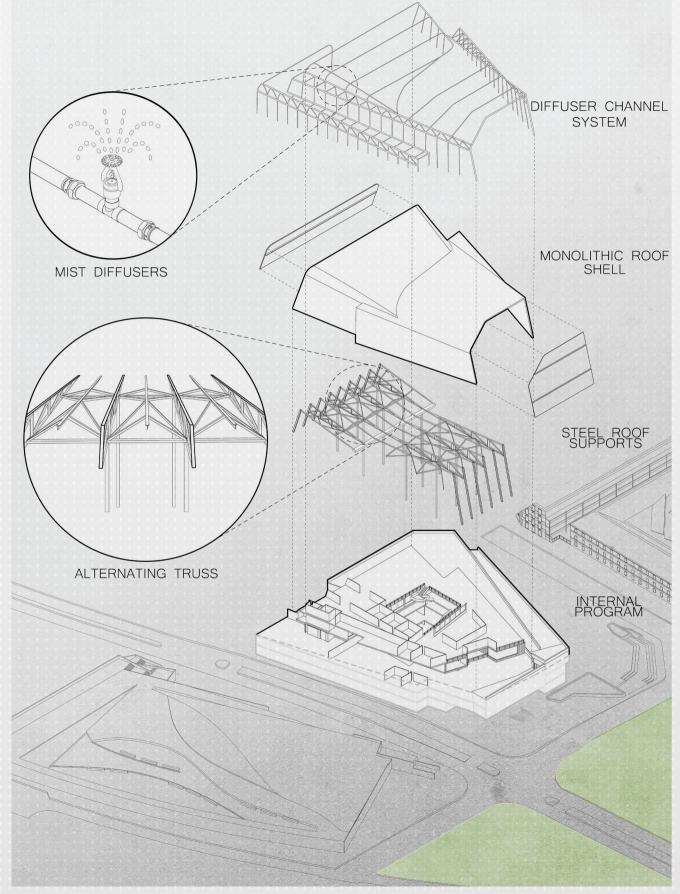
The roof of our proposal is a monolithic concrete shell, with a separate roof structure from the rest of the interior forms. This shell is supported by a roof structure which is comprised of as series of alternating trusses to columns, with an interstitial support system spaced within each column. Additional support is attained by gaining dual function of our glass curtain wall mullions as these act as a column for the loads of the roof.

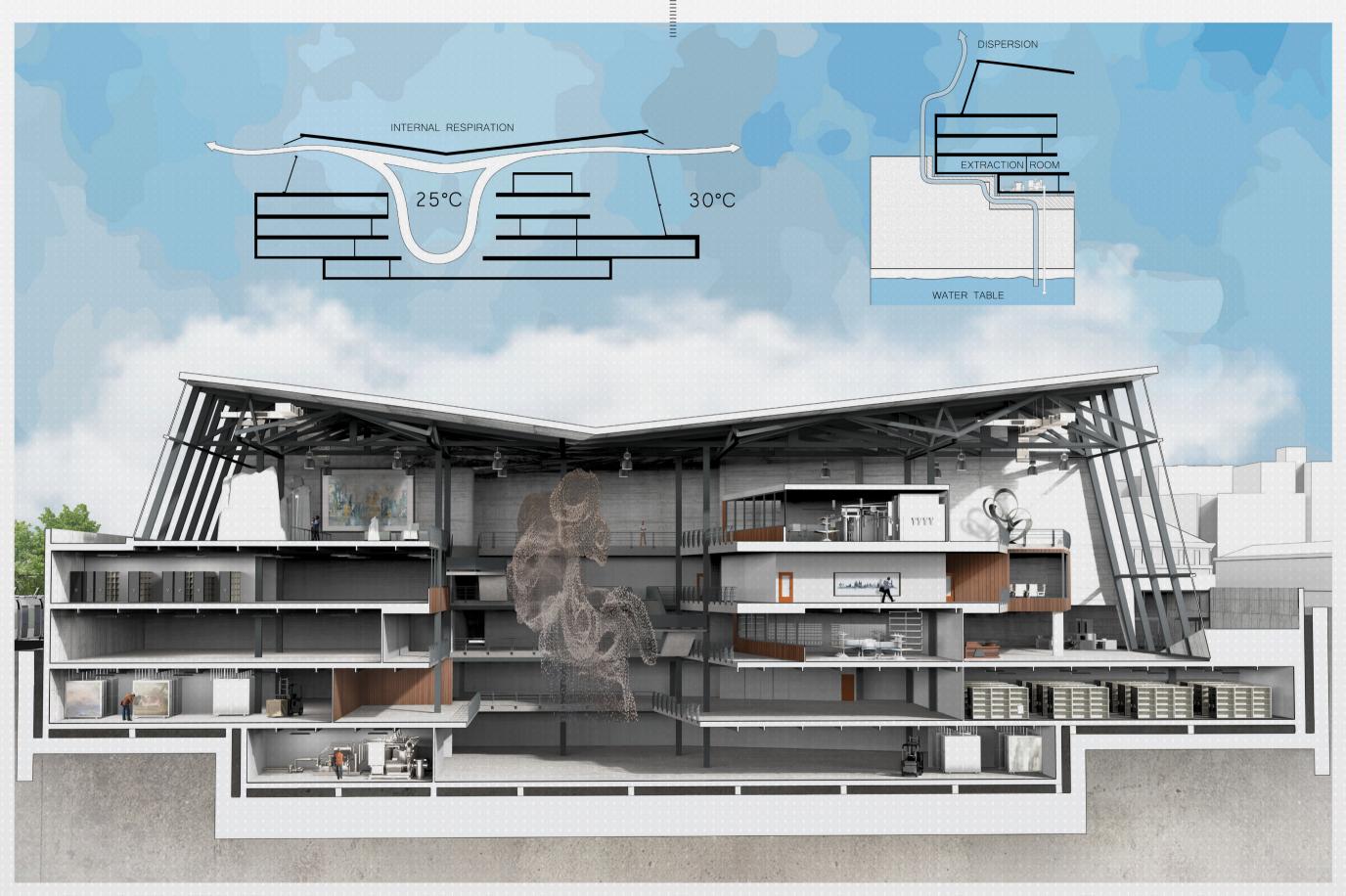




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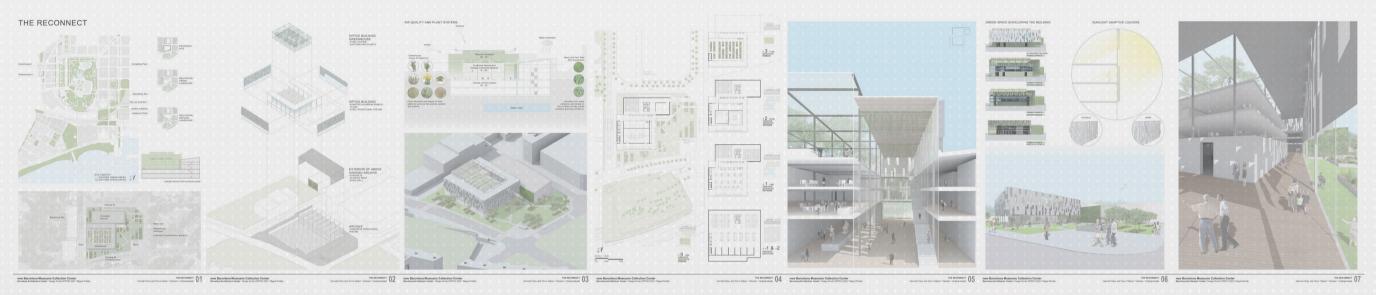






THE RECONNECT

Hannah Finley, Clemson University, Landscape Architecture Undergraduate Trevor Gibson, Clemson University, Architecture Undergraduate



Situated in the city between two parks, our archive building aims to relink the urban area with the environment. With a greenhouse inside, the building becomes an extension of the park and brings nature indoors to the public and those who work in the archive.

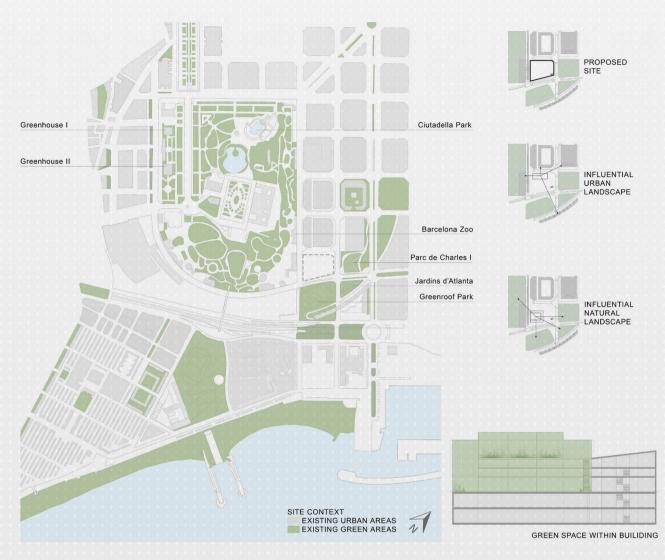
The greenhouse and atrium work to create a "clean air machine," where plants are chosen specifically based on how they refresh the air and provide oxygen. This also influences the air circulation and temperature regulation of the building.

The greenhouse and atrium rely on natural ventilation, while offices and public spaces combine natural ventilation and controlled systems to keep the area comfortable and air refreshed. The archive bunker is completely climate controlled since it is a sensitive environment.

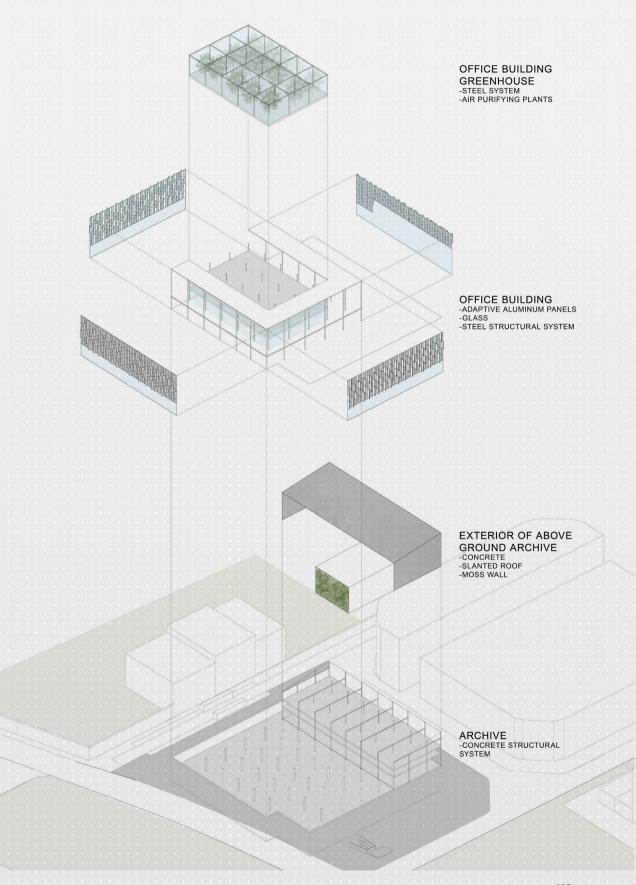
When considering materiality, the aluminium facade of the public and office spaces is a lighter material that resembles the urban area. The concrete facade of the archive is a more natural looking material and is symbolically more solid and secure to protect the artefacts. There is a slanted roof along the archive to collect water and irrigate a moss wall, which is another element to connect the building with nature. Collecting rainwater is a part of a larger groundwater pumping system. Groundwater is pumped to irrigate the moss wall and greenhouse, stored, recharged with rainwater. When considering shading, some panels of the aluminium facade are louvers that move based on sun position and temperature regulation in the building.

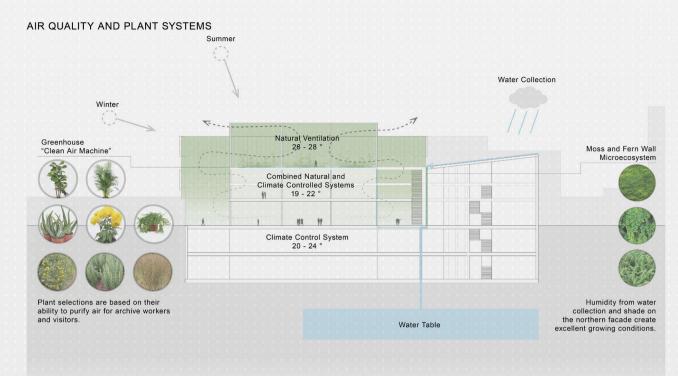
Plantings in the greenhouse and atrium align with archive storage compartments. Outside plant masses are similar to the archive rows, but vary in size and are arranged for a more natural progression along the paths. These paths combine straight points of connection with a more natural meandering path through the plantings.



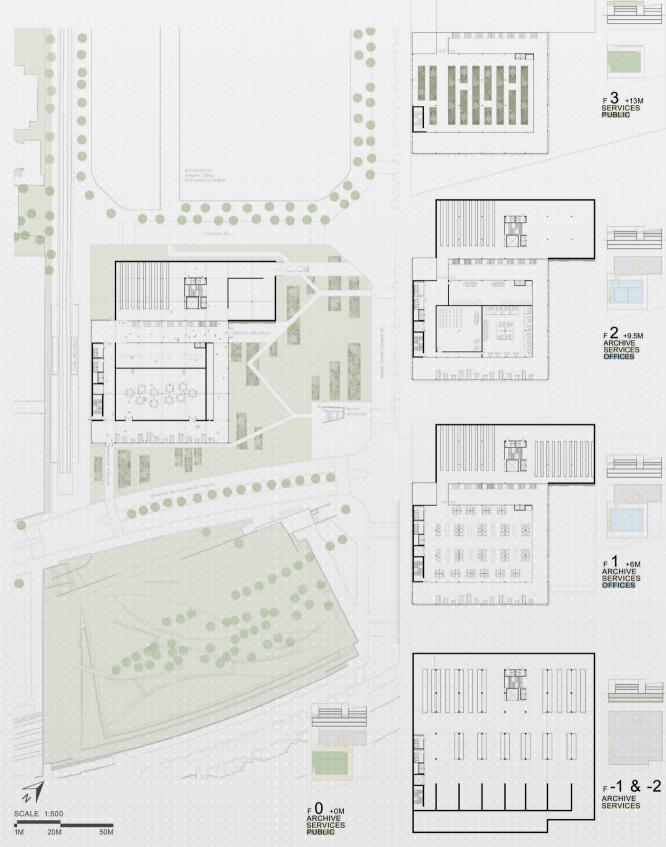




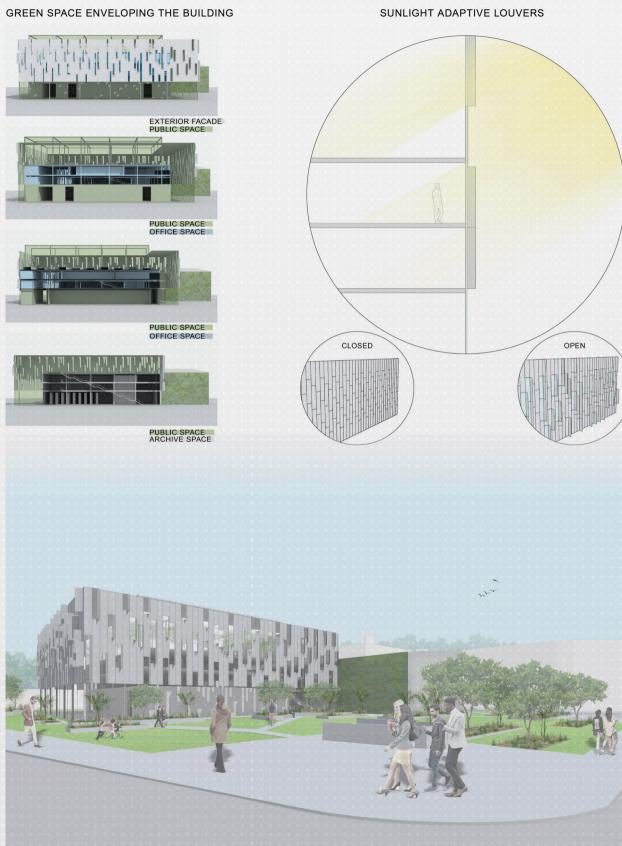












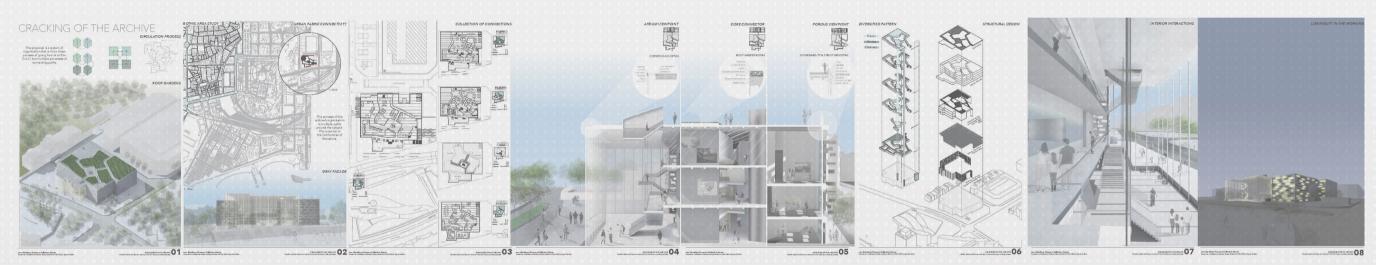






CRACKING OF THE ARCHIVE

Phoebe Latham , Texas A&M University, Architecture Undergraduate Shannon Maria, Clemson University, Architecture Undergraduate



Our concept is focused around the fluidity of Barcelona and the movement of the city into the archive. The proposal is a system of organization that is not a linear process of going from A to B, but instead multiple sequences of connecting paths.

This non linear movement is dependent on the visitor as they choose how to move through each of the rooms. Instead of moving linearly from A to B, one can move from A to D, from C to B, and so on. This sequence is due to the idea that the collection of archives connect to each other and can be understood by the visitor no matter which area they begin with.

There are three types of connection - the grid of Barcelona, the parallel streets of Barceloneta, and the organic street patterns of the Gothic Quarter. Barcelona and Barceloneta suggest a linear A to B movement, where the Gothic Quarter implies a more fluid organization that is integrated into the building's circulation. The archive is not a uniform or homogeneous archive, but rather a collection of collections.

The entire building is made of gray concrete that emulates the strong stone, granite, which is characterized by gray tones and white spaces. The facade can be linked to the granite columns of Antonio Gaudi's Sagrada Familia, which are chemically and visually similar to the stones used from Montjuïc, though they are more of a gray tone. This gray tone along with the many perforations for windows within the facade, facilitate the idea that the archive is a massive rock within the city.

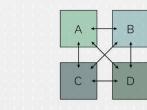
Through submerged floors, rooms, and hallways, there is non-linear movement both horizontally and vertically. The intention of creating a free-flowing movement is shown by how there are many corridors that lead away from the central circulation core and curve around the programmatic rooms inside.

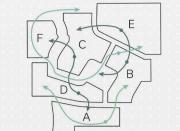
The main atrium is used for multi-sided entries and housing for the public circulation, with the main staircase visible to all visitors both inside and outside of the building. This view of the stairs right upon entry lets the visitor experience the concept of the free-flowing path.

CRACKING OF THE ARCHIVE

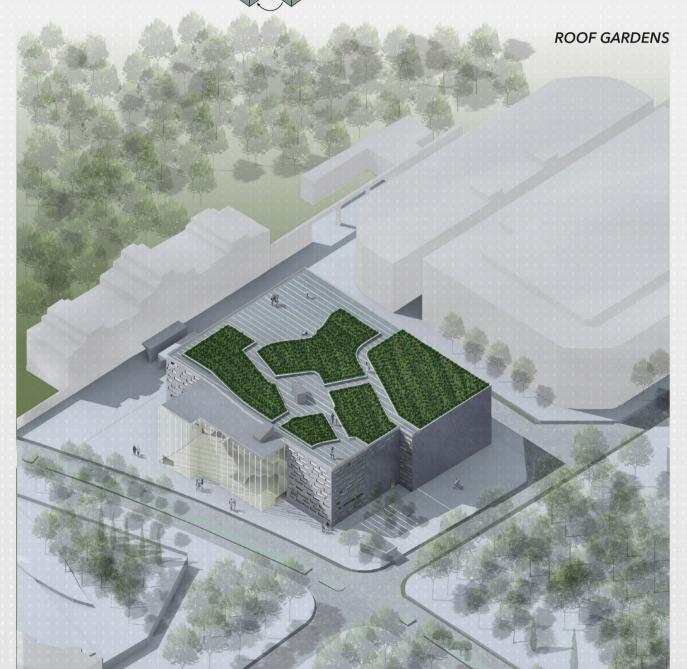
The proposal is a system of organization that is **not a linear process** of going from A to B to C to D, **but multiple processes of connecting paths.**

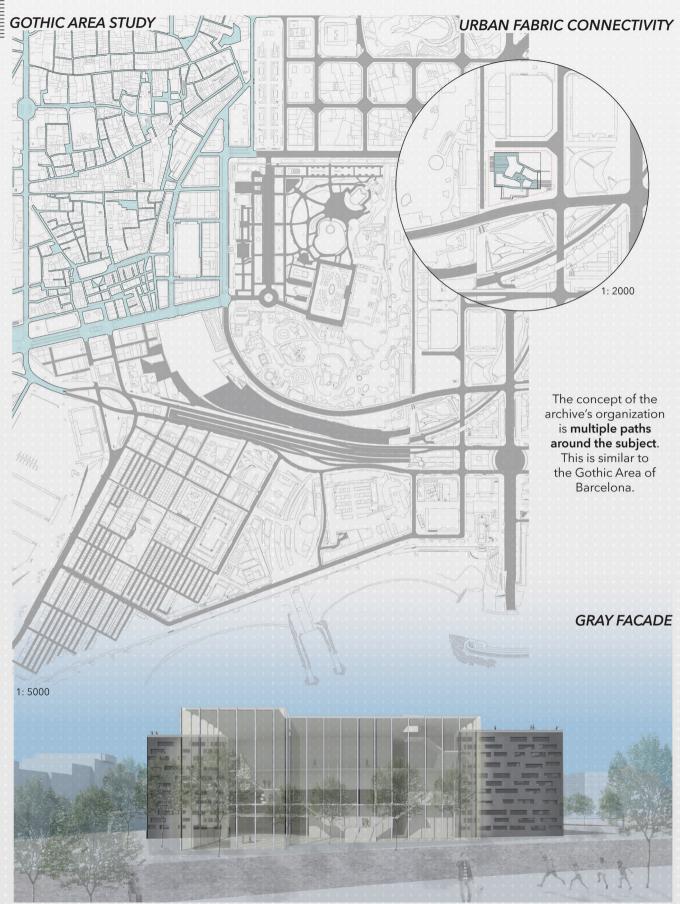


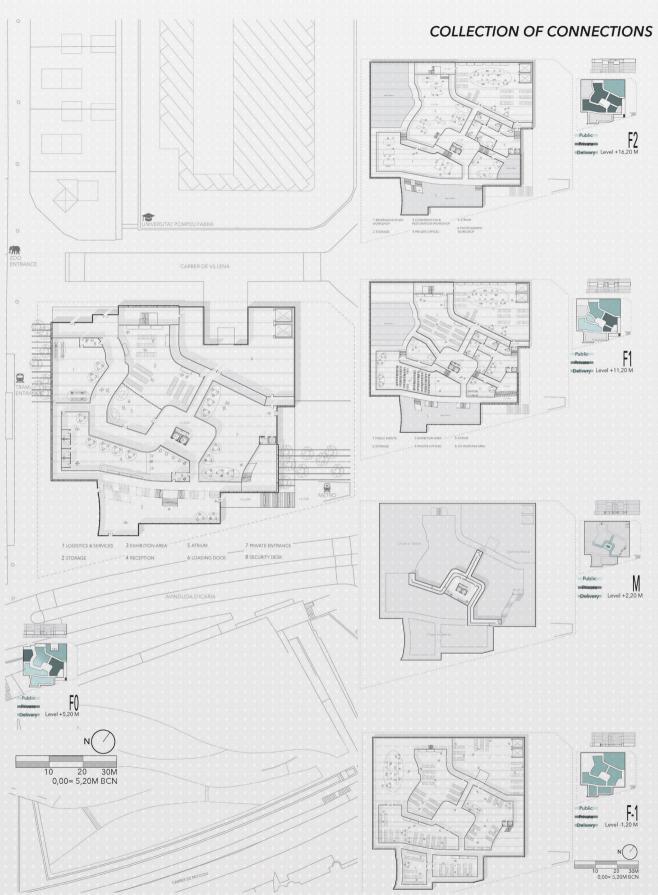




CIRCULATION PROCESS







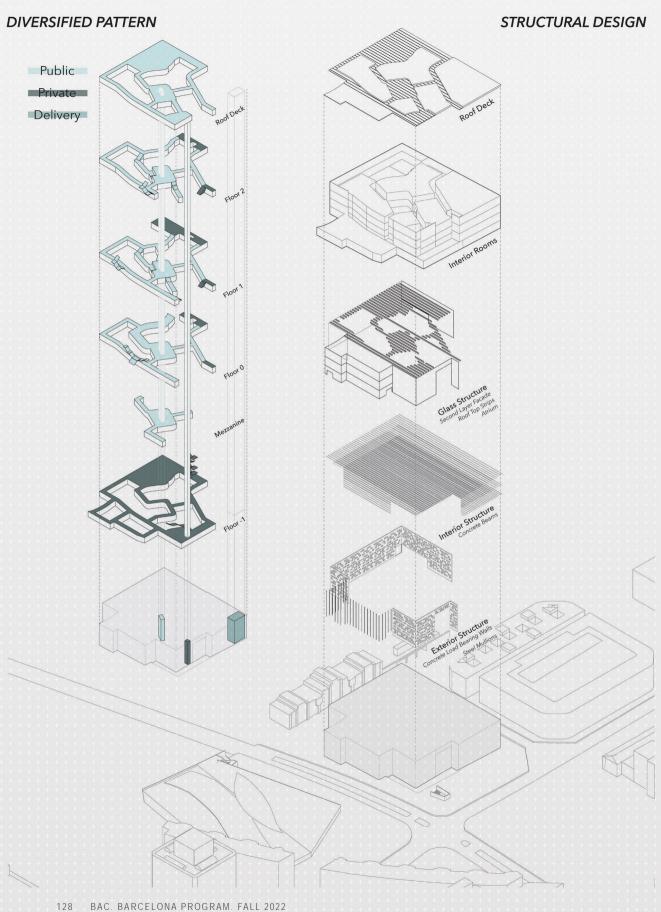


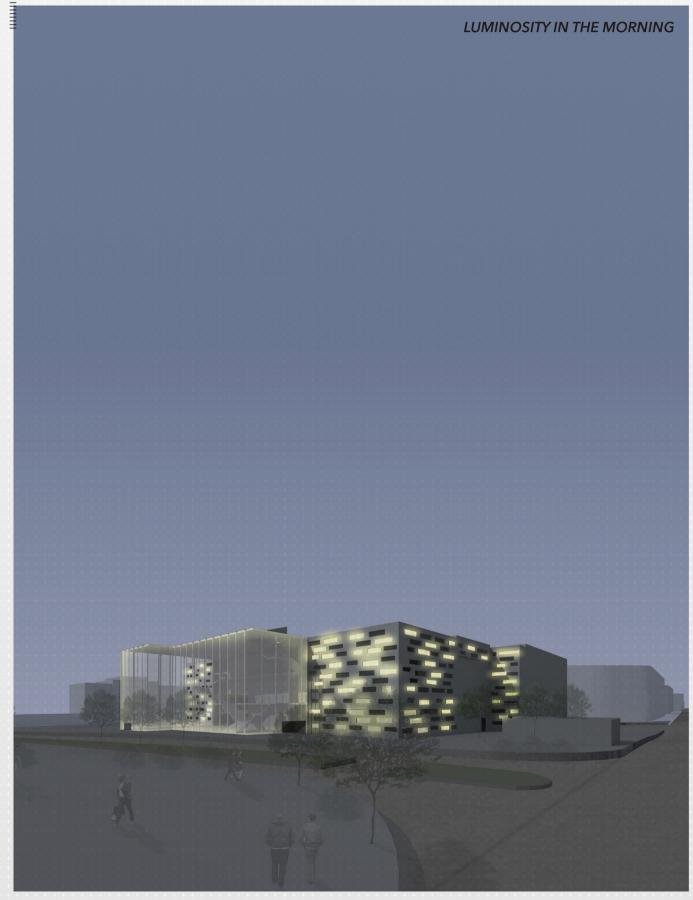


ATRIUM VIEWPOINT

CORE CONNECTOR

POROUS VIEWPOINT



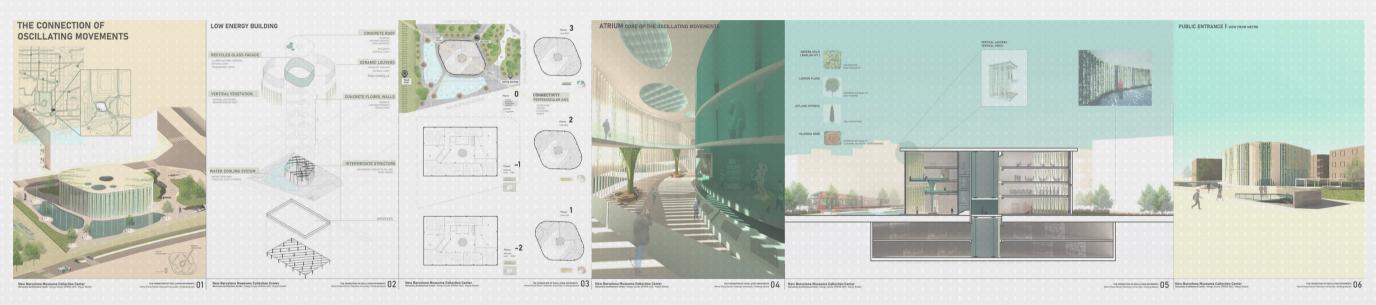






THE CONNECTION OF OSCILLATING MOVEMENTS

Maria Paula David, Clemson University, Architecture Undergraduate



In the mid-1800s, Barcelona was a smaller, very dense area surrounded by walls (Ciutat Vella). City For the structure, the beams are sitting intermediately supported by pillars and the beams are also holding the urban planners were looking to create the "Eixample (extension)" of Barcelona. The godfather of Eixample's city central axis or the central private elevator which is supported by three pillars.

To achieve the connectivity or flow, the grid is urban planner Ildefons Cerda which he is also known for the Cerda Plan believed in healthy everyday living placement of the entrances, elevators, ramps, atrium, are perpendicular to each other. The landscape is closely ties with through basic needs - among those are sunlight, ventilation, greenery, and ease of movements. These elements are the concept as well where it has this undulating pathway. implemented into creating my building.

In addition, his plan is to increase the flow of people and the extension created more of these oscillating movements coming from the new improved transportations like metros, new The building is divided into three programs. First, the atrium which is in the middle and the atrium is the core streets, and new buildings in Barcelona. The proposal is to design a building that is 'not just an object-container, but of the oscillating movements and is fully dedicated to the public. It showcases some of the artifacts. The artifacts are rather a campus for art, where these oscillating movements coming from the streets in Barcelona overlap and protected by this glass wall. Behind them is the private glass elevator in the middle so visitors will be able to see the connect to create a dynamic and interactive space. Workers moving the artifacts.

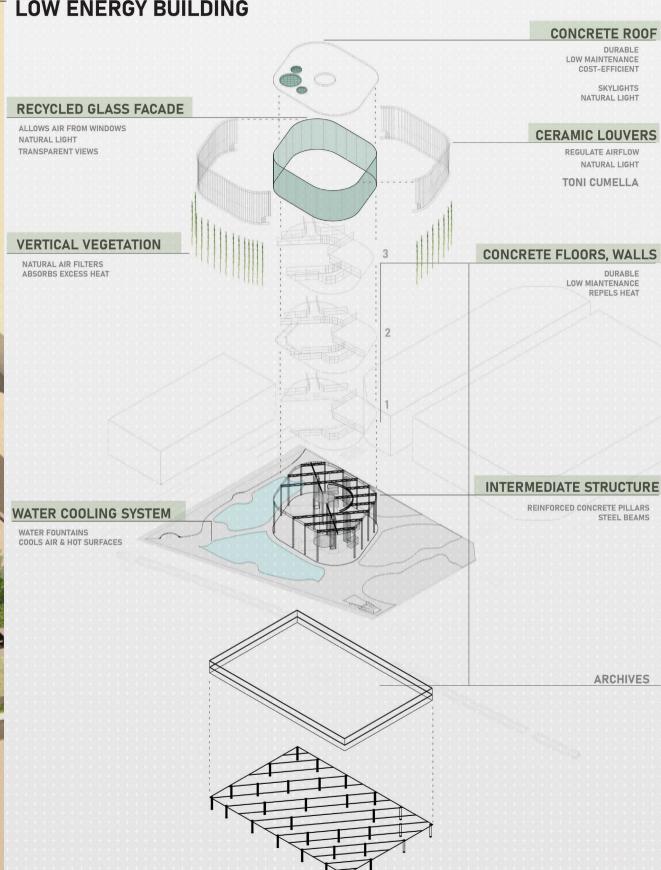
Second is the private public which are the other half spaces and are dedicated to the workers, private offices, and facilities. Third, the archives which are fully private are all happening underground. The For the form, my ambition is to achieve a surface that is continuous and ties with the concept. The shape noise level in the building varies, as you move to the upper floors, it gets quieter that is because top floors are only can be derived from the shape of Plaça de Catalunya and Placa de Espanya.

I believe the wavy shape of the building dedicated to the employees. Invites the visitors to immerse into the building. The plants chosen to have a lot of benefits both inside and outside the building. They act as air purifiers and sun. The project demonstrates low energy architecture which consists of recycled glass facade which allows insulators. The facade is inspired by the Catalan tradition of ceramics. The vertical louvers are white ceramic by Toni natural light and transparent views, for the ventilation, the glass facade also have windows that can be open, vertical Cumella, the most prestigious ceramist in Spain. The louvers are arranged based on the orientation of the sun. The vegetation as air purifier and sun insulator, concrete roof, floors, and walls, ceramic as local material, the water south-west facade have more dense louvers and more vertical vegetation since this area gets the most direct sunlight and cooling system includes water pools with water fountains which they produce this powerful cooling effect due to the north have less dense louvers and vertical vegetation which doesn't need a lot of shading devices, evaporation of water which cools the air and hot areas on the site.

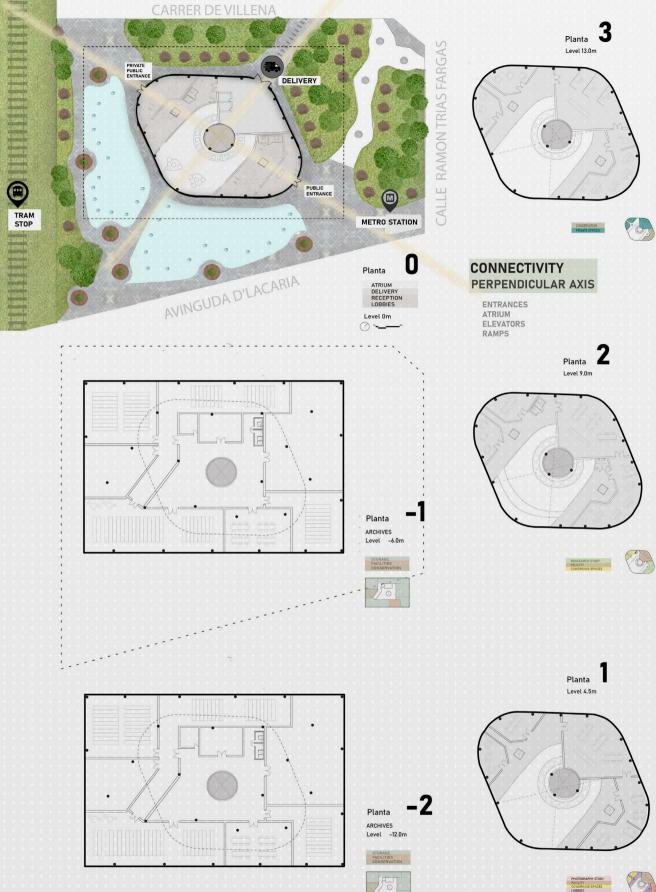
Overall, the building will serve as a unique object container as it can also be represented as the heart of all the museums in Barcelona where you have the atrium as the core and the connector of the oscillating movements from the streets in Barcelona.

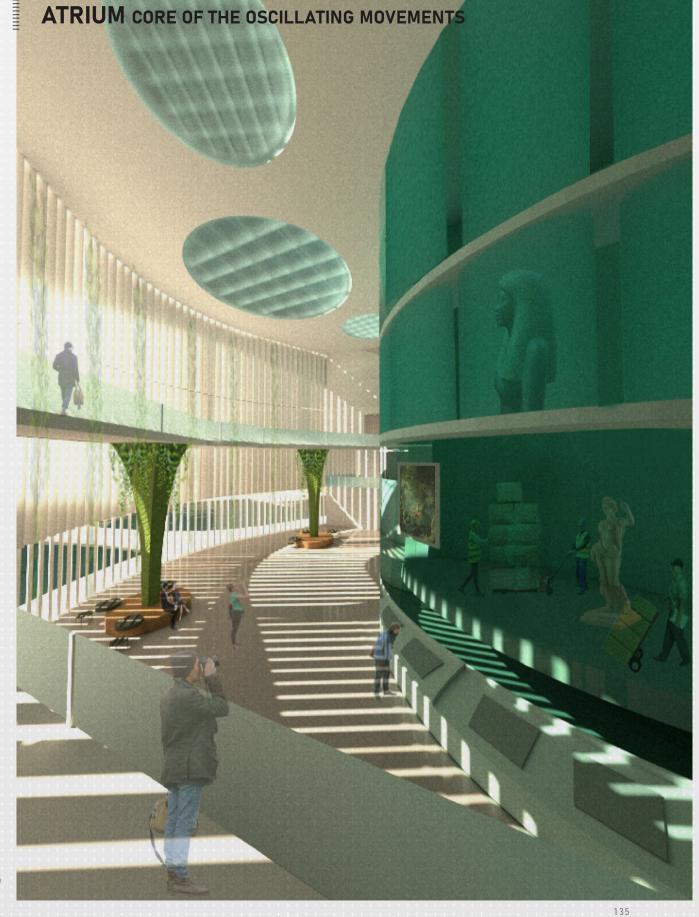
THE CONNECTION OF **OSCILLATING MOVEMENTS** PUBLIC CIRCULATION BAC. BARCELONA PROGRAM. FALL 2022

LOW ENERGY BUILDING



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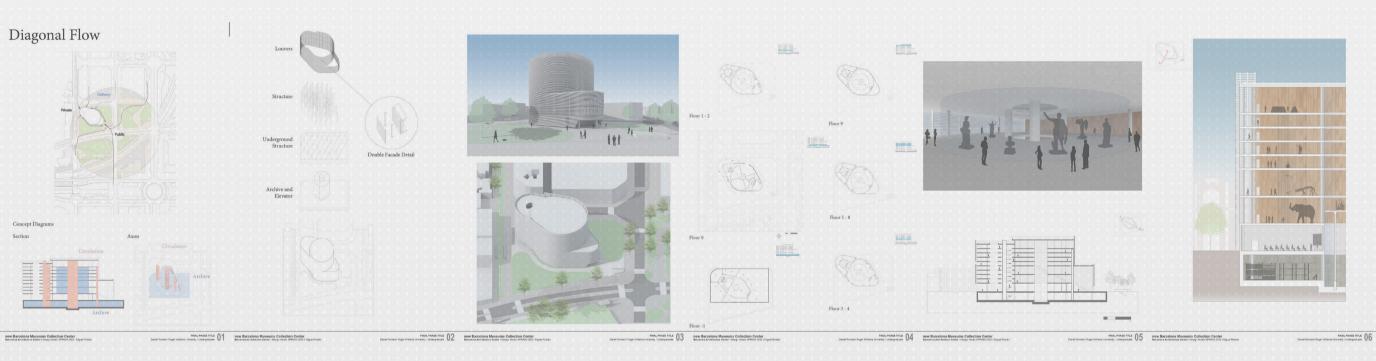






DIAGONAL FLOW

Daniel Romero, Roger Williams University, Architecture Undergraduate



The current site acts as an obstacle for the green spaces and parks in this area of the city. This project proposes a solution where the continuity of these green spaces is maximized. This proposal also facilitates the pedestrian movement around and through the site. These are archived by treating the program in a vertical manner and by developing the volumes of the building to make an object that seams to be eroded by the movement of people.

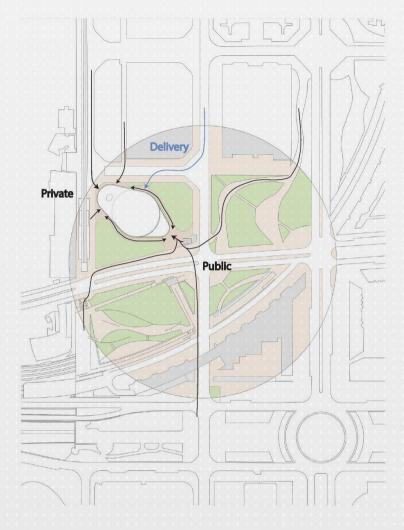
The building is placed diagonally to the Ensanche grid, two paths run along the longitude of the building connect two important parts of the site: the tram and UPF, and the metro. These paths facilitate the movement of pedestrians through the site, whereas before pedestrians were forced to move around the site to get to the other side.

While the landscape of the sites simple, it complements the building by following its curvilinear shapes creating a coherent relationship. Additionally, the landscape opens in zones of interest creating small plazas in front of the entrances and the metro. The entrances are placed strategically depending on the amount of privacy and accessibility. The public entrance faces the metro and the intersection of two busy streets, while the private entrance faces the tram way and Zoo which are less busy.

As a consequence of working vertically, this project proposes to have most of the archive space underground and some of the archive are spread vertically on the upper floors where it can be exhibited to the public; the archive is moved via a hydraulic elevator that connects all floors at the center of the building. The program is divided into three cores, the private spaces, the archive and the public atrium. The program is organized with the archive core at the center of the building and it is more than a metaphor for it being the heart of the building, this is meant to ease the access for both staff and public to the archive while also giving privacy to the staff.

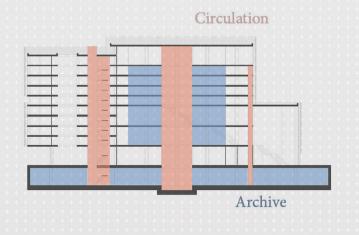
The materials used for the project are concrete, steel, wood and glass. Concrete is used for the floor slabs, and underground walls. Steel is used for the columns, trusses and support for louvers. The building's facade has a double facade system with wooden louvres wrapped horizontally around the volume and behind a curtain wall. The double facade works to cool down the interior spaces and the louvres to minimize sun exposure.

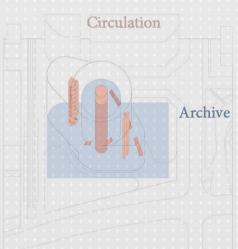


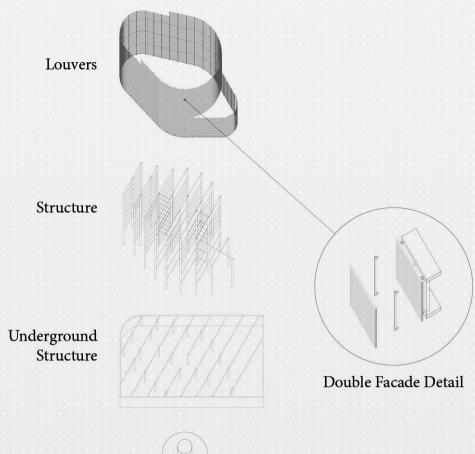


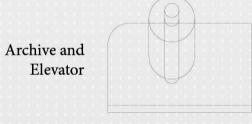
Concept Diagrams

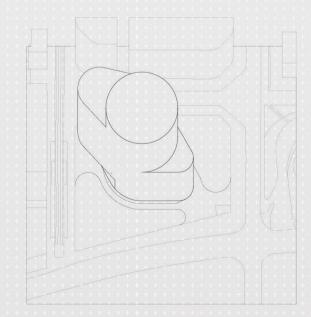
Section Axon





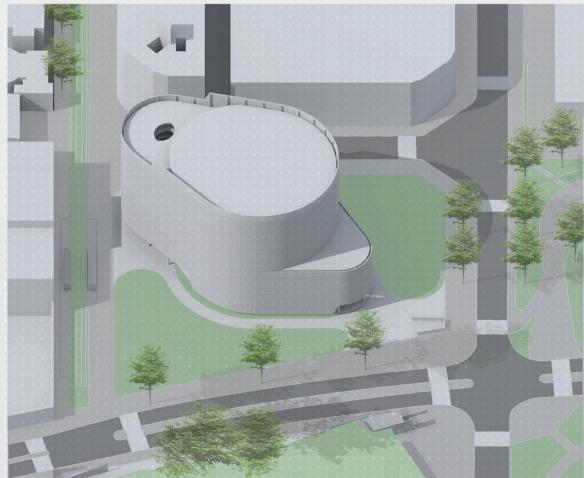


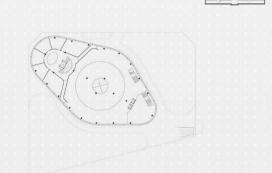




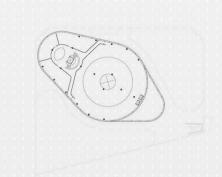




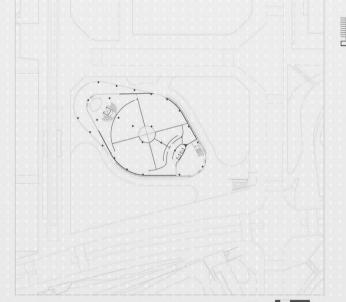




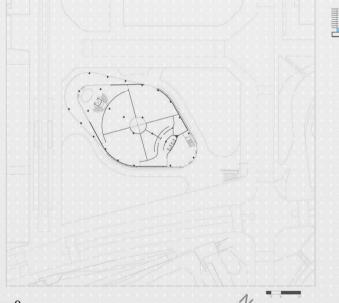


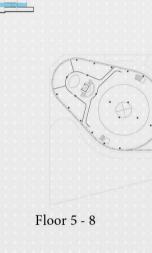


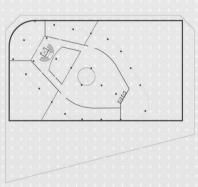
Floor 9



Floor 0





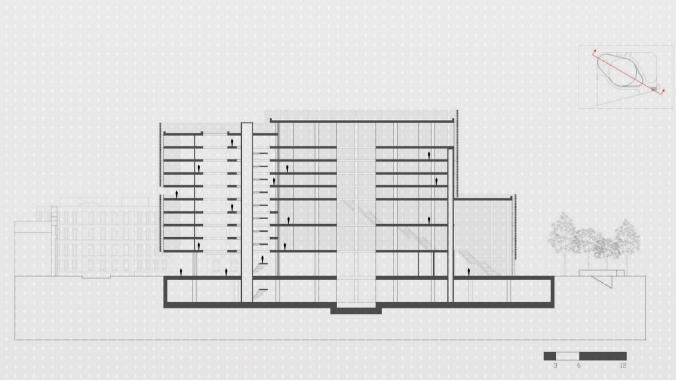


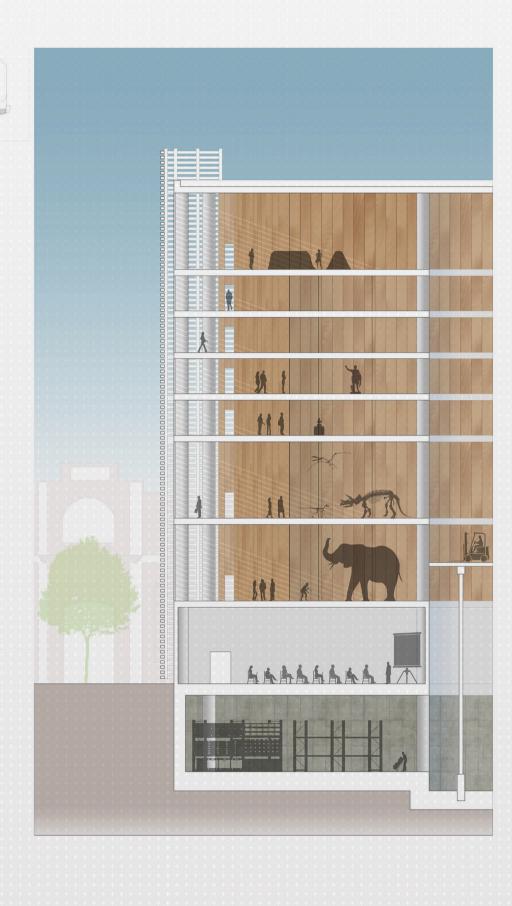


Floor 3 - 4









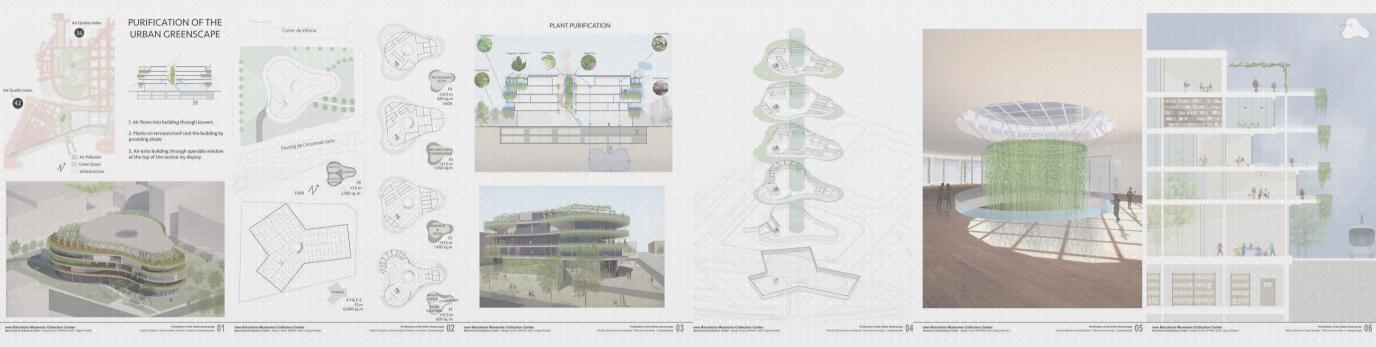






PURIFICATION OF THE URBAN GREENSCAPE

Peyton Stokes, Clemson University, Landscape Architecture Undergraduate Jewel Szostak, Clemson University, Architecture Undergraduate

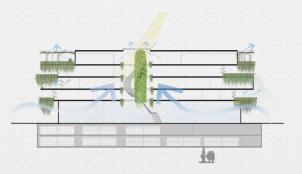


In Barcelona, you are constantly exposed to air pollution with a lot of dust, heat, and noise. We have created a living building with an internal digestive system, verti- cal air recycling system with inhabitants that live in an organic, breathing metabolic system. The open core space is the biggest priority for achieving the design of optimal learning and growing for the communities history. The core is built as a buffer with hanging English Ivy which cleans the air.

It is designed using recycled, environmental-friendly materials, and local materials to reduce costs and preserve Barcelona's lively culture and lifestyle by respecting the regional identity. The aluminum structure captures ultra-fine smog particles within a 24- to the 82-foot radius and the building shell will use foam concrete—block cavity walls lined with bentonite clay to filter out air pollutants in the microclimate. Vertical green walls and terrace gardens will also improve air quality while providing shading, and mechanical filters on the roof will further clean the air.

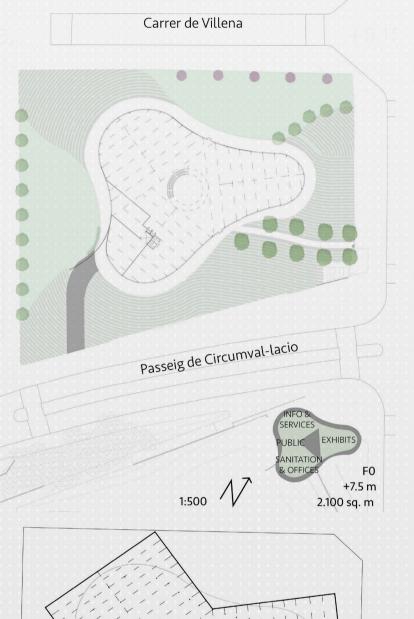
Air Quality Index 42 Air Pollution Green Space Infrastructure

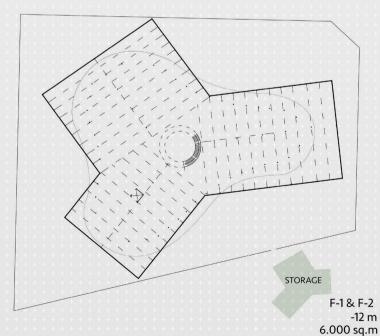
PURIFICATION OF THE URBAN GREENSCAPE

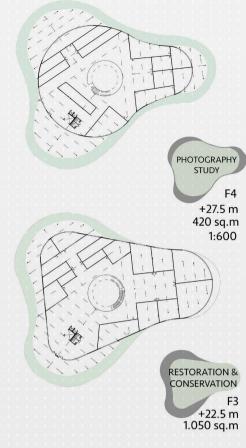


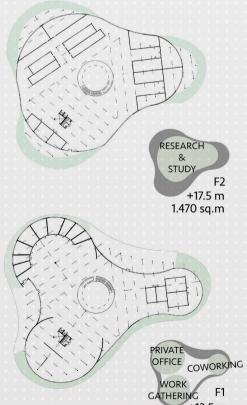
- 1. Air flows into building through louvers
- 2. Plants on terraces/roof cool the building by providing shade
- 3. Air exits building through operable window at the top of the central ivy display



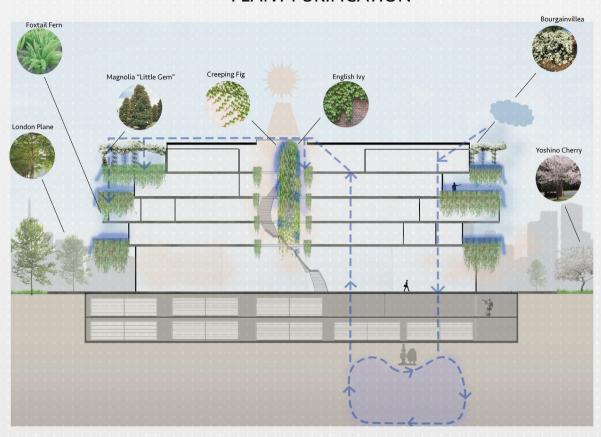




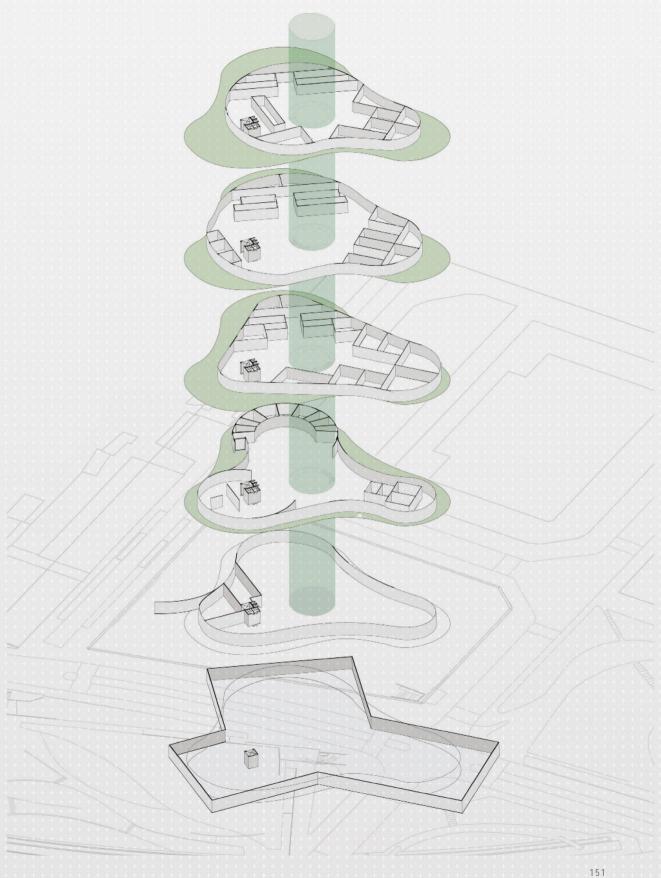


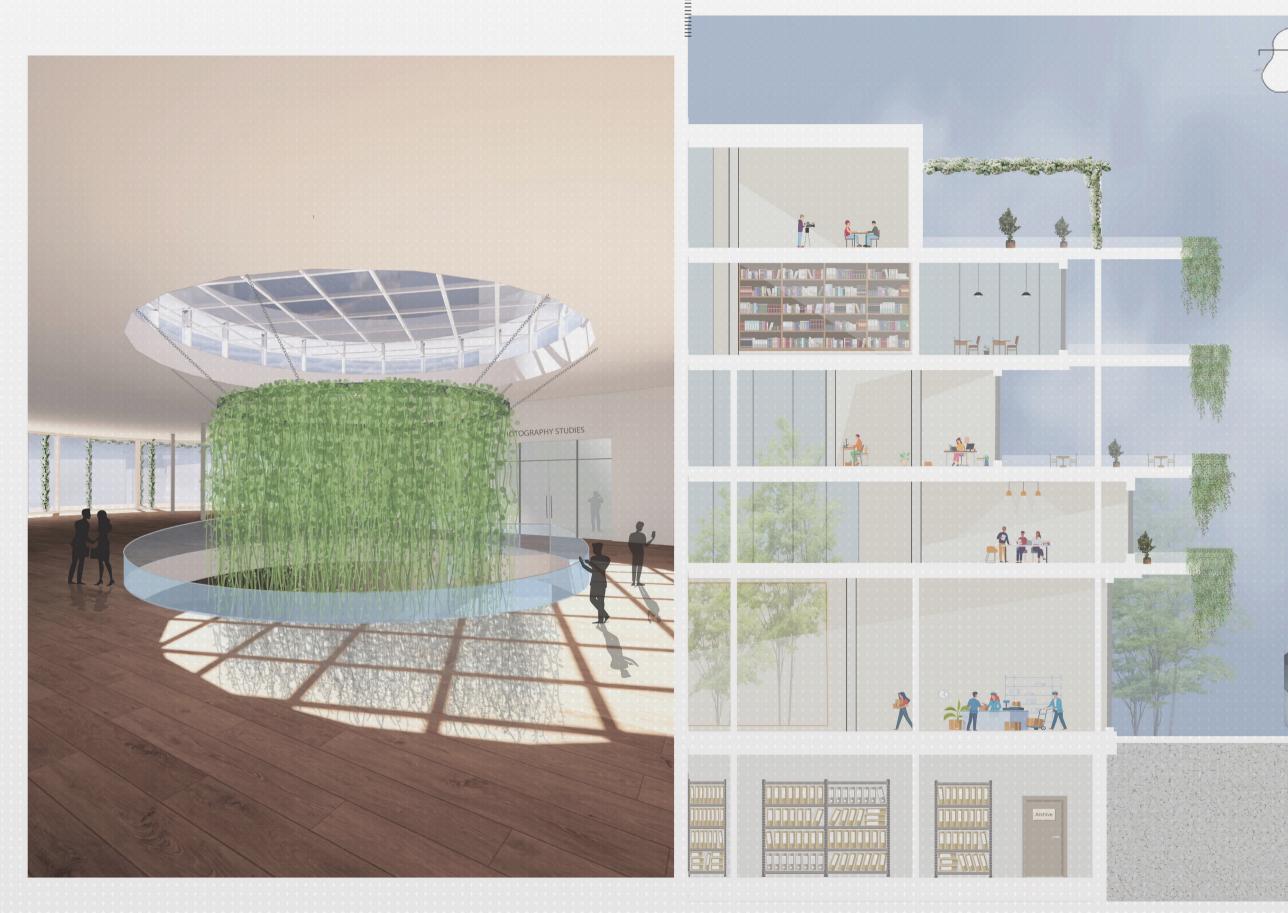


PLANT PURIFICATION









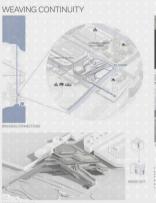






WEAVING CONTINUITY

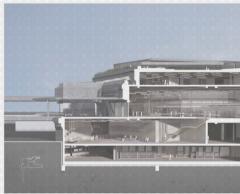
Colby Cox, Texas A&M University, Architecture Undergraduate Olga Kedya, Texas A&M University, Architecture Undergraduate

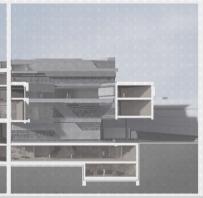


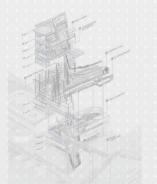
















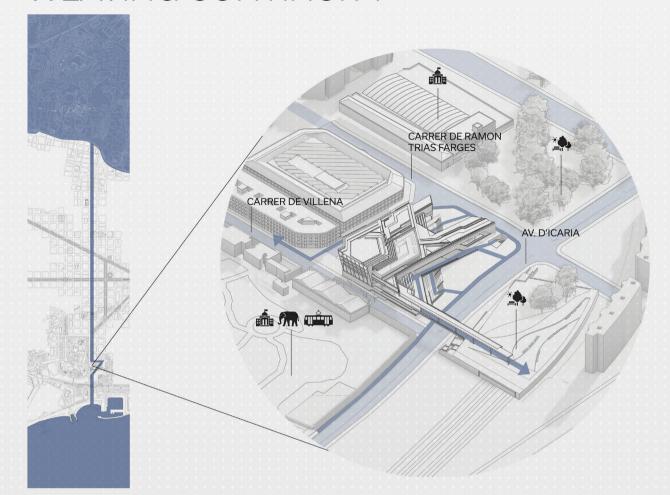
Our building is designed as a hub of connections that bridges the defragmentation present around Ciutadella Park and Parc de Charles. We wanted to encourage interaction among the public through our circulation while also addressing the necessity of an enclosed archive space. The proposal not only physically bridges the neighborhood together, but also socio-culturally. The nature of the program demands a system of classification and a weaving of public and private spaces to encourage spaces for interaction while maintaining the required standards of security.

On the exterior, our facade displays an aggregation of diverse elements borrowed from the surrounding context of Barcelona, including references to transportation systems and nature from the nearby parks. It's meant to express the convergence of artifacts and identities on the building's interior and invert that organizational system to the building's exterior. The combination of concrete and aluminium on the facade represent the interconnection of diverse artifacts and their organizational system.

In terms of massing, the form is organized by two datums that converge in the atrium. Artifacts, Workers, and visitors all enter through different points of the building, but moments of interaction are woven together at the intersection of these axes. The public entrance will allow quests to view portions of the storage area when entering, and then encourage circulation along the horizontal axis to view exhibition spaces.

Artifacts enter along the diagonal axis, and are distributed through the vertical cores. And finally, workers will enter on a lower level, as it provides a connection to both axes. This selection of materials visually represents the act of fl ipping the interior steel frame to exterior, changing its function from container to contained. Tinted glass provides a glimpse at the structural inner workings and artifact silhouettes to selectively reveal moments to the public as they pass by.

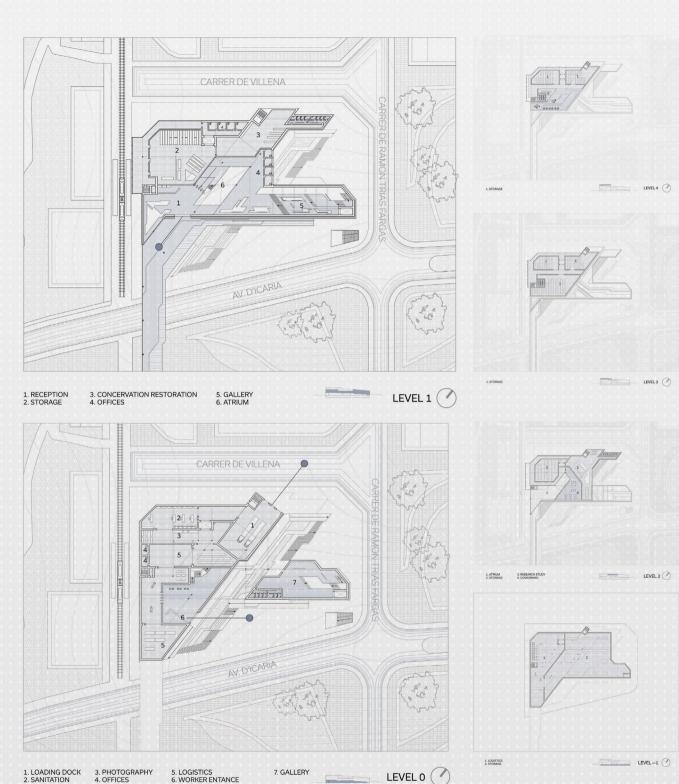
WEAVING CONTINUITY



BRIDGING CONNECTIONS

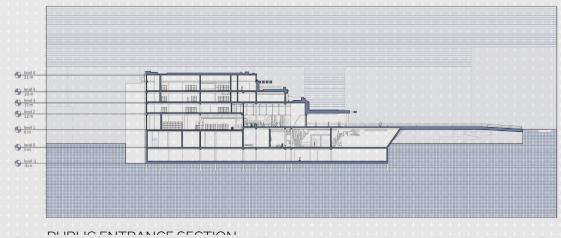
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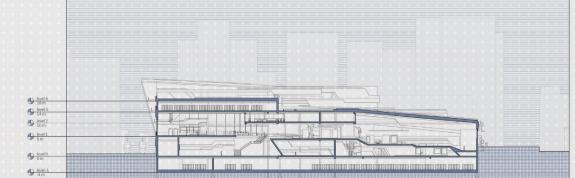




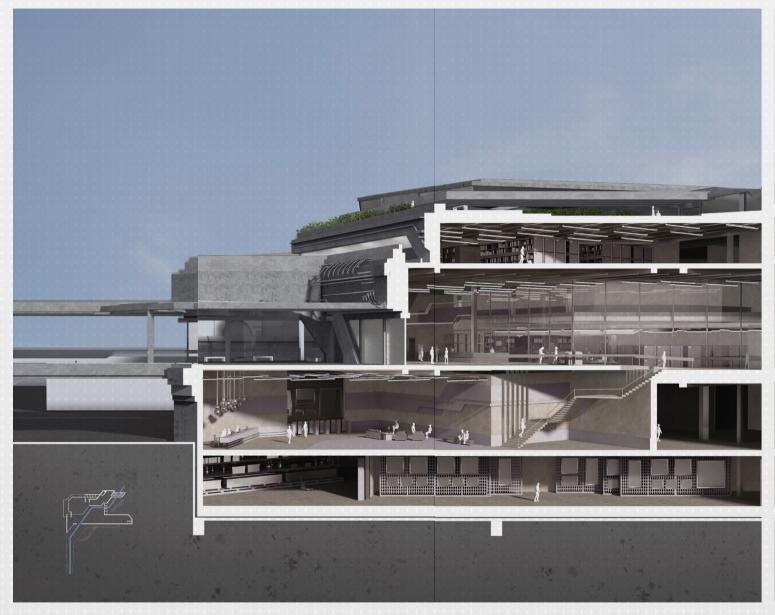


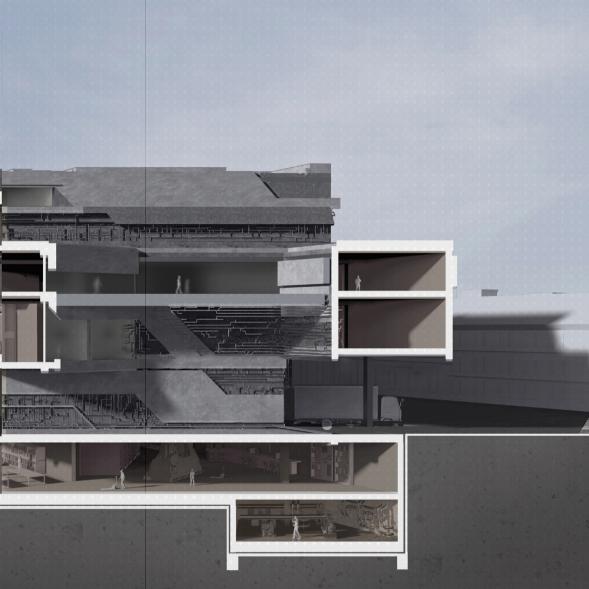
ENTRANCES FROM PARC DE CHARLES

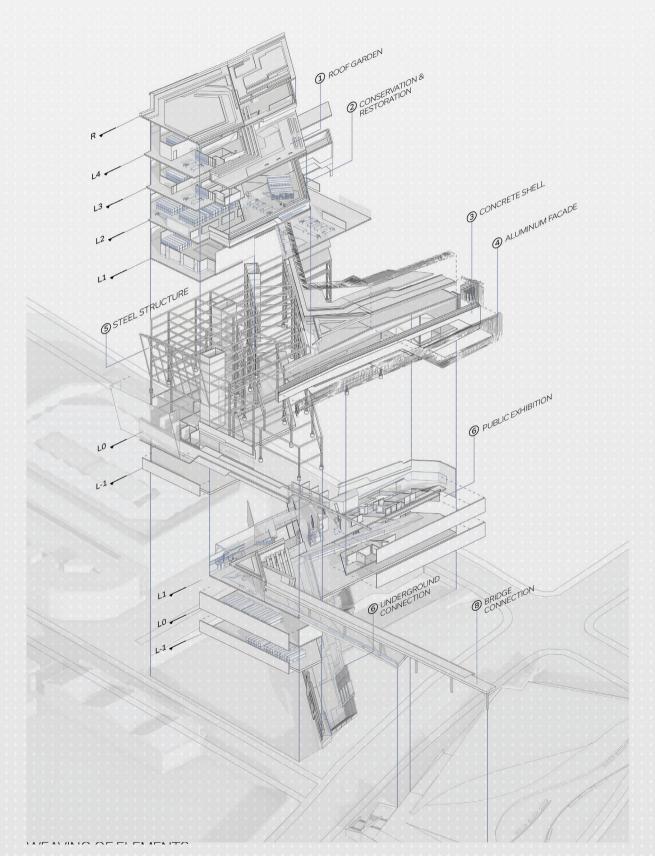














INTERIOR HUB





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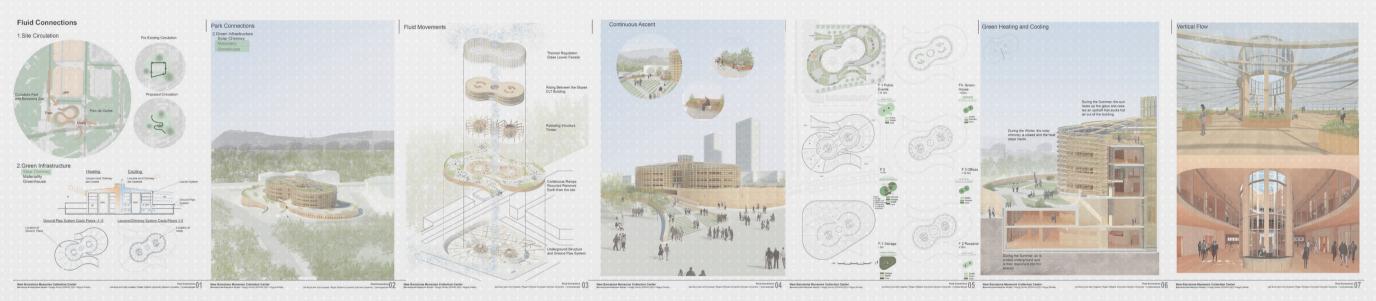






FLUID CONNECTIONS

Joe Bucci, Roger Williams University, Architecture Undergraduate
John Angeles, Clemson University, Landscape Architecture Undergraduate

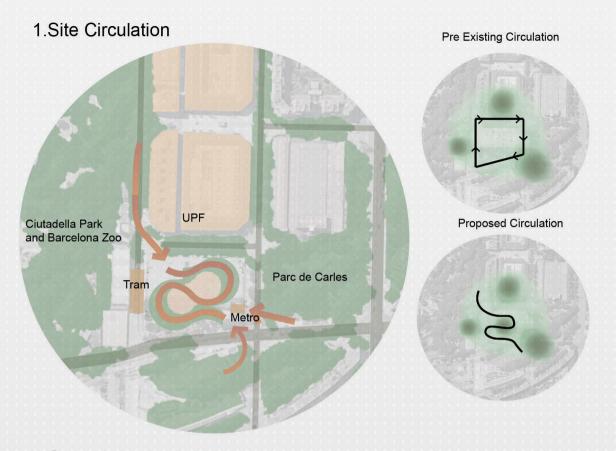


The project seeks to create an archive that creates connections to the site and improves the green infrastructure of the area. The project has two concepts. The first Concept is creating a continuous circulation path that links the school and parks adjacent to the site.

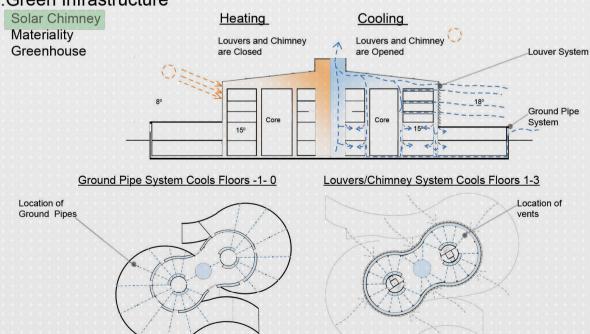
The project achieves this by creating two slopes of greenery that link the different parks in the area. Our second concept is implementing green infrastructure. The project achieves this through a solar chimney, materiality and a greenhouse on the roof. The project uses recycled rammed earth for the walls of the slopes and they contain the project.

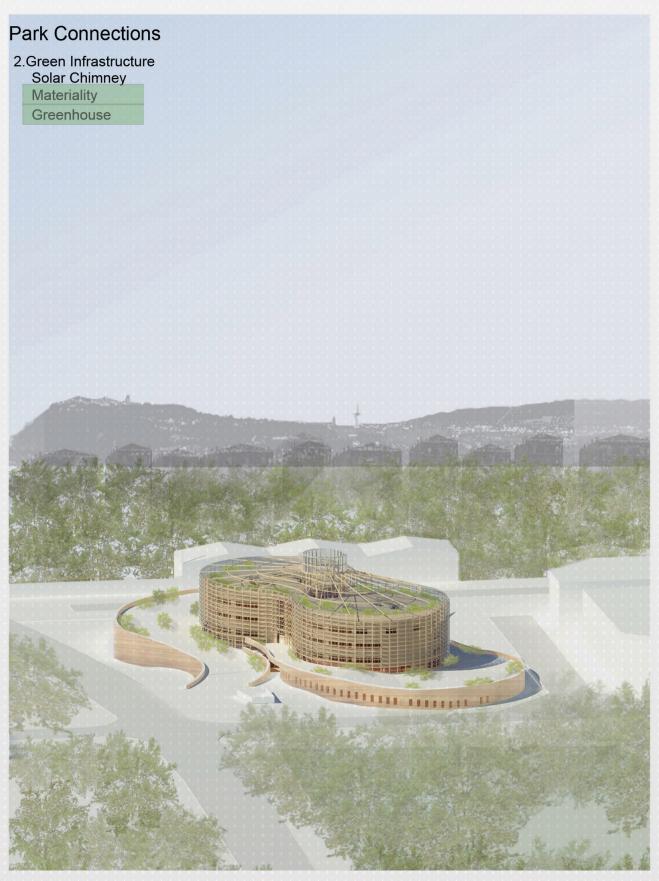
A cross laminated timber building joins and rises between the two slopes. The glass solar chimney and louver facade help regulate the temperature and protect the cross laminated timber building. Therefore, this project seeks to create an archive that improves the urban site through creating a continuous circulation path and green infrastructure.

Fluid Connections

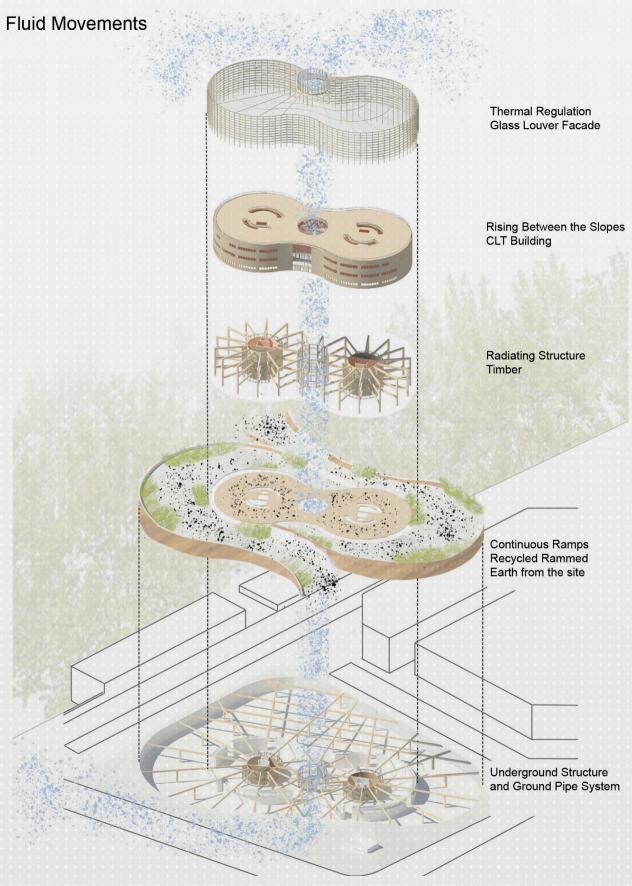


2. Green Infrastructure



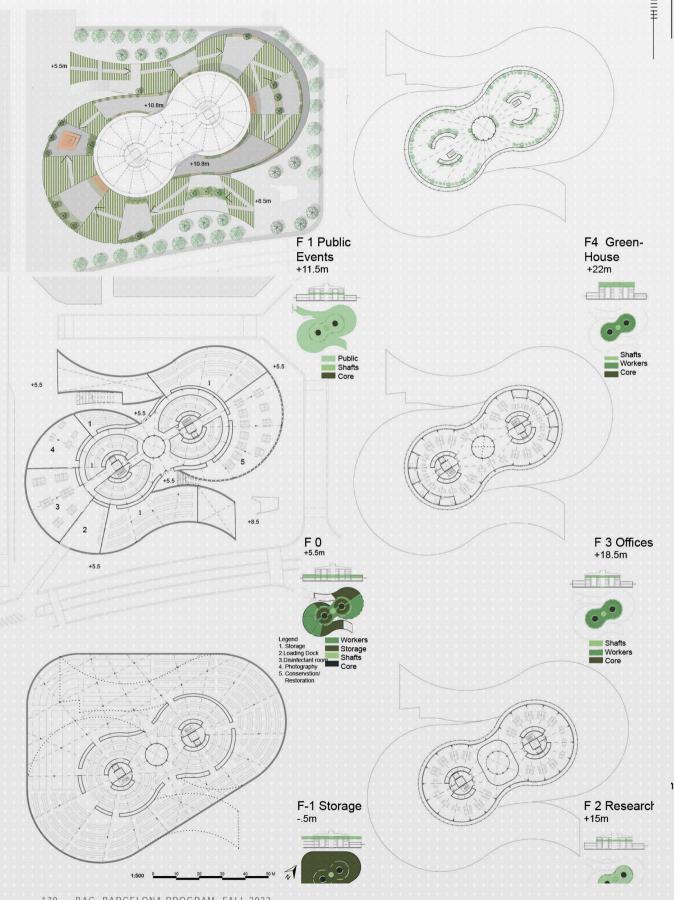


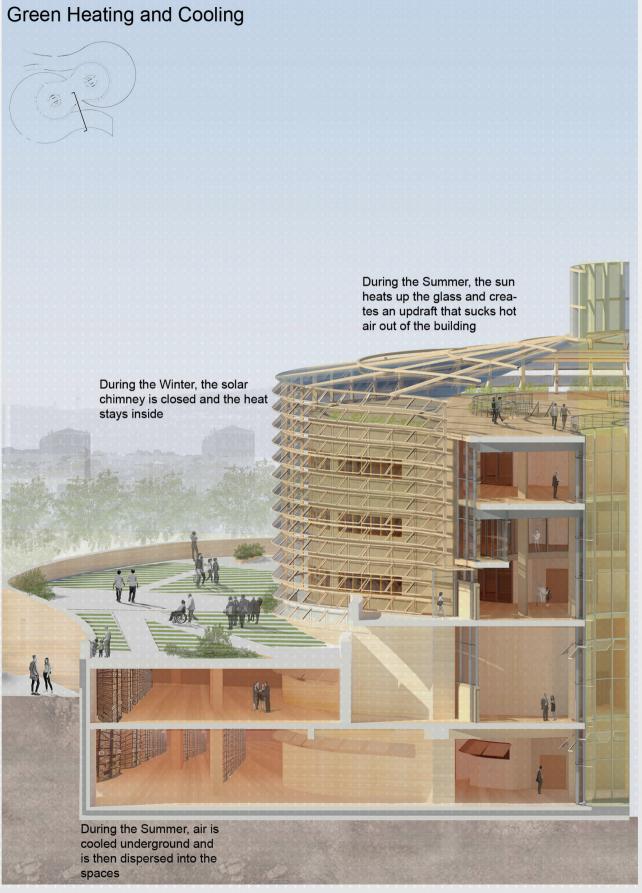
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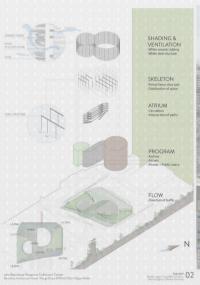




THE NEST

Michelle Lester, Texas A&M University, Architecture Undergraduate Brianna Ogburn, Clemson University, Architecture Undergraduate















Studying the city of Barcelona has led us to understand the true meaning of business and walkability, factors that determine how a space is used and moved through. In order to not disrupt the mobility happening in the Ciutadella area, we chose to create a space that can be easily accessed, exited, or even explored in a simple, direct manner. The Nest contains clear paths and ramps that create our plaza and allow us to draw in those walking around the site into the building, creating a simple and clear connection between the areas one might be commuting to or from. These paths ultimately create a pinch point that determines how to program this structure and become the main source of mobility through The Nest.

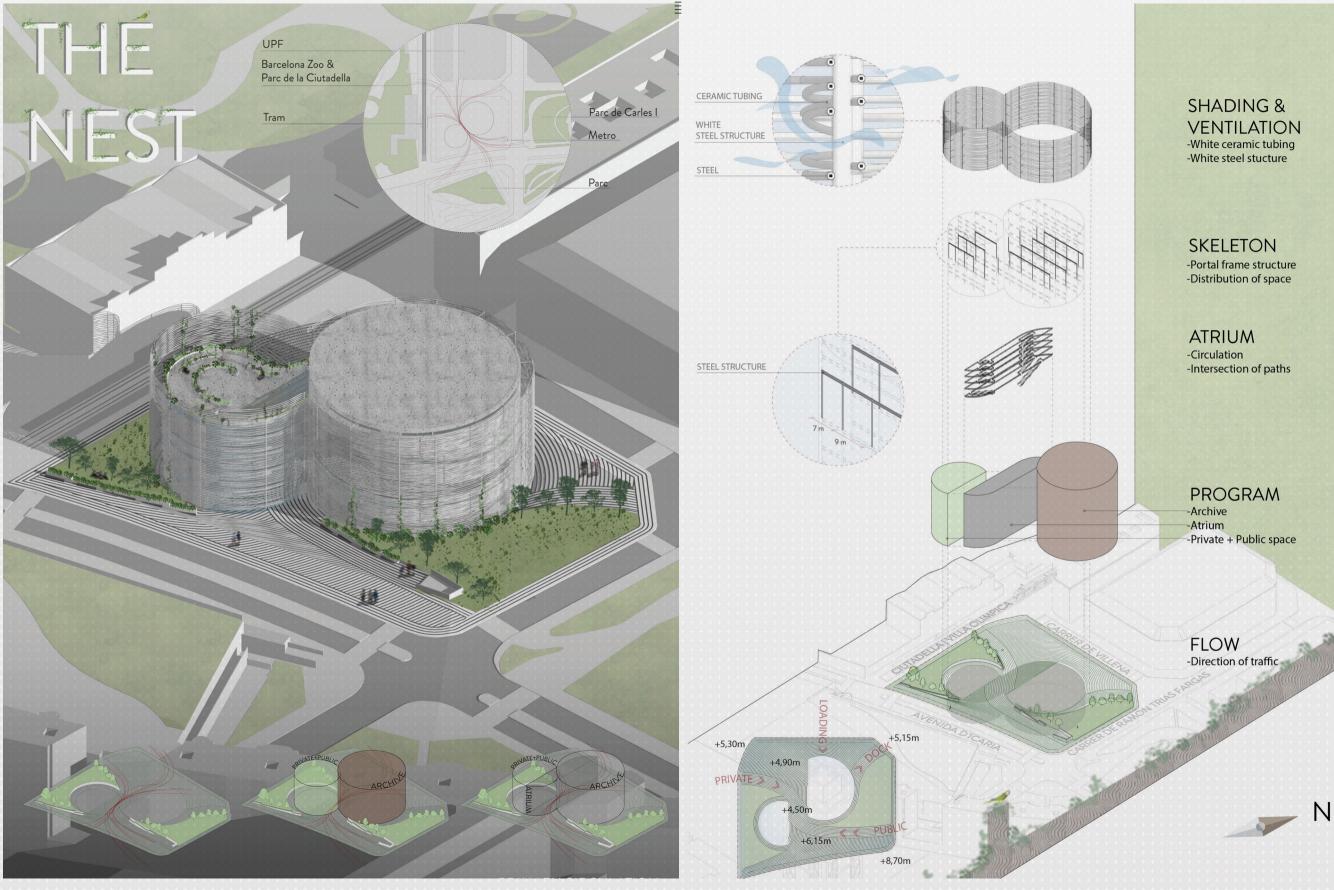
By embracing the change in elevation, our plaza creates distinct entrances around the site for entry and unloading. Where these paths intersect, we create an atrium which acts as a boundary between the archive and the public and private use spaces. Branching out of this atrium, we have a steel portal frame structure which aids the organization of rooms, storage, and facilities throughout the entire building. In order to create a sense of lightness, a facade of woven, locally found ceramic tubing is placed as a curtain wall which horizontally wraps around the massing of the building.

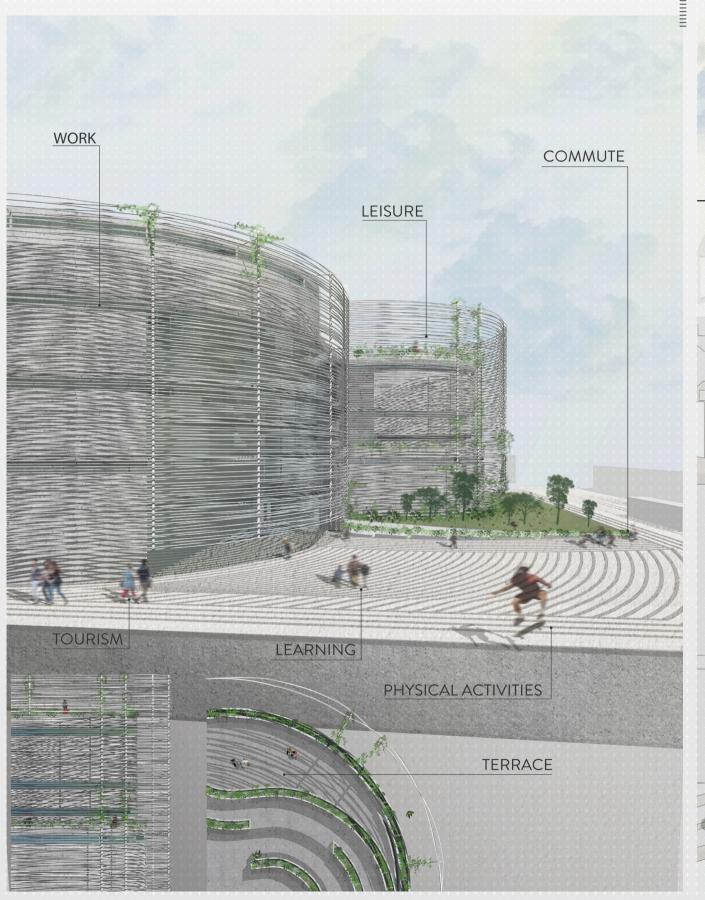
These white tubes reflect light and absorb heat, allowing the building to stay cool during hot days in order to protect the delicate archives stored within. This facade creates a shading system that is complex and complimentary to the simplicity of the exterior of the building. The shading encourages people to spend time outside and even invite those around to enter our shaded utopia.

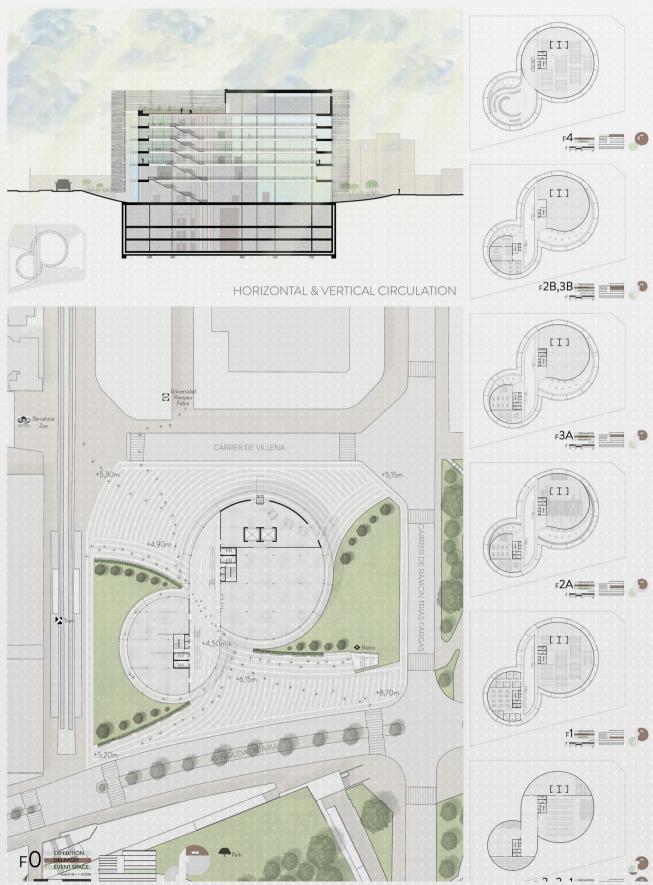
As you enter The Nest, the ground pattern continues inside and creates a connection between the interior and the rest of the site as it leads people through the building. The atrium acts as the nucleus of The Nest, dictating the entire flow of the building. From circulation to structure to programming, all of these elements extend from the atrium, and this centralized hub contains all of the horizontal and vertical circulation. As you circulate through it, the public is able to experience the whole building without disrupting the activities happening within. Irregular weaving throughout the exterior of the building filters the sunlight and in addition to delicate shadows cast on the ground, it allows those in the building to have a safe space that is ventilated, shaded and gives a sense of privacy.

The ceramic tubes are woven through white steel columns that branch off of the main structure of the building while preserving the natural flow of the ramping and plaza. This offset creates breathing room between the building and the ceramic tubes, and by strategically creating openings in this weaving, we can choose how to shade and ventilate the paths that flow along the building as well as the terraces and greenery.

On each floor, glass wraps around our form and maintains the horizontality seen throughout the entire building. The height of these windows directly correlates to the program behind the walls; shorter windows to preserve the archives, taller windows to provide natural light to the public spaces. Throughout the day, The Nest is continuously absorbing sunlight and being shone on, but at night we switch these roles and the building becomes the source of light for those around it.















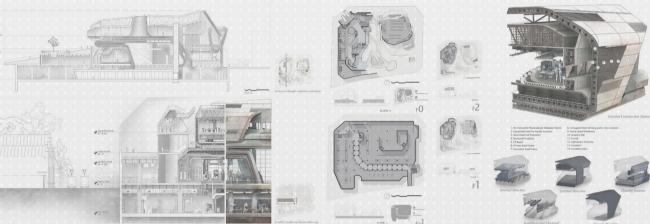


COHESIVE MULTIPLICITY

Elijah Huggins, Texas A&M University, Architecture Undergraduate Philips Fafiyebi, Texas A&M University, Architecture Undergraduate









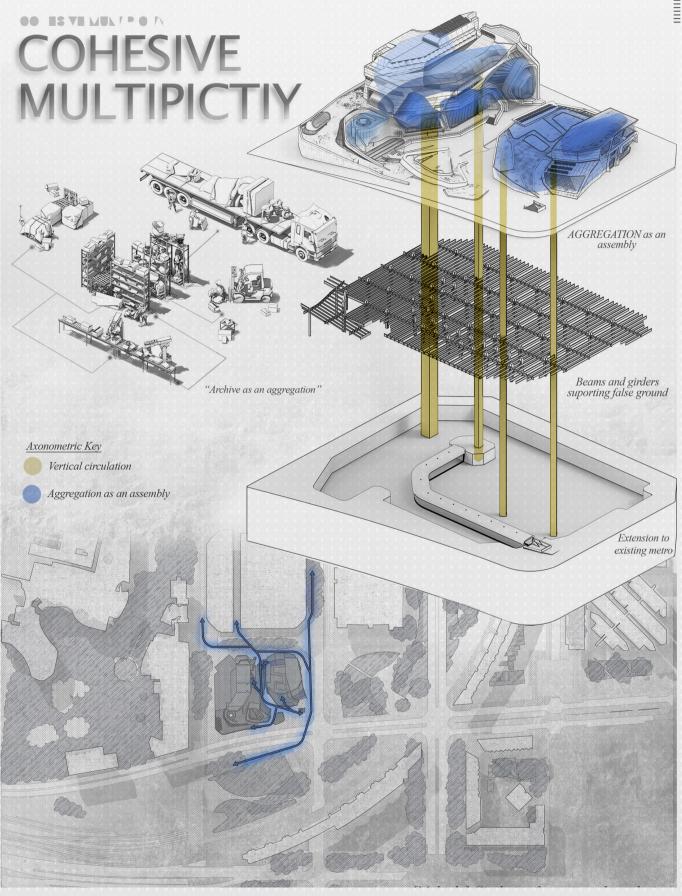


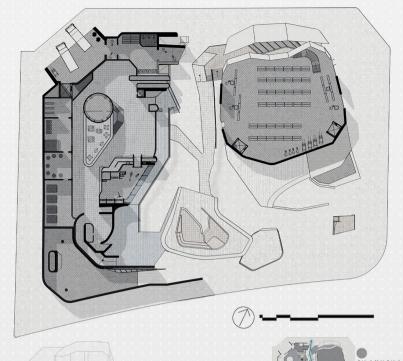
Our proposal is predicated on the solution to the problem of housing, displaying, and eventually distributing Barcelona's historical artifacts. We intend to solve this problem with a formal system based on unifying the diversity of the artifacts with the design, circulation, programming, and construction of the proposal. In all scales, our proposal will function as an aggregation of multiple parts, united by a common element or theme. Formally, the proposal is designed as two separate volumes connected by an underground flexible storage space. The program within these volumes is an aggregation of spaces connected by ventilation systems.

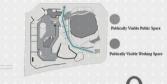
Additionally, these spaces are oriented based on the circulation paths we have assigned. This emphasizes the viewing areas and encourages visitors to explore, while also providing the opportunity to process directly through the site. The main circulation path connects the metro exit to the university alleyway, but it also contains multiple other minor connections as well as several branches within the paths. These branches lead to the multiplicity of spaces where the public will not only experience the site, but also the preservation and protection necessary for the aggregation of diverse artifacts within the building.

In order to set the complexity inherent within an aggregational system, we chose to construct the proposal using prefabricated elements to be assembled on site. The components of the building are separated into structural, systematic, electrical, and facade parts to be constructed with recycled material, and less environmentally detrimental methods. In addition to this, the facade is assembled with photocatalytic panels which help set the carbon footprint. In this way, even the structure, construction and sustainability of the proposal is an aggregation of its own.

This concept of aggregation within the physical proposal serves as a connection with the aforementioned diversity of the archives as well as the multiplicity of spaces through which the public is allowed to experience this archive.





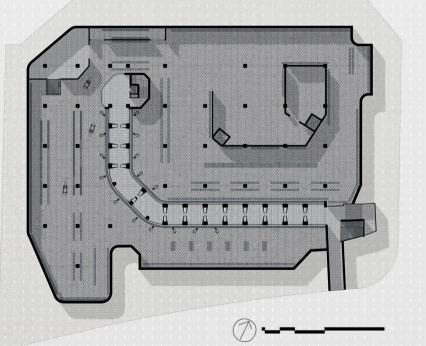






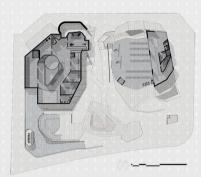


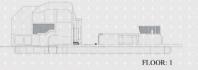
F2



FLOOR: 0



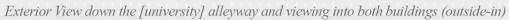




F1



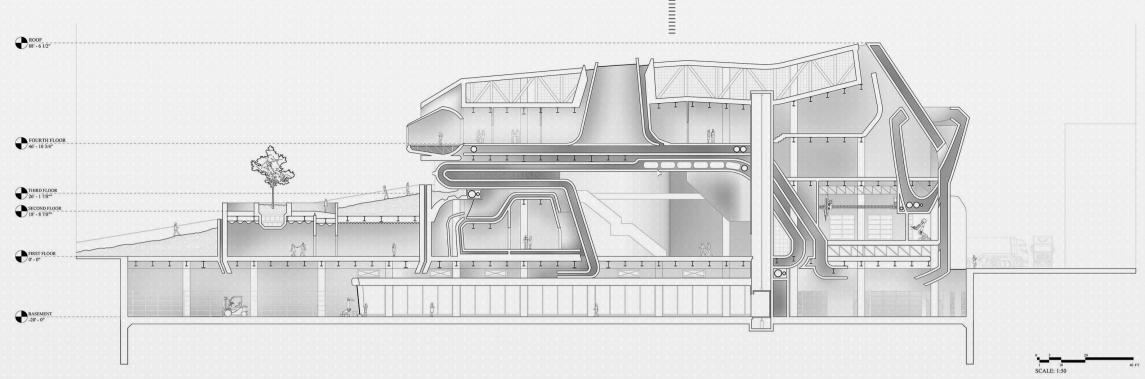


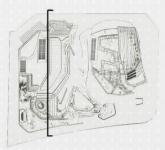




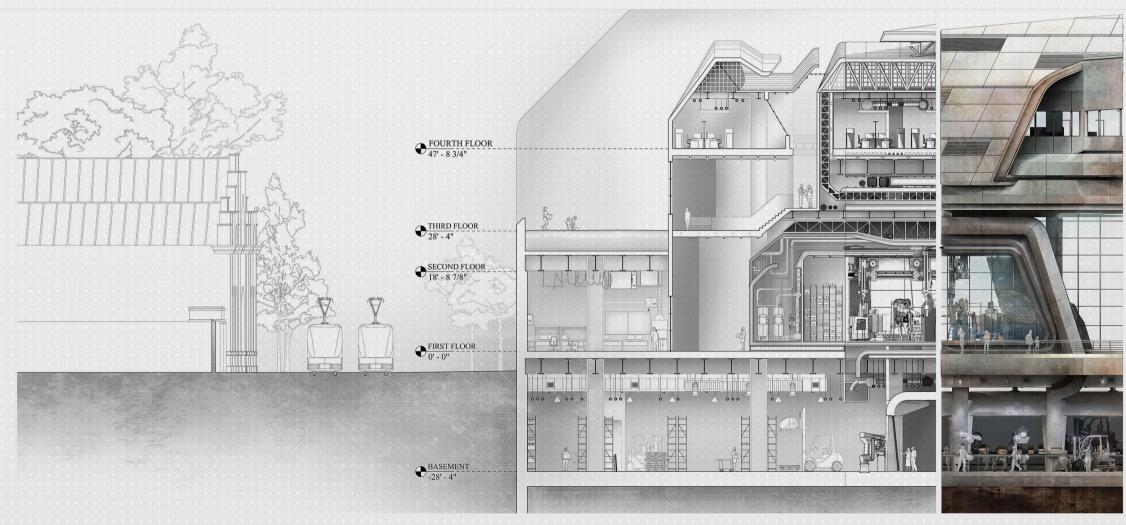
Interior View showcasing the coexistence of robot and human labor (inside-out)





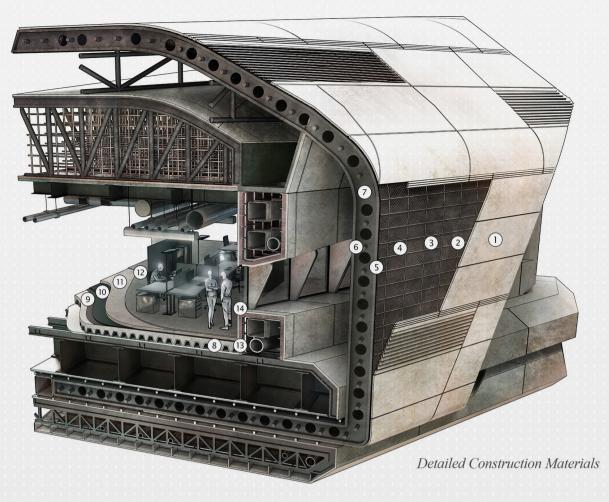


Section cut through ventilation and atrium



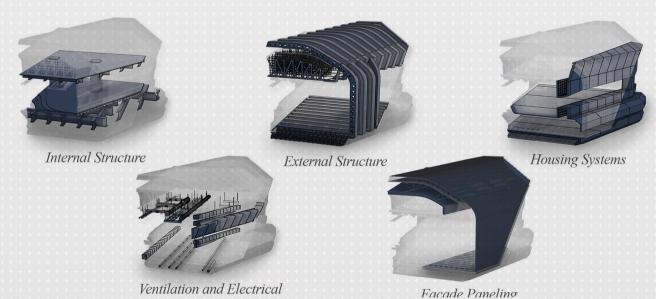


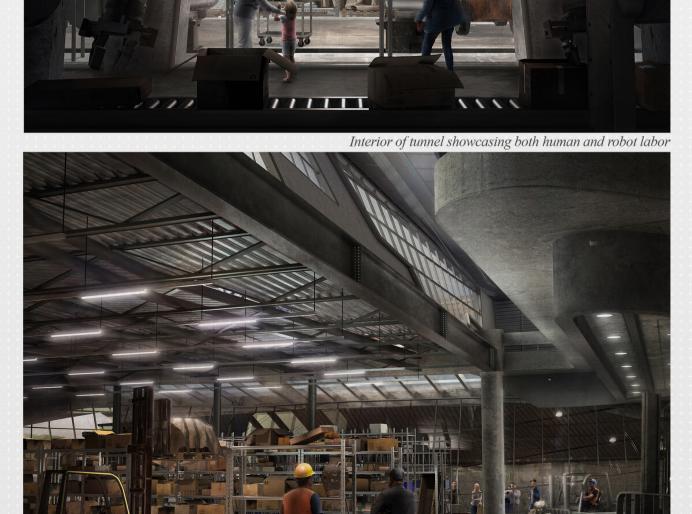
Double Facade and Section drawing



- 1. Pre Fabricated Photocatalytic [Modular] Panels
- 2. Galvanized Steel Fin Facade Structure
- 3. Aluminium Foil Protection
- 4. Rockwool Insulation
- 5. CP Board
- 6. Primary Steel Frame
- 7. Secondary Steel Frame

- 8. Corrugated Steel Decking and In-Situ Concrete
- 9. Damp-proof Membrane
- 10. Acoustic Mat
- 11. Screed
- 12. Lightweight Concrete
- 13. Insulation
- 14. Insulated Glass





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URBAN ROOTS: AN EXTENSION OF CIUTADELLA

Abigail Spears, Texas A&M University, Architecture Undergraduate Kayla Pyles, Clemson University, Architecture Undergraduate

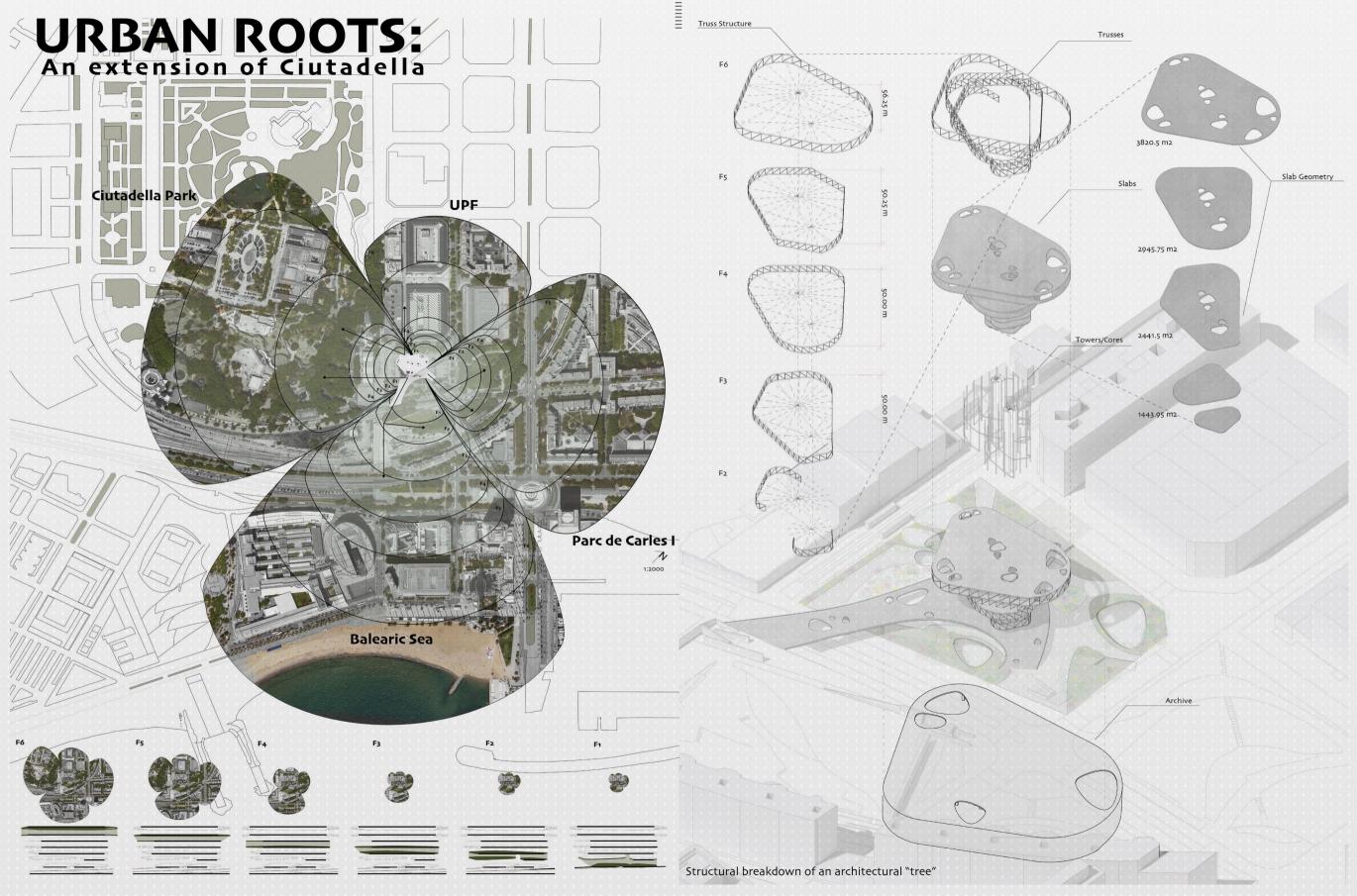


When recognizing the relationships between the greenspaces around our site and the public activity they foster, we were rompted with the question of how to simultaneously create a space that facilitates these urban connections while also housing an archive. Through studying the abstracted anatomy of a tree, we discovered the elements of roots, trunk, and canopy which have beneficial organizational rules in both the natural and human environments. By blending these natural biologies with architecture, we were able to create a vertical park to serve as an extension of the Ciutadella.

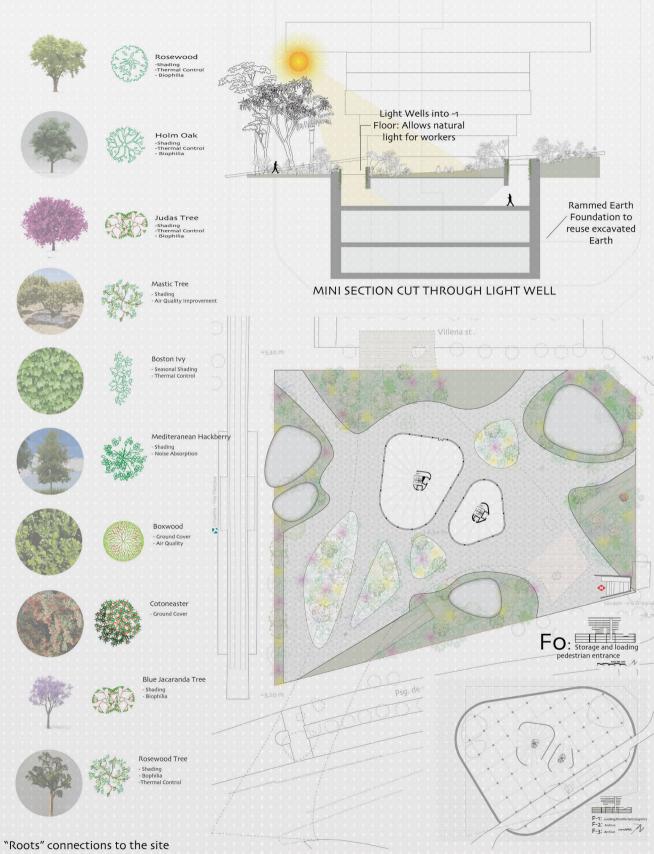
This vertical garden references the appearance of a tree through its structure and functionality. The natural processes of a tree define the program and circulation of both people and services. The archive is placed underground as the main root system where it absorbs both people and artifacts before they are dispersed through the trunk and canopy. Through this system of circulation, the artifacts enter and are stored in a central location, but have the ability to move throughout the trunk freely to the offices, classrooms, photo rooms, workshops and exhibitions that fill the canopy space above.

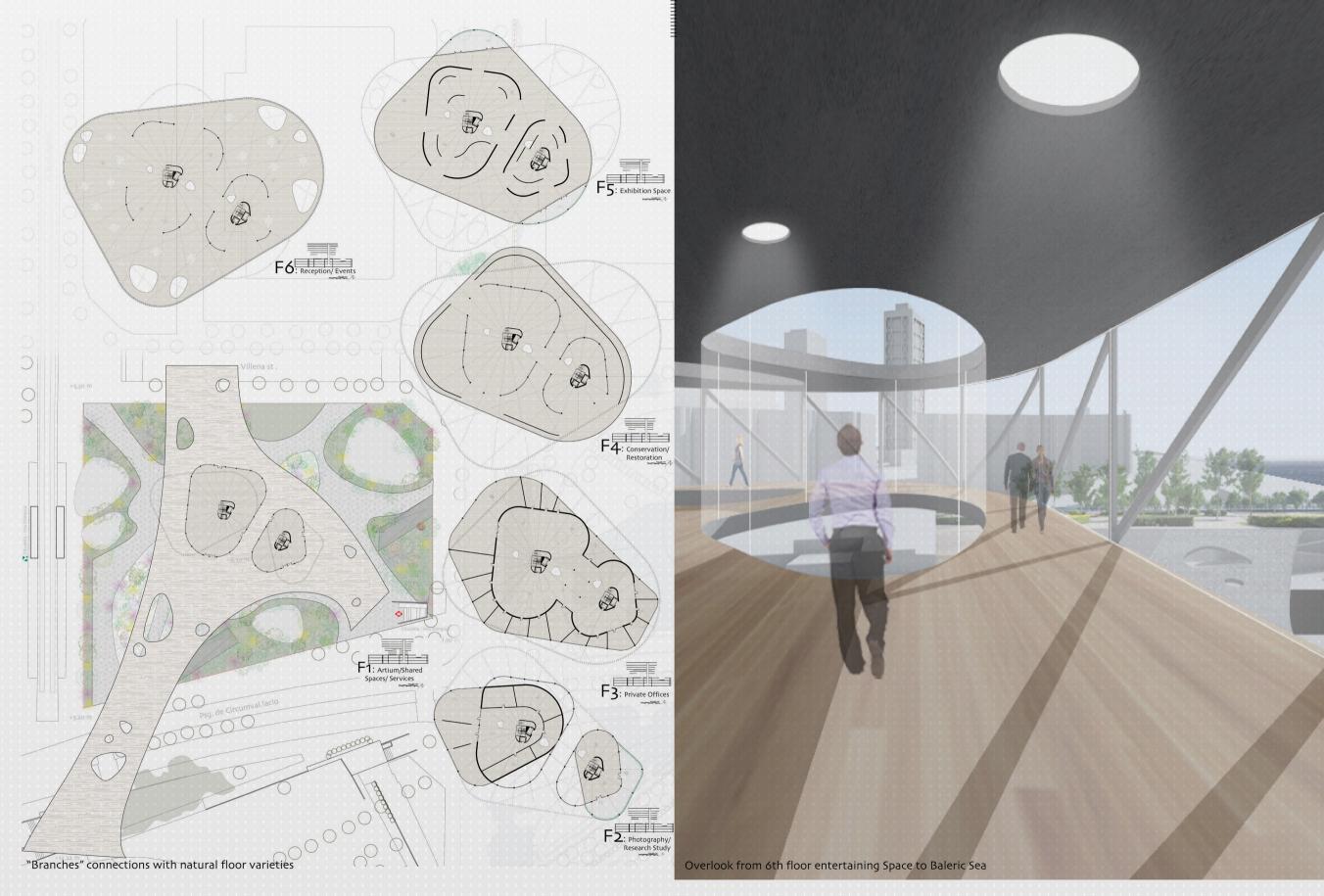
There are three main points of connectivity that connect people from the metro, the UPF campus buildings, and the elevated park across the street, which connects the city with the sea. Using our building's ramps which act as reaching branches and an extension of our ground plaza, these entry points are fed into the building to the first floor where the main doors are.

From there, people and artifacts can access the central towers, or trunks, allowing them access to the upper levels. Each floor has its own ring shaped truss system with radial beams that allows for a free floor plan which can be adapted depending on the special needs of the program assigned to that floor. Each floor is designed to frame views through glazing, creating nodes of rest, or create exterior terraces with respect to views, greenspace adjacency, and solar orientation. Barcelona's density creates a desire for open space which our building creates through doubling the ground using expansive ramps and placing the archive underground. This ultimately opens up the site to nature and pedestrians, giving them the freedom to occupy it. Our project does not express itself as an intervention to the site, but a compliment of it, as it accents the organic theme of the surrounding Ciutadella Park area.











1:50 Section of connection from elevated park into building

Elevation showing relationship of building with landscape

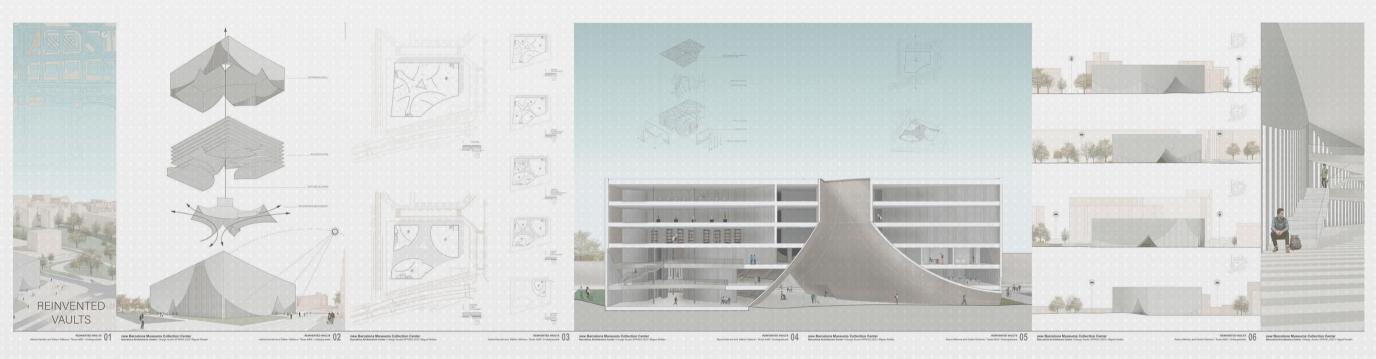






REINVENTED VAULTS

Alaina Klement, Texas A&M University, Architecture Undergraduate Dalton Gibbons, Texas A&M University, Architecture Undergraduate

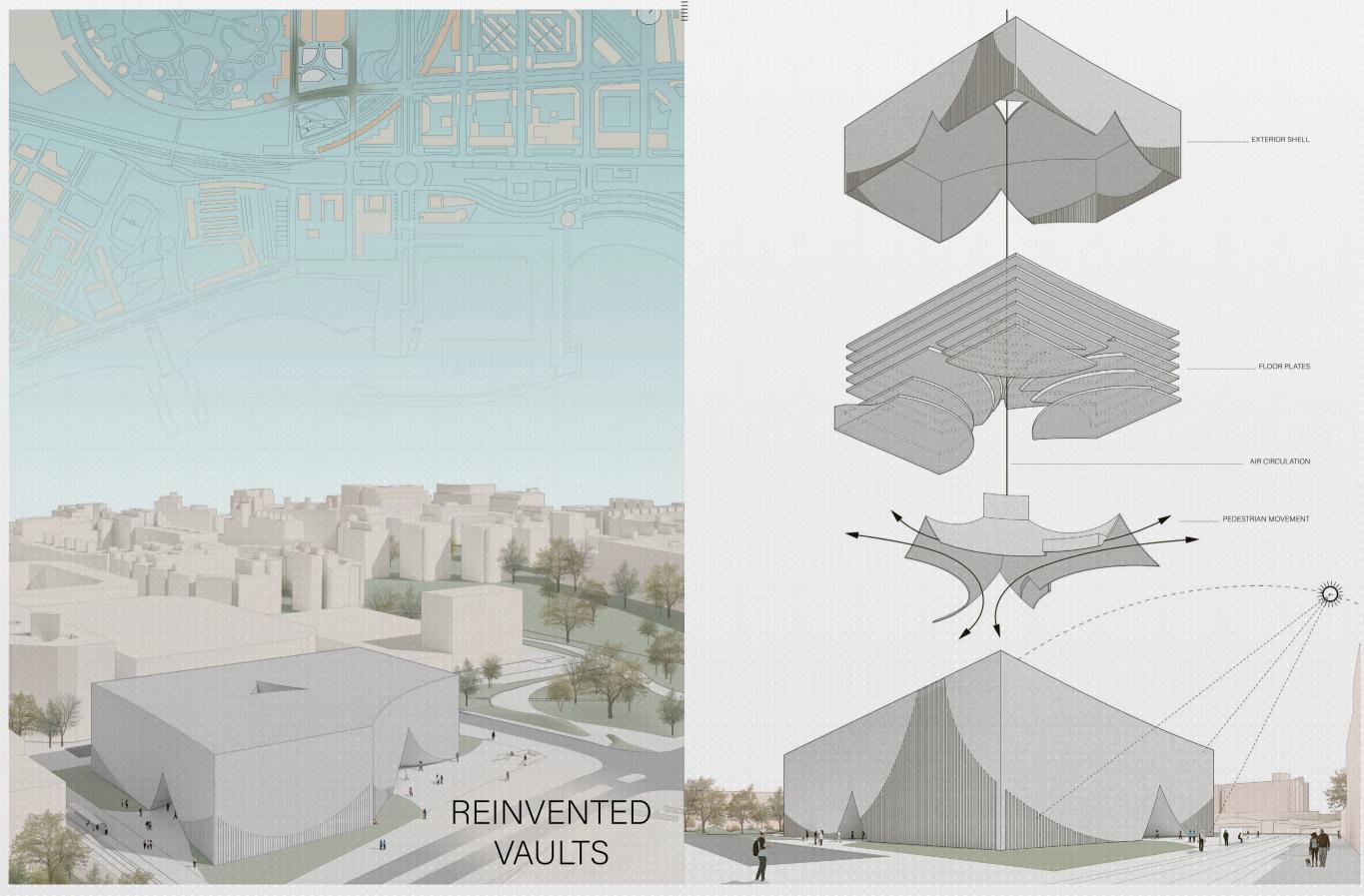


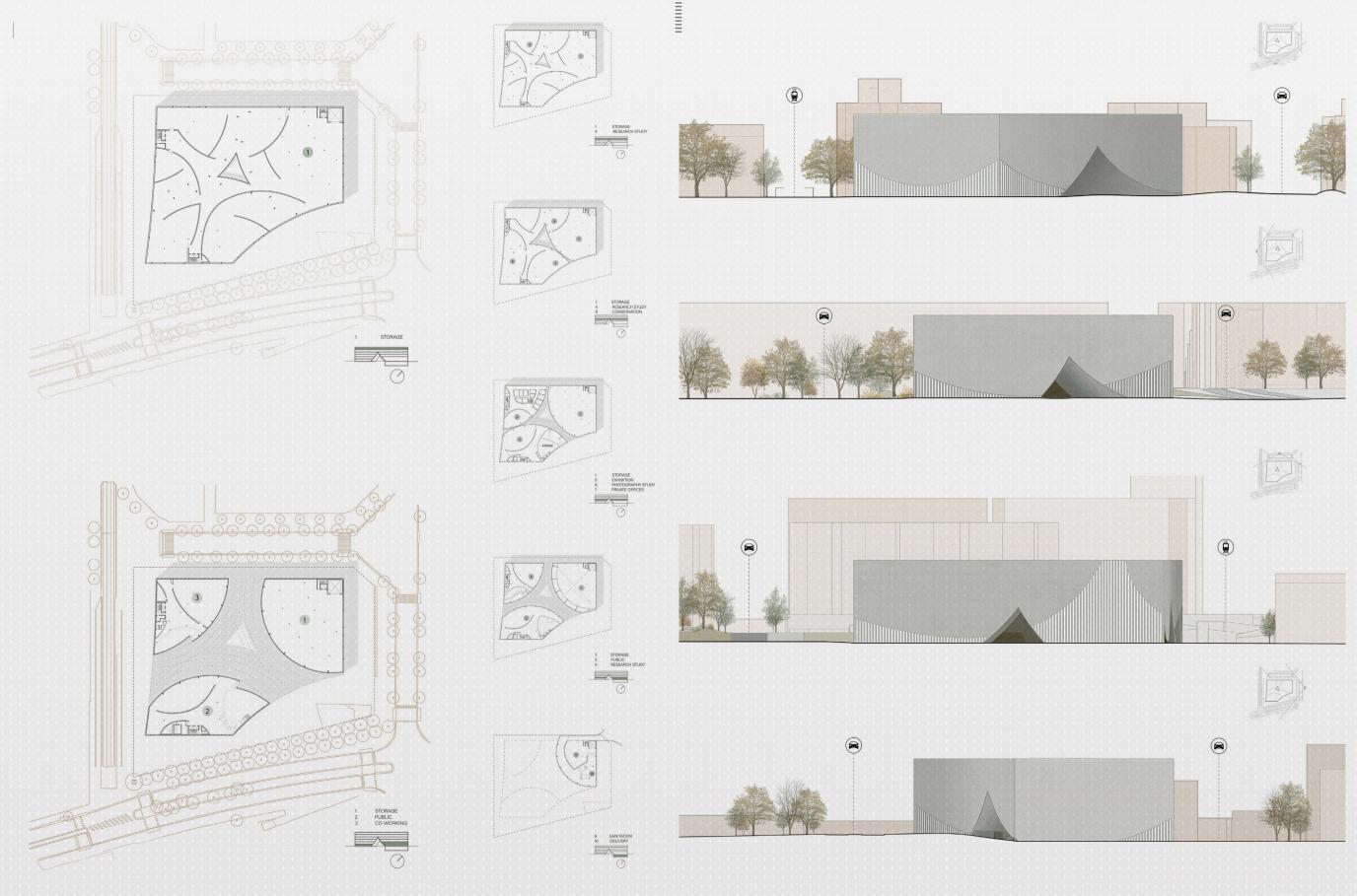
Barcelona is a city full of barriers, both physical and visual. The blocks typically do not allow for movement other than around the perimeter. This project aims to break down those bar- riers by creating a structure who's porosity is immediately apparent. Through the reinvention and inversion of the Catalan vault, the building forms a space underneath, resulting in maximum circulation of the site and providing connections between the park, university, and public transportation hubs. Three spherical forms lift from the ground and merge together as the building becomes one, creating the formwork of inverted vaults. The creation of this underneath plaza invites pedestrians to use the space and explore the building in hopes of peaking their interest about what could be inside.

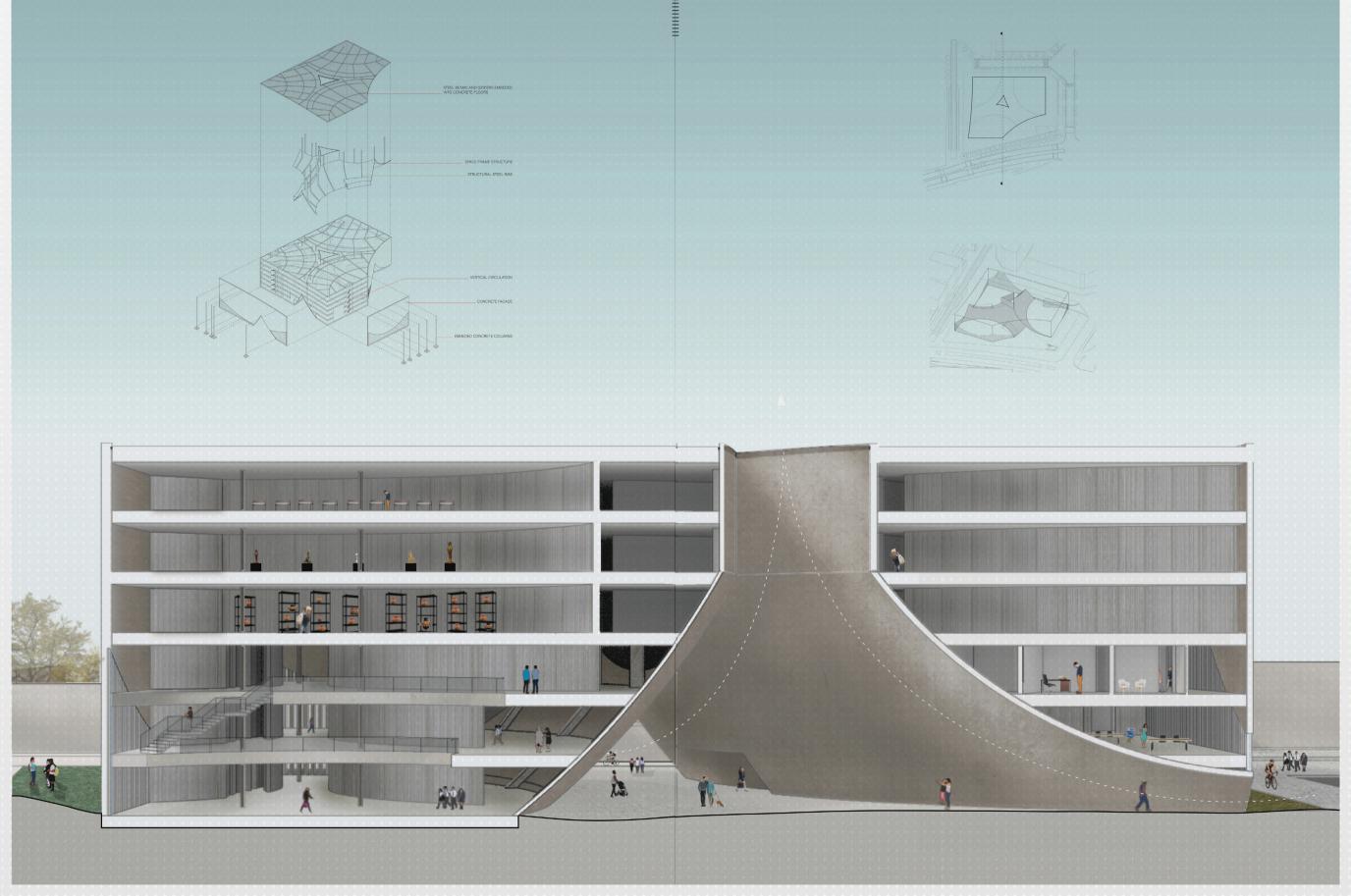
Furthermore, the skylight puncturing the building at the center of these merging forms provides vertical circulation of air and infiltration of sunlight. Vertical louvers draped around the facade allow for sunlight to enter the archive, but also make regulation of the interior climate almost effortless due to their high density.

The concept of walkability and circulation is continued into the interior, where partition walls divide the space and create a similar experience to that of the site circulation. The shell of the building, along with structural ribs following the curvature of the shell, create a unique structure that braces itself. The experience on the interior is opposite to that of the exterior.

The shell curves up and outwards as opposed to up and inwards. The floors are supported with a girder and beam system tied into the exposed columns and ribs. Two atriums allow light to access multiple floors in the public spaces and help to connect and open the space vertically.













OPENING URBAN SPACE

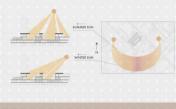
Adam Field, Texas A&M University, Architecture Undergraduate Erick Baylon, Texas A&M University, Architecture Undergraduate















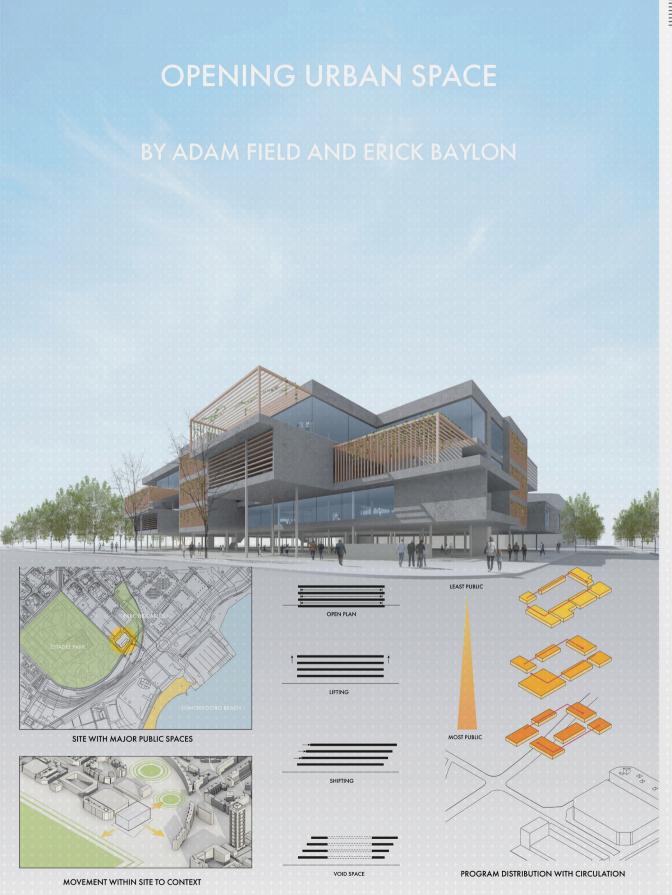
Opening Public Spaces focuses on the user's experience both inside and outside the archive. The building's main programs are elevated by columns to create an open plaza underneath and allow uninterrupted movement on the ground floor. Each floor in the elevated portion creates its own form of circulation with the programs. Starting with the ground floor, intended to be completely public, the programs of the building become more private as you progress up throughout the building. This results in a funneling of people vertically as well as horizontally through the building. The archive itself is placed underground for security and climate control purposes, as well as the fact that the public would have no access to it.

Natural light becomes very influential in the design process when deciding scale, shape, and orientation. The two large atrium spaces within the building not only provide natural light to all floors, but is also the main framework for the circulation.

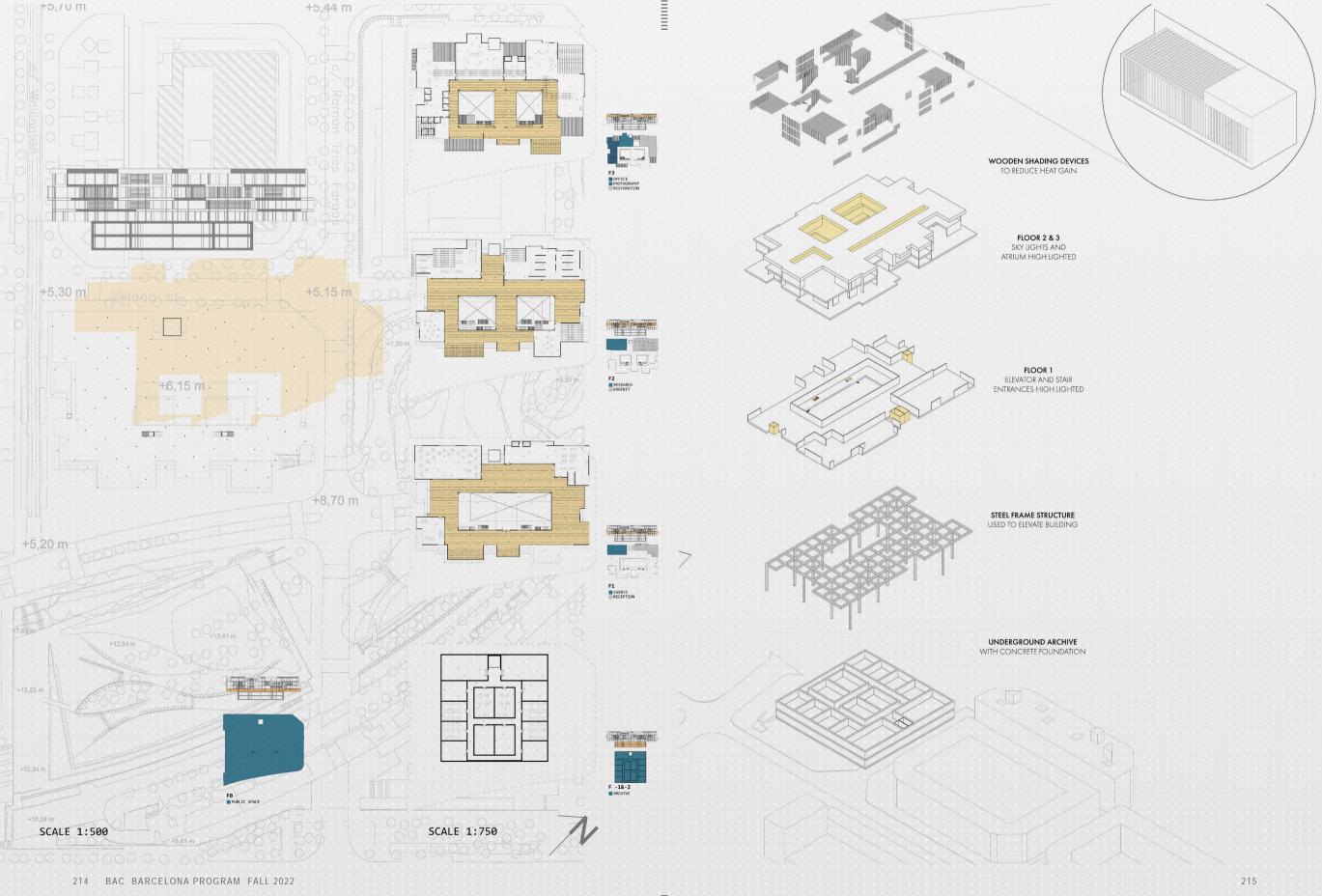
The programs within the structure are organized in such a way that breaks up the facade and further pushes this idea of openness and a transparency for the public audience. No matter where the users are located in the building, the natural light will be able to reach them and further brighten up the space. Louvers are also utilized to structure the open spaces and control the direct light. Each floor is positioned in a way such that sunlight is able to most effectively illuminate the plaza. The outcome achieved is a space that breaks up the city grid and gives a uniquely free experience to the people visiting.

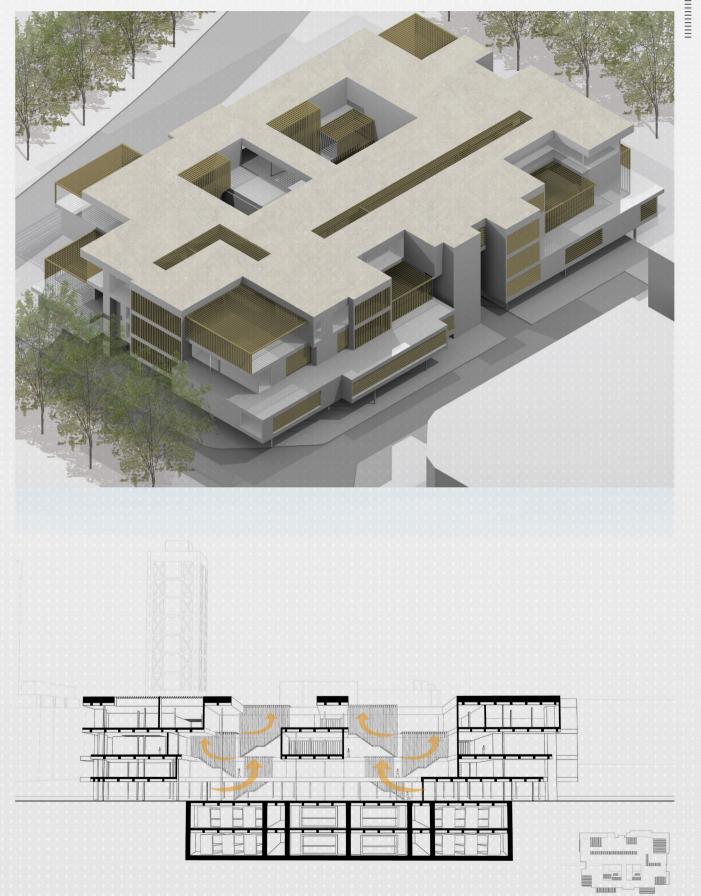
After achieving the desired lighting for our structure, shading devices had to be introduced to ensure that the building is comfortable for the people within. Repeating wooden beams are located throughout and creates a shadow box that better accents the natural lighting.

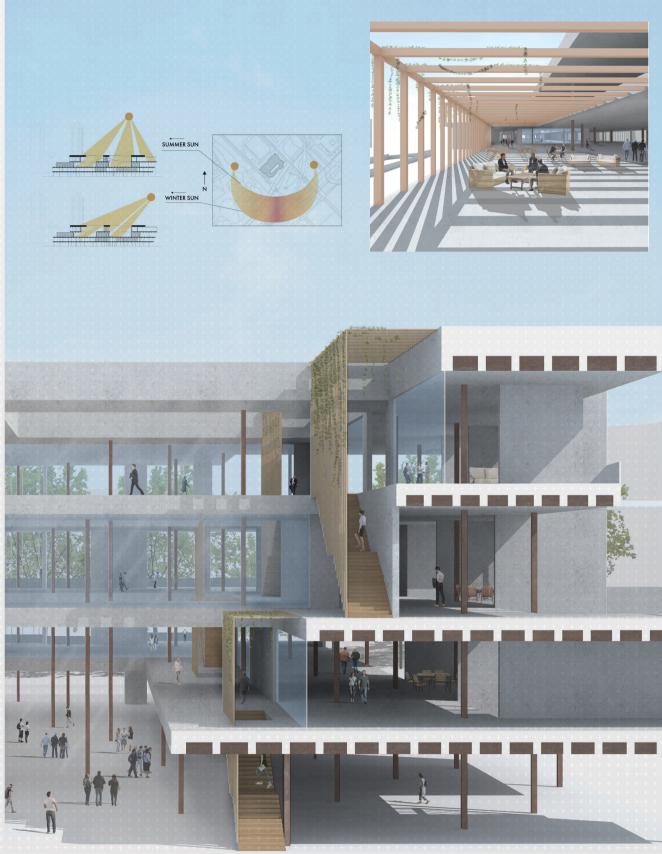
The shading devices also act as a marker to show what spaces are public and which are private. The project aims to bring the public's interest into the archive and artwork while serving as a vessel for movement to other public spaces. The seamless transition between the existing urban landscape and the archive give the public a intermediate space to interact with or just walk through.











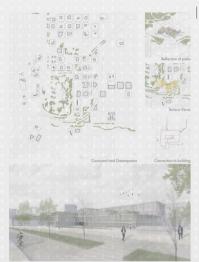


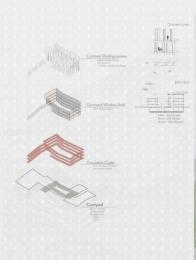




URBAN REFLECTION

Andrew Fulmer, Clemson University, Architecture Undergraduate Andrew Hall, Roger Williams University, Architecture Undergraduate















Museums Collection Center

WRIAN MER-LECTION

Of Instruction Collection Center

General Design Budge Define DEFINED 2002 (Miguel Rollin)

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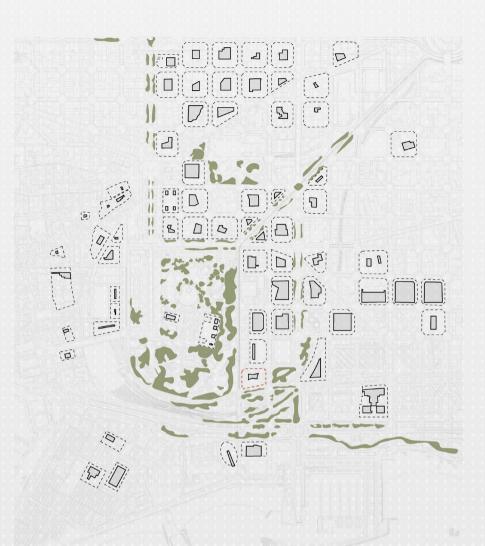
LIFERAN REFLECTION 06 new Barcelona Museums C

Our project is a reflection of the history of Barcelona and the green nature of the city. Through using a mixture of traditional typologies and modern technologies we were able to create a project that is sustainable and effective at reconnecting the public with the more private aspects of the museum archival process. The project is designed around a central courtyard with circulation wrapping around this central space. Bringing the public into the project was a key component in the design of the project resulting in an open entrance to the courtyard.

The concept of the courtyard is a part of the Mediterranean cultural heritage. Starting with the Impluvium in the Roman Domus and moving onward through time to the cloister, then the Cerda Block and finishing with the Archive as the latest iteration of the courtyard. The project is a reinterpretation of the courtyard block. It takes the courtyard as a private element of the city and turns it into a public part of the city.

Barcelona has undergone a shift to becoming a greener city and as part of that, we decided that as a public space the archive should be environmentally friendly. The architecture of the archive involved green spaces, roofs, and elements in order to better reflect the neighboring park system. In addition the project utilizes louvers as a shading device in order to reduce the heating costs of the building.

The system is designed to reduce passive heat gain through direct light. The Continuous skin of white concrete louvers provide for a cohesive design that filters sunlight while allowing for transparency on the inside. These slats are placed with different distances and angles based on the position relative to the sun and program. Additionally the storage areas of the archive are protected completely from direct sunlight to preserve the artifacts.





Relfection of parks



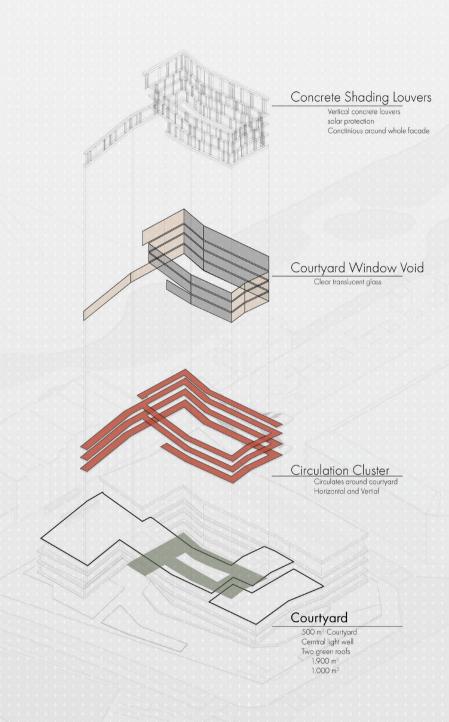
Terrace Views



Courtyard and Greenspaces

Connection to building



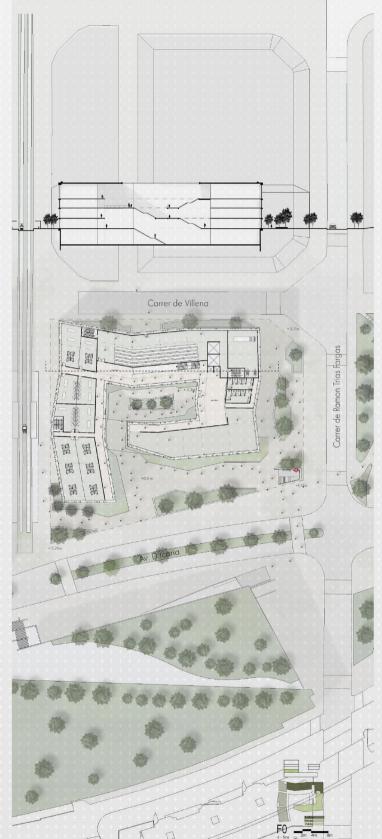


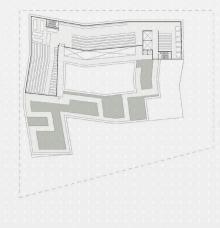
Concrete Louvers

Buffer Zone

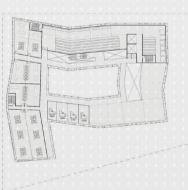
Public - 30% Blocked Private - 60% Blocked Archive - 100% Blocked

















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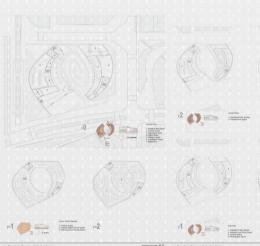
PASSING OF TIME

Delia Maguire, Roger Williams University, Architecture Undergraduate Nathan Power, Roger Williams University, Architecture Undergraduate











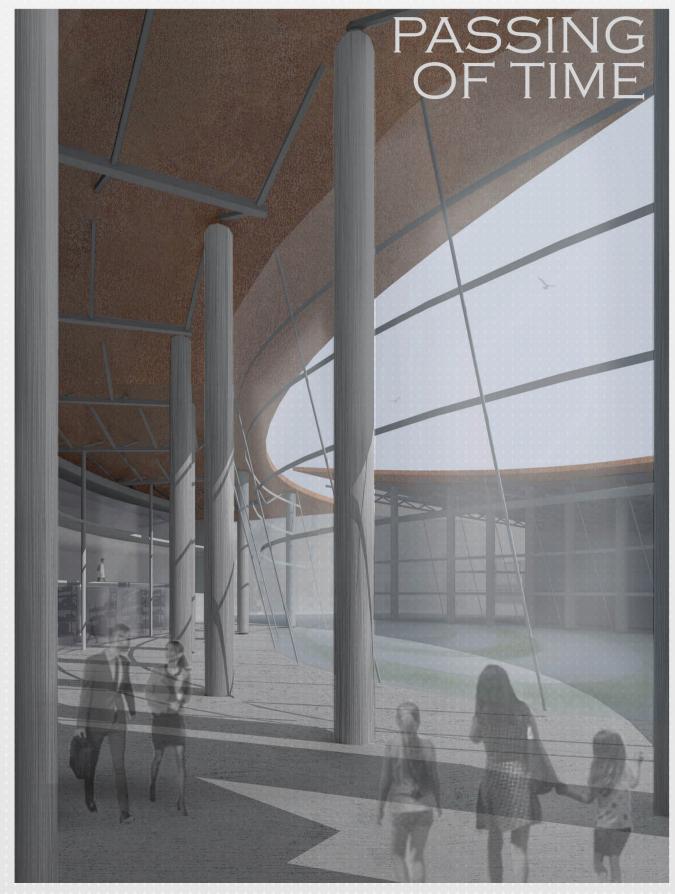
Barcelona is a city with a rich history - from the Romans to Franco to the Olympics, this city is a palimpsest visible in the layers of the buildings, streets, and landscape. This archive space celebrates these layers while also standing as an individual space. The shapes of the buildings create a whirlpool, drawing in visitors from around the city. This was used as a literal and

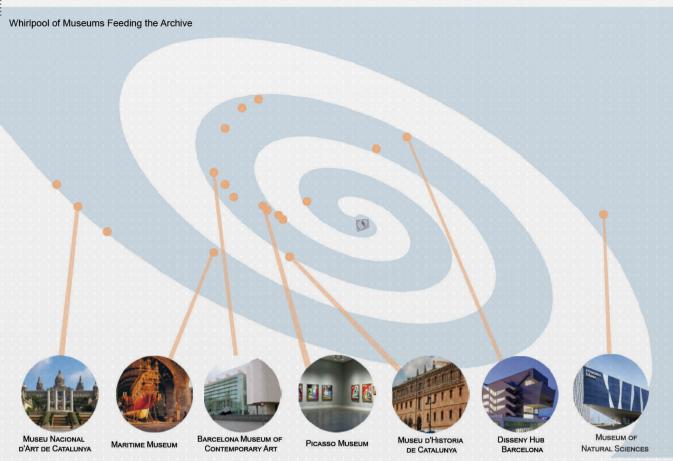
figurative metaphor of the archive bringing in artifacts from many city museums and bringing in people to its center courtyard space. The rising and wrapping forms draw the public into these spaces, and hold them there, circulating them around and around, giving them an experience that causes them to spend more time in and around the building. This allows the individual to become a piece of the archive itself, for one to become a part of history.

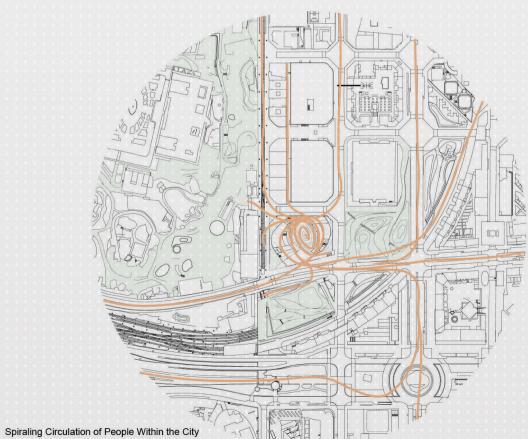
The materiality of the building, with the emphasis on the corten steel roofs which turns a rusted red over time, shows the building also becoming a part of history. The slight overlap of these roofs offers as well the idea of continuous connection and movement, which is replicated in the interior circulation. The forms create these spirals both horizontally and vertically, thus resembling a whirlpool.

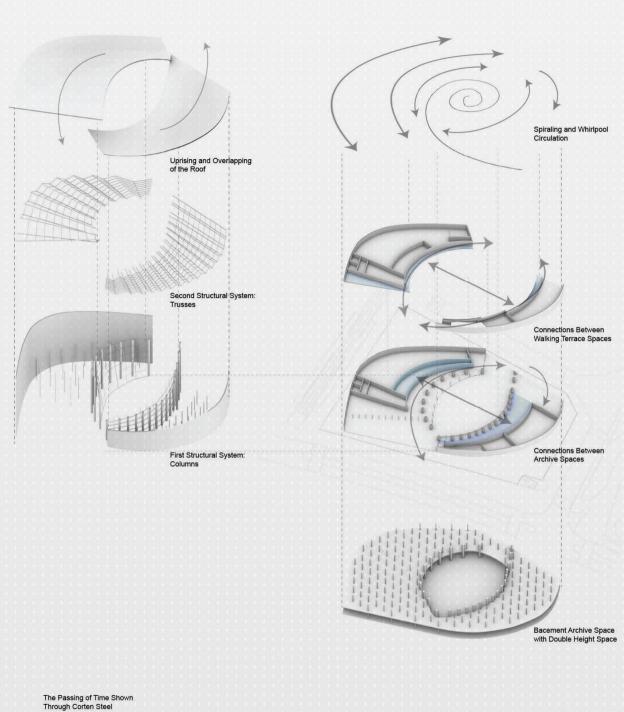
The structure is a two part system: one that supports the internal spaces, and a truss system that supports the outer "shell" of the building. These massive trusses allow for an opening of the spaces, allowing for a much lighter and open system that allows for this transparency and circulation between the two buildings and the courtyard. This structure creates a lightness within the building that allows for greater transparency within the spaces.

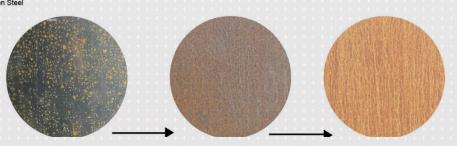
The transparency of the building, mainly focused upon the courtyard space, allows one to connect between the different spaces. The glass curtain wall allows one's eye to wander from the inside of the building to the courtyard and into the other building granting a continuous observation of both the interior and the exterior, allowing a deeper connection between people working within the building, and those just passing by. As well as the observation of history itself with the two visually connecting archive spaces.

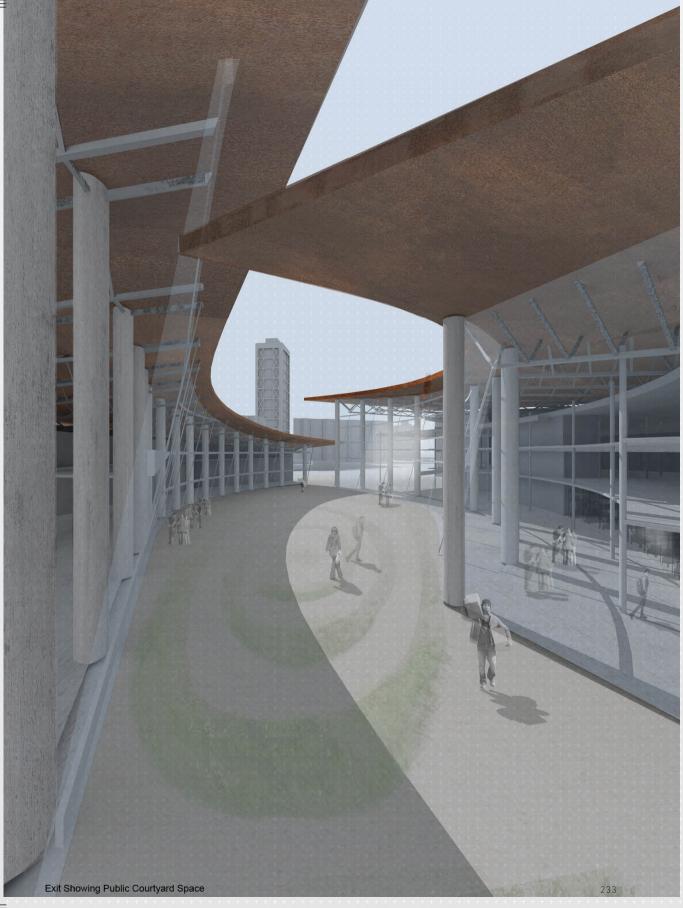


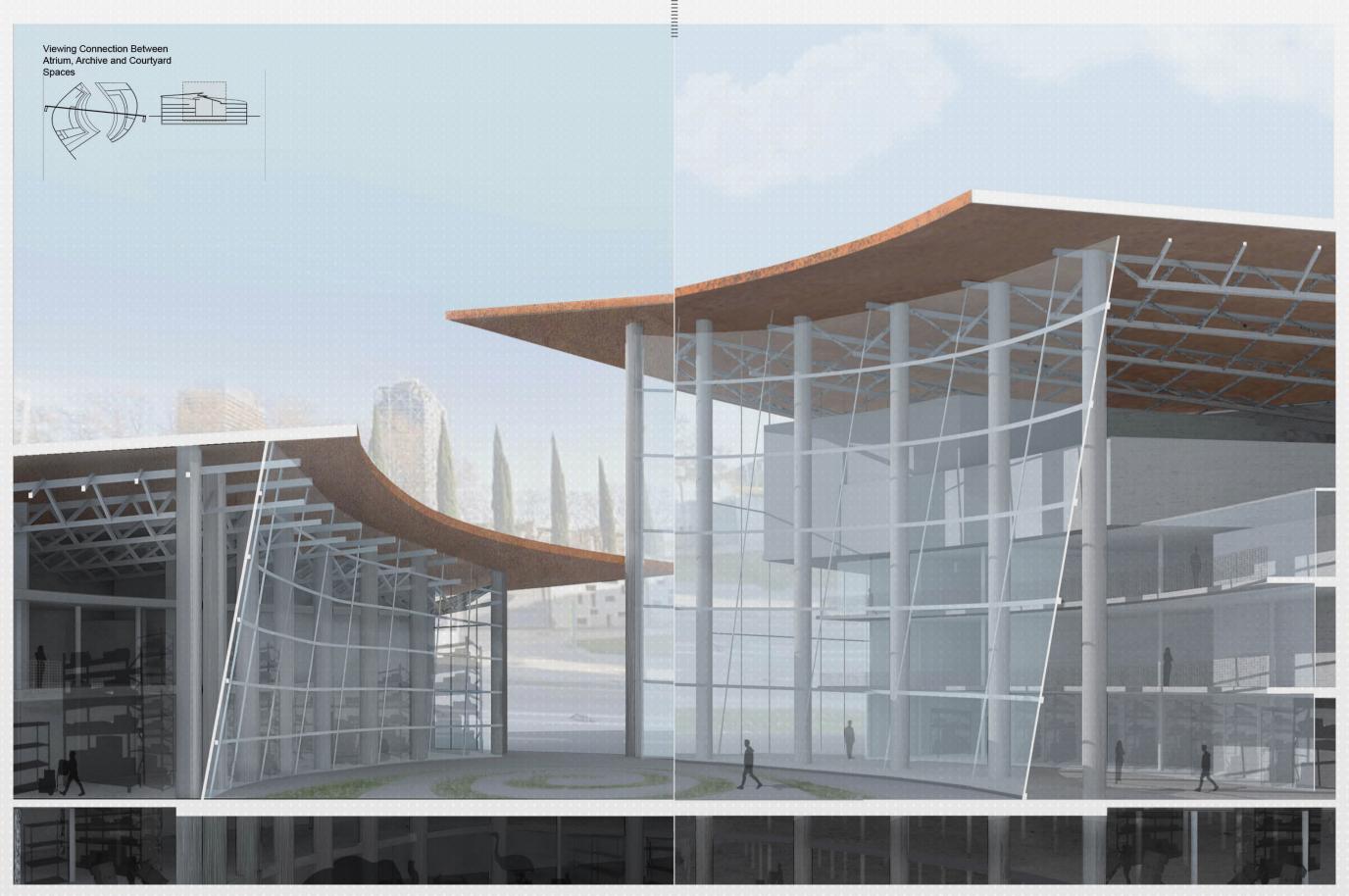


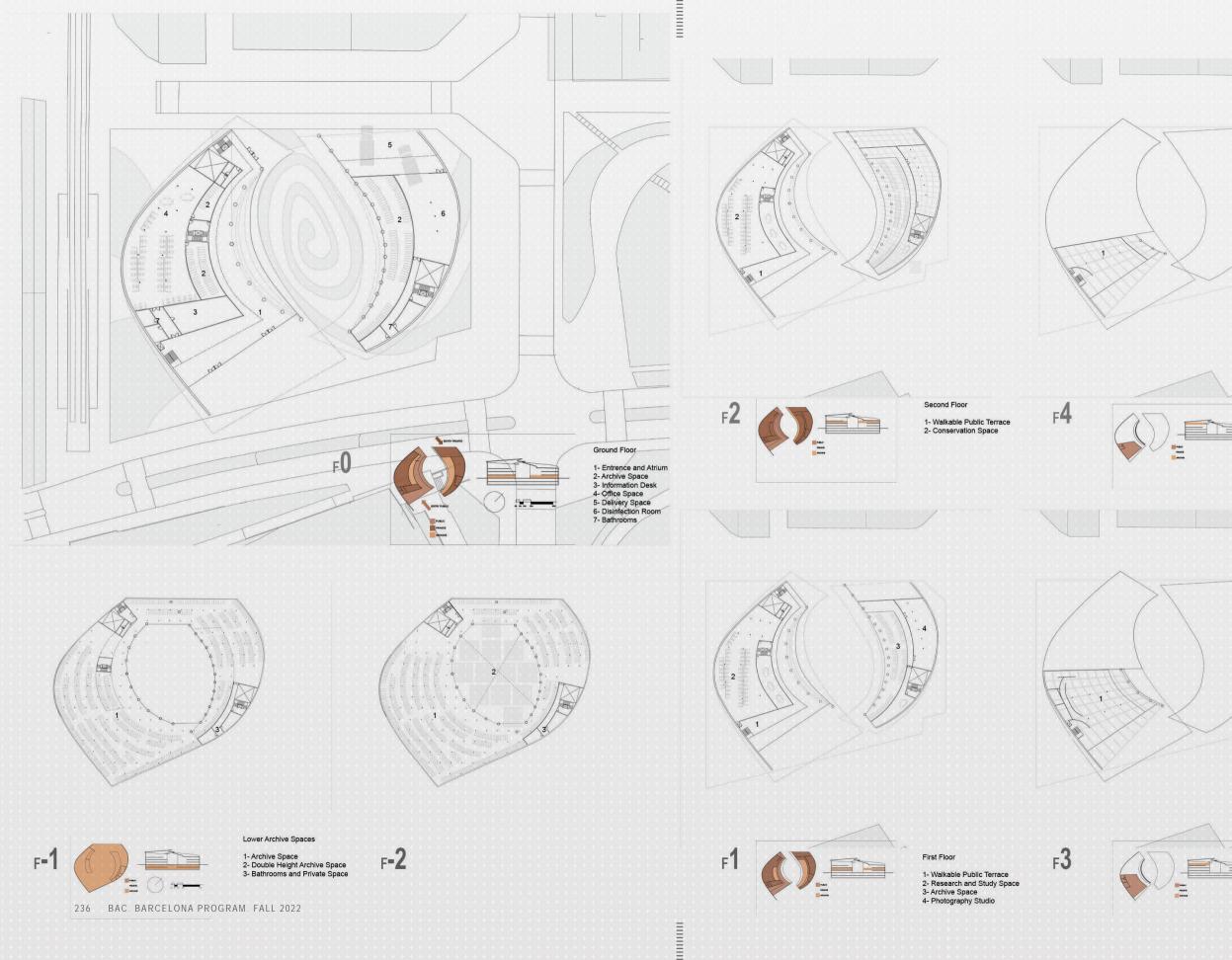












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Third Floor

1- Exhibition Space

Fourth Floor

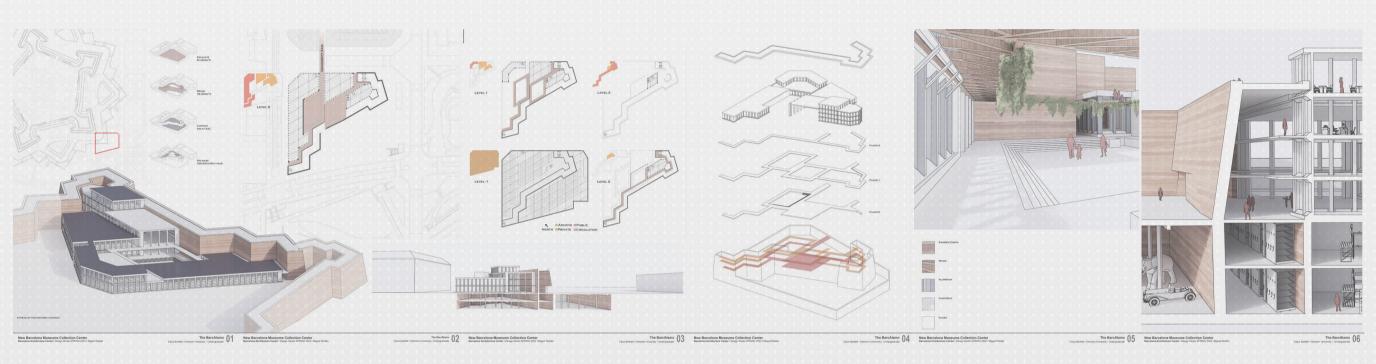
1- Gallery Space





THE BARCALAMO

Caius Bartlett, Clemson University, Architecture Undergraduate



By its very nature, as a collection of the country region's most valuable documents and relics, an archive is a space in need of protection. The Barcalamo calls back to the site's history as a remnant of the Barcelona Citadel, constructed after the region was occupied in the we of the Spanish succession in the early 18th century.

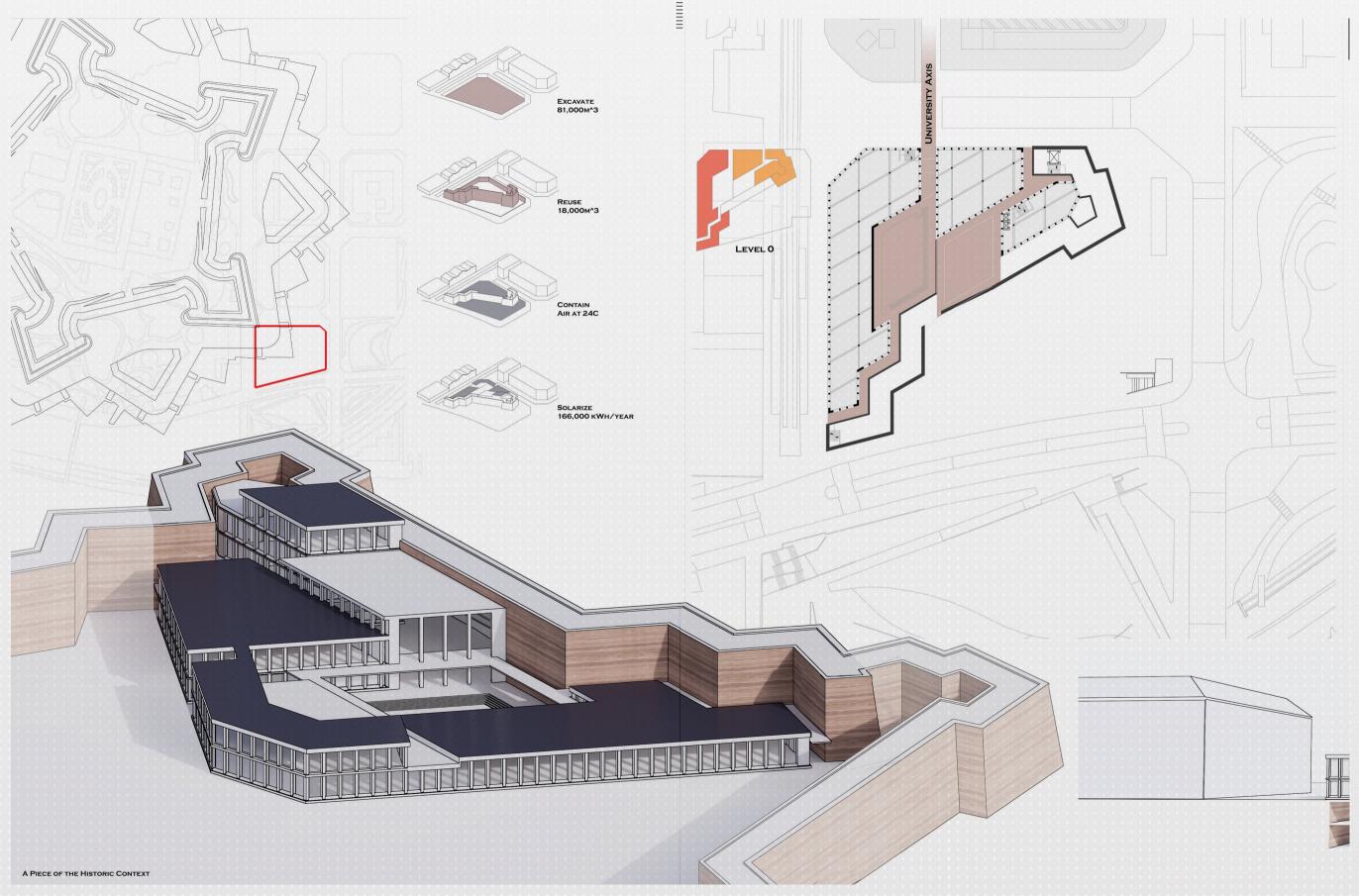
The contents of the archive and the public and private spaces related to them are enveloped by and protected by 12.000 cubic meters of rammed earth, with also reduces the quantity of material which needs to be removed from the site to allow for the building's construction.

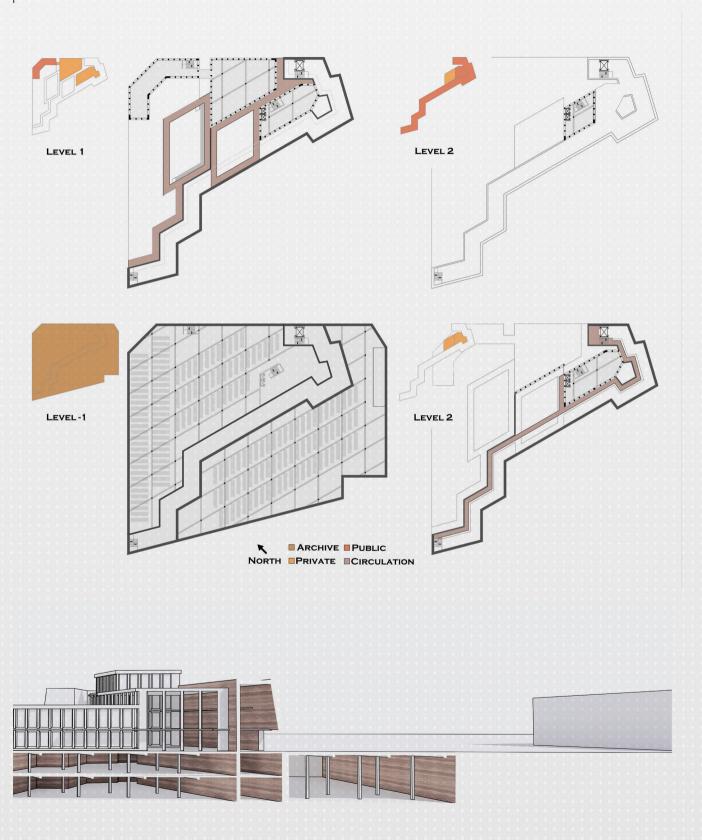
The rammed earth walls below grade aid in the temperature regulation of the building, as the space main sections of the building depending on the time of the year.

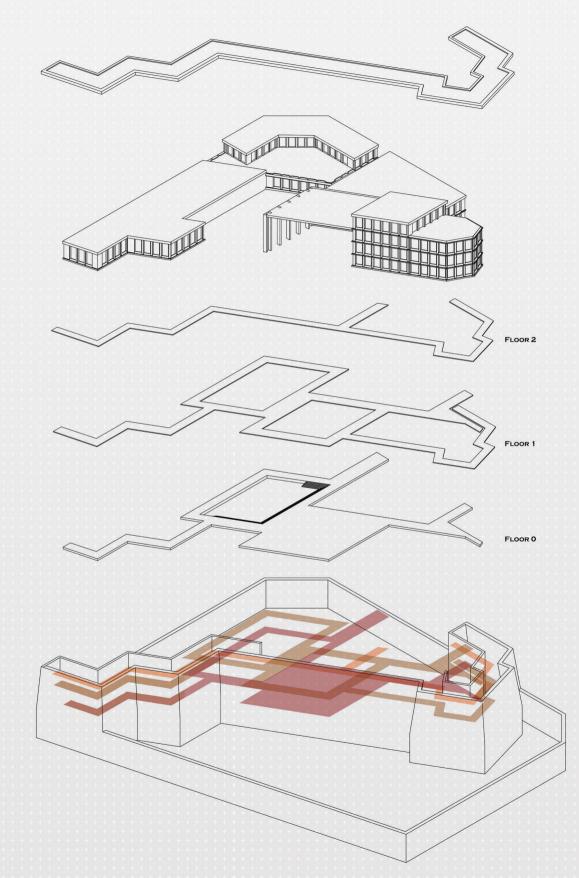
The building centers around tow major spaces, both of which are fully accessible to the public and greet individuals coming form either the UPF campus or the nearby metro stop. These are the atrium and the courtyard. Twisting over top these areas and throughout the rest of the building is a series of external circulations paths. These may loop around the building, allow for easy circulation in what would courtyard, pass through the atrium, or cling to the facade of either the rammed earth wall or a smaller facade.

These pathways, aside form providing a uniquely medieval feel to the otherwise be a fragmented building, providing access to stairs and elevators that may not be in you immediate building. Additionally, these pathways provide a way for the public to explore the building and make their way to the top of the rammed earth wall without interrupting activity in either the archive or private spaces, to which access is controlled at the door. Some of these pathways also provide a platform for shade and on which vines can grow.

The Barcalamo is not merely an archive, but simultaneously a protector for Catalonia's treasures and a servant to the public.









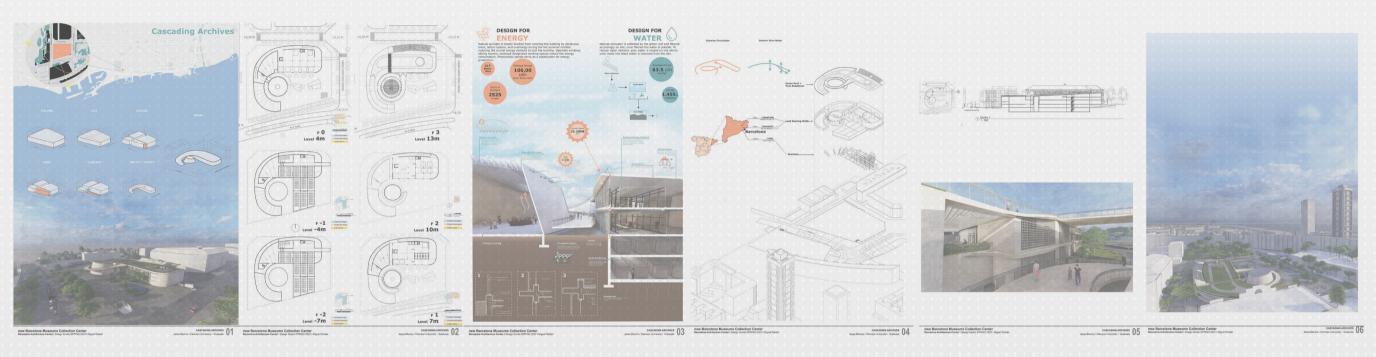
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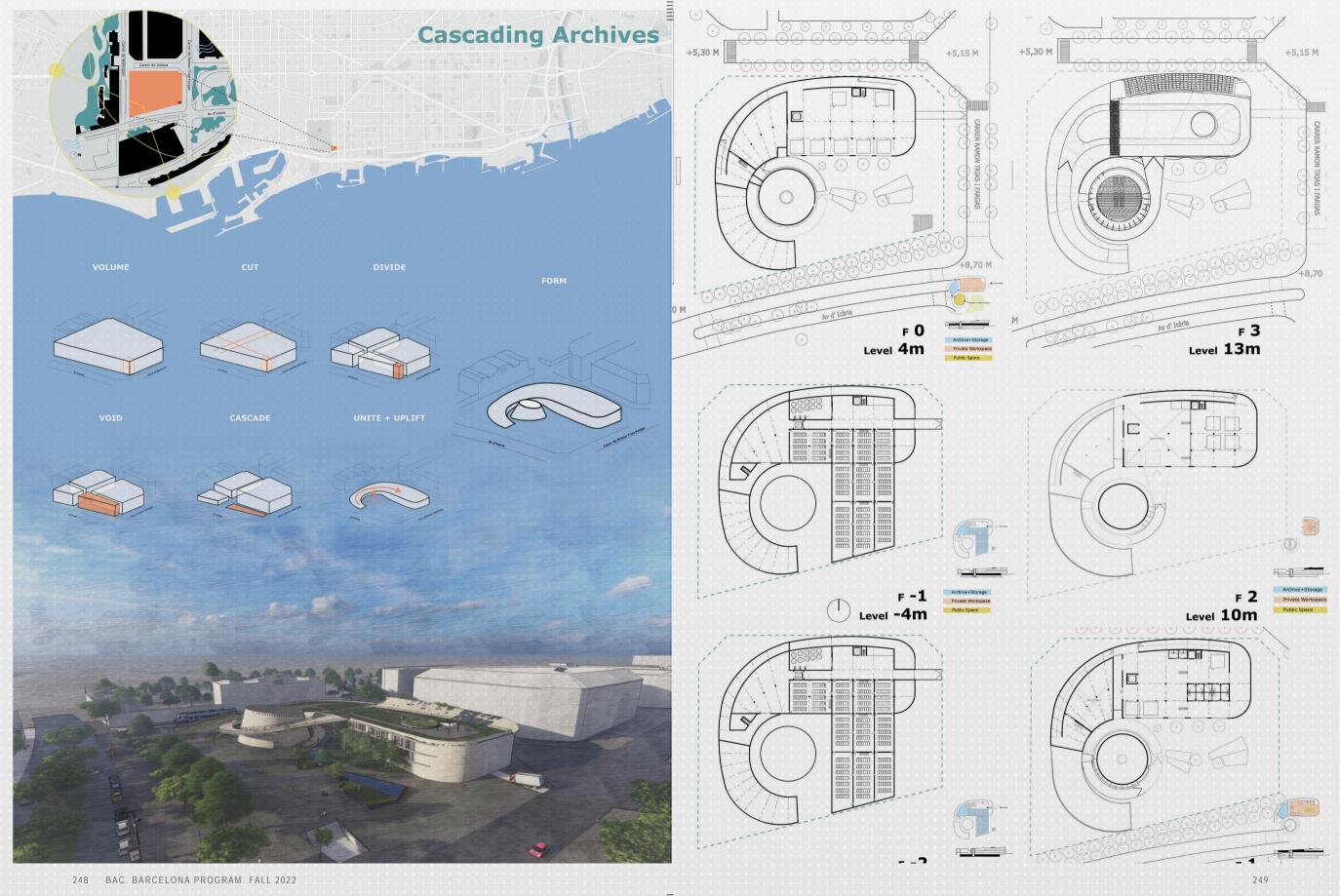
CASCADING ARCHIVES

Jesse E. Blevins, Clemson University, Architecture Graduate



Barcelona has a rich history that deserves secure storage and preservation, and over the last decade Barcelona has centered itself on the international stage as being a leader in the transition to green energy and a more sustainable future. Therefore, the question remains of how one can adequately and safely preserve Barcelona's history while designing a structure that participates in the green energy focused transition that assists in preserving a future for all of Barcelona. The overall design was inspired by a continuation of the urban fabric using various nearby major/minor grid lines and the cascading topography of Barcelona – from the mountains down to the sea flows like the river Besós – observing these two trends one sees the cut through the site which exposes the volumes to work with.

A recent development that has aided Barcelona's transition to a more sustainable future is the acclimation of green space throughout the urban makeup of the city – this is notable additionally because half the project site makeup is on an existing park; thus, it was paramount to design a public accessible green roof as a public park substitution that provides additional sustainability features. To be sustainable and net zero is more often about dealing with the reduction of energy and water demands; thus, numerous design strategies were undertaken to be as sustainable as possible. The design presented results in a surplus of water collected and processed on site and a near net-zero energy primarily due to earth coupling, geothermal cooling, and the utilization of enclosed designated work spaces which drastically reduces the thermal demand of the overall interior space above-grade.



Exterior Circulation

69km LIMESTONE

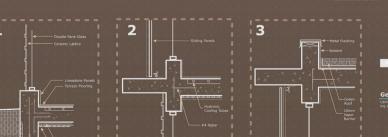
Natural sunlight is mostly blocked from entering the building by deciduous trees, lattice system, and overhangs during the hot summer months reducing the overall energy demand to cool the building. Operable windows, sliding louvers, enclosed designated working spaces reduce the energy consumption. Photovoltaic panels serve as a substitution for energy production.

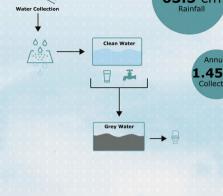
217 Sunny Days 106,00 kWh

Hours of Sunlight 2525 Natural rainwater is collected by the green roof and filtered accordingly on site, once filtered the water is potable. To reduce water demand, grey water is reused on site where once made into black water is removed from the site.

Average Annual 63.5 cm

21 JUNE

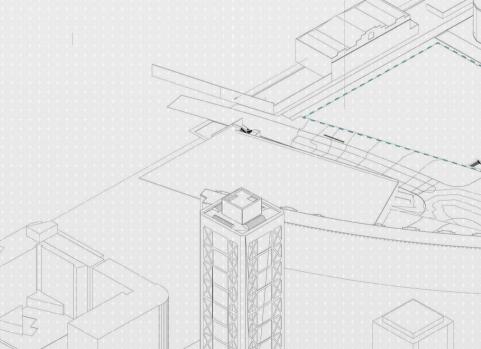


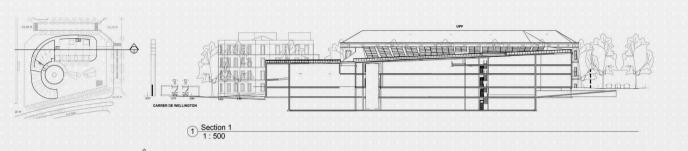


1.455k

16km LIMECRETE Barcelona

Green Roof + Park Substitute













FLUID REFLECTIVITY

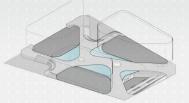
Gabriel Herrera JR, Texas A&M University, Architecture Graduate



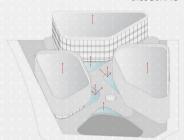
The project began with the exploration and study into Barcelona's overall urban fabric that surrounds the site, the Wellington Zoo Parking Lot. Located in the Cuitadella Vila Olimpica area, adjacent to the Barcelona Zoo, Universitat Pompeu Fabra, Cuitadella park and other surrounding parks, it was essential to design a museum's collection center that continued with the notion of a public hub. With this in mind, my goal was to embrace the activeness of the site and create a fluid connection / experience for the user utilizing three key concepts: dissolving, reflectivity, and meandering.

With the utilization of the natural topography within the site, this was accomplished by: 1) raising and levelling the overall footprint of the site to +8.70M and 2) dissolving it through the creation of the a series of ramps, curvilinear stairs, water elements, light wells, and, most importantly, the three buildings. In addition, the idea of reflectivity was incorporated to not only reflect the surrounding environment, but also to bring out the traditionally hidden archive pieces to the exterior. Through these gestures, the creation of a new public plaza and sunken plaza emerged.

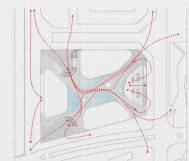
Programmatically the collection center is subdivided into three volumes that are rising above the raised public plaza, but are all connected in the -1 level. This further allows for the archive pieces to be distributed into different packages/categories that suits them best (ex. one building is dedicated to smaller artifacts, the other is for medium sized items etc.). As the user ascends from the underground of the collection center, they will begin to discover and reflect on the new artifacts that are being displayed. Overall, this project aims to make a fluid connection between all that surround it.



DISSOLVING

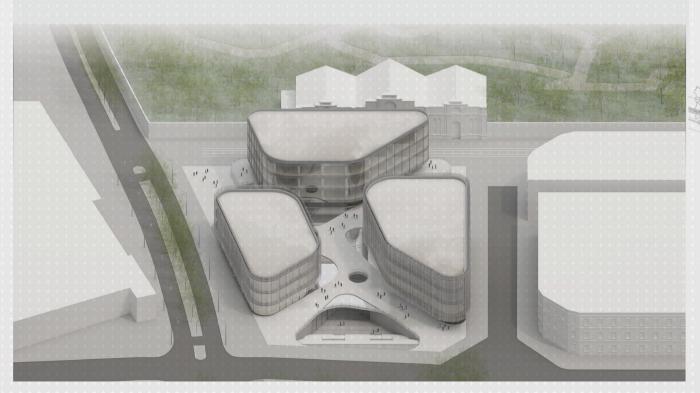


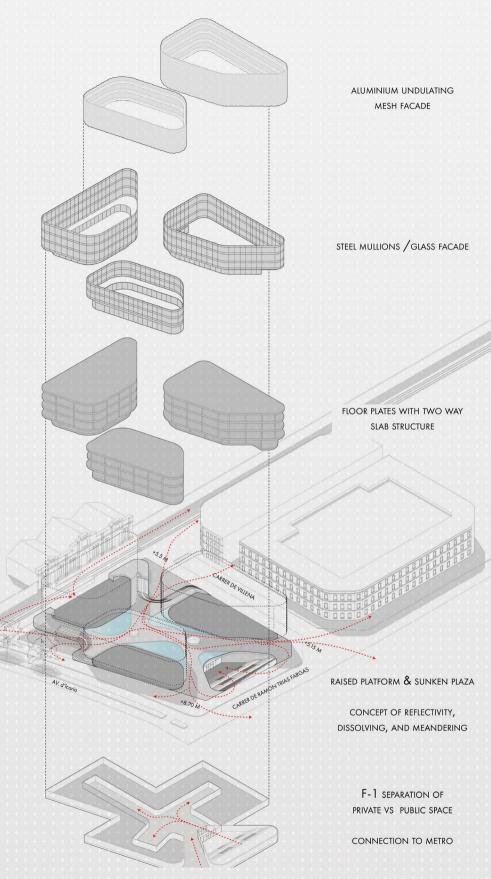
REFLECTIVITY

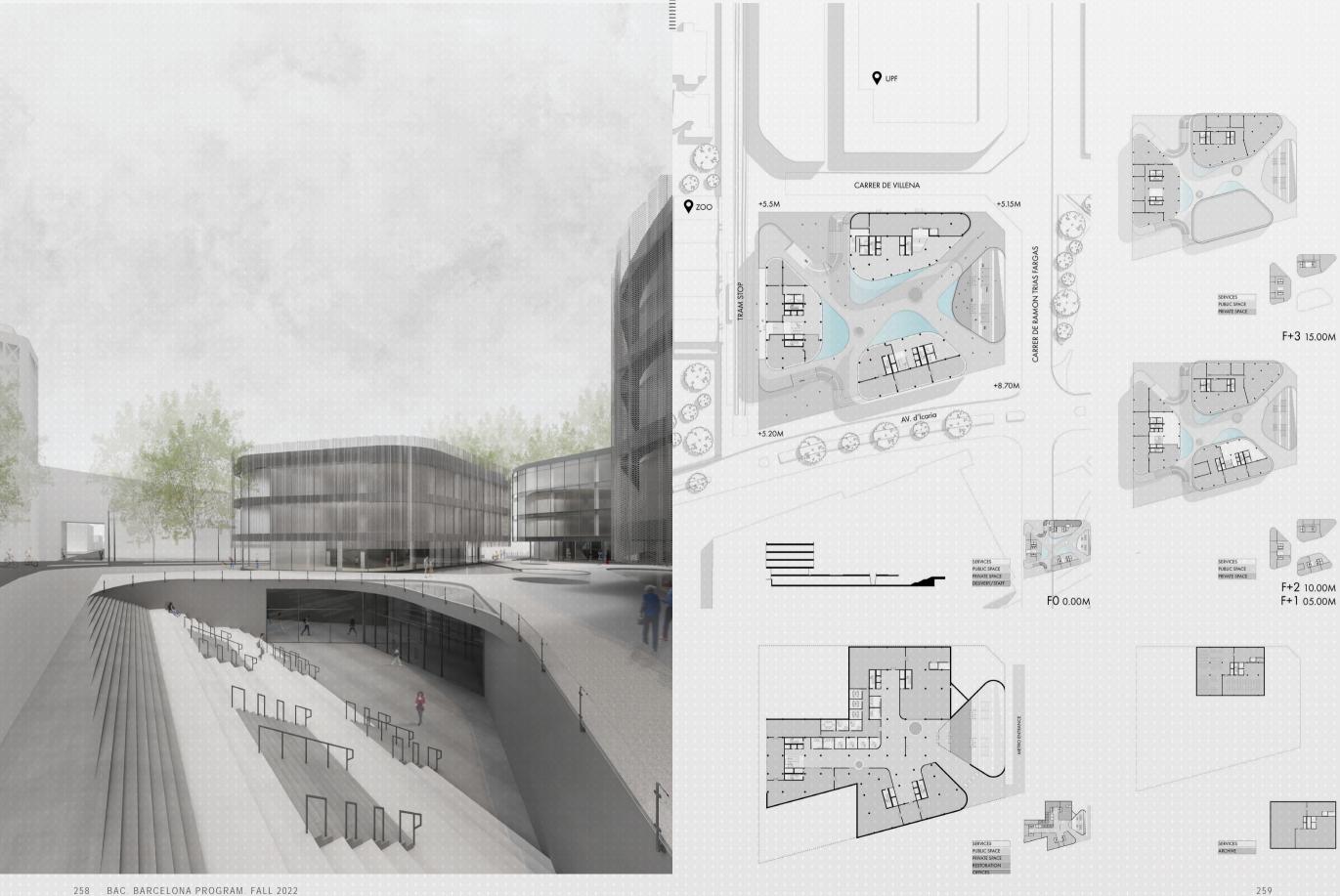


CONTINUANCE OF PUBLIC HUBS

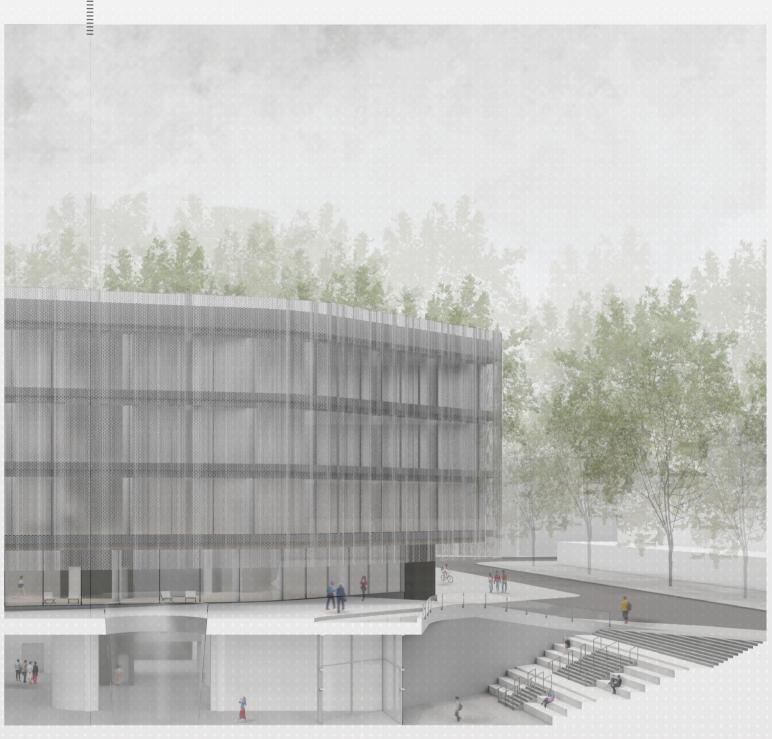
MEANDERING



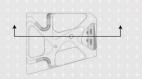


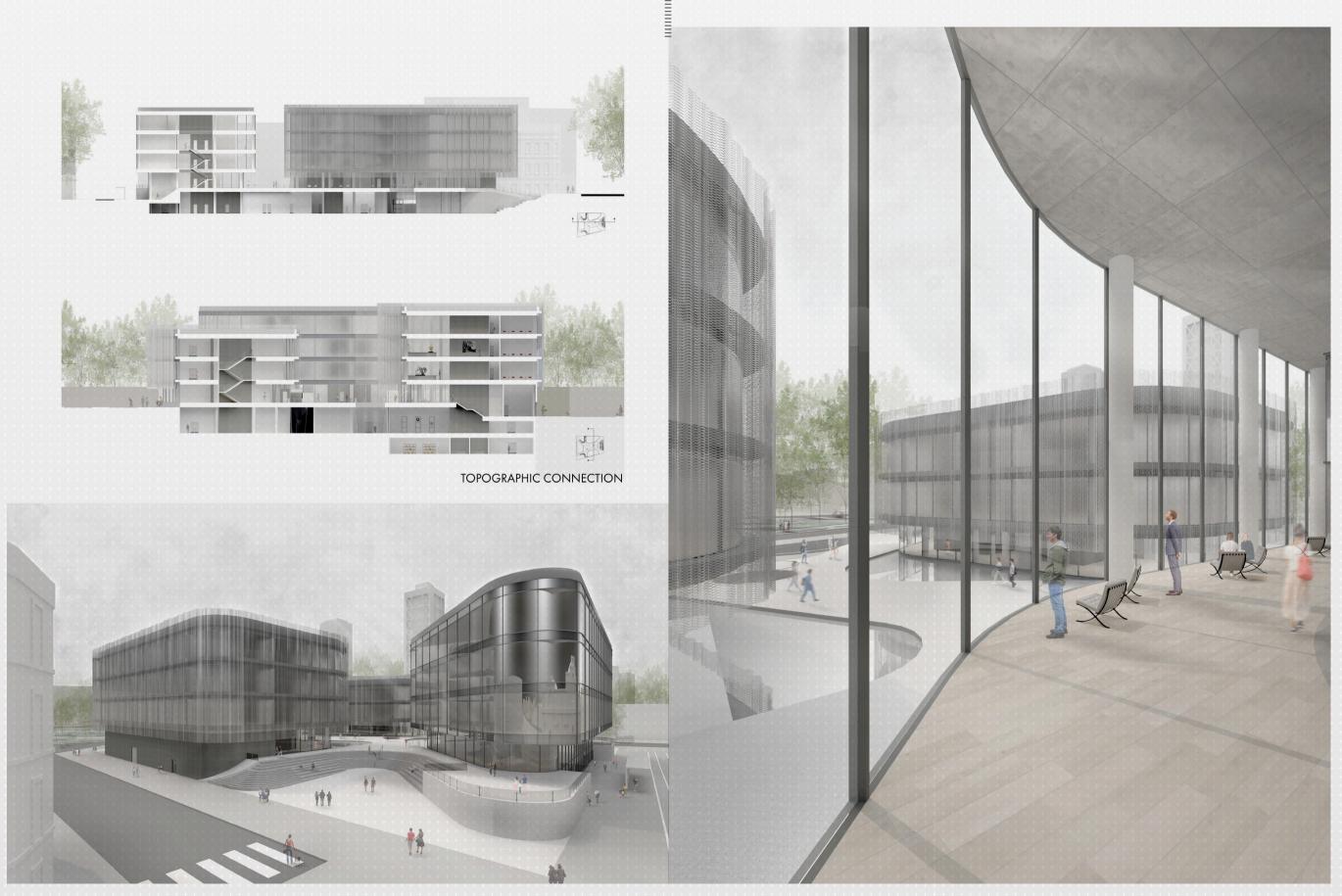














JELENA PROKOPLJEVIC

2. Barcelona History Research

The architectural history research course in Barcelona will be a sum of lessons learned through three different approaches to examining the diversity of topics related to the principal theme of the history of Barcelona, the European context and the critical analysis of key European examples. The intention of the course is for the student to build a map of Barcelona, key European cities and works within the cultural, urban, historical and theoretical contexts.

The course will be structured into 3 blocks, each focusing on a distinct theme. Daily classroom discussions and activities will be directed at exploring key questions related to each lesson in order to generate a dialog around the different theoretical concepts which may be applied to the design process. Students are expected to inform the classroom discussions with outside knowledge gained through library research and visits to sites and buildings.

BLOCK B: Urban History of Barcelona – Layers of urbanity

Instructor: Jelena Prokopljevic

This block pretends to explain the development and the urban history of Barcelona by linking it to the general urban planning concepts and strategies and changes that took place simultaneously throughout Europe. The accent will be placed on concepts rather than on specific historical facts in order to provide the students with the general relations and analytical tools that can be used in the process of rethinking and intervening in the existing urban tissue. Benefitting from the multi-layered urban history of Barcelona, visible and tangible in today's city, the course will drive special attention to the memory sensible projects that enhance the coexistence of structures from different times, often built for different uses.

Just as Parthenon was once used as an ammunition storage or a Cristian church was built in the centre of the Roman Emperor's palace in Split, several residential houses of Barcelona or Tarragona have absorbed portions of Roman walls as their supporting structure or 19th century factories have been converted into education o cultural facilities, maintaining and adapting the original structure. This idea of juxtaposed layers of urban history: of material and sensible rests that form part of contemporary city, will give us an insight of the ways of envisioning the future cityscape by Catalan architects. The last part of the course will address the current problems and new solutions for re-naturalization of the urban space.

Part ONE. ORIGINS OF MODERN CITY

Session 1. Introduction and Roman city

Session 2. Defining urban referents

Session 3. Industrial city

Part TWO. FUNCTIONALIST UTOPIA

Session 4. Expanding the city

Session 5. The New Century Session

6. The International style

Part THREE. THE CITY OF ARCHITECTS

Session 7. Postwar reconstruction and new models

Session 8. Barcelona model

Session 9. New challenges



Professor



PIA WORTHAM

3. Barcelona's Building Technology

Barcelona Building Technology course in Barcelona will be a sum of lessons learned through three different approaches to examining the diversity of topics related to the principal theme of materials, construction and technology. The intention of the course is for the student to build a map of methods for identifying, contextualizing and analyzing buildings and their construction in order to apply these concepts to the design process.

The course will be structured into 3 blocks. Within each block, there will be lessons, each directed at critically examining the topic of discussion. Students are expected to inform the classroom discussions with outside knowledge gained through library research and visits to sites and buildings.

BLOCK B: Barcelona Building Technology - BUILDING SCALE

Instructor: Pia Wortham

The introduction of this block will be the signature of the timeline and dictionary of Barcelona building technology. Following the introduction this block will look at 7 buildings in Barcelona from a technological point of view. We will examine the materials and technology of each period in history, as well as the kind of tools the builder/craftsman, and later architect had at his disposal. We will place the buildings in their historical context in terms of structural analysis and innovations in building technology. We will explore how all buildings fit into a social and economic context by looking at the history that surrounds these five examples.

How were the programmatic needs of each project met in terms of appropriateness of structure? Architectural history is often taught as a timeline of changes in style, without taking into account the scientific side to architecture. This class hopes to answer the question of how architecture is built to inform and reinforce what the architectural student faces in the design studio.

Session 1. Intro - Technology: a brief history

Session 2. Intro - Structure: basic building elements

Session 2. Intro - Structure: basic building elements

Session 4. Gothic: Santa Maria del Mar to the enlightenment

Session5.Born: Mercat del Born and the industrial

revolution

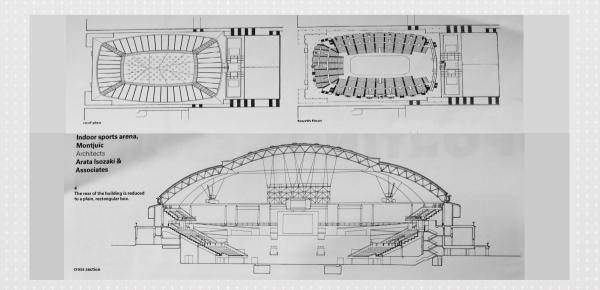
Session 6. Gaudi: Geometry and Structure

Session 7.Caixa forum: industrial buildings and the

catalan vault

Session 8. Palau Sant Jordi and a history of domes

Session 9. Hotel Me and a history of towers



Professor



4. Field Studies in **Architecture and Related Arts**

The European territory is rich in history, culture and architecture. A certain common identity is perceived from outside its borders but it is difficult to detect from within. Public facilities, competitions and spaces are not exclusive of Europe but they have shaped the continent's territory over the centuries. The last years have brought important changes and Jan 28 - Feb2_Trip to the Basque Country cities have adapted according to political, economic, cultural and above all social transformations. European towns continue being attractive mostly because of their history but also because of their vibrancy. In the last years, one in ten enterprises in the European non-financial business economy belonged to the tourism industries. These 2.3 million enterprises employed an estimated 12.3 million persons. Students participating in the BAC program will become locals while they live in Barcelona and tourists while traveling around the territory and they will always be architects, with a specific awareness for how others live and how to understand different

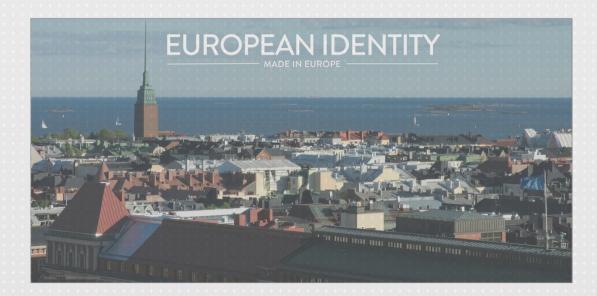
Cities have historically constituted a strategic area of intense exchange, dialogue and conflict. This space continues to play a key geopolitical role at a global scale. While in Europe, students will be able to travel to SESSION 10_Art and Architecture Interventions in the Barcelona different locations on their own with some tools provided in Field Studies. Film makers, musicians, writers, painters and photographers among many others have created different perceptions of cities. As architects, all these visions together with the actual experience of a place help us understand it and design a project. All our previous life experiences will also be part of this personal relationship with a place. This is the aim of Field Studies: be aware of our role as architects at all times and make the most out of our discoveries

SESSION 1 Introduction and "Architectures" SESSION 2 Documentary: "Mies on scene" SESSION 3_Basque Country presentation

SESSION 4 EU Mies Award SESSION 5 La Mina de la Ciutat SESSION 6 Laberynth Park and Vall d'Hebron SESSION 7 Valencia, Cuenca, Toledo, Segovia and Madrid

Feb26 - Mar 4 Trip to Valencia, Cuenca, Toledo, Segovia and Madrid

SESSION 8 Forum 2004 SESSION 9_Plaça Europa



Virtual Study Travel Europe:

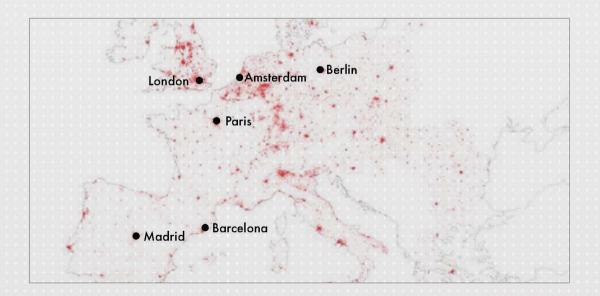
Barcelona is the departure point to understand how visiting a city can be done in many different ways. Visits to its periphery: plaça Europa, Forum and Vall d'Hebron; to its elevated areas: Montjuïc, Parc del Laberint and Turó de la Rovira; and to its infrastructures: port, airport, "rondes" and Rambla de Sants-train system; will be complement with visits to some of Europe's most important cities such as Amsterdam, Berlin, London, Madrid and Paris.

Visiting Madrid and Toledo will allow us to learn about part of Europe's Southern history, a culture of Arab, Jewish and Roman origins which built a capital (Toledo) which today is nearly a neighborhood of one of Europe's biggest metropolis (Madrid).

A city growth focused on territorial expansion confronted with the territorial organization of the Randstadt, the Dutch conurbation of 7,100,000 inhabitants (Amsterdam, Utrecht, The Hague, Rotterdam), with a similar population to metropolitan Madrid and Toledo (6,600,000 inhabitants). Berlin, a city devastated by WW2 and the construction of the Wall and how it has become once again a reference for everybody around the world for its culture and specifically its architecture. London was also destroyed and from its ashes, one of Europe's biggest metropolis faces enormous challenges in a post Europe context, giving more power to Berlin and Paris, the latter, the city of continuous change and beauty, another capital of culture and knowledge.

European Capitals:

SESSION 1_Berlin, Germany SESSION 2_London, United Kingdom SESSION 3 Paris, France SESSION 5 Amsterdam, the Netherlands



Professors







ESPUÑA

BLASI

BOSNIC

Travels 1. Madrid +

Valencia, Cuenca, Toledo, Segovia

day 1 Valencia

City of Arts and Science Valencia city centre (Cathedral, Tower, Lonja)

day 2 Cuenca

City walk

Hanging Houses

Spanish Museum of Abstract Art

San Pablo Bridge

Ciudad encantada

day 3 Madrid

Medialab Prado

Caixa Forum

Retiro Park: Gardens, Cristal Palace, Velazquez Palace

Fine Arts Circle Bellas Artes

Royal Palace

City Center - Madrid of Austrias

PI Mayor San Miguel Market

day 4 Segovia / el Escorial

Alcazar

Aqueduct Cathedral

day 5 Madrid

Madrid Rio linear park

Greenhouse Crystal Palace of Arganzuela

Reina Sofia Museum

day 6 Toledo

La Granja escalator, Elias Torres

City walk

University

three waters Cristina Iglesias San Juan de los Reyes Monastery

Sinagogue

Zocodover Square

day 7 Madrid

Centro Centro

El Prado

Telefónica, Moneo Bruck

Barcelo Market, Nieto Sobejano

2. Basque Country: Bilbao, Zumaia, San Sebastian, Arantzazu, Pamplona

day 1 Bilbao

San Memes Stadium, IDOM Palace of Congress UPV library, ACXT Museo Marritimo Torre Iberdola UPV Alvaro Siza UD Library, Raffael Moneo Archivo Histórico de Euskadi, ACXT Gugenheim museum, Frank Gehry

day 2 Bilbao

Fine Arts Museum
Zubizurri Bridge, Santiago Calatrava Isozaki towers Biblioteca Foral ,IMB Architects Health Government HQ, Coll Barreu arg. Alhondiga Municipal, Phillipe Stark

day 3 Zumaia / San Sebastian Zumaia Flysch from the sea Sakoneta

Chillida Leku

day 4 San Sebastian

Comb of the wind, Chillida Miramar palace La Concha + port + void construction, Oteiza San Telmo, Nieto Sobejano Kursaal, Rafael Moneo Architecture Institute Tabakalera

day 5 Legazpi / Arantzazu

Basque Culinary Center Vaaum Sider production Chillida-Lantoki Mirandaola Arantzazu

day 6 Pamplona

Oteiza Museum, Francisco Sáenz de Oiza the city walls and old town archive of Navara, Rafael Moneo Civivox Condestable Baluarte, FranciscoMangado, Ciudadela



Moments in Barcelona:

Program presentation



Mies van der Rohe Pavilion, Barcelona



Mies van der Rohe Pavilion, Barcelona



Olympic Stadium, Montjuic



Design Studio



Barca Stadium



Park Guell, Barcelona



Ciutadella Park



Arc de Triomf



Montjuic



Design Studio Final Presentations



Roldan + Berengué arqts. studio visit, Barcelona



History research seminar



Pavilion of the Republic, Barcelona



History research seminar



Roldan + Berengué arqts studio visit, Barcelona



Madrid + Valencia, Cuenca, Toledo, Segovia

City of Arts and Sciences, Valencia



San Pablo Bridge, Cuenca



Ciudad encantada



Cuenca



Science Museum, Valencia



Toledo



Lonja, Valencia



Caixa Forum, Madrid



Royal Palace, Madrid





Toledo Cathedral, Cristina Iglesias three waters



San Juan de los Reyes Monastery



Alcazar, Segovia



Madrid Rio, Madrid



Cristal Palace, Retiro Park, Madrid



El Escorial



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Basque Country: Bilbao, Zumaia, San Sebastian, Arantzazu, Pamplona

Gugenheim Museum, Bilbao



Archivo Histórico de Euskadi, Bilbao



Chillida Leku





Flysch, Zumaia



Zumaia Flysch from the sea to Sakoneta



Chillida Leku



Zumaia



Comb of the wind, San Sebastian



Kursaal, San Sebastian



Chillida-Lantoki, Legazpi



Architecture Institute, San Sebastian



Comb of the wind, San Sebastian



Basque Culinary Center, San Sebastian



Architecture Institute, San Sebastian



Oteiza Museum, Pamplona









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BARCELONA ARCHITECTURE CENTER is an educational organization founded in 1998 and chaired by Miguel Roldán. The BAC was created with the aim of developing academic and research collaborations with other universities and higher education institutions across the globe.