~~New~~ Parisian Stories

An architectural thesis promoting a social outlook on cultural architecture.

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Authors:
Neematullah Siraj Azizullah
Sebastian Siggaard
Thomas Røn Jensen

1.1, Le Bal Bullier by Jean-Emile Laboureur

Introduction.

"A walk about Paris will provide lessons in history, beauty, and in the point of life." - Thomas Jefferson.

With a history stretching back over 2000 years, Paris is a physical tapestry of historical, cultural, and societal development. The richness and qualities of Paris are present as much in its facades, boulevards, squares and urban landscape as it is in the people itself. For near 2000 years, the built landscape has provided the opportunity for humans to flourish, imagine and build their culture. Culture may be created by man but lives on as much through buildings and parks as it does through successive generations.

Despite being the most romanticised city in the world, Paris is still affected by its share of social unrest, growing disillusionment and inequality. Lacklustre integration, homelessness and a marginalised society are frequently overlooked by the opportunities and potential coming into Paris, in favour of the creation of status and prestige.

With the Olympic games coming to Paris in 2024, the opportunity has arisen to address these problems through a socially sustainable approach and intervention. Along with an opportunity to revitalise the forgotten urban structures that form the backdrop of many deindustrialised European cities including Paris.

The following architectural thesis addresses the social issues through the exploration of opportunistic, emphatic and generous architecture. It investigates concepts of tectonics, transformation, catalyst architecture and social sustainability. The main notion being change. Change from the past and the present towards a brighter future along with a general wish for generosity in a social, sensory and architectural sense.

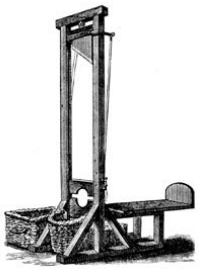
1.2

1.3

1.2, The French revolution by Hein Nouwens
1.3, Yellow vest demonstration by Raphal
1.4, Paulus by Henri Gabriel Ibels.
1.5, Homeless sleeping near Louvre by Nikolai Korzhov
1.6, French Guillotine

1.4

1.5



1.6

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1.8

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1.10

1.11

1.12

1.7, Man cooking dades in oil drum on Parisian corner
1.8, Yellow vest demonstration by Raphal
1.9, Illustration from the artists' book Le Juif erran by Émile Bernard
1.10, John Carlos, Tommie Smith, Peter Norman at the 1968 Mexico Olympics by Angelo Cozzi.
1.11, Cover for Crimes et châtiments by Félix Vallotton
1.12, Burning car near Arc de Triumph, Paris

Pièce De Résistance.

One, problem. Paris is a global metropolis with some 10.5 million inhabitants. With 2.2 million immigrants from all over the world, Paris is a diverse melting pot of culture and people. A city, rich in diversity and potential but faced with increasing disillusionment and homelessness (Insee.fr, 2018).

Two, opportunity. Paris is hosting the 2024 Olympic games, an opportunity for people to unite around the games histories, stories, and personas. The 2024 Olympic architectural strategy contains a wish to promote sustainability and for ninety-five per cent of the structures to be existing or temporary (Paris2024, 2018). The Olympic games will put Paris on display providing an opportunity to unite people and create social cohesion despite social status or origin. "Liberty equality fraternity". Ultimately creating lasting relationships (France Diplomatie, 2018).

Three, platform. Forgotten and discarded urban structures increasingly form the backdrop of European cities. Centuries of intermittent development have left the fragmented cityscapes that have become characteristic of cities such as Paris.

This is the foundation for both building new structures and revitalising the forgotten allowing the needs of the local people and communities to be met in otherwise inaccessible locations. Architecture has the power to be a catalyst of change for social and physical restructuring. To become part of a new collective memory.

2.1, The Execution (L'exécution) by Félix Vallotton

Liberté, Égalité, Fraternité!

Viva la Revolution!
Paris has, since the Romans conquered the settlement on the small ‘Île de la Cité in 52 bc, been a city of turmoil and revolution. Nonetheless, it has managed to foster and be the birthplace of modern democracy, artistic exploration and cultural development in Europe and much of the western world.

From the first revolution in 1789, France has swung between authoritarianism, monarchy and democracy. Hard lessons learnt have prompted France and Paris to become a role model of culture, art, cuisine and architecture for societies throughout Europe. The 19th century were times of increasing immigration, poverty and revolution. In 1830 and 1848, two revolutions, sparked by extreme poverty and poor living conditions, lead to the authoritarian reign of Louis Napoleon. In the 1850s, under the Napoleon rule, the prefect Georges Eugéne Haussmann started to re-shape Paris, through extensive renovation and development. Creating the grand boulevards and iconic Parisian housing which defines the Paris known today (Hvidt, K. 2004).

History shows that time after time the Parisian people have shown the establishment that the power lies within the people. They have through dramatic and violent revolution fought against oppressive kingdoms and governments and imposed the will of the people onto the country. Both for the betterment and detriment of Paris, they have been an active component of the city and its history; physically, socially and culturally. They have willed and taken on the constant power struggle and tug of war that has become evocative of French culture and politics.

Challenges of post-war modernism.
During times of revolution, the end of a regime did not necessarily mean a direct improvement for the people of France and Paris. This was also the case after the second world war. The effects of war and growing tensions between government, communists and socialists led to a tumultuous and uncertain atmosphere. The influx of people following the war and the generally poor state of housing lead to a necessity for a large amount of housing to be constructed quickly and cheaply (Combeau, Y. 2003). The new prefabricated housing was erected on the edges of the city and in the suburbs of Paris and due to the rapid development was poorly connected to the city. At first, the housing was primarily French occupied but improving economics and shifting demographics meant that by the 1970s they were primarily home to immigrants due to the lower cost of entry.

Rehabilitation and deindustrialisation of the city had a big impact on the opportunities for the Parisians and caused house prices to skyrocket in the city centre. This particularly affected the northern and eastern suburbs of Paris which were home to the majority of immigrants and unfortunately lead to the formation of the now infamous Parisian ghettos, devoid of opportunities (Paskins, J. 2015). In contrast, the southern and western suburbs successfully transitioned through the deindustrialisation, leading to some of the highest per-capita incomes in Europe.

The contrast between lifestyles and the increasing economic gap was and still is the catalyst for many of the social and cultural challenges facing Paris today. Unequal urban development, poor in-

tegration and a growing economic gap between social classes create a city as divided as it is diverse.

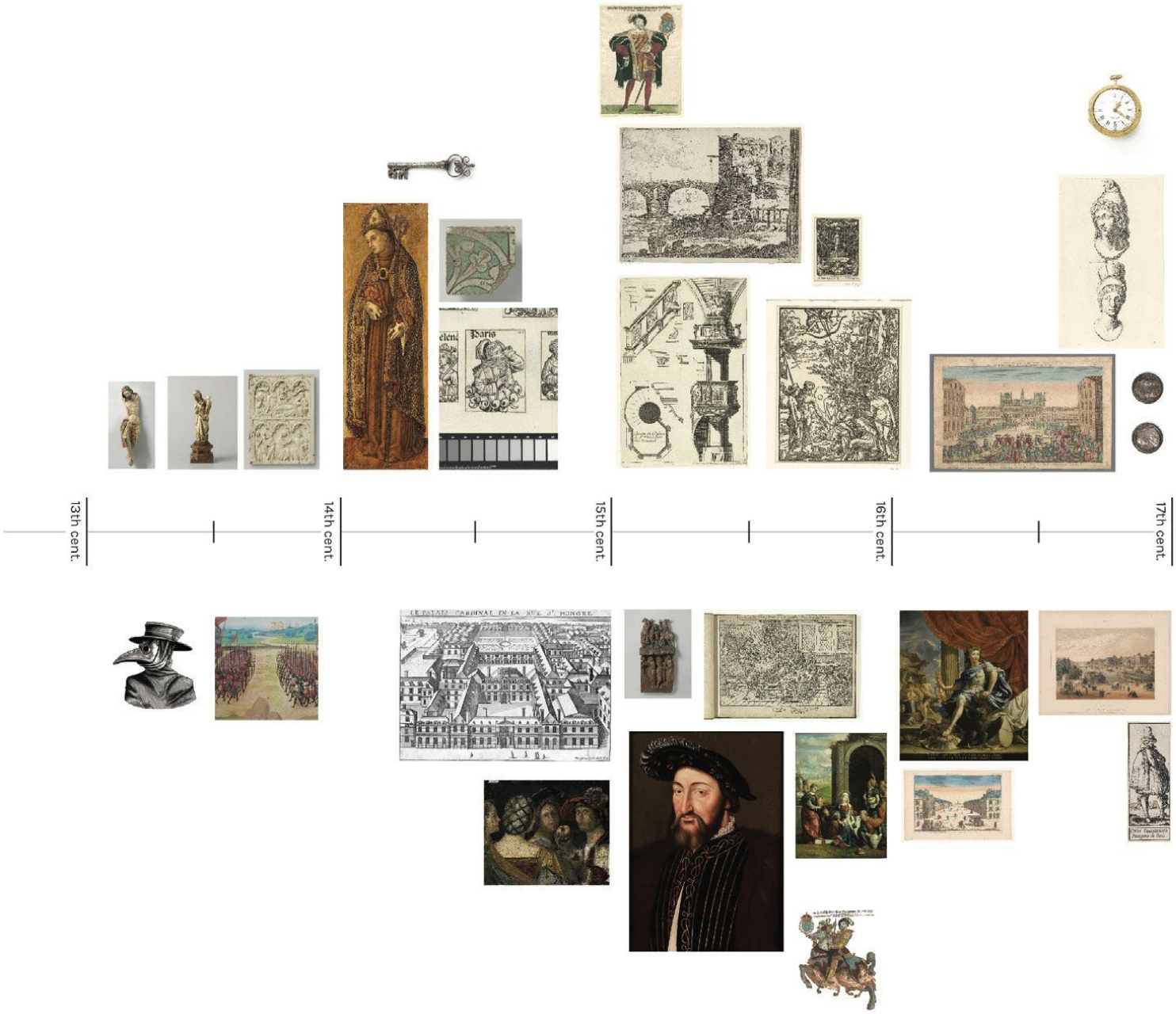
Legacy building.
Along with the dehumanisation of the Parisian city centre, an interesting component of the Parisian urban landscape has been the desire and history of presidents imposing their legacy and identity through urban development and architecture. With the formation of the Fifth Republic of France in 1958, Charles de Gaulle, president from 1959 to 1969, rehabilitated the historic neighbourhoods of Paris and with the Notre Dame being transformed from tired to pristine. On the contrary Valéry Giscard d'Estaing, president from 1974 to 1981, instituted a program of transforming old buildings into museums and cultural venues. He recognised the suburbs were devoid of cultural institutions and funded the creation of cultural and musical centres in the suburban rings, supplementing the cultural centre (Combeau, Y. 2003).

Works such as George Pompidou Centre, Musée d'Orsay, Cité des sciences et de l'industrie, Pyramide du Louvre, Opera Bastille, La Grande Arche de la Défense, Bibliothéque Nationale de France, Musée du Quai Branly and more exist due to the legacy building. Despite their architectural beauty and cultural importance, the insistence from various presidents to leave a mark on the landscape of Paris has forgotten the local and every day in the quest for lustre and prestige.

Viva la France!
The division of Paris, created through post-industrial and post-war development has lead to the deterioration of the social and cultural landscape. As the city has developed and spread the cross-pollination of neighbourhoods, classes, cultures and backgrounds have declined, leading to isolation and alienation. The many cultural and social venues have failed to address the breadth of the social landscape of Paris and have failed to reinstate the social situation they meant to. How can architecture act as this element and experience of social unification?

Successive acts of governments and presidents have failed or purposefully ignored the plight of every day, focusing on the development of lustre and glamour. Paris needs a return to building for its people. It needs to be generous across multiple scales, by intention, no matter the scale or the economy behind. Paris needs a place that gathers the northern, eastern, western and southern suburbs. A piece of architecture that creates a place where people from all classes can gather, share and show that Paris is at the forefront of social equality and unity.

As in the old days of France, we today see a tendency of revolutionary thoughts yet again. People turn to the streets to show their powerlessness towards the continuous rising economic gap and social injustice. It does not take much more than a spark to ignite the people, and we think Paris just needs the right opportunity to change and show that it priorities its people.



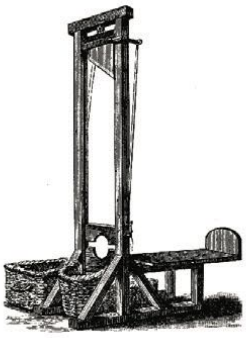
1300-1400.
The Black death strikes the city. In the year of 1337, the Hundread Years War begin.

1400-1500.
The masses of Paris revolts, driving the royal court to abandon the city for almost 100 years.

1500-1600.
King Frans the 1st declares his love to Paris and inhabits it. He brings the italian renaissance style to Paris.

1600-1700.
The Sun king (Louis XIV) moves the royal residence from Paris to Versailles.

2.2, Parisian timeline as seen through key- events, persons, art, sculpture and architecture


























1700-1800.
A mob of Parisians storm the Bastille, and the French Revolution has begun. The monarchy falls and the First republic is formed.

1800-1900.
The journal "Le National" kickstarts the July revolution in 1830 and Charles X is overthown and replaced by the citizen king Louis-Philippe. In 1848 a third revolution marks the beginning of the Second Republic. Under Napoleon Bonapartes reign, Georges Eugène Haussmann restructures Paris to the city we know today.

1900-2000.
The Eiffel tower is erected to great complaint from city artists, architects and philosophers. The germans are beat with the help of the Americans in WWI, but France is lost to Nazi Germany in WWII, leaving Paris in ruins.

2000-now.
Riots break out in 2005 after police violence in the poor suburbs of Paris. The satirical journal Charlie Hebdo is attacked by terrorists, but over two million people march against the suppression of free speech. In 2018 Yellow vest demonstrations spark riots following increasing taxes, poverty and inequality.

Dreaming out loud.

Olympics for change.
The Olympics have a long and colourful history from Greek antiquity to the modern day. As much as the Olympics has been a celebration of sport, nations and culture it has also seen its share of uncertainty and controversy.

The Olympics were revived by Frenchmen Pierre de Coubertin in 1896 and plans were made to host the first modern Olympics in France although the honour was eventually bestowed upon Greece. Throughout history, the games have been used as a social and geopolitical tool, bringing about change and imposing the will of nations. In 1968 Olympics athletes Tommie Smith and John Carlos used the Olympics to protest for human rights and against racial inequality which is seen as one of the most significant moments. The Olympics have helped to bring about societal change and awareness of the geopolitical nuances and challenges in the world. (Young David, C., & Maurice Abrahams, H. 2017). To this day the Olympics still has political potential but has become a heavy economic challenge for the host countries. Ballooning costs and an increased focus on sustainability have brought into question the legitimacy of the Olympics concept, the role it plays in modern life and its impact on the host cities and countries.

This increased focus has lead to the creation of a sustainability-based planning and organisational approach that implores host cities to prioritise sustainability and legacy. The Paris 2024 Games has been organised under this new framework implementing new approaches and ways of thinking around the Olympics. Through the usage of compact planning and maximising the potential of existing infrastructure and venues (95% existing or temporary venues), the Olympic footprint will be lessened and it's legacy more able to benefit the needs of the city and not the needs of the games (IOC. 2017). Despite great intentions of focusing on the environmental and economic challenges of the Olympic games, there is a lack of awareness on the steps taken by the Olympic games to address social challenges.

Olympic Solidarity.
During the 1960 Olympic games in Rome, the Olympic commission started assisting newly independent countries in their aid to produce top athletes. Over the course of the next 30 years, this shaped the Olympic Solidarity programme which assists and educates countries and people in "sports for social development", "gender equality", "diversity", "culture & heritage", integrity and healthy body image. Funded by the ever-growing proceeds from tv-rights, $500 million USD for the 2017-2020 plan, (Olympic. 2019). Recently the program has started supporting an Olympic refugee team which acts as a beacon of hope and a reminder that more than 68 million people live displaced from their countries and families (Olympics. 2019). This is for us the most important but unknown message of the Olympics and the Olympic creed:

"The most important thing in the Olympic Games is not to win but to take part, just as the most important thing in life is not the triumph but the struggle. The essential thing is not to have conquered but to have fought well." - Pierre de Coubertin, 1908.

The possibilities of furthering the Olympic typology and turning the commercial giant into an asset that not only co-exists with its context and inhabitants but also addresses social issues and challenges. By incorporating the opportunities and untapped potential of the Olympic Solidarity programme into a typology allows architecture to become a platform, illustrating awareness around diversity and equality. Architecture that changes people's perception and launches a catalytic process.

2.3, John Carlos, Tommie Smith and Peter Norman at the 1968 Mexico Olympics by Angelo Cozzi.

Impossible n’est pas francais.

Catalyst architecture.
Architecture is well known as a stage for the lives of people to play out. Modern disciplinary architecture has moved beyond a classical tendency of specificity and interest in formal language and style, towards an architectural approach informed by multiple factors (Weiss, K. 2017). Architecture is an inherently human endeavour aiming to address the human condition. Formal expression, intention and style are increasingly informed by narratives. Narratives’ chosen to address and comment on an array of different social, political, economic or contextual situations and relationships (Hvattum, M. 2010).

In the book "Catalyst Architecture" Hans Kiib and Gitte Marling argue, through architectural references, a new tendency of creating architecture that is socially active and empowering. Architecture does not exist as an object, it is a physical continuation and has an effect on the people and place that it is situated within. Classic and modern architecture has been an instrument of cultural, social and physical change throughout history (Kiib, H. Marling, G. 2015). Yet despite the best intentions of architects through the ages, for as many examples of functioning social architecture, there have been socially ambitious projects that have fallen flat. The question being, how can social intentionality be converted to social reality?

Catalyst and catalytic reactions, as terms, come from chemistry and refer to a substance that initiates or expedites a reaction. Using this architecturally the book "Catalyst Architecture" analysis reference works providing insight into the performance and ability of architecture to act as a social catalyst and actor. The catalytic role of architecture is characterized by two facets. The internalised performance, through the functionality, programmes and internal relations between spaces and elements. The other being the externalised performance depicting the architectural intervention in its context and through its relationship and consequences on its surroundings. The architecture of a building, material, forms, scale, has an impact on the social potential and intention of the building and the ability and likelihood of it being realised. When viewed purely as an object interpreting the concept of form, it allows for comparison through typological understanding, making it possible to compare space through its morphological relationships.

The predominant element of architecture is not the physical but the interaction and narratives that exist in occupancy. The continuous, evolving and adapting interaction between human and architecture is core to understanding a buildings social role. It renders architecture non-static and that the relationships conceived and fostered do not end with the eventual destruction or transformation. Moreso architecture explicitly deals with an aesthetic dimension. Rhythm, scale, materials. It deals with the sensorial experience of the architecture as perceived phenomena. Phenomena perceived through all senses as described by Juhani Pallasmaa in "Eyes of the skin" (Pallasmaa, J. 2012). It is, therefore, architecture has relevancy as a sign and symbol. It has the ability to oppress as much as it can assist. Requiring awareness of the possible actions and results as a consequence of aesthetic and formal choices. This implies that behind every formal choice there is a meaning and goal which is part of a bigger discourse. The contemporary tendency to treat architecture as an object is at best neutral and at worse inhibits a buildings social potential (Kiib, H. Marling, G. 2015).

More than just being catalysts of a desired social typology, architecture is foremost a social and humanistic endeavour. The creation of good or meaningful architecture must, therefore, work to enrich and facilitate the way that social interactions

happen and take place. Each stylistic or formal movement has sought to comment and improve the social welfare of its inhabitants regardless of the result. Just as gothic architecture sort to invite light and narrate the divinity of God, modernism sort to elevate the standards of living. The abject failure or need for revitalisation of the architecture produced under these styles speak of the inherent complexity in diagnosing problems and solutions for society. The rationality and prognostic attitude of modernism have given way to the pragmatic and diagrammatic architectural approach that dominates the contemporary disciplinary architecture.

Subjectivity and intentionality we argue are an obligation that architects must convey. Architects should work to fulfil more than merely functional requirements. The production of such social architecture must, therefore, be conducted under an interdisciplinary process in which designs choices are made for a variety of reasons. Decisions must not be made just on the basis of aesthetic or social reasons, they must also take into account technical, economic, and political reasons to produce a coherent and meaningful piece of architecture. Perhaps it is this breadth and complexity that has lead to the comfort of pragmatism and the rejection of subjectivity?

We must remain cognizant that architecture does not exist as an object, it can not be understood independently from the context and world that it inhabits and presents to. This necessitates an understanding and exploration of place and context. The erection of the building happens within an existing social landscape. The method through which the piece of architecture chooses to interact and acknowledge the existing social landscape determines the social relationship and meaning the building takes on. As discussed earlier through "Catalyst Architecture", architecture is a non-static entity that is understood through its inhabitants and experience. The new building becomes a part of the orchestra of the street, harmonising to the passersby. The building joins the social and cultural fabric of the built landscape. The location of the project, the surrounding status and functionality all have a direct influence on the social reading that building will be subjected to. Any social intention or narrative cannot be solely be applied onto the building itself but also onto its context with implications on the social, cultural and physical landscape.

To create a catalytic piece of architecture with social ambitions related to existing conditions requires a thorough understanding of the dynamics of the social landscape. The social issues and landscape of Paris today is intrinsically linked to the cultural and physical landscape of Paris. Any piece of architecture that attempts to comment and propose a new, subjective, social reality must be rooted in a robust understanding of the place. How the place is experienced and the role that architecture plays in the organisation and formation of social and human space.

To synthesise the theoretical knowledge of catalyst and social architecture we propose the usage of synergies as a critical architectural method that works to capture users from all classes, cultures and backgrounds. Another method is through the creation of specific and universal architecture, both functionally and physically, that address different users specifically while providing a common platform for fostering relationships, integration and personal sharing. The attempt to purposefully create catalytic architecture through the cultivation of synergies and pushing social dynamics is founded in a desire to address the complexity of society. The goal of which is to explore the possibilities of a new architectural typology that proposes new methods of intentionally creating socially ambitious and catalytic architecture.

Pardon my French.

Evolving tectonics.
Tectonics in disciplinary architecture has been an ever-present thread from Greek antiquity to the contemporary present. It has and continues to explore the changing, expanding and vanishing intersections between construction, architecture, art, materiality and fabrication. The concepts and breadth of writing around tectonics have expanded to reflect the evolving status it holds within disciplinary architecture. Originating in Greek antiquity through the term "Tekton", the contemporary approach popularised by theorists such as Semper, Sekler and Frampton argues for coherency between architecture and structure and for the "poetry of construction" (Frampton, K. 1995, Sekler, E. 1965, Semper, G. 1989).

Contemporary theories have sought to reposition tectonic theory as an approach towards architecture rather than a purely formal and expressive endeavour (Hvejsel, 2018). It is because of this repositioning that the exploration and application of tectonics have been able to bridge formal and physical constructs with conceptual and representational images. Construction rationality and truth has formed the basis of how tectonics is viewed but increasingly attention is given to quantifying the impact on humans and how architecture is encountered. How architecture is addressed through human interaction, is the underlying goal of all architecture. The bridge between the physical and representational understanding of tectonics provides opportunities in the development of theories and concepts exploring the boundaries and considerations of what tectonics is and can be. It is the divergence of tectonics as a rational and formalistic architectural approach to an expressive and self-critical approach that forms the basis of the following investigations through text, analysis and design.

"Considering all the arts, the double task of showing and serving seems to be an architecture's unique assignment, a cultural role that is reduced when the building is viewed either as an aesthetic object or a functional solution, or some compromise between the two." (Leatherbarrow, D. 2012).

Increasingly disciplinary architecture is becoming interested in the interplay between the architecture, its context and its users. Acknowledging the role that architecture has in creating the urban environment and crucially the role that the urban environment has in creating a piece of architecture. A piece of architecture does not exist as an object, it is an element and a part of a larger system. Creating a responsive piece of architecture that works as a component rather than an object of the physical, social and cultural context that it is situated within. The rational and formalistic approach of the past is no longer seen as sufficient for the rigours of modern life. Functional and pragmatic approaches to creating architecture have attempted to serve the needs of society but have curtailed the artistic license of the architect that is integral to the production and development of new concepts and ideas.

"I don't believe that meaningful architecture can arise from answering the explicit demands or desires of clients or society at large. The cultural level has to be slightly elevated, otherwise, there is no developing culture." (Pallasmaa, J. 2014)

How can we ensure the production of meaningful architecture? The modern tectonic theory has the possibility and potential to be implemented as an architectonic approach aiding in the development of intentional and meaningful architecture. In contemporary discussions of tectonic approach and methods the human element, "Gesture" "Orientation" "Atmosphere", is the predominant concept. The question is no longer what a brick wants to be

but how the brick wants to be seen, felt, heard and experienced.

Where Semper once argued for an understanding of architecture being comprised of gathering and habitation (Hearth/Mound and Roof/Enclosure), Pezo Von Ellrichshausen argues that a roof for the sake of protection, i.e. necessity or habitation, is not an expression of architecture. Until an intention, rooted in disciplinary craft is applied upon the arrangement and expression, the ‘roof’ shall be unaware of itself and its architectural implications and qualities (Pezo, M. Ellrichshausen, S. 2018). For a piece of architecture produced there exists intentionality. For every element in the city, there is intentionality regardless of its own self-awareness. It is this catalogue and landscape of intentions that forms the context a piece of architecture sits within.

"Accordingly, architectonic intentions should not be solutions to a need. Solutions always come together with the "given" necessity. "To provide a roof for a family without one", for instance, is not an architectonic intention. It is indeed a wonderful altruistic intention but certainly not an architectonic one., for the necessity of a roof is already there before the exercise of any disciplinary movement, not to the artifice. Likewise, the formal disposition of that particular roof immediately conveys an existence before and after that particular case. Therefore, the formal arrangement of that necessity, which is not the case but the proposed form for that case, becomes the architectonic purpose, which is not only the plan but that actual project." (Pezo, M. Ellrichshausen, S. 2018).

In "Genius Loci" the city is understood in a concretised manner through its parts. Materiality and form are internalised and denote the "environmental character" of a place (Norberg-Schulz, C. 1980). The environmental, social and cultural characters of a place are what inform the atmosphere and how a place is experienced. The Parisian "corner café" is as much a social construct as it is an architectural construct. Parisian Art Nouveau is as much a cultural construct as it is an architectural construct. Tectonics in this lens is a method of understanding the totality of a place through its components and architectural intentions.

"the city speaks to its inhabitants, we speak our city, the city where we are, simply by inhabiting it, by traversing it, by looking at it" (Barthes, R. 2010).

The goal, we raise, with the idea of architectural intentionality is to develop an awareness for the analysis and registration of a location, a character, an atmosphere. As David Leatherbarrow argues, it indicates an idea of "think widely and act locally" (Leatherbarrow, D. 2012). Coining the terms, cultural tectonics, social tectonics and detail tectonics is an attempt to acknowledge that it is useful to view the architectonics and concepts discussed as scale dependent. The cultural tectonics as a macroscale understanding of place tectonics seen through the dependency on cultural norms, heritage and vernacular traditions. Detail tectonics as a microscale understanding of a place through signs, symbols and concrete elements. Social tectonics as both a macro and microscale understanding of people, patterns and functions of a place. This division of components forms the basis of an architectonic method and approach that attempts to work within the social, cultural and physical contextual landscape while developing and allowing room for the artistic license of the architect to be realised. All in all, the interest in tectonic theory lies in the effects architectonics has on the experience of a place, functionally and spatially, and the implications on the further architectural exploration that the project will take on. Through our studies, it shows that tectonics is not merely a term which analyses a still frame of the past or the present but actually a tool that enables us to make valid design choices through evolving times.

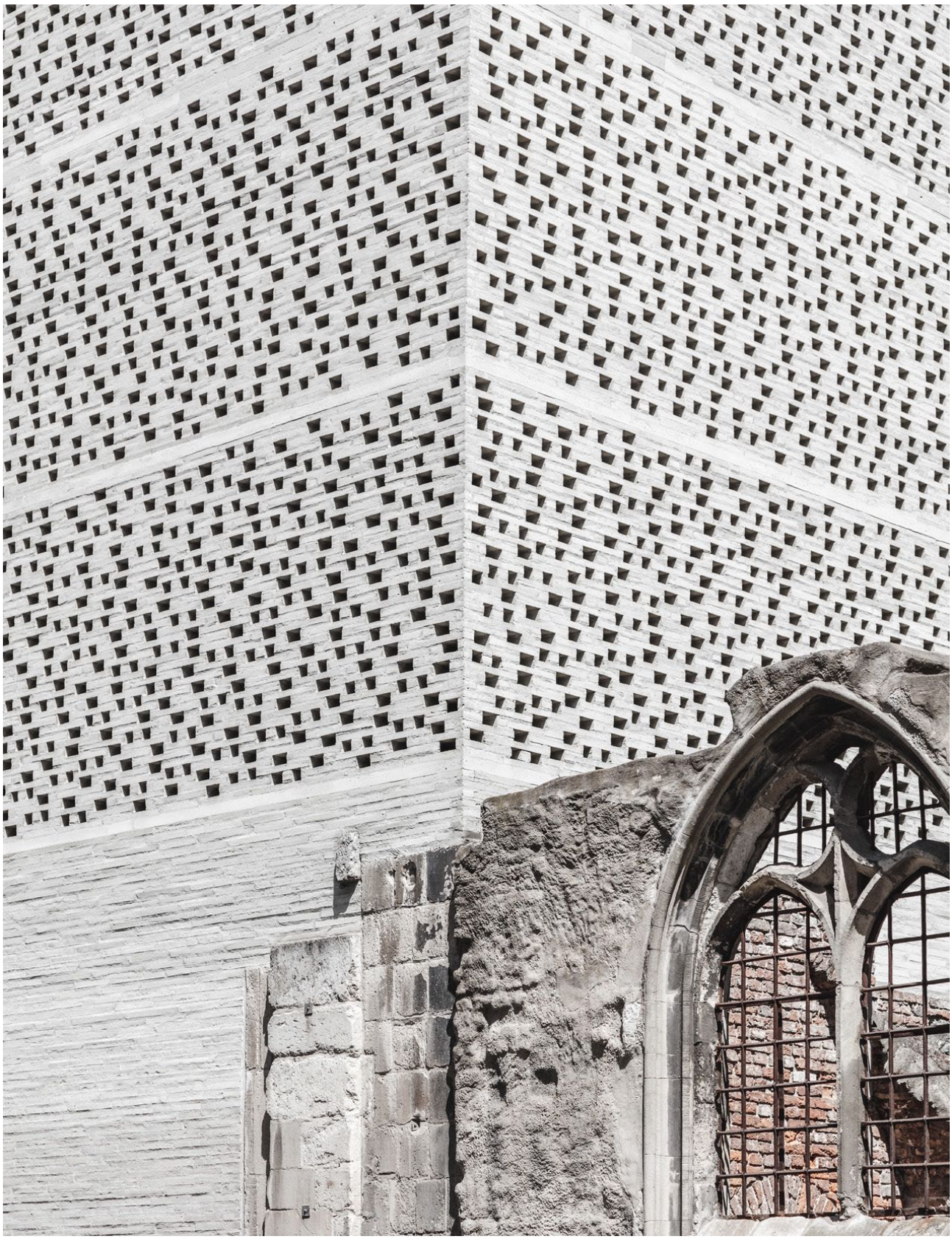
"When I raise my arm, what is left over if I subtract the fact that my arm goes up from the fact that I raise my arm?" - Ludwig Wittgenstein

"An intention is not the action but the very potential of an action."

Quoted by Mauricio Pezo & Sofia von Ellrichshausen in Naïve Intention, 2018.

2.4, The Asakusa in Tokyo by Kengo Kuma is a place where locals and guests meet through the building's functions, community living room, activity centre, kitchen and more. It is an example of cultural and social tectonics, both aesthetically and programmatically. The architectural move of stacking wooden village houses speaks of rural villages and Japanese history. Each volume is shaped according to and revealing its functional programming which binds the building together with its social context.

2.4, Asakusa by Kengo Kuma. Photo by COAST studio, Rasmus Hjortshoej.



2.5, The Kolumba Museum by Peter Zumthor and specifically the material treatment of the facade is an architectural attempt to unite and create an expression of "whole". The material choice is rooted in the detailed understanding of the tectonic characteristics of the existing ruins, sympathetically merged with the new. The intentionality of which is to create dialogue without mimicry.

2.5, Kolumba by Peter Zumthor. Photo by COAST studio, Rasmus Hjortshoej.

Looking back in time.

Transformation and Heritage.
The contemporary interest in the act of transformation, restoration and the theories behind it, was started by French architect and theorist Eugéne Viollet-le-Duc and the English art historian John Ruskin. In his role and theories, Eugéne Viollet-le-Duc has since been seen as playing the role of despoiler and vandal while John Ruskin was the protector, arguing for strict preservation and protection (Scott, F. 2007). Ruskin had a strong distaste for interventionist acts of transformation while Eugéne pioneered the more contemporary approach. He emphasised the development of an understanding and knowledge of the existing architecture before transformative work was carried out (Harlang, C. Algreen-Petersen, A. 2015). Very broadly they started the process and differentiation between transformation and restoration and brought the topic into academic and theoretical spheres.

Johannes Exner, a Danish architect and specialist in restoration and transformation, stated that architecture and buildings are historical beings and integral components of the city - they live lives as much as a citizen (Harlang, C. Algreen-Petersen, A. 2015, p. 35). Therefore the act of transformation or restoration becomes an act of rebirthing or renewal that allows the building to live a new life, infused with new meaning and intention. Salvador Munoz-Vinas, theorist and researcher in heritage conservation, encourages and argues for "Common sense, gentle decisions and sensible readings," (Munoz, S. 2012) when conduction transformative architecture. Measures should be taken to ensure that a building's qualities and values are maximised to the users of the present and future with a remembrance of the past. Therefore transformative architecture becomes not only the interpretation of the physical object that already exists but an abstraction and translation of its intentions. In contemporary understanding, it is a move away from recounting a building past glory to enabling and sustaining the building as a catalyst for future opportunities.

"A large building must begin with the immeasurable, it must go through measurable conditions when it is drawn and ultimately it must be immeasurable." (Kahn, L. 1930).

A wide array of methods and approaches for transformation have been created and published attempting to generate a generalised theory and framework for the undertaking or completion of transformative architecture. They explore the building and architecture in its context, by its individual characteristics and through its formal and structural choices. The theories deal with concepts of reading, archaeology and scale to provide frameworks that benefit transformative architectural undertakings. The systematic use of scale is an attempt to understand the existing architecture as parts of a whole. The Skin-Meat-Bone theory exploring the tectonic relationship of a building. The recording, registration and cataloguing of formal, technical, historical and phenomenological qualities and intentions (Harlang, C. Algreen-Petersen, A. 2015). Are a few of the many methods that allow buildings and places to be analysed, interpreted and abstracted ultimately giving way to a new architecture.

Of course, all these methods are important in the definition and analysis of a potentially transformative project. The physical act of transformative architecture is an intervention in physical form, much the same as starting a sketch on a used piece of paper. These interventions have been broadly categorized through five actions; reparation, subtraction, reconstruction, transformation and addition (Harlang, C. Algreen-Petersen, A. 2015). They occur as a broad series of physical consequences on both the existing built world and the potential one. But transformation is not only concerned with the way buildings are restored or transformed but also the transformation of landscapes, built and unbuilt, societies and cultures. The relationship between architecture and the societies and cultures where they lie are linked together so that one cannot be observed without acknowledgement of the other. Therefore we see the greatest potential is the fusion of catalytic and tectonic architectural concepts into transformative methods so the potential is changed and adaptable to fit the present and ultimately future societies.

"to restore a building is not to preserve it, to repair, or rebuild it; it is to reinstate it in a condition of completeness that could never have existed at any given time" (Eugéne-Emmanuel Viollet-le-Duc. 1854).

"Replacement of missing parts must integrate harmoniously with the whole, but at the same time must be distinguishable from the original so that restoration does not falsify the artistic or historic evidence." (Venice Charter article 12. 1964).

There is an awareness in these quotes, of the relativity between the architecture, its expression, its intention and its meaning. Intentionality within architecture as a concept provides freedom from pure pragmatism and allows the architect, to act as the artist and propose their ideas and license. The relation with "truth" has been a constant thread in transformative theory but should that truth lie in the physical form or in the intentionality of the architecture?

We see the potential of transformation in the act of translation. It takes a basis in the analytic methods described earlier to build a language of cultural, social and physical components that comprise the building and its context. It acknowledges the presence of time and the life the building has lived in its journey from the past to the present. It requires a tectonic and catalytic understanding of the building in relation to its cultural, social and physical context. It builds a comprehensive language that must not only be understood but also interpreted in order to be translated into new physical and metaphysical phenomena that hopefully responds to future societies.

"Translation then, it is suggested by these eminent writers, is work of the highest calling, requiring creativity and inspiration equal to the writing of new verse, and so conferring considerable licence on the translator, indeed requiring considerable licence in order to avoid the dead hand of literalism." (Scott, F. 2007, p. 99).

2.6, Hotel Fouquet Barrière by Edouard Francois

Theoretical conclusion.

The exploration and research into topics of French history and society, the Olympics, Catalyst Architecture, Tectonics and Transformation have sort to construct a comprehensive base that creates a platform for our analytical and architectural exploration.

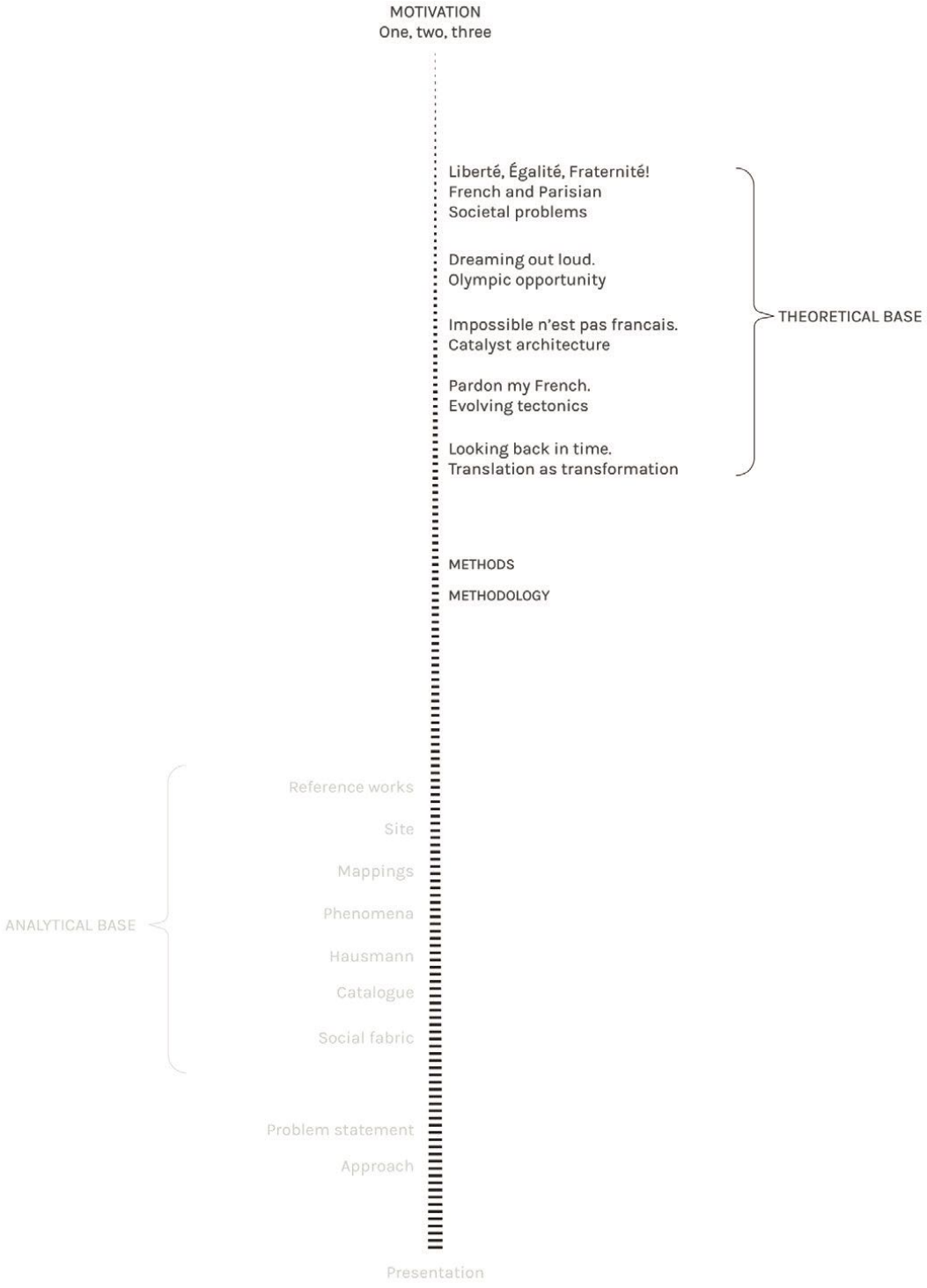
The French and Parisian society have been important actors in the development of the social, cultural and physical landscape of Europe that we know today. Moreso the French population have been an active component in deciding and shaping the landscape that has become evocative of their culture today. Contemporary French history has focused on the construction of grand projects, which signify the strength and grandeur of the country. It has forgotten and exuberated the plight of every day, perhaps aiding the growing issues of inequality, disillusionment and homelessness. Through the acknowledgement and understanding of the social fabric and issues facing Paris, exists the potential to synthesise this into an architectural method and typology that can intentionally attempt to comment, address and create a catalyst of change.

The Olympics creates an opportunity for social change but have become a financial burden many cities and countries are unwilling to take on. Throughout history, the Olympics has been used as a tool for the social and political betterment of the world. With the initiation of the Solidarity program, the possibility exists for the Olympics to take an active role in the improvement of the cities and countries that it exerts its presence upon. Our assertion is that within the goals of the Solidarity program and the financial might of the Olympics exists the potential for the creation of synergies that can be materialised architecturally into a typology. Addressing the needs of the Olympics, the city and its inhabitants.

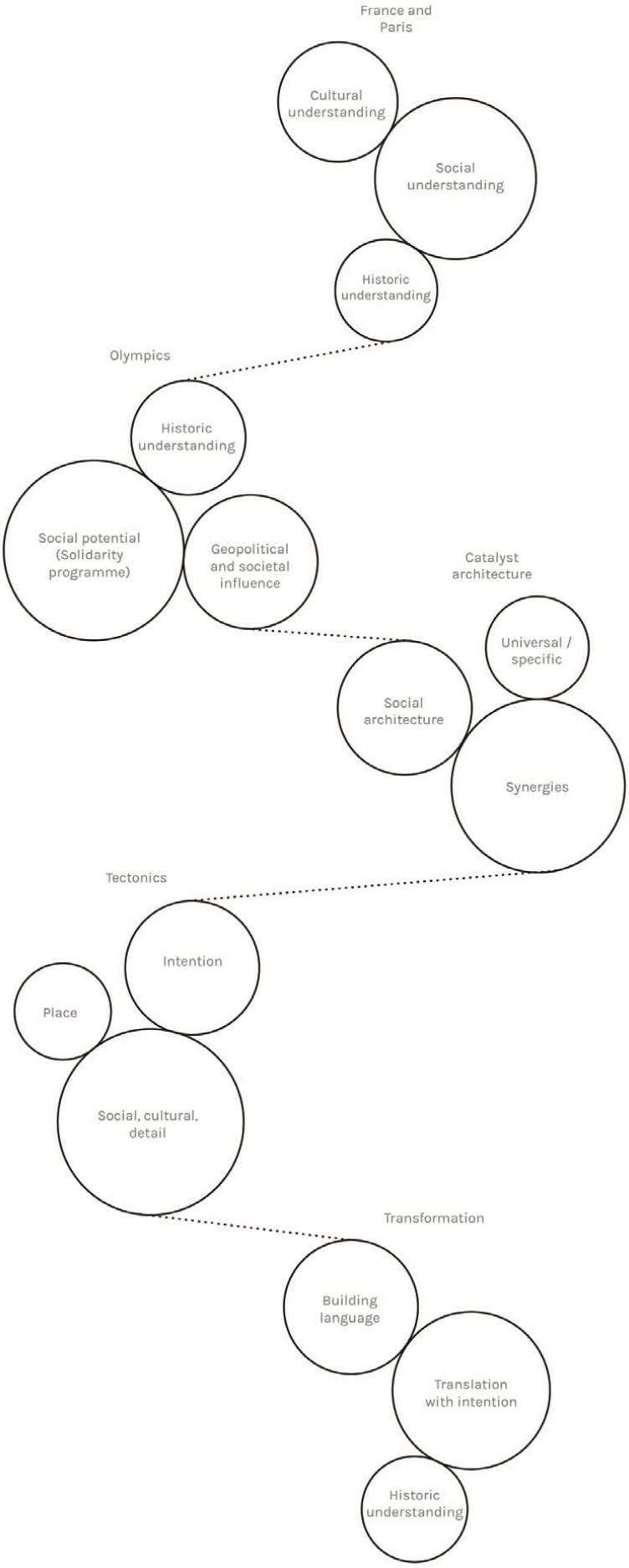
The role of architecture as an actor and catalyst creates an awareness that architecture is an inherently social act and construction. It is part of a larger social, cultural and physical context that it must address. Architecture can therefore either be a factor in the reason for a social situation or the resulting factor of one. In creating catalyst architecture one must acknowledge that it can not be either one, it must be both. It is created because or in an existing situation and should be generous enough to illustrate, expand or change the situation.

A common thread through many of the theories discussed so far is an interest in the place. Classical and contemporary tectonic theories have been primarily interested in the intersections between construction, architecture, art, materiality, fabrication and how it is understood and experienced by its users. Our interest in intentionality and subjectivity along with the idea of architecture not existing merely as an object but as an element in a larger system has lead to the exploration of the usage of tectonics as a method of understanding the wider architectural system. A piece of architecture made up of and affected by, what we proposed as, social, cultural and detail tectonics.

The act of transforming and permanently altering the physical state of the built landscape is an act that requires serious consideration and understanding. As much as a transformation can alter the physical state there lies the power to alter the metaphysical perception of a building. Transformation demands an explicit knowledge of context and relationships both physically, socially, politically, etc. to be able to intervene. By infusing the intervention with a new intention, creating relevance for the present social fabric and hopefully the future, it becomes a translation of existing intentions of the building and context across cultural, social and detail scales.



2.7, Theoretical conclusion diagram



2.8, Methodology diagram

Methodology.

A *"Methodology: is an explicit way of structuring one's thinking and actions. Methodologies contain model(s) and reflect particular perspectives of 'reality' based on a set of philosophical paradigms. A methodology should tell us what steps to take, in what order and how to perform those steps but, most importantly, the reasons 'why' those steps should be taken, in particular order." (Iasaglobal, 2019).*

The challenge of constructing a piece of ambitious and boundary-pushing architecture in the contemporary sphere of disciplinary architecture necessitates the development of a robust methodology and architectural approach. Our intention of developing a socially ambitious, culturally sensitive, tectonically responsive and atmospheric piece of architecture demands the usage of a variety of methods. The traditional scientific understanding of 'methodology' is conceivably too rigid for the architectural design process but it emphasises the importance of understanding the effect of different methods, approaches and processes on the following process and resulting piece of architecture.

Achieving a balanced depth between all the aspects; social, cultural, functional and technical within the duration of the project calls for a hierarchical understanding of the importance of each topic. Thus needing an understanding of the importance and impact of each found tool, in relation to each other. Based on design research a new understanding is formulated and the methods provided through each subject are infused with our architectural, social and cultural intention. As the theorists used are standing on the shoulders on those before them and the accumulated knowledge of that time, we also are standing on the shoulders of those before us and base our theoretical understanding on the knowledge accumulated before us as well as the subjective image of the contemporary world.

Each theoretical topic may inspire a new analytical approach and vice versa. The mix of pragmatic tools and intangible sensory and philosophical questions which are explored infuses the project with intentionality that gives each architectural choice subjective reasoning. Not once will one be able to see an architectural solution in this project which is the direct answer to an obvious question but the solution will always be infused with intention and feeling based on prior knowledge of site and theory.

Aiming to address and investigate concepts of tectonics, transformation, catalyst architecture and social sustainability requires an interdisciplinary and integrated methodological approach. The integrated design process that attempts to address the breadth of the knowledge needed to produce a well reasoned and meaningful piece of architecture has, in the author's experience, more successfully merged the worlds of architecture and engineering. Through our pre-history of projects, the method of IDP has favoured engineering over others sciences such as social, psychology, arts, history and more, that in our opinion, is critical in the creation of architecture. As the understanding of architecture and its complexity increases and concepts such as tectonics develop to look more broadly at the world, the transition from the poetry of construction to narratives, gestures, orientation, so to should the design process acknowledge and work to purposely integrate and activate these interdisciplinary fields when relevant.

Reference projects.

Neues museum restoration by David Chipperfield Architects (1993-2009).

The Neues Museum in Berlin was originally designed by Friedrich August Stüler and built between 1841 and 1859. It was partially destroyed during WW2 and in 1997 David Chipperfield Architects and Julian Harrap won the task of restoring the building (Davidchipperfield, 2019). The restoration of the Neues Museum is one of the finest examples of transformative architecture. The approach and resulting architecture showcase many of the ideas discussed and intended with transformative "translation". Each room of the building was analysed for its specific qualities and restored to best suit the qualities and the potential it presented.

The distinction between acts of restoration and addition is a crucial factor in the success of the architecture. Acts of restoration retain the original formal language but are reimagined in contemporary materials. The material palette does not attempt to blend with the old and therefore belittle the scars caused by war but rather emphasise it. The act of addition is undertaken through the same usage of the material but uses the original formal language as a source of inspiration, or we argue 'translation', for the new architecture. The shared architectural motifs and spaces created, provide the rooms with a shared identity and cohesiveness that is enthralling. The material usage aims to retain the same visual richness texturally rather than through ornamentation and intricacies.

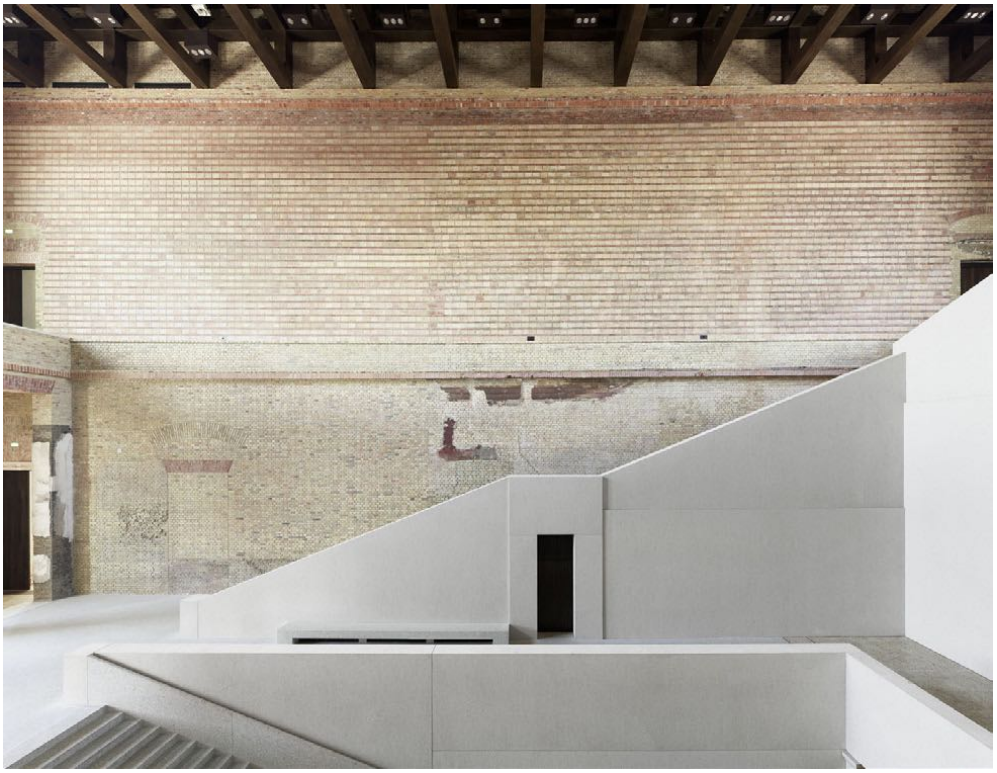
The result is a prime example of a transformation where the buildings structure, materials and details are seen in an individual and combined spatial context. It is the act of doing as little as possible with as high quality as possible, creating a sensory experience where every detail is experienced through its parts and the whole.

Centre Georges Pompidou by Renzo Piano and Richard Rogers (1971-1977).

The Centre Georges Pompidou by Renzo Piano and Richard Rogers is with its expressive programming and formal language a physical diagram showing and commenting on the diversity that it inhabits and invites.

A vast multidisciplinary structure that hosts an array of functions; art, design, literature, music and cinema to mention a few. Built between 1971 and 1977 the work was ahead of its time showcasing the transparency and flexibility of contemporary cultural institutions (Rpbw, 2019.) The exposure and treatment of the structure as an exoskeleton enables each floor plane to be totally flexible and open for whatever program it might host. This has enabled the building despite its obvious constructional limitations to stay relevant for the past 40 years. Despite the inherent flexibility of the structural system the interior interventions, created from gallery to gallery, indicate the need, during the usage of the building, for specific functions and rooms to be created architecturally. The disconnect between the specific elements and the overall architecture disrupts the internal experience and cohesiveness of the building.

The Centre Georges Pompidou is an example of how an otherwise spaceship-like structure can be welcomed in the proud architectural realms of Paris. How a building is not only its visual feature but that architecture is in fact defined by the human interaction with the physical world. Working within a context with such a defined and celebrated appearance, the Pompidou centre exists as a vital example of how a piece of contrasting architecture can become accepted and be taken ownership of.



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2.9, Neues museum restoration by David Chipperfield Architects. Photo by Jörg von Bruchhausen
2.10, Centre Georges Pompidou by Renzo Piano and Richard Rogers

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2.11, New Horizon Youth Centre by Adam Kahn Architects. Photo by Ioana Marinescu
2.12, Le Centquatre, Centre of Artistic Creation by Atelier Novembre. Photo by Atelier Novembre

New Horizon Youth Centre by Adam Kahn Architects (2007-2012).

The New Horizon Youth Centre is a fine example of architecture working with a social intention within a sensitive and heritage environment. Architecturally the project can be classified as an addition and extension of the existing listed building. The distinct features of the original building are used as a starting point and source of influence on the choices of the project (adamkahn, 2019). The most obvious and successful element of the project is the contemporary interpretation of the roof. The subtle twisting and deformation of the roof provide an interesting take that adds character and intrigue to an otherwise sober expression. The material, fenestration usage and base enhance the roof and define it as the main visual and aesthetic element.

As the other projects studied the New Horizon Youth Centre can be considered mono-functional, purely consisting of one function, in this case, the youth centre and the social and support functions that are a component of it. The project gives insight into the functionality and types of spaces that are beneficial and appropriate for the design of social architecture. The interior usage of materials and detailing of door handles, railings and staircase speak of a sympathetic understanding of the environment that is created. It gives a social and playful character to rooms that surely benefit from it.

The project provides important lessons in the creation of a social and youthful piece of architecture without typical symbology involved. It showcases a sympathetic understanding of not only its users but also the context and heritage that is located within.

Le Centquatre, Centre of Artistic Creation by Atelier Novembre (2008-2012).

104paris is the transformation of a former funeral home into an artistic and cultural centre addressing the breadth and multitude of the Parisian art, theatre, performance and dance scenes. It showcases a new open-platform approach to cultural architecture, that places the users as the driving force for the energy and life of the building (novembre-architecture, 2019). 104paris is the least mono-functional of the projects studied but none the less still primarily caters to the artistic and performance community.

The approach taken by Atelier Novembre pares back the original architecture to its core elements and characteristics. New contemporary elements have been added that enable the desired programmatic life of the project to function. The acts of addition, similarly, did not attempt to mimic the existing architecture but rather use it as a source of inspiration and introduce elements that complement and make the user more aware of the existing architecture. The original industrial character has been explored and promoted to allow for the high levels of activity that were desired. It works to create an atmosphere that encourages people to be active and make use of the spaces offered to them.

The interior architecture is both an example of how thoughtful transformation can be infused with an intention lending to desired functionally of the spaces and a lesson in the creation of sequences and the balance between programmed and unprogrammed spaces. The material usage and detailing invite people to inhabit the spaces and give them their own meaning and use.

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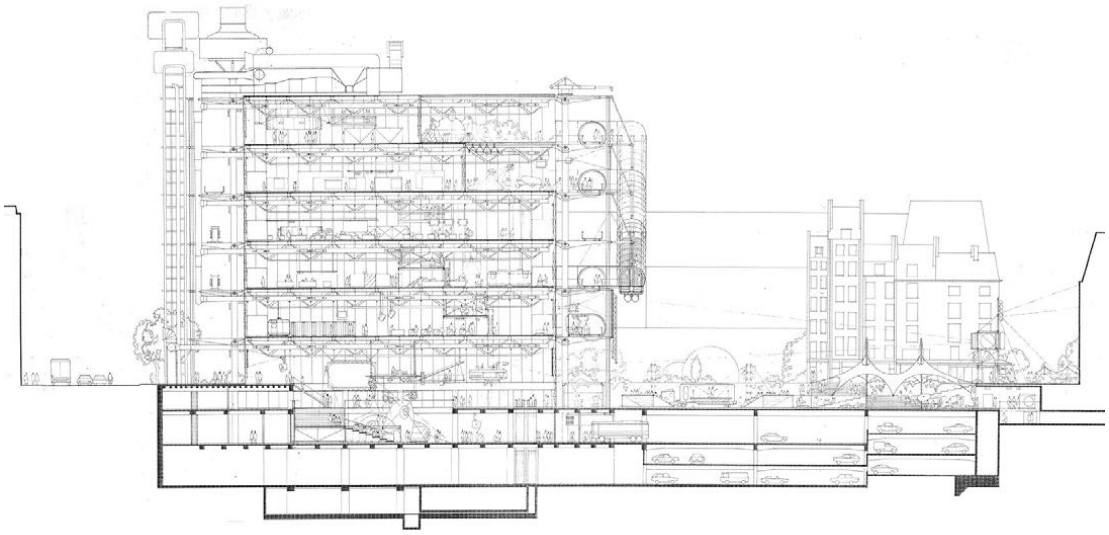
2.13 - 2.20, Centre Georges Pompidou by Renzo Piano and Richard Rogers
2.21-2.28, Le Centquatre, Centre of Artistic Creation by Atelier Novembre



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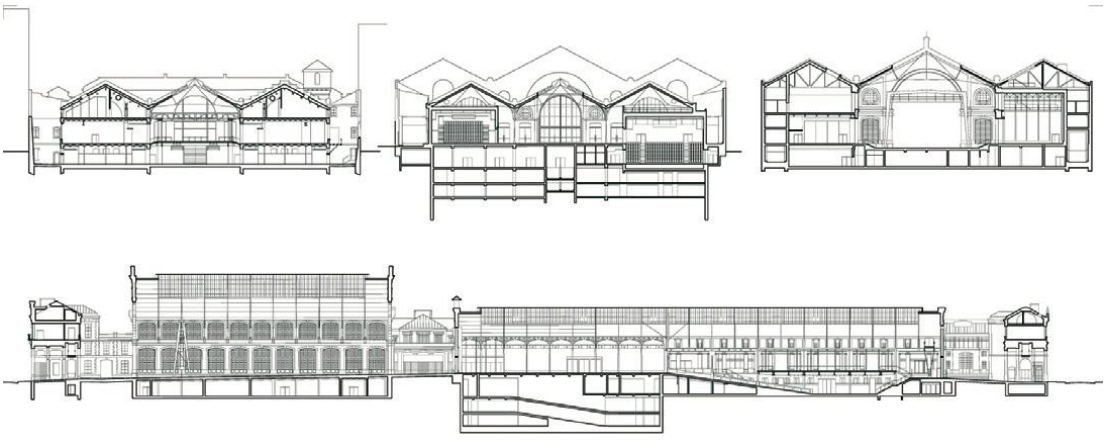

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2.29, Centre Georges Pompidou by Renzo Piano and Richard Rogers
2.30, Le Centquatre, Centre of Artistic Creation by Atelier Novembre

3.1, Paris plan, scale 1:25000

A look inside.

Résevoir de Passy, 16th arrondissement, Paris. Throughout Europe, discarded and abandoned sites increasingly form the backdrop of urban cities. Sites such as the Passy Réservoirs form a unique setting, acting as a physical and metaphorical link between the past, present and future. Linking together the architecture of the past with that of tomorrow and feeding into the tacit knowledge of the social city of Paris.

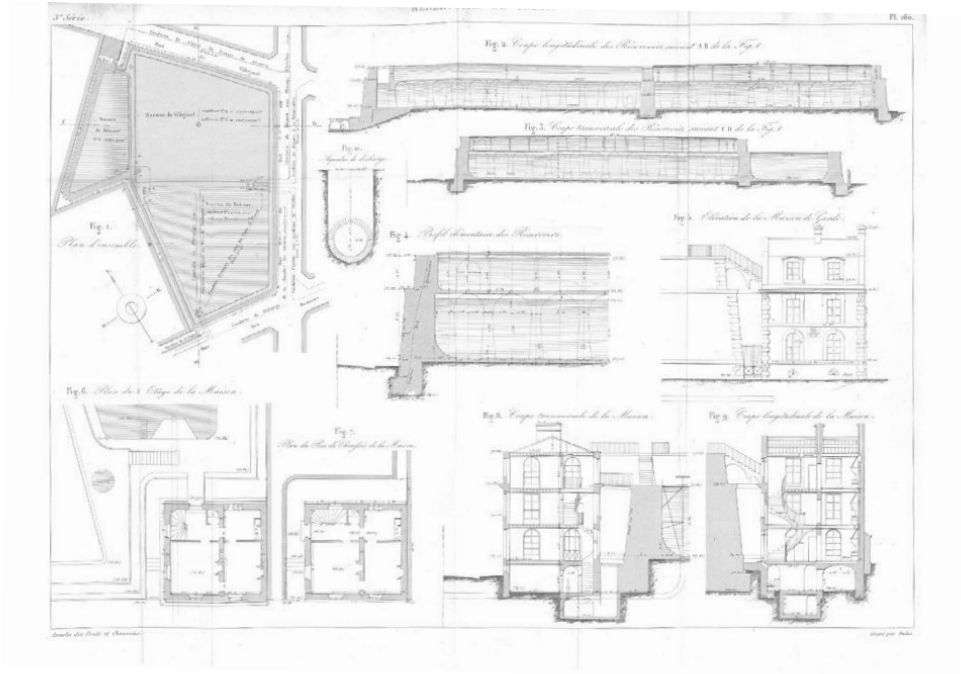
The Passy Réservoirs, built around 1850 as a water reservoir for the non-potable water supply of Paris, is a unique structure breaking the otherwise homogeneous 1800-hundreds Parisian urban fabric. A massive structure, of slanted and deteriorated limestone, raising ten meters above street level disrupts the urban experience and landscape.

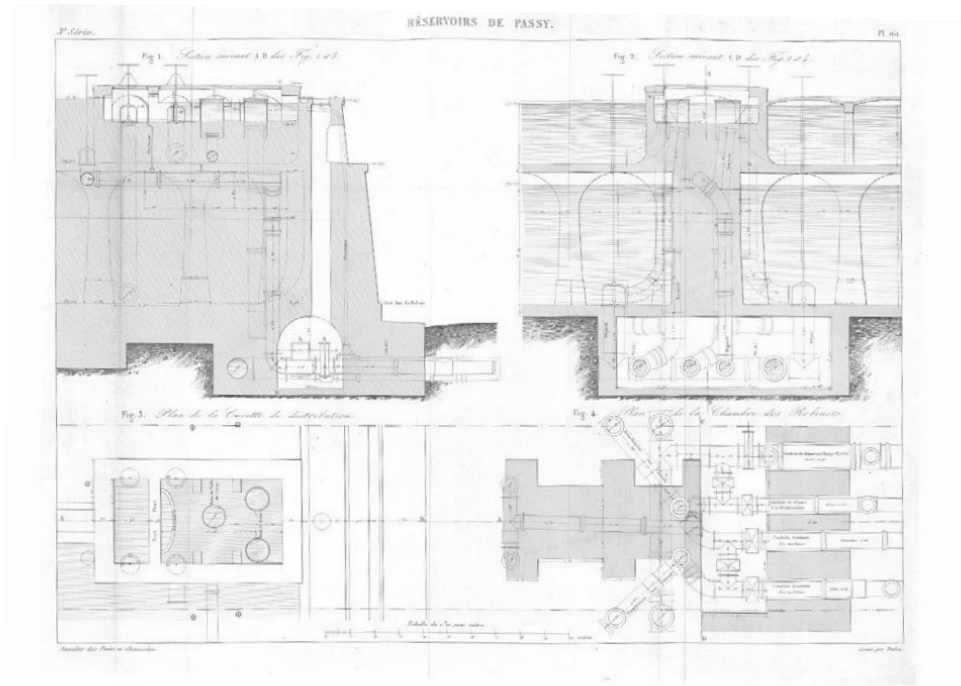
The site is chosen for its unrecognised potential. It exists as an oddity and an opportunity to disrupt the social and cultural uniformity of an increasingly rich city centre. And for its potential to create a history-bound piece of contemporary social and cultural architecture. An opportunity to create phenomena and journeys that invite all walks of life to dive into a part of their history and through the transformation of the existing structure, glimpse the future.

The Passy Réservoirs has the potential to become the glue that binds together historic Paris with the yet unknown future. Pointing back towards a time in French history where the country and especially the city of Paris' physical appearance changed rapidly along with the cultural, social and political foundation of the time (Hvidt, K. 2004). The site could yet again through proper revitalisation become relevant as a comment and catalyst for the change happening in Europe. The change manifesting itself in Paris at this very time as a series of demonstrations caused by rising economic and political segregation.

The Passy Réservoirs informs an architectural response which, by its oddity, thrives in being caught in limbo. A platform to create, to evolve and to promote change socially and physically for everyone. The site is by pure function a response to an essential need of its time and now has the opportunity to gain relevance again.

3.2, The Passy Réservoirs seen from east





3.3

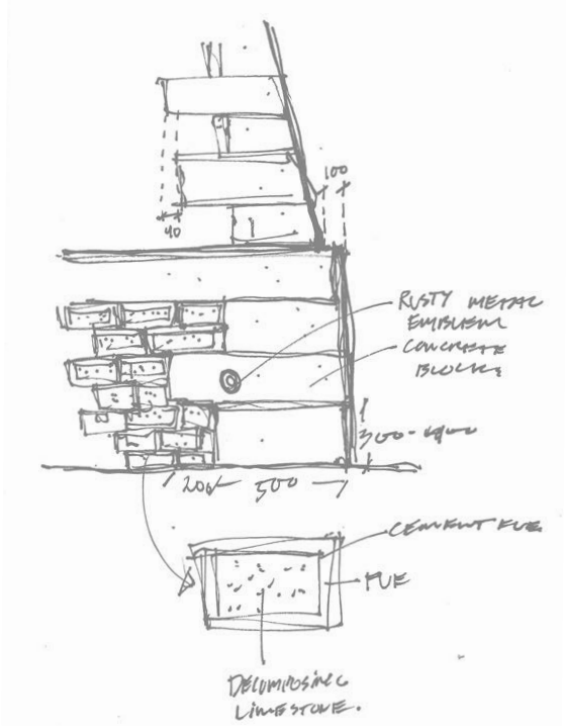
3.3, Original plan and section drawings by Par M. Rozat De Mandres, 1859

History of the Passy Réservoirs.
The Passy Réservoirs was built between 1858 and 1866 as a water reservoir for the non-drinkable water supply in Paris. Their purpose was to water parks, clean streets and put out fires and two out of four basins remain in use today (Reinventer, 2019). It is a physical link to the time when Georges Eugene Haussmann re-aligned the city to its star-shaped grid. It acts as a functioning ruin that through time has deteriorated but remained true to its purpose and function.

The site covers a total of approximately 13000 square meters covered mostly by a four-meter squared grid of vaulted space in one to two levels. The basins are raised ten meters above street level allowing for a gravity fed water supply to the city. The reservoir walls are made of burrstone which grandiosity and scale make the true purpose of the site invisible for the everyday bypasser. A unique feature which emphasises the duality between the two contrasting voids; the vaulted space underneath the reservoirs and the open space above.

The Villejust basin situated farthest to the northeast is comprised of two levels and has for the past years been fully decommissioned and emptied of water. It has a surface area of 3000 square meters and the vaulted compartments are roughly 17000 cubic meters. The concrete cover which void creates the second level has an extremely low load-bearing capacity of 100kg pr. meters squared so in order to build on this specific part of the site the cover must either be removed or reinforced.

The Villejust basin has formerly been part of a competition for the reinvention of Paris but only focusing on the vaulted space underneath due to its extraordinary structure (Reinventer, 2019). But we think its true potential lies in the activation of not only the vaulted space but the extraordinary urban situation found in the basins and green cover.



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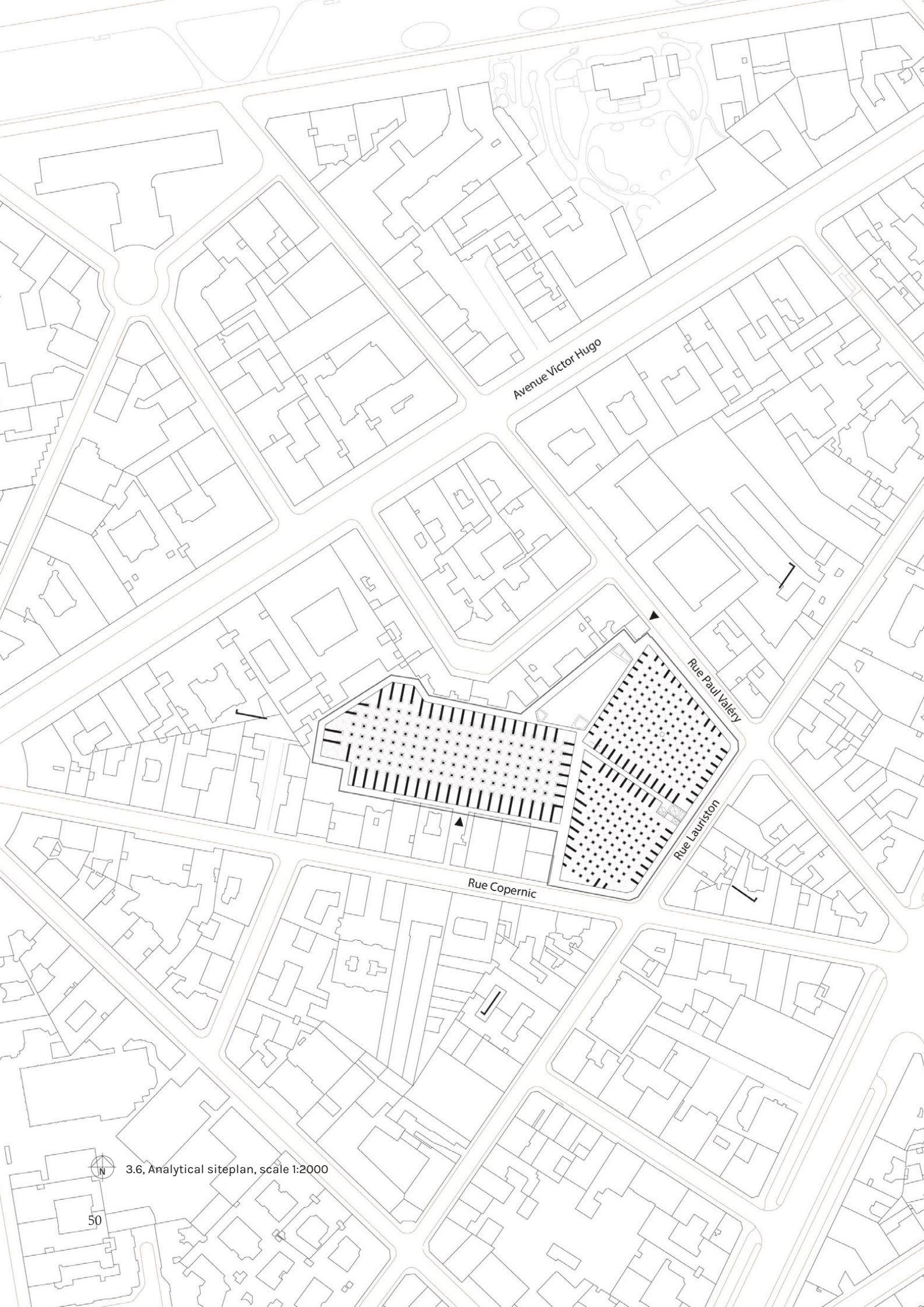
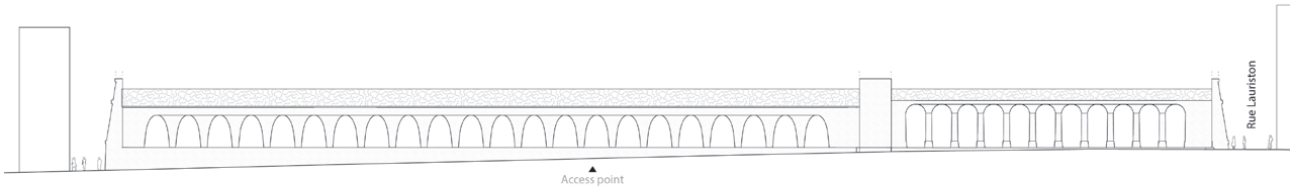
3.4, *Wall analysis sketch*

3.5, The Passy Réservoirs seen from the corner of Rue Lauriston and Rue Paul Valéry

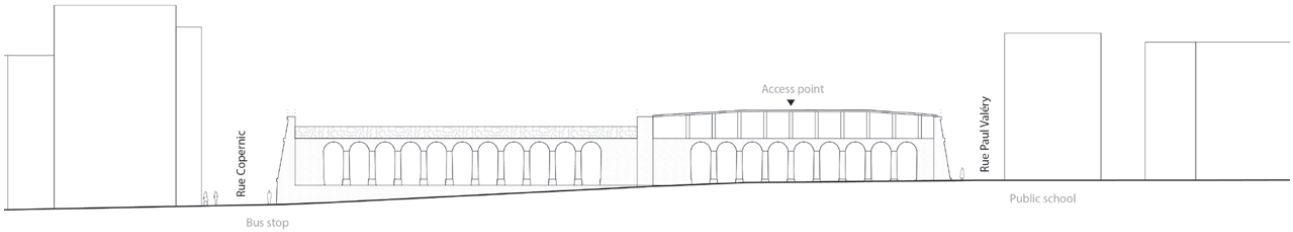

RESTAURANT
富城
MANDARIN
DE
PARIS
RUE
PAUL VALERY
RUE
LAURISTON
CN-310-KY



3.6, Analytical siteplan, scale 1:2000



3.7, Analytical cross section A to A, scale 1:2000



3.8, Analytical cross section B to B, scale 1:2000

Scale.
The drawings indicate the extent to which the Passy Réservoirs exists disconnected from the otherwise homogeneous Parisian urban landscape. The walls extend ten meters from the ground, disconnecting the functional purpose of the reservoirs from the street and the eye of the passer-by. The sections reveal the grandiose nature and volume of the vaulted rooms, far exceeding the human scale. The scale and strong phenomenological nature of the rooms, speak towards intervention and programming that underlies and benefits from these characteristics as much as possible.

As seen on the plan there are presently only two official entrances to the Réservoirs. Either hidden behind buildings or still used for the functioning Bassin Copernic, they don't serve to have the capabilities to serve as future entrances to our project. When studying the plan layout of the three largest basins it becomes clear that they were built in two different times. Furthest to the west the grandest Bassin Copernic as the first where the columns are constructed of massive stone columns, and the ones to the east where the columns are large concrete columns.

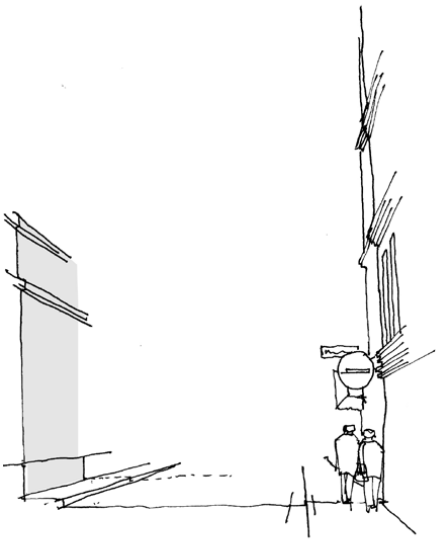
Je Ne Sais Quoi.

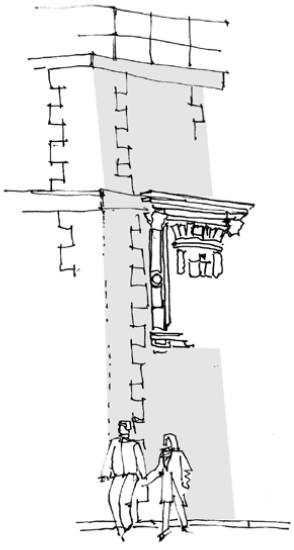
The following analysis is rooted in both experiences and analysis undertaken, immersed and removed from the physical location of the site, place and context. Conducting design research and analysis both in and away from the site allowed for the benefits of distance and scale to clarify and distil the most important characteristics. The analysis made following site visits allowed for a more pragmatic investigation of what created the atmosphere and feeling of place. While investigations on site allowed for those atmospheres and feelings to be fully developed and experienced.

Design research and the creation of a solid foundation of the cultural and historical backdrop of Paris and France were crucial in maximising the depth of analysis that was able to be reached of the Passy Réservoirs and its surrounding context. The development of theories and methods, carried out earlier, on topics of tectonics, catalytic architecture and transformative architecture informed the way in which the analysis and registration of the Passy Réservoirs were undertaken. The usage of scale was a deliberate tool allowing for both the "whole" and the "parts" which comprise the site, to be registered, catalogued, deconstructed and analysed.

Mappings and statistics to experience the context around the site is one thing. But experiencing the city, through all arrondissements from sidewalk to metro to corner café proved to be key in our understanding of Paris.

4.1, Photo of gap between the Passy Réservoir and context





4.2, Relations to the Passy Réservoir wall

"In the morning the streets are free from chatter. Only hasty feet in fancy shoes and rumbling cars to be heard. For the next hours, only workers and the occasional short cutter passes by the Passy Reservoirs.
No one seems to notice its grand monolithic walls. At lunch, diplomats in suits, kebab-venders and carpenters alike flock to the street. At every corner, they meet. At the baker, the grocer, the café. Waiting to be fed before work calls yet again.
For a brief moment, the streets are buzzing. A reservoir the size of a city block squeezed in between avenues, unlike anything I've ever seen - but no one knows.
A secret."

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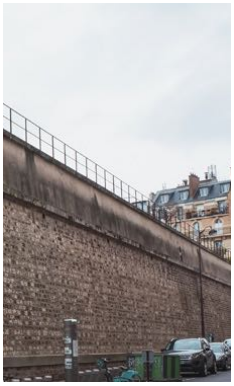

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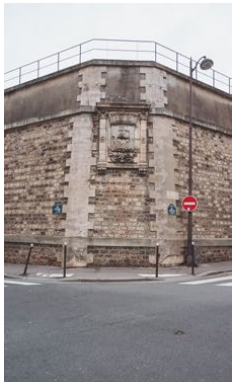

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4.3 - 4.5, 4.9 - 4.11, Site photos from the Passy Réservoir. Photos by Jacques Leroy for Reinventer Paris
4.6-4.8, Site photos

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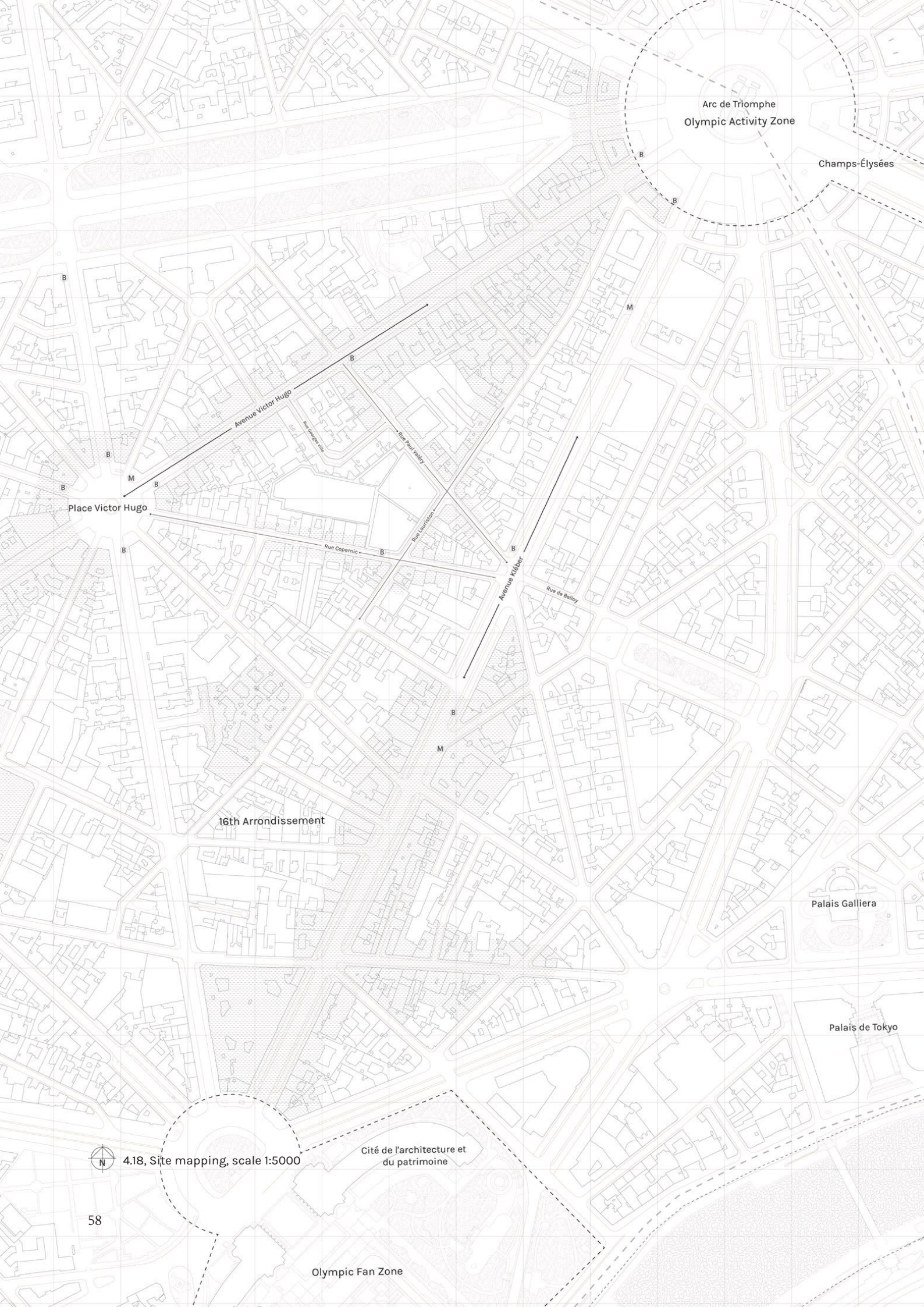
Site characteristics.
The site is characterised through three distinct settings. One is the street level next to the grand wall of the Passy Réservoir. Another is the landscape above and last is the vaulted space underneath. The vaulted space underneath is overwhelming and grandeur, comprised of six-meter tall concrete columns with a footprint of 1.5m by 1.5m in a four-meter grid. Sounds are bounced around the concave shapes and hard surfaces and the echo produced gives an idea of the vastness of the space.

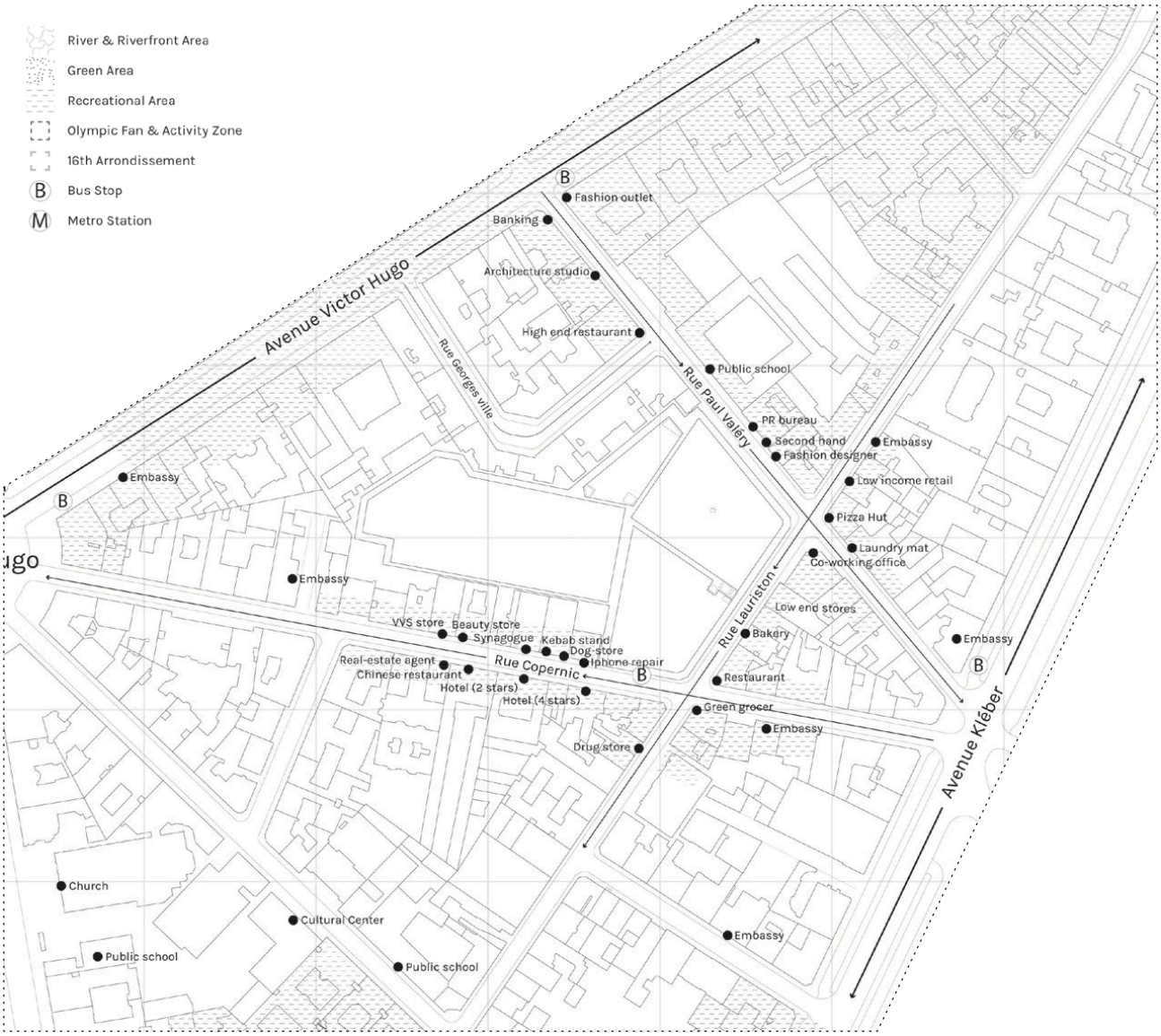
From the top of the reservoirs, it is possible to experience two still functioning water reservoirs and two decommissioned. A grass covered lid sheath one of the decommissioned reservoirs while the other is left open. The two still in function are a resting place for migrating birds and a pleasant visual break in the dense urban city for its close neighbours.

When experiencing the wall from street level its scale is hard to comprehend. Long horizontal lines without any rest are the first expression. But looking closer one experiences the richness of the deteriorated limestone left alone since the mid-1800s. Almost as porous as a sponge, it creates a negative of the original expression as the grout become the lasting and foremost element.

4.12 - 4.17, Photo closeup of wall and detoriation of limestone



4.18, Site mapping, scale 1:5000



4.19, Site mapping, scale 1:3000

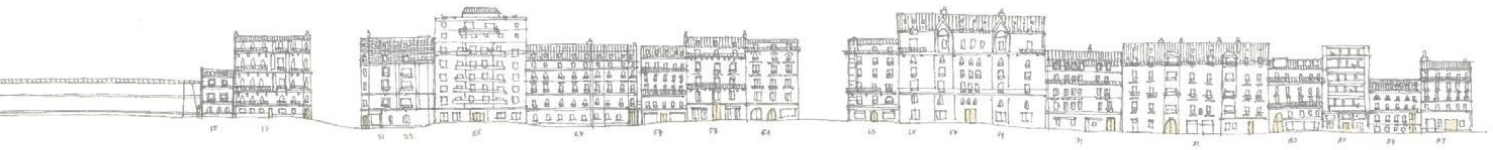
Mappings.

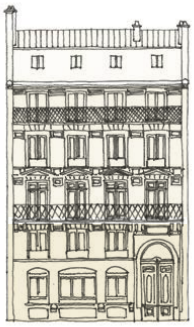
The 16th arrondissement of Paris exhibits a unique and divided urban situation. It is at the same time an area of wealth, tourism and cultural interest and of labour and daily routines. The major avenues carved into the urban landscape host a variety of high-end shops and cultural institutions but hidden on the interior roads is all the functions of a city, from grocer to locksmith and laundromat. The division is a representation between the many identities that exist of Paris. It gives space to all the nationalities and cultures of Paris but illustrates that they are always segregated. It is as if Paris is pieced together from multiple cities that operate as their own ecosystem without an apparent synergy or exchange between them.

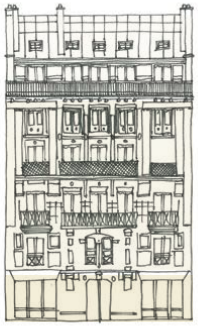
4.20, Mapping of the contextual streets

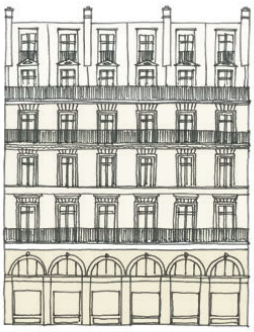
Rue Paul Valéry

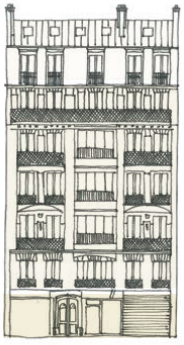
Avenue Victor Hugo





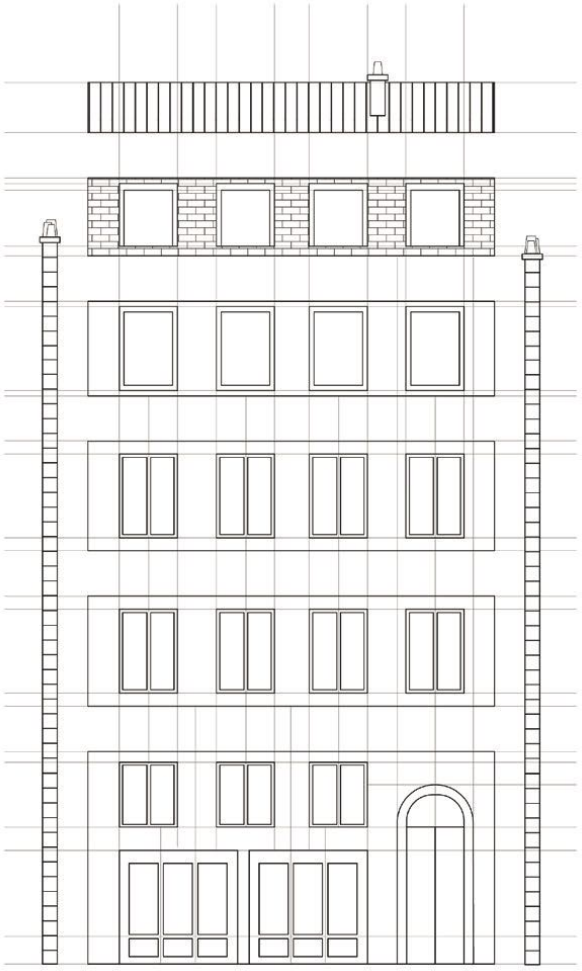






4.21

4.21, Analysis of the typical Parisian facade scale and rythm



4.22

The Haussmann facade.
The renovation and rejuvenation of Paris's urban landscape undertaken in the 1850s by Georges Eugéne Haussmann have become iconic and characteristics for the image of the city. The archetypal Haussmann facade is divided into three layers, the base consisting of a shop and living quarters for the shop keeper, the body consisting of finer residential apartments and the head consisting of living quarters for servants and lower-class citizens. Architecturally the most distinct features of the facades are the layered effect and the treatment of facades as a unified system. The layered facades combined with an upwards graduating decreasing ornamentation and scale produce a hierarchy in the facade. The hierarchy and programming work to promote a rich human experience, an active street level and bustling street life.

4.22, Breaking down the key elements of the Parisian facade

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4.23 - 4.38, Doors of the near context

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4.39 - 4.54, Door handles of the near context

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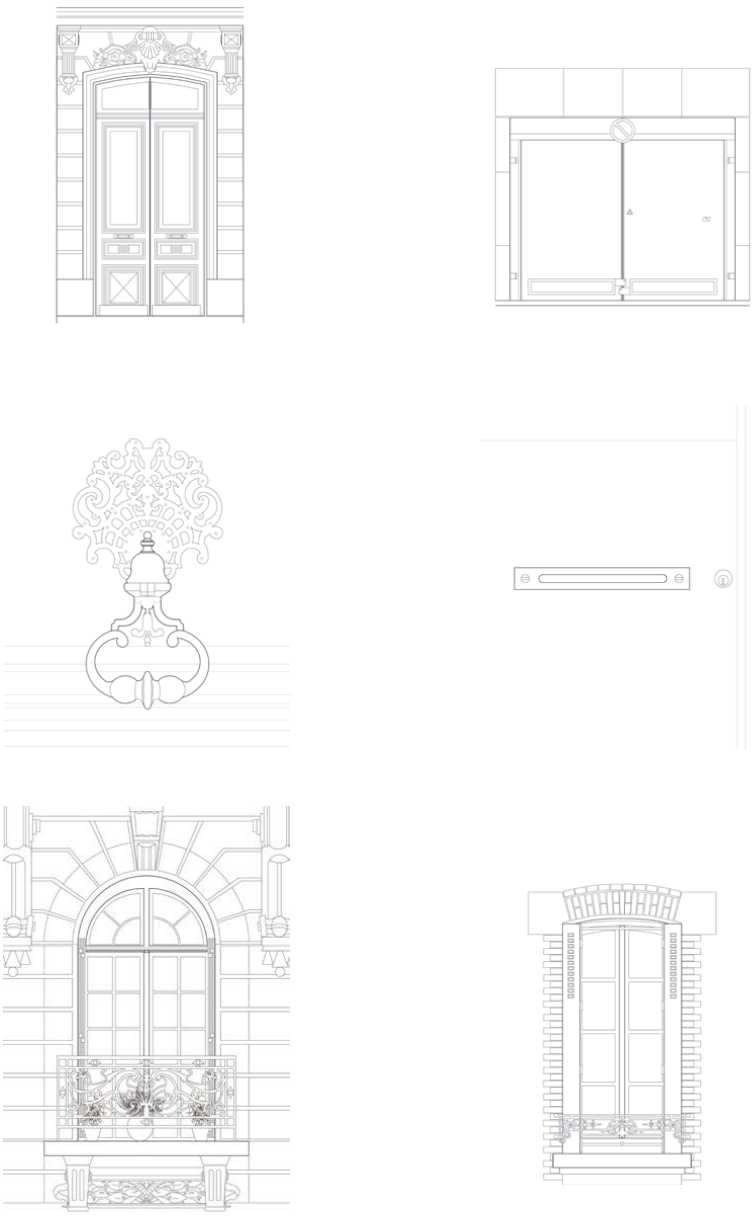
4.55 - 4.70, Windows of the near context



4.71

Semiotics & detail.
The systematic photographic registration of the details found in the surrounding context is an attempt to capture the detail and semiotics scale influences that give a place its identity and characteristics. The focus on doors, handles and windows as subjects makes it possible to illustrate the treatment of the elements regardless of their functional, programmatic or class context. It allows for recurring elements, treatment of material, ornamentation, depth and lighting to be discovered and their impact on the reading of the place to be visualised and understood.

The production of line drawings was undertaken to gain a more thorough understanding of the intricacies of each detail and document the range from ornate to industrial. The symbols and elements explored in the drawings are iconic and representative for Parisian and the site. A number of further details were documented and are shown in the appendix.

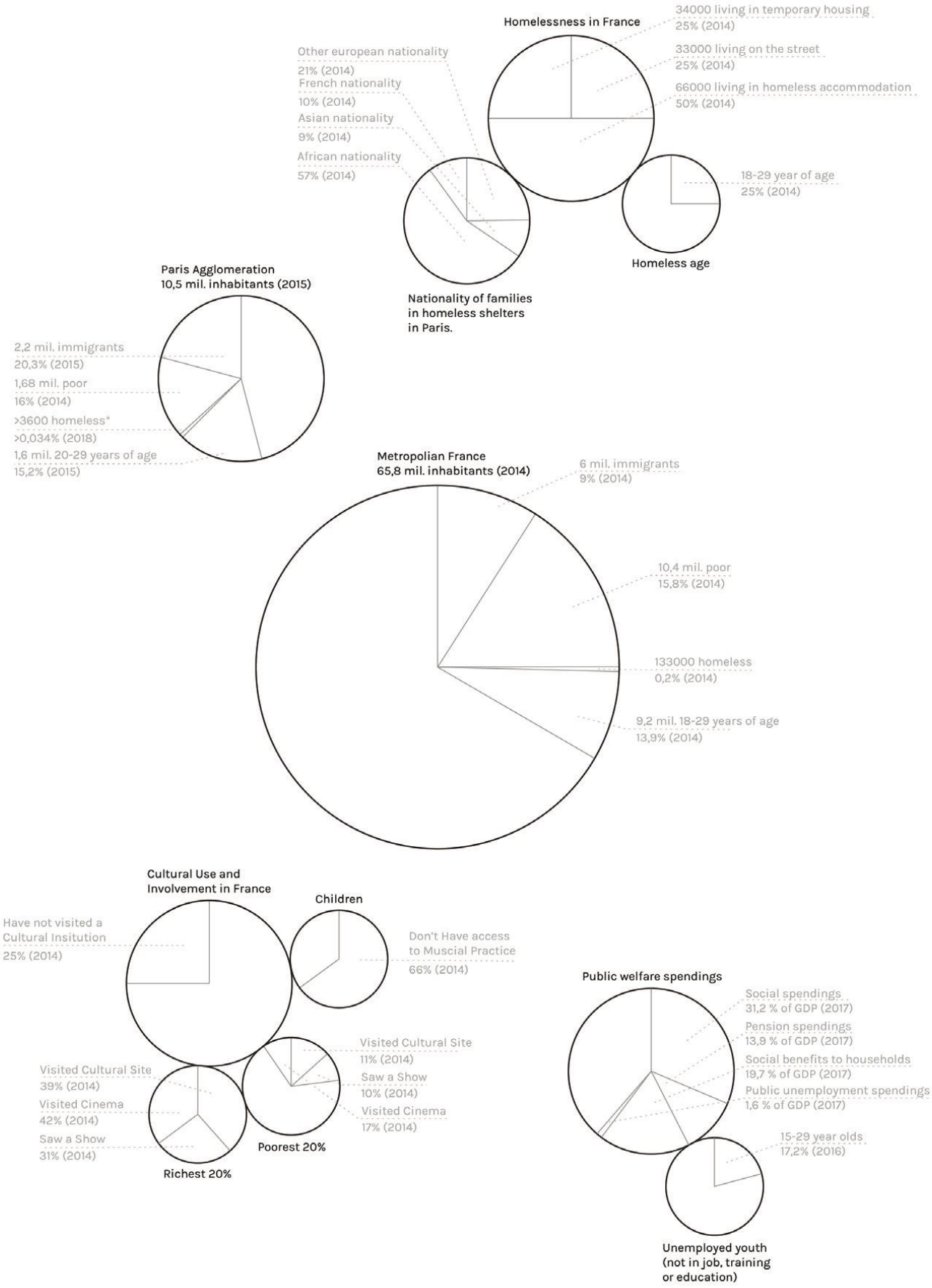
4.71, Comparative drawings of contextual details

The social fabric of Paris.
Paris is a growing metropolis of multiple nationalities, cultures, religions, ages and financial situations. As in most of Europe, the city centre is becoming increasingly expensive and with square meter prices ranging between 9000 - 12000 Euro in the centre areas (statistica, 2019). Leading to the population becoming increasingly segregated. Lower income people, of whom single women, youth and foreigners are over-represented (insee, 2019), are then forced to gather in suburban ghettos. This creates worsening segregation between rich and poor which is visible in the streets of Paris.

Through visiting the many arrondissements of Paris the segregation became as visible and conflicting as the transition from classical Art Nouveau streets to contemporary financial districts. Walking in the touristy city centre one becomes blissfully unaware of the realities. Only a few awakenings occur when homeless or Romans camped in the middle of the sidewalk forces you to either make eye contact or look away. Most choose the latter. When diverging from the touristy spots something happens to the diversity of people. Walking from Le Centre Pompidou along Rue Saint-Denis, where high-end fashion is mixed with small cellphone boutiques and money transfer shops, or sitting on the grand steps at the Palais de Tokyo, now filled with graffiti, watching skaters unfold their talent. Here the true diversity of Paris is present, and all walks of life are represented in a tangle of people, culture and architecture.

Visiting the 16th to 18th arrondissements visualises that the nationalities and cultures of Paris are segregated from arrondissement to arrondissement. It is as if Paris is pieced together from multiple cities that operate as their own ecosystem and there is no apparent synergy or energy exchange between them. A project such as Le Centquatre addresses just this and creates space for people to energise from the presence of others through artistic self-realisation. But the functional programme is monotone in its relation to the diversity of people. It addresses a very specific type of strongly independent and self-aware artistic person.

Paris is a city of opportunities, but opportunities for a select few. A city of diversity in every possible sense, but still strongly segregated. Can the multitude of opportunity and the difference of people be seen as a quality? Positive synergies between interests, hobbies, sports and necessities have the possibility of creating new opportunities, new friendships and decreased segregation. A better common platform and typology to learn and to grow as a person and as a community. By selecting functions that cater to a wide array of people, but with the common denominator that they must either: Create social energy which through synergies with other functions creates a "one plus one equals three" situation. Or create meetings where the differences between people and the hardships that some experience can further the idea of people as a diverse group but all with equal worth.



4.72, Social fabric of Paris

Data gathered from: insee.fr, feantsa.org, citypopulation.de, paris.fr, data.oecd.org, granddebatculture.fr

Analytical conclusion.

Based on the foundation nested in our theoretical and thematic studies it has become possible to create a focused analysis of the site and the Parisian context, both physically, socially and culturally.

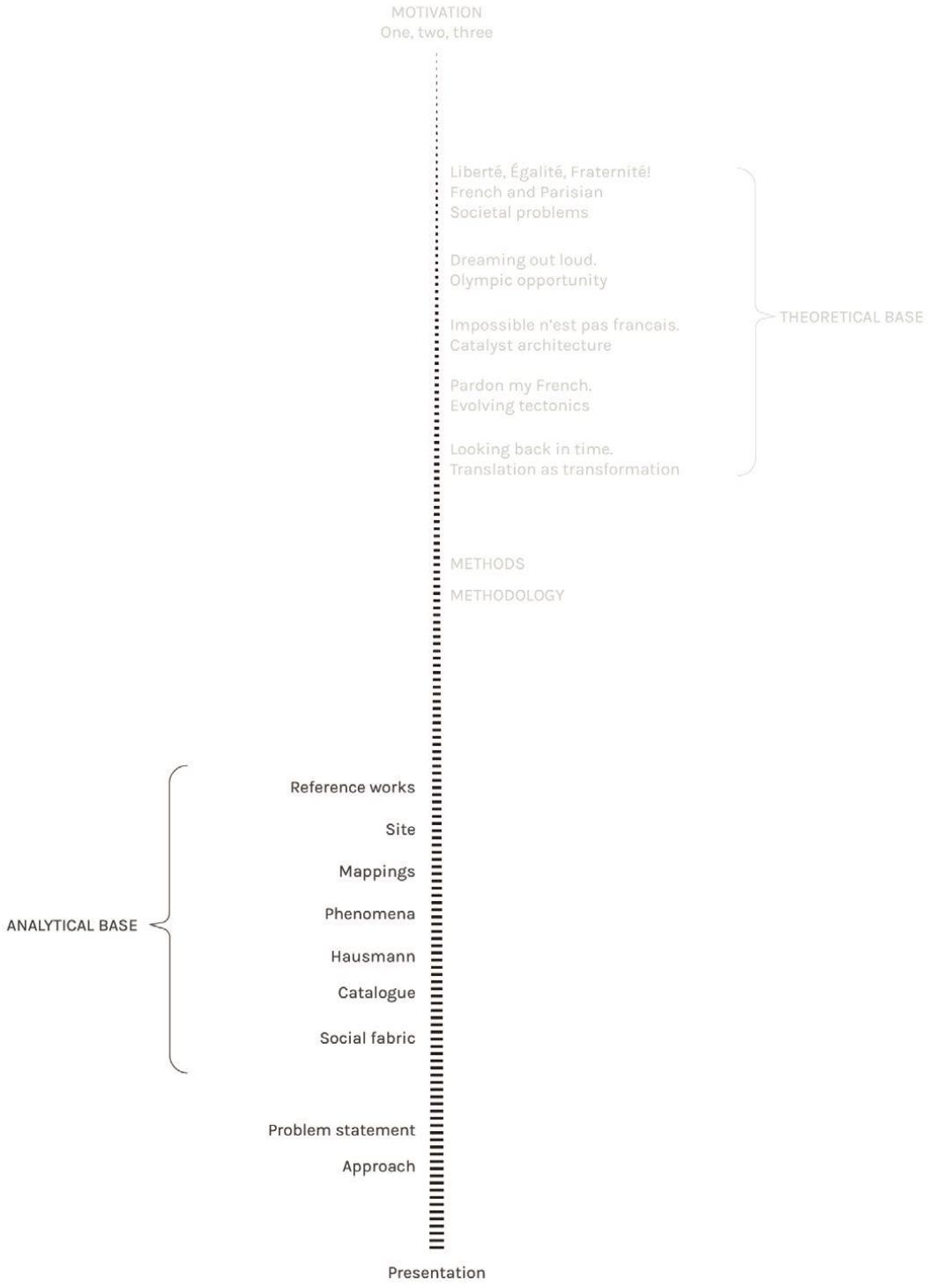
Zooming out and looking at the site on a larger scale informs us of the level of oddity the Passy Réservoir provides in its context. The large slanted walls and its non-relation to the contextual heights provides a unique setting. By its mere presence, it is breaking its contextual "rules" and requires a response that translates this setting into something new. A physical disruption. At the same time, Paris experiences a huge amount of social instability and inequality, which makes the city increasingly segregated. Maybe this physical disruption can also be one of disrupting the social and cultural uniformity of an increasingly rich city centre.

With a scale far exceeding that of human proportions it becomes relevant to think about the Passy Réservoir as three separate settings. One at street level where the heaviness of the walls makes you walk on the opposite sidewalk. A second one above where a landscape of greenery and water unfolds as if cut into the neighbouring buildings. A third underneath in the inaccessible vaulted space stretching hundreds of meters into the dark.
To tie these experiences together and give generously space above and underneath back to the residents of Paris becomes a crucial task.

The context is a social and cultural setting fluctuating between low-income shopping, public school and embassies. A setting that is unique in a Parisian context where arrondissements function as individual city blocks. Each with their own ecosystem and without apparent synergy or visible distinction. By looking into the social fabric of Paris it is perhaps possible to synthesise which user groups and which functions are important to create a catalytic piece of architecture.

The facades of Paris have a language of its own. Down to the very door handle, the differentiating facades become cultural symbols of wealth or absence. But a certain typology and rhythm characterised by the Haussmann area are overly present in the context of the Passy Réservoir. This facade typology references a certain time and state of mind in Parisian history. A history that must be recognised but also translated with new intention into a symbol that reflects the current and future values of the Parisian people.

Our theoretical and analytical studies show that Paris is a city of problems, but also a city of opportunity. A city segregated yet overwhelmingly diverse. Groups of people that today see each other as problems could maybe be brought together and gain a new and deeper understanding of each other and ultimately themselves. Synergies between user groups and their desires, wants and needs could inform a new type of socially conscious cultural buildings.



4.73, Analytical conclusion diagram

5. Turgot's View and Map of Paris, France by Bretez


Pont
neuf

Problem statement.

How do we create a new typology of social-cultural architecture that seeks to provide a common platform for all languages, cultures, classes and backgrounds? That allows them to exist equally and in dialogue with one another. A space that allows people to reinterpret and redefine the social and cultural landscape of Paris.

How do we create a house with an active community where synergies between people and functions elevate and changes your relationship to self and others? A house that comments on the segregational problems of Paris whilst also provides a platform for these to be processed and faced.

How do we create a house that both tackles social issues and elevates its users culturally, and can these two directions overlap and thrive together?

Through an understanding of place rooted in tectonic and transformative theory, what role does architecture play in the landscape of the city? Architecture does not exist as an object but as an element of a larger system. How can tectonic and transformative theory be used to ensure the production of well-intentioned and meaningful architecture?

How can architecture be used to comment upon an existing social, cultural and physical landscape? Providing an intentionally active piece of architecture that signals a brighter future.

Approach.

The breadth and ambition functionally and programmatically of the project along with personal intentions and exploration have necessitated the development of a specific architectural approach and symbiotic methodology. The architectural approach is equally defined and governed by research, theoretical and analytical, undertaken as it is by the design, sketching and model exploration.

Theorisation of the research topics has been structured to attempt to be used to draw a specific approach and method towards architecture through the lens of tectonics, transformation, etc. for example cultural, social and detail tectonics, will inform how tectonics is used as a tool through the design process and is visible in the resulting architecture.

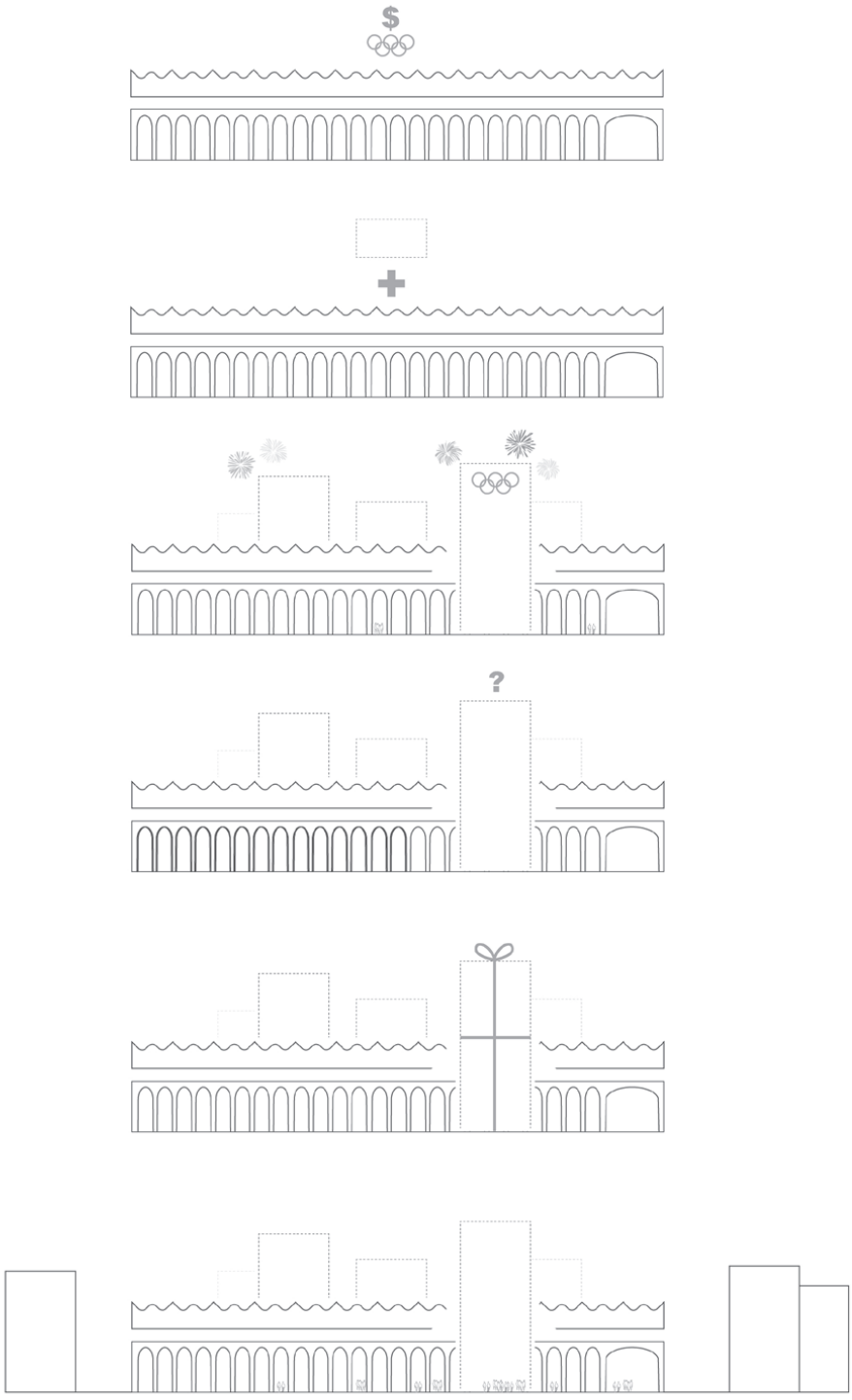
The validation of design choices will be informed by an underlying intention of creating social and cultural architectural phenomena that become platforms for addressing problems that we see within contemporary society. The project is more than just a social and cultural undertaking, the quality of the architecture and expression is paramount to the project and will attempt to push to the boundaries of how transformation and tectonics are understood as an architectural language and tool.

The desire of the Paris2024 Olympics Games to become more sustainable and the values exemplified by the Solidarity program is an opportunity for collaboration between the Olympics and cities.

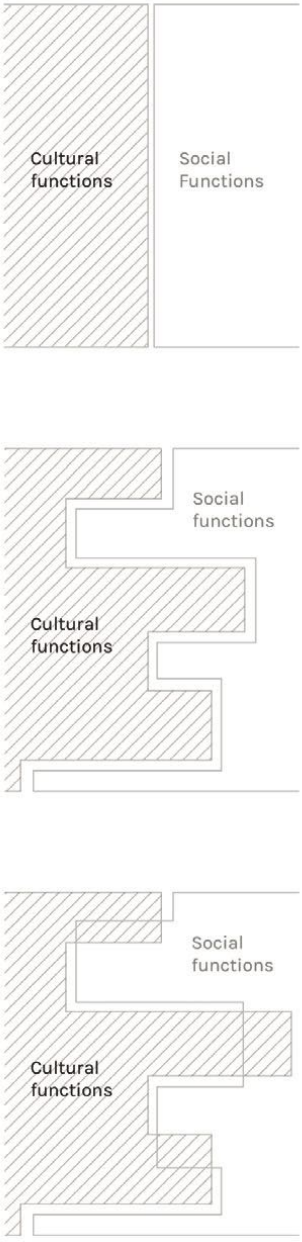
The values of the Solidarity program perfectly encapsulating the essence of the ambitions of the project. The Olympics is a mere opportunity that showcases the potential for commercial and capitalistic ventures to have a social facet and give back to the cities and people that they exist because of.

The main architectural focus will be on the long term ability for the project to meet its social and function goals. The considered introduction of programs and functionality is intended to produce synergies that further the social coherence of the city. By catering to a broad but specific group of people, throughout all layers of society, there exists the possibility to produce a situation that encourages the cross-pollination of ideas and opinions. This will be partly done through the application of a hybrid of universal and specific architecture that will allow the building to take on the story that is placed upon it. Allowing the architecture to adjust and change depending on what is asked and required of it but still nurturing specific functional qualities.

Having an existing structure and building as the base of the project and further architectural intervention requires an understanding of the qualities, values and intentions that exist within it and its surrounding context. These, we propose, can be understood through the application of tectonic theory and then used in the following design process through the transformative theory of "translation".

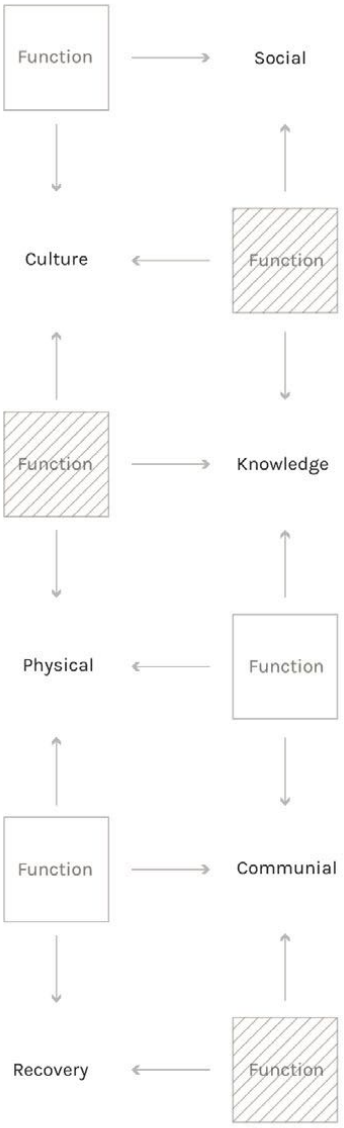


5.2, Opportunistic approach diagram



5.3

5.3, Principle for mixing functions



5.4

5.4, Principle for synergetic functions

5.5, People of Paris sketch

Usergroups.

Creating a clear definition or a specific set of user groups for a project intended to touch as broad a spectrum of people as possible proves to be a challenge and detrimental to the openness and therefore the success of the building. There is no point in trying to reduce the choice to one of age or gender. Instead looking towards labels given to certain groups by society seems like an appropriate starting point.

Certain groups of people from the upper middle class and above are strong and independent enough to choose and to sort the many cultural and social offers in Paris. It is shown that both through their private and public life members of these groups readily use the institutions available to them. Those less fortunate from the lower middle class and below do not make use of the possibilities available to them and therefore require more specific consideration and targetting for equal results to be achieved. Therefore architecturally more focus is placed upon identifying the needs and wants of these groups so that they can be better captured and be a visible component of the project and its social life.

The homeless are a group of people discarded and disconnected from society and the general population. This happens both through social criticism and disapproval and through disconnect from the bureaucratic grid and network. This means that even with the desire of returning to a life of better standards, it can often be hard if not impossible to connect to the right municipality functions and become reintegrated into the societies social and bureaucratic network.

Youth are an especially at-risk group vulnerable to feeling forgotten and discarded by a society increasingly global and demanding. We want to create a space where a persons ‘boxes’ can expand and where people through social and professional networks can explore themselves creatively, socially and professionally. The transition from youth to adult is a phase of discovery and exploration and by better-allowing people, without the opportunity to explore their options and possibilities the project can be a component in ensuring that people have the opportunity to live out their best life.

France and Paris is a city of immigrants both historically and in its recent history. Growing tensions and segregation is leading to worse integration and the formation of closed communities. Sharing of ideas, knowledge and culture allows for immigrants to better learn about Paris and French culture and gives them a platform to inform and teach their own culture and traditions. From open cooking classes learning about traditional French food culture to the ability to run courses teaching the creation of flatbreads or kimchi, the project gives the opportunity for cultures to be shared, learnt and taught. In the hope of giving people a better understanding of their neighbourhoods and society.

The project caters to people of all cultures, ages and social status, but it recognises that certain groups in society are more exposed and attempts to create a platform that through unequal focus achieve equal results. A platform that allows for growth in unity with people from other social layers and the creation of connections and links. Communities, networks and the feeling of a being a part of something larger is a crucial component of the human condition. One of the primary reasons for returning to homelessness or crime is that is one of the few familiar conditions and communities that the person knows and feels comfortable with. The Passy Réservoirs aims to produce a community of support, reflection and learning for its users that can lead to a more positive collaboration between people.

That Which Cannot Be Seen.

Each function is chosen on the basis of theory and analysis of context and the social fabric. They are chosen not on the basis on the individual qualities, though they have many, but through their ability to create synergies between each other. A building of life, joy and opportunity that breaks down differences and celebrates diversity.

"Nothing is as dangerous in architecture as dealing with separated problems. If we split life into separated problems we split the possibilities to make good building art." - Alvar Alto.

Entrance space. The entrance space is the start of a new story. Here the flow of people showcases the diversity of users. This is the beginning of the experience. New interventions emphasise the grandiose old structure and invite you to explore. This is where you meet your neighbour and others around you. The staircase is the connection to the new, drawn by the light from above. The entrance space marks the transition from the past toward the present and metaphorically, from your old self to a new self.

Public baths. Reaching back, public baths have been a place where people retreated and took care of the body and mind. The public baths promote a true body experience, peeling away the layer of fabric we are separated by. Here people meet on common ground and standing.

Gallery. The exhibition space is a mirror of the present. A place for self-expression and social development. Local artists, photographers, students exhibit their art of people and places, commenting on society. By placing a gallery in an inhuman space it creates awareness of self through scale, sound and light.

Knowledge. Through knowledge we have the power to grow as humans, to accept and change. Allowing the opportunity for immersion in knowledge, people have the possibility to build a common understanding. The Knowledge space is a place of sharing knowledge both through reading, lectures, music, games and laughter.

Learning. The learning floor is about expanding the mind. As in the Knowledge space, this is a space created for learning, focused on teaching, self-driven motivation and production. It works to broaden one's horizon. Being productive and experiencing success through the help and support of others.

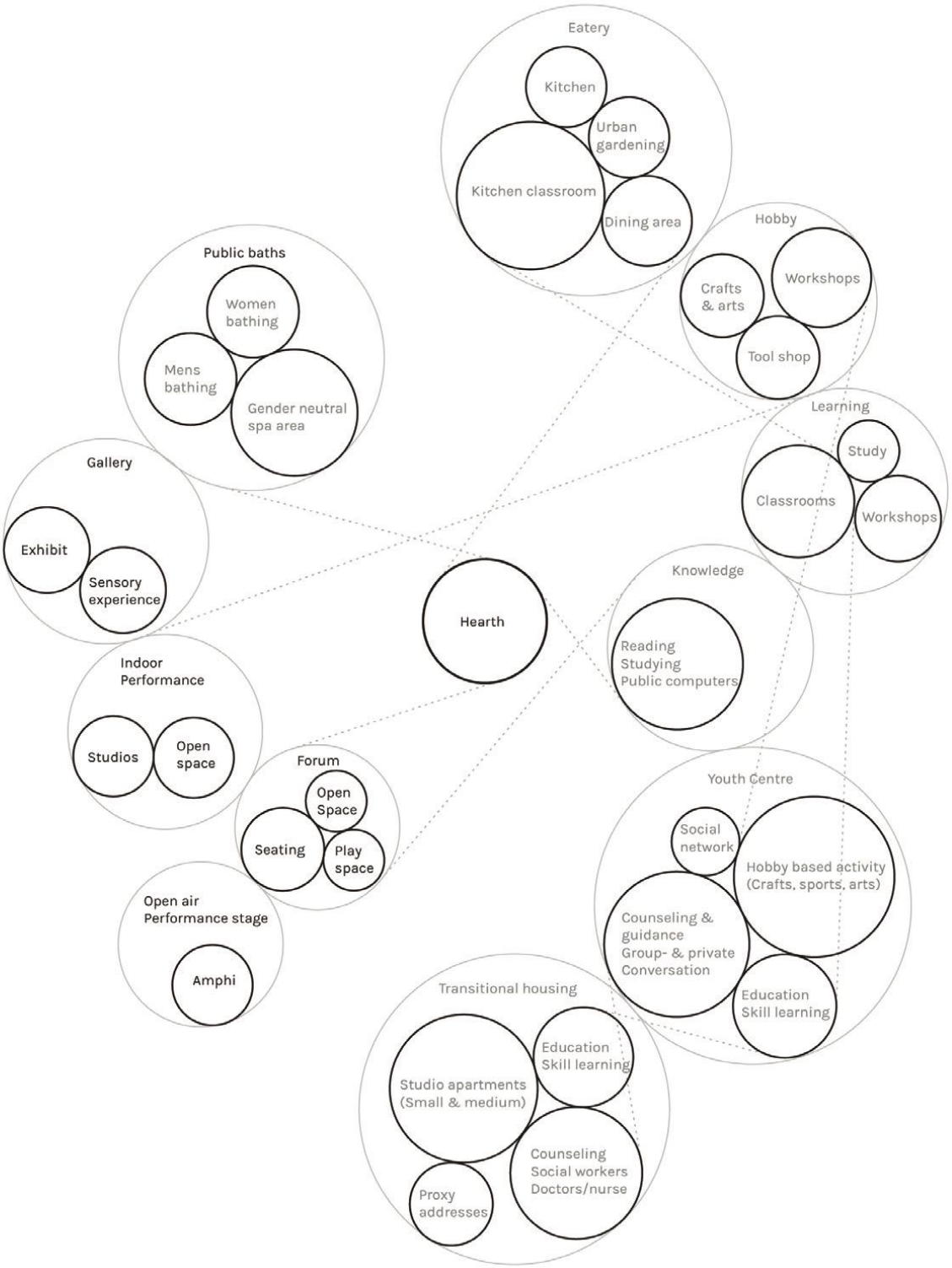
Eatery. Meeting around a dinner table has been the origin of social gathering through times. Tales, discussions, laughter and cries are welcome in the most versatile of functions. Cultures and nationalities are showcased through their cuisines. Relationships are created between young and old, through a focus on making, from growing to cooking and eating. The fulfilling sensory experiences surrounding the creation of foods is a social conversation sparker.

Performance and hobby. The body and its abilities are in focus. Everything from yoga workshops to salsa- to furniture classes is available. Everything is possible through imagination and creativity. The space seeks to nurture and reveal hidden talents and hobbies. It seeks to convey a safe space where the social backup from others will lead the users to try new things and to gain valuable experiences.

Amphi. The open-air amphitheatre stage is a celebration of the individuals using the building. A stage where you experience the countless possibilities of human creativity or a rooftop garden where you can hide away under the cloudy sky.

Youth. Youth is a challenging time. Myriad influences and endless possibilities, without the right support, is laborious to navigate. The youth floor is about creating a support system, activating and motivating people. Where one gets a sense of opportunity and can work on self-esteem and breaking the mould. Here guidance and counselling work as support functions with the main goal of creating a community.

Transitional housing. Some people get forgotten by modern society but we aim to get them back on their feet. Through the creation of a programme focusing on being a recognised and valued individual and part of a community. Being able to develop social and professional skills as an individual but being supported by an active community through counselling, guidance and medical attention. The programme will house co-owners and create roles and give routine and responsibilities which foster skill and value for themselves and the community.

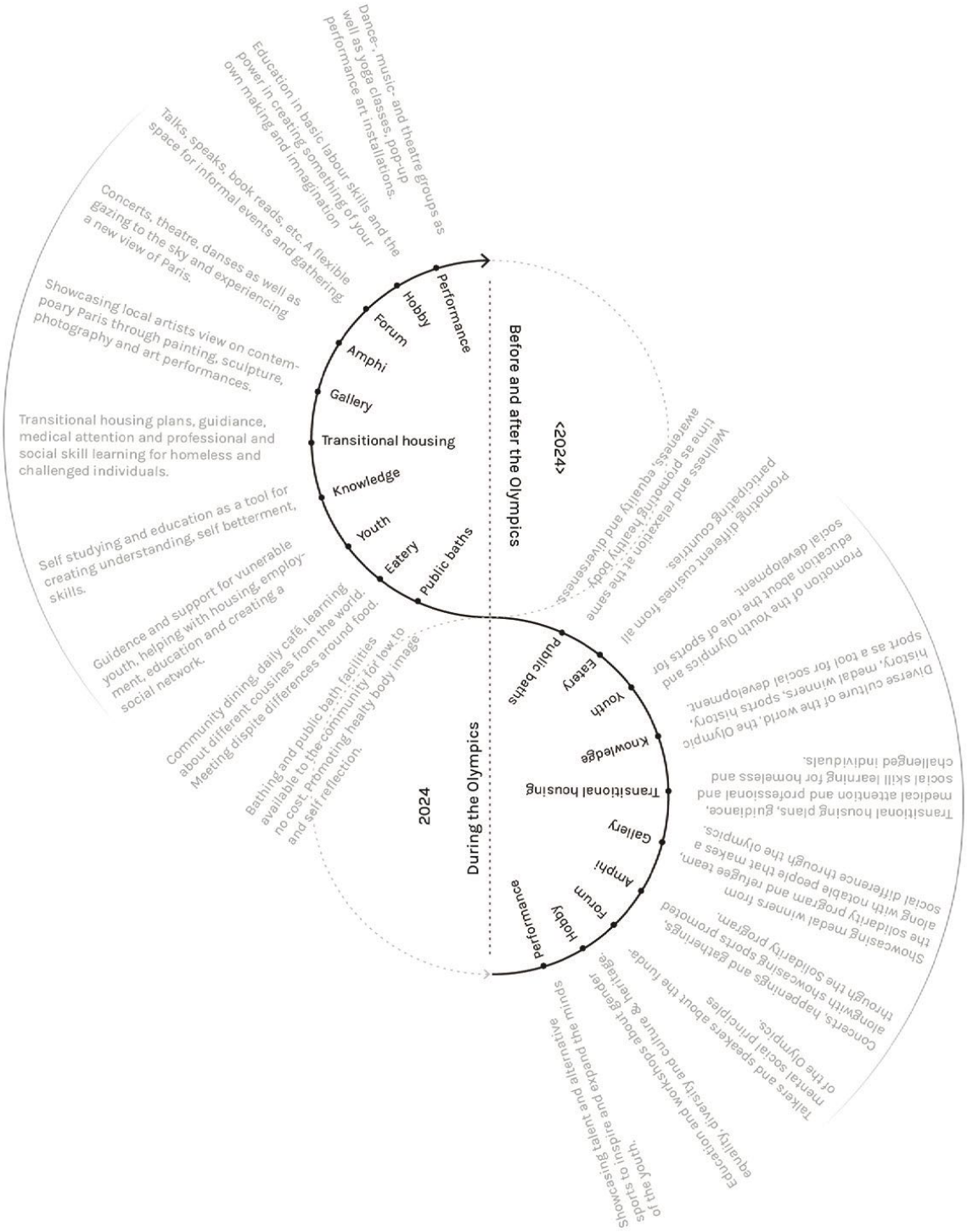


5.6, Functional relations and synergies

	Approximated m2 (brutto)	Natural light Scale 0-5	Activity level	Requirements	Specific feeling
Gallery	600m2		Slow tempo	Showcase, Portraits, Sculptures, Live art	Overwhelming
- Exhibit space	500m2	1			
- Technical room	20m2	0			
- Storage	40m2	0			
Open air performance stage	350m2		Medium tempo	Showcase, performance arts, concerts, theatre, parties	Uplifting
- Amphi	250m2	5			
- Storage	30m2	0			
- Technical room	15m2	0			
- Roof garden	30m2	5			
- Toilets	15m2	0			
Indoor performance	350m2		High tempo (energetic)	Robust materials, Flexibility, User driven Tall room height	Energetic
- Flexible studio	150m2	3			
- Studio x 2	45m2	3			
- Toilets	15m2	0			
- Changing rooms (showers)	10m2	0			
- Relaxation area	20m2	4			
Forum	200m2		Varying tempo	Natural continuation of floor	Inviting
- Open space	120m	4			
- Stage and seating storage	30m2	0			
Knowledge	400m2		Medium tempo (contemplation)	Flexibility, spaces of different scale and different tempo	Motivational
- Library area	70m2	4			
- Reading area	10m2	5			
- Toilets	40m2	0			
- Play space	40m2	5			
- Music listening	15m2	3			
- Small group talks	15m2	4			
- Workshop space	15m2	4			
- Group space x 3	40m2	3			
- Computer area	60m2	2			
- Long table study	15m2	5			
- Flexible space	100m2	4			
Education	400m2		Slow tempo (contemplation)	Both social and intimate, quiet and buzzing	Including
- Open lecture	50m2	4			
- Workshop spaces	60m2	4			
- Small lecture	15m2	3			
- Introverted teaching space	35m2	2			
- Long table study	15m2	4			
- Group area x 3	45m2	3			
- Casual spaces	25m2				
Entrance space	1000m2		Medium tempo	Circulation and sensory experience	Grand gesture, mediator between old and new
- Reception	850m2	1			
- Elevator core x 2	30m2	0			
Additional	50m2				
- Cleaning storage x 10	50m2	0			

5.7, Room programme

	Approximated m2 (brutto)	Natural light Scale 0-5	Activity level	Requirements	Specific feeling
Eatery	**700m2**		Medium to high tempo	Promote communual dining	Pleasent vibe of cooking and conversation
- Communual dining area x 2	120m2	4			
- Café dining, flexible space x 2	150m2	4			
- Kitchen classroom	50m2	4			
- Urban gardening	50m2	5			
- Vegtable kitchen	20m2	2			
- Fridge and cool	20m2	0			
- Communual kitchen	40m2	3			
- Toilets	30m2	0			
Youth	**400m2**		Ranging from low to high tempo	Ownership of space and decor	Fluctuation between intimate and social, blissfull and serious
- Individual counseling x 2	30m2	2			
- Group counseling	20m2	3			
- Family space	15m2	4			
- Common kitchen	30m2	4			
- Group tables	10m2	3			
- Toilets	20m2	0			
- Changing rooms (showers)	10m2	0			
- Chill lounge	30m2	3			
- Art space	30m2	3			
- Stage	15m2	2			
- Sport space	30m2	3			
- Informal "non adult" space	30m2	4			
Hobby	**200m2**		Medium tempo	Rough and flexible	Energetic
- Open space	120m2	3			
- Tool tables	70m2	4			
- Workshop space	40m2	4			
- Toilets	20m2	0			
- Relaxation area	40m2	4			
Transitional housing	**800m2**		Slow tempo	Balance between social and private	Fluctuation between intimate and social, blissfull and serious
- Studio apartments singles x 9	135m2	3			
- Studio apartments doubles x 4	100m2	3			
- Proxy addresses and lockers	60m2	0			
- Doctor and social worker	20m2	3			
- Laundry	10m2	1			
- Guest bath and toilet	10m2	0			
- Common kitchen	30m2	4			
- TV lounge	15m2	4			
- Social seatings x 7	150m2	3			
- Computer table	10m2	2			
- Outdoor space	100m2	5			
Public baths	**900m2**		Slow tempo	Relaxtion, contemplation and enjoyment	Overwhelming
- Gender neutral spa area	350m2	1			
- Men spa area	200m2	0			
- Women spa area	200m2	0			
- Changing area x 2	120m2	0			
- Shoe and coat drop x 2	70m2	0			
Roof terasses	**100m2**	5			
Total approximated m2	**6450m2**				
Actual (rounded) m2	**7000m2**				



5.8, User evolvement during the Olympics and after

Olympic and then what?
The Olympics is one of the biggest and few remaining examples of events such as the world expos of the days past, that select one country to be in focus for all of Earth. In the modern age, the Olympics is just one example of potential and opportunity that is introduced to cities. But these opportunities are rarely fully captured or divided evenly amongst the cities inhabitants. Past iterations of the Olympics have been used to rejuvenate public transport infrastructure, build new stadiums or housing blocks but the lasting effect of the Olympics has rarely been looked at warmly or been beneficial for the majority of inhabitants. The Passy Réservoir and this project aim to explore the way in which these potentials and opportunities can be captured architecturally and be a beneficial element for all levels of society.

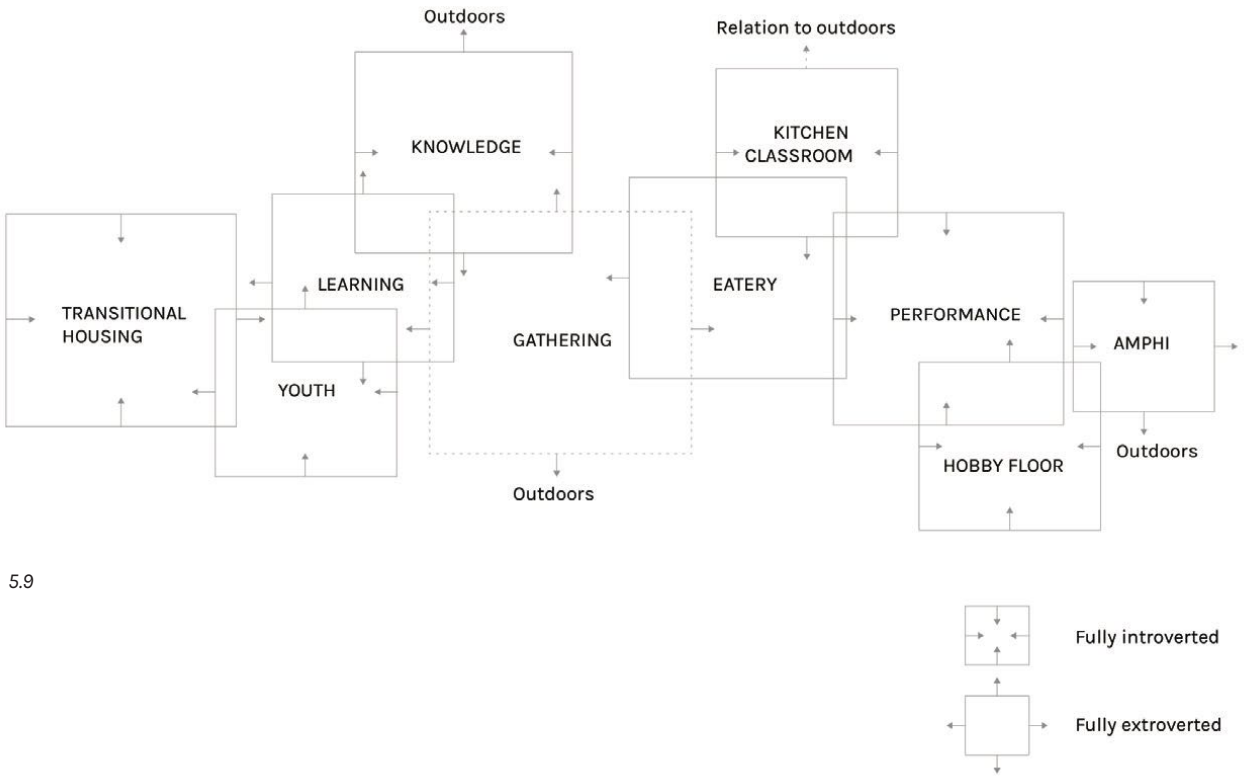
The Olympic Solidarity programme provides the perfect opportunity for the integration of the Olympics into the new socio-cultural typology that the project is exploring. The Olympic Solidarity programme was commissioned to assist and educate countries and people in "sports for social development", "gender equality", "diversity", "culture & heritage", "integrity" and "healthy body image". These are all vital and worthwhile pursuits that fall in line with the message of the overall project.

Underneath the Olympic period, the Passy Réservoir will be transformed into a centre for the Solidarity program to be discovered and experienced. The public baths will allow people to gain a better appreciation and understand of their body and body image, the classrooms and workshops will host events and lessons in equality, diversity and more, the eatery will be a showcase of international cuisine and a place of information around nutrition and health.

"The most important thing in the Olympic Games is not to win but to take part, just as the most important thing in life is not the triumph but the struggle. The essential thing is not to have conquered but to have fought well." (Olympic creed, Pierre de Coubertin, 1908).

The opportunity and possibility that exists to further the Olympic typology and use the commercial might as an asset for the city it exerts itself on. Therefore possibly allowing the Olympics to co-exists with the context and inhabitants and address the social issues and challenges that affect them. The integration of the Solidarity program into an architectural platform allows for awareness and education around many of the social issues already affecting Paris and much of the world. An architectural typology that has the ability to challenge people’s ideas.

The Olympics is a crucial component in the problem formulation and development of the project but when treating the building holistically it is a short phase of many. The Olympics will be a short occupation in the full timeline of the building. As such we acknowledge the importance of the Olympics and the role it has played in the development and formulation of the resulting design but will forwardly focus on the building’s situation as it will be for the majority of its life.

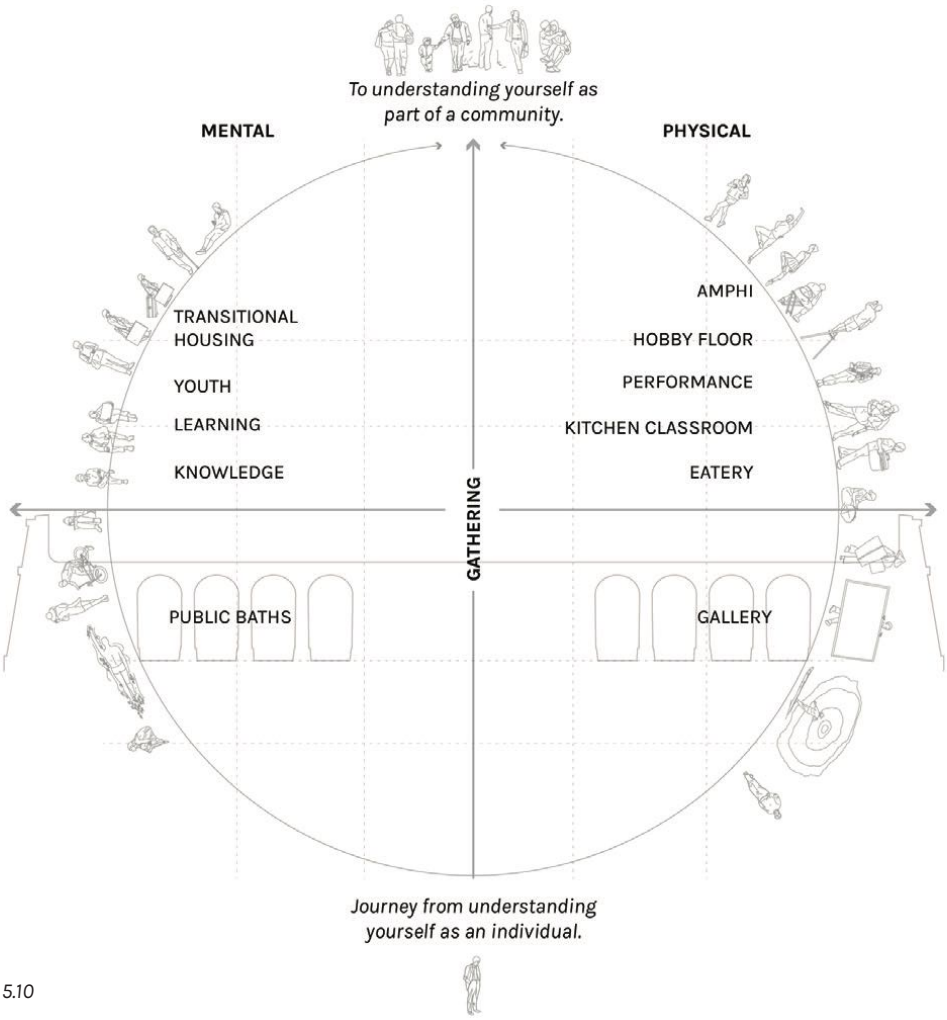


5.9

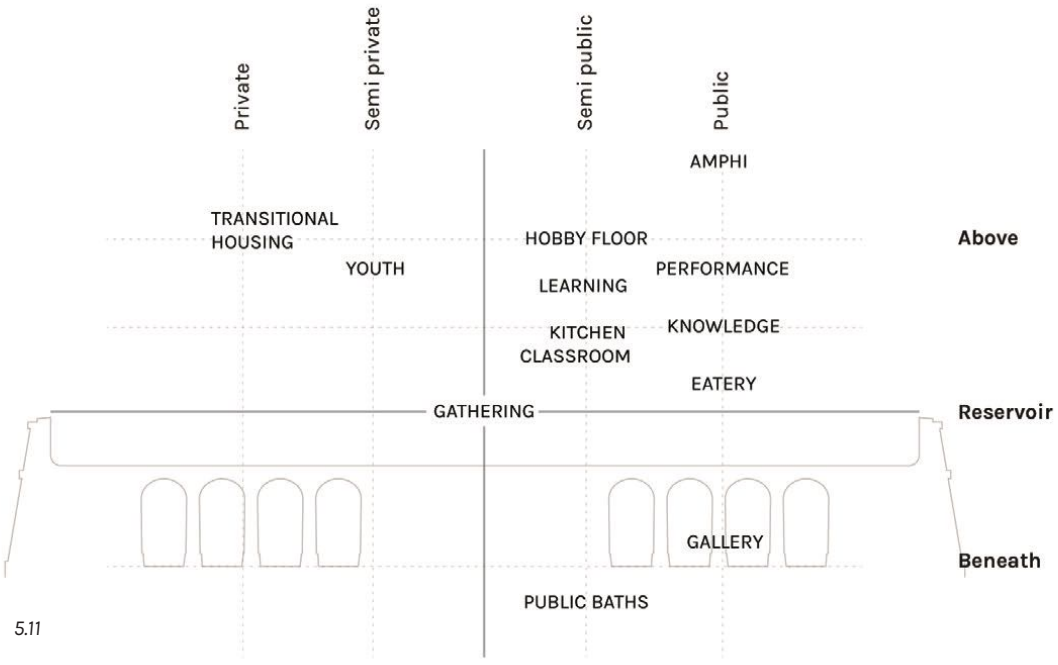
Relationship between functions.
To gain a better physical understanding of the architectural implications and consequences of decisions made regarding functions and the creation of synergies, connections were explored and visualised. The aim of which is to gain a better understanding of the experiences, sequences and rhythms that will form the building.

Functions and rooms have been linked together on the basis of their categorisation under two distinctions, mental and physical. Each function has then been further explored through the allocation of desired atmospheres. The degree of intro- versus extroverted was defined to established how links and more crucially the sequences between different functions would be designed. Further decisions were made around requirements for each function in regards to access to light and the desired level of privacy.
All these diagrammatic explorations lead to initial concepts being developed around the internal programming of the project.

5.9, Horizontal relationship and level of introverted versus extroverted spaces

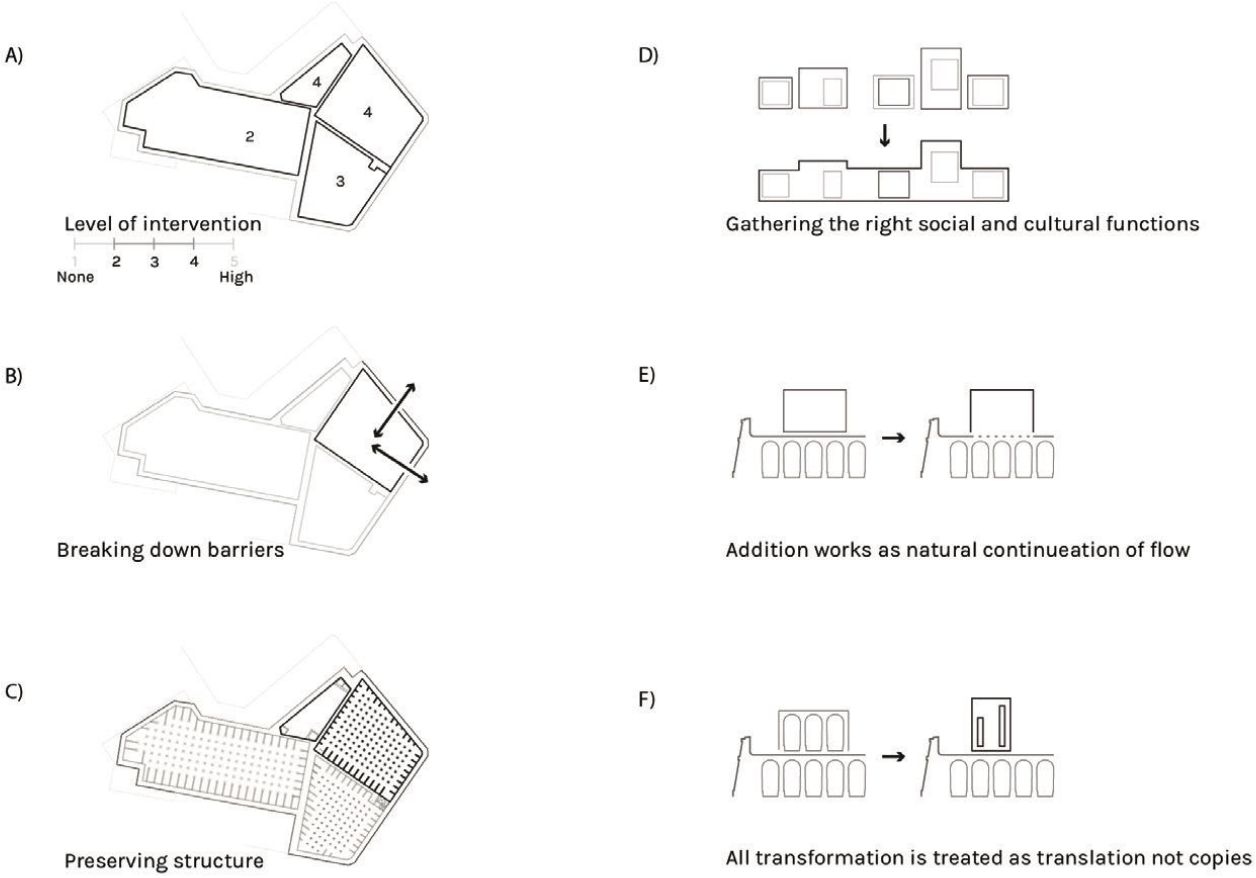


5.10



5.11

5.10, Vertical relationship between functions in relation to tematics and possible synergies
5.11, Level of publicity and relation to reservoir level



5.12, Design princples

Design princples.

A) Levels of intervention.
When intervening in one of the four basins it must be done with the utmost respect for the heritage value and the time perspective of the two basins still in use.

B) Breaking down barriers, opening up to the street.
In order to create a public domain, the wall must be broken down in strategic places to create thresholds both physically and visually.

C) Keeping as much of the inner structure as possible.
The extreme beauty of the reservoirs exists by showcasing the extensive structure of the vaulted space. This must be emphasised and respected.

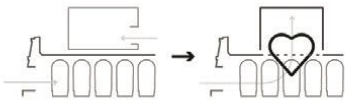
D) Gathering multiple social and cultural functions under one roof.
Responding to the needs of the city by gathering functions and people who create a positive synergy. A platform for them to change their perception of each other and their reality.

E) Addition works as a continuation of the spatial flow.
New buildings must tie together with the old reservoirs so that it becomes a cohesive experience changing between the two. This creates an ever-changing dynamic experience of past, present and future at the same time.

F) Additions are treated as new not as copies.
New buildings must be translations, comments or interpretations of the existing situation, not copies.

G) A common entrance gathers all users of the building.
To emphasise the gathering of the new and old building as one dynamic and holistic experience - and to

G)

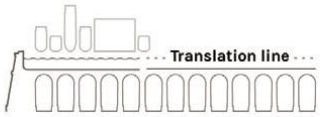


A common entrance gathers all users of the building

J)

When passing a threshold it must be done so through a common language

H)

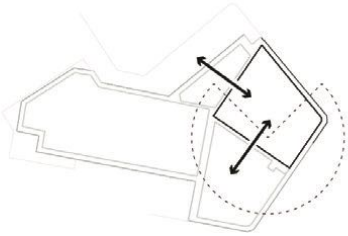


Everything relating to the translation line must respond, translate or comment on the existing physical, cultural or social situation

K)

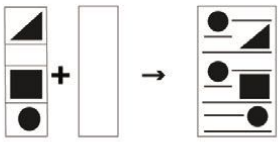
Architecture must be both flexible and program specific at the same time in order to adjust to change but have present relevance

I)



Utilise surrounding qualities for technical systems

L)



Integrate sustainable solutions in architectural design choises

create a common meeting space for all users, one common entrance is made.

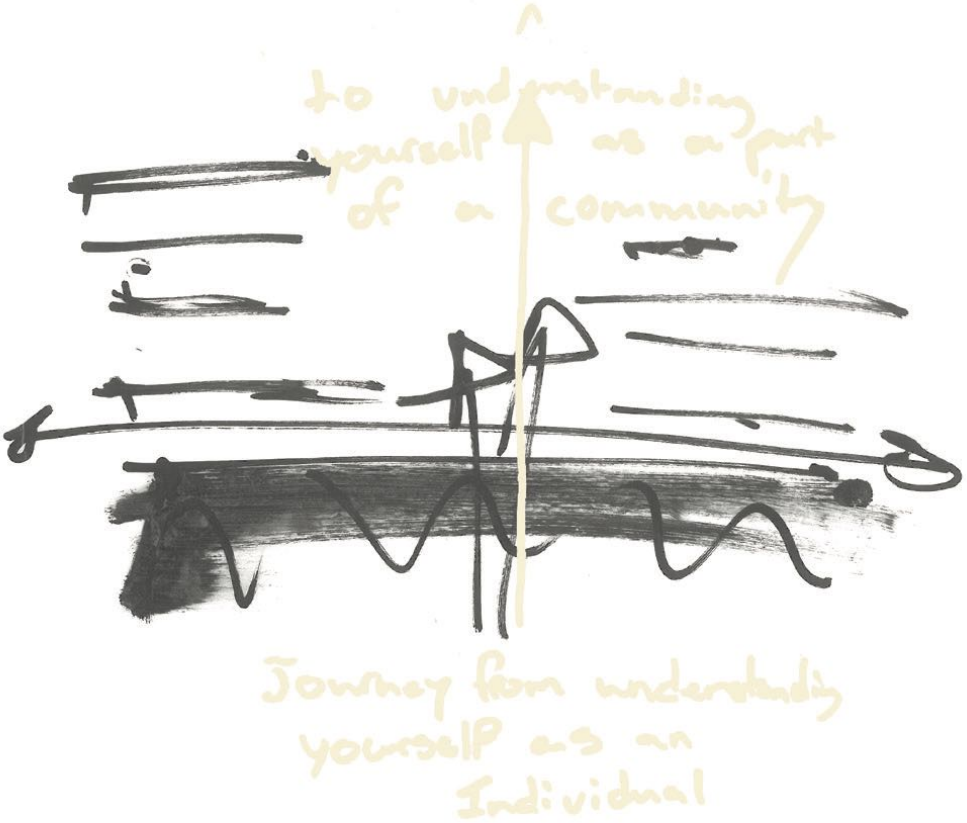
H) Everything above the "translation line" must respond, translate or comment on the existing situation.
Above the waterline the urban pattern "collapses," which calls for an architectural response. The waterline on top of the reservoirs create a translation line wherein we as an architect are free to translate, interpret and give intention.

I) Utilise surrounding qualities for technical systems.
The unique characteristics of the surrounding reservoirs provide the opportunity to utilise the large volumes of water for technical purposes such as cooling as well as preserving the access to light and protection from wind.

J) When breaking thresholds it must be done with a common language.
To emphasise the thresholds and the movement from one medium to another the same formal, expressive or materialistic language is used to make the user aware of this change.

K) Universal & specific.
By creating a hybrid between universal design and specific design it becomes possible to design for a present situation with the flexibility for the users to inhabit and co-create.

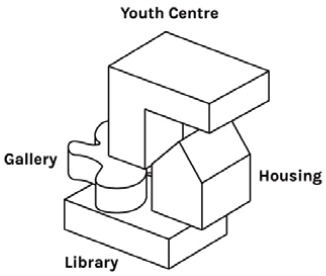
K) Integrate sustainable solutions in architectural design choices.
Sustainable solutions such as cooling, heating and ventilation strategies should be integrated into the architecture rather than tacked on creating a cohesive project.



6.1, Concept sketch

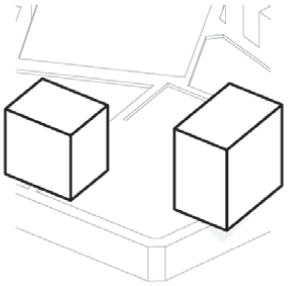
Bringing together the diversity of the Parisian people

Adding social sustainability to cultural buildings

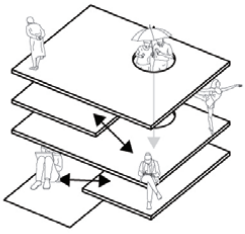


Catering to a variety of people

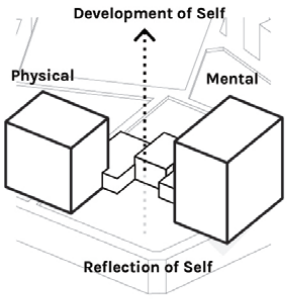
Forgotten urban structures are transformed and revealed as an asset and a platform



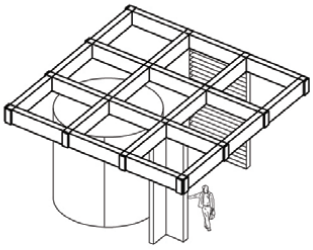
Volumes are places according to context, structure, climate and architectural intention



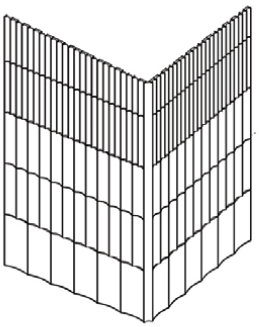
Functions are connected and created through synergies of mental and physical nature



Volumes connect through journey from old to new physically and metaphysically

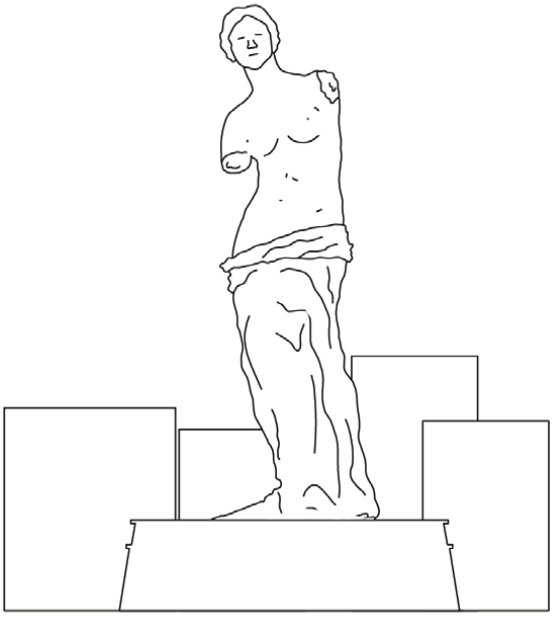


Structure, building and furniture compliment each other and the social and sensory experience



Volumes and facades translates the historic Parisian context and culture

6.2, Concept diagram



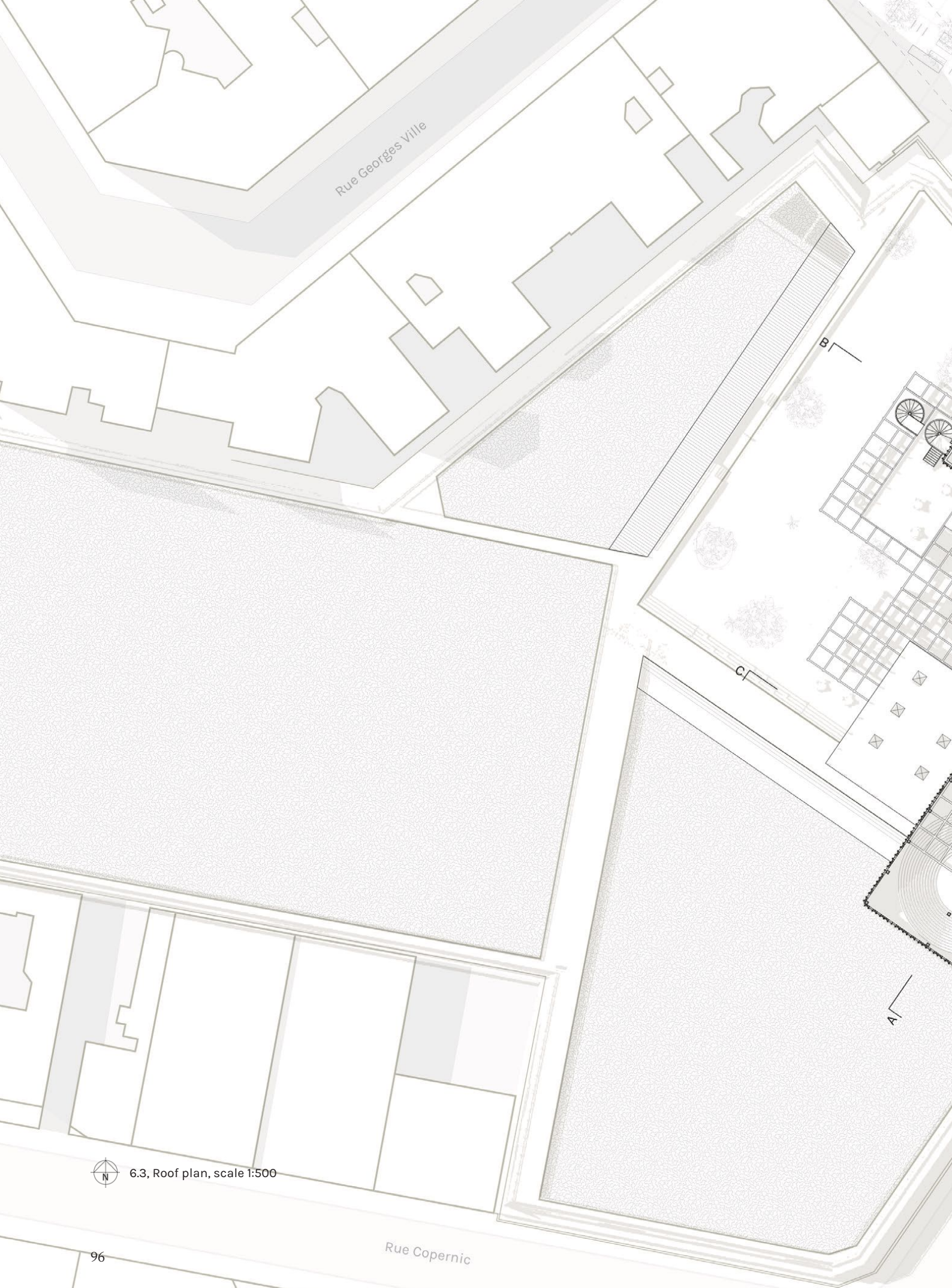
Creating a monument for the people of Paris to meet, gather, socialize and learn despite cultural, social, economical differencies

Et Voilà!

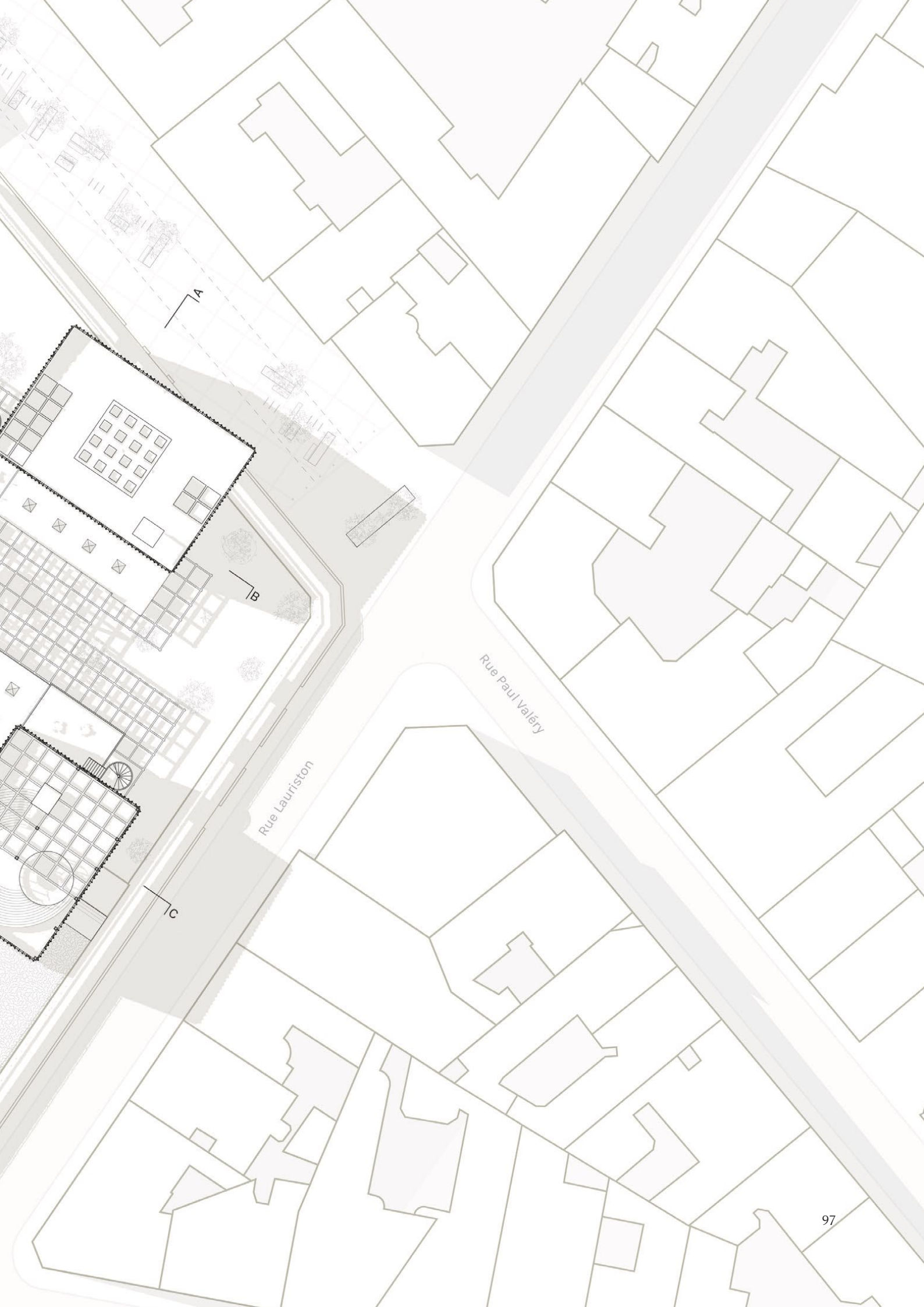
Établissement artistique,
sociétales et culturel innovant.
The theoretical, analytic and programmatic exploration combined with the design process has lead to the creation of the new Passy Réservoir. A project that aims to explore and promote a more social approach towards cultural architecture.
A piece of architecture that is welcoming and gathers the full diversity of Paris. That seeks to allow for a journey of self-discovery and reflection, promoting learning and teaching and the creation of connections and interactions between people.

To gather people from all cultures, backgrounds and classes the project is given functions and programming that caters to a wide array of people and situations. The project works to develop methods for returning forgotten structures such as the Passy Réservoir to the public realm. The characteristics, atmospheres and qualities of the existing structure are preserved and used as the base for further interventions. The architecture of the project explores ideas of programmatic synergies and how users experience and journey through the building as a series of situations and sequences. Theoretical concepts conceived have been allowed to inform stylistic and formal design choices. The balance between flexibility and specificity has been explored through the treatment of structure and furniture to produce a holistic architectural and spatial experience. Treatment and detailing of elements such as the facade and massing have been based on an understanding of the context and artistic interpretations of it.

This has lead to the considered design of the Passy Réservoir, a piece of social architecture that aims to become a monument for the people and place that it is situated within. A place for people to gather despite differences and learn, share and communicate with one another.

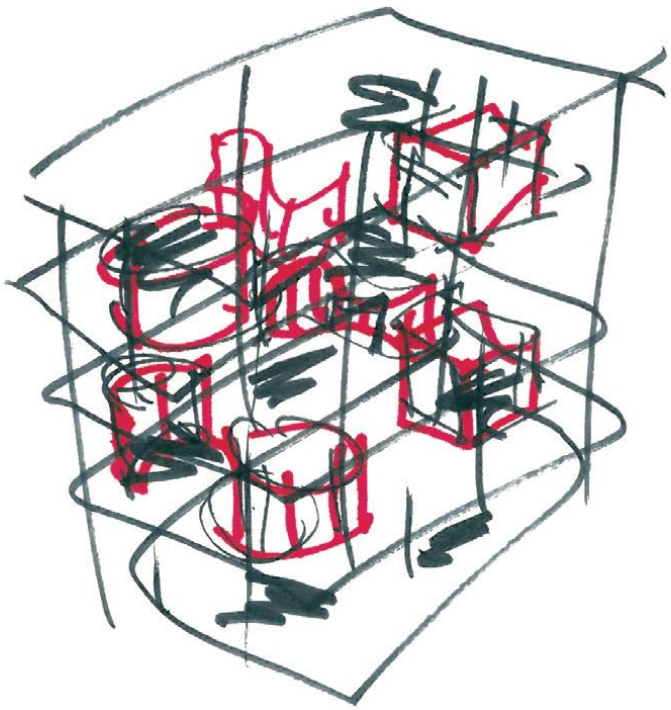


6.3, Roof plan, scale 1:500


A
B
C
Rue Lauriston
Rue Paul Valéry

6.4, Visualisation of the exterior entrance space

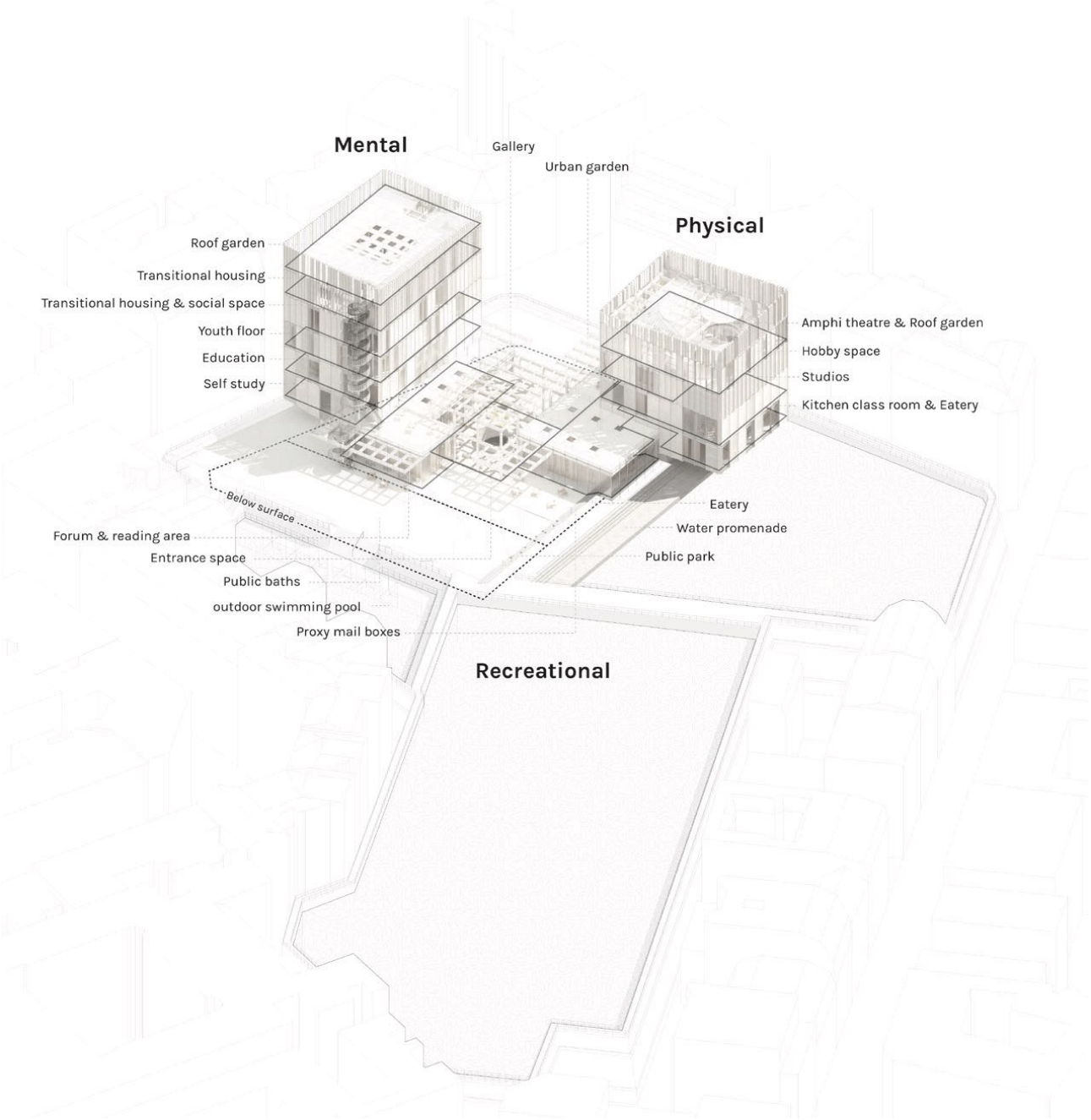
As a gentle giant, the new building hovers over the once closed Passy Reservoir walls. It creates a sheltering canopy and marks the beginning of a physical and metaphysical journey through the building and towards a better self.



6.5

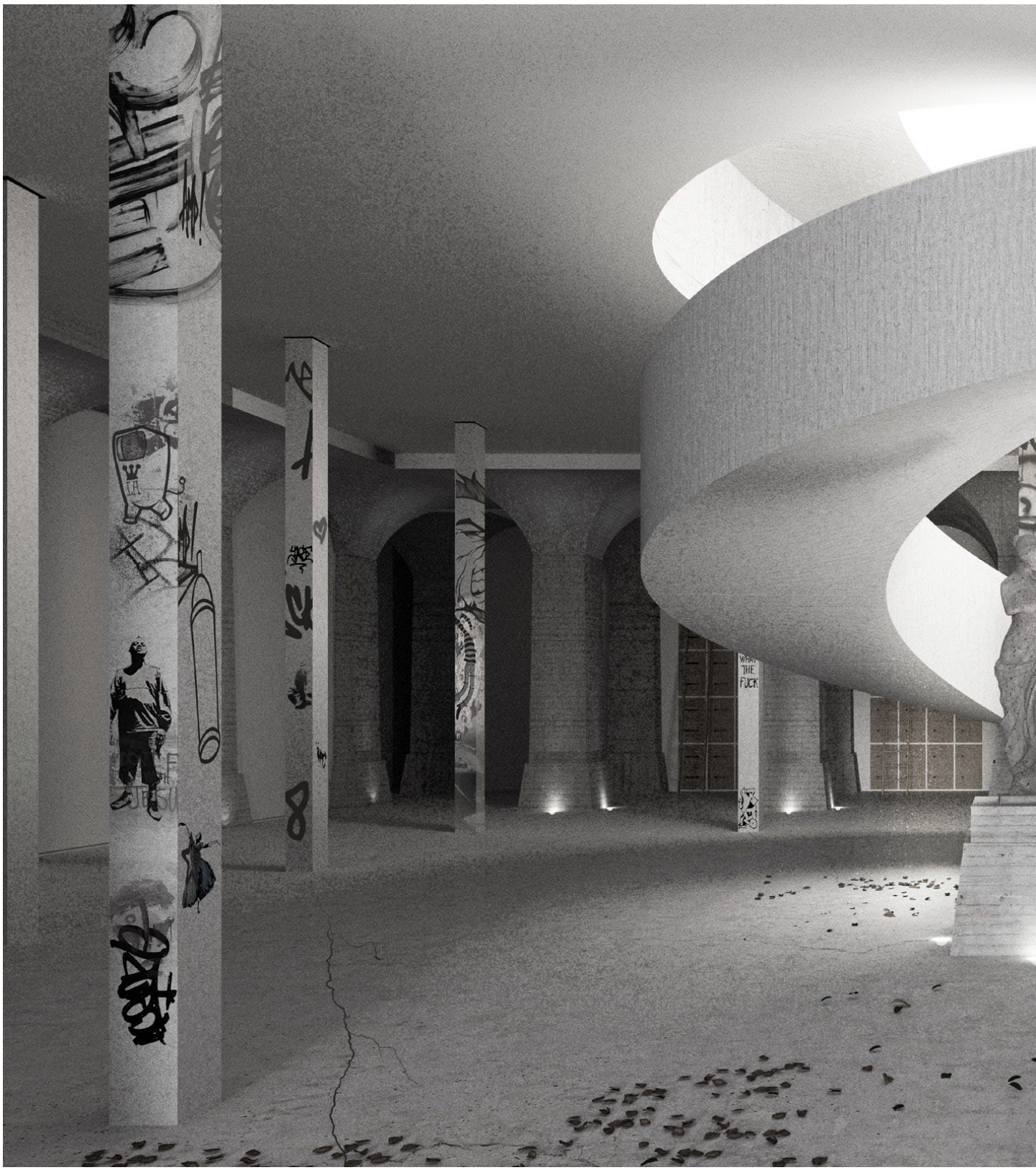
Form follows function follows form.
One aspect that has been thoroughly explored is the balance and discussion around form and function. In a piece of cultural architecture with an inherently large number of functions ranging from public baths to transitional housing to an open-air amphitheatre, raises questions about how a cohesive and holistic piece of architecture can be achieved. How can all the variety of functions share a formal and aesthetic language without an impact on the ability of each function being successful? The development of a flexible and robust structural system creates a structural disconnect between inserted functions and elements but equally allows for freedom of exploration. The development of theories around tectonics and transformative translation has given a shared point from which each element has been explored. This method ensures a shared language between elements and cohesive experience of the overall architecture despite formal and stylistic choices being made to best achieve the intended functional purpose.

6.5, Concept sketch for Hybrid plans



6.6

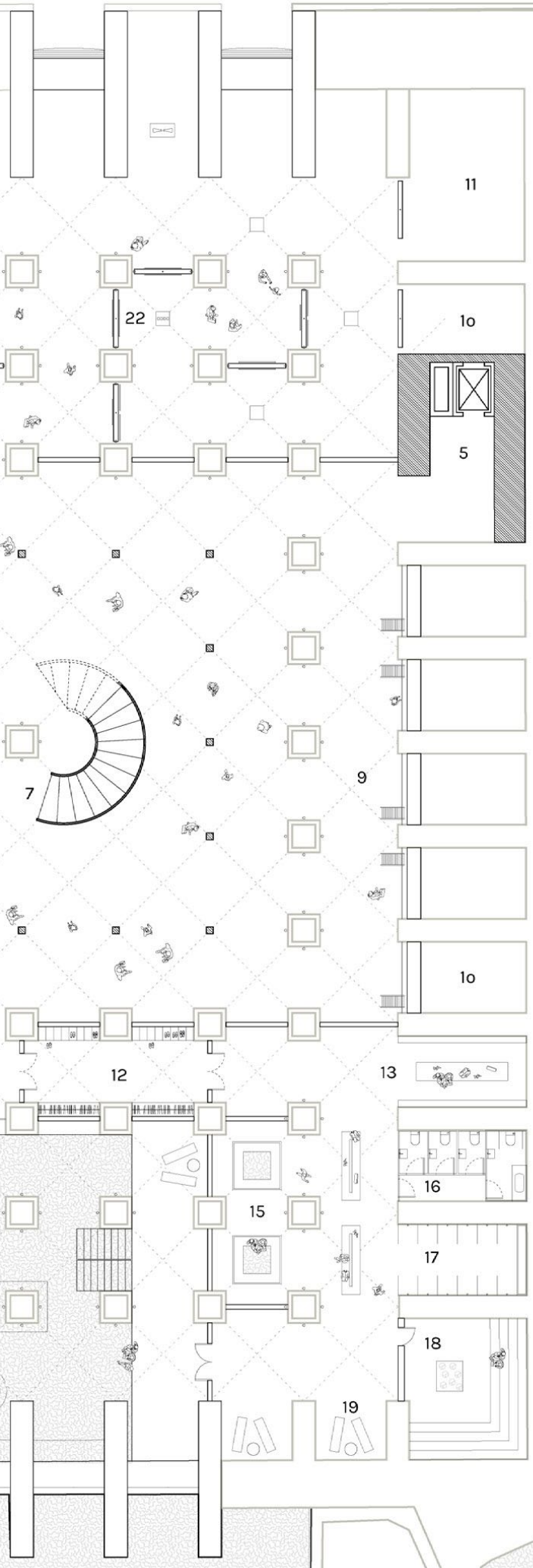
6.6, Placement of functions



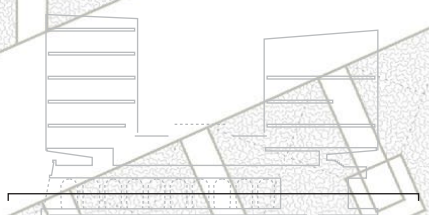
6.7, Visualisation of the interior entrance space

A break in the serial colonnades of massive columns informs a change. The ceilings are raised and new slender columns create a stunning contrast to the old. The spiral stair visually hangs down from the level above just slightly touching the floor out of respect for what once was.

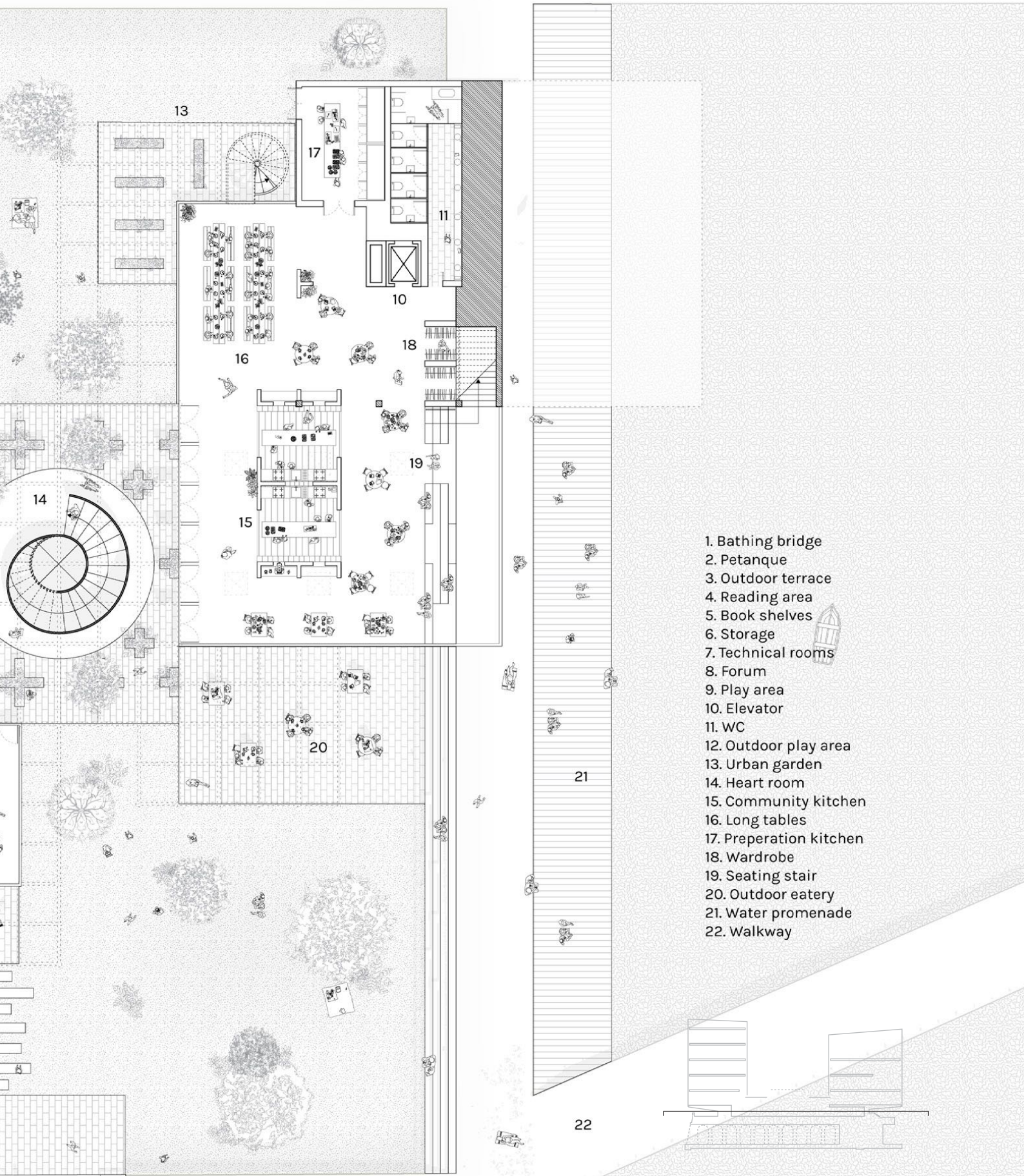
6.8, Level 0, scale 1:250



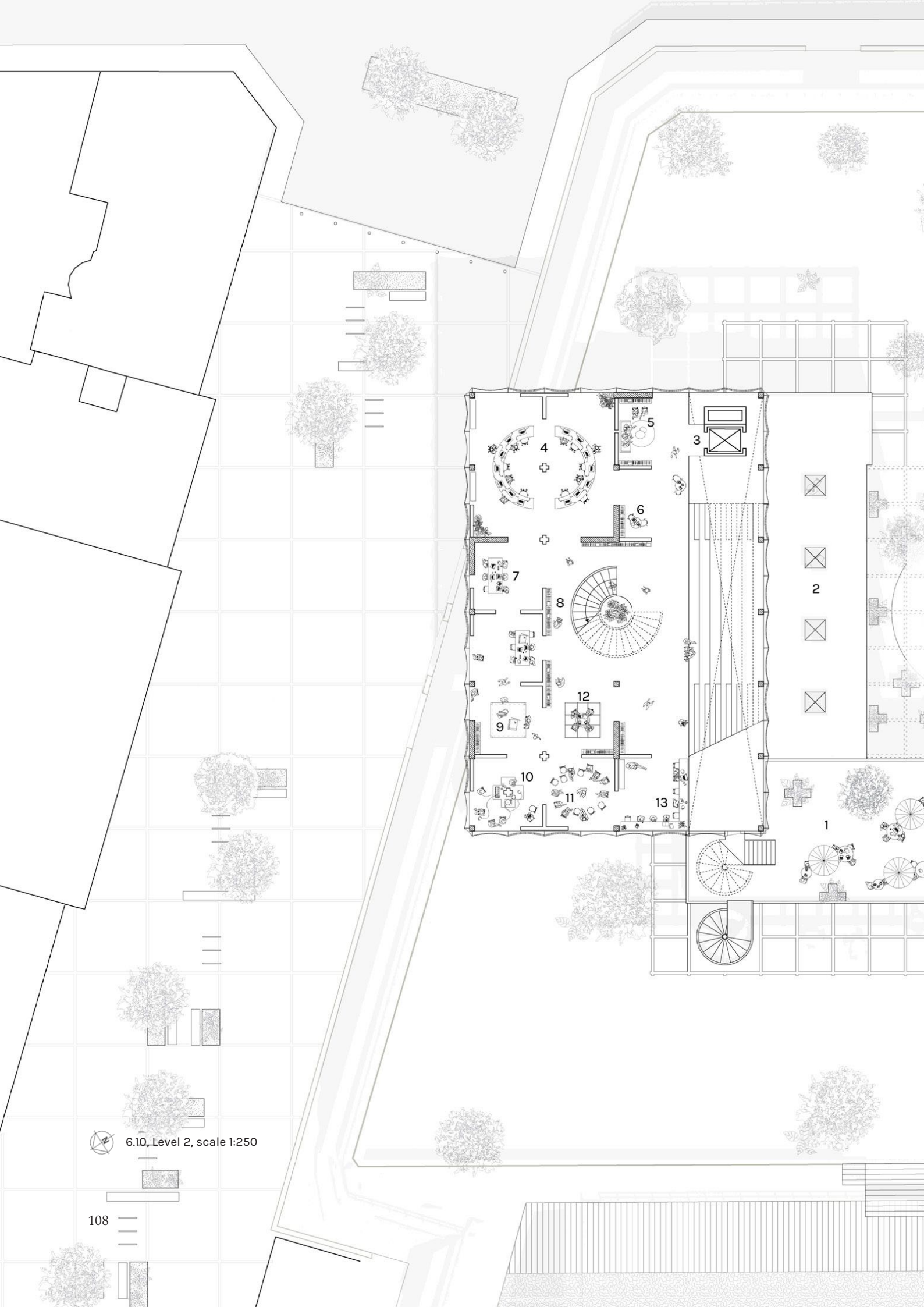
1. Entrance
2. Fire access (4m wide) and delivery road
3. Bicycle parking
4. Drop off zone
5. Elevator core
6. Gallery
7. Main stair
8. Public baths
9. Proxy mail boxes
10. Technical rooms
11. Storage
12. Shoe and coat drop
13. Mens changing
14. Women changing
15. Hot and cold baths
16. WC
17. Showers
18. Sauna
19. Daybeds
20. Common bath
21. Ice bath
22. Exhibition walls



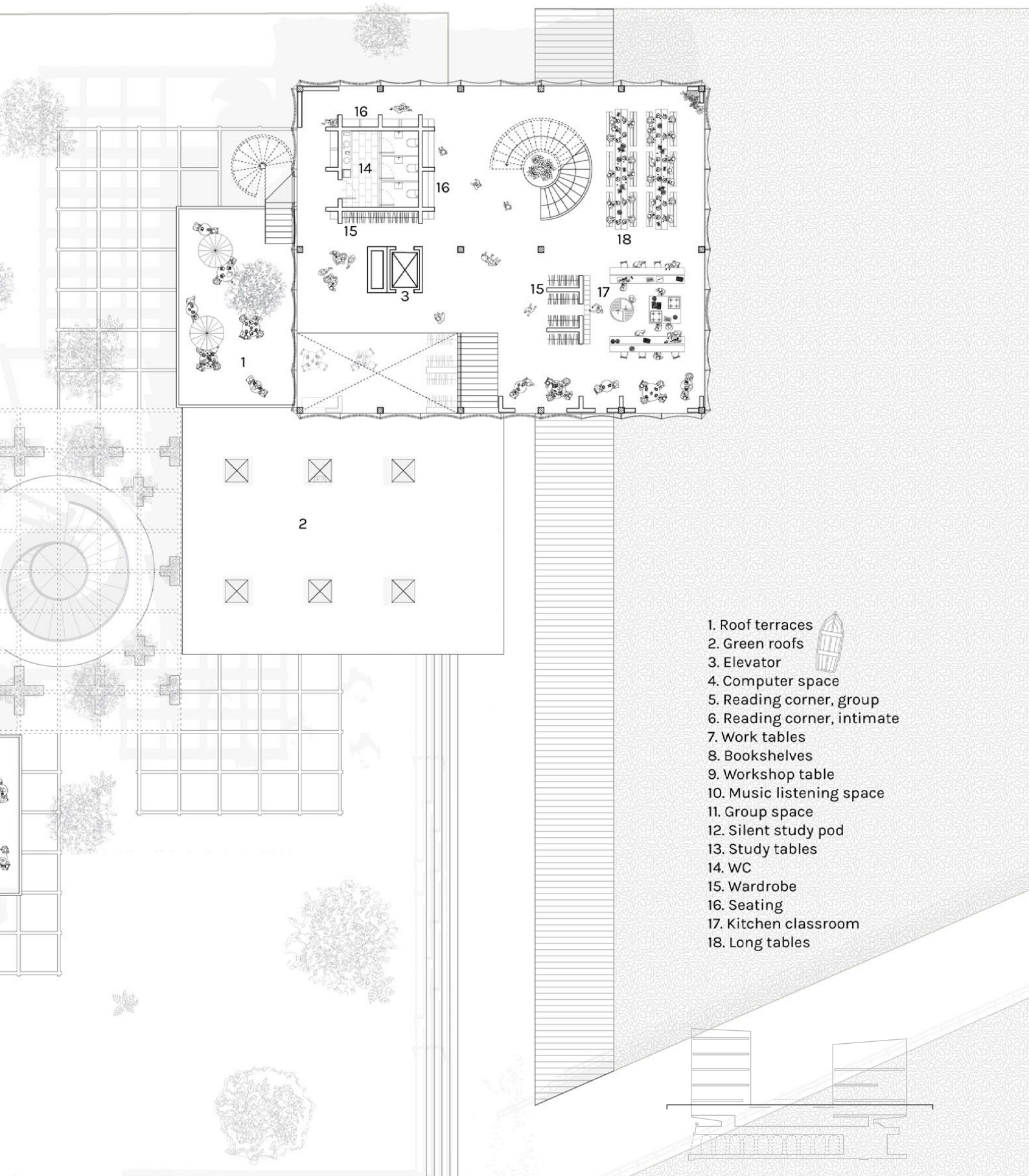
6.9, Level 1, scale 1:250



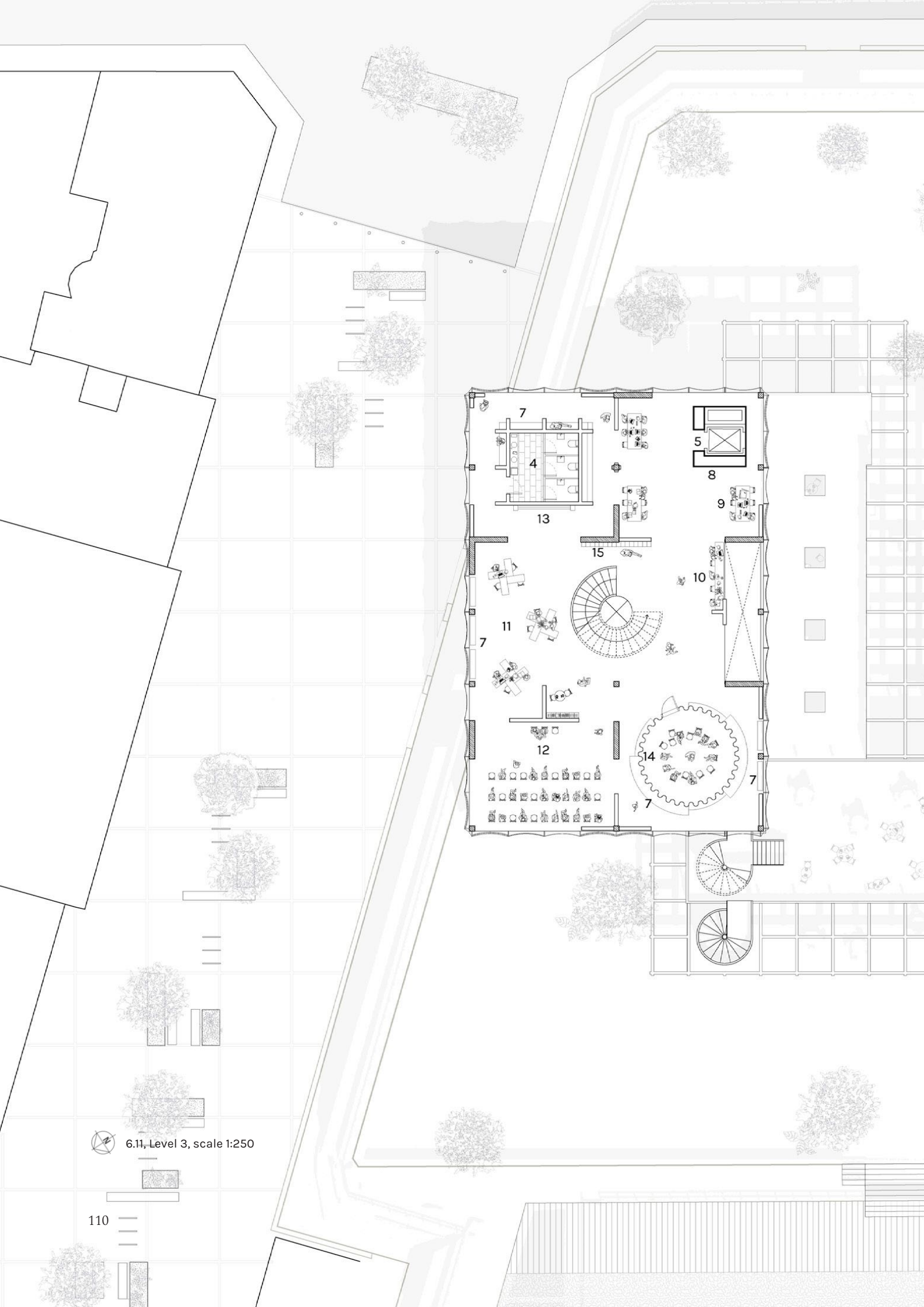
1. Bathing bridge
2. Petanque
3. Outdoor terrace
4. Reading area
5. Book shelves
6. Storage
7. Technical rooms
8. Forum
9. Play area
10. Elevator
11. WC
12. Outdoor play area
13. Urban garden
14. Heart room
15. Community kitchen
16. Long tables
17. Preperation kitchen
18. Wardrobe
19. Seating stair
20. Outdoor eatery
21. Water promenade
22. Walkway



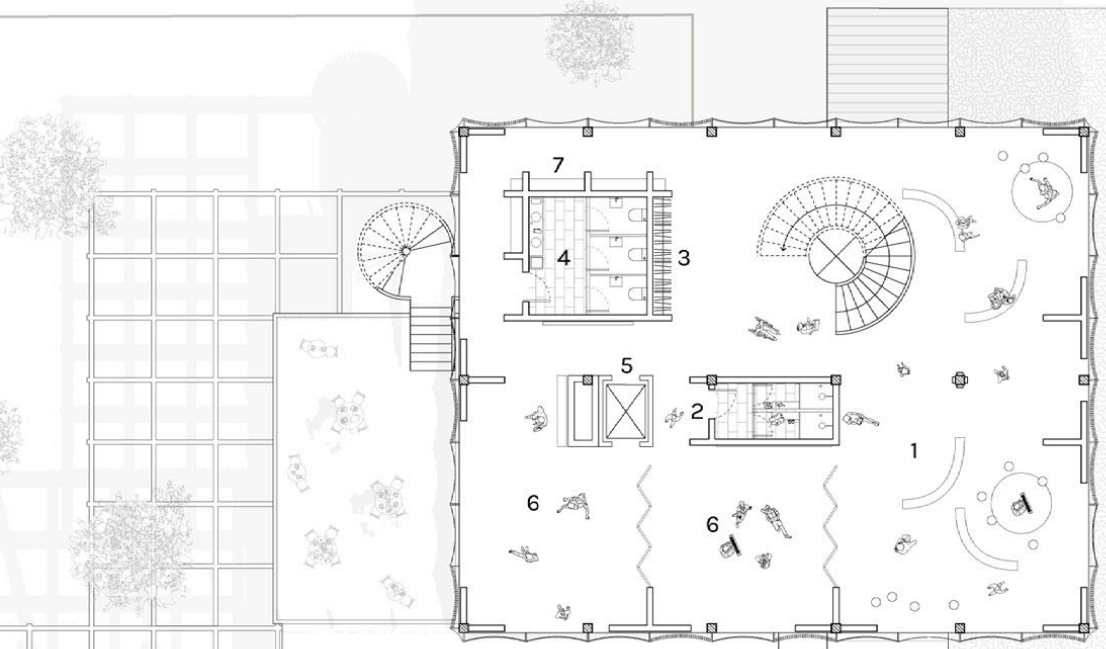
6.10, Level 2, scale 1:250



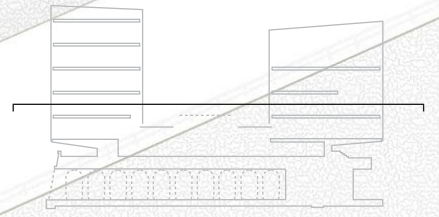
1. Roof terraces
2. Green roofs
3. Elevator
4. Computer space
5. Reading corner, group
6. Reading corner, intimate
7. Work tables
8. Bookshelves
9. Workshop table
10. Music listening space
11. Group space
12. Silent study pod
13. Study tables
14. WC
15. Wardrobe
16. Seating
17. Kitchen classroom
18. Long tables

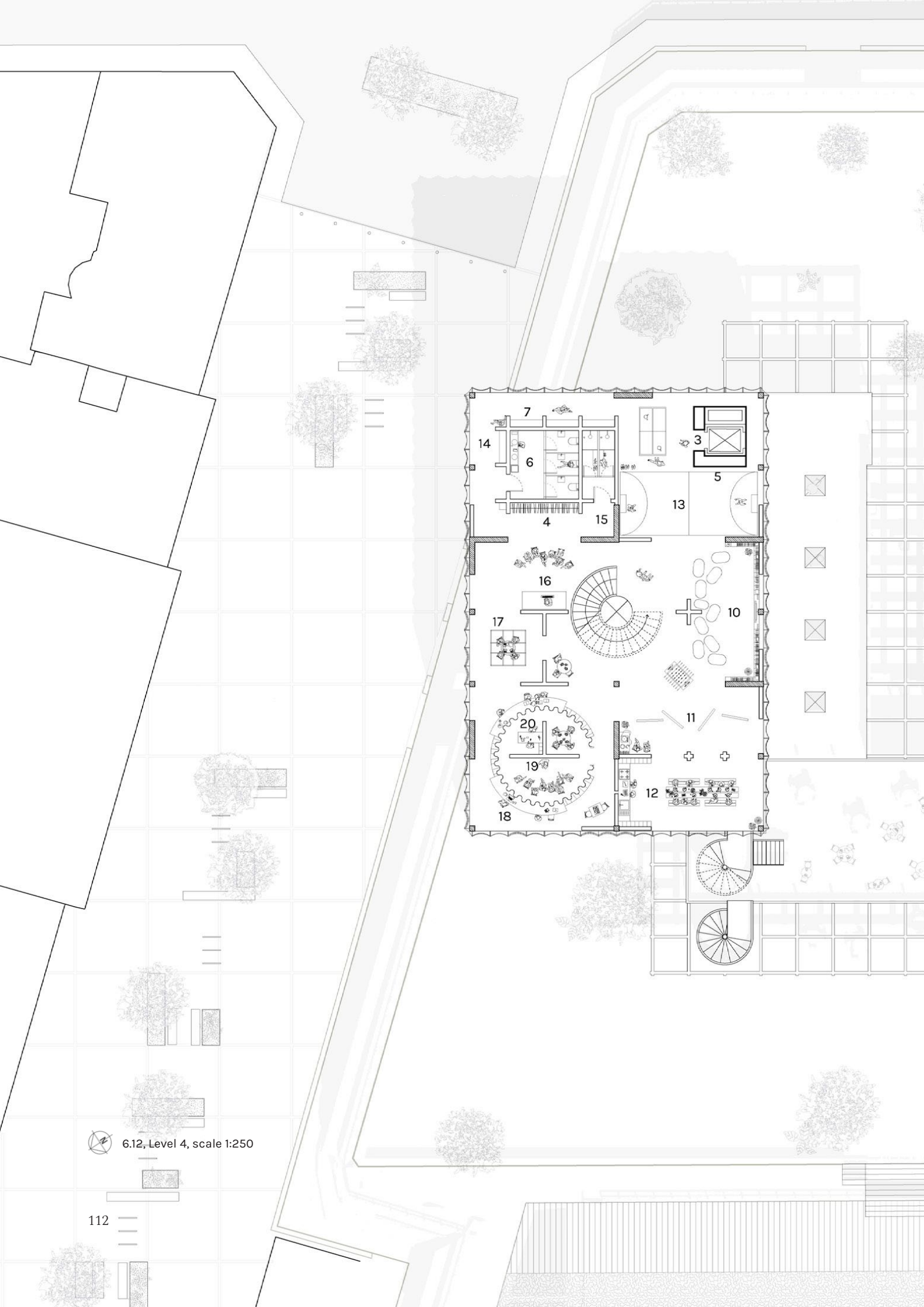


6.11, Level 3, scale 1:250

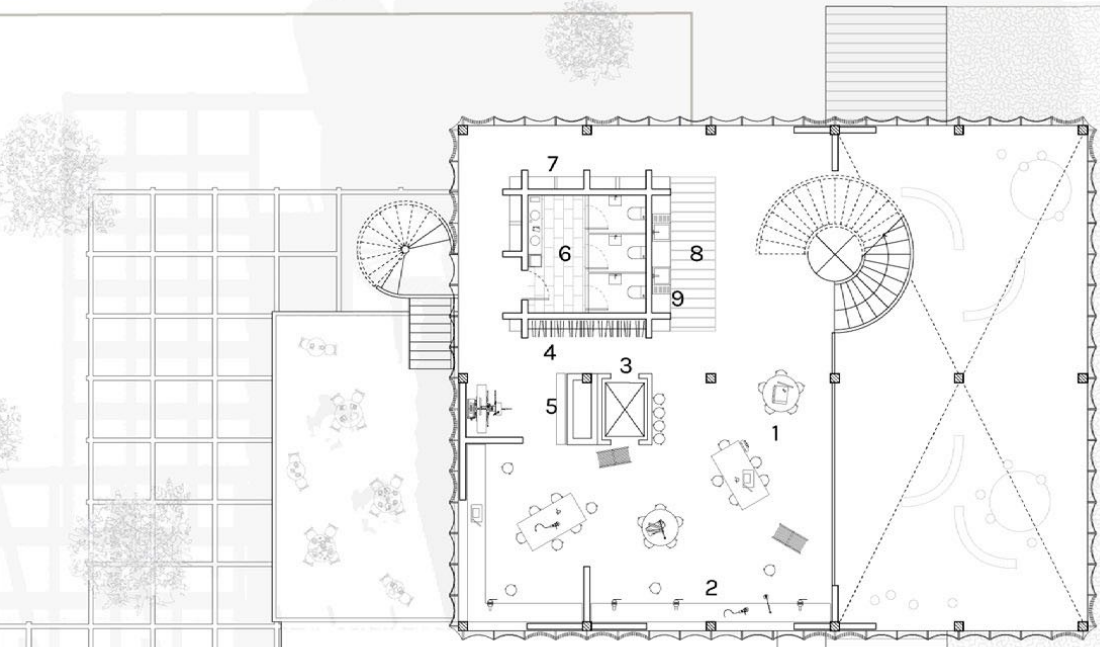


1. Large studio
2. Change rooms
3. Wardrobe
4. WC
5. Elevator
6. Studio
7. Seating
8. Storage
9. Group table
10. Study table
11. Workshop tables
12. Lecture space
13. Whiteboard
14. Classroom
15. Bookshhelves

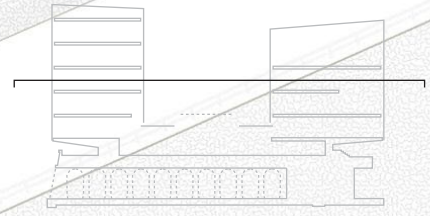


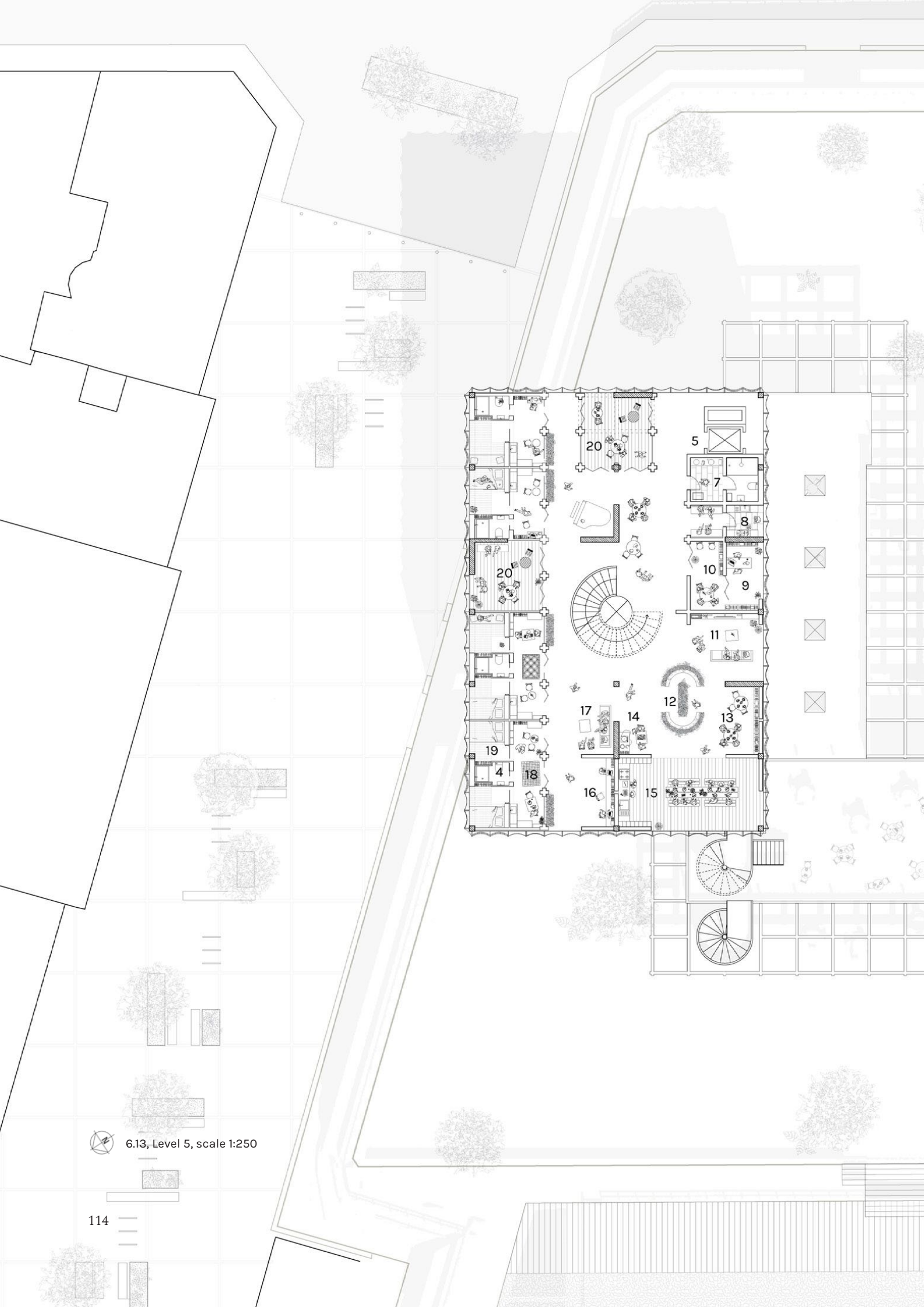


6.12, Level 4, scale 1:250

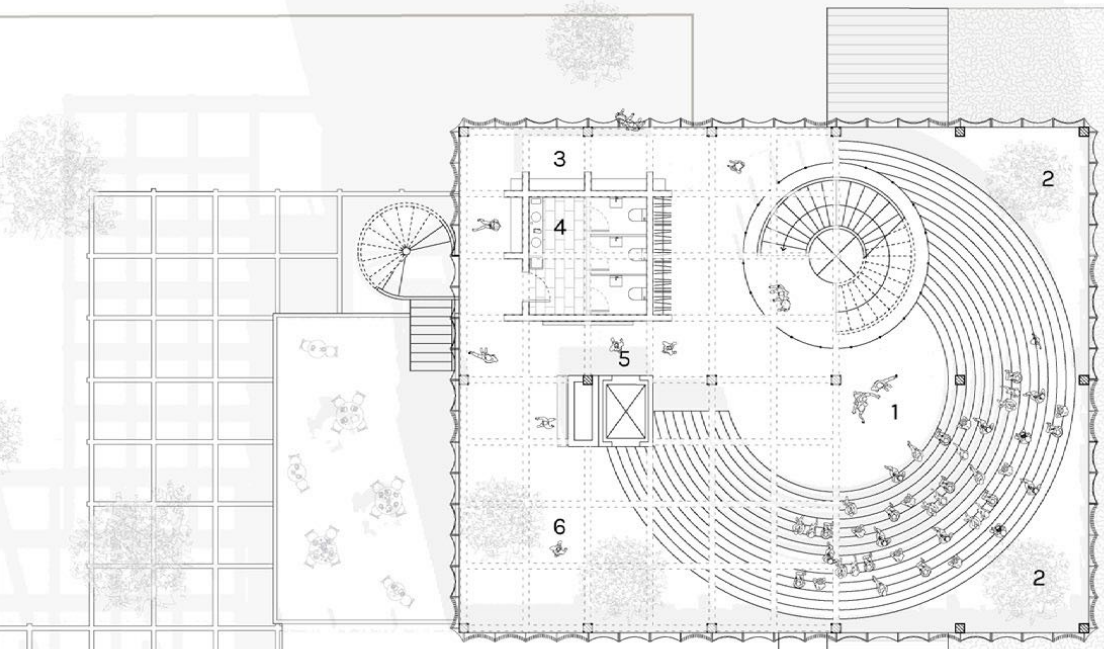


1. Workshop tables
2. Tool tables
3. Elevator
4. Wardrobe
5. Storage
6. WC
7. Seating
8. Water resistant flooring
9. Sinks
10. Chill space
11. Art walls
12. Youth kitchen
13. Game area
14. Non adult space
15. Change rooms and showers
16. Mini stage
17. Silent pod
18. Computer space
19. Group counseling
20. Individuel counseling

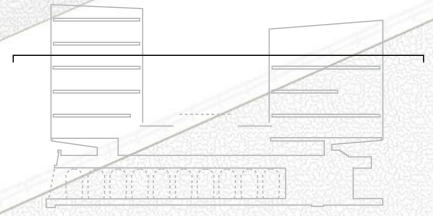


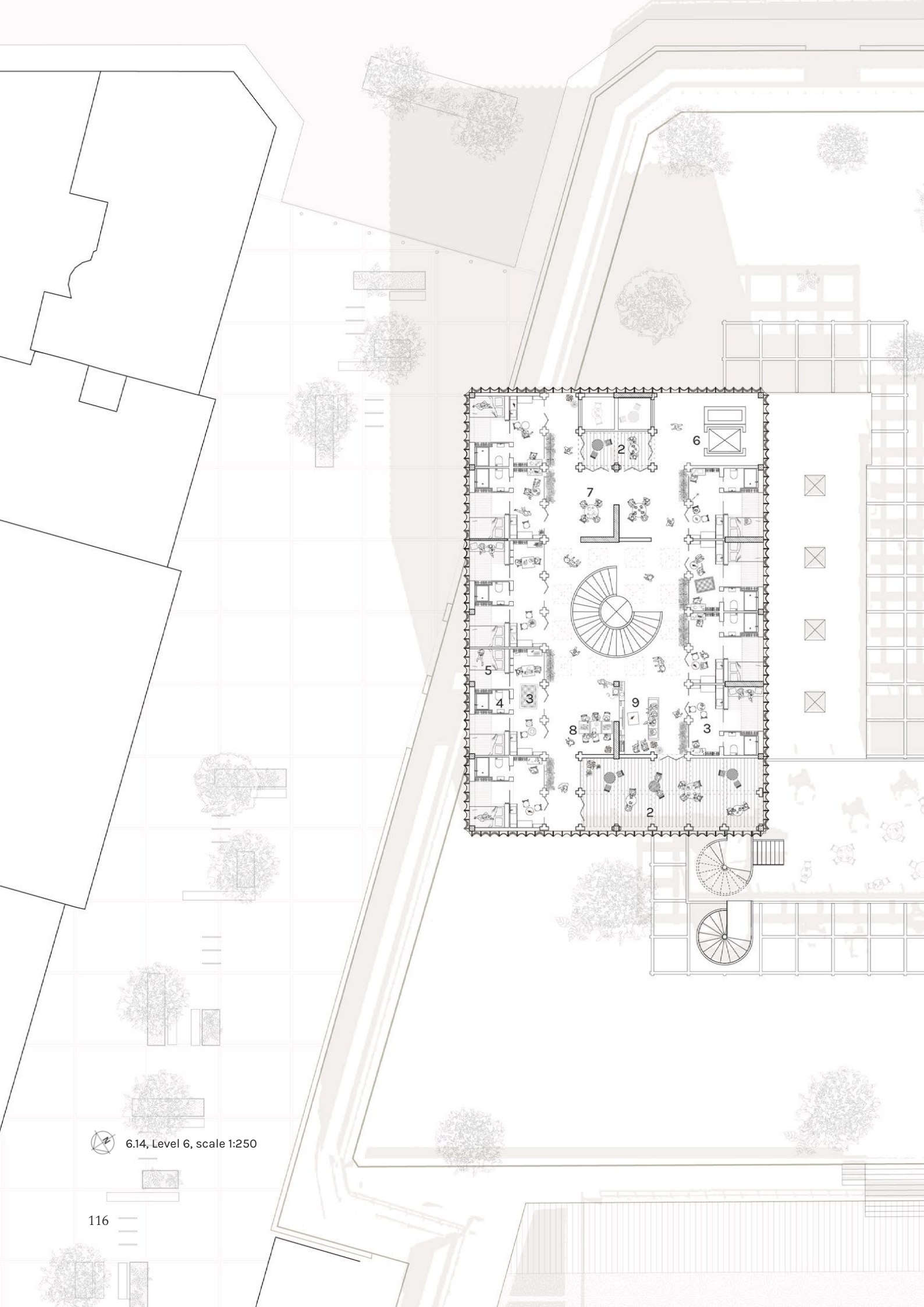


6.13, Level 5, scale 1:250

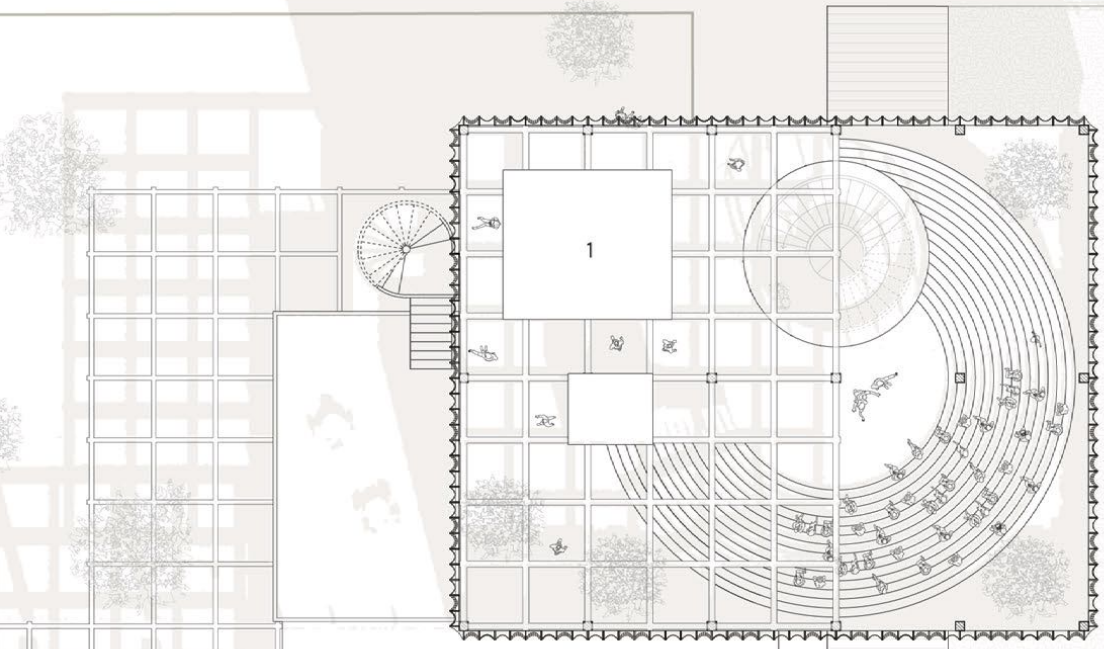


1. Amphi
2. Green roofs
3. Seating
4. WC
5. Elevator
6. Roof garden
7. Guest bathroom
8. Laundry
9. Medical attention
10. Counseling
11. TV lounge
12. Greenery
13. Family tables
14. Game space
15. Community kitchen
16. Computer space
17. Social lounge
18. Semi private social space
19. Sleeping module
20. Outdoor terrace

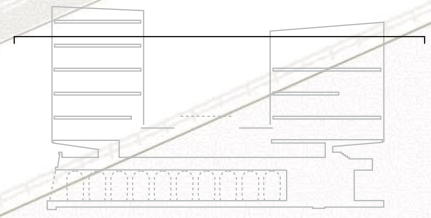


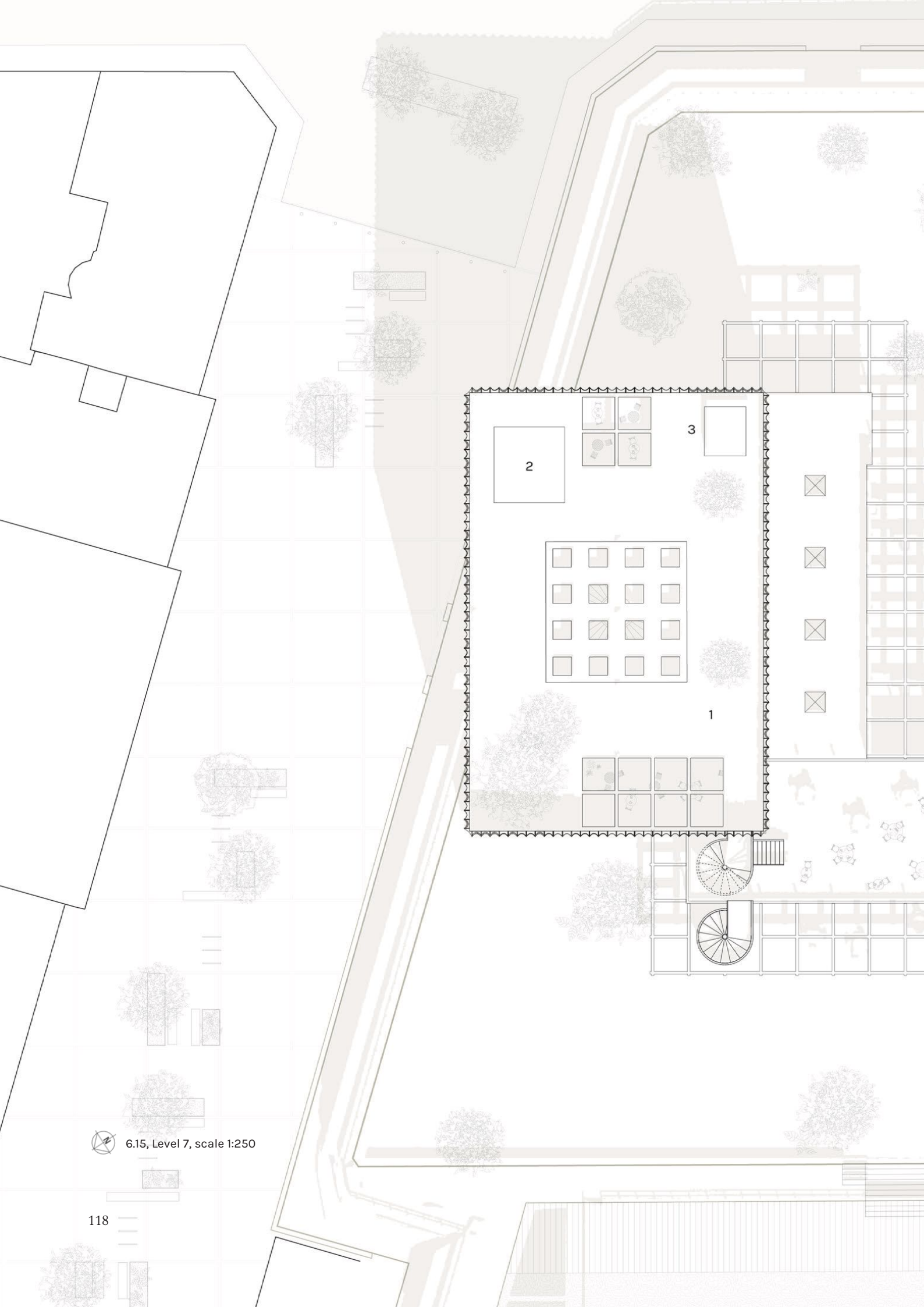


6.14, Level 6, scale 1:250

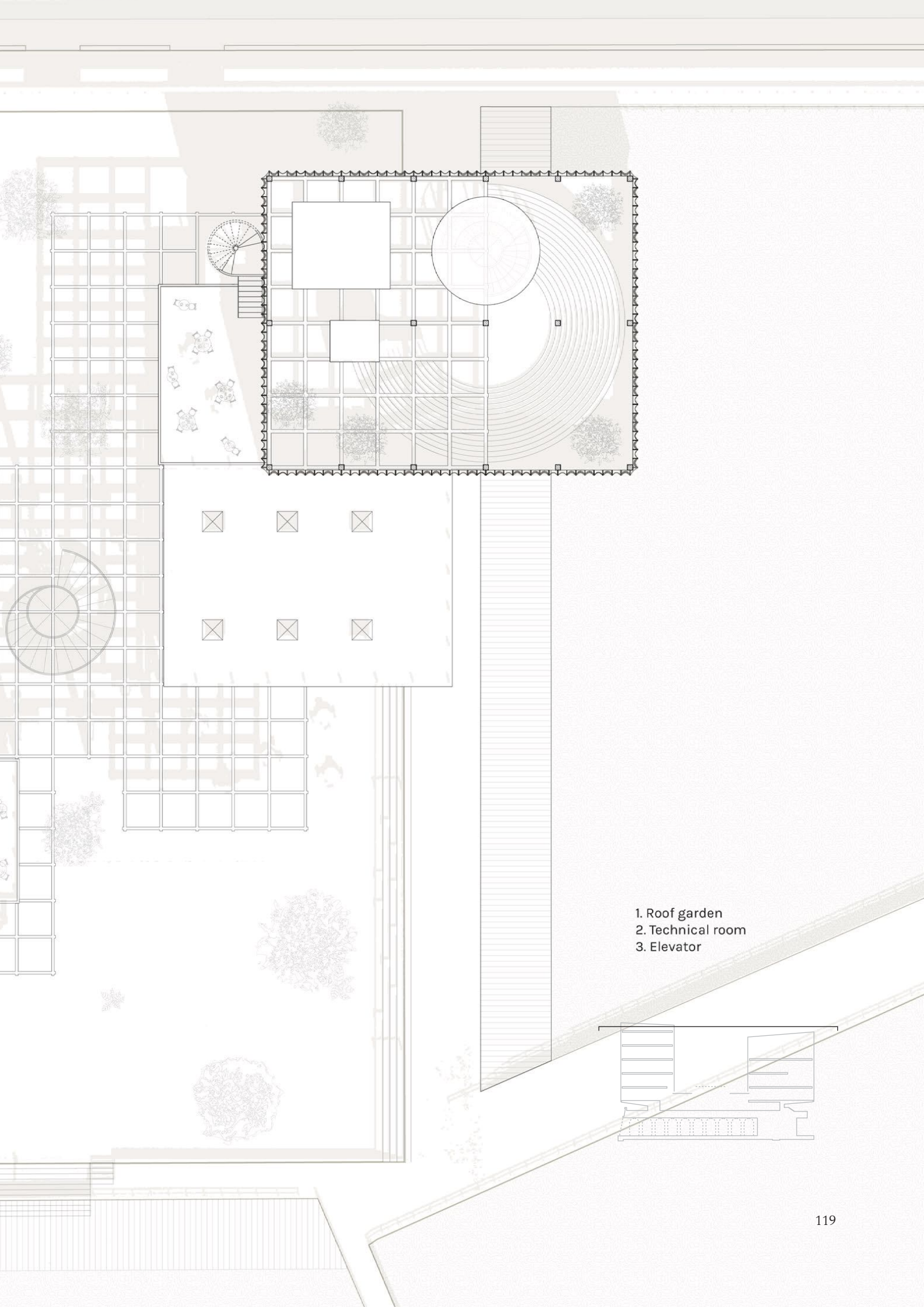


1. Technical room
2. Outdoor terrace
3. Semi private social space
4. WC
5. Sleeping module
6. Elevator
7. Talking space, family space
8. Social space
9. TV lounge



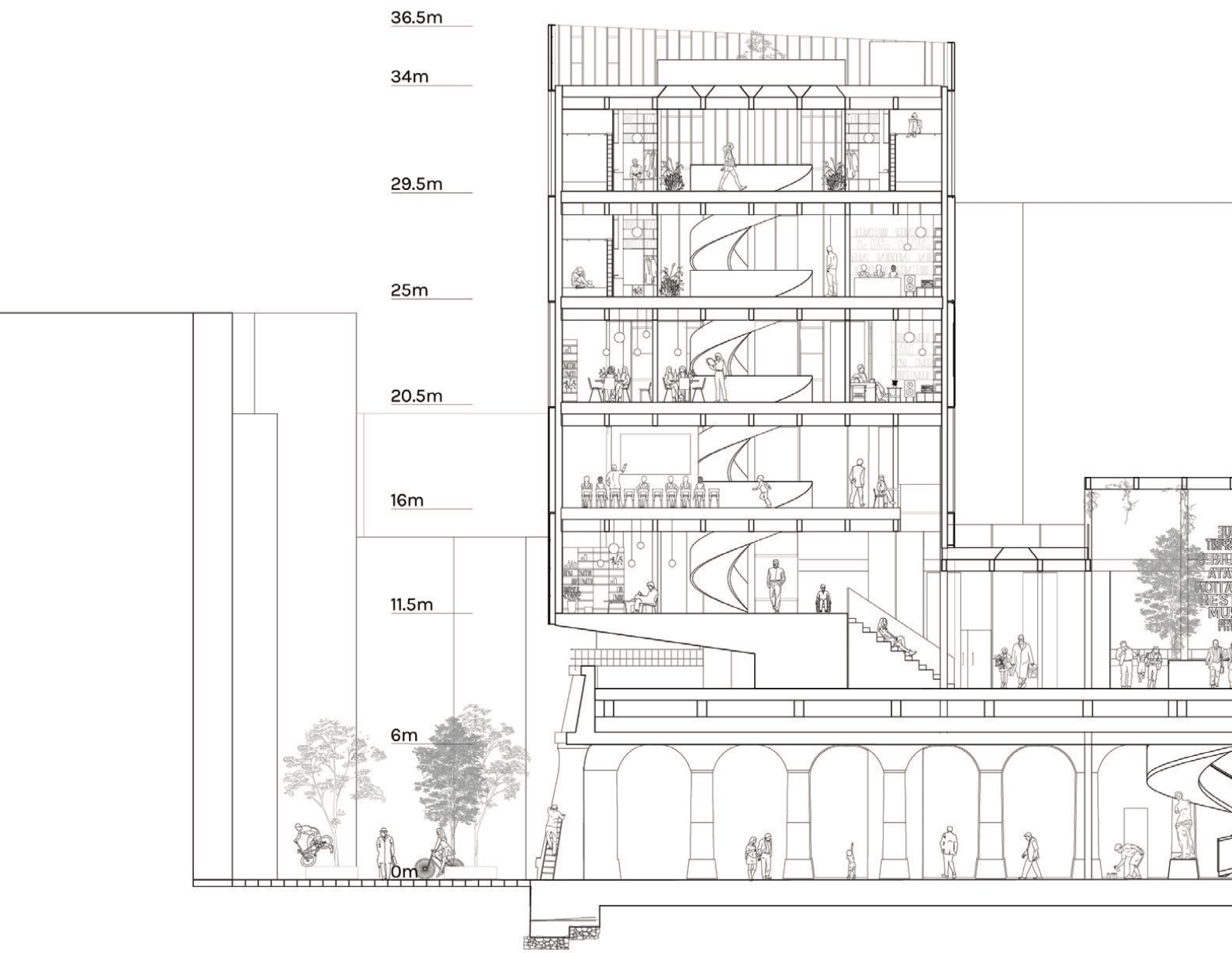


6.15, Level 7, scale 1:250

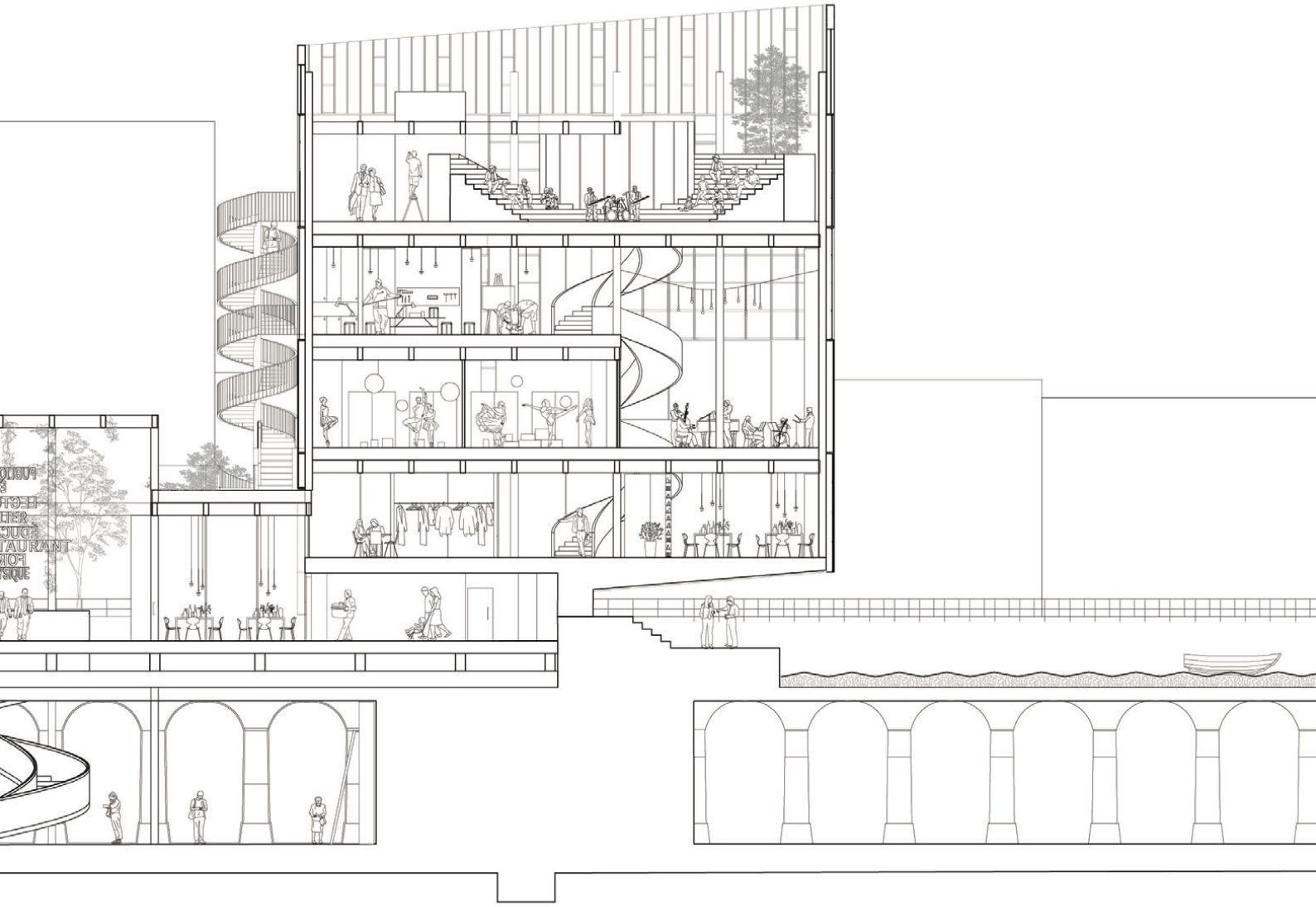

1. Roof garden
2. Technical room
3. Elevator

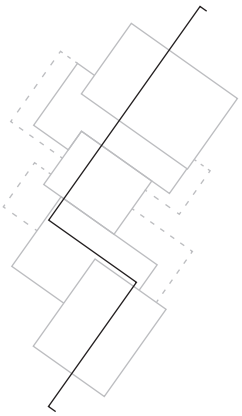
6.16, Visualisation of the Heart of the building

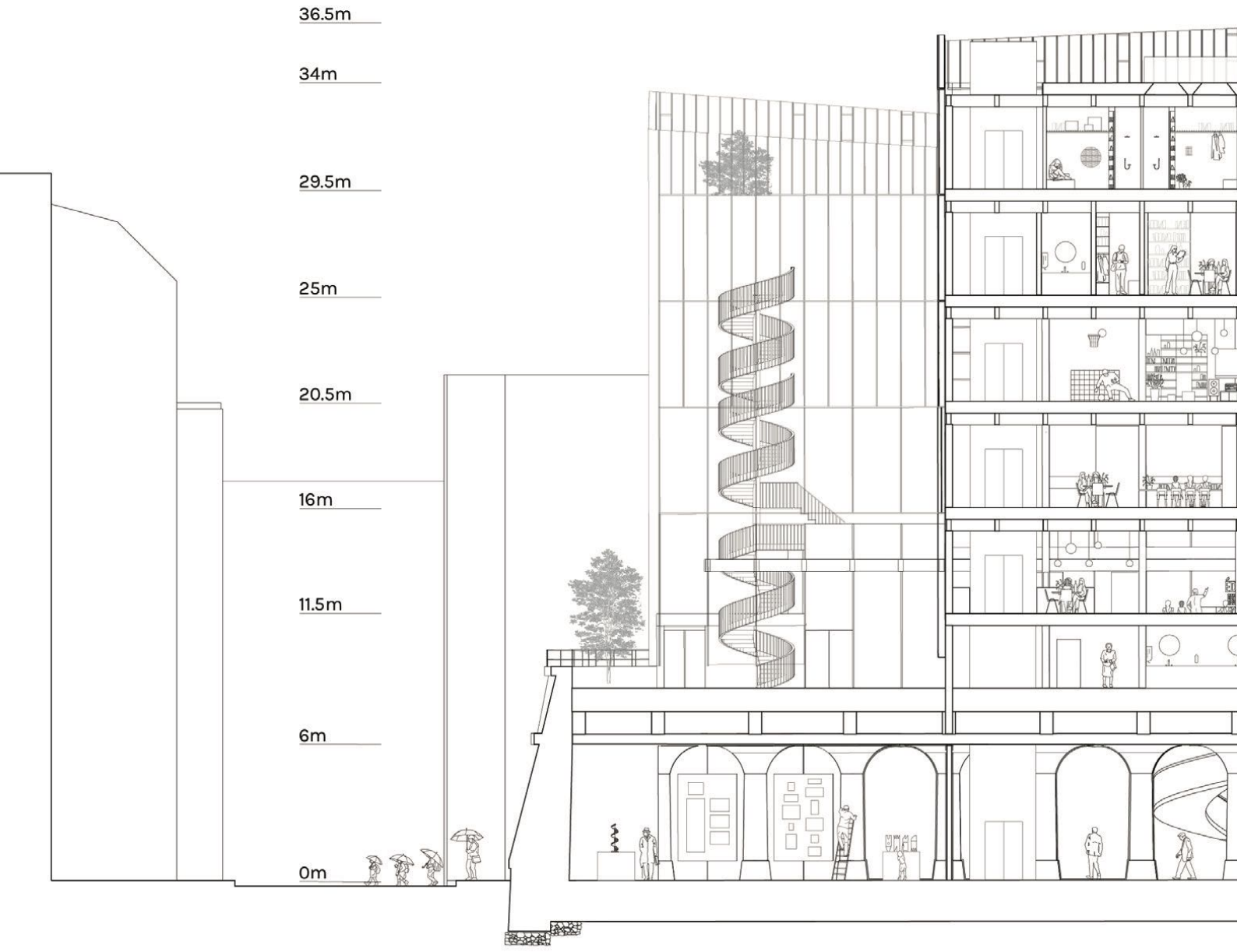
As a new beginning, the emergence from ground level spirals you into a new setting. Greenery and shifting transparency play with the light and fresh air fill your lungs. This is the heart of the building and from here you are invited to use and to participate.



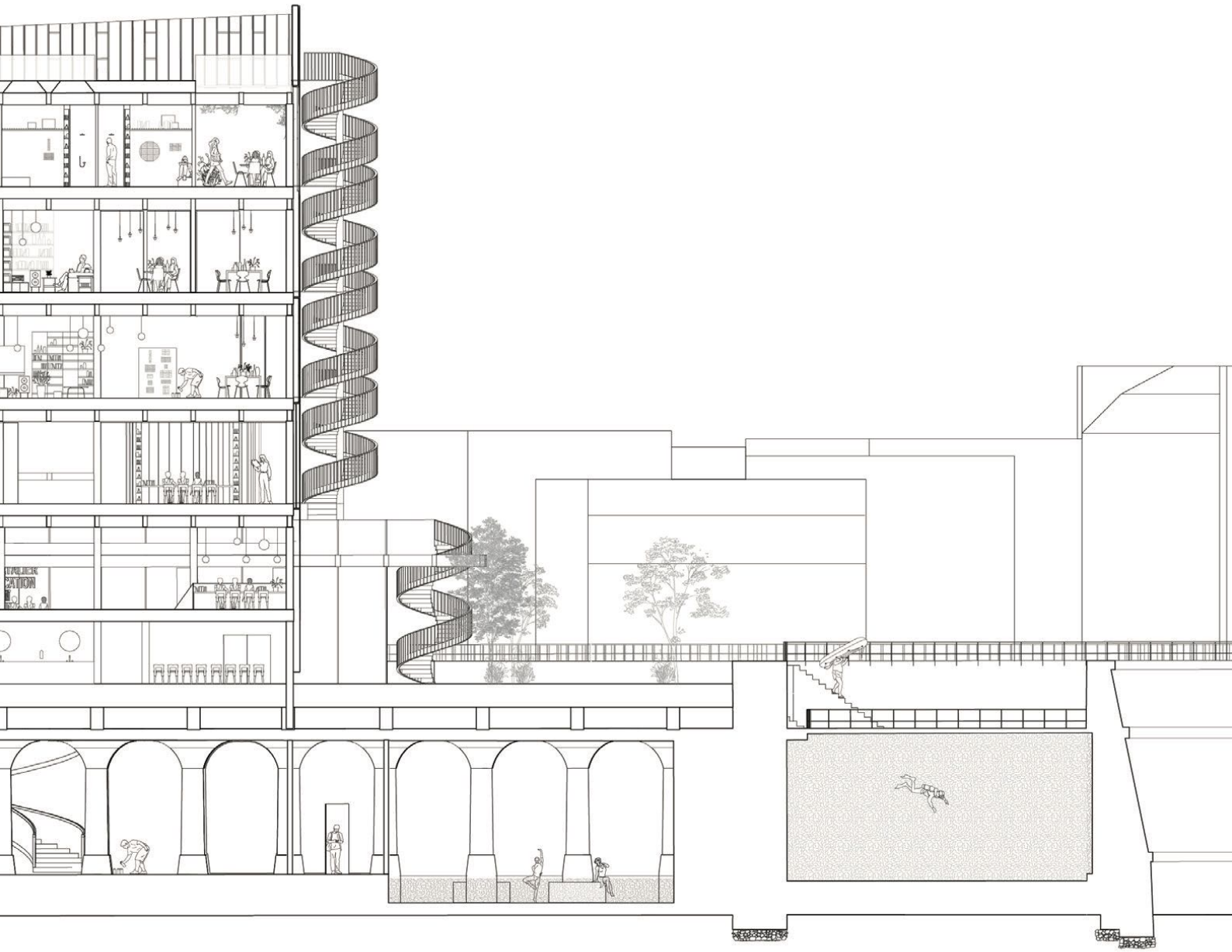
6.17, Cross section A to A, scale 1:250

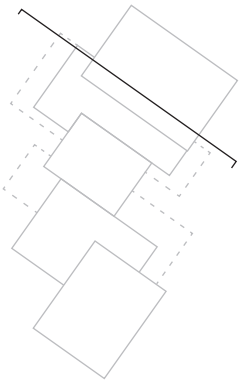


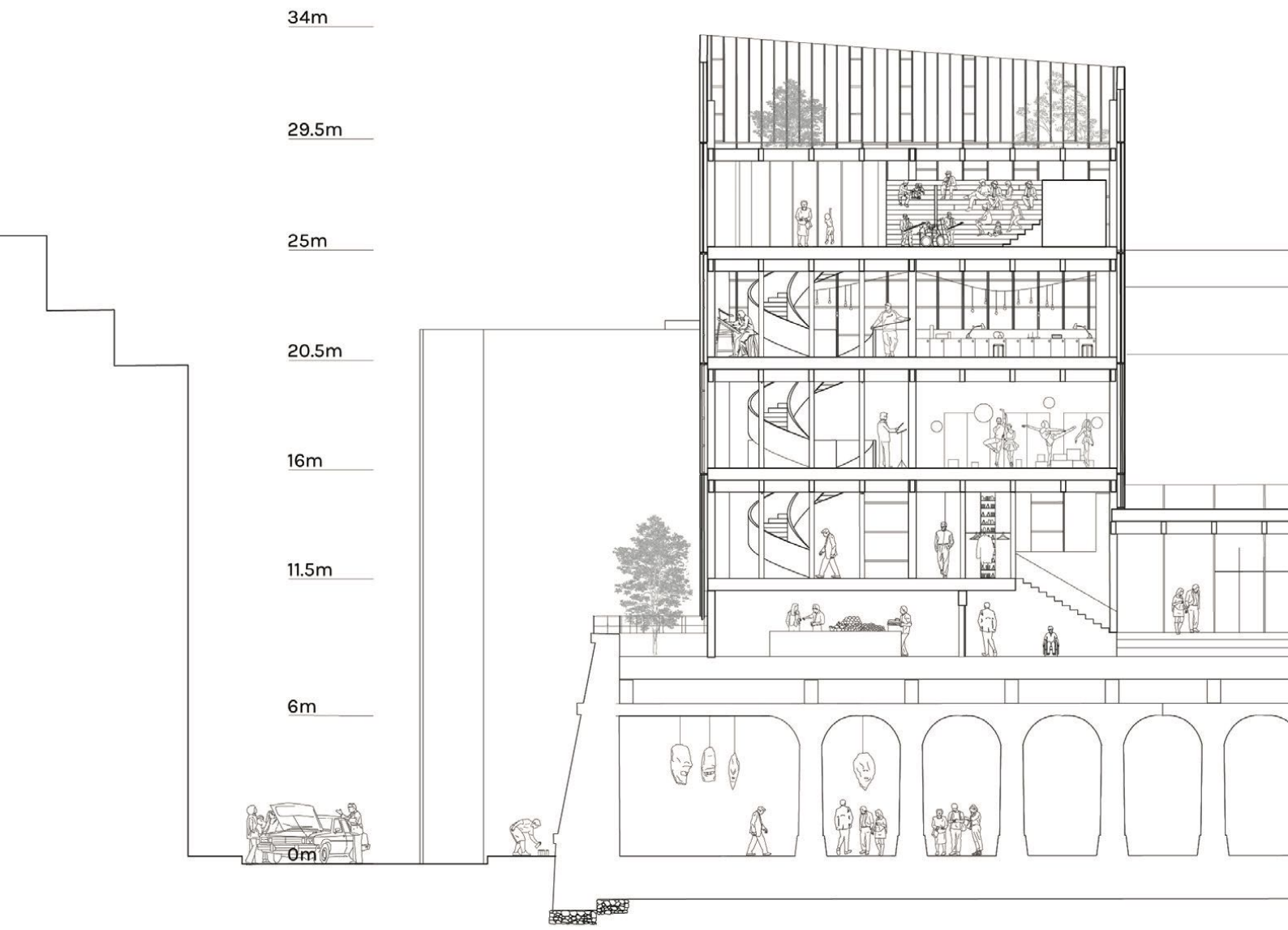




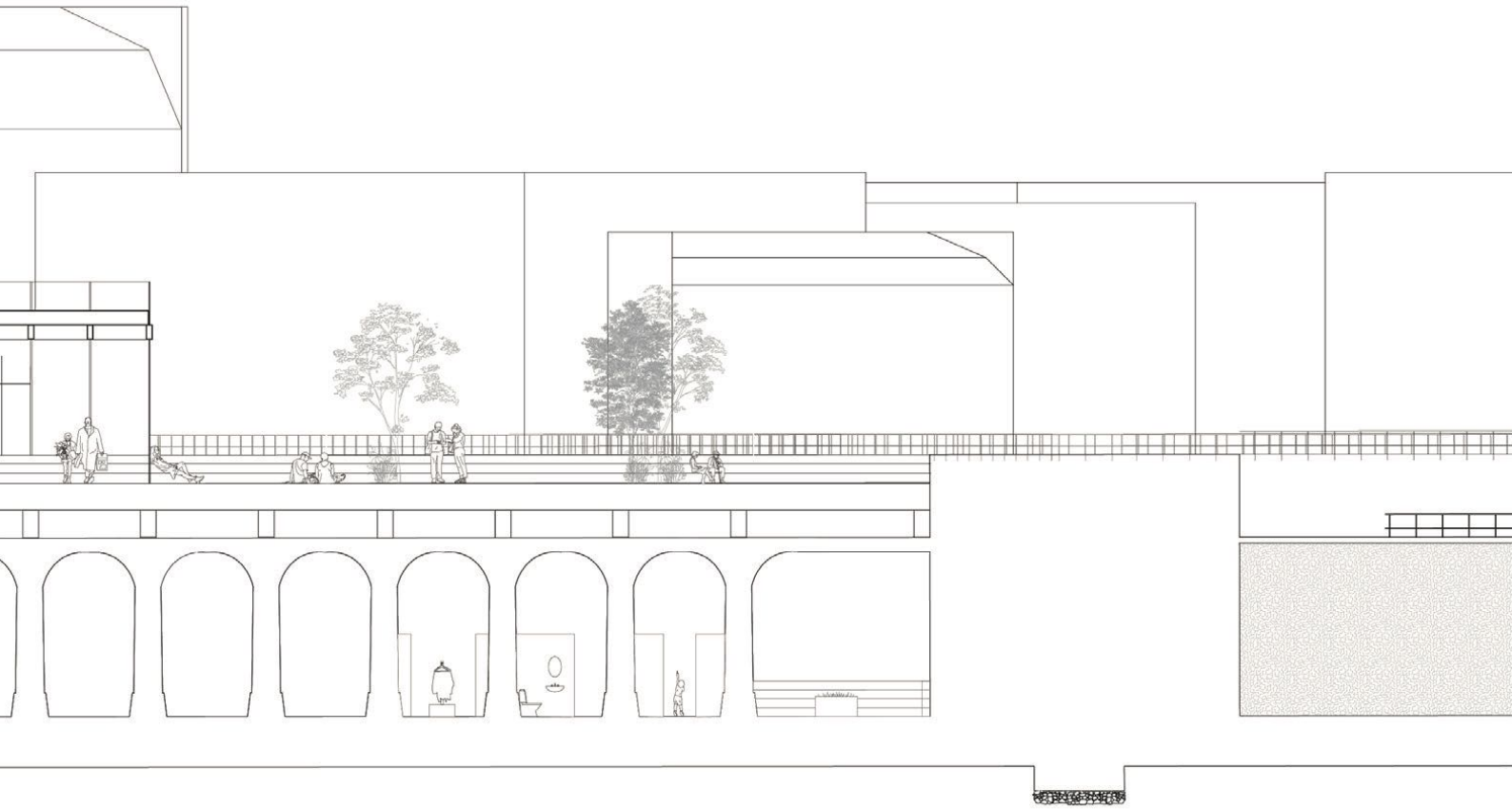
6.18, Cross section B to B, scale 1:250

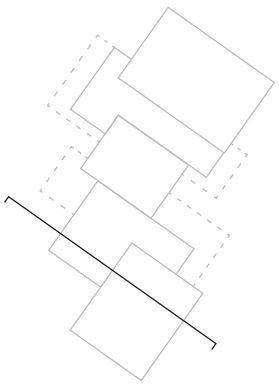


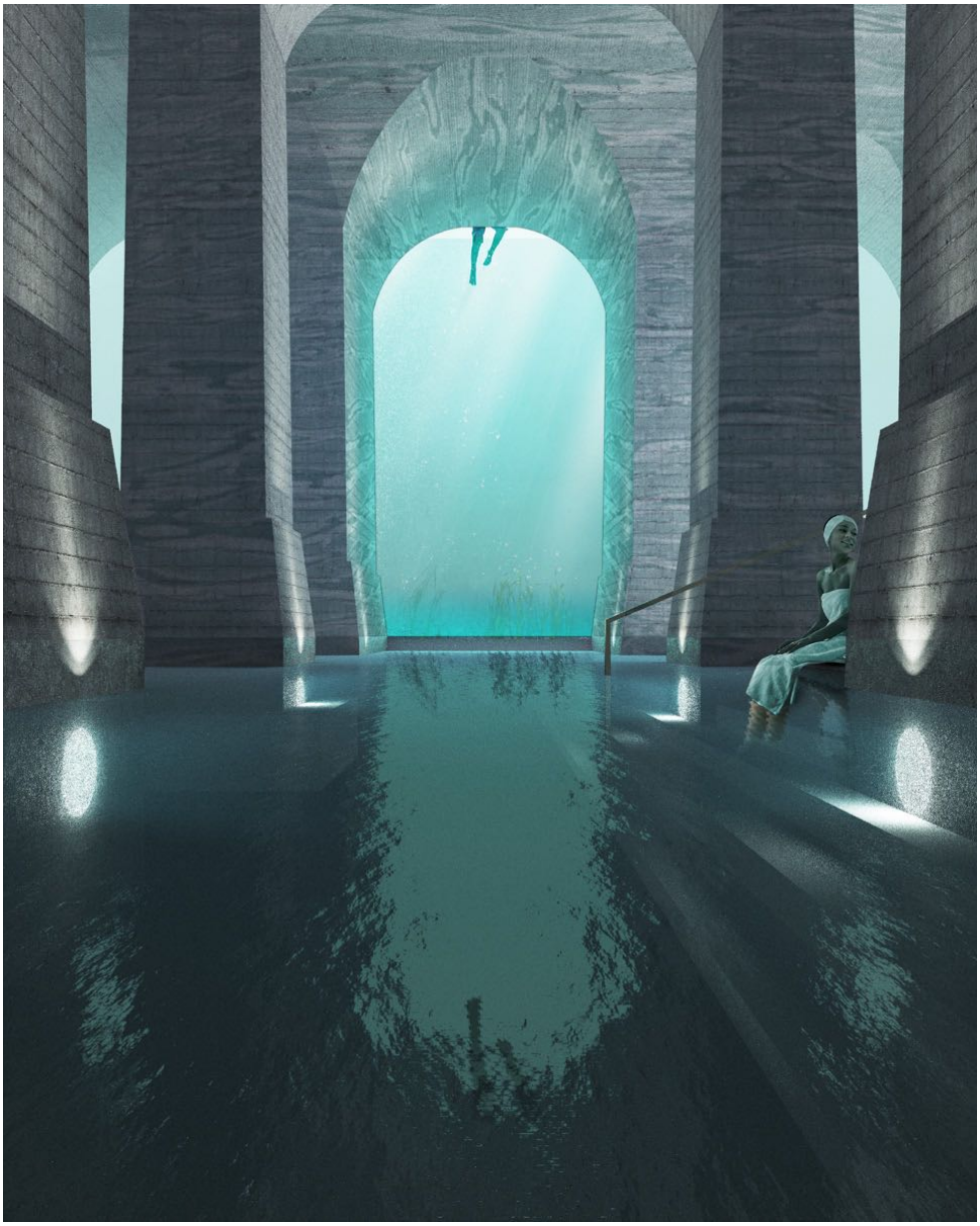




6.19, Cross section C to C, scale 1:250







6.20

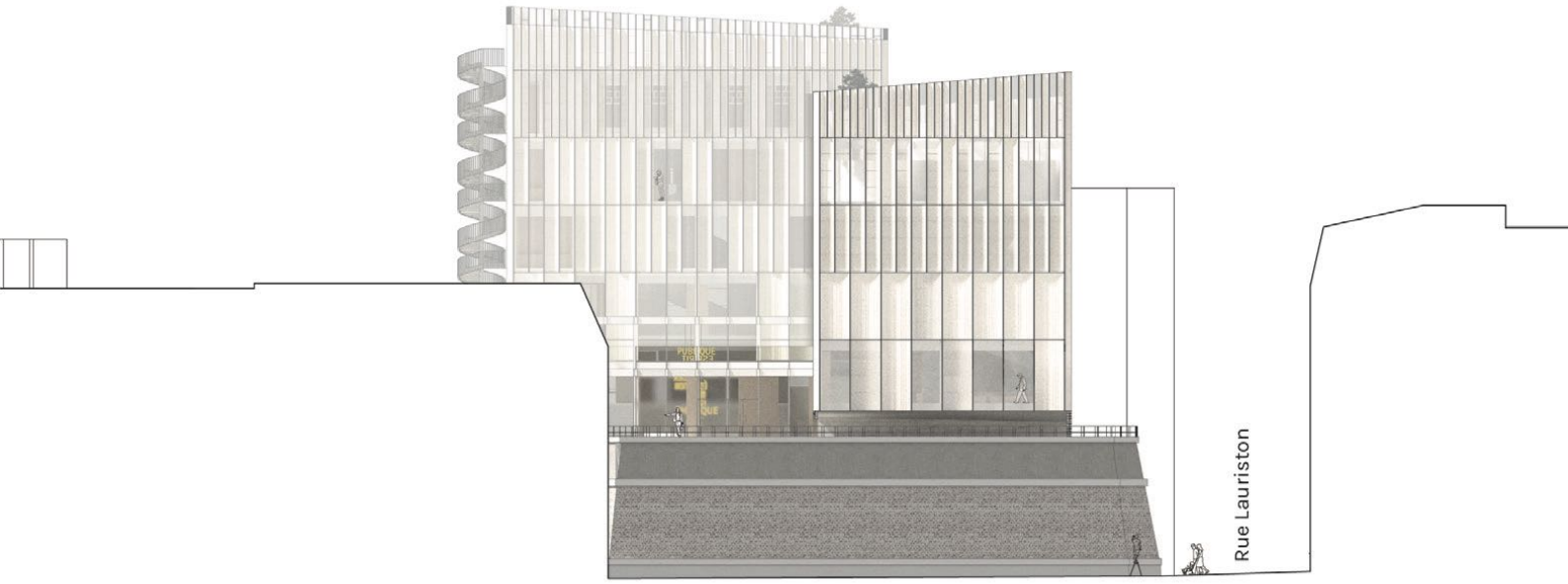
The misty warm water and the dull green light shining through the outdoor basin creates an atmosphere of relaxation and contemplation. The gentle sounds of water splashing are bounced around the grandiose space and the rough surface of the old columns create a tactile experience.

6.20, Visualisation of the Common bathing space in the Public baths

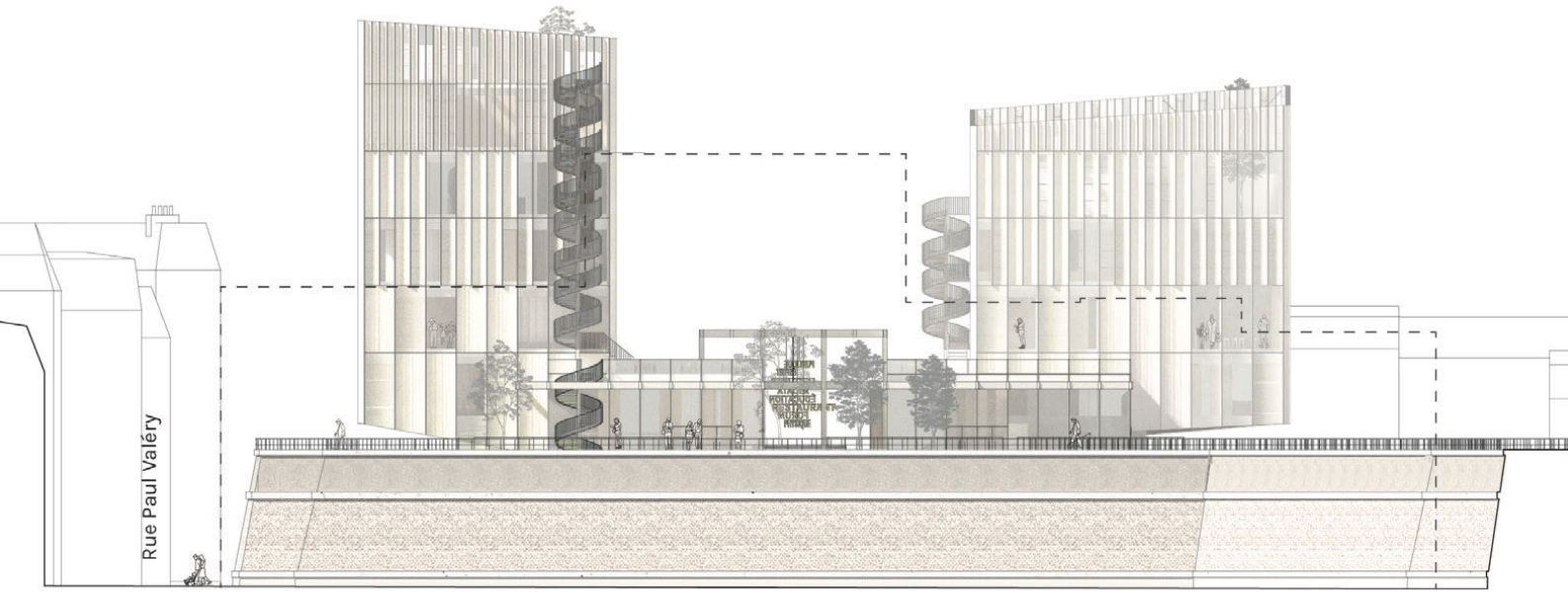
6.21

Underneath the bustling floor of the kitchen classroom, you find a dramatic space where the building leans over you and reaches for the water. Here you are alone on misty days, and here you find shade on hot summer ones.

6.21, Visualisation of the space under the overhang of the "Physical" building

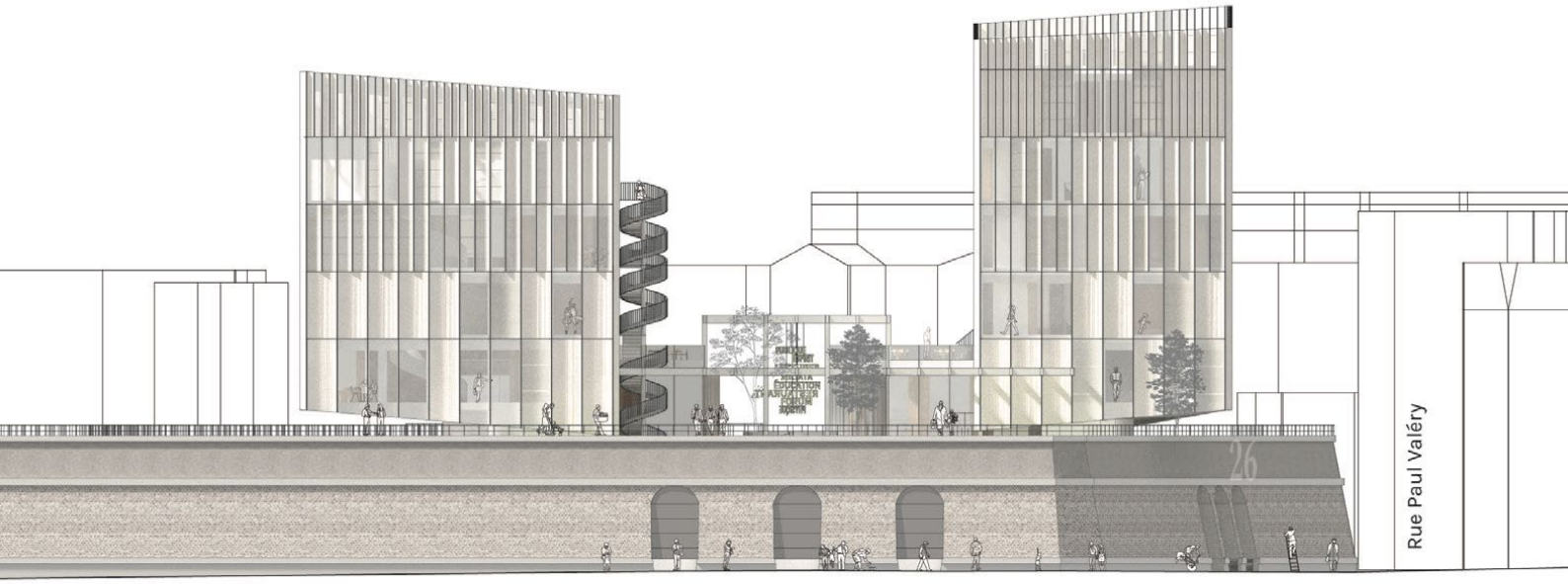


6.22, Facade elevation from south, scale 1:500

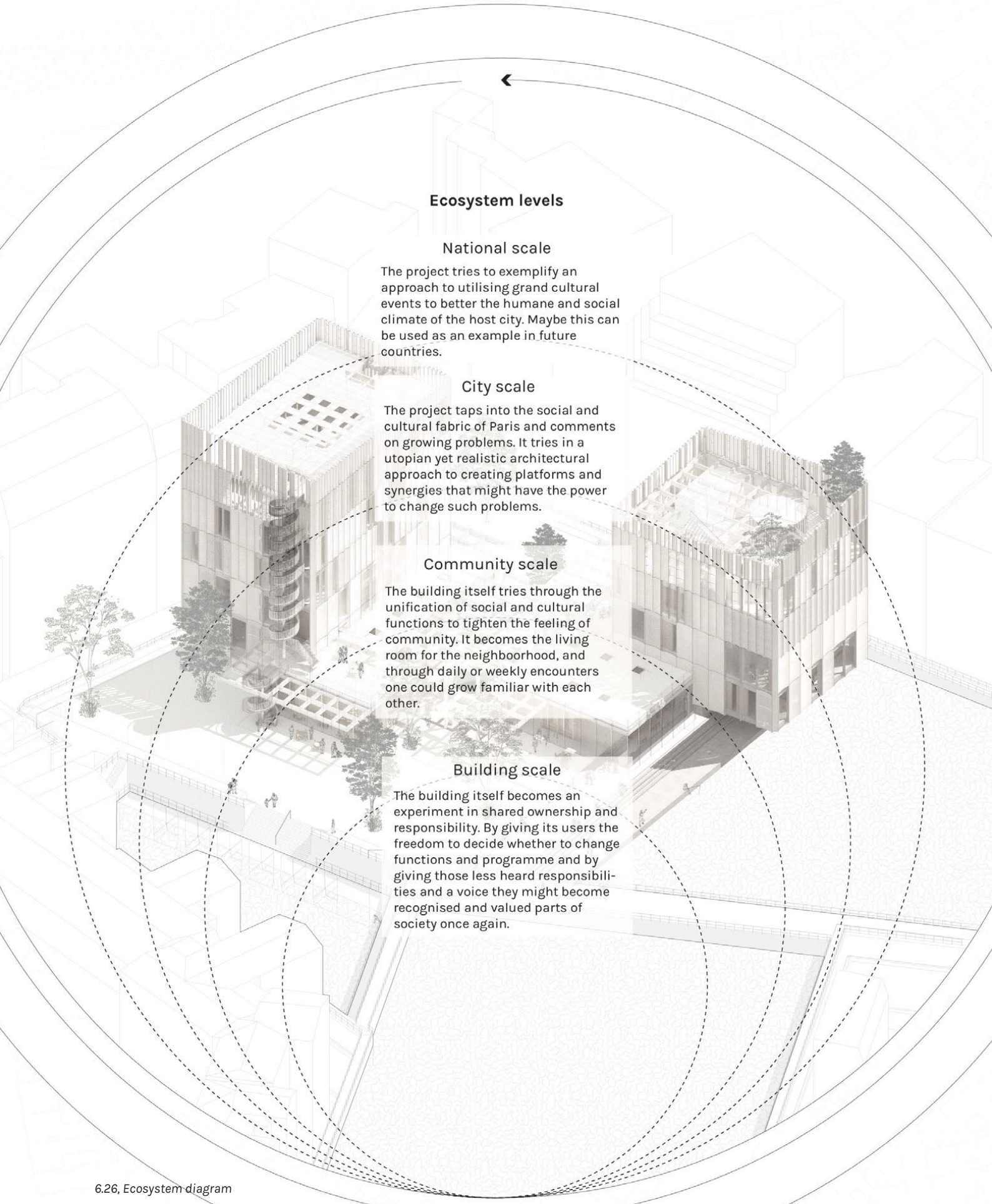


6.23, Facade elevation from east, scale 1:500

6.24, Facade elevation from north, scale 1:500



6.25, Facade elevation from west, scale 1:500



6.26, Ecosystem diagram

As the starting event for the new Passy Réservoir, the Olympics. Two weeks where the Reservoir, through the Olympic solidarity programme, promotes; healthy body image in the public baths, Olympic history and special key athletes in the gallery, speaks and talks about developing countries, culture, heritage, clean sports, diversity and integrity, showcasing sports for social development in the performance areas and promoting the difference made by the Olympic refugee team throughout the world, educating the Parisian society and giving everybody a feel of ownership to the Passy Réservoirs.

Both visitors and regulars are encouraged to use the learning and knowledge facilities. The learning facilities offer various lectures which change seasonally due to popular demand. The knowledge areas are mainly self-study. Workshop tables, group spaces and lone places for contemplation offers a broad opportunity to learn about yourself and each other.

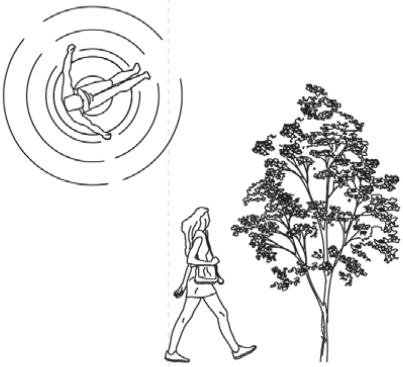
Meeting around a table, around food, is something everybody across cultures does. You are encouraged to eat together, cook together and together experience different cultures and cuisines. Visitors can join different themed dinners and regulars can be taught cooking and possibly develop friendships across cultures and ages.

Homeless in a transitional housing programme are offered a studio apartment in the building. In return, they under supervision practically run the building. At the same time, they are offered counselling, medical attention and training in social and professional skills - making sure they are ready to be part of society yet again.

Those not fortunate enough or ready to participate in a transitional housing programme are offered a "proxy mailbox" and a locker on the ground level of the building - giving them an alternative address and an opportunity to communicate with the municipality and receive official help.

In the performance areas of the building, visitors and regulars are able to express themselves physically through dance, music, theatre, etc. Through passion, differences are broken down and unlikely friendships and lasting bonds can be made. This is also the place to come and try new things in a safe environment.

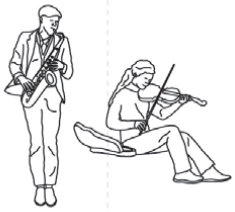
The hobby area is closely related to the performance area as those most likely are linked together. The two areas are flexible and mixing them is encouraged. Here you are taught how to use tools, and how to use your creativity and to create. One of the biggest satisfactions there is.



The Passy Reservoirs were once inaccessible and unknown. In the dense centre of Paris, the reservoir now provides 13.000 m2 of fully public land- and waterscape. Green and blue areas are accessible for everyone and create a much-needed break in the urban fabric.

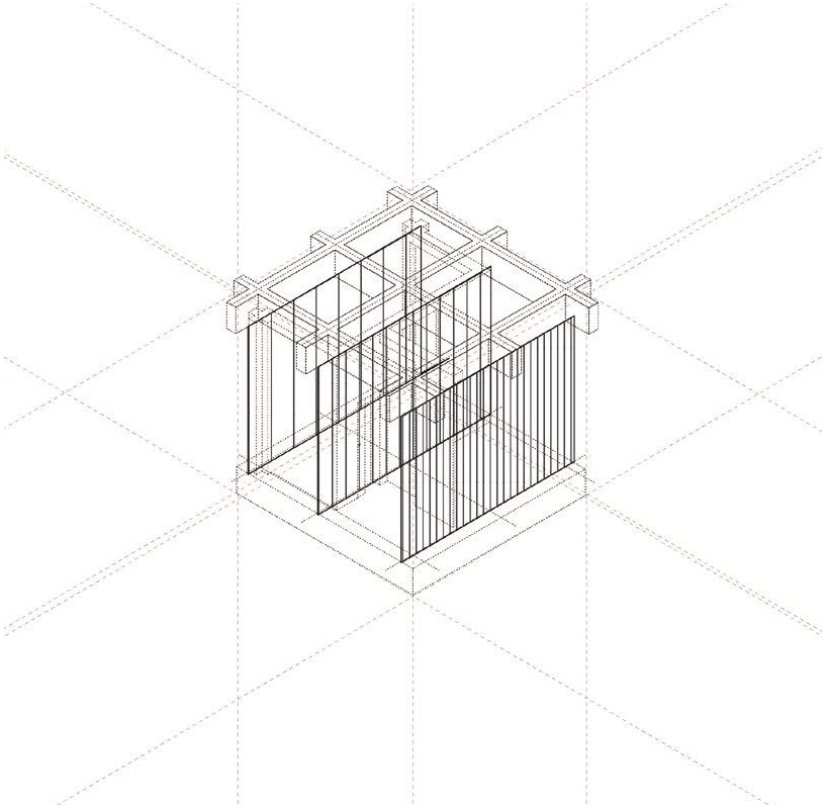
On the ground level relaxation and body image is in focus. By stripping away that which separates us from each other we see that we are all equal in being completely different. Non is the same and this is celebrated in the indoor and outdoor public baths.

A growing part of those who end up in homelessness is young people due to growing social, physical and economic demands. The building offers space and counselling for young people to build a social and professional network to lean on. Those who don't fit the boxes of society are offered guidance, education and a platform to grow from.



At the top of the building, all efforts in the hobby area and the performance areas come to show. Here are concerts, plays, or just the occasional break from everything under the blue sky in the rooftop garden.

On the ground level facing the Rue Lauriston is a gallery space exhibiting local and in house artists contemporary view of the Parisian society.



6.27

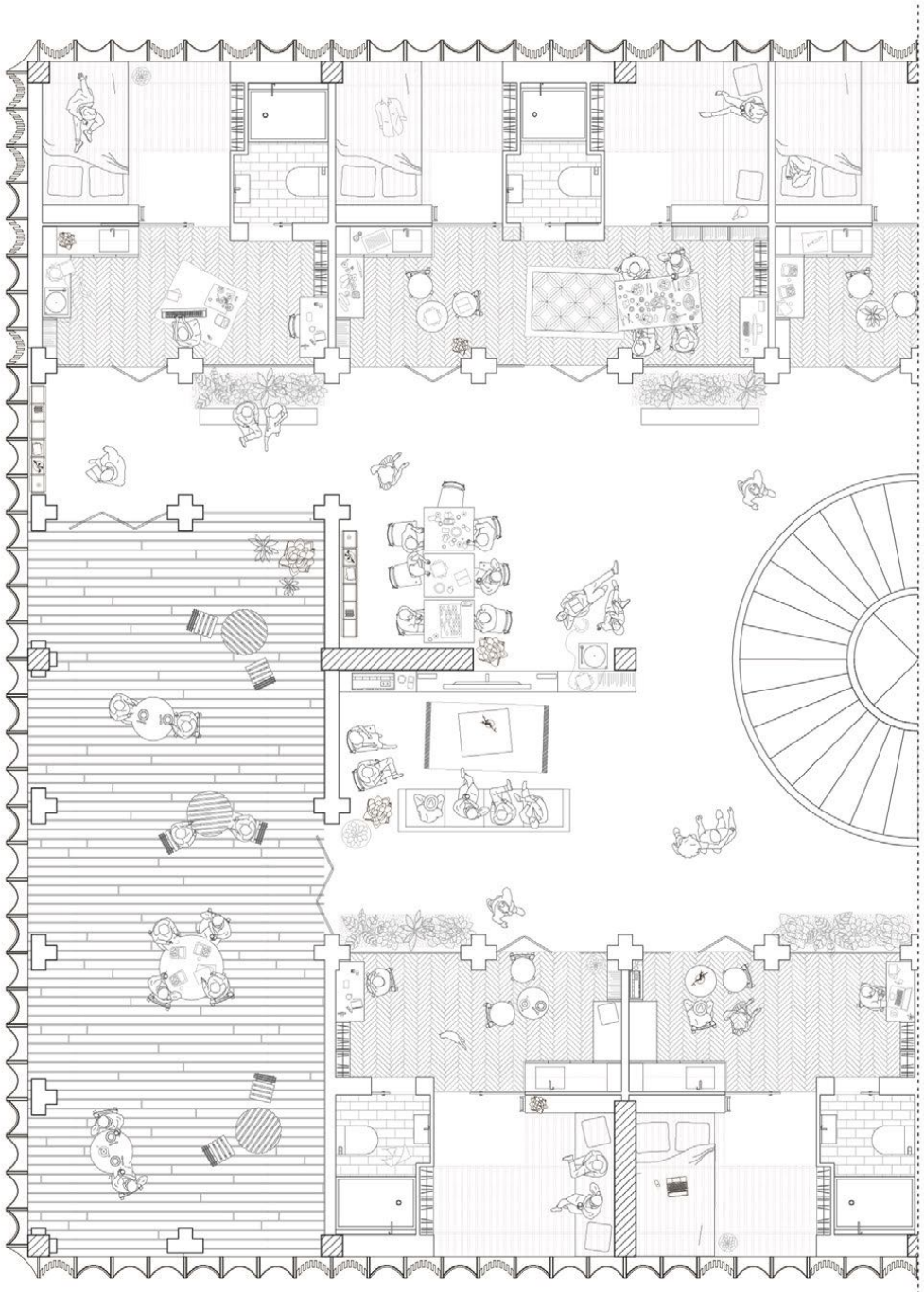
Transitional housing.
Homelessness is rising and becoming increasingly more visible along the streets of Paris. But homelessness is not something that should be hidden and forgotten. This project aims to integrate transitional homeless housing in combination with functions that they have traditionally been separated from but we believe are beneficial to combine. The transitional housing is as the name suggests, a transitional function that seeks to help homeless people be reintegrated into society. The units are not a permanent living situation but rather a learning situation that assists with the process involved with the readjustment to a "standard" life.

The communal areas give inhabitants the possibility to socialise and encourage a sense of community and support to develop. Feelings of isolation and removal from the familiar community is a common reason people choose to return to homelessness. The community and support developed can continue to support through the transition to permanent housing situations, reducing the chance of people returning to their previous situations.

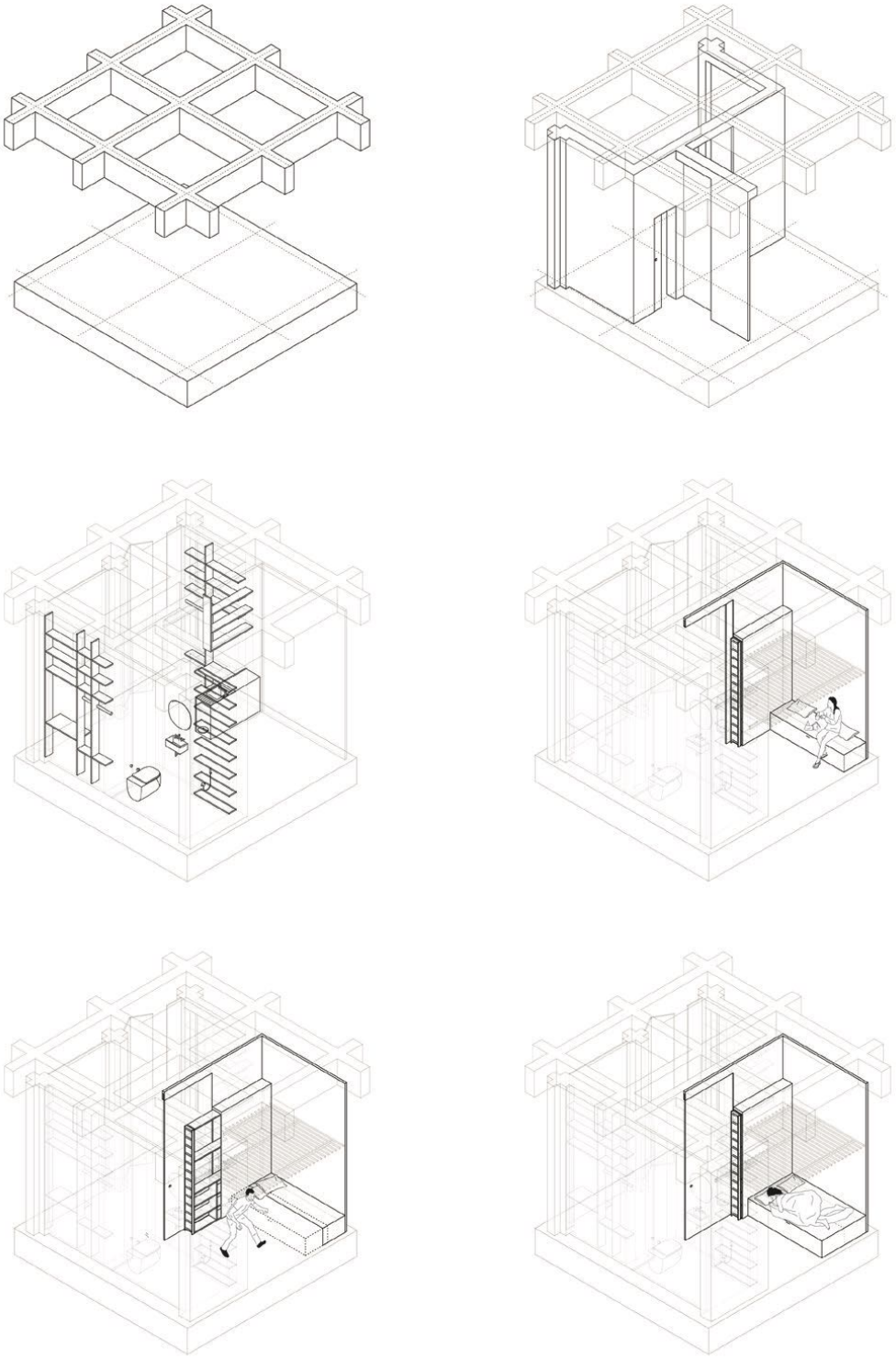
The primary goal of the housing units is to provide the inhabitants with a sense of ownership, foster a community with inhabitants and users from other areas of the building and finally allow them the possibility to learn independence and the ability to be integrated back into "standard" life. This is done architecturally through the creation of a flexible privacy gradient that gives the inhabitant, control and ability to open or retreat from social interaction. The control the inhabitant has, along with inbuilt furniture that allows them to exhibit and see their belongings works to develop a sense of ownership and home that is a crucial part of inhabiting a space.

The introduction of specific functions such as counselling and medical treatment within the housing ensures it is easily accessible and promotes the usage and works to discourage stigmas. Furthermore, the inhabitants will be integrated within the overall building through synergies such as skill learning, workshops and classrooms to gardening and communal cooking that allows them to give back and feel satisfaction from work being done and appreciated by others.

6.27, Transitional housing concept



6.28, Transitional housing plan, scale 1:100 (level 6, north west)



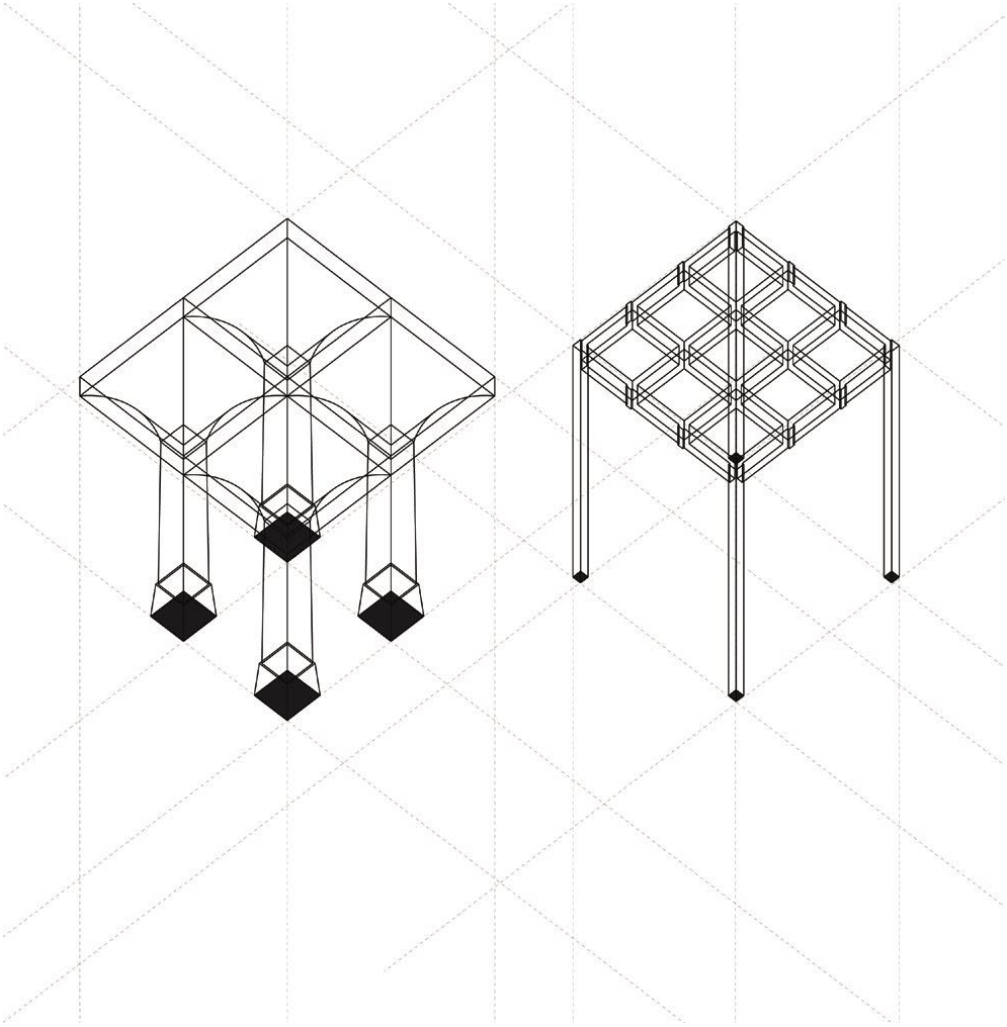
6.29

6.29, Principle for modularity of Transitional studios

6.30

Green beds and opaque screens provide an idea of the life happening just behind. Moveable and partly transparent screens graduate the movement from social to private, inviting you in for a cup of tea, or rejecting you when life is harsh. The bedroom is flexible allowing it to act as an extension of the living room or as a complete room to retreat into and feel safe in.

6.30, Visualisation of the graduating social to private spaces of two Transitional studios



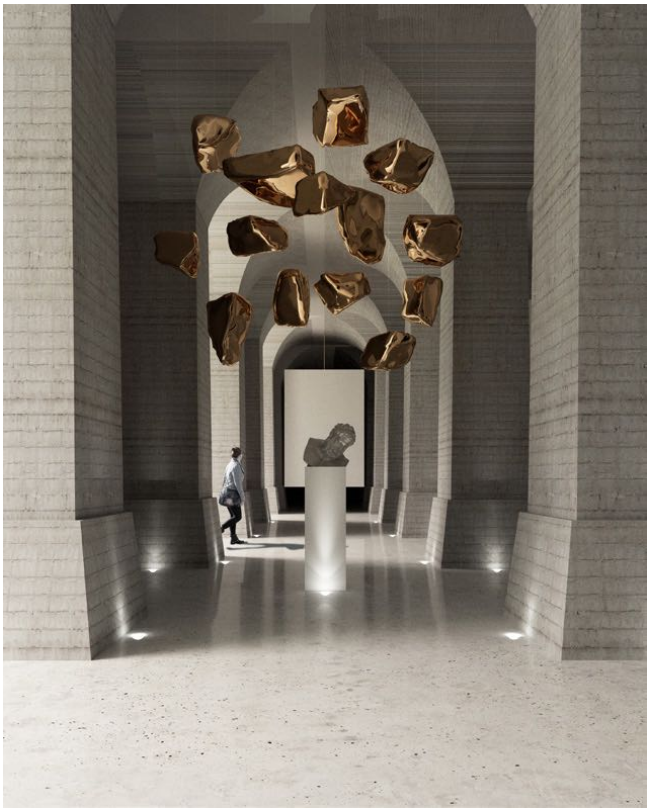
6.31

The beauty in translation.
Translation has become an important method and approach for our project. It highlights an idea of using the original formal language, characteristics, materiality etc... as the starting point and inspiration for the acts of addition and intervention. An act of translation can be undertaken in a number of ways with the common thread being the license and intentions of the translator.

There is not a set method of "translating" architecture as the act of translations is rooted in artistic license and intention. The project shows that there is not one method of translation that can be used. Each element requires its own careful and deliberate intervention backed by exploration and architectural intention. A multitude of factors and options involved with making an architectural choice must be explored, from material use to formal language to structural concept, translation is a flexible concept that seeks to provide a cohesive experience between existing and new spaces and pieces of architecture.

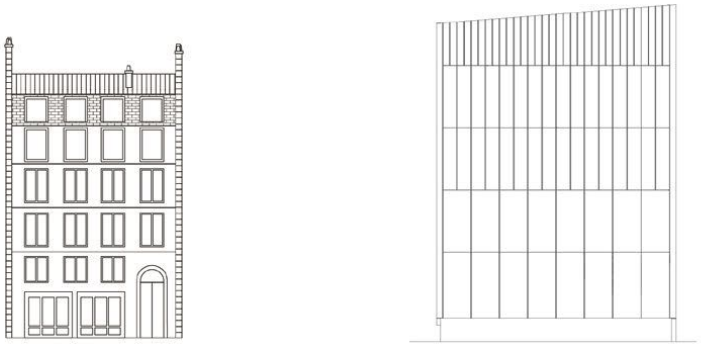
6.31, Translation concept

6.32

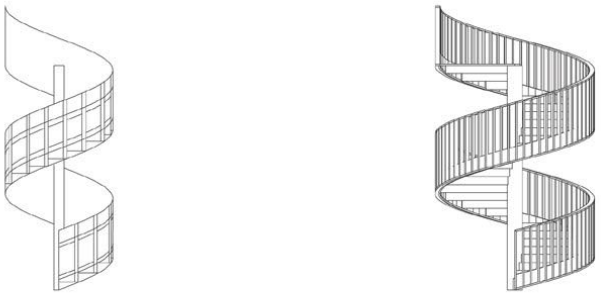


6.33

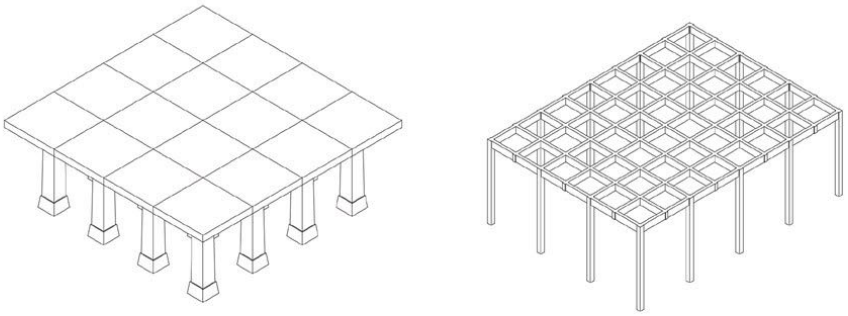
6.32, Visualisation of hallway on level 0 reminiscent of the Olympics
6.33, Visualisation of Gallery exhibition



The layering, materiality, vertical stacking and depth of the Haussmann facade are all elements that have been explored and "translated" into the new facade proposal. The facade works to be a modern iteration that stands for itself but still complements the existing context.

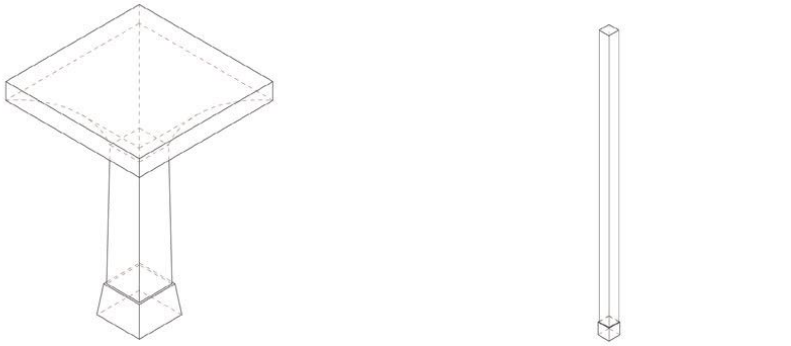


The existing functional access stairs of the reservoirs have been "translated" to make use of modern materials, requirements and architectural intention to reimagine it as a new element.

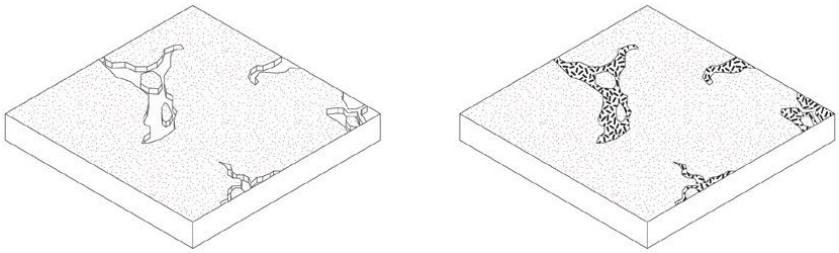


The vaulted structure found underneath the water basins has been "translated" into a column and waffle structure that preserves the structural concept but makes use of new materials and optimisation, allowing for increased flexibility and openness.

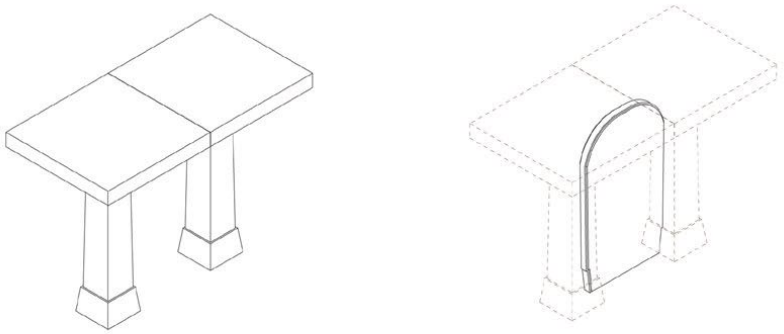
6.34, Examples of translations part one



The original columns are massive elements, disconnected from the human scale. The "translated" column uses new materials to achieve a slenderness that both speaks to the human scale and emphasises the grandiose nature of the original columns.

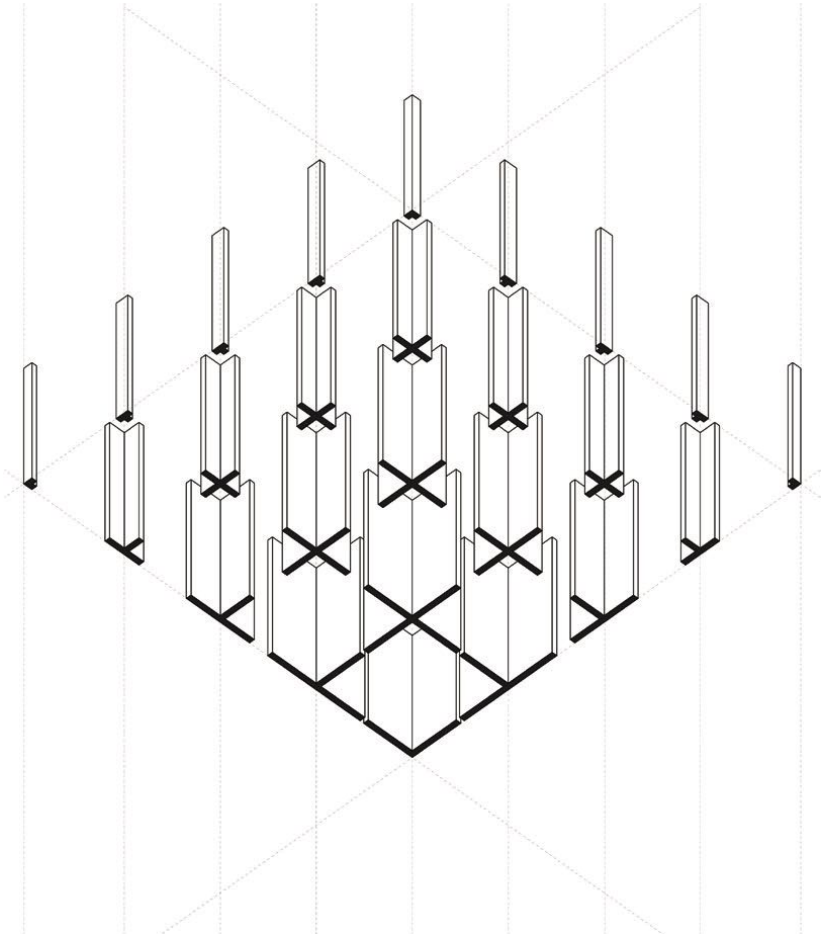


The original floor is cracked and deteriorated from a century of neglect. The floor is restored and "translated" through the investigation of "kintsugi". This approach values the richness of the original floor while allowing for a new life to be lived without covering ones past.



The addition of walls in the original vaulted room is a programmatic requirement. In this case of addition, the walls lifted away from the original structures through a shadow edge marks a clear distinction and ensures that the original structure is in focus.

6.35, Examples of translations part two



6.36

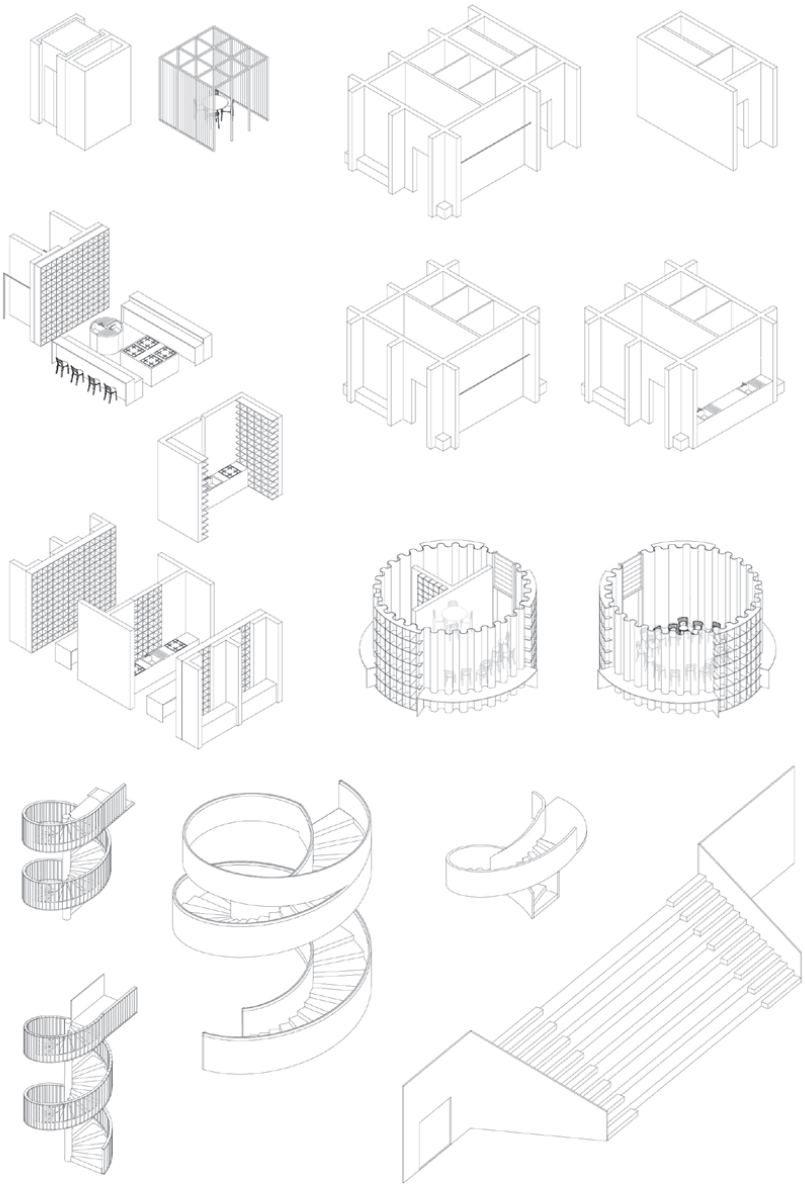
Singular in the plural.
A cultural building is inherently a building that requires a high degree of flexibility allowing it to accommodate the breadth of events and functionality that the users invent for it. Often architecture of this flexible and changing nature is flexible to a degree that impacts its ability to carry out functions to a high degree. Achieving a balance between flexibility and specificity is crucial in cultural architecture and allowing the project to function successfully under a number of situations.

This balance is achieved not merely through programmed and unprogrammed spaces but also through the architecture that creates the spaces and sequences that define the human experience of the building. For the Passy Réservoir, the usage of a structural system that is flexible and indefinite has necessitated that development of a system that allows for specificity to be introduced into the building.

The introduction of the cross is an element developed out of the structural systems and elements in the building through the addition of room and space defining qualities. A variety of cross sizes based upon the grid of the waffle structure allow for differing rooms to be created while a cohesive expression can be maintained.

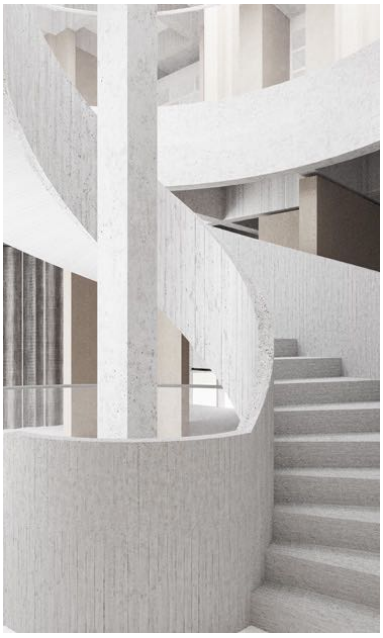
When a higher degree of programming and specificity is required new elements are introduced to suit the function and purpose. The introduced room and space is designed to best suit the function that it inhibits rather than following the systemic nature of the cross elements. Ensuring a cohesive experience of the building from element and function to function is done through the repetition of certain elements such as bookshelves, integrated furniture and materiality.

6.36, Universal and specific hybrid concept



6.37

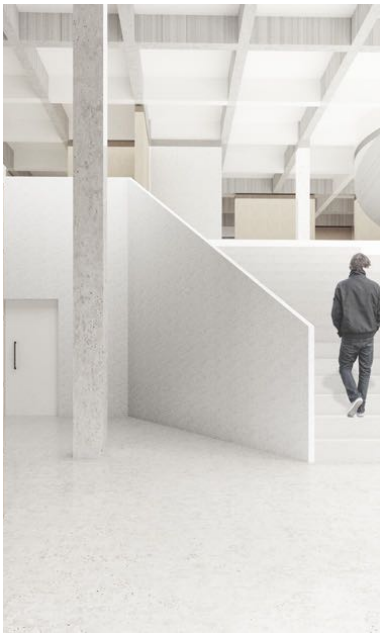
6.37, Catalogue of specific furniture



6.38

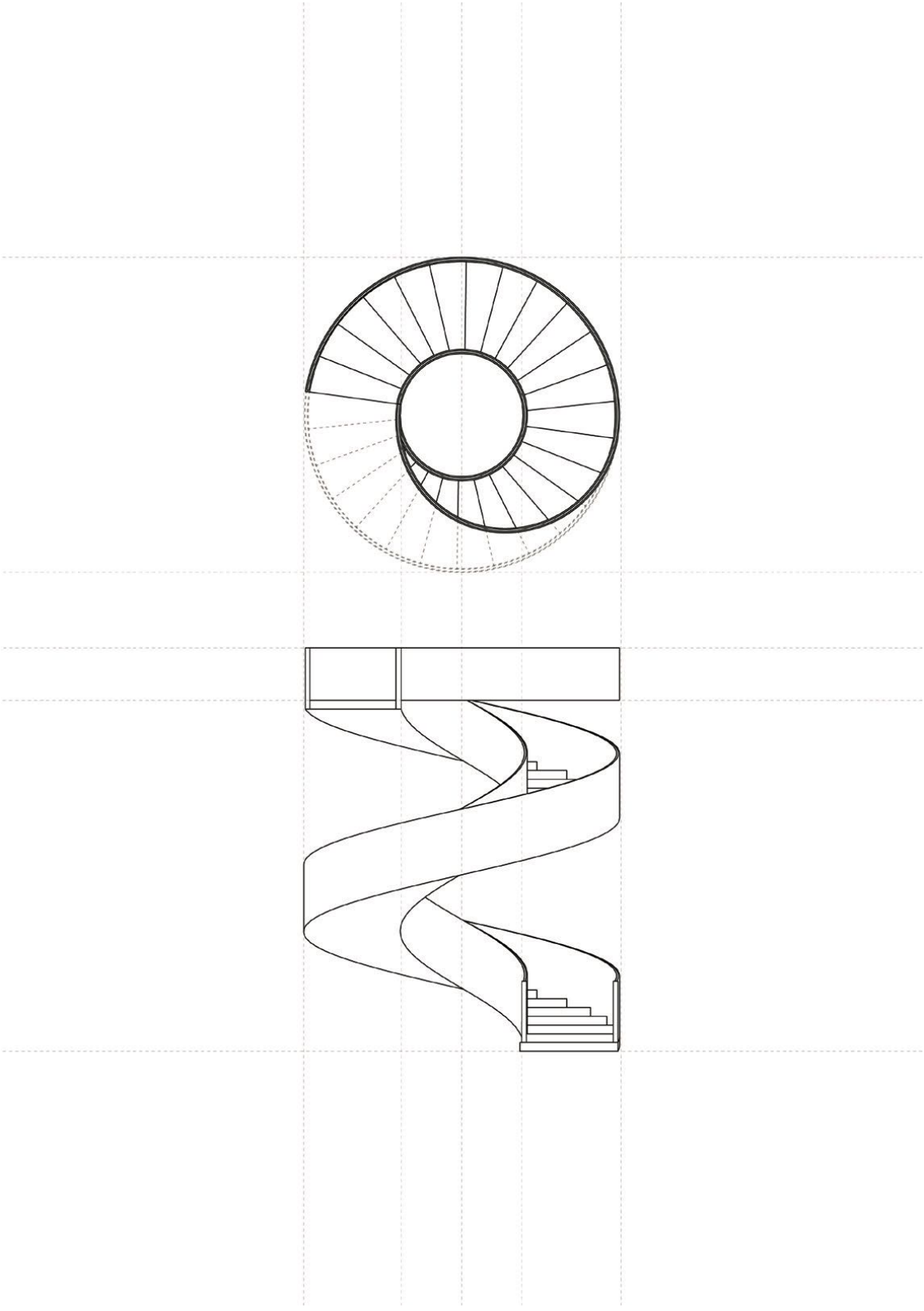
6.39

6.40



6.41

6.38, *Visualisation of stair connecting floors in the two main buildings*
6.39, *Visualisation of outdoor stair leading to roof terrace*
6.40, *Visualisation of roof top amphi theatre*
6.41, *Visualisation of forum stair fold*

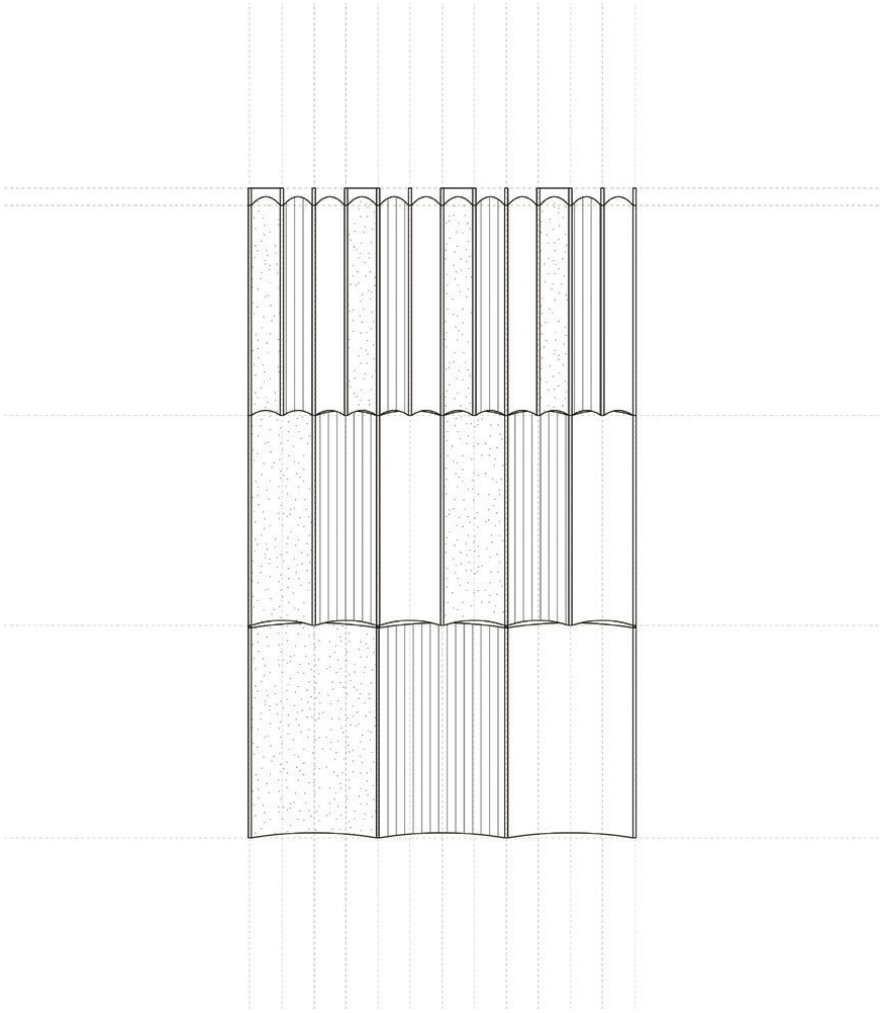


6.42

6.42, Drawing of stair connecting level 0 and level 1

6.43, Visualisation of double height space at performance level

As noisy and energetic as it can be, as tranquil and peaceful it can be in the short spaces of time in between. After the dust settles only a handful are left practising just that one thing they want perfect. Soon other groups will arrive to experience, to inspire, to learn and to move.



6.44

Reinterpretating the classical Parisian facade. Despite limestone being the traditional material of choice for Paris, contemporary architects have chosen to favour the usage of steel and glass in their aesthetic and formal choices. Projects such as the Palais De Justice by Renzo Piano and New Generation Research Center by Bruther Architects are indicative of the new approach towards Parisian Architecture. Social projects often rely on low cost, durable and flexible materials but the location and context, of the 16th arrondissement, speaks towards a higher degree of detailing and delicacy.

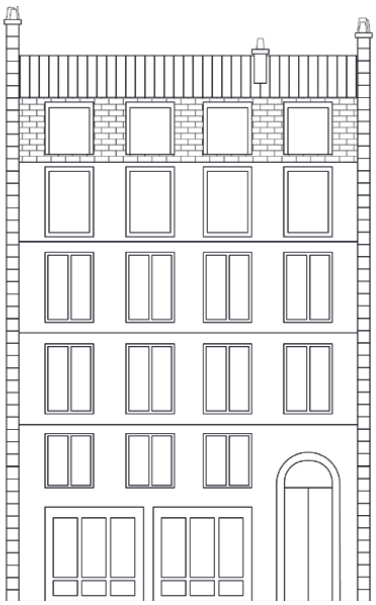
The usage of a panelised facade system and panels of differing transparency allows for a dialogue between internal programming and the building's appearance. The usage of glass, fibreglass and limestone panels have been chosen for the ability to carry out material exploration and investigation, to complement the context and provide a new expression for the socio-cultural typology. The curvature of the panels is a nod towards the depth and the way that light dapples along the Hausmann facades. The ragged limestone, ruffled fibreglass and smooth glass textures are intended to further the play with light and translate into a contemporary setting the intentions and effects of the ornamentation and intricacies seen in the surrounding 1800's buildings.

6.44, Facade concept

6.45

6.45, Visualisation of facade and its materiality

6.46

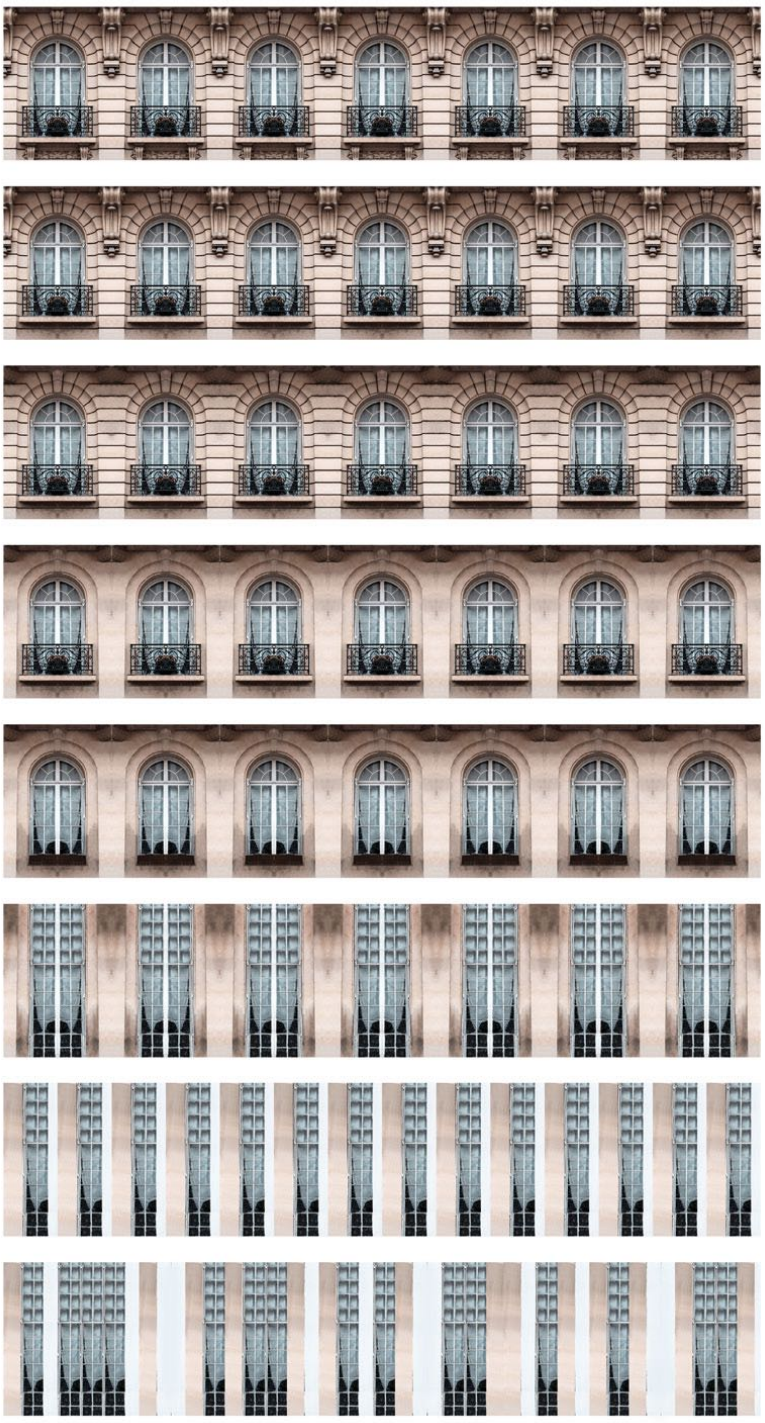


6.47

One of the most iconic elements and one that speaks uniquely of Paris is the limestone facades that clad the streets. Despite the long and storied history of limestone, a contemporary interpretation and expression of limestone have not been explored to a large degree. Limestone as a material has very much retained the status and ornate qualities that are present in the Hausmann facades. Therein lies a great potential for the material to be rediscovered and reimagined.

Producing a piece of cultural architecture with ambitious social intentions also speak towards the creation of a piece of architecture that is rooted in an understanding of place. To ensure the Passy Réservoir is successful, it is important that people take ownership of the building. A component of this was ensuring that the appearance and facades were distinctly Parisian, speaking of the people that inhabit the city. To do so a thorough understanding of traditional and contemporary Parisian facades and architecture allowed for ideas and concepts to be pushed and explored.

6.46, French limestone quarry, photo by Mariana Proenca
6.47, Drawing of the typical french facade elements and proportions



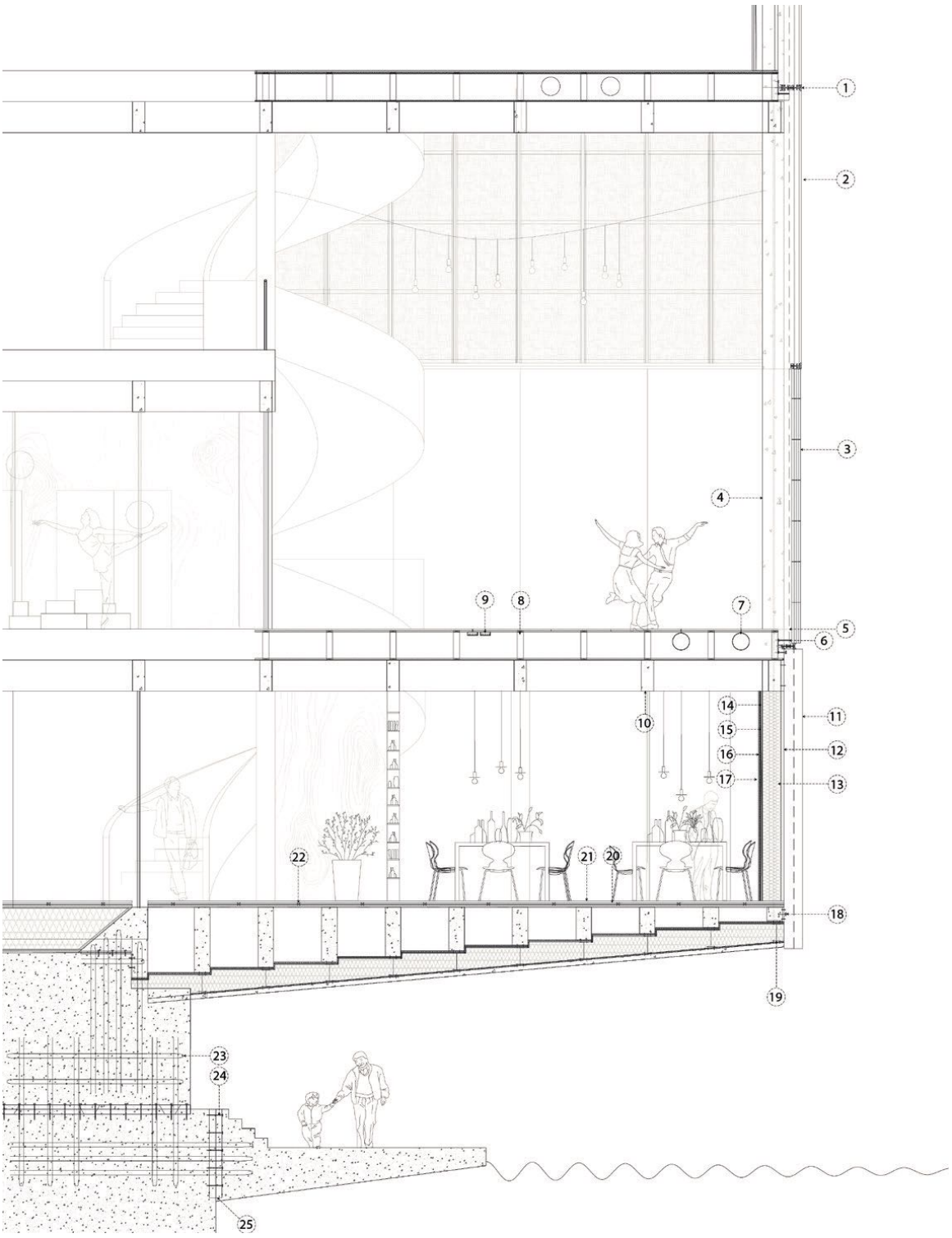
6.48

6.48, *Parisian facade morphing into three elements*

6.49

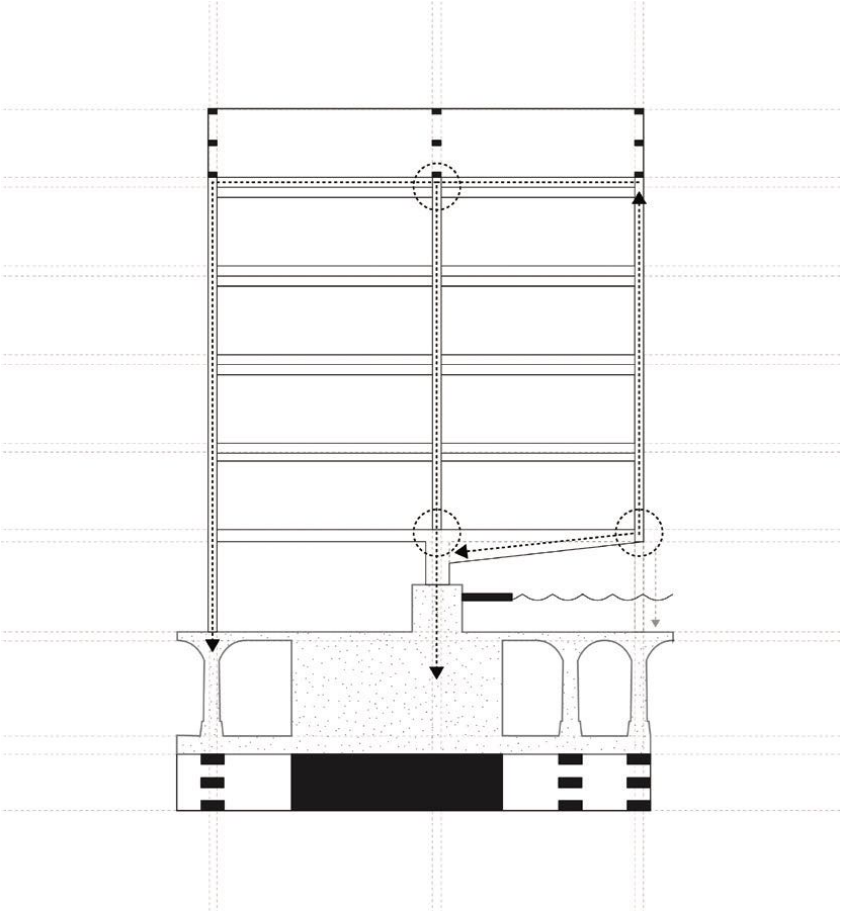
On a bleak and grey day, the buildings blend into one with the sky. Behind the curtain-like facade, an interplay of people, functions and their synergies is occurring. As dull as the exterior day can be as lively the interior is.

6.49, Visualisation of building from the Bassin du Bel-Air



1 Window frame
2 Window
3 Fibreglass
4 Concrete column
5 Ventilation grill
6 Ventilation system (adjustable)
7 Mechanical ventilation pipes
8 40x10mm Floor joists
9 Aluminium cable tray
10 Structural concrete waffle
11 Limestone
12 5mm Plywood
13 280mm Insulation
14 5mm Plywood
15 Vapor barrier
16 5mm Rigid insulation
17 13mm Gypsum board
18 Facade mounts
19 Aluminium insulation frame
20 Air gap
21 Concrete floor
22 5x5mm Sleepers
23 57mm Steel rebars
24 Bolts
25 U beam steel

6.50, Building detail, overhang and facade, scale 1:100 (see appendix for 1:50)

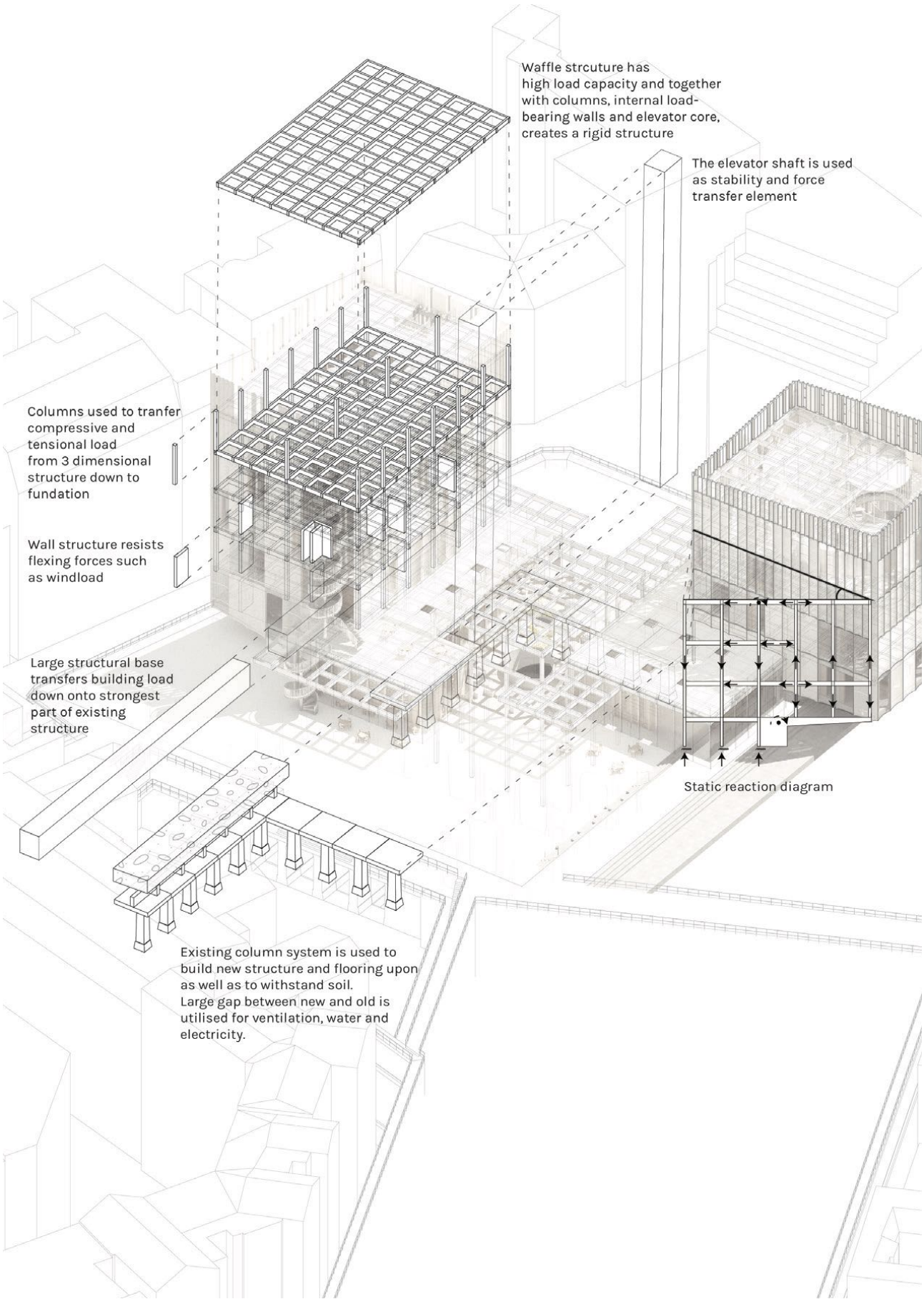


6.51

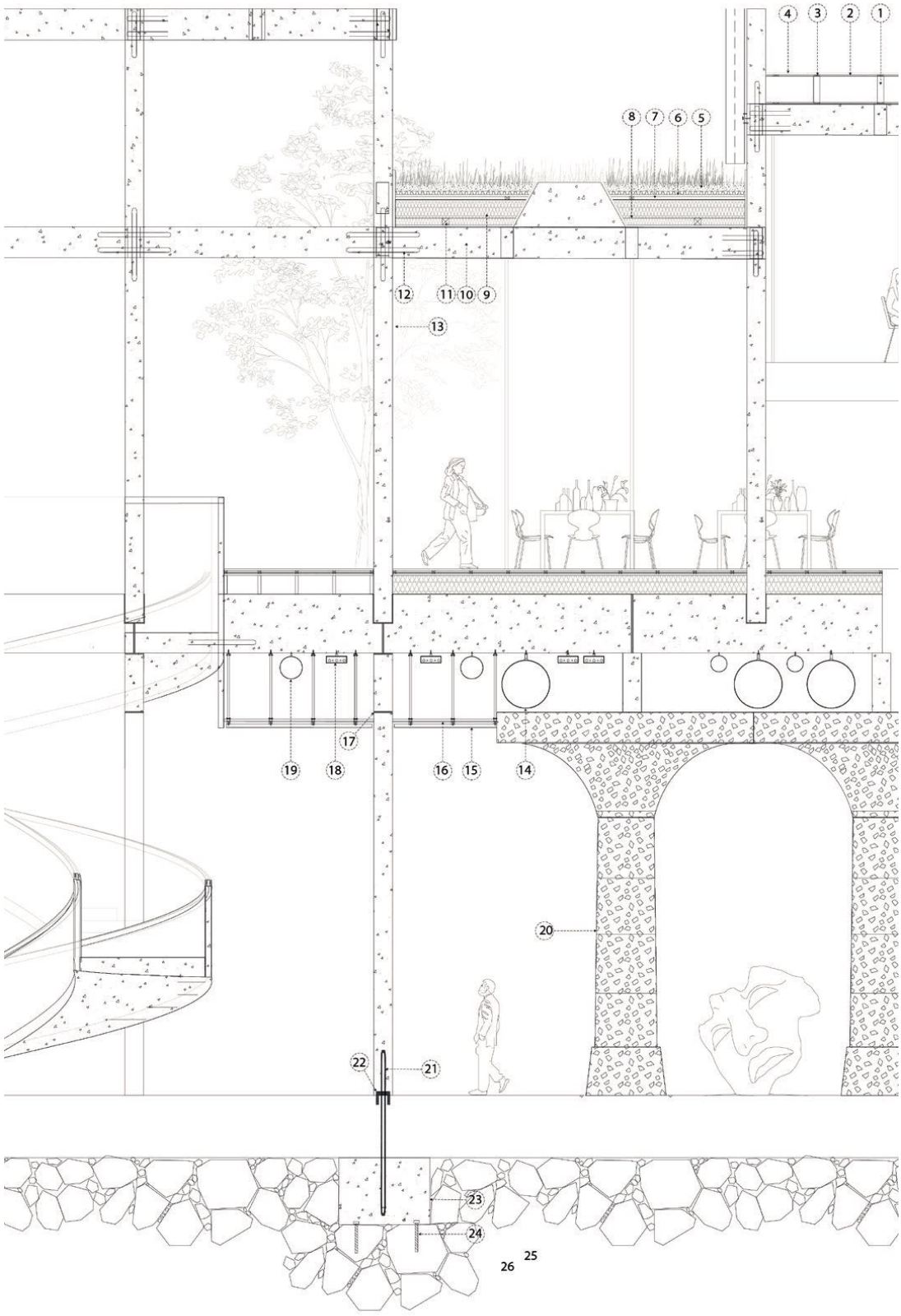
Structural system.
The architectural decision was made to cantilever a section of each main volume out over the water basin and existing wall illustrating the light touching, treatment and respect of the original structure. The majority of the new building has been located around the edges of the réservoir, making use of the large structural elements found there, minimising the amount of additional intrusion and structure required. The placement of the volumes on this structural massive wall was furthered use for the creation of cantilevers and to anchor the building and transfer loads into the ground.

Structurally the buildings have been conceived as a rigid three-dimensional structure constructed through a combination of columns and waffle slabs. This system creates a very rigid structural system that spreads loads over the entirety of the system rather than isolating them. This structural system was decided upon because of the high degree of openness and flexibility that it was able to achieve and because of the way it translates the grid of the original structural concept found in the vaulted room beneath yet gives it a modern form and aesthetic intentions.

6.51, Structural concept



6.52, Structural elements



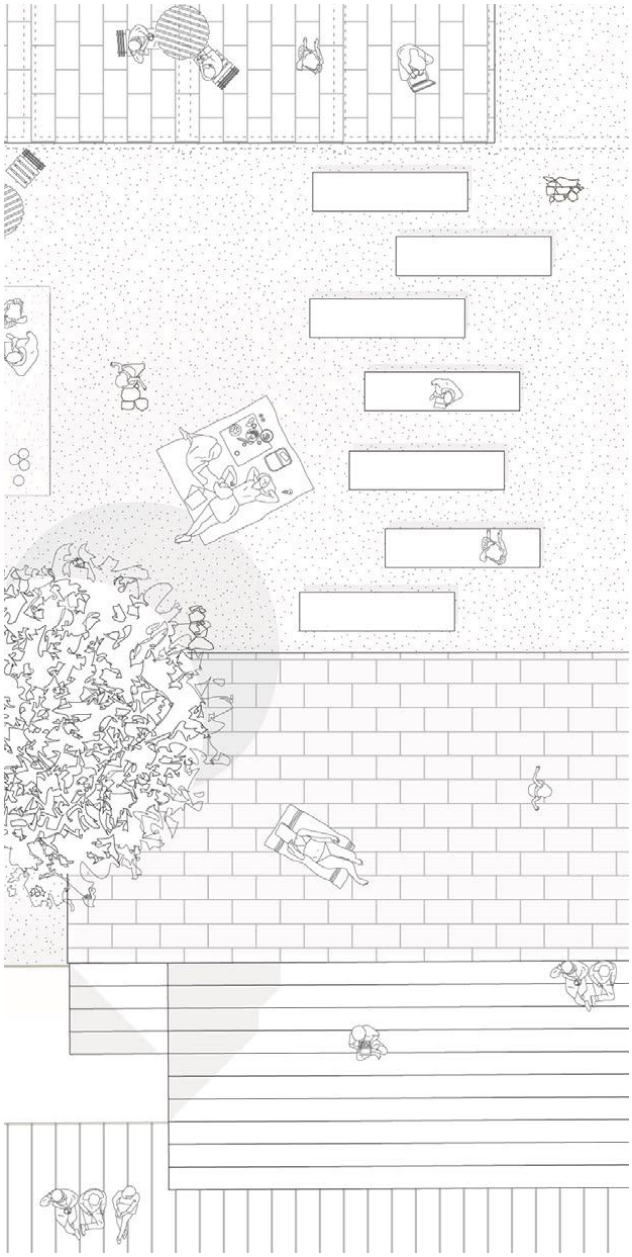
6.53, Building detail, old connected with new, scale 1:100 (see appendix for 1:50)

6.54

An in-between space connecting indoor and outdoor along three sides. As much a transit space as a place to stay. The Forum stair becomes a furniture that connects and tells the story of this relationship of duality.

6.54, Visualisation from space between Heart and Forum stair looking towards Knowledge area

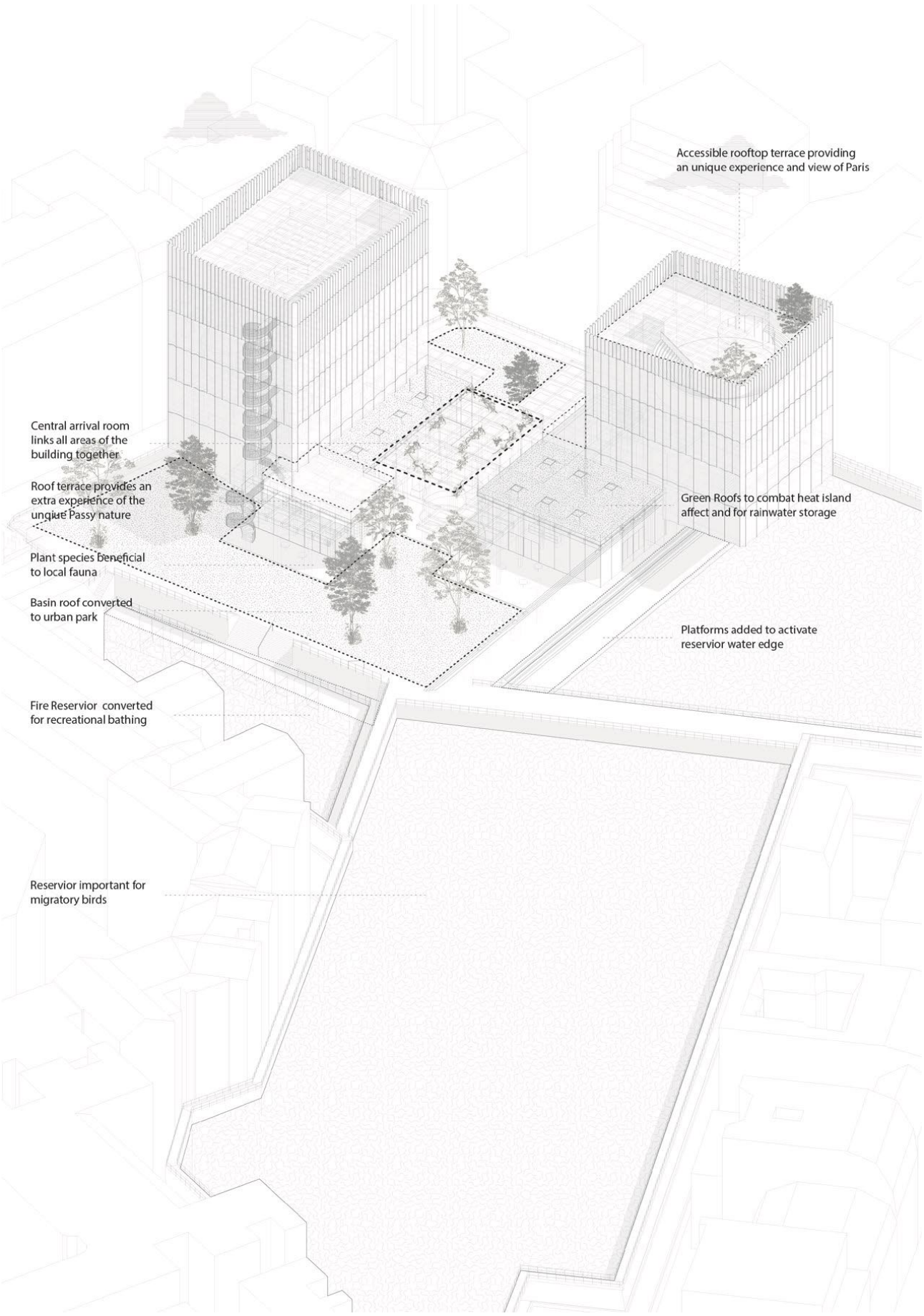
6.55, Urban plan section, street, scale 1:100



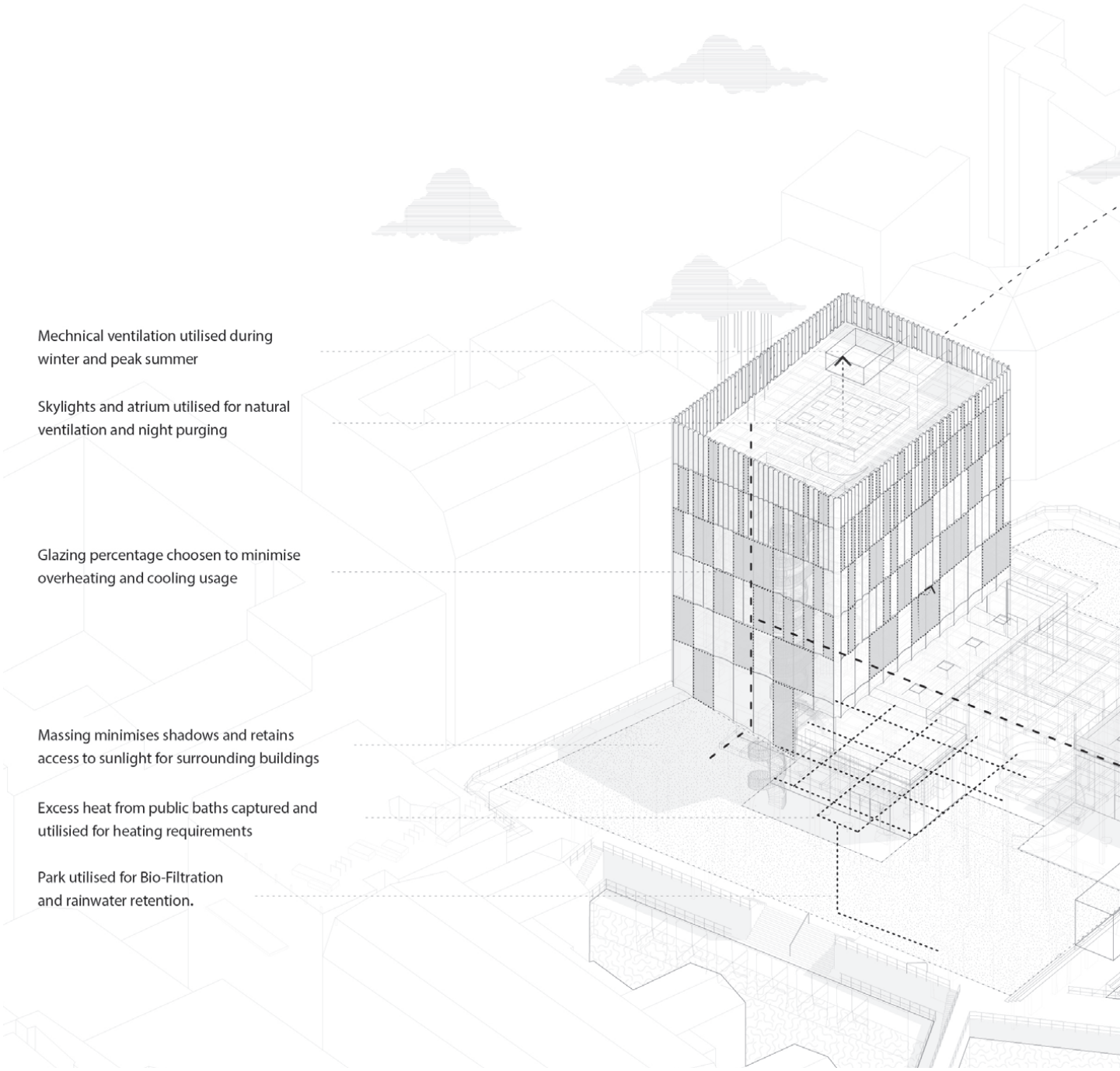
6.56, Urban plan section, park, scale 1:100

Urban approach.
The urban setting of the Passy Réservoir is one of intensity without pause. To allow for the building to act as a refuge and break from the routines of everyday life the surrounding context is activated allowing the buildings programs and message to influence and spread onto its surroundings. Paris's centre is a place of few natural retreats and unprogrammed public areas. The Passy Réservoir exists as one of the few structures with the potential to give this space that the city so desperately craves. Minimising the building footprint and preserving surface area was a crucial factor in the development of the project.

The approach is two-fold, carried out through the transformation of Rue Paul Valéry into a shared pedestrian and access street. The transformation slows the pace of the user and passerby, emphasising the building volume and meeting between old and new. The former basin cover has been transformed into a recreational area, making nature and the water basins accessible. The Passy Réservoirs now gives the people the possibility for bathing, gardening, picnicking, tanning, Pétanque and enjoying nature and open space.



6.57, Isometric drawing of urban approach

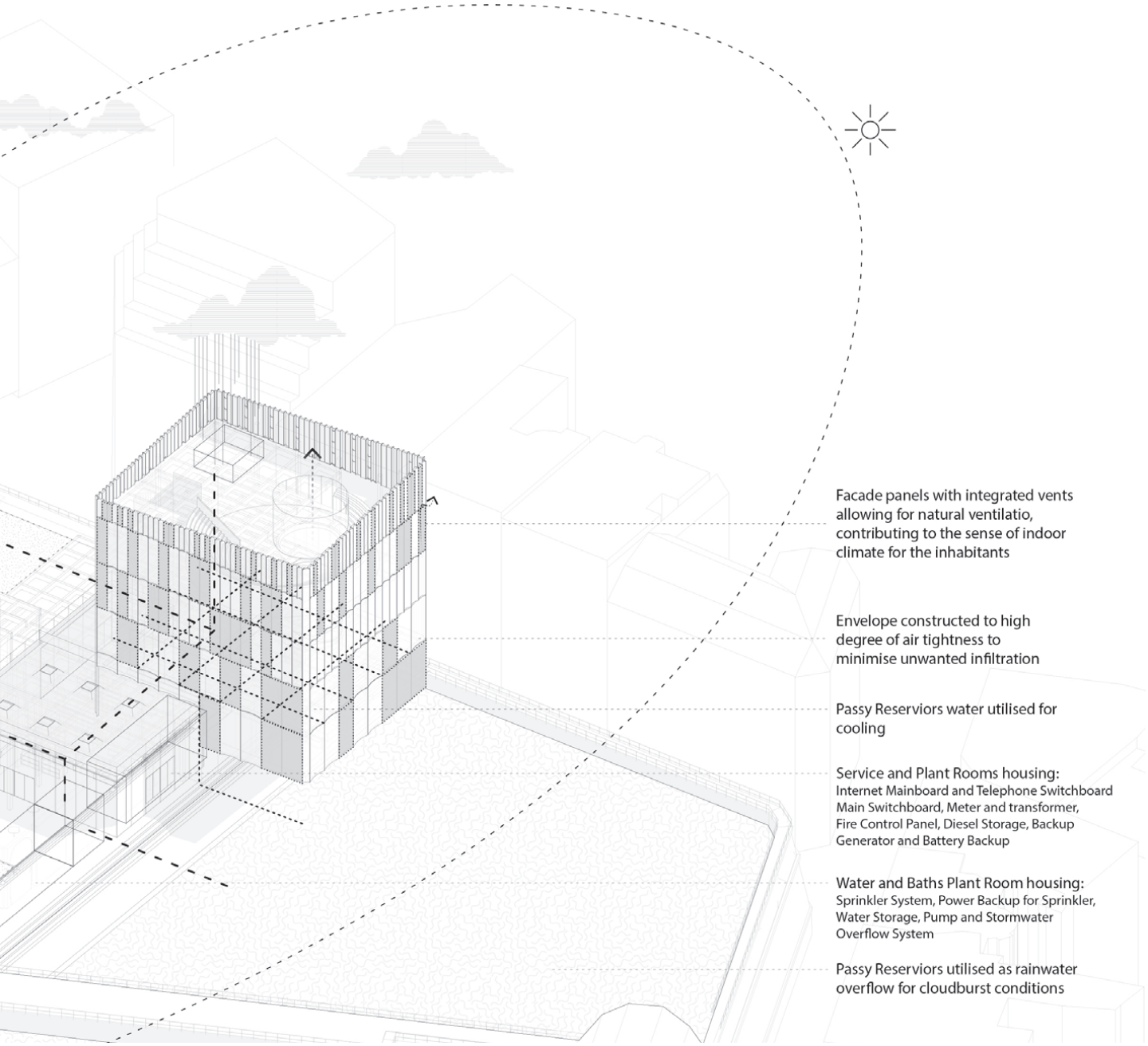


Environmental consideratons.
Similar to the approach towards the urban situation of the Passy Réservoirs, the environmental approach also attempts to maximise the potential and unique characteristics of the site. The placement of the building volumes above the existing reservoir structure allows for easier access to sunlight while retaining the wind shielding that the dense city landscape provides.

To reduce overheating, the glazing percentage and location of glass panels have been calculated and optimised to balance daylight and overheating. The large water reservoirs situated around the building provide a unique opportunity and are utilised as a component of the cooling system.

The ability to circulate water through the floor construction and cool the building allows for lower energy use and for an appropriate indoor climate to be achieved.

Just as functional synergies are promoted between functions and parts of the building, environmental synergies are promoted between differing climatic conditions. Waste heat from the public baths and living units are captured and through heat exchanges utilised as a supplementary heat source. Ventilation systems are integrated into the facade panels and internal atriums, created through the vertical staircases, allows for natural ventilation and night purging to be utilised to reduce cooling demands and improve the indoor climate.



6.58

6.58, *Isometric drawing of environmental approach*

6.59

Taking a stroll on the half-kilometre edge of the Passy Réservoir always leads back to the public park. The buildings form a neutral backdrop to the midday and afternoon sun and the life from inside sprawls onto the terraces and the lawn.

6.58, *Visualisation of the edge of the park just before summer*

6.60

From a far the building lights are reflected into the large Bassin de Copernic. As the palms of two hands, the buildings form an including shape towards the basin. It almost seems to be floating. Each tip pointing towards the Tour Eiffel and Arc De Triomphe as a comment and as a monument for the people.

6.59, Visualisation of the building at night time from the end of Bassin de Copernic

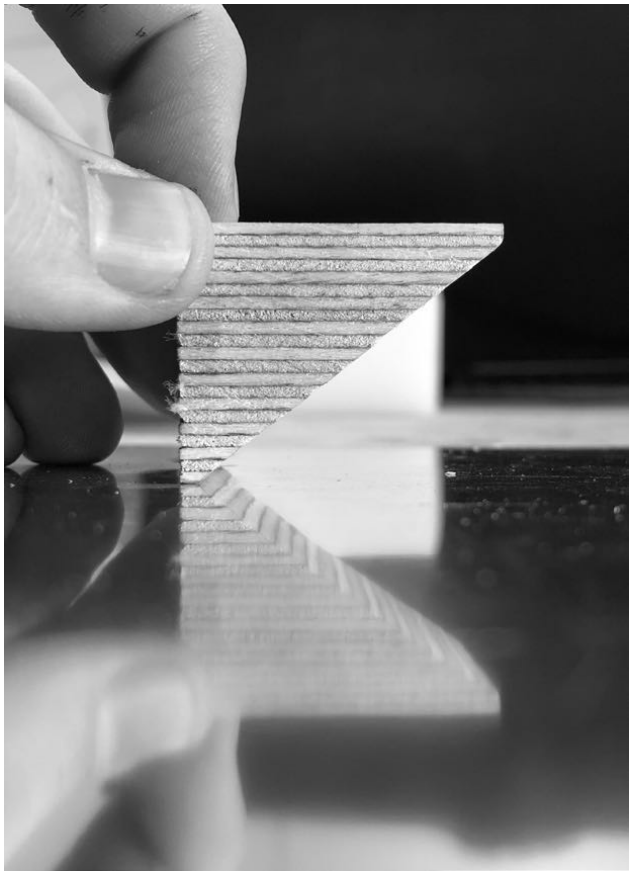
7.1, Model photo of broken column

Process.

An important part of our approach to the project was putting ourselves in a physical situation deviant from our norm. By having our own studio space in a creative environment surrounded by musicians, culture workers, homeless and addicts made sure that we would follow a course natural for the project and not based on mirroring other groups. This also meant that suddenly the feedback surrounding the architectural choices were through the lenses of "normal" people which highly furthered our process.

The process of the project is based on the liberating elements of excitement driving exploration and workshop driven creation. Having a strong theoretical and analytical base and a strong focus on creating a new social typology of cultural buildings while utilizing discarded urban structures, the process started out as a series of uncontrolled sketching phases. Pointing in all directions trying to both understand the site and to develop concepts. Architects tend to wait till after analysing the site and context to create concepts, but we think there is a quality in the natural creation and evolution of concepts during the analysis phase. Later when a concept became clearer the process evolved into a series of workshops all dedicated to create, test, prototype and decide on solutions or start over. For this, sketches, physical models, virtual reality and 1:1 mockup’s were made and used.

The following chapter is a simplified representation of an unpragmatic and to times chaotic process. A representation that lightly touches some of the many challenges, workshops and solutions tested before ending with the final presentation.



7.2

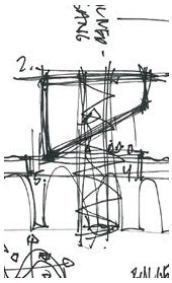
7.3

Preliminary sketching & study trip.
Preliminary sketching and exploration of ideas was a deliberately unfocused exploration of concepts, ideas and possibilities that existed for the unique site of the Passy Réservoir. Concepts around the meeting of old and new and the exploration of past, present and future were explored to help to define what was appropriate and inappropriate for the site. Exploration of how to best use and emphasise the existing features of the site, such as the water mirror and vaulted room, was of a particular focus during these first stages.

Conducting a study trip and being able to physically visit the site was vital in the development of a project that is so deeply rooted and influenced by its surrounding context. The ability to visit the site changed expectations and preconceptions around the site, its materiality and presence on the street level and allowed for a more successful and realistic design proposal. The trip also allowed for other contemporary architectural projects to be experienced and the current state of disciplinary architecture in Paris to be better understood.

The sketching and exploration were carried out in a mixture of plan, section, sketches and photography as a method of capturing all the different factors and aspects of the urban landscape. These exercises highlight and helped to clarify that we wanted to explore the water mirror and "wall" characteristics of the Passy Réservoirs.

7.2, Model exploration
7.3, Site photo



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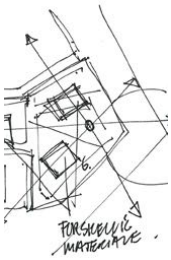

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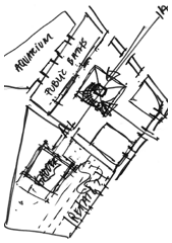

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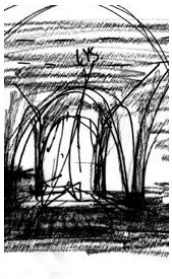

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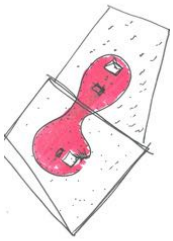

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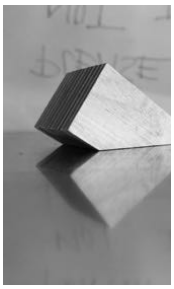

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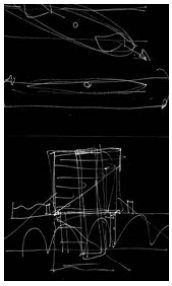

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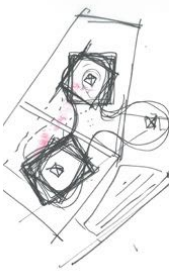

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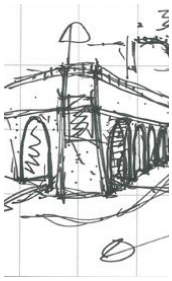

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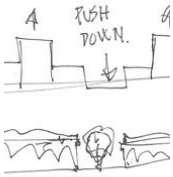

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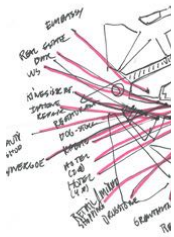
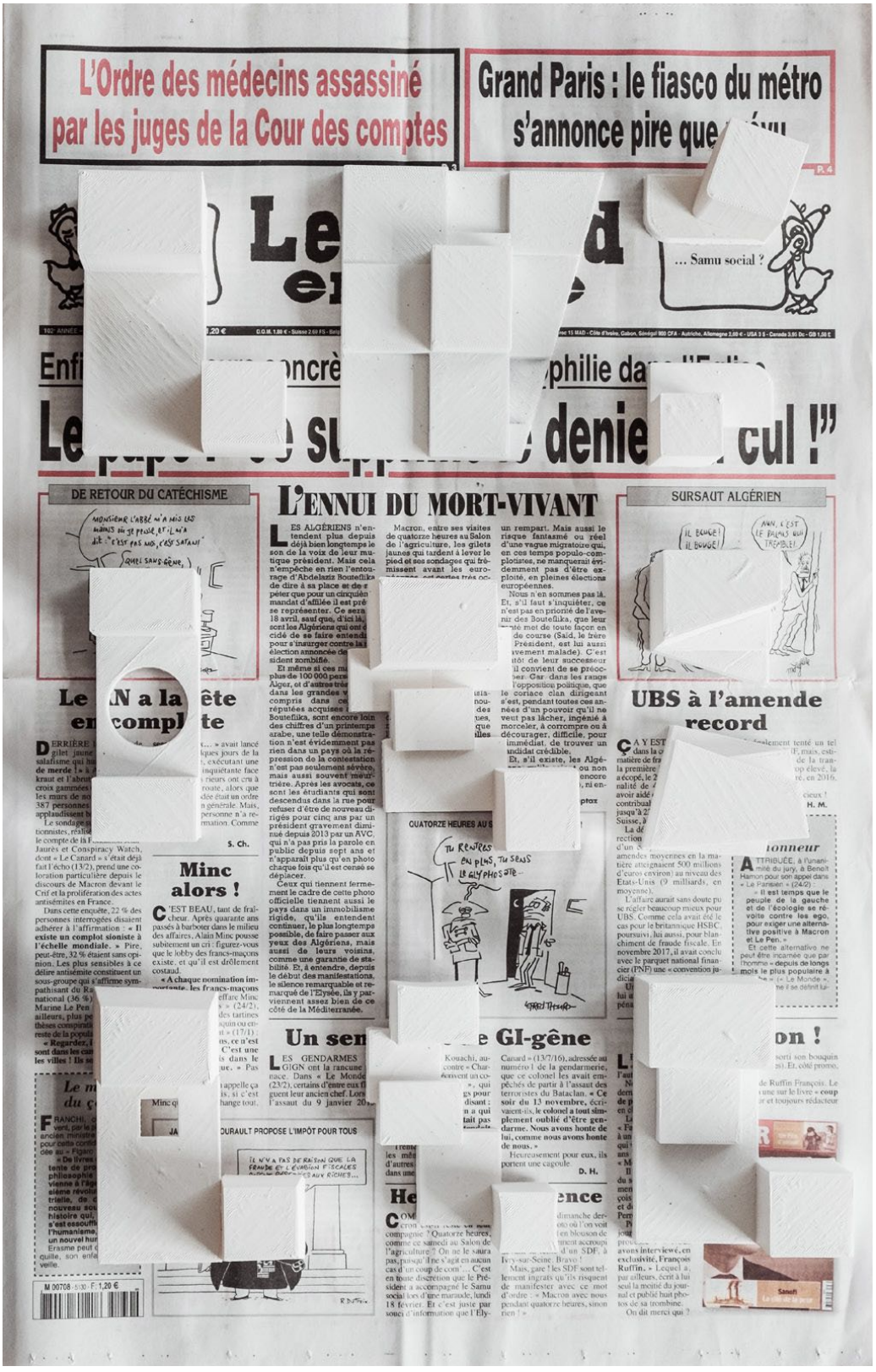


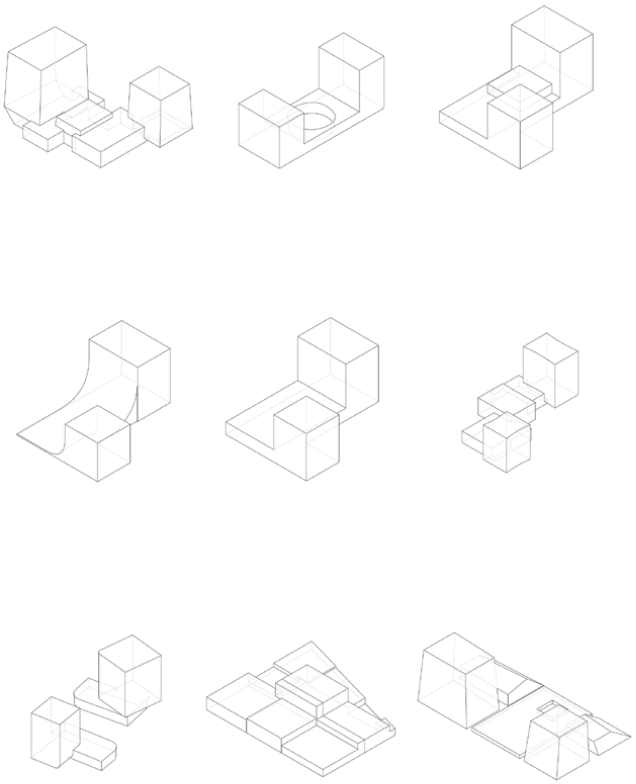
7.19

7.4 - 7.19, Preliminary sketches before and during study trip



7.20

7.20, photo of 1:500 volume exploration

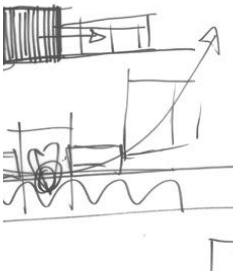


7.21

Volume studies.
The intention and goal of the volume studies illustrated were to explore the possibilities for massing both through the impact on site and context and through the creation of possible connections and compositions.

How would the project announce itself and create a dialogue with the surrounding buildings? Should the massing work to minimise the visual impact or should the project continue the lines created by the homogeneous six storey context? How can a balance be achieved between volume and surface area that allows for all the necessary functions to be contained yet retain the green and unprogrammed space? The massing studies carried out virtually and through models allowed for these questions to be explored and comparisons be drawn between the differing approaches and usages of volume and area.

7.21, Issometric drawings of volume exploration



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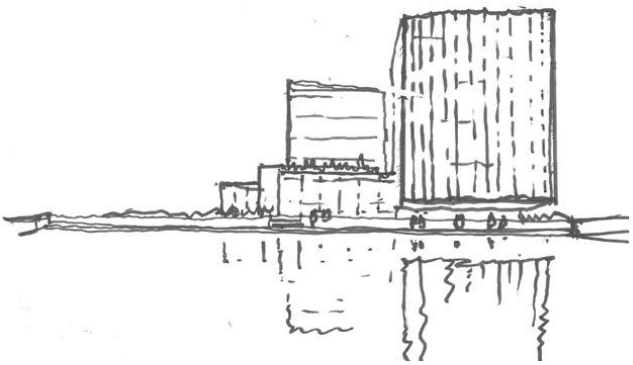

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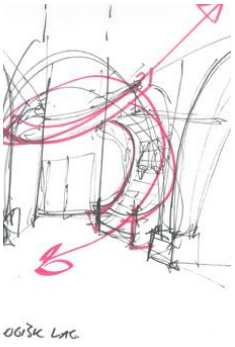

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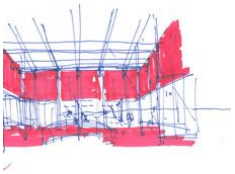

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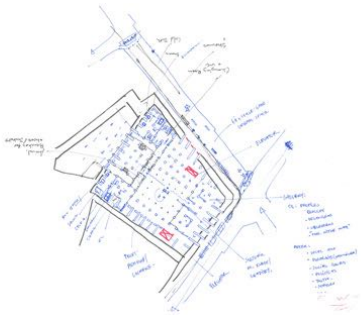
7.22-7.29, Spatial and diagrammatic concept sketches



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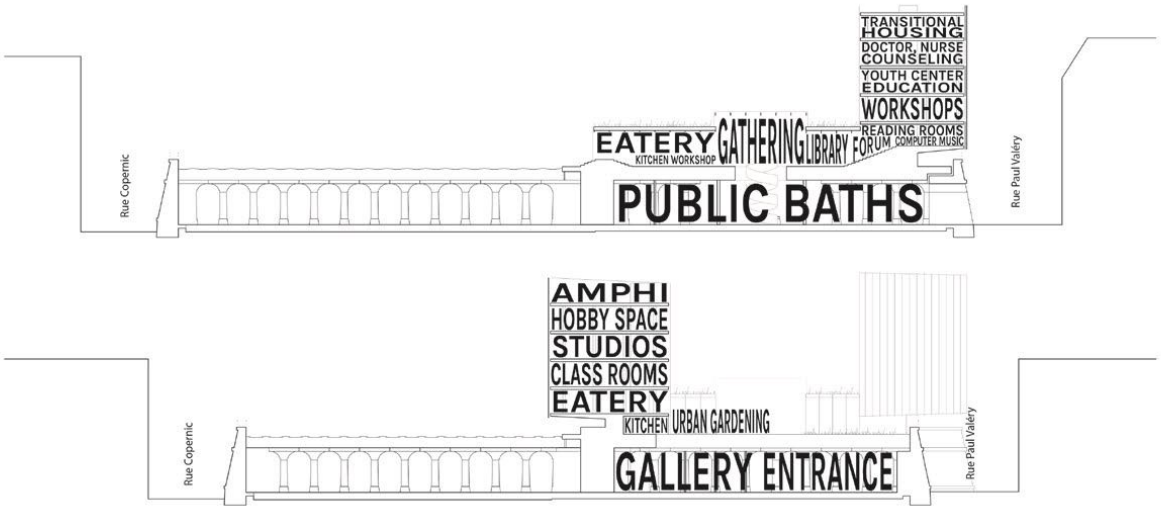
Concept, plan and spacial studies .
Initial plan, concept and spatial studies were focused on transferring the theoretical and analytic knowledge around the physical, social and cultural context that the site was situated within. The thorough understanding of the context was a crucial shared starting point for ideas and concepts to develop. Initial ideas around functions and possible connections and synergies between the different components were started to be developed. Initial massing studies were given aesthetic expressions and facades to explore the impact on the human experience and its context.

The treatment of the existing structure and the application of the transformative theories were started to be applied and explored. All of the exploration and the development undertaken during these stages lead to a better understanding of the key concepts and core ideas that have become the driving forces behind the project.

7.30-7.36, Plan sketches



7.37

Mid-term.
The focus of the mid-term presentation was on the validity of the concept of furthering cultural architecture with the introduction of social synergies and the expansion of the boundaries of what can be considered cultural architecture.

The sketches illustrate the beginning of the exploration of spatial qualities and the creation of particular rooms and atmospheres that are conducive of the types of life we intended to happen. They illustrate the lack of strategy for creating spaces and specific rooms and functions within the plans, which became an extensive area of focus in further development and exploration. The discussions and feedback received from the mid-term lead to the clarification and strengthening of the hierarchy and decision-making process that was used to further develop the project.

7.37, Cross section diagrams showing functional placement

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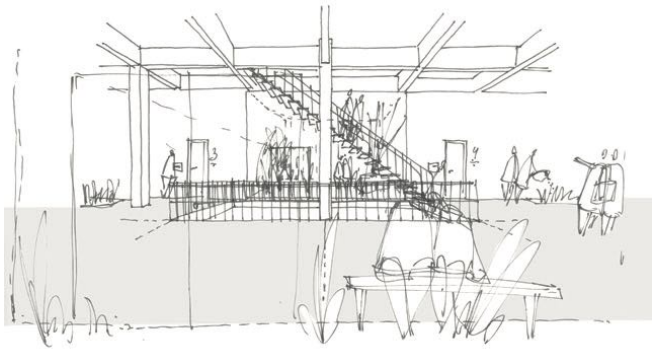

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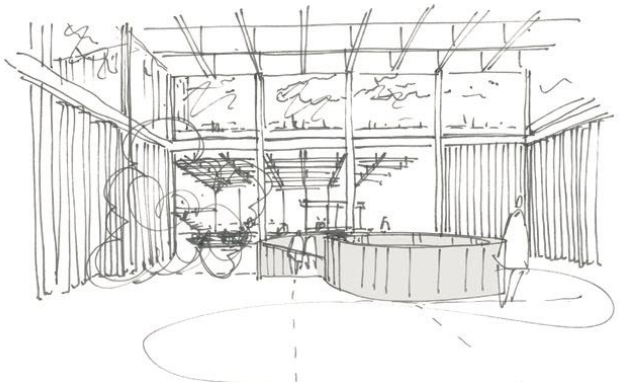

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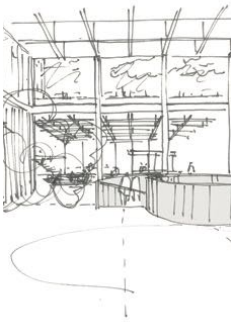

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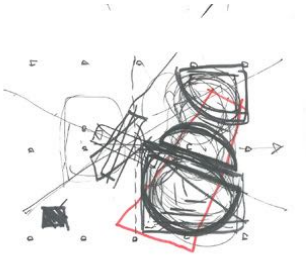
7.38 - 7.44, Spatial interior and exterior sketches

7.45



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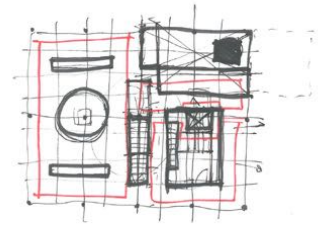

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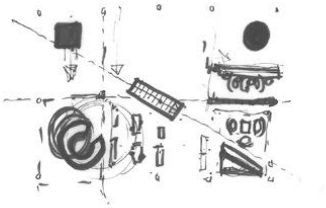

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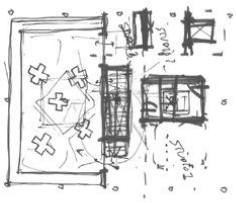

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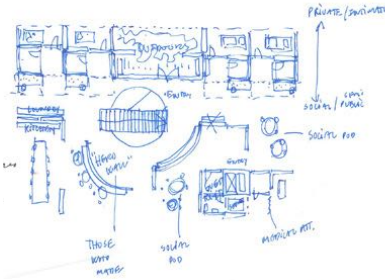

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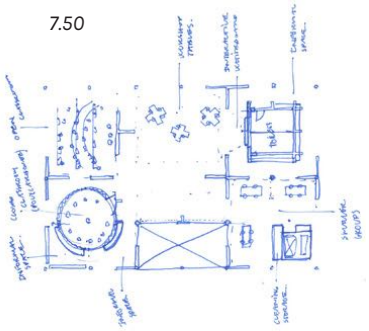
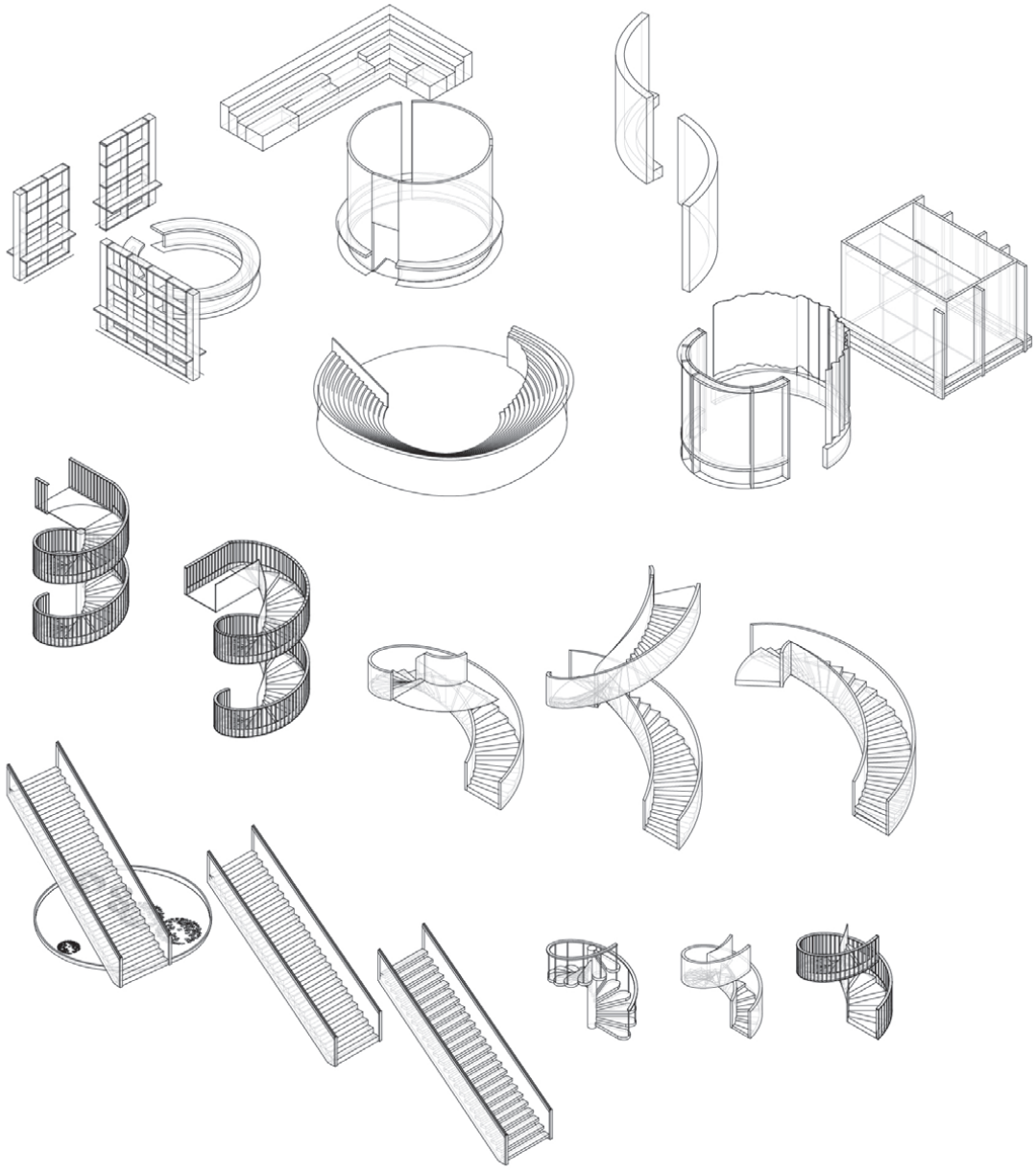


7.51

Universal versus specific plans and furniture. An important component and influence on the successfulness of the project is the ability for rooms and spaces to balance both programmed and unprogrammed functions. That the project can host the events that the users could ask and expect of the building. The process of introducing specificity into the plan solutions and into a structural system with a clear formal language and a high degree of flexibility was a long process carried out across a number of mediums.

Decisions and exploration around following the established formal language or choosing to break and broaden the formal language was an investigation chasing its own tail until the more systemic application of the theories developed earlier, such as intentionality and translation, was done. The usage of the theories as a design and evaluation tool proved valuable and contributed to the cohesiveness of the aesthetic and formal choices that were made despite the usage of different visual languages.

7.45 - 7.51, Hybrid plan sketches showing steps from concept to plan



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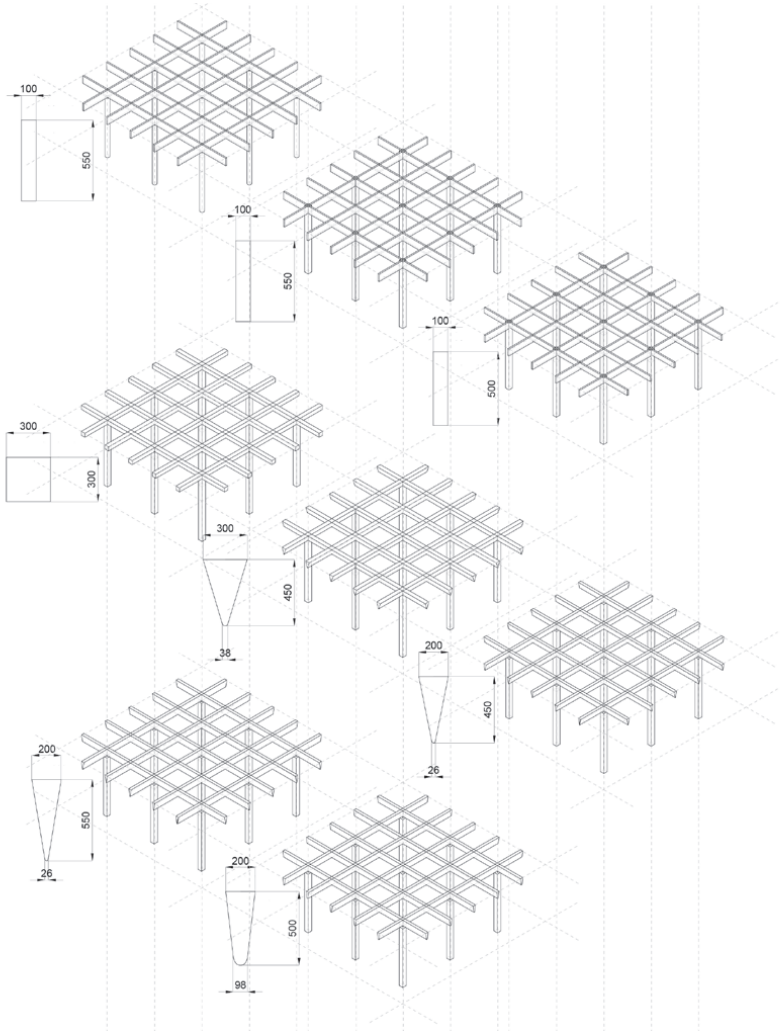
7.52, Catalogue of specific furniture exploration

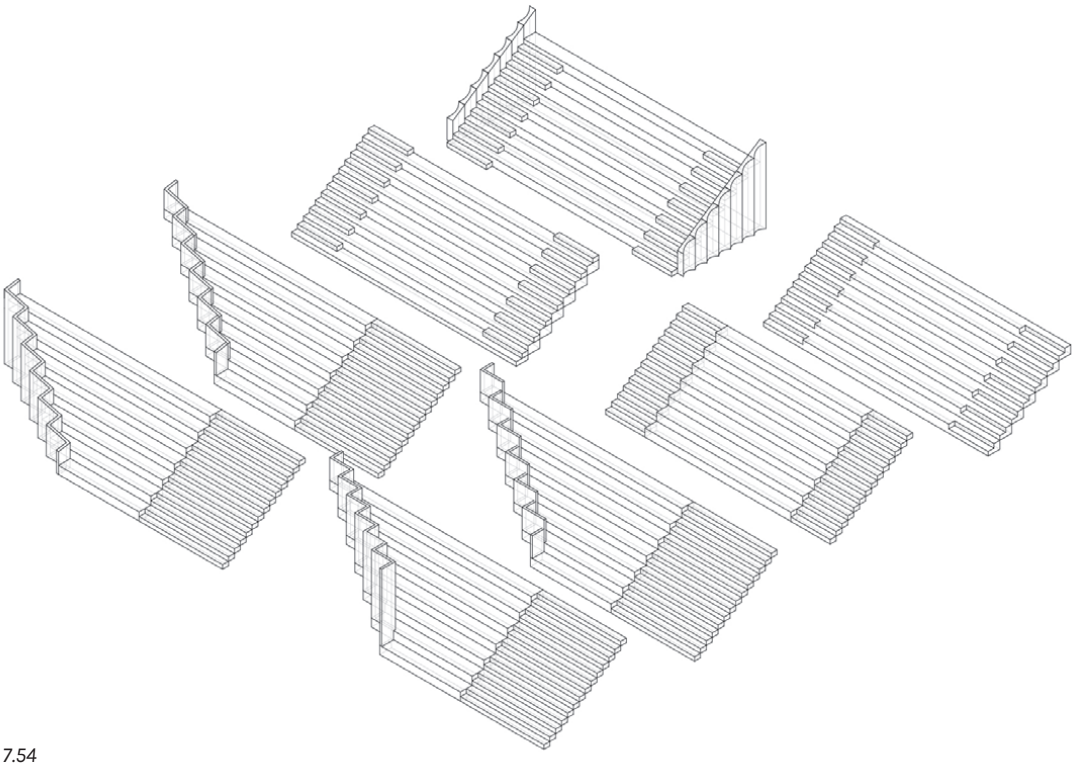


7.53

Both structure and furniture?
The structural system and its implications on the architecture were explored through both physical and virtual models. This allowed for the implications and qualities of the different options and profiles to be assessed and discussed before further exploration and discussions were made.

Decisions that were taken around elements such as waffle profile and sizes of crosses were taken as a result of the implication on a variety of factors. The effect on the structural efficiency, interior space and atmosphere, connection with the existing structure and relation to the established shared formal language to name a few of the considerations that each step and element has been affected by. These explorations were carried out under both intensive singular focused workshops and through the broader and more holistic exploration of ideas. This mix of methods ensured that the effect of each element could be understood as a "part" and as the "whole".

7.53, Exploration of different waffle structures and profiles



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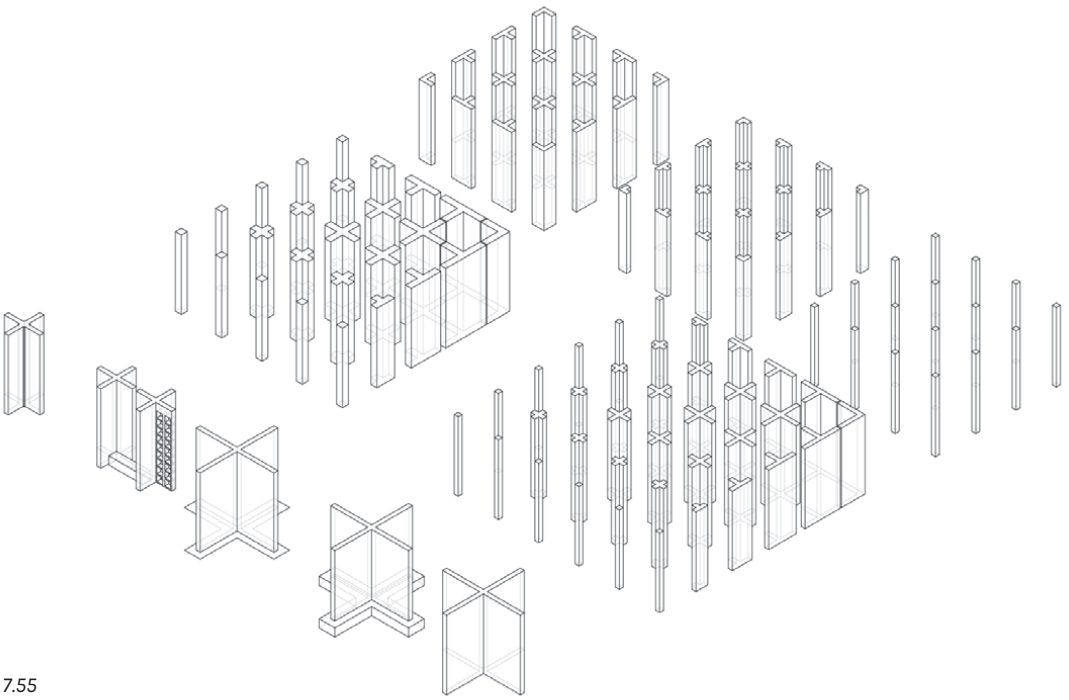

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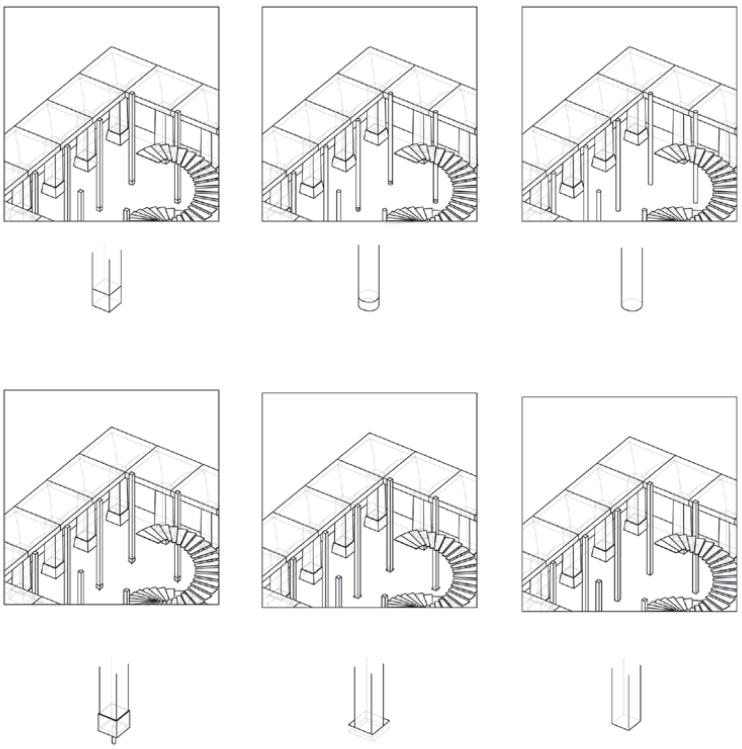
7.54, Exploration of different forum stairs
7.55, Exploration of the interplay between structure, interior walls and furniture



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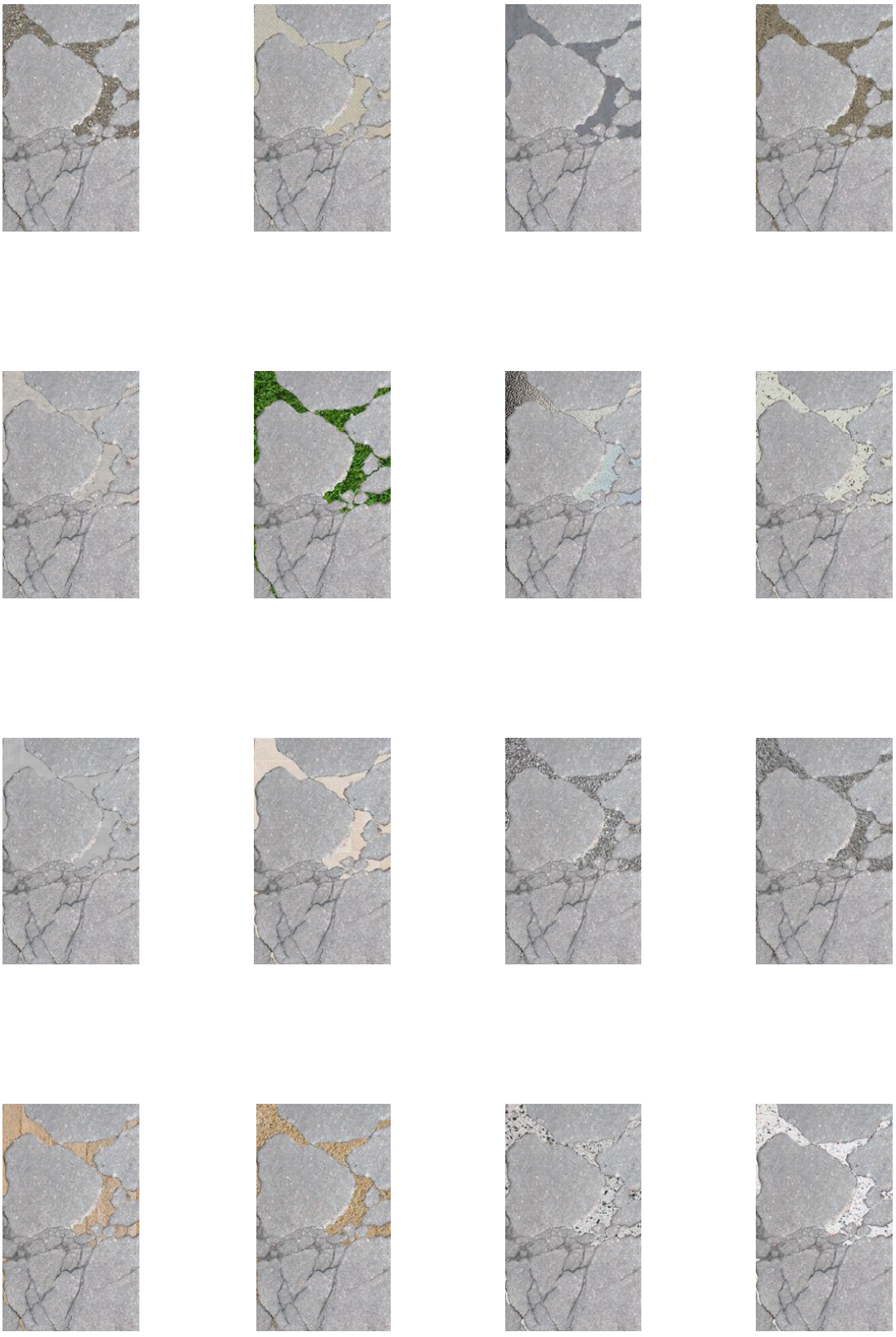
7.57

Column meets floor and restoration.
The addition of new columns inside the original vaulted room was an incredibly significant aspect of the project. The addition required careful and deliberate detailing for it to fully and correctly demonstrate the theories and concepts developed around transformative "translation" and intentionality. Profiles, dimensions, meetings and materials were all explored through models and sketches to ensure that the chosen column and the implications on the space and existing structure were well understood. The eventual choice to detail the column as minimally as possible was done on the background of the creation of a catalogue of possibilities. The chosen detailing deemed to best create the atmospheric and formal qualities desired and not take attention from the grandiose original columns.

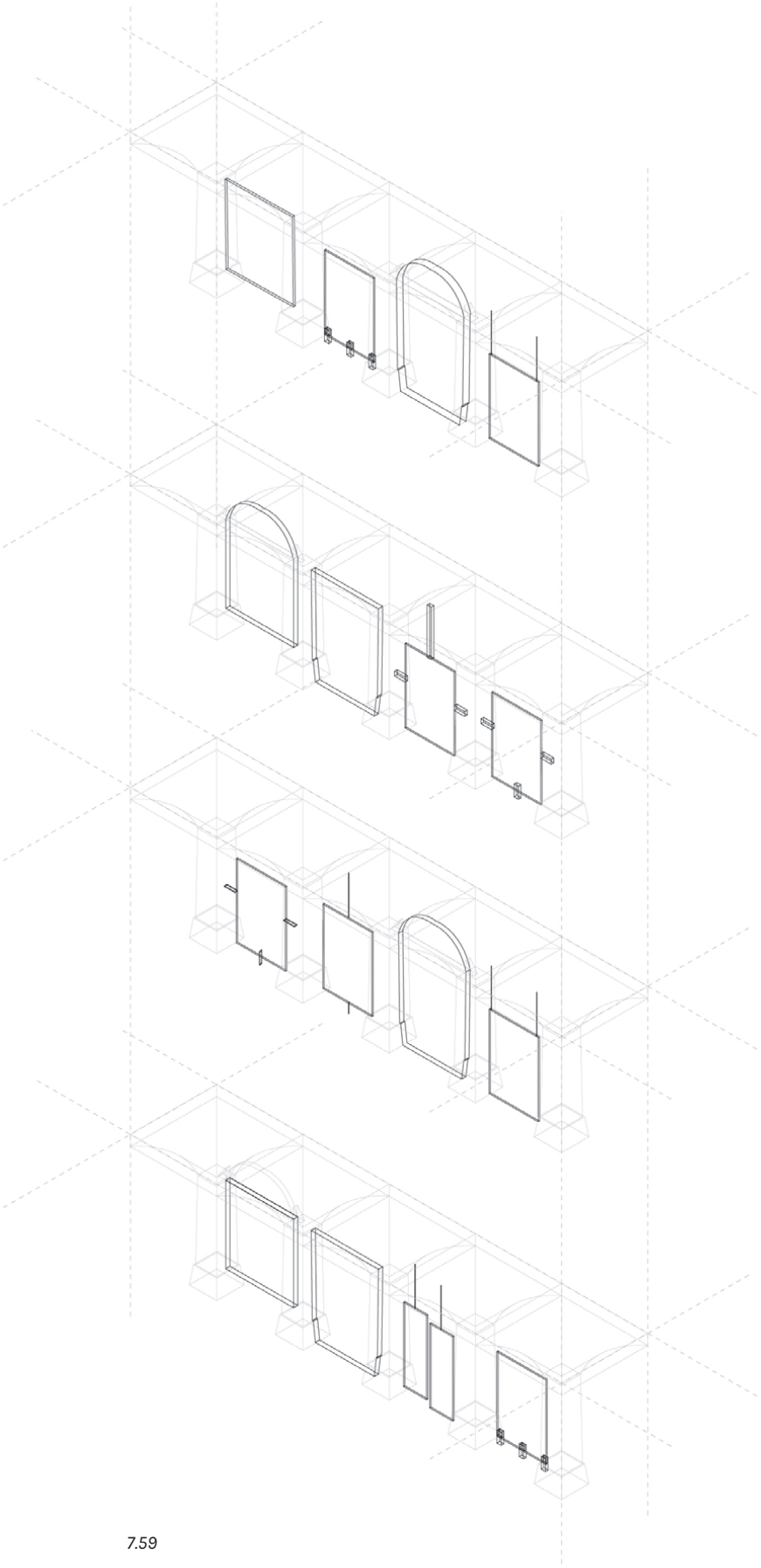
A "kintsugi" approach was decided to be appropriate for the restoration of the original floor. The extent and scale of approach and materiality were explored through physical models and visualisations. These mediums helped ensure the right balance between existing and repaired was achieved visually and texturally.

7.56, Exploration of how column meets ground
7.57, Model photo



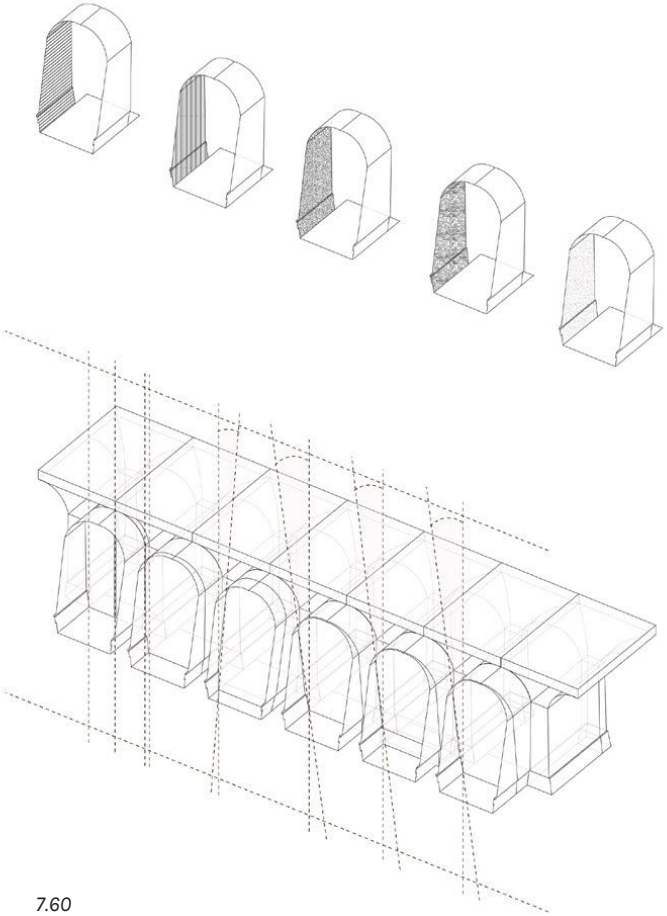
7.58

7.58, Exploration of restoration materials of ground level floor



7.59

7.59, Exploration of wall- type, size, material and function



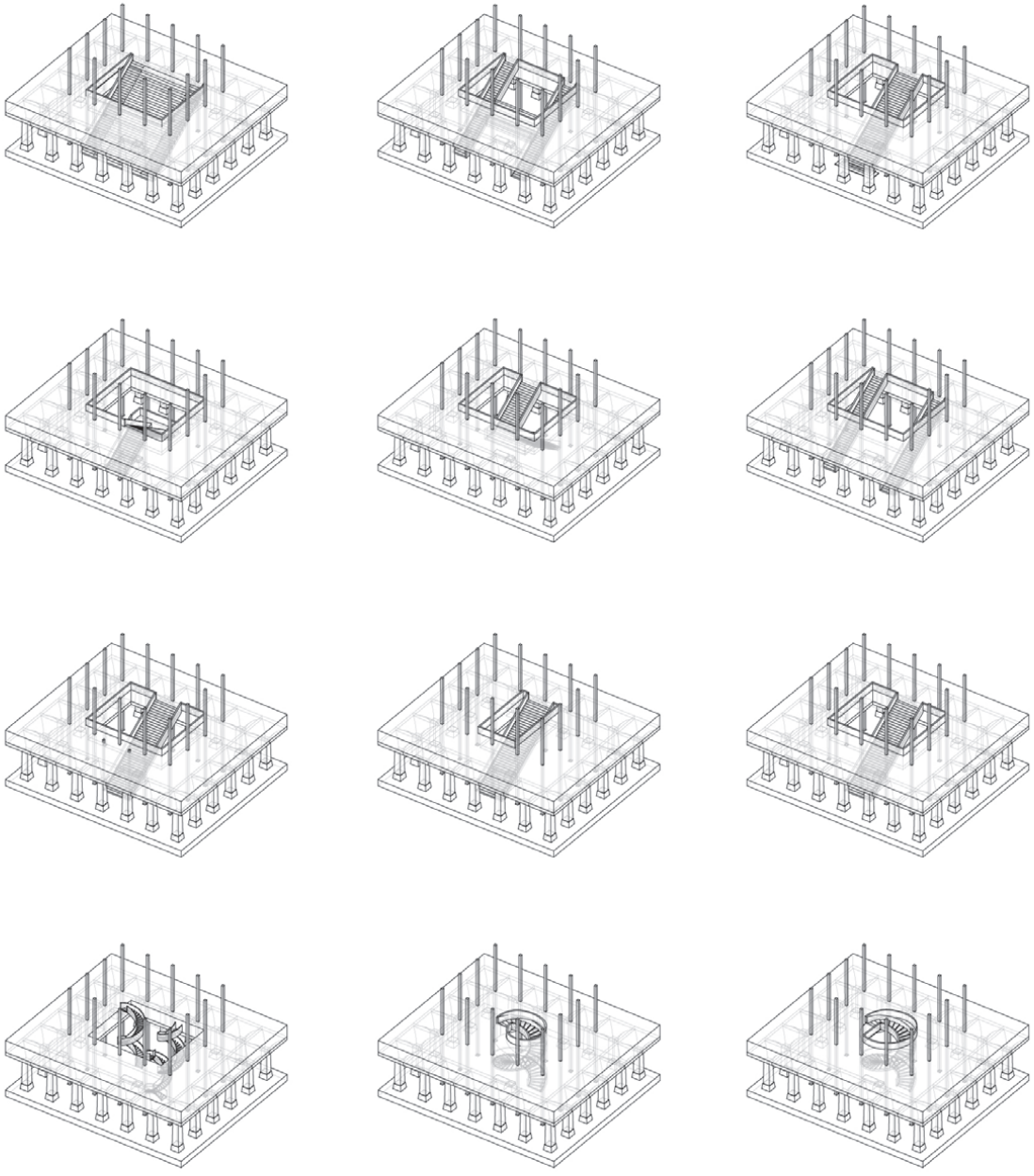
7.60

7.61

Interior walls and windows on ground level.
The introduction of a wall into space and structure, devoid of elements with the same programmatic and spatial factors. The gallery wall and room dividing walls both necessitated their own treatment and degree of division but share formal and aesthetic language to ensure cohesiveness throughout the ground floor. The addition of walls should not attempt to appear as a continuation of the columns but rather as an introduced element that lightly touches the massive columns. A shadowed edge around the border and the slender wire mounts ensure that the walls are read as such.

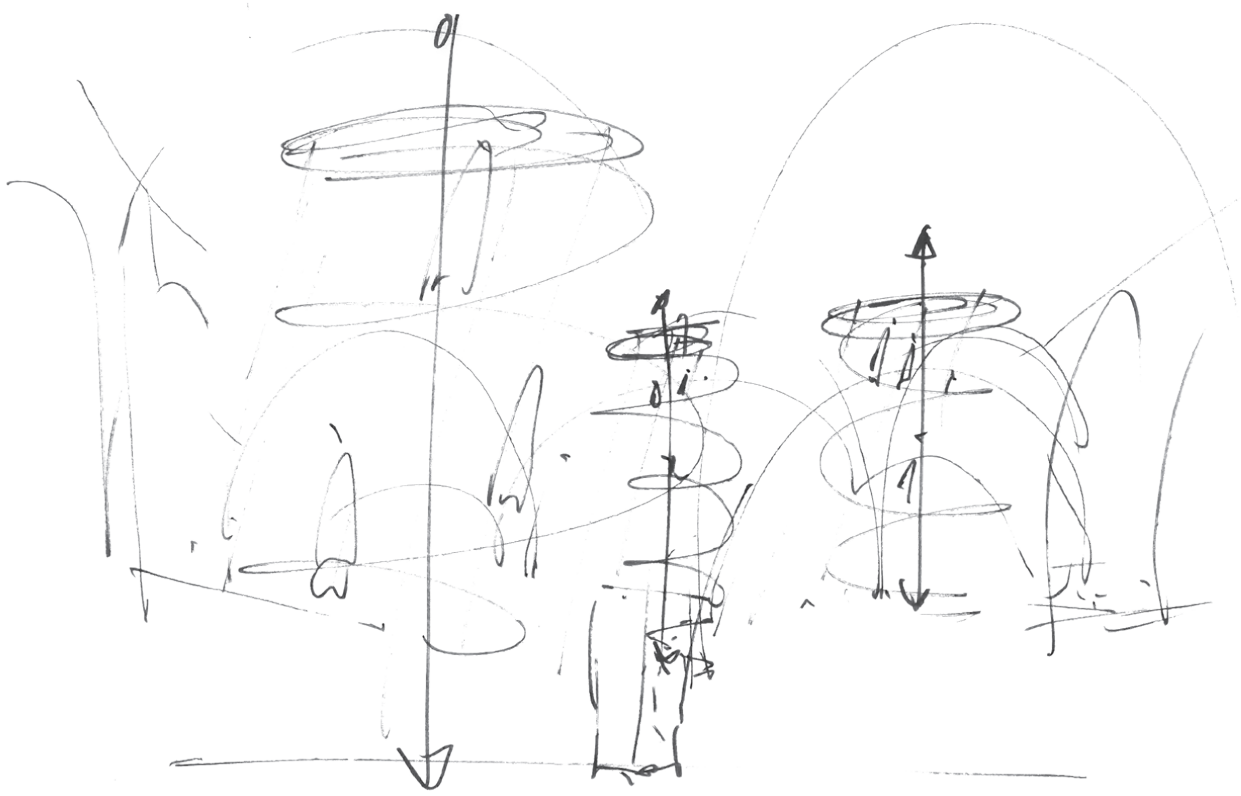
To make the ground floor accessible and introduce natural light and connections between the vaulted room and the street was done by breaking through the outer wall and creating a threshold that mediates between the old and new. The breaking through is informed by the existing formal language, which works to give an idea of what is happening behind the wall. The materiality and detailing of the threshold creation and the way windows are introduced into the voids required careful exploration ensuring that the experience of the vaulted room was emphasised and any intervention worked to complement it.

7.60, Exploration of window placement, inclination and opening materiality
7.61, Model photo



7.62

7.62, Exploration of stair- shape, function and gesture



7.63

Stair mediating the meeting of old and new.
The process and journey one undergoes moving from the old to new is one of the most important spatial and phenomenological experiences that is created in the project and the central staircase is a key component in making the experience human and relatable. Not only was a multitude of formal and aesthetic expressions explored but different sequences and rhythms of the stair were also explored.

The exploration of a more classical straight run and circular run staircases was an investigation of how to best underline the qualities of the existing vaulted room but also had a strong focus on the creation of the strongest effect and experience. Should the stair have a continuous run? Should the stair create pauses along the run? Should the run be circular returning the user to where they started? The movement from old to new was a very significant part of the project and was something that was crucial to develop a strong sense of journey and discovery. To emphasise the feeling and experience, the circular run staircase was decided to most further the desired effects.

7.63, Stair gesture sketch

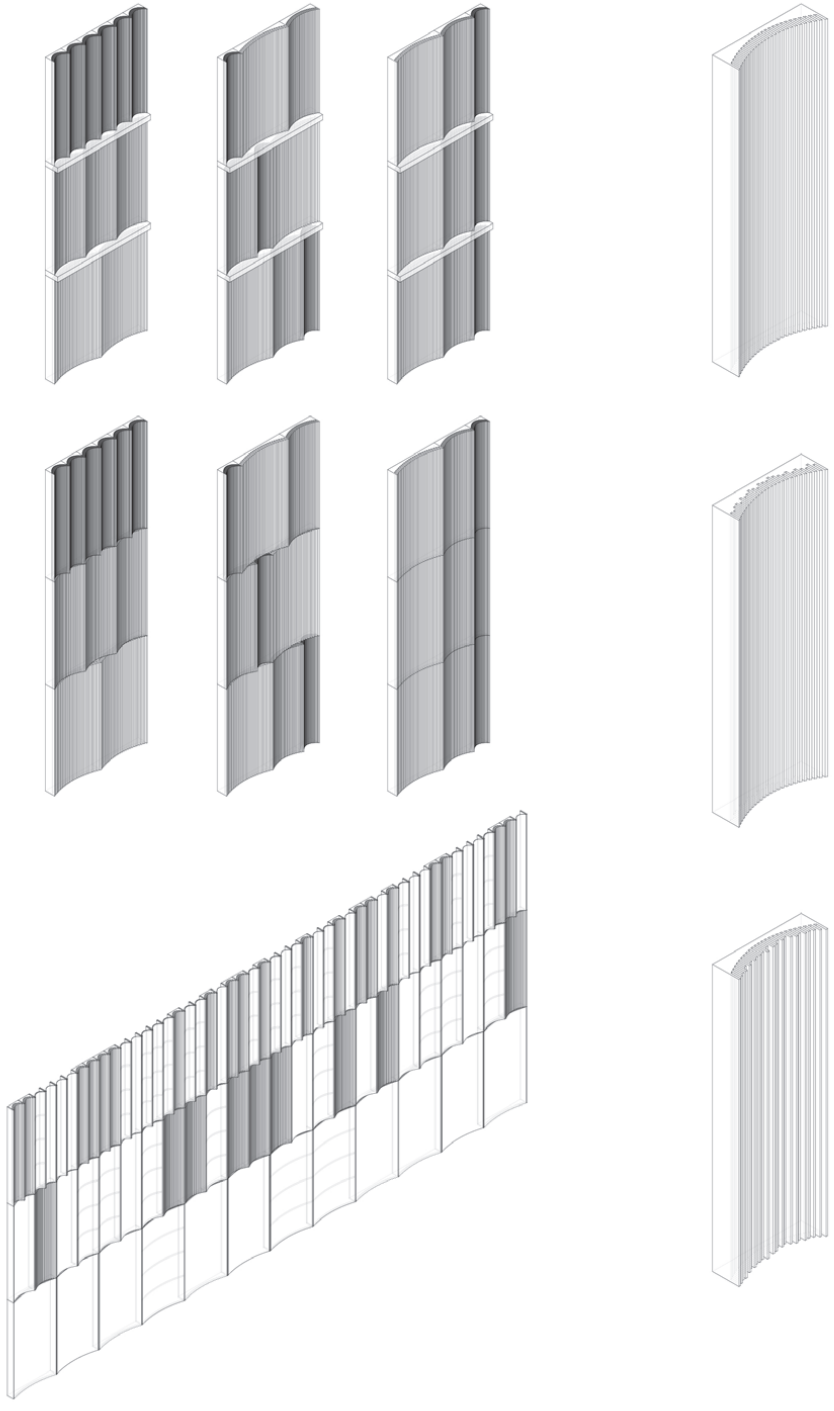
7.64

7.65

The facade as a translation of the Parisian culture and context.
The facade is a crucial component of a building, the appearance and impact it has upon how people develop ideas and chose to use and take ownership of the building. One of the strongest impressions and experiences from the study trip was the limestone facades that are so characteristics and symbolic of Paris. Despite limestone holding this status, modern interpretations and explorations of the material are rare and an area that deserves further investigations and development. The choice to use a panelised facade system was done as "translation" of the element constructed Haussmann facade and as a method allowing for controlled material exploration.

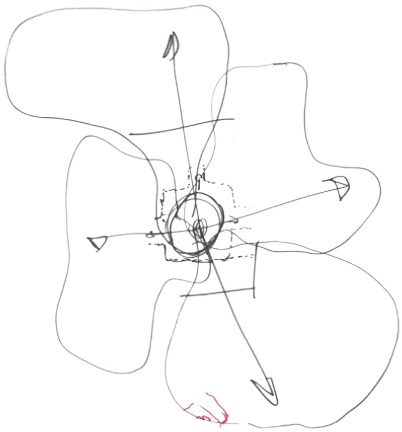
Limestone was explored through virtual models and representative material models and sketches. Different methods of creating texture and depth in the material were explored and their effect on a larger composition. The effect of the methods and different compositional methods were then further explored before contemporary and supplementary facade materials and treatments were decided upon and added to the compositional tests.

7.64, Facade expression exploration
7.65, Facade in relation to reservoir

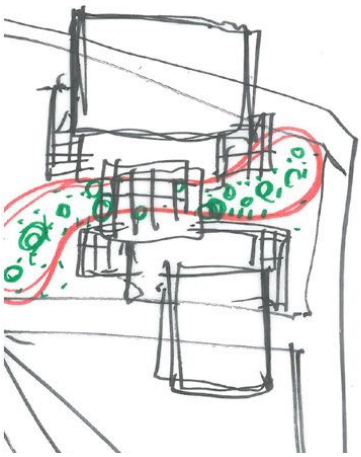


7.66

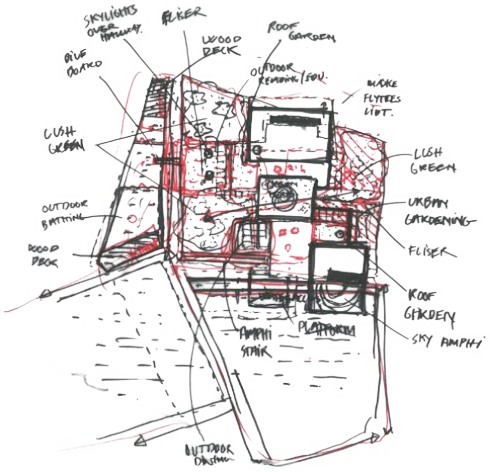
7.66, Facade panel exploration



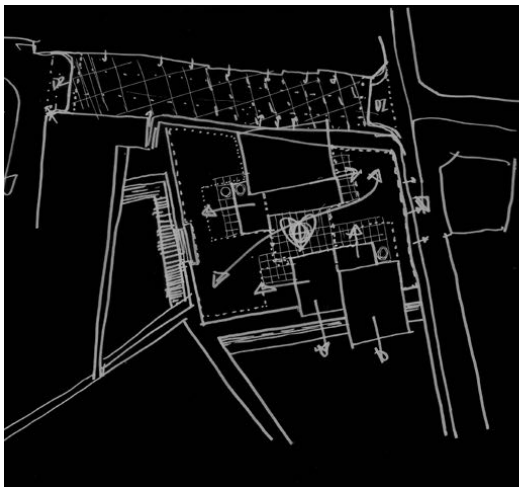
7.67



7.68



7.69



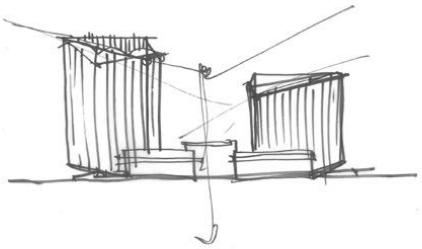
7.70

Landscape and roofs.
Much of the process and exploration of the landscaping and roof was centred on accentuating the natural characteristics and potential of the urban landscape. The decision was made to transform Rue Paul Valéry into a shared space, due to the minimal impact on local traffic and infrastructural flow and the big improvement towards the arrival and experience of the building from the street. The transformation also provides the opportunity for the shops and the school opposite the Passy Réservoir to help fully activate the new space.

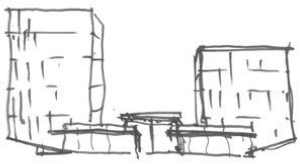
Different atmospheres and characteristics were explored for the rooftop park, from uncontrolled nature to more urban plaza. One of the key missing elements of the 16th arrondissement and Paris's city centre is unprogrammed and green public space. The interaction between interior and exterior spaces was explored and balanced with the addition of transitional and half spaces.

Similar to the Parisian facade the lead roofs and the grey-blue skyline is an iconic feature of the city. The creation of such a cultural building that has aspirations of being identity creating and a monument a recognisable volume and massing is an important factor. A number of different formal language and interpretations of the local context were investigated before the final design choices were made.

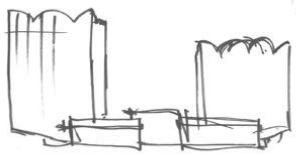
7.67 - 7.70, Landscape concept sketches



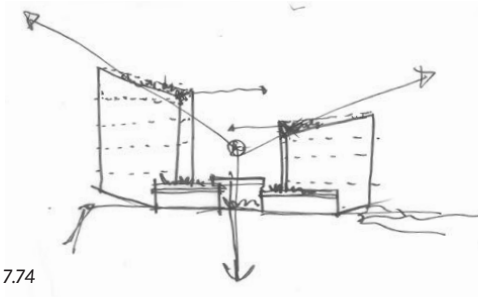
7.71



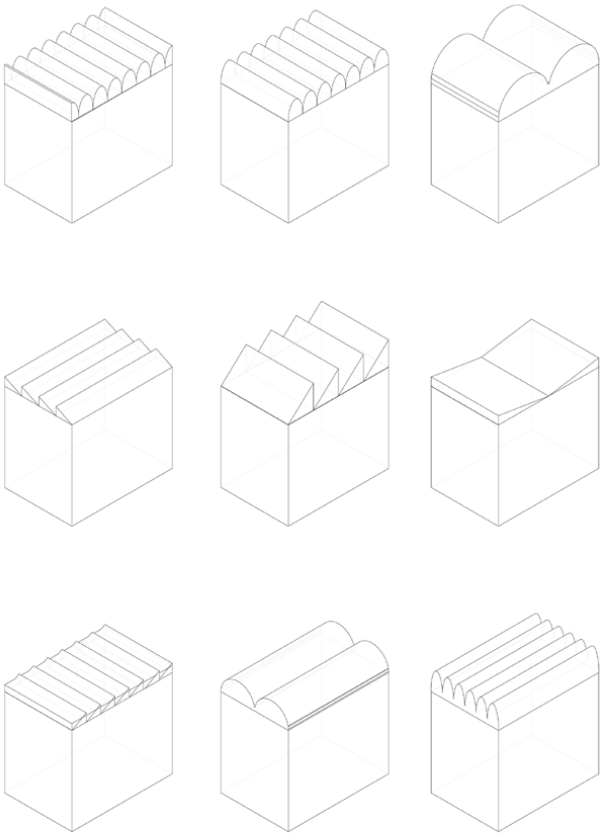
7.72



7.73



7.74



7.75

7.71 - 7.74, Facade and roof expression
7.75, Roof expression exploration

8.1, Absolution (L'Absoute) by Félix Vallotton

Conclusion

The Passy Réservoir lies within a forest of 1800's Parisian Apartment block forming a homogeneous wall of intricate and richly ornate limestone facades. The new socio-cultural building raises above its surroundings and becomes a monument to its people and society rather than Presidents and prestige. The Passy Réservoir attempts to offer a new social approach and viewpoint of cultural architecture. It attempts to push the boundaries of what can be considered cultural architecture and how functions and programs can be combined to produce a building that creates a whole greater than its parts.

Working within the rich history and traditions of Paris has poised its challenges and privileges architecturally. Constructing a piece of architecture within a city and context such as Paris has required a solid understanding and appreciation of the City grounded in both theoretical and first-hand experiences. The development of theories and understanding of place developed during analysis has been a critical component in the production of a piece of Parisian architecture that is rooted in the place and people that will inhabitant it.

The functions given to the building are based on theoretical and analytical investigation combined with architectural and social views and intentions. The creation of synergies and eco-system are a deliberate attempt to create beneficial social conditions and situations that allow for people of all classes and backgrounds to meet and interact on common ground and footing. The project operates and exists on the world view that shared interactions, situations and events between people is beneficial in the creation of an integrated and cohesive society. Allowing for classes, communities and cultures to broaden their knowledge and experiences of the world and city around them.

This sympathetic approach is mirrored in the architecture through formal and aesthetic choices. The project attempts to be sympathetic and aware of the context and unique structure that it is located upon and affecting. Transformative architecture and the act of altering a piece of physical history is an important task that is not to be taken lightly. The existing structure has been given a privileged position within the overall architecture with every design decision being done in regards and in consideration of its impact on how the original structure is experienced. Acts of addition are treated as translations of the intentions and qualities found within the original structure, working to produce a cohesive piece of architecture despite the breadth of aesthetic, spatial and phenomenological experiences that are contained within the project.

In many ways, the project serves as an optimistic and utopian answer to complex social issues. But it does so through architectonic realistic designs and choices. This project has attempted to create an example of a new socio-cultural typology. It presents a house where multiple active communities can thrive together. A place where social and cultural functions merge together and create synergies that benefit not only the daily users but also the city as a whole.

Reflection.

Our proposal for the Passy Réservoir does not follow an existing archetype or typology. It aims to expand and challenge approaches towards cultural architecture and the way in which a building sits within a social, cultural and physical context. This project and process, more than another, has highlighted the importance and role that site visits and study trips play in developing concrete and real idea of what a site and place is. The change in approach and challenging of expectations that occurred during the physical exploration of the site lead to a much better concept and approach being taken than otherwise would have been possible. Despite the improvement to technology and the ability to be immersed through a screen, there is no substitute for physically visiting a site and experiencing it firsthand.

It was vital that the project and final piece of architecture was a piece of Parisian architecture rather than a piece of Nordic architecture on holiday. Approaches towards architecture and the creation of spaces are shared between the two but the recognition that the project will be experienced by the general Parisian population is an important distinction that illustrates the importance of remembering the cultural and social landscape that the building will become a element of. A component of this and unique approach, for the authors, towards the design process of the project was the establishment of theories before design exploration was carried out. Rather than concurrently developing both, the decision was made to focus upon the creation of robust and applicable theories before designs decisions were made and irreversible. This approach provided a strong direction and methods for conducting the design work which allowed for depth and detailing of the design to be carried that was unique in the author's experience.

The creation of the theories and their use as methods for informing design played a vital part in the overall architecture achieved with the project. Along with the theories, a number of decisions for creating beneficial architecture were taken under the guise of artistic license and architectural intention. These decisions were made to further the potential of architecture and purposefully introduce a social critique of cultural architecture. The extent to which these decisions are indeed beneficial or perhaps socially harmful is, of course, difficult to quantify or evaluate but hopefully, the robust base for the decisions to be made illustrates the reasoning behind and why we believe them to be beneficial. This is not limited to the social design choices taken but equally, the formal, aesthetic and structural choices taken which are equally rooted in theory and analysis of the site.

Discussion

One of the challenges faced in the undertaking of an architectural thesis is properly addressing the breadth and achieving depth in the many factors that comprise an architectural project. The exploration of a concept and the transformation of a seedling into a fully fledged and considered design within the timeframe of a semester is an ambitious task. The inherent complexity in conducting architecture inevitably leads to the creation of hierarchy and judgement of which elements are most important and vital to be fully explored and developed upon. This project has prioritised the exploration and attempted to push to the boundaries of what is recognised as cultural, transformative and tectonic architecture. It has explored theories and used them as design tools to further the understanding of contextual and cultural architecture. To allow for this exploration, subjects regarding environmental or technical sustainability have not been explored or pushed to the same extent as a result of working with the timeframe and importance to the concept.

One of the challenges faced through the position of architect-engineer is ensuring a balance can be reached between architectural intentions and engineering abilities. The education undergone at architecture and design has given insight and experiences of both fields but has lead to the creation of more knowledgable architects than engineers. This imbalance of knowledge and ability between architect and engineer but desire and requirement to fulfil both have the possibility to limit the extent to which we feel comfortable pushing the boundaries of architecture and construction. Architectural choices have a tendency to be made only if they can be calculated and proved realistic. Throughout this project, we attempt to deliberately make the choices that we felt were right architecturally even if our engineering knowledge is not able to fully prove their validity. Instead, we have used the knowledge gained through the education to work with concepts and principles that we feel confident are realistic and achievable even if we don't possess the necessary skills to prove them.

Furthering this thought, we're currently finding ourselves in an age of science and engineering where decisions are increasingly being made on the background of facts and "indisputable" evidence. But this approach and view of the world are lacking an artistic license. It is not making the world simpler or more open. Perhaps this is a result of the increasing complexity and interconnectedness that we find in the world today, but this project has aimed to take and make informed decisions backed by personal opinions and world dogmas in conjunction with theory and analysis. This project strives to achieve a balance between conclusions drawn from theories and analysis mixed with conclusions drawn from personal experiences and world views to produce a situation that can further or challenge the way that architecture and its influence is seen in the contemporary disciplinary sphere. We hope that through this thesis, and the architectural design process that has followed it, to have gained a better understanding of methods and approaches to integrating social conditions and opportunities into architecture. To have gained a better understanding of what it means to work with transformation and heritage structures and within a heritage context. To gain a better understanding of tectonics, their impact on a place and how a building is experienced. Most importantly we have gained a better understanding of how in architecture, sometimes, one plus one can equal three.

Illustration List.

Chapter I
1.1 - Le Bal Bullier by Jean-Emile Laboureur, https://vangoghmuseum.nl/en/prints/collection/p1254V2000
1.2 - The French Revolution by Hein Nouwens, Adobe stock photo.
1.3 - Yellow west demonstration by Raphal, Adobe stock photo.
1.4 - Paulus by Henri Gabrial Ibels, https://vangoghmuseum.nl/en/prints/collection/p1715V2000
1.5 - Homeless sleeping near Louvre by Nikolai Korzhov, Adobe stock photo.
1.6 - French Guillotine, https://www.britannica.com/topic/guillotine/media/248765/219748
1.7 - Man cooking dades in oil drum, Paris, own photo
1.8 - Yellow west demonstration by Raphal, Adobe stock photo.
1.9 - Illustration from the artists' book Le Juif erran by Émile Bernard, https://vangoghmuseum.nl/en/prints/collection/p0561M1990y
1.10 - John Carlos, Tommie Smith, Peter Norman at the 1968 Mexico Olympics by Angelo Cozzi. https://commons.wikimedia.org/wiki/File:-John_Carlos,_Tommie_Smith,_Peter_Norman_1968cr.jpg
1.11 - Cover for Crimes et châtiments by Félix Vallotton, https://vangoghmuseum.nl/en/prints/collection/p0769-001M1992
1.12 - Burning car near Arc de Triump, Paris. own photo

Chapter II
2.1 - The execution (L'exécution) by Félix Vallotton, https://vangoghmuseum.nl/en/prints/collection/p1493V2000
2.2 - Parisian timeline as seen through key events, persons, art, sculpture and architecture
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King Louis XVI execution by Tony Baggett, Adobe stock photo.
Thiers (Moloch). Date: 1797 - 1877 by Archivist, Adobe stock photo.
2.3 - As 1.10
2.4 - Asakusa in Tokyo by Kengo Kuma, Rasmus Hjortshoej, COAST studio
2.5 - Kolumba MUseum by Peter Zumthor, photo by Rasmus Hjortshoej, COAST studio
2.6 - Hotel Fouquet Barrière by Edouard Francois, own photo
2.7 - Theoretical conclusion, own creation
2.8 - Methodology diagram, own creation
2.9 - Neues museum renovation by David Chipperfield Architects, photo by Jörg von Bruchhausen, courtesy of SPK / David Chipperfield Architects
2.10 - Centre Georges Pompidou by Renzo Piano and Richard Rogers, own photo
2.11 - New Horizon Youth Centre by Adam Kahn Architects, Photo by Ioana Marinescu, courtesy of Adam Kahn Architects
2.12 - Le Centquatre, Centre of Artistic Creation by Atelier Novembre, courtesy of Atelier Novembre
2.13 - 2.20 - Centre Georges Pompidou by Renzo Piano and Richard Rogers, own photos
2.21 - 2.28 - Le Centquatre, Centre of Artistic Creation by Atelier Novembre, own photos
2.29 - Section of Centre Georges Pompidou by Renzo Piano and Richard Rogers, courtesy of RPBW
2.30 - Section of Le Centquatre, Centre of Artistic Creation by Atelier Novembre, courtesy of Atelier Novembre

Chapter III
3.1 - Paris plan, scale 1:25000, own creation
3.2 - Passy reservoir bird view sketch, own creation
3.3 - Original plan and section drawings of the Passy Reservoir by Par M. Rozat De Mandres. 1859, https://gallica.bnf.fr/ark:/12148/bpt6k4084923/f93.item.r=.zoom
3.4 - Wall analysis sketch, own creation
3.5 - Site photo, own creation
3.6 - Siteplan, scale 1:2000, own creation
3.7 - 3.8 - Site cross sections, scale 1:2000, own creation

Chapter IV
4.1 - Site photo, own creation
4.2 - Relation to wall sketches, own creation
4.3 - 4.5 - Competition brief material, Reinventer Paris, Photos by Jacques Leroy, http://www.reinventer.paris/en/sites/1296-passy-reservoirs-16th.html
4.6 - 4.8 - Site photos, own photos
4.9 - 4.11 - Competition brief material, Reinventer Paris, Photos by Jacques Leroy, http://www.reinventer.paris/en/sites/1296-passy-reservoirs-16th.html
4.12 - 4.17 - Site materiality, own photos
4.18 - Site mapping, scale 1:5000, own creation
4.19 - Site mapping, scale 1:3000, own creation
4.20 - Mapping of the Parisian context, own creation
4.21 - Analysis of Parisian facade, own creation
4.22 - Key elements of Parisian facade, own creation
4.23 - 4.38 - Doors of the near context, own photos
4.39 - 4.54 - Door handles of the near context, own photos
4.55 - 4.70 - Windows of the near context, own photos
4.71 - Comparative drawings of contextual details, own creation
4.72 - Social fabric of Paris, own creation
4.73 - Analytical conclusion, own creation

Chapter V
5.1 - Turgot View and Map of Paris, France by Bretez, 1739, https://commons.wikimedia.org/wiki/File:1739_Bretez_-_Turgot_View_and_Map_of_Paris,_France_(c._1900_Taride_issue)_-_Geographicus_-_Paris-turgot-1909.jpg

5.2 - Opportunistic approach diagram, own creation
5.3 - Principle for mixing functions, own creation
5.4 - Principle for synergetic functions, own creation
5.5 - People of Paris sketch, own creation
5.6 - Functional relations and synergies, own creation
5.7 - Room programme, own creation
5.8 - User evolvement, own creation
5.9 - Horizontal relationship of functions, own creation
5.10 - Vertical relationship of functions, own creation
5.11 - Level of publicity and relation to reservoir level, own creation
5.12 - Design principles, own creation

Chapter VI
6.1 - Concept sketch, own creation
6.2 - Concept diagram, own creation
6.3 - Roof plan, scale 1:500, own creation
6.4 - Visualisation of exterior entrance, own creation
6.5 - Concept sketch for hybrid plans, own creation
6.6 - Placement of functions, own creation
6.7 - Visualisation of interior entrance, own creation
6.8 - Plan, level 0, scale 1:250, own creation
6.9 - Plan, level 1, scale 1:250, own creation
6.10 - Plan, level 2, scale 1:250, own creation
6.11 - Plan, level 3, scale 1:250, own creation
6.12 - Plan, level 4, scale 1:250, own creation
6.13 - Plan, level 5, scale 1:250, own creation
6.14 - Plan, level 6, scale 1:250, own creation
6.15 - Plan, level 7, scale 1:250, own creation
6.16 - Visualisation of Heart, own creation
6.17 - Cross section A-A, scale 1:250, own creation
6.18 - Cross section B-B, scale 1:250, own creation
6.19 - Cross section C-C, scale 1:250, own creation
6.20 - Visualisation of public baths, own creation
6.21 - Visualisation of overhang, own creation
6.22 - 6.25 - Elevations South, East, North and West, scale 1:500, own creation
6.26 - Ecosystem, own creation
6.27 - Transitional housing concept, own creation
6.28 - Transitional housing plan, scale 1:100, own creation
6.29 - Modularity principle, own creation
6.30 - Visualisation of transitional housing, own creation
6.31 - Translation concept, own creation
6.32 - Visualisation of hallway, own creation
6.33 - Visualisation of Gallery exhibition, own creation
6.34 - 6.35 - Examples of translations, own creation
6.36 - Universal and specific hybrid, own creation
6.37 - Catalogue of specific furniture
6.38 - Visualisation of stair connection floors, own creation
6.39 - Visualisation of outdoor stair leading to the roof terrace, own creation
6.40 - Visualisation of roof top amphi theatre, own creation
6.41 - Visualisation of forum stair fold, own creation
6.42 - Drawing of stair, own creation
6.43 - Visualisation of double height room, own creation
6.44 - Facade concept, own creation
6.45 - Visualisation of facade, own creation
6.46 - French limestone quarry by Mariana Proenca, https://unsplash.com/photos/_WgnXndHmQ4
6.47 - Typical french facade elements, own creation
6.48 - Facade morph, own creation
6.49 - Visualisation of building from the Bassin du Bel-Air, own creation
6.50 - Building detail, overhang, scale 1:100, own creation
6.51 - Structural concept, own creation
6.52- Structural principles, own creation
6.53 - Building detail, new and old columns, scale 1:100, own creation
6.54 - Visualisation from Forum stair, own creation
6.55 - Urban plan section, street, scale 1:100, own creation
6.56 - Urban plan section, park, scale 1:100, own creation
6.57 - Urban approach, own creation
6.58 - Environmental approach, own creation
6.59 - Visualisation on the edge of the park, own creation
6.60 - Visualisation at night time from the end of Bassin de Copernic, own creation

Chapter VII
7.1 - Model photo, own creation
7.2 - Model exploration, own creation
7.3 - Site photo, own photo
7.4 - 7.19 - Pliminary sketches, own creation
7.20 - Volume studies, own creation
7.21 - Volume drawings, own creation
7.22 - 7.29 - Spatial and diagrammatic sketches, own creation
7.30 - 7.36 - Plan sketches, own creation
7.37 - Cross-section diagrams, own creation
7.38 - 7.44 - Spatial exterior and interior perspectives, own creation
7.45 - 7.51 - Hybrid plan sketches, own creation
7.52 - Catalogue of specific furniture, own creation
7.53 - Waffle structures and profiles, own creation
7.54 - Forum stair exploration, own creation
7.55 - Interplay between structure and furniture, own creation
7.56 - Column meets ground, own creation
7.57 - Model photo, own photo
7.58 - Floor restoration, own creation
7.59 - Wall type, size, material and function, own creation
7.60 - Window placement, type and inclination, own creation
7.61 - Model photo, own photo
7.62 - Stair type, shape, function and gesture, own creation
7.63 - Stair gesture sketch, own creation
7.64 - Facade expression model, own creation
7.65 - Facade in relation to reservoir model, own creation
7.66 - Facade panel exploration, own creation
7.67 - 7.70 - Landscape concept sketches, own creation
7.71 - 7.74 - Roof and facade sketches, own creation
7.75 - Roof expression exploration drawing, own creation

Chapter VIII
8.1 - Absolution (L'Absoute) by Félix Valloton, https://vangoghmuseum.nl/en/prints/collection/p2498S2008?v=1

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Appendix.




















16e Arr.
RUE
PAUL VALÉRY

16e Arr.
RUE
PAUL VALERY

16e Arr.
RUE
LAURISTON

16e Arr.
RUE
LAURISTON

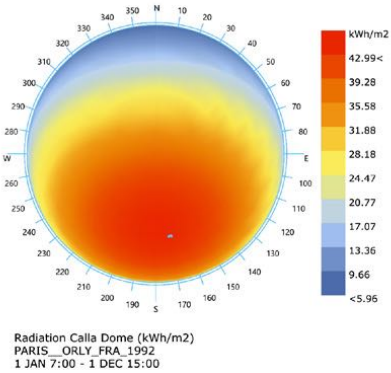
16e Arr.
RUE
COPERNIC

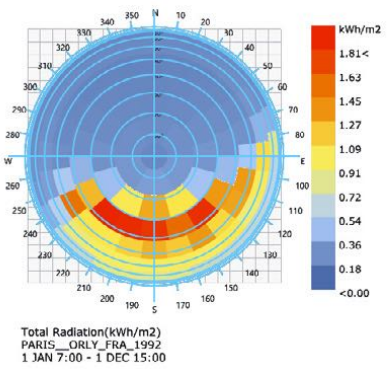
VOIE PRIVÉE
STATIONNEMENT
INTERDIT
38

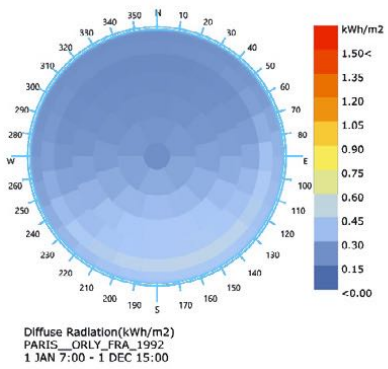
VILLA
COPERNIC

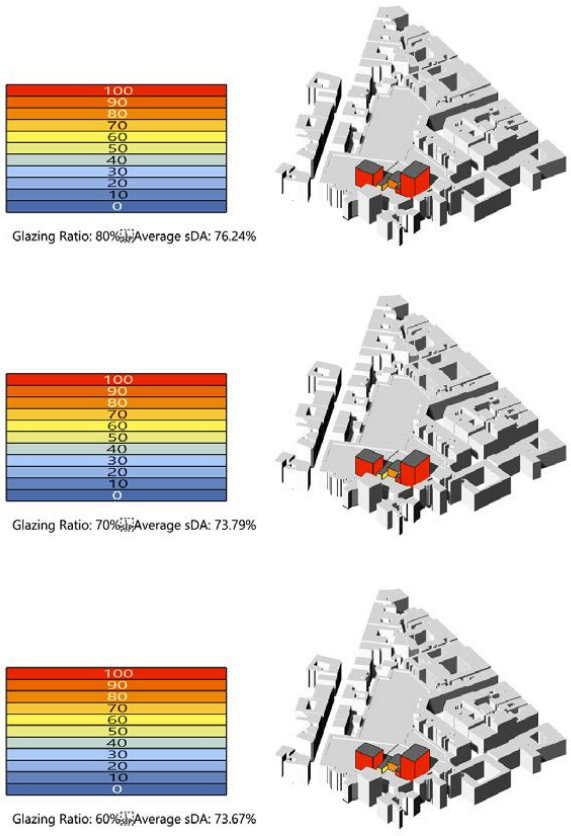
16e Arr.
RUE
COPERNIC

16e ARR.
RUE
COPERNIC



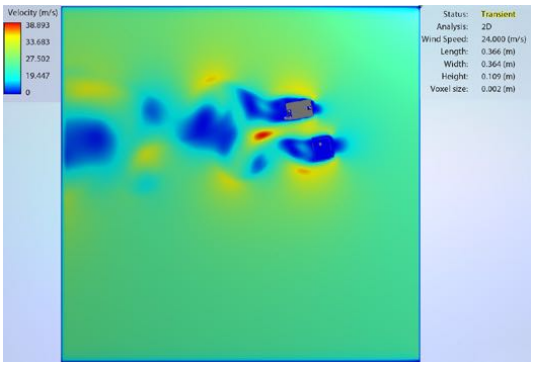






Window glazing exploration

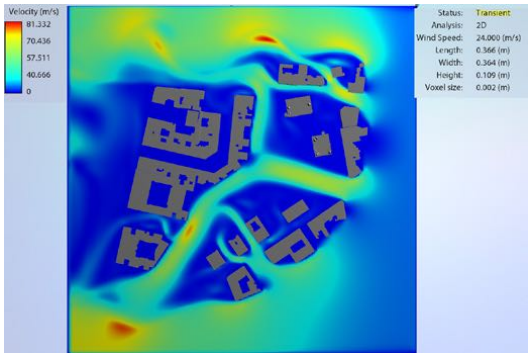
Glazing percentage.
The usage of parametric and smart scripts (scripts using data from built and calculated examples) allows for the environmental factors and performance to be predicted through the entry of basic data. This allowed us to use environmental tools and simulation throughout the design process as an active component in making design decisions. Here the glazing percentage and its impact on the environmental performance of the building was able to be tested and optimised leading to the chosen facade composition.



Amphi theatre height

Wind velocity: 24m/s

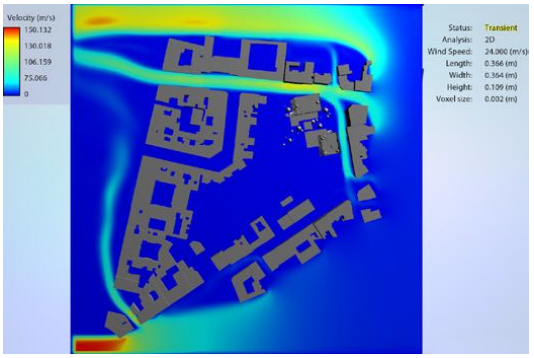
East



Roof terrace height

Wind velocity: 24m/s

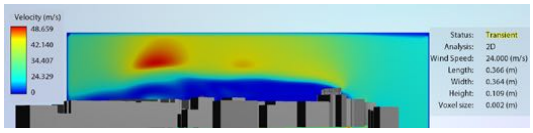
East



Park height

Wind velocity: 24m/s

East



Cross section

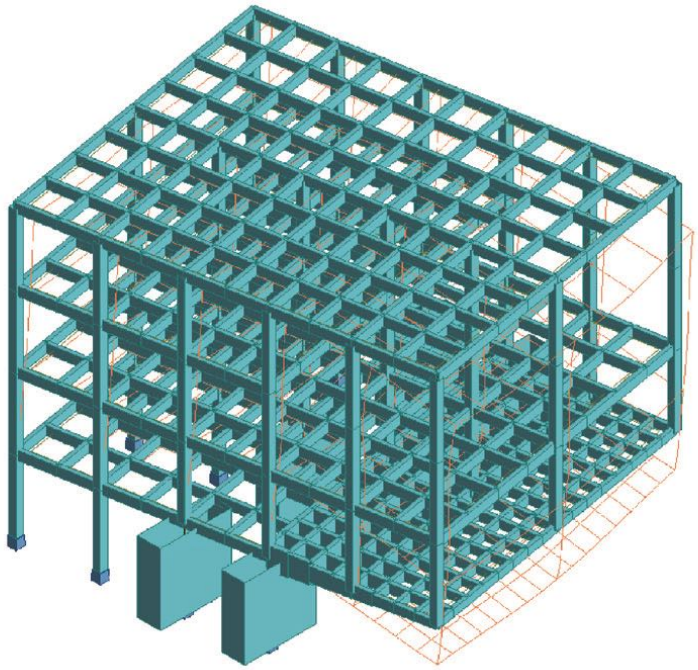
Wind velocity: 24m/s

East

Wind flow analysis

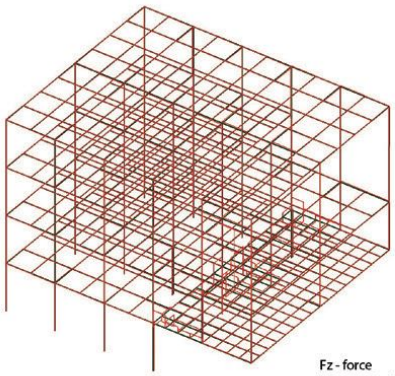
Wind analysis.

The exploration of wind analysis around the site has been used to optimize the recreational spaces and outdoor functions. The wind flow has been tested in different heights responding to those where people inhabit the outdoor spaces to make sure that the urban settings created are pleasant.

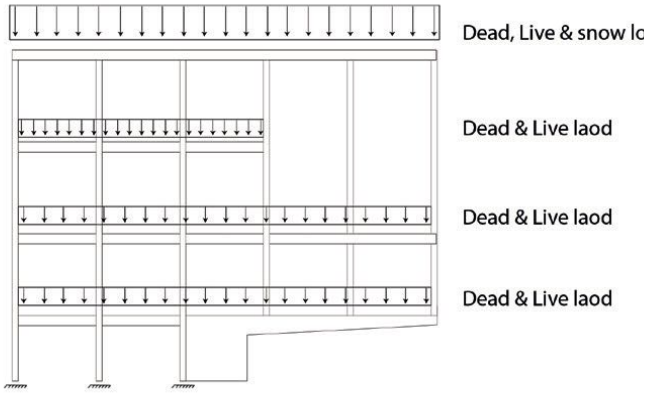


Deformation - 5 mm
Max - 19 mm

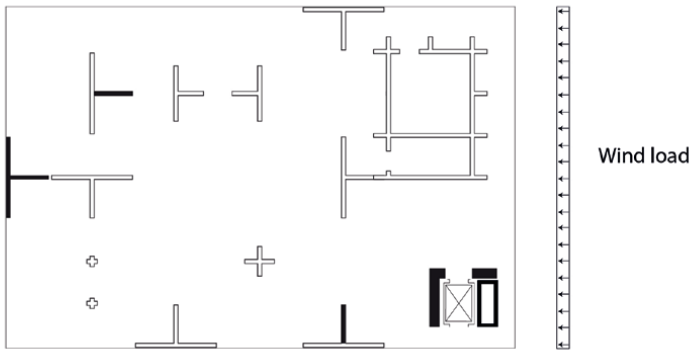
Load cases - ULS Load Combination



Fz - force
Max = 1.9mN
Load cases - ULS Load Combination



Load diagram section



Load diagram plan

Structural exploration.
By using Autodesk Robot structural analysis to understand the structural forces inside the construction and by different iterations of profile examples it proved possible to find a solution that integrates the architectural design with the structural concept. Through Robot it was possible to test different solutions to a challenge created through architectural intention and for the solutions to be optimised.

The critical point in our structure is the overhang and the moment created at its beginning, therefore it was especially tested how different material properties and cross sections could alter the deformation to a satisfactory level.

By calculating the column we have verified that by using C67 reinforced concrete we can achieve very slender columns that coherence with our architectural concept and withstand the moment which is created by the overhang.

Load calculation

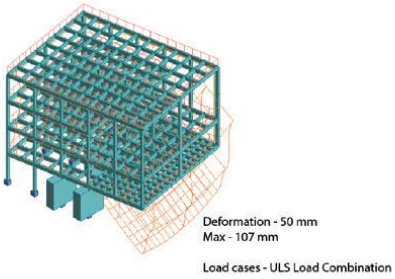
The loads on the construction were calculated and used for verification in Autodesk Robot Structural Analysis.

Permanent load (Eurocode 1 6,3 1.2)

The permanent load contains self-weight of the building.

Self-weights: G=ρ * (l*b*h) *g

$G_{waffle\ structure}$ = 2.3kN/m
$G_{collumn}$ = 2.1kN/m
$G_{deck,insulation}$ = 0.012kN/m
$G_{roof\_insulation}$ = 0.066kN/m
G_{wood} = 0,003kN/m



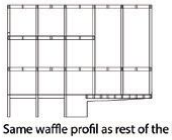
G=∑2.3+2.1+0.012+0.066+0.003 = 4.5kN/m

Snow load: (Eurocode 1, 5.2)

The snow load was defined as $S=\mu*C_e*C_t*Sk$

μ, Form factor = 0.8
C_e, Normal topography =1
C_t, Thermal factor = 1
Sk, Characteristic terrain value = 1kN/m^2

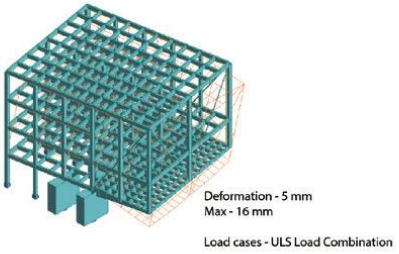
S= 0.8kN/m^2


Same waffle profil as rest of the building

Wind Load: (Eurocode 1, 1-4;4.2 Basic Values)

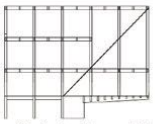
Vb, Basic wind = 19.2m/s
Terrain Cathegory = 4

V_m, Mean wind speed = 13m/s
q_p, Peak velocity pressure = 0.4kN/m^2



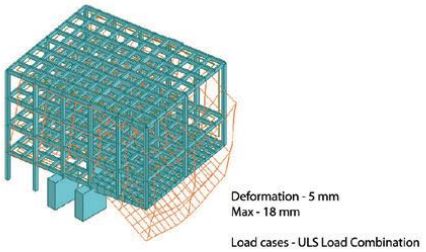
Wind pressure on the flat roof: $We=q_p(z)*C_{pe}$

Zone F, $C_{pe,F}$ = -1.2 — $W_{e,F}$ = -0.49kN/m^2
Zone G, $C_{pe,G}$ = -1.8 — $W_{e,G}$ = -0.74kN/m^2
Zone H, $C_{pe,H}$ = -0,7 — $W_{e,H}$ = -0.29kN/m^2
Zone I, $C_{pe,I}$ = -0.2 & 0.2 — $W_{e,I}$ = -0,08kN/m^2 & 0,08kN/m^2


waffle structure incresed where moment is highest
& Steel pipes used to transfer load down to columns

Wind pressure on a wall: $W_e=q_p(z)*C_{pe}$

Windward = 0.7 — $W_{e,W}$ = 0.29kN/m^2
Leeward = -0.3 — $W_{e,L}$ = 0.12kN/m^2



Element conclusion

A column was chosen for verification. The design values for material were calculated first.

Material: C67 Reinforced concrete

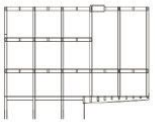
f_{yk} = 500 MPa
f_{yd} = 417MPa

Inertimoment = 6.75*10^8mm^4

E_{orcd}= 55000

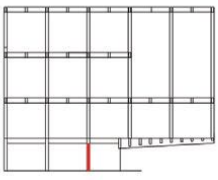
λ = 0.3

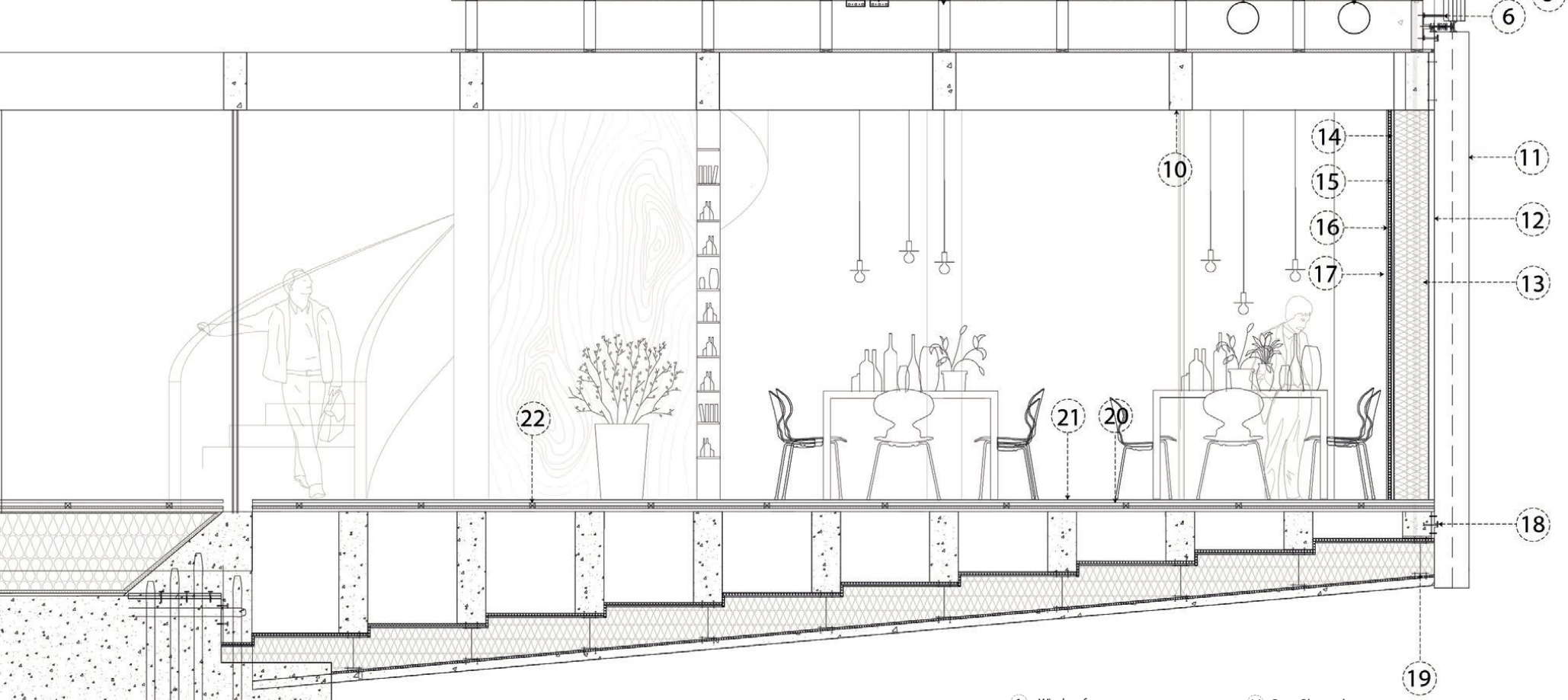
σ = 54Mpa


waffle structure incresed where moment is highest
both on the roof and at the overhang

$$N_{crd} \le \begin{cases} \sigma_{crd}(A_c + \alpha A_s) = 6.2mN \\ \sigma_{crd}A_c + f_{yd}A_s = 5.4mN \\ \sigma_{crd}A_c(1 + 0.04\alpha) = 8.9mN \end{cases}$$

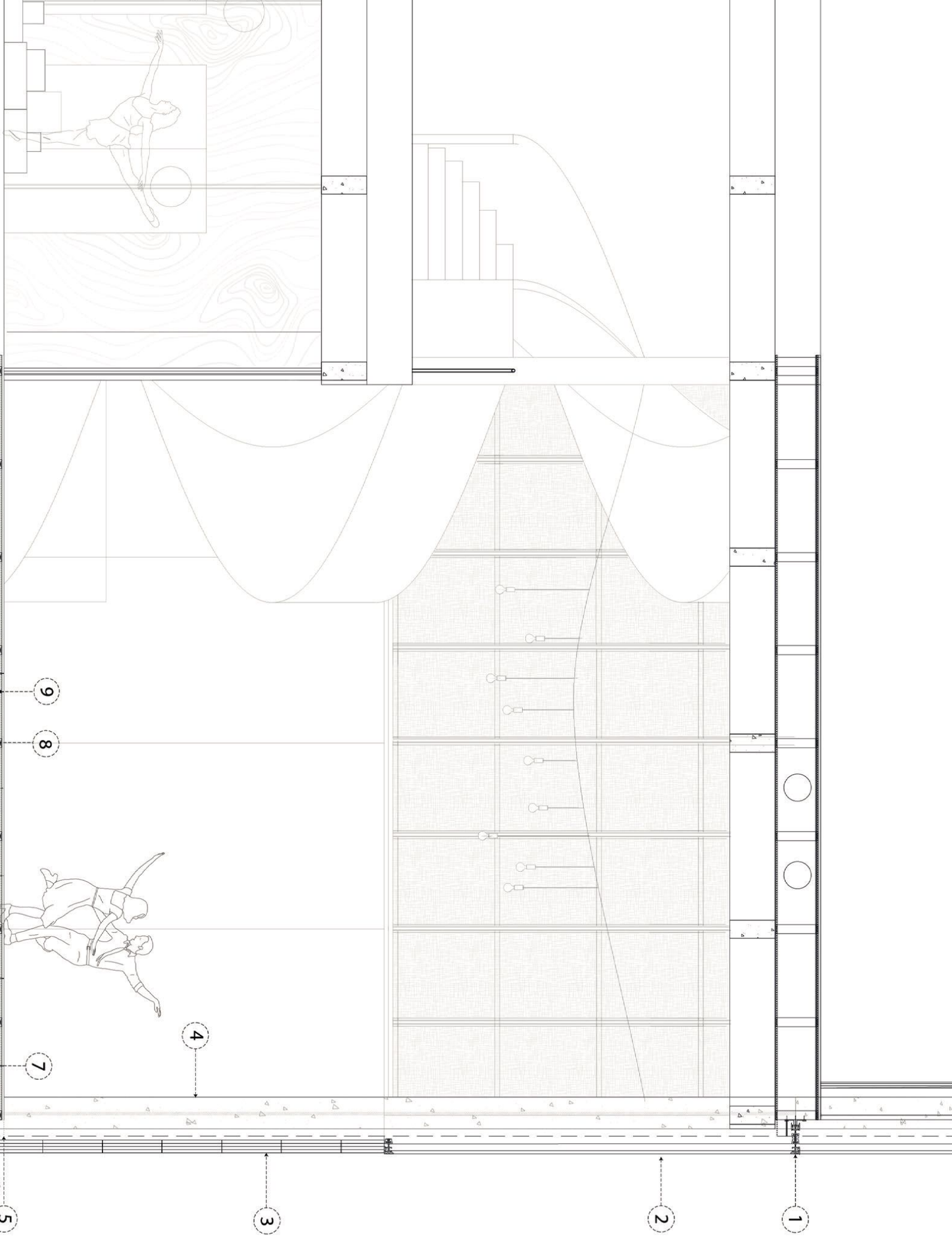
The critical normal force = 5.2mN


To verify the columns carryring capacity



1. Window frame
2. Window
3. Fibreglass
4. Concrete column
5. Ventilation grill
6. Ventilation system (adjustable)
7. Mechanical ventilation pipes
8. 40x10mm Floor joists
9. Aluminium cable tray
10. Structural concrete waffle
11. Limestone
12. 5mm Plywood
13. 280mm Insulation
14. 5mm Plywood
15. Vapor barrier
16. 5mm Rigid insulation
17. 13mm Gypsum board
18. Facade mounts
19. Aluminium insulation frame
20. Air gap
21. Concrete floor
22. 5x5mm Sleepers
23. 57mm Steel rebars
24. Bolts
25. U beam steel

Building detail, overhang and facade, 1:50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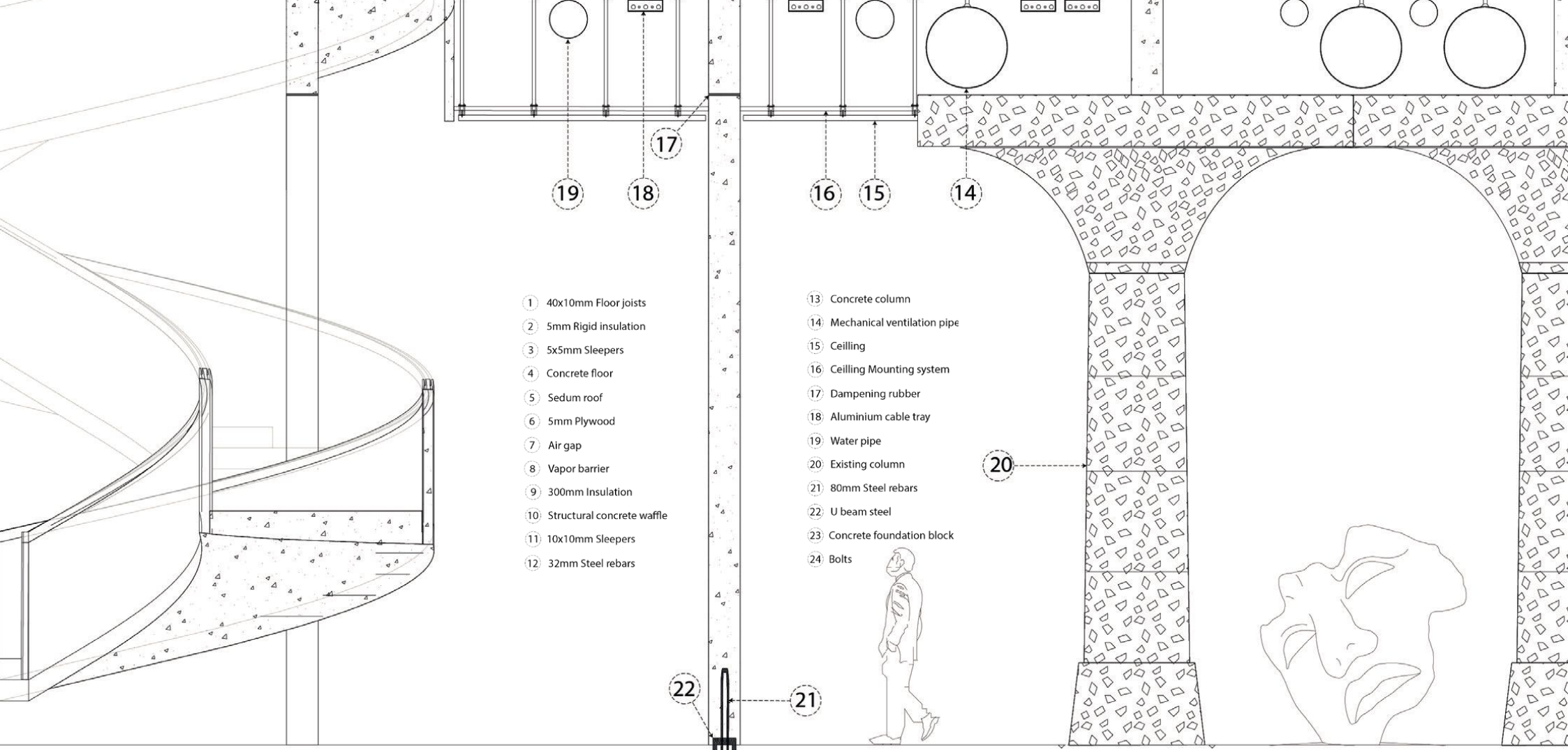

Building detail, old connected with new, 1:50

12
13
11
10
9
8
7
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2