SCALA'S NEXT ACT

Redefining Youth Engagement
in Milan's Opera Scene

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INDEX

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COMPLEX PROJECTS
Bodies and Building Milan

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01 RESEARCH PLAN 006

02 GRADUATION PLAN 022

03 DESIGN BRIEF 030

Introduction
Site
Program
Client
Conclusion
Appendix

04 CONCEPT 178

05 DESIGN IMPLEMENTATION 190

06 FINAL PROJECT DESCRIPTION 296

07 REFLECTION 302

RESEARCH PLAN

01

The world of performance has always captivated me. I spent three years working at Theatre Rotterdam in an impressive concrete structure by Dutch architect Wim Quist, where I obtained knowledge about large-building operations, as well as backstage complexities, audience flow, and theatre construction in general. This sparked a deeper interest for large, intricate buildings like towers, theatres, and airports.

While I was employed at Foster + Partners and Powerhouse Company, I had the privilege to work on remarkable buildings including airport terminals and skyscrapers. However, I've not yet had the opportunity to design an opera house. An opera house is truly a unique structure - most major cities contain but one, and they are frequently designed by well-known architecture firms following international competitions. To redesign an opera house such as Teatro alla Scala, where iconic works from composers such as Verdi premièred (Arruga, 1976), is both a challenge and a dream. The opportunity to develop a new design for such an famed site that retains immense historical and cultural value, excites me greatly.

Arruga, L. (1976). La Scala. Praeger Publishers New York.

La Scala
Teatro alla Scala

In positioning myself within this research, I bring a strong commitment to the reinterpretation of La Scala's iconic identity while responding to the evolving needs of contemporary audiences. The theme of 'Bodies & Building' resonates with my design philosophy, which emphasizes the relationship between human proportions and architectural form. I envision a new La Scala that invites audiences of all generations, sparking curiosity and encouraging engagement with the performances within. This project is an opportunity to merge my passion for the theatre with my architectural expertise, and I am eager to take on the challenge of designing a building that honours La Scala's rich heritage while embracing the future.

INTRODUCTION AND PROBLEM STATEMENT

The objective of this research plan is to present a comprehensive approach to redesigning Teatro alla Scala as a new opera house that honours its historical legacy while embracing Milan's cultural temporality. The project seeks to balance historical reinterpretation with the integration of elements that attract younger audiences. Rethinking opera to comply with an ever changing audience. Grounded in the 'Bodies & Building' theme, which emphasizes the relationship between human proportions and architectural form, this project focuses on the creation of an opera house that resonates with La Scala's iconic identity and attracts audiences of all generations while adapting to Milan's ever evolving cultural calendar.

The redesigned La Scala will honour it's iconic identity and serve as a venue for diverse audiences and give back to the city. The new design should support a range of cultural events year-round, expand beyond traditional opera, ballet, and symphony performances to engage with contemporary cultural expressions and attract the next generation.

Teatro alla Scala is renowned globally for its significance in the world of opera. However, diverging cultural trends, particularly the low interest in opera, ballet and theatre among younger audiences with only 19% of generation Z expressing interest (Statista, 2024), highlight the urgent need to rethink opera and La Scala's role, ensuring it remains relevant.

This research plan proposes a design strategy for a new opera house at Teatro alla Scala's site, aimed at reinterpreting its iconic identity and cultural significance while re-imagining it as a contemporary venue. By examining La Scala's architectural history, exploring audience engagement strategies, optimizing spatial relationships, and establishing feasible funding models, this project seeks to create a design that interests with both traditional and modern audiences. The redesigned La Scala will serve as a cultural landmark that supports Milan's year-round cultural calendar and stimulates renewed interest in opera among younger generations.

Generation Z
People born between 1996 and 2010

Statista Consumer Insights. (2024). Target audience: Theater, ballet & opera goers in Italy. Statista. https://www-statista-com.tudelft.idm.oclc.org/study/123338/target-audience-theater-ballet-and-opera-goers-in-italy/

RESEARCH QUESTIONS

Main

How can the design of an opera house at La Scala stimulate cultural interest among young audiences?

Sub

01 How can La Scala's history, program, and urban context inform a contemporary reinterpretation of its iconic identity?

02 How can a design for La Scala revitalise interest in opera among younger audiences and contribute to Milan's cultural calendar?

03 How do spatial relationships in opera houses influence visitor experience?

04 What funding models will make the new La Scala financially feasible in the long term?

THEORETICAL FRAMEWORK

This research framework integrates principles from architectural theory, cultural contribution, audience engagement, and economic feasibility to guide the re-imagining of Teatro alla Scala. The project aims to respect La Scala's historical significance while adapting it to meet contemporary cultural demands and attract a broader, younger audience. The framework reflects the themes and objectives presented by the studio, focusing on the human-design relation of public spaces.

Cultural and Architectural Analysis

The research incorporates historical and cultural analyses of opera houses as social and architectural structures. As noted by Arruga (1975), La Scala's historical significance is anchored in Milan's cultural landscape, serving as a site of shared cultural identity in addition to architectural grandeur. This cultural dimension will be a critical aspect of the redesign, ensuring that the new opera house remains a symbol of Milan. The analysis will examine how the building's architectural elements, such as the neoclassical facade and iconic horseshoe-shaped auditorium, will find a contemporary interpretation in the proposed cultural and architectural identity.

Arruga, L. (1976). La Scala. Praeger Publishers New York.

Through the cultural lens, the new opera house will adapt its program and spaces to accommodate Milan's cultural events such as the Design Week, Fashion Week and the upcoming 2026 Winter Olympics. By adapting the program and exploring outdoor stage possibilities, the new design will respond to the ever-changing city of temporality.

Additionally, insights from "Great Opera Houses Masterpieces of Architecture" (1979) provide an understanding of how opera houses historically served as landmarks. This framework will guide the design strategy, ensuring that the essence of La Scala is preserved while integrating modern functionalities. The redesign will consider how to maintain its historical identity while introducing new elements that make the building more versatile, accommodating a broader range of cultural activities and introducing a younger audience to this scene.

Kaldor, A. (2002). Great Opera Houses: Masterpieces of Architecture. Antique Collectors' Club.

Bodies & Building

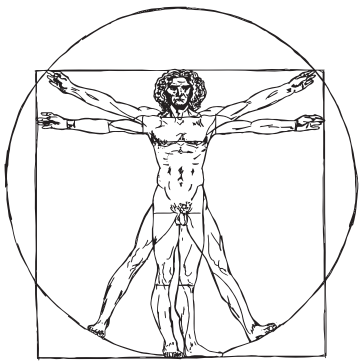
The studio theme of 'Bodies & Building' focuses on the relationship between human proportions and architecture. This principle will be applied by incorporating insights from Vitruvius's Ten Books on Architecture (1914) and Le Corbusier's The Modulor (1954). Vitruvius emphasised the importance of symmetry and proportions in architecture, grounded in the human body's natural measurements. "Without symmetry and proportion there can be no principles in the design ... that is, if there is no precise relation between its members, as in the case of those of a well-shaped man" (Vitruvius, 1914). This perspective serves as a foundation for understanding how architecture can be designed to fit human needs.

Vitruvius. (1914). Ten Books on Architecture. Harvard University Press.

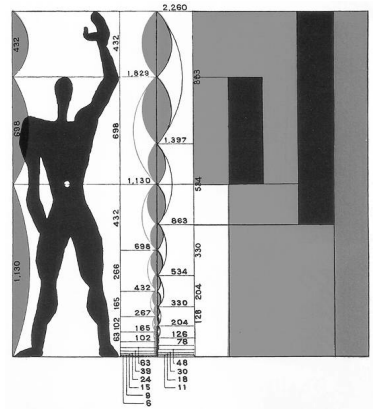
Le Corbusier. (1954). The Modulor: A Harmonious Measure to the Human Scale Universally Applicable to Architecture and Mechanics.

Modulor
Systematic tool of mathematical rations by Le Corbusier

Le Corbusier's The Modulor (1954) introduces a more systematic approach to human proportions, that is universally applicable to architecture and mechanics (Le Corbusier, 1954). By utilising the Modulor, the redesign of La Scala aims to create spaces that resonate with natural human proportions, enhancing comfort, movement, and the overall user experience. This human-centric approach will ensure that La Scala remains an accessible and engaging space, with careful consideration of different user groups, including young audiences and international visitors.



Vitruvian Man, Leonardo da Vinci (1490)
https://www.researchgate.net/figure/Image-Canon-of-proportions-from-Vitruviuss-De-architectura-Ten-Books-on-Architecture_fig9_226283092



Modulor, Le Corbusier (1948)
https://www.researchgate.net/figure/Figura-4-Modulor-Le-Corbusier-1948-Corbusier-1998_fig1_268221925

Audience Engagement

The theoretical framework will also address cultural adaptation strategies to engage diverse audiences. Research on cultural trends, particularly in classical music and theatre, will inform the strategies to stimulate audience engagement. Vercammen (2017) noted a decline in attendance among younger generations for classical music, which is a key consideration in the redesign. A recent report shows that only 19% of theatre, ballet, and opera attendees in Italy belong to generation Z, indicating potential to stimulate a shift in audience demographics (Statista Consumer Insights, 2024).

To stimulate interest growth among younger audiences, La Scala will integrate flexible spaces, and expand programming to rethink opera as we know it today. The Magnifica Fabbrica initiative will be revised and seamlessly integrated into the new design to ensure a cohesive experience between the two sites. Through assessment of the proposed program, the new opera could exchange program to ensure a cohesive balance of audience groups. By making the opera house more accessible, the new design aims to foster increased interest from younger generations and support the long-term cultural relevance of La Scala.

Vercammen, M. (2017). Audience development for classical music performances. Erasmus University Rotterdam

Statista Consumer Insights. (2024). Target audience: Theater, ballet & opera goers in Italy

Generation Z
People born between 1996 and 2010

Magnifica Fabbrica
A new complex for La Scala for production and public engagement.

Viva, A. (2022). Magnifica Fabbrica for the Teatro alla Scala in Milan
Arquitectura Viva. https://arquitecturaviva.com/works/magnifica-fabbrica-en-milan

Research by Serbanescu (2022) shows that Gen Z only has an attention span of about 8 seconds. Much shorter than any other generation and over a thousand times less than the duration of the average opera.

Throughout its existence, opera has evolved constantly, from small performance halls during the Baroque to social gathering space where it was common to talk during the play in the 1800's. It has long since ceased to be customary to talk, walk or eat during opera. "During the first two decades of the century (1800 - 1820) a secondary singer might also demand his or her moment in the sun, a so-called "aria di sorbetto". "The name aria di sorbetto reflects the practice of buying and consuming ices during short arias sung by secondary characters." (Gossett, 2007). Perhaps, reviving some of these old customs, could stimulate a young audience to reconsider a visit.

While the classical opera still attracts large numbers of audiences, with La Scala's occupancy rate at 90% (Redazione, 2024), there is still room for improvement. Rethinking the opera at certain evenings with dining experiences, collaborations with other genres or organising an opera festival, like O. in Rotterdam, could further stimulate the younger generation to attend La Scala's next act.

Serbanescu, A. (2022). Millennials and the Gen Z in the era of social media. ResearchGate.

Gossett, P. (2007). Divas and scholars: performing Italian opera. Choice Reviews Online, 44(11), 44–6153. https://doi.org/10.5860/choice.44-6153

Redazione. (2024, September 11). Filarmonica della Scala, presentata la nuova stagione di concerti 2025;

Visitor Experience

Opera house design has evolved from the functional horseshoe shape to halls that maximise visitor experience. La Scala isn't the only one in Italy with the horseshoe shape and the architect, Giuseppe Piermarini, took inspiration from Naples (Arruga, 1976). This shape optimised both acoustics and visibility, and stimulated social interaction.

Arruga, L. (1976). La Scala. Praeger Publishers New York.

A number of case studies will provide further insight in how the different elements in opera houses influence visitor experience. The case studies will be divided into 4 categories; spatial relationships, staircases, classical proportion and underground potential.

Spatial Relationships

This study will explore the relation between the foyer, hall, stage and back-stage areas. The case studies include both historical buildings such as; Palais Garnier (FR), Royal Opera House (UK), Wiener Staatsoper (AT) and, modern and contemporary examples like; Sydney Opera House (AU), Elbphilharmonie Hamburg (DE), Harbin Opera House (CH) and Oslo Opera House (NW).

Kaldor, A. (2002). Great Opera Houses: Masterpieces of Architecture. Antique Collectors' Club.

Hammond, M. (2006). Performing Architecture; Opera Houses, Theatres and Concert Halls for the Twenty-First Century. Merrell Publishers Limited.

Staircases

Perhaps the most well known staircase in any opera house, Palais Garnier, will be included, as well as Sydney Opera House (AU), Casa da Musica (PT), Shanghai Opera House (CH),

Classical Proportions

The case studies that will be conducted in this topic, relate to the 'Bodies & Building' theme, incorporating classical proportions into the design, such as The Metropolitan Opera House New York. Because there are few opera houses that do this, other building types like the James Simon Gallery (DE), Neue Nationalgalerie (DE) and architects will be included as well.

Underground Potential

Most halls don't need daylight and could potentially be positioned below the surface, leaving valuable space to rooms that need it. The Steve Jobs Theatre (US) applies this principle as well as the Apple Store in Milan which gives back to the city by keeping the square its positioned below.

Stairs

Stairs have been an essential part of architecture for thousands of years, evolving from simple functional elements to symbols of power, social hierarchy, and ritual (Mark, 1990). Across cultures, stairs and elevated platforms have shaped movement and defined spaces in public buildings, particularly in performance venues like opera houses, where they enhance both the aesthetic and social experience.

Mark, R. (1990). Light, wind, and structure: The mystery of the master builders. MIT Press.

In ancient Greece and Rome, staircases in structures like the Parthenon and the Temple of Jupiter conveyed the elevated status of the gods they honoured. As Murray notes, in Renaissance architecture, staircases were designed not only as connectors but as monumental features that orchestrated movement through the space (Murray, 1969).

Murray, P. (1969). The architecture of the Italian Renaissance. Schocken Books.

Dogma's research on platforms explores how stairs and elevated spaces historically regulated social behaviour. "The role of steps in these structures was to theatrically emphasize the movement of people by orienting them and providing a sense of rhythm" (Dogma, 2020). By elevating participants, platforms and stairs create visible distinctions, reinforcing social hierarchies. In opera houses, grand staircases symbolize the transition from the common to the artistic, with the act of ascending becoming a ceremonial experience.

Dogma. (2020). Platforms: Architecture and the use of the ground.

Modern examples like Jørn Utzon's Sydney Opera House highlight how stairs and platforms guide visitor experience. The terraced platforms not only support the structure but also direct visitors through a carefully chosen path, building anticipation. This idea of using stairs to create a dynamic spatial experience echoes Michelangelo's Laurentian Library staircase, where movement becomes performative (Murray, 1969). As Blanc points out, in venues like Palais Garnier, "The grand staircase is more than just a connector; it is a ceremonial path that builds anticipation and leads the audience into the heart of the opera" (Blanc, 1996).

Murray, P. (1969). The architecture of the Italian Renaissance. Schocken Books.

Blanc, A. (1996). Stairs, steps, and ramps. Butterworth-Heinemann.

Historical Funding Models

The model used to fund La Scala involved private investors, so called box-holders, who were granted exclusive access to boxes in exchange for their financial support. This model contributed significantly to the opera house's early success, collecting the 1 million Milanese Lire necessary for the construction and 120k to purchase the site (Arruga, 1975). Analysing these historical funding models will provide insights into how similar strategies could be applied in the redesign (Arruga, 1975). The historical analysis will help identify elements of these models that can be adapted to secure financial backing while maintaining the cultural integrity of the opera house.

Arruga, L. (1976). La Scala. Praeger Publishers New York.

Modern Economic Strategies

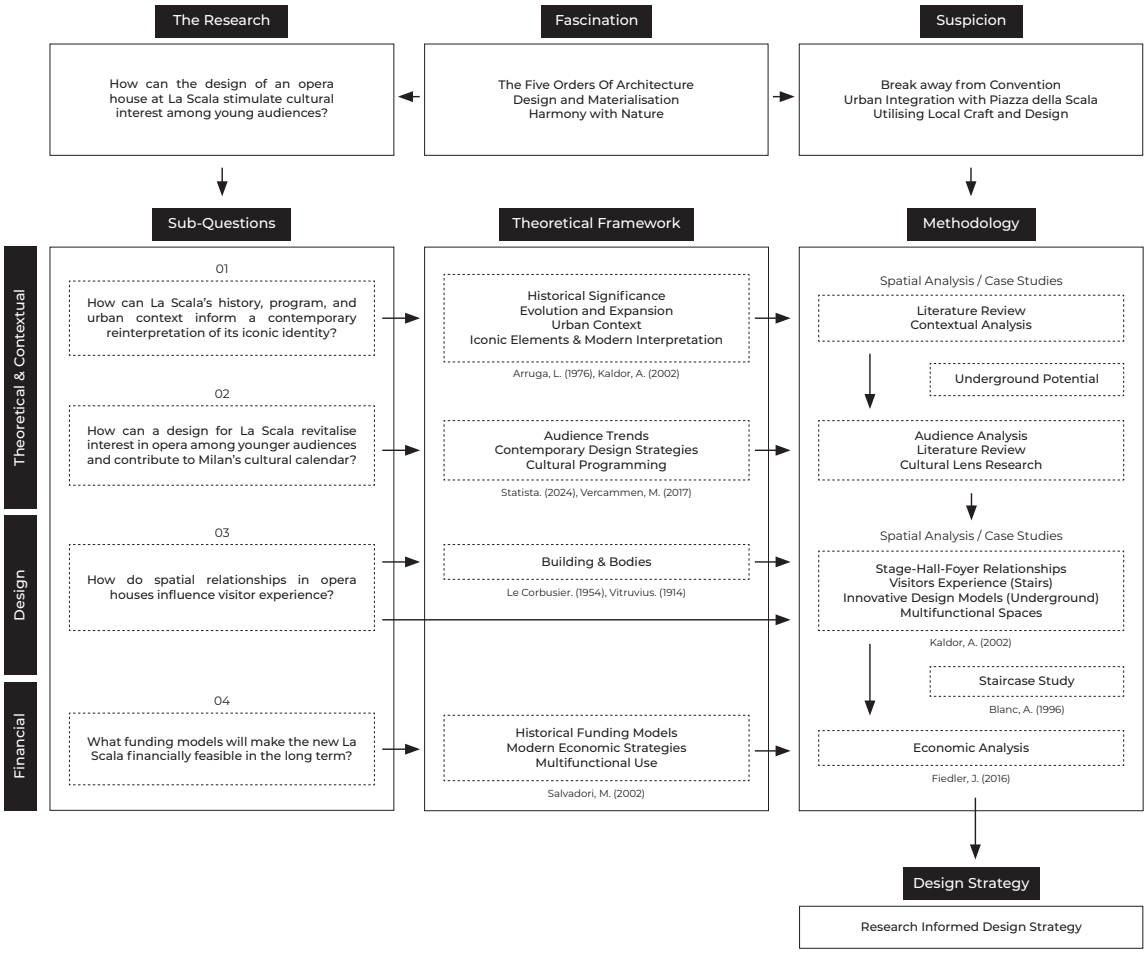
Modern funding strategies, including PPP's, government grants and crowdfunding, will be explored. These approaches have been successfully employed in similar projects and will be assessed for their applicability to La Scala's redesign. For instance, the renovation of the Royal Opera House in London was partially funded through a combination of public funding and private donations, a model that could be adapted for La Scala. The integration of commercial spaces, such as restaurants, retail shops, and office space, will be considered as a source of ongoing revenue. These commercial areas will not only provide financial support but also help attract a broader audience.

PPP's
Public-Private Partnerships

The Elbphilharmonie in Hamburg serves as a valuable case study on the financial challenges associated with large-scale cultural projects. Originally estimated at €351.8 million, the project costs escalated to €560.8 million by 2008 due to poor governance and planning (Fiedler, 2016). This example underscores the importance of robust financial planning and governance in avoiding cost overruns and ensuring sustainability (Fiedler, 2016).

Fiedler, J. (2016). The Elbphilharmonie Hamburg. Large Infrastructure Projects in Germany https://doi.org/10.1007/978-3-319-29233-5_3

RESEARCH DIAGRAM



METHODOLODY

The methodology of this research plan integrates a theoretical and conceptual framework with a contextual approach, supplemented by historical, spatial, and audience engagement analyses. This multifaceted approach will inform a design strategy that balances Teatro alla Scala's historical significance with contemporary adaptations to attract younger audiences.

Theoretical and Conceptual Approach
The project is grounded in the "Bodies & Building" theme, focusing on human-centred design by applying Vitruvius's principles of proportion and Le Corbusier's Modulor. This theoretical basis will guide spatial configurations to enhance user comfort and accessibility, reflecting a balance between classical elements and modern functionality to make La Scala appealing and accessible to all ages.

Contextual Approach
Positioned in Milan's cultural heart, La Scala's redesign considers its role within the urban context, exploring connections with year-round events. This contextual approach involves architectural adaptations that integrate La Scala with the city, connecting the site with the Piazza della Scala in front, extending performance spaces outdoors and creating an inviting venue that supports Milan's cultural calendar.

Cultural and Architectural Analysis
A study of La Scala's historical and cultural significance will inform the preservation of key architectural elements, such as the horseshoe auditorium and neoclassical facade. Through literature and historical analysis, the project will develop a design strategy that respects these iconic features while adapting them to meet contemporary needs for flexibility and engagement.

Case Studies of Opera Houses
Comparative case studies of opera houses like the Palais Garnier and Sydney Opera House will inform spatial layout and visitor experience. By analysing the relation between the foyer, hall, and back-stage, the project will explore ways to create spaces that embrace performance quality and enhanced visitor experience.

Human-Centric Design Principles
Human-centred design principles will be applied to optimise aesthetics, movement, and accessibility throughout the building. Classical proportions will be analysed in a number of case studies and will ensure that the design is a contemporary interpretation of classical elements that make up La Scala's architectural identity.

Audience Engagement Strategies
Strategies to engage younger audiences are critical, given the low interest in opera among generation Z. This will include flexible spaces, dining experiences, and mixed programming to attract a broader audience. Inspired by past customs like the 'aria di sorbetto', the design will incorporate modern, informal elements to offer unique engagement opportunities.

Economic Feasibility Analysis
A review of historical and modern funding models will guide a feasible financial strategy. Insights from Scala's original box-holder system and the modern funding models like public-private partnerships, government grants and commercial integrations, as seen in the Elbphilharmonie, will ensure that the construction and operation of the new design is achievable.

Design Strategy Development
By integrating insights from the above analyses, a design strategy will be developed, outlining architectural principles, programmatic elements, and audience engagement approaches. This strategy will ensure La Scala's place as a versatile cultural venue that honours its past while engaging with Milan's evolving cultural scene.

ARGUMENT OF RELEVANCE

The relevance of this research lies in addressing the need for cultural institutions to evolve with changing demographics and urban dynamics. Teatro alla Scala, a historic and globally recognised institution, faces the challenge of engaging a new generation that shows declining interest in traditional opera and classical music. This project's relevance is underscored by its potential to redefine La Scala's role within Milan's cultural landscape by making it a versatile venue that resonates with younger audiences. By reinterpreting La Scala's iconic architectural identity to include flexible programming, modern audience engagement strategies, and economic sustainability, the research not only revitalises the opera's appeal but also contributes to Milan's year-round cultural events. Ultimately, this project aims to design an opera house that ensures its ongoing significance for Milan by adapting to changing trends and attracting audiences of all-ages.

CONCLUSION

This research plan outlines a comprehensive methodology to design a new opera house at Teatro alla Scala's site, grounded in theoretical, contextual, cultural, and audience engagement frameworks. By combining historical analysis with contemporary strategies for engagement and economic feasibility, the project addresses the objective of preserving La Scala's cultural significance while adapting it to the needs and interests of a modern audiences. The theoretical principles of "Bodies & Building" provide a human-centred approach to spatial design, while the contextual analysis ensures that the new opera house integrates seamlessly with Milan's cultural scene.

The insights gained through this research will directly inform the design brief, establishing clear design goals that prioritize historical sensitivity, contemporary adaptability, and inclusion. The design brief will reflect strategies to create flexible spaces that support diverse programming, architectural elements that harmonize tradition with modernisation, and audience engagement models that attract younger generations. This approach ensures that the new opera house design not only honours La Scala's legacy but also positions it as a forward-thinking cultural landmark in Milan.

GRADUATION PLAN

02

The world of performance has always fascinated me. During my three years at Theatre Rotterdam, a remarkable concrete structure by Dutch architect Wim Quist, I gained invaluable experience in large-building operations, backstage complexities, audience flow, and theatre construction. This solidified my fascination with complex architectural buildings and the challenges of designing structures such as theatres, towers, and airports.

While working at Foster + Partners and Powerhouse Company, I contributed to large projects like airport terminals and skyscrapers. These experiences enhanced my understanding of the intersection between technical complexity and design. However, the opportunity to design an opera house remains a unique wish. Opera houses are exceptional building types, often singular in a city and realized through international competitions by renowned architects. To design a new Teatro alla Scala, where Verdi premiered some of his most celebrated works (Arruga, 1976), represents both an incredible challenge and a dream.

The Complex Projects graduation studio provides a framework that aligns deeply with my fascination for the relationship between human proportions and architectural form. Its focus on movement, comfort, experience, safety, and security resonates with my intent to organise and process data to solve complex problems. The studio's emphasis on structured methodologies and engaging with user dynamics perfectly complements my ambition to create a design that bridges historical significance with modern relevance. By combining my fascination for performance spaces with my architectural passion, I am eager to design a building that not only celebrates La Scala's past but also redefines its future, fostering engagement across generations.

PROBLEM STATEMENT

Opera faces a pressing challenge: engaging younger generations. While theatre, ballet, and opera have been shown to stimulate meaningful social interaction, psychological engagement, and positive emotions (Vandenbroucke, 2018), their appeal to youth is low. At Teatro alla Scala, 66% of the audience is over the age of 55 (Schmid, 2022), and only 19% of Generation Z express interest in opera, ballet, and theatre (Statista, 2024). Dominique Meyer, La Scala's artistic director, is extremely aware of this trend and is determined to attract younger audiences.

Research by the European Union (2022) highlights two major barriers to youth attendance: 50% cite a lack of interest, while 20% find ticket prices too high. Adding to these issues, attention spans are shrinking. According to Pilgrim (2024), the average human attention span has dropped from 12 seconds to 8.25 seconds over the past two decades, with even lower numbers for Generation Z. This contrasts vastly with the traditional opera format, where performances typically last two hours.

To ensure its survival and relevance, opera must adapt to the evolving cultural landscape. This requires reimagining not just the performances but the architecture itself, creating spaces that resonate with younger audiences and foster engagement. La Scala must redefine its role from a historic monument to a dynamic cultural hub, capable of meeting the needs and expectations of today's youth while preserving its rich heritage. The design assignment involves creating a

DESIGN ASSIGNMENT

The design assignment involves creating a new opera house on the site of Teatro alla Scala in the centre of Milan, designed to attract younger audiences while honouring its iconic identity. The new opera house will feature a seating capacity of 2,000 and establish a strong connection with the broader public through the Piazza della Scala. Transforming it into a space for public performances and cultural interaction. This redesign will solidify La Scala's identity as a cultural landmark to support Milan's year-round cultural calendar and align with the ambitions of its stakeholders. The project seeks to blend innovative architectural solutions with a focus on youth attraction, inclusivity, and accessibility, ensuring its relevance for future generations.

The client, the Comune di Milano, will lead the initiative alongside long-standing investors and new collaborators:

Comune di Milano
As the primary client, the municipality aims to reinforce Milan's global reputation as a cultural capital by reimagining La Scala as a space that embraces inclusivity, innovation, and accessibility.

Intesa Sanpaolo, Rolex, BMW
These long-term investors share a vision of La Scala as a venue that represents timeless elegance. They aim to support future generations and solidify La Scala's position as a cultural leader.

Kartell
As a new partner, Kartell's ambition is to integrate innovative design solutions that resonate with younger audiences. Their involvement reflects a focus on redefining spaces with timeless materials, furniture and spatial elements that attract youth.

PROCESS

The primary approach involves creating a detailed design brief for a new opera house at the historic site of Teatro alla Scala in Milan. This document outlines the design process for MSc4 and focuses on three topics: site, program, and client. Each topic employs specific research methods tailored to address the complexities of designing a contemporary opera house that resonates with future generations.

Site

The site is analysed to uncover its historical significance and potential for integration with its urban context. The 6,000 square meter plot at Piazza della Scala, which has undergone significant changes throughout time, requires a deep understanding of its physical and social evolution. Historical mapping and urban analysis through data collection at multiple scales will provide insights into the site's relationship with adjacent landmarks such as Piazza del Duomo and the Galleria Vittorio Emanuele II. The area will be further analysed at different scales using GIS (Geographical Information System). Pedestrian flow studies will guide the redesign of the square to prioritize accessibility and expand the pedestrian zone while respecting the 27-meter facade height constraint established by the surrounding palazzos. By integrating these findings, the site will become a seamless extension of the public cultural hub envisioned for the new opera house.

Program

The program is informed by an approach that includes benchmarking, case studies, and user-centric design. Benchmarking involves comparing spatial configurations, capacities, and programmatic divisions of leading performance venues, such as opera houses, concert halls, and performing arts centres. This analysis identifies trends and best practices that can be adapted to the unique needs of La Scala.

Additionally, three case studies are examined to refine the hall's organizational principles and relation to the city. Through the collective group research on cultural events in Milan, the building will provide flexible areas to host ongoing events. Unlike many other opera houses and despite the meaning of La Scala's name (the stairs), the building does not feature any prominent staircases. This is one of the architectural elements that will be central to the new design: "theatrically emphasizing the movement of people by orienting them and providing a sense of rhythm" (DOGMA, 2019). The focus of the program is on engaging and attracting younger audiences; this will be done by reimagining the performances, breaking the fourth wall, incorporating spaces for experimental performances, fostering collaboration among artists, and providing flexible spaces through comparative research to contribute to Milan's year-round cultural calendar.

Client

The client, represented by the Comune di Milano and key investors, drives the project's ambitions and financial framework. A structured process of collection, comparison, and evaluation is used to choose and align the interests of stakeholders such as Intesa Sanpaolo, Rolex, BMW, and Kartell. The Comune di Milano aims to position the opera house as a cultural landmark that balances heritage and innovation. Intesa Sanpaolo and Rolex emphasize tradition and elegance, while BMW and Kartell contribute perspectives on modernity and design innovation. The client and partners were all selected through their common commitment to future generations. Multiple financial models were selected, including public funding from Creative Europe and Italy's Ministry of Culture, together with private investment and program adaptation, ensuring a realistic approach to realising the project.

REFLECTION

The “Bodies & Building” studio focuses on the intricate relationship between architecture and its users, particularly how spaces can be designed to enhance interaction, movement, and experience. This theme aligns closely with the graduation topic, which involves designing a new opera house on Teatro alla Scala’s site to serve as an inclusive cultural stage for the next generation. The surrounding buildings at Piazza della Scala, characterized by classical proportions and symmetry, echo Leonardo da Vinci’s statement that “without symmetry and proportion there can be no principles in the design” (1940). This connection between symmetry, proportion, and design principles ties directly to the studio’s emphasis on measurements. Movement, comfort, experience, safety, and security are all vital aspects of the opera house redesign that will be further explored throughout the project.

The graduation topic focuses on how architecture can attract younger audiences by reimagining performance spaces, improving user experience, and supporting Milan’s cultural landscape. Human-scale considerations will be central to the design, enhancing comfort and engagement for performers, staff and visitors, while integrating classical design principles ensures harmony with the historical context of the Piazza. This balance of architectural innovation and legacy preservation embodies the “Bodies & Building” studio’s commitment to exploring how large, complex buildings can serve as dynamic spaces of cultural interaction, while principles of symmetry, proportion, and human-scale design will be considered to enhance user experience and engagement.

This project addresses the pressing need for cultural institutions to adapt to shifting trends by reinterpreting Teatro alla Scala as a contemporary opera house. The challenges outlined in the posed problem, such as low youth interest, shorter attention spans, and barriers like cost and accessibility, are globally relevant issues for cultural institutions. Similarly, the topics explored by the culture group lens including urban transformation through temporary events, the need for flexible spaces, and strategies to prevent overcrowding resonate with this project's objectives. For example, Milan's year-round calendar of cultural events highlights the necessity for adaptable venues capable of hosting diverse performances and public events.

Palais Garnier, which successfully increased their under-28 audience by 50% within two years, provides a deeper understanding of the possibilities (Grey, 2018). This demonstrates the transformative potential of targeted efforts to attract younger generations. By integrating innovative architectural solutions, rethinking conventional arrangements, adding flexible spaces, and reimagined performances, this project not only strengthens La Scala's iconic identity but also positions it as a model for addressing global challenges while contributing to Milan's cultural calendar.

DESIGN BRIEF

This design brief outlines the essential components that shape the architectural proposal for a new opera house at the site of Teatro alla Scala. It is structured around three key pillars: site, program, and client. Together, these chapters document the spatial context, functional requirements, and stakeholder ambitions that inform the design strategy. Each section explores specific research findings and design decisions, offering a foundation for the subsequent development of the project.

03

P2

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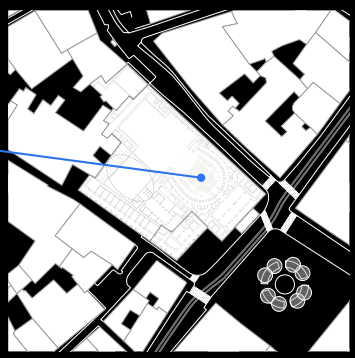


NUOVO REGIO DUCAL TEATRO ALLA SCAL

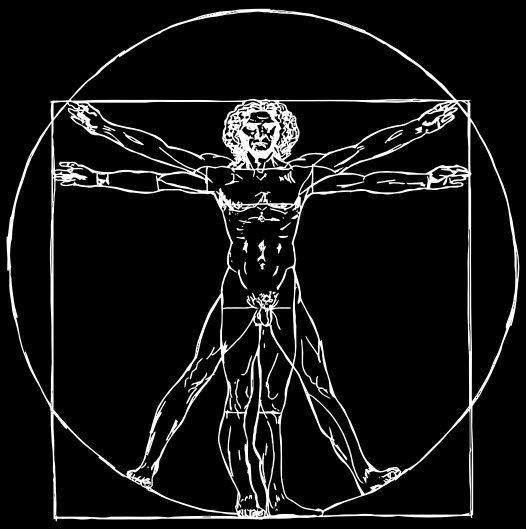
REGIO TEATRO ALLA SCALA

TEATRO DELLA SCALA

TEATRO ALLA SCALA

LA SCALA

PROPORTIONS
MEASUREMENTS
MOVEMENT
COMPORT
EXPERIENCE
SAFETY
SECURITY



Symmetry and Proportion
Conceptual Framework

Leonardo da Vinci

"Without **symmetry and proportion** there can be no principles in the **design** ... that is, if there is no **precise relation between its members**, as in the case of those of a **well-shaped man**"

OPERA MORPHOLOGY

LATE 16 - 17TH CENTURY

THE BIRTH OF OPERA

Exclusive audiences
in private courts

18TH - 19TH CENTURY

THE RISE OF CULTURAL PALACES

Elite families owning
private boxes

19 - 20TH CENTURY

OPERA FOR THE MASSES

Accessible to the middle class
National pride and global reach

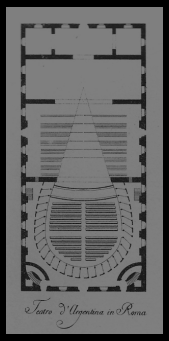
20TH CENTURY - PRESENT

INNOVATION AND FLEXIBILITY

Integration of technology
and flexible spaces

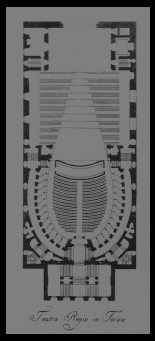
HORSESHOE HALL

Rome



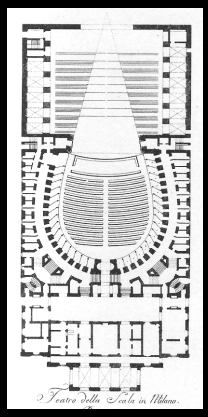
Teatro d'Argentina

Turin



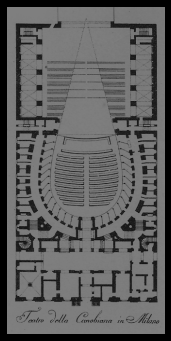
Teatro Regio

Milan



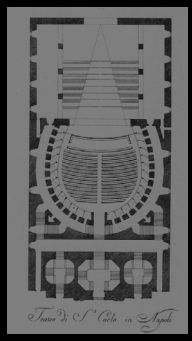
Teatro alla Scala

Milan



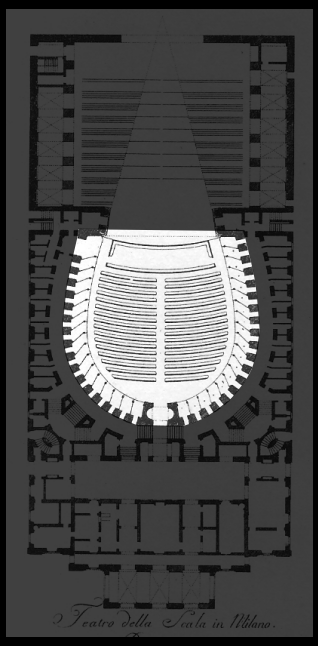
Teatro della Canobiana

Naples



Teatro di S'Carlo

Acoustics



Social Interaction

OPERA IS LOSING RELEVANCE AMONG YOUNGER AUDIENCES, THREATENING ITS CULTURAL SURVIVAL.

66% OF LA SCALA AUDIENCES ARE OVER 55

(Schmid, 2022)

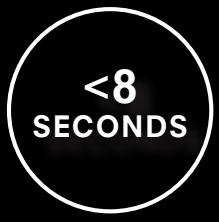
ONLY 19% OF GENZ EXPRESS INTEREST OPERA, BALLET AND THEATRE

(Statista, 2024)

LOW ATTENTION SPAN

2000
AVERAGE HUMAN

2025
AVERAGE HUMAN



2025
GENERATION Z

(Wolmark, 2023)

OPERA HOUSES NEED TO ENGAGE

THE NEXT GENERATION TO SURVIVE.

RESEARCH QUESTION

HOW CAN THE DESIGN OF AN OPERA HOUSE AT LA SCALA STIMULATE CULTURAL INTEREST AMONG YOUNG AUDIENCES?

GLOBAL RELEVANCE

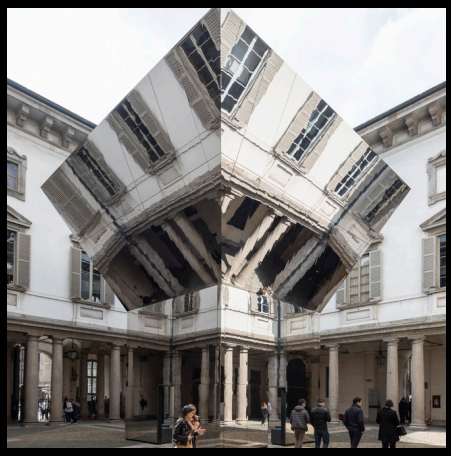
REGULAR ATTENDANCE TO THEATRES STIMULATES:

1. MEANINGFUL SOCIAL INTERACTION
2. PSYCHOLOGICAL STIMULATION
3. POSITIVE EMOTIONS

“DOMINIQUE MEYER, THE ARTISTIC DIRECTOR AND CHIEF EXECUTIVE, IS DETERMINED TO MAKE THE HOUSE (LA SCALA) YOUNGER.

OTHER OPERA HOUSES COMMIT TO YOUNGER GENERATIONS, LIKE PALAIS GARNIER, THAT INCREASED UNDER-28 AUDIENCE BY 50% IN ONLY 2 YEARS

COLLECTIVE RESEARCH ON CULTURE



CITY OF TEMPORALITY

"THE CITY IS A THEATRE OF HUMAN EVENTS"

THE CITY'S **STREETS, PIAZZAS, AND BUILDINGS**
PROVIDE A FRAMEWORK WITHIN WHICH
THE DRAMA OF HUMAN LIFE UNFOLDS

COLLECTIVE RESEARCH ON CULTURE

INVISIBLE

VISIBLE

EVENTS

S M L XL

LITERATURE

RESEARCH

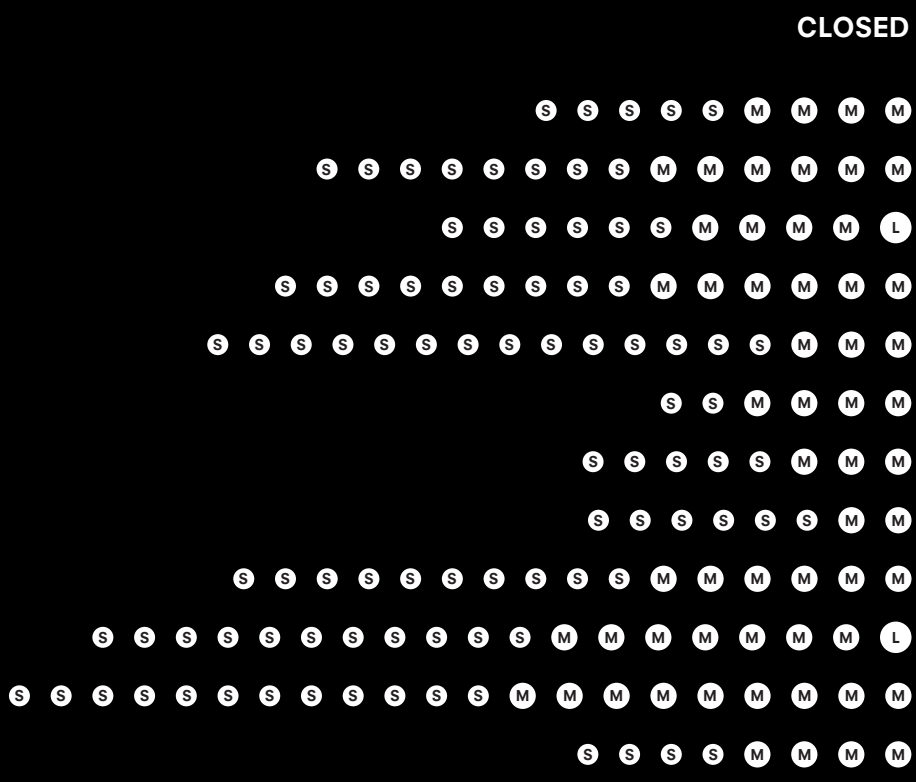
BUREAUCRACY

LEISURE

FASHION

DESIGN

230 + EVENTS THROUGHOUT THE YEAR



OPEN

JANUARY	XL S
FEBRUARY	XL L M
MARCH	L M S S S S S
APRIL	XL L M M M M S S S S S S S S S S S S
MAY	L M M S S S S S S
JUNE	XL XL L L M M S S S S
JULY	L L L L M M S
AUGUST	L M M M M M M
SEPTEMBER	XL L L L S S
OCTOBER	L S S
NOVEMBER	M M
DECEMBER	L M M M M M M

81

SPREADING EVENTS
EXPOSING TO THE GENERAL PUBLIC

SPREAD
IMPROVED VISIBILITY

DECEMBER
NOVEMBER
OCTOBER
SEPTEMBER
AUGUST
JULY
W52
W51
W50
W49
W48
W47
W46
W45
W44
W43
W42
W41
W40
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W27

JANUARY
FEBRUARY
MARCH
APRIL
MAY
JUNE
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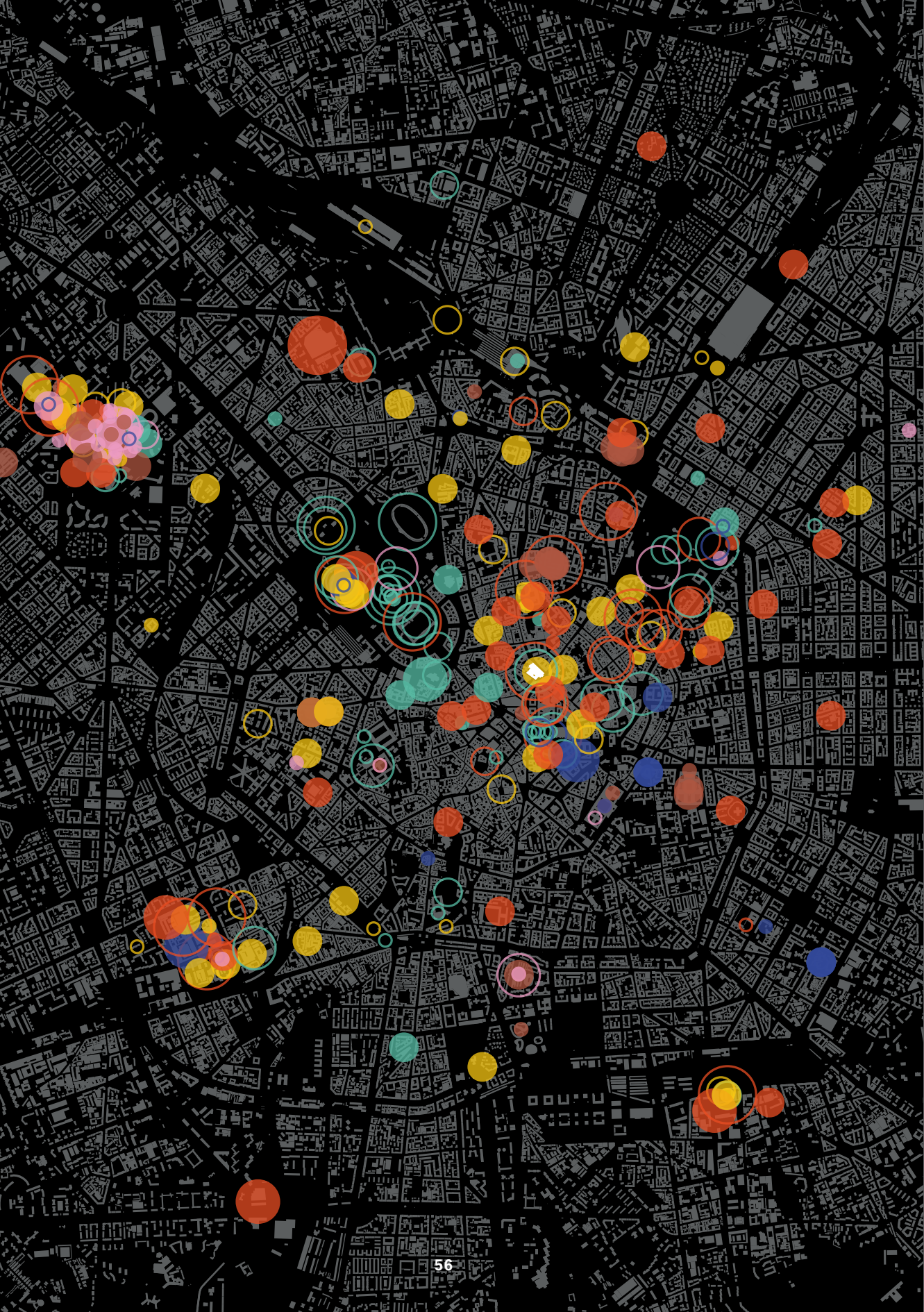
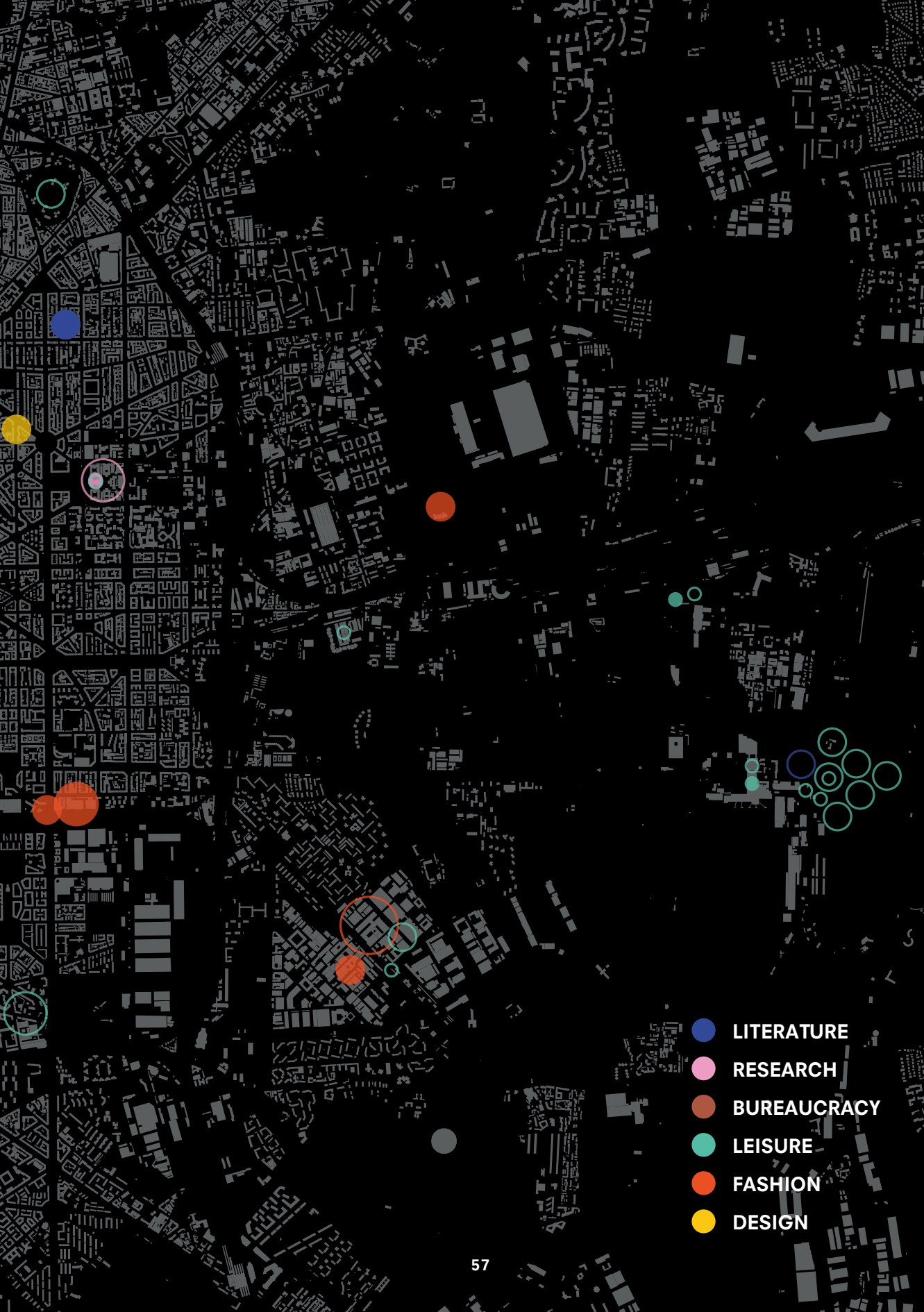
Miami MasterCity
Book Prize
Dante Comedy Musical




LITERATURE
RESEARCH
BUREAUCRACY
LEISURE
FASHION
DESIGN

BRINGING THE PIAZZA IN AND THE PERFORMANCES OUT

PROVIDING FLEXIBLE INDOOR EVENT AREA THAT CAN OPEN UP TO THE EXTERIOR

(OMA Alserkal Avenue UAE, 2017)

FASHION WEEK
ADD PUBLIC SHOWS
LITERATURE
RESEARCH
BUREAUCRACY
LEISURE
FASHION
DESIGN

DESIGN WEEK
DESIGN EXHIBITIONS
& PERFORMING ARTS

PROJECT STATEMENT

STIMULATES RENEWED INTEREST IN OPERA AMONG YOUNGER GENERATIONS

SUSTAIN LA SCALA'S RELEVANCE

SUPPORTS MILAN'S YEAR-ROUND CULTURAL CALENDAR

DESIGN BRIEF

SITE

CITY STRUCTURE

LOCATED IN THE HISTORIC CENTRE

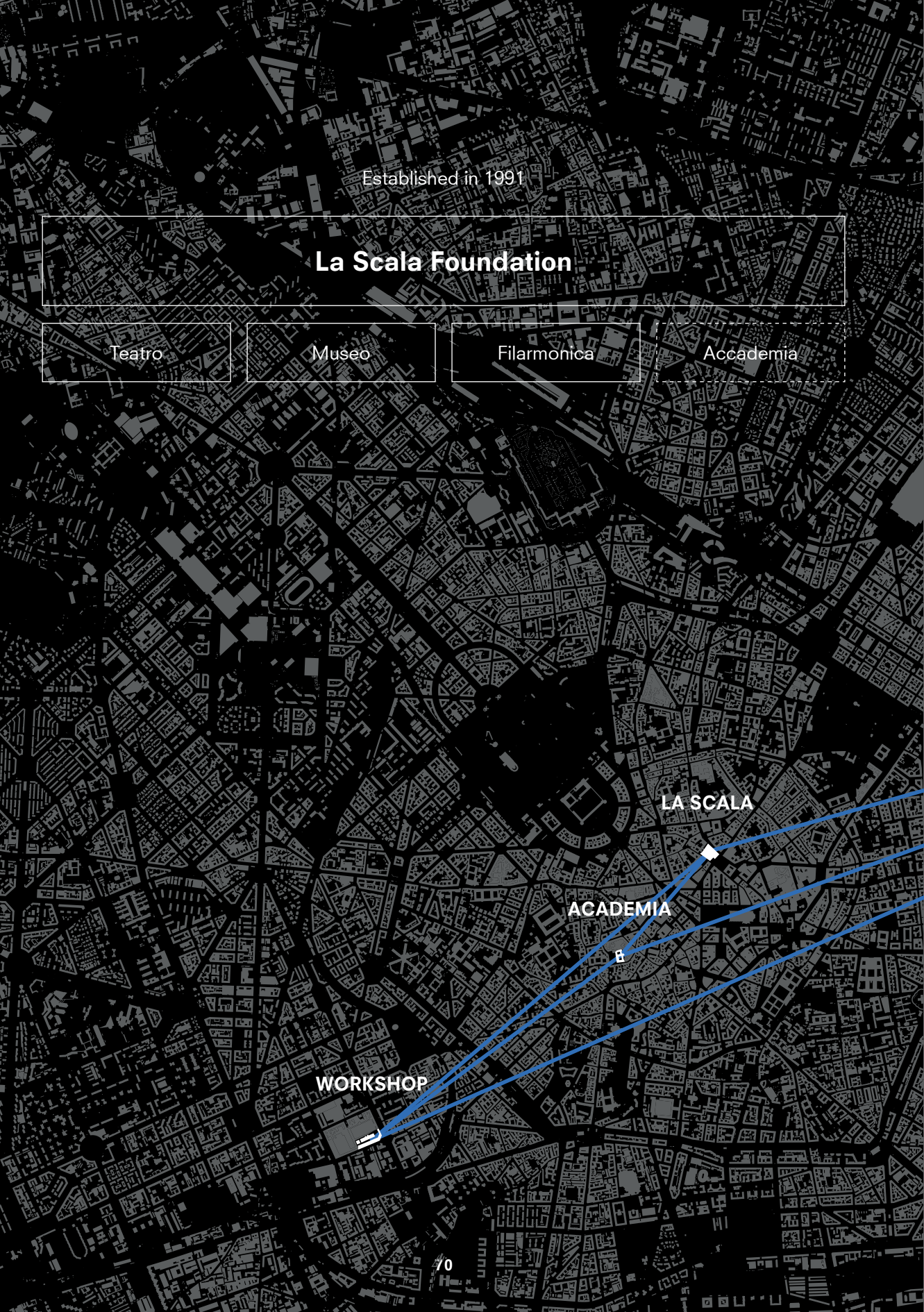
PROXIMITY

CONNECTIVITY

MOBILITY

PEDESTRIAN FRIENDLY

TEATRO ALLA SCALA


Established in 1991
La Scala Foundation
Teatro
Museo
Filarmonica
Accademia
LA SCALA
ACADEMIA
WORKSHOP

NEW DEVELOPMENT

Giuseppe Piermarini

TEATRO ALLA SCALA

CHURCH SANTA MARIA DELLA SCALA

1381 - 1776

TEATRO REGIO DUCALE

1717 - 1776

1778

Empress Maria Theresa

Mario Botta

WWII BOMBING

1943 - 1946

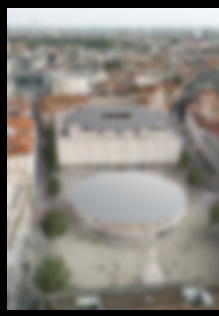
RENOVATION

2004

RENOVATION

2024

THESIS



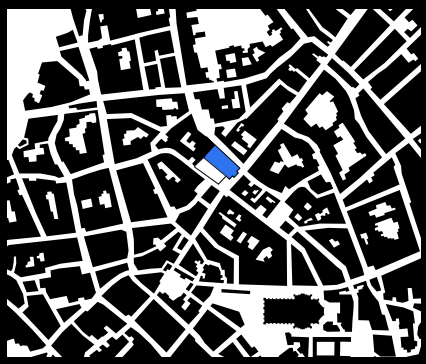
2025

CONTEXT HISTORY

< 1776

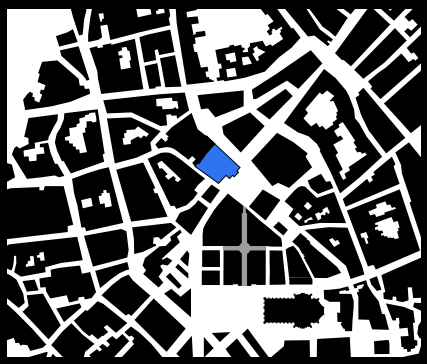
Before La Scala

1778



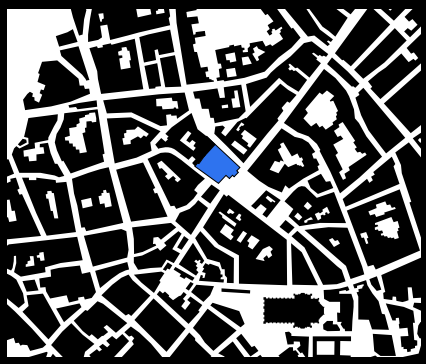
La Scala got built

1881



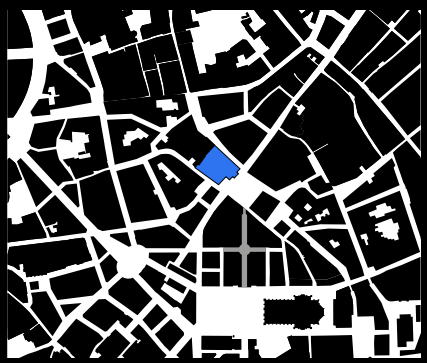
Piazza del Duomo got created
Galleria Vittorio Emanuele II connect

1858



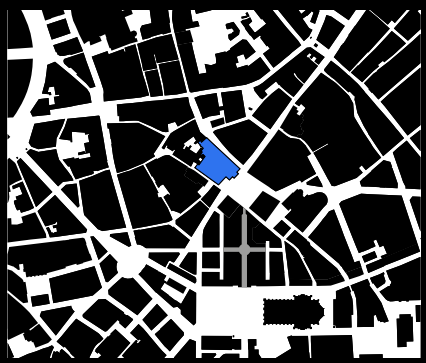
Piazza della Scala got created
La Scala expanded

1914



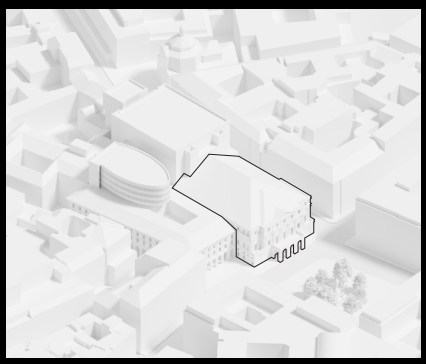
A connection between Piazza del Duomo and Sforzesco Castle got realised

2024

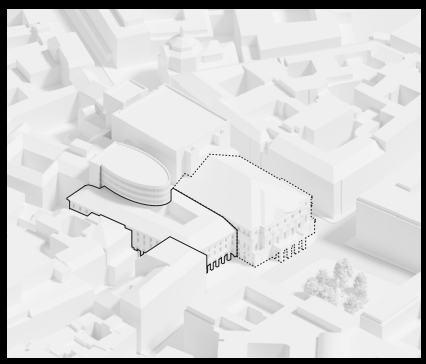


La Scala expanded over the years with renovations by Mario Botta

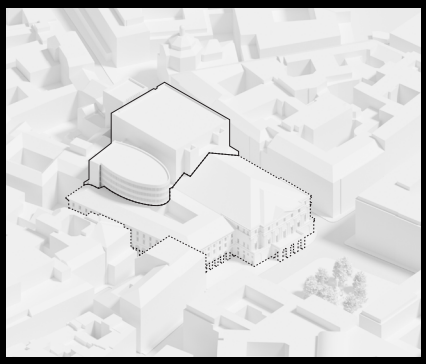
1778



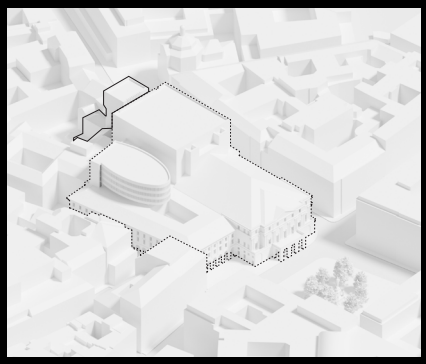
1824



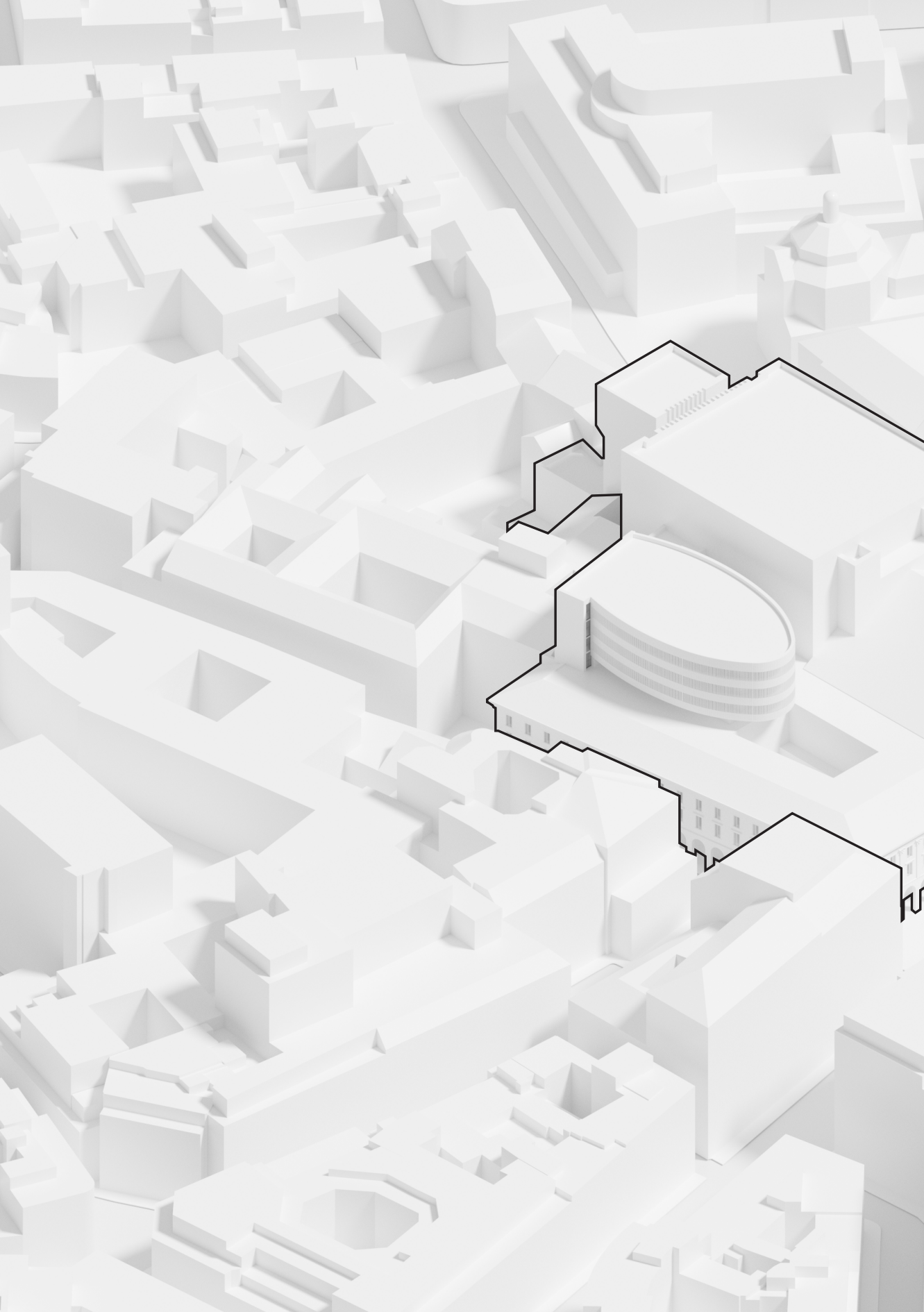
2004

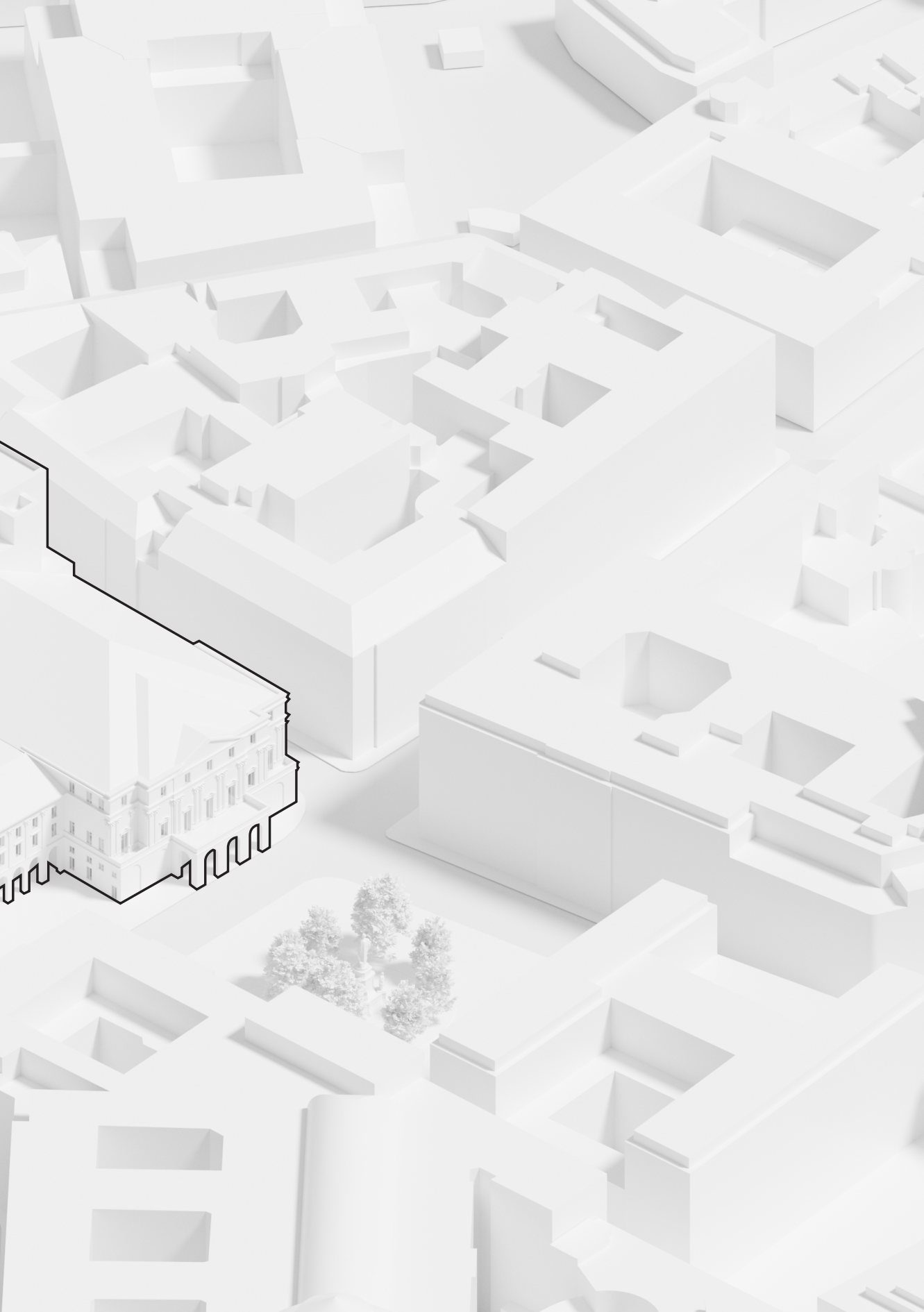


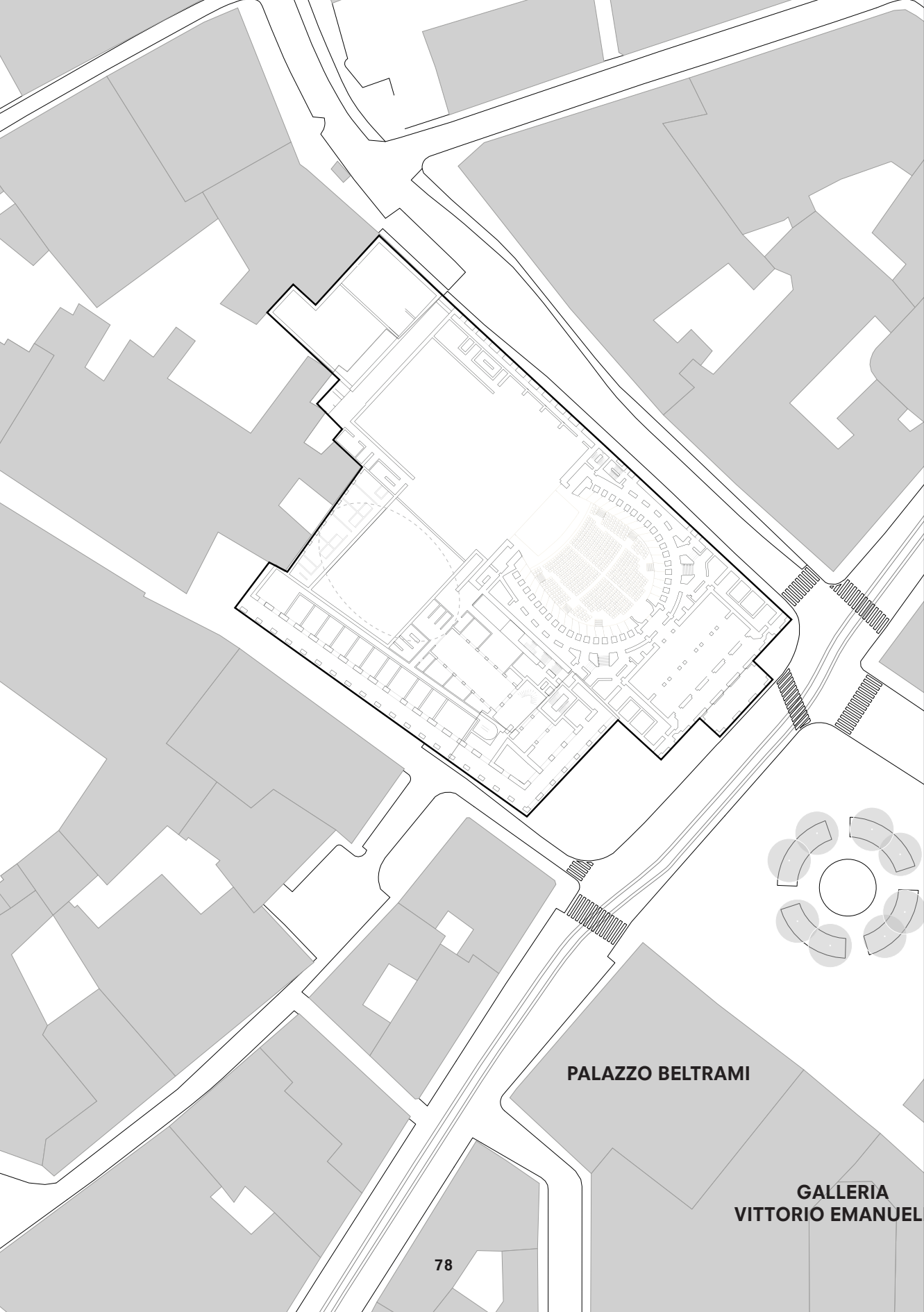
2024



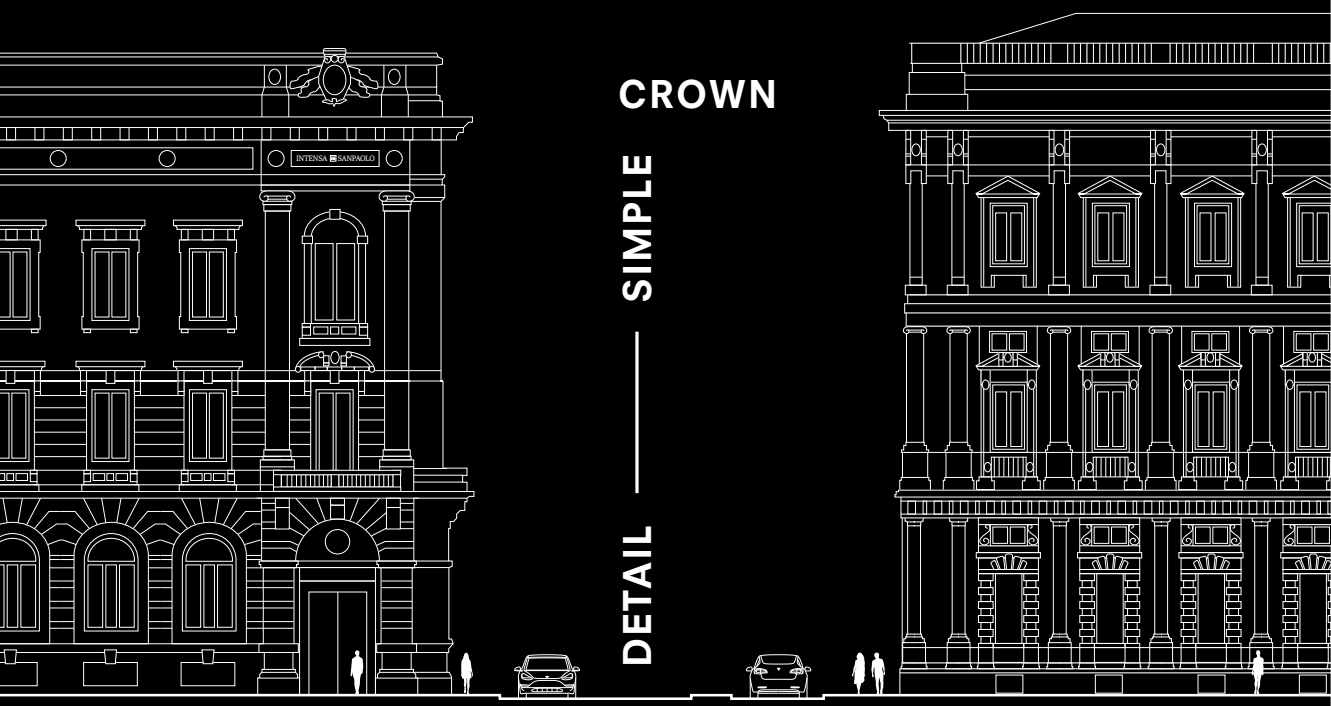
Piazza della Scala didn't exist when Teatro alla Scala was built in 1778. More than 80 years later, in 1858, the square got developed and La Scala's location became more prominent. Between 1865 and 1873, the Piazza del Duomo was enlarged and the Galleria Vittorio Emanuele II was created, connecting the two squares. Similar to Haussmann's renovation of Paris, two major landmarks, the Duomo and Castello Sforzesco, got connected at the turn of the century using the via Dante road. The past century hasn't seen too many large changes surrounding Teatro alla Scala on an urban scale.






PALAZZO BELTRAMI
GALLERIA
VITTORIO EMANUEL

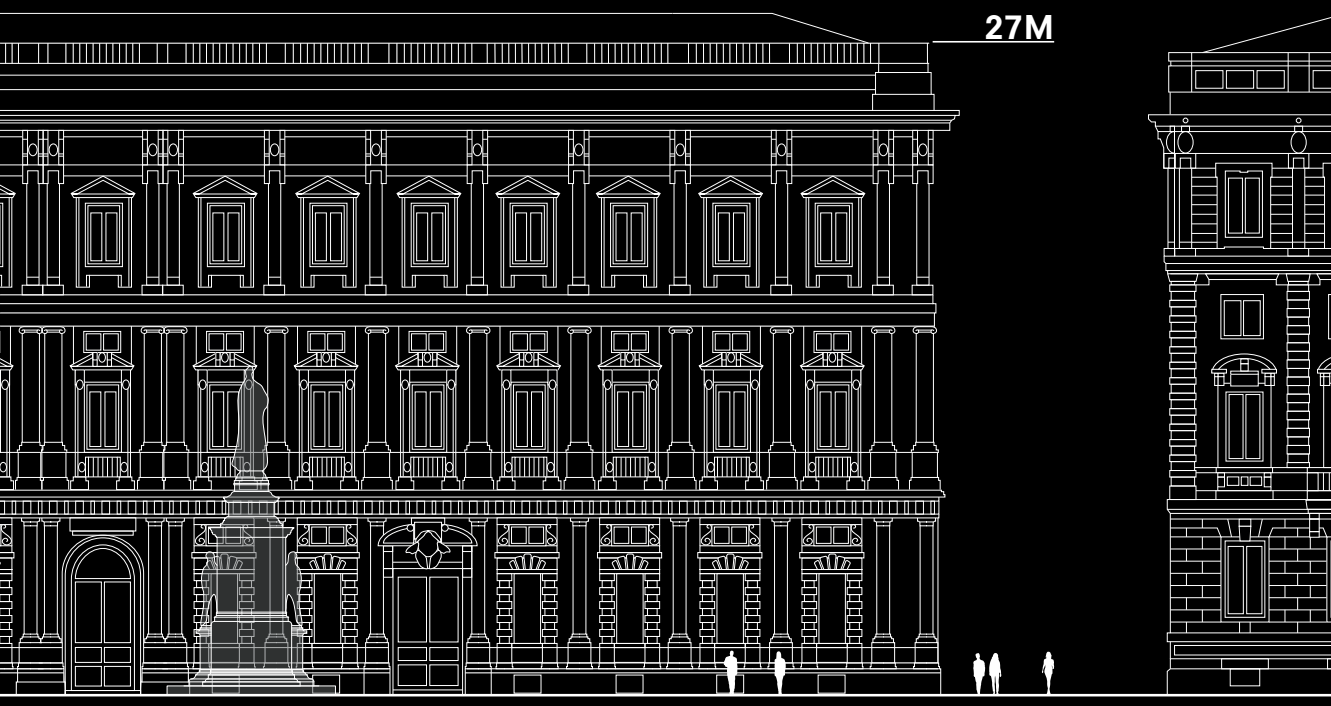
PALAZZO DELLA BANCA
COMMERCIALE ITALIANA
PALAZZO MARINO
E II



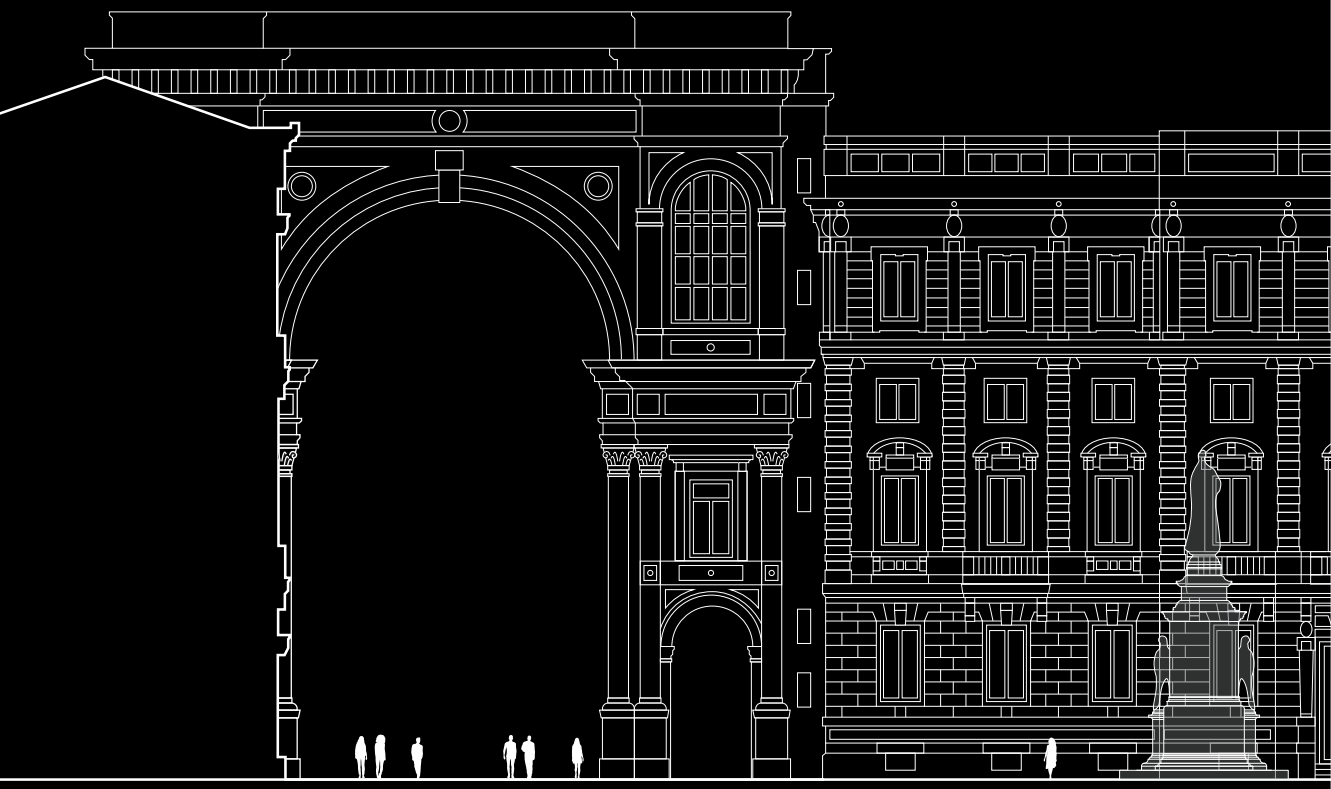
CROWN

SIMPLE

DETAIL



PALAZZO MARINO

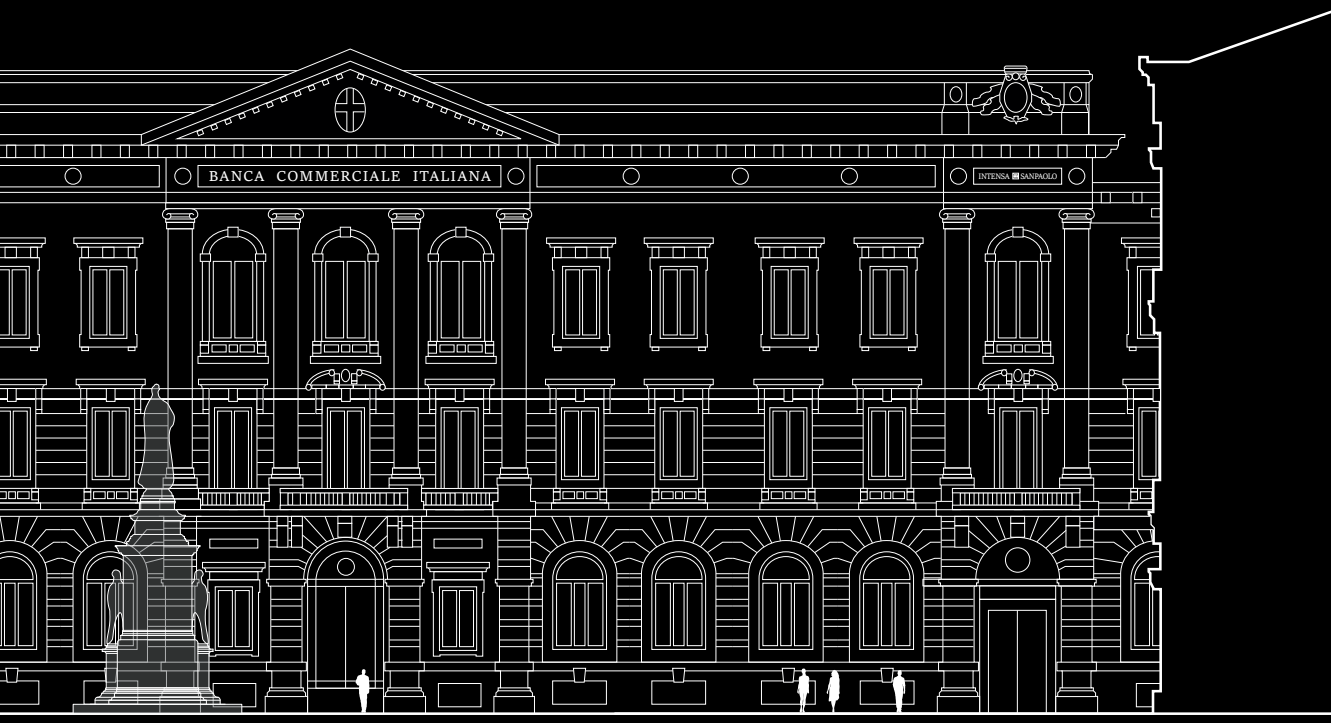


GALLERIA VITTORIO EMANUELE II

PALAZZO BELTRAMI

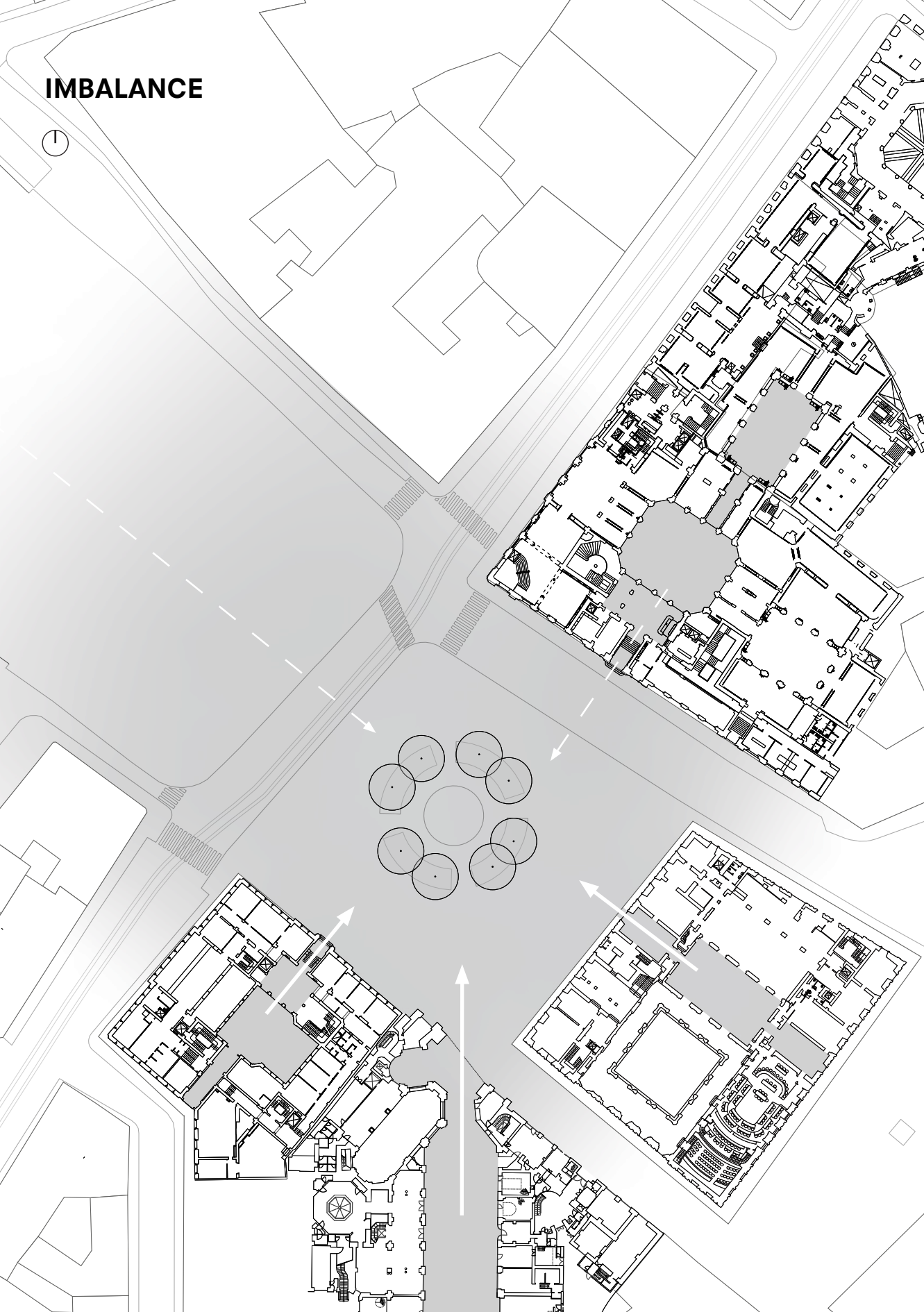
LA SCALA

LA SCALA

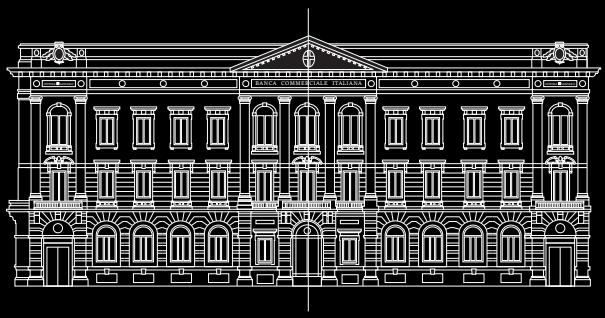


PALAZZO DELLA BANCA COMMERCIALE ITALIANA

IMBALANCE



PALAZZO DELLA BANCA COMMERCIALE ITALIANA



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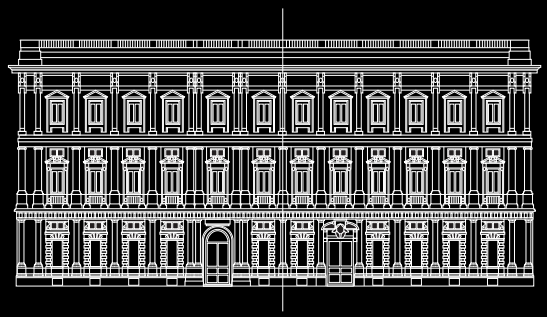
PALAZZO MARINO



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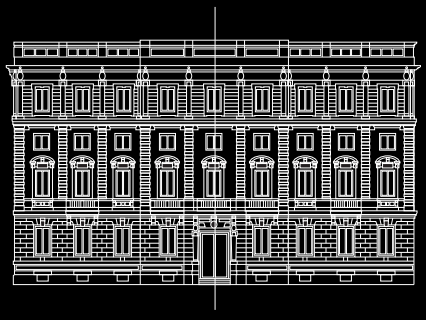
PALAZZO BELTRAMI



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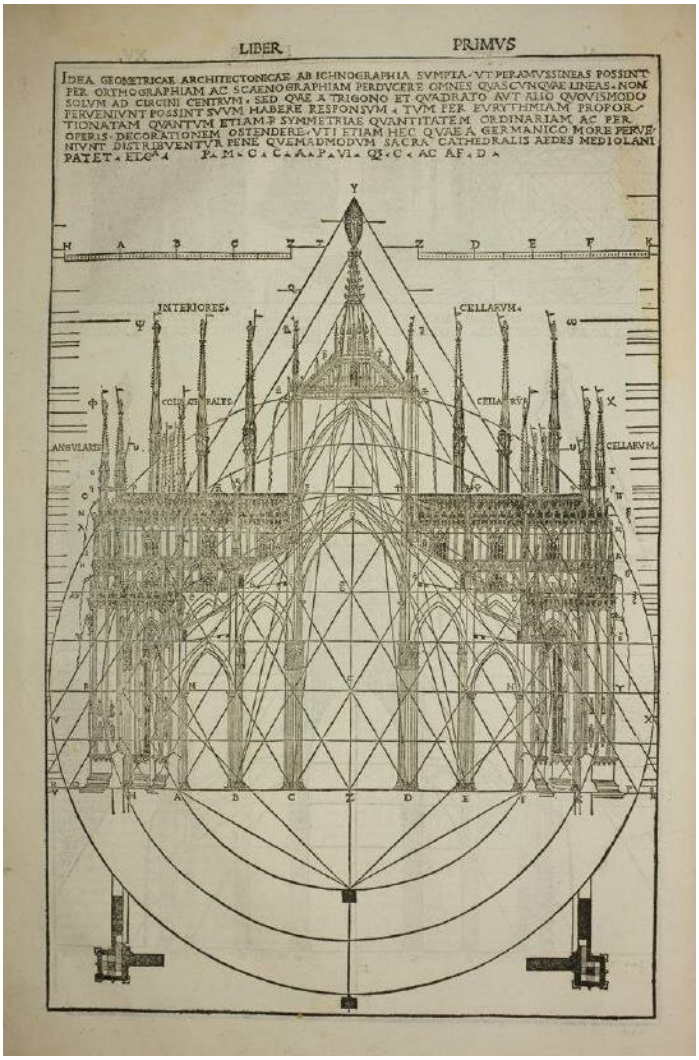
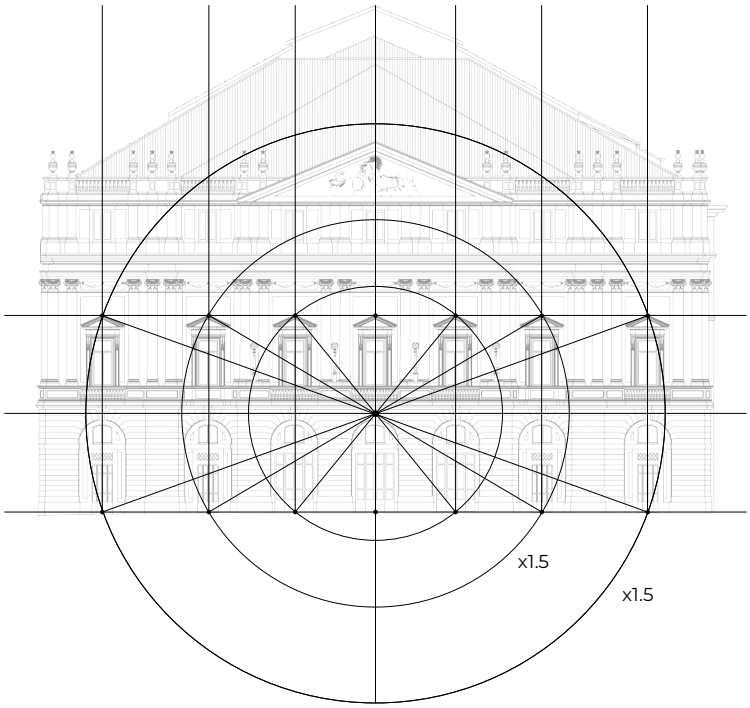
SCAENOGRAPHIA OF THE DUOMO

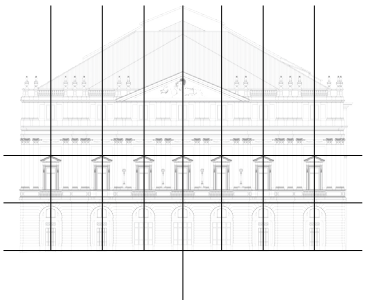
Cesare Cesariano

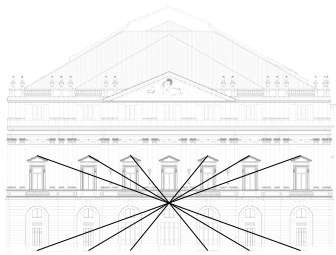


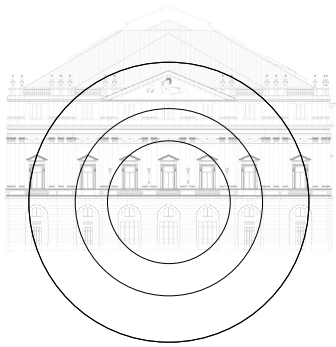
(Cesariano, 1521)

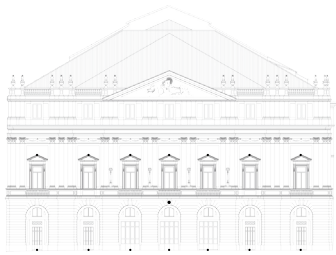
SCAENOGRAPHIA OF LA SCALA



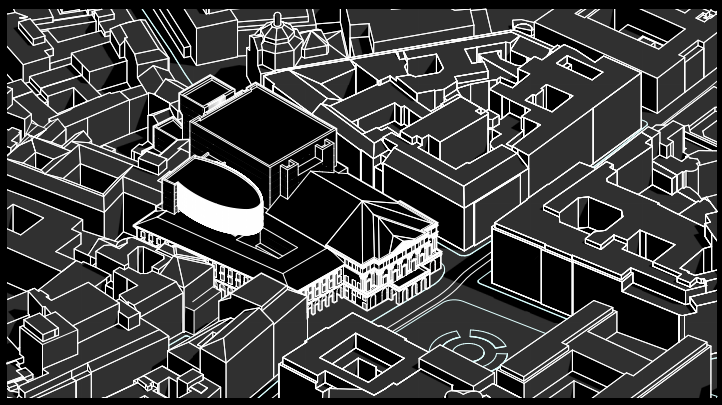




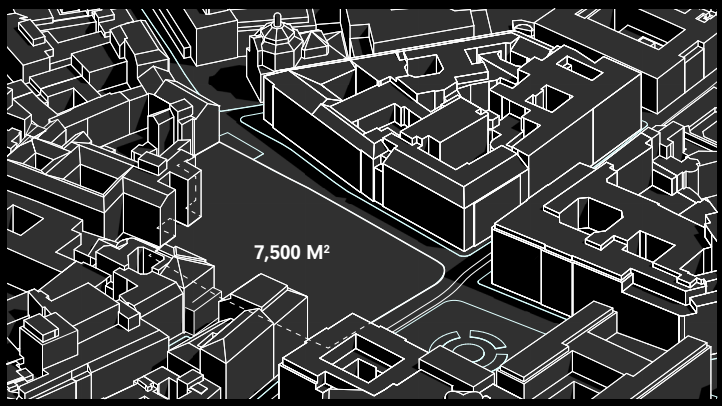




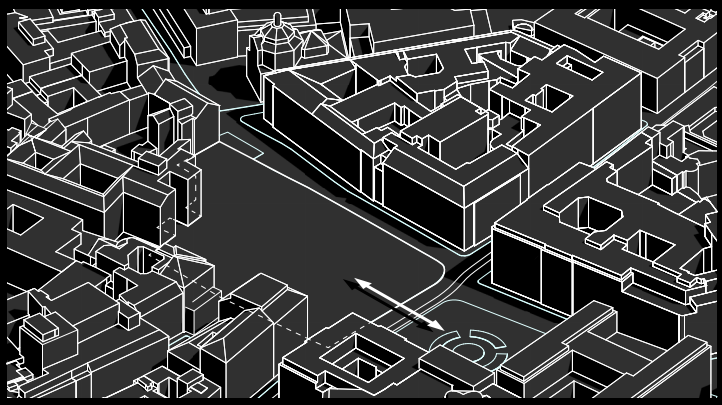
EXISTING SITUATION



EMPTY SITE



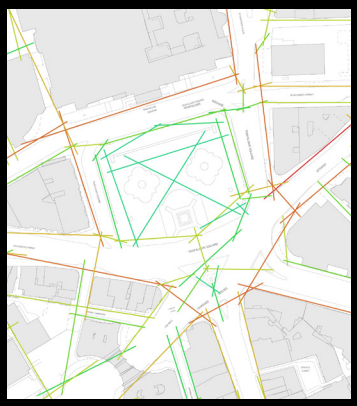
UNITING THE PIAZZA



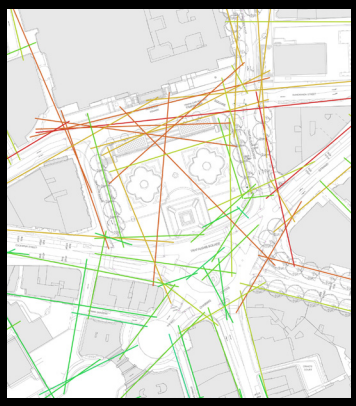
LA SCALA
PEDESTRIAN ZONE

TRAFALGAR SQUARE

BEFORE



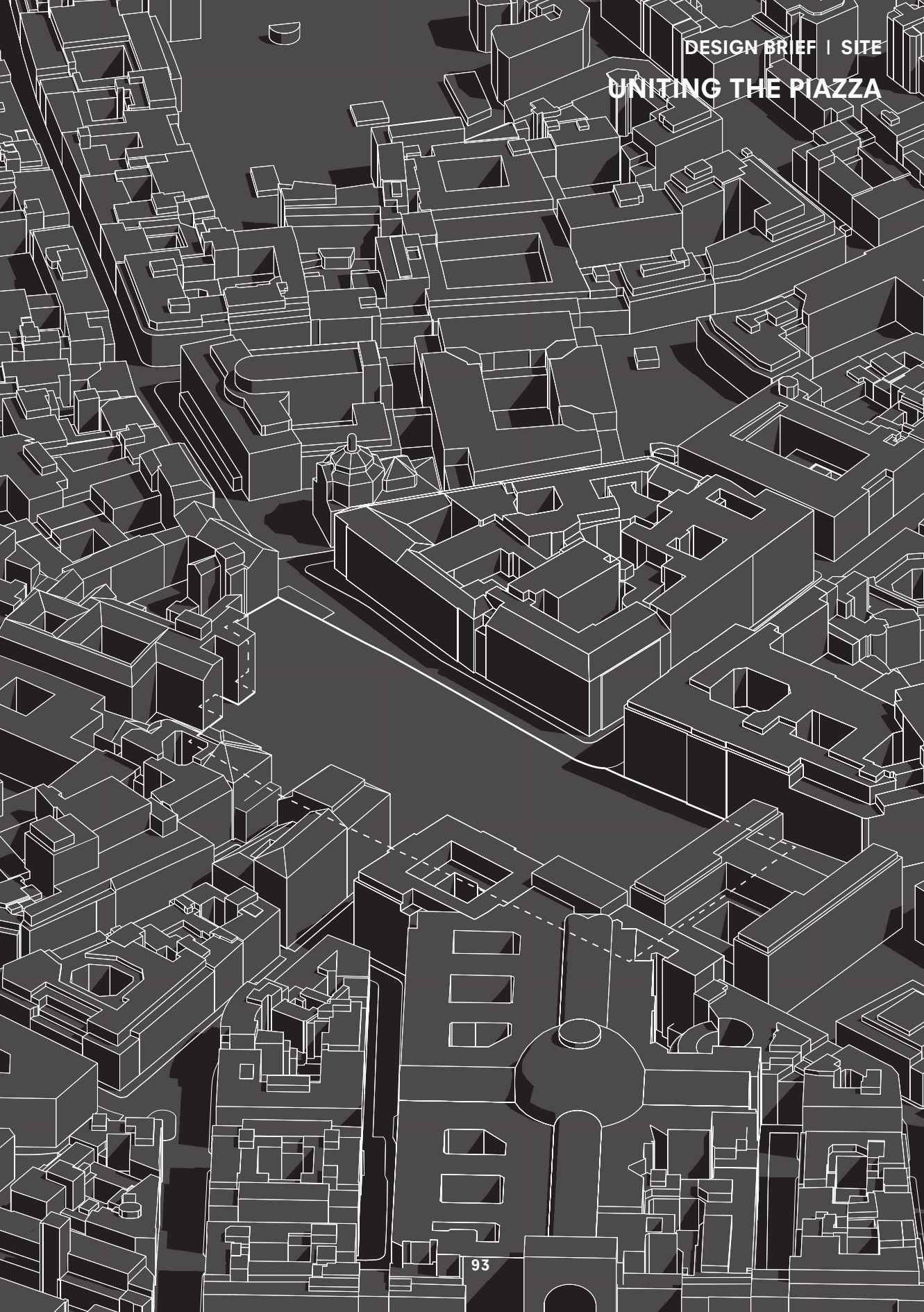
AFTER



"The network of public spaces in central London between Trafalgar Square and Parliament Square is the heart of national government and, for many, the heart of London. A masterplan for the area was commissioned in 1996 by Westminster City Council and the Greater London Authority, calling for improvements in the quality of the public realm, which – although of supreme historic importance – was perceived to be unpleasant, unsafe, and dominated by traffic."

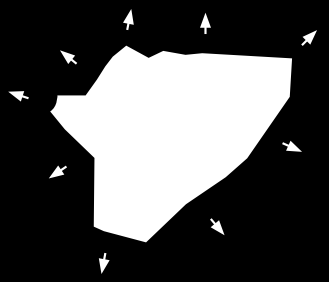
(Rossanthony, 2020)

UNITING THE PIAZZA

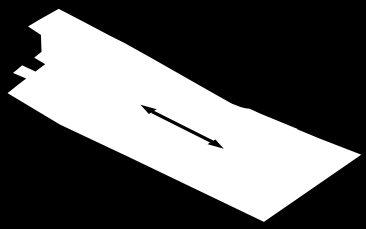


SITE AMBITION MATRIX

PEDESTRIAN ZONE EXPANSION

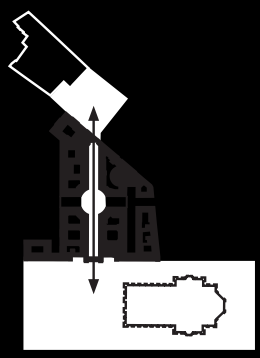


IMPROVED SAFETY & RELATION WITH PIAZZA



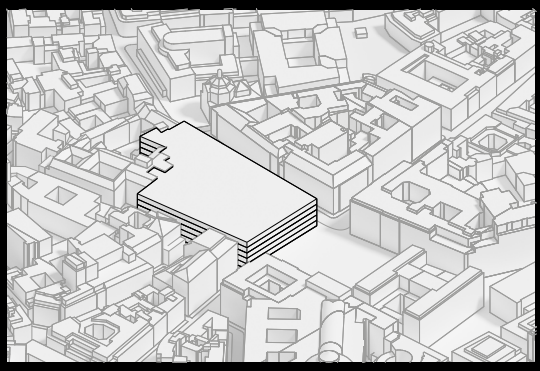
MAX. 27M FACADE FACING THE PIAZZA

STRONGER ACCESSIBILITY



SITE MASSING STUDY

ALL ABOVE THE SURFACE

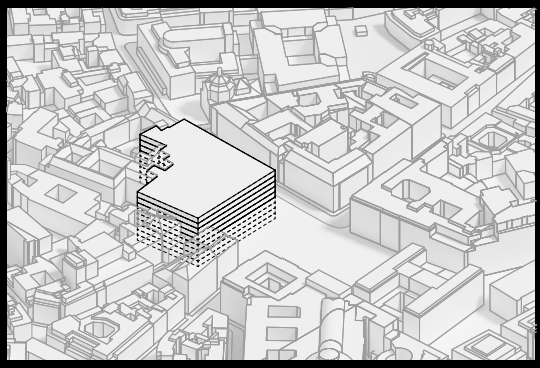


TOTAL AREA
25,000 M²

HEIGHT
20M

UNDERGROUND
2%

UNDERGROUND POTENTIAL

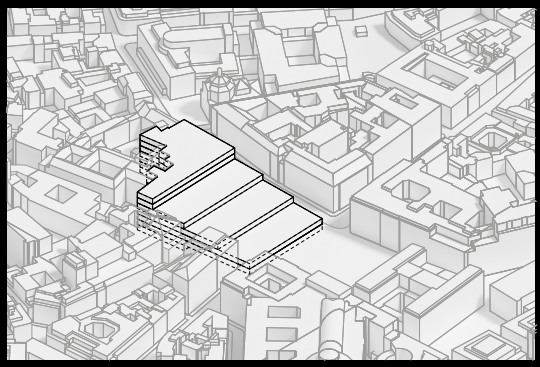


TOTAL AREA
25,000 M²

HEIGHT
20M

UNDERGROUND
45%

TERRACED



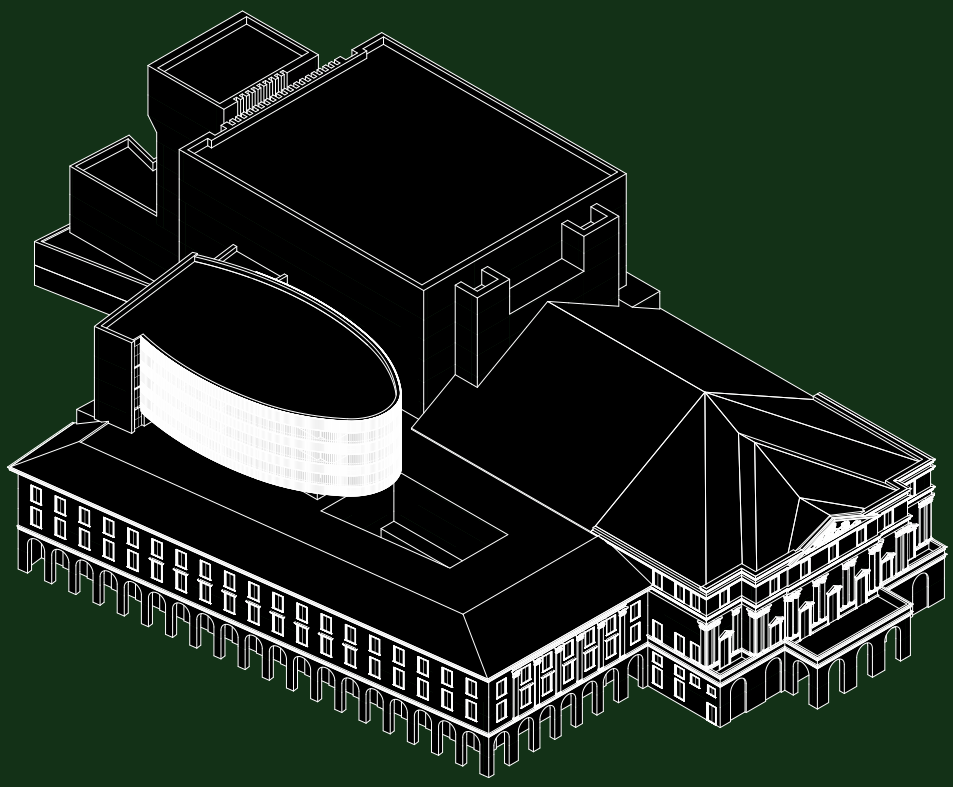
TOTAL AREA
25,000 M²

HEIGHT
20M

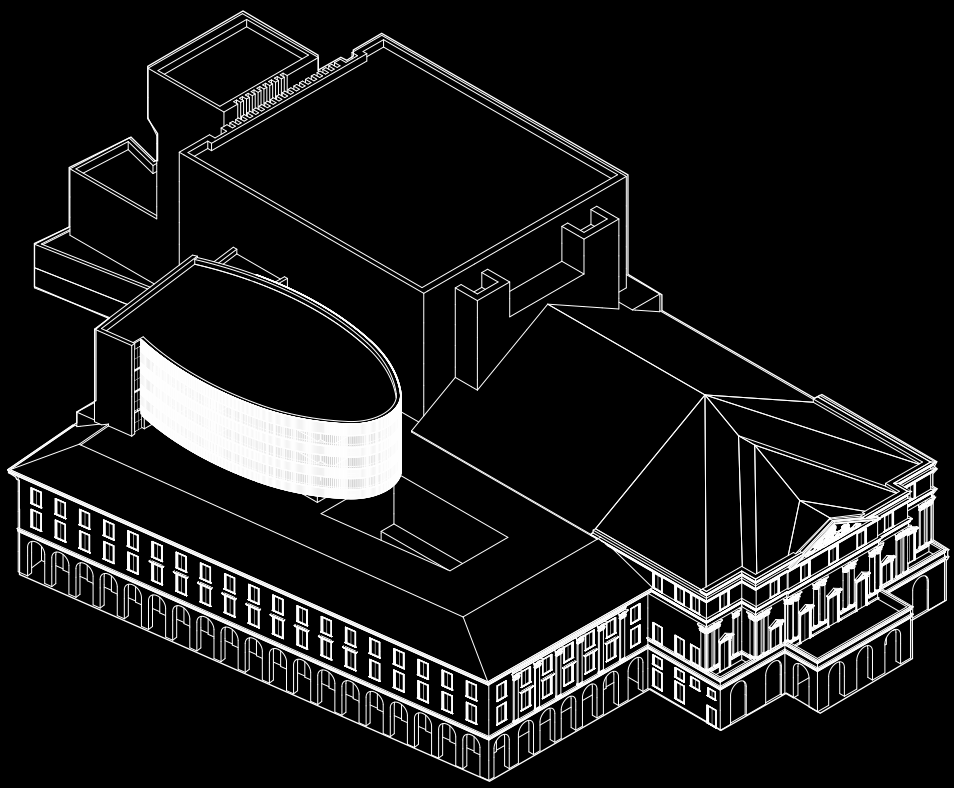
UNDERGROUND
35%

DESIGN BRIEF

PROGRAM

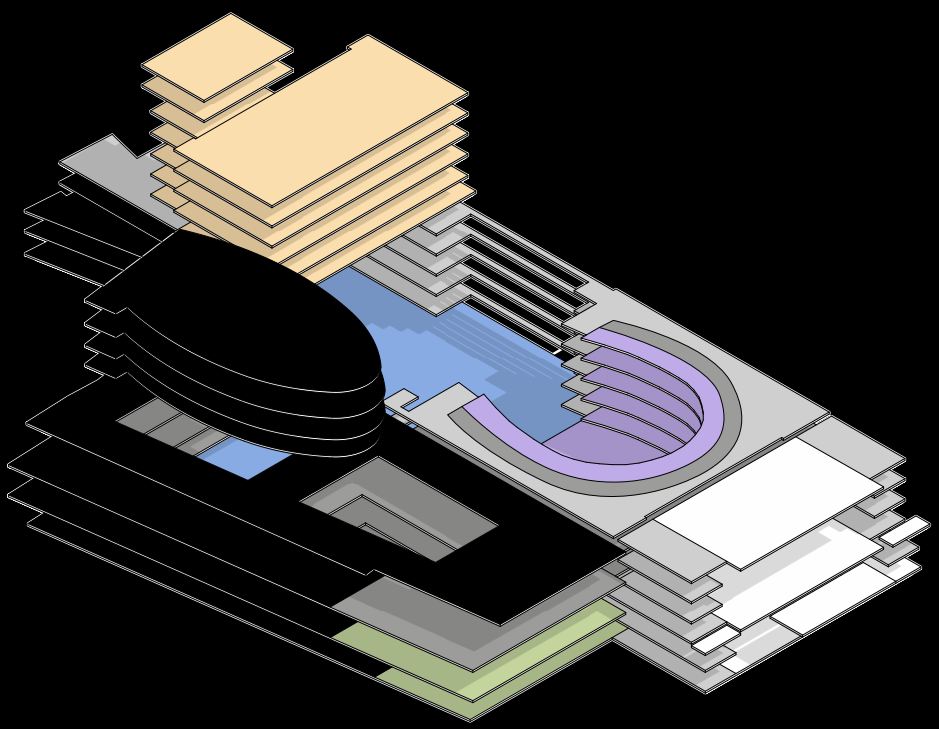


LA SCALA'S CURRENT PROGRAM



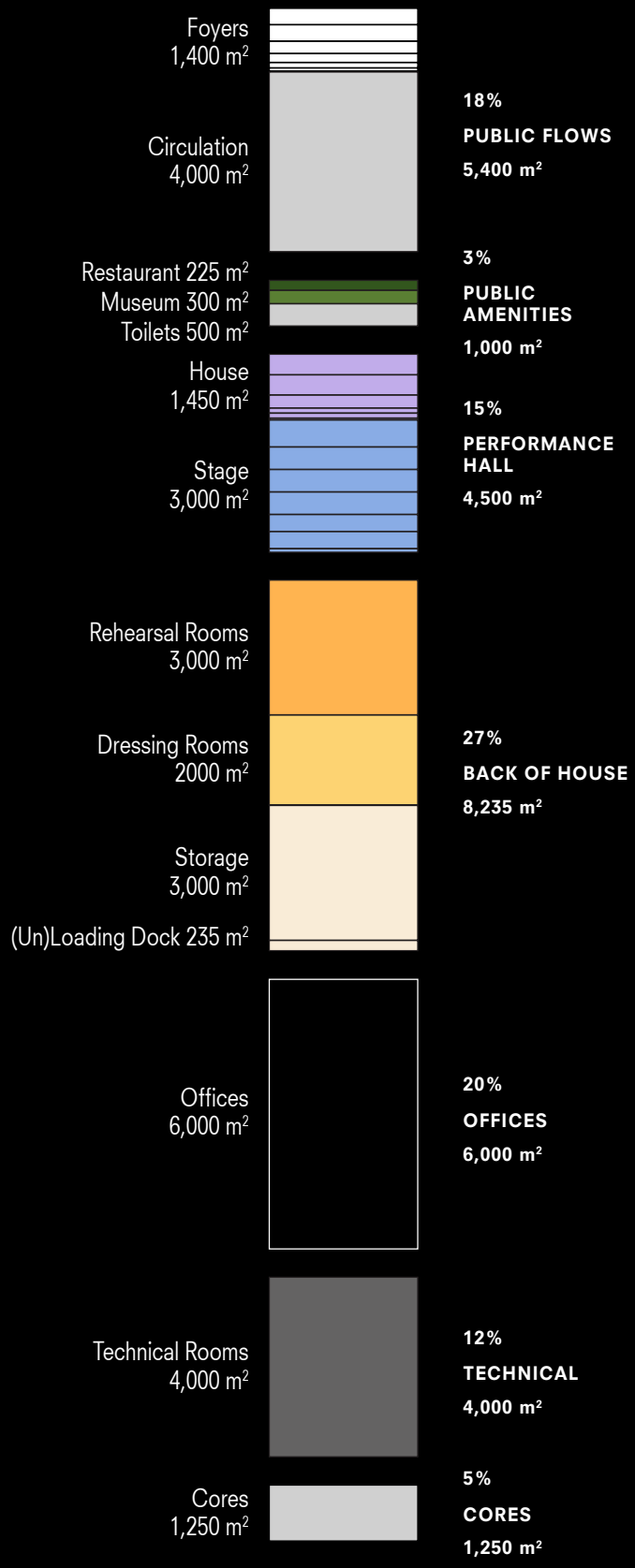
160,000 M³

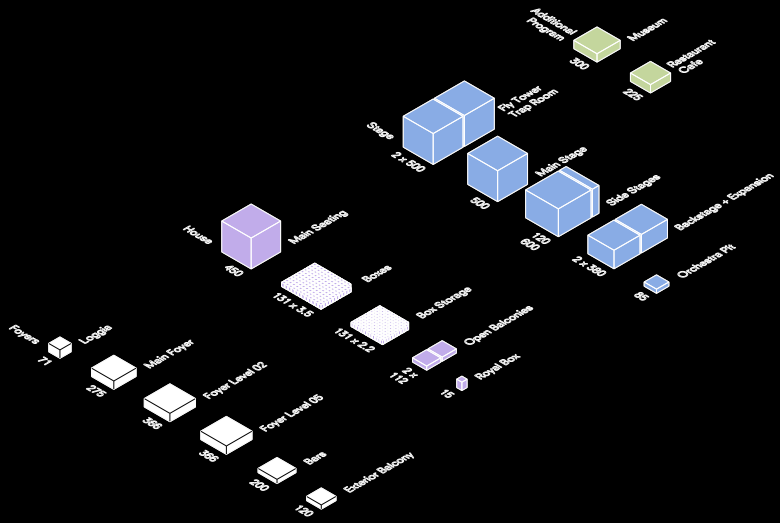
+20,000 M³ UNDERGROUND

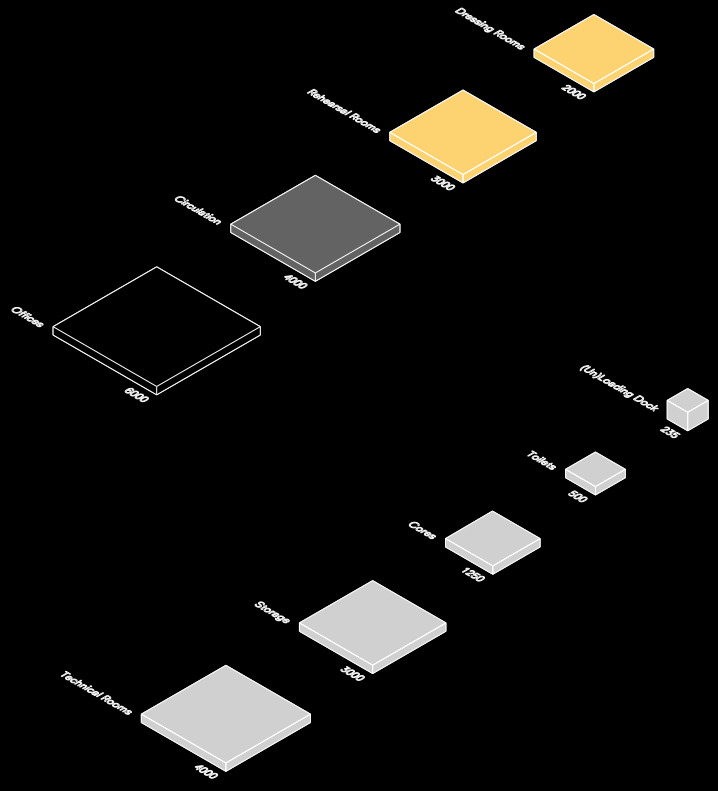


30,000 M²

- Foyers
- House
- Stage
- Museum & Cafe
- Back-of-House
- Offices
- Circulation
- Others


Foyers
1,400 m²
Circulation
4,000 m²
18%
PUBLIC FLOWS
5,400 m²
Restaurant 225 m²
Museum 300 m²
Toilets 500 m²
3%
PUBLIC
AMENITIES
1,000 m²
House
1,450 m²
Stage
3,000 m²
15%
PERFORMANCE
HALL
4,500 m²
Rehearsal Rooms
3,000 m²
Dressing Rooms
2000 m²
Storage
3,000 m²
(Un)Loading Dock 235 m²
27%
BACK OF HOUSE
8,235 m²
Offices
6,000 m²
20%
OFFICES
6,000 m²
Technical Rooms
4,000 m²
12%
TECHNICAL
4,000 m²
Cores
1,250 m²
5%
CORES
1,250 m²


Additional Program
300
Museum
Restaurant Cafe
225
Stage
2 x 500
FD Tower Trap Room
500
Main Stage
720
Side Stages
650
2 x 300
Backstage + Expansion
Orchestra Pit
98
House
450
Main Seating
1311 x 3.5
Boxes
1311 x 2.2
Box Storage
112 x
Open Balconies
15
Royal Box
Foyers
71
Loggia
275
Main Foyer
Foyer Level 02
398
Foyer Level 05
395
200
Bars
120
Exterior Balcony


Dressing Rooms
2000
Rehearsal Rooms
3000
Circulation
4000
Offices
6000
(Un)Loading Dock
235
Toilets
500
Cores
1250
Storage
3000
Technical Rooms
4000

ONLY 35% OF LA SCALA'S CURRENT PROGRAM NEEDS DAYLIGHT

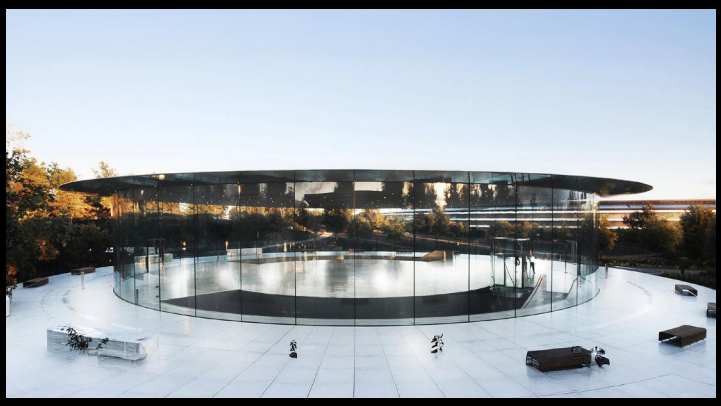
The apple store in Milan and the Steve Jobs Theatre in Cupertino both illustrate the benefits of utilising underground spaces to prioritise public area.

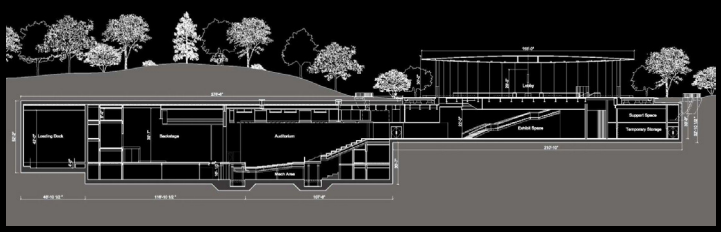
"There can be no greater honor and responsibility than to create a new public plaza in Italy, whose piazzas and urban spaces have always inspired us. The fountain is an expression of child-like excitement that speaks to each one of us. In its simplicity, it echoes the idea of walking into a big fountain without getting wet, and the joy of being alive."

Stefan Behling, Head of Studio, Foster + Partners

APPLE STORE MILAN

STEVE JOBS THEATRE





USERS

VISITORS

PERFORMERS

STAFF

700,000+ YEARLY VISITORS

250,000

MUSEUM

450,000

AUDIENCE

25,000 est.

RESTAURANT

MAIN PERFORMANCES CURRENTLY

ORCHESTRA

OPERA

BALLET

STAFF

+ 20%

185

Executive Management

Human Resources

Museo Teatro alla Scala

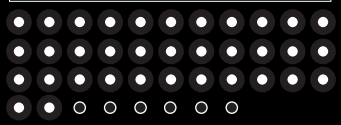
Communication Direction

Facilities, Safety and IT Direction

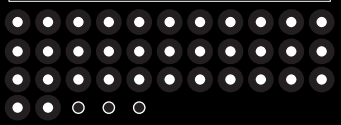
Finance, Administration and Controller Direction

Marketing Direction

Artistic Direction



Technical Direction



2100 m²

150 Workplaces

1850 m²

Conference Room

20 m²

Pantry

65 m²

Meeting Rooms

80 m²

Lounge Area

80 m²

Reception Desk

5 m²

ENGAGING THE N

EXT GENERATION

RETHINKING PERFORMANCES FOR THE NEXT GENERATION

"During the first two decades of the century (1800 - 1820) ***a secondary singer*** *might also demand his or her moment in the sun,* ***a so-called aria di sorbetto****"*

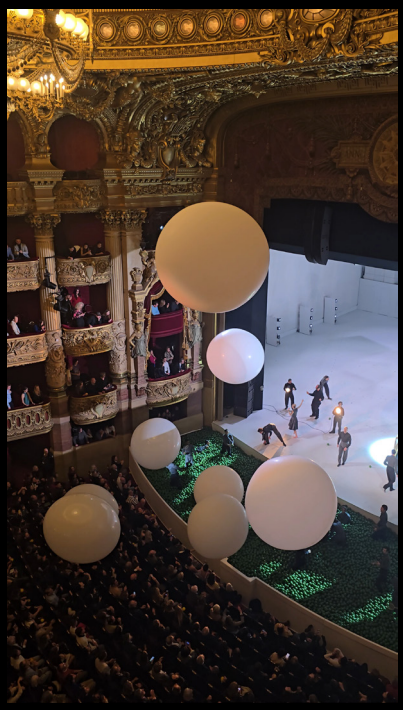
"The name **aria di sorbetto** reflects the practice of **buying and consuming ices** during **short arias sung by secondary characters**."

(Gossett, 2007)

EXPERIMENTAL PERFORMANCES

1 hour 30 minutes

BREAKING THE FOURTH WALL



PLAY

Alexander Ekman

1 hour 30 minutes

AI BALLET

PULSE

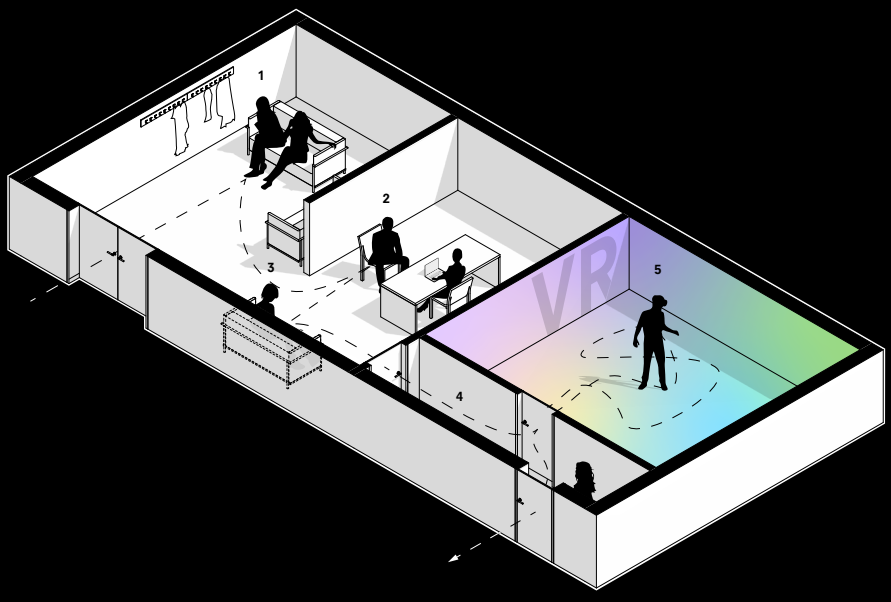
Innovation:Lab

30 minutes

VR OPERA

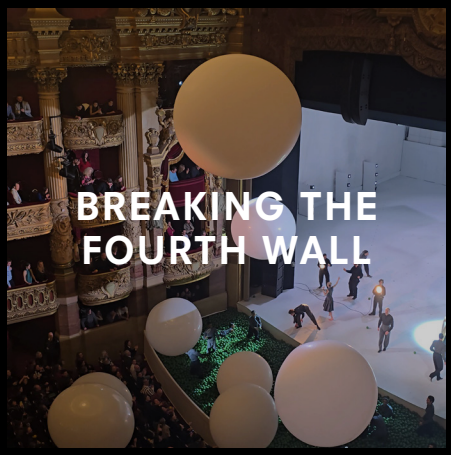
FROM DUST

Michel van der Aa



1. Waiting Room
2. Personalisation
3. Second Waiting Room
4. VR Instructions
5. VR Experience

YOUTH ENGAGEMENT MATRIX



EXPERIMENTAL

COLLABORATIONS
& SPECIAL EVENTS

A NEW COMPLEX FOR TEATRO ALLA SCALA

Workshops for the making of stage sets, props, atrezzos and costumes

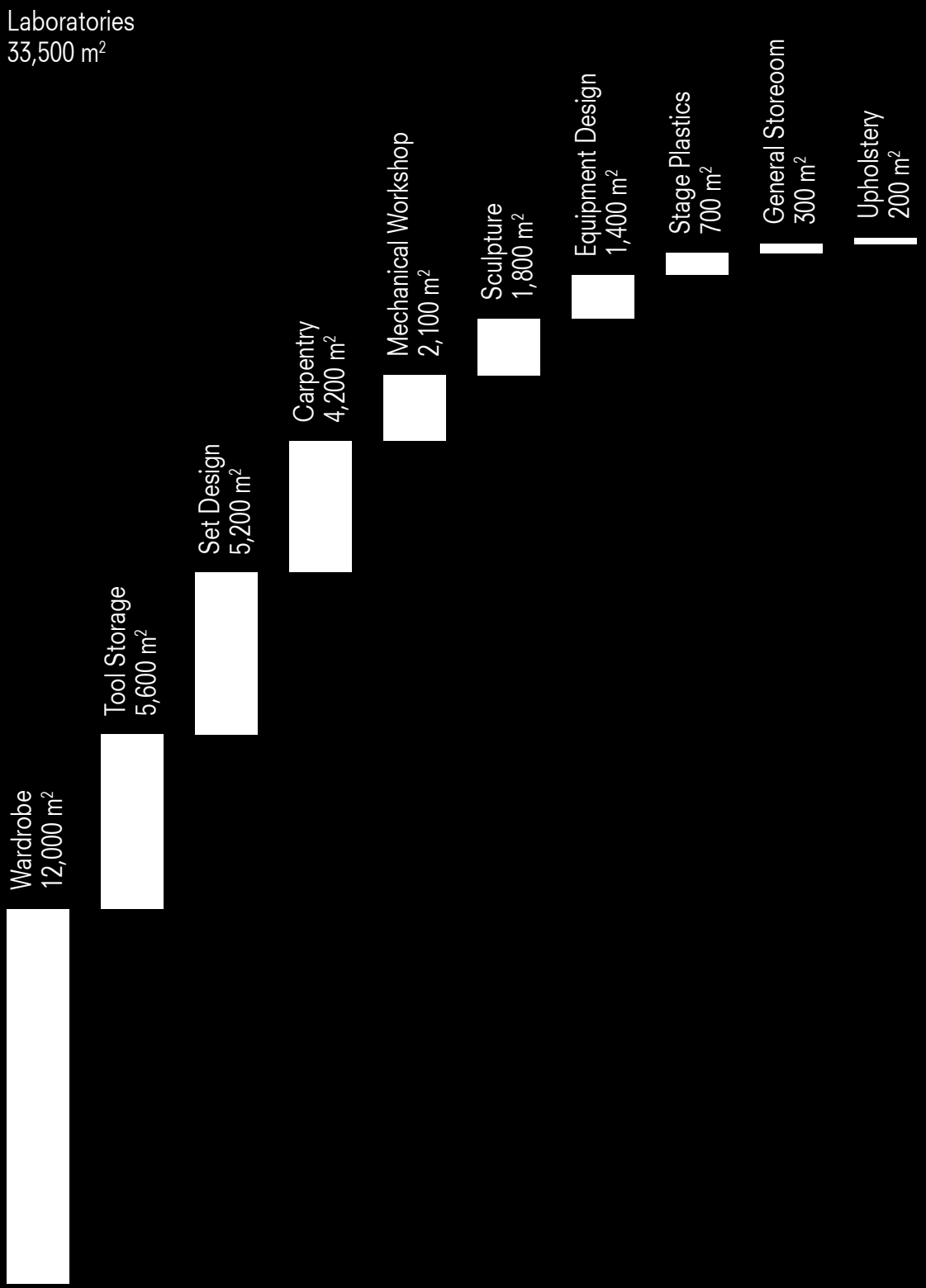
New cultural, artistic, and production hub, bringing together all stages of the creative process, from design to production, while drawing the citizens closer to the theatre world.

66,540m^2

POSSIBILITY TO EXCHANGE PROGRAM

+3,900 M² OFFICE
-1,000 M² WORKSHOP

MAGNIFICA FABBRICA



Rehearsal and multifunctional rooms
9,300 m²
-1,000 m²

- Multifunctional Room 4,000 m²
- Direction Rehearsal 3,750 m²
- Choir Rehearsal 900 m²
- Orchestra Rehearsal 660 m²

Warehouses
4,000 m²

- Container Area 2,500 m²
- Loose Material Area 1,000 m²
- Sorting Area 500 m²

Technical Rooms
200 m²

Offices and Services
5,500 m²
+ 3,900 m²

- Entrance Hall with Concierge 1000 m²
- Canteen with Kitchen 700 m²
- Bar and Diner 600 m²
- Changing Rooms for Choristers 600 m²
- Archive 500 m²
- Changing Rooms for Orchestra Members 480 m²
- Toilets 400 m²
- Dressing Rooms 360 m²
- Changing Rooms for Technical Staff 240 m²
- Individual Offices 180 m²
- Orchestra Instrument Storeroom 150 m²
- Management Offices 140 m²
- Infirmary 70 m²

Total
66,540 m²

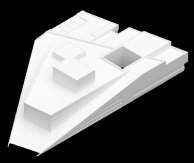
REFERENCES

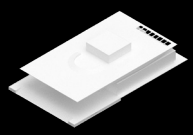
TEATRO ALLA SCALA
30,000 M²

1 HALL
2,000 SEATS

OSLO OPERA HOUSE
38,500 M²

3 HALLS
1,900 SEATS





COPENHAGEN OPERA HOUSE
41,000 M²

1 HALLS
1,700 SEATS

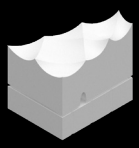
QUEEN SOFIA PALACE OF ARTS
37,000 M²

4 HALLS
4,000 SEATS

HARBIN OPERA HOUSE

79,000 M²

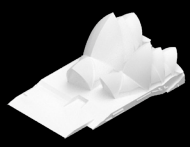
2 HALLS
2,000 SEATS



SYDNEY OPERA HOUSE

88,000 M²

6 HALLS
5,700 SEATS



ELBPHILHARMONIE HAMBURG

125,000 M²

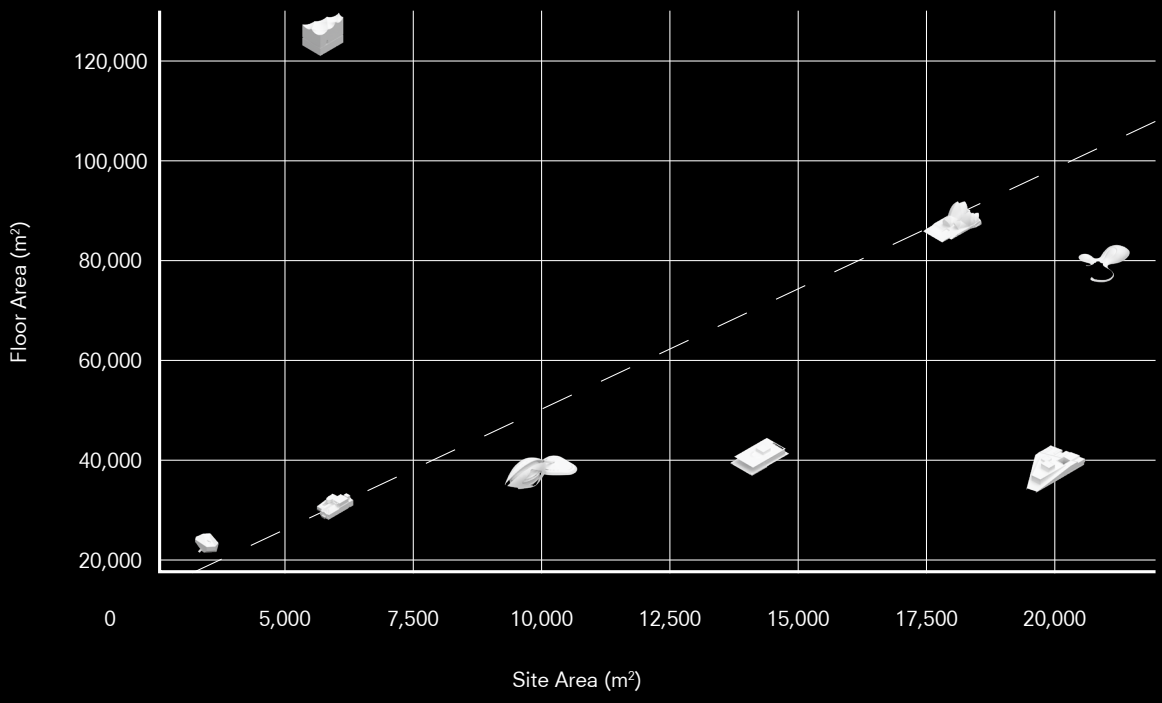
2 HALLS
2,650 SEATS

CASA DA MÚSICA

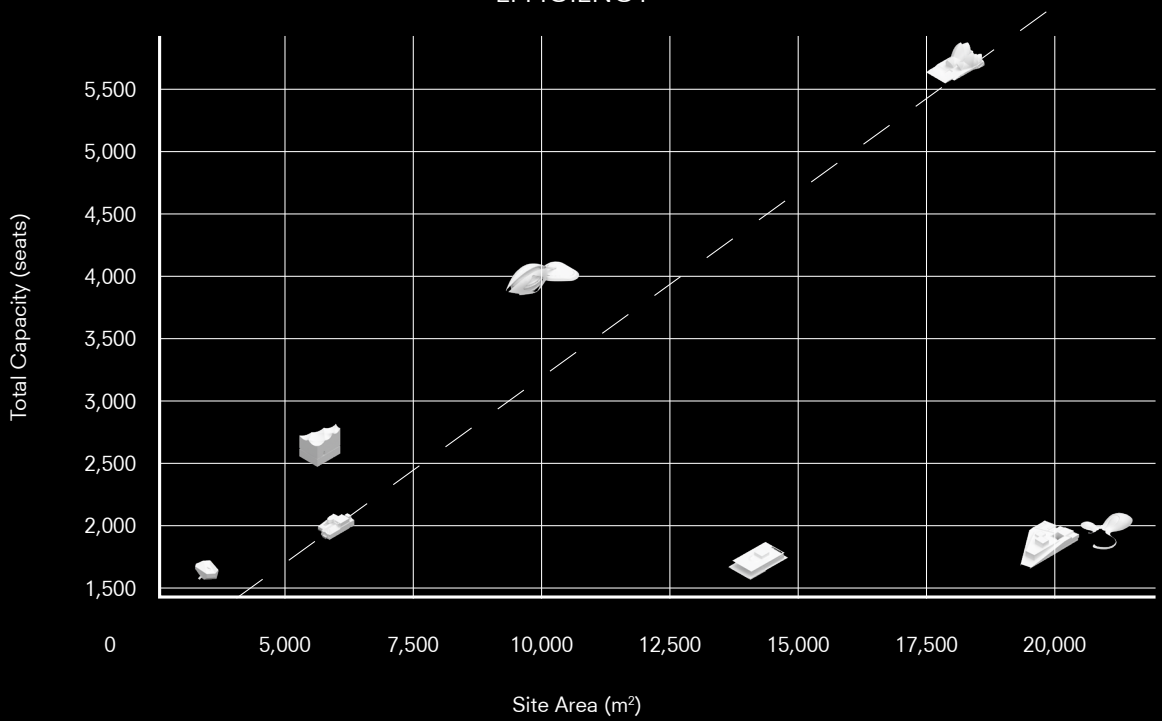
22,500 M²

2 HALLS
1,650 SEATS

FLOOR TO SITE AREA
DENSITY

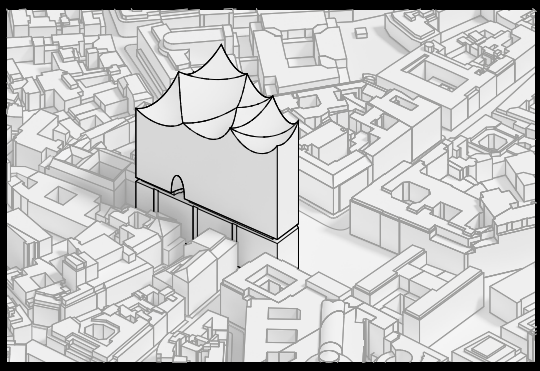


CAPACITY TO SITE AREA
EFFICIENCY



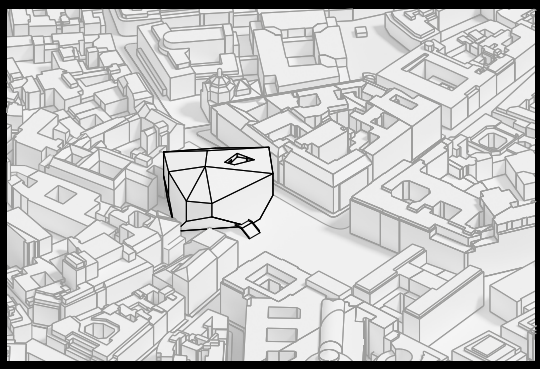
MASSING STUDY

ELBPHILHARMONIE



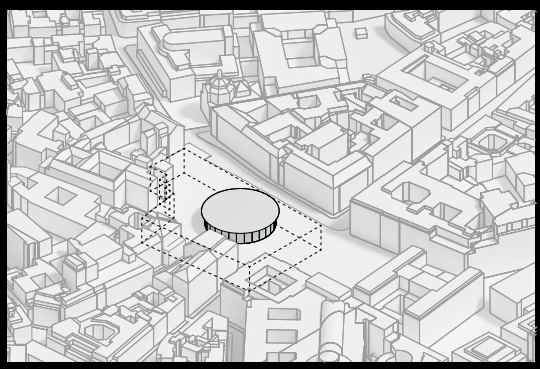
125,000 M²
2,650 SEATS

CASA DI MUSICA



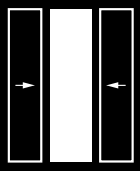
22,500 M²
1,650 SEATS

STEVE JOBS THEATRE

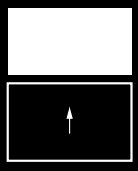


15,500 M²
1,000 SEATS

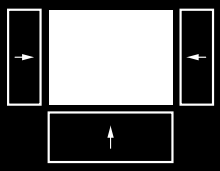
GENERAL HALL TYPES



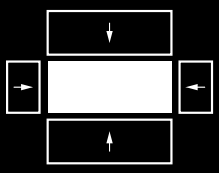
TRAVERSE



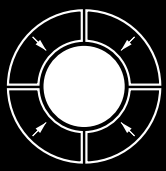
PROSCENIUM



THRUST



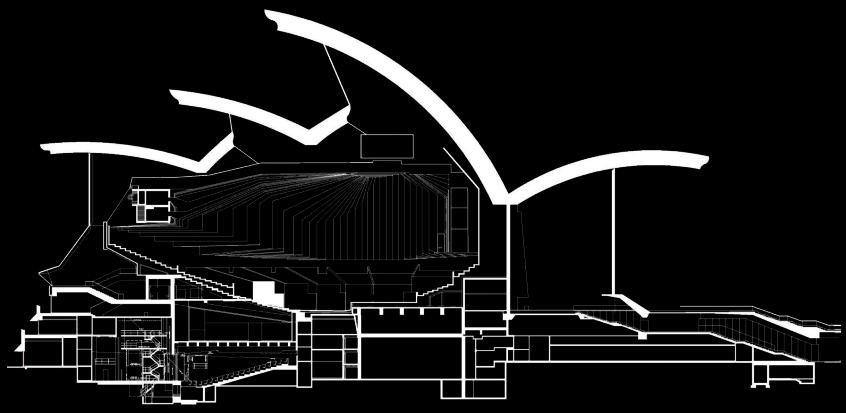
ARENA



ROUND

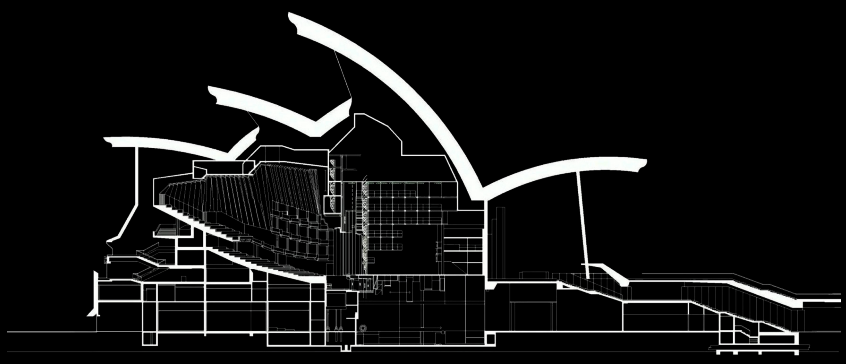
SYDNEY OPERA HOUSE

CONCERT HALL



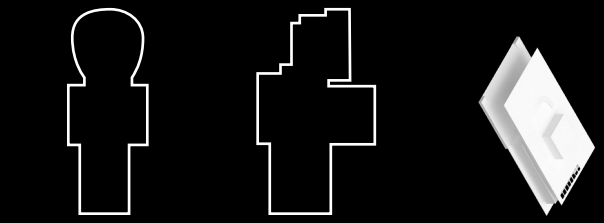
ROUND

OPERA / THEATRE HALL



PROSCENIUM

PLAN SECTION



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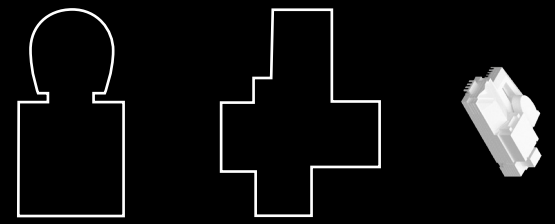
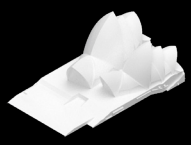
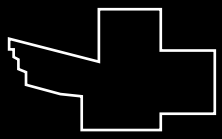
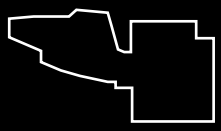
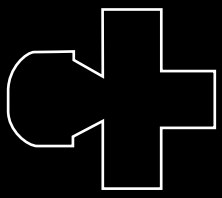
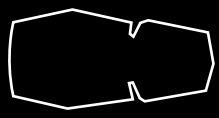
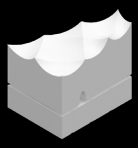
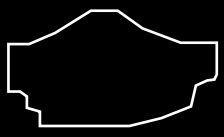
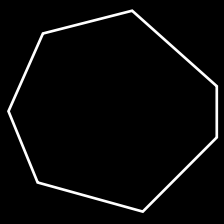


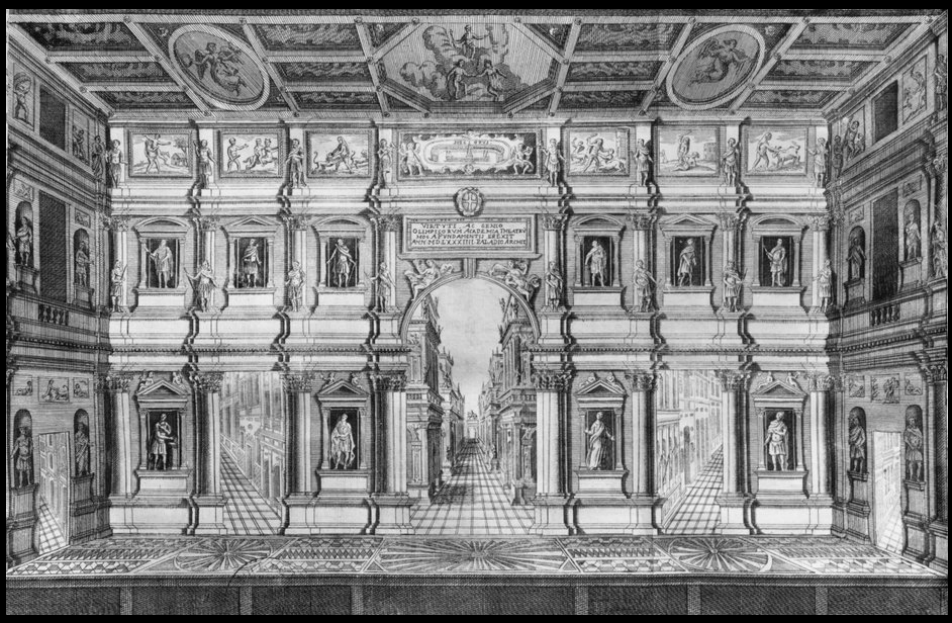









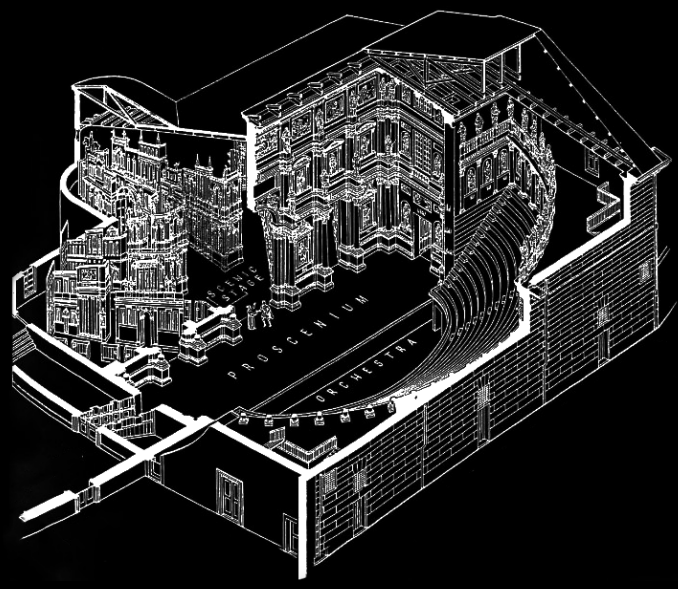


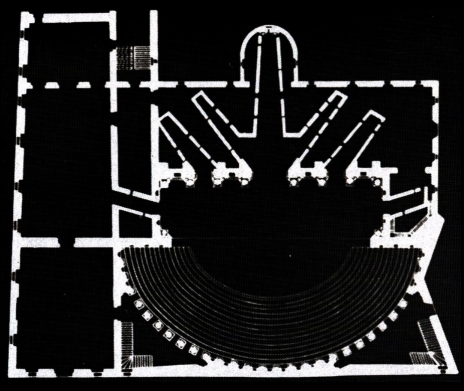
OLYMPIC THEATRE

ANDREA PALLADIO



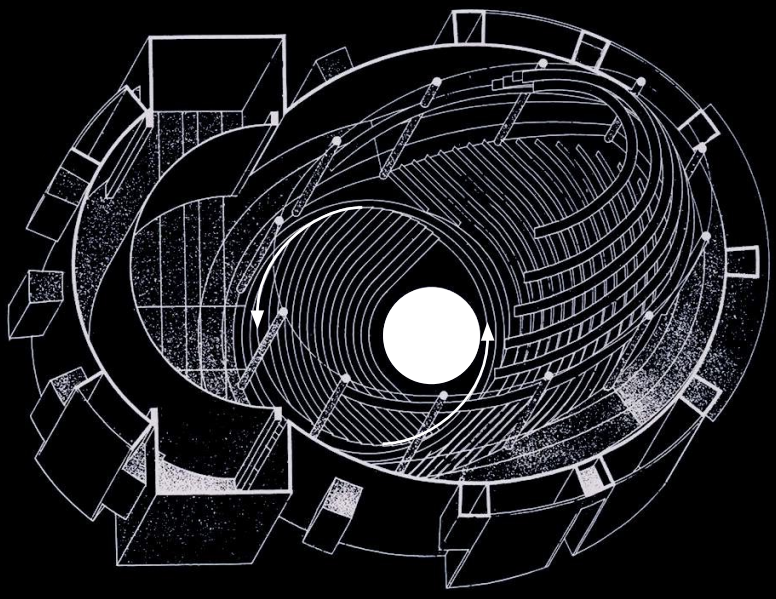
The Olympic Theatre (Teatro Olimpico), designed by Andrea Palladio and completed in 1585 by Vincenzo Scamozzi, is one of the earliest examples of a purpose-built indoor theatre. Located in Vicenza, Italy, it was Palladio's final project, blending classical Roman design with Renaissance innovation. Inspired by ancient Roman theatres, it features a semi-circular seating arrangement, Corinthian columns, and a majestic proscenium arch. Its most iconic feature is the trompe-l'œil stage scenery by Scamozzi, which creates an illusion of infinite depth with its intricate, perspective-based streetscapes. The Olympic Theatre represents the transition from temporary wooden stages to permanent performance spaces, marking a turning point in theatre architecture.


SCENIC STAGE
PROSCENIUM
ORCHESTRA

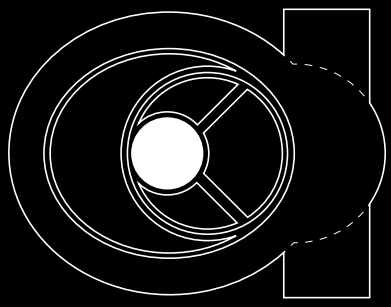


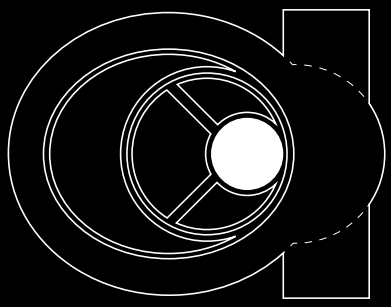
OLYMPIC THEATRE

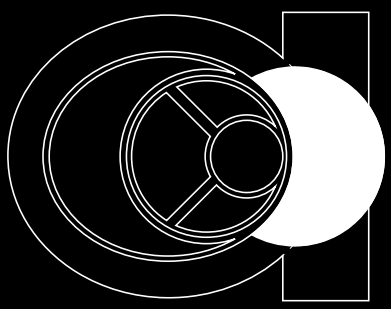
WALTER GROPIUS



The Total Theatre, conceived by Walter Gropius in collaboration with avant-garde theatre director Erwin Piscator in the late 1920s, was a visionary project that redefined theatre architecture. Though never built, its design was groundbreaking, featuring a circular, adaptable auditorium with rotating stages and seating. This flexibility allowed for seamless transformations between traditional proscenium staging, in-the-round performances, and immersive audience-performer interactions. Gropius envisioned the Total Theatre as a "machine for performance," integrating modernist principles with emerging technologies to dissolve the boundaries between actors and audiences. It embodied the Bauhaus philosophy of uniting form and function, influencing the evolution of experimental performance spaces throughout the 20th century.





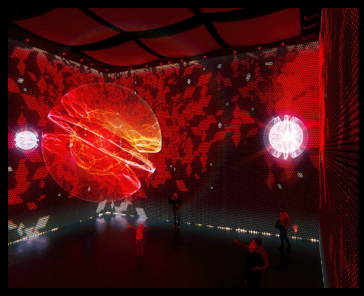


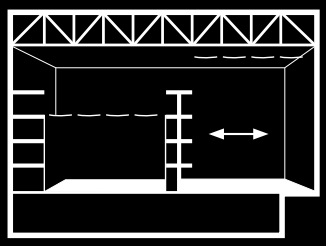
LINDEMANN PERFORMING ARTS CENTER

REX

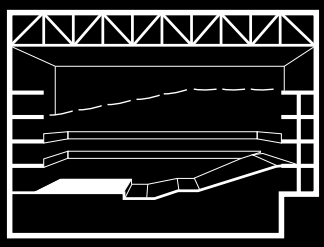
The Lindemann Performing Arts Center at Brown University, designed by REX and opened in 2023, is a venue that redefines flexibility in performance spaces. Its centerpiece is the transformative theatre, a highly adaptable hall that can seamlessly reconfigure into multiple formats. This versatility is enabled by advanced movable seating, modular stage platforms, and movable acoustic systems.

By combining multiple venue functions into a single, dynamic space, the Lindemann Center eliminates the need for specialized theaters, offering a more inclusive and innovative environment for both traditional and experimental performances.

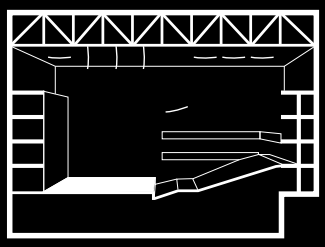




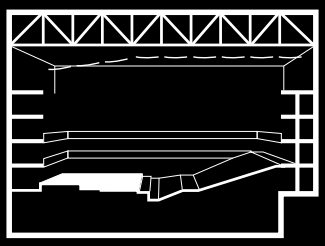
EXPERIMENTAL



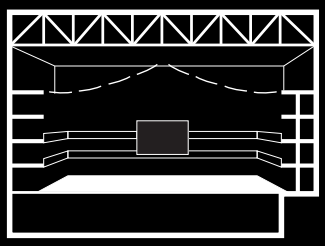
RECITAL



END STAGE



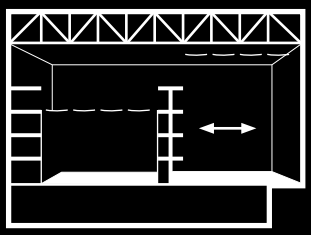
ORCHESTRA



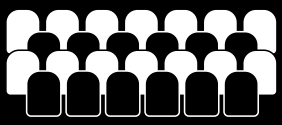
FLAT FLOOR

HALL CONCLUSIONS

1 LARGE FLEXIBLE HALL

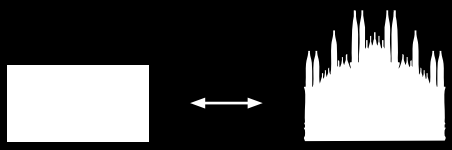


500 - 2000 SEATS

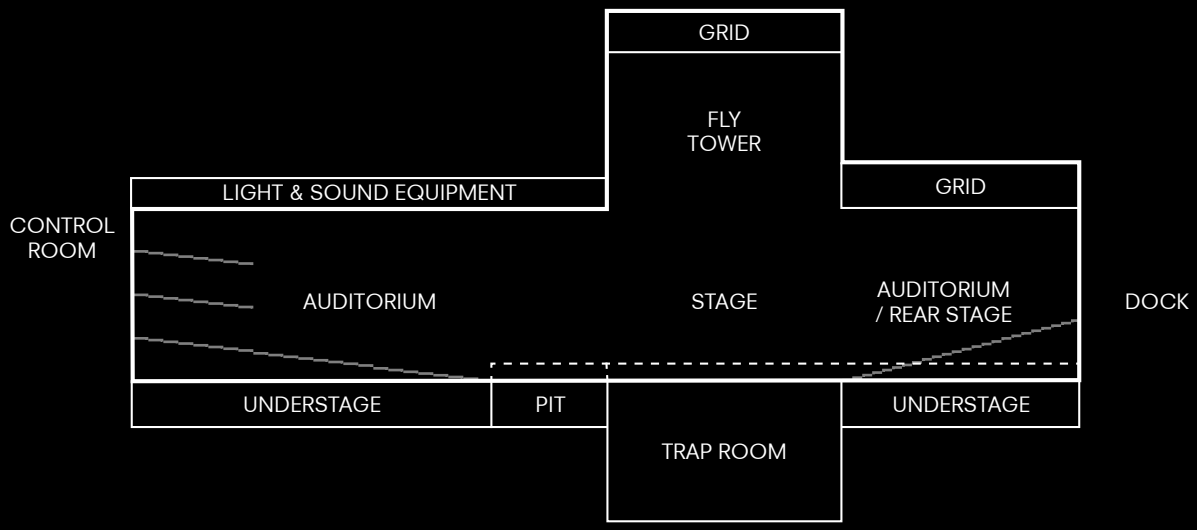


EXPERIMENTAL PERFORMANCE

RELATION TO THE CITY



TECHNICAL DETAILS - FLEXIBLE HALL



STAGE	**10-12m**
FLY TOWER	**12m**
TRAP ROOM	**9m**
GRID	**3m**
ORCHESTRA PIT	**3m**
UNDERSTATE	**3m**
L&S EQUIPMENT	**2m**

(Theatre Projects Consultants, 2023)

UOVO REGIO DUCAL TEATRO ALLA SCALA

REGIO TEATRO ALLA SCALA

TEATRO DELLA SCALA

TEATRO ALLA SCALA

LA SCALA

=

THE STAIRS

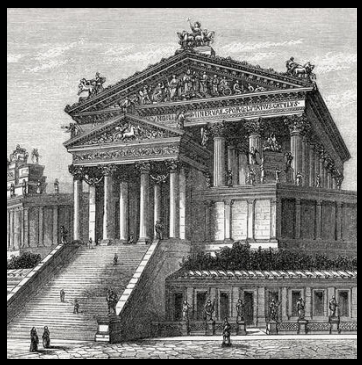
“Monumental features that orchestrated movement through space”

Mark, R. (1990), Murray, P. (1969)

2000 BCE

Ziggurat of Ur
Iraq

509 BCE



Temple of Jupiter
Rome

447 BCE

The Parthenon
Athens

STAIRS EXPERIENCE

447 BCE

THE PARTHENON

ctinus and Callicrates

1558

LAURENTIAN LIBRARY

Michelangelo

XW, 2022

1875

PALAIS GAR

Charles

Archive, 1880

RNIER PARIS

Garnier

1973

SYDNEY OPERA HOUSE

Jørn Utzon

F. Ruiter, 2017

2025

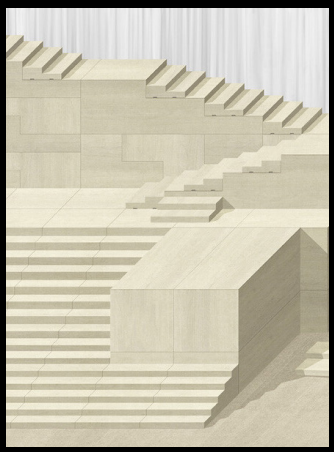
SHANGHAI OPERA HO

Snøhetta

DOGMA PLATFORMS

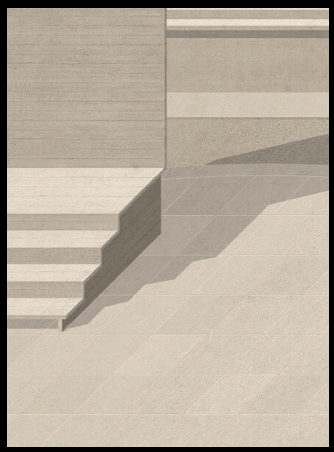
"The role of steps was to **theatrically emphasize the movement**

1912



ADOLPHE APPIA
Christoph Willibald Gluck

1947



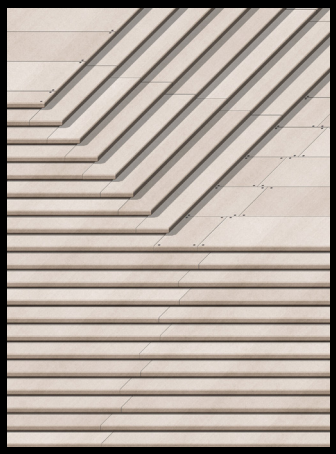
UNITÉ D'HABITATION
Le Corbusier

of people by orienting them and **providing a sense of rhythm"**

1958

SEAGRAM BUILDING
Mies van der Rohe

1973



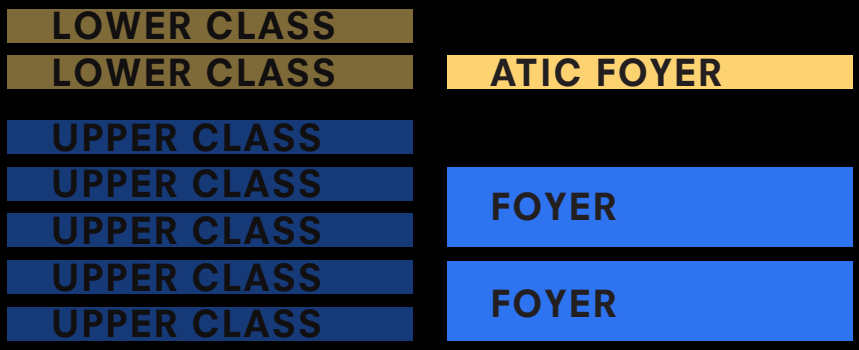
SYDNEY OPERA HOUSE
Jørn Utzon

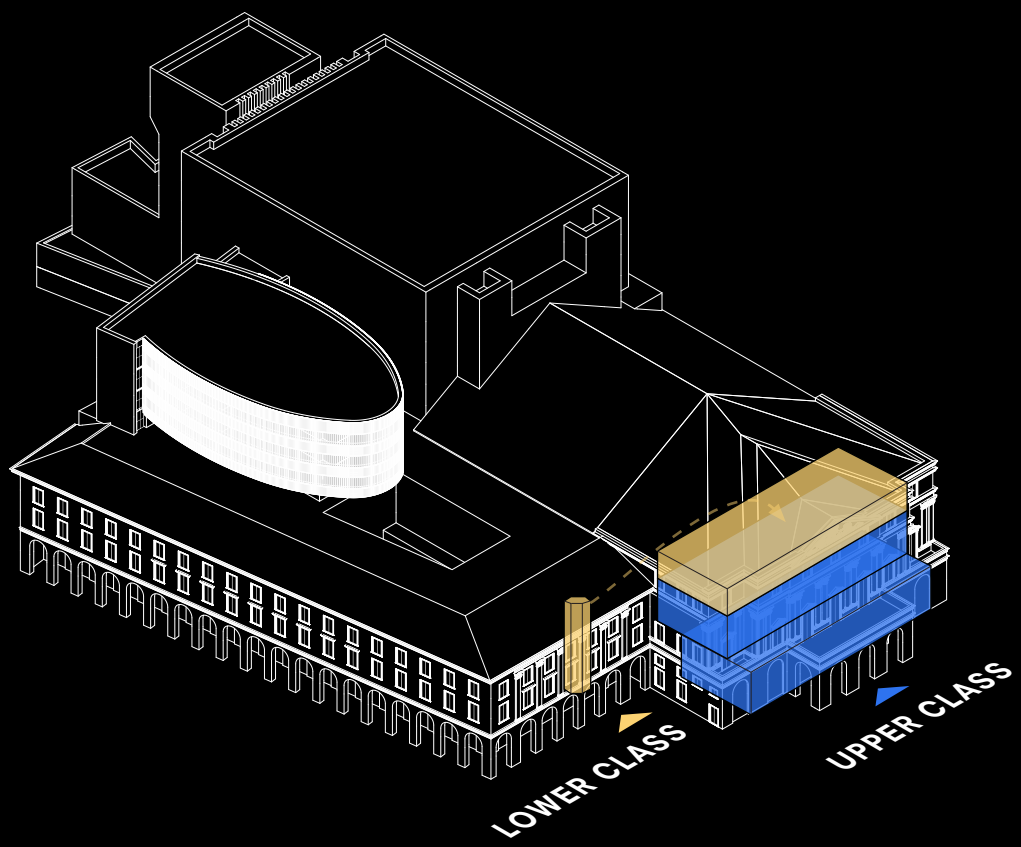
A HUGE DIVIDE

At Teatro alla Scala, the separation of social classes is meticulously orchestrated through architectural design and spatial organization. The upper class, occupying the elegant private boxes and prime seats, enters through the grand central entrance, leading to opulent foyers adorned with lavish decor, symbolising their status and privilege. These spaces are designed for socialising and showcasing wealth before and after performances.

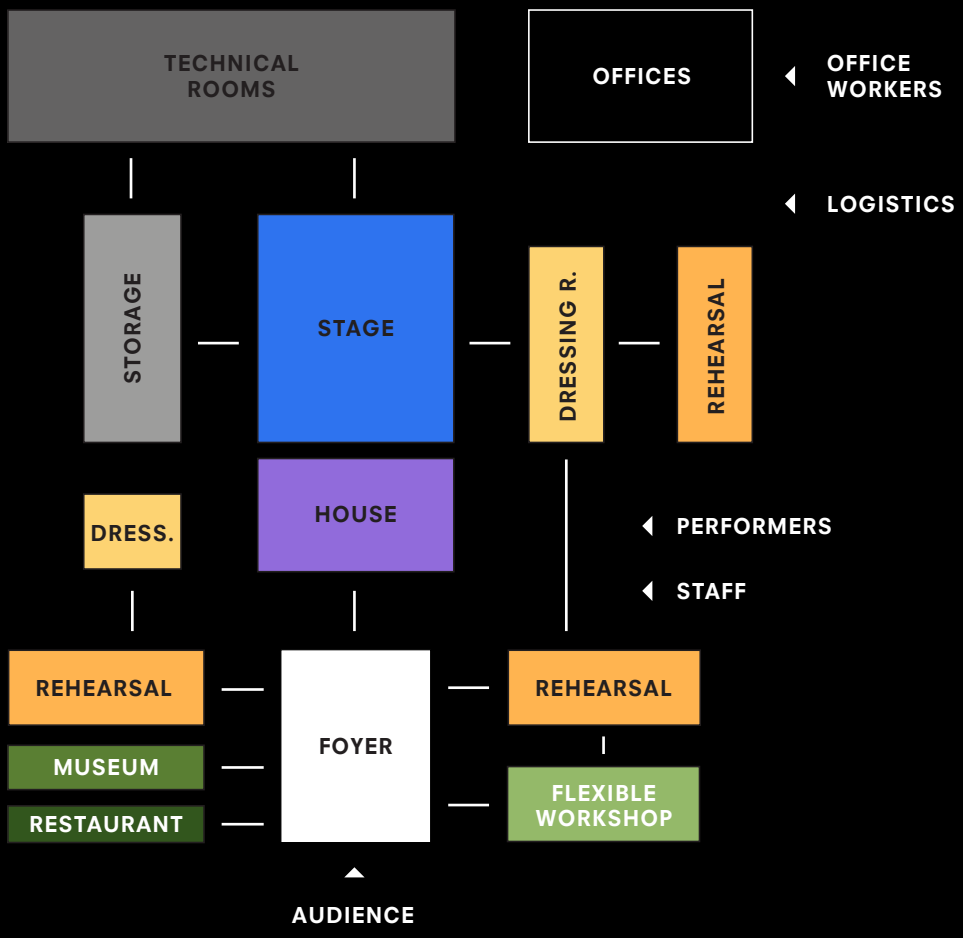
In contrast, the lower-priced tickets for the upper two balconies, often referred to as the "gallery," are accessed through a separate entrance, ensuring that the lower class audience members remain segregated. Those in the gallery have their own modest attic foyer, a functional space devoid of the grandeur of the main foyers below. This spatial hierarchy ensures that the two social classes never mix, reflecting the rigid societal structures of the time and emphasizing the theatre's role as a microcosm of social stratification.

This separation is too large and contradicting with the principles of youth attraction. The proposed design brief will therefore stimulate user groups to mix, to make all feel welcome.

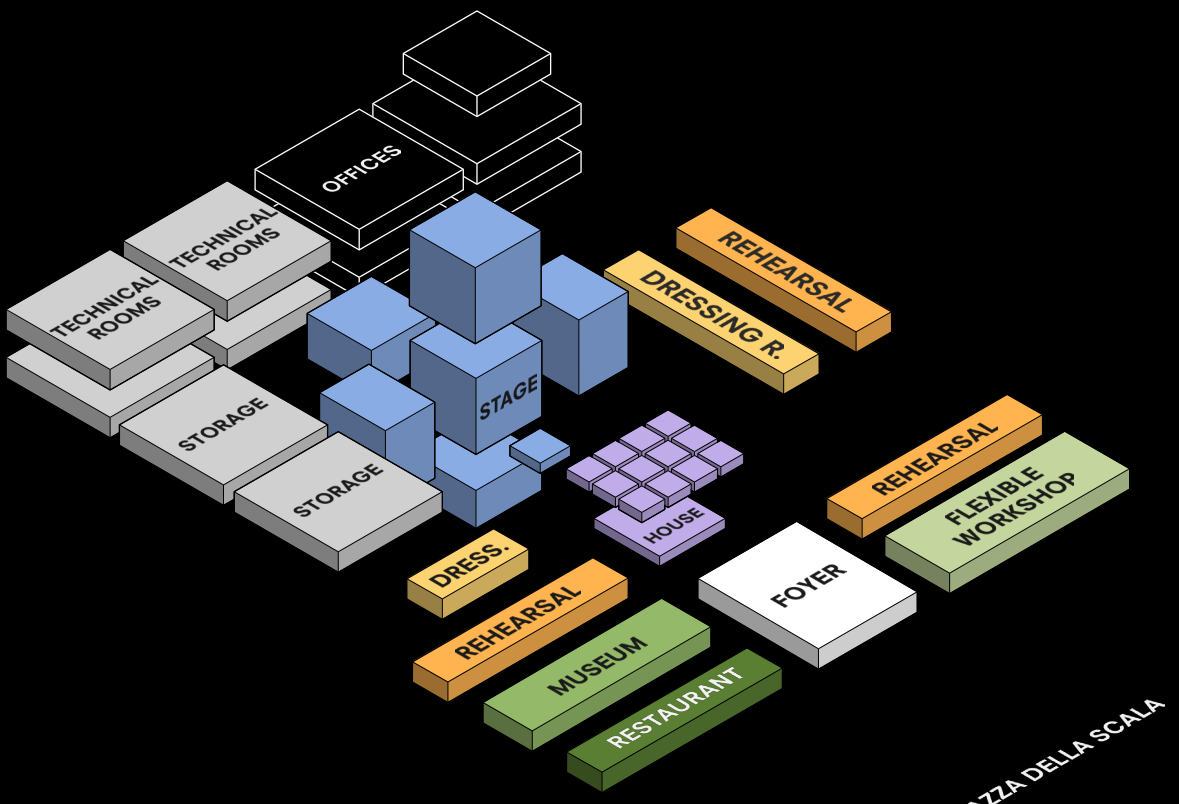


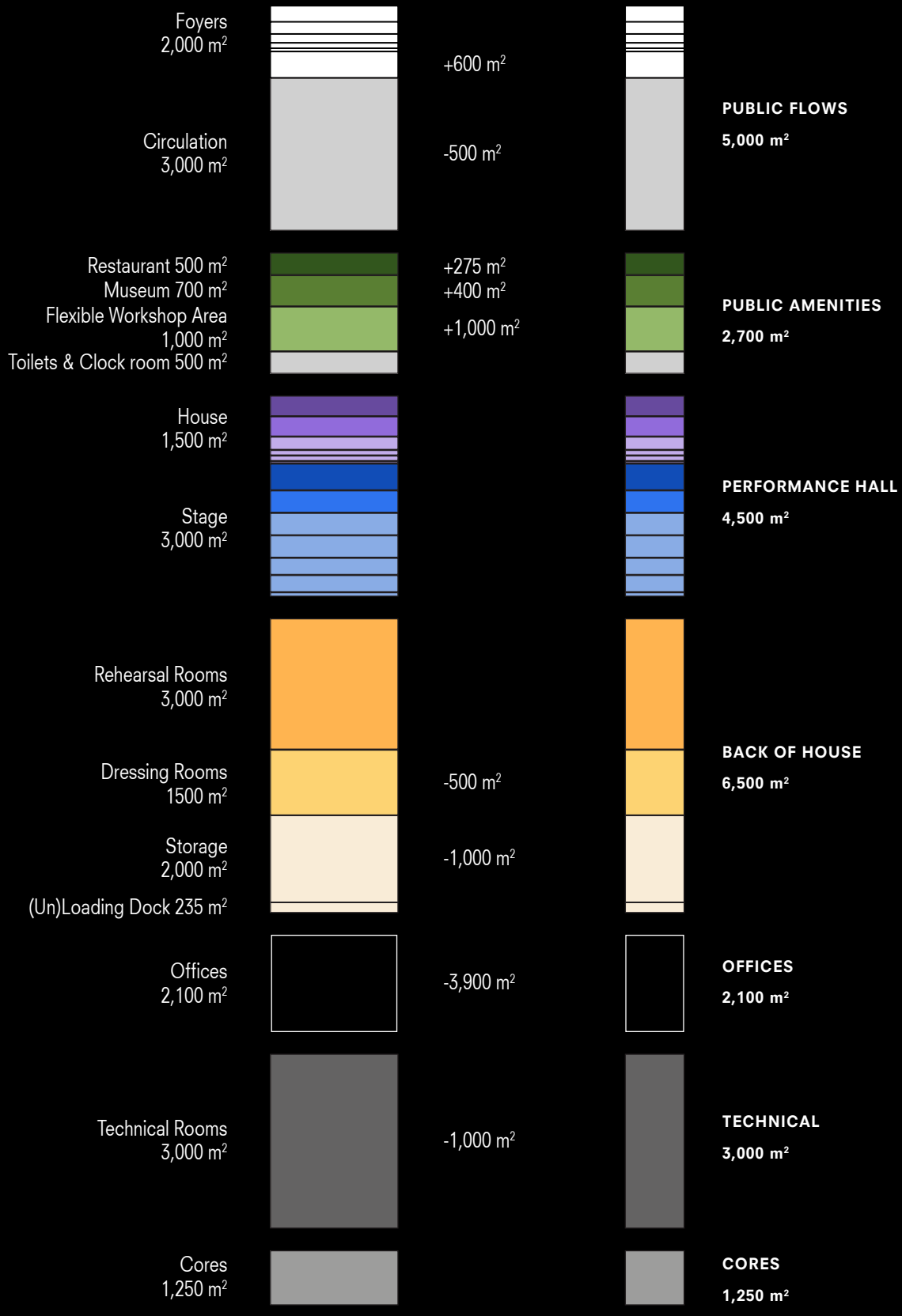

LOWER CLASS
UPPER CLASS

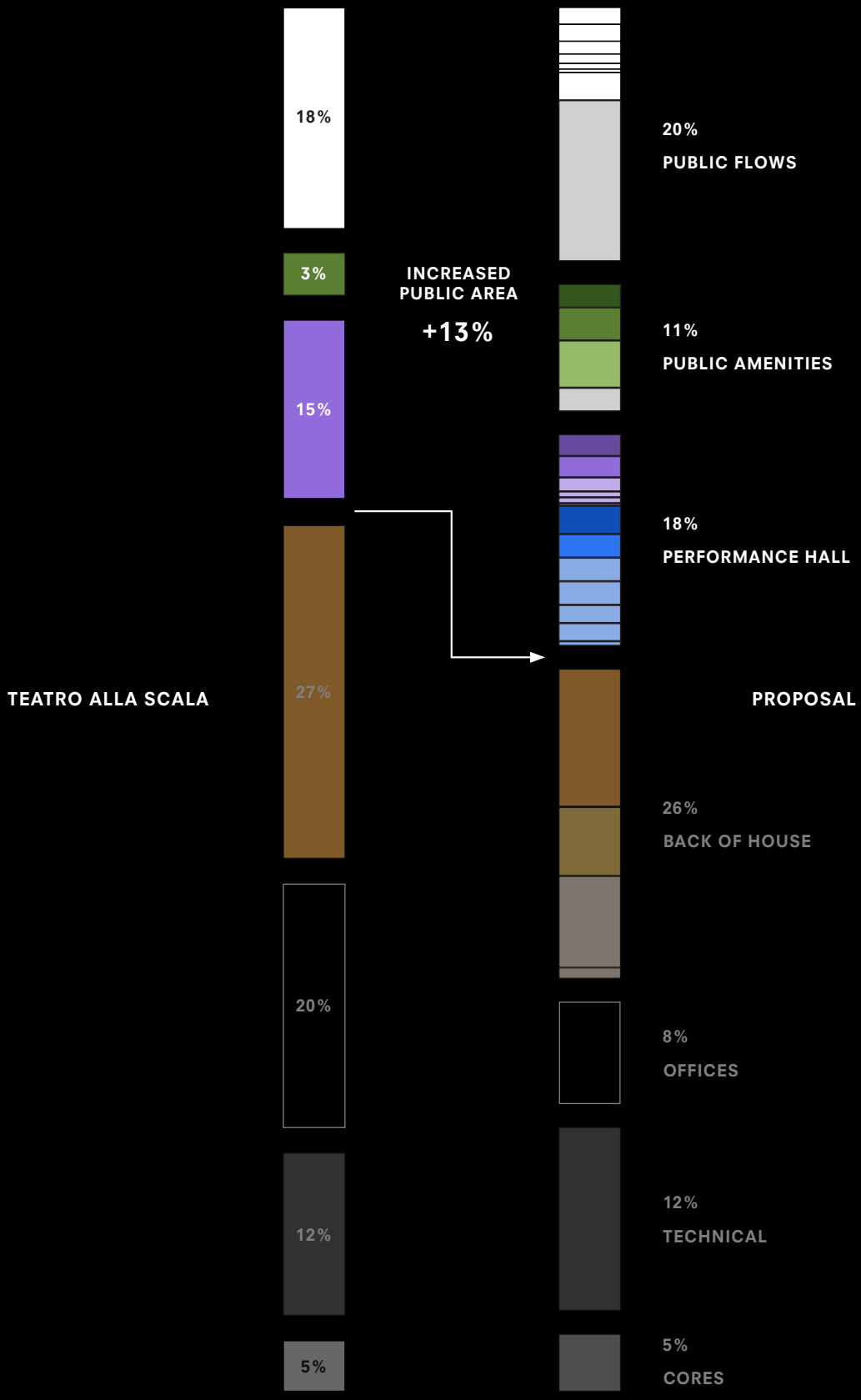
RELATION DIAGRAM



PIAZZA DELLA SCALA

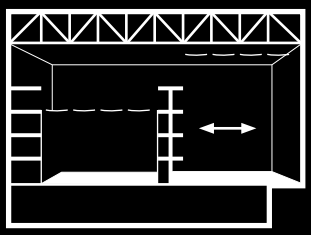

OFFICES
TECHNICAL ROOMS
TECHNICAL ROOMS
STORAGE
STORAGE
STAGE
REHEARSAL
DRESSING R.
HOUSE
DRESS.
REHEARSAL
MUSEUM
RESTAURANT
FOYER
REHEARSAL
FLEXIBLE WORKSHOP
PIAZZA DELLA SCALA


Foyers
2,000 m²
+600 m²
Circulation
3,000 m²
-500 m²
PUBLIC FLOWS
5,000 m²
Restaurant 500 m²
Museum 700 m²
Flexible Workshop Area
1,000 m²
Toilets & Clock room 500 m²
+275 m²
+400 m²
+1,000 m²
PUBLIC AMENITIES
2,700 m²
House
1,500 m²
Stage
3,000 m²
PERFORMANCE HALL
4,500 m²
Rehearsal Rooms
3,000 m²
Dressing Rooms
1500 m²
Storage
2,000 m²
(Un)Loading Dock 235 m²
-500 m²
-1,000 m²
BACK OF HOUSE
6,500 m²
Offices
2,100 m²
-3,900 m²
OFFICES
2,100 m²
Technical Rooms
3,000 m²
-1,000 m²
TECHNICAL
3,000 m²
Cores
1,250 m²
CORES
1,250 m²

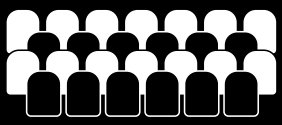

18%
3%
15%
27%
20%
12%
5%
INCREASED
PUBLIC AREA
+13%
TEATRO ALLA SCALA
PROPOSAL
20%
PUBLIC FLOWS
11%
PUBLIC AMENITIES
18%
PERFORMANCE HALL
26%
BACK OF HOUSE
8%
OFFICES
12%
TECHNICAL
5%
CORES

PROGRAM CONCLUSION

1 LARGE FLEXIBLE HALL

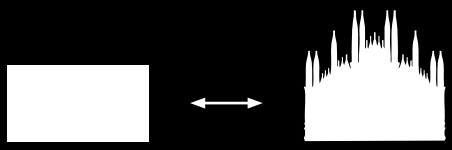


500 - 2000 SEATS

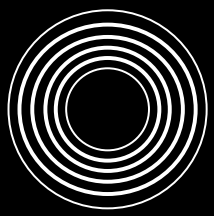


EXPERIMENTAL PERFORMANCE

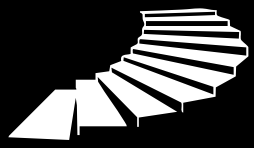
RELATION TO THE CITY



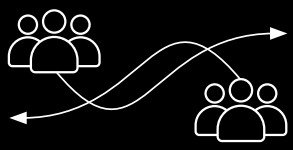
FLEXIBLE SPACE FOR MILAN'S CULTURAL EVENTS



STAIRS AS KEY ARCHITECTURAL ELEMENT



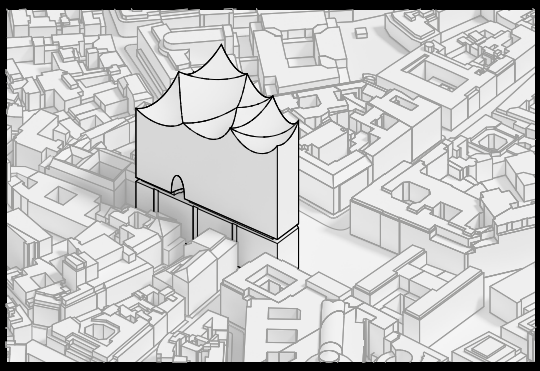
BLEND USER GROUPS AND PEOPLE FLOWS



OPTIMISING UNDERGROUND POTENTIAL

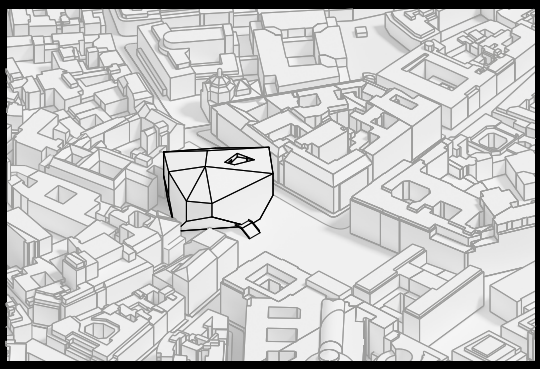
PROGRAM MASSING STUDY

ELBPHILHARMONIE



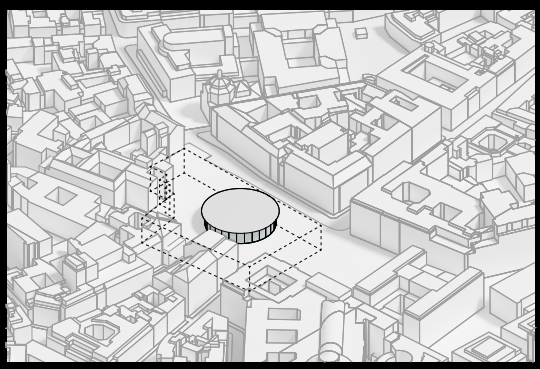
125,000 M²
2,650 SEATS

CASA DI MUSICA



22,500 M²
1,650 SEATS

STEVE JOBS THEATRE



15,500 M²
1,000 SEATS

DESIGN BRIEF

CLIENT

LA SCALA'S CLIENT

1717 - 1780

EMPRESS MARIA THERESA

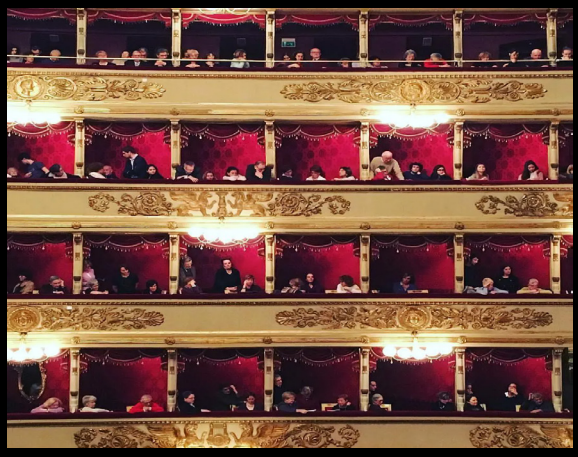
Empress of Milan

Empress Maria Theresa of Austria played a crucial role in the creation of Teatro alla Scala, as she was considered the project's client. Recognising the cultural and social importance of a new opera house after the destruction of the Teatro Regio Ducale, she facilitated the preparation of the site by approving the demolition of the Church of Santa Maria alla Scala, which gave the theatre its name. Her decisive efforts and support allowed the project to proceed fsat, enabling the architect Giuseppe Piermarini to complete the demolition of the church, the design and construction of La Scala in just two years, from 1776 to 1778.

HISTORIC FINANCIAL MODEL

1778

BOX-HOLDER MODEL



1 million Milanese lire

+ 120k Milanese lire

The construction of Teatro alla Scala was made possible through an innovative funding model involving private investors known as box-holders. Wealthy patrons financed the project by purchasing exclusive ownership of opera boxes. These investments raised a total of 1 million Milanese lire for the construction and an additional 120,000 lire to acquire the site. This model not only ensured the opera house's completion but also established it as a symbol of cultural and social prominence for Milan's elite.

Lorenzo, 1975

PROPOSED CLIENT AND PARTNERS

Comune di Milano

ROLEX

INTESA SANPAOLO

Kartell

AMBITION COMUNE DI MILANO

HIGH-QUALITY SOCIAL RELATIONSHIPS.

ACCESS TO HEALTH SERVICES.

ACCESS TO EDUCATION AND TRAINING.

OPPORTUNITIES FOR PHYSICAL ACTIVITY.

OPPORTUNITIES TO EXPRESS TALENTS AND CREATIVITY.

OPPORTUNITIES AND CAPACITY FOR SELF-DETERMINATION.

ACCESS TO QUALITY COMMON SPACES.

AMBITION ROLEX

PERPETUATING CULTURE

Inspiring humanity's heart and soul

FUTURE GENERATIONS

A fundamental belief in unlimited human potential

ENVIRONMENTAL INITIATIVES

Safeguard and preserve our planet

AMBITION INTESA SANPAOLO

BUILD A FUTURE

Fostering sustainable development in favour of the environment,
the younger generations and a truly inclusive society.

THE NEXT GENERATION

Supports children's shows, because families are part of the company's target interest

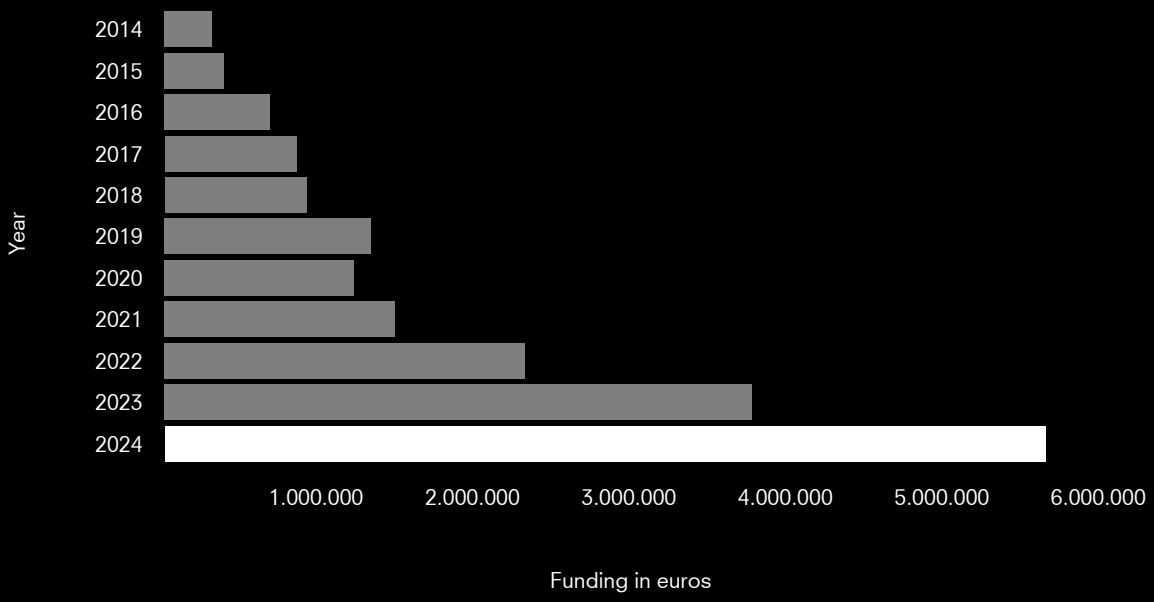
Kartell

TIMELESS ELEGANCE

CREATIVE DESIGN APPROACH

MATERIAL INNOVATION

FUNDRAISING



"Since 1991, thanks to the support of private individuals and companies, Milano per la Scala has provided the Teatro alla Scala with 23 million euros, including:

- 13 million in support of Scala's productions
- 7 million to support training
- 3 million for other initiatives and special projects"

(Milano per la Scala, 2025)

PRIVATE INVESTMENT AND GRANTS

120+ MILLION PER YEAR

Teatro alla Scala is the theatre with the second most private funds in the world

(Palma, 2024)

Creative Europe

2 MILLION FOR LARGE-SCALE PROJECTS

Foster cultural diversity, promote artistic expression, and boost the economic potential of the creative industries

(Creative Europe, 2025)

MiC MINISTERO DELLA CULTURA

CONTRIBUTED 48 MILLION TO LA SCALA IN 2023

Supports projects that safeguard cultural assets, foster artistic innovation, and stimulate economic growth through culture

(Ministero della Cultura, 2024)

ALTERNATIVE FUNDING

NAMING RIGHTS

Rolex Hall or Kartell Foyer
for example

Areas named after investing individuals

ADVERTISEMENT

200,000 season calendars
100,000 programs
+ 50 other editorial materials

Over 1,000,000 readers

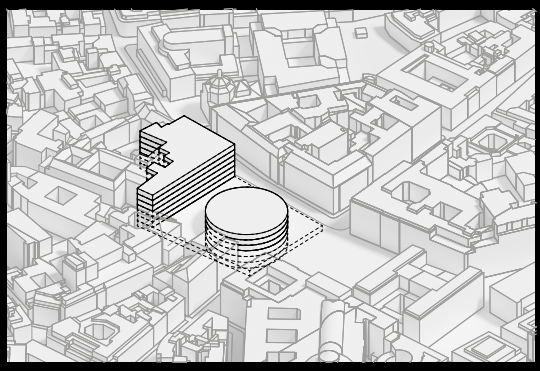
(Teatro alla Scala, 2025)

MEMBERSHIPS

Pre-sell Founding memberships
Access to content, discounts and exclusive events

CLIENT MASSING STUDY

EXPANDED PIAZZA

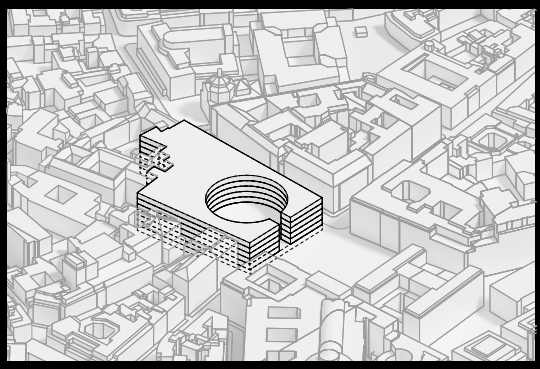


TOTAL AREA
25,000 M²

HEIGHT
24M

UNDERGROUND
35%

CIRCULAR PUBLIC COURTYARD

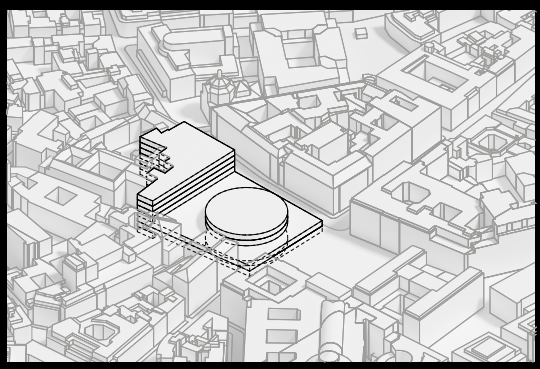


TOTAL AREA
25,000 M²

HEIGHT
20M

UNDERGROUND
30%

RAISED PIAZZA



TOTAL AREA
25,000 M²

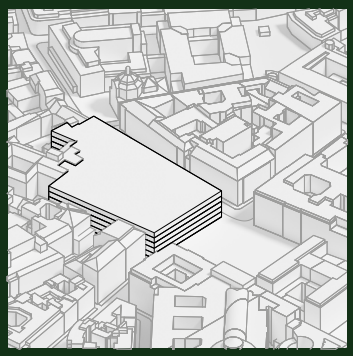
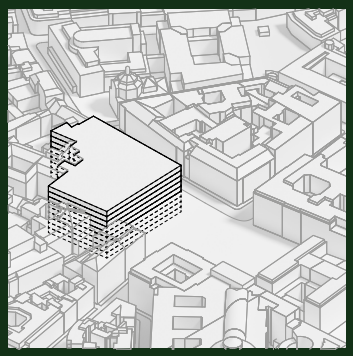
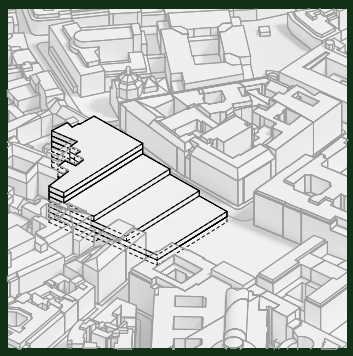
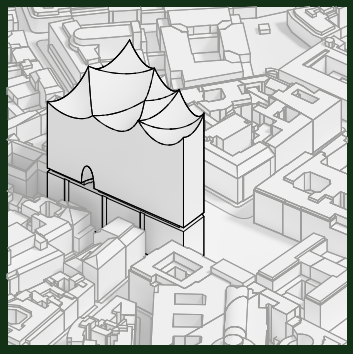
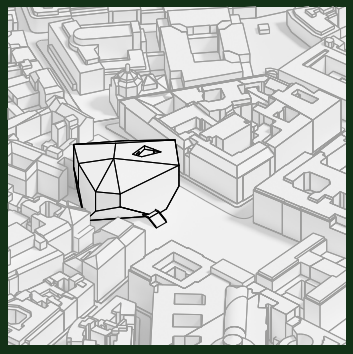
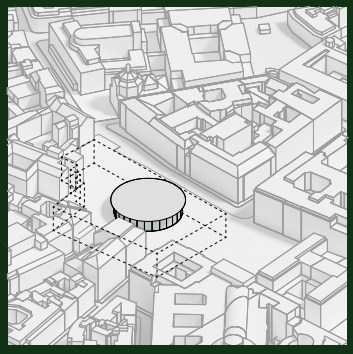
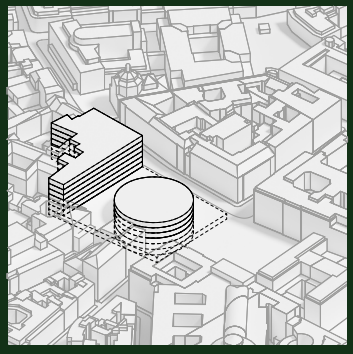
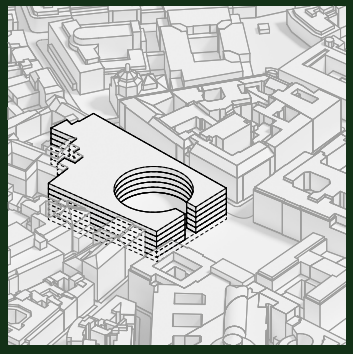
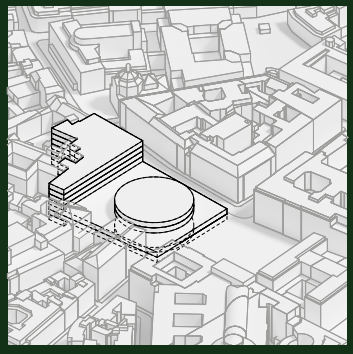
HEIGHT
24M

UNDERGROUND
30%

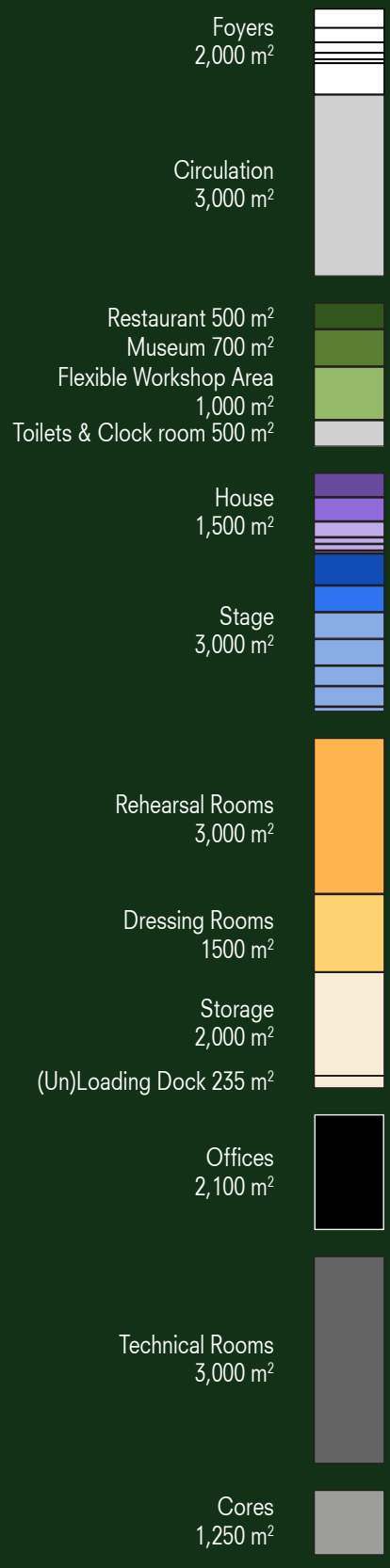
DESIGN BRIEF

CONCLUSION

MASSING MATRIX

PROPOSED PROGRAM

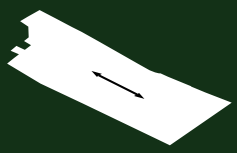


CONCLUSION MATRIX

SITE

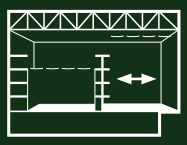
PEDESTRIAN ZONE EXPANSION

IMPROVED SAFETY & RELATION WITH PIAZZA

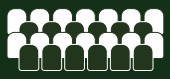


PROGRAM

FLEXIBLE HALL



500 - 2000 SEATS



FLEXIBLE SPACE FOR MILAN'S CULTURAL EVENTS

STAIRS AS KEY ARCHITECTURAL ELEMENT

CLIENT

Comune di Milano

ROLEX

BMW

INTESA SANPAOLO

Kartell

MAX. 27M FACADE
FACING THE PIAZZA

STRONGER
ACCESSIBILITY

EXPERIMENTAL
PERFORMANCE

RELATION TO
THE CITY

BLEND USER GROUPS AND
PEOPLE FLOWS

OPTIMISING UNDERGROUND
POTENTIAL

ENGAGING YOUNGER
GENERATIONS

CONTRIBUTION TO MILAN'S
YEAR-ROUND EVENTS

MATERIAL INNOVATION

TIMELESS ELEGANCE

DESIGN BRIEF REQUIREMENTS

SITE
- Redesign of the Piazza della Scala
  - Facilitate the pedestrian zone expansion
  - Improve safety
  - Improve accessibility to La Scala's site

- Site related requirements
  - The design should respect the classical proportions of the surrounding buildings
  - The building's facade on the piazza's side (SE) should not exceed 27 meters
  - The design should accommodate 15% of the site for public outdoor area to facilitate outdoor performances and events

PROGRAM
- Youth attraction
  - The design should rethink the classical performance format in order to stimulate younger audience attendance
    - Adapt performances to the short attention span of younger generations
    - Stimulate interaction with the performance through design by "breaking the fourth wall"
    - Facilitate experimental performances, such as: VR Opera, dining/sorbet experiences, AI integration, etc.
    - Alter programming to allow collaboration between genres to introduce younger audiences to classical music and performance art

- Performance hall requirements
  - Total gross floor area: 4,500 m^2 (House 1,500 m^2 + Stage 3,000 m^2)
  - The performance hall should be flexible/convertible in order to optimally facilitate opera, ballet, orchestra and other experimental performances to attract youth
  - The occupancy should be variable between 500 - 2000 seats
  - The hall should be able relate/connect to the city/public domain

- Underground potential
  - Underground potential should be optimised in order to optimise public area and facilitate the expansion of the Piazza della Scala

- Flexible workshop/exhibition area
  - The flexible area should be able to facilitate Milan's year-round cultural events Such as: Fashion Week, Design Week, Music Week, Literature Week, etc.
  - The area should be able to open up to the public area, extending the public Piazza della Scala inwards
  - The area should be able to connect to the foyer, to possibly expand if necessary

- Stairs
  - Utilise the stairs a key architectural element in the design in order to orchestrate movement through space and blend user groups and people flows

CLIENT

The client, represented by the Comune di Milano and key investors, drives the project's ambitions and financial framework. A structured process of collection, comparison, and evaluation is used to choose and align the interests of stakeholders such as Intesa Sanpaolo, Rolex, BMW, and Kartell. The Comune di Milano aims to position the opera house as a cultural landmark that balances heritage and innovation. Intesa Sanpaolo and Rolex emphasize tradition and elegance, while BMW and Kartell contribute perspectives on modernity and design innovation. The client and partners were all selected through their common commitment to future generations. Multiple financial models were selected, including public funding from Creative Europe and Italy's Ministry of Culture, together with private investment and program adaptation, ensuring a realistic approach to realising the project.

REFLECTION P2

The “Bodies & Building” studio focuses on the intricate relationship between architecture and its users, particularly how spaces can be designed to enhance interaction, movement, and experience. This theme aligns closely with the graduation topic, which involves designing a new opera house on Teatro alla Scala’s site to serve as an inclusive cultural stage for the next generation. The surrounding buildings at Piazza della Scala, characterized by classical proportions and symmetry, echo Leonardo da Vinci’s statement that “without symmetry and proportion there can be no principles in the design” (1940). This connection between symmetry, proportion, and design principles ties directly to the studio’s emphasis on measurements. Movement, comfort, experience, safety, and security are all vital aspects of the opera house redesign that will be further explored throughout the project.

The graduation topic focuses on how architecture can attract younger audiences by reimagining performance spaces, improving user experience, and supporting Milan’s cultural landscape. Human-scale considerations will be central to the design, enhancing comfort and engagement for performers, staff and visitors, while integrating classical design principles ensures harmony with the historical context of the Piazza. This balance of architectural innovation and legacy preservation embodies the “Bodies & Building” studio’s commitment to exploring how large, complex buildings can serve as dynamic spaces of cultural interaction, while principles of symmetry, proportion, and human-scale design will be considered to enhance user experience and engagement.

This project addresses the pressing need for cultural institutions to adapt to shifting trends by reinterpreting Teatro alla Scala as a contemporary opera house. The challenges outlined in the posed problem, such as low youth interest, shorter attention spans, and barriers like cost and accessibility, are globally relevant issues for cultural institutions. Similarly, the topics explored by the culture group lens including urban transformation through temporary events, the need for flexible spaces, and strategies to prevent overcrowding resonate with this project's objectives. For example, Milan's year-round calendar of cultural events highlights the necessity for adaptable venues capable of hosting diverse performances and public events.

Palais Garnier, which successfully increased their under-28 audience by 50% within two years, provides a deeper understanding of the possibilities (Grey, 2018). This demonstrates the transformative potential of targeted efforts to attract younger generations. By integrating innovative architectural solutions, rethinking conventional arrangements, adding flexible spaces, and reimagined performances, this project not only strengthens La Scala's iconic identity but also positions it as a model for addressing global challenges while contributing to Milan's cultural calendar.

DESIGN BRIEF

APPENDIX

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Culture

"La Scala looked upon itself as a kind of affectionate mother to the operas which its public had adopted, and for years cradled and nursed them as though they had no legs of their own to stand on, while at the same time putting off the production on its stage of creations which were different from the customary ones." (p. 12)

Historical significance

"The history of the Milanese theater often reflected the history of the city in which it stood and even, in certain obvious instances, the history of Italy." (p. 13)

Funding

"The construction, ... , cost about a million Milanese lire, paid for by the sale of the boxes." (p. 27)

Aria di sorbetto

"... for a good part of the century, the less important arias were called the "sherbet arias". Singers were obviously offended at being confined to the "sherbet" section of a work." (p. 36)

Blanc, A. (1996). Stairs, Steps, and Ramps.

Stairs
Visitor experience

"The open vertical circulation eloquently arranged at the core of buildings can certainly become the most captivating experience. Designs as diverse as Garnier's Paris Opera, Le Corbusier's Villa La Roche-Jeanneret, and Lasdun's National Theatre in London all reveal the magic that is possible with creative designers" (Blanc, 1996, p. 3).

Dogma (2020). Platforms: Architecture and the Use of the Ground.

Stairs and platforms

"Platforms are stages that gave public emphasis to the actions that took place upon them... steps became the main architectural feature. The role of steps in these structures was to theatrically emphasize the movement of people by orienting them and providing a sense of rhythm" (Dogma, 2020, p. 4).

Stairs and platforms

"Platforms manipulate the most essential datum of existence—the ground—turning it into a space that both enables and restricts what happens upon it" (Dogma, 2020, p. 2).

"A "commercial envelop" would surround the core: investor-owned areas, consisting of a hotel, gastronomy, a parking garage, and private apartments. The commercial envelope should generate enough profit to satisfy the investor and simultaneously subsidize the core's construction." (p. 42)

Fiedler, J. (2016). The Elbphilharmonie Hamburg.

Mixed-use

"The feasibility study predicted total project costs of €186.7 million. The commercial envelope, financed by the private investor, was estimated at €69.7 million and the public core at €117 million. The costs for the public core would mainly be provided by private donations (€30– 35 million) and the city (€77 million). The private investor would be expected to cross-finance the remaining €10 million out of his profits" (p. 45)

Financial feasibility

"... Miller believed that modern audiences are too easily distanced from events on stage."

Gossett, P. (2007). Performing Italian opera.

"... authenticity simply gets in the way of a reasoned approach to the complex interactions of theory and practice, history and contemporaneity, tradition and innovation."

Audience engagement

Historical reinterpretation

"A key factor in the design of the 1200 seat concert hall is flexibility. The stage and seating can be adjusted according to the performance's requirements." (p. 57)

Hammond, M. (2006). Performing Architecture.

Flexibility

"His [Norman Foster] ambition was to "create a building that not only fully integrated with the cultural life of Dallas, but which would become a destination in its own right for the non-opera-going public, with a restaurant, cafe and bookstore that will be publicly accessible throughout the day. The recognition of the need to break down the barriers - both physical and psychological - surrounding opera forms a key theme ..." (p.204)

Audience attraction

"Foster's design makes a bold visual statement with its dominant canopy stretching out into the square - a physical blurring of the boundaries to follow through the ideology." (p. 204)

Urban integration

Le Corbusier. (1954). The Modulor

"the 'Modulor' is a measuring tool based on the human body and on mathematics." (p. 55)

Bodies & Building

"It has been proved, particularly during the Renaissance, that the human body follows the golden rule." (p. 56)

Bodies & Building

"Einstein had the kindness to say this of the 'Modulor': 'It is a scale of proportions which makes the bad difficult and the good easy.'" (p. 58)

Mark, R. (1990). Light, wind, and structure

Visitor experience

"... more money went into reconstructing the terraced platform on which the shells were to rest ... A simpler and far less expensive structural system, composed of hidden steel trusses, could have been used to support the sculptural shells, but the designers rejected this option and chased after their vision."

Murray, P. (1969). The architecture of the Italian Renaissance

Classical proportions

"Together with the relationship of all the parts the classical architect sought for symmetry and harmony, so that in a blank wall pierced by three windows he would be careful to see that the height of the wall was proportioned to its width, that the openings were pierced symmetrically within it, and that the shape of the rectangle of the window bore some satisfactory relationship to the shape of the wall as a whole." (p. 2)

Classical proportions

"without symmetry and proportion no temple can have a regular plan" (p. 6)

Vitruvius. (1914). Ten Books on Architecture

Bodies & Building

"Without symmetry and proportion there can be no principles in the design ... that is, if there is no precise relation between its members, as in the case of those of a well-shaped man" (p. 72)

CONCEPT

Building on the massing study, the P3 concept unfolds as a sequence of performance spaces, from the Rolex hall above the piazza, to the auditorium, through a daylight-filled rehearsal, down to a foyer at –1 overlooking the classical opera hall. Each space shifts in scale, light, and material to heighten anticipation and discovery. This orchestrated progression of volumes and atmospheres becomes the guiding framework for the final design.

04

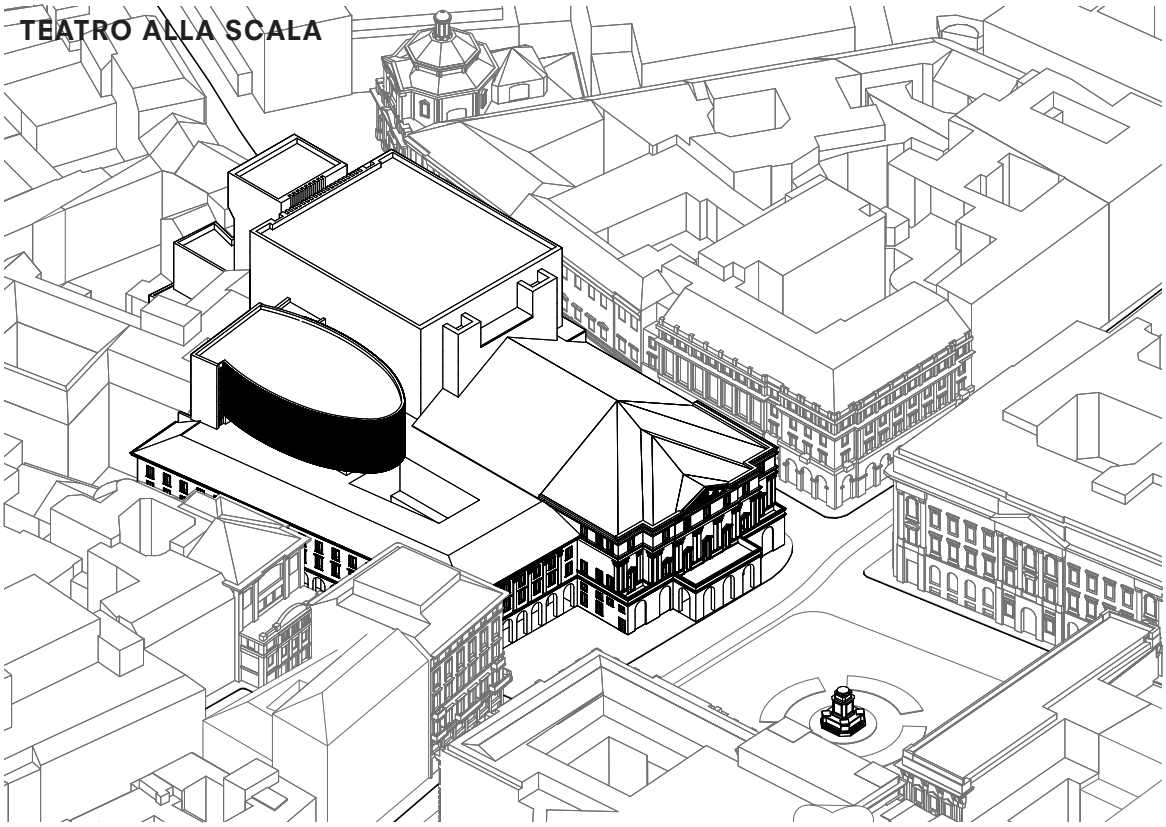
P3

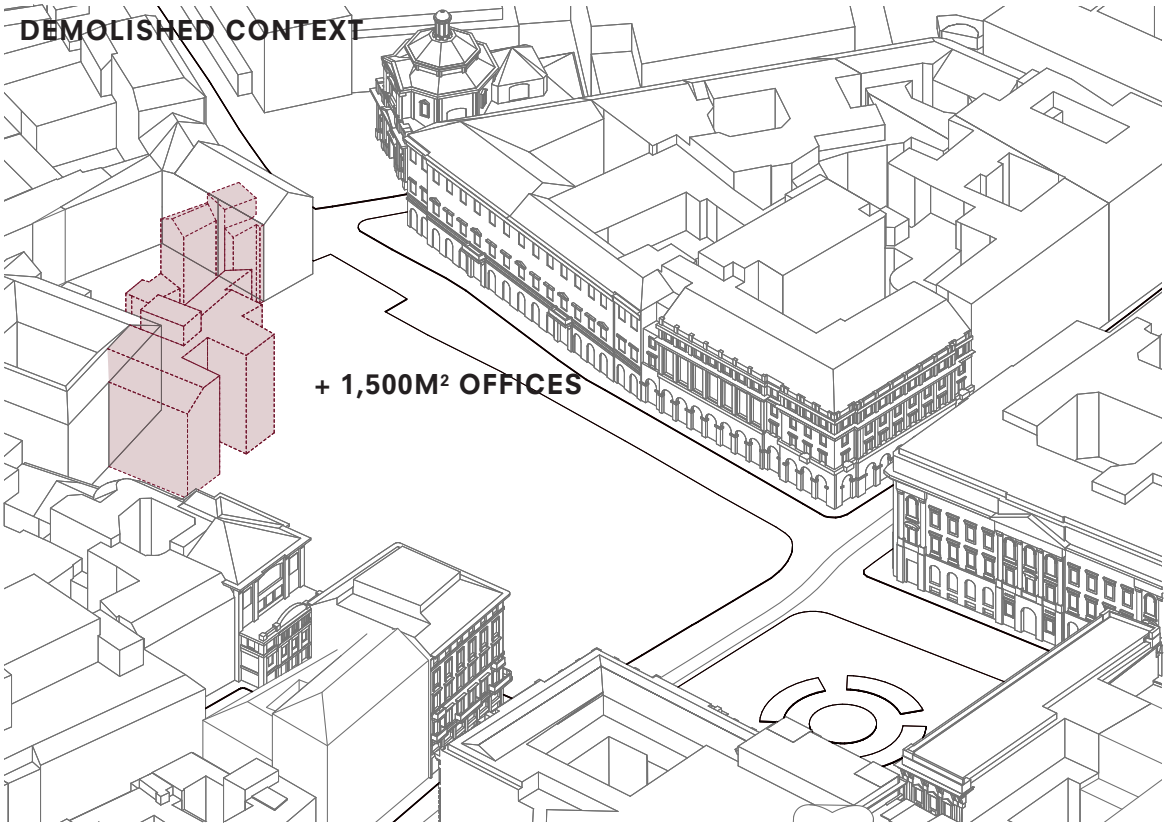
CONCEPT DEVELOPMENT

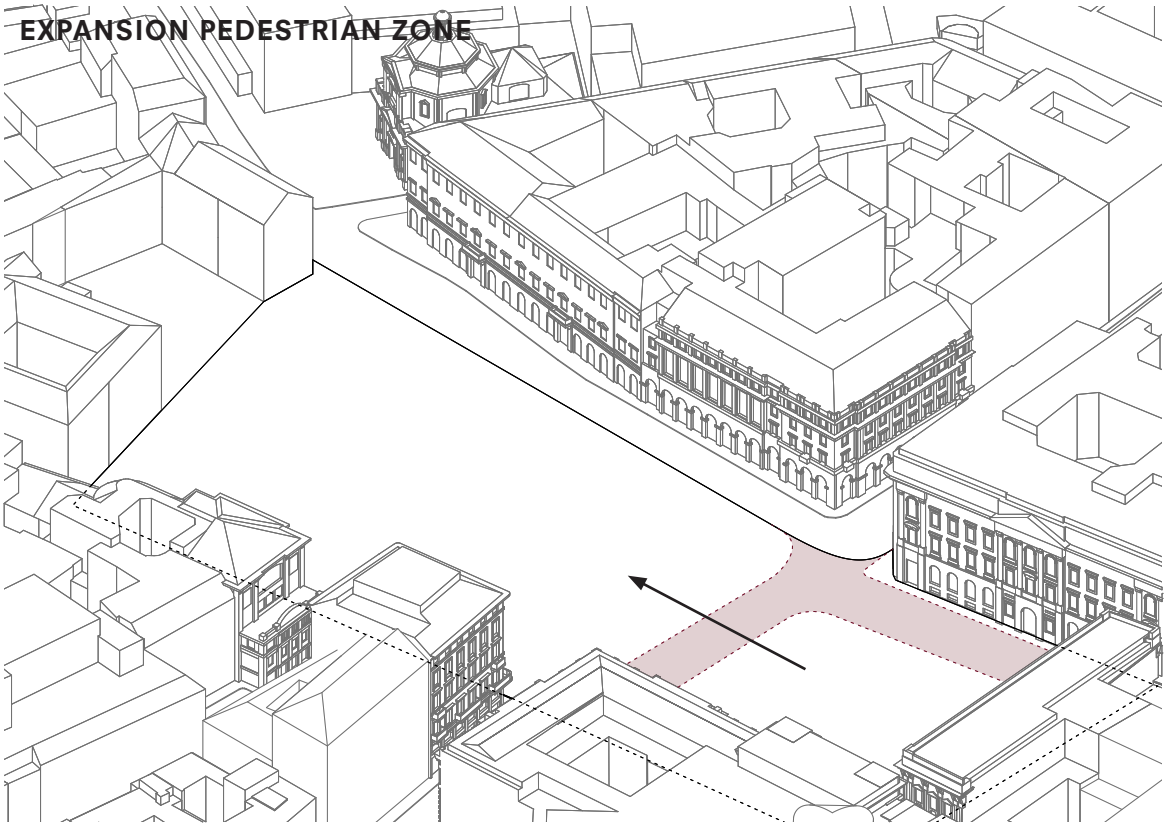
The proposal seizes the cleared footprint of the historic Teatro alla Scala to forge a new cultural heart at Piazza della Scala. Surrounding structures with poor daylight access are removed and re-incorporated into the program, in particular, 1 500 m² of flexible office space, so that every building on site benefits from optimal natural light. By rerouting the existing tram line and enlarging the pedestrian zone, improving the accessibility and safety.

A mass floating above the piazza creates an open space and an overhanging canopy that shelters an outdoor performance area. Beneath the proposed mass, the classical opera hall nestles underground, where daylight is unnecessary, freeing the ground plane for social gatherings and spontaneous events. A foyer at level –1 forms crucial connection between the piazza and classical hall, sparking curiosity of the youth attracted by the floating structure.

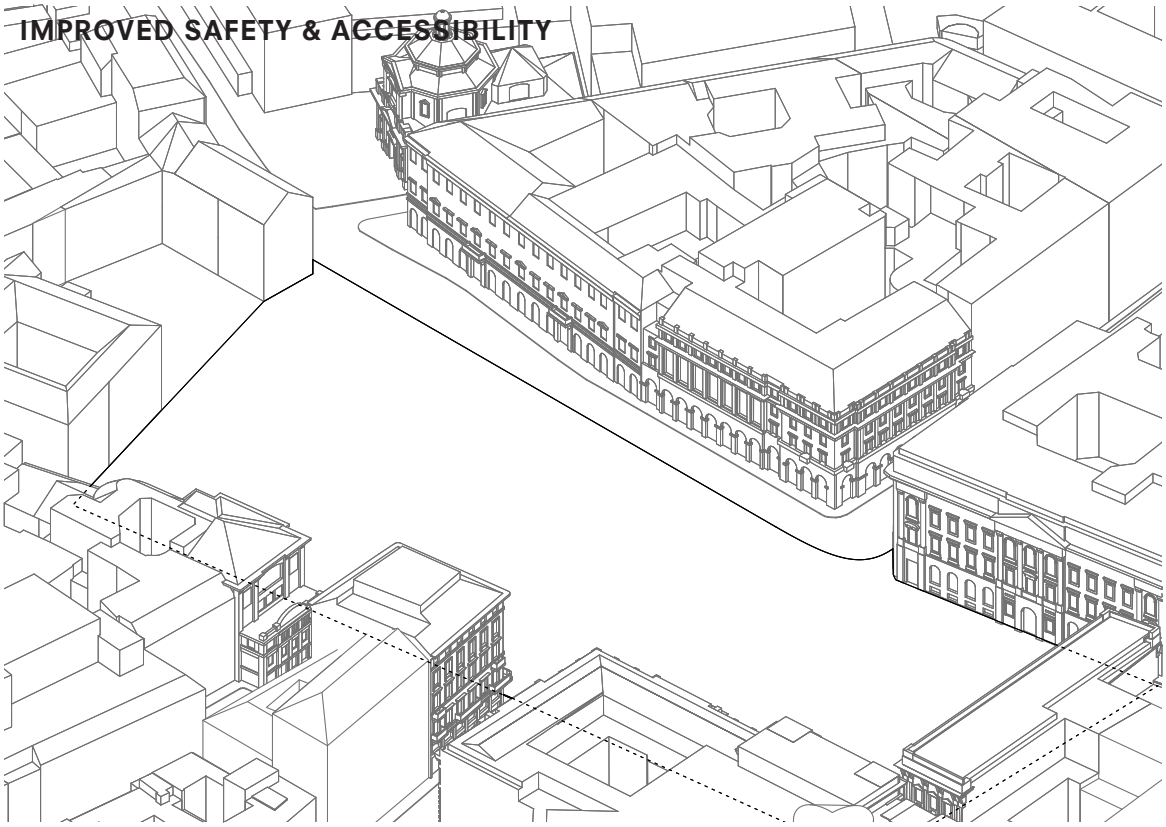
At the heart of the mass, a sunken patio doubles as a performance patio and delivers daylight to the surrounding program. An underground promenade, connects the two masses, and provides visitors a visual connection on both sides to the rehearsal rooms. This choreography of voids and solids, light and shadow, stages a new opera for the city of Milan.



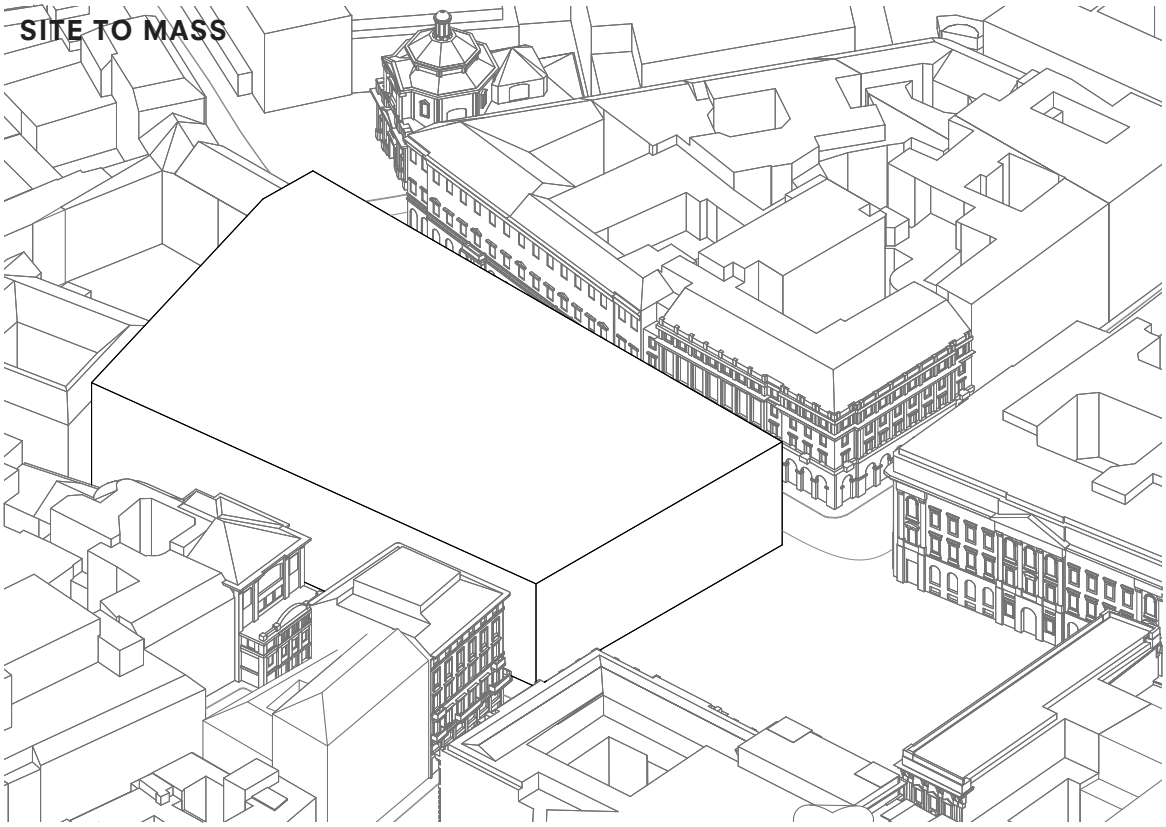

DEMOLISHED CONTEXT
+ 1,500M² OFFICES

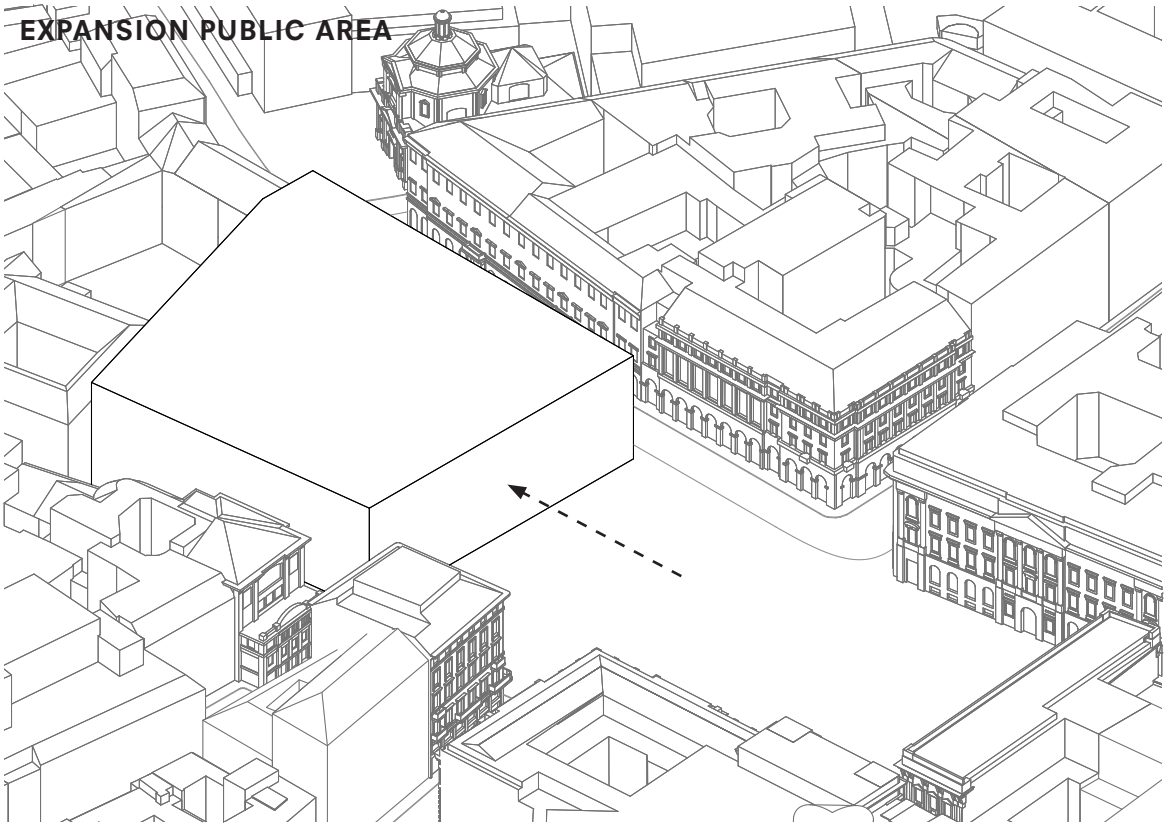

EXPANSION PEDESTRIAN ZONE

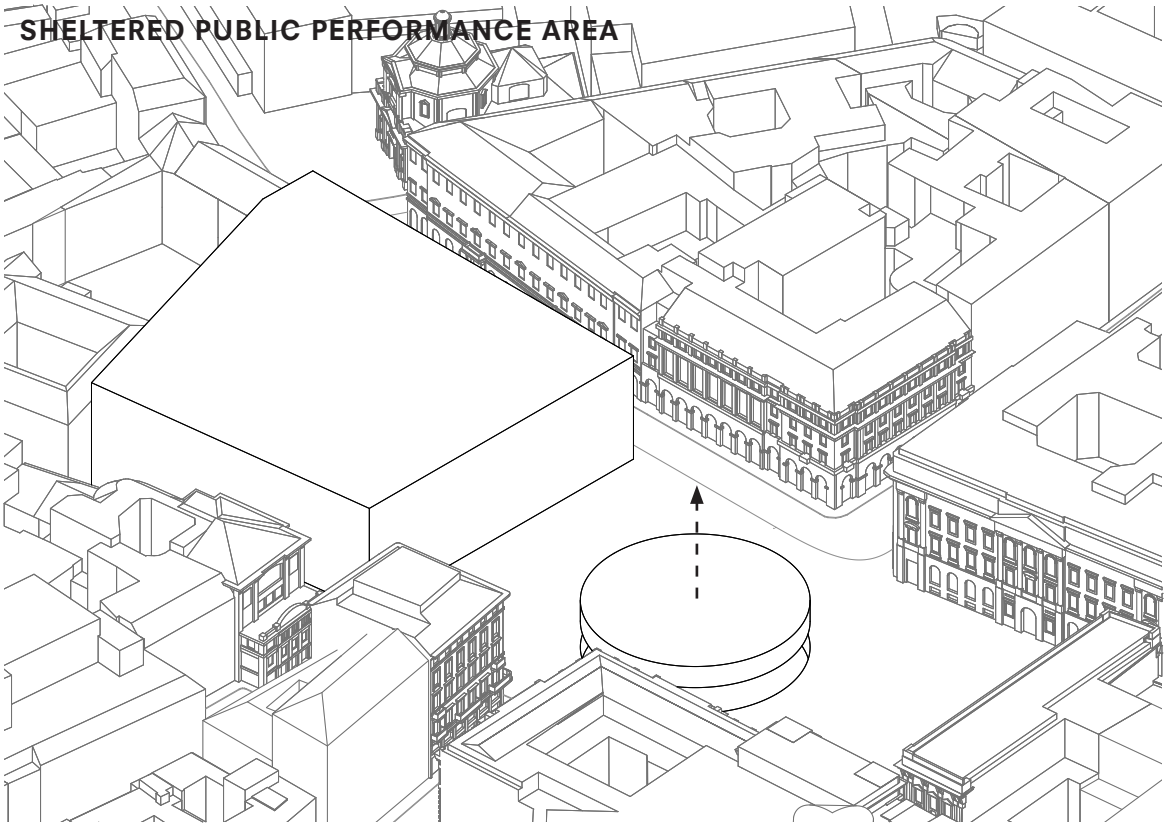
IMPROVED SAFETY & ACCESSIBILITY



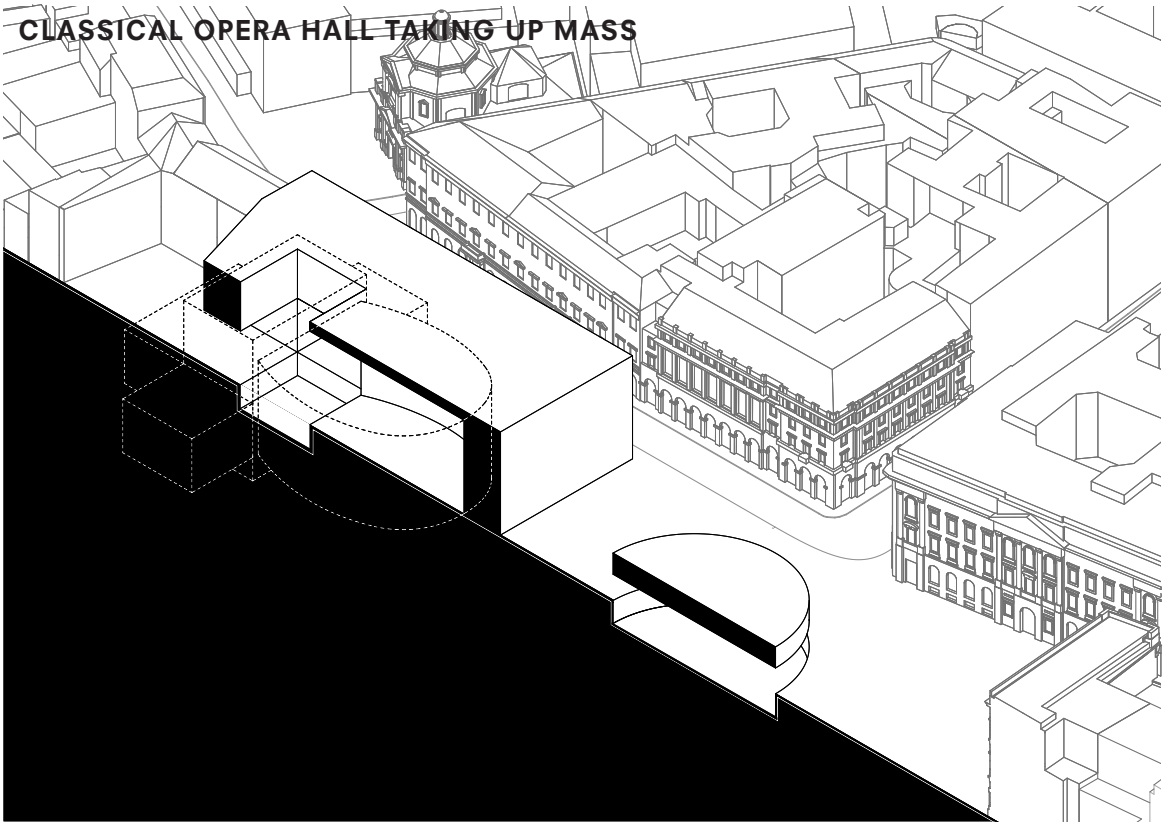
SITE TO MASS



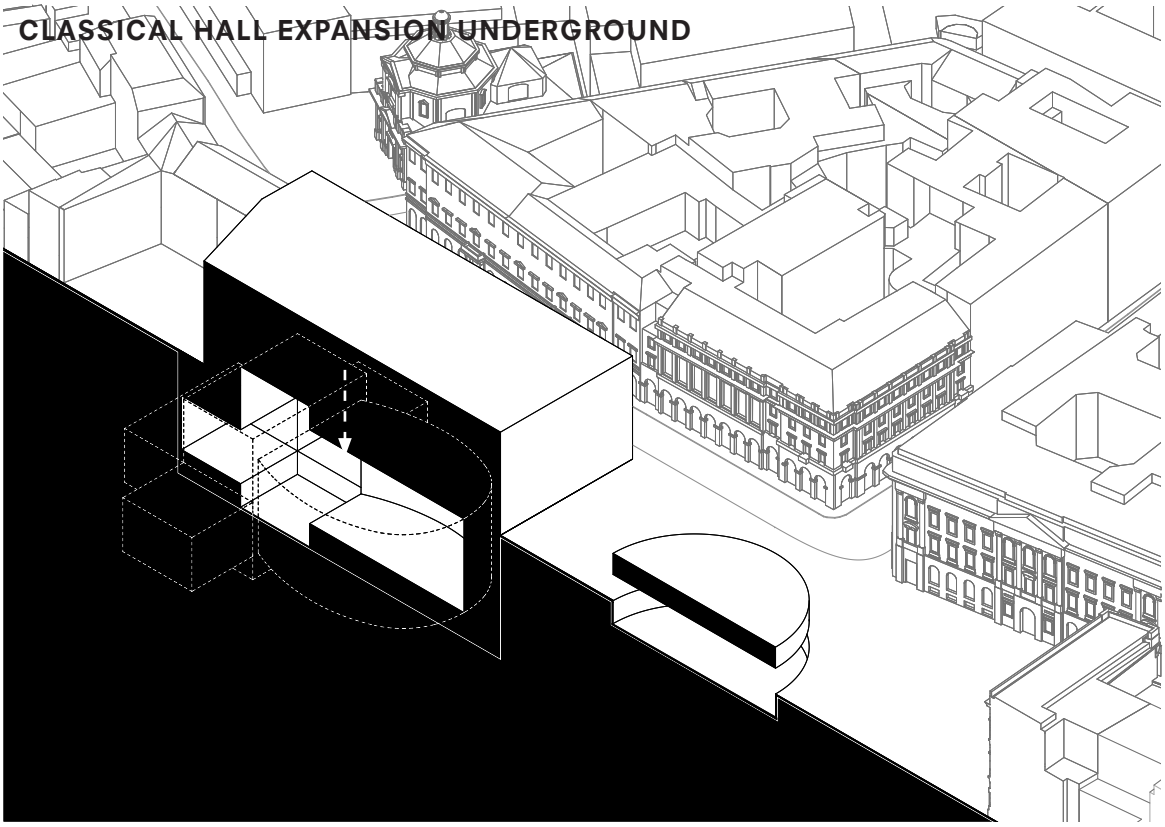

EXPANSION PUBLIC AREA

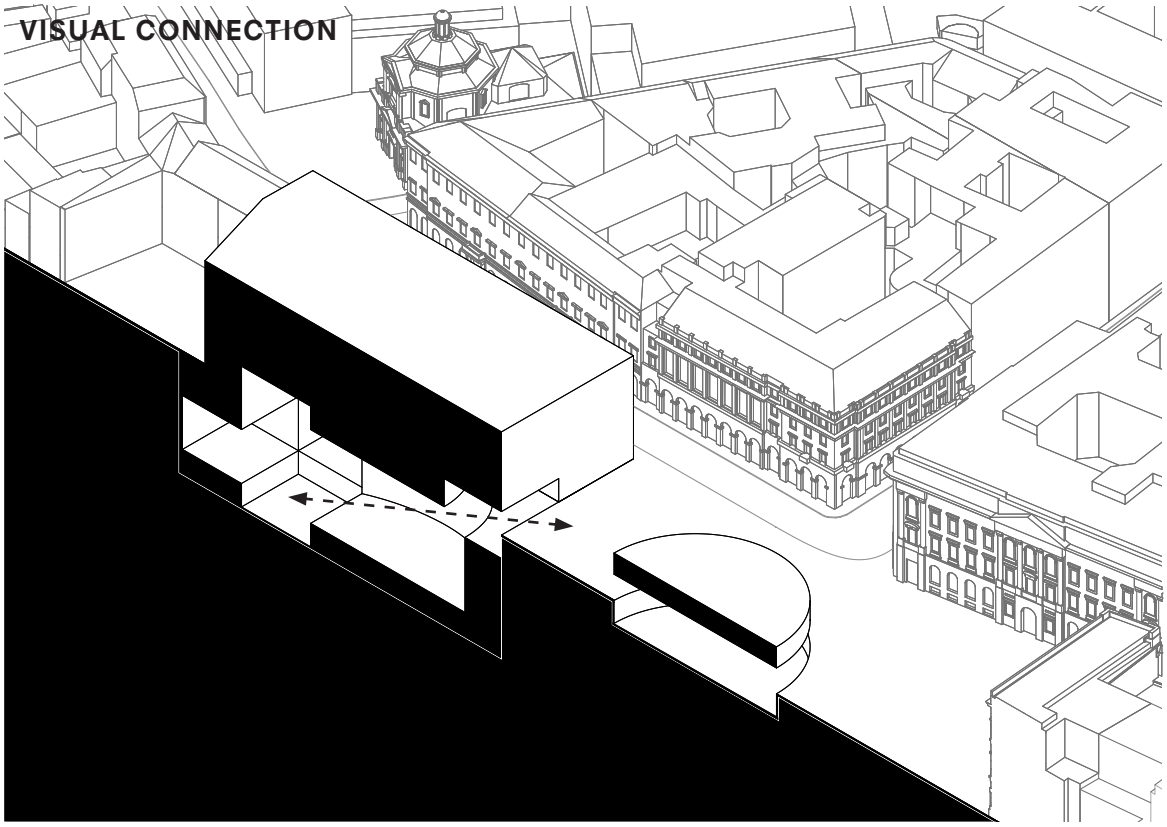

SHELTERED PUBLIC PERFORMANCE AREA

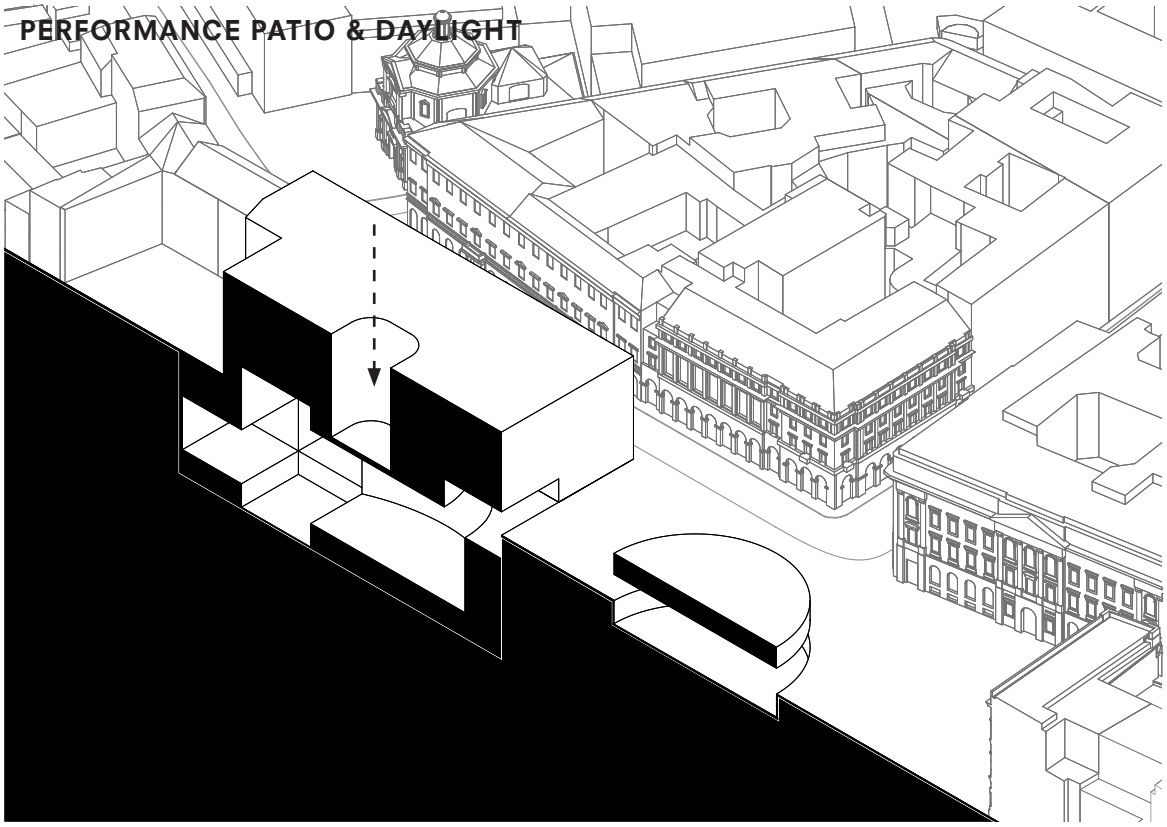
CLASSICAL OPERA HALL TAKING UP MASS



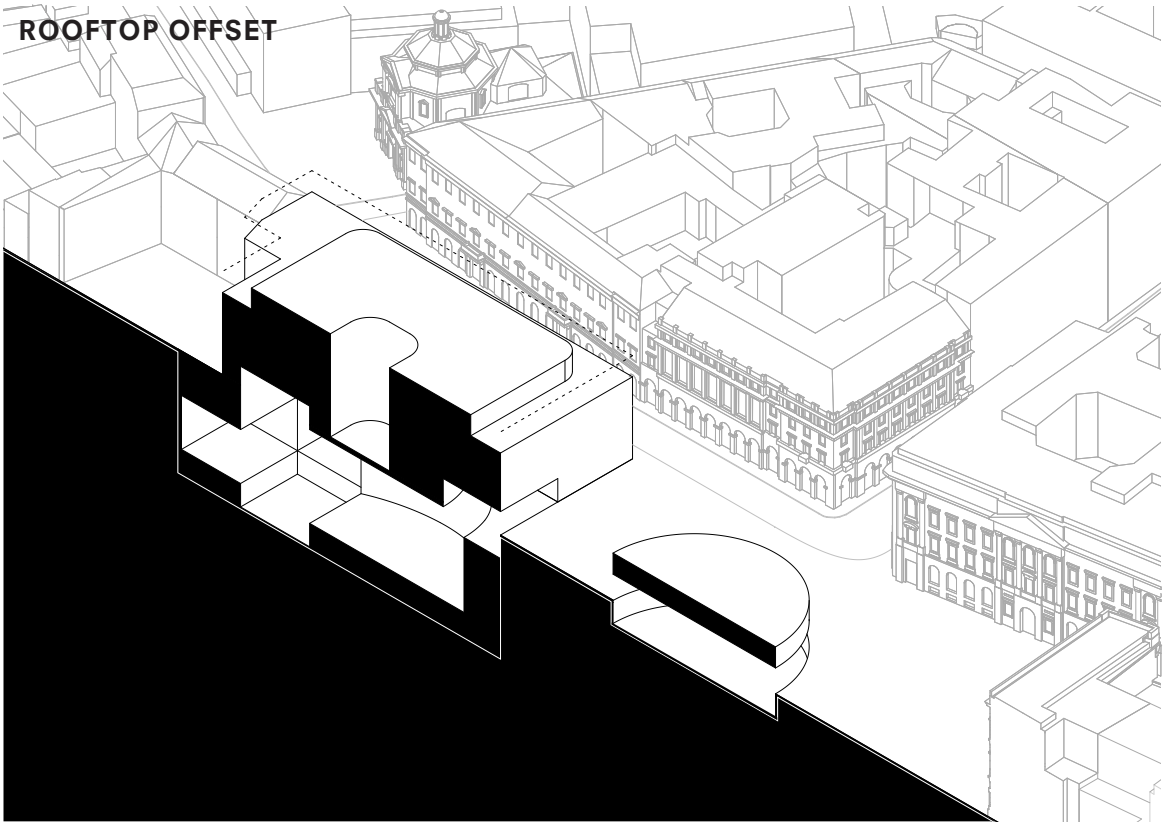
CLASSICAL HALL EXPANSION UNDERGROUND



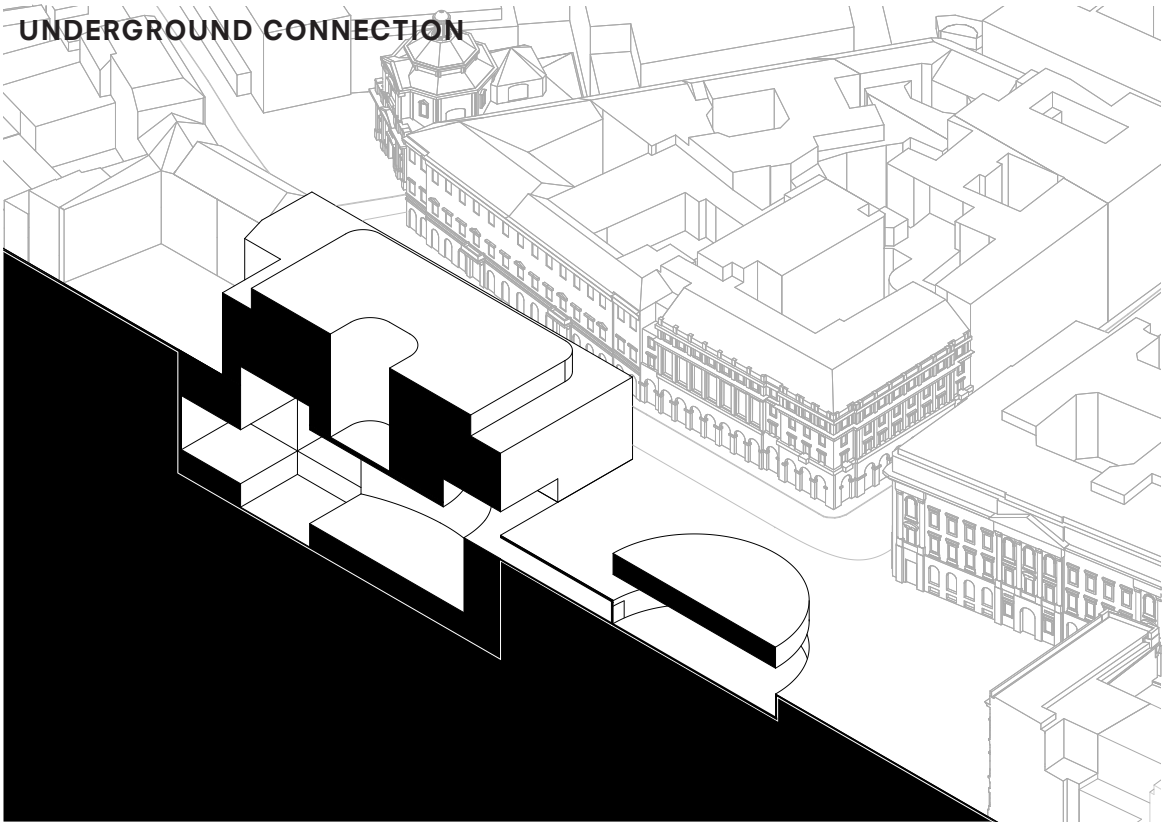

VISUAL CONNECTION


PERFORMANCE PATIO & DAYLIGHT

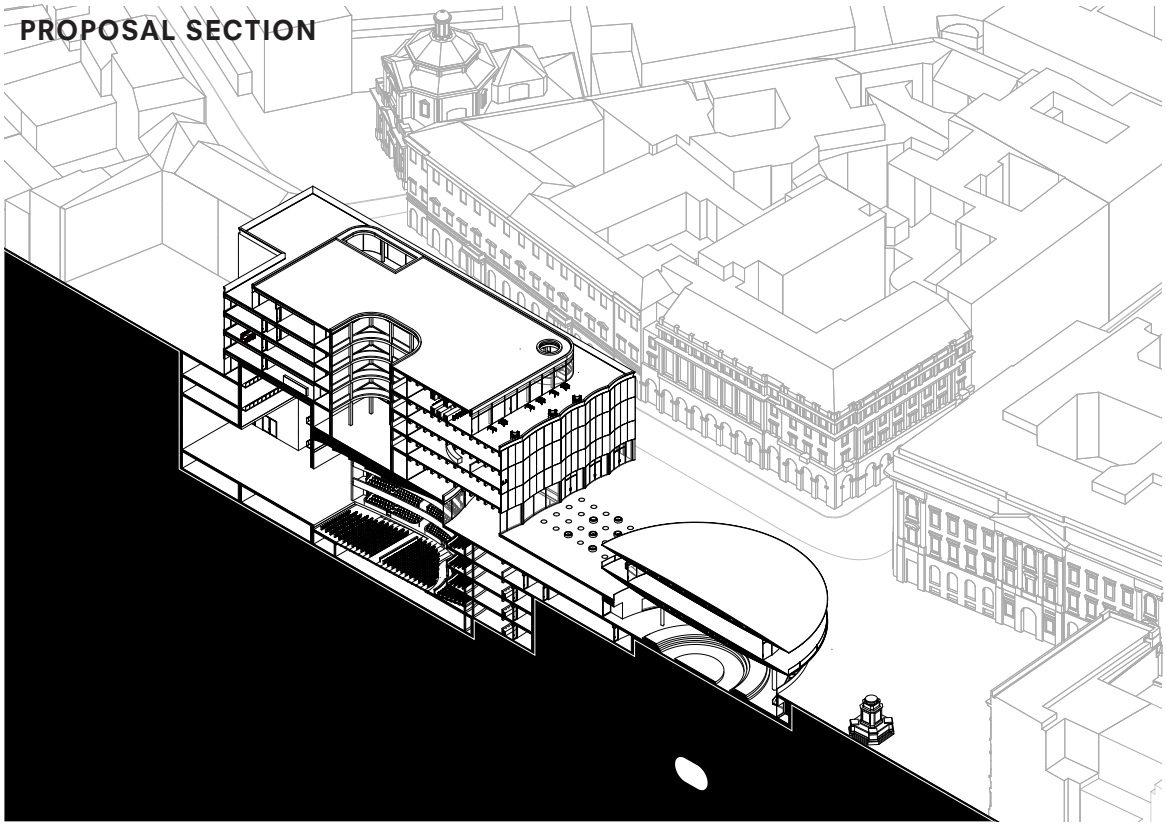
ROOFTOP OFFSET



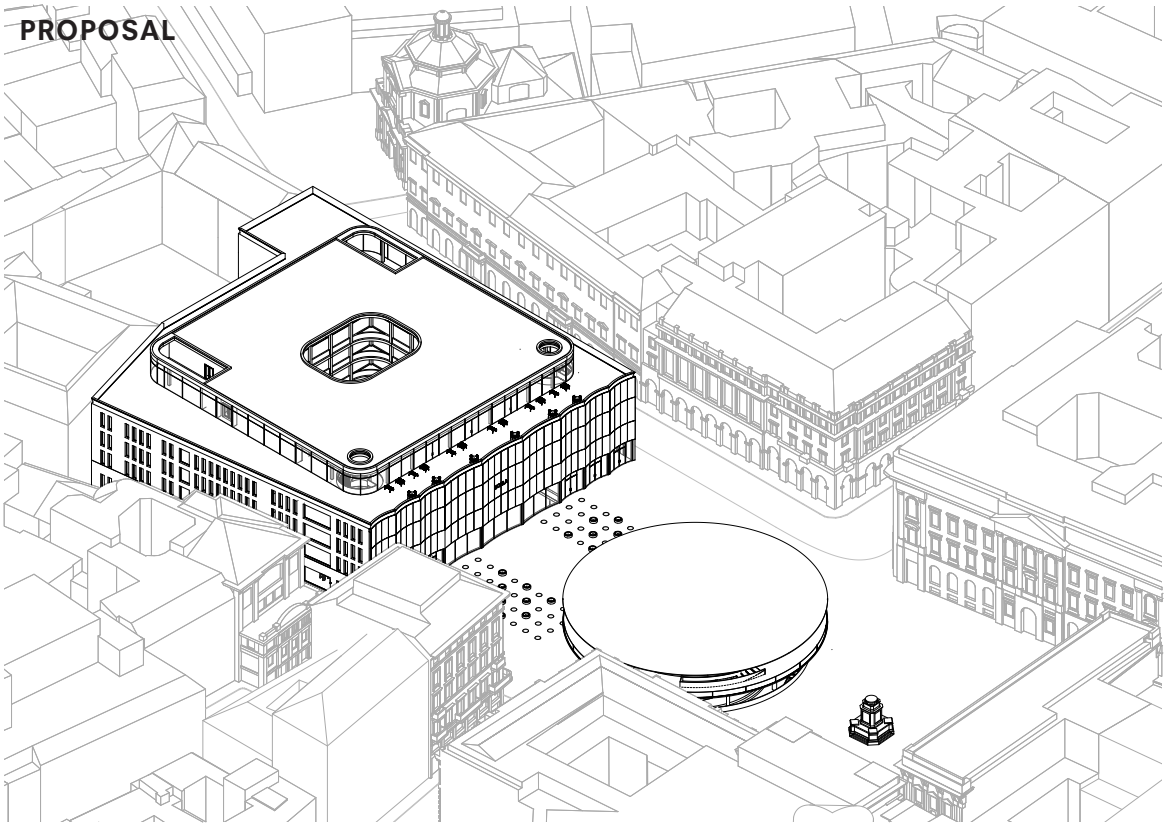
UNDERGROUND CONNECTION



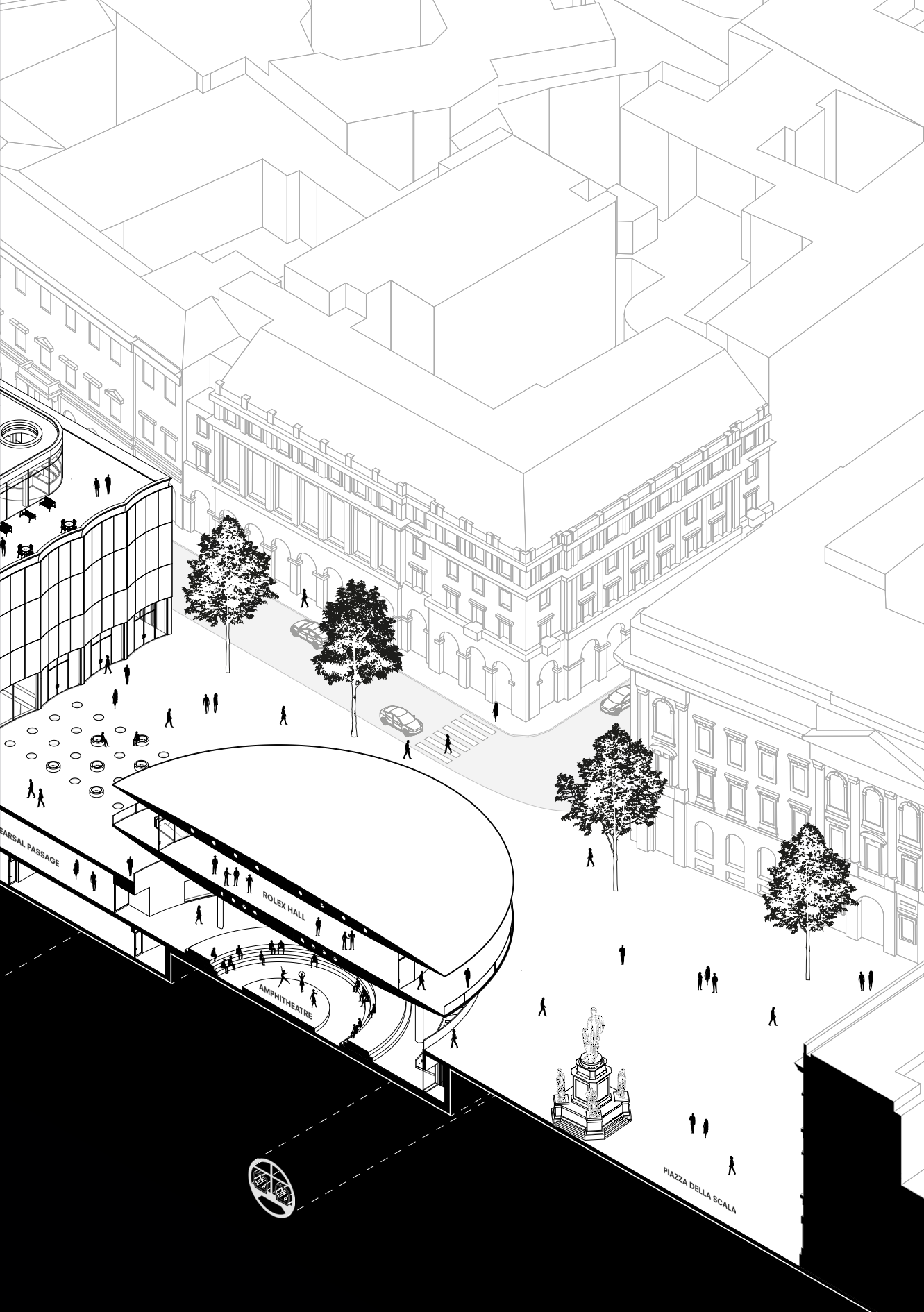
PROPOSAL SECTION



PROPOSAL



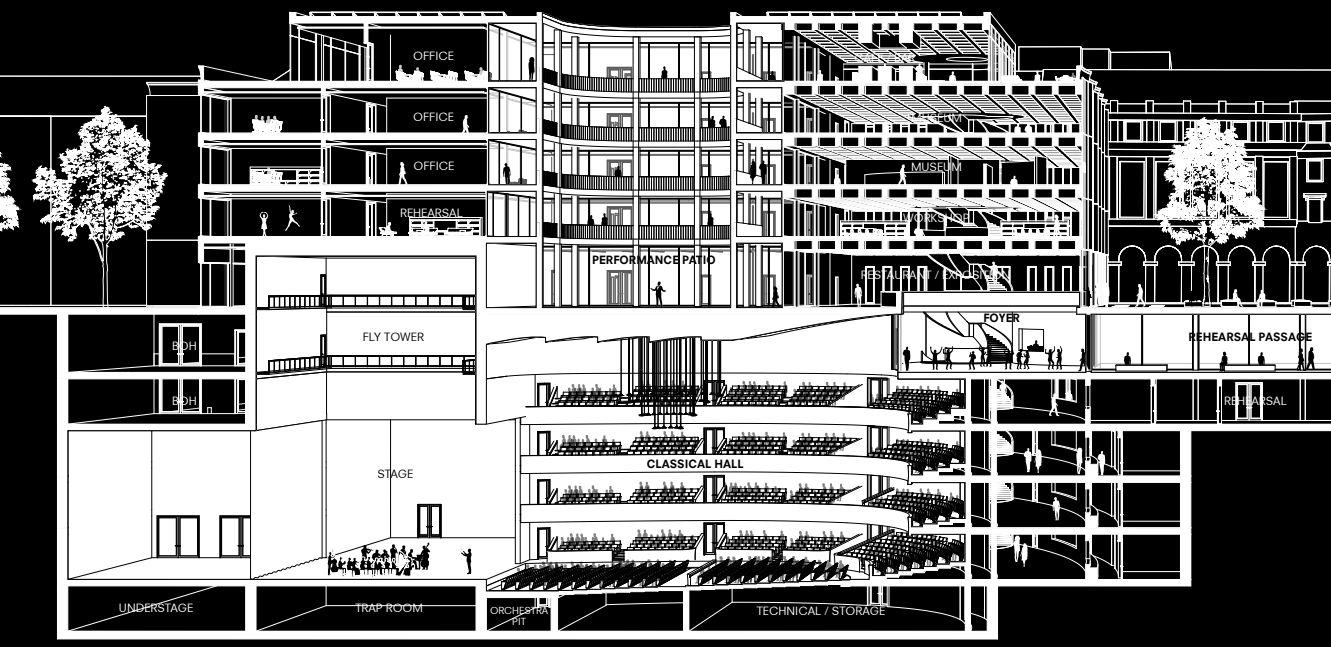
OFFICE
OFFICE
OFFICE
REHEARSAL
LOUNGE
CLASSICAL HALL
PERFORMANCE PATIO
BAR
TERRACE
MUSEUM
MUSEUM
WORKSHOP
FOYER


EARSAL PASSAGE
ROLEX HALL
AMPHITHEATRE
PIAZZA DELLA SCALA

DESIGN IMPLEMENTATION

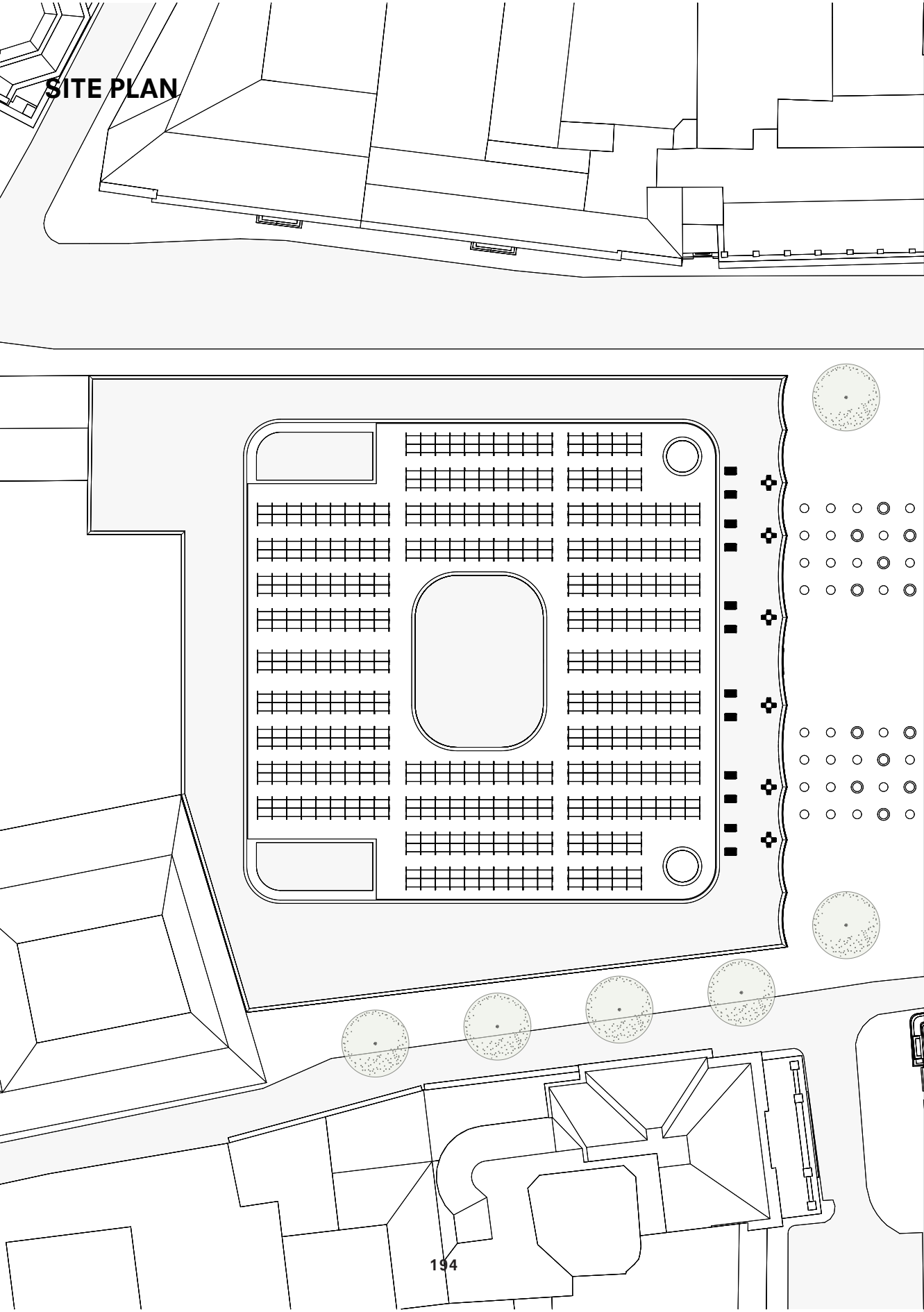
05

SCALA


OFFICE
OFFICE
OFFICE
REHEARSAL
MUSEUM
MUSEUM
MUSEUM
PERFORMANCE PATIO
RESTAURANT / CAFE
FOYER
REHEARSAL PASSAGE
BOH
BOH
FLY TOWER
REHEARSAL
CLASSICAL HALL
STAGE
UNDERSTAGE
TRAP ROOM
ORCHESTRA PIT
TECHNICAL / STORAGE

ROLEX HALL
AMPHITHEATRE

SITE PLAN



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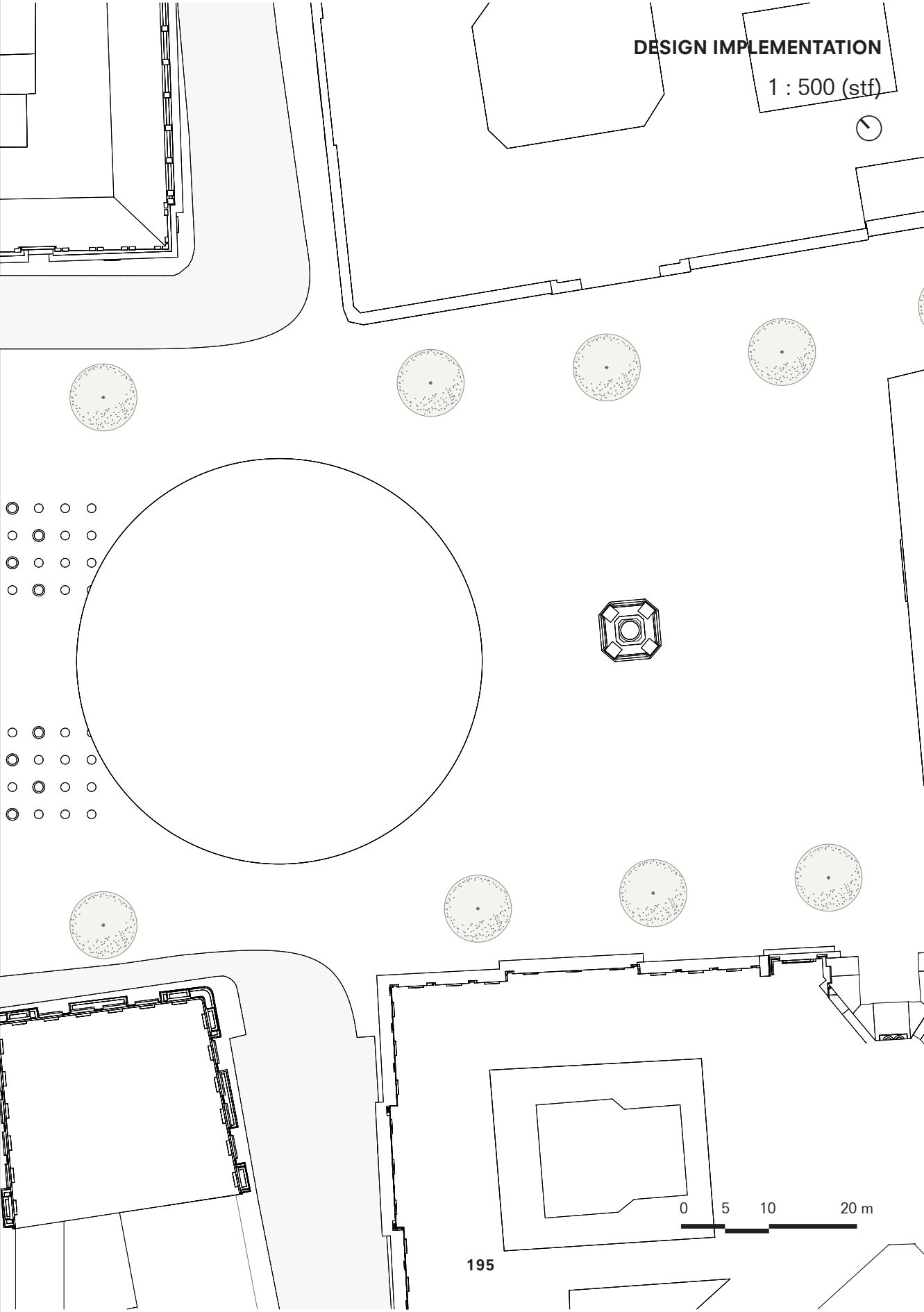
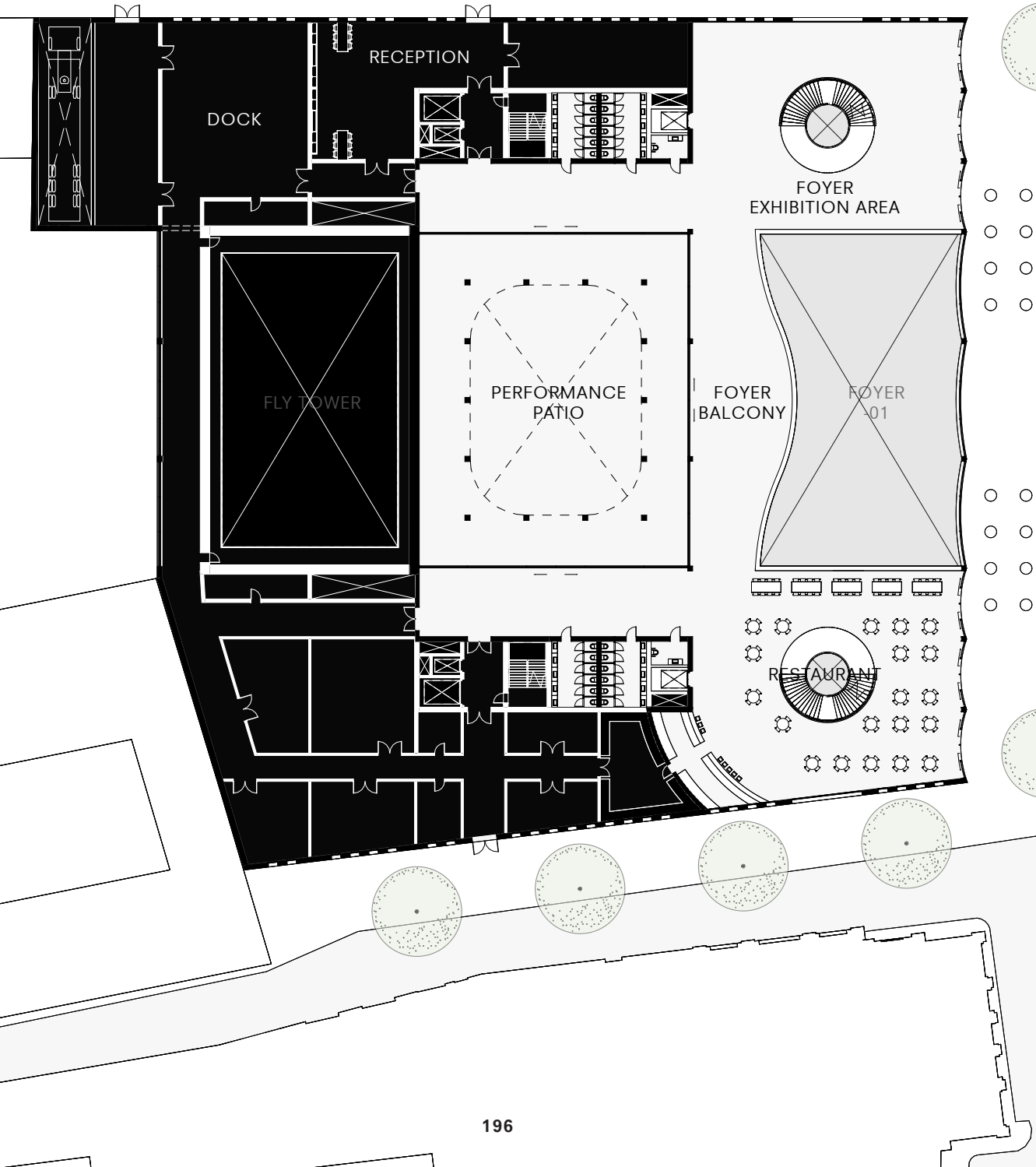
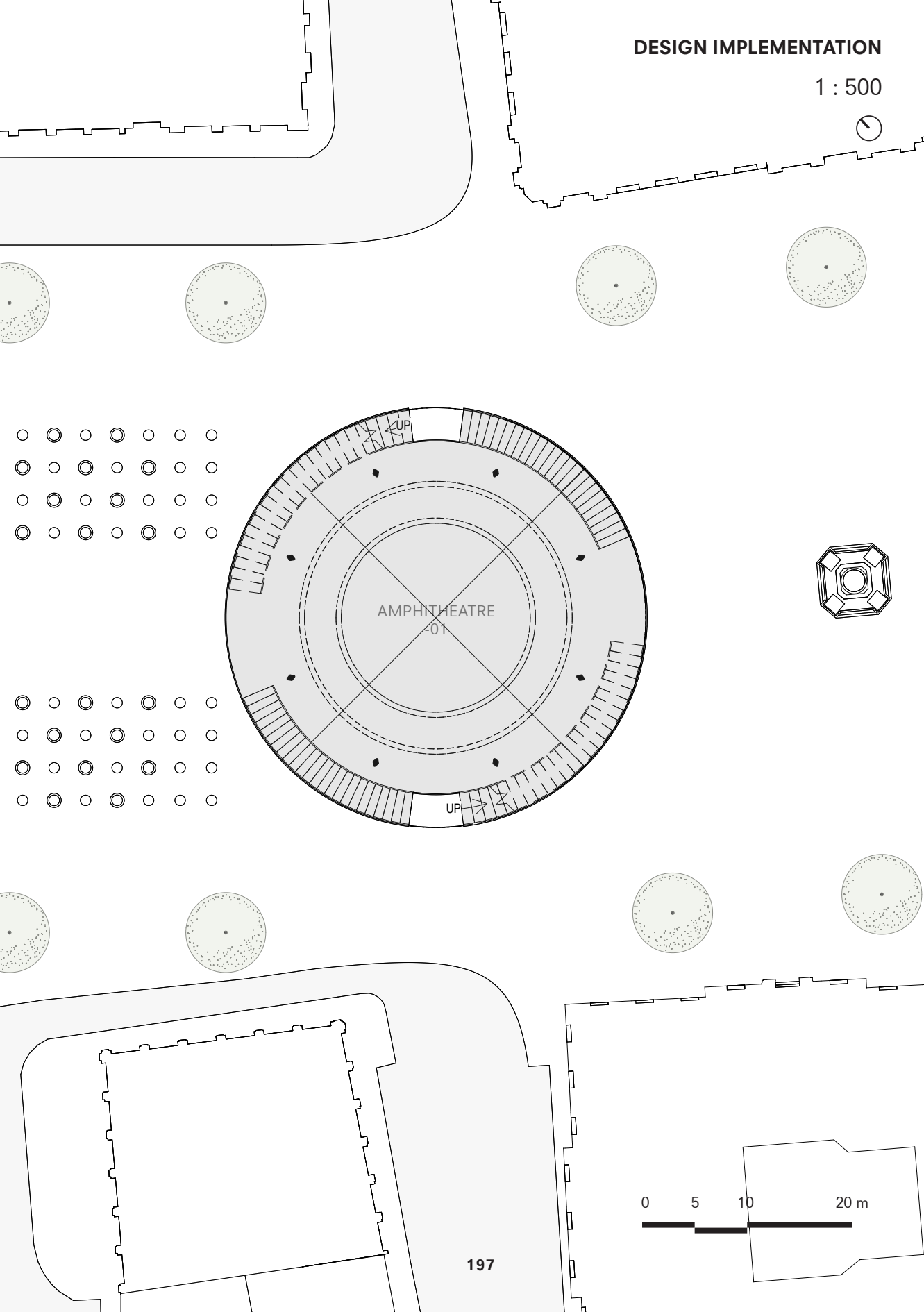


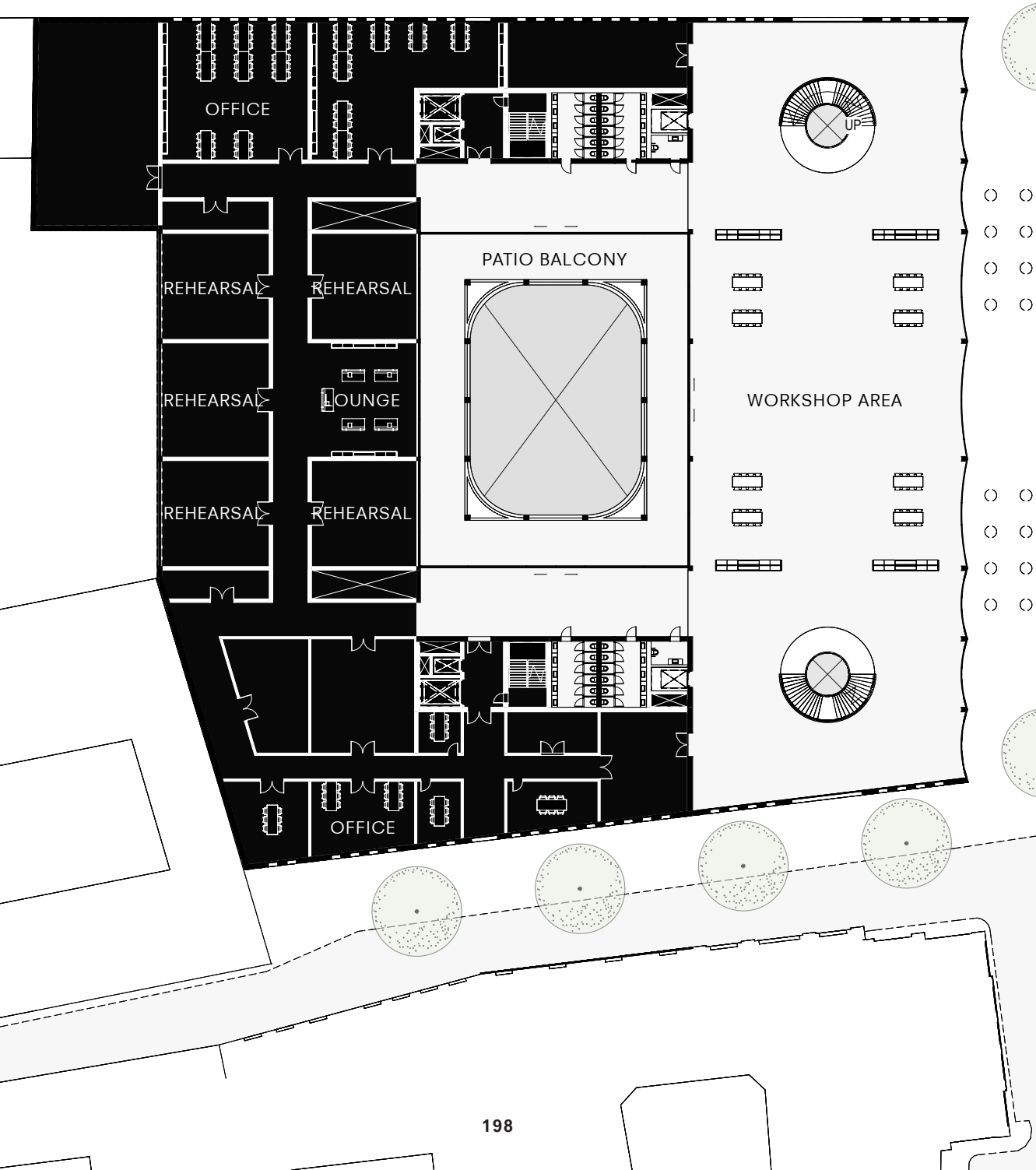
PLAN 00


RECEPTION
DOCK
FOYER
EXHIBITION AREA
FLY TOWER
PERFORMANCE
PATIO
FOYER
BALCONY
FOYER
01
RESTAURANT

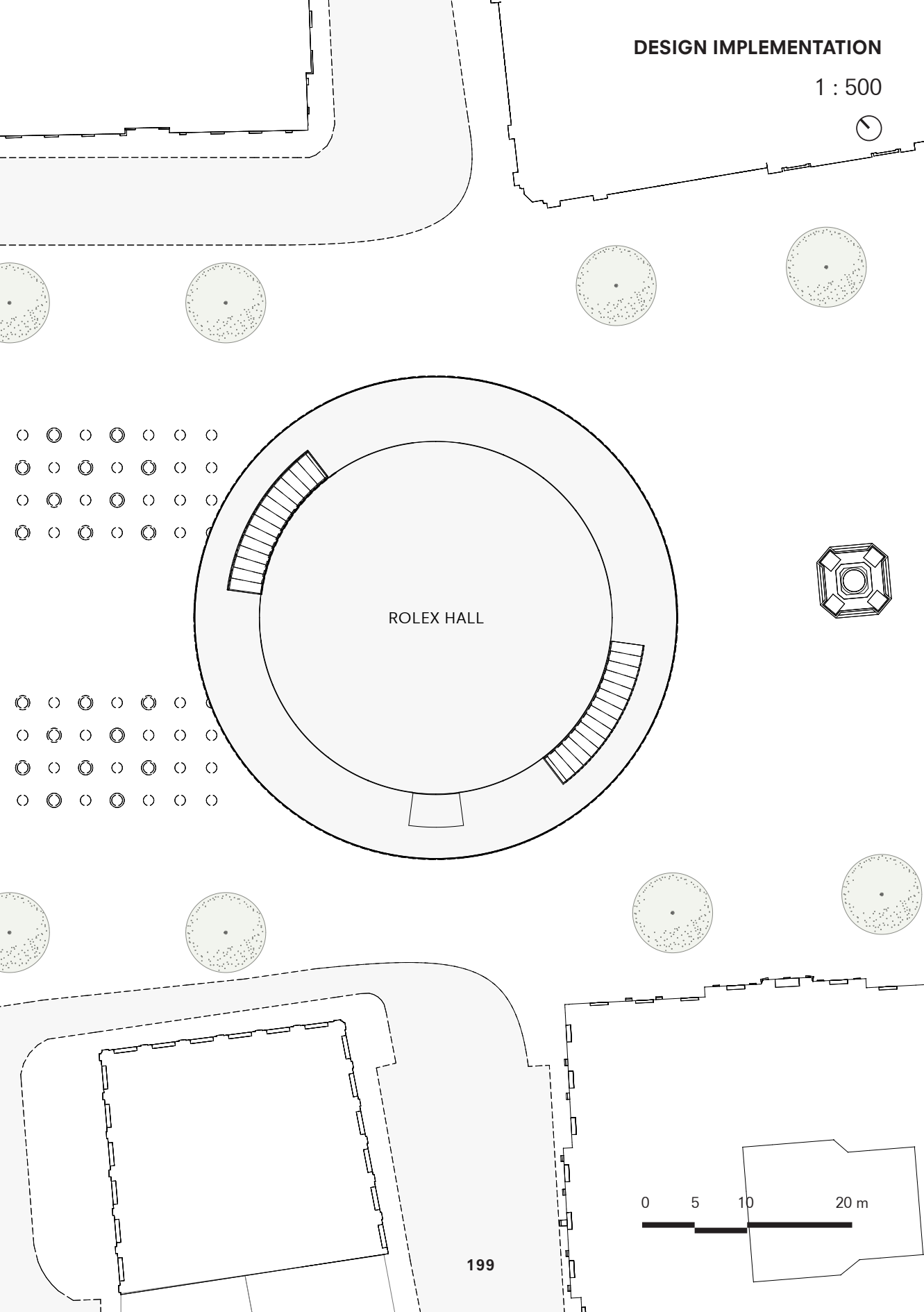
1 : 500



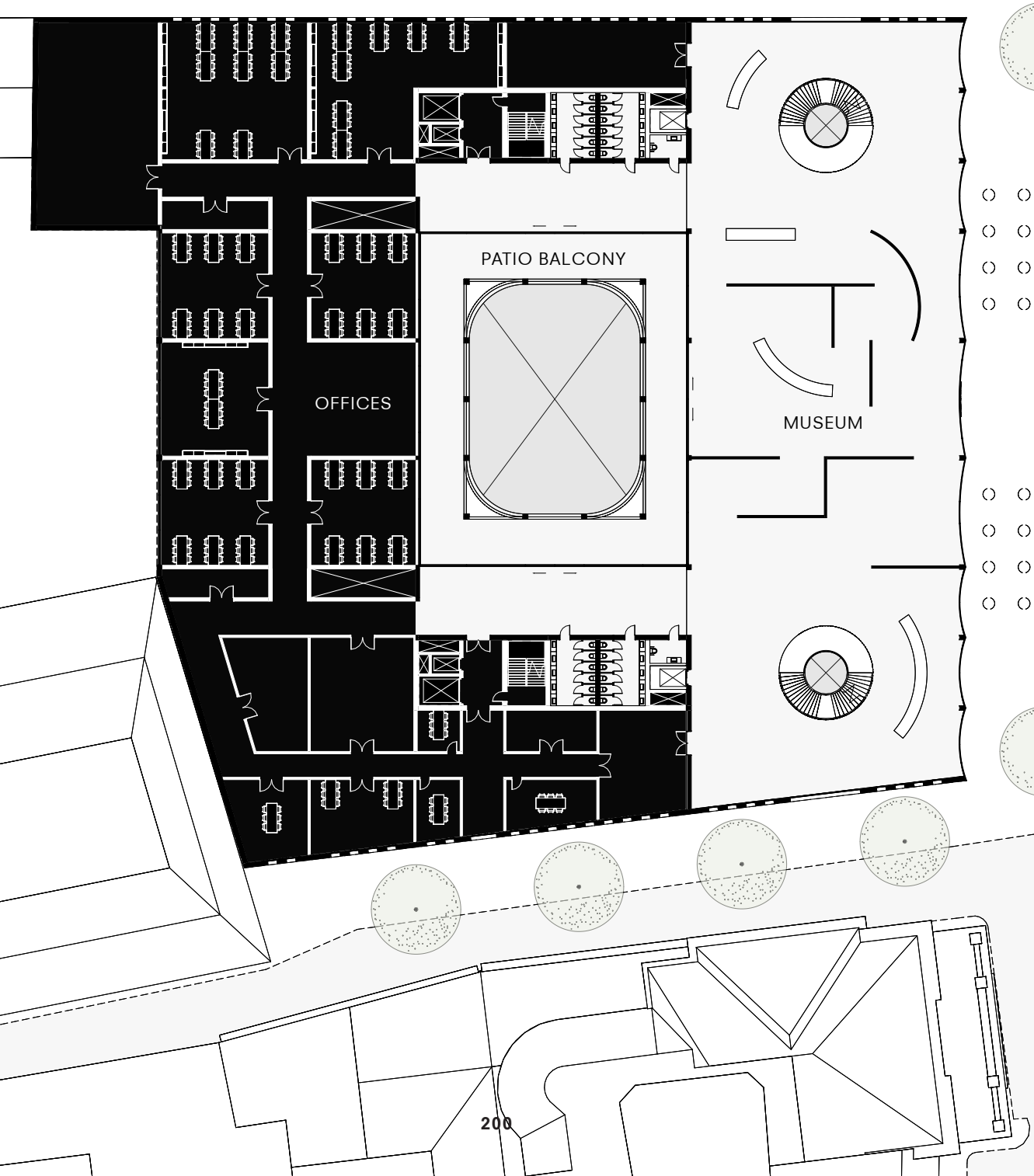
PLAN 01

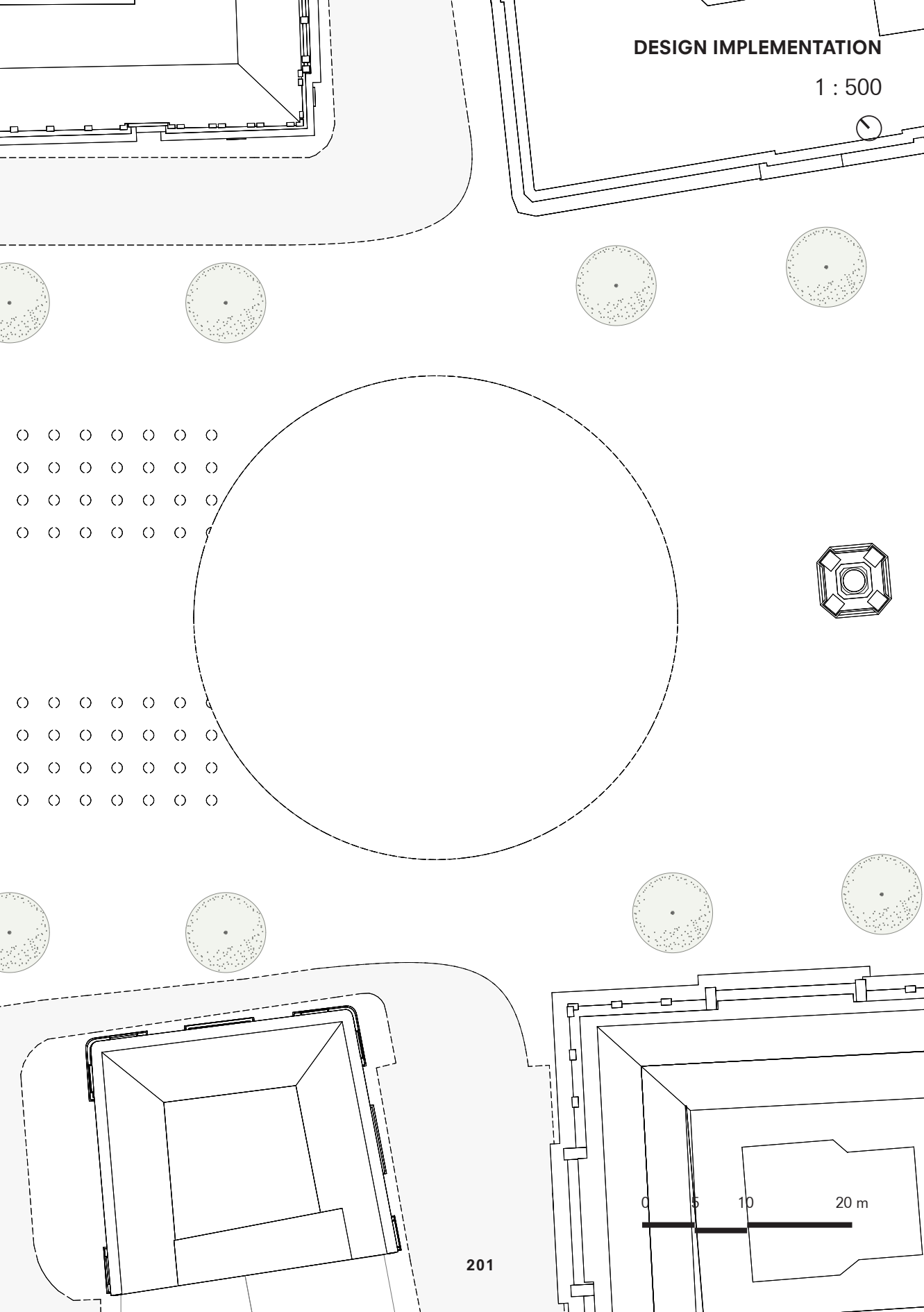

OFFICE
UP
PATIO BALCONY
REHEARSAL
REHEARSAL
REHEARSAL
LOUNGE
WORKSHOP AREA
REHEARSAL
REHEARSAL
OFFICE

1 : 500



PLAN 02




DESIGN IMPLEMENTATION
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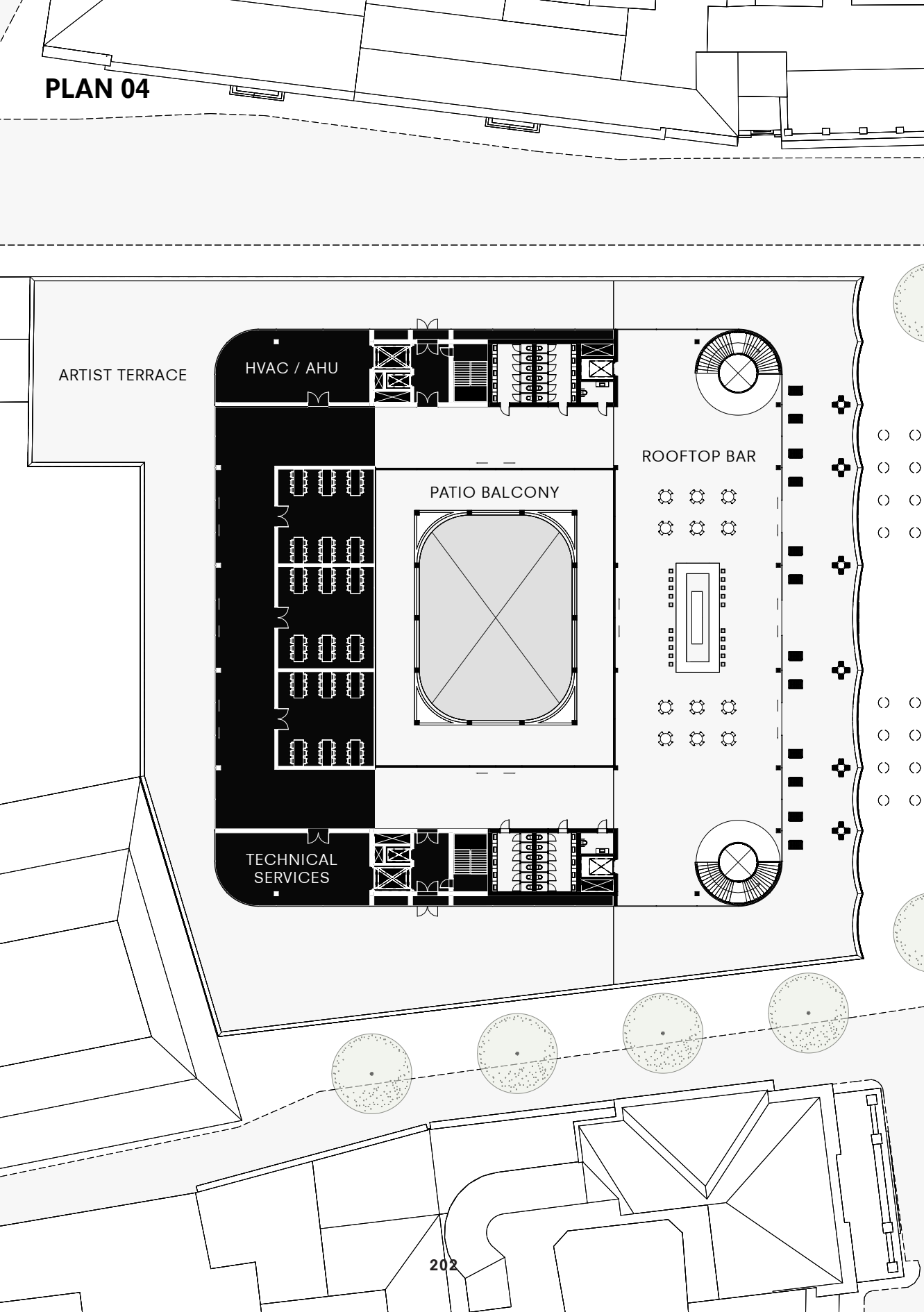
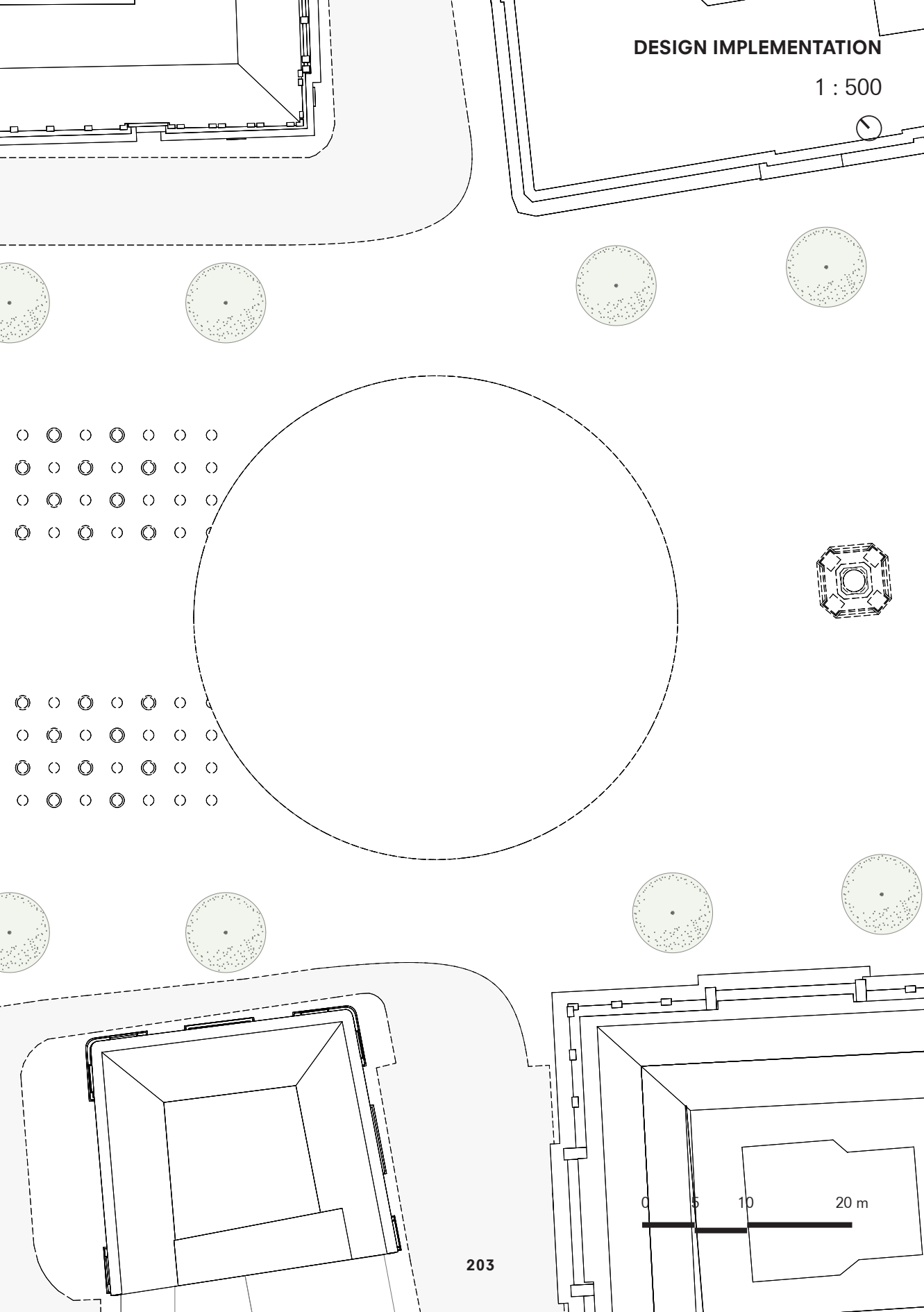
0
5
10
20 m

PLAN 04


ARTIST TERRACE
HVAC / AHU
PATIO BALCONY
ROOFTOP BAR
TECHNICAL SERVICES


DESIGN IMPLEMENTATION
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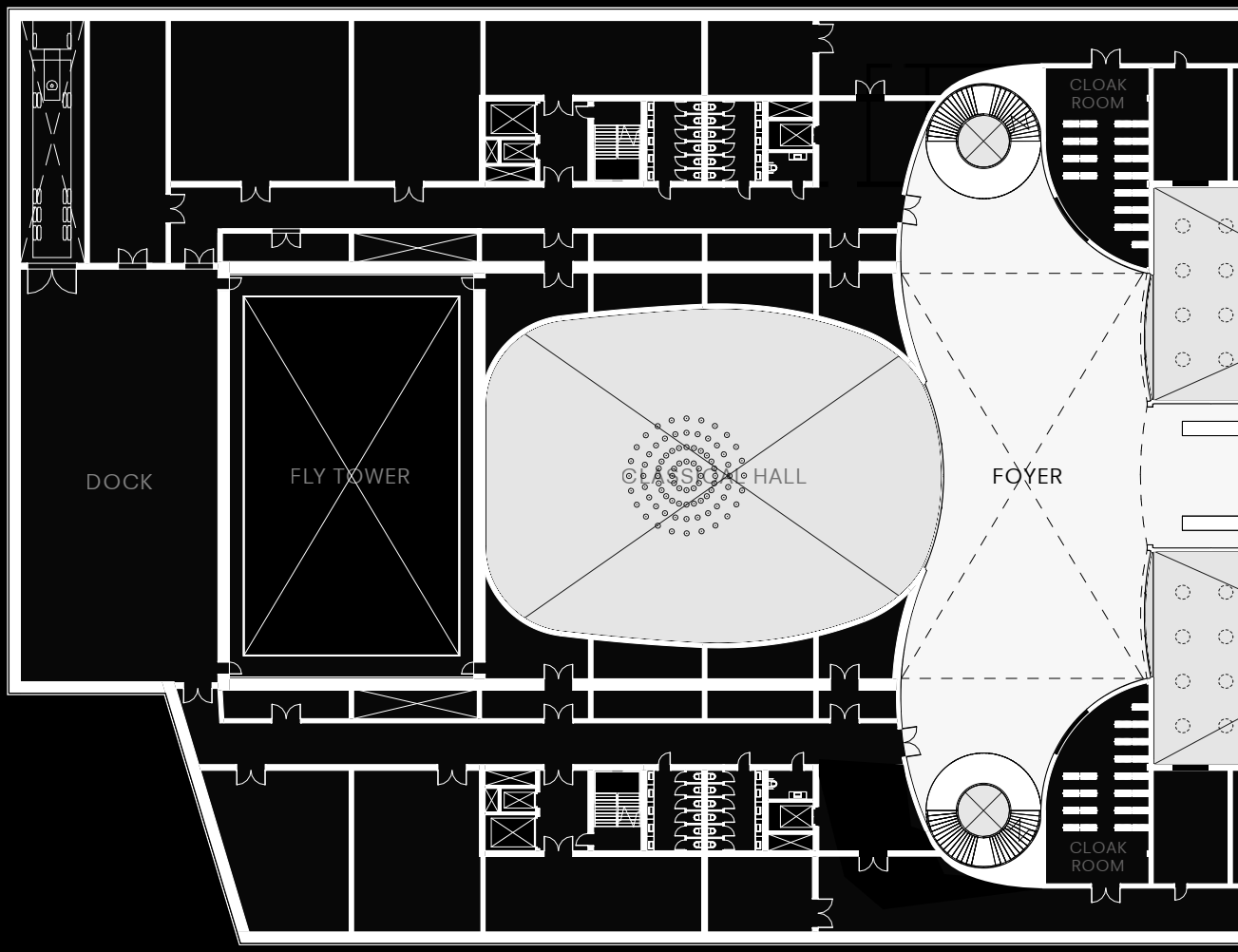
0
5
10
20 m

PLAN -01



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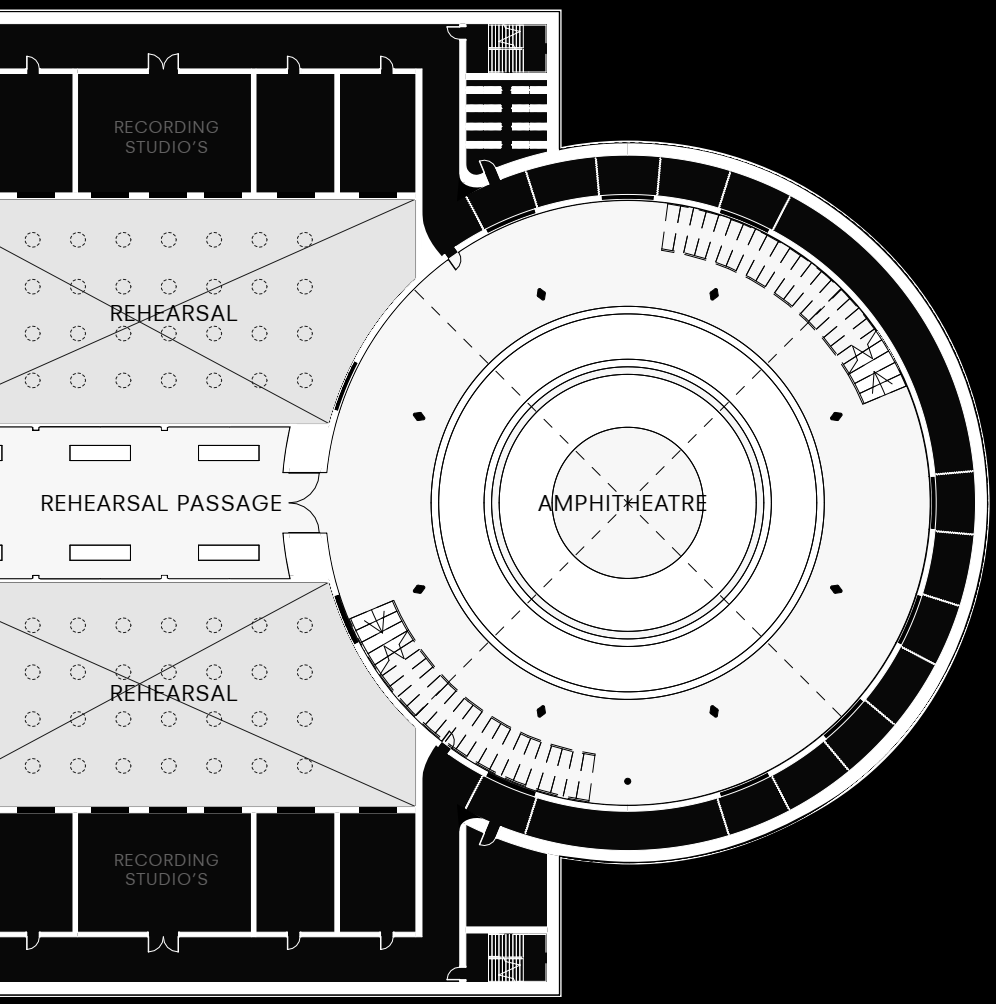
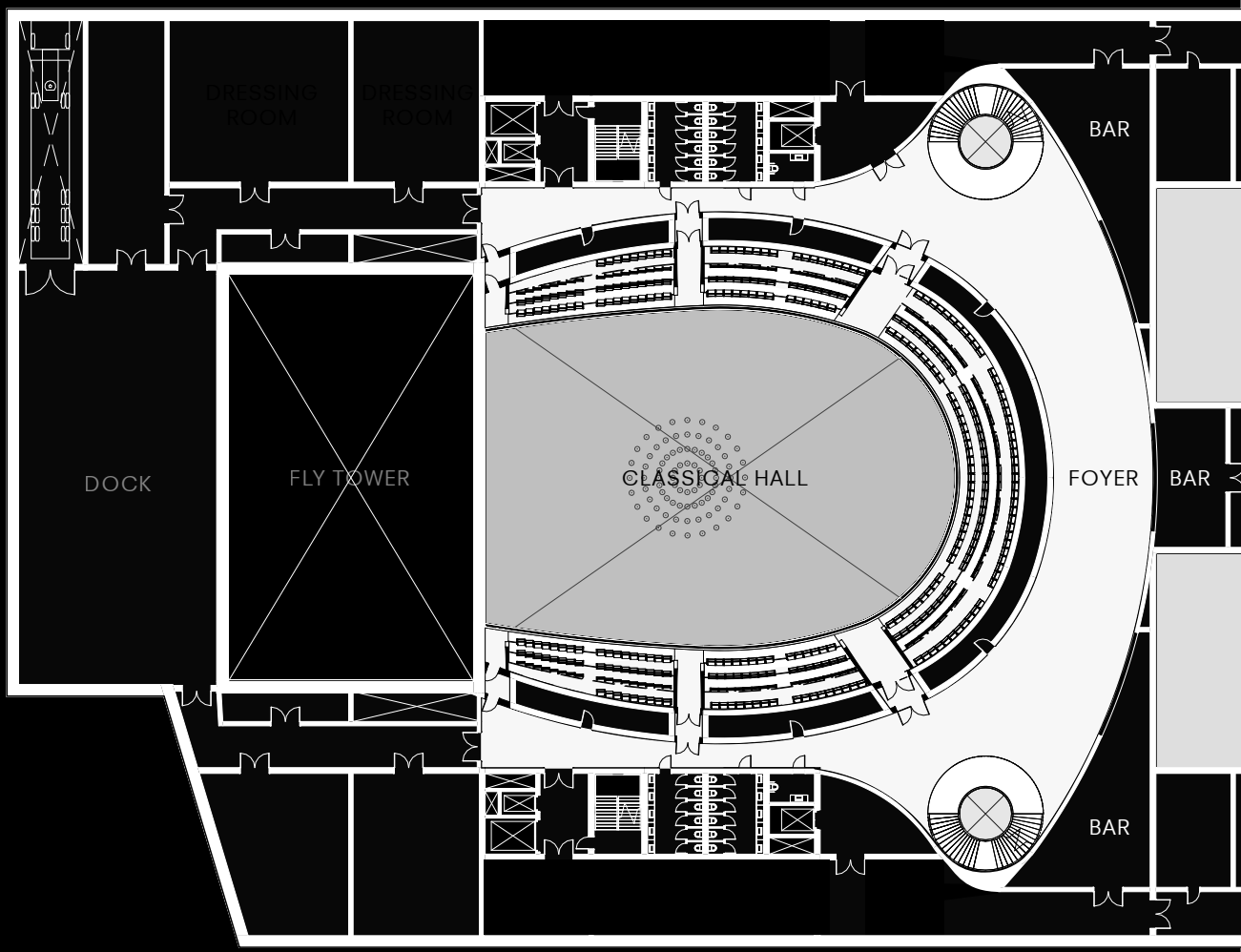
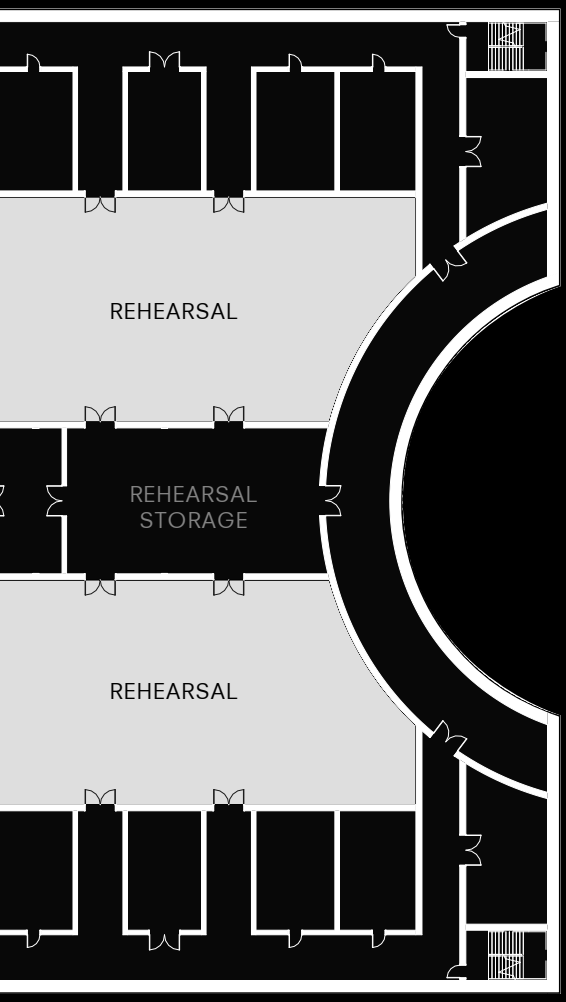


0 5 10 20 m

PLAN -02


DRESSING ROOM
DRESSING ROOM
BAR
DOCK
FLY TOWER
CLASSICAL HALL
FOYER
BAR
BAR

1 : 500



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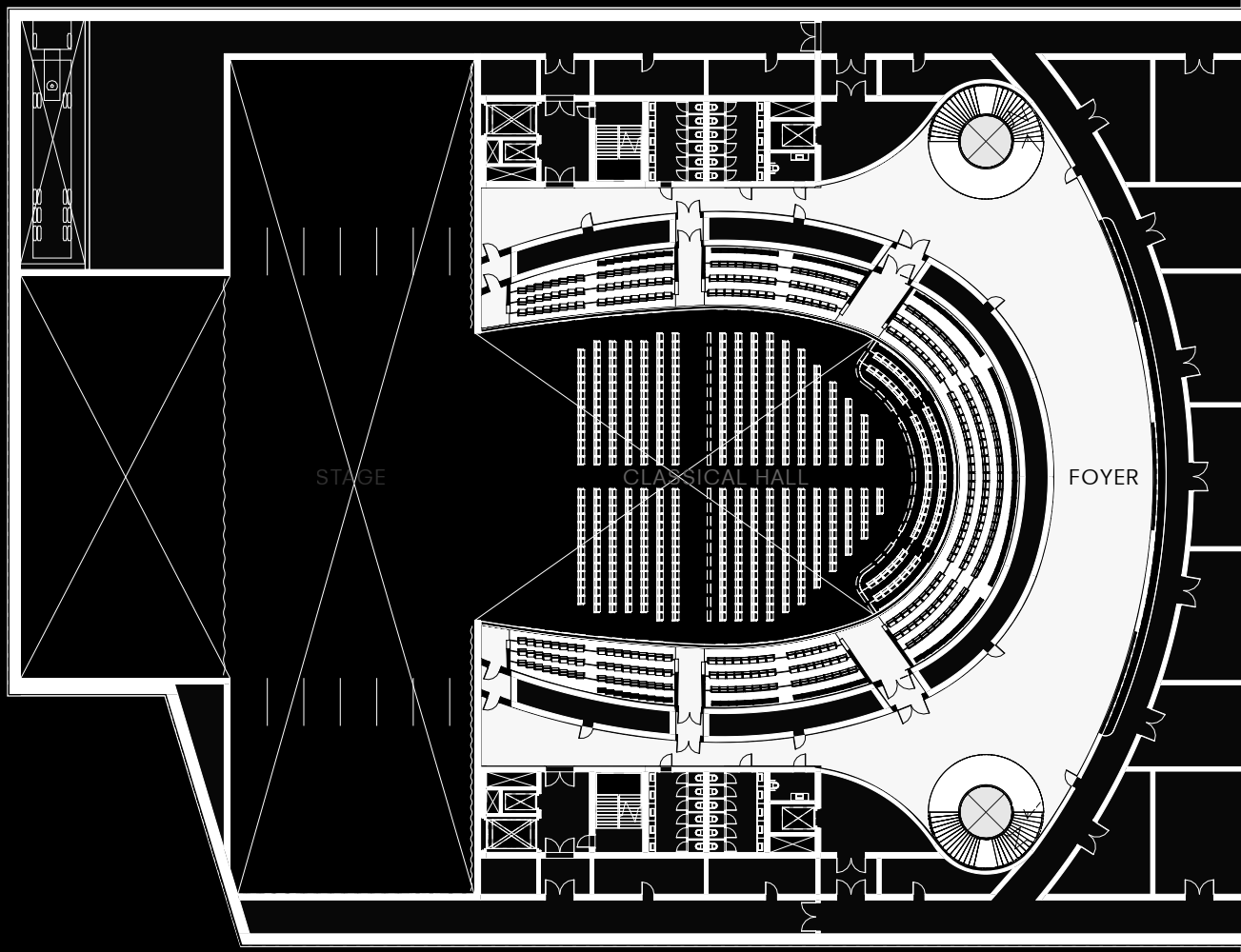
PLAN -04



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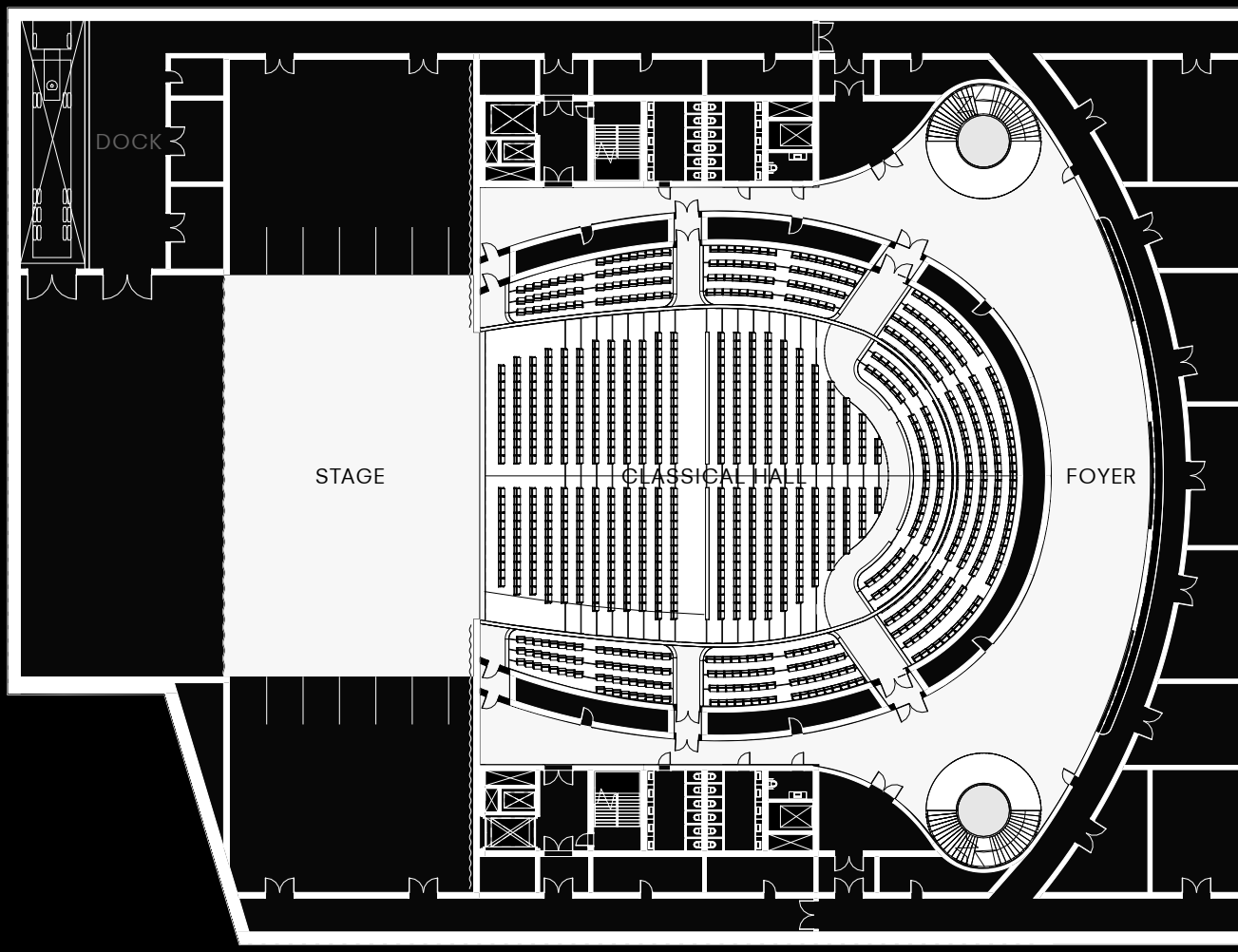
PLAN -05



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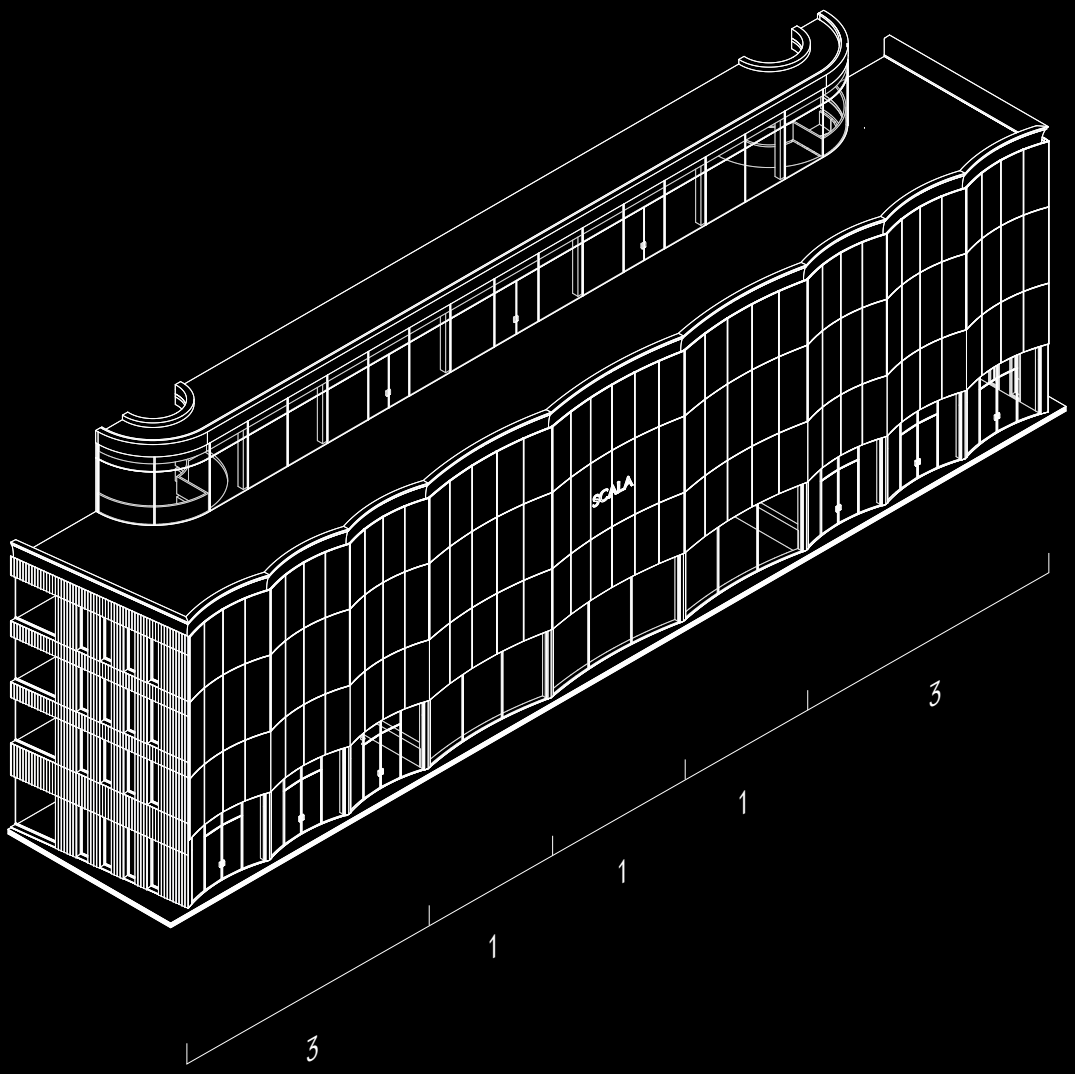
0 5 10 20 m

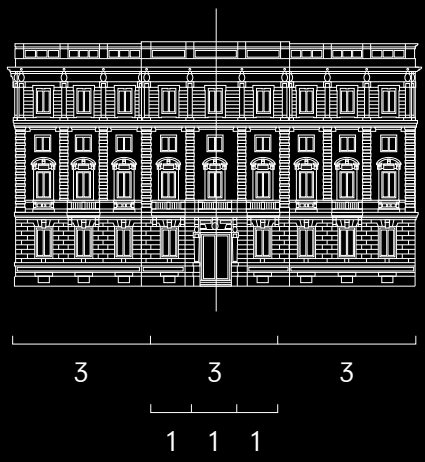
SCA

ALA

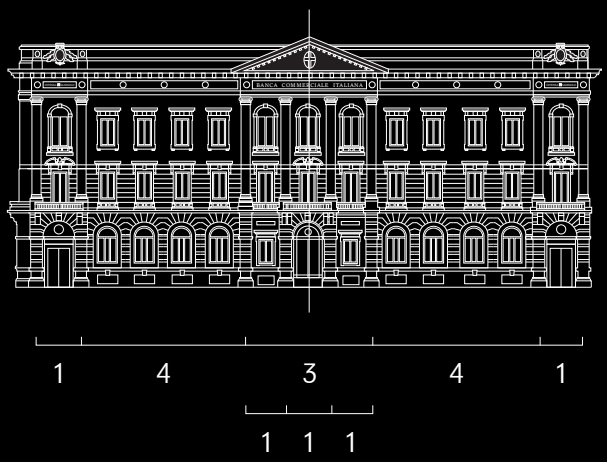
CLASSICAL CONTEXTUAL COHESION



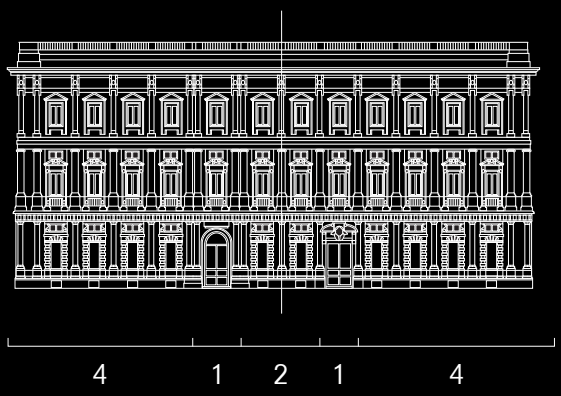
PALAZZO BELTRAMI



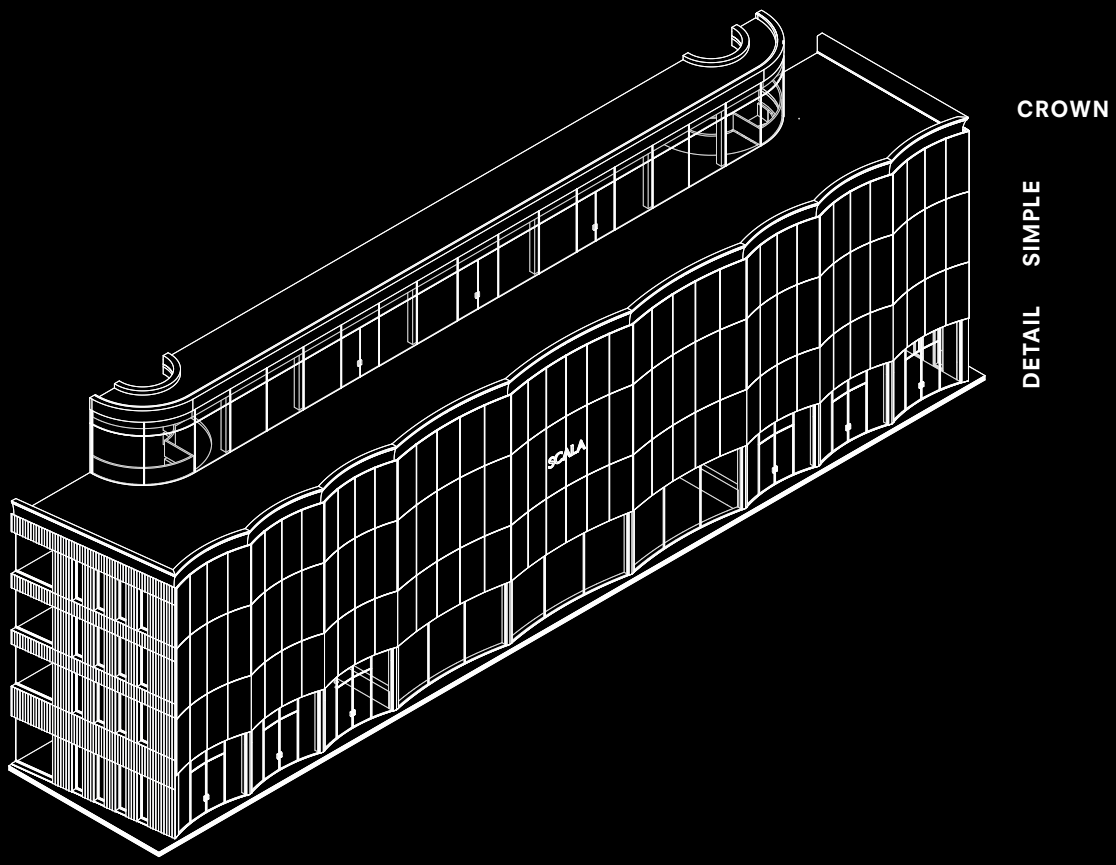
PALAZZO DELLA BANCA COMMERCIALE ITALIANA



PALAZZO MARINO



CLASSICAL CONTEXTUAL COHESION

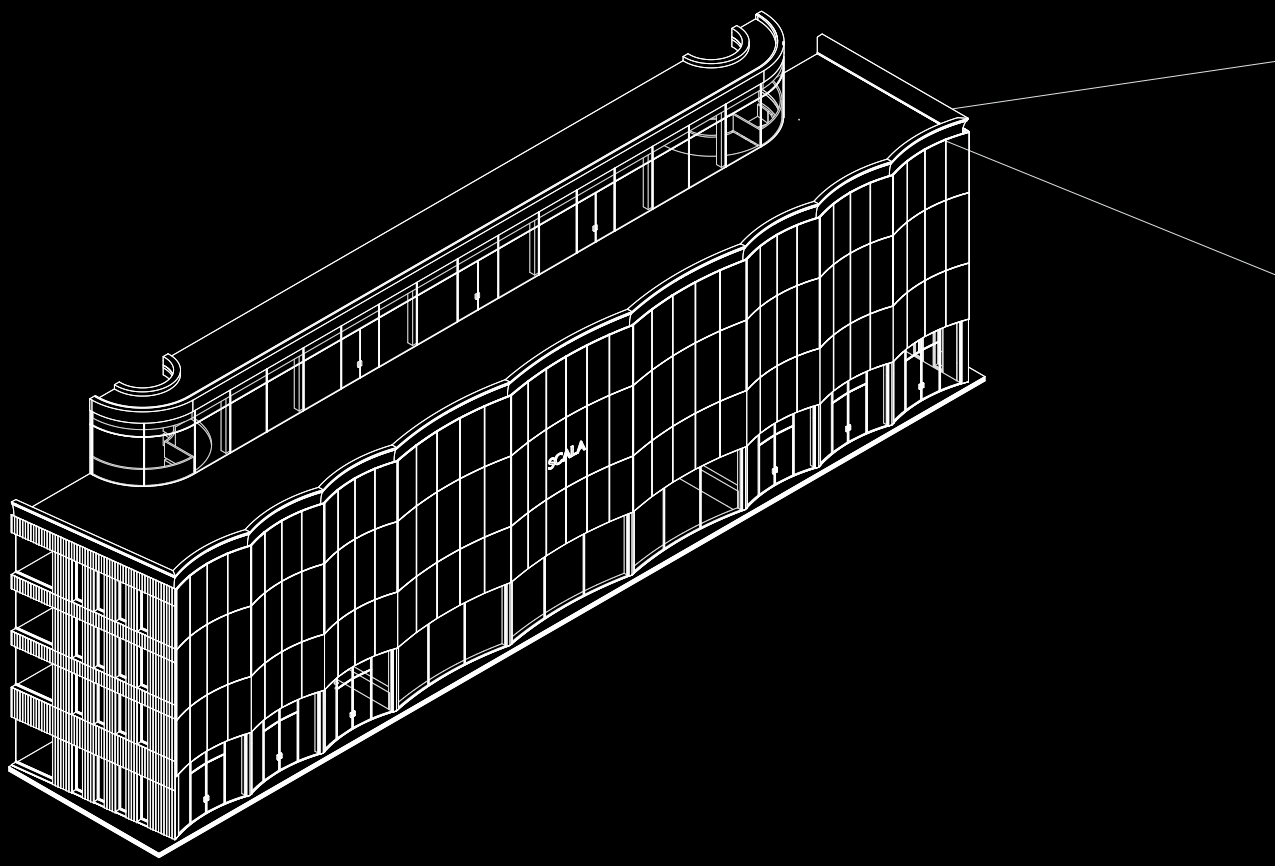


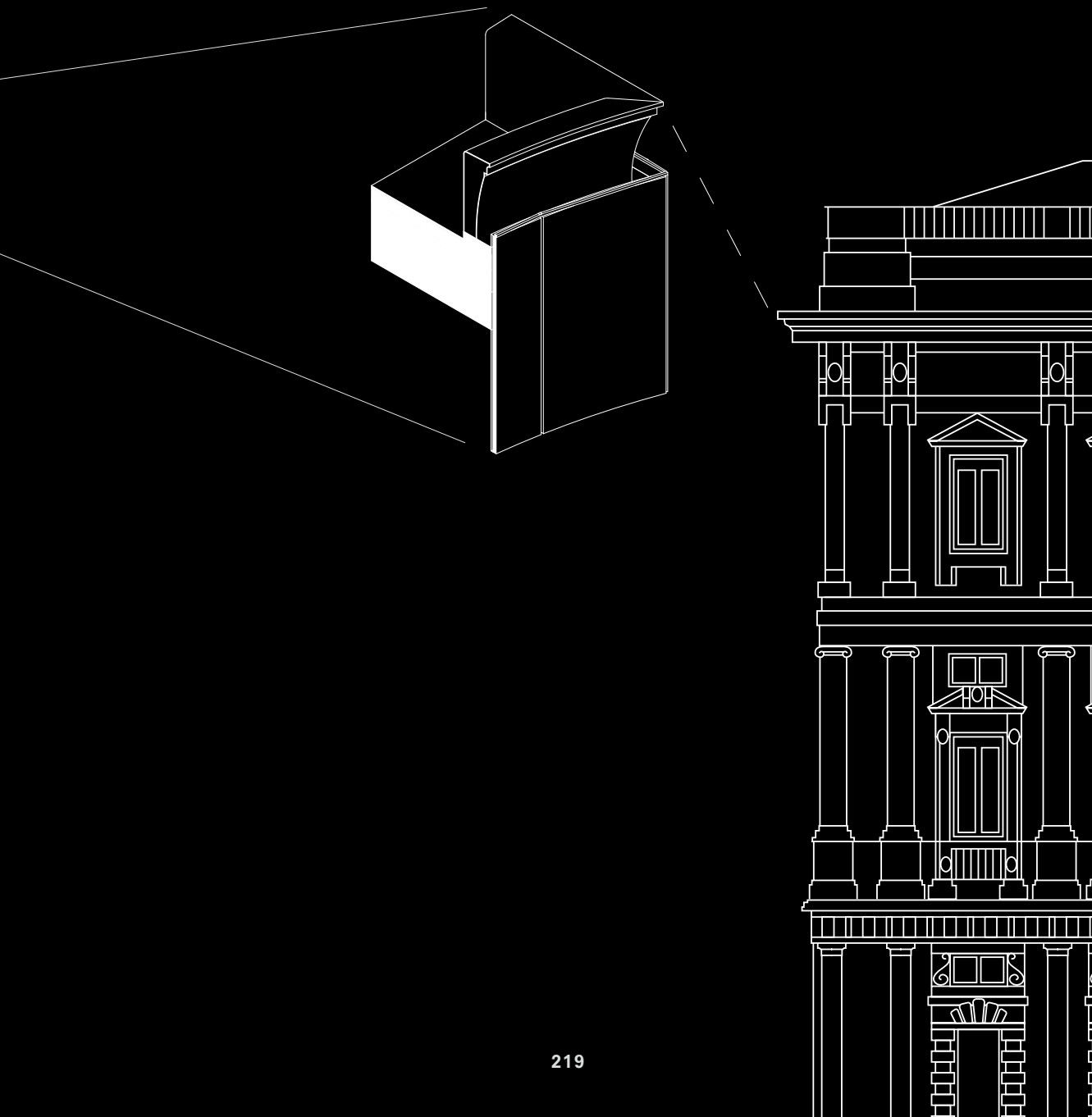
CROWN

DETAIL SIMPLE

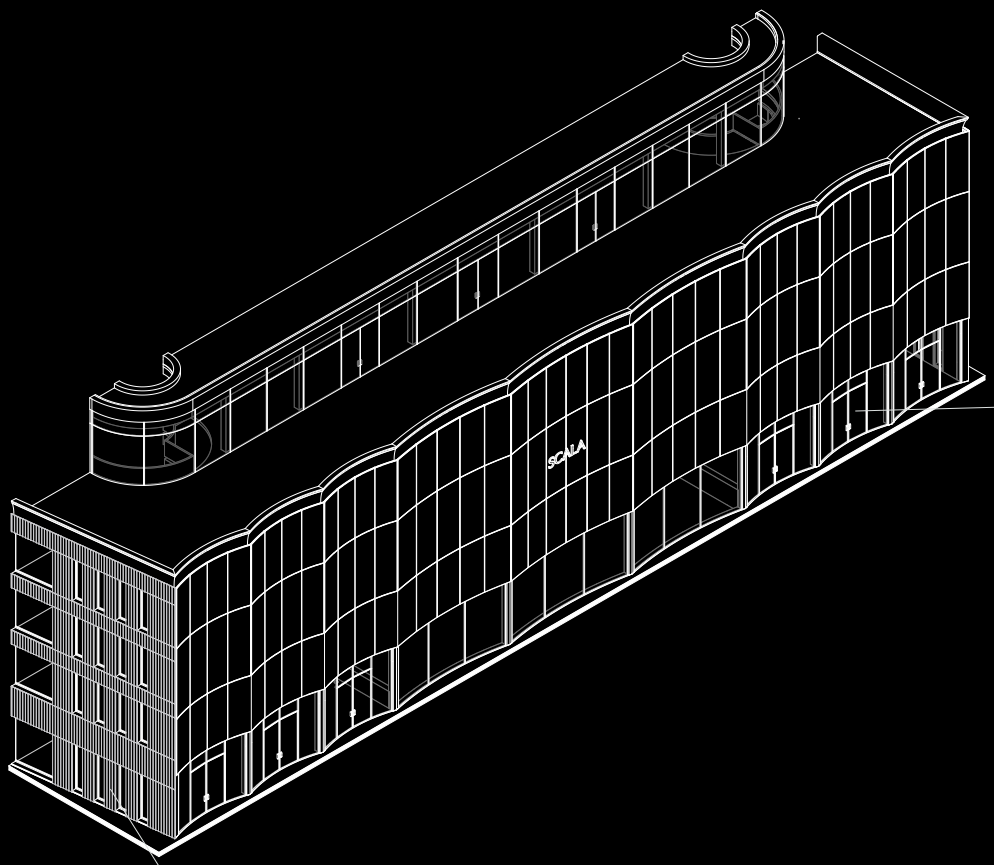
CROWN
SIMPLE
DETAIL

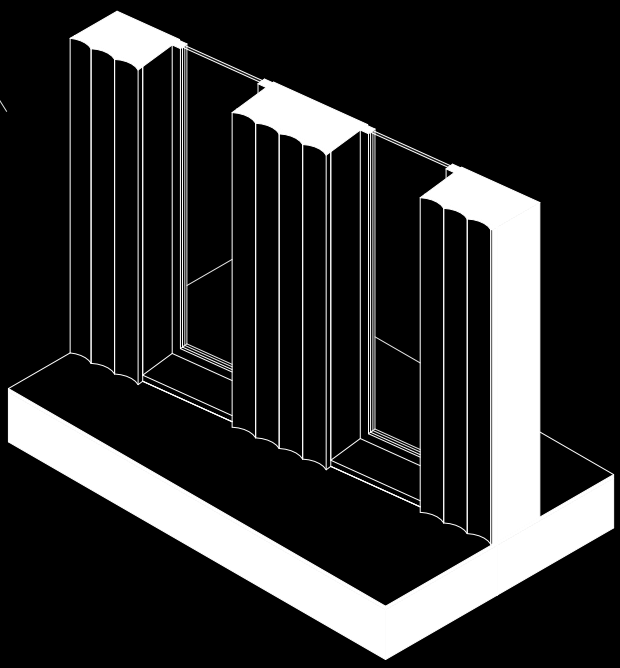
COHESIVE DESIGN LANGUAGE.

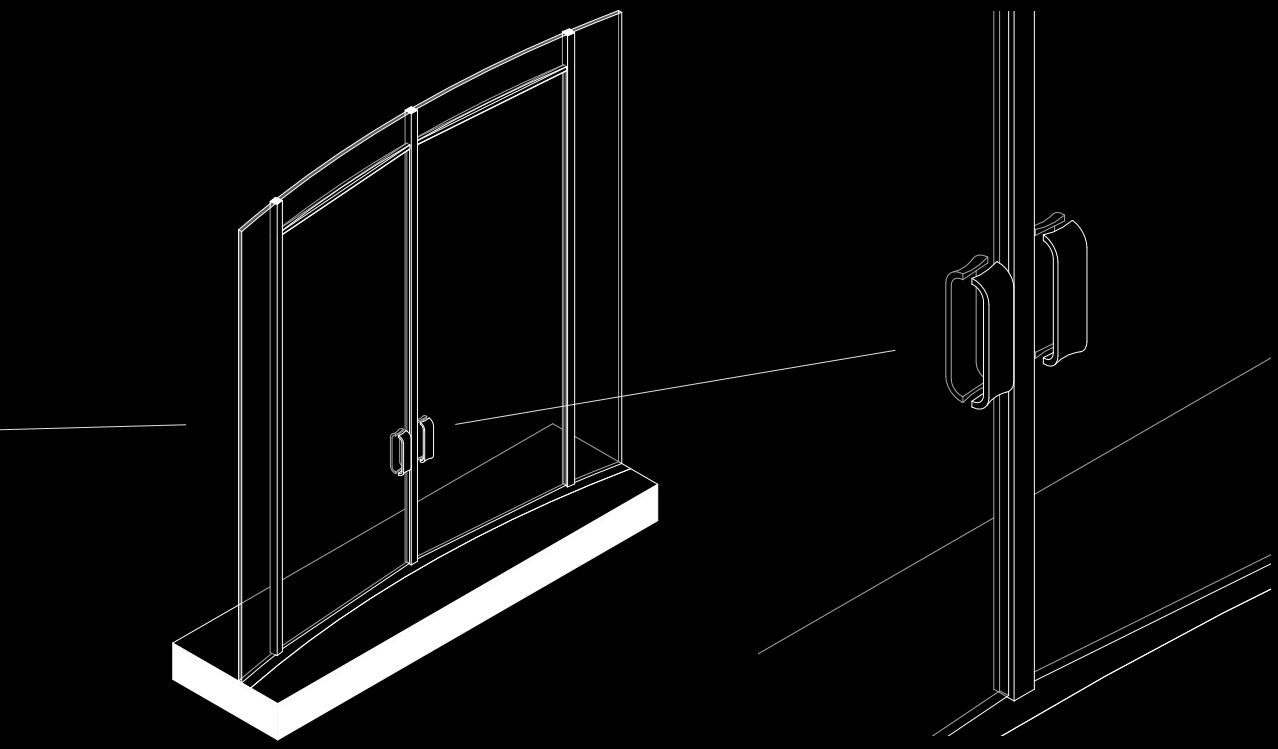


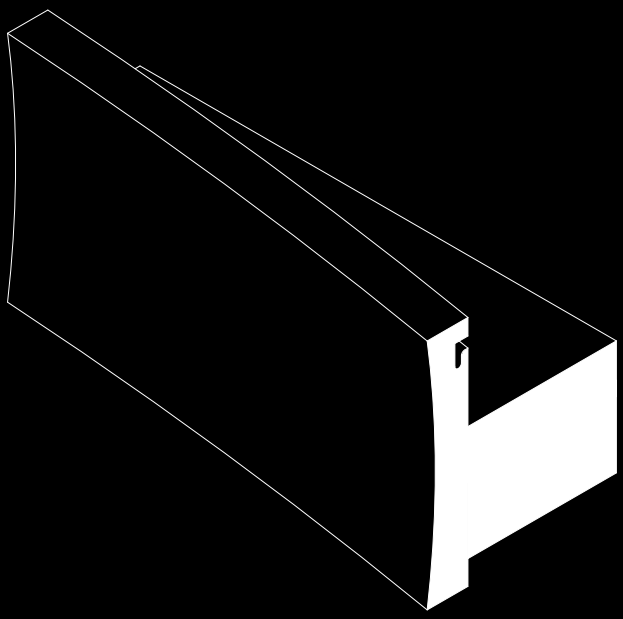


COHESIVE DESIGN LANGUAGE.

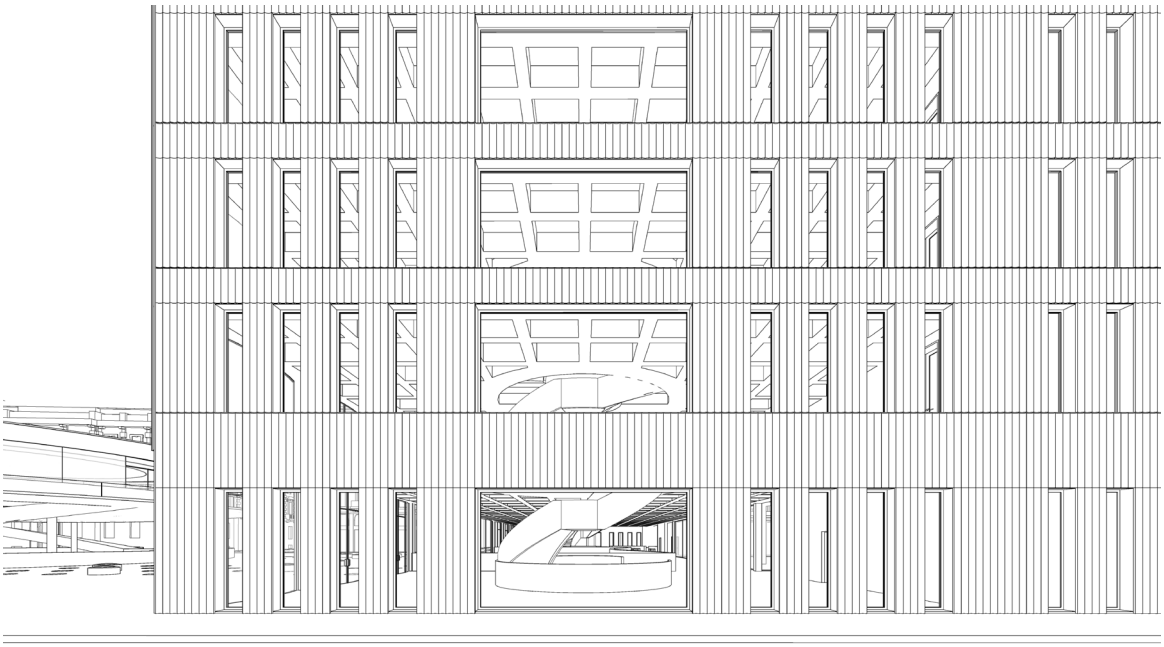






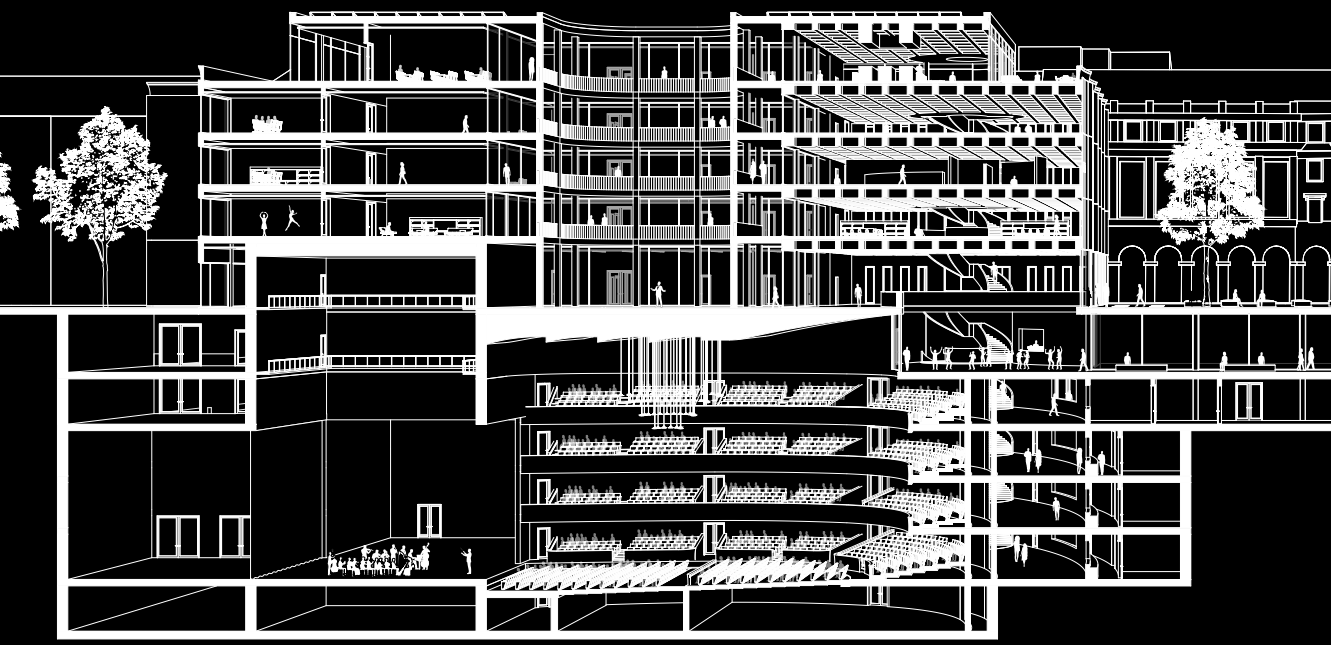


EAST (WEST) FACADE



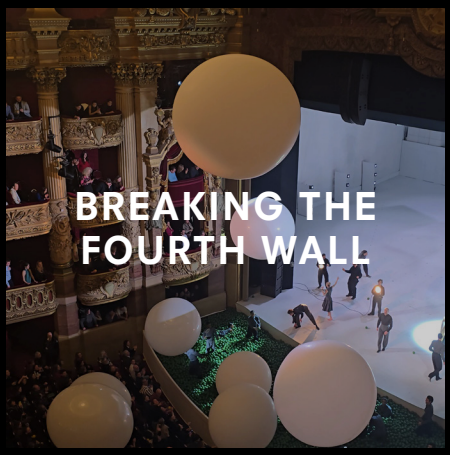
ROLEX HALL

A FLOATING STAGE FOR THE MILAN'S NEXT GENERATION



The Rolex Hall perches above the piazza like a hovering disk drawing in a younger audience. Inside, the uninterrupted 360° panorama dissolves the boundary between stage and city, so every performance feels woven into the urban fabric. By day it serves as a dynamic viewing platform, inviting visitors to admire the historic context, while by night it transforms into an intimate, performance hall where music, dance, art and experimental performances converge under one continuous ceiling of light.

ROLEX HALL



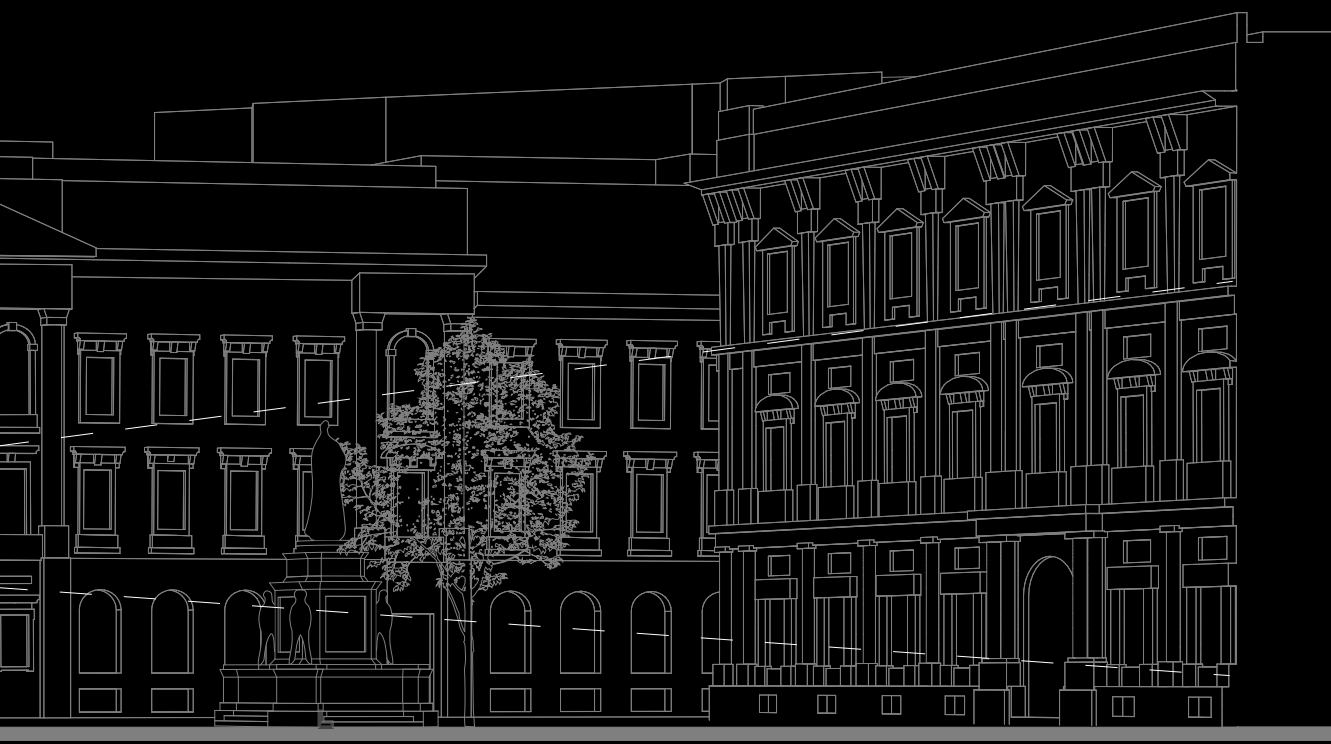
EXPERIMENTAL

COLLABORATIONS
& SPECIAL EVENTS

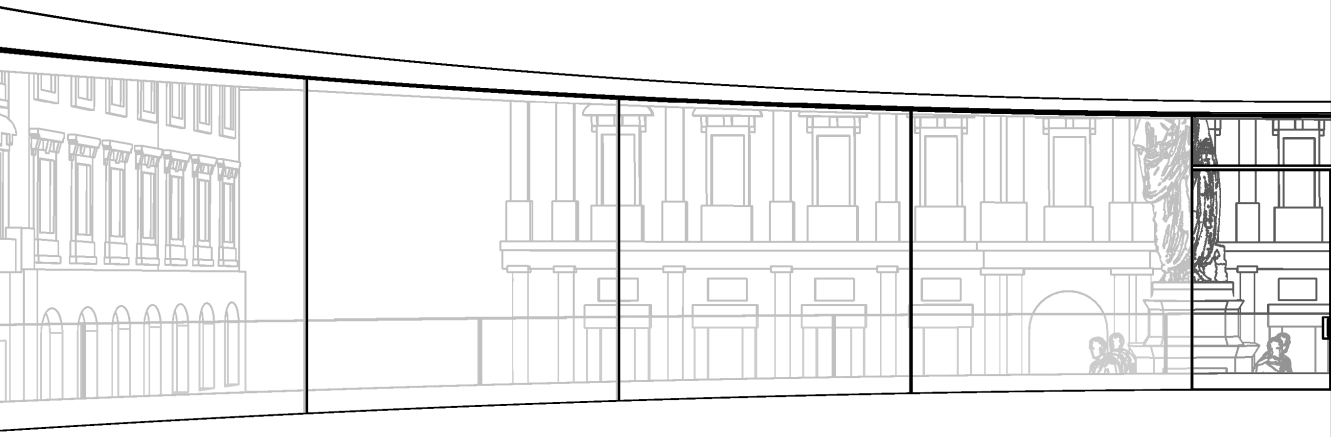
ROLEX HALL

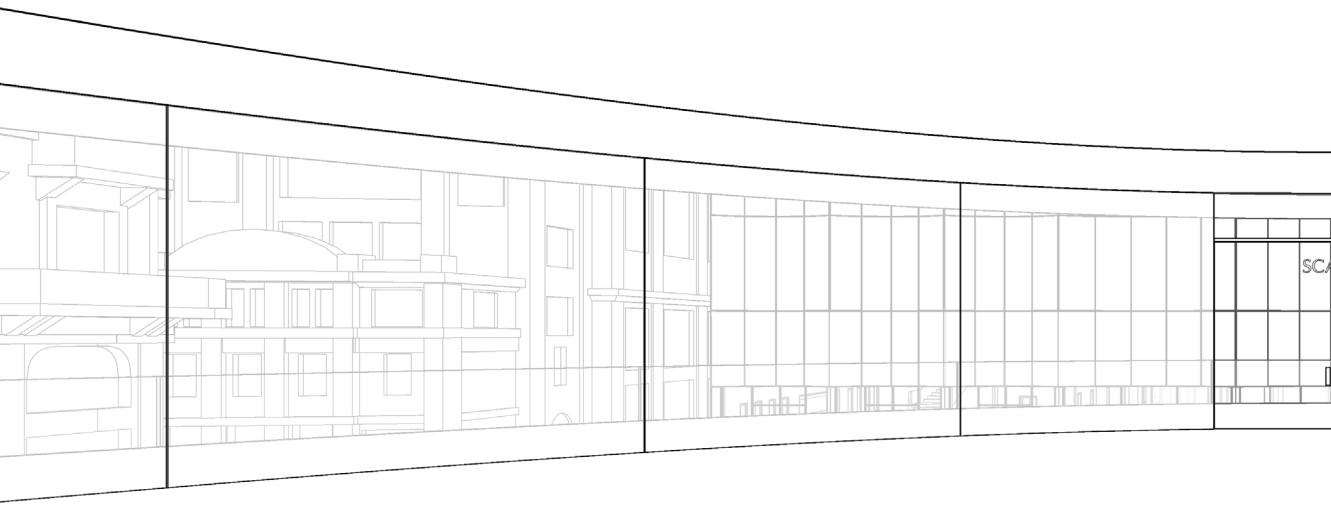
The Rolex Hall forms a living diorama of Milan, uninterrupted curved glazing frames the city like a stage set, turning the audience's gaze outward as much as inward. Inspired by 19th-century panoramas like Panorama Mesdag, the hall blurs the boundary between performance and public life.

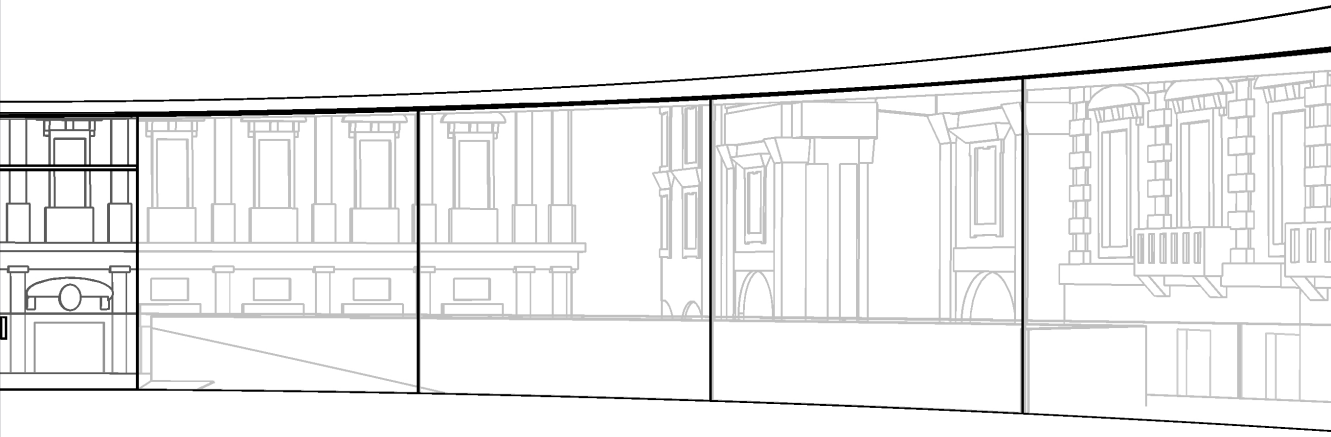
As daylight shifts and events unfold, the city itself becomes part of the spectacle, reminding visitors that culture doesn't stop at the walls, but flows continuously between theatre and street.

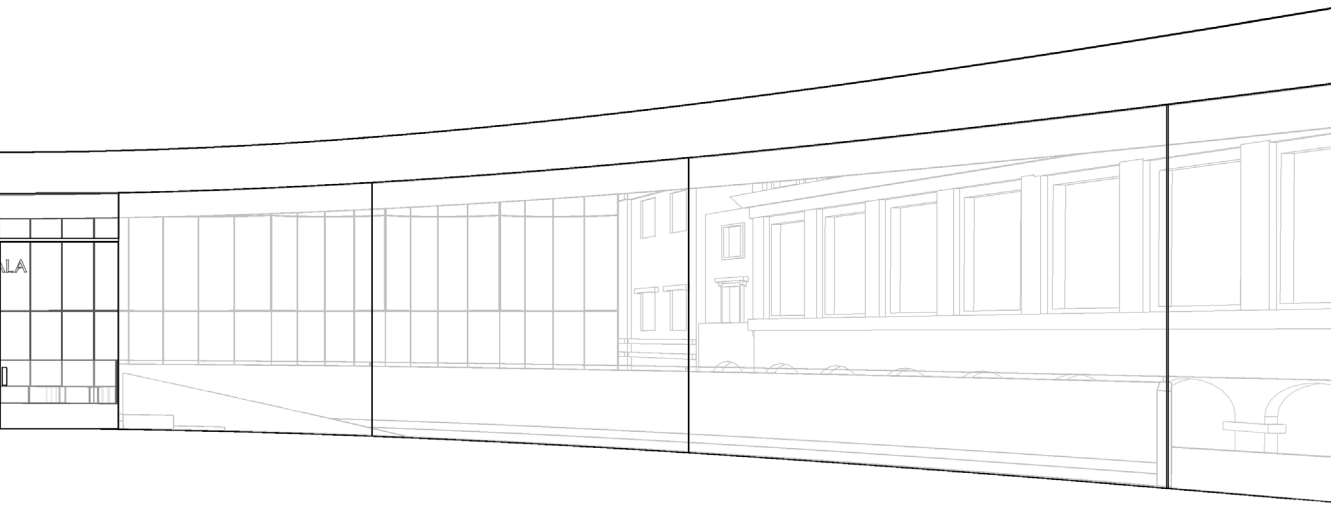


ROLEX HALL



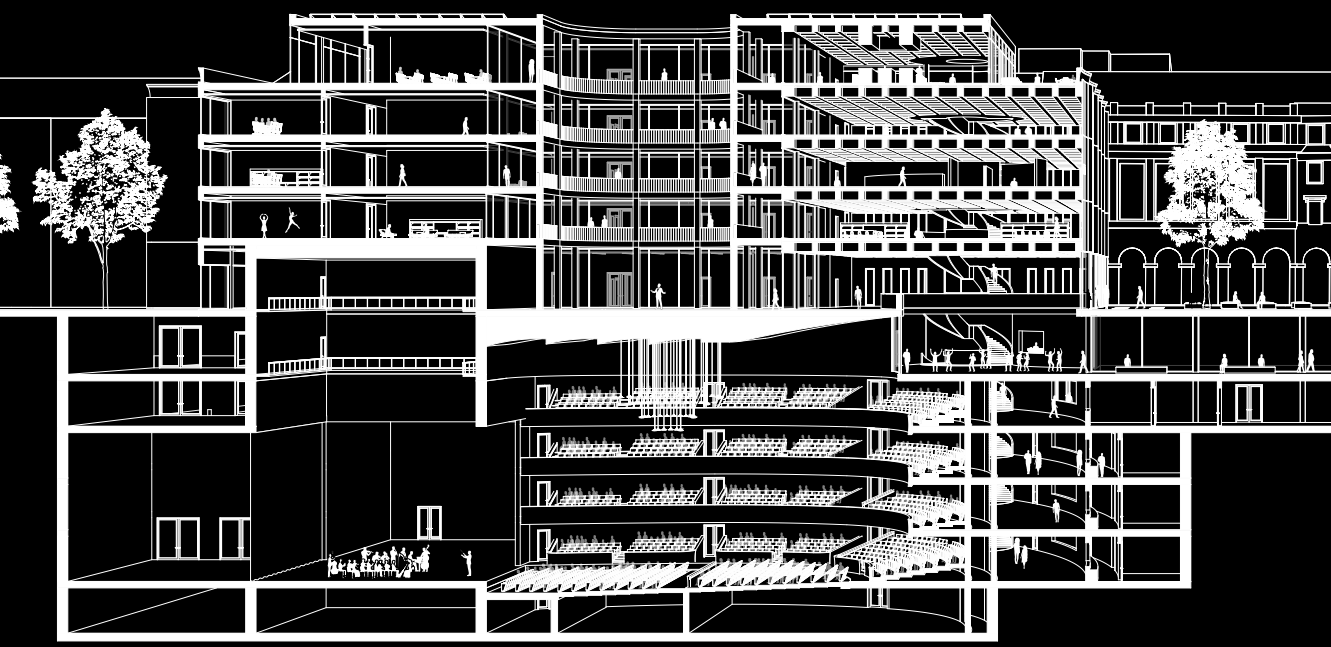




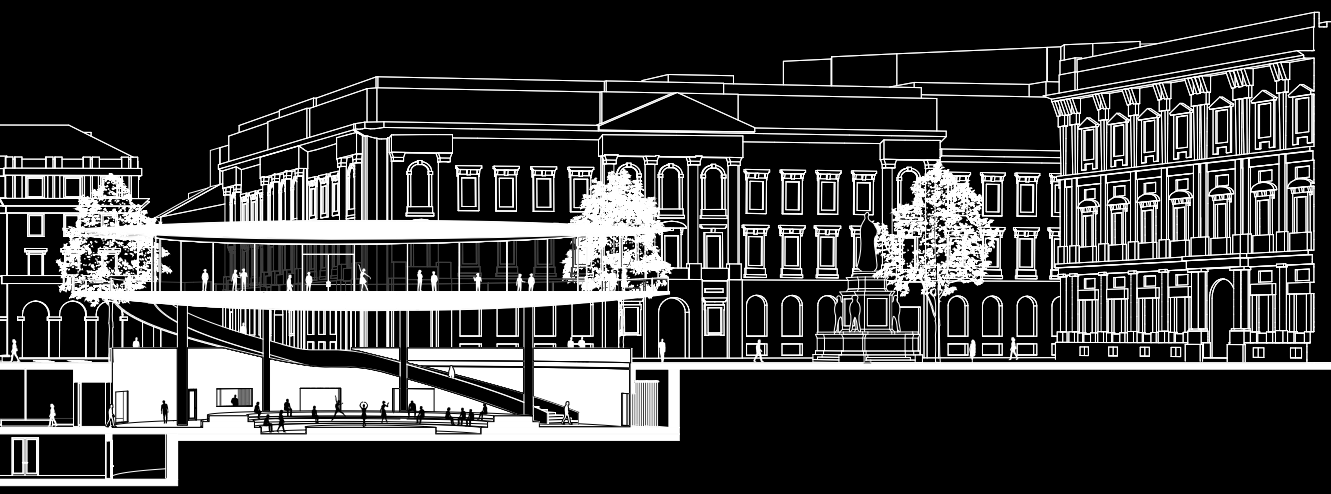


AMPHITHEATRE

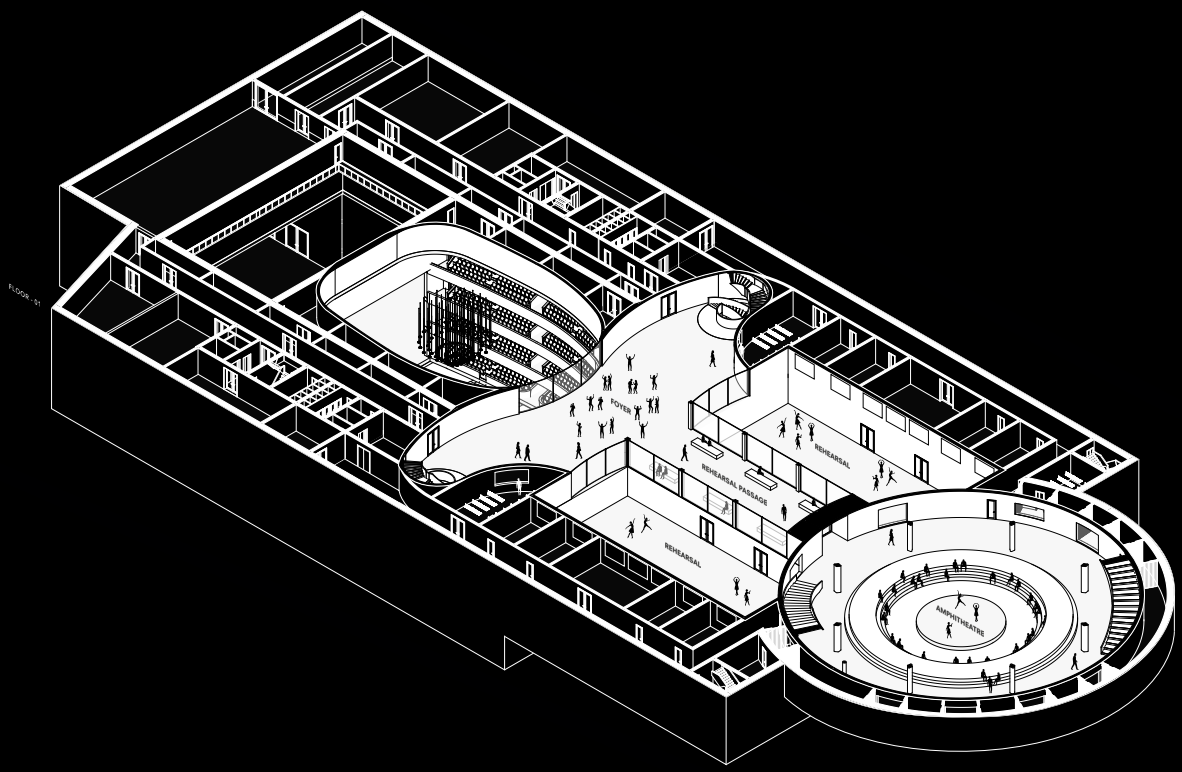
AN EMBEDDED STAGE FOR CULTURAL EVENTS



The Amphitheatre becomes a living stage for the city's cultural life, hosting runway shows during Fashion Week, installations and talks in Design Week, or community-led performances and gatherings.



AMPHITHEATRE



AMPHITHEATRE

"It absorbs events and feelings, and every new event contains within it a memory of the past and a potential memory of the future."

Aldo Rossi

PERFORMANCES

COMMUNITY

FASHION SHOWS

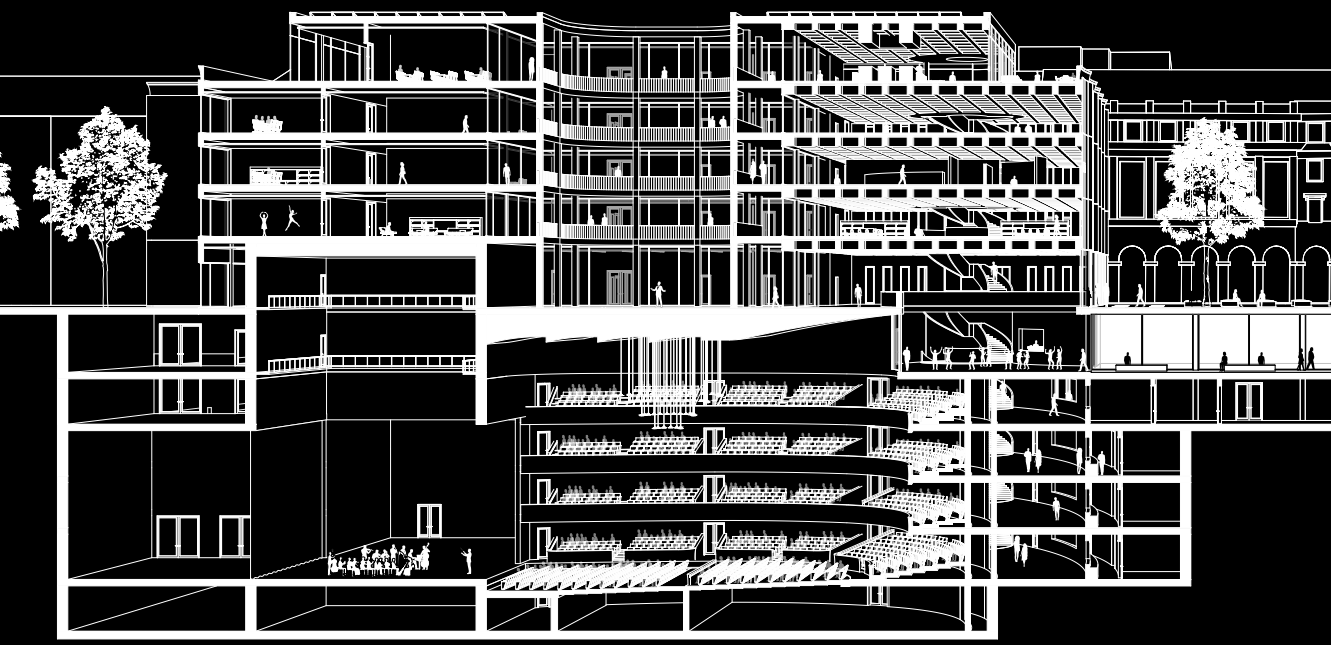
DESIGN WEEK

INFORMAL GATHERING

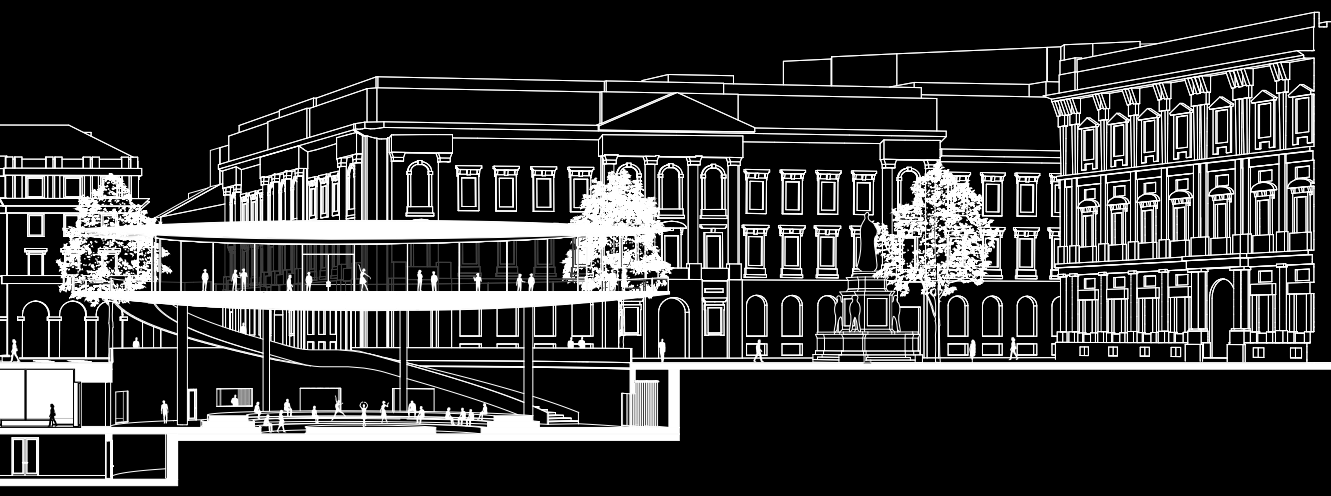
STUDY

REHEARSAL PASSAGE

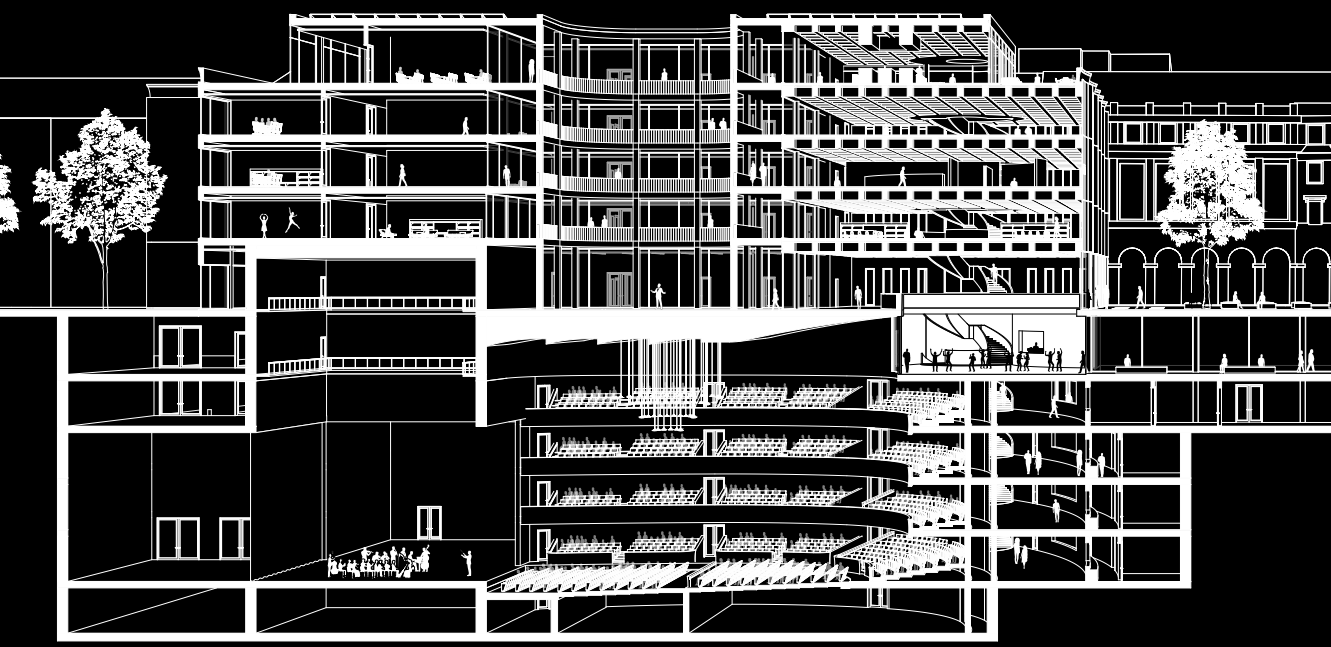
A GALLERY OF CREATIVE EXCHANGE



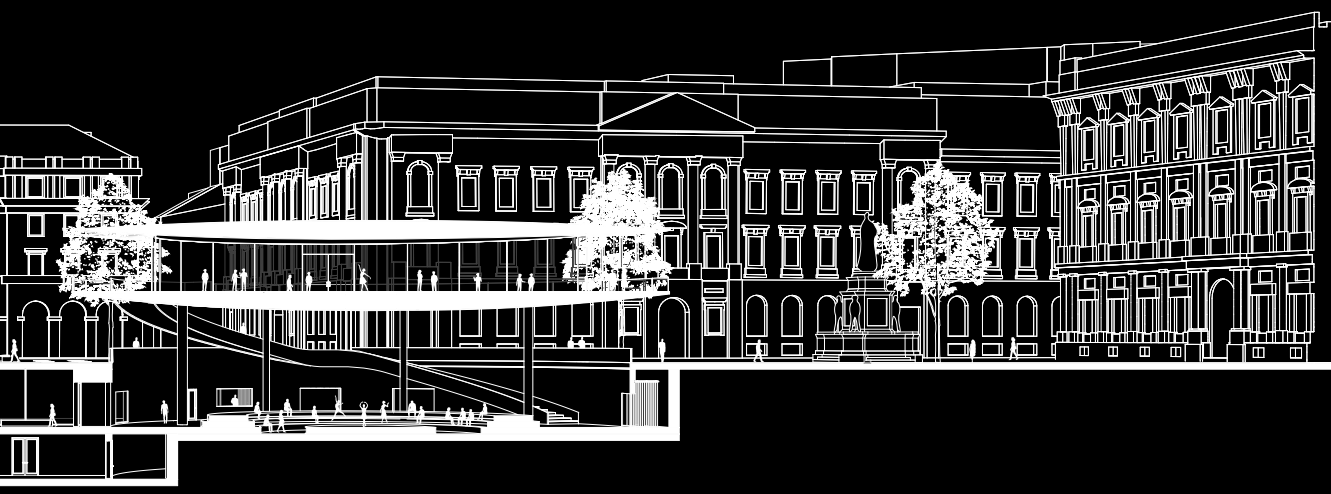
The Rehearsal Passage unfolds from the amphitheatre's lower level, guiding visitors into a spacious, uninterrupted corridor. Floor-to-ceiling glazing on both sides reveals dancers, musicians, and actors at work, blurring the line between front-of-house and backstage.



A DESCENT INTO THE HEART OF OPERA

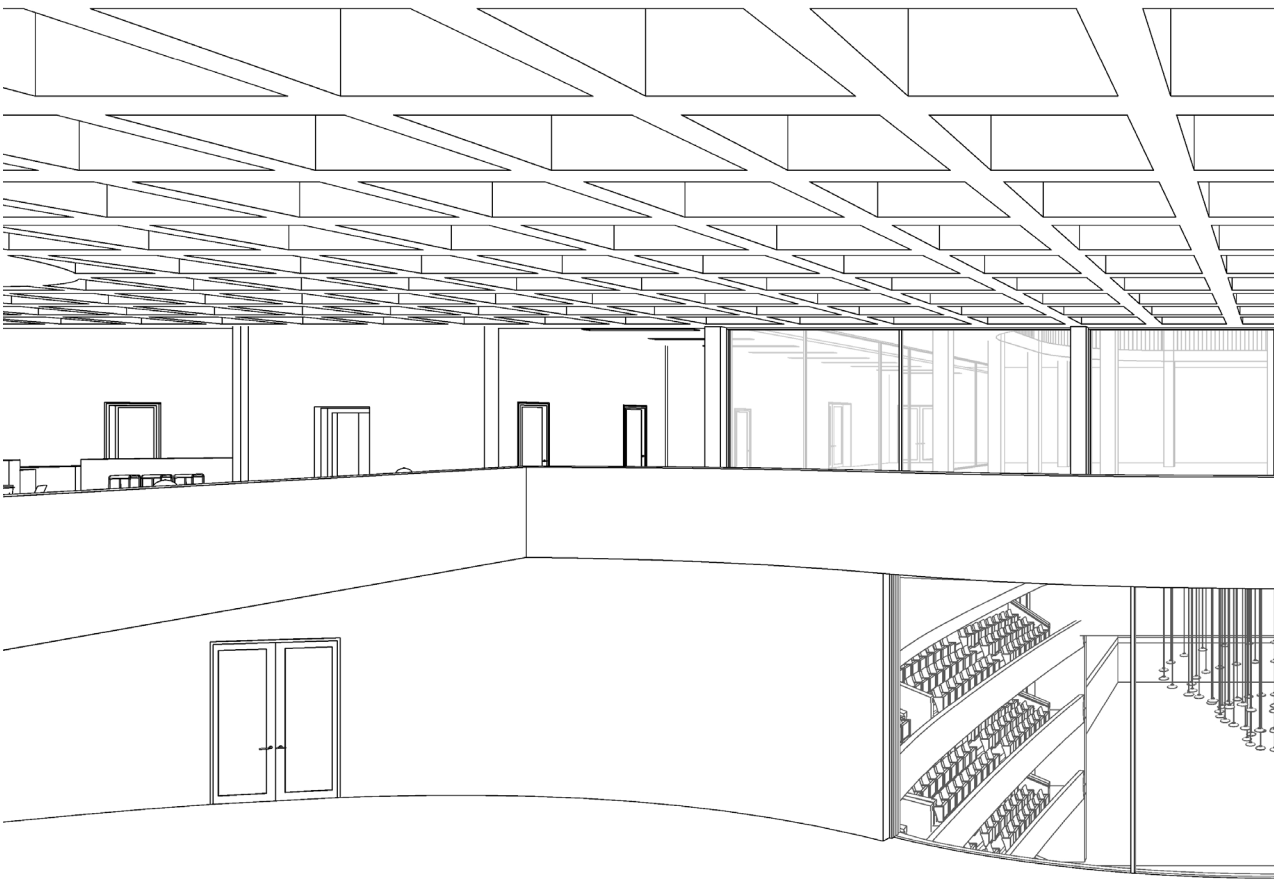


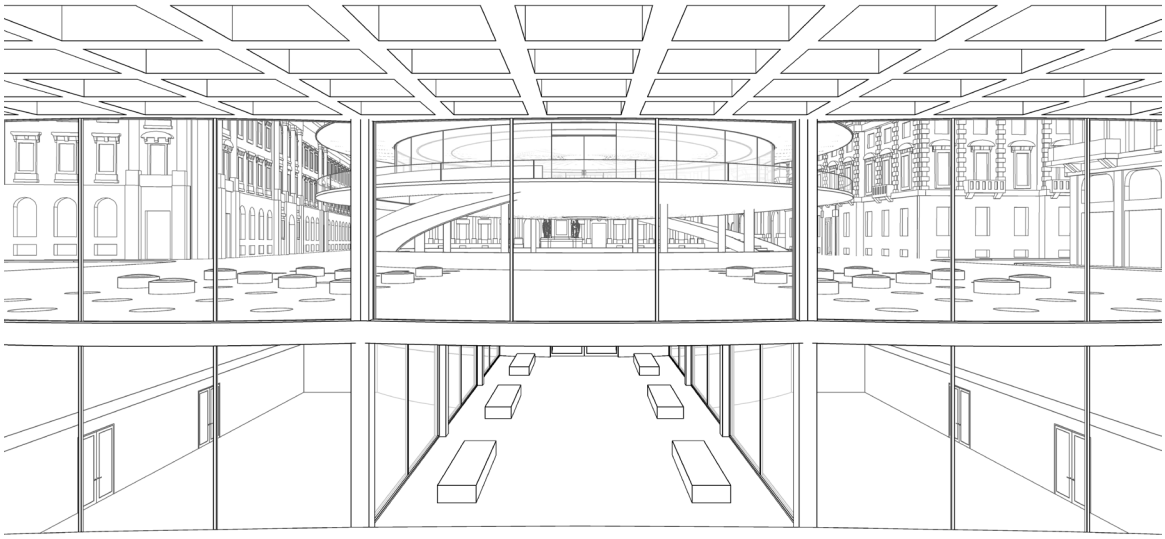
The sunken foyer at level –1 is reached either through the Rehearsal Passage or via one of two spiral staircases descending from above. Daylight pours in through a central void, flooding the space with natural light. Large windows frame views into the classical opera hall, while a direct connection to the restaurant one level up makes it perfect for receptions or pop-up events.

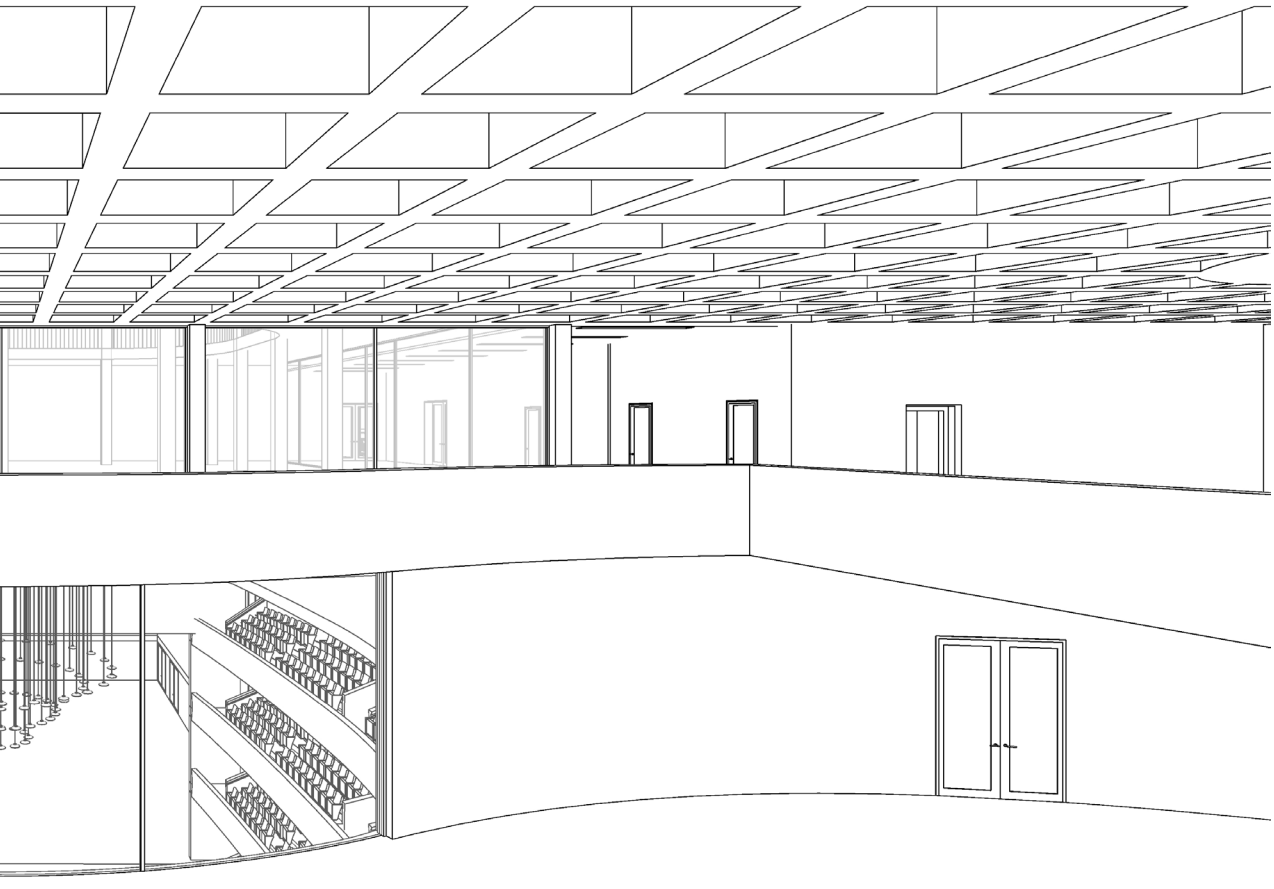


FOYER

As a transparent link between the piazza, the foyer, and the hidden amphitheatre below, this vibrant hub draws in young visitors, inviting them to glimpse the inner life of the theatre and sparking their curiosity for what lies beyond.

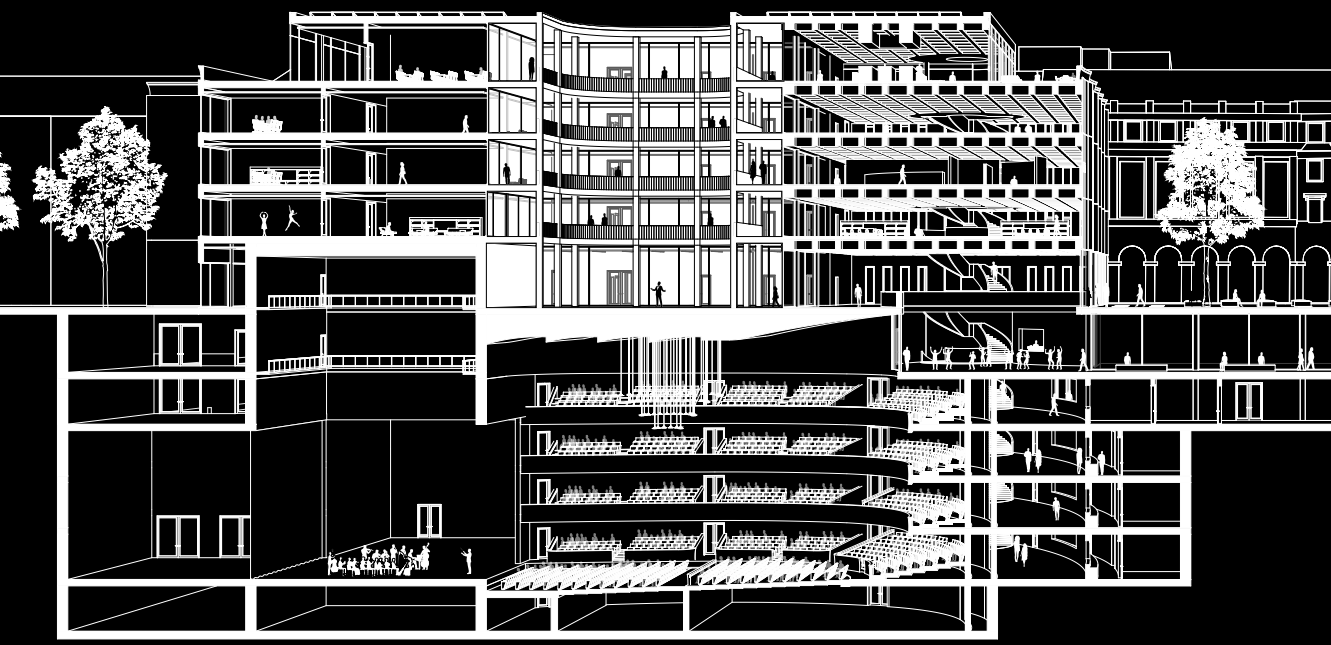




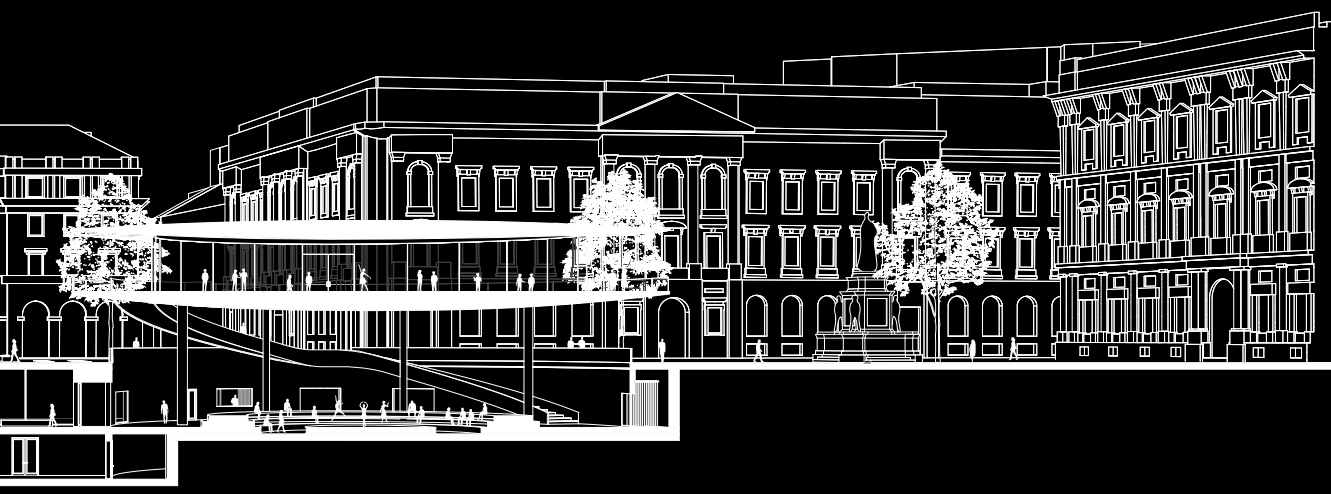


PERFORMANCE PATIO

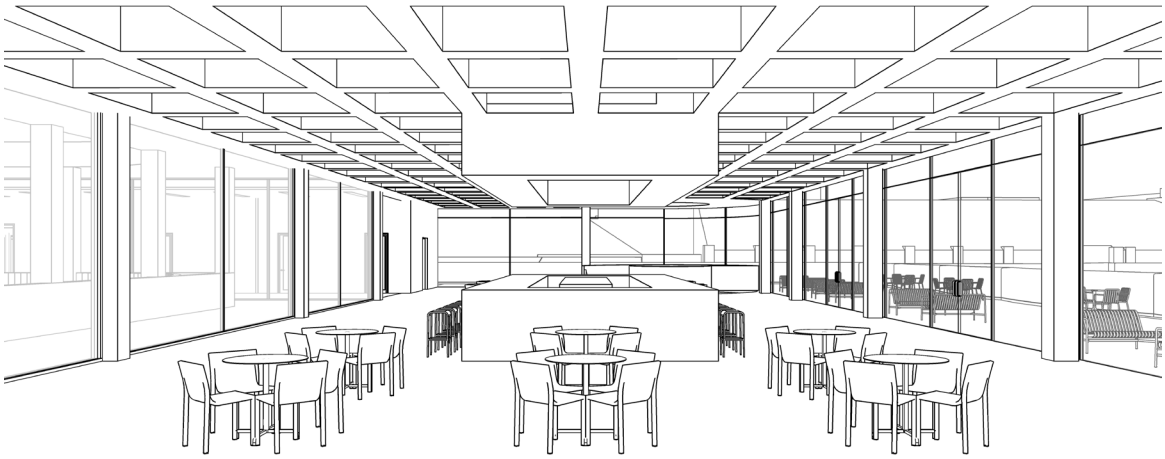
ELEVATING PERFORMANCES



The Performance Patio sits at the heart of the building as a sunlit courtyard lush with plants, transforming into an open-air stage for music, dance, and experimental work. The central light well bathes the surrounding program in daylight and lets the sound of each performance spill upward through the greenery. Audiences can gather on the ground level or lean over from the balconies, enjoying both the show and the living, breathing landscape that frames it.

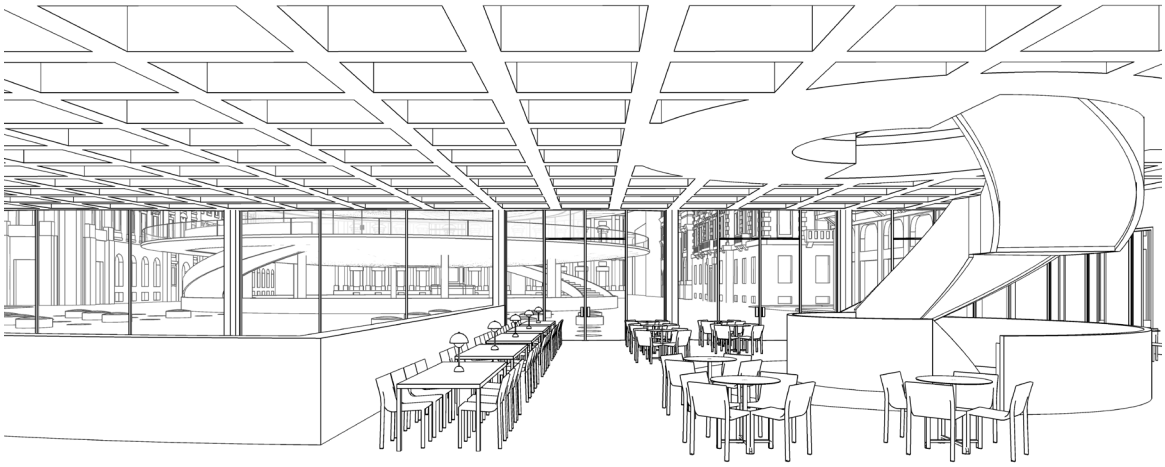


ROOFTOP BAR



Overlooking Piazza della Scala, the rooftop bar offers a vibrant social space that connects Milan's historic heart with contemporary culture.

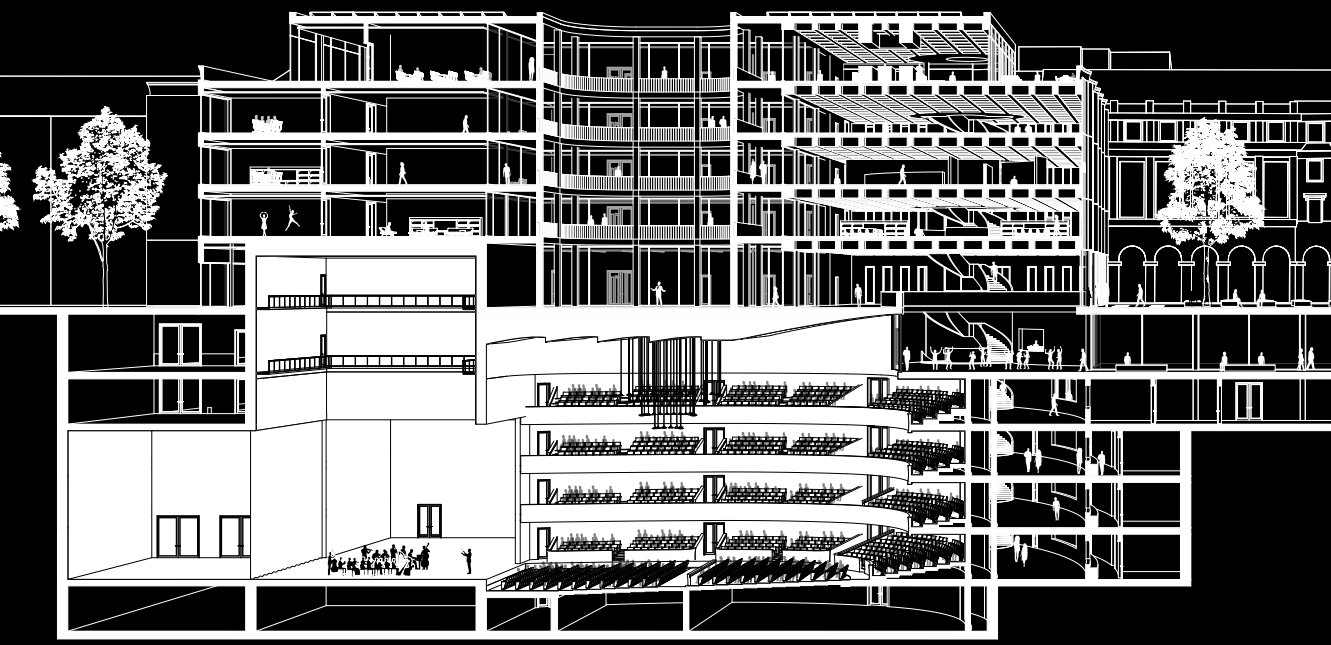
RESTAURANT



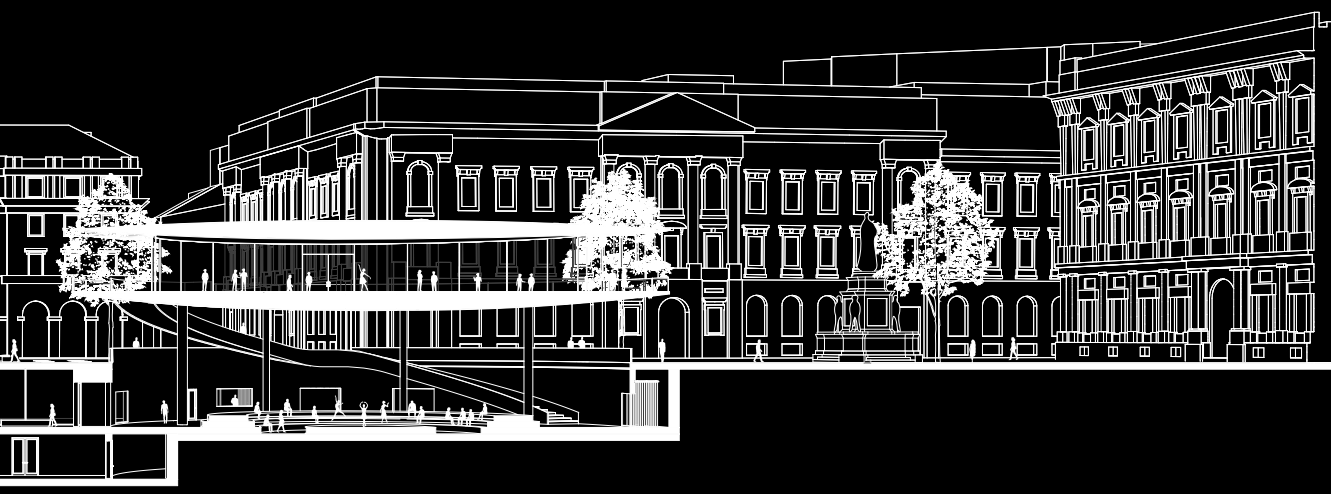
The restaurant at the ground floor opens directly onto Piazza della Scala, creating a seamless connection between city and building. At its heart, a sculptural staircase anchors the space inviting visitors to explore.

CLASSICAL HALL

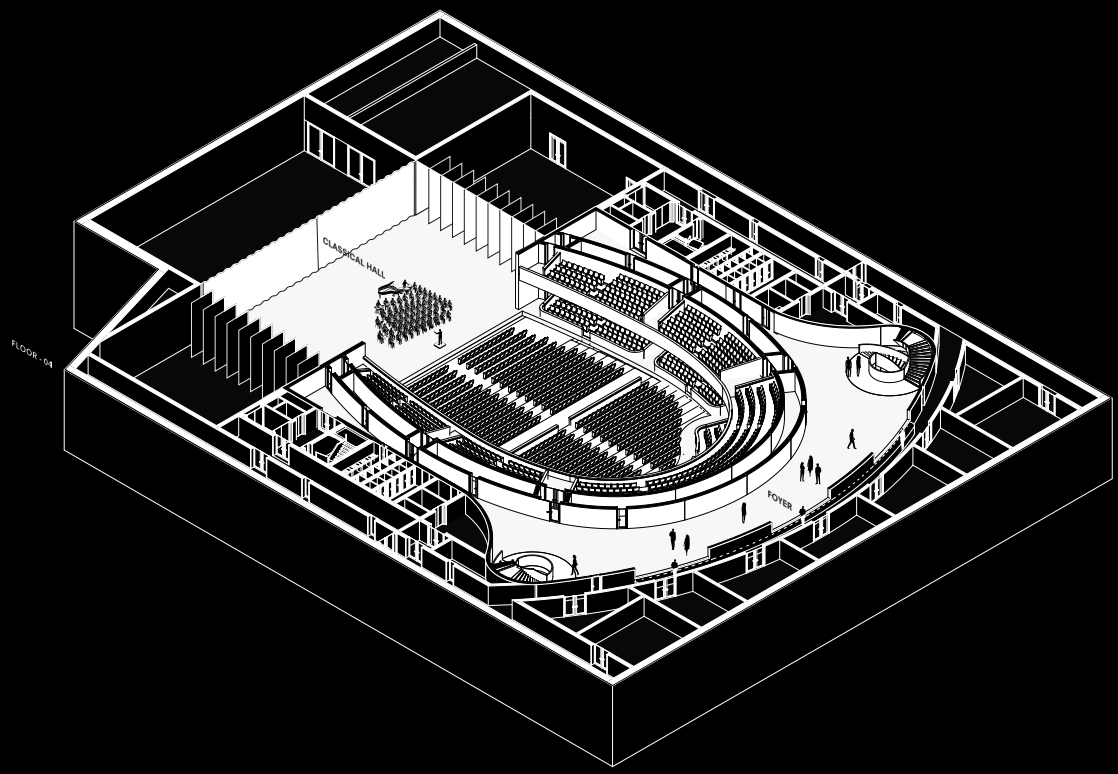
A TRADITIONAL REVIVAL BENEATH THE SURFACE



The Classical Hall rests deeply beneath the surface, freeing the upper levels for daylight-dependent functions and a more generous piazza above. With a traditional horseshoe layout, it accommodates nearly 2,400 spectators for opera, ballet, and orchestral performance. Its, function stands in stark contrast to the experimental, floating Rolex Hall above, honoring the rituals of classical performance.

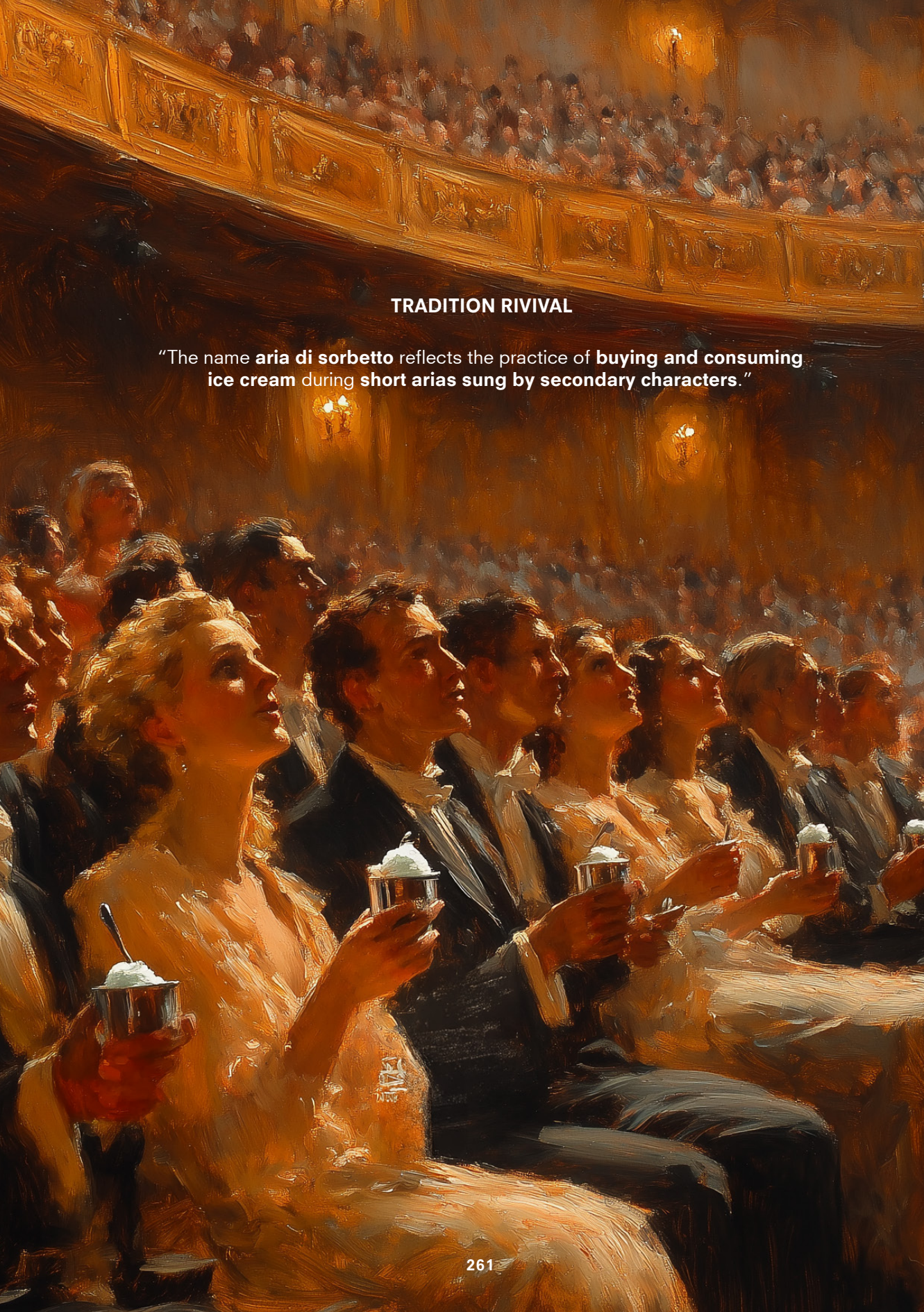


CLASSICAL HALL



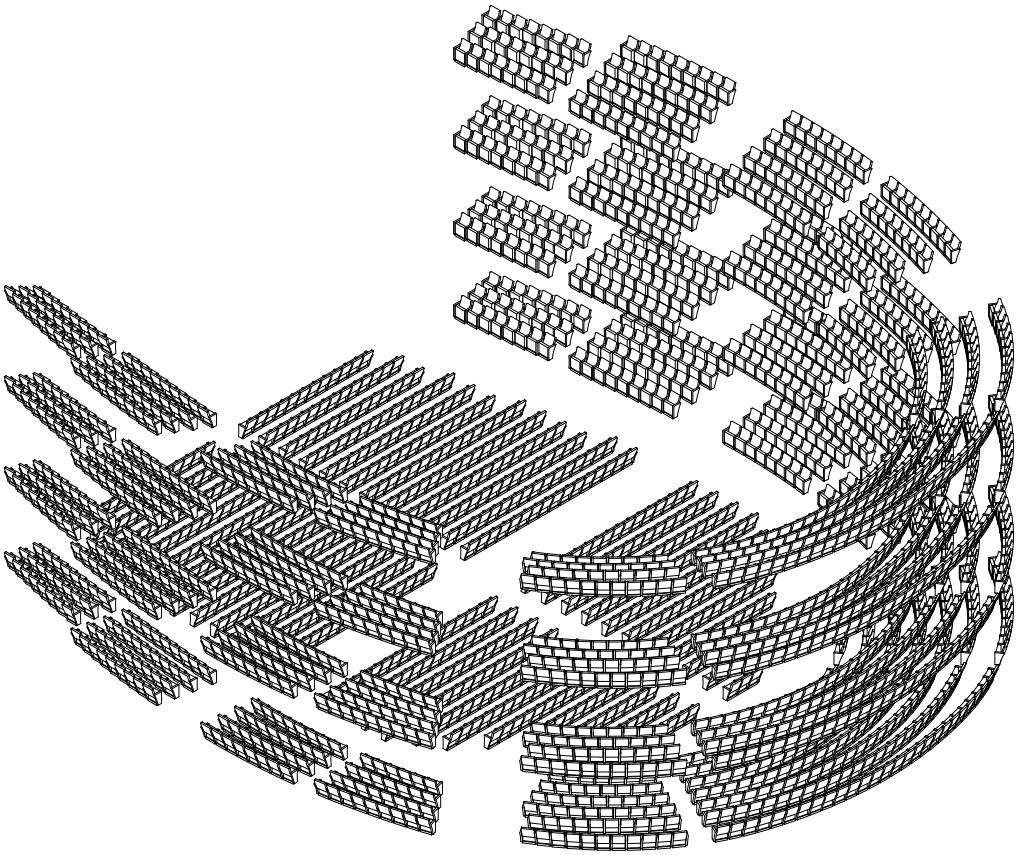
TRADITION RIVIVAL

"The name **aria di sorbetto** reflects the practice of **buying and consuming ice cream** during **short arias sung by secondary characters**."

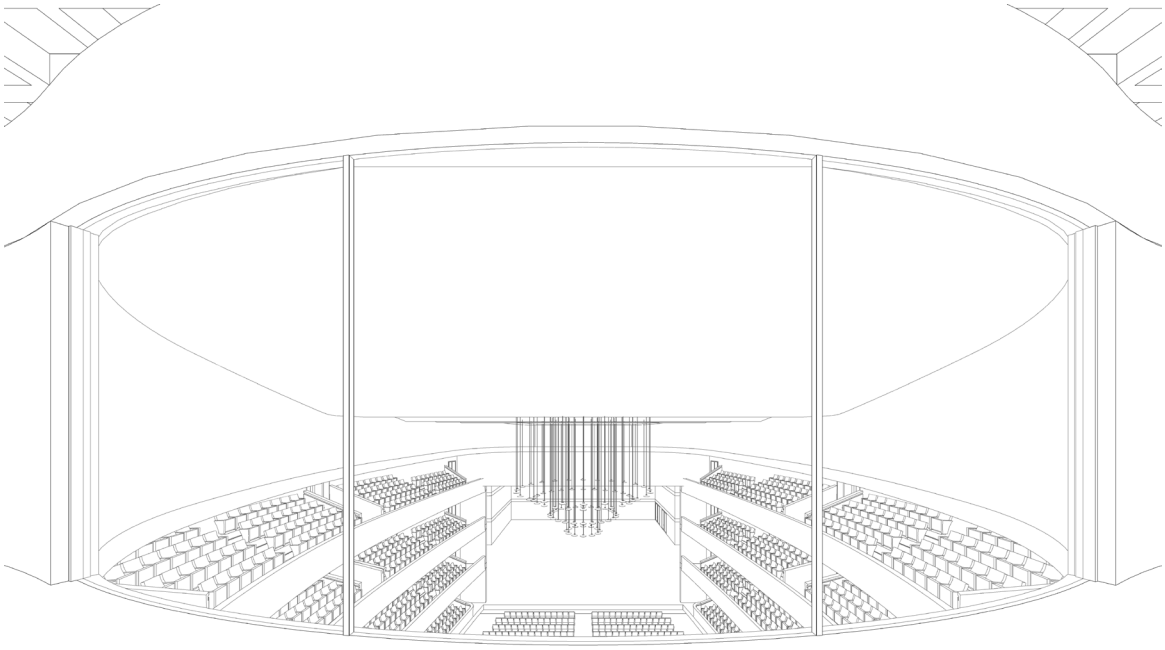


CLASSICAL HALL

SEATING 2381 PEOPLE

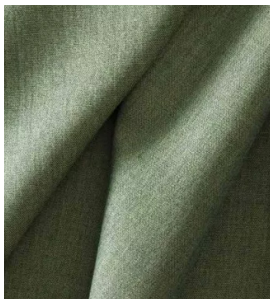


FOYER - CLASSICAL HALL RELATION

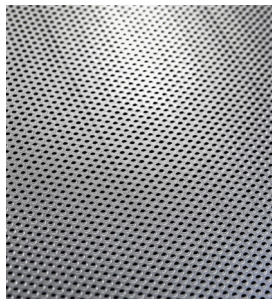


MATERIALISATION

GREEN KVADRAT FABRIC



MICRO PERFORATED METAL



ACOUSTIC CEILING

METAPHOR

OLIVER LARIC

The design of the new Scala echoes the approach of artist Oliver Laric, where classical form becomes the foundation for a new expression. Just as Laric reinterprets classical sculptures through fragmentation and diverse, unexpected materials, the new opera house takes classical architectural shapes, symmetry, proportions and reassembles them through the lens of material experimentation. Travertine, onyx, resin, glass, metal, fabric and carbon fiber intersect across spaces, creating zones that shift in tone, rhythm, and texture.

Each room becomes a reinterpretation: familiar in shape, unique in feel. Laric's sculptures remind us that identity is never static, neither is Scala. The project uses historical references not to replicate tradition but to reinterpret them. Like the artist's cast forms, it respects the outline of history but fills it with contemporary content.

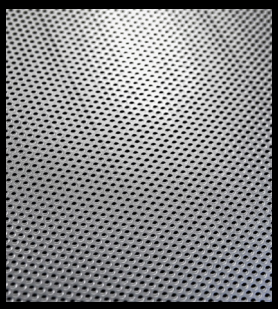
MATERIALISATION

ROLEX HALL

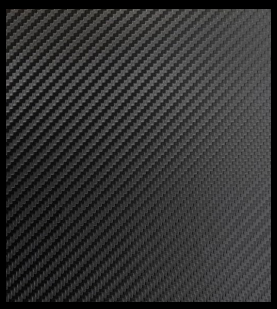
ANODISED ALUMINIUM

GLASS

MICRO PERFORATED METAL



CARBON FIBER REINFORCED POLYMER



AMPHITHEATRE

TRAVERTINE

CHROME COLUMNS

REHEARSAL PASSAGE

RESIN SEATS

PINK BIOCRETE COLUMNS

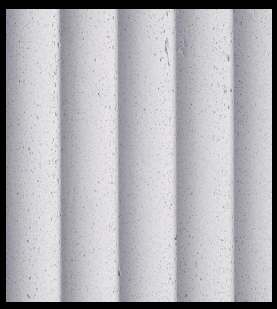
BIOCRETE

FACADE

ONYX

GLASS

FLUTED CONCRETE PANELS



FOYER

BLUE ONYX

GLASS

SILVER CURTAINS

PINK ONYX STAIRCASE

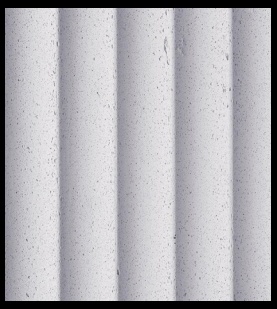
PERFORMANCE PATIO

BIOCRETE

GLASS

LUSH GREEN PLANTERS

FLUTED CONCRETE PANELS



BIOCRETE

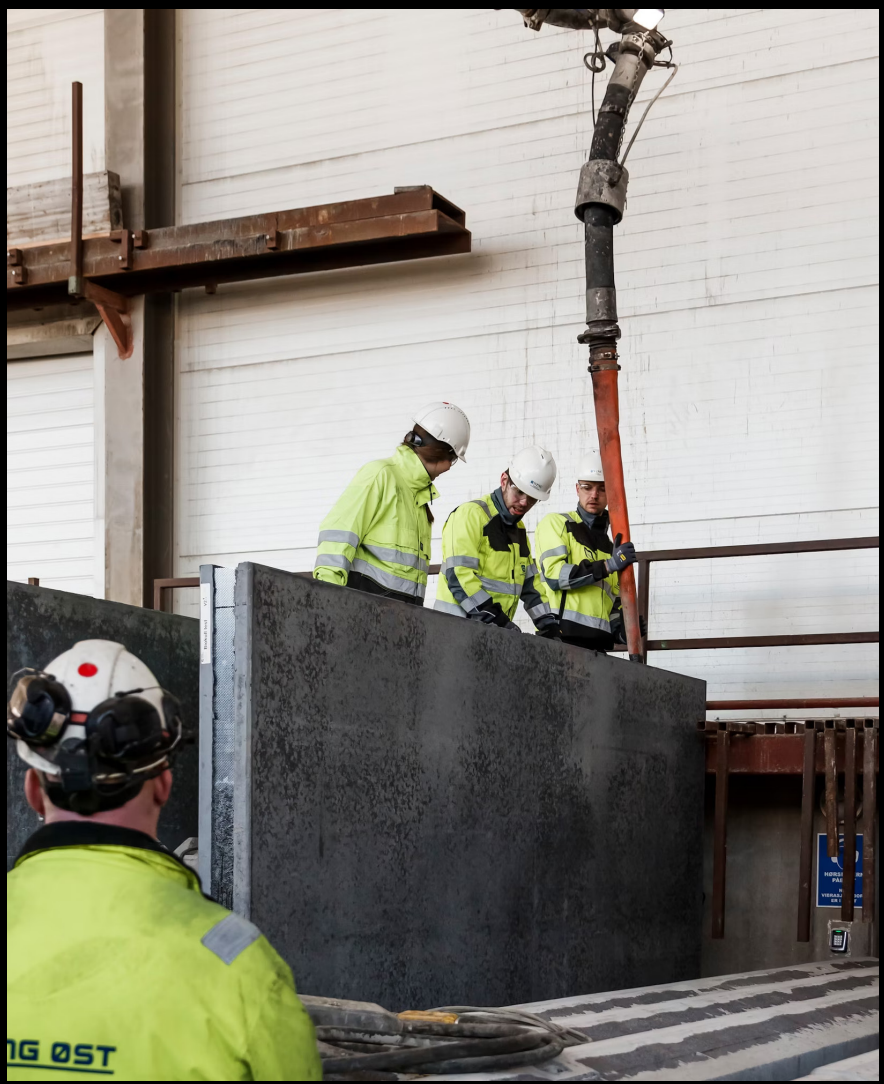
BIOCRETE IS A LOW-CARBON CONCRETE ALTERNATIVE THAT REPLACES CEMENT WITH A CARBON-NEUTRAL BINDER, REDUCING EMISSIONS BY UP TO 70% WHILE OFFERING THE POTENTIAL FOR CARBON-NEGATIVE CONSTRUCTION.

Biocrete is a pioneering concrete technology developed by Snøhetta and Saferock that replaces traditional cement with a carbon-neutral binder derived from industrial waste. Unlike conventional concrete, which accounts for nearly 8% of global CO^2 emissions, Biocrete achieves up to 70% lower carbon emissions during production. It also opens the door to carbon-negative potential through enhanced curing processes that absorb CO^2 from the atmosphere.

Beyond sustainability, Biocrete is designed to match or exceed the strength and durability of traditional concrete. It can be produced locally from widely available resources, ensuring both environmental and economic resilience. As Snøhetta notes, Biocrete aims not just to reduce harm, but to contribute positively, turning architecture into an active agent of climate repair.

In the design for Scala, Biocrete serves both as structure and statement. It connects the opera house to Milan's legacy of innovation while reflecting a commitment to sustainable futures, where buildings are not just passive shelters, but living systems in balance with the planet.

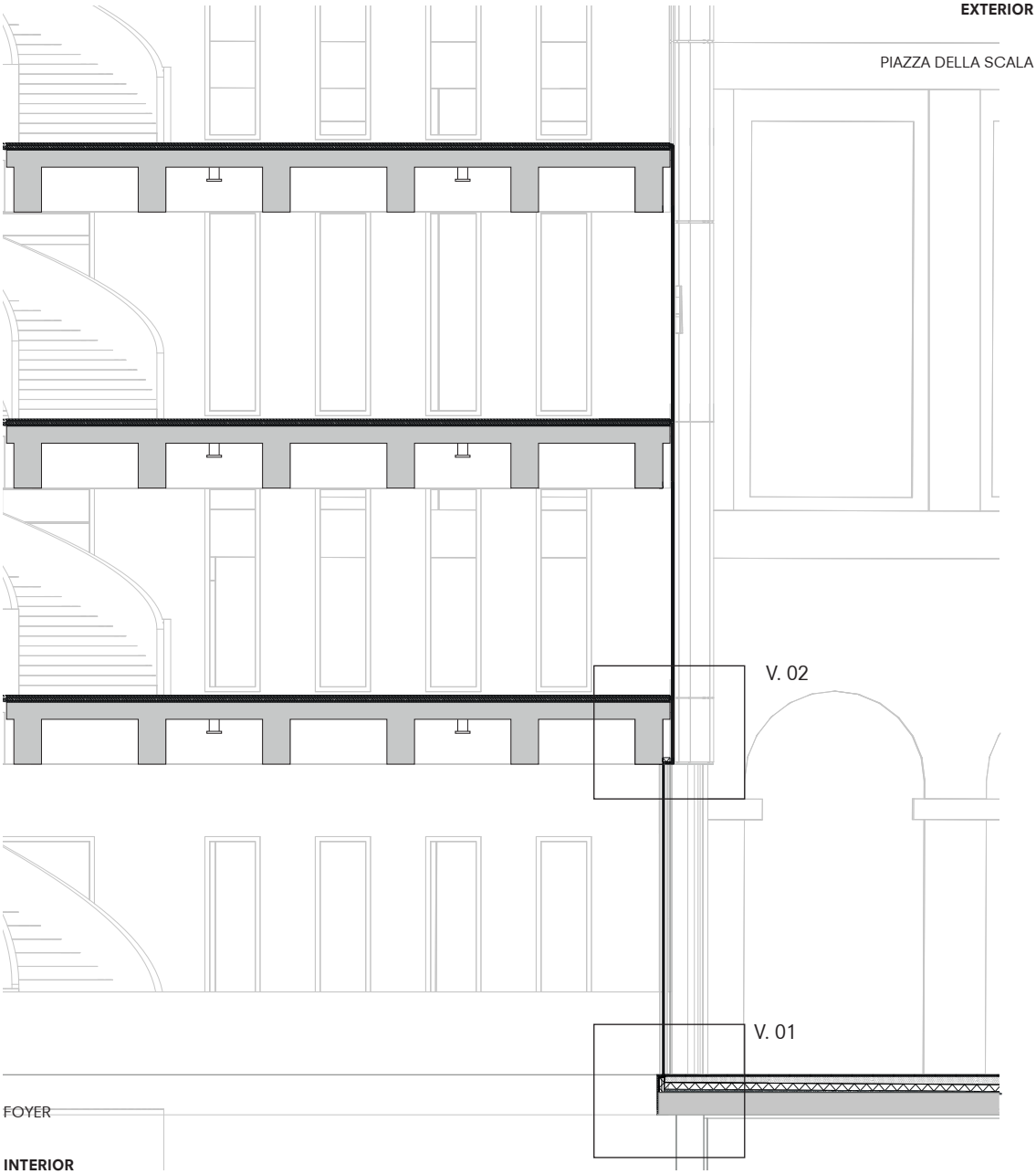
Biocrete. (n.d.). https://www.biocrete.no/


NG ØST

DESIGN IMPLEMENTATION

BUILDING

ENGINEERING



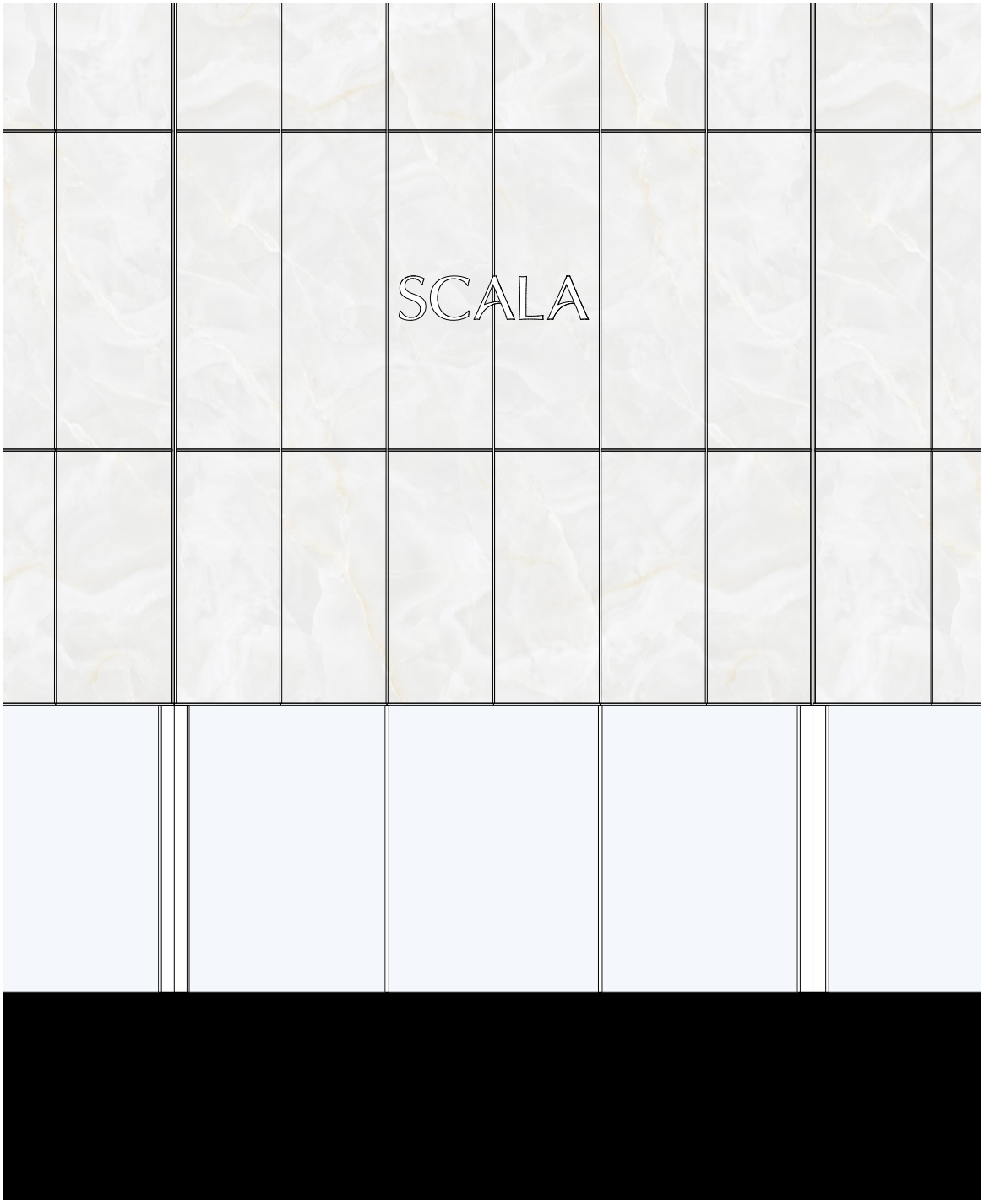
Size
B5

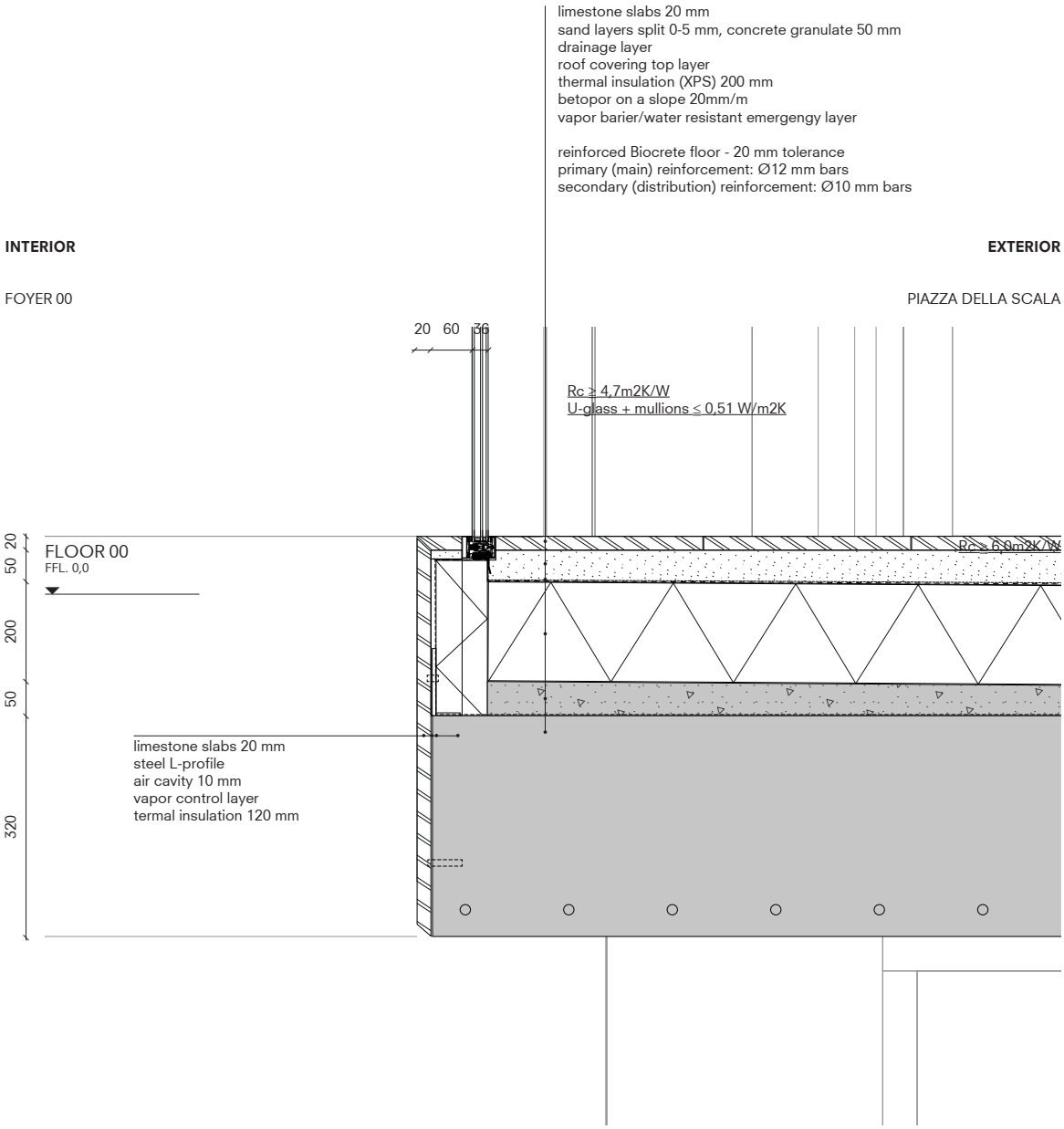
Phase
P5

Subject
Fragment South Facade Floor -01 - 03

Scale
1 : 50 (stf 50%)

Date
12-05-2025


SCALA



Size
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Phase
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Subject
F.00 South Facade - Piazza della Scala

Scale
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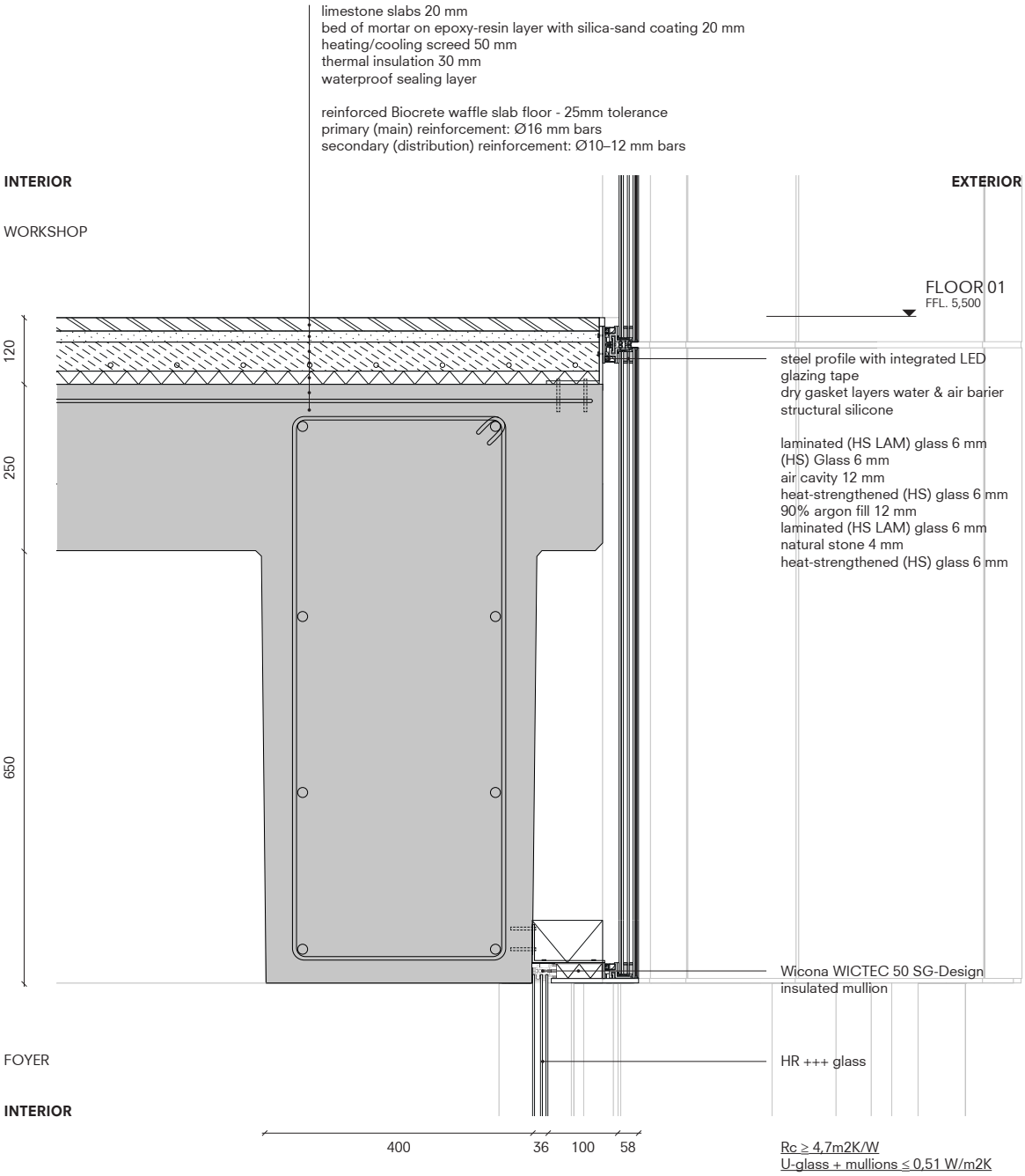
Date
12-05-2025

V.01



Size
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Phase
P5

Subject
F.01 South Facade - Floor

Scale
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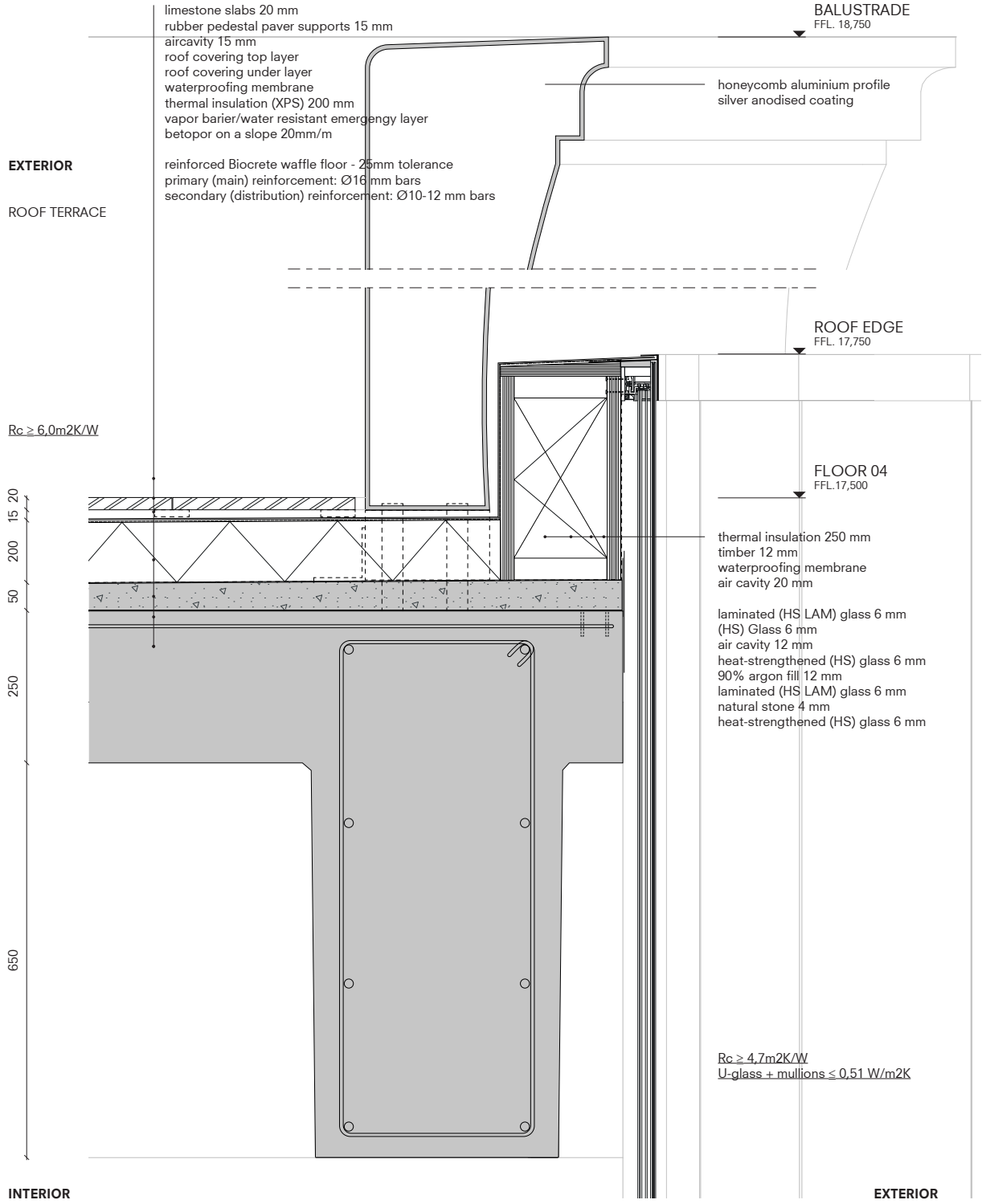
Date
12-05-2025

V.02



Size
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Phase
P5

Subject
F.04 South Facade - Roof Terrace

Scale
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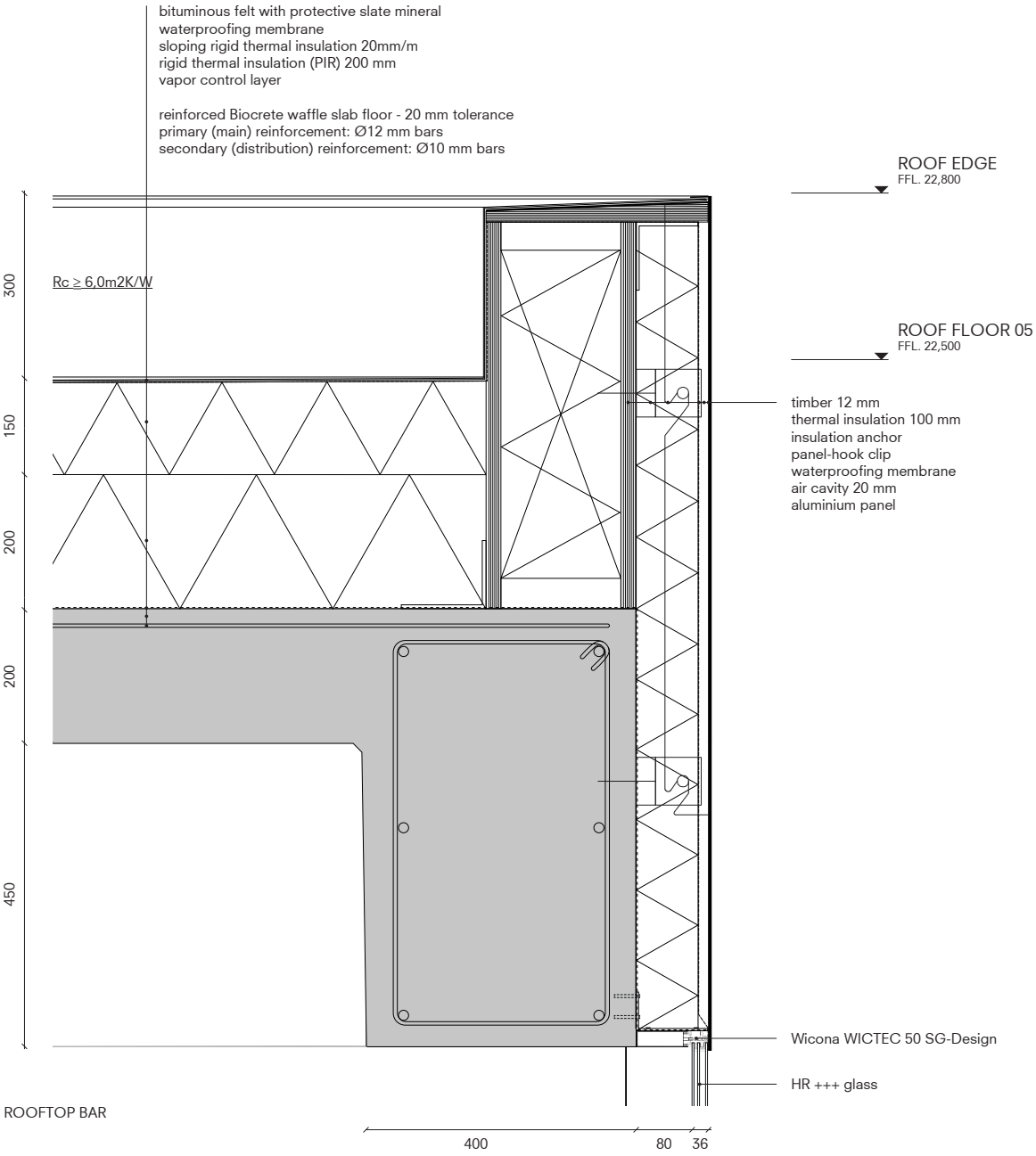
Date
12-05-2025

V.03

EXTERIOR



INTERIOR

Rc ≥ 4,7m2K/W
U-glass + mullions ≤ 0,51 W/m2K

Size
B5

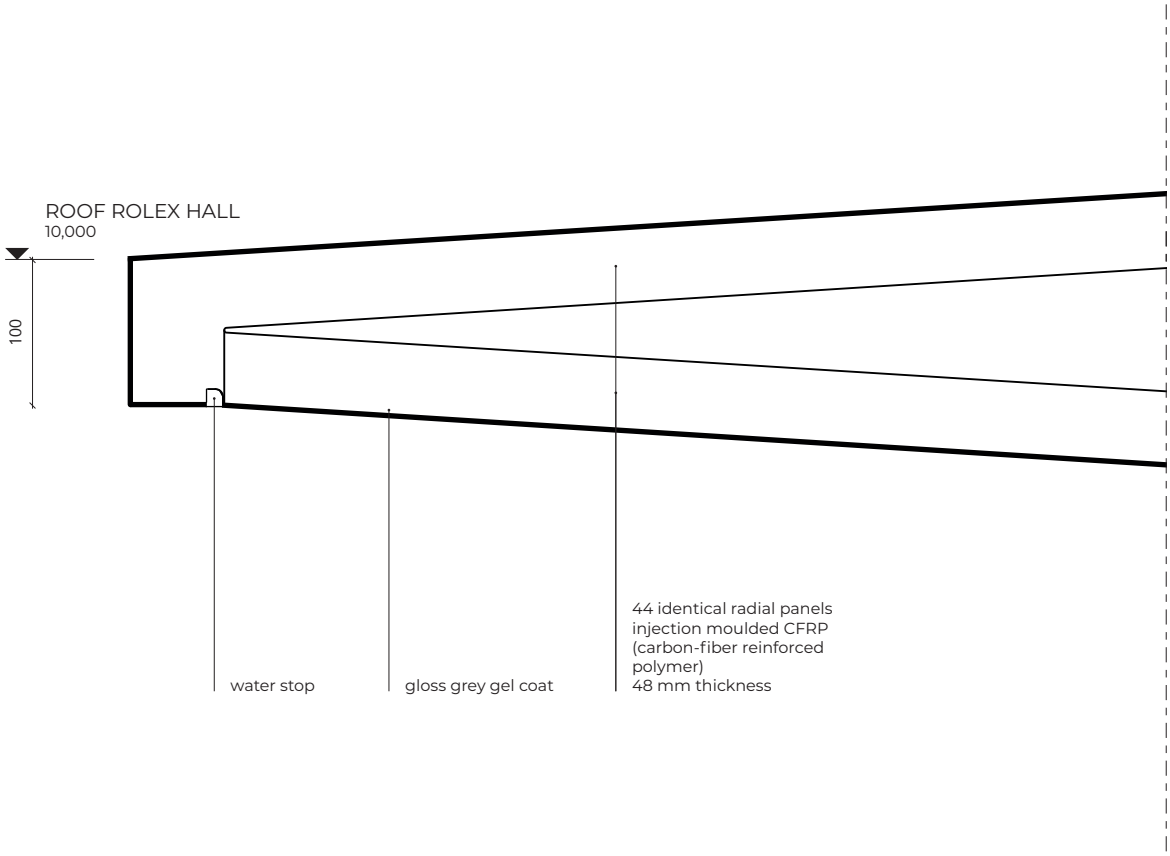
Phase
P5

Subject
F.05 South Facade - Roof

Scale
1 : 5 (stf 50%)

Date
12-05-2025

V.04



Size
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Phase
P5

Subject
Rolex Hall Roof Edge

Scale
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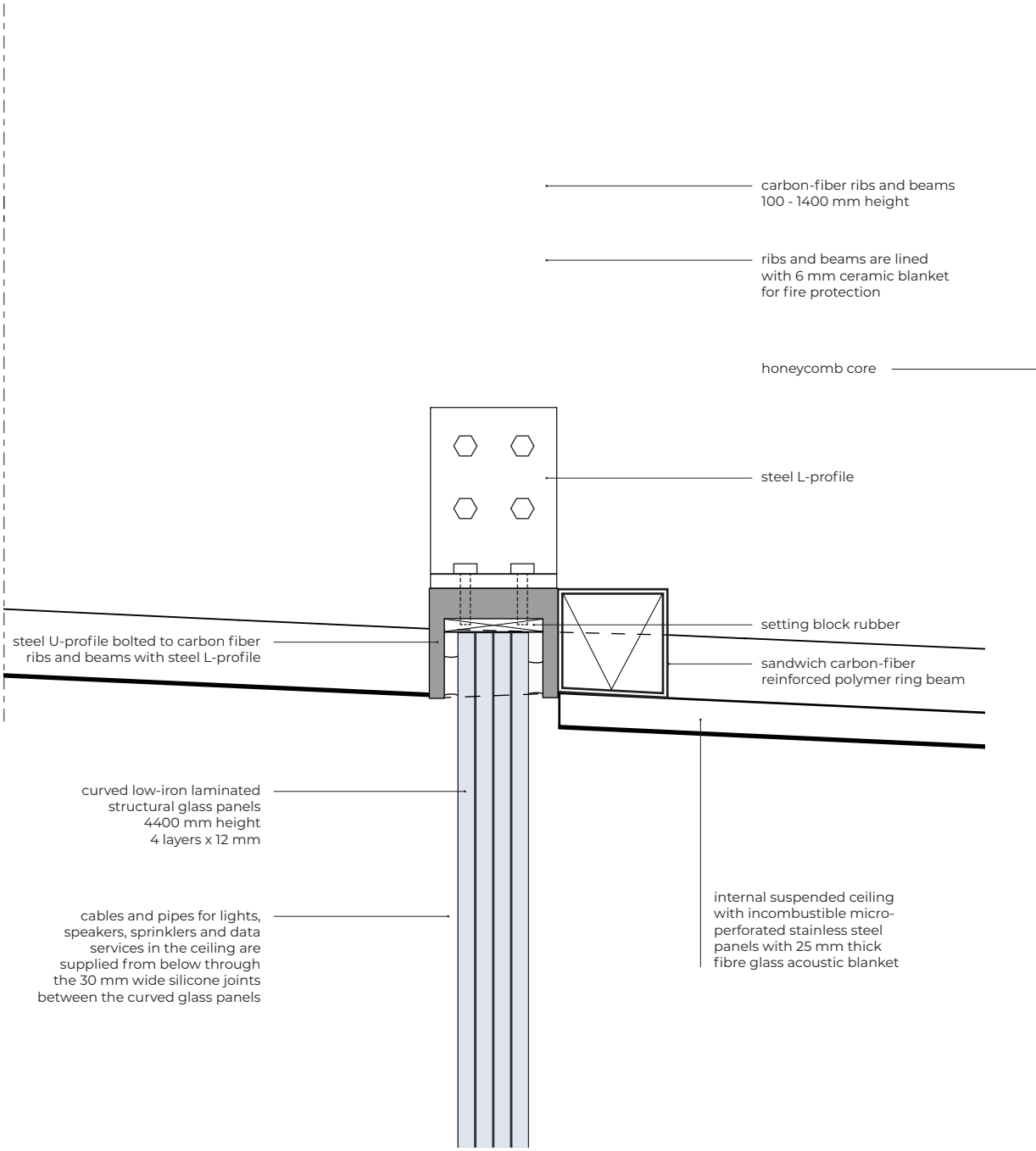
Date
12-05-2025

V.05



Size
B5

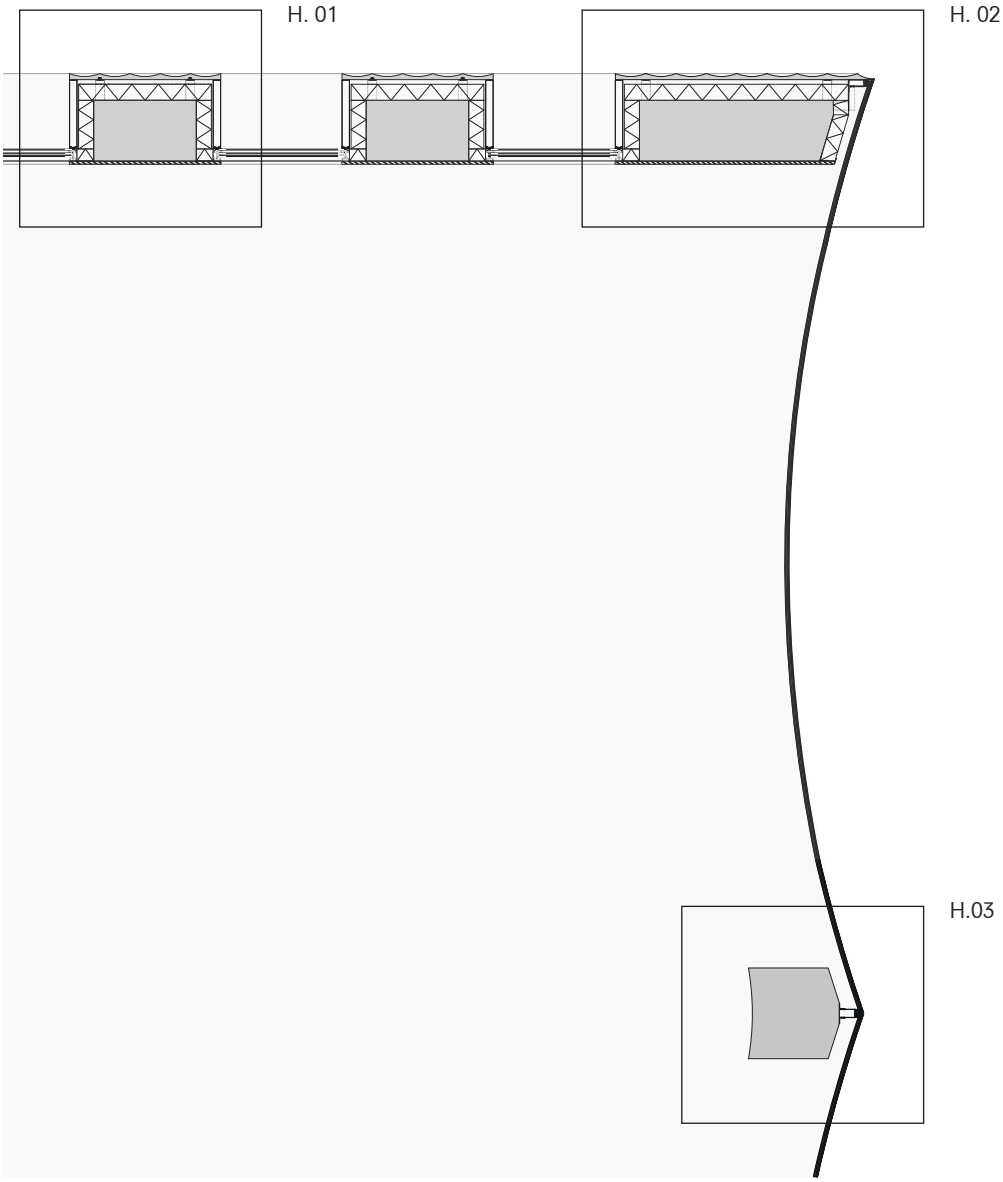
Phase
P5

Subject
Rolex Hall Roof

Scale
1 : 5

Date
12-05-2025

V.06



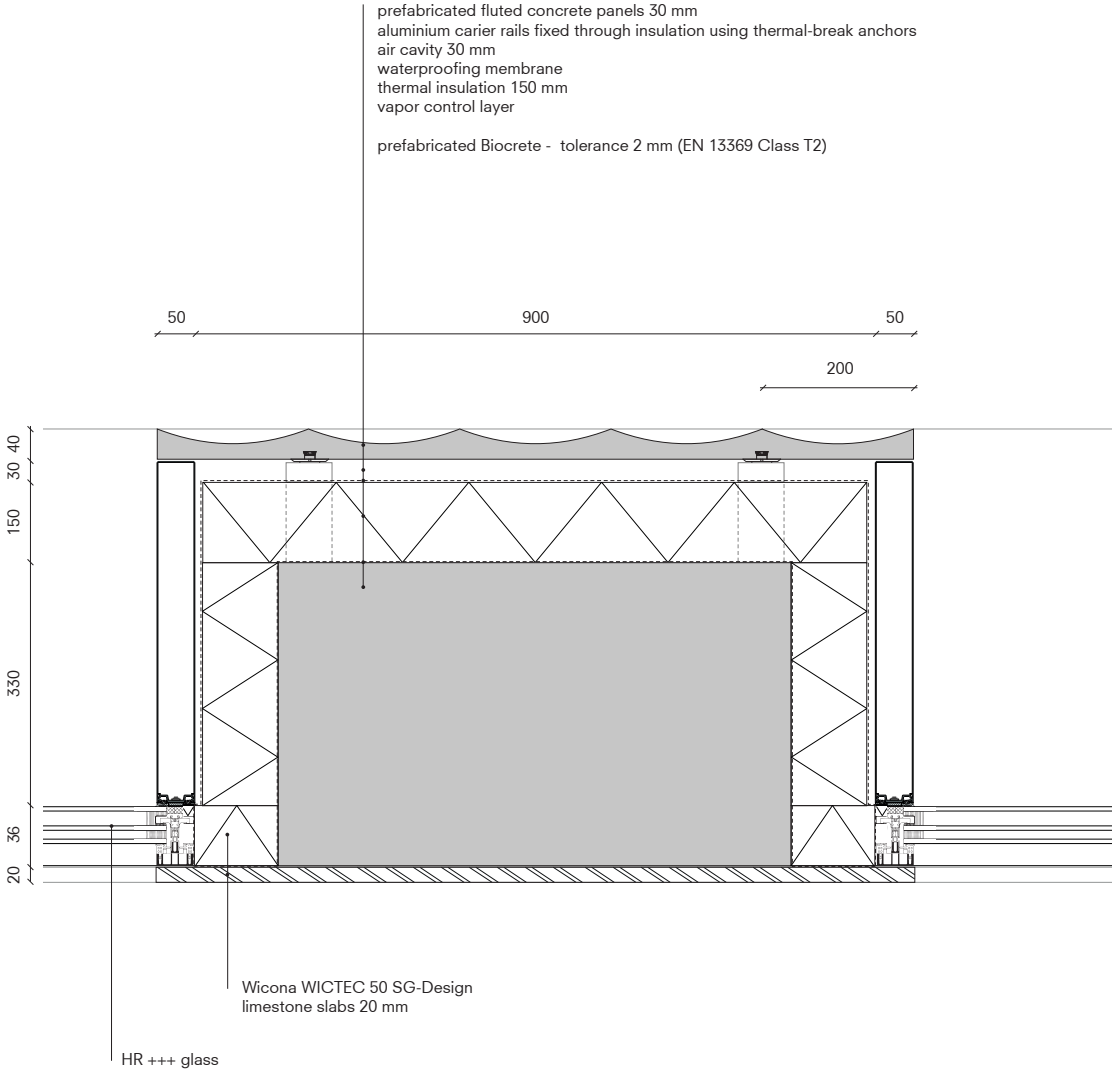
Size
B5

Phase
P5

Subject
Fragment F.01 - 04 South-East Corner Facade

Scale
1 : 50

Date
12-05-2025



Size
B5

Phase
P5

Subject
F.00 - 04 East/West Facade

Scale
1 : 5 (stf 50%)

Date
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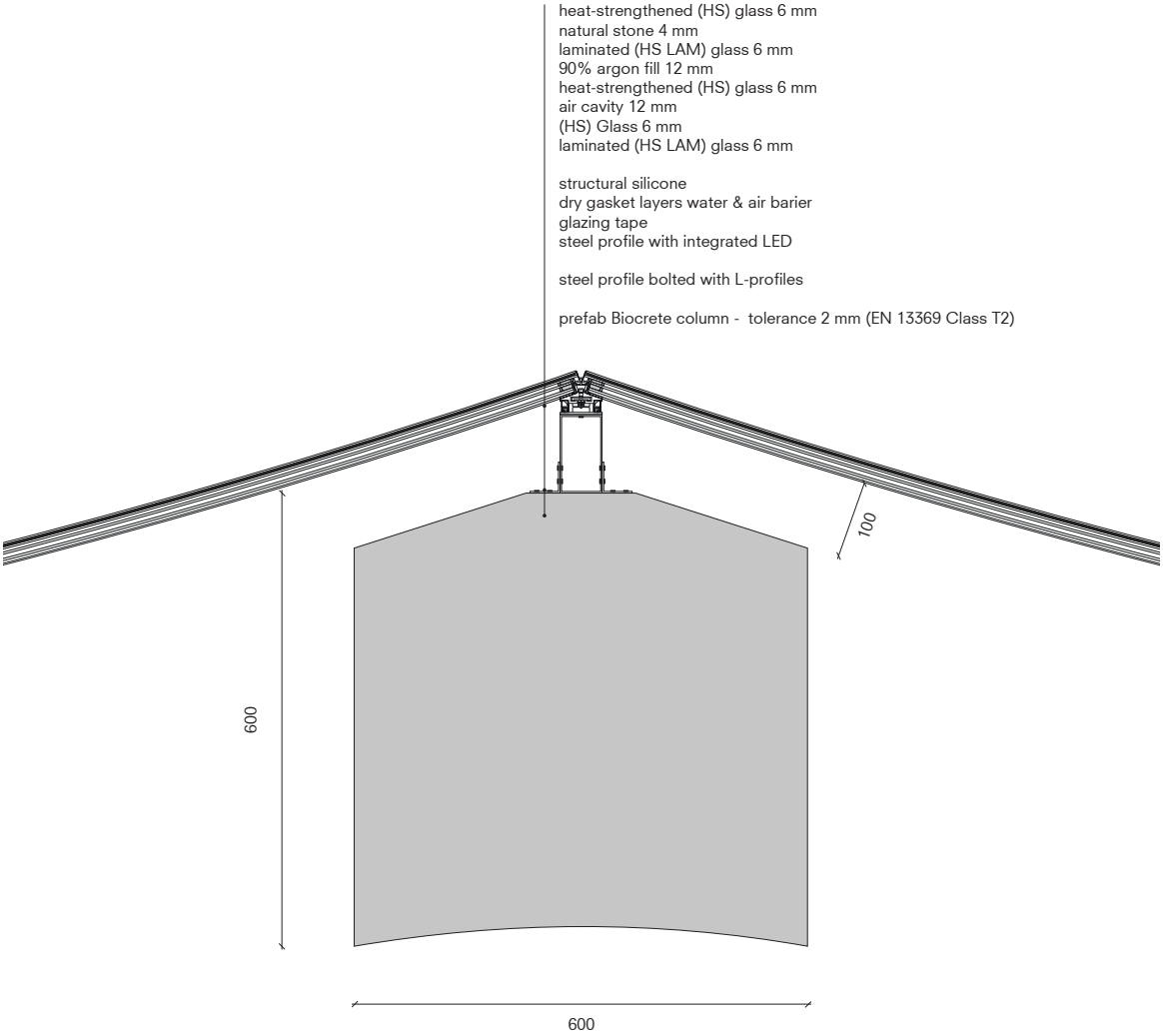
H.01



Size
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Phase
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Subject
F.00 - 04 South Facade

Scale
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Date
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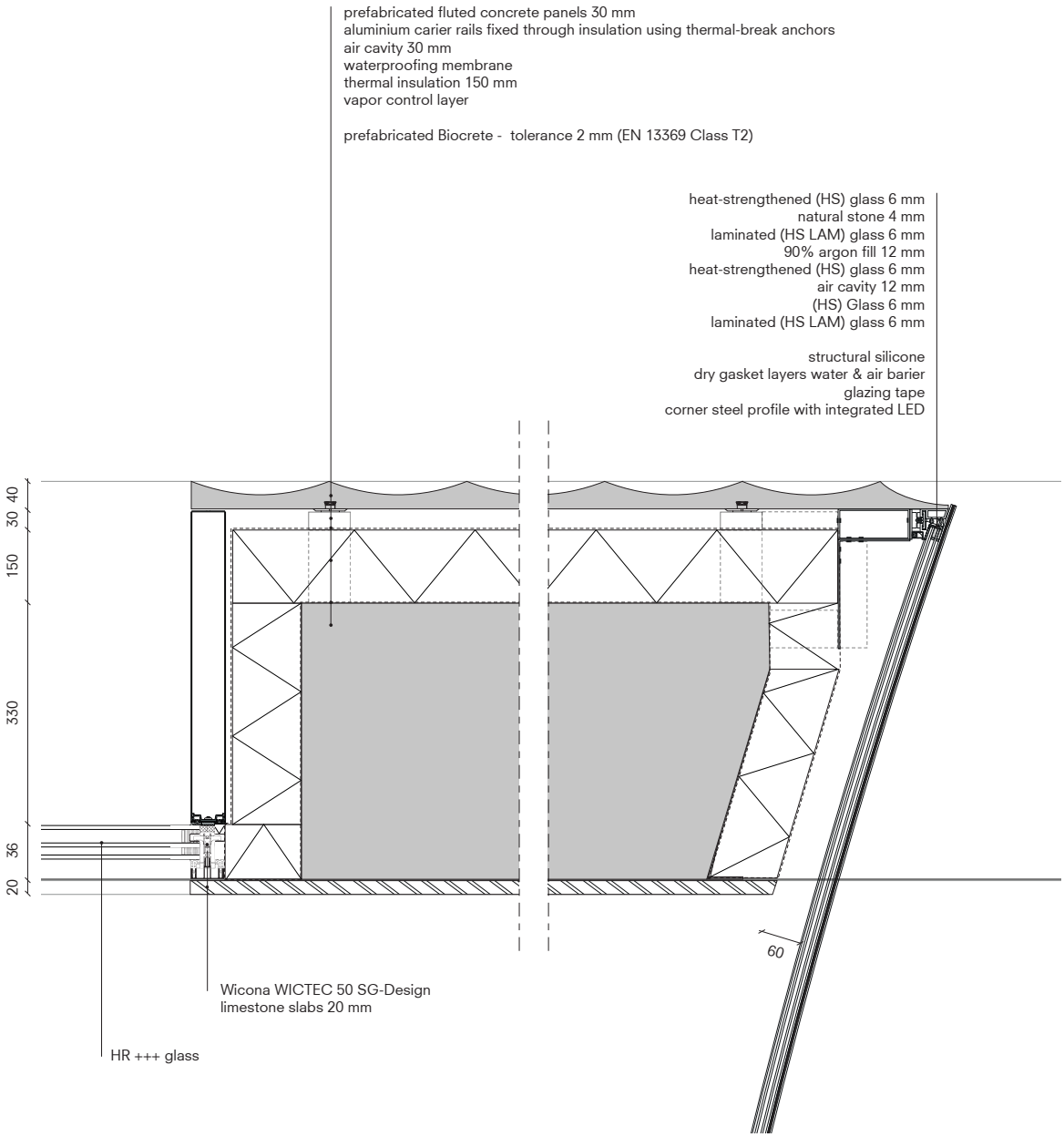
H.02



Size
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Phase
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Subject
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Scale
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Date
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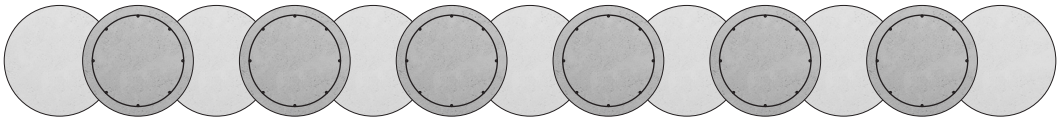
H.03

STEP 1

STEP 2

STEP 3



Size
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Phase
P5

Subject
Basement Secant Pile Principle

Scale
-

Date
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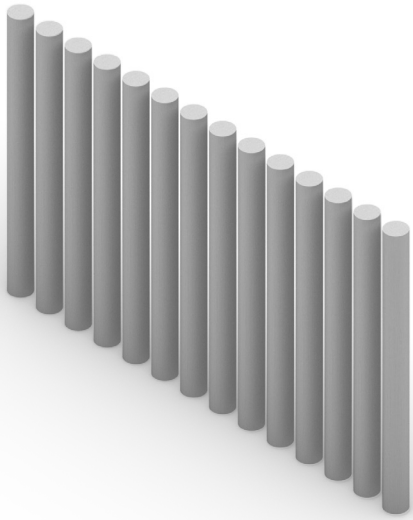

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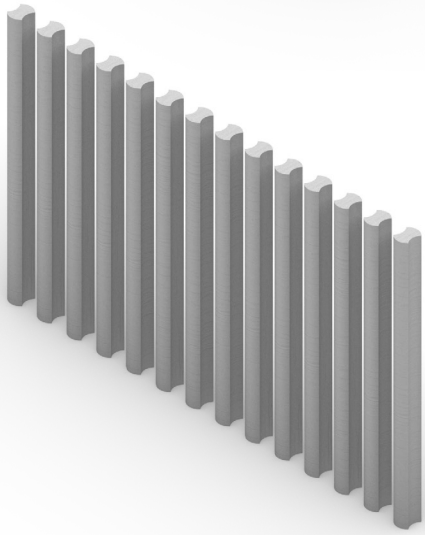

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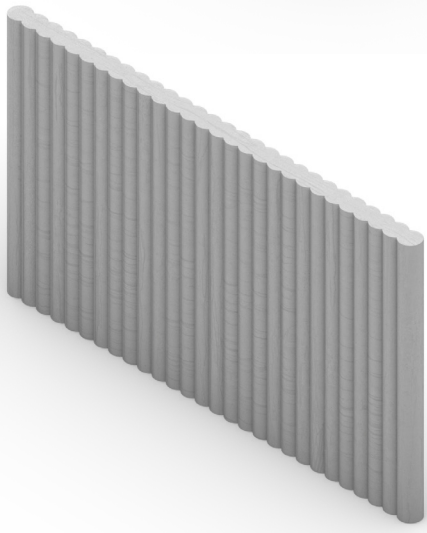
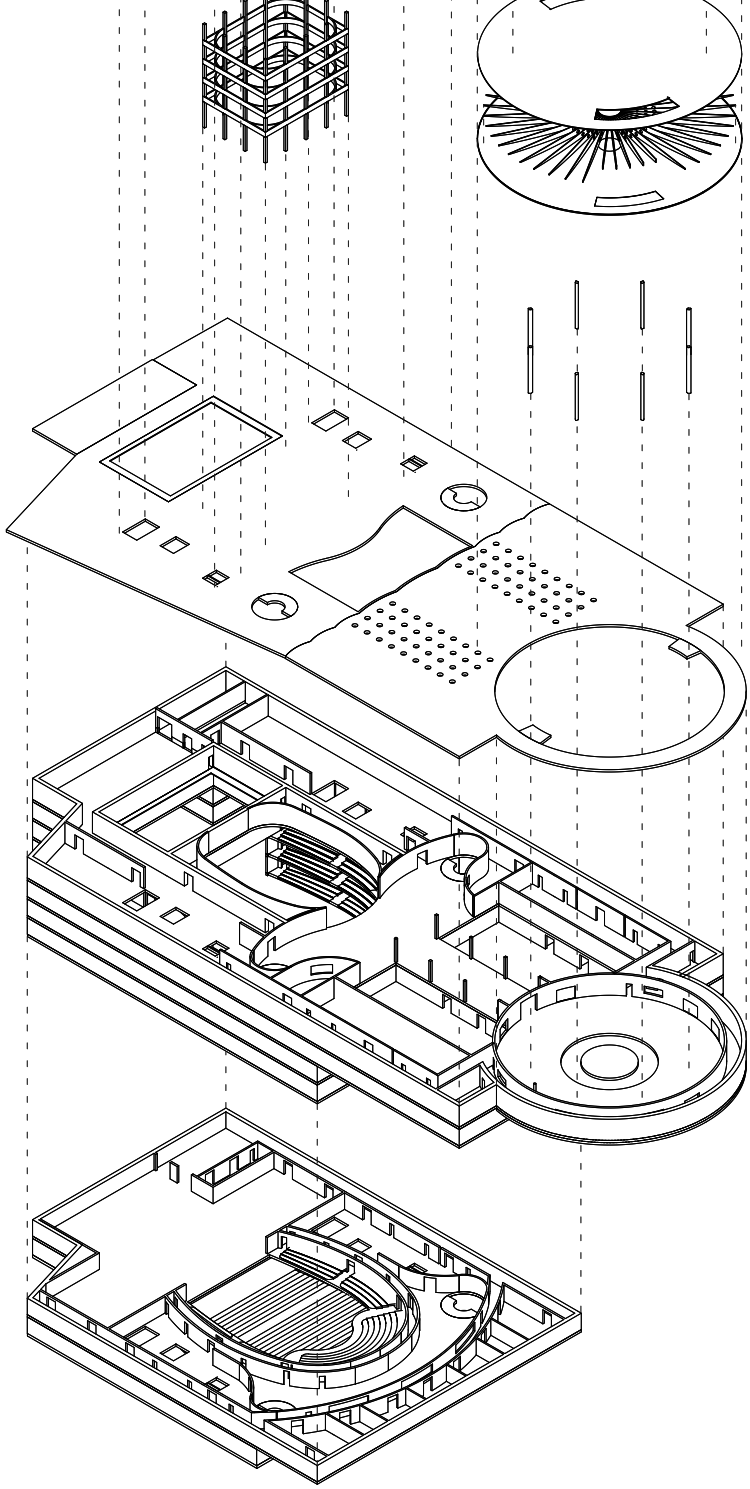
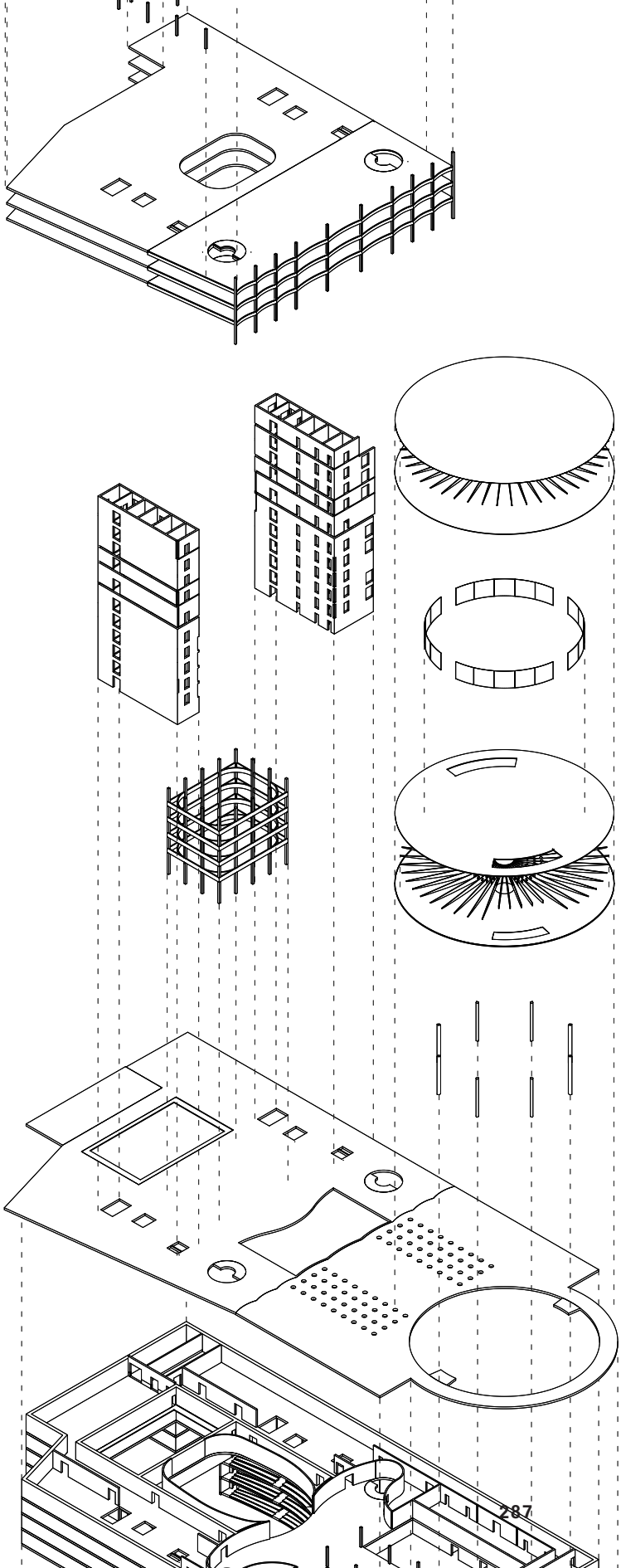


STEP 3

BIOCRETE
WALLS & FLOORS

BIOCRETE COLUMNS
400 X 400 mm





44 RADIAL CFRP PANELS
48 mm

CARBON-FIBER RIBS AND BEAMS
100 - 1400 mm

44 RADIAL CFRP PANELS
48 mm

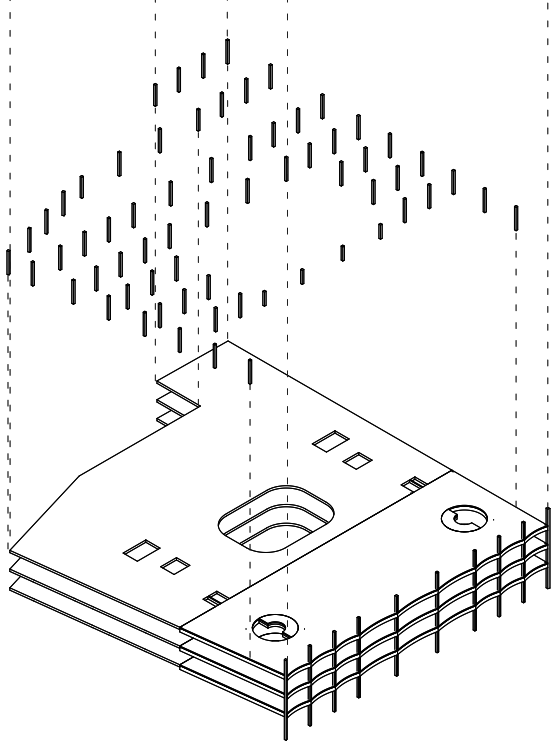
CURVED LOW-IRON LAMINATED STRUCTURAL GLASS PANELS
4400 mm HEIGHT
4 LAYERS X 12 mm

44 RADIAL CFRP PANELS
48 mm

CARBON-FIBER RIBS AND BEAMS
100 - 1400 mm

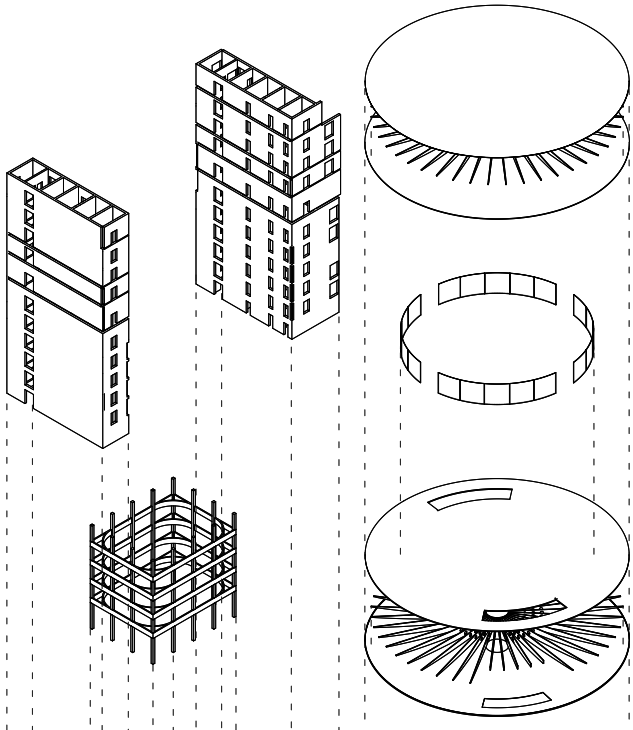
44 RADIAL CFRP PANELS
48 mm

8 STEEL CHROME COLUMNS
Ø 600-800 mm



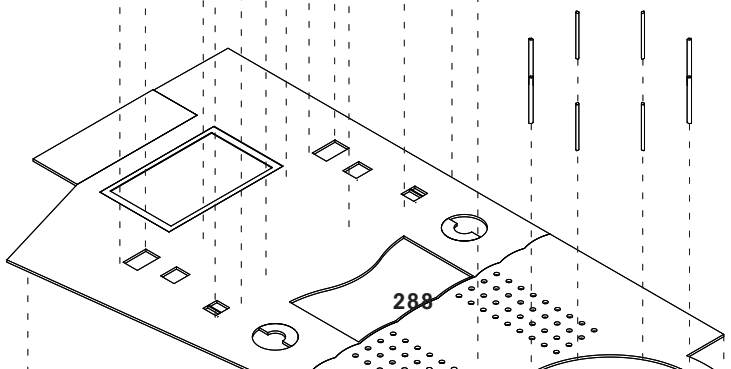
BIOCRETE FLOORS
500 - 900 mm

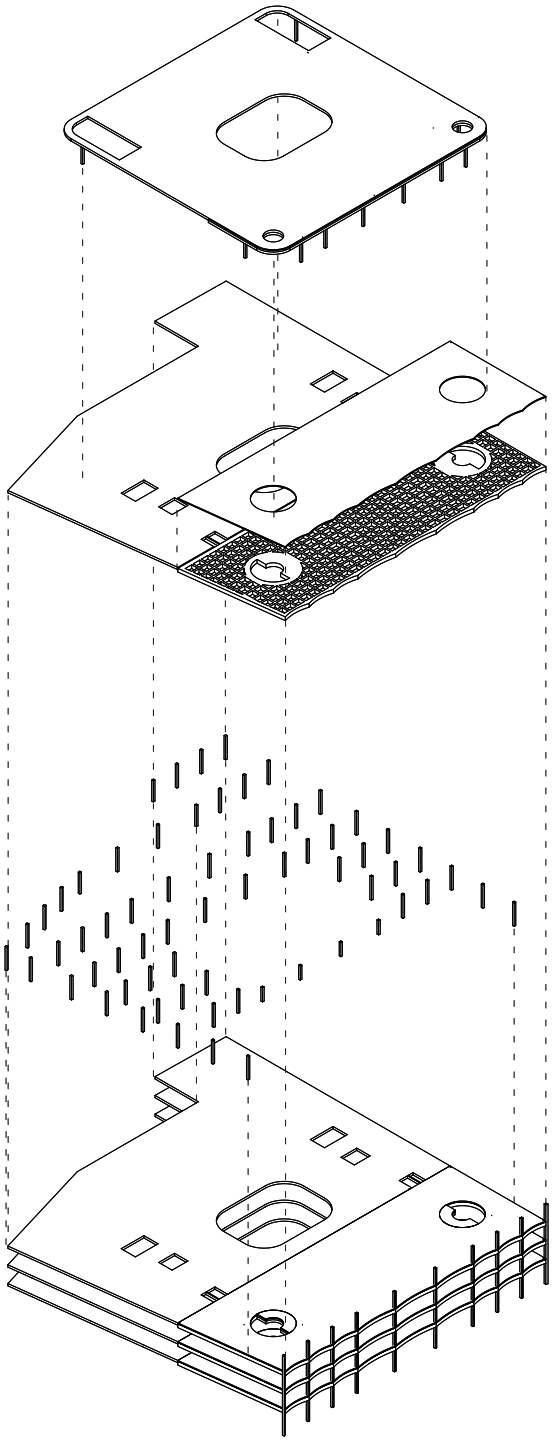
PREFAB BIOCRETE COLMNS
600 X 600 mm



BIOCRETE CORES
400 - 600 mm WALLS

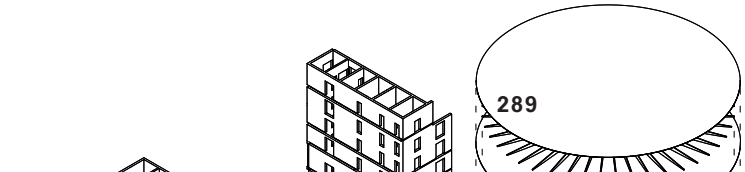
BIOCRETE PATIO STRUCTURE
600 mm COLUMNS



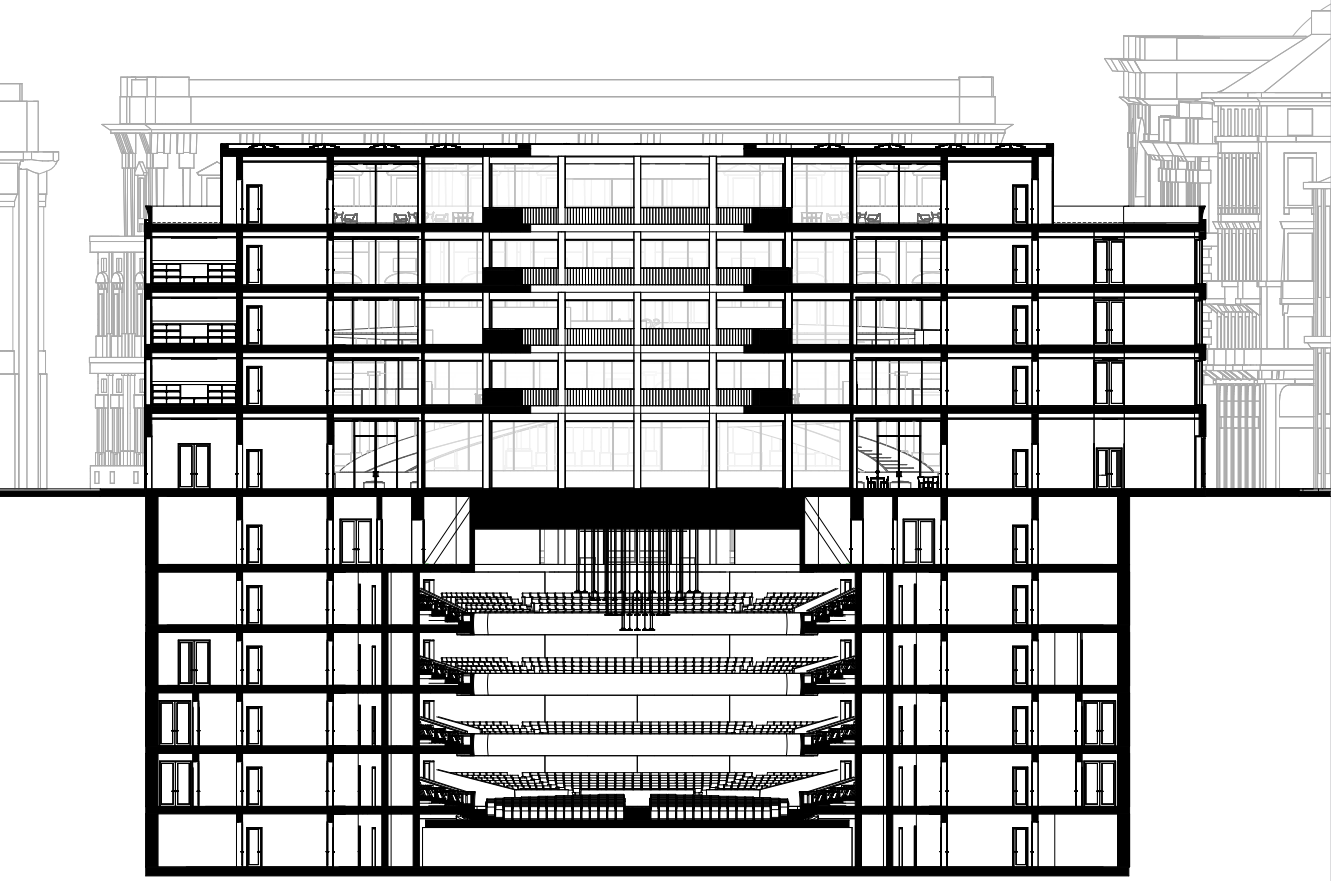


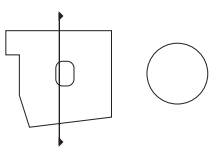
BIOCRETE WAFFLE SLAB FLOOR
900 mm

BIOCRETE COLUMNS
400 - 600 mm



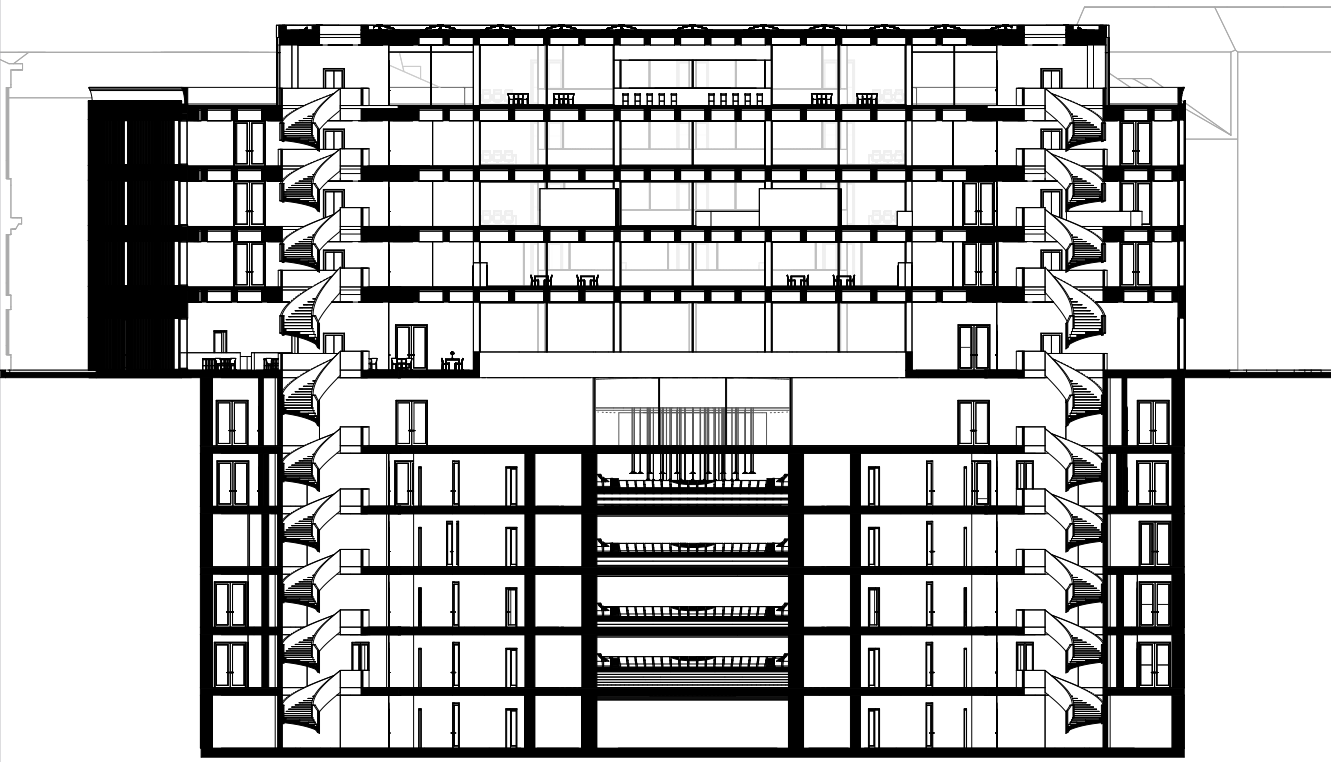
SHORT SECTIONS

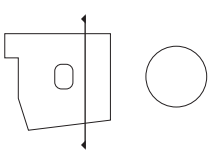




CONCEPT

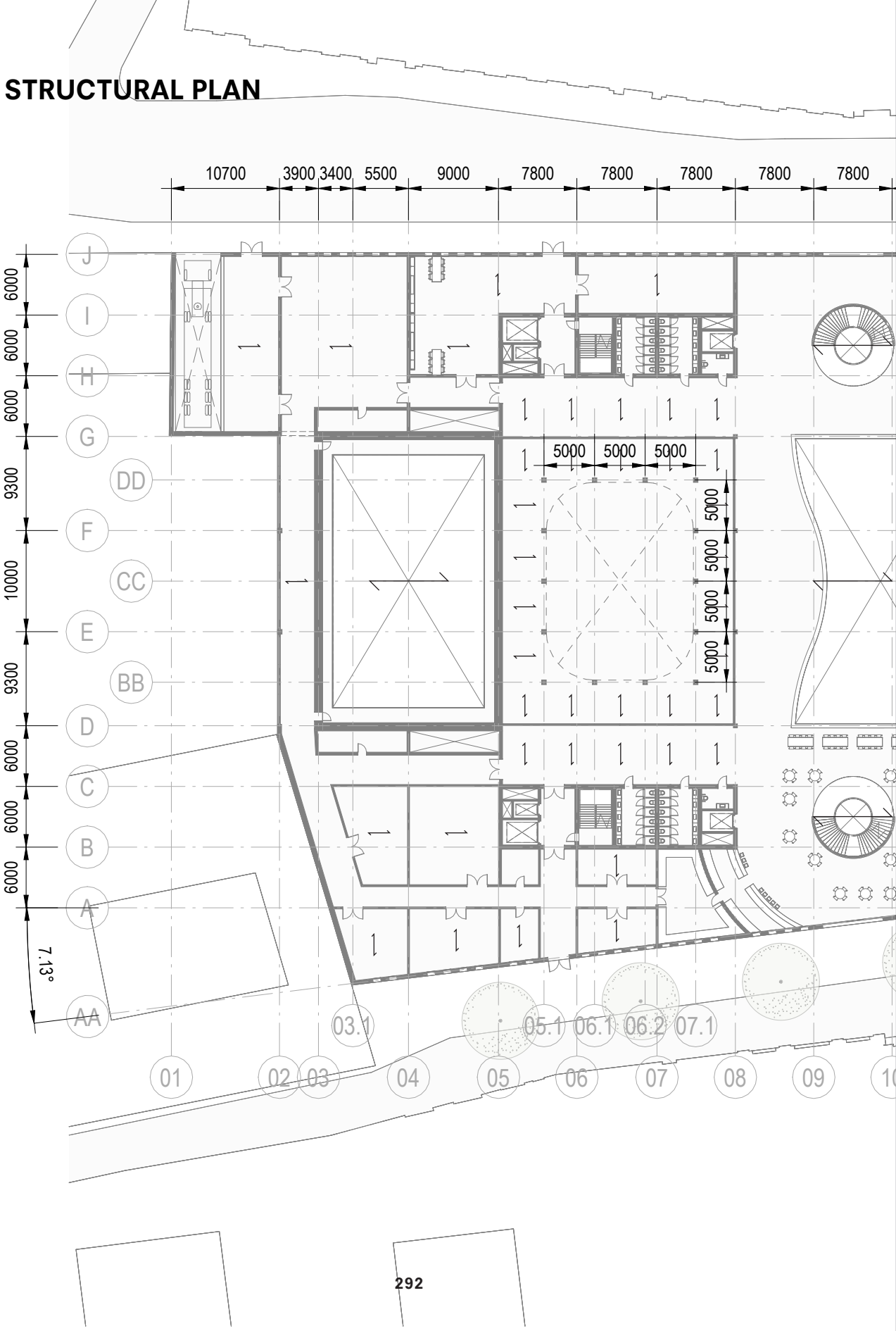
1 : 500





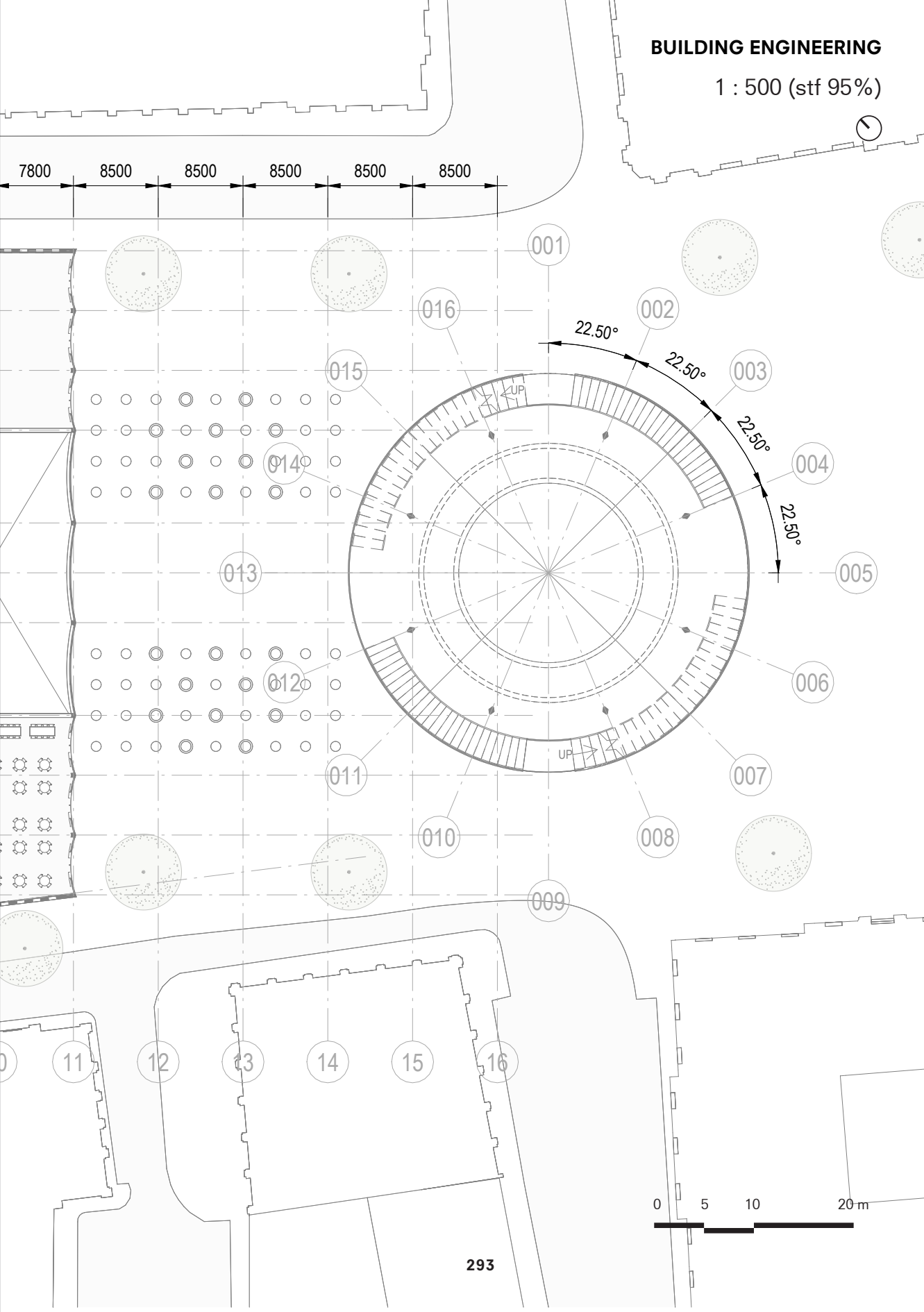
0 5 10 20 m

STRUCTURAL PLAN

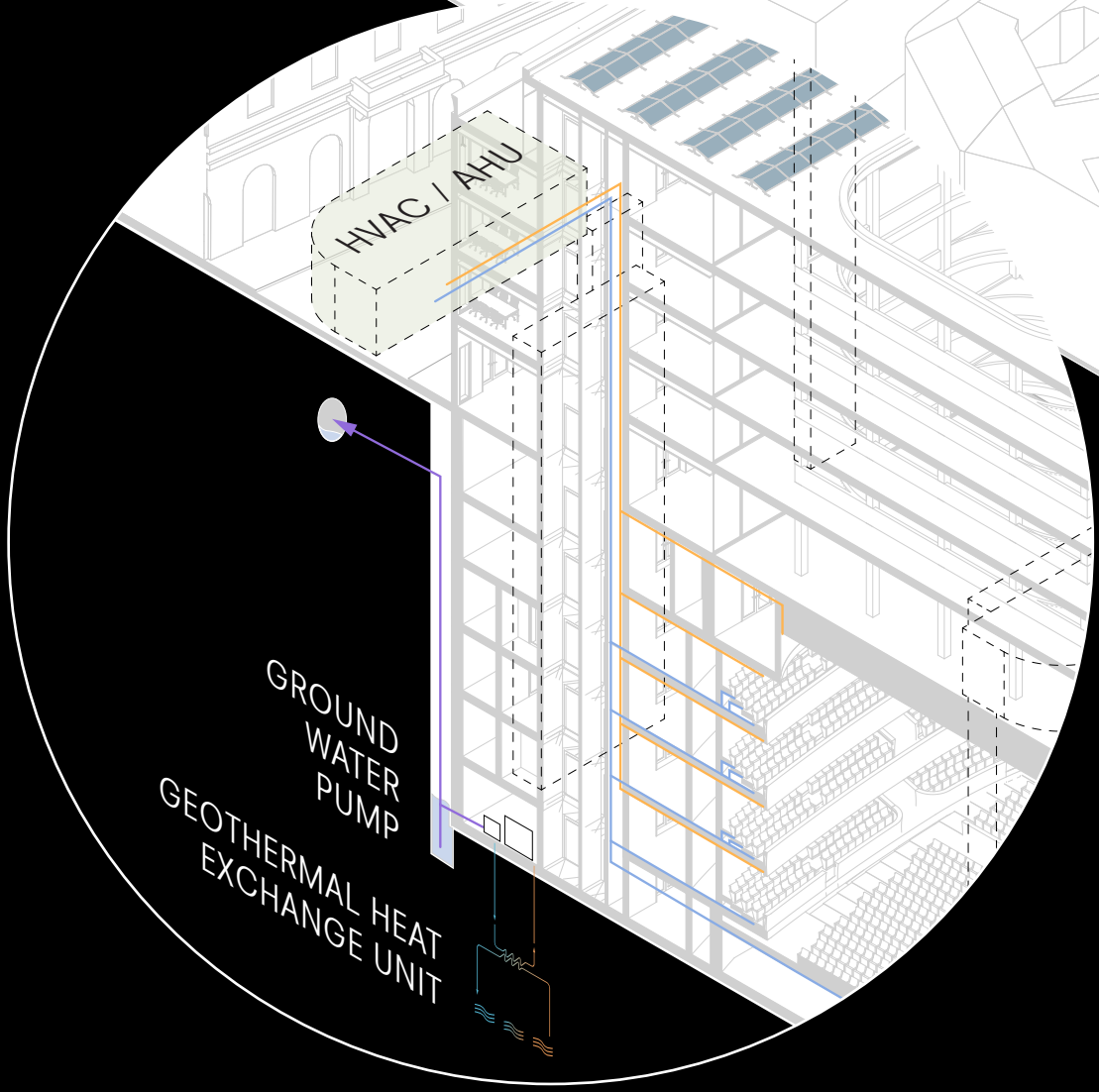


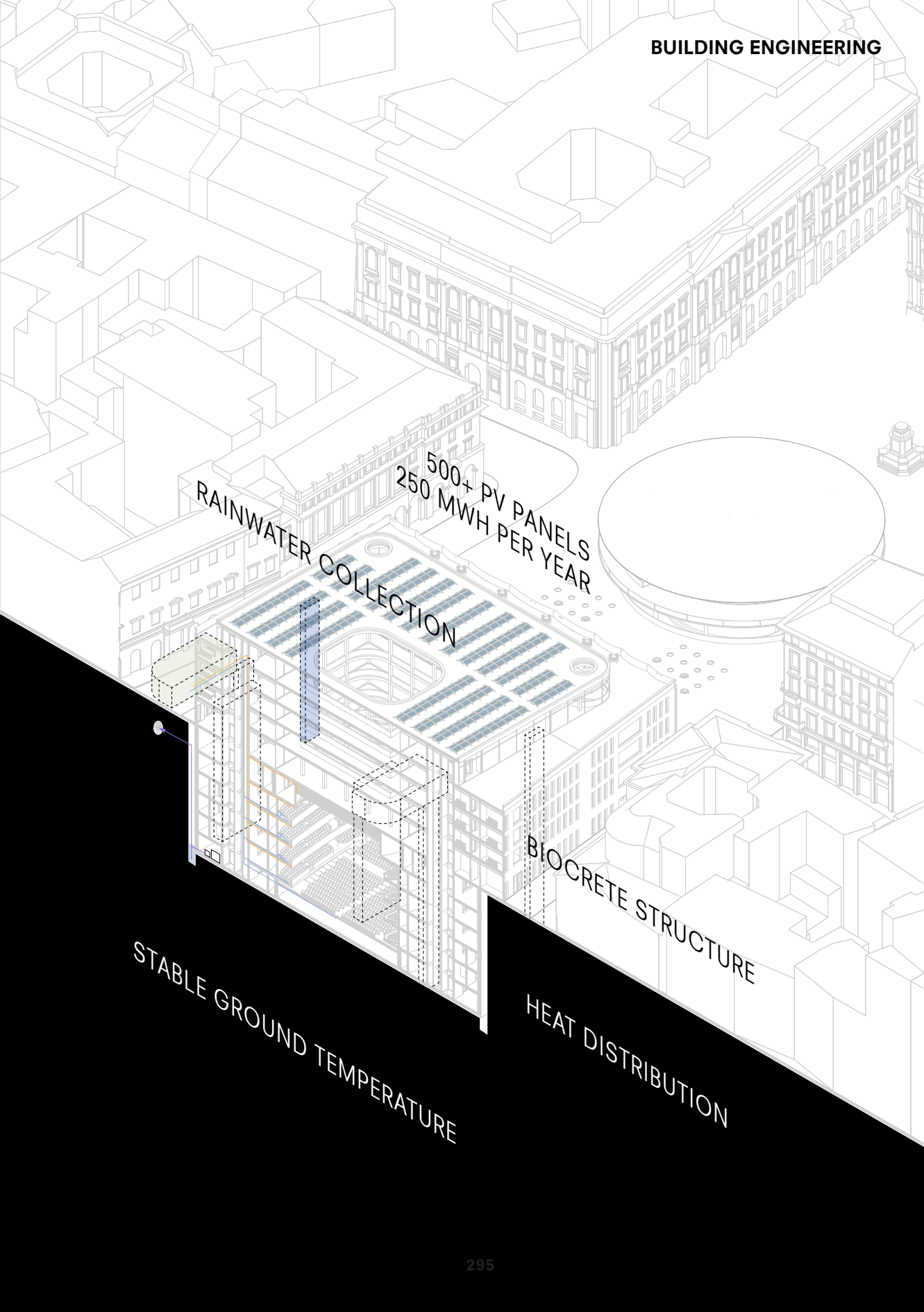
BUILDING ENGINEERING

1 : 500 (stf 95%)



CLIMATE CONCEPT




500+ PV PANELS
250 MWH PER YEAR
RAINWATER COLLECTION
BIOCRETE STRUCTURE
STABLE GROUND TEMPERATURE
HEAT DISTRIBUTION

FINAL PROJECT DESCRIPTION

06

FINAL PROJECT DESCRIPTION

Envisioning the historic site of Teatro alla Scala as a blank canvas, this project begins by stripping the site of its existing structures in order to test new spatial and experiential possibilities. The projects main focus is on youth engagement to identify how opera houses can better resonate with younger audiences. These findings informed a reimagined programme that balances traditional performance venues with flexible stages, daylit workspaces, transparent rehearsal studios, green courtyards, and accessible public spaces.

In line with the spatial concept, the institution itself is reframed as "Scala," a concise, contemporary identity designed to appeal to emerging generations and to signal an open, inclusive approach to cultural events. By treating the site as if the Teatro alla Scala does not exist, the project crafts a new architectural narrative—one that honours memory and ritual beneath the surface while projecting a vibrant, youth-focused future above.

Urban Integration
By rerouting the tram and enlarging the pedestrian zone, the scheme transforms Piazza della Scala from a traffic conduit into a public living room. The cantilevered Rolex Hall and rooftop bar frame new sightlines across the square, inviting passers-by to look up and explore. Ground-level transparency, the Amphitheatre, Rehearsal Passage, and Performance Patio, breaks down the traditional "backstage" barrier, allowing city life to flow through the building. Entrances and staircases are adapted to surrounding streets on all sides, while the lowered foyer and Classical Hall allow for an expansion of the Piazza della Scala above.

Engaging the Next Generation
Focusing on youth culture, programming emphasizes experimentation, social connection, and discovery. The Rolex Hall functions as a magnet for youth, allowing them to explore the 360° stage meant for experimental and immersive performances. The Performance Patio and Amphitheatre host pop-up festivals, student showcases, and open-mic nights, while the museum and workshop levels offer hands-on masterclasses. Above it all, the rooftop bar provides a casual gathering spot with incredible views and regular rooftop parties. By layering transparent spaces, flexible programming, and urban-scale gestures, the project speaks directly to a generation seeking authenticity, participation, and memorable experiences in the heart of the city.

Rolex Hall
A floating disk above Piazza della Scala, the Rolex Hall speaks directly to a younger generation. Its circular form offers uninterrupted, 360° views—by day a panoramic lookout over Milan's skyline, by night an intimate arena for experimental performances. This stage creates a relation with the city, like Palladio's Olympic Theatre.

Amphitheatre
Beneath the Rolex Hall, a stepped amphitheatre carves into the ground, creating a stage for public gatherings, pop-up concerts, fashion shows and community events. The overhanging volume above provides natural shelter. The space is surrounded by frames that capture opera history and rehearsal behind glass.

Rehearsal Passage
From the amphitheatre, a generous passage descend into to buildings heart. Floor-to-ceiling glazing on either side reveals dancers, musicians, and actors at work, blurring the boundaries between front-of-house and backstage.

Foyer
At level –1, the foyer is a vital connector in the building. Daylight pours through a central void. Large windows frame views into the Classical Hall; a stair leads upward to the restaurant, while a descend brings the visitors to the Classical Hall entrance underground. The foyer serves both as a connector and yet another stage for flexible events, receptions, installations, and talks.

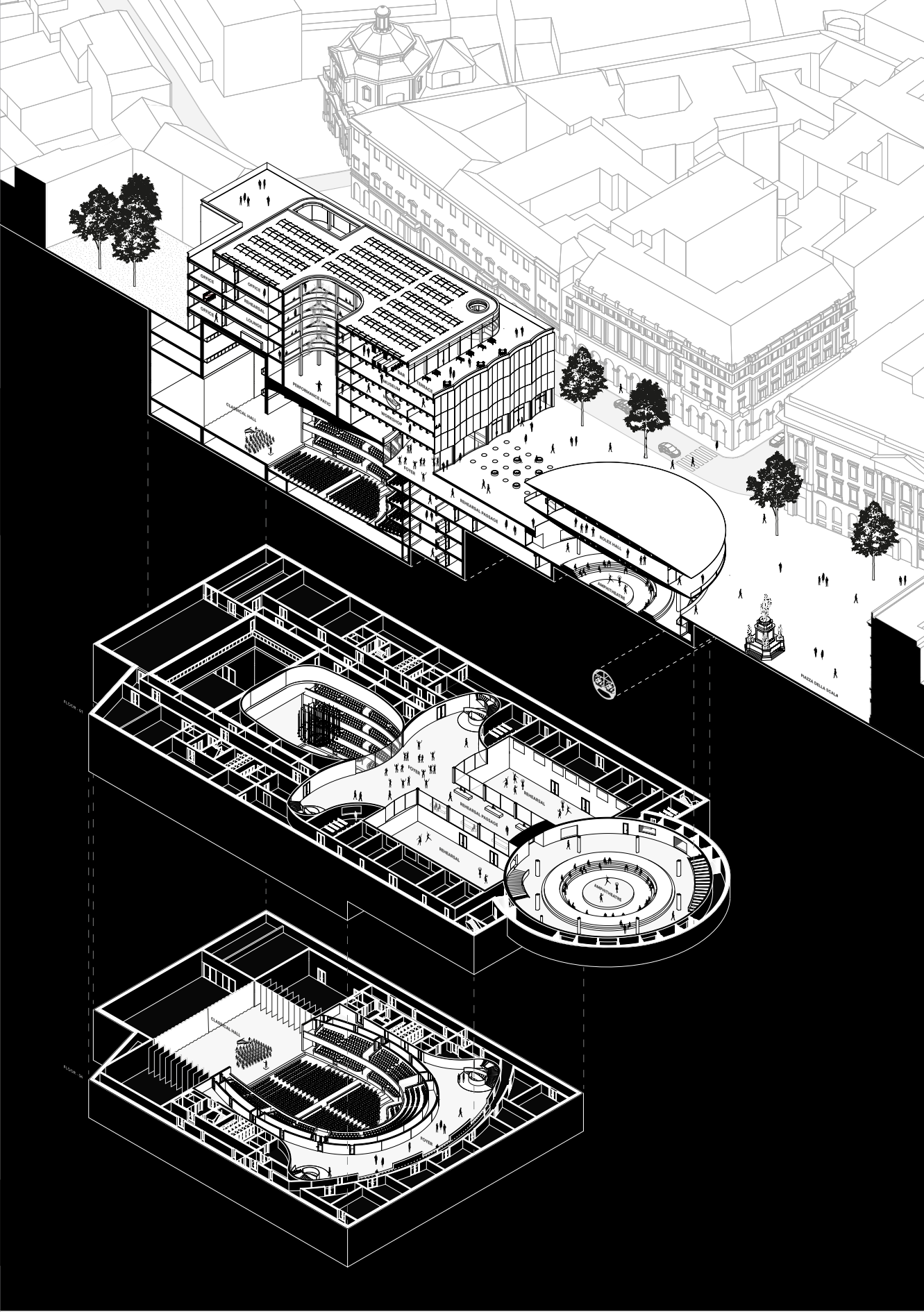
Performance Patio
Within the mass, a lush, plant-filled courtyard doubles as a performance venue. The light well here bathes adjacent studios in natural light and allows music to flow upward through the building. Audiences gather on ground-level or the balconies above, experiencing performance as part of a living vertical stage.

Classical Hall
Buried beneath the Performance Patio, the Classical Hall preserves the traditional horseshoe configuration for over 2 300 spectators. "A heritage revival beneath the surface." In contrast to the experimental performances at the Rolex Hall, this hall celebrates the history of opera, ballet and orchestra.

Museum, Workshops & Rooftop Bar
Between the ground floor and the rooftop, a series of museum galleries and flexible workshop studios animate the volume's mid-section, inviting visitors to explore archive materials, participate in masterclasses, and witness craftsmanship. At the very top, a rooftop bar overlooks the piazza, offering a place for the next generation to hang out after their encounter with opera.

Together, these spaces choreograph a journey through voids and masses, tradition and innovation, public and hidden—creating a new cultural landmark.

In conclusion, the proposal transforms the former Teatro alla Scala's site into a sequence of performance spaces that balance lost traditions with experimental performances. By conceiving the piazza as an open stage and weaving together floating and sunken venues—from the hovering Rolex Hall and Amphitheatre to the transparent Rehearsal Passage, the Foyer, Performance Patio, and hidden Classical Hall—the design both honors Milan's operatic heritage and blurs boundaries between artist and audience. Integrated museum and workshop levels, along with a rooftop bar overlooking the Piazza della Scala, further enhancing city life of youth engagement. Through its strategic urban interventions, flexible programming, and contemporary identity as "Scala," this design proposal is redefining youth engagement in Milan's opera scene.


OFFICE
OFFICE
OFFICE
LOUNGE
LOUNGE
CLASSICAL HALL
PERFORMERS PARKS
FOYER
FOYER
REHEARSAL PAVILION
BOLES HALL
AMPHITHEATRE
PIAZZA DELLA SCALA
FLOOR - 01
FOYER
REHEARSAL
REHEARSAL PAVILION
REHEARSAL
AMPHITHEATRE
FLOOR - 04
CLASSICAL HALL
FOYER

REFLECTION

07

REFLECTION

Reflecting on my journey through the Complex Projects graduation studio, I can confidently say that the experience has been inspiring. The studio's overarching theme, "Bodies & Building", aligns with my interest in how architecture interacts with human proportions, movement and user behaviour. This exploration provided a framework within which I engaged with the project: designing a new opera house at Teatro alla Scala's site in Milan, with a focus on attracting and improving the interest of younger audiences.

The relationship between the graduation project and the master programme lies primarily in the socially aware architecture proposed. The design carefully considers the user groups involved and incorporates innovative design solutions backed by architectural details. The project addresses youth engagement in classical performances, linking to the master's focus on engagement and innovation. The research also highlighted the positive psychological effects of regular attendance at classical performances, aligning with the social responsibility.

One of the more demanding stages in the design process was the massing studies phase. Here, I encountered challenges translating the research into architectural solutions that would align with a younger audience. Initial studies indicated a disconnection between the traditional appeal of opera and the interests of the next generation, demanding the need for a radical intervention. Through an iterative process involving the 3x3 massing explorations and valuable discussions with my peers and tutors, I identified a solution: the introduction of an additional performance space, named (after one of the clients/investors) the Rolex Hall, in the design proposal. The Rolex Hall contrasts the classical opera hall and the historic buildings surrounding Piazza della Scala. Intended for experimental and contemporary performances, this hall strategically captures the attention of younger visitors, sparking their curiosity about classical performances as they encounter them in the foyer or through glimpses provided by carefully positioned visual connections.

Another design challenge was to ensure a cohesive architectural language and a logical sequence of performance spaces. Given the complexity of the building programme and user flows it has to accommodate, defining clear navigation routes and spatial relationships was challenging. Through collaborative brainstorming and iterative design refinements, the design now has intuitive pathways within the building, ensuring a harmonious spatial experience. The overall shapes of the building masses, facade, up to the furniture and door handles align by incorporating the same curvature through the building elements.

A strength of the approach was the initiative to attend a wide range of performances in Rotterdam, Amsterdam, Paris, and Milan, expanding my knowledge and providing valuable insight into the innovative and experimental nature of performance art. The process included not only frequent discussions with tutors and peers but also engaging conversations with family, friends, and professionals in the architectural field, further improving the perspective.

One potential improvement would have been to initiate massing studies earlier in the process. Although the extensive research phase is essential to the graduation project and provided valuable insights, starting the massing studies one or two months sooner would have allowed more time for design development. My professional experience has shown that research phases are often a more balanced distribution of research and design, ultimately enhancing the design outcomes. While I managed my time efficiently, incorporating more flexibility into my planning could have better accommodated unforeseen personal challenges such as my unexpected apartment move.

The project carries academic value by proposing design solutions that address the declining youth interest in classical cultural events. Academically, it contributes to a broader discussion about spatial strategies for user engagement. From a societal perspective, the project promotes cultural activity and inclusivity, enhancing social cohesion. Ethically, the design considers diverse user groups and universal design principles, ensuring diverse community engagement.

The transferability of the project lies in the conceptual approach of creating a point of attraction to engage specific user groups. Although the design is site, program and client-specific, its principles and methodologies can be applied to various contexts where similar engagement challenges persist. The material usage and level of innovation are more specific to an opera house where a certain attention to detail is expected, but can inspire architecture across various building types.

In conclusion, the Complex Projects studio has equipped me with comprehensive analytical and design skills, enabling me to critically address intricate architectural challenges. As I transition into professional practice, I am motivated to continue integrating a high level of detail into complex architectural project while critically defining the overall ambition and prioritising users in every step of the design.

Redefining Youth Engagement
in Milan's Opera Scene

SCALA

JUSTIN TJON KIE SIM