

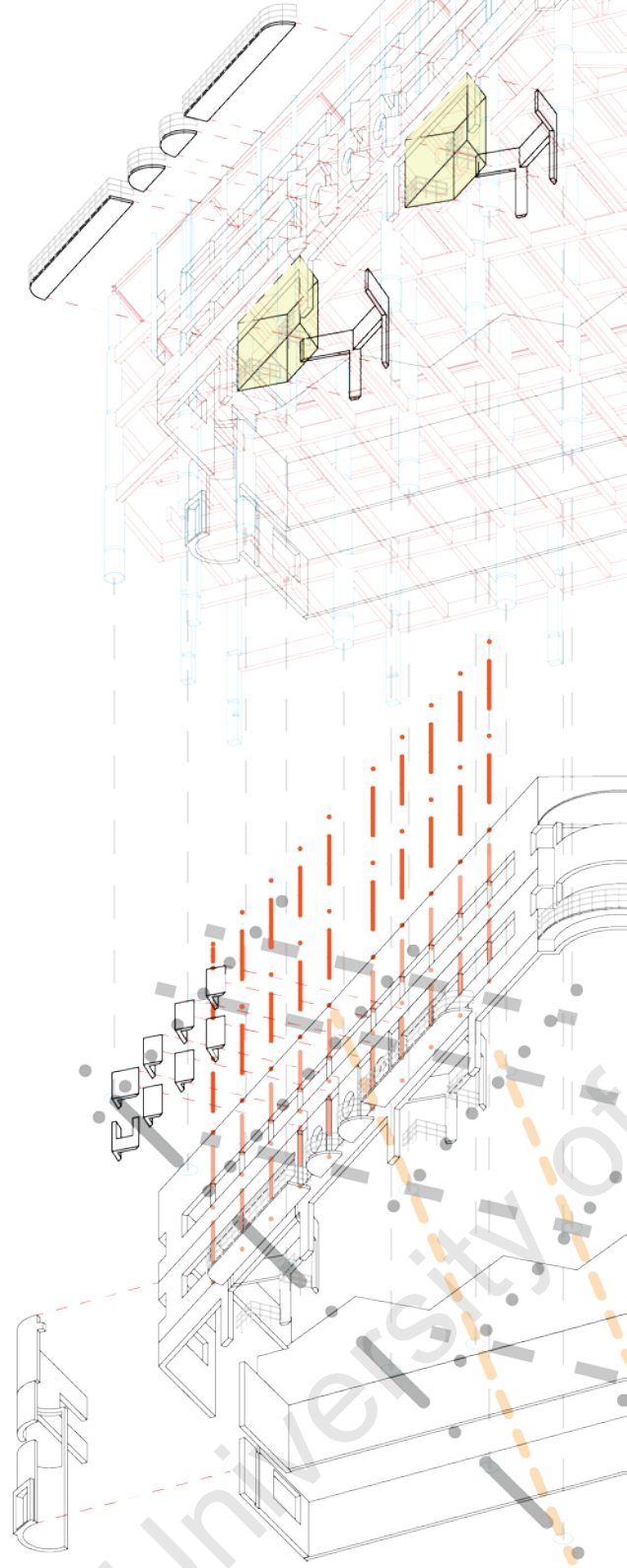
**WAZIR ROHIMAN**  
**RHMMUH003**

**M.Arch (Prof)**

**Design Dissertation**

**SCHOOL OF ARCHITECTURE**  
**UCT**

**2017**



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# Design Dissertation

Spatial Overlay: Valuing the existing through Juxtaposition

By

Wazir Rohiman  
RHMMUH003

This dissertation is submitted as part fulfilment of the degree of

Master of Architecture (Professional) [M.Arch (Prof)]

School of Architecture

Faculty of Engineering and Built Environment (EBE)

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Design Research Studio: ADAPT!

Studio Convenor: Stella Papanicolaou

Assistant Convenor: Mike Louw



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APPLICANT'S DETAILS		
Name of principal researcher, student or external applicant	Wazir Rohiman	
Department	School of Architecture	
Preferred email address of applicant:	Rhmmuh003@myuct.ac.za	
If a Student	Your Degree: e.g., MSc, PhD, etc.,	M.Arch (Prof)
	Name of Supervisor (if supervised):	Stella Papanicolaou
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**Spatial Overlay: the process of extracting elements from the existing and juxtaposing the spatial values of the old and the new.**

Adaptive reuse can be viewed as a catalytic process that upgrades an existing building into its current temporal reality. This process has given rise to the practice of façadism; a practice that operates in the middle ground between two extreme approaches of either preservation or complete destruction of an existing building.

Preservation is concerned primarily with the keeping of the existing building in its intact form, architectural language, tectonic and spatial qualities. New programmes demand new spatial needs, the practice of preservation leaves very little space for major intervention to take place, remaining often unsatisfactory for the new uses of the building. On the other hand, the anti-preservationist's approach leads to total disregard of the existing whereby complete demolition is likely to take place.

The practice of façadism locates itself in between these two approaches. While it serves its purpose of upgrading the existing architecture, this paradoxical practice is somewhat more deceptive than pristine preservation or complete demolition. The problematic issue is that it pretends to value and retain part of the building while ignoring the set of values of the whole that the existing building has to offer. More importantly, it erases the spatial and programmatic qualities of the existing while only considering the material and physical connection between the old and the new. In the majority of cases, this results in a severe dismembering and the gut-removal of the existing building's internal elements.

The upgrading of an existing building is bound to exert major changes that entirely transform the building's image. This reality is acknowledged and regarded as unavoidable throughout the dissertation. However, when the whole and the set of values of the existing are ignored, the new intervention creates a totally alien architecture that offer no substance that can relate to the existing building. This dissertation set out to find a dialogue between the old and the new, by respecting the old without compromising on the upgrade.

The aim of this dissertation covers the process of space-making that relies primarily on taking the valued elements, whether physical, spatial or programmatic from the existing to drive the design of the new intervention forward. Unlike the practice of façadism, where the process emerges from design intentions that do not value the existing, the process employed in this design dissertation frames the existing building as the starting point of the design process.

The new intervention therefore originates from the spatial overlay of the existing building, where the latter becomes the main input of the design process for the former. Since the practice of façadism does not value space, the emphasis for the spatial overlay is to find the right fit between maintaining spatial qualities of the existing while juxtaposing the requirements of the new design intervention.

## Understanding Facadism

In general, the practice of façadism is greatly frowned upon in the architectural and historic preservation community.

The research paper established that façadism occurs in the majority of time during the process of adaptive reuse. At times, some project will undergo drastic and very violent transformations. As a result, the mediation between the new and the existing is often seen to be out of proportion, with a completely altered architectural language and tectonic qualities.

As defined in the research paper, based on Jonathan Richards' 10-years of investigation, façadism is the "preserving of historic facades or creating replicas, and the construction of essentially new buildings behind it." (Richards, 1994) The practice involves a myriad of ways such as the gutting of the existing building leaving only the façade - or a simple replica of it – intact and untouched. However, the most controversial one is, according to Richards, a result where "there's little or no relationship between the façade and the rest of the building in terms of style, proportion and structure." (Richards, 1994)



Fig. 1 Maintaining an existing facade while the interior is gutted



Fig.2 Bank of Canada. An example of Facadism



Fig. 3 Tower-on-podiumArchitecture

In essence, it is understood that façadism happens when the new intervention does not value the existing, focusing primarily on promoting the difference that emerges between the physical appearance of the old and the new. In some cases, the building becomes the tower-over-podium type, where the new structure creates a disparity in proportion, tectonic and spatial design. The language of the new architecture does not emerge from the existing, where the latter sits uncomfortably as an attachment to the new and therefore devalued.

Designing with the spatial overlay approach proposes a middle-ground approach where the new intervention does not overshadow the existing. The design of the new architecture has to come out of the old, to such an extent that the maximum of elements already present in the existing is valued and used to inform the design of the new. The idea presented here is that "adaptive reuse could therefore become a process of temporal re-contextualisation of an old building into the current time to meet the current demands" (Rohiman,W 2017), using the existing as the main input or starting point for the new intervention.

## Facadism: Root Cause

To be able to understand the root cause of façadism, the investigation led towards the research by architect and theorist James Cornetet. Cornetet tackled the topic of façadism from a first-principle approach to boil it down to its root cause.

Architectural styles are most commonly interpreted from the external appearance, which is mostly a reading of the façade. By looking at the root cause of the evolution of architectural styles, he argues that architectural styles do not evolve at the whims of the architect or the architectural community at large. For Cornetet architectural styles are a result of the demands of the economic context. His definition of 'economic context' does not only refer to the complex market system. Instead the term is an all-encompassing reference to societal, technological, financial and most importantly the driving phases that cause the advancement and development in the current society, that create what Cornetet refers to as "great-value architecture" (Cornetet,2013)

James Cornetet suggests that there are only two major movements that drives Architectural style – The 'Wealth-driven' movement and the 'Value-driven'

movement. The following graph below demonstrates the correlation between the economy, architectural style and the above-mentioned movements.

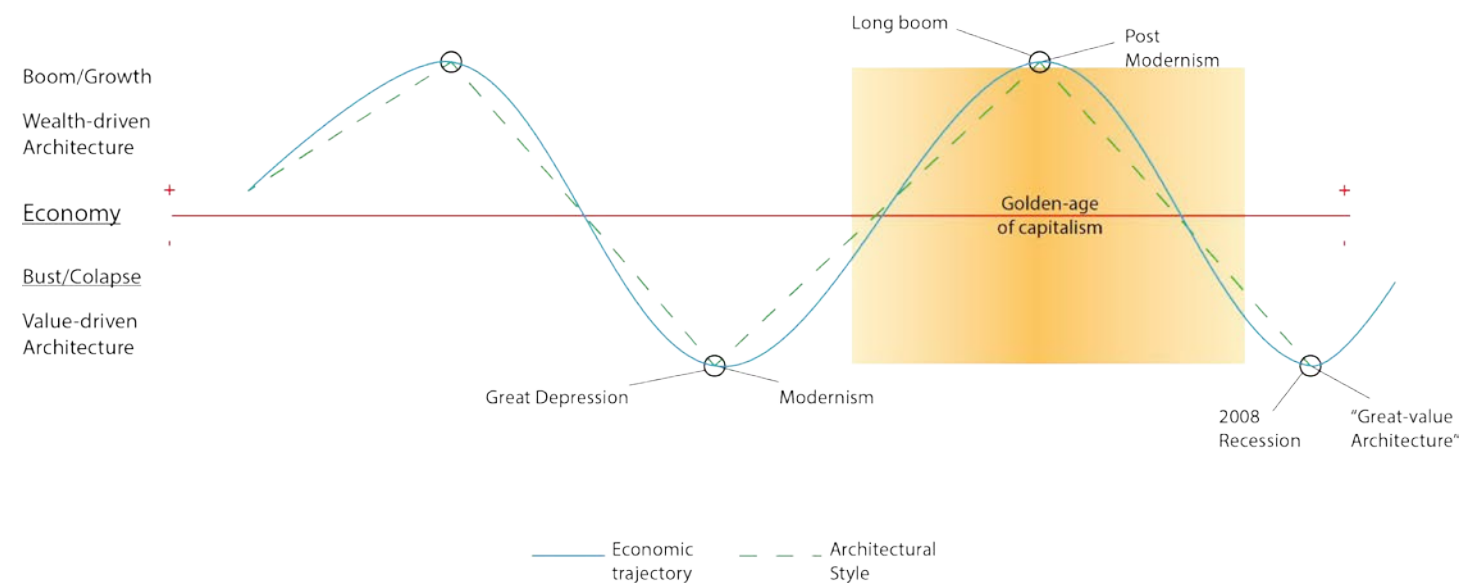


Fig. 4 The relation between the economy and architectural styles

Cornetet's proposition is that it is the architect's duty to understand exactly the temporal economic context to be able to "provide architecture with the most value". (Cornetet, 2013)

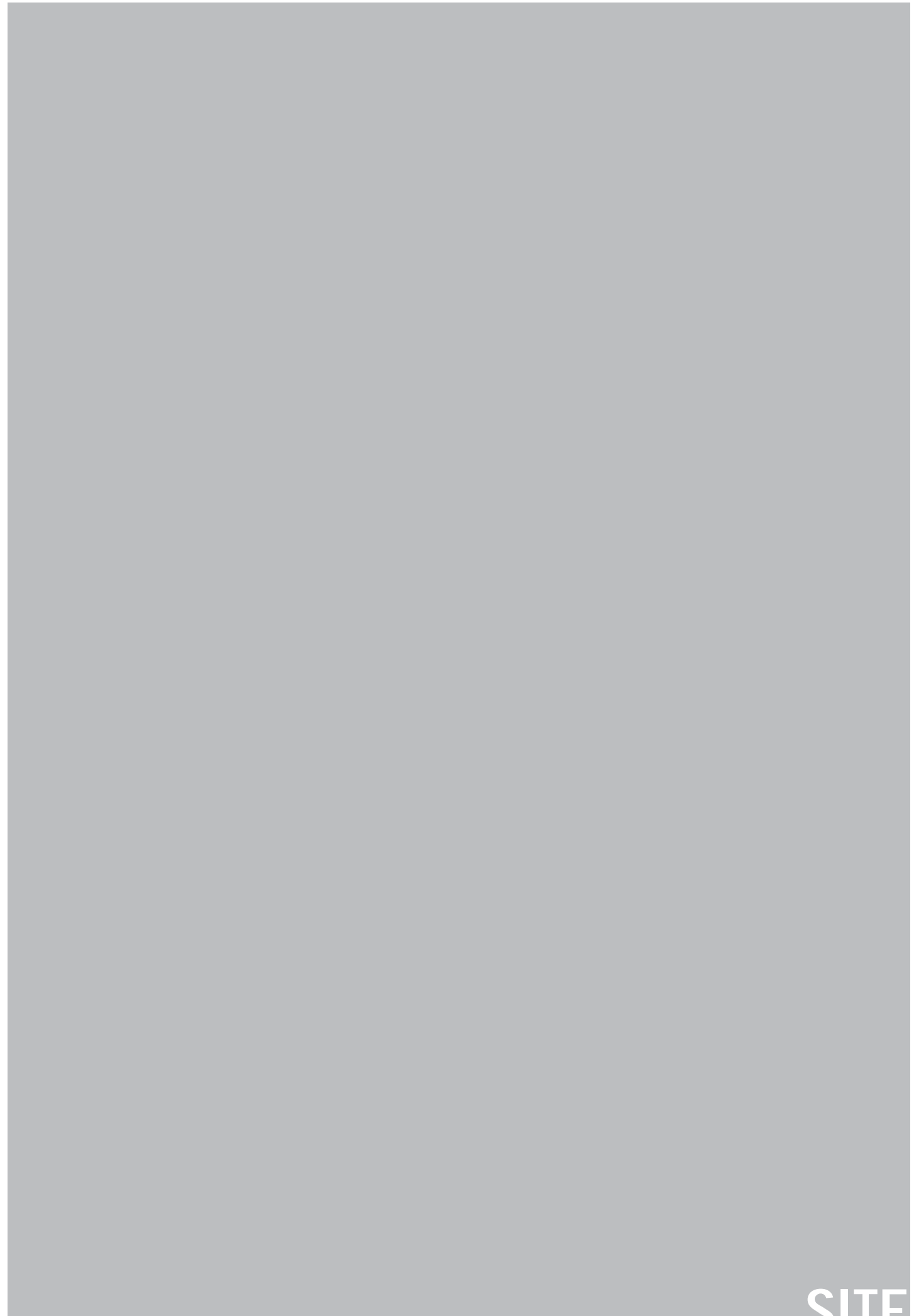
This systematic form of inference could also be applied to the process of adaptive reuse. However, simply extrapolating references from the current economic context to design the new intervention would not be enough, since it undermines the economic context of the existing in favor of the current phase. Unless the design takes into consideration the past economic context of the existing building in parallel with the new, the result of the mediation between the old and the new architecture would end up being another form of Jonathan Richards' description of façadism.

This is due to the lack of substance from the existing to allow the coherent engagement between the spatial design of the old and the new architecture. For the spatial overlay to happen, a set of principles have been set up below to define the approach.

It becomes important to find the references attributed to the existing building within the economic context in which it was situated as an attempt to understand what the existing building stood for.

This approach would require two starting points from which the re-contextualisation can happen. Firstly, a good understanding of the design elements that are present within the design of the existing. This is achievable through the analysis of the building using a similar technique that Peter Eisenmann developed, which he referred to as 'Textual readings'. This technique has been explained in detail in the research paper. Secondly, an understanding of the values that caused the emergence of these elements, resulting from the application of a specific architectural style and its corresponding economic context in which it was situated.

As James Cornetet simply puts it, "the spirit of 'Great Value' architecture demands that the inherent order of the site must be considered as opportunities that add values to the project rather than obstacles that must be overcome." (Cornetet, 2013) The understanding of this statement is that the values appropriated from the old architecture must go way beyond just the physical, stylistic design elements. A consideration for the old building's programme and the demands it met in its own past economic context will also provide value and possibly dictate the new programme to fit into the



## Urban Scale

The chosen building, known as The Farbers building is located on ERF 173153 at the intersection of Hans Strijdom and Bree Street. The uncommon peninsula-shaped site clearly defines the end of the city grid. This is a result that came about due to the initial boundary of the old coastline prior to the city's reclaimed land, which is now known as the Foreshore area. The back and lateral sides of the site are however still defined by the orthogonal grid of the city, created by the boundaries of Loop, Mechau and Bree Streets.

The precinct is currently dominated by the relatively new buildings, most of which have been constructed during the past 20 years. The area is comprised of a mix of tall commercial buildings ranging from 90-130m in height as well as some mid-rise buildings within the immediate and broader context. Some of the iconic buildings in the vicinity include The Icon, 1 Thibault Square, SARS, Investec and the Portside, which is currently the tallest building in Cape Town sitting right across Bree Street facing the Farbers building.

According to a heritage report, the site which sits on the eastern boundary of the Central City Heritage Protection Overlay Zone (HPOZ) have "few

identified buildings of heritage significance that exist in the immediate context" (O'Donoghue, 2015). The building is therefore the only historic remnant of the past in the precinct that has functional value. In fact, the building is partially in use now.

However, the historical value of the building is not only related to its 82-year presence on the site. Being recognised as a modern building, the DOCOMOMO Cape Town Chapter has reviewed it as site of Grade 2 Heritage Interest due to its rarity (O'Donoghue, 2015).

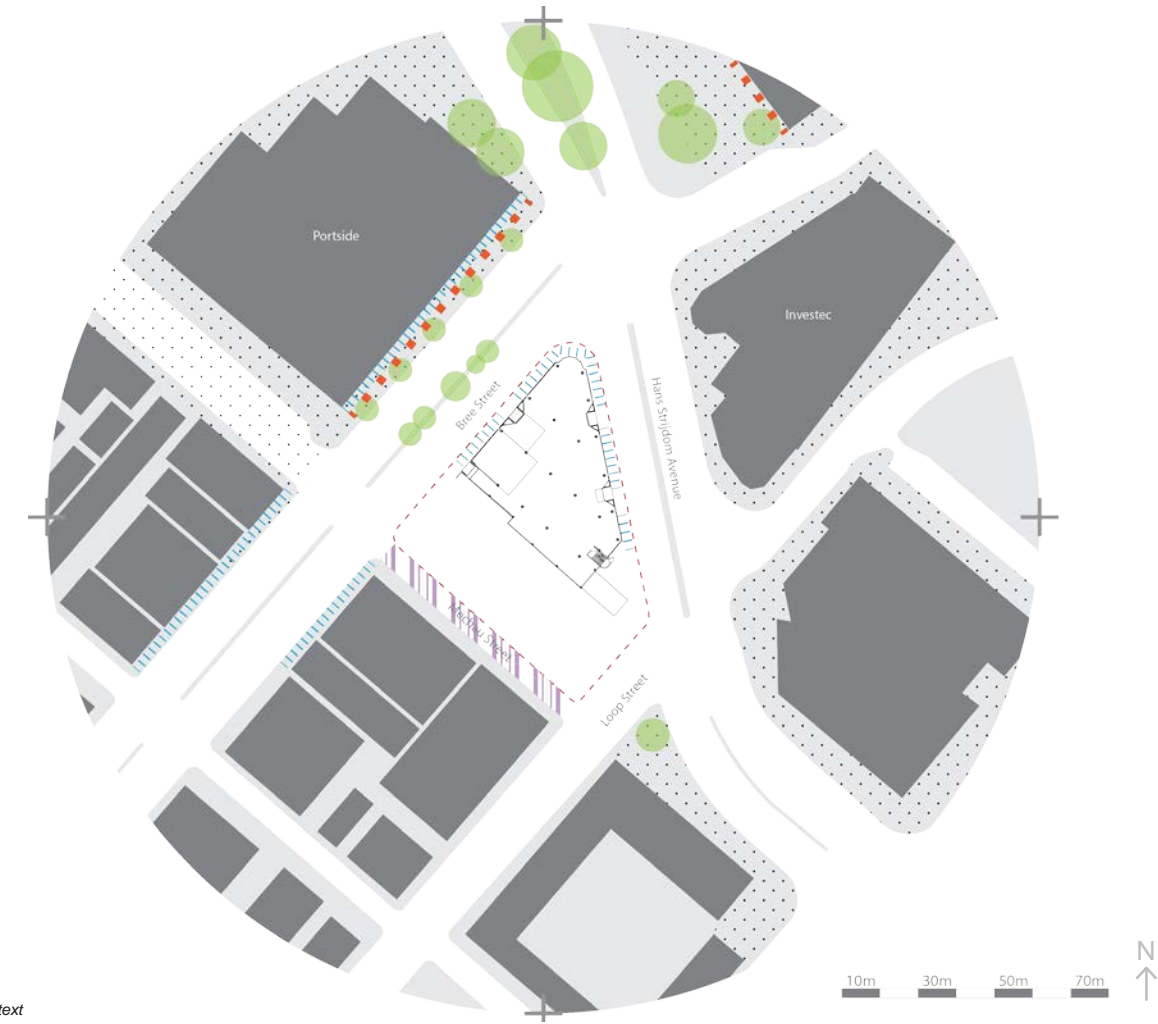


Fig. 6 Precinct context

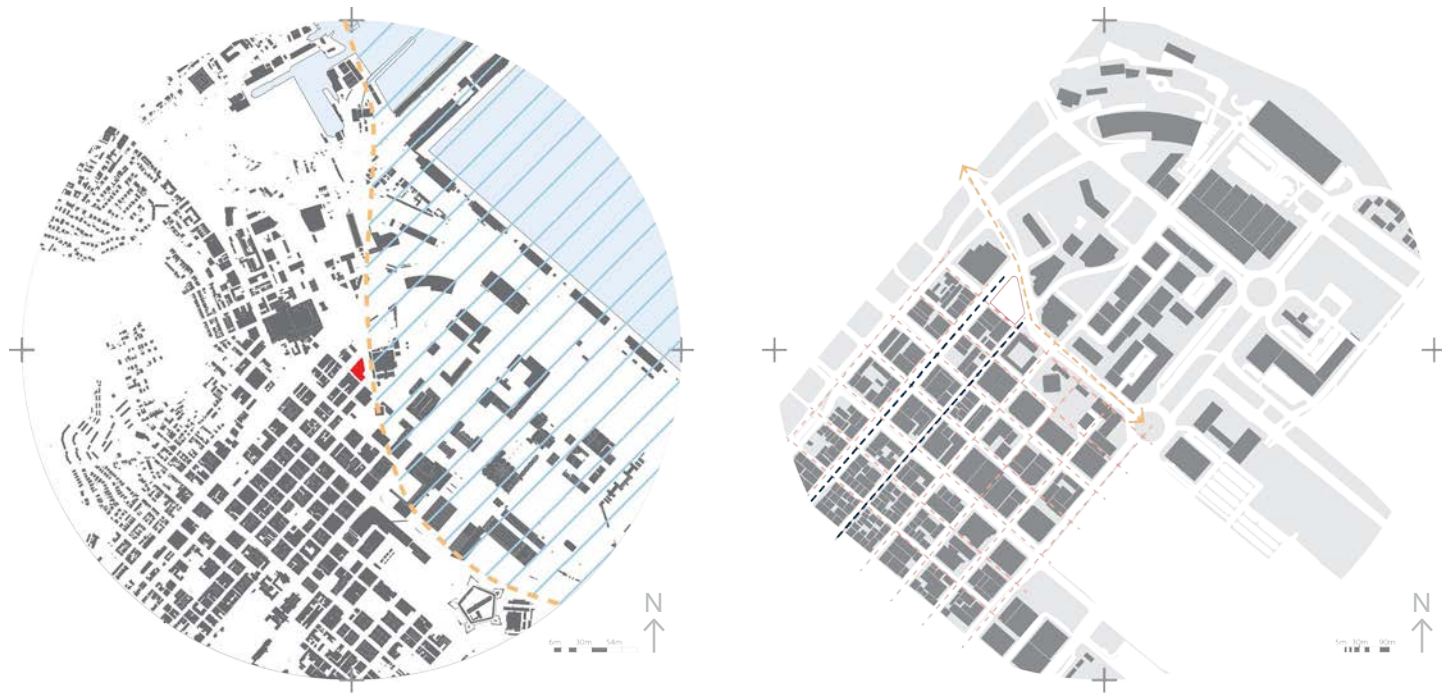


Fig. 5 LEFT: The previous shoreline | RIGHT: Urban plan showing the city grid and the Hans Strijdom axis that terminates the grid



Fig. 7 3D massing model of site in context with sunpath

## Found Building

The Farbers building, located at the corner of Lower Bree and Hans Strijdom Street was designed and built in 1935, by Architect Douglas Andrews while working at Roberts and Small, a firm that at the time, was primarily designing Art Deco buildings. According to Heritage specialist Bridgette O'Donoghue, "the Farbers Building is assessed as the first true modern building in Cape Town" (O'Donoghue, 2015). The Farbers was originally designed for a motor car showroom and garage company.

One could argue that based on his work at Roberts and Small, Douglas Andrews incorporated some subtle Art Deco elements within the design of the building. These are visible through the design of the prominent rounded corner - which reads as a continuous skin when viewed from the intersection of Hans Strijdom to Bree - as well as the protruding elements on the façade.

However, it is obvious that the major elements, such as the strip windows, the functional approach of the spatial design and the lack of decoration show the consideration, for a more Modernist approach in the design.

This tension between the Art Deco and the Modernist style has resulted in the incorporation of fragmented elements from both styles, that when analysed thoroughly, can be identified in the façade. These fragments became an integral part of this historic building. In the Valued Elements sub-chapter, further analysis of the façade and the spaces based on the principles of Textual Readings will provide more insight on what those elements are.



Fig. 8 The Barbers Building 1935. The ground floor facade is painted black reveals the ground floor columns



Fig. 9 Existing condition of the Farbers Building viewed from Bree & Hans Strijdom intersection



Fig. 10 Photograph of ground floor (2017)



Fig. 11 View from Bree & Hans Strijdom Intersection (2017)



Fig. 12 View from Loop & Hans Strijdom intersection showing back of Farbers building (2017)



Fig. 13 Photograph of first floor above ground level (2017)

## Valued Elements

This chapter explores the existing building to uncover what it offers in terms of architectural language, references and significant spatial quality based on the analysis of the building done in first semester by using the 'textual reading' technique. The purpose of this sub-chapter is to lay out the found and valued elements from the existing building.

The Farbers building is a 3-storey building comprising of a parking space at basement level, an open plan on ground floor that served as the public automobile showroom with two upper floors. Two existing ramps at the back of the building provide car access to the upper levels. The first floor above ground is currently used as a make shift car-repair garage while the second top floor is used to store vintage and unused cars.

At some point in time during the past decade, the building was used as a temporary office for engineers and consultants working on a site next door. The ramps would allow the engineers to access the upper floors to the temporary working spaces. The ramps play an important role in the character of the building, not only for circulation purposes but also demonstrate the relationship between automobiles and the Farbers

building and defines the spatial character of the back portion of the building.

The Farbers building was built using a standard concrete frame structure with concrete columns, beams and floor plates. The only exception being the light steel trusses holding the corrugated pitched roof. There are two important aspects of the major structure that defines the interior space of the building. Firstly, the structural grid of the concrete columns and secondly, the change in column diameter size from the basement level to the second floor above ground level.

Unlike the orientation of the building which is aligned to the site facing north, the column grid follows the rigid city-grid layout. A structural grid-line parallel to Hans Strijdom Street stops short the column grid lay-out. The structural grid layout reads as a diamond-shaped pattern due to their spacing distance and when read against the grid-line parallel to Hans Strijdom street.

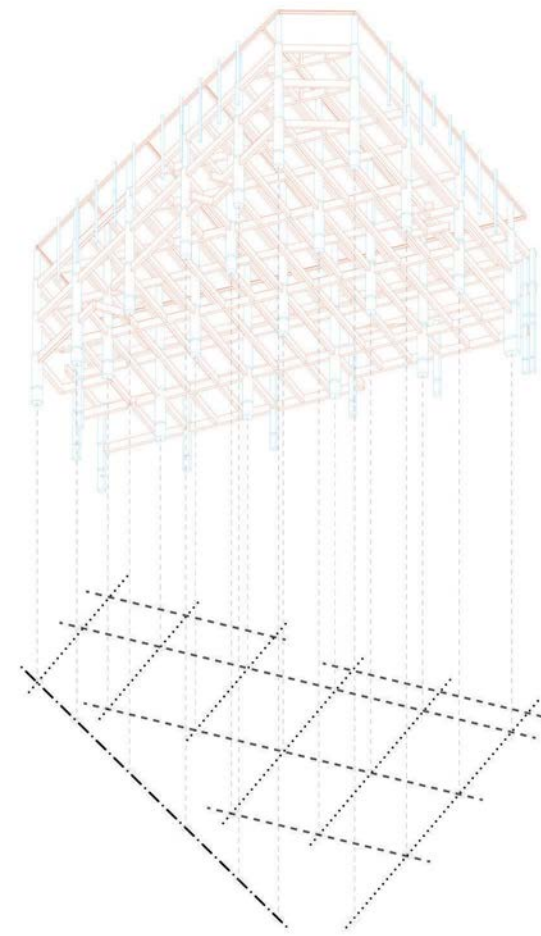


Fig. 15 Existing structural grid VS structure

The Farbers building has an incredibly rich façade that incorporates the tension between the subtle Art-Deco elements and a Modernist approach. The analysis is done using two different techniques both aiming at extracting valued elements.

When viewed from the intersection of Hans Strijdom and Bree Streets, the front corner of the building along with the façades on Bree and Hans Strijdom Street appear to read as a single skin.

The first technique was to unroll the façade to read as a continuous one to get a better reading of the whole. A reading of the façade showed the different layers of design characteristic present on the existing façade.

A primary analysis reveals the symmetrical system used on the two major façades. The symmetrical axis at the centre of the Hans Strijdom façade supports a different ordering system for the entry and access points, angular protruding window bays and the circular openings compared to the Bree Street Façade. The Bree Street façade has its entrance centrally aligned to the symmetrical axis on the façade. The entrances on Hans Strijdom is spread centrally allowing for a wider opening in the middle.

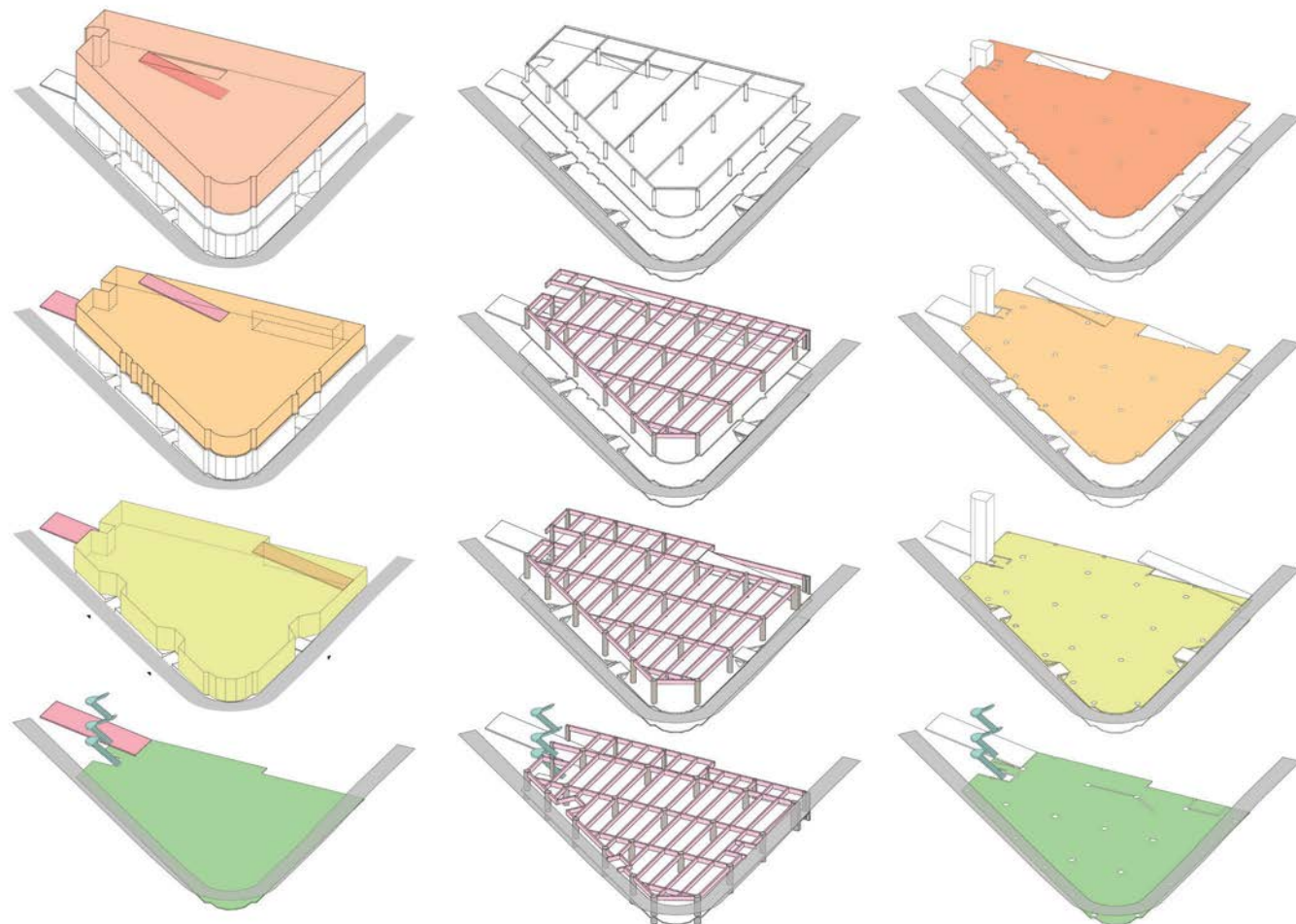


Fig. 14 LEFT: Volumetric space of existing levels + Ramps | MIDDLE: Existing Concrete frame structure | RIGHT: Existing Floor plates

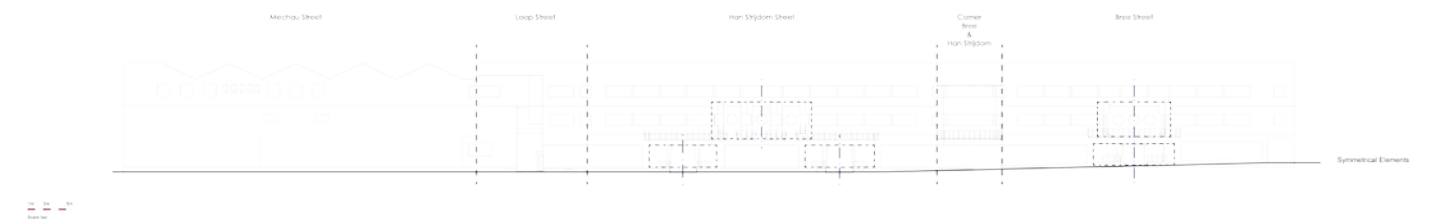


Fig. 16 Existing facade unrolled - Symmetrical elements

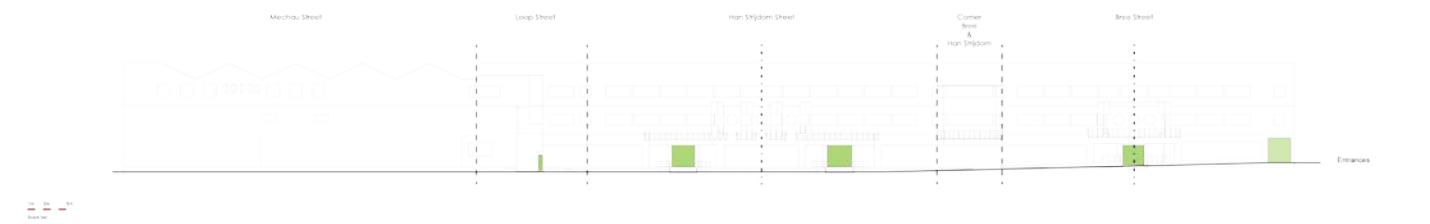


Fig. 17 Existing ground floor entrances and access

The ground floor has wider openings while the upper floors have more conventional Modern strip windows and some occasional round shape openings. The wider openings and the three entrances suggest visual permeability and accessibility on the ground plane demonstrating the highly public nature of the ground space. The rolled out façade also reveals a strong presence of verticality and horizontality. Which can be read from the slender columns supporting the wall.

The second approach aimed at uncovering the spatial quality of the elements of the façade that were revealed through the axonometric view. The entrances on the ground plane has distinctive recesses that create these covered outdoor spaces. This view of the façade also shows the distinct feature of the curved front at the corner of Hans Strijdom and Bree Street. This characteristic form seem to not only address the corner part of the site but also the shifted alignments in the condition of the grid layout.

This exercise has revealed various elements that will later be used to set up design principles from which the spatial overlay can be achieved.

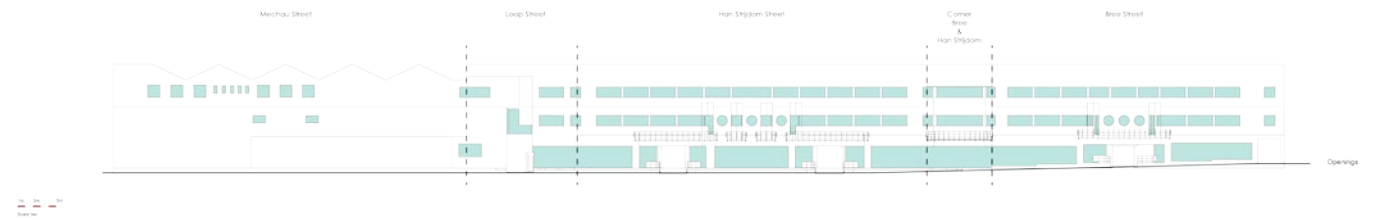


Fig. 18 Openings

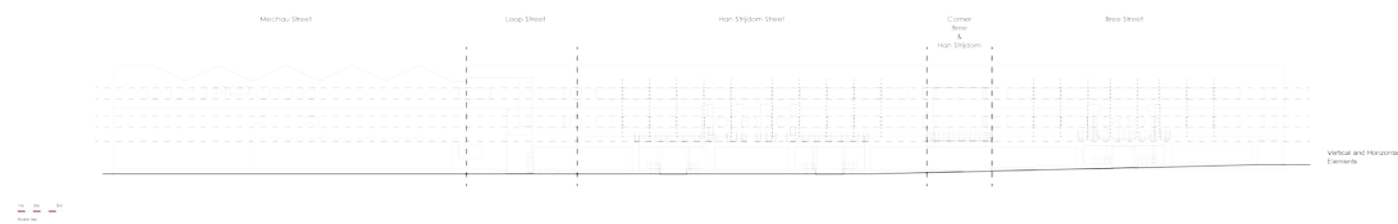


Fig. 19 Vertical and horizontal elements

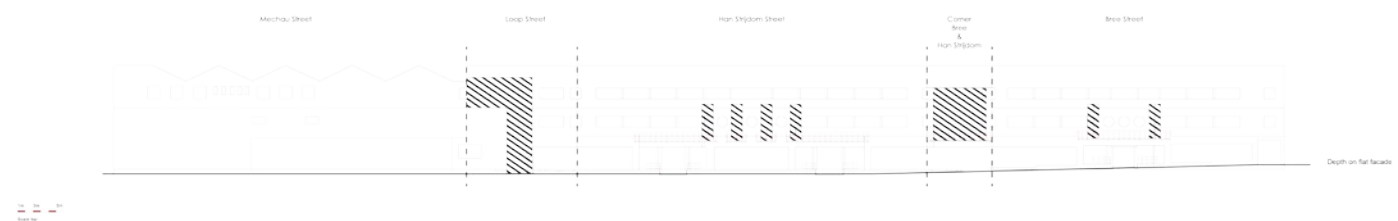


Fig. 20 Elements providing depth to the facade

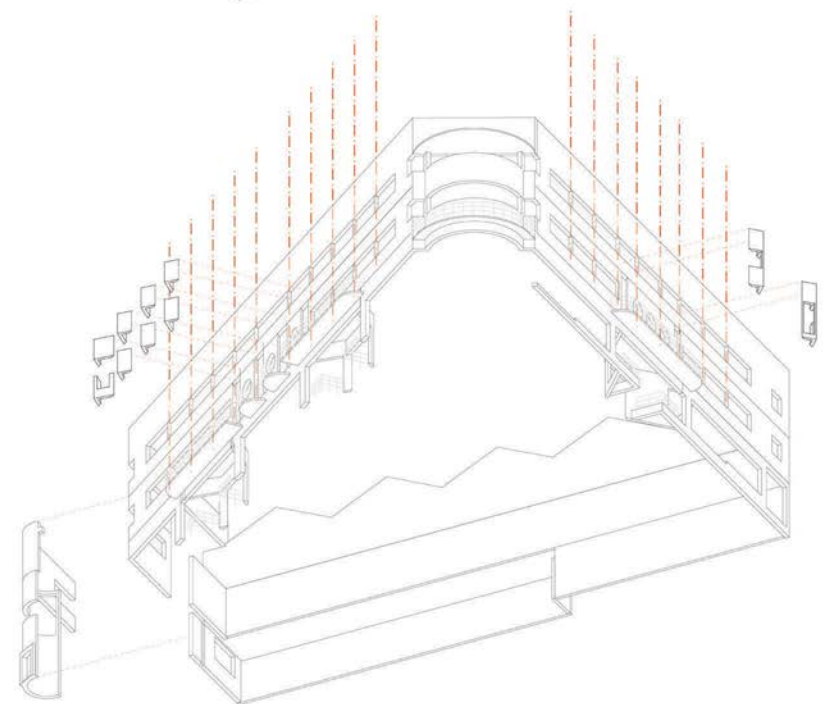
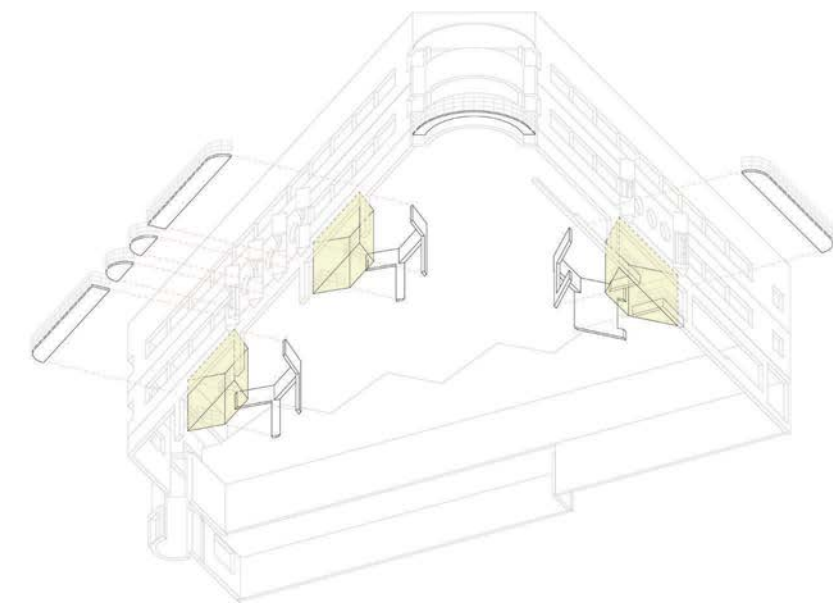


Fig. 21 Enclaves spaces vs repetition verticalelements

## Economic Timeline

As highlighted in the façade chapter, an understanding of the existing building's location within the economic time line is as important as understanding its physical context. The Farbers building bears the influence of a clash of styles between the Art Deco movement and Modernism. However, as established above it is clear that more Modernism oozes out of the building more than the Art Deco language does. This is not only visible through the physical characteristics and elements such as the long horizontal strip windows and open floor plan. The building's programme and design concept have a stronger connection to the Modernist architectural ethos than the physical attributes have.

The International Style and Modernism at large were not only influenced by the industrial period of the 1900s but they also championed the dissemination of industrial technology within the architectural world. The economy of mass-production and the glorification of cars has had an impact on how Modern architecture was conceived.

With its open floor plan, concrete structure, car ramps and mass produced elements, the Farbers building - that was designed primarily for cars - adopted the

values of the architecture of its economic context.

If adaptive reuse - through the intention of spatial overlay - is to re-contextualise and upgrade the existing building into the current time, then it is imperative to look at the meaning of the values of both the programme and the physical design elements in parallel. The question of how they translate to the current time is based on what those values stood for and how the next evolutionary step of the programme would provide value to the existing for the current economic context.

The juxtaposition between the old and the new therefore is not only about the physical elements but includes also the values that emerges from an understanding of the programmatic needs the space of the existing was designed for.

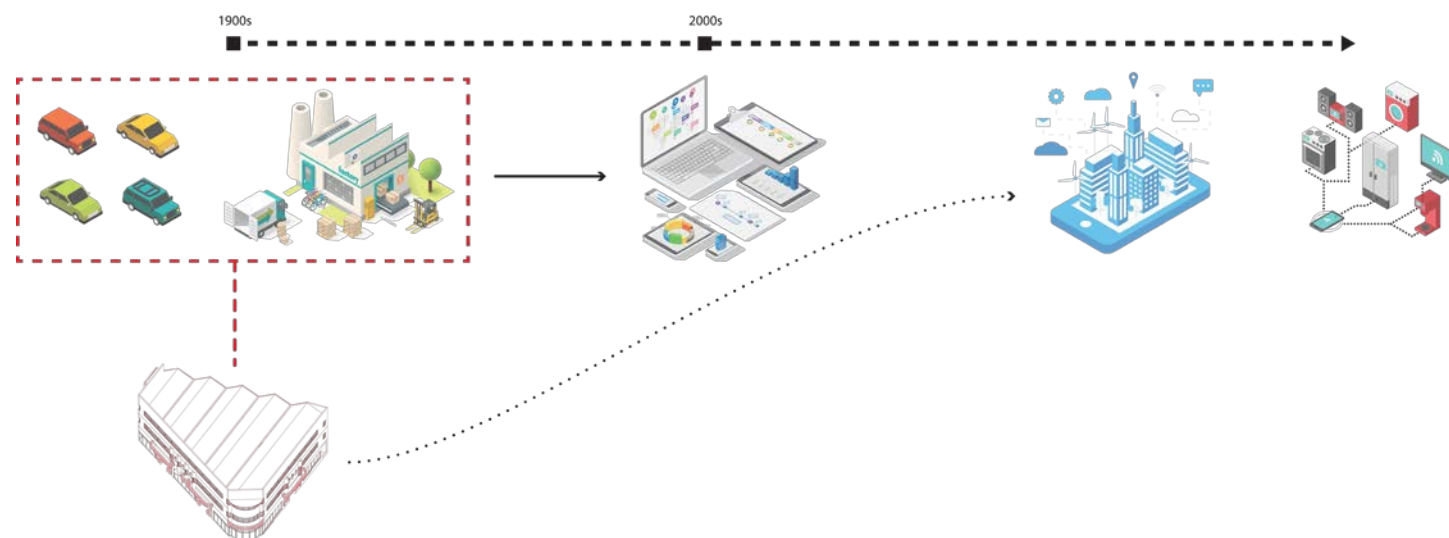


Fig. 22 The relationship between the previous programme and the possible future of the upgraded programme based on the economic context of the present

## Developer Proposal

A current proposal for the Farbers building have been made jointly by Fabian Architects and Paragon Architects. The design intervention proposed by the architects, both on a spatial and programmatic level, is a reaction to the conventional developer driven requirements. The new intervention which is going to be twice the height in terms of zoning on the site with a height limit of 60m, has been planned as a "high rise building with the associated basement and podium structures for mixed use (hotel, residential, retail, parking). The building tower's maximum height is 119.65m (35 levels above ground), lower than the Portside building, and considerably higher than the Investec and Icon buildings". (O'Donoghue, 2015)

The initial proposal of the new design intervention envisaged considerable permanent alterations to the existing structural elements, while the new tower floats 5.8m vertically higher than the parapet. To comply with the programmatic requirements, the tower's structural needs was far greater than what the existing structure could endure. The initial proposal by the architect was to reconstruct the column on the same structural grid with 1.4m diameter columns all the way to the foundations. The DCOMOMOsa Cape Town Chapter advised that this approach would alter the spatial quality of the space. A later revision was made whereby the structural engineers advised to reduce diameter size of the columns to 1.1m. (DCOMOMOsa Meeting, 14<sup>th</sup> July 2017)

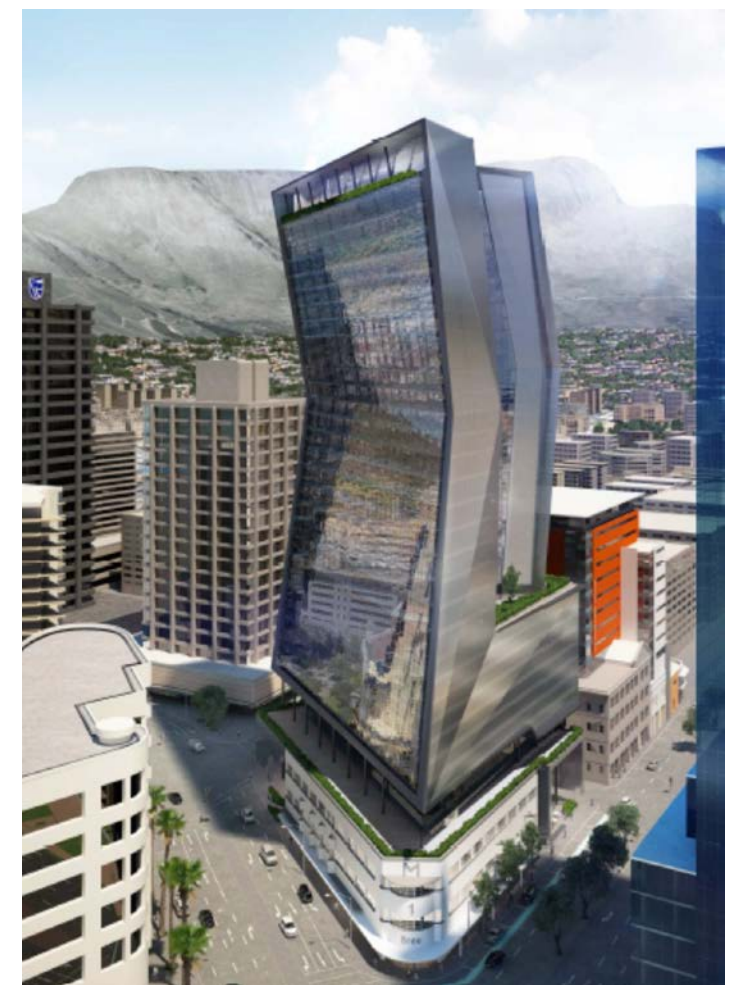


Fig. 23 Birds eye view render of Paragon's proposal showing the visually disproportionate scale between the old and the new.

The proposal also entails the complete demolition of the rear façade which was permitted according to the heritage specialist. However, the existing ramps were also demolished and a concrete core for the lift aligned to the axis of the structural grid-line parallel to the Hans-Strijdom Street was inserted, slicing into the back portion of the existing floor plates. The alignment of the core disrupts the alignment of the grid-structure that follows the city-grid. A move that goes against the other majority of the structural axes, thereby disrupting the spatial quality of the spaces. Which is even more discernible as the floor plans will remain as open spaces.

The orientation of the proposed tower follows the same logic as the orientation of the lift core. “The Tower is located parallel to Hans Strijdom Avenue and partially over Farbers Building, in order to have an urban presence on a major urban street and to achieve a narrow floor plate on the widest section of the site.” (O’Donoghue, 2015) In doing so, the tower completely ignores the relevancy of the curved corner, which plays an important role in the urban fabric and the existing that defined the spatial quality of the interiors of the existing. This move is justified by the practitioners as follows: “Due to this need for differentiation, the possibility for contrast was very desirable” (O’Donoghue, 2015), which could be argued to having a role leading to the completely dissociated architectural languages between the old and the new design.

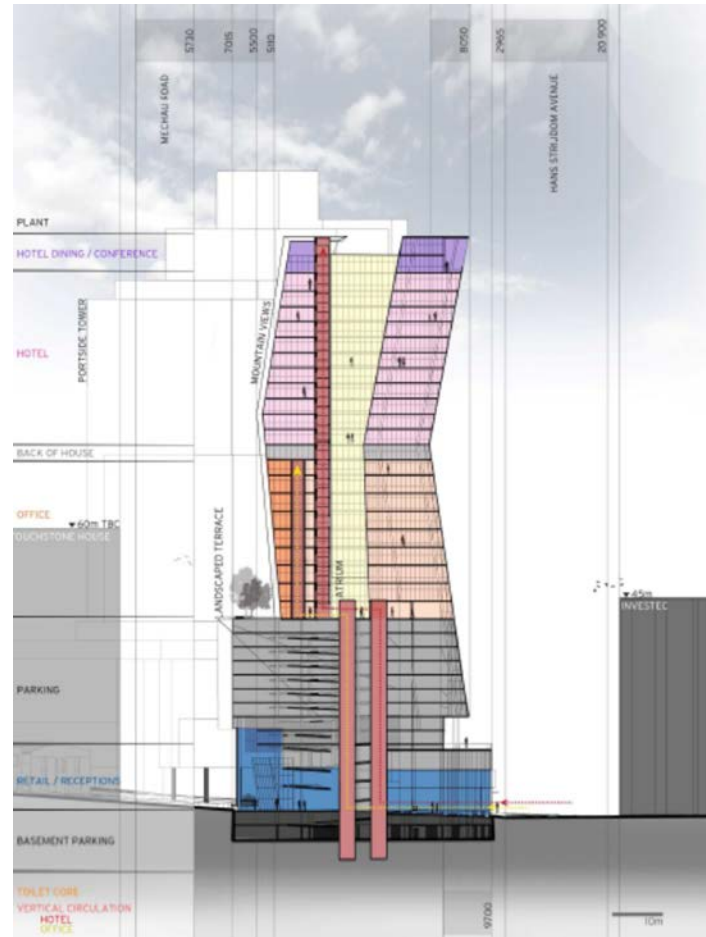


Fig. 24 Section showing programmatic arrangement



Fig. 25 Ground floor plan of Paragon's proposal

But this extreme contrast between the sharp edge corner of the tower and the curved corner of Farbers building accentuate disengagement between the old and the new. The articulation of the bent façade and angular form on Hans Strijdom Street make the disconnection even more prominent.

The focus of their proposal rightly solves the developer's requirements for maximising space on a tight site to provide maximum rental floor area that serves the programme. However, the combination from the exertion of a programme that does not relate to any reference of the existing and the desire to develop an iconic building leads to the intervention leaning more towards the practice of façadism.

However, the architects do address some issues and opportunities in a relatively sensible manner with respect to the existing. Keeping the ground floor partly public emphasises the public aspect of the ground plane within the urban fabric.

While the choice of getting rid of the existing ramps and having the lift core cut through existing slab isn't a favourable one, the placement of the service portion

of the new intervention at the back allows to free up the open spaces of the existing floors.

The new tower proposed by the architects respond to the developers need, but do not fit within the conditions set up for the spatial overlay to happen. The example set above shows that a mismatch between the old and new programme causes the spatial, structural and even form factor of the design to deviate further towards façadism, ignoring the valued elements.

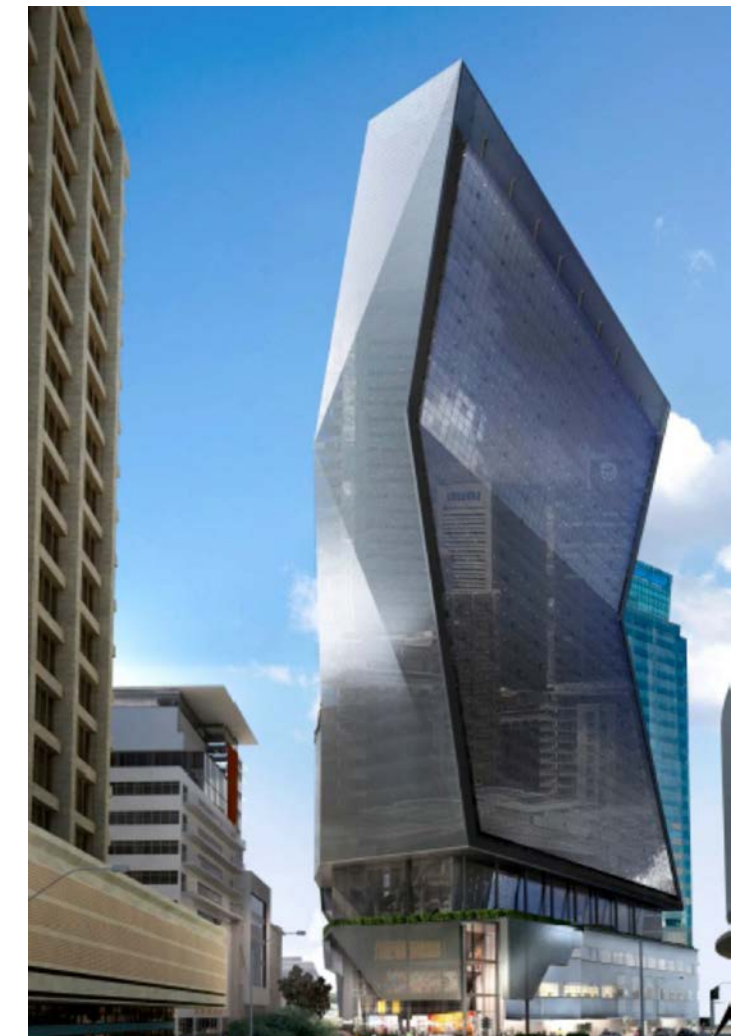


Fig. 26 The primary dented facade facing the Hans Strijdom Avenue

## Emergence of the programme

Building up on the previous arguments, it is clear that the programme plays an important role in an attempt to achieve the spatial overlay between the old and the new as posited by James Cornet. To be able to upgrade the programme of the existing building into the current time, an evaluation of the programme the building served in the past would guide the way forward to setting up the programme for the new intervention.

As a modern building designed for a motorcar car showroom, the Farbers building's programme was the major driver of the design. The use of ramp access to all the levels, the large open spaces, the use of industrially manufactured glass with a relatively transparent street frontage on ground level served the purpose of the architecture and provided great value at the time. These values were based on the major drivers of the modern movement, which revolved around industrialisation and the automotive industry.

In the current time, those values have now shifted towards digital technology as the main driver of today's current economic reality. Digital technology in the current economic context is reminiscent and akin as to what industrialisation and the automotive industry was to modernist era. Based on the principles set up in this dissertation, the idea is that the new programmatic requirements need to acknowledge the fact that the previous programme served its economic context.

Therefore, the practice of 'spatial overlay' values what was there but the demand for upgrade requires that the new programme serves the balance between valuing the old programme while providing value for the current economic context all while upholding the spatial qualities of the existing.

If the industrialisation and automotive industry influenced the design of the existing building, it is therefore only fitting for a programme that relates and matches to the current time to be a strong driver for the new design to upgrade the existing one. Hence, a digital technology related programme was chosen to accommodate the new design intervention.

Despite the precinct being located close to the epicentre of the CBD, site analysis suggests that there is a lack of tech incubators and co-working spaces in the surrounding. Further site studies revealed that the existing building is situated within walking distances to business-support related activities such as banking and investing sector, legal resources and training that are aimed at business start-up development.

The current condition sets up the relevancy of having a start-up incubator with co-working spaces that serves both the programmatic requirement for the architectural intervention while acknowledging and valuing the previous programme's role as one of the main design drivers.

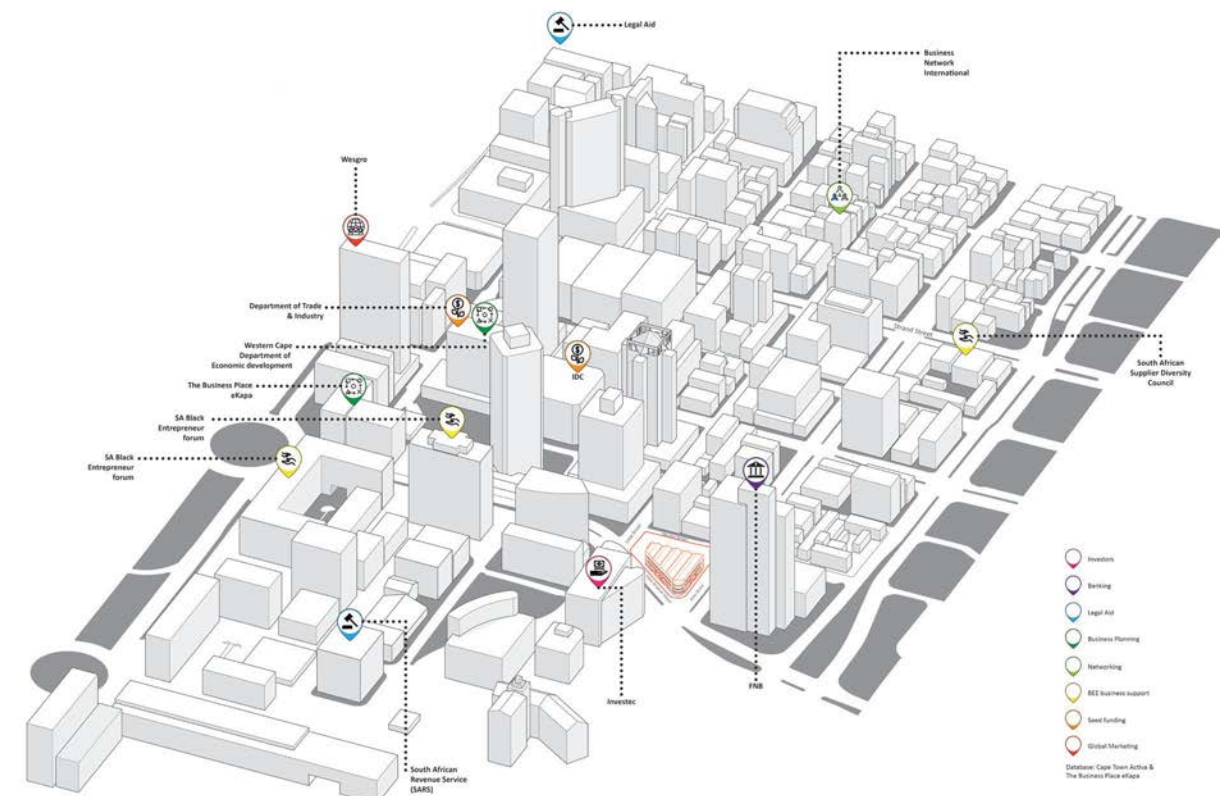


Fig. 27A Site analysis showing business support related activities within walk-distance from the precinct

## Beyond rentable space

In setting up a brief to better address the programmatic requirements and to understand the business model of the programme for the new design intervention, precedent studies of successful co-working spaces and incubator hubs have been studied.

Co-working spaces and Incubators have two different business models of which both have workspaces as a common factor. A combination of both usually operate as start-up accelerators. Another similarity that these two models share is their revenue structure. Both Co-working spaces and Start-up incubators do not rely on rentable real estate as a revenue generator. Incubators rely mostly on attracting start-ups by providing them with seed venture capital with business services in return for equity.

Co-working spaces on the other hand rely mostly on attracting individual freelancers or early stage start-ups by providing fully serviced workspaces in return for monthly membership subscriptions. (Harris, 2017). The monthly subscriptions not only give members access to office spaces, they also provide access to professional events, access to medical cover, printing services, ultra-high-speed internet as well as a network of third party benefits free-of-charge at any time as part of their membership package.

Unlike typical developer driven office spaces – whose revenue rely mostly on maximising on rentable square meterage – office spaces developed by co-working companies focus more on providing space-as-a-service instead of surface area as a rentable product. Moving away from real estate as the only revenue generator provides the potential of freeing the architecture from typical developer constraints around maximising on rentable space

## Spatial requirements

The spatial needs of co-working spaces differ to traditional office working spaces.

One of the main priorities of co-working and incubator spaces is facilitate and drive innovation as well as problem solving capabilities at a faster rate than traditional office setting.

According to a research conducted by Steelcase - a consultancy that helps design performance spaces - suggests that more social and permeable spaces which do not restrict movement drives innovation.

Co-working spaces are usually based on what they refer to as the 'community model' which priorities on the free an open transfer of knowledge (Steelcase, 2013)

"Initial findings suggest that a social lounge area is a welcome addition to the predictable fare of spaces for individual work and meeting rooms." (Steelcase, 2013)

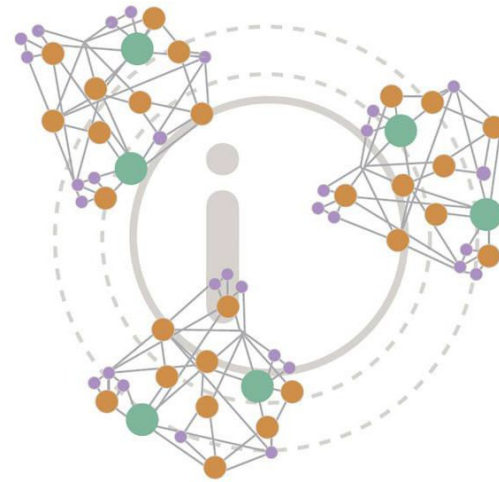


Fig. 27B A diagram representing the Steelcase's 'Community Model'

## Space-as-a-service

Space-as-a-service challenges the typical programme requirements of traditional office space. The design of co-working offices has redefined what type of spaces are required in office real estate. Among the precedent models of co-working spaces researched, WeWork is by far the most successful one. Only established in 2010, it is currently valued at around \$20 billion and is the fastest growing co-working start-up with offices across the globe. (Forbes, 2017).

A study of their offices revealed some interesting principles. Compared to general standards, WeWork only provide "a third of what is typically provided to an employee of a standard office building", which is somewhere around 36m<sup>2</sup>. (Muse, 2016) While their office spaces might be tighter, they direct their focus and allocate a larger portion of their spaces to communal spaces, putting more emphasis on the community model.

These often take the form of lounges with seating spaces, which serve as informal workspaces and collaborative spaces with café bars or kiosks. WeWork also offers a whole range of other spaces in different offices, such as laundromats, relaxation spaces and

gyms. For the purpose of this dissertation, these spaces will be referred to as added-service spaces.

The space-as-a-service model was conceived by tech entrepreneurs to suit the needs of other tech entrepreneurs. This makes it the most appropriate strategy to employ when designing spaces for a tech incubator with co-working spaces.

Besides providing spaces for work and office use, the new design intervention will need to accommodate a range of added-service spaces that provide value for both the incubator and the users. The new programme will therefore accommodate for spaces based on the WeWork model and other similar precedents that facilitates flexible work hours and on-site wellness services. The likes of the WeWork model is therefore set up as a fictional client for the purpose of this dissertation.



Fig. 28 WeWork WeiHai, Common Space, Shanghai

## Design opportunities and principles

The valued elements that emerged through the study of the building and the programme offered rich substance to create the spatial overlay. A series of design principles have been set up based on the opportunities, valued elements as well as some constraints from the site. This chapter summaries these opportunities and then establishes the set of principles employed for the spatial overlay.

There were some design issues at the precinct level that needed to be addressed. Firstly, the narrow Mechau Street is the only passage that links the open space at the corner of Loop and Hans-Strijdom Street to the public frontage of the Portside. Turning Mechau into a pedestrian street would strengthen that connection between those two public spaces. This move would also allow the ground floor to extend to the back. Secondly the corner of Mechau and Loop Street offered the opportunity and space to create a node that links the design intervention to the open space on the corner of Loop and Hans-Strijdom.

At the building level, the first approach was to identify the least elements that could be compromised. The valued elements that came out of the building analysis revealed that the back façade and the current pitched roofs did not offer much of substance for the spatial overlay. Hence the decisions to part away with these two elements.

To maintain the spatial qualities and its alignment to the city grid, the structural grid would have to remain intact. This includes the fact that any new structural element that is added to the empty portion of the site would adhere to the existing structural grid.

The existing ramps are to remain intact in their position. This decision stems from the role the ramps plays in the spatial reading of the building and value the relationship between cars and the architecture.

Based on the requirements of the programme, the ground floor space on the existing part of the building and any addition on the empty portion will be public. Access from the back on Mechau Street will be necessary to open up the building from all sides. All added-service spaces will be placed beyond the line demarcating the existing position of the ramps onto the existing portion of the site.

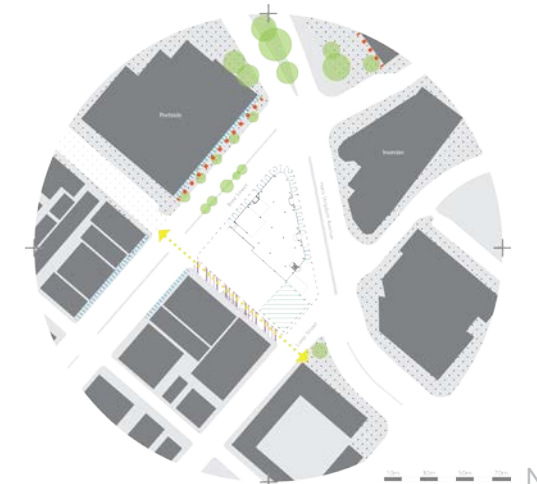


Fig. 29 Turning Mechau into a pedestrian street creates a connection and provides the opportunity to open up the back of the building

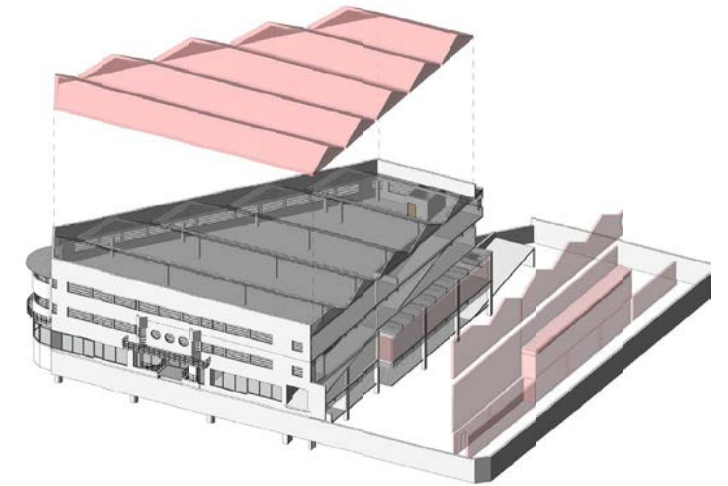


Fig. 30 The rear facade and the roof structure are the only elements compromised



Fig. 31 Initial sketch plan of the pop-up store and retail space of the new intervention

## Design proposal

The research into the topic of façadism and its critique has led to the questioning of what happens to the internal space and the inherent spatial qualities when façadism is practiced. The design approach reflects the need for the preservation of the spatial qualities of the existing through its juxtaposition to the new spatial requirements when upgrading the building while accepting that growth will bring about change.

After having analysed the existing building's architectural values and significance and after setting up the design principles that priorities for the spatial overlay, the initial design approach was to find the right fit between preserving spatial qualities and the input of the new intervention.

In the initial design phase, a series of conceptual models were made to explore the ideas around keeping the existing as intact as possible while adding the new intervention on the empty portion of the site. (See Fig.33 & 34) The problem with this approach is that it was similar to preservation. While the space remain intact, there was no real connection between the old and the new. It was understood that a replica of the space in the new intervention is doing what a spatial overlay demands but is rather just a copy of the old space.

While the design explorations progressed, the programme requirements for the incubator and co-working spaces was further explored and studied. The average space requirements for co-working spaces is around 7500m<sup>2</sup>. (Bauman, 2017) To be able to accommodate the programme into the design, the design strategy shifted to the consideration of having to design vertically above the existing building.

The first approach was to look at the generic model of maximising on floor space while using a similar language of concrete frame structure and floor slabs built above the existing. (See Fig.32) This approach also turned out to be problematic for numerous reasons. Firstly the deep floor slabs generated the same issues of dark spaces as is the case with the floor levels of the existing building. Secondly, while the spatial qualities of the interior space were similar to that of the existing floors, they were mostly a replica of the floor slabs. Thirdly, the generic floor slabs stacked on top of each other would not fit the programmatic requirements of co-working spaces and did not suit the community model.

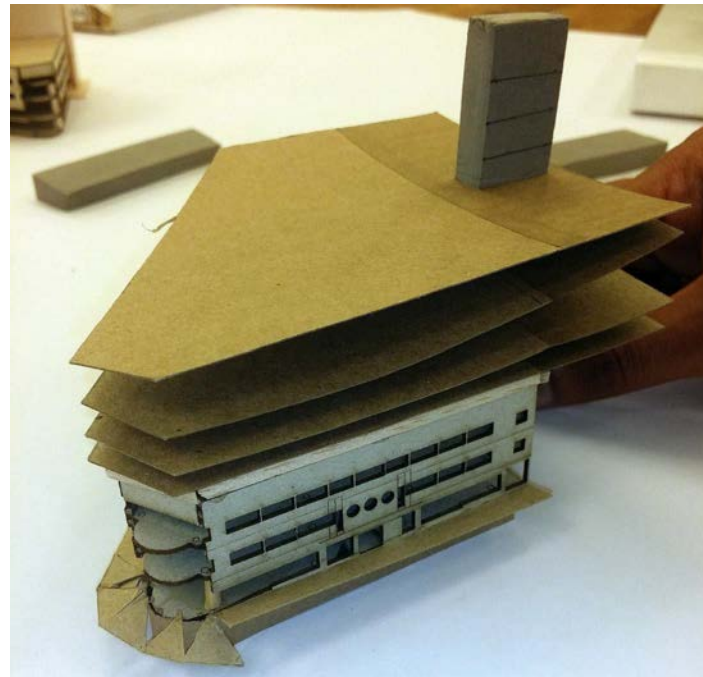


Fig. 32 Concept model showing typical floorplates

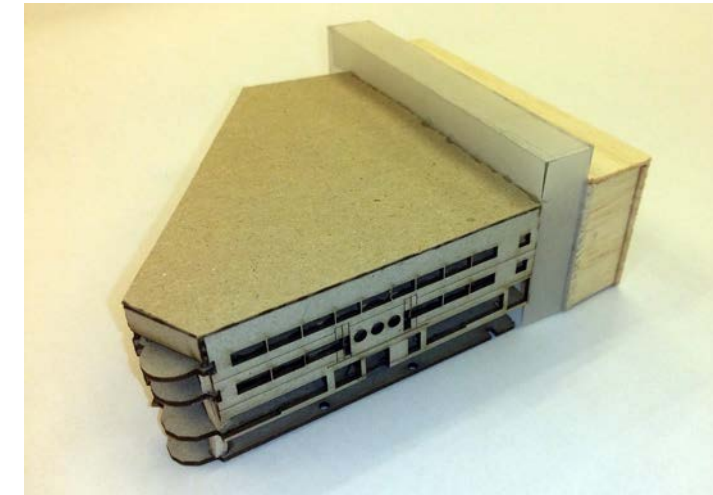


Fig. 33 Initial concept model exploring keeping the existing intact with addition to the back

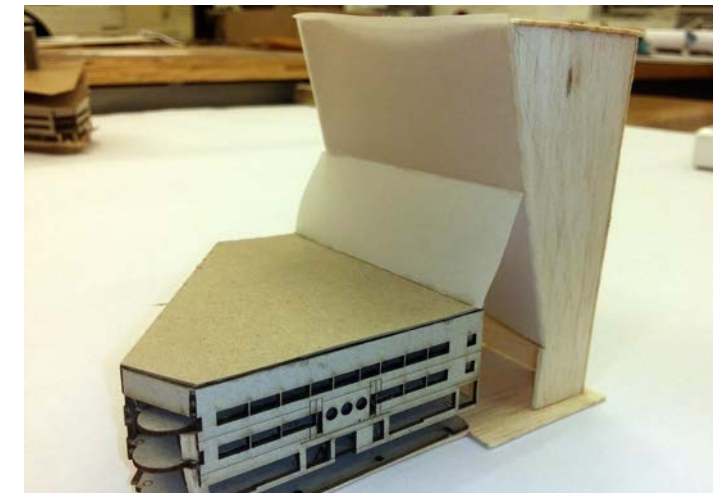


Fig. 34 Initial concept model exploring keeping the existing intact with addition to the back

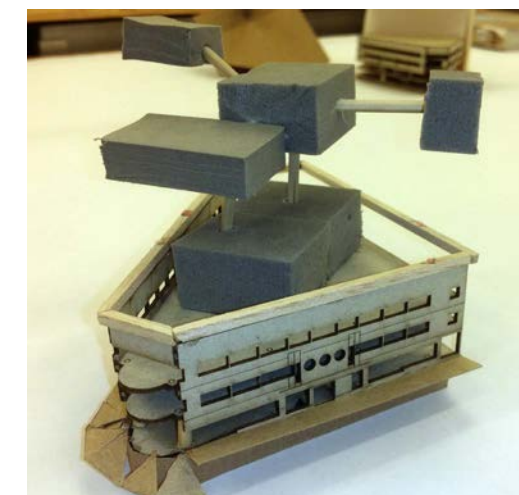


Fig. 35 Initial concept model exploring compartmentalised spaces

As stated previously, innovation requires the free flow of people across spaces, both visually and physically, to promote interaction thereby increasing the rate of innovation. The use of generic floor slabs that covered the entirety of one level were counter-intuitive to the idea of free-flow.

At this point, it seemed as if the programmatic requirements were starting to take over the process. To be able to challenge the use of generic stacked floor slabs, more research was done on the programmatic requirements that started to driving the spatial needs. The work of OMA on the Seattle Library became a good precedent and thus concept of compartmentalised space was integrated into the design.

The design approach started to shift. The spatial overlay was slowly seeping into the design as the need to merge the compartmentalised spaces with the spatial qualities of the old became more significant. One of the major defining factor of the spatial qualities of the existing is set up by the columns.

The first move is similar to the structural changes made by the engineers working on Paragon's proposal. But instead of introducing new 1.1m diameter columns on the same grid location, the first move was to maintain the integrity of the spatial qualities by inserting 0.95m diameter columns that extrudes upwards to allow for future development. The juxtaposition of the new columns in the same grid location and keeping the same diameter as the previous ones starts to priorities the spatial value over the material one. Thus enhancing the process of spatial overlay.

As the process advanced, the next step was to define the spatial organisation based on the programmatic requirements. The adoption of the compartmentalised spaces as a strategy allows the spaces to be separated without completely cutting off the visual connection and the ability to move freely between the spaces. Which is the essence of a co-working space that catalyses innovation.

Since common spaces are highly important in the programme, the design intention is to have the common spaces as the focal point from which all movement that connects the offices to the service and circulation core on the empty portion of the site. By sandwiching the common spaces between the office spaces, the common spaces become the main spaces of interchange both visually and physically.

By keeping the spaces compartmentalised, the negative space offers the opportunity to facilitate the visual connection. It also allows light to filter deeper into the space as well as using the negative space to create circulation freeing up the office and common spaces.

The spatial qualities of the intervention is generated out of the dialogue that the spatial overlay create between the existing spatial integrity preserved through the columns and the spatial implication of the requirements coming from the new intervention.

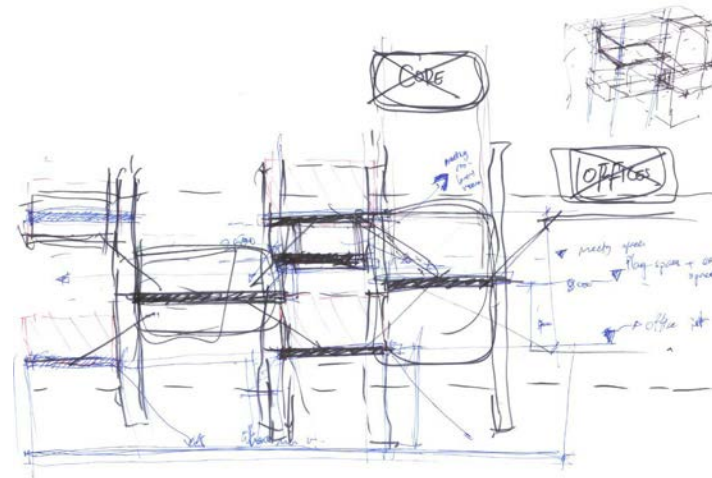


Fig. 36 Initial sketches exploring the organisation of the compartmentalised spaces



Fig. 37 Concept model exploring the relationship between the extruded columns and the compartmentalised work spaces (grey) and common spaces (red)

The insertion of new 950mm diameter columns preserve the spatial integrity of the existing spaces. The columns not only provide physical support for the upper levels, they also act as the grounding elements that connect the new intervention to the existing.

The spatial overlay uses the existing building as the primary starting point for the design. The emergence of the columns from the base is synonymous with the idea of the base being the anchor from which the spatial integrity is partly borrowed from to be juxtaposed with the new intervention.

The columns aligned to the facade of Hans Strijdom and Bree Street get the same treatment as the other columns. However, the ones aligned to the facade stops at the top of the parapet. This is due to the fact that those columns are actually not visible from the street on the ground level as they each hide behind a portion of the façade. The upward continuation of those columns would override the visual appearance that is kept similar to the existing.

A spiral staircase from the pop-store on the ground floor leads straight up to the public space on the existing 2<sup>nd</sup> floor. No access is given to the first floor which is turned into a parking space. This route allows the users to experience the spatial quality of the existing building while moving upwards to reach the public floor underneath the co-working spaces.

The visual and physical presence of the columns reaching upwards to support the new intervention solidifies the aspect of spatial overlay.

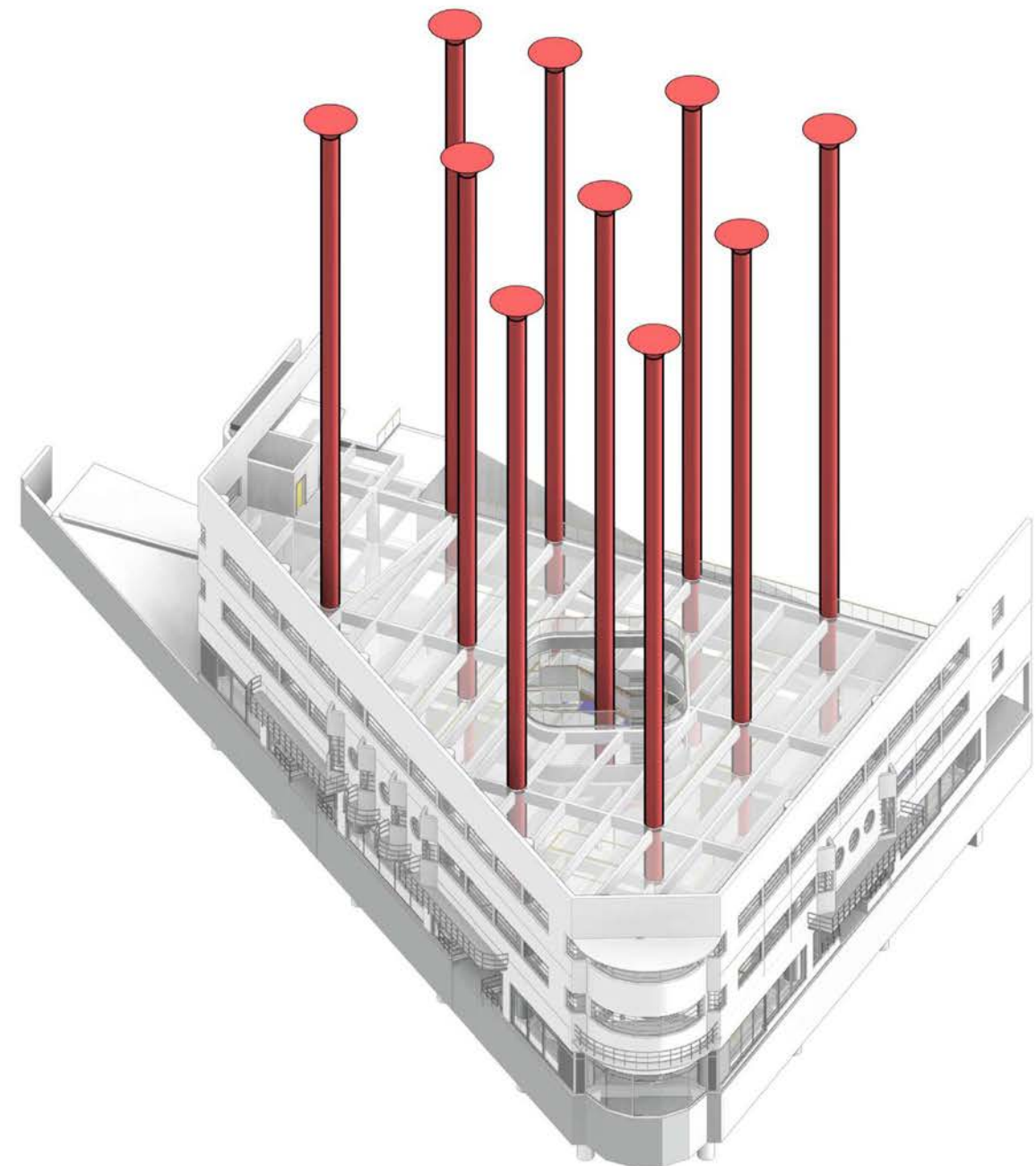


Fig. 38 Extrudedcolumns

A slender service and circulation concrete core is inserted on the empty portion of site aligned to the existing ramps.

The core becomes the separation between the existing and the added-service spaces at the back both visually and physically. The spatial overlay is present in the form of the clear distinction created by the presence of the core that demarcates the main spaces from the service spaces.

The link between the spaces above the existing floor and the back service spaces is created from the break in the middle of the concrete core.

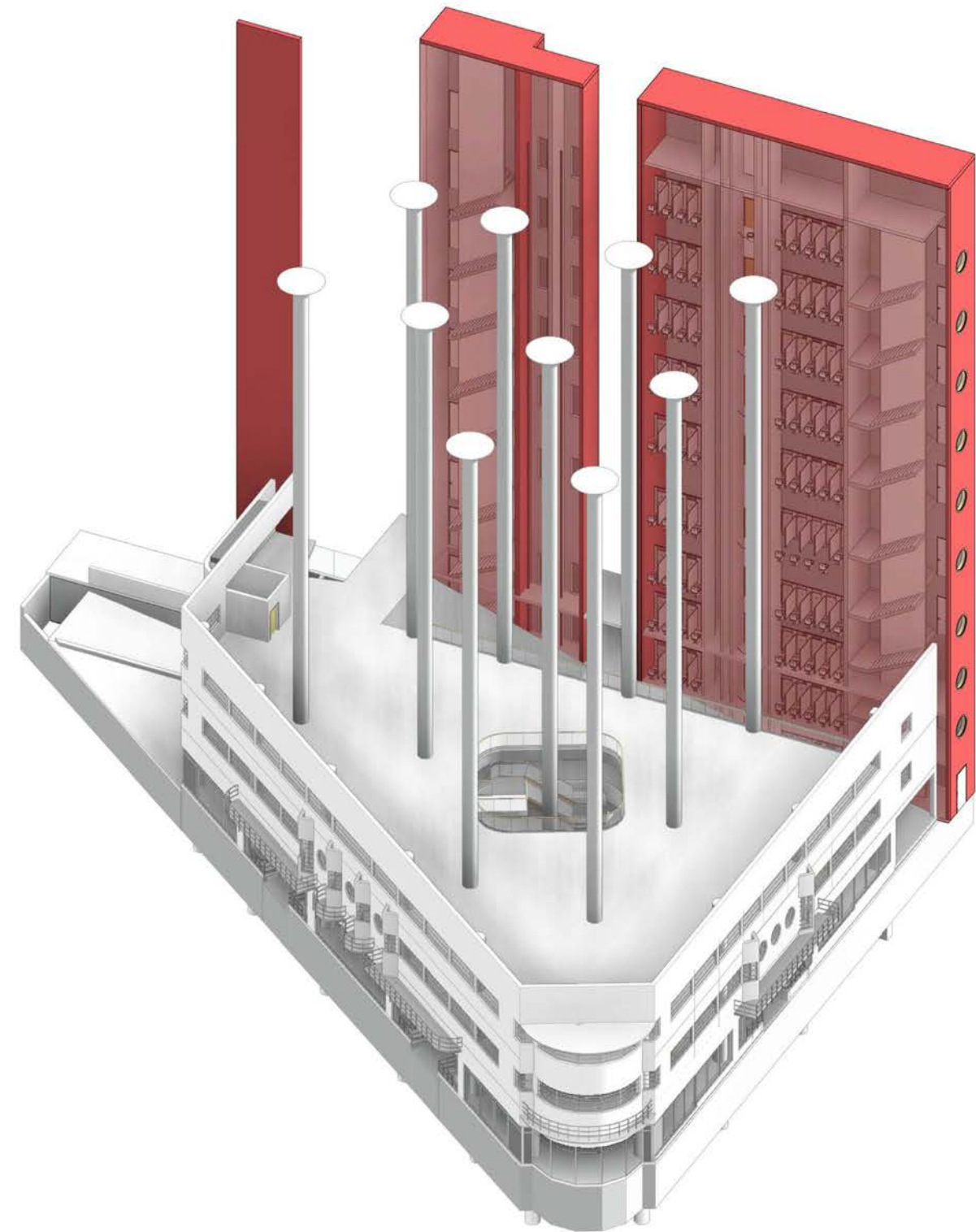


Fig. 39 Service Core

The added-service spaces are established at the back of the site. Unlike the common spaces and the working spaces, the programmatic requirements for the added-service spaces do not demand the fluidity that catalyses innovation.

The ground floor is extended to occupy empty portion of the site. The two existing upper floors are also extended at the same level to the back.

Seven new levels are added to house the added-services provided by the incubator.

The back also has two public entrances. One in the middle and the other at the corner. Both provide immediate access to the ground floor. The middle entrance, which follows the symmetrical system of the existing facade, gives access to the lift lobby, while the corner entrance give acces existing second level above ground through the escalator.

The bottom corner forms an outdoor covered space which is reminiscent of the entrance enclaves on Bree and Hans Strijdom street is directly linked to the adjacent public space.

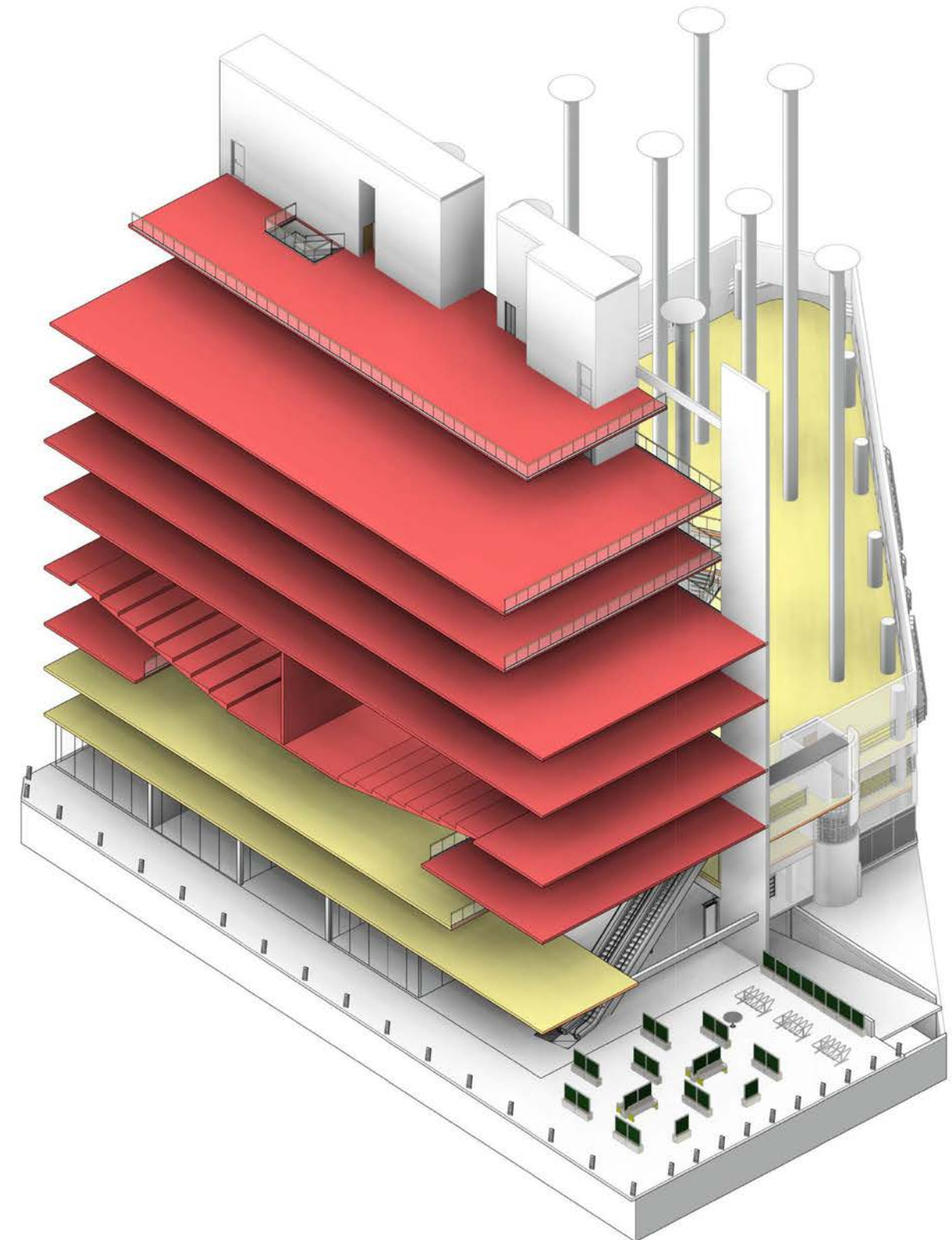


Fig. 40 Added-services levels

A diagrid wraps around the the new addition to provide structural support for the slab. The diagrid stops at the first existing level where new columns carries the load.

Besides its structural purpose, the diagrid is read as a spatial overlay that simulates the pattern that emerged from the structural grid against the presence of the grid-line aligned to Hans-strijdom street.

The strong presence of the diagrid structure complement the bulk of the added-service space.

Fig. 41A Diagrid emerged from the existing structural grid

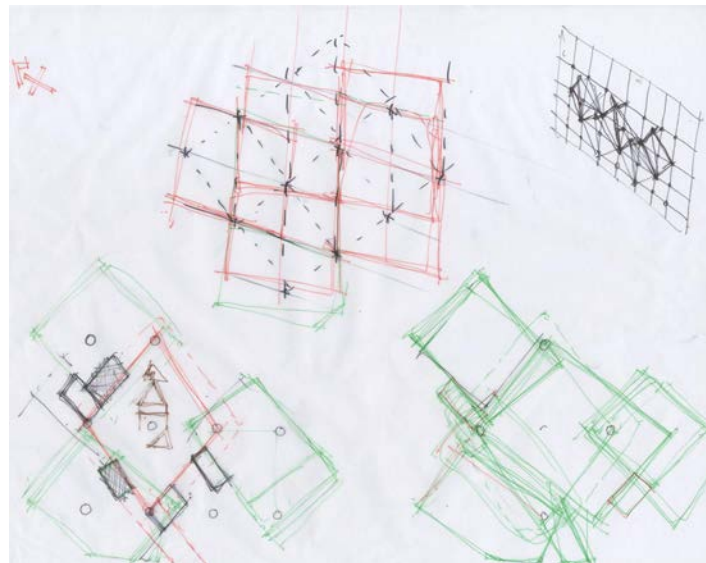


Fig. 41B concept sketch of diagrid structure

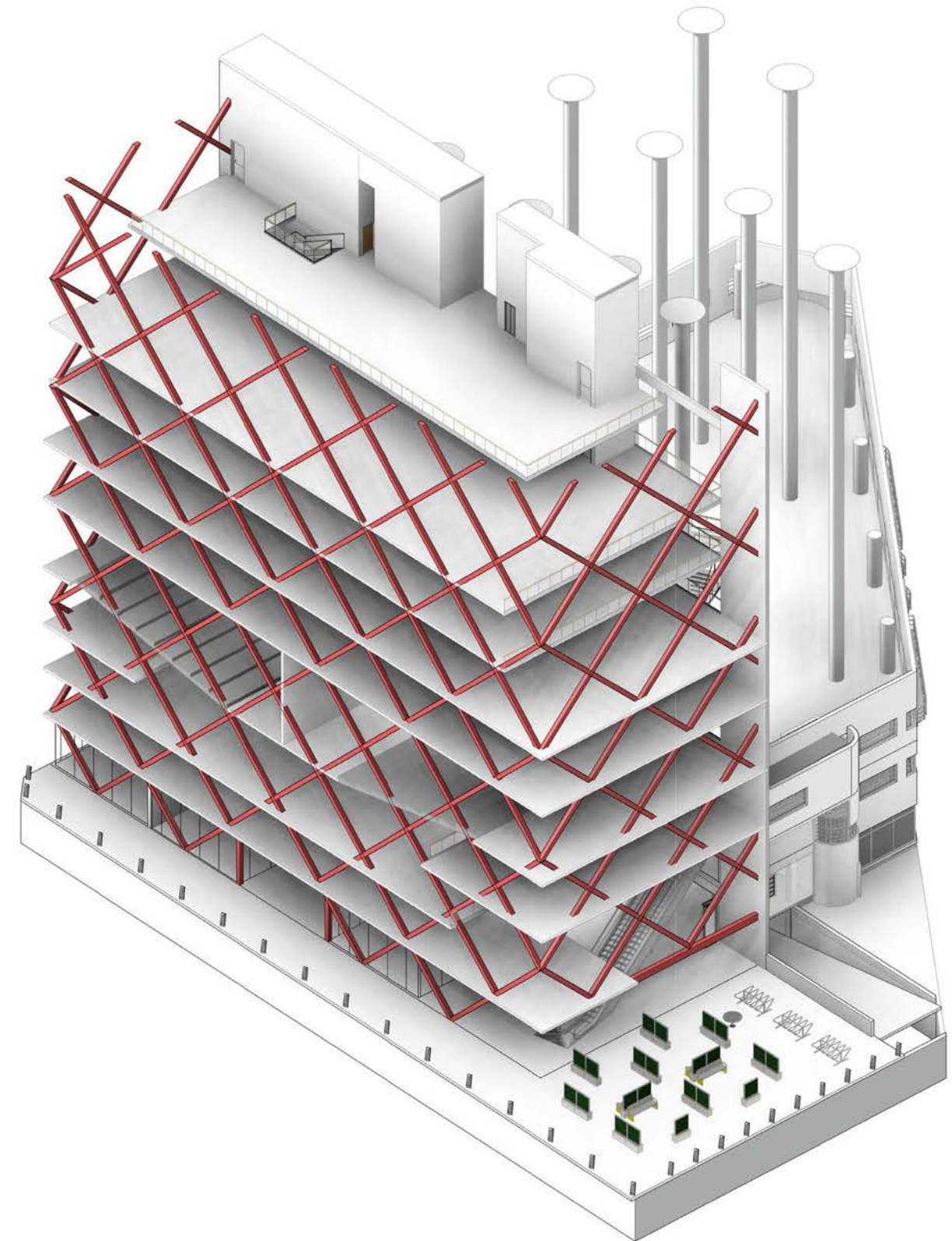
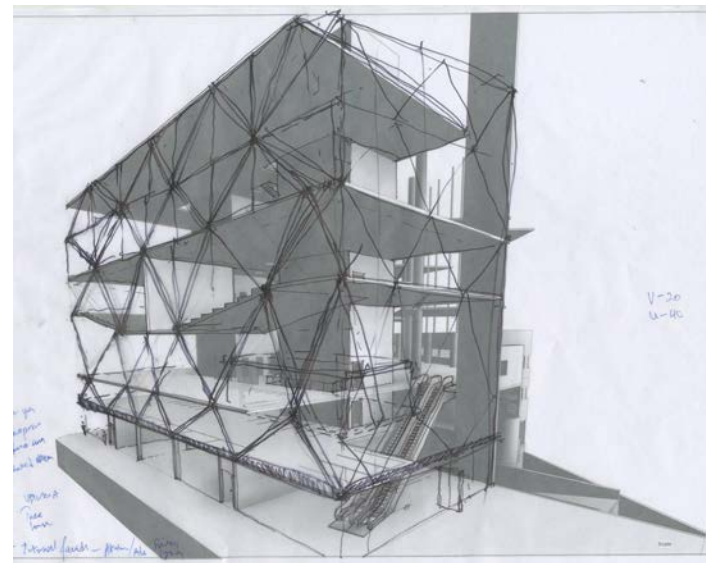


Fig. 41C Diagrid Structure

As stated previously, co-working companies provide more space to common spaces than office space. Hence the larger surface area allocated here. The common spaces are bridged to the core and the added-service space.

The common spaces are located centrally, to facilitate circulation from the core and to allow the distribution of office spaces on the boundary of common spaces.

There are only two floors on separate levels that provide access to the common spaces respectively.

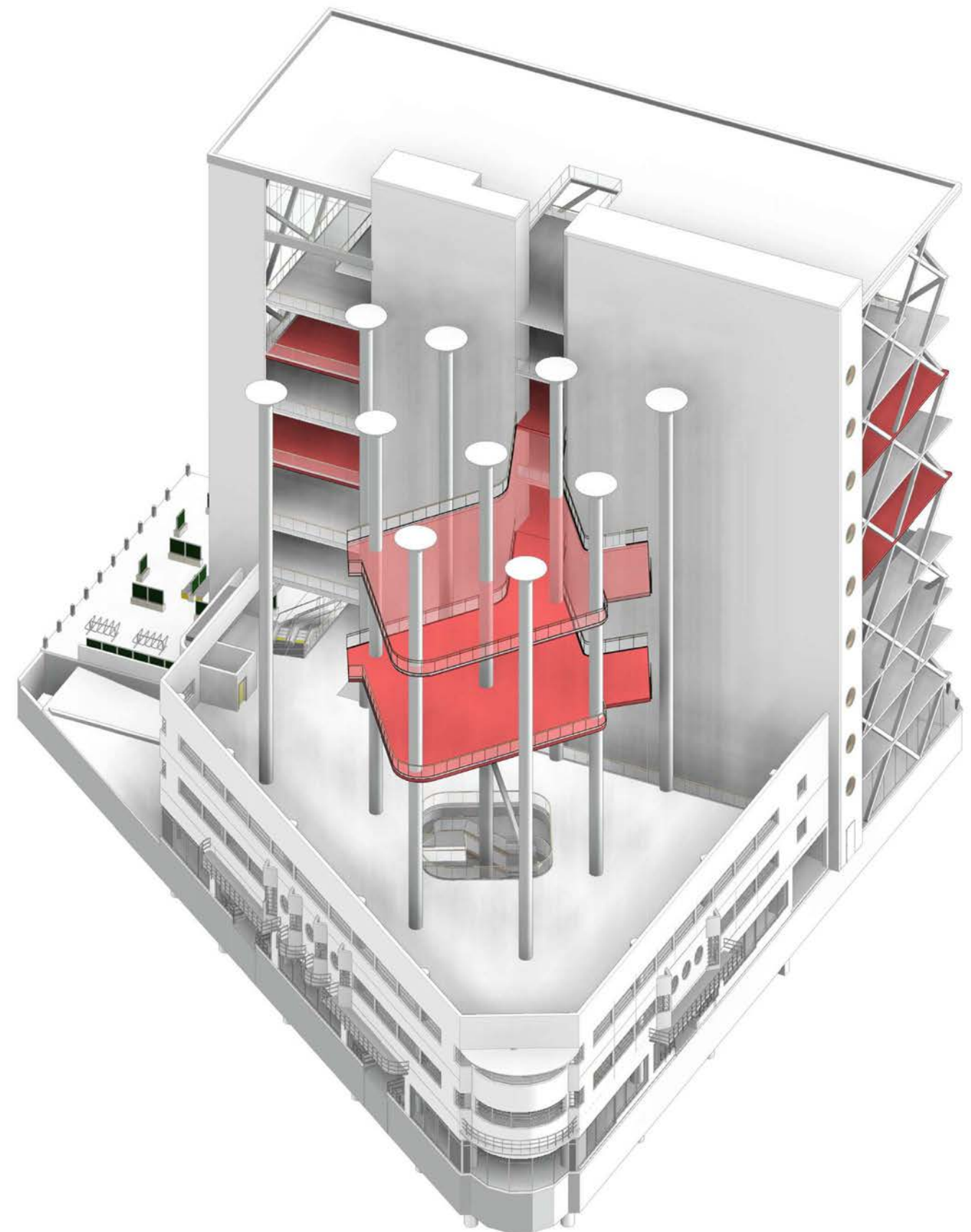


Fig. 42 Commonsplaces

The work space pods are placed at position at intervals in the vertical plane. The common spaces are therefore sandwiched in between the work spaces. The common area become the central interchanges both on the vertical and horizontal plane.

The spatial value of the intervention lies in the void spaces generated by the juxtaposition between the old and the new which is recognised through the spatial overlay between the columns and the way the pods sits around the columns

The alignment of the pod follows the orientation of the building to the north and its assembles and flows within that diagrid pattern that originate from the structural grid.

Fig. 43A Exploration sketches for the work space pod

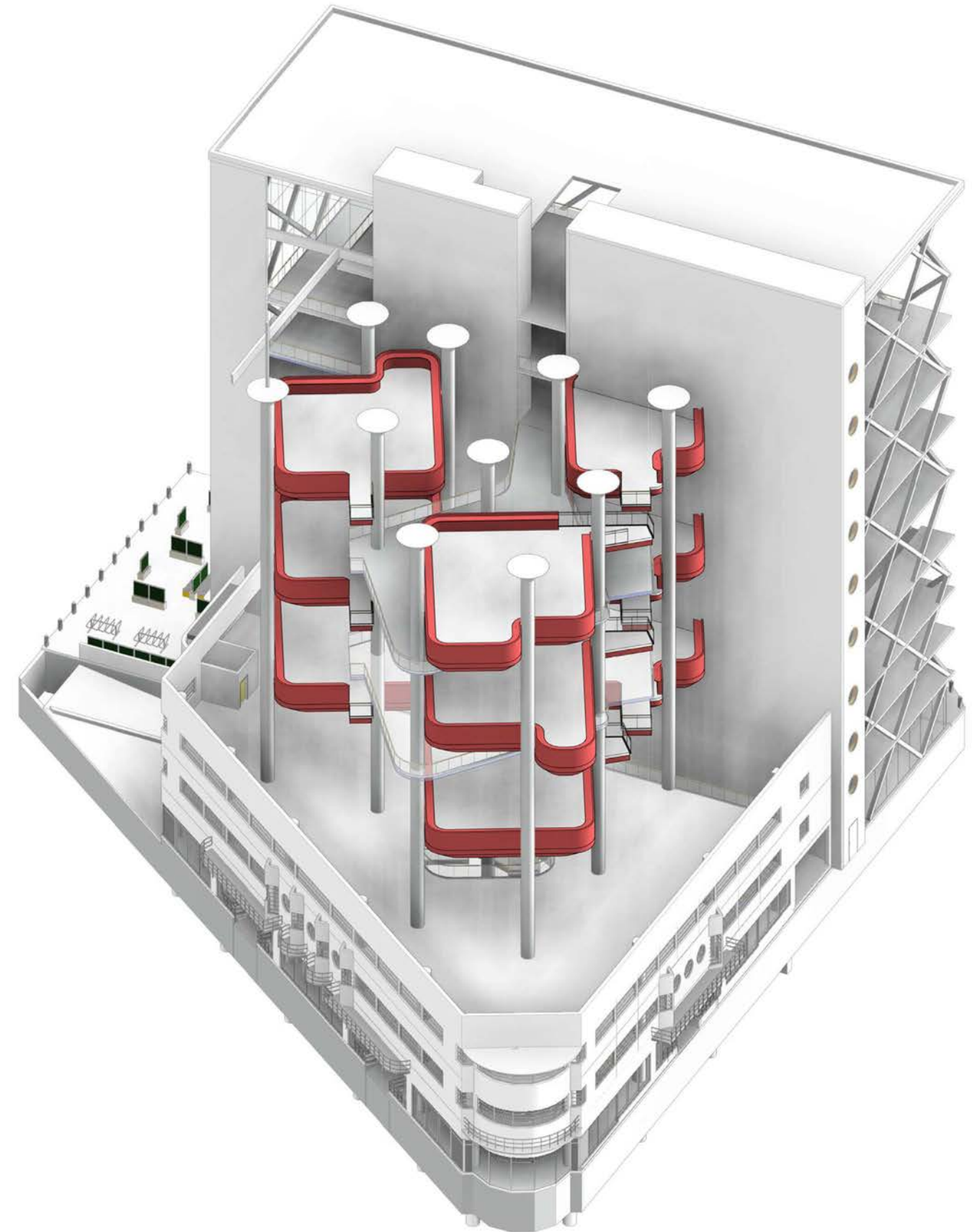
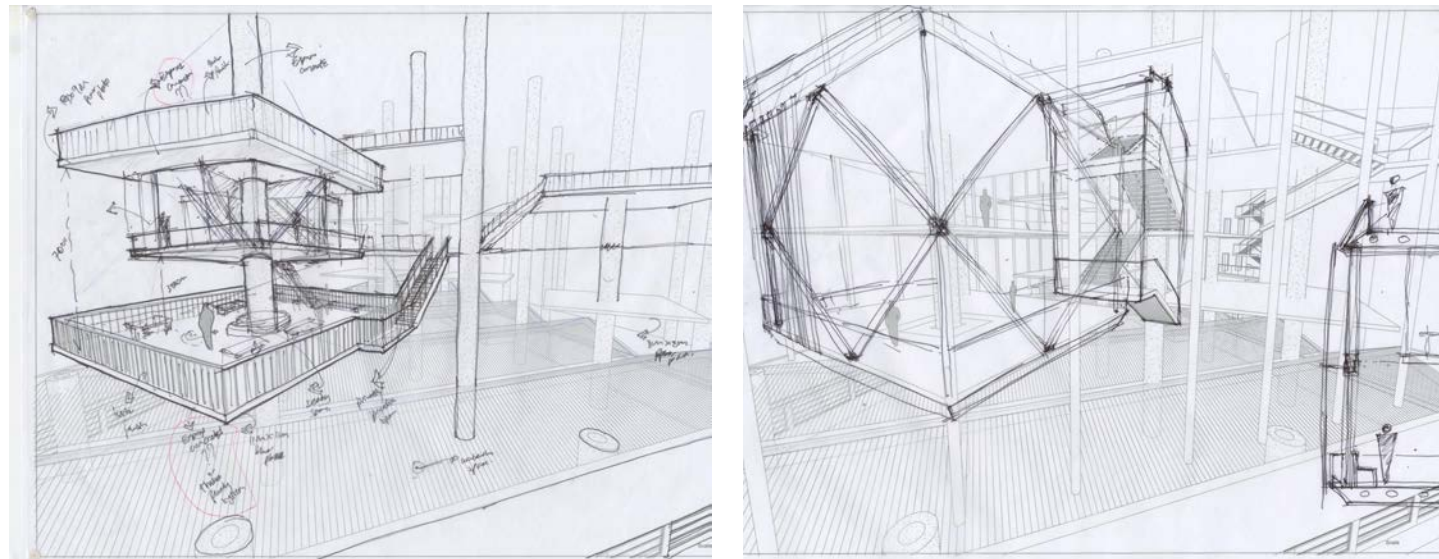


Fig. 43B WorkSpaces

The voids around the work pods and the common spaces enhance the visual connectivity between the different levels while the void spaces serve as vertical circulation spaces between the different levels. All connecting back to the common spaces.

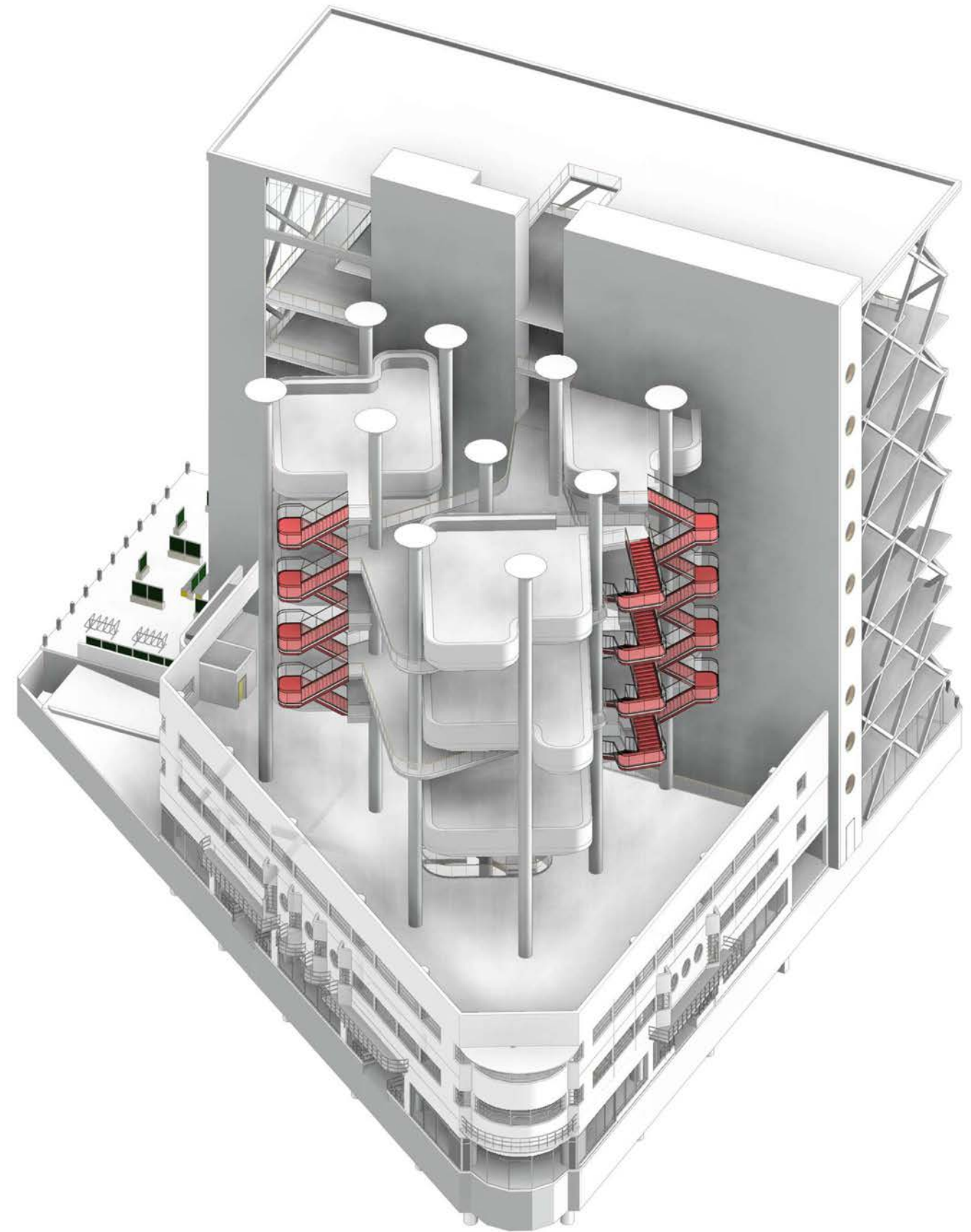


Fig. 44 Void spaces as circulation spaces

A balcony level is inserted above and as an extension of the public gallery space. The existing parapet level acts as the balustrade for the balcony space, thus defining the space of the balcony. This allows for another layer of connection between the existing building and the new intervention.

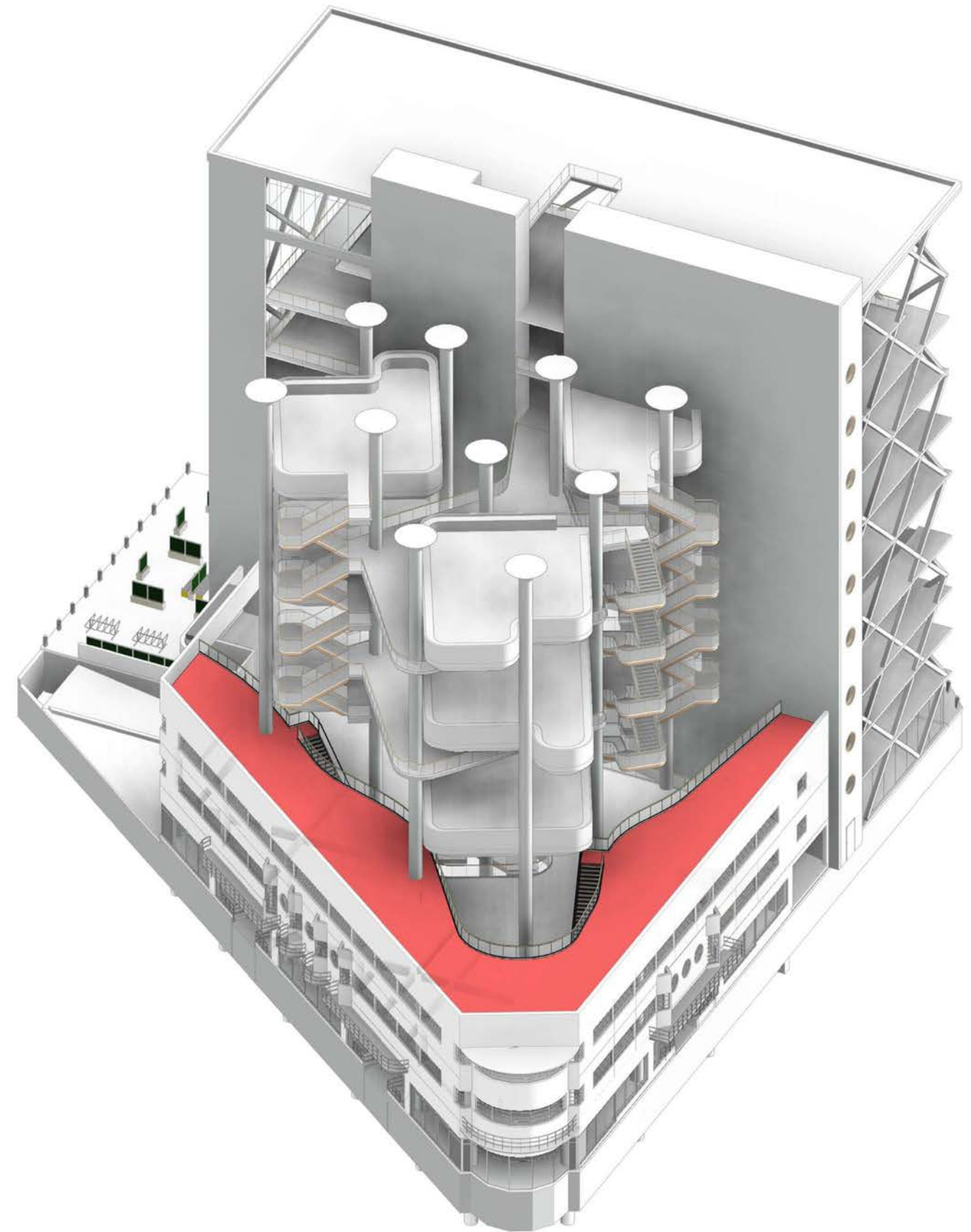


Fig. 45 Public gallery balcony space

The 10th level offers a public space that culminates the columns and the whole space of the new intervention. The footprint of the last level follows the same footprint as the ground floor.

This spatial overlay emerges from the juxtaposition of the smaller footprint of the venue space to that of the ground floor acknowledging the public aspect of the space which emerged out of the programme.

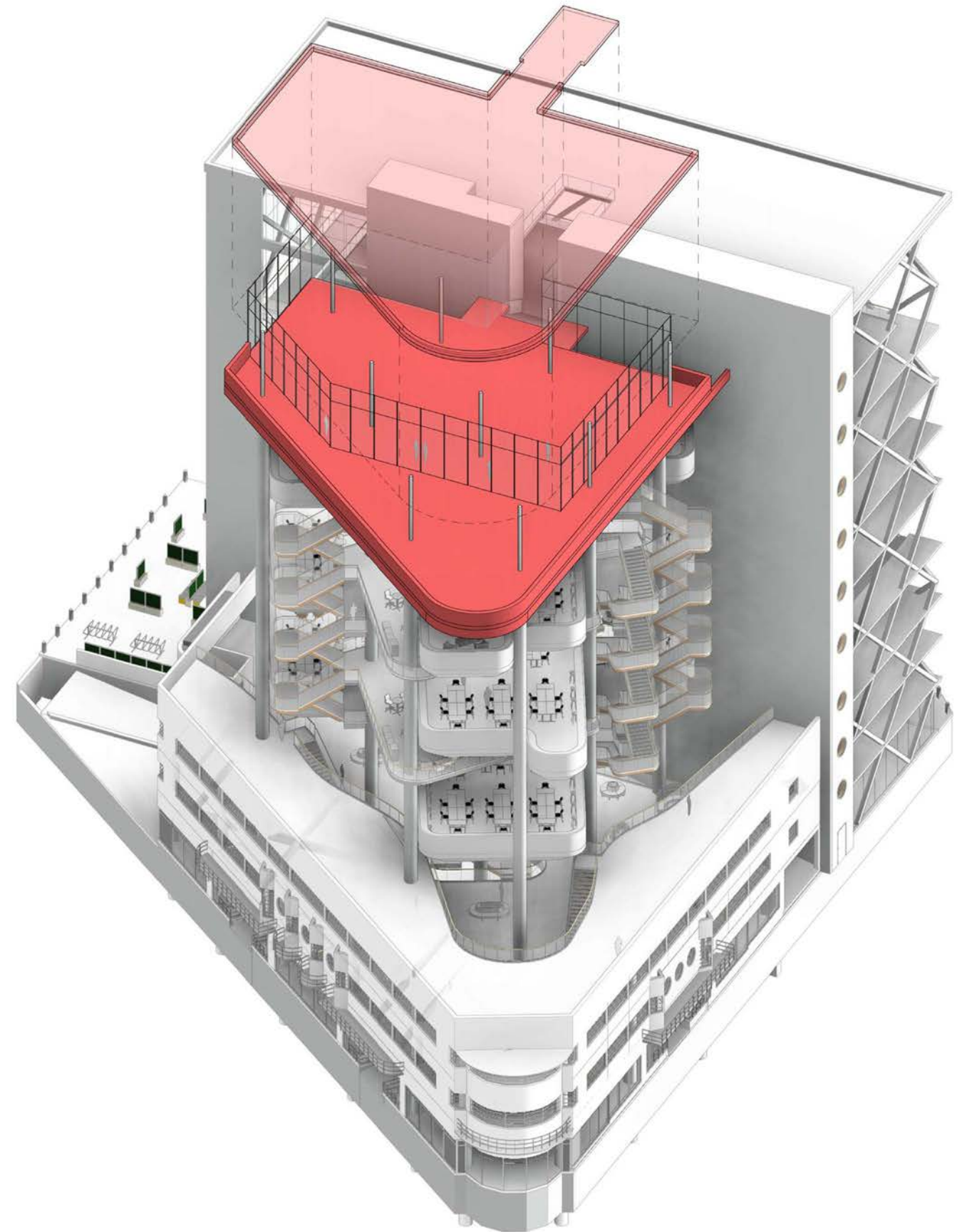


Fig. 46 Venuespace

The main space is wrapped with a skin recessed from the main facade. The skin is also shifted vertically and held on a curved beam thus making the space frame appear to be floating above the existing building. This recess and vertical shift originates from the idea of regarding the existing building as the main anchor pod.

The value does not lie in the material value and the way the new skin is connected to the existing. Rather, the spatial value is prioritised over the material one to create this connection. Hence the disconnect between the new skin and the existing building. The interior of the main space becomes the major connection between the old and the new becomes the major connection. Which enhances the spatial overlay from the dialogue between the columns that support the spaces of the new intervention.

To enclose the space, a glazed system that follows the beams from under closes off connected to a new balcony with both indoor and outdoor spaces that overlooks the public space on the existing level.

The curvature of the skin is setup by the juxtaposition of the columns and the pods as well as the void spaces that is generated from this dialogue between the pod spaces and the void spaces.

Despite its curvature, the facade still reads as one, in an identical manner to the way the facade of the existing reads as a single skin when viewed from the front.

The lightness of the space frame matches the lightness of the pod structures and the openness of the space as opposed to the heaviness and bulkness of the added-service spaces on behind the core.

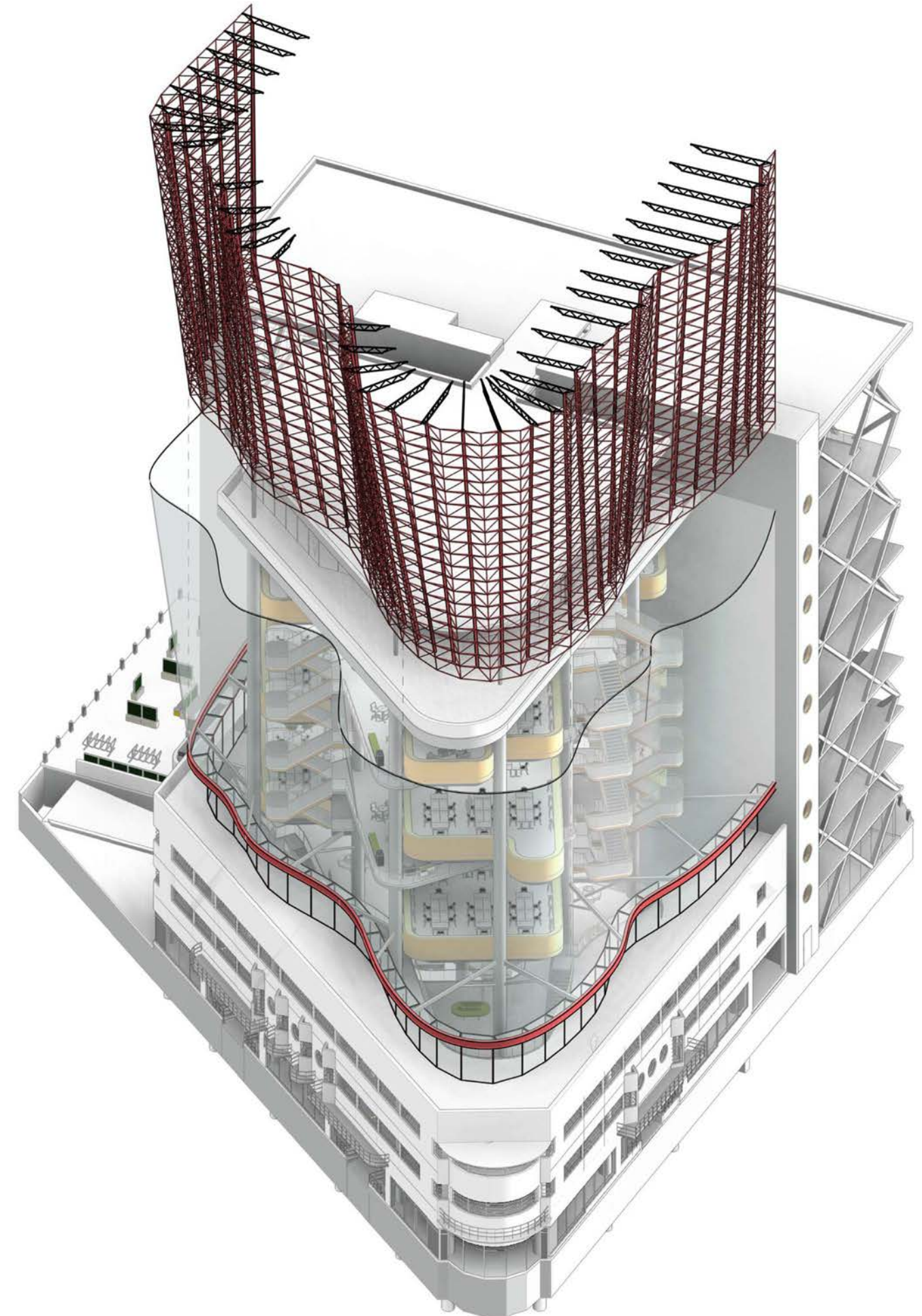


Fig. 47Skin

# Programmatic arrangement

This design proposal currently serves approximately 7600m<sup>2</sup> which fits within the programmatic requirement of a co-working space with the usual average of approximately 7500m<sup>2</sup>.

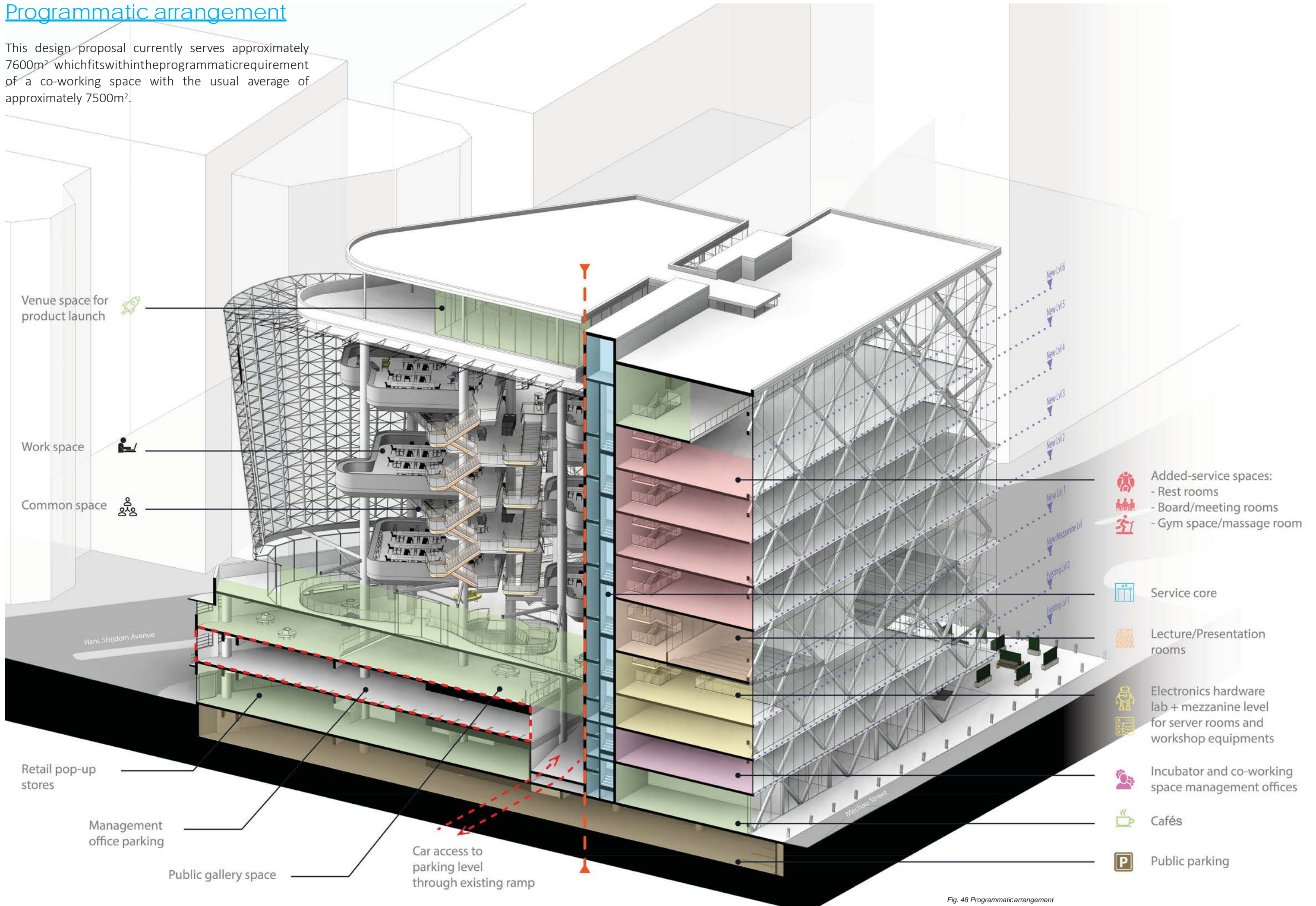


Fig. 48 Programmatic arrangement

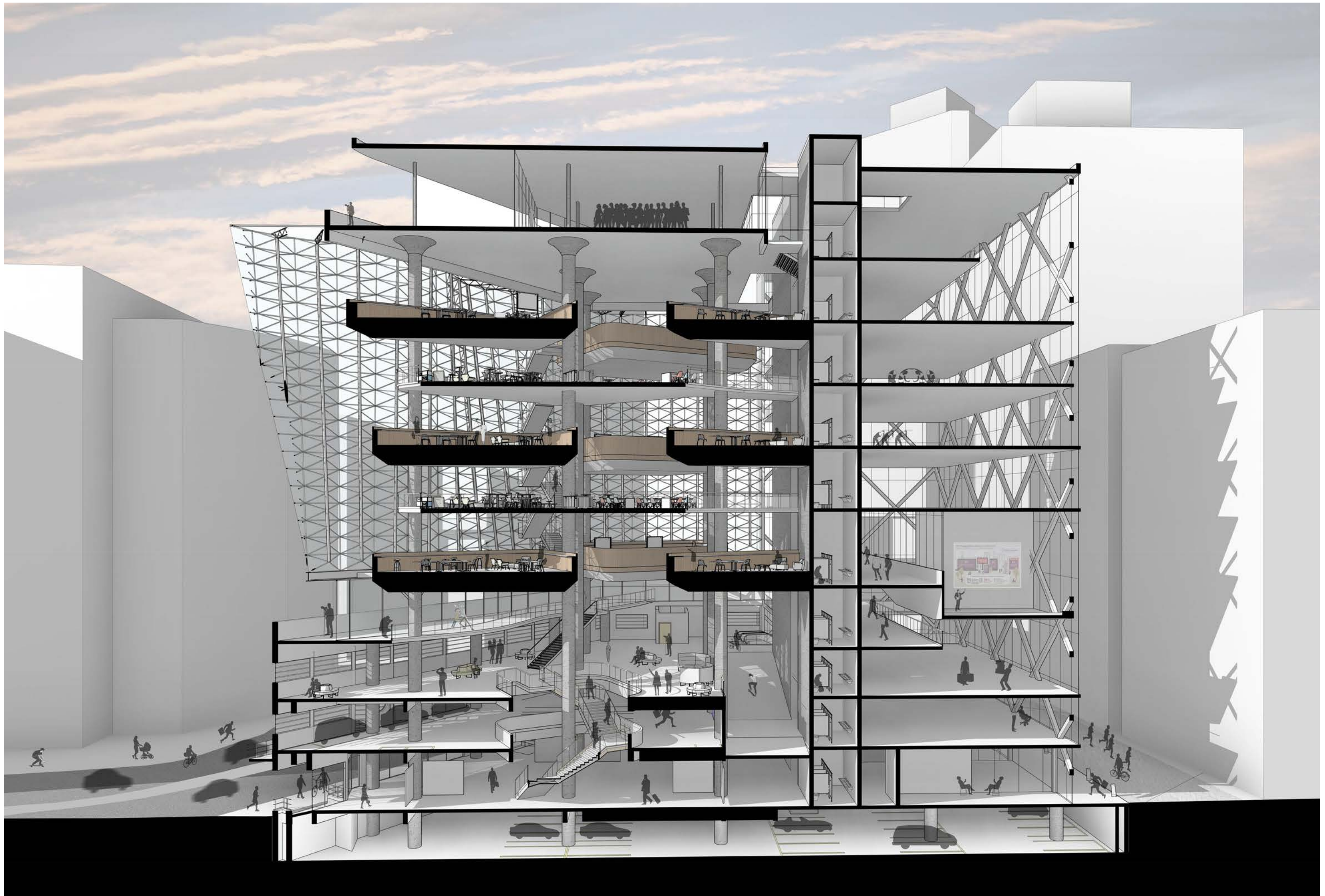


Fig. 49 Programmatic arrangement



Fig. 50 Partially see-through glazing revealing the working pods and the columns



Fig. 51 Eye-level view from the front of the building of the public gallery space on the existing 2nd floor (Refer to plan in Appendix B)



Fig. 52 Single point perspective of intervention in context - Corner Bree and Hans Strijdom



Fig. 53 Access to public gallery space from elevator on existing 2nd floor (Refer to plan in Appendix B)

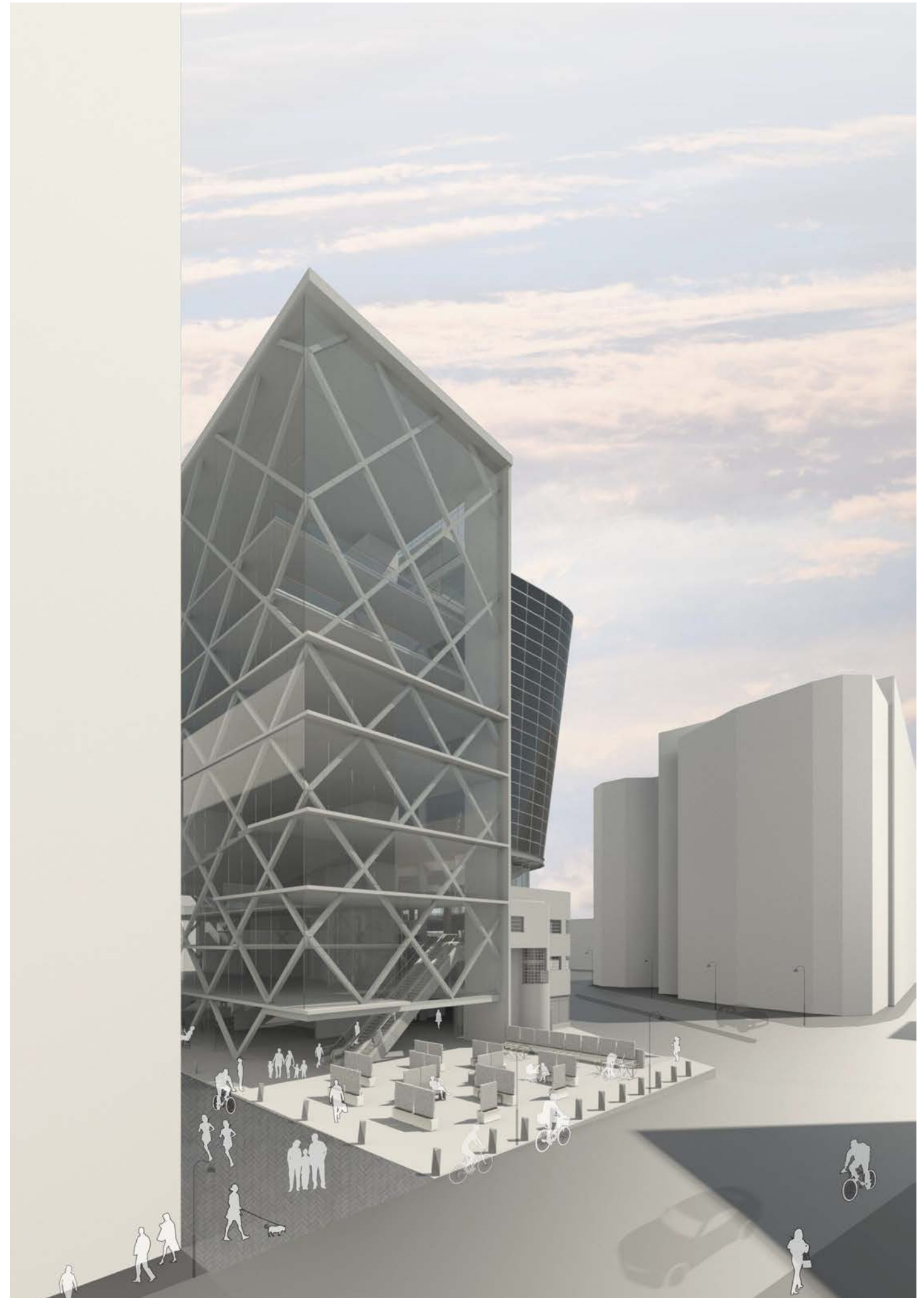


Fig. 54 Corner view of the back facing the outdoor public space and the covered outdoor space. Escalator leads to the public gallery space on existing 2nd floor



Fig. 55 View from common space New Lvl 2 (Refer to plan in Appendix B)



Fig. 56 View from work space New Lvl 1 (Refer to plan in Appendix B)

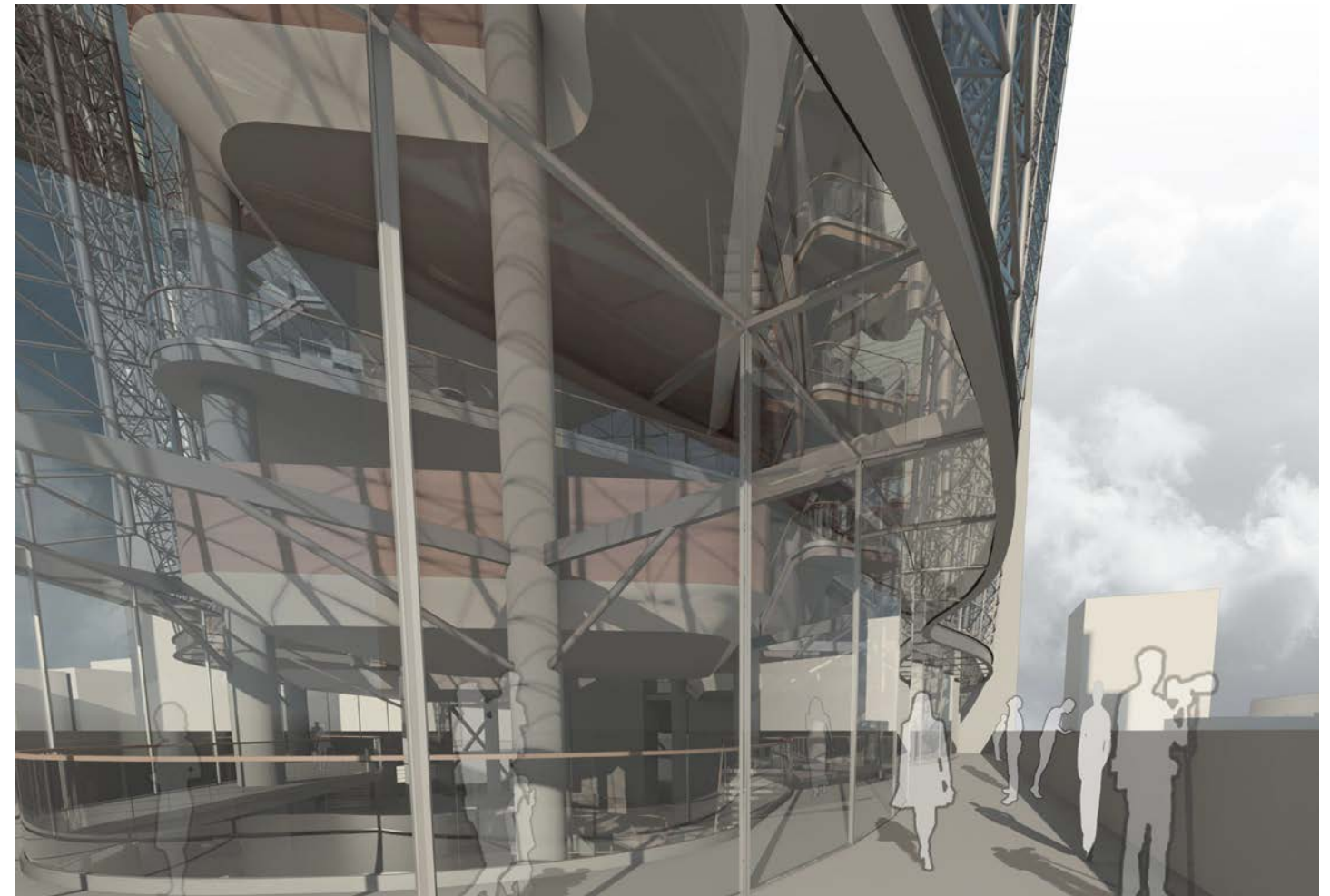


Fig. 57 View from public gallery balcony

## Concluding Statement

The process started off by looking at the juxtaposition between the old and the new while attempting to value the spatial qualities.

As the process evolved, a tension started to form between the new programmatic requirements of the new and the upholding of the spatial qualities of the old.

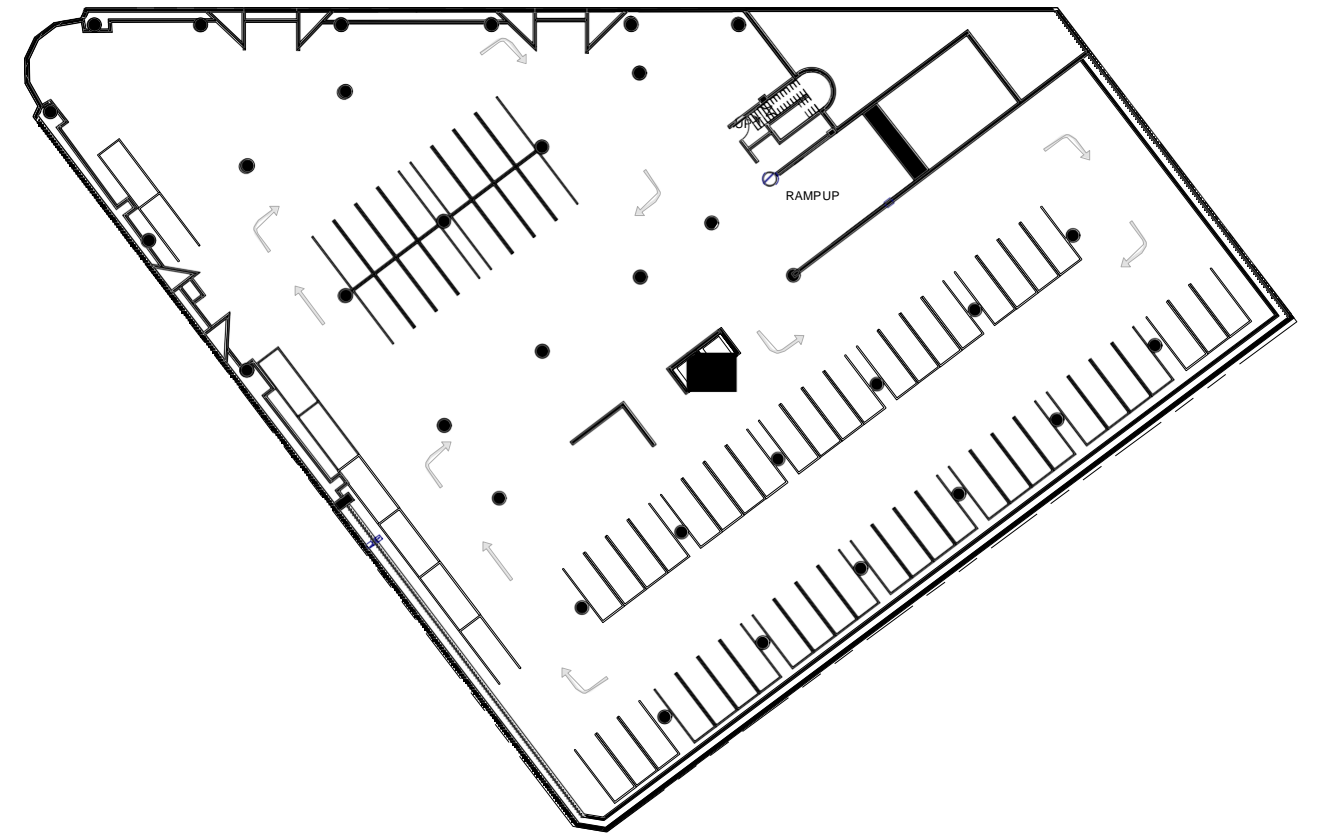
This was made possible through the continuation of the columns while the new programme started to imprint its own spatial qualities.

Out of the juxtaposition of those two spatial qualities which is representative of the spatial overlay at work, emerged the void spaces that perpetuate and project both the values of the existing which comes in the form of the columns and the way the new pods and common spaces wraps around them thus creating the overall space of the new intervention.

The spatial overlay demonstrate that James Cornetet's proposition of taking into consideration the old and juxtaposed to the new requirements both programmatically and spatially generates an architecture that promotes a dialogue that values both the existing and the new intervention.

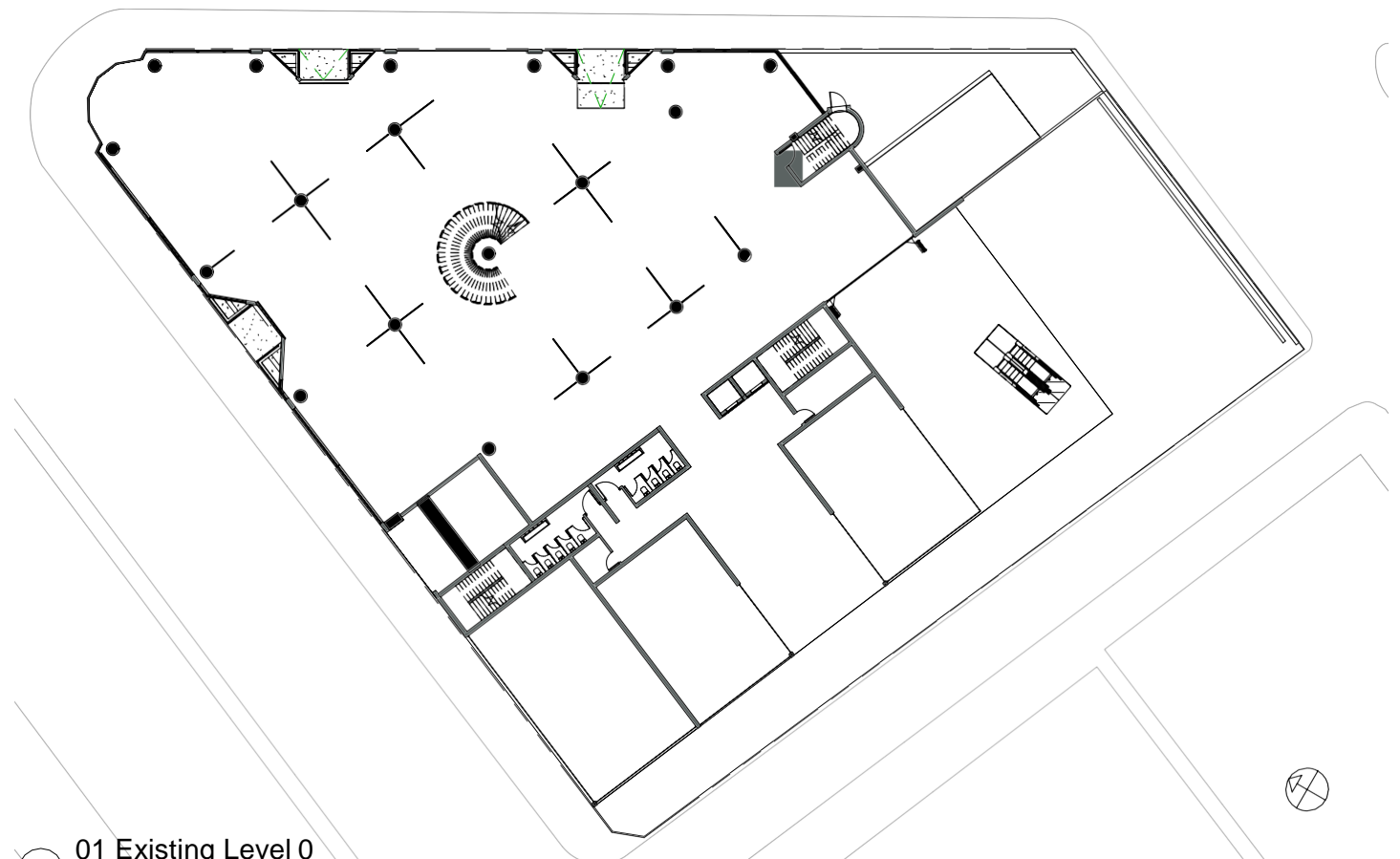
# Appendix A

N.B: Appendix only features exploration sketch design drawings which have been scaled down to fit



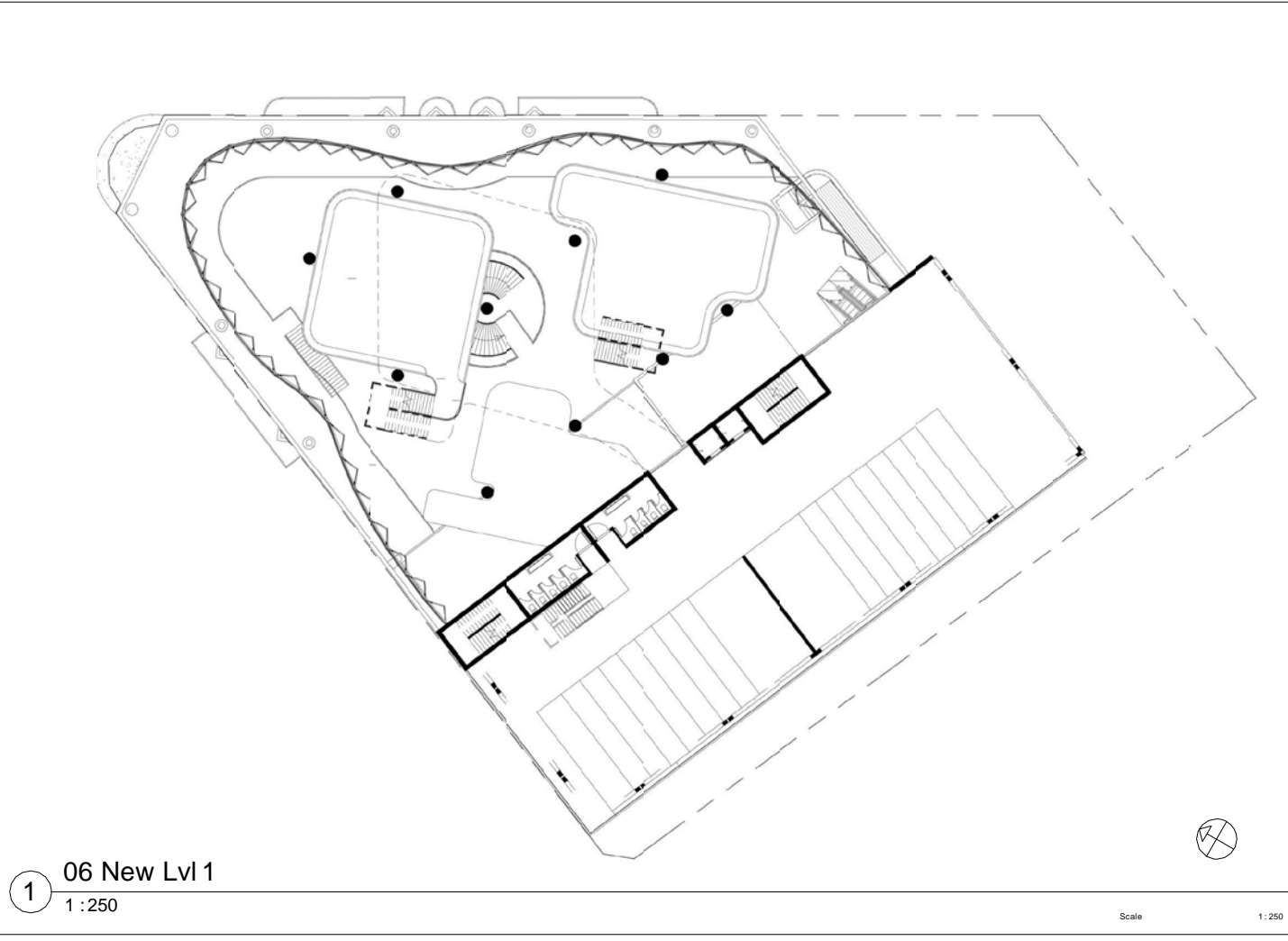
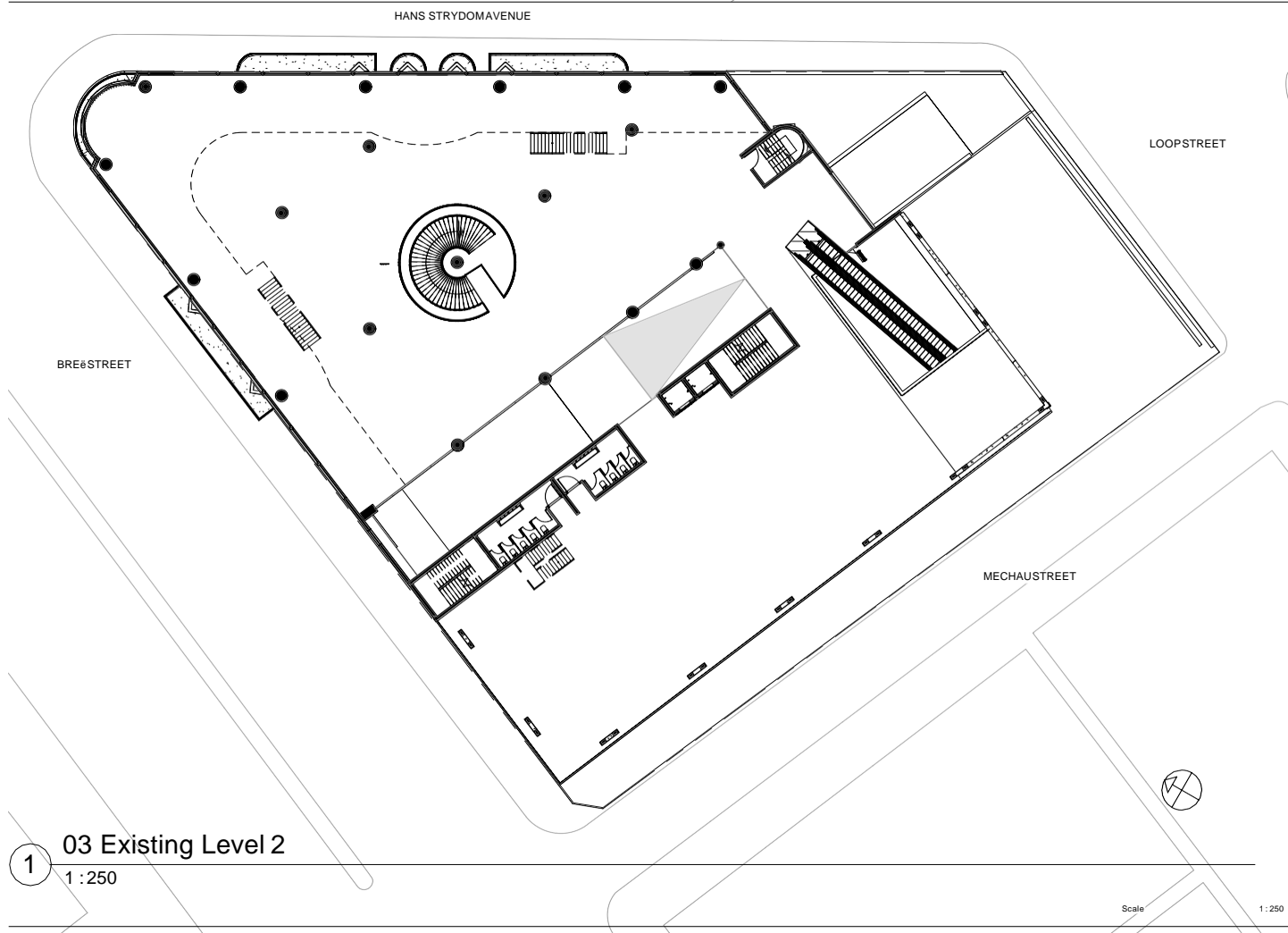
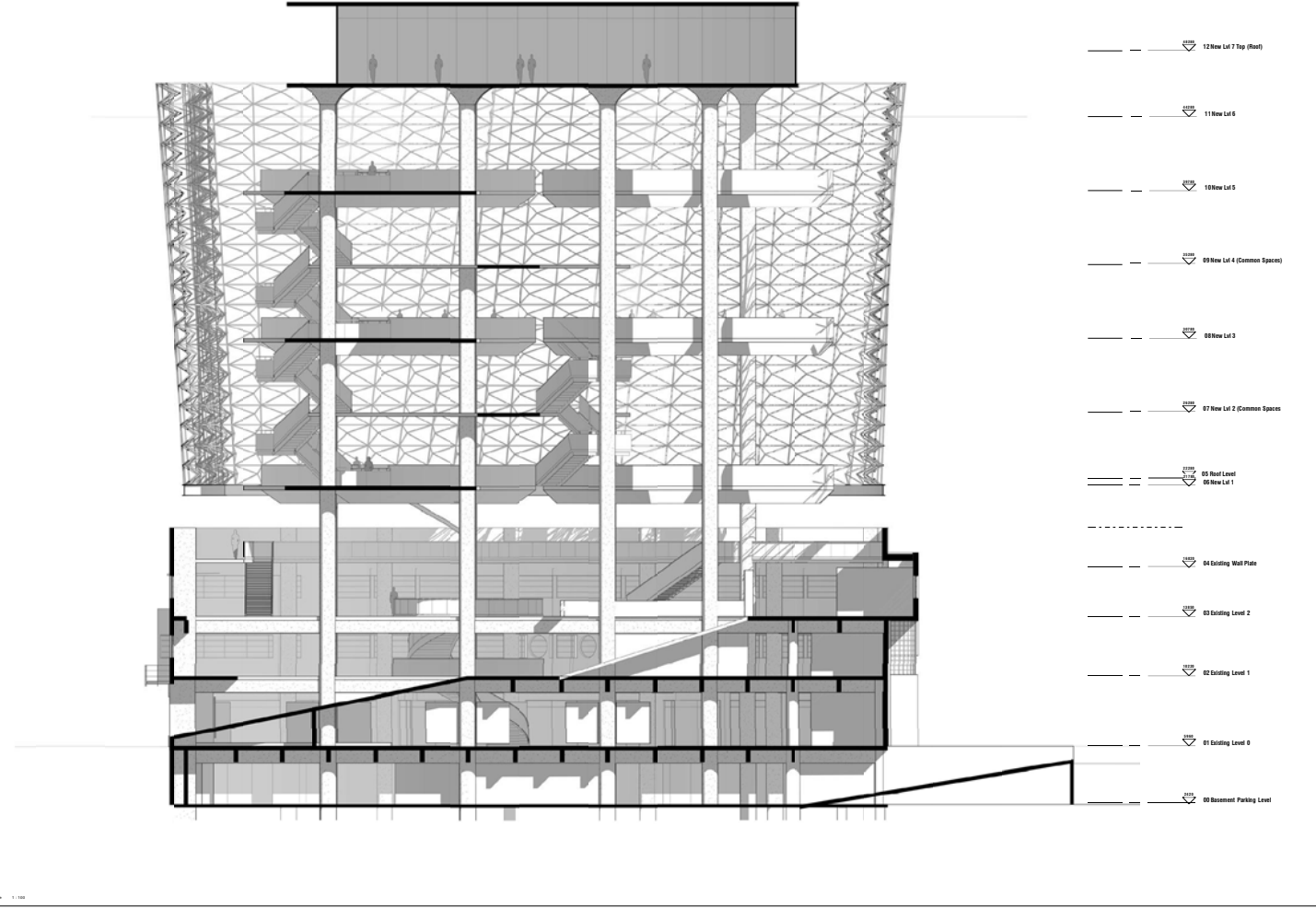
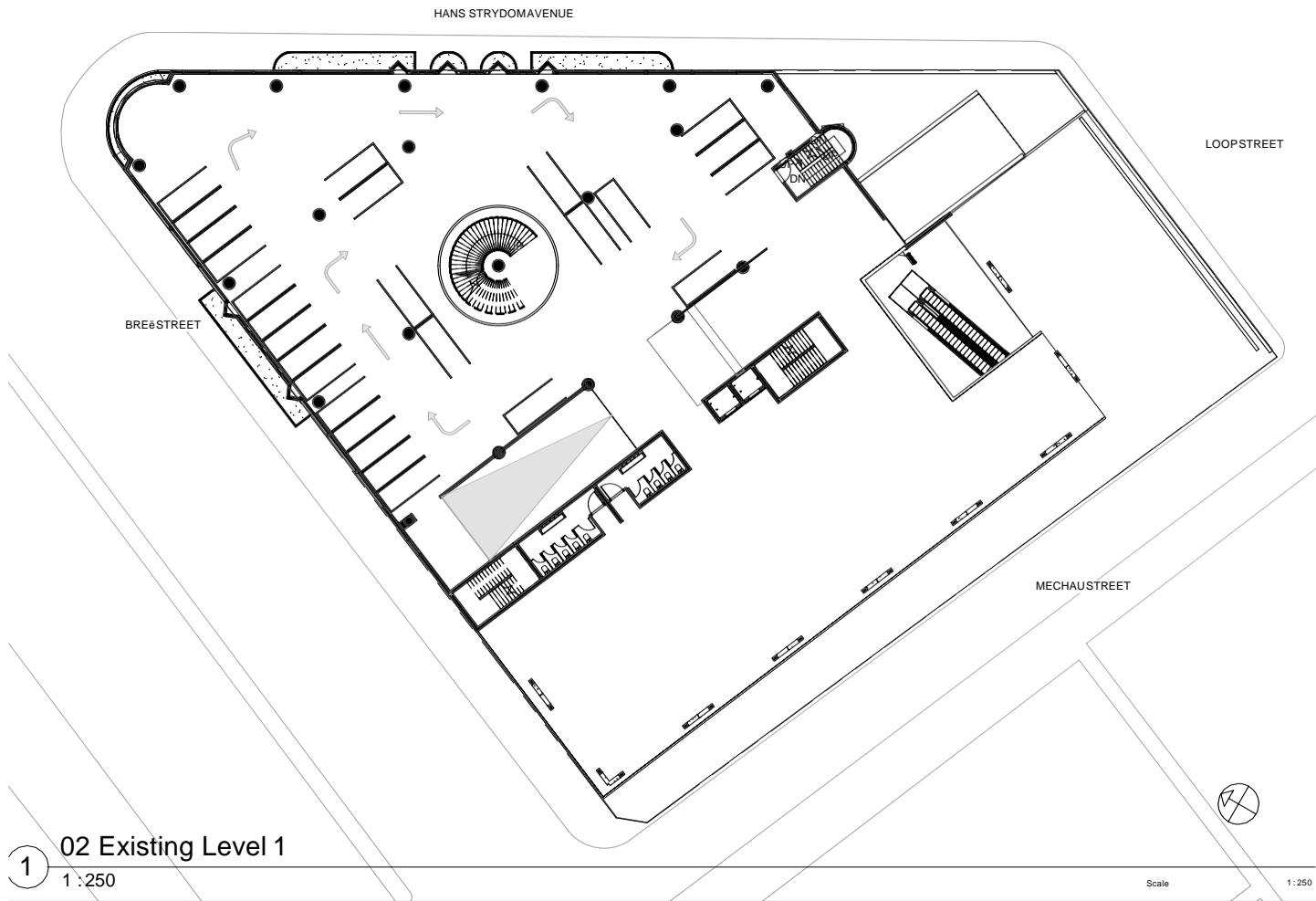
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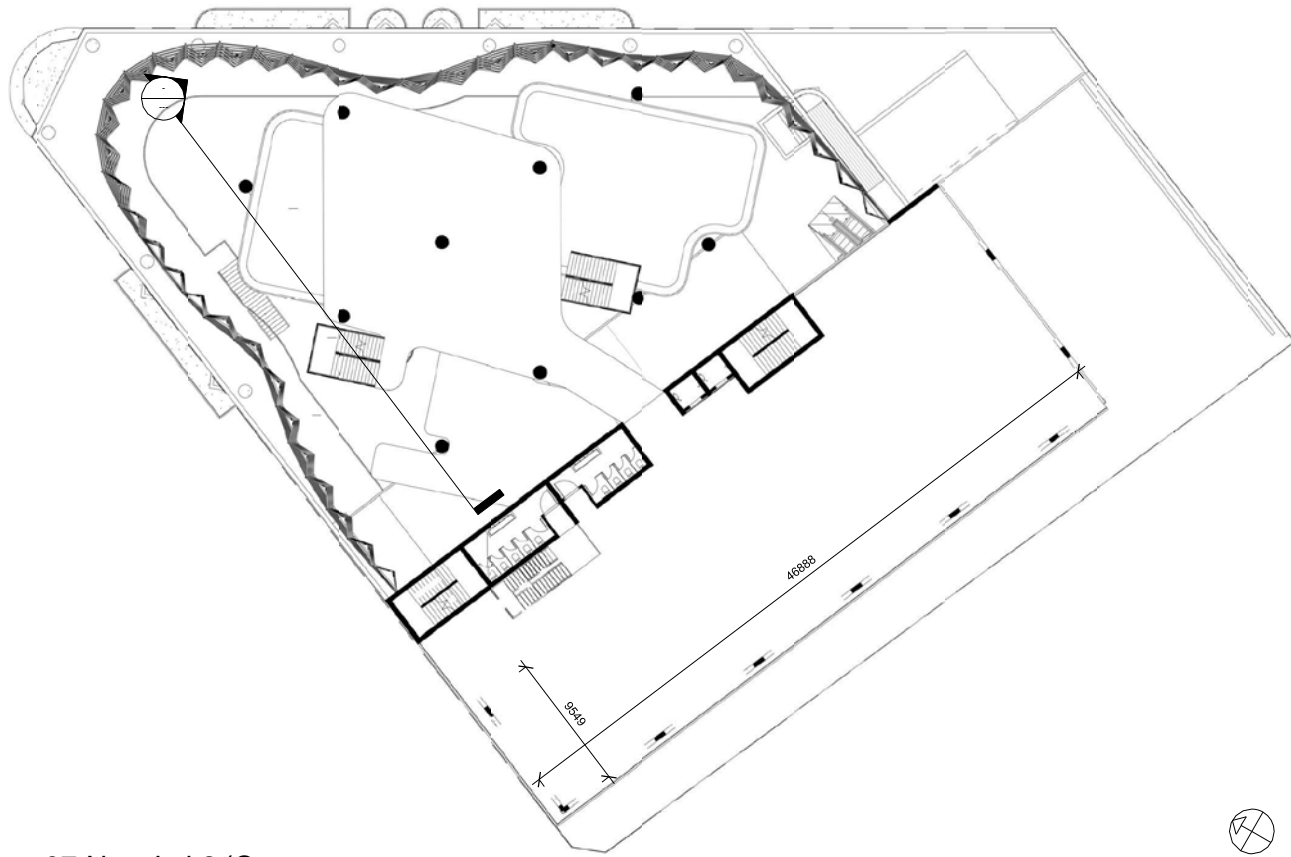
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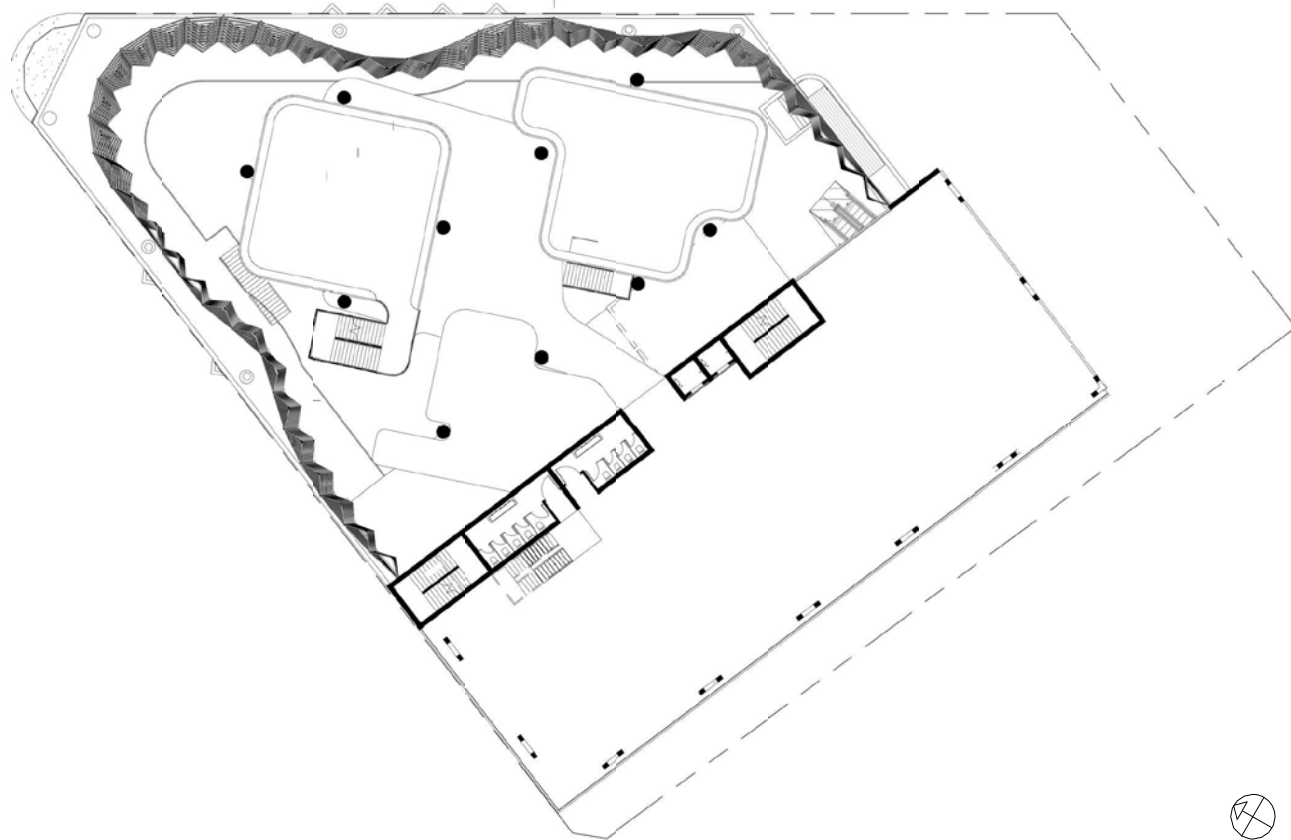
① 07 New Lvl 2 (Common Spaces)  
1:250

Scale 1:250

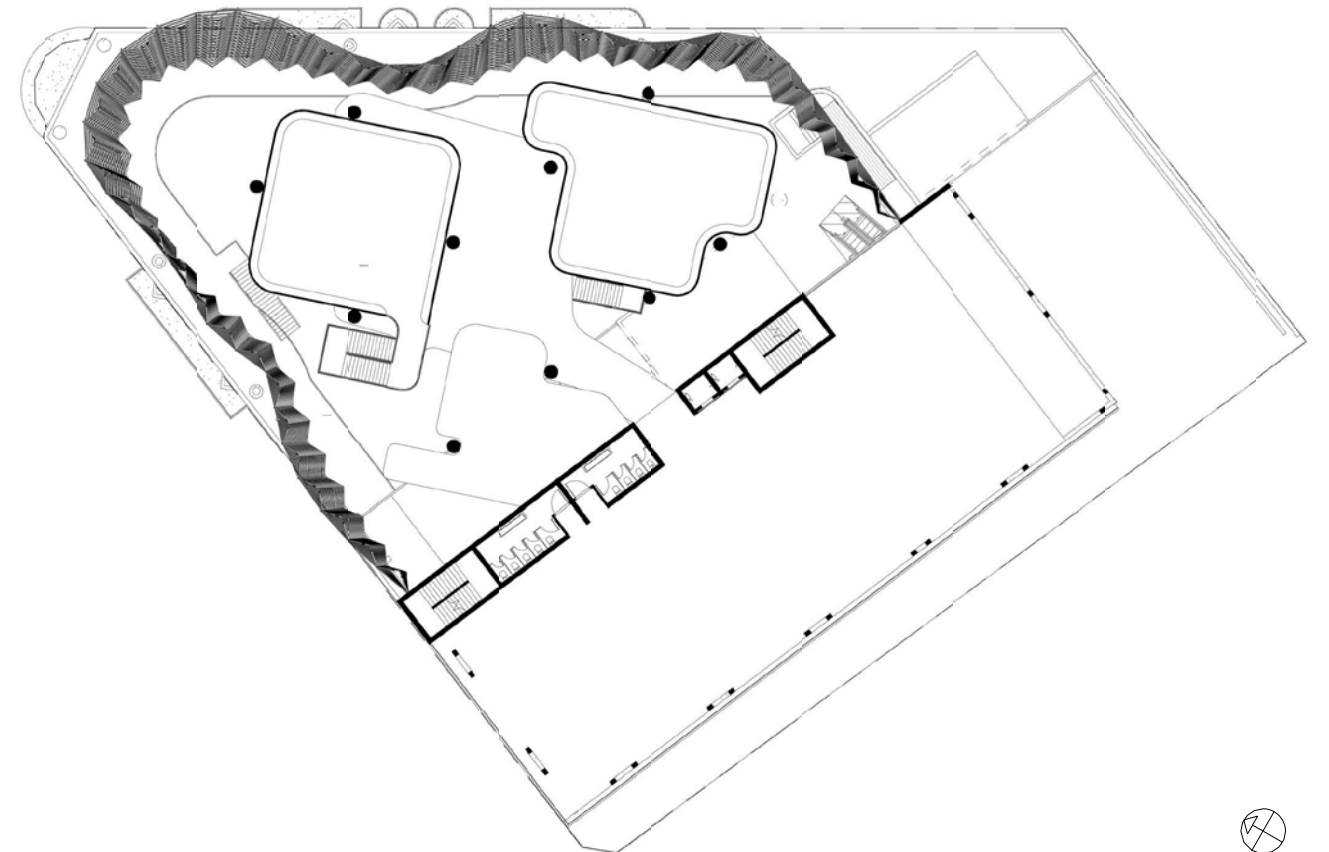


① 09 New Lvl 4 (Common Spaces)  
1:250

Scale 1:250



Scale 1:250



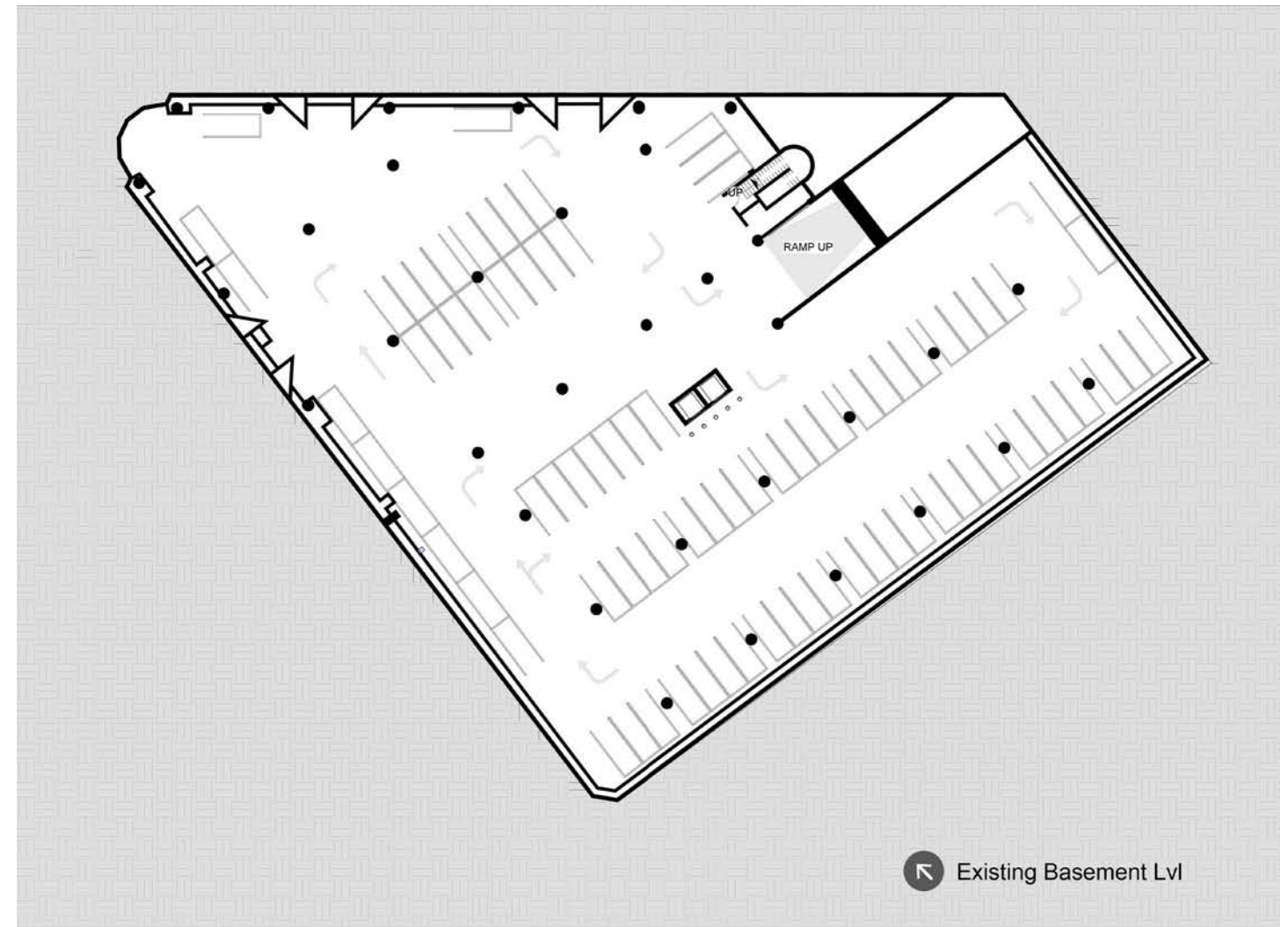
① 10 New Lvl 5  
1:250

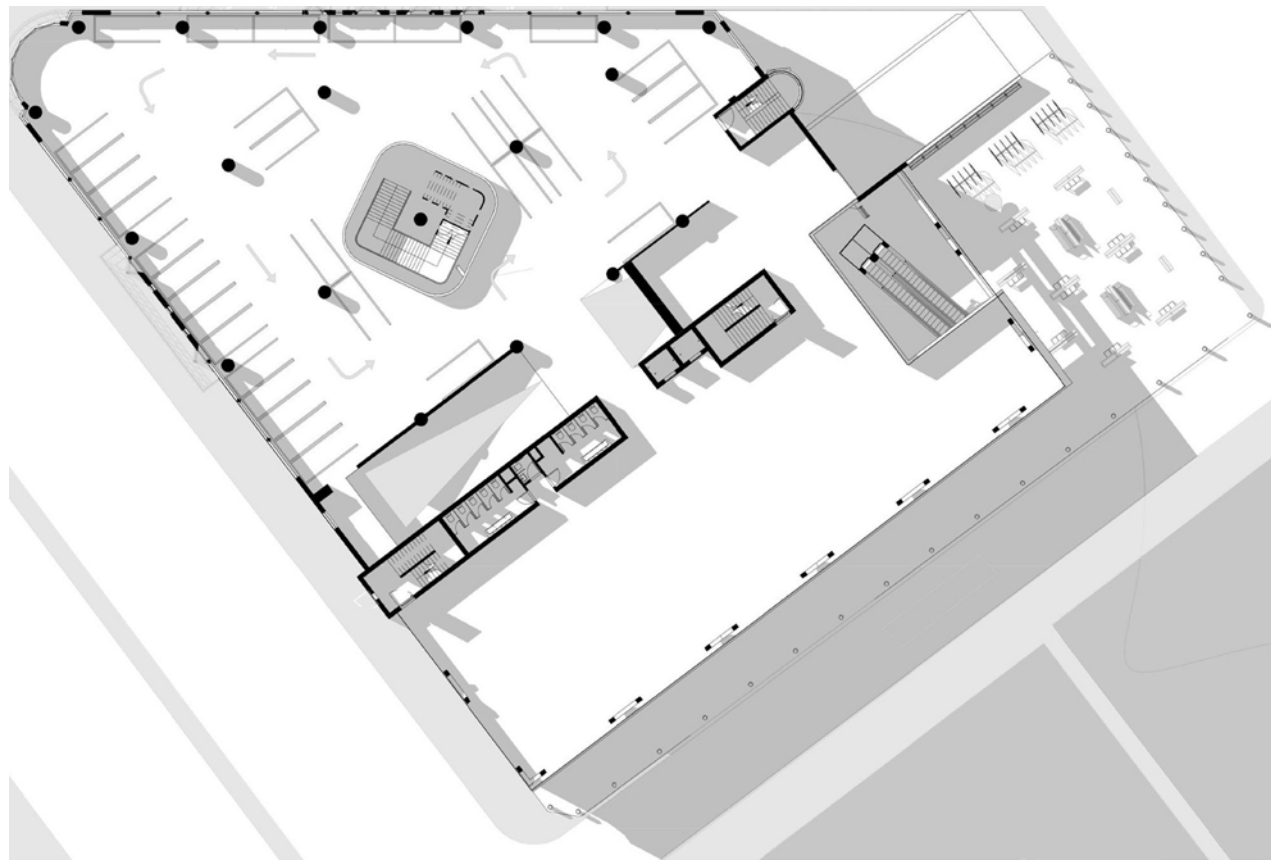
Scale 1:250

# Appendix B

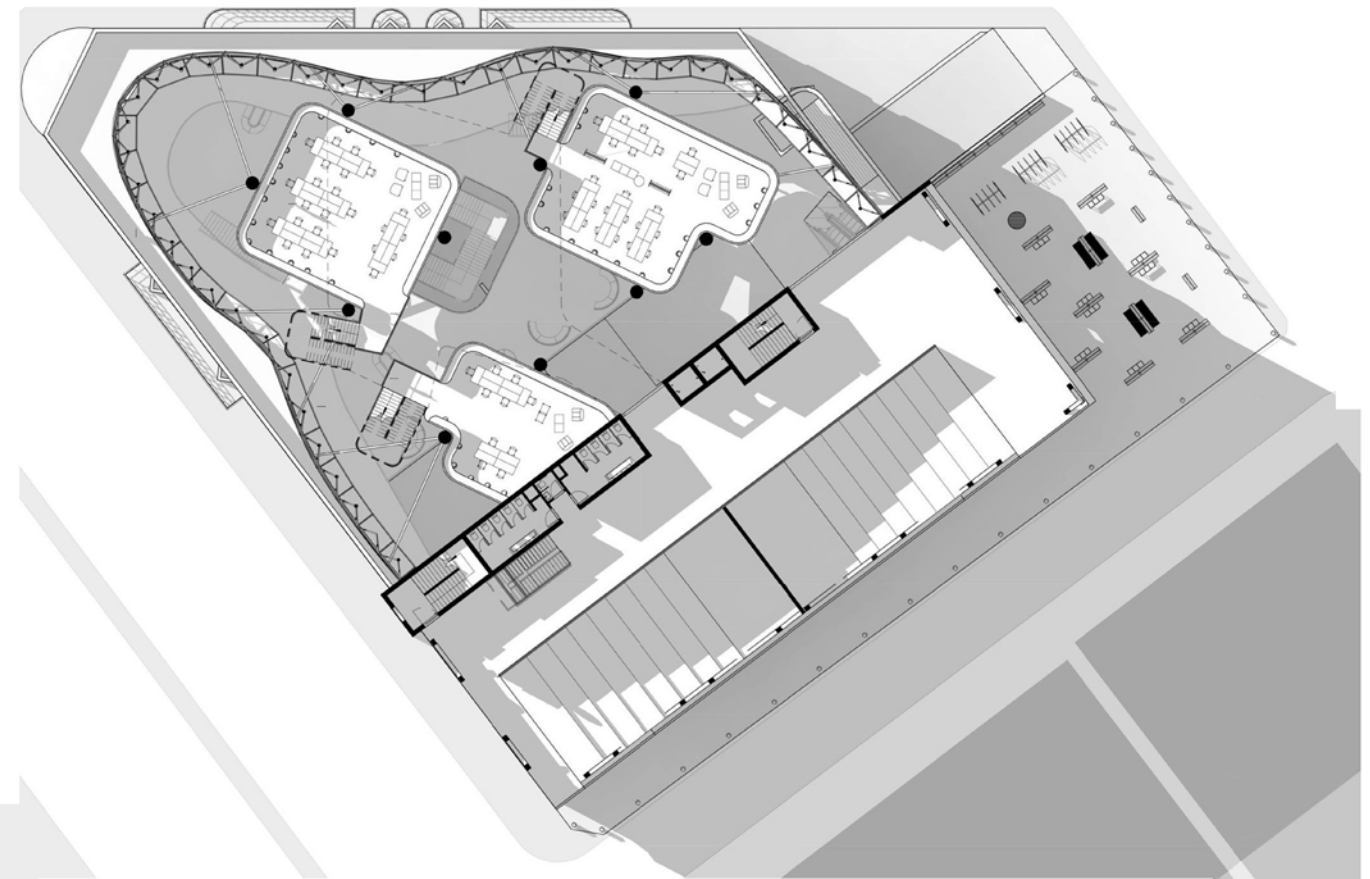
Updated drawings

N.B: Appendix only features exploration sketch design drawings which have been scaled down to fit on the page

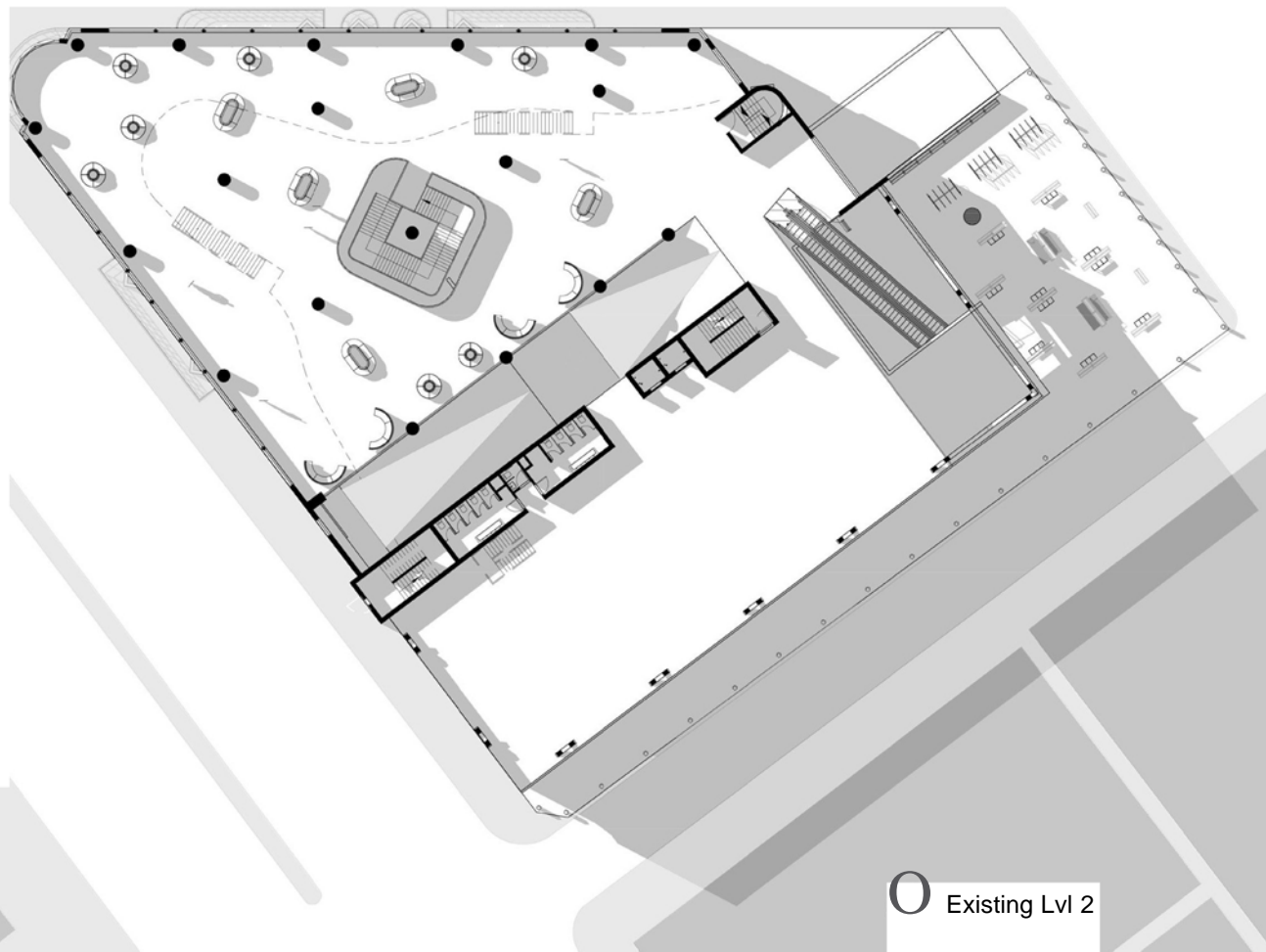




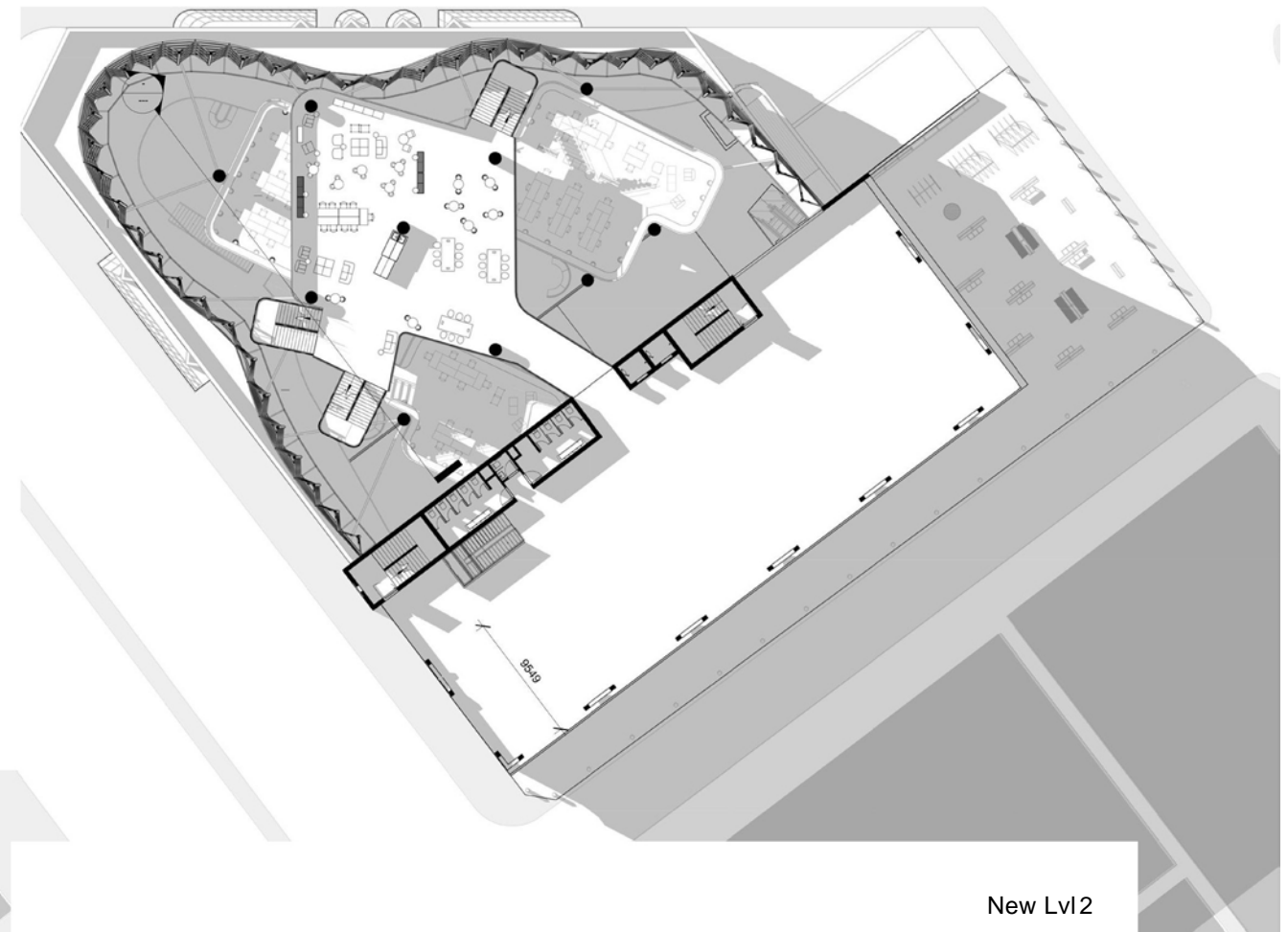
0 Existing Lvl 1



New Lvl2



0 Existing Lvl 2



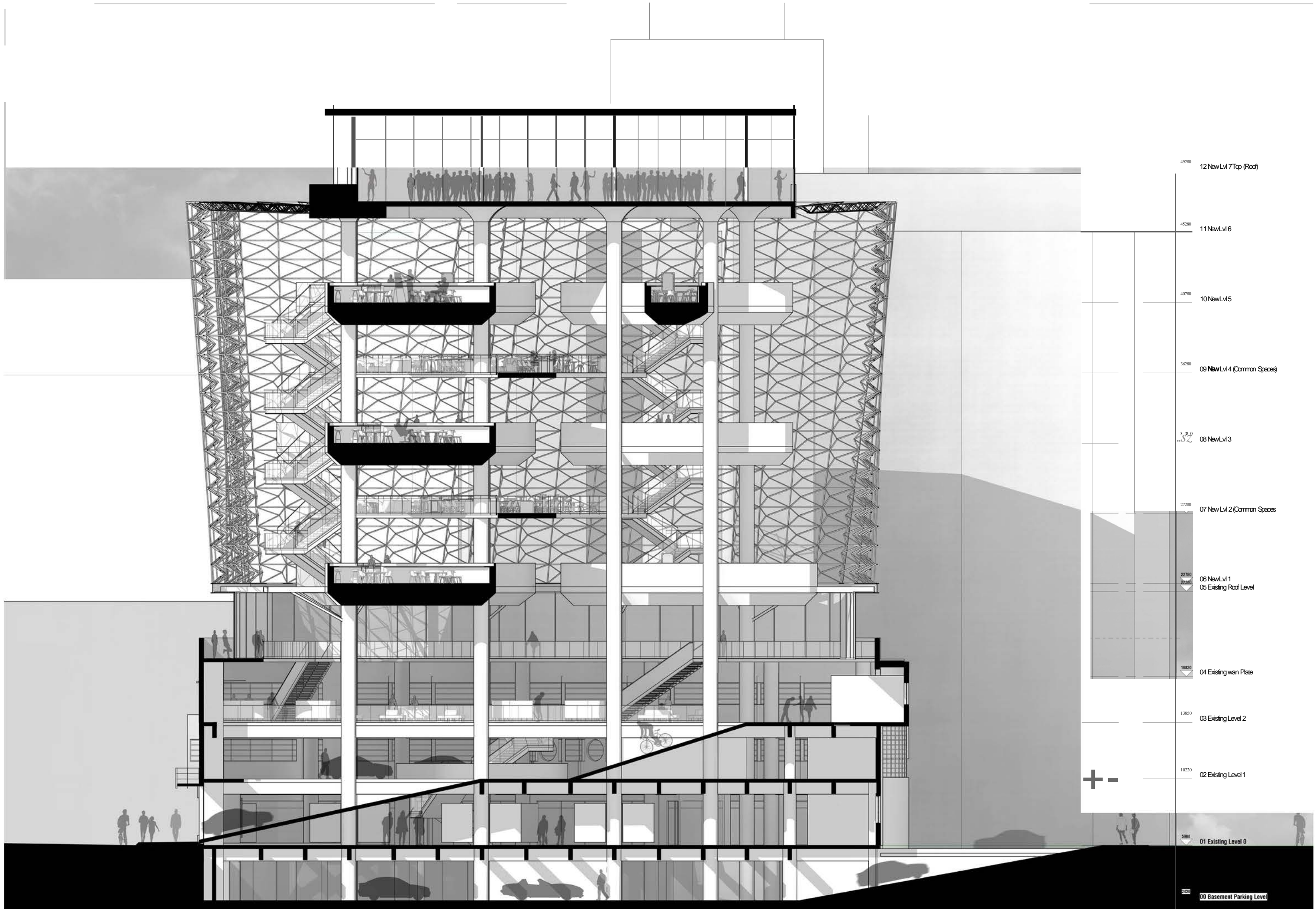
New Lvl2



New Lvl 3



New Lvl 4



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