



Anonymous Monument

a concert hall design in China

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Abstract

Aldo Rossi once classified the architectures in a city as residential buildings and monumental artifacts. The iconic public building naturally has a monumental identity. Therefore, the thesis mainly discusses the approaches to create a monumental meaning for an architecture with perspectives of urban typology and architectural archetype. In a way, the monumental meanings can be conveyed by time, analogy, or a utopian image. The study also includes the critical thinking and evaluation about the aesthetic motif and strategic methods in practical design. The diploma project is a concert hall design in Nanjing, China. According to this particular case, the arguments are developed around the feasibility and sustainability of the concert hall with the background of a contemporary China major city.

Keywords: urban monument, typology, archetype, concert hall, China

Introduction

The thesis mainly concentrates on the monumental meaning of public building. As an important artifact in the city, a monument does not only influence the urban context, but also the collective memory of local people. A monument can be analyzed more thoroughly with an urbanism approach. Therefore, the arguments will be based on the perspective of urban typology and building archetype. The typology theory mainly refers to Aldo Rossi. Rossi provides a general approach to understand the city by typology. By avoiding any elementary idea of functional urban planning, Rossi introduced his theory about urban typology in his book, *The Architecture of the City*. Following this approach, such a perspective reveals the complexity of a city that has been accumulating various artifacts during a historical period. For this thesis, typology also provides a more profound and convincing method to understand the urban monument.

In addition, the thesis will discuss the approaches for designing an urban monument. In a way, the typology refers to an urbanism guidance. The archetype directs the building design. The arguments will be developed according to the comparison between typology and

architectural archetype. Besides, the thesis will discuss the similarities and differences between archetype and motif. Based on the preliminary conclusions about the commemorative design methods, the discussion will also include the symbolic and analogical applications in architectural design.

During the case study, the thesis will mainly compare and analyze the CaixaForum museum in Madrid and Elbphilharmonie Hamburg. Both these two projects are designed by Herzog & de Meuron. As the disciples of Aldo Rossi, the Swiss architects are influenced by Rossi's theories no matter in their design ideology or architectural practice. Thus, the case study is not only for commenting the architectures, but also examining and reviewing the typological applications.

Since the design project of this thesis is a city concert hall in Nanjing, China, the thesis will briefly conclude the radical changes in Chinese cities in recent decades. The contemporary Chinese city is a rather complicated issue, the discussion will mainly focus on the iconic public buildings in recent years. The summary will help to brief

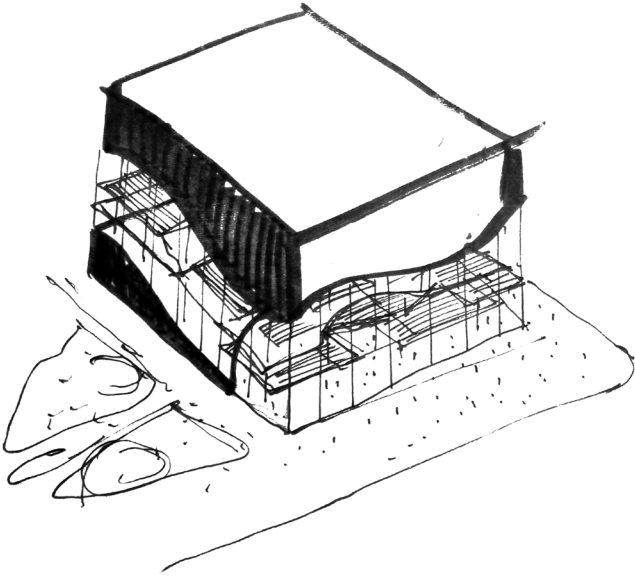


Fig. 1
The conceptual sketch of the concert hall project in this thesis.

a background for the design project. With an introduction of the urbanization in China, the thesis will continue to analyze the fast development of performance buildings. Besides, there will also be a description of the developing strategy for performance venues and their existing problems.

Furthermore, the thesis will summarize the guidance based on a series of practical design suggestions. With the consideration of the characteristics of Chinese cities, the arguments will focus on the urban strategy, the combination of programs and the operational suggestions for a hybrid cultural complex. At last, there will be a preliminary introduction about the technical issues in a concert hall, i.e. the layout of auditorium seats, the circulation of the audience, the acoustic design and other.

However, the discussion will base on an architectural perspective. Therefore, the arguments will mainly concentrate on the basic issues about creating space. In other words, the thesis would not be distracted to deeply discuss any technical details.

As a part of the diploma work, the project aims at designing a modern concert hall with hybrid functions. The architecture does not attempt to erect any landmark, neither display the ambition of any designer nor the will of any authority. The design is a user-friendly proposal for the daily running and convenient accessibility for local people. The building would be a feasible facility for the urban circumstance and a sustainable strategy for long-time operation.

1.1 urban typology and building archetype

A city is a complicated entity that gathers various artifacts. In a way, typology provides a general approach to understand the urban structure. Besides, it is a method that classifies the urban elements. So, typology is a method for analysis based on urban facts. Therefore, typology cannot be created or invented. For instance, Rossi classified the artifacts in a city as monuments and residential buildings. In a respect of typology, housing and monumental artifact are the elements that constitute a city instead of a primary category by their utilities. Though a city can be rebuilt, the type of housing does not change. Typology reveals the elements that constantly exist in a city. It reduces the complicity of a city to a series of types which do not concern any specific urban or architectural space. The types refer to the conditions of city context in a historical period. Based on one type, different forms of buildings can be generated. Meanwhile, the types in different historical periods can be analyzed and compared.

After Rossi, there are other theorists have been continuing the research based on typology. For example, in the book, *Urban Space*, Rob Krier has categorized a series types of city squares and evaluated their effectiveness in the local context. In a way, the summaries and diagrams made by Krier provided more readable illustrations about the urban space. However, as the opinion from Wang Shu, it seems

that Krier only focused on the visual or graphic patterns of a city. Indeed, many modern cities are discordant in a respect of urban content. But Krier attempted to orchestrate the city as a harmonious entity. Moreover, his obsession about classical western European city made his opinion very difficult to deal with modern urban issues, especially in many other areas in the world, as Colin Rowe said:

*In any case, the question at this point is not so much whether the traditional city, in absolute terms, is good or bad, relevant or irrelevant, in tune with the Zeitgeist or otherwise. Nor is it a question of modern architecture's obvious defects. Rather it is a question of common sense and common interest. We have two models of the city. Ultimately, wishing to surrender neither, we wish to qualify both.*¹

Unlike typology that regards an urban scope, the archetype is embedded in the creative mind of an architect. An archetype does not refer to any object for duplication or mass production. In the contrast, it contains

1. Rowe, Colin, and Fred Koetter. *Collage City*. Cambridge, MA: MIT, 1978. Print.

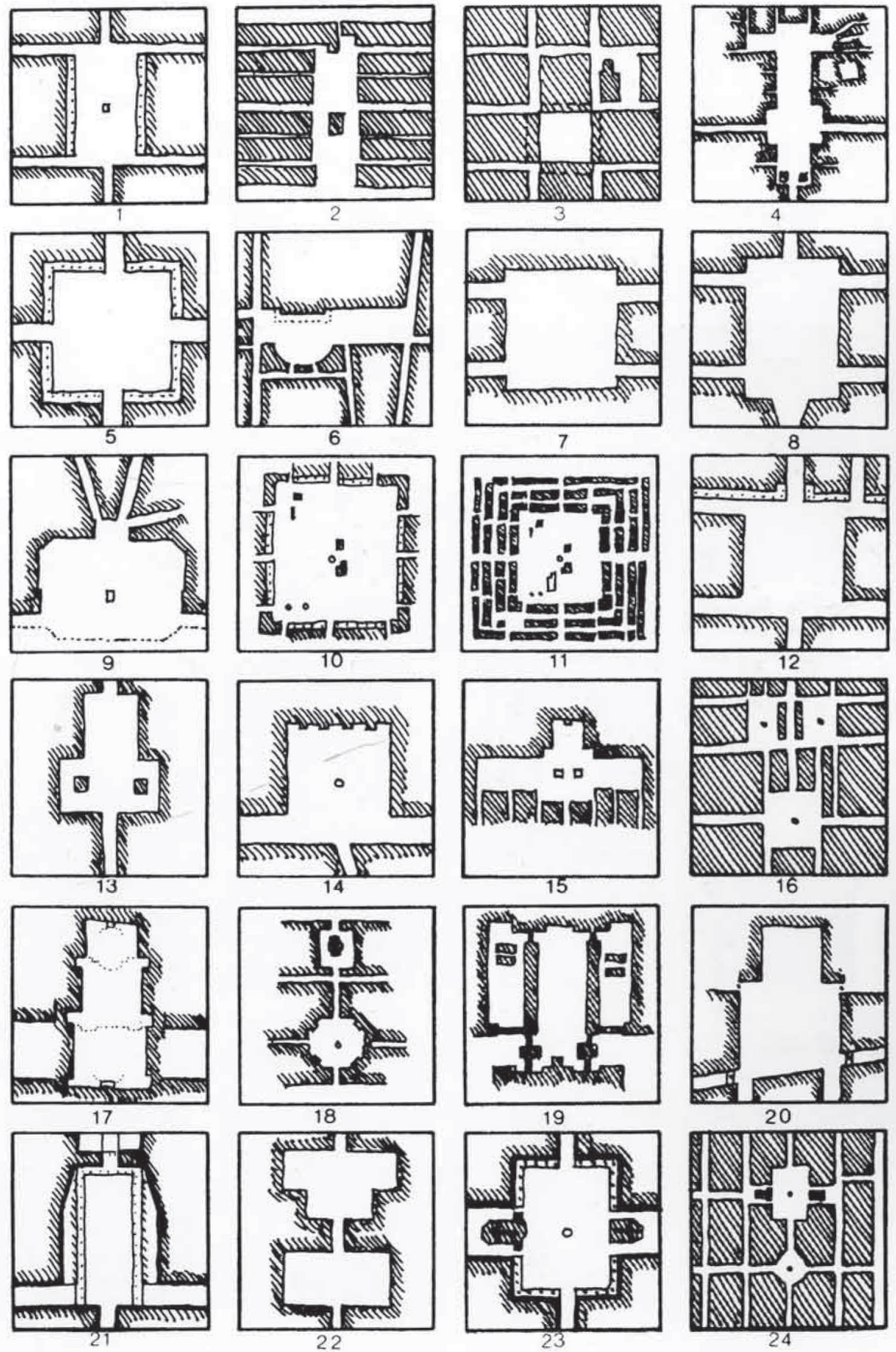


Fig. 2
 The list of orthogonal plans for squares in Rob Krier's book, *Urban Space*. London, Academy Editions. 1979. print.

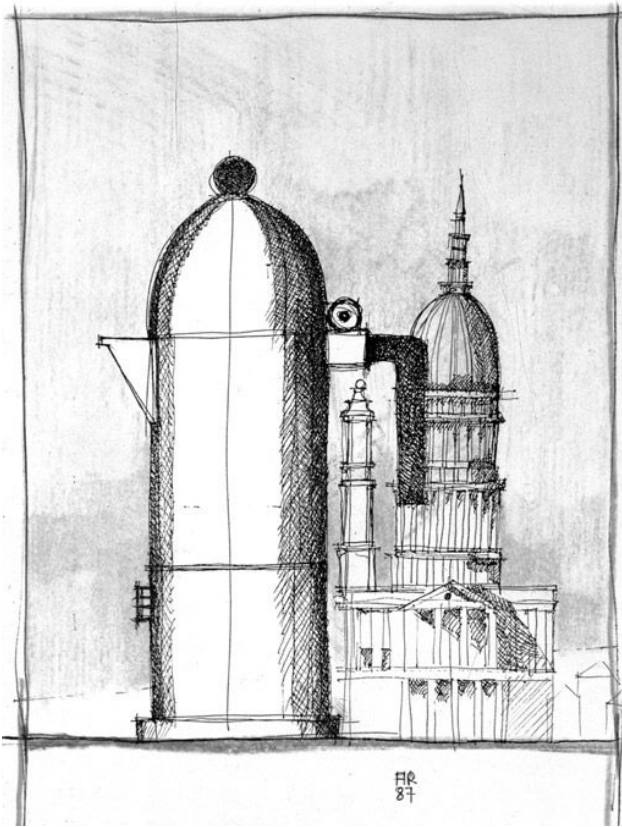


Fig. 3
tea pot sketch by Aldo Rossi

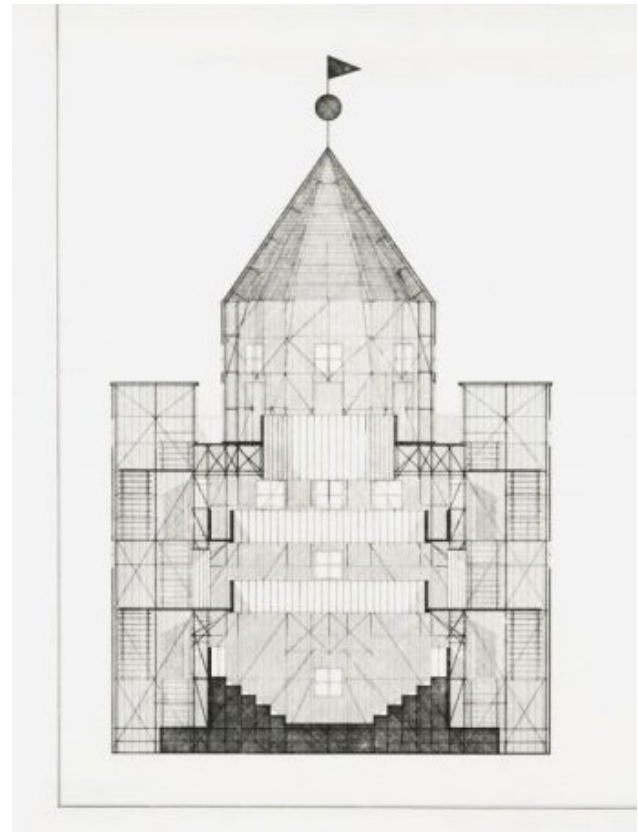


Fig. 4
Teatro del Mondo in Venice, Italy by Aldo Rossi, 1979.

design philosophy, primary concept or architectural spirit. Therefore, architectural design implies an imitation of the archetype. Compared with typology, an archetype is also a building design approach, but it functions on a more specific level. It refers to the architectural form and appearance. It touches the spatial experience of individuals. An archetype can be interpreted as many themes, including but not limited to geometric elements, the desired spirit of the place or a tectonic tradition.

An archetype refers to the ideology of design. Naturally, there could be visual similarities between the archetype and the final architecture. For example, the similar geometries repeatedly appeared both in Rossi's product design and his architectural work. His building looks like symbols for the city. It seems that a historical style has been reduced to an abstract icon. Although the design does not aim at presenting any essence or minimalist idea, it reveals an intention of design that generating an analogy. As Rossi said: *'The emergence of relations among things, more than the things themselves, always*

*gives rise to new meanings.'*²

1.2 geometric archetype

Since long time ago, single geometry has already been used in building artifacts. For example, the pyramid is one of the most well-known monuments in the world. Similarly, in the 18th century, French architect Etienne Louis Boullée made a scheme for the cenotaph of Newton, which reveals the monumental power by a simple sphere. As Boullée noted his architectural form:

*'O, Newton! With the range of your intelligence and the sublime nature of your genius, you have defined the shape of the earth. I have conceived the idea of enveloping you with your discovery.'*³

2. Rossi, Aldo, and Peter Eisenman. *The Architecture of the City*. Cambridge, MA: MIT, 1982. print.

3. Rosenau, Helen, and Etienne Louis Boullée. *Boullée & visionary architecture*. London: Academy Editions, 1976.

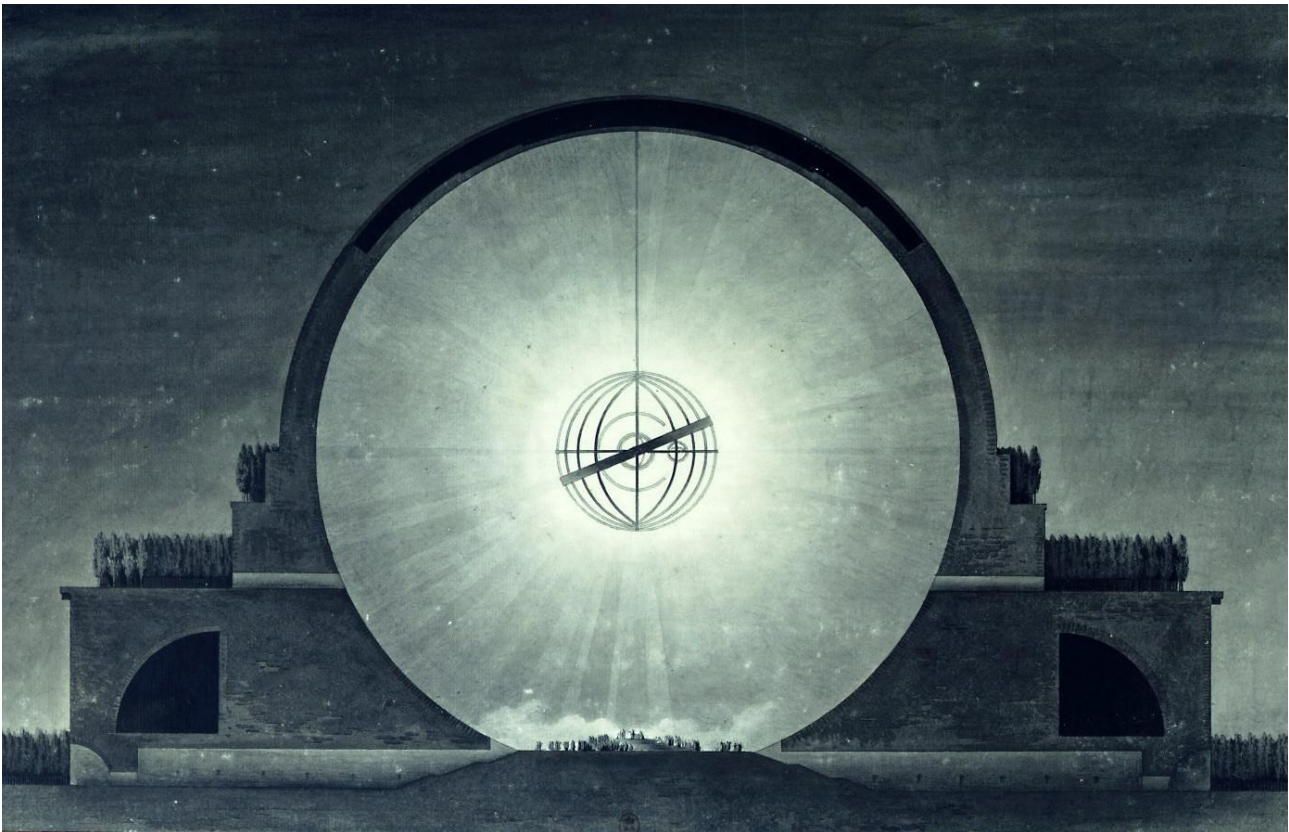


Fig. 5
the drawing of the Cenotaph for Newton designed by Etienne-Louis
Boullée in 1784

Nevertheless, the design enabled us to wonder about the motivations that encouraging the architect to adopt the sole sphere. Considering it was during the enlightenment movement, possibly the concept was influenced by the rationalism thinking then. At that time, several French architects such as Boullée and Claude Nicolas Ledoux displayed a utopian imagination with a spirit that respecting science and rationality. In a way, the geometric simplicity is able to express such an aspiration. As Boullée said:

*‘Since such a monument should make a melancholy impression. I have avoided any opulence in the architecture. I did not even permit myself to divide up the mass and I thus preserved its character of immutability’.*⁴

Although the cenotaph was not realized, there is no doubt about the impressiveness of the idea. Like contemporary public buildings, Boullée’s design rejected any historical

element. The similarity between this project and the monument nowadays is not only about its minimal geometric form, but also its attitude that disconnected with any architectural existence. To a certain extent, Boullée chose an overwhelming gesture to response the architectural demands. This design ideology also applies to many current monumental public buildings.

1.3 tectonic archetype

Additionally, according to Kenneth Frampton, tectonic archetypes are the principles founded on the thinking between a building and circumstance. For example, in many areas, the traditional housing represents a cultural sense of belonging. The tectonic construction is able to reduce the building to spontaneous art, which actually is a metaphor for the human body.⁵ The illustration of a primitive hut by the abbé Marc-Antoine Laugier emphasized the principles about the material and structure

4. Rosenau, Helen, and Etienne Louis Boullée. *Boullée & visionary architecture*. London: Academy Editions, 1976. print.

5. Frampton, Kenneth. *Studies in Tectonic Culture: The Poetics of Construction in Nineteenth and Twentieth Century Architecture*. Cambridge, MA: MIT, 1995. print.



Fig. 6 (left)
a primitive hut, the frontispiece of the abbé Marc-Antoine Laugier, *Essai sur l'architecture*. 1755

Fig. 7 (right)
the Salk Institute designed by Louis Kahn. Photo: <https://i.pinimg.com/originals/85/06/75/850675b4f18ffd3362219f8feb2511c.jpg>

of building craftsmanship. The tectonic principles are labeled by its cultural and regional characters. Although it is a kind of traditional and spontaneous construction without any intentional architectural theme or expressive purpose, the building still can be appreciated by the people from different cultural backgrounds. Actually, a tectonic archetype is even more valuable in the circumstance that architectural meaning has been too much interpreted. The design would acquire a minimalism property in the constructive sense.

On the other hand, during modernism, the modular constructive elements of a building, such as the Domino system named by Le Corbusier, enables the massive duplication of buildings. Somehow, it is more like a solution for fast production. In this sense, the post and beam system of concrete is an imitation without any emotion. Even though the structure has already filled in a lot of the buildings around the world, it can hardly

be considered as any tectonic archetype. Therefore, it also leads to a prevalent disconnection between the architectural envelope and inner structure. In some cases, the enveloped building has been criticized that it only works as a container of different functions. Eventually, the constructive system results to an inevitable repetition.

1.4 genius loci, an archetype of place

In a way, the archetypes are not literally transferred into architectures. The relationship between archetype and architecture is not limited to any morphological correspondence. An archetype might be spatial manifestos, expected conditions or abstract atmosphere. For example, Kengo Kuma always attempts to build an ambiguous boundary. Between his architecture and the context, the division between exterior and interior space is usually translucent. Once Louis Kahn mentioned about designing a school, he would trace back to an original scene which only represents a communication of



knowledge, as Kahn wrote:

*'I think of school as an environment of spaces where it is good to learn. Schools began with a man under a tree, who did not know he was a teacher, discussing his realization with a few who did not know they were students... The existence-will of school was there even before the circumstances of a man under a tree. That is why it is good for the mind to go back to the beginning because the beginning of any established activity is its most wonderful moment.'*⁶

Kahn has refused to arrange any architectural function or space but attempts to specify the spirit of the place. As a

brief conclusion, the imitation of archetype needs emotion, essentially it represents the core values of design. The design with an archetype means the creation and profound thinking based on the discovery between architecture and its circumstance. In Salk Institute, one of the iconic project of Louis Kahn, he finally canceled the idea of two rows of trees in the courtyard, which opens the space to the skyline and Pacific coast.

6. Louis I Kahn, *Form and Design*, 1960, Source: Kahn, Louis I., and Robert C. Twombly. *Louis Kahn: essential texts*. New York: W.W. Norton, 2003. print

2.1 the generation of monument

There is no doubt that a city is a cluster constituted by a group of architectures, as Rossi said: *'To speak of a beautiful city is to speak of good architecture because it is the latter which makes real the aesthetic intentionality of urban artifacts.'*¹ Compared with residential space, a public building originally has the monumental property. For Louis Kahn, there is continuity between civic institutions and political life, as he said:

*'The city, from a simple settlement, became the place of the assembled institutions. Before, the institution was the natural agreement - the sense of commonality...The measure of greatness of a place to live must come from the character of its institutions, sanctioned through how sensitive they are to renewed agreement and desire for new agreement, not through need, because it comes from what already is.'*²

If we compare Louis Kahn with Boullée, it somehow implies that a contradiction exists between the tectonic tradition and utopian imagination. Louis Kahn stands somewhere in-between. His work clearly shows the impressiveness with geometric composition. Nevertheless, as his famous quote: *'Even a brick wants to be something'*, Kahn never neglects the importance of building craftsmanship. In the contrast, Boullée's cenotaph for Newton revealed a simplicity that was based on a purely commemorative need. By a single geometry, his design acquired an extreme publicity. Although people cannot have the chance to scrutinize a building that stays on paper, we can boldly conclude that the clarity of a utopian theme would benefit to a monumental impression.

Due to the publicity of monumental artifact, it is a social issue beyond architectural or aesthetic critic. For example, although the steel facade of the Beijing Olympic Stadium was an artistic creation according to the architects and artist, local people would associate it with a bird's nest. Moreover, the media is inclined to accept a figurative but superficial story. In addition, since a commemorative meaning is not only conveyed by geometric shape, how to reveal a monumental meaning by different approaches?

1. Rossi, Aldo, and Peter Eisenman. *The Architecture of the City*. Cambridge, MA: MIT, 1982. print. p.87.

2. Giurgola, Romaldo, Louis I. Kahn, and Jaimini Mehta. *Louis I. Kahn*. Boulder, Co.: Westview Press, 1976. p.224.



Fig. 8
 a contemporary map shows the great London fire in 1666. About four-fifths of the walled city was destroyed.

2.2 time and monument

Besides architectural form, another dimension about monumental meaning is time. For example, a ruin is able to render a commemorative atmosphere because it implies the activities and memory from the past. Such an empathy and impact on emotion relies on time. The urban typology is stable and durable. Meanwhile, the architectural function is temporary which can be replaced by other function. A typological design aims at continuing local history and collective memory. As Rossi said:

*'In fact, I am inclined to believe that persistence in an urban artifact often causes it to become identified as monument, and that a monument persists in the city both symbolically and physically. A monument's persistence or permanence is a result of its capacity to constitute the city, its history and art, its being and memory.'*³

Similarly, Colin Rowe also mentioned that any artificial space needs to eventually become a recognizable object

of people's daily life. However, a purely geometric shape is difficult to be distinguished by the perspective of time due to the eternality of the form. Instead of conveying the conservatism in architectural design, the arguments addressed on the recognisability of urban architecture, as Rowe said:

*'In any case, space is far less important than time and that too much insistence-particularly upon delimited space-is likely to inhibit the unrolling of the future and the natural becoming of the 'university society'.*⁴

Back to the urban respect, the history has shown that every urban artifact eventually will be a part of the collective memory. For instance, the central area of London had been totally burned in the 17th century. Again, the area that rebuilt after the fire has become historical districts nowadays. Another example can be *Yingzao Fashi*, a technical monograph about the architecture and craftsmanship in ancient China. It was also the building

3. Rossi, Aldo, and Peter Eisenman. *The Architecture of the City*. Cambridge, MA: MIT, 1982. print. p.32.

4. Rowe, Colin, and Fred Koetter. *Collage City*. Cambridge, MA: MIT, 1978. print. p.59.



Fig. 9
Christo and Jeanne-Claude Wrapped Reichstag, Berlin, 1971-1995.
Photo: Wolfgang Volz



Fig. 10
Estudio Barozzi Veiga, Philharmonic Hall Szczecin, Szczecin, Poland.
2014. Photo: Simon Menges

code aiming to regulate the nationwide buildings according to their social classes. Like the modernism industrialized buildings, the duplication of a standard modular system has been lasted a long time from the past until nowadays. As people have seen, the duplication actually does not produce any architecturally generic cities. Time is able to accumulate historical characteristics for a city.

2.3 analogy, a poetic imagination about reality

In our time, the solid parts of the city, i.e. the artifacts, have been too much addressed and the void parts have been eroded by traffic system or parking yard etc. Many buildings would desire to be the isolated objects in an exhibition space. On the contrary, the truth is, in most cases, the urban context always cannot be as clean

and empty as an art gallery. Furthermore, it would be very different to compare the architectural monuments in different cities. For example, the situation would be different in a European city with a historic downtown or an American city with various modern high-rises. A monumental building actually is not always about whether it is a large scale or a distinctive sign. The urban content is able to influence whether the monument is recognizable or not. When the context locates in a Chinese city, a possible design assignment given to architects is to create new monuments in a place where are already full of monuments.

In a way, analogy involves a transformation of the elements that once existed in the city. The architecture does not aim at literally interpreting its functions or expressing any other



Fig. 11
glass window designed by Koloman Moser in the reading room. Vienna Austria. 1902. Photo: Austrian National Library (ÖNB)



Fig. 12
the facade of the Library of Birmingham designed by Mecanoo, Birmingham, United Kingdom. 2013. Photo: Christian Richters

social meaning, but triggering the reminiscent of the past. For example, the Szczecin Philharmonic Hall in Poland is constituted by a simple geometric form. Meanwhile, the architecture is a metaphor for the local buildings in the past. Therefore, the architectural form is not detached from the context. The design also identifies itself by its white and translucent facade, which is a distinguished feature and reveals a new monument. It reminds us the wrapped buildings by artists Christo and Jeanne-Claude. Both these two ideas have produced a poetic imagination for the reality.

Anyhow, for architects, the purpose is to use contemporary architectural language to reconstruct a memory. The architecture never aims at representing any historical image but providing an imagination associated with the

past. Thus, the form serves the architecture itself only, which needs to be independent and neutral.

2.4 architectural motif

If we are discussing the association between design concept and architecture, along with the core values e.g. typology or archetype, there are other elements which also help to carry out the connections. For example, the object and space during Art Nouveau movement are identical because of their curved patterns of plants and flowers. Even though Modernism once had purged the movement, nowadays motif actually has back to our life in a more liberated and abstract way. A motif does not only include the ornamental elements but contains all the recognizable visual principles. Once we start to use the word, motif, we are actually admitting architecture is not only a spatial but



Fig. 13

Wonderland is an abandoned theme park near Beijing, China. The structure in the photo has been demolished now. Photo: Catherine Hyland

also a graphic composition.

Furthermore, the question is about the figurative level that an architecture can reach. As the negative case of design approach, a building would be criticized due to its figurative appearance. Indeed, there is nothing wrong to convey any local or traditional characteristic. Because of the convenience of the internet and the speed of exchanging information by media, the opinions from the public are becoming more decisive. There is a practical demand that architects need to process their design based on a public aspect. Moreover, motif even can be superficially understood as a marketing strategy for promoting the design. In many cases, especially in the media, the interpretation of the motif has replaced the architectural experience. In other words, it creates obstacles for real design thinking.

The architectural design industry is globalized. For instance, an international architecture competition is inclined to be a selection of artists for creating a distinctive installation or landmark. As the art has disconnected with any life and an architect is appointed to design an iconic artifact in a strange city, it could easily lead to the abuse of architectural motifs, which does not refer to any local context or collective memory. The motif

might not be as concrete as a decorative theme, but the repetition is recognizable. If an architect only plays with the transformation of the motif, the design would move towards a direction of Disneyland, which is the opposite side of architecture. Disneyland is a theme park occupied by figurative artifacts, which are masks supported by steel scaffolding. Even though we are able to ignore the construction method, the theme of Disneyland still is an unreal entertainment. At least, for example, the World Expo is also another theme park constituted by temporary artifacts. It might represent a more progressed meaning since it associates with an imagination of technology and future.

Overall, as Wang Shu said, the motif should be decomposed to an abstract level which can be categorized by typology.⁵ In this sense, the motif has eliminated its special cultural symbols. Therefore, the motif is able to be a part of the metaphor. Moreover, architects should be alert once a building is so recognizable that it is almost like some celebrated trademark or logo. Once an architectural

5. Wang, Shu. Fictionalizing City. Doctoral Dissertation. Architecture and Urban-Planning School. Tongji University. Shanghai. China. 2000. p.102.

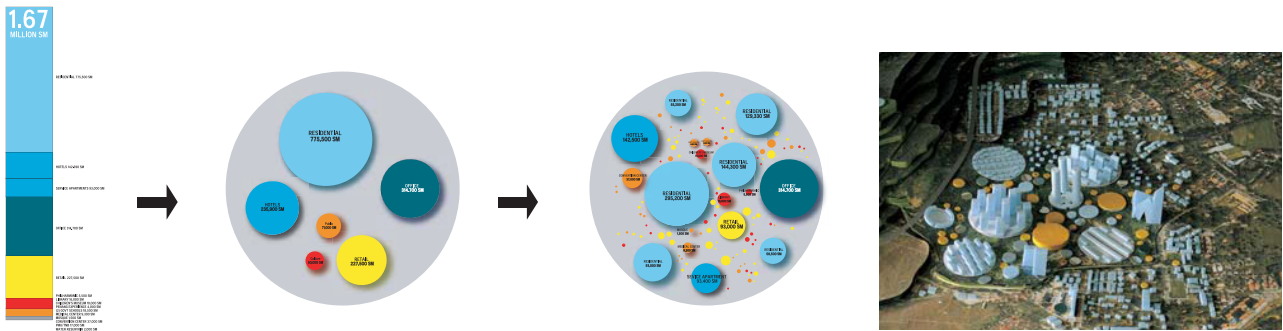


Fig. 14
 Penang Tropical City Competition made by OMA. Malaysia. 2004
 EL Croquis 134/135 Madrid 2007. Print.

archetype has been reduced as the graphic icon, the design would be just a simple transformation of decorative elements.

2.5 strategic design

Once architects accept urban typology as a design method, naturally there would be a question: where is the creative thinking if the design principle is to follow a certain typology? Rossi's theory has clearly deepened the understanding about historical urban structure though it rarely provides any suggestion for practical design. Thus, there are necessities to discuss and rethink the feasibility of this approach.

The strategic design method actually always exists in practical design. Strategic design aims to provide a solution based on the programs of the expected building. Although it is not a mechanical understanding about Louis Sullivan's famous phrase: 'form follows function', strategic design attempts to build a more rich and nonlinear connection between the function and form. In a way, the strategic solution system also forms the architectural shape, which can be the main gesture of the building. In any sense, an architect is necessary to find the relation between building and the site. Though it is still demanding for architects to eventually complete the system in a

creative way, the design is a process of selecting feasible solutions.

As the two sides of the coin, there are many reasons enable the prevalent of strategic design. For example, the system of architectural competition also has been repeatedly criticized due to it might encourage designers to produce efficient and straightforward ideas. The purpose has been distracted to win the competition rather than pursuing high-quality architecture. Such a design method might be too generic and would diminish the particularity of a place. Like Rossi said:

*'Type is reduced to a simple scheme of organization, a diagram of circulation routes, and architecture is seen as possessing no autonomous value. Thus the aesthetic intentionality and necessity that characterize urban artifacts and establish their complex ties cannot be further analyzed'*⁶

Somehow, it is dangerous to simplify the complicated relationship between architecture and city as a series

6. Rossi, Aldo, and Peter Eisenman. *The Architecture of the City*. Cambridge, MA: MIT, 1982. print. p.25.



Fig. 15
Grafton Architects, Bocconi University, School of Economics, Milan, Italy. 2008. Photo: Brunetti

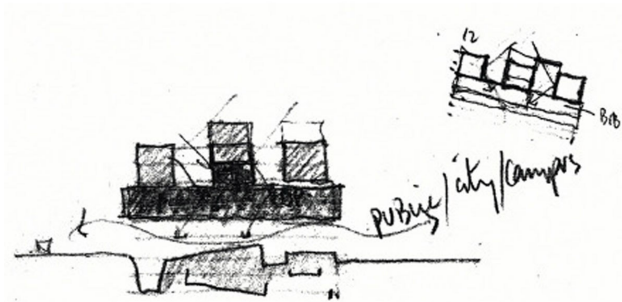


Fig. 16
the sketch of Bocconi University, School of Economics by Grafton Architects

of functional diagrams, which would produce a kind of advertisement-like architecture. A planned scheme is actually reducing the possibilities of events. Additionally, even though the strategies generate the functional and spatial rationality for architecture, they do not imply a precise correspondence between the space and the given functions. Somehow, there are unspecified places left for the public sector. The architects are required to have independent comprehension about the established programs and insistence in design. For example, the public terrace in Philharmonie de Paris, which works as a city balcony for visitors. The building does not only show itself but also functions as an extension of urban space.

Therefore, it is not about the argument or conflict of design ideologies. For example, the school of economics in

Toulouse designed by Grafton architects, which actually based on a clear urbanism strategy. The streets along the site are extended to divide the building blocks and merged with interior space. In the building of School of Economics, Bocconi University, the interior lobby also works like the sunken plaza of the city. Meanwhile, in many of their works, these strategies naturally merged with their spatial expression, materialism thinking and the subtleties of natural light. In a way, an archetype is able to combine a strategic thinking. In a way, this combination is even necessary. A successful design actually should coordinate a poetic, subtle and sensitive spatial experience with a functional, strategic thinking.



Fig. 17
the original powerhouse on the site of the CaixaForum museum, EL Croquis 129/130 Madrid 2006. Print.

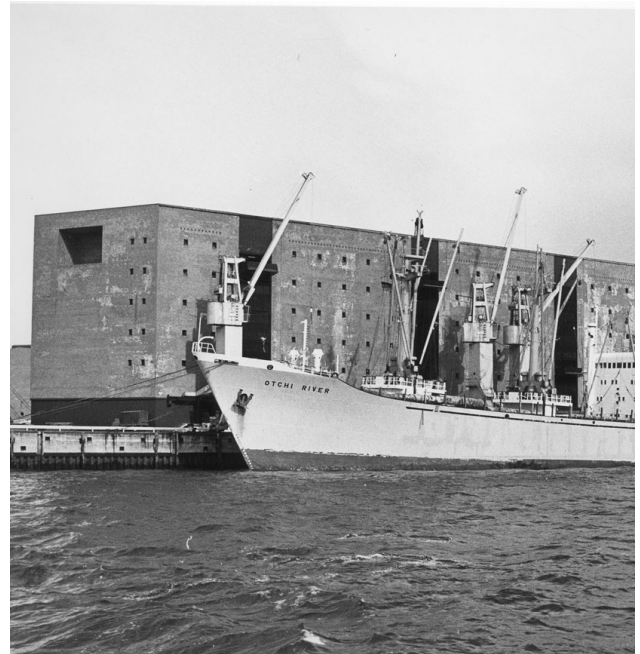


Fig. 18
Kaispeicher A in 1967, the former warehouse in the port of Hamburg on the Hafencity. Photo: Zoch

3.1 case study

The CaixaForum museum in Madrid and Elbphilharmonie Hamburg are both designed by Herzog & de Meuron. CaixaForum museum mainly includes gallery and exhibition space. In the contrast, the Elbphilharmonie in Hamburg is a city complex, which not only includes a concert hall but also has residential apartments, garage space etc. Meanwhile, Elbphilharmonie Hamburg is approximately 10 times larger than CaixaForum museum according to their gross floor areas. Although the two projects have different functions, scales and urban contexts, a comparable design concept can be observed in the respects of urban typology and architectural archetype.

Both in these two buildings, the original facades have been maintained and their iconic new constructions were added on the top. It seems these two projects share a common

architectural archetype, which is building a pyramid on the top of a labyrinth. In the site of CaixaForum museum, once there was a power station and there was a warehouse in Elbphilharmonie Hamburg. Obviously, the adding structure with new facade marks an architectural icon, which is also the main gesture of design. The design has supplied a new form for the original building. Therefore, the two buildings both convey a hybrid identity mixed with monumental meaning and local memory.

3.2 typologies

In urban typology, the idea implies that an old warehouse has the same value as a concert hall in the 21st century. Therefore, the issue here is not to argue the repeatability of an architectural concept in two European cities. The design not only aims at the continuation of local collective

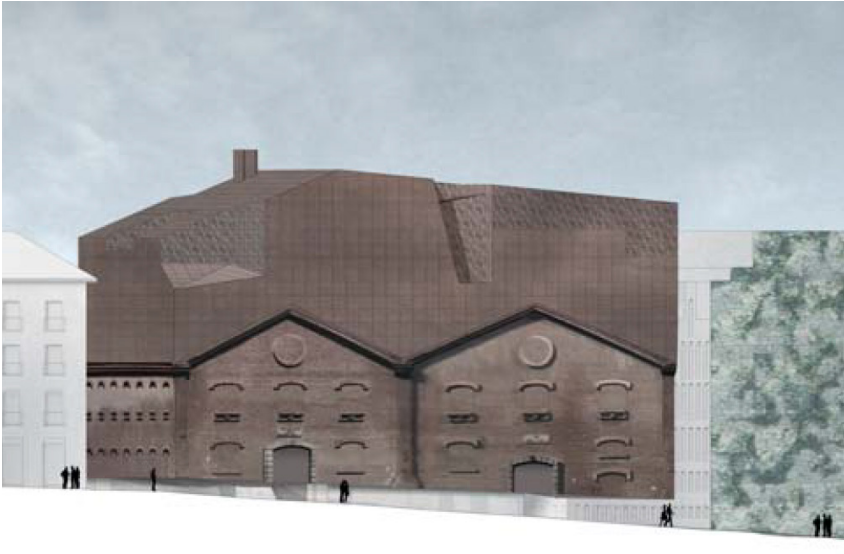


Fig. 19
the elevation of the CaixaForum museum designed by Herzog & de Meuron, EL Croquis 129/130 Madrid 2006. Print.



Fig. 20
the model of the Elbphilharmonie Hamburg, designed by Herzog & de Meuron. EL Croquis 129/130 Madrid 2006. Print.

memory but also implies the architect wants to keep the stability for original urban typology. The design emphasizes the permanence of urban architecture. As the architects said in the speech when they received the Pritzker Prize in 2001:

*'We wanted architecture without any distinguishable figuration, but with a hesitant non-imitation analogy. We were looking for a hint of memory, of association. We did not want complete reduction or pure abstraction. We were not trying to simplify the world or to reduce it to so-called essentials'*¹

As the architects also mentioned, their building design does not fix to existing functions. It is not because of any idea about flexibility, but a consideration about the change of utilities in a long period. Since this idea aims at the persistence of building, it means different space can be accumulated by time. Following this concept, it seems there would be possible to have a new topping layer could be added in the future. In a way, it is also a question that

whether a further revision about the building can be made or not.

Both of the two methods focus on the bottom level where aims at building a connection with local urban context nearby. In a way, the design is an urbanism thinking for attracting visitors and giving a welcoming guest for the building. In CaixaForum museum, the ground floor level is lifted up and the space is connected with the plaza. Actually, the whole building is structurally cantilevered, as the architects said: *'it is an urban magnet attracting not only art-lovers but all people of Madrid and from outside.'*²

The Elbphilharmonie in Hamburg also has similar features. The building is on the corner of the harbor and faces to the water on three directions. The original roof level of the warehouse has been used as the lobby for the concert hall. The architects also have considered the space in an urbanism way. They call it the plaza, which means the former roof is the new space for public gathering that lifted up from the ground. In this case, the original facade with

1. Herzog, Jacques, Pierre De. Meuron, Harry Gugger, and Christine Binswanger. Herzog & De Meuron 2002-2006: El Croquis. Madrid, GW.: Basheer, 2006.

2. Herzog, Jacques, Pierre De. Meuron, Harry Gugger, and Christine Binswanger. Herzog & De Meuron 2002-2006: El Croquis. Madrid, GW.: Basheer, 2006.

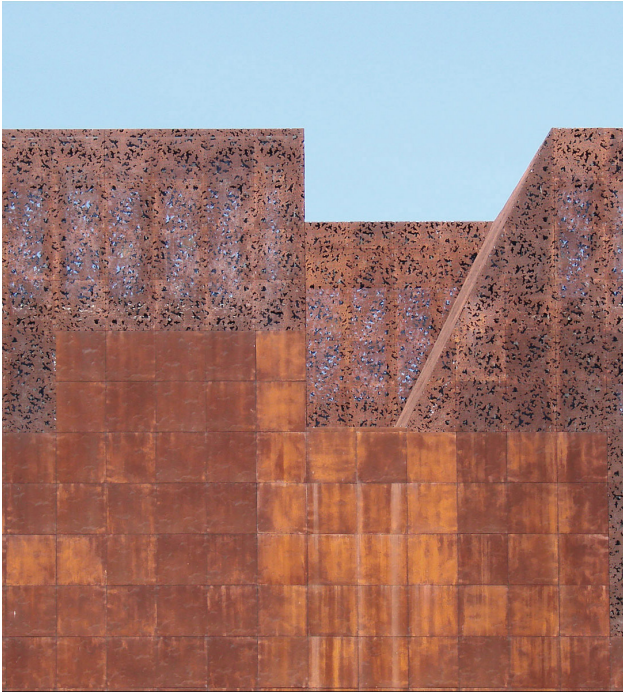


Fig. 21
the facade of the CaixaForum museum designed by Herzog & de Meuron, Madrid, Spain. Photo: Jean-Pierre Dalbéra



Fig. 22
the facade of the Elbphilharmonie Hamburg, designed by Herzog & de Meuron, Hamburg, Germany. Photo: Daniel Obernesser

small window openings of the warehouse also needs to be maintained. So, it is a feasible strategy that locates a large area of garage space at the bottom level, which helps the accessibility due to its rather isolated location. An urbanism idea would consider the whole city as an organic entity. Each part does not only consume the public resource but also can contribute to the city.

3.3 facades

In many works by Herzog & de Meuron, there is a noticeable disconnection between the architectural facade and the inner substance. Somehow, the isolated envelope is rather common in the post-modernism buildings. For the projects in Madrid and Hamburg, the original structures have been totally demolished. Only the facades were kept and supported by adding steel structure for the construction. Therefore, it is questionable that the design concentrates on the architectural conservation or just a recycle of old facade. As the architects admitted, they are not against decoration. The ornamentation is introduced by the facade for seduction.³ On the one hand, the facade

represents an icon of the past. Such an idea results in a collage image on the elevation which combines old and new. However, it is still arguable that whether a collage of envelopes is meaningful enough in the sense of analogy. Otherwise, the design is no more than a graphic mannerism contrast.

Even though the concept can be based on archetype, the design would result differently due to the different circumstances they have. Their similarities on architectural concept did not limit these two projects generating different effects. Essentially, they are different buildings. However, since both these two cases are in European cities and designed by European architects, there are still doubts about the feasibility of analogical design. Whether it can be effective as a universal way or it is only applicable for a traditional downtown area? The assignment for Chinese cities is to create analogies between traditional urban artifacts and the new districts during the fast urbanization.

3. Herzog, Jacques, Pierre De. Meuron, Harry Guggler, and Christine Binswanger. Herzog & De Meuron 2002-2006: El Croquis. Madrid, GW.: Basheer, 2006. p.34.

4.1 a sustainable and feasible urban monument

In the recent 30 years, there is a 'Great Leap Forward' in the collective memory in mainland China. Such an inevitable fact reveals a contrast between the long history as a civilized country and a radical urbanization. The gap in the collective memory is not only passive but also proactive. People celebrate the progress during the modernization and urbanization. In Chinese cities, the transformation for old districts also means an elimination of unqualified living conditions. As the expectations of Chinese people, such a change reflects a real aspiration for prosperity and higher quality of life. There is no doubt that the great time encourages the city to change itself.

On the other hand, after the fast urbanization in decades, those traditional downtown areas in the cities are not only radically changed but many of them have been demolished. Besides, the cities also have been largely expanded. Within one generation, the city skylines were occupied by high buildings. A lot of pedestrian districts were erased and the scales of the streets were enlarged for traffic systems. However, a larger scale is not able to increase the inner connection of urban fabric. Therefore, the conversion in daily life does not only refer to the loss of tradition, but also an intimate urban scale and common space. In a way, such a loss would largely diminish the

possibilities of social events.

These outmoded but still prevalent urban planning ideologies, e.g. Garden City or the Radiant City, aimed at creating a homogenized urban structure. However, a city cannot be changed as an entity anyway due to its complicity and large scale. The current city planning methods in China have produced collage images which means various building types mixed together. In a way, the urban structure of a large amount Chinese city just reflects a rapid and unbalanced brutal expansion.

In old times, a city monument was not only architecturally important but also was able to decisively control local urban structure. For instance, the permanence of a city wall gate would naturally influence its street fabric nearby. Therefore, the monumental artifact also controls the layout of the city, e.g. residential district. However, modernism architectures also have lost their abilities to shape the void space. The monuments that built up later always override the existing ones instead of respecting them. According to typology, the artifacts in a city are changed as a continuous process. For the continuation of collective memory about urban space, there should be an analogical transformation between old and new. The method of



Fig. 23
the city center of Nanjing in 1987 Photo: <http://dfz.nanjing.gov.cn/>



Fig. 24
the city center of Nanjing in 2015 Photo: David Lee

transformation implies that the structure of urban space should be upgraded instead of demolition. In addition, the solid parts, i.e. the buildings, are able to keep the balance between the exterior and interior space. Rossi once mentioned about the generation of a reasonable urban artifact:

*'When a project or a form is not utopian or abstract but evolves from the specific problems of the city, it persists and expresses these problems both through its style and form as well as through its many deformations.'*¹

Again, because of the complexity of the city, the urban structure eventually reflects the social hierarchical system and political order. Instead of ignoring the scattered urban facts in Chinese cities, the goal for the architect is to bring the rationality for the chaos urban context. In this thesis, the idea would be carried out by an urban concert hall as an example.

4.2 performance venues in China

1. Rossi, Aldo, and Peter Eisenman. *The Architecture of the City*. Cambridge, MA: MIT, 1982. print. p.18.

Along with the urbanization in China, nowadays a lot of performance buildings are widely built up in many cities. The tendency started a couple years earlier from the most important cities such as the National Grand Theater (2007) design by Paul Andreu in Beijing and the Guangzhou Opera House (2010) design by Zaha Hadid. As more cities in China are also capable enough to have similarly ambitious plans, an increasing number of performances venues have been inaugurated in recent years. Meanwhile, it is also noticeable that foreign architects are still largely involved in these projects.

What is the purpose of building these iconic performance buildings? Along founding important public institutions, the landmark is also a development strategy. By a soaring price, the leasehold of the property is an important part of the financial income for the local government. Together with other infrastructures, such as road or public traffic system, a landmark cultural building also functions as an instrument to increase the expectations for the new planned area. Therefore, in many circumstances, the location of the cultural building is isolated and it is far away from downtown. The empty context cannot provide any base for designing the appearance of architecture. Because the architectural form can hardly refer to any



Fig. 25
 Broadway Theaters. 2011. Manhattan. New York City, the United States. Photo: Songquan Deng



Fig. 26
 the theatres in West End. London. UK. Photo: <https://trvl.com/london/west-end-theatre-district>

content. The urban context even does not exist yet. Thus, the situation naturally obliges the architects to produce landmarks rather than modest urban artifacts.

On the other hand, there are also successful cases in recent years. For example, the Shanghai symphony orchestra concert hall designed by Arata Isozaki, which is a building has a simple architectural form and locates in the downtown. The acoustician was consulted into the whole process since the competition phrase until the construction. The China Philharmonic concert hall in Beijing designed by MAD architects is another high-level case is under construction at this moment.

Eventually, the close collaboration among the architects, acousticians and the engineers from many other disciplines enabled an exceptional quality of design.

In many cases, the programs of the cultural building cannot have sufficient time to be carefully planned. For example, the venue management companies should be involved in the design process even at very early stage. As the construction of the venues is a decision from the

public authority, the professional marketing research is often missing before the client starts the architectural design. Besides, another problem is the amount of shows or concerts for these new auditoriums. Normally, there should be at least 200 performances in one year to make sure the basic durable operation of the building. For example, the theaters on Broadway in New York have performances every day. But a large amount performance spaces nowadays in China are suffering the shortage of shows and audiences.

Generally, the architects hope the client is able to pay enough attention to the architectural design and aesthetic value. As the building serves as an iconic purpose of a new town development project rather than fully practical operation, there is no sufficient reason to ensure a high-quality design. As a result, it would be also questionable for the running of the building if a project lacks enough feasibility research. On the other hand, the situation proves again the persistence of monumental building. The actual usage of the building is keeping changing during the time.



Fig. 27
the main auditorium of Shanghai symphony orchestra concert hall designed by Arata Isozaki. Shanghai, China. Photo: <http://www.smartshanghai.com/uploads/venues/images/1435909423.jpg>



Fig. 28
the rendering of China Philharmonic concert hall, Beijing, China. Image: MAD-Architects

As the conclusion, the public building should be an anonymous monument. The architecture does not belong to the designers, nor the clients, but for the city. Besides, the design should be able to acquire the sustainability for daily operation. Due to the fast development during the recent decades in China, there will be a potential problem in the near future that many old culture facilities in the downtown need to be renovated. Therefore, a new type of performance building needs to be studied for the foreseeable renovation or reconstruction.

4.3 feasibility and utility, a design guidance

Considering the design background of the project is a Chinese major city, the urban context is featured by its high density. As a result, the project aims at designing a compact and efficient building. The architectural density can be referred to the floor area ratio and the size of footprint etc.. The decision is not only because of the context but also because of the feasibility and rationality.

Except for the auditorium, other parts of the building should be frequently used in 24h by 7 days. The maintenance of a performance venue costs a lot. Therefore, the consistent

open of the venue can help to afford the running cost. A need of long-running also explains the reason that the venue should combine various programs for attracting visitors.

The building's location is suggested to be in the downtown. As a performance venue, a durable running largely relies on the amount of audience. The convenient accessibility enables the venue to attract local people and tourists. For example, there are about 40 theatres locate around the West End area of London. Many theatres are labeled by their iconic long-running shows.

The building should be able to influence the urban space and build a connection with exterior space. Therefore, it is important to arrange attractive programs on the ground floor level. Architecturally, the building should work as an urbanism artifact, which means the public function also benefits the exterior space. The building functions as a hybrid urban organ. However, a hybrid building does not mean all the functions are equally treated. The commercial program always has the ability to fully take advantage of the facade along the street.

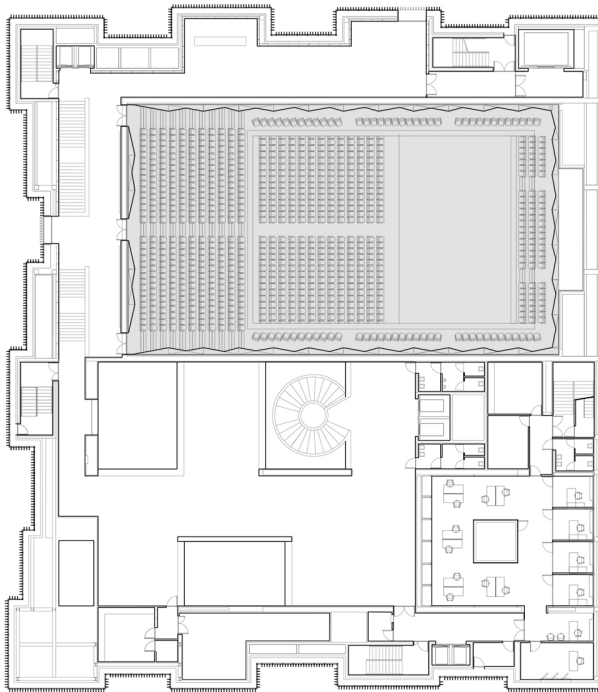


Fig. 29
the floor plan of Philharmonic Hall Szczecin, Szczecin, Poland. Image:
Estudio Barozzi Veiga

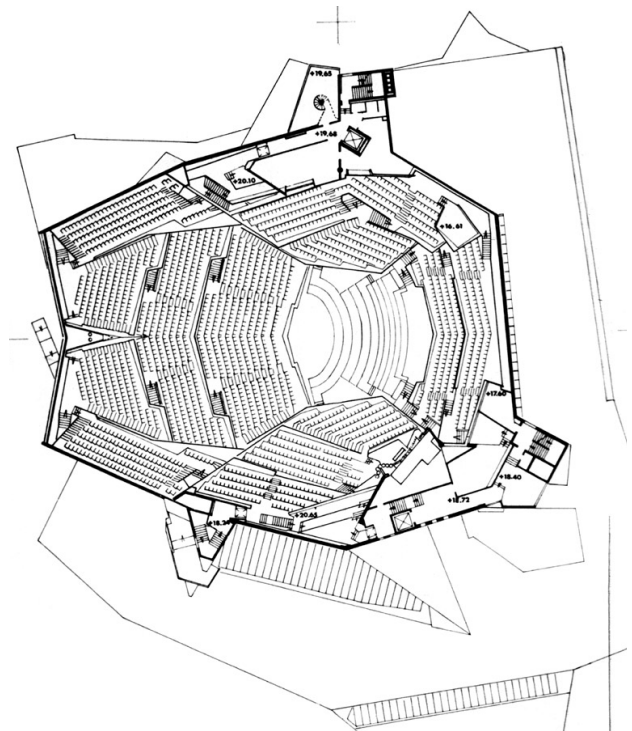


Fig. 30
the floor plan of Philharmonic Concert Hall, Hans Scharoun, Berlin
Germany

The building would benefit a lot if there are connections to the city metro network. In China, there are already metro systems in many major cities. By arriving from the metro, people not only enter the building from the streets. The underground level is usually featured by commercial programs, i.e. restaurant or shopping space, which would attract visitors from the metro station.

The city center is almost empty during the evening due to the loss of residential function, which is another general problem nowadays. Therefore, a hotel also can be involved as one part of the programs. Such a combination is not only about the commercial profit; the guests who live in the hotel also would increase the livable atmosphere in the downtown area of the city.

In a way, the function identifies the building. But the functions are keeping updating and changing. The building even has the potential to change to another identity.

4.4 a technical introduction about concert hall

As a brief introduction for the modern concert hall, the thesis would select several perspectives about practical design. The conclusion also would contribute preliminary notes for the design project.

scale and volume

A unamplified concert hall has the limitation of its interior volume. Usually, there are approximately 100 musicians in an orchestra. Therefore, the loudness of the instruments has a certain value. So the interior space cannot be unlimited without any amplifiers. Both for architect and acoustician, it is important to understand the relation between the amount of seats and the total volume of the hall. Usually, there are two approaches: first, each audience requests a certain amount of acoustic volume. The total volume also can be specified by the acoustician. Therefore, architects need to arrange the amount of

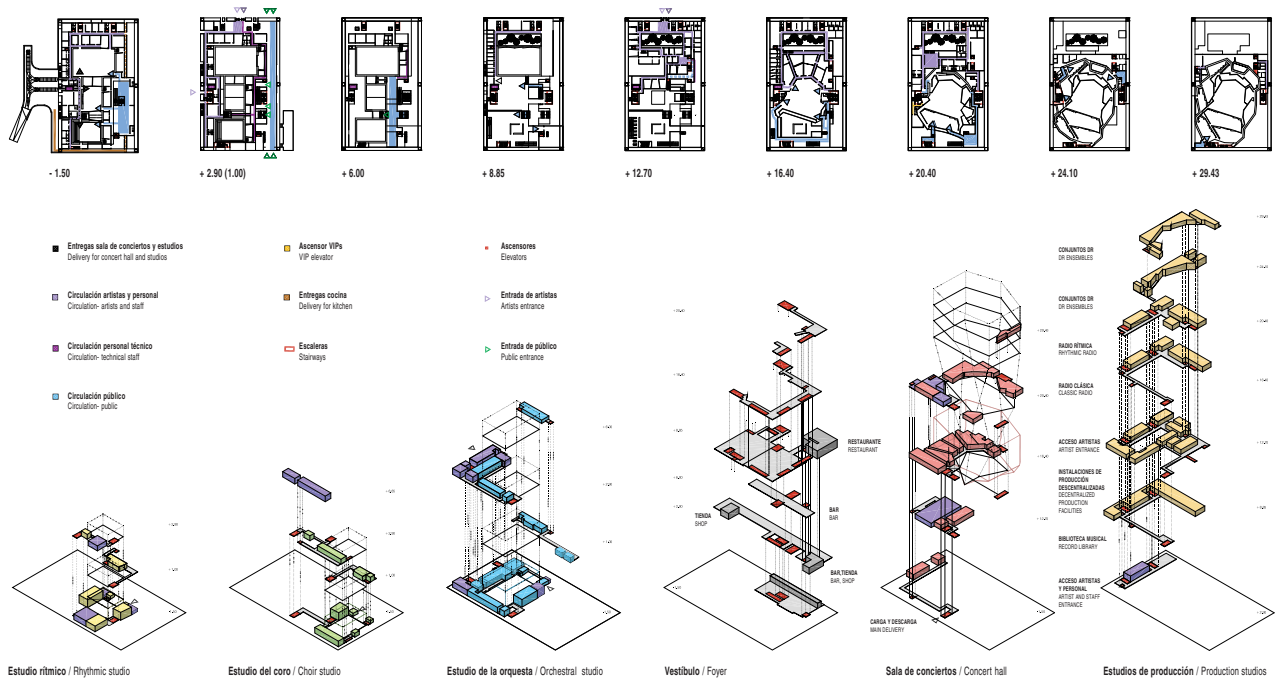


Fig. 31

the circulation analyse of the Danish Radio Concert Hall, Copenhagen Denmark. Ateliers Jean Nouvel. Image: Ateliers Jean Nouvel. The diagram was published on EL Croquis 112/113. Madrid. 2002. Print.

seats in the given volume. Second, the auditorium space actually is decided by the amount of musicians. Architects are required to design the space accordingly.

the shoebox

The shoebox is the classical layout for a concert hall. For example, the well-known Wiener Musikverein is a typical shoebox concert hall. By this way, the auditorium space is arranged within a rectangular plan. The orchestra stage locates in front the audience. In some cases, there are also seats behind the orchestra stage and narrow balconies on two sides. Even though the shoebox is not the mainstream type anymore, especially for the large concert halls, there are still several Shoebox concert halls built up in recent years, for example, the Szczecin Philharmonic Hall, Harpa (the concert hall in Reykjavik) and the concert hall for Malmö Symphony Orchestra. Shoebox is convenient to arrange clear and effective interior space and circulation. Along with concert hall, a Shoebox is also flexible to use as a theater. For instance, the Jordanki Center for Culture

and Congress in Poland combines the orchestra and theater stage, which enables a multi-functional usage.

the vineyard

The vineyard was initially applied by the Berlin Philharmonie, designed by Hans Scharoun. In the vineyard concert hall, the orchestra stage locates in the middle of the auditorium. The seats are divided into parts and arranged around the musicians. In some cases, there are balconies around the stage. Compared with the traditional rectangular layout, the audience can be closer to the musicians. The interior space of the auditorium can be used more effectively. Since Berlin Philharmonie, the vineyard layout later becomes the prototype for many other large concert halls in the world, including the Hamburg Philharmonie, the Paris Philharmonie, and the Helsinki Music Centre Concert Hall.

circulation

In general, the audiences arrive the entrance lobby firstly.

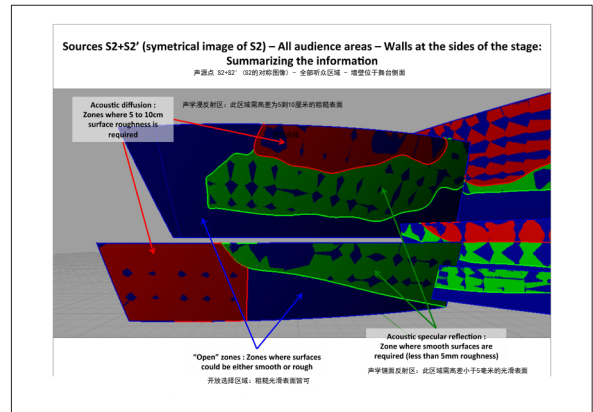
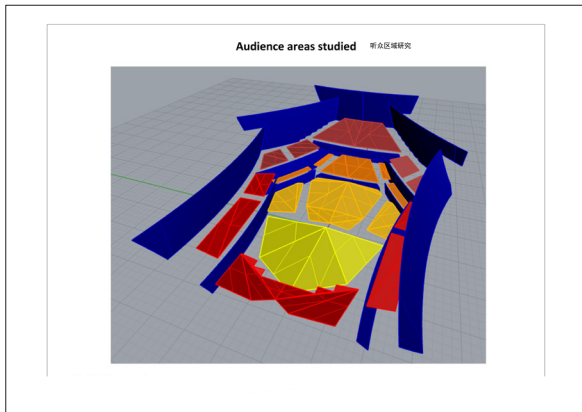
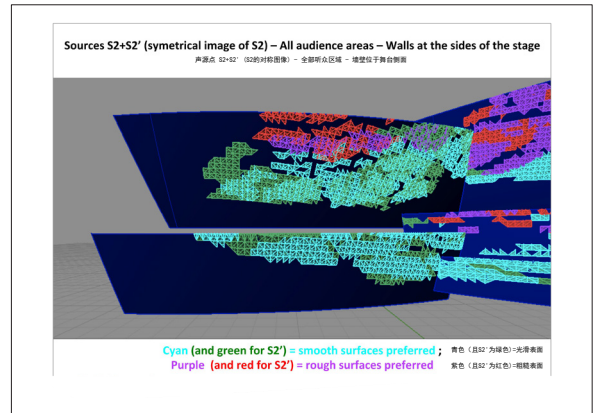
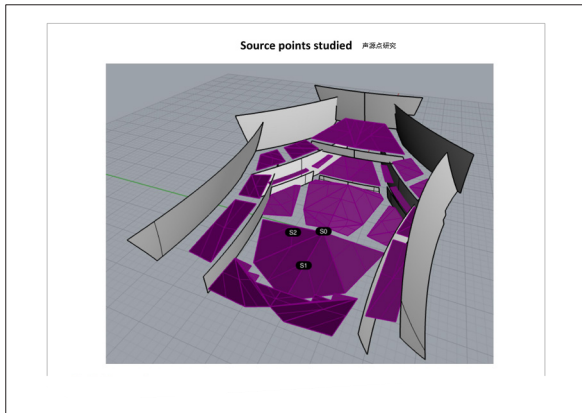


Fig. 32 the acoustic analyse of the concert hall in Fuzhou Strait Culture and Art Center. Architect: PES-Architects. Acoustician: Kahle Acoustics The areas where need to produce reflection or diffusion are marked with different colors on the 3D model. Image: PES-Architects.

For example, in Helsinki Music Center, the lobby connects to the main concert hall and the smaller chamber music hall. Before the audience arrives the auditorium, they will be divided according to the location of their seats. The circulation would be different in the parterre or balconies. During the interval, the audiences are able to back to the lobby and have a break. The musicians enter the hall via a different circulation. The moving of the instruments needs to be combined with the loading circulation. For musicians, it is also necessary to provide the direct access to the green room and rehearsal room. Sometimes, the rehearsal room can also accept public audience or function as a smaller performance hall, which means it has the connection from the public area. The path to

the handicapped seats cannot be blocked by stairs. The height difference on the floor should be solved by elevator or ramp. Usually, the handicapped seats are located on the parterre area. The escape route is another circulation which needs to be carefully considered.

acoustic design

The goal of acoustic design for the concert hall is to archive a balance between rich acoustics and clarity of sound. The reverberation time is one of the most important acoustic indexes for measuring a concert hall. However, the reverberation time is different according to the size of the auditorium. The time is not always fixed and it could be adjusted by technical instruments such as acoustic

Concert hall	Amount of seats	Auditorium Volume	Reverberation time (occupied/500Hz)
Elbphilharmonie Hamburg	2,100	23,000 m ³	2.3s
Philharmonie de Paris	2,400	37,700 m ³	2.6s
Helsinki Music Center Concert Hall	1,704	24,000 m ³	2.1s
Shanghai Symphony Hall	1,200	20,000 m ³	2.3s
Danish Radio Concert Hall	1,800	28,000 m ³	1.8s

Fig. 33
the technical index of several concert halls built up in recent years.
Data: Nagaia Acoustics. <http://www.nagata.co.jp>

curtains. The reverberation time is also different depending the hall is empty or fully occupied. Different reverberation times can be applied to different types of music. For organ music, the reverberation time would be longer i.e. longer than 2s. For symphony orchestras, the time will be 1.8s to 2.0s. For electronic music, which need amplifiers, the time will be shorter than 1.7s. The early side reflection is helpful to enhance the quality of the sound.

the material in an auditorium

Now it is a common way in concert halls, the interior cladding material of the auditorium is integrated with acoustic design. As the following table has shown, the roughness of the surface actually depends on different acoustic needs. Some areas are smooth because they aim to produce sufficient early reflections. (e.g. The reflection arrives 80ms after the direct sound.) The rough areas are designed to diffuse the sound. Architecturally, it would be pattern design which can produce varieties for different acoustic functions. The material should be dense enough to produce reflection or diffusion. For example, in Strait Culture and Art Center designed by PES-Architects, the interior cladding material of the concert hall is ceramic panels. According to the areas provided by acousticians,

there a series of geometric changes on the ceramic panels.

the integration of the technical facilities

Although architects are not responsible for the technical facilities from various disciplines, architects need to coordinate and make sure a successful integration of the facilities. In a practical project, the integration really demands a lot of energy and time for acquiring a high-quality auditorium. For maintaining a clean spatial effect, many technical facilities including the lighting fixtures, amplifiers etc. need to be hidden into the architectural surface rather than exposing to the public. For example, the amplifiers were integrated with the ceiling reflector in the Elbphilharmonie Hamburg. The amplifier group would be lower down if they needed a circumstance such as a performance with the vocal solo. In Shanghai symphony orchestra concert hall, the lighting, amplifier or HVAC openings are also integrated with the ceiling and wall cladding surface.



Fig. 34
high-density gypsum fibreboard panels, Elbphilharmonie Hamburg, Herzog & de Meuron.



Fig. 35
wood with random groove, Helsinki Music Centre, LPR-Architects

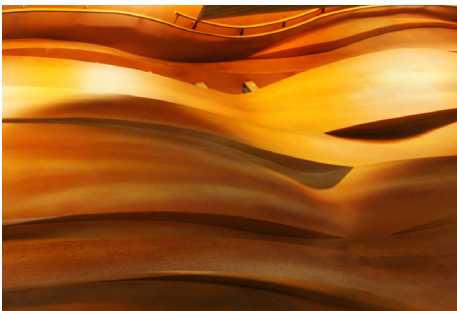


Fig. 36
multiple layered gypsum boards, the wave wall in Danish Radio Concert Hall, Ateliers Jean Nouvel

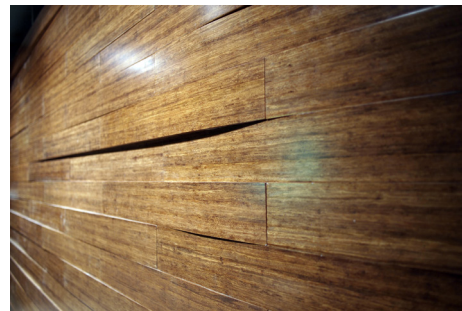


Fig. 37
carbonized bamboo brick, the opera auditorium of Wuxi Grand Theater, PES-Architects.



Fig. 38
the ceramic panels on the concert hall in Fuzhou Strait Culture and Art Center. PES-Architects.

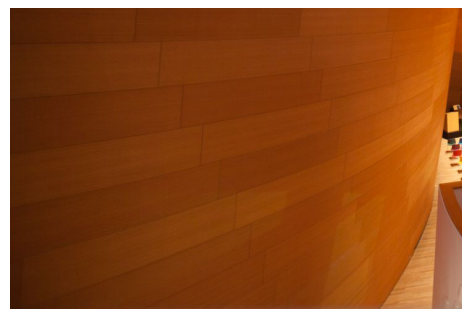


Fig. 39
Douglas fir, Walt Disney Concert Hall, Gehry Partners.

5.1 diploma project

The project site is in Nanjing, a historical city in China. Like many large cities in China, Nanjing has been through a fast urbanization during past 20 years. The original urban structure has been replaced by building blocks arranged in modernism grids. Unlike the European cities where old and new urban typologies are clearly different, the downtown area in Nanjing has mixed the historical remains, low-rise buildings, and modern towers.

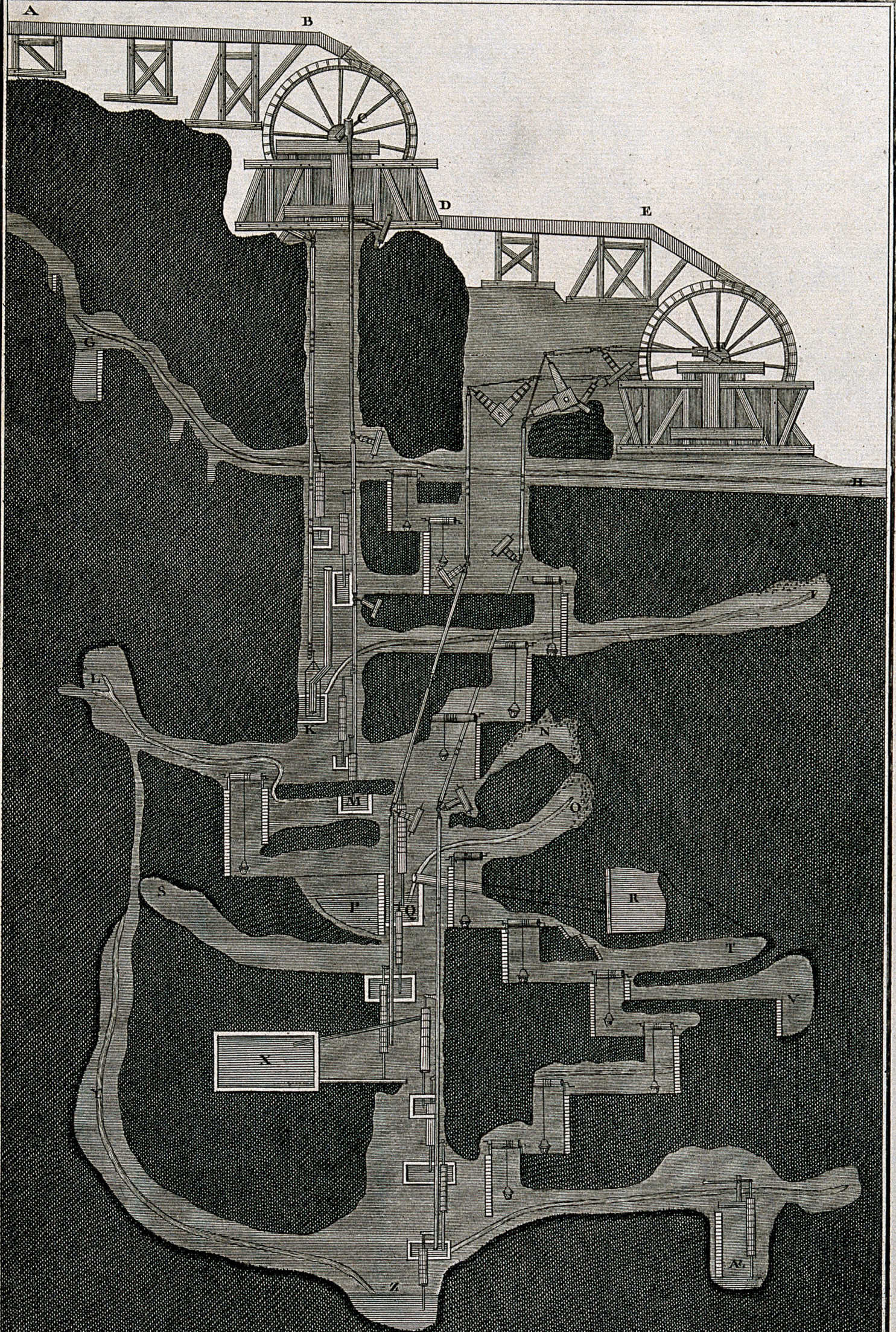
There are already several important cultural venues built up in recent years in Nanjing. For example, the Nanjing International Youth Cultural Center designed by Zaha Hadid is a city complex mixed with different functions, such as office space, conference, and hotel. The conference part is 106,000m² and the auditorium also can be used as performance space. Besides, there is Jiangsu Grand Theater in the same district. It is a typical Chinese type cultural complex of different types of performance space such as opera, multifunctional hall and concert hall. Nanjing Performance Center is another iconic cultural project in northern new town in Nanjing. The project in planning has three performance venues including multifunctional hall, theater, and opera. However, all the ambitious venues are not in the downtown area. The accessibility is not convenient for local people. Besides, these are all performance spaces for show, drama or

opera. As a feasible planning for the downtown area in Nanjing, an international level concert hall can be built on the chosen site.

The site is close to the city center but also neighboring to several important historical areas including the former presidential palace. Nanjing city library is also in a short distance from the site. Therefore, it is an ideal location for an important performance venue which can join the cultural hub. Along with the historic characteristics in this district and other cultural facilities, the concert hall is able to increase the cultural events and urban activities.

The site has two sides attached to the streets. The other two sides are facing to the existing buildings. On the south side, there is open space where currently used as the parking area. However, this valuable exterior space is right close to the main street. Combining the design of the new concert hall, the place can be used as public landscape area. One of the entrances of the concert hall also can be located here.

On the site, at this moment, there is a cultural center built up about 15 years ago. Although the building is still in daily use, it is not able to take the advantages of its location. With a target of architectural design practice and



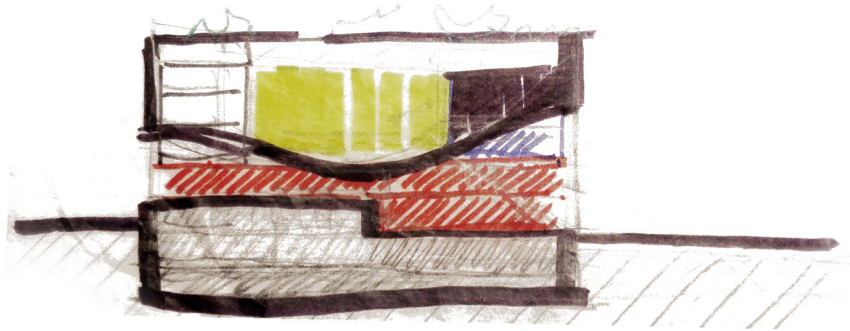


Fig. 40 (left)
 a mine cross section of a digging equipment. etching in 18th by Robert Bénard. Paris. Image: <https://wellcomeimages.org/indexplus/image/V0023512.html>

Fig. 41
 The sketch of the concert hall project in this thesis.

examining the research theories, the new concert hall design will replace the existing building.

5.2 design description

architectural concept

As the research part of the thesis, the design will also be based on urbanism thinking. The archetype of the architectural form is based on a mine excavation. Similar to the digging channel, the shape is an integrated mass that partly excavated. In this case, the excavated part becomes the public lobby for the performance auditoriums. Since there is no clear order in the urban context of the site. The building maintains a simple rectangular plan. The upper part of the building is like a floating box. Meanwhile, the bottom of the box has a varying shape, which attempts to create rich space. In this case, the idea generates the wavy ceiling. The edge of the curved surface also reveals on the facade. Once the facades of the building attach to the urban space, the elevations are similar with the sections of mine channels. In a way, the image brings a gentle connection with the exterior space. Therefore, the design is not only able to keep the continuation of the

urban street but also acquires an overwhelming guest of public interior space.

The ceiling is not only for the public lobby, but also extends to the auditoriums. There are transparent glass walls attach to the ceiling between the auditoriums and lobby. Therefore, the continuation of the curved surface can be noticed from the facade to the interior space, which forms another main character of the design. The technical facilities such as the spotlights, HVAC ducts, and speakers will be integrated into the ceiling.

feasibility

The project aims at producing a design of a city concert hall with hybrid functions. The main programs include performance, hotel, conference, and commercial space. On the ground floor, there would be shopping space, hotel lobby and the main entrance of the multifunctional hall. The entrance lobby for the hotel locates on the west with the traffic access from the main road. The main entrance to the concert hall would be on the second floor. Along with the banquet hall, the third level is able to access the rehearsal hall and the upper balconies



Fig. 42
the satellite photo of the central area of Nanjing city with the mark of the site.
Photo: <https://www.bing.com/maps>

of the concert hall. The rehearsal hall is not only for the musicians but also has the capacity for around 250 audiences. Therefore, it also functions as the place for chamber music. The banquet hall also can be used as the art gallery or exhibition space. The public lobby for these performance spaces also can be used to hold various activities. On the upper levels, the building also includes a hotel with 91 guest rooms. Since the building has rather a large footprint, there are courtyards on the top floors for introducing natural light and greens. Besides the hotel guest rooms, there are also a number of workshops for artists, dressing rooms, and offices on the upper levels.

facade

There are two kinds of facades, the transparent part and the solid part. The transparent part is the glass curtain wall. The structure and joints of the glass curtain wall attempt to be as simple and efficient as possible. In this sense, one of the main architectural image that the floating mass can be revealed. The solid part of the facade is made by modular cladding system. There will be three kinds of cladding panels: the solid natural stone, the window and the HVAC louvers. The color appearance of different modules should be very close for maintaining the integrity of the architectural mass. But they also different

textures, which create a relative varying effect on the surface.

structure

The structure of the project can be divided into two parts: the rigid concrete structure in the central part and the cantilevered steel structure on the upper part. All the performance spaces located in the concrete part. The three rectangular core areas not only provide space for shafts, elevators, toilets, fire stairs and other technical functions but also function as the main vertical bearing structure. In this way, the facade only needs the structure to hold itself. The concept wants to diminish the structure for the facade as much as possible.

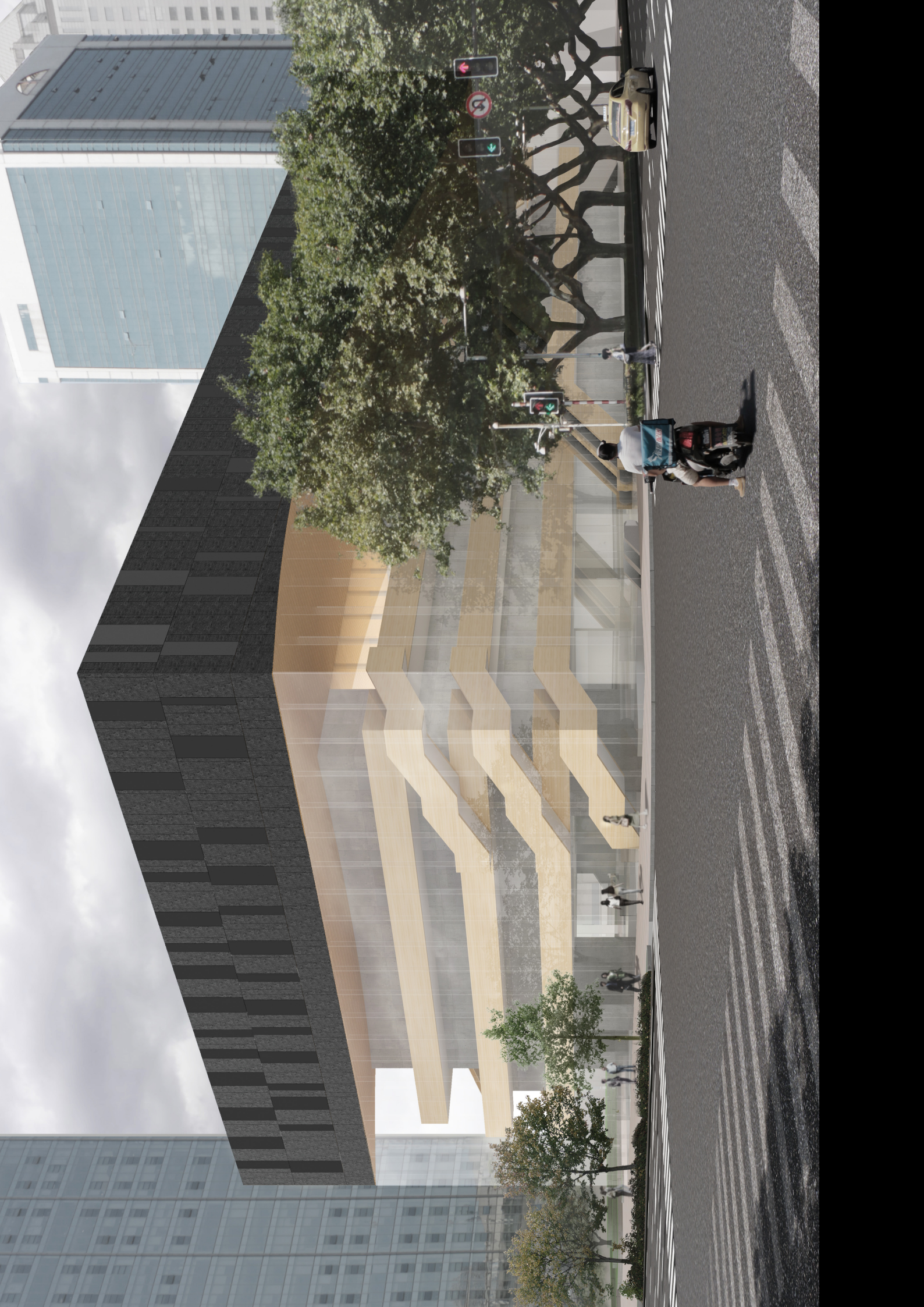
interior material

The main finishing material for the interior space is wood which aims at creating a warm and natural touch for the visitors. On the other hand, it also produces a contrast with the concrete urban space. The general waving ceiling is constituted by timber stripes. In the performance auditoriums, timber cladding is also the main material on the wall. The floor is also solid wood with impact sound insulation layer underneath.

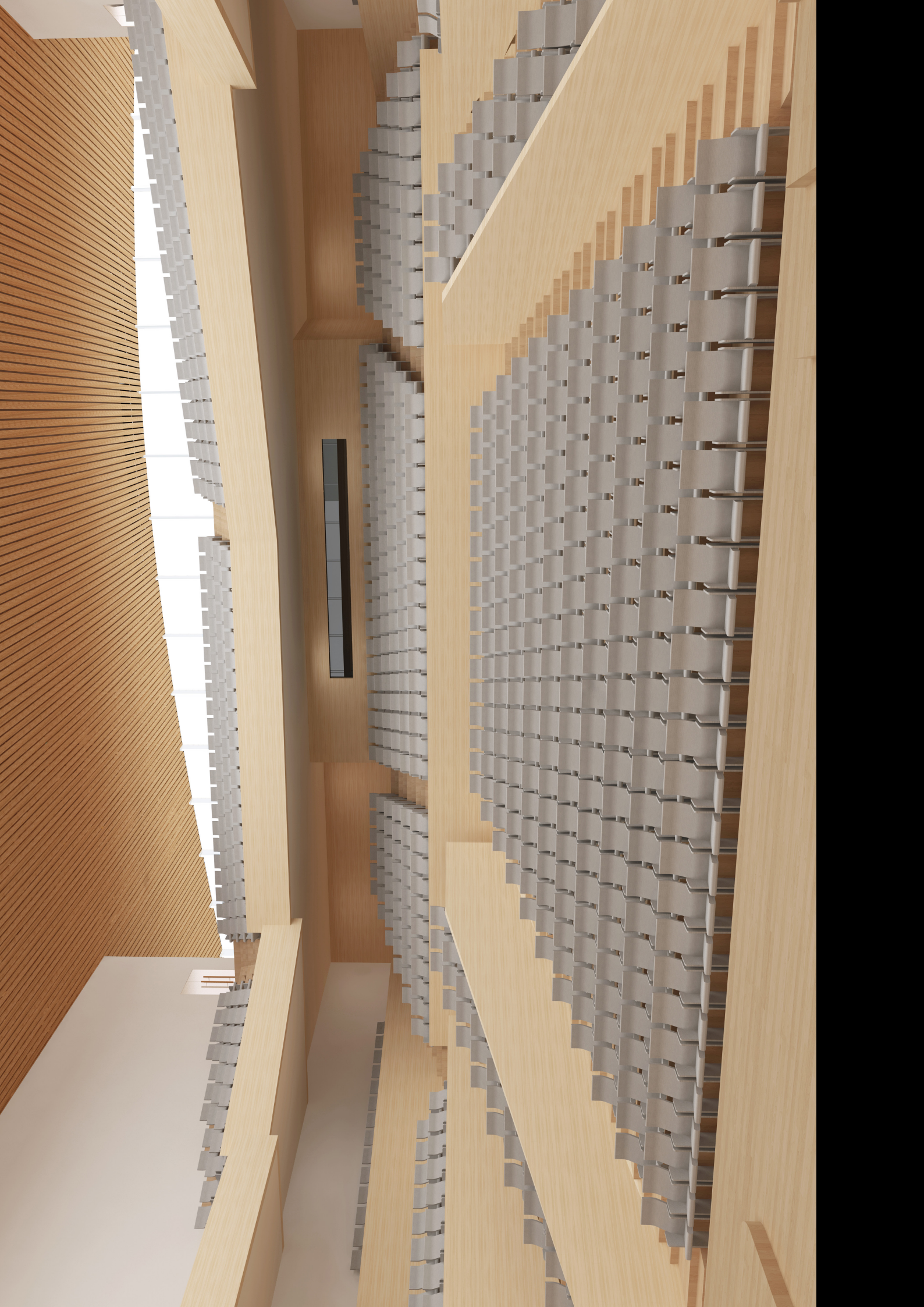
5.3 renderings







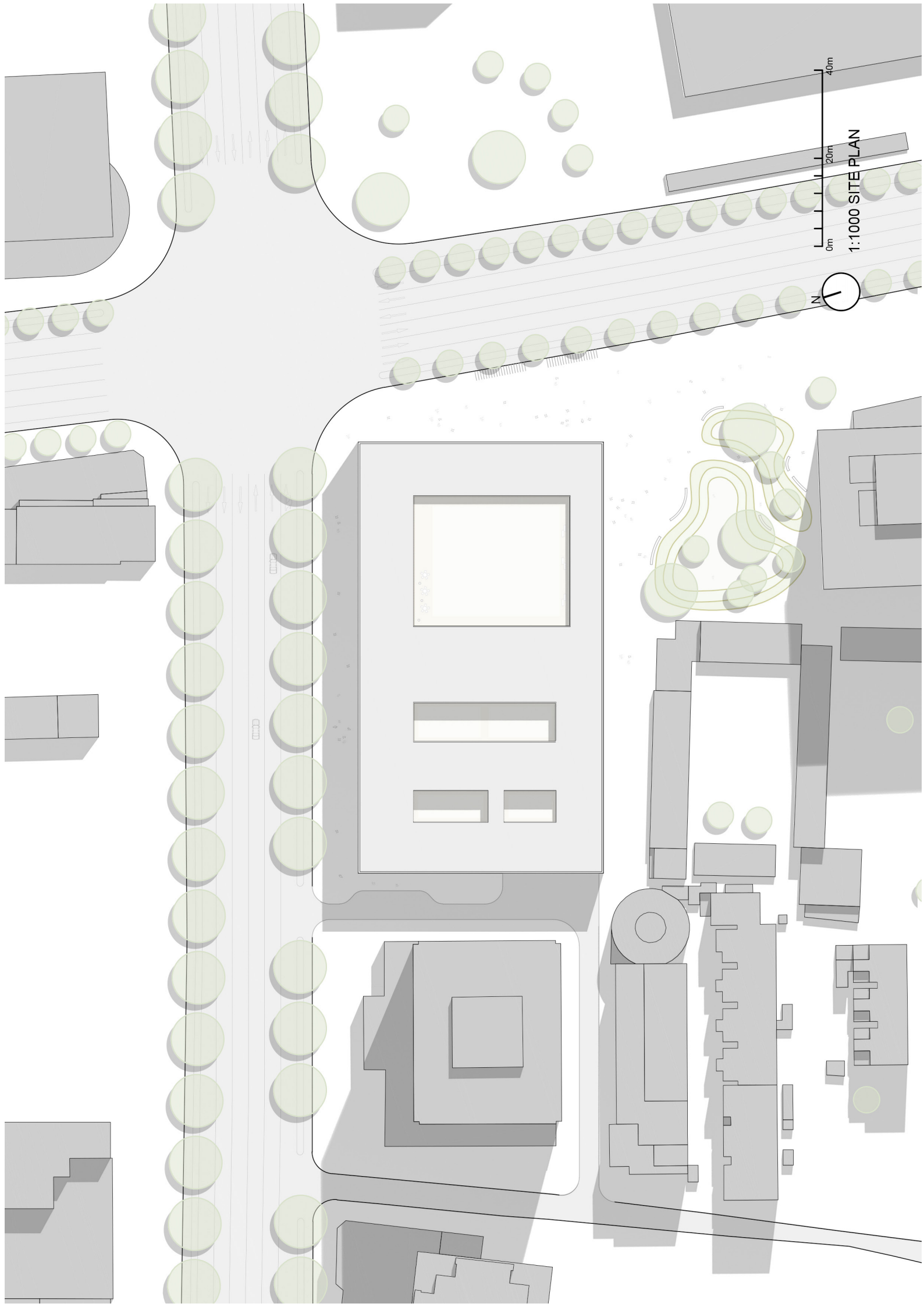






5.4 drawings and diagrams

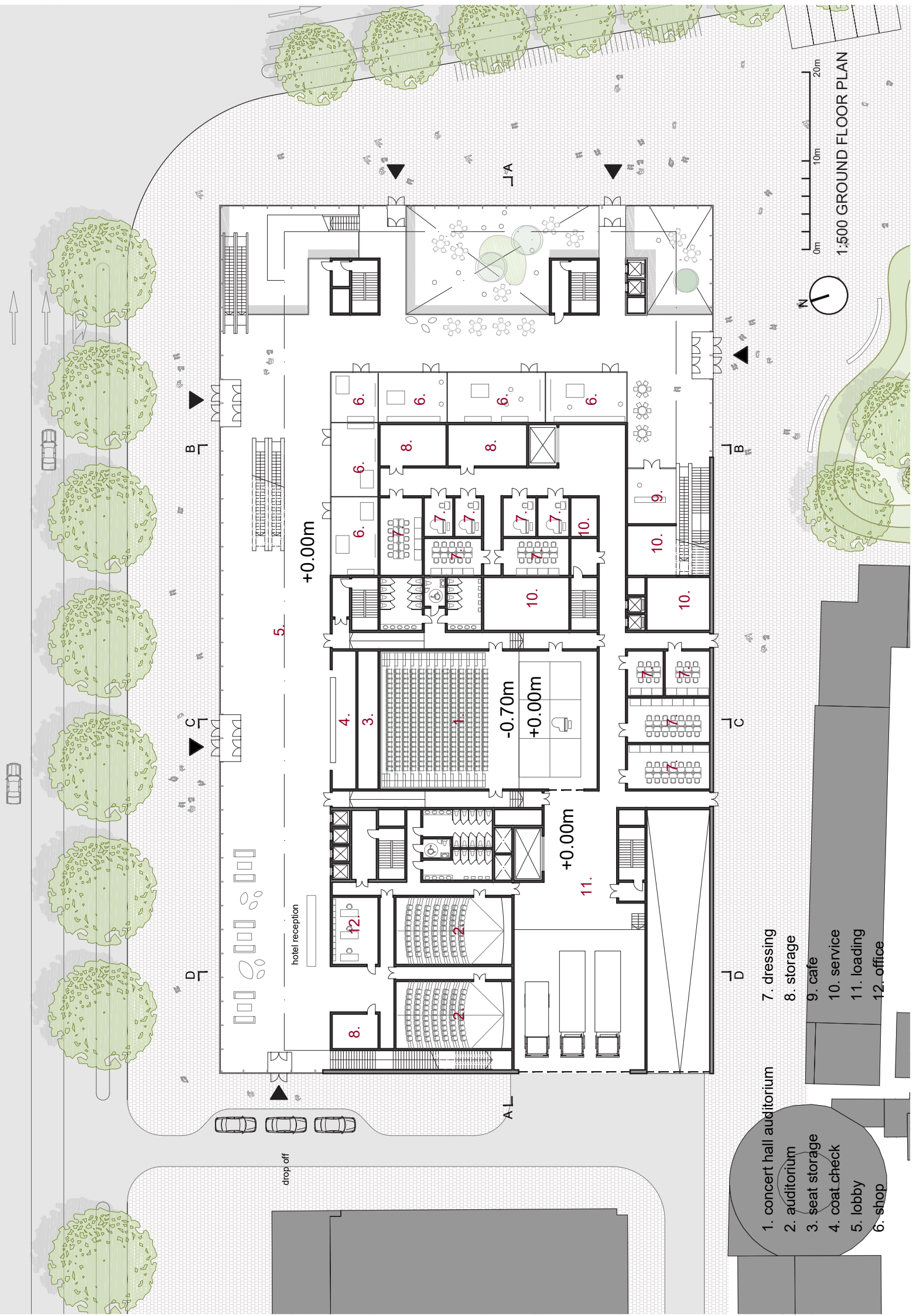




1:1000 SITE PLAN

0m 20m 40m





- 1. concert hall auditorium
- 2. auditorium
- 3. seat storage
- 4. coat check
- 5. lobby
- 6. shop

- 7. dressing
- 8. storage
- 9. cafe
- 10. service
- 11. loading
- 12. office

0m 10m 20m
 1:500 GROUND FLOOR PLAN



drop off

hotel reception

+0.00m

J-A

P-T

C-T

P-T

A-L

D

C

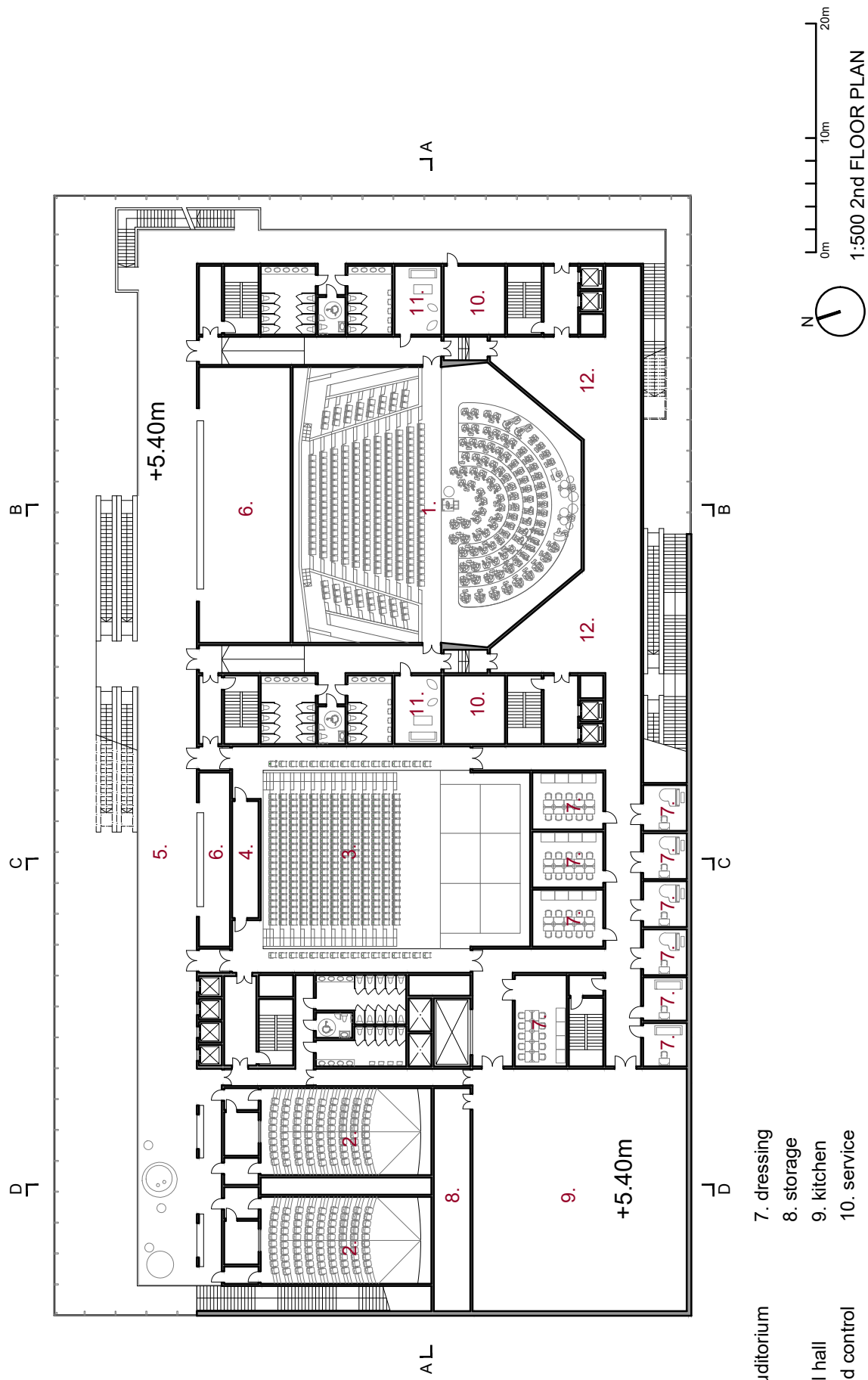
B

+0.00m

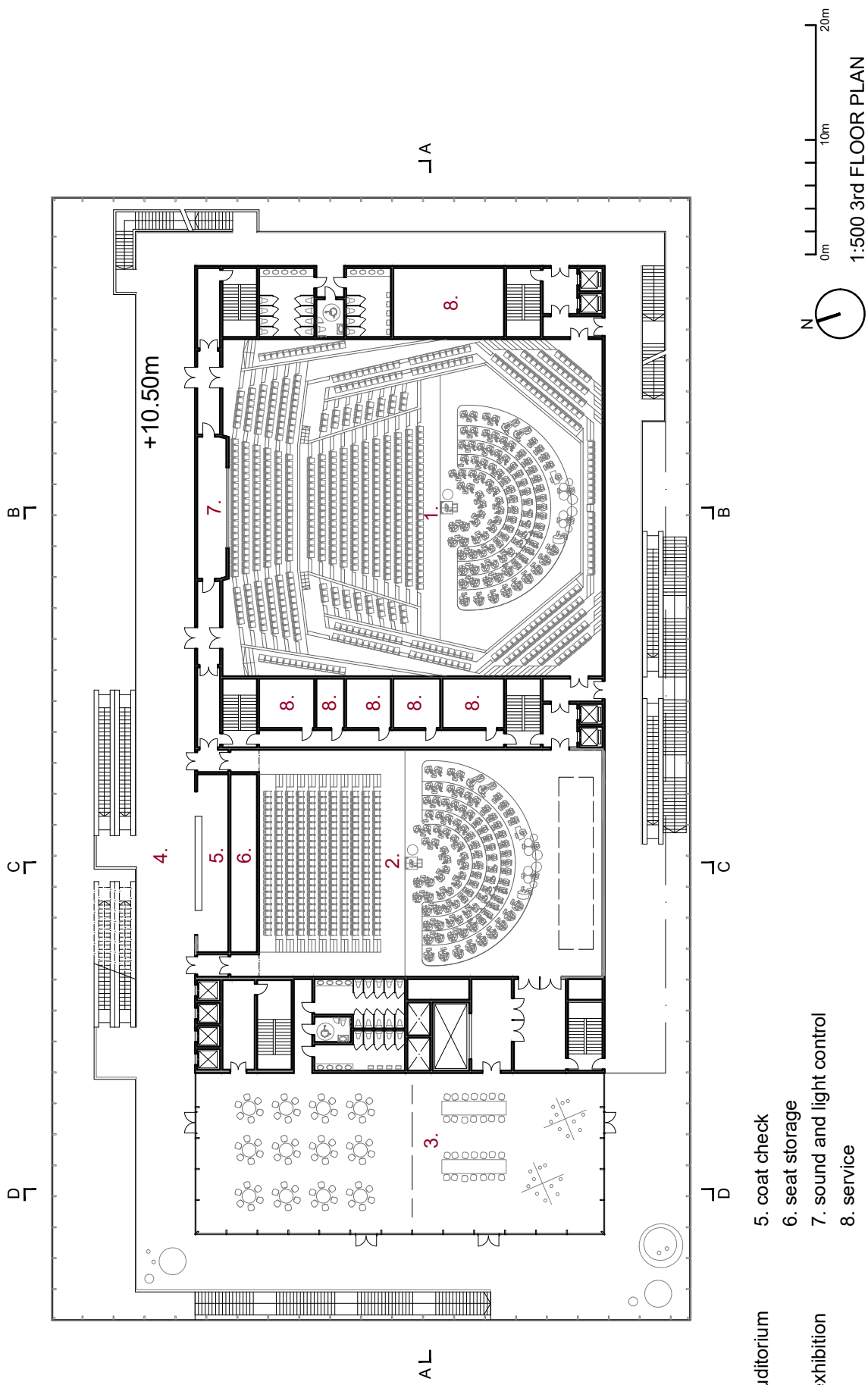
-0.70m
 +0.00m

+0.00m

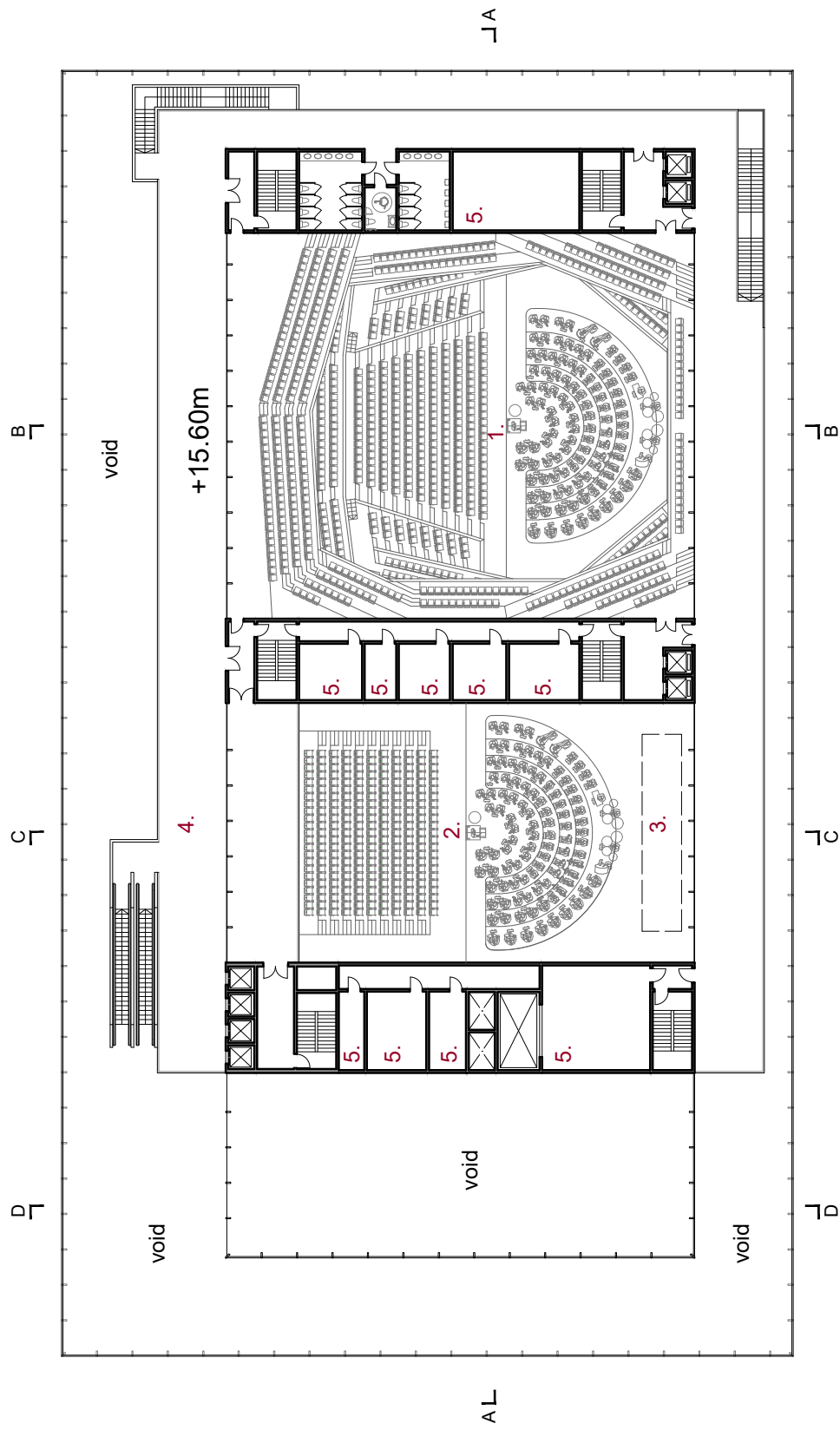
0m 10m 20m



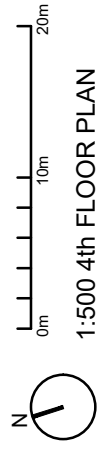
- 1. concert hall auditorium
- 2. auditorium
- 3. multifunctional hall
- 4. light and sound control
- 5. lobby
- 6. coat room
- 7. dressing
- 8. storage
- 9. kitchen
- 10. service
- 11. concert hall guest room
- 12. green room



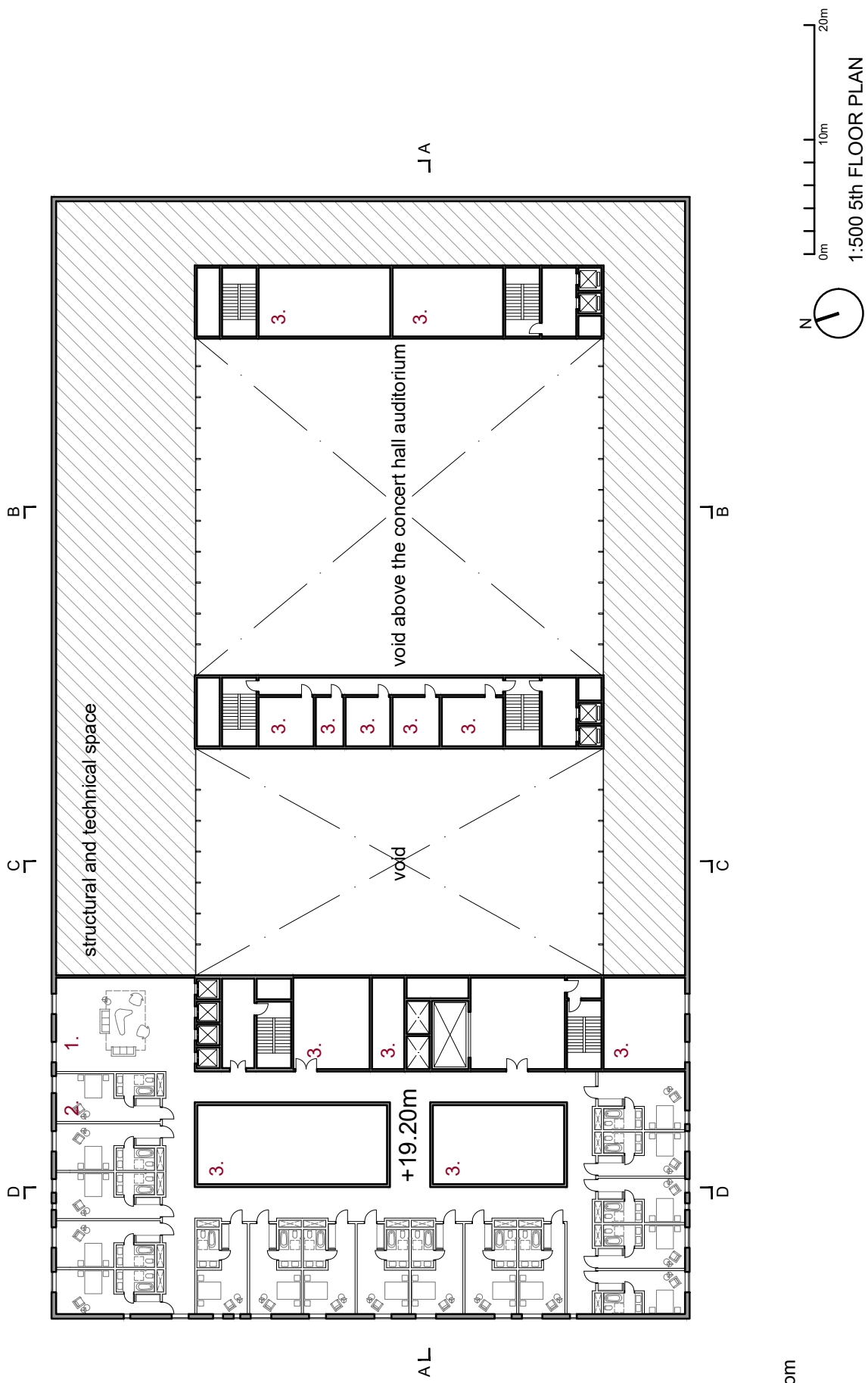
- 1. concert hall auditorium
- 2. rehearsal hall
- 3. banquet hall/exhibition
- 4. lobby
- 5. coat check
- 6. seat storage
- 7. sound and light control
- 8. service



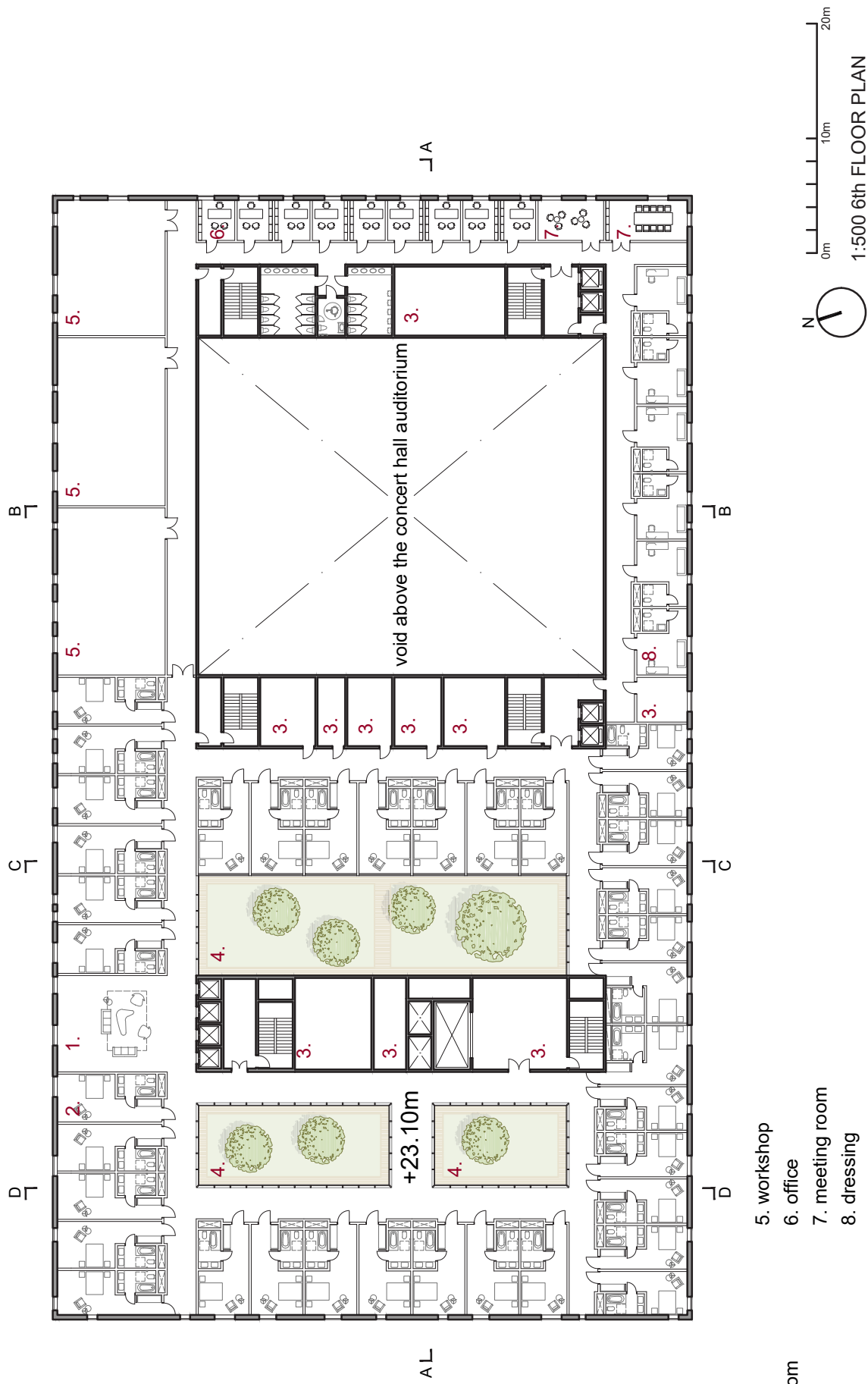
- 1. concert hall auditorium
- 2. rehearsal hall
- 3. organ
- 4. lobby
- 5. service

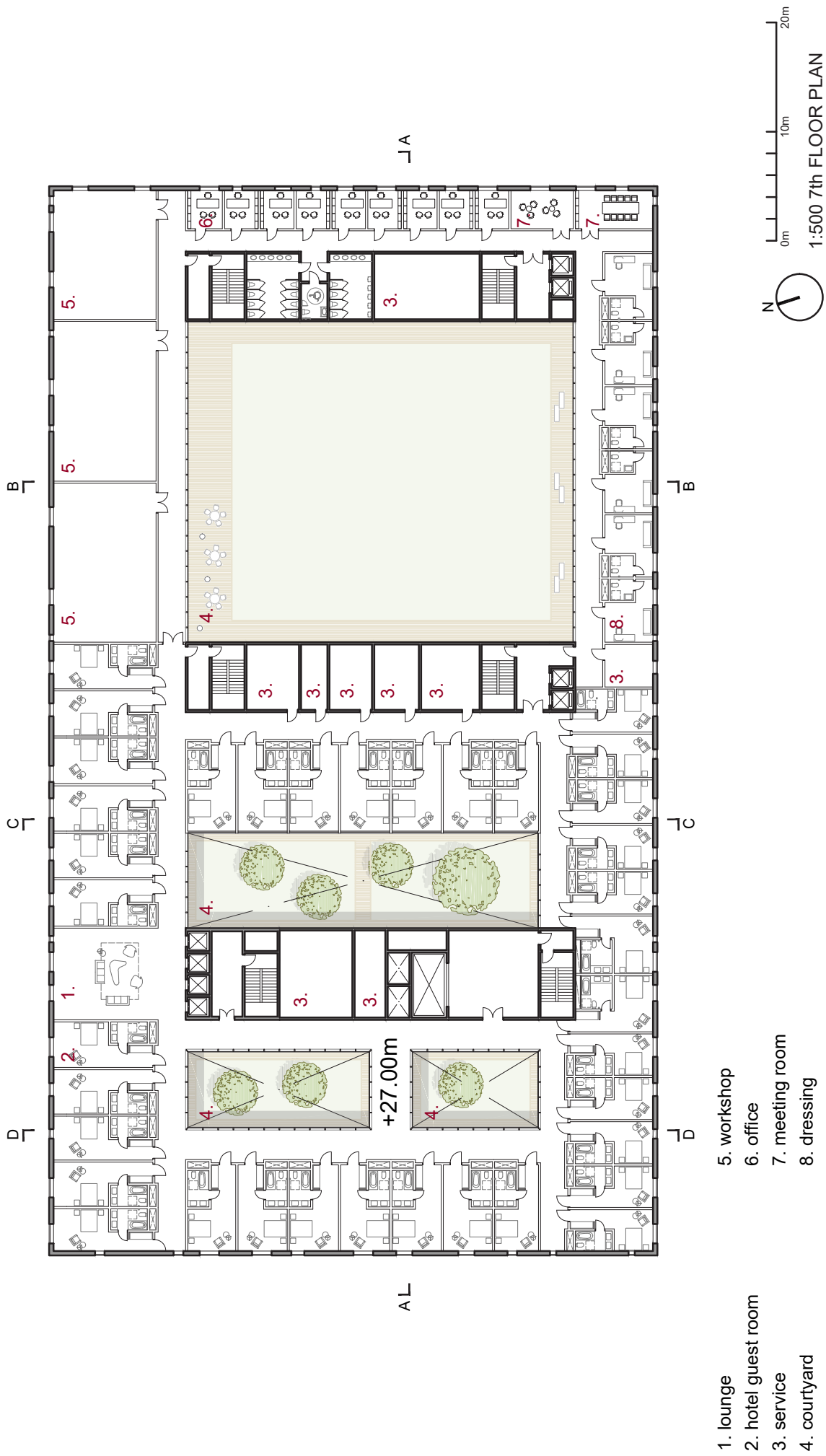


1:500 4th FLOOR PLAN



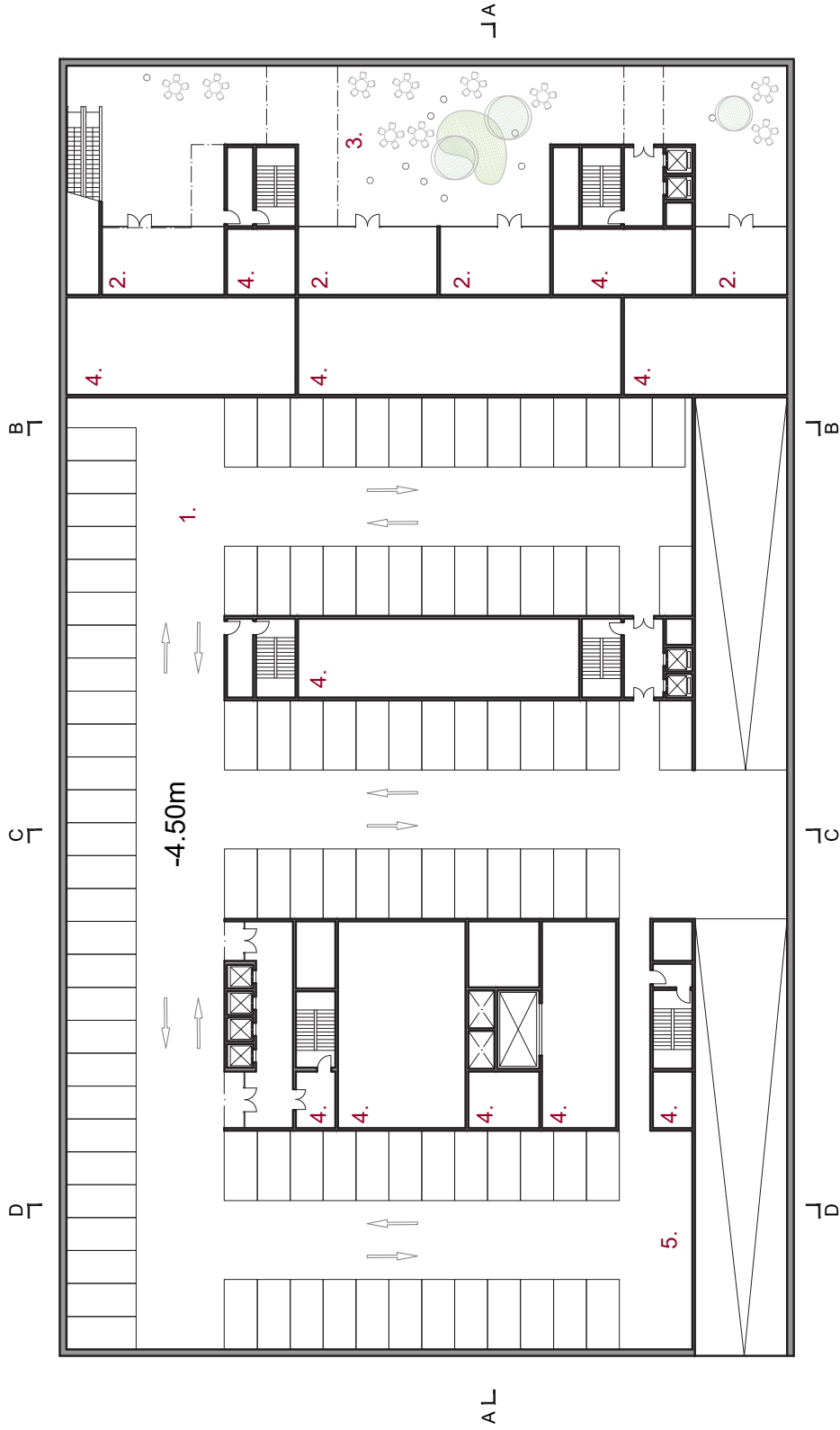
- 1. lounge
- 2. hotel guest room
- 3. service





- 1. lounge
- 2. hotel guest room
- 3. service
- 4. courtyard

- 5. workshop
- 6. office
- 7. meeting room
- 8. dressing

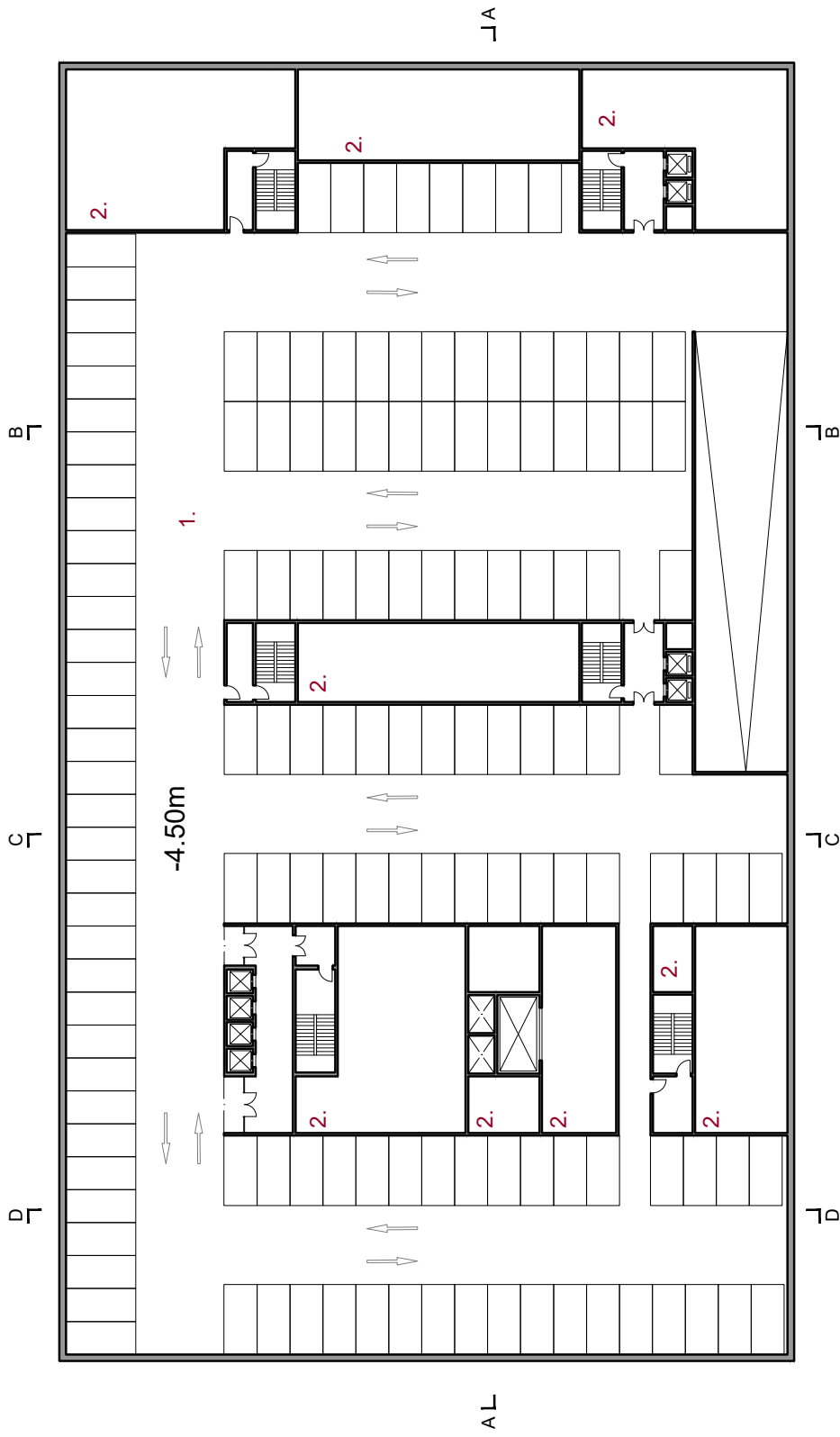


- 1. parking
- 2. shop
- 3. cafe
- 4. service
- 5. bicycle parking

104 parking lots



1:500 BASEMENT 1 FLOOR PLAN

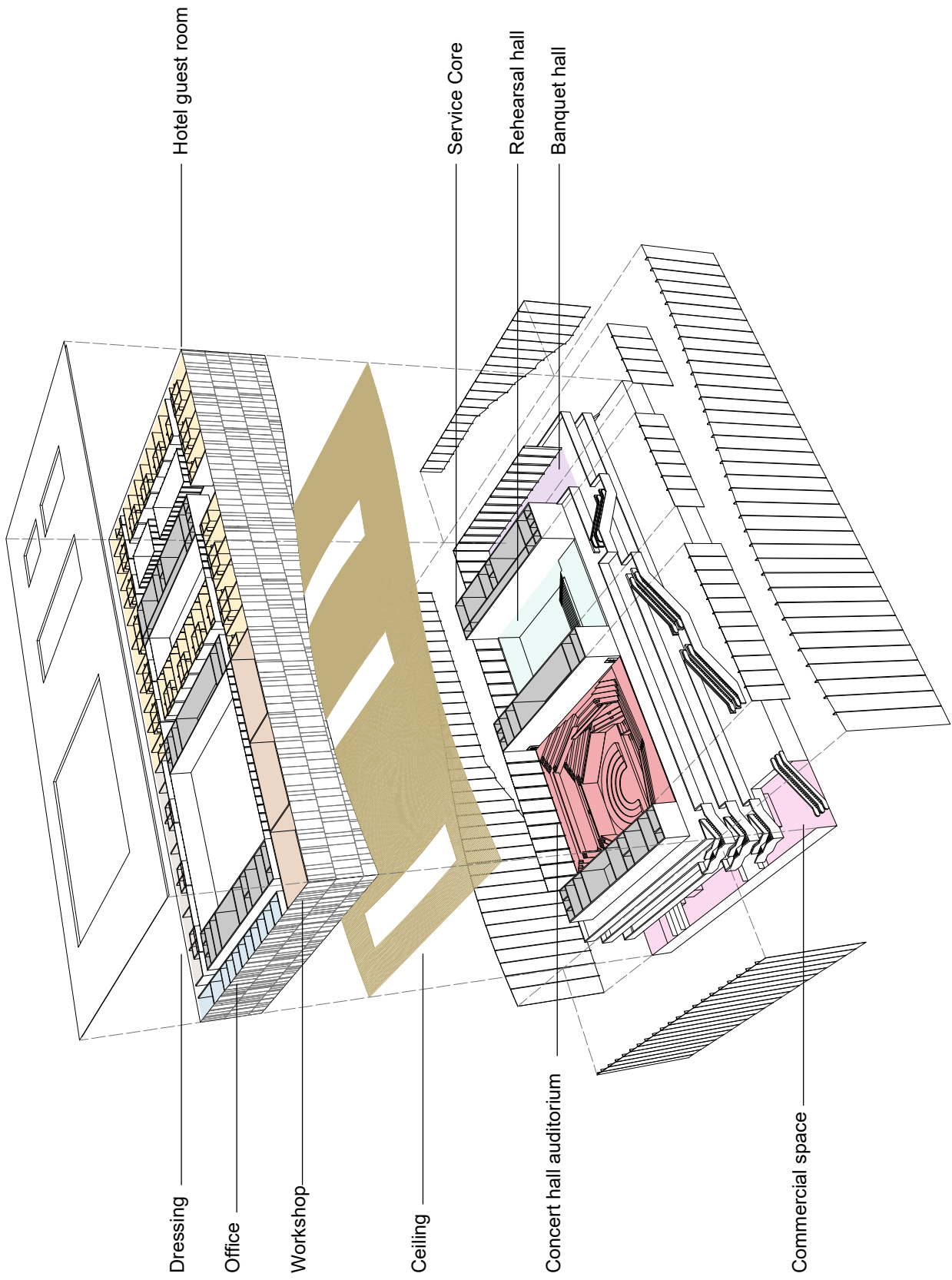


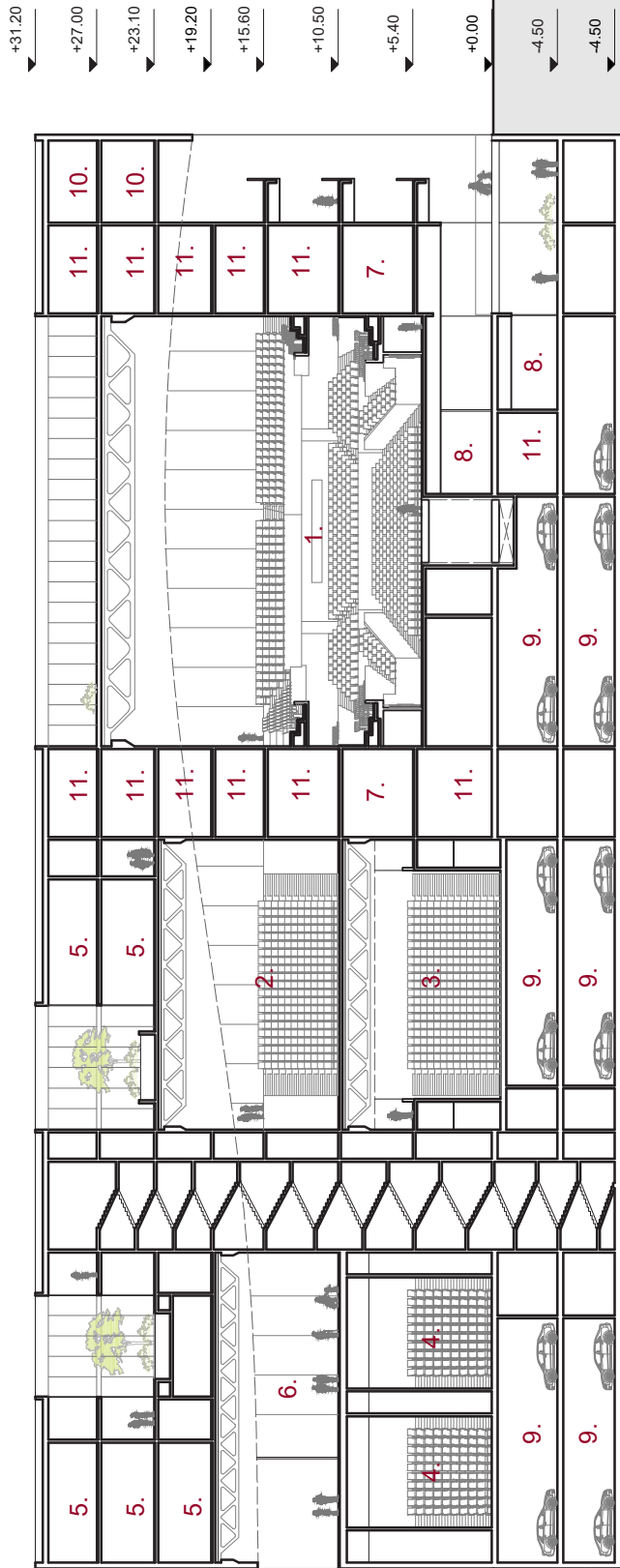
1. parking
2. service

145 parking lots



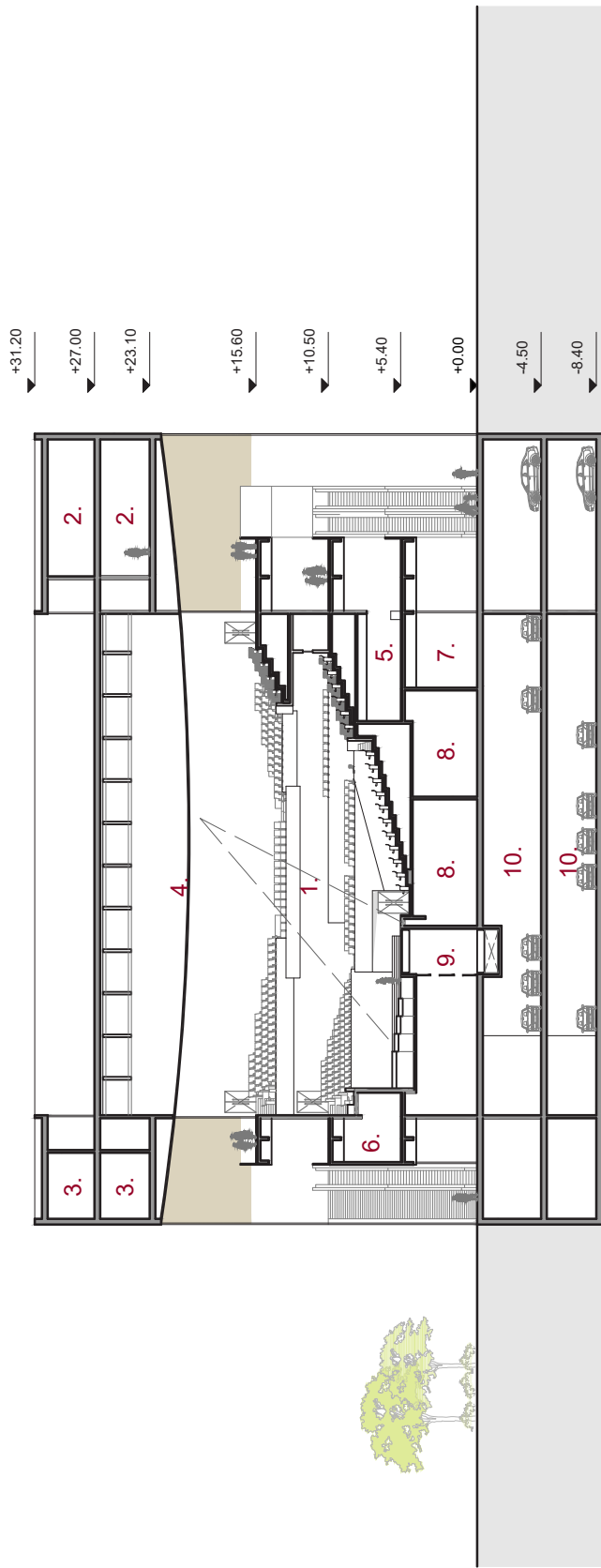
1:500 BASEMENT 2 FLOOR PLAN





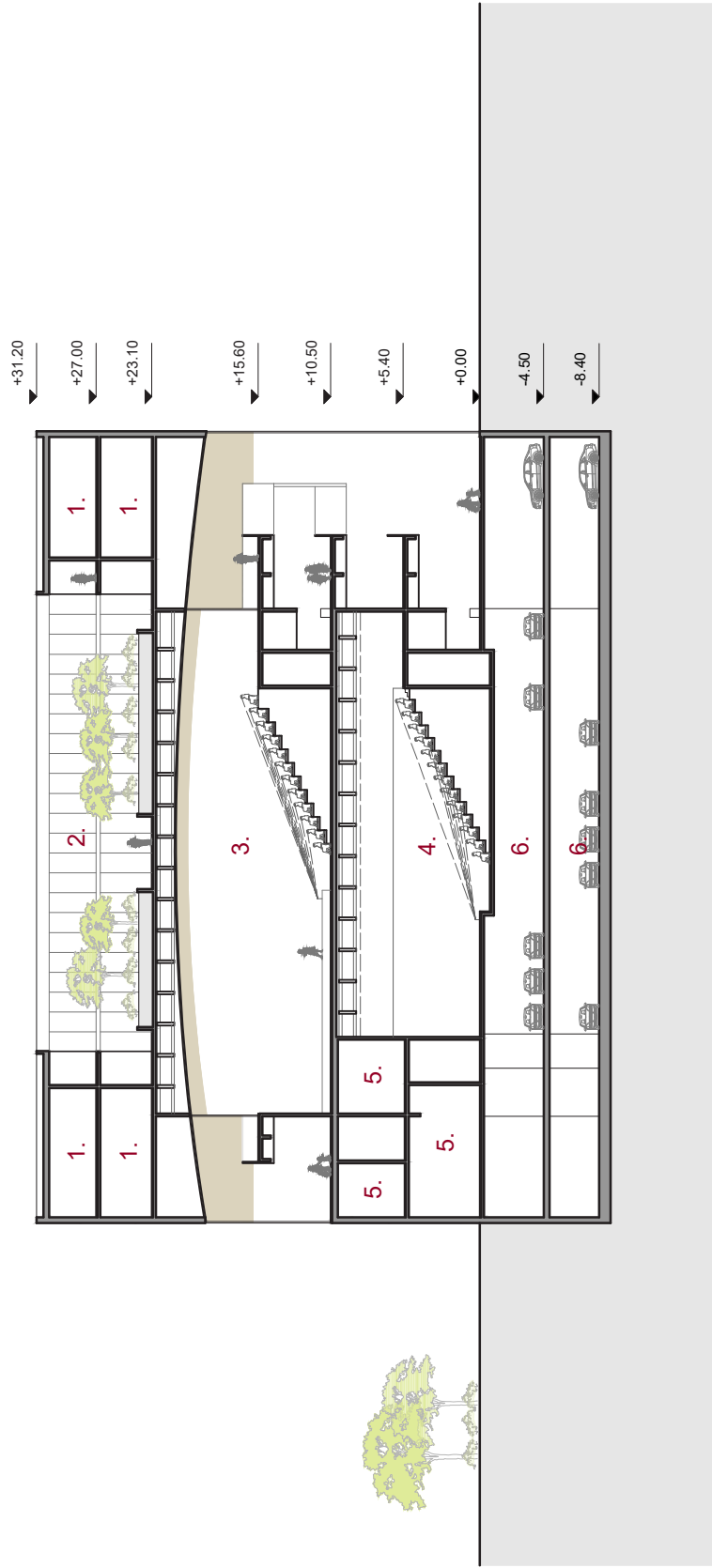
- 1. concert hall auditorium
- 2. rehearsal hall
- 3. multifunctional hall
- 4. auditorium
- 5. hotel guest room
- 6. banquet hall/exhibition
- 7. concert hall guest room
- 8. shop
- 9. garage parking
- 10. office
- 11. service

SECTION A-A 1:500



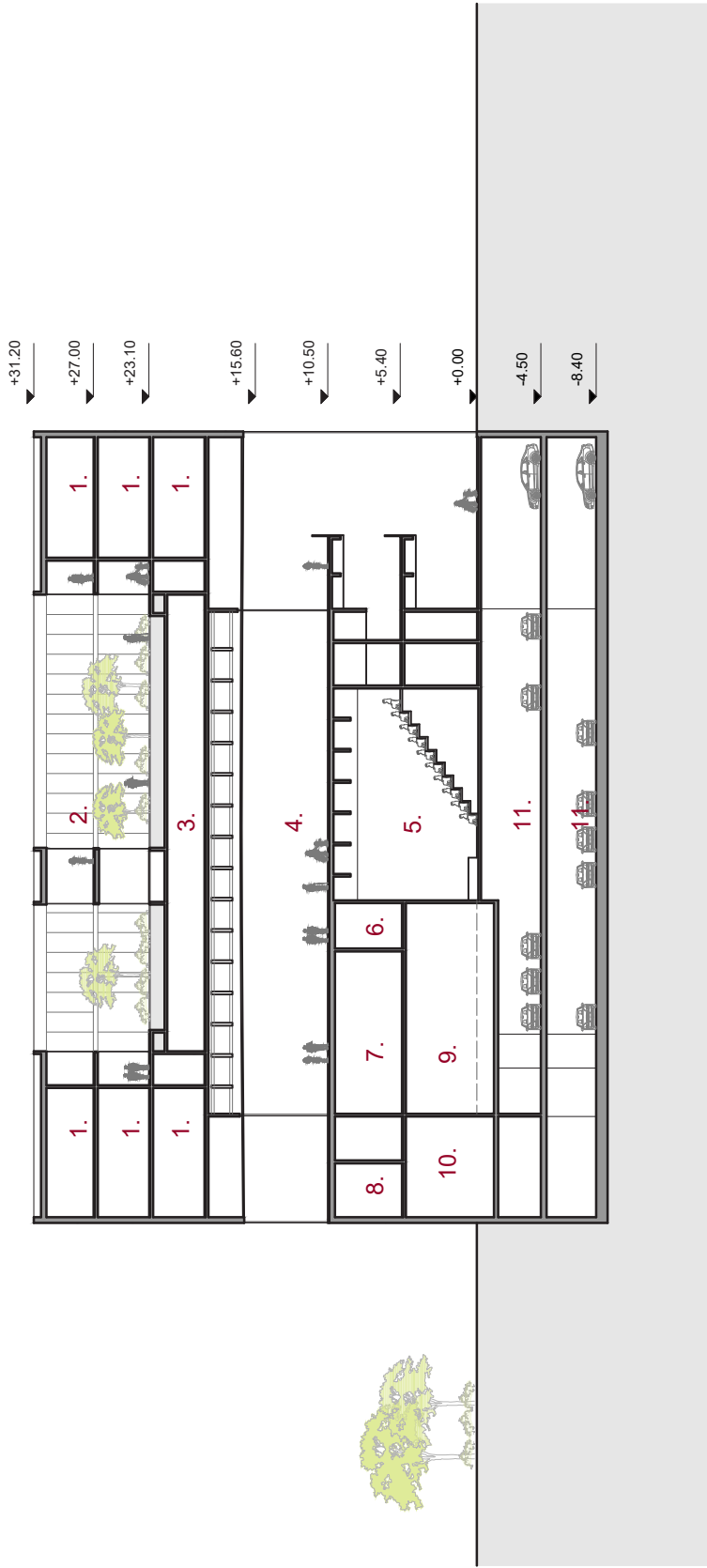
- 1. concert hall auditorium
- 2. workshop
- 3. dressing
- 4. technical space
- 5. coat check
- 6. green room
- 7. shop
- 8. storage
- 9. piano lift
- 10. garage parking

SECTION B-B 1:500



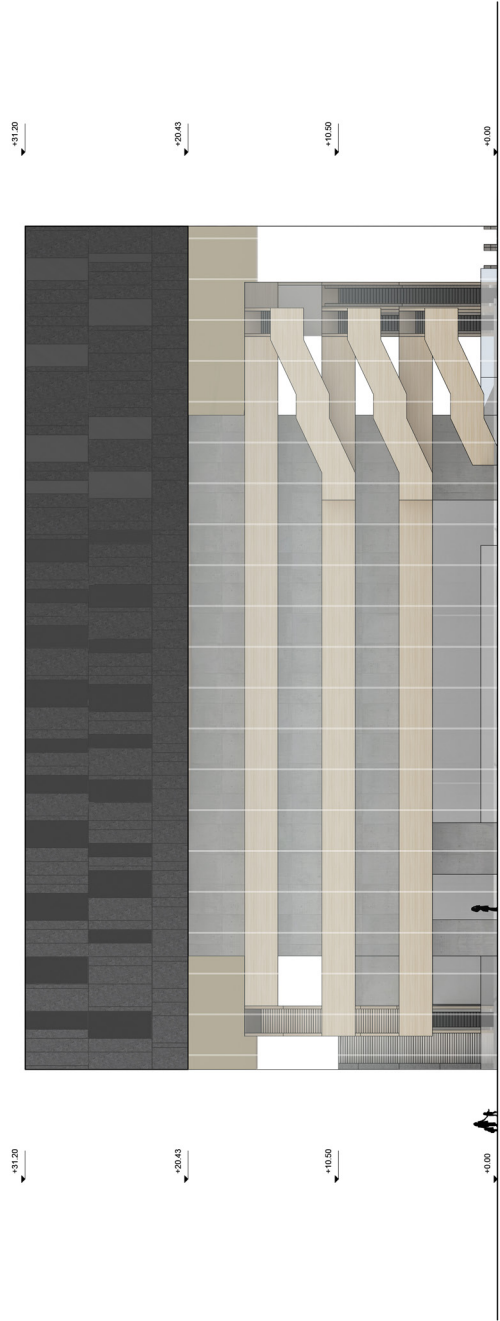
- 1. hotel guest room
- 2. courtyard
- 3. rehearsal hall
- 4. multifunctional hall
- 5. dressing
- 6. garage parking

SECTION C-C 1:500

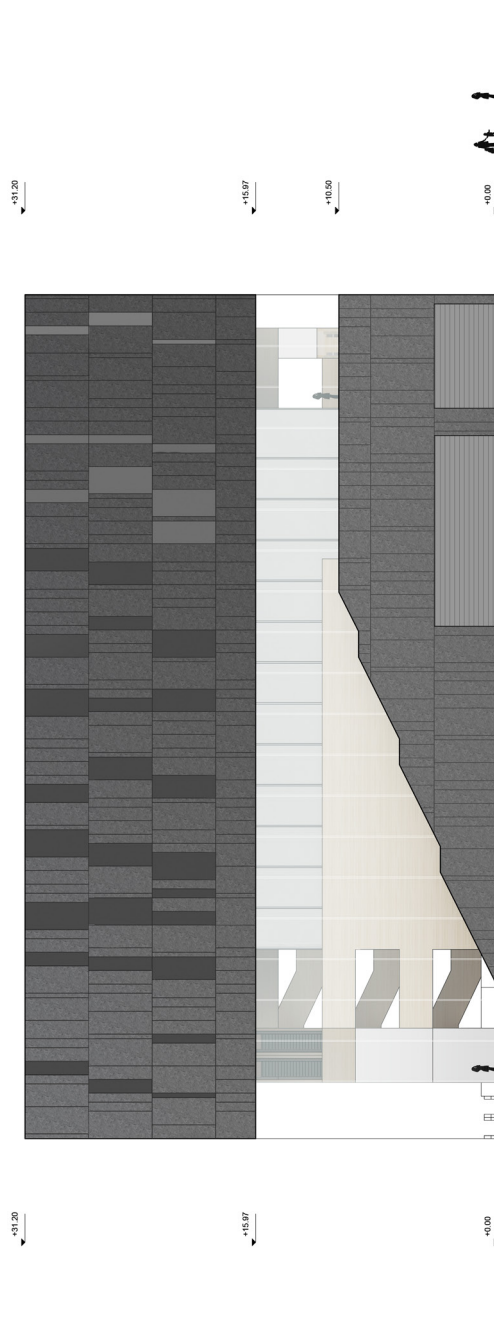


- 1. hotel guest room
- 2. courtyard
- 3. service
- 4. banquet hall/exhibition
- 5. auditorium
- 6. storage
- 7. kitchen
- 8. dressing
- 9. loading area
- 10. garage entrance
- 11. garage parking

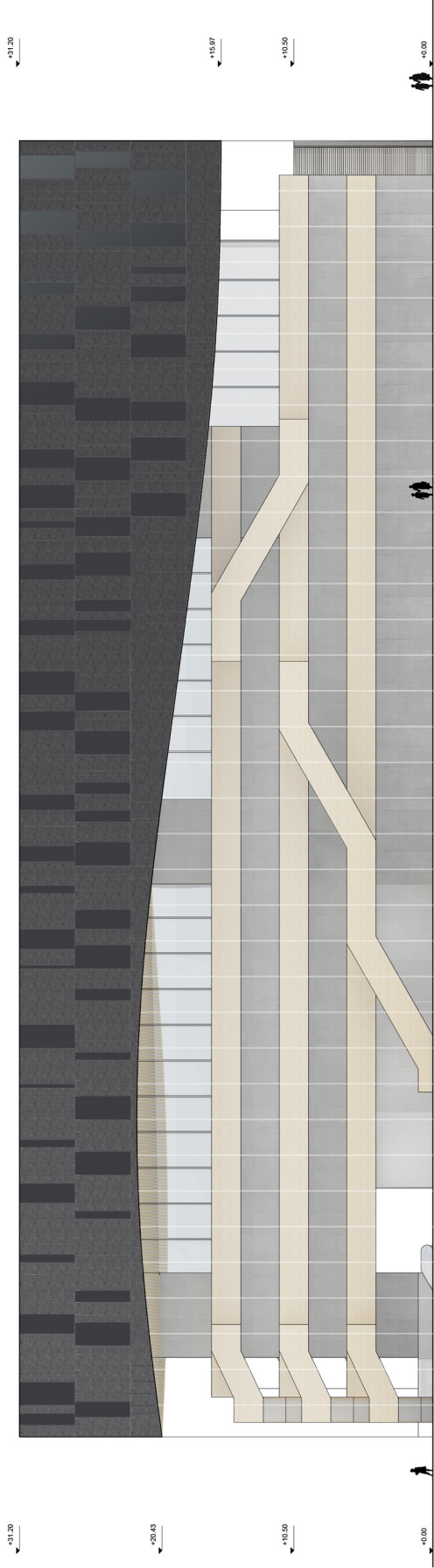
SECTION D-D 1:500



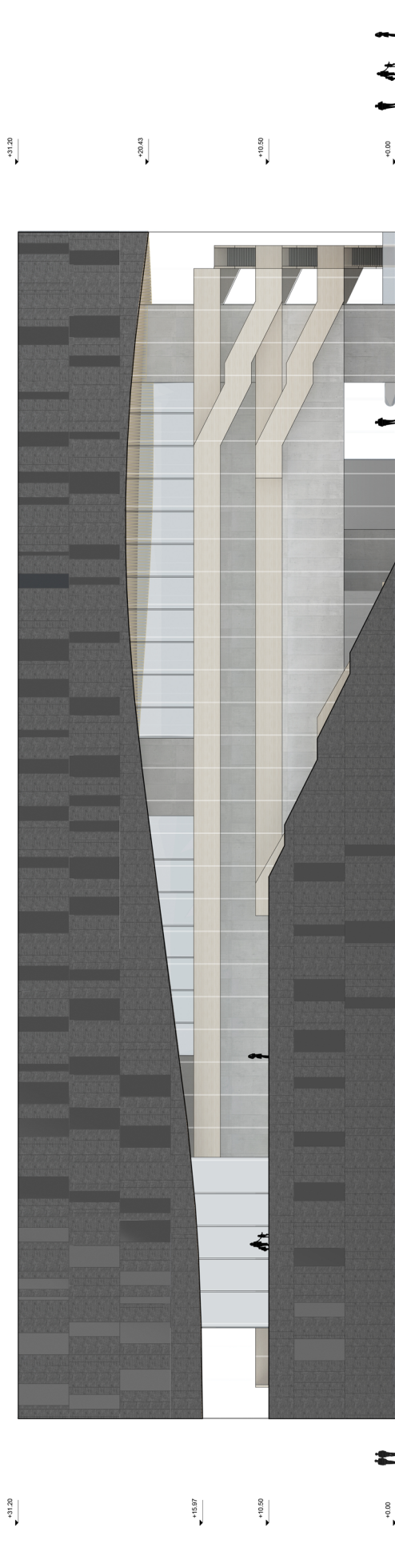
EAST ELEVATION 1:500



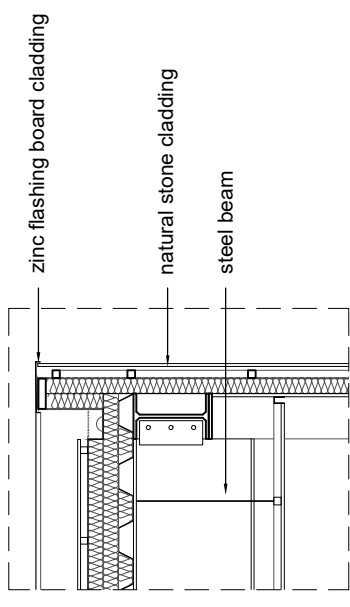
WEST ELEVATION 1:500



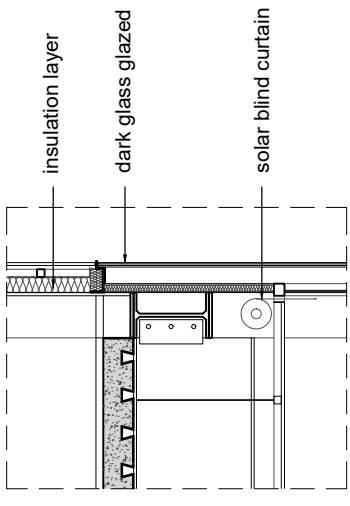
NORTH ELEVATION 1:500



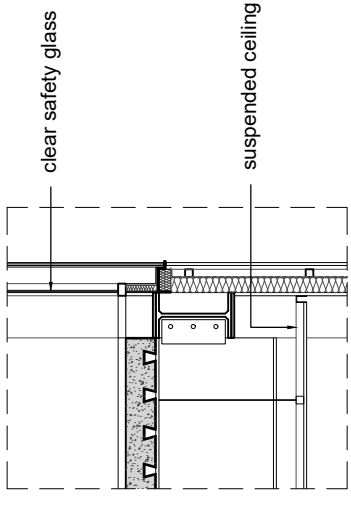
SOUTH ELEVATION 1:500



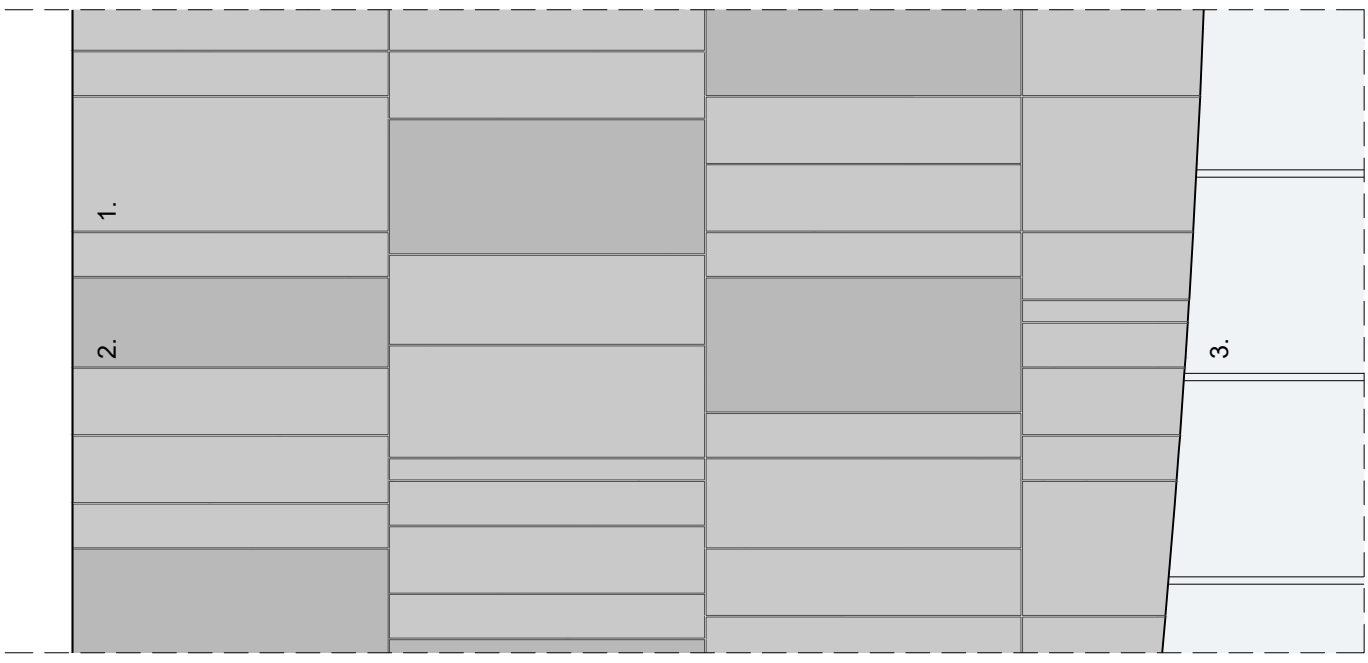
1:50 DET.1



1:50 DET.2

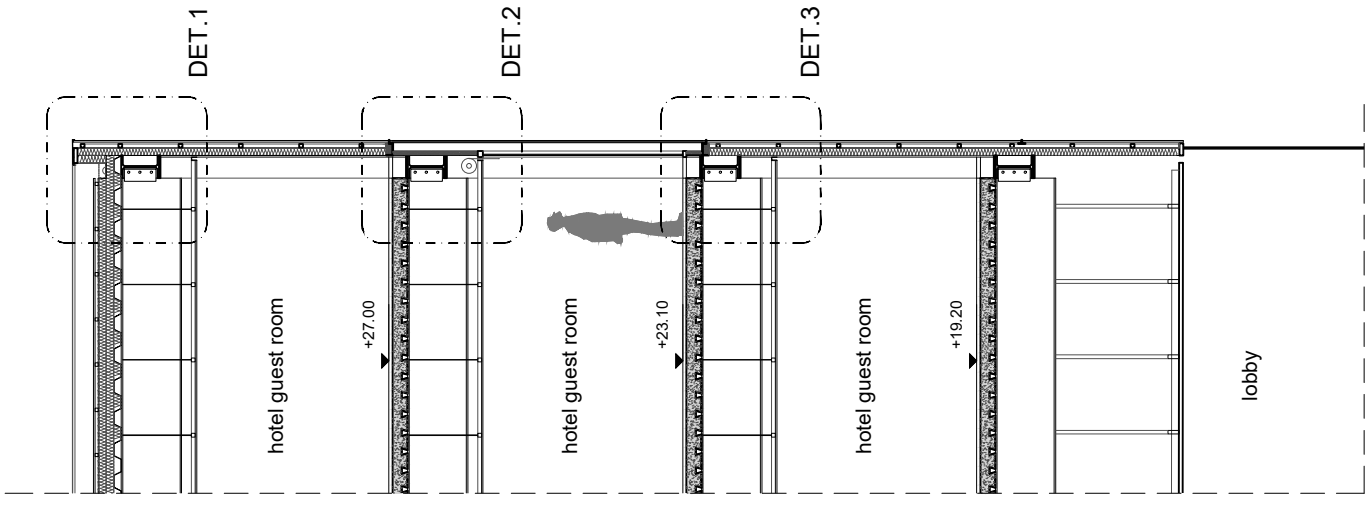


1:50 DET.3

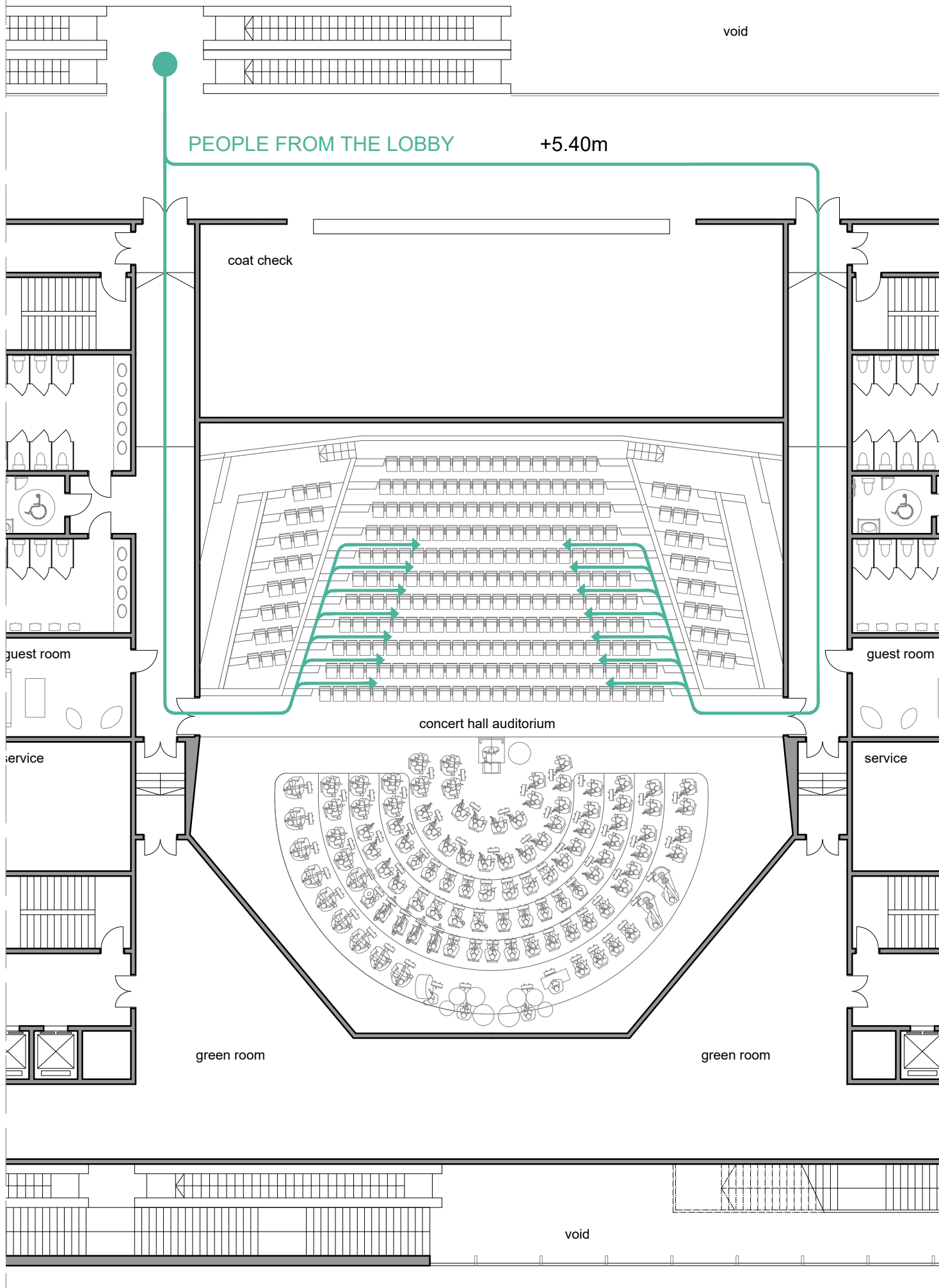


- 1. dark natural stone
- 2. dark glass panel
- 3. clear glass

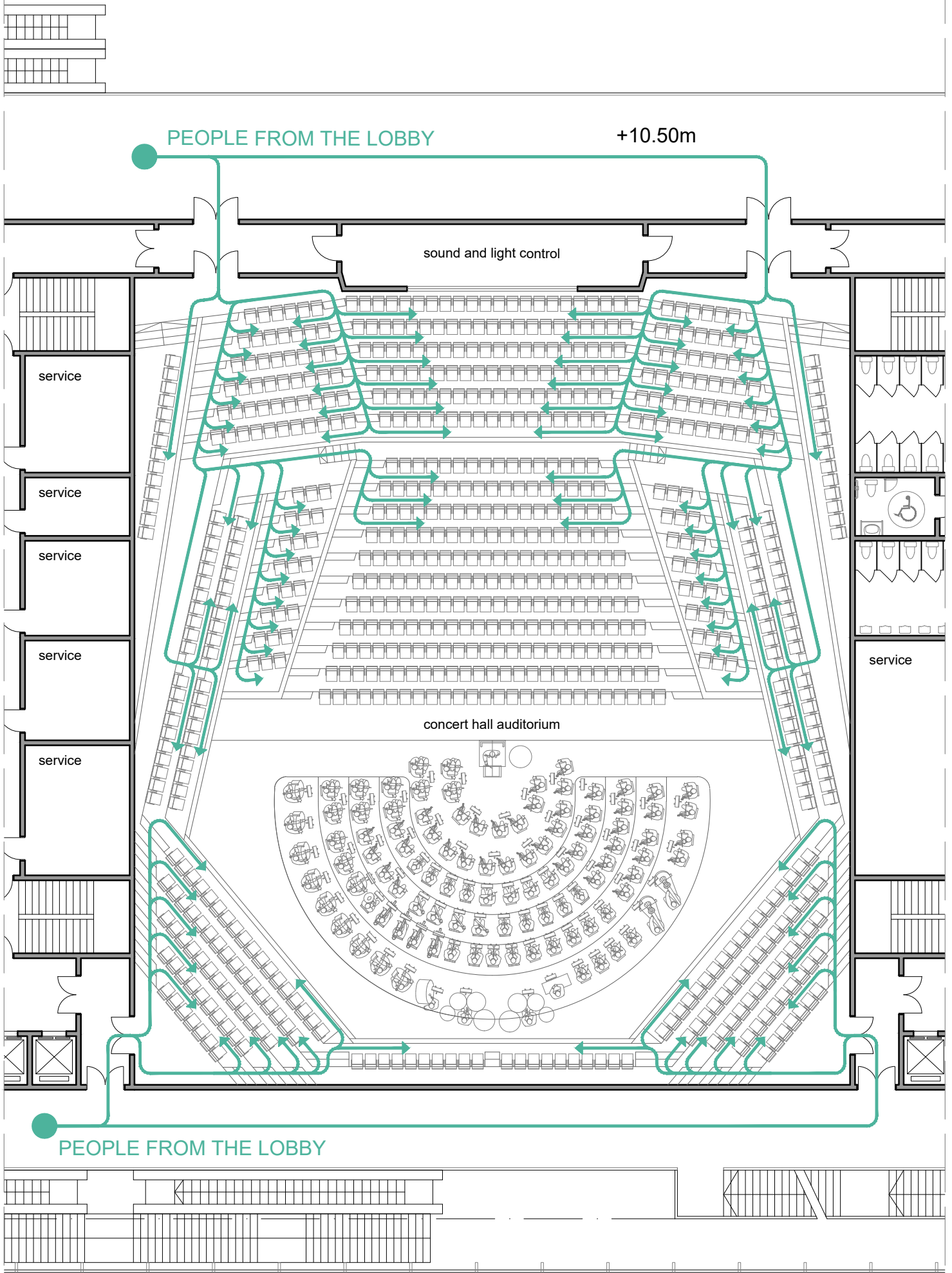
1:00 Elevation



1:00 Section



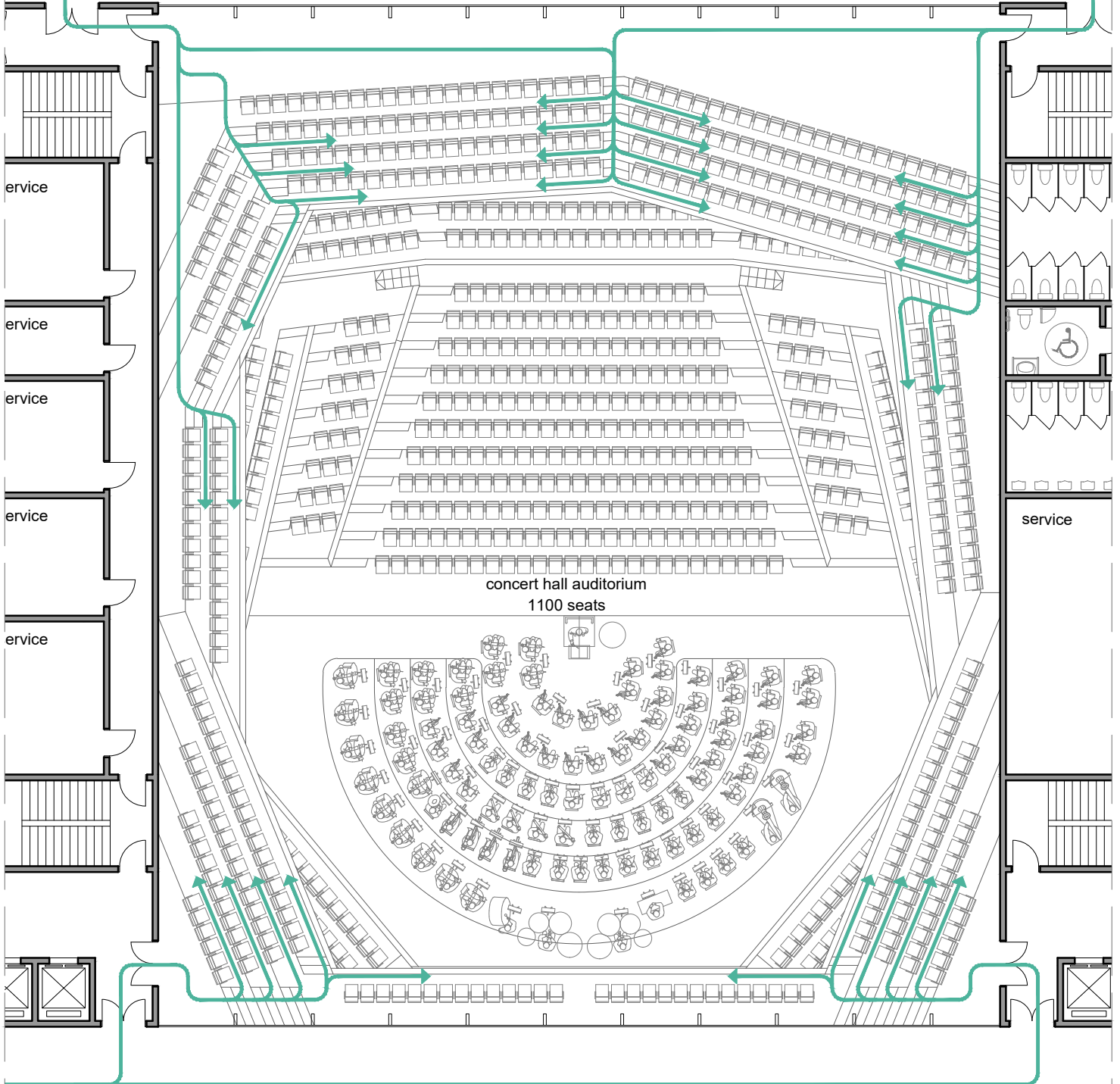
CONCERT HALL AUDITORIUM +5.40M PLAN 1:200



CONCERT HALL AUDITORIUM +10.50M PLAN 1:200

PEOPLE FROM THE LOBBY

+15.60m

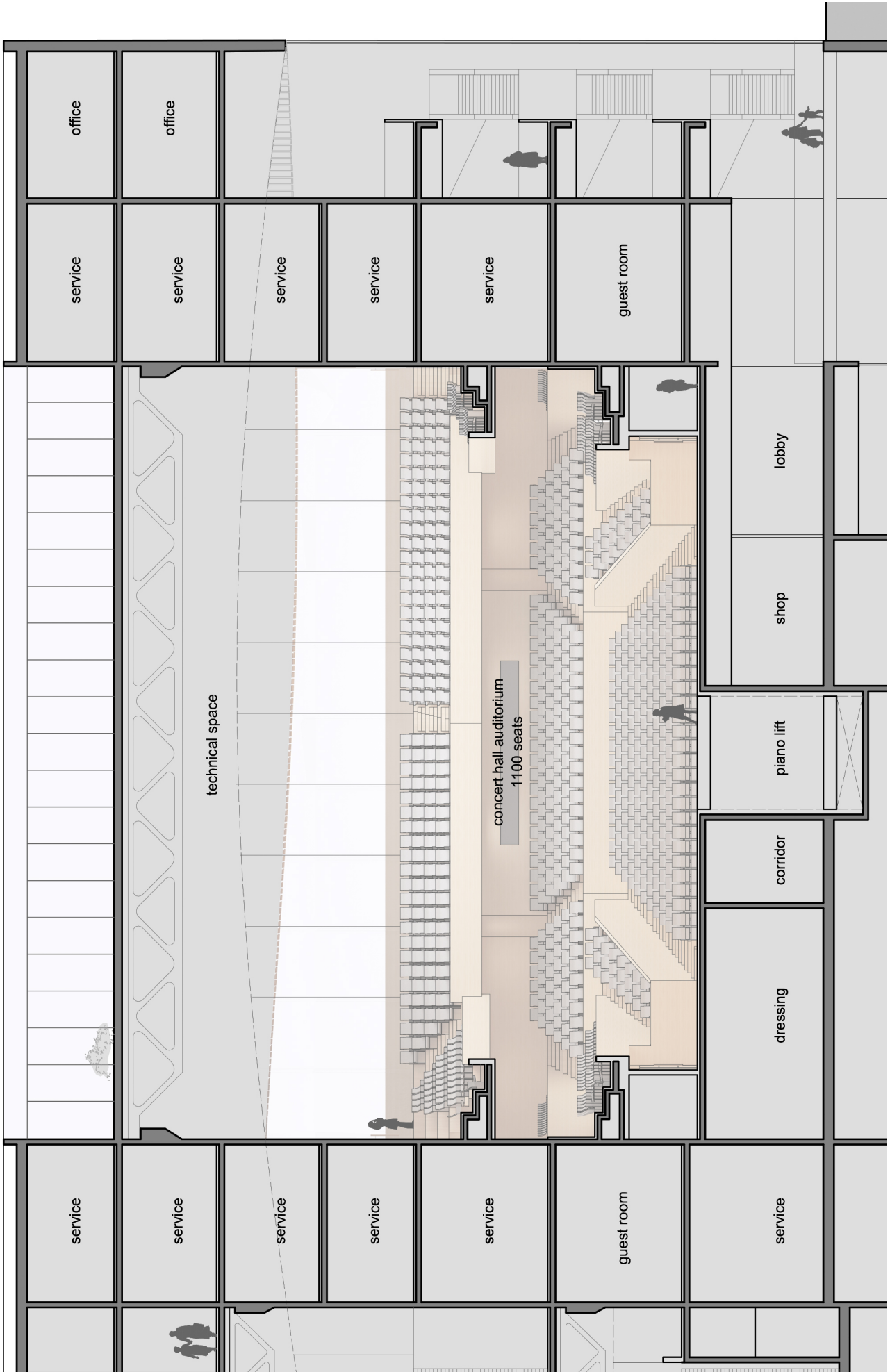


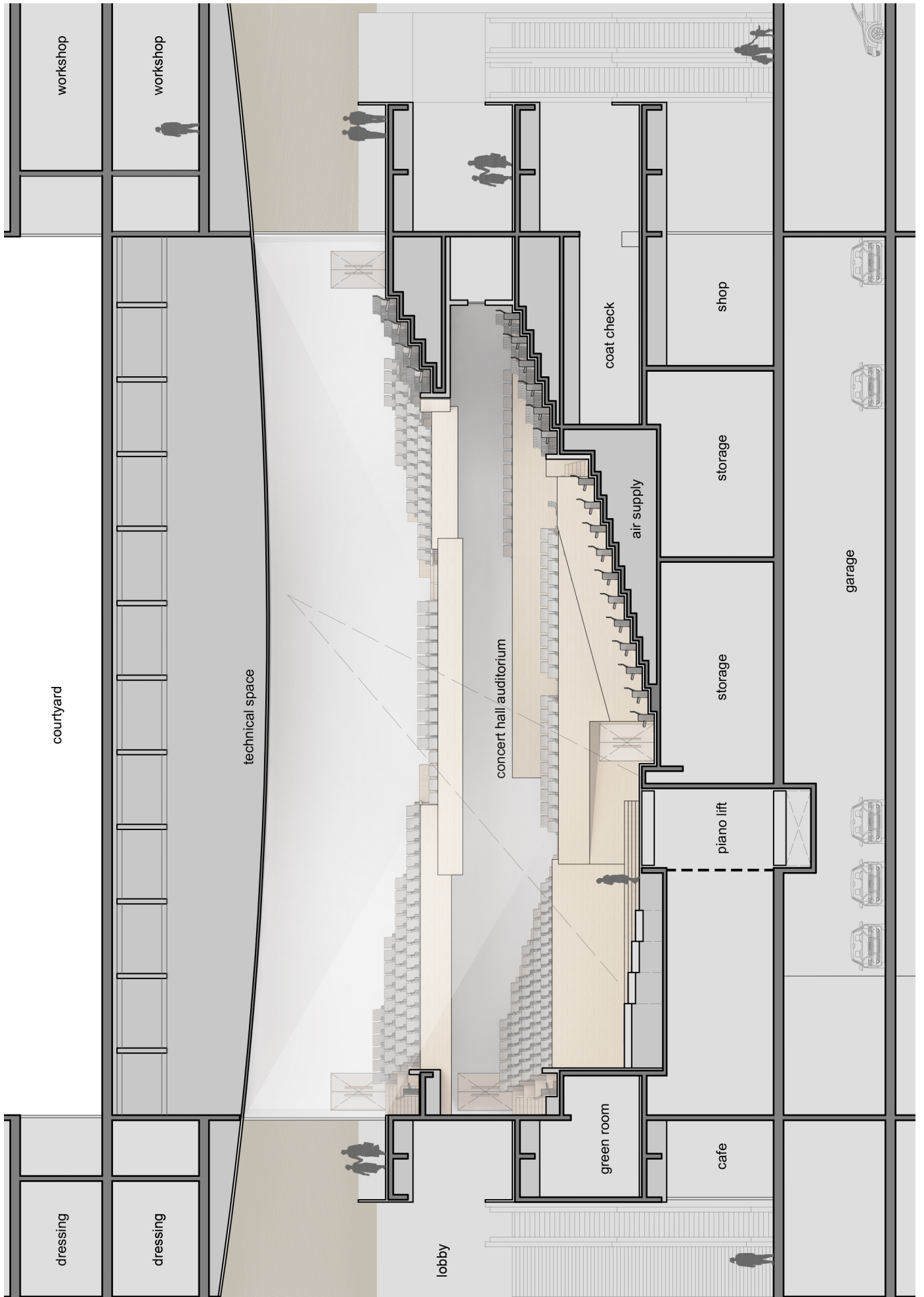
concert hall auditorium
1100 seats

PEOPLE FROM THE LOBBY

lobby

CONCERT HALL AUDITORIUM +15.60M PLAN 1:200





CONCERT HALL AUDITORIUM LONGITUDINAL SECTION 1:200

5.5 Economic Index

Index			
Above Ground	+0.00m level	Gross Floor Area: 4967m ²	
		Multifunctional Hall	490m ²
		Commerical	320m ²
		Auditoriums	240m ²
		Dressing	348m ²
		Lobby (including hotel lobby)	1686m ²
		Service	1883m ²
		+5.40m level	Gross Floor Area:3772m ²
	Concert Hall		785m ²
	Multifunctional Hall		189m ²
	Auditoriums		97m ²
	Kitchen for the Banquet Hall		482m ²
	Lobby		617m ²
	Dressing		252m ²
	Green Room		239m ²
	Service		1111m ²
	+10.50m level		Gross Floor Area:3845m ²
		Lobby	1317m ²
		Banquet Hall/Exhibition	504m ²
		Rehearsal Hall	708m ²
		Concert Hall	572m ²
		Service	744m ²
	+15.60m level	Gross Floor Area:2203m ²	
		Lobby	862m ²
		Concert Hall	473m ²
		Rehearsal Hall	111m ²
		Service	757m ²

Index				
Above Ground	+19.20m level	Gross Floor Area: 2130m ²		
		Hotel Rooms	679m ²	
		Lounge	84m ²	
		Service	1367m ²	
	+23.10m level	Gross Floor Area:4413m ²		
		Hotel Rooms	1550m ²	
		Courtyard	477m ²	
		Dressing	200m ²	
		Office	200m ²	
		Workshop	420m ²	
		Lounge	84m ²	
		Service	1482m ²	
	+27.00m level	Gross Floor Area:4986m ²		
		Hotel Rooms	1550m ²	
		Courtyard	1050m ²	
		Dressing	200m ²	
		Office	200m ²	
		Workshop	420m ²	
		Lounge	84m ²	
		Service	1566m ²	
	Total Floor Area Above Ground: 26,316m ²			
	Underground	-4.50m level	Gross Floor Area:5491m ²	
			Commercial	764m ²
			Parking and Service	4727m ²
-8.40m level		Gross Floor Area:5491m ²		
		Parking and Service	5491m ²	
Total Floor Area Underground:10,982m ²				
Total Floor Area: 37,298m ²				

Concert Hall: 1100 seats

Rehearsal Hall: 250 seats

Multifunctional Hall: 300 seats

Conference Auditoriums: 70 seats each

Banquet Hall / Exhibition Space: 504 m²

Hotel Guest Rooms: 91

Parking Lots: 249

6. Conclusion

Once the iconic building has been erected in the city, it always can be interpreted from many aspects. Firstly, with an architectural perspective, the monument does not only produce the visual impressiveness as an object but also respond to the collective memory of the particular site. The monument triggers the imagination rather than providing any figurative stereotype. As a public artifact, the monument itself is not a symbol of joy or agony. In a way, the spirit of the place brings the emotions to the visitors. The analogical design generates the imagination and reminisce. In this sense, the monument should be anonymous.

In addition, with the respect of feasibility, the public building should be functional for daily use and sustainable for the long-time operation. The project does not only attempt to produce a suitable design of concert hall but also an organic complex. The design combines the feasible programs and clear circulations in a reasonable location. The arrangement of the functions is based on the academic knowledge and practical project experience. It is important that the performance venue located in the downtown area. Therefore, it aims at increasing the activities in the city center rather than becoming the accelerator of urban sprawl or the icon of the real estate bubble. The performance spaces should be convenient for local people and artists rather than the exaggerated projects to show off. Hopefully, the design functions as a suggestion for the development of performance venues in China.

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