“CITY WITHIN THE CITY “

Hybrid Reuse Strategies for the SFF Bosch Gebouw, Eindhoven

Heritage Graduation Studio – Resourceful Reuse of Heritage

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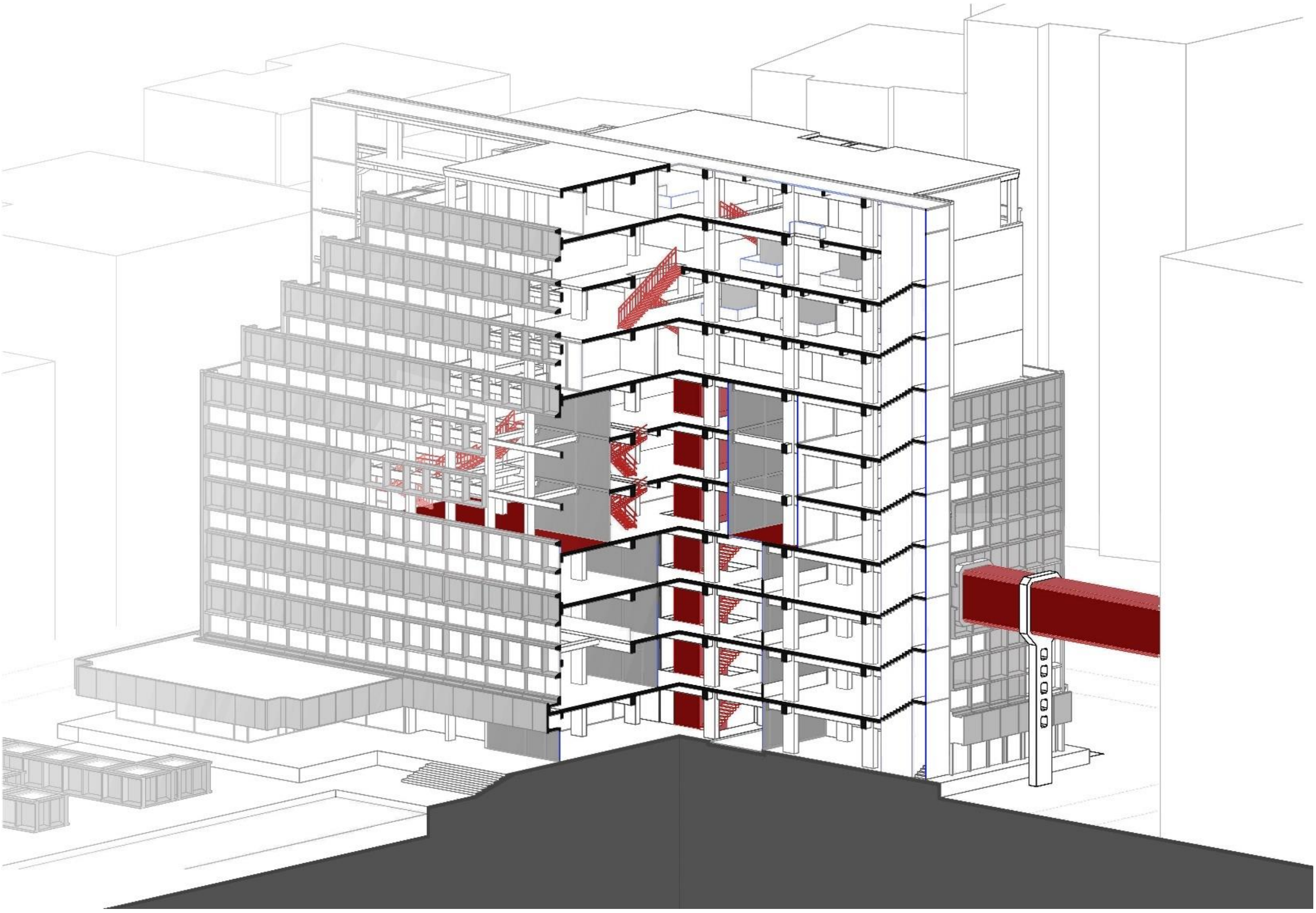

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ABSTRACT

This graduation project investigates the adaptive reuse of the SFF Bosch Gebouw in Strijp-S, Eindhoven, as a strategy for transforming a vacant post-war office building into a hybrid environment for living, working and collective occupation. Constructed during the industrial expansion of Philips, the building is characterized by its repetitive prefabricated concrete facade system, deep structural grid and large-span floor plates, reflecting the technological optimism and industrial logic of post-war modernism.

Rather than approaching the building's current limitations as justification for demolition, the project explores how its existing structural framework can accommodate new forms of occupation through spatial interventions. The proposal is based on three interconnected design themes: reprogramming for hybrid occupation, daylight as a spatial driver, and the reintegration of the building within its surrounding landscape.

Programmatically, the project responds to the new residential developments introduced through the ongoing Redevelopment Phase 4 of Strijp-S. As the surrounding area shifts from an industrial district to a mixed urban neighborhood, the proposal transforms the former mono-functional office building into a hybrid environment that accommodates living, working and collective activities. Structured through different degrees of publicness, the project creates a gradual transition between public, semi-private and private environments. At its center, the hybrid core acts as a social condenser that connects residential, working and collective programs while maintaining clear spatial thresholds between them.

Beyond programmatic transformation, the project addresses the environmental limitations of the existing deep-plan building. The research identifies the deep floor plate and limited daylight penetration as key architectural challenges. In response, the project develops a combined daylight strategy that includes facade subtractions, sectional voids, skylights and stepped massing interventions. These operations reveal the depth of the existing structure and transform previously underutilized interior areas into collective spaces organized around a hybrid core.

Finally, the transformation extends beyond the building envelope through the integration of landscape interventions and the reuse of removed prefabricated facade elements as planting and public-space components. By working within the existing structural logic rather than replacing it, the project demonstrates how the SFF Bosch Gebouw can be reactivated as a contemporary urban environment while preserving the spatial and material qualities embedded within its industrial heritage.

1. INTRODUCTION

1.1. PROBLEM STATEMENT

Over the past decades, Strijp-S has gradually evolved from a former industrial district into a mixed urban environment accommodating residential, office, creative, and public functions. However, these uses remain largely organised in separate buildings and urban clusters. As a result, different parts of the area are activated at different moments of the day, creating **fragmented occupation zones** and limited interaction between user groups.

Figure 1:Temporal Urban Activity Patterns

At the building scale, the SFF Bosbouw operates as a **mono-functional office** which no longer reflects the changing character of its surroundings. Despite its prominent position within Strijp-S, the building remains disconnected from many of the emerging urban activities taking place around it.

The building itself presents additional spatial and environmental challenges. Its **deep floor plate**, reaching approximately 27 meters in depth, restricts daylight penetration and creates inward-oriented spaces with limited environmental quality toward the center of the building.

Furthermore, although the main entrance façade faces a large public park, the **relationship between the building and this open space remains weak**. The park is currently underutilised and does not contribute significantly to the everyday activity of the building or the wider district.

Figure 2: Limited Building–Park Interaction

Together, the fragmented distribution of uses within Strijp-S, the mono-functional organisation of the existing building, the limited daylight penetration, and the weak relationship between the building and the adjacent park reveal a mismatch between the current performance of the building and the evolving character of its surroundings.

1.2. RELEVANCE

The relevance of this project is strongly connected to the current transformation of Strijp-S itself. Originally developed as an industrial production landscape for Philips, the area is gradually shifting toward a more mixed urban environment characterised by housing, public space, and new collective programmes. Within this transition, the SFF Bosch Gebouw occupies a particularly important position facing the future residential development and the adjacent public park. As the surrounding urban conditions change, the building can no longer function as an isolated office block disconnected from its context. Instead, it becomes part of a larger discussion about how former industrial structures can participate in contemporary urban life.

At the same time, the project relates to broader architectural discussions concerning the future of post-war concrete buildings. Many of these structures are currently under pressure due to redevelopment processes that prioritise replacement over transformation. However, buildings such as the SFF Bosch Gebouw still contain strong spatial, structural, and material qualities that can support new forms of occupation when approached through adaptation rather than demolition.

For this reason, the project does not approach reuse as a purely preservational exercise. Instead, it investigates how architectural transformation can introduce new environmental conditions, collective relationships, and spatial connections while still working within the logic of the existing structure. The intention is not to freeze the building in its original state, but to allow it to evolve together with the changing urban context around it.

The project is also relevant in relation to contemporary forms of living and working. As boundaries between work, public life, and collective occupation continue to shift, existing industrial structures offer the possibility to accommodate more layered and flexible spatial conditions than conventional office typologies. Through this, the research explores how collective environments can emerge within existing deep-plan structures through section, thresholds, circulation, and environmental transformation rather than through program alone.

1.3. OBJECTIVE AND MOTIVATION

The SFF Bosbouw is one of **the key industrial buildings of Strijp-S**, the former Philips industrial campus in Eindhoven. Together with the Apparatenfabriek and Klokgebouw, it forms part of the oldest and tallest building ensemble within the district. Due to their scale, age, and strategic location, these buildings continue to act as **important landmarks and points of orientation**, contributing significantly to the industrial identity of Strijp-S.

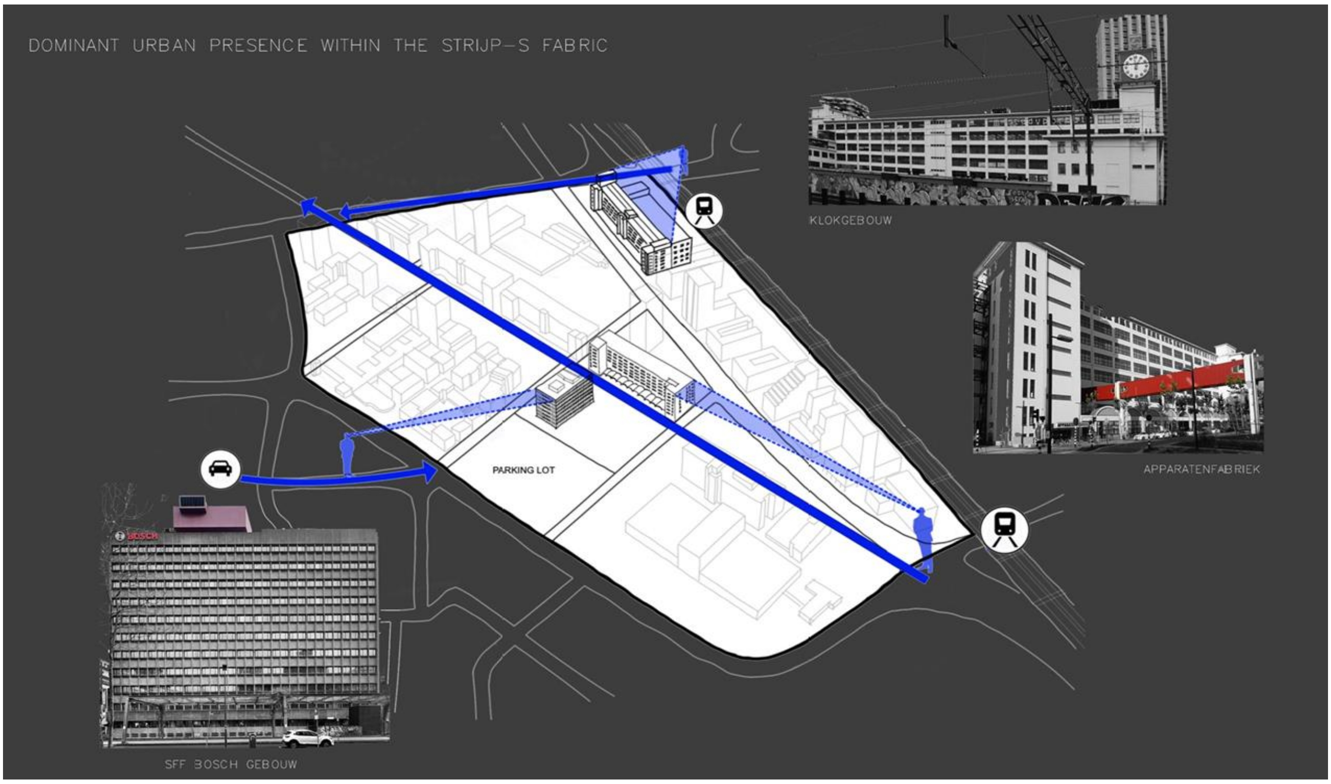


Figure 3: Strategic Urban Landmark Position

The **recent vacancy** of the SFF Bosbouw in December 2025 has brought renewed attention to its future. At the same time, Strijp-S is entering the fourth phase of its urban redevelopment, introducing new residential developments south of the building, including housing combined with design-related functions at ground-floor level. These changes indicate a gradual transition from a predominantly working environment towards a more diverse urban condition.

The building occupies a strategic position within this transformation. Its eastern façade faces an underutilised park that has the potential to become an important green corridor within the former industrial complex, while the new residential developments will strengthen its relationship with the surrounding neighbourhood. Together, these conditions create an opportunity for the building to operate as a connector between existing and emerging urban activities.

In addition, the spatial characteristics of the existing structure offer significant transformation potential. While the deep floor plate currently limits daylight penetration, its depth and large structural spans provide the capacity for new sectional relationships, collective environments, and diverse spatial experiences. Through targeted interventions, the existing building can evolve from a mono-functional office block into an active urban environment capable of supporting a broader range of everyday activities.

1.4. RESEARCH QUESTION

" How can the SFF BosCH Gebouw be transformed into a hybrid environment that supports living, working, and collective occupation within the existing structure? "

- How can different degrees of privacy be organised within a hybrid environment?
- How can daylight be introduced into the deep floor plate?
- How can the building establish a stronger relationship with the park and the new redevelopment phase of Strijp-S?
- How can the industrial identity of the existing prefabricated structure be maintained throughout the transformation?

1.5. METHODOLOGY AND RESEARCH-BY-DESIGN APPROACH

This project follows a research-by-design methodology in which analysis and design development continuously informed one another throughout the process. Rather than beginning with a fixed architectural solution, the project gradually evolved through iterative spatial testing, sectional studies, daylight explorations, and continuous evaluation of the existing building conditions.

The research began within the collective framework of the Heritage Graduation Studio, which investigated post-war prefabricated concrete office buildings in the Netherlands and their potential for adaptive reuse. Through comparative analysis focusing on spatial organisation, structural systems, material condition, perception, and transformation capacity, the SFF Bosch Gebouw was selected as the individual case study.

Initial investigations focused on understanding the existing spatial and environmental limitations of the building, particularly the deep-plan floor plate, centralised circulation core, and limited relationship between the interior and the surrounding public realm. At the same time, the ongoing redevelopment of Strijp-S and the changing urban role of the building became an important part of the research process.

Through iterative daylight studies and sectional explorations, the project gradually shifted from a conventional mixed-use conversion toward a broader investigation of collective space, environmental transitions, and spatial permeability. Rather than functioning solely as technical interventions, strategies such as subtraction, voids, sectional openings, and façade modifications were continuously tested as spatial mechanisms capable of reorganising circulation, occupation, and relationships between collective and individual space.

Material investigation focused on the prefabricated concrete façade system, construction logic, and existing material condition in order to evaluate possibilities for repair, reuse, and environmental upgrading. Following the approach described by Petzet and Heilmeyer (2012), the existing building was understood not as obsolete material to be replaced, but as a resource capable of adaptation and continued use.

Throughout the design process, the role of the collective core also evolved significantly. Initial explorations focused on a more internally organized collective atrium connected directly to surrounding programs. However, through ongoing spatial testing, the project gradually developed toward a more open and semi-exterior condition operating as an interior urban landscape mediating between living, working, and public occupation through layered thresholds and environmental continuity.

The methodology therefore relied heavily on drawing, modelling, diagramming, and iterative spatial testing as tools for evaluating environmental performance, spatial relationships, collective conditions, and sectional transformation within the existing concrete structure.

2. THEORITICAL FRAMEWORK

2.1. HYBRIDITY AND COLLECTIVE SPACE

The term "hybrid" originates from biology, where it describes the formation of a new condition through the combination of different systems or entities. In Pamphlet Architecture 11: Hybrid Buildings, Kaplan (1985) traces the concept of hybridity from genetics toward architecture, describing hybrid buildings as structures capable of combining multiple systems, programs, and urban relationships within a single architectural framework.

Kaplan (1985) describes hybrid architecture as a condition in which **independent systems** merge into more complex **collective wholes**. Similarly, Koolhaas (1995) defines large-scale buildings as **"cities within the city,"** capable of accommodating diverse forms of urban life within continuous architectural systems rather than isolated functional zones. In these conditions, circulation, infrastructure, collective space, and program become interconnected rather than clearly separated.

Within architectural discourse, hybridity extends beyond the simple coexistence of functions. **Hybrid buildings** are not defined solely through mixed-use organisation, but through the interaction, overlap, and interdependence of spatial, social, and environmental systems. Rather than organising activities through rigid separation, hybrid environments allow **different forms of occupation** to coexist **within continuous spatial frameworks.**

As demonstrated by projects such as De Rotterdam (OMA), Linked Hybrid (Steven Holl), and 8 House (BIG), **hybrid environments** can be organised through **different spatial mechanisms**, including vertical stacking, horizontal connectivity, and continuous circulation systems. Despite their different configurations, these projects share a common objective: the **creation of relationships between distinct programmes and user groups**.

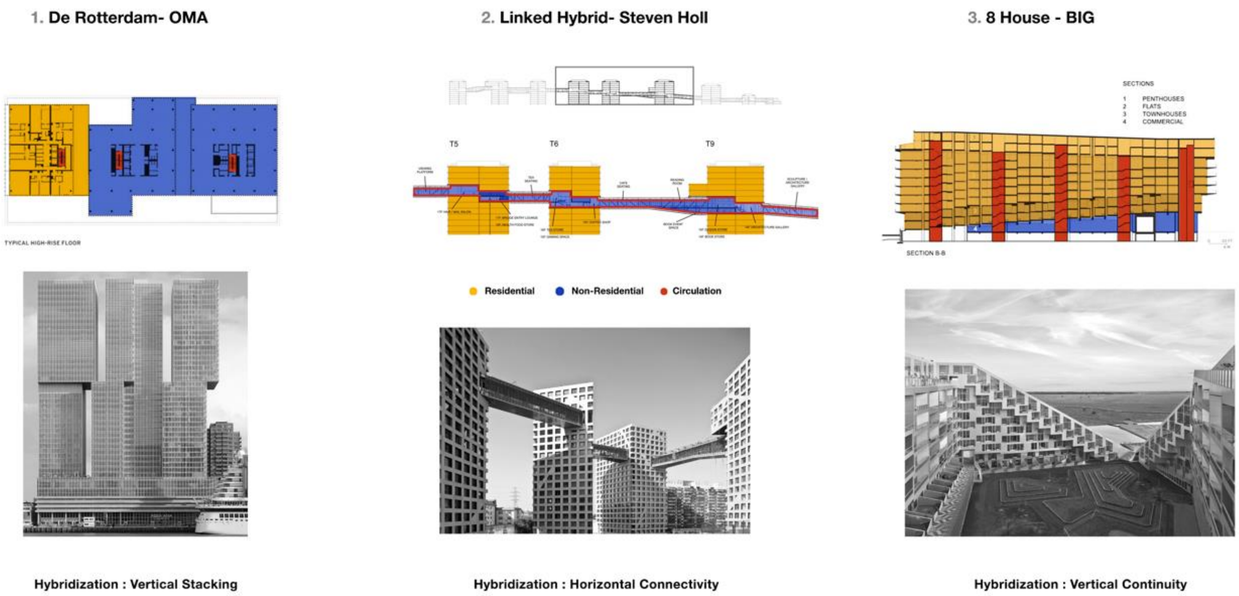


Figure 4: Hybridization Reference Projects

For this relationships to function, hybrid environments require transitional spaces.

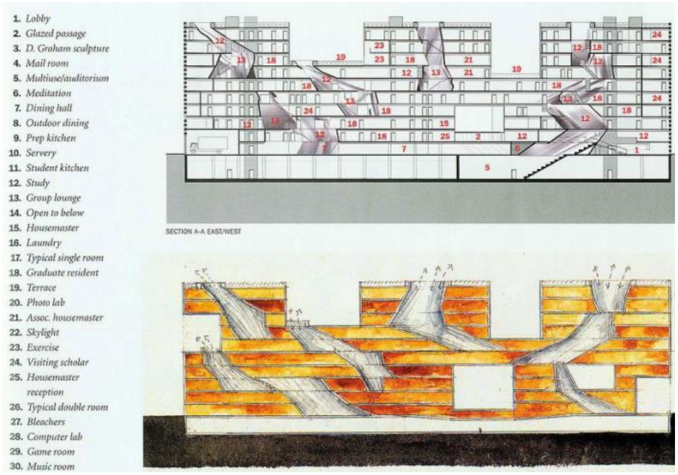
These spaces are capable of accommodating varying degrees of interaction, collectivity, and privacy within the same architectural framework, mediating between distinct spatial and social conditions.

This understanding resonates with Elizabeth Grosz's conception of space as a dynamic field rather than a fixed entity. Boundaries are not understood as stable divisions but as continuously negotiated conditions capable of accommodating change and difference (Grosz, 2001). Similar ideas can be found in the work of Aldo van Eyck , who emphasised the importance of in-between realms as spaces of encounter, and in Robert Venturi's appreciation of complexity, ambiguity, and layered spatial relationships (Venturi, 1966).

2.2. SECTION AS A SPATIAL GENERATOR

The architectural **section** plays an important role in organizing and forming this hybrid environments , as it acts as a generator a social condition, establishing visibility between spaces and define the framework through which relationship between **light** and **space** can be organized.

As discussed by Steven Holl, **light** contributes to the **perception** and **experience** of architectural space, influencing orientation, movement, and occupation. In deep-plan buildings, the distribution of daylight becomes directly connected to the organisation of space.



Simmons Hall, Steven Holl

Figure 5: Light as a Generator of Space – Steven Holl

According to Lewis, Tsurumaki and Lewis in Manual of Section (2016), the section should not be understood merely as a technical representation of a building but as a **design tool** capable of organising spatial, social, and environmental relationships. Unlike the plan, which primarily describes horizontal arrangements, the section reveals vertical connections and spatial hierarchies, which are fundamental ingredients to the a building's identity.

3. SPATIAL ANALYSIS

3.1. STRIJP-S AND URBAN TRANSFORMATION

Strijp-S is a **former industrial campus** located in Eindhoven and originally developed by Philips in the early twentieth century. Established in 1916 as part of the company's expanding manufacturing operations, the area functioned as a **self-contained production environment**. Strijp-S became one of the most important industrial complexes in the Netherlands and remained inaccessible to the public for much of its history.

Philips N.V./Philips Company Archives

Figure 6: Historic Industrial Philips Campus

Following the **relocation of Philips' production** activities during the 1990s and early 2000s, many of the industrial buildings became **vacant**. Rather than pursuing large-scale demolition, the municipality of Eindhoven and development partners initiated a **long-term Redevelopment strategy** focused on adaptive reuse and the integration of the former industrial enclave into the surrounding city. The **SFF** is one of the buildings that **remained** throughout these redevelopment phases and underwent **renovation** in 2011, continuing to operate primarily as an office building.

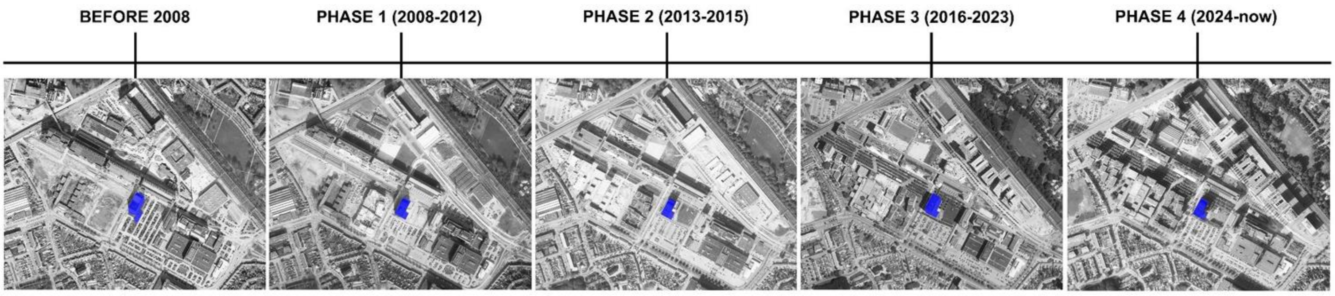


Figure7: Strijp-S Redevelopment Phases

The transformation of Strijp-S has been implemented through successive redevelopment phases, gradually **introducing new residential, cultural, educational, and commercial functions** into the area. Former factory buildings have been converted into housing, offices, creative workspaces, and public facilities, transforming the district into a mixed urban environment.

Today, Strijp-S continues to evolve. The ongoing **Redevelopment Phase 4** is largely focused on the plots located south of the SFF Bosch Gebouw, introducing **new residential programmes** and further intensifies the area’s mixed-use character.

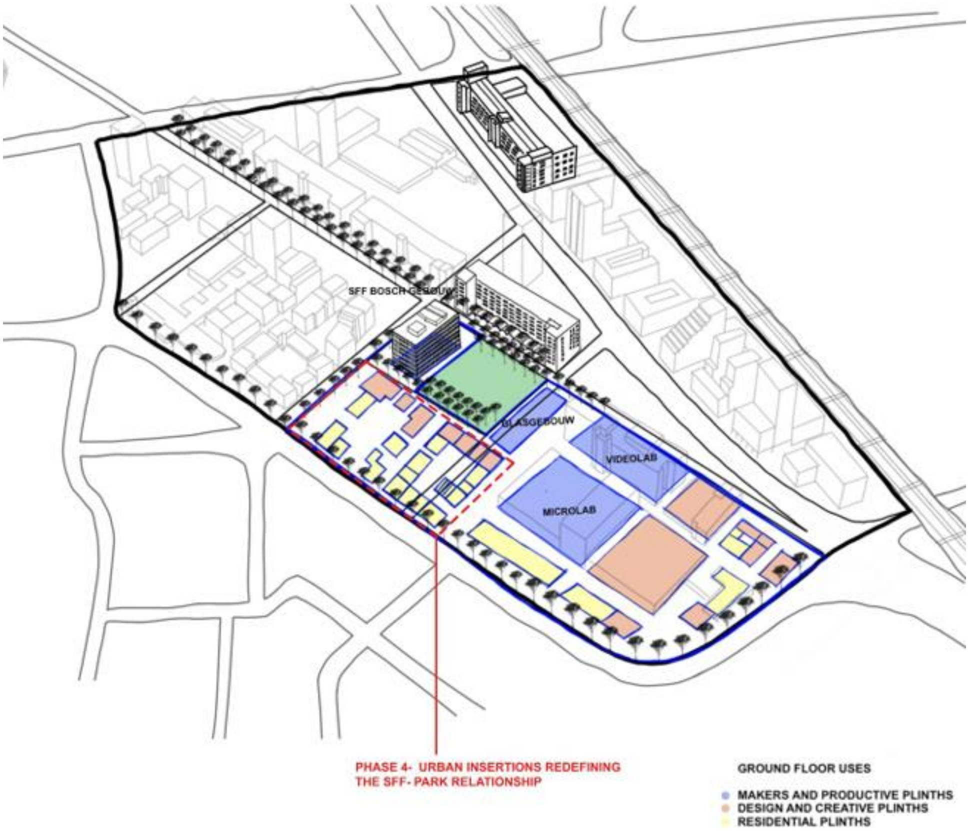


Figure 8 : Urban Plan of Strijp-S Redevelopment Phase 4

3.2. INDUSTRIAL NETWORK AND SPATIAL CONNECTIVITY

During its industrial operation, Strijp-S functioned as a **connected production environment** rather than a collection of independent buildings. Manufacturing, research, storage, and distribution were organised as parts of a larger system, allowing materials, energy, and information to move efficiently across the site.

This logic was expressed through a **network of bridges, elevated walkways, and utility infrastructures** connecting different buildings within the campus. The Leidingstraat, together with a series of physical connections between neighbouring buildings, established strong relationships between different parts of the industrial complex and reinforced its character as an **interconnected network**.

As a result, the spatial organisation of Strijp-S was defined not only by individual buildings but also by the connections between them. **Connectivity** therefore became an **essential component of the industrial identity** of the area and remains visible in its physical structure today.

Figure 9 : Industrial Connectivity Network in Strijp-S

Personal Photo I Site Visit , 7.1.2026

Figure 10 : SFF B.G and ApparatenFabriek Connection Bridge

4. EXISTIING BUILDING CONDITION

4.1. EXISTING STRUCTURAL AND SPATIAL LOGIC

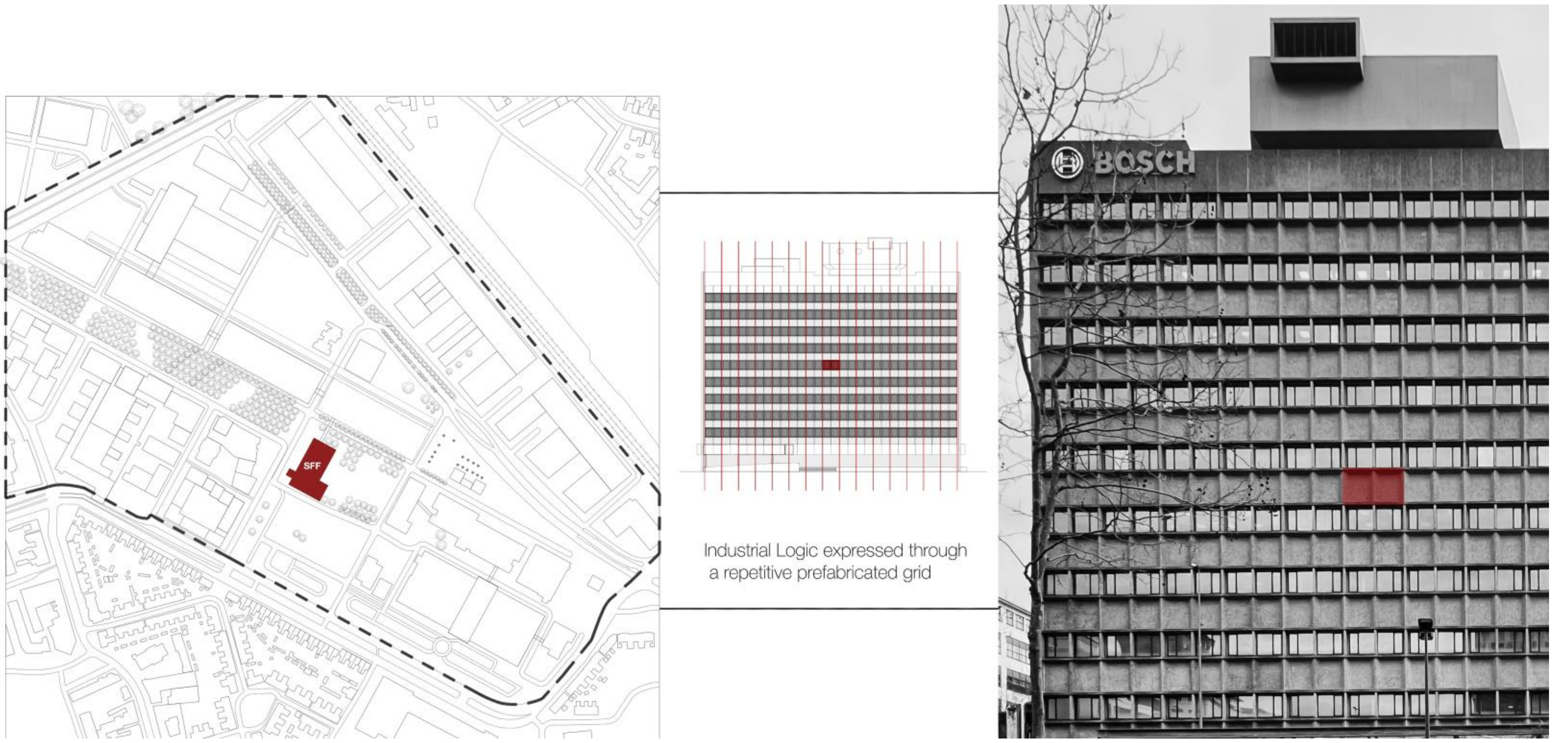


Figure 11 : Prefabricated Façade System and Structural Grid

The SFF Bosch Gebouw represents a typical prefabricated concrete system, defined by a rigid structural grid and repetitive façade panels.

The façade is a dry-assembled dismountable system and It consists of **510 prefabricated panels**.

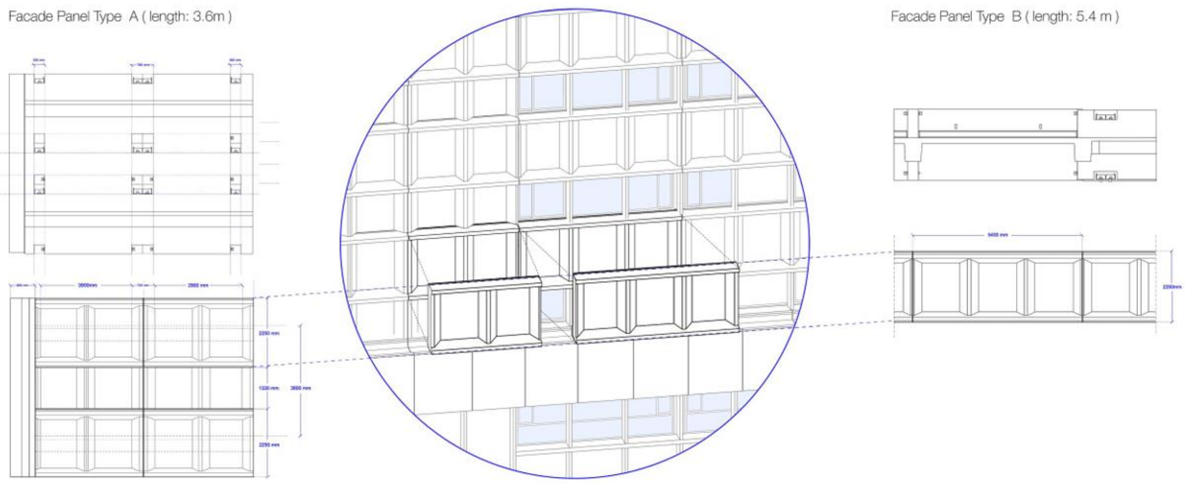


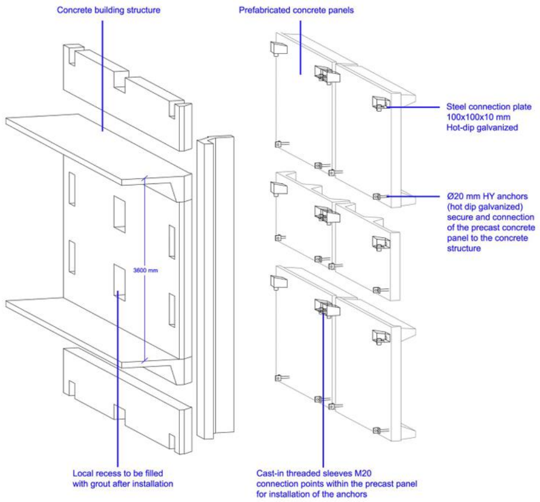
Figure 12 : Recurring Prefabricated Panel Variations

These panels are organized in **two recurring variations**, a shorter and a longer type, measuring 3.6 and 5.4 meters accordingly and both with high of 2.25 meters. These panels are **not load-bearing elements** . They are self-supported prefabricated panels, dry assembled onto the primary concrete structure.

The shorter panel type are connected to the concrete structure through local recess. After installation these recesses are filled with grout. The panels are secured to the concrete structure through steel connection plates and galvanized anchors.

The longer panel type with a length of 5.4 meters follows the same **dry- assembled logic**, but it is connected through an additional cast-in-situ concrete interface element, while remaining **independent from the primary load-bearing structure.**

Facade Panel Type A (length: 3.6m)



Façade Panel B (length: 5.4 m)

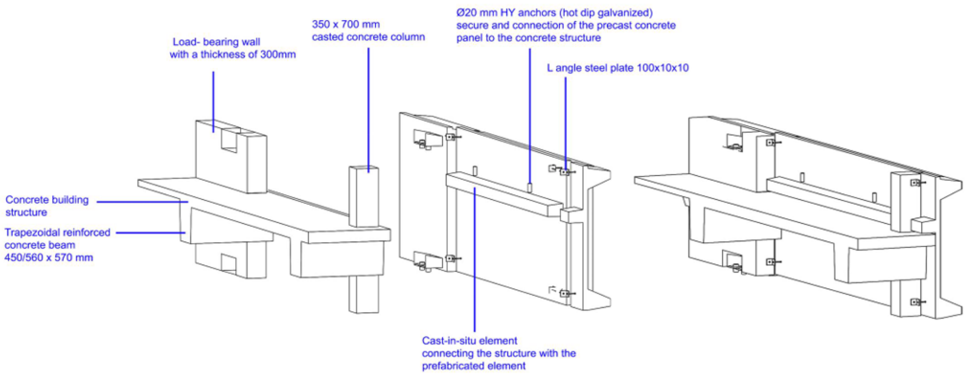


Figure 13 : Dry-Assembled Panel Connection System

Although , the prefabricated concrete façade is dismountable and allows interventions, it is not an interchang eable skin.

As shown in the drawing, the **panel repetitions are directly aligned with the perimeter structural grid** of the building and this ties the façade directly to the building's industrial logic.

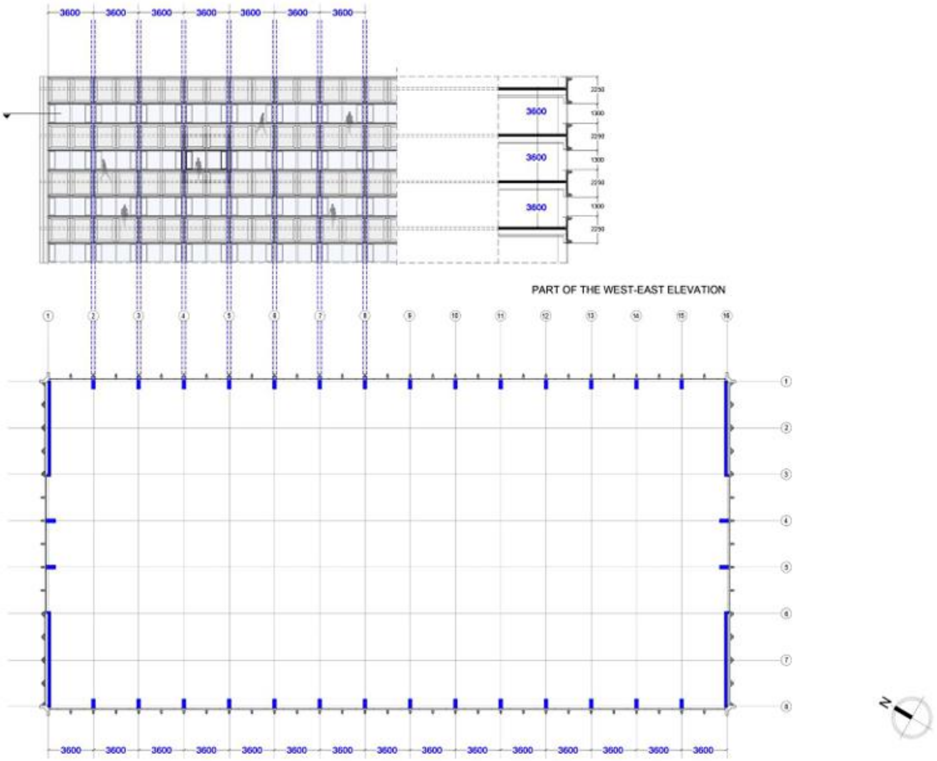


Figure 14 : Facade Structural Grid and Perimeter Column Distribution

Regarding the load-bearing structural system of the SFF Bosch Gebouw, the column distance differs between the perimeter and the interior of the building. While the perimeter structure is denser and aligned with the façade grid (3.6m), the interior is characterized by larger spans (5.4, 7.2m).

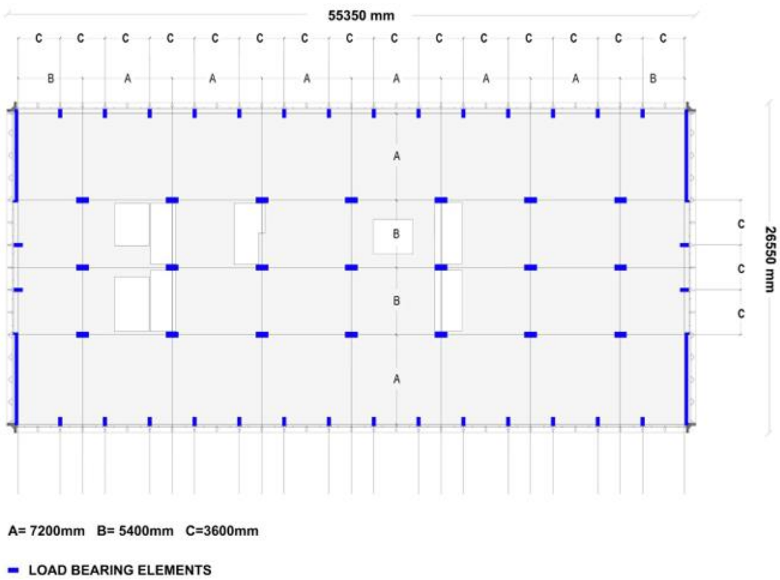


Figure 15 : Load-Bearing Structural System

The slabs and ribs of the building are cast monolithically with the trapezoidal beams and the loads are transferred through column-beam system.

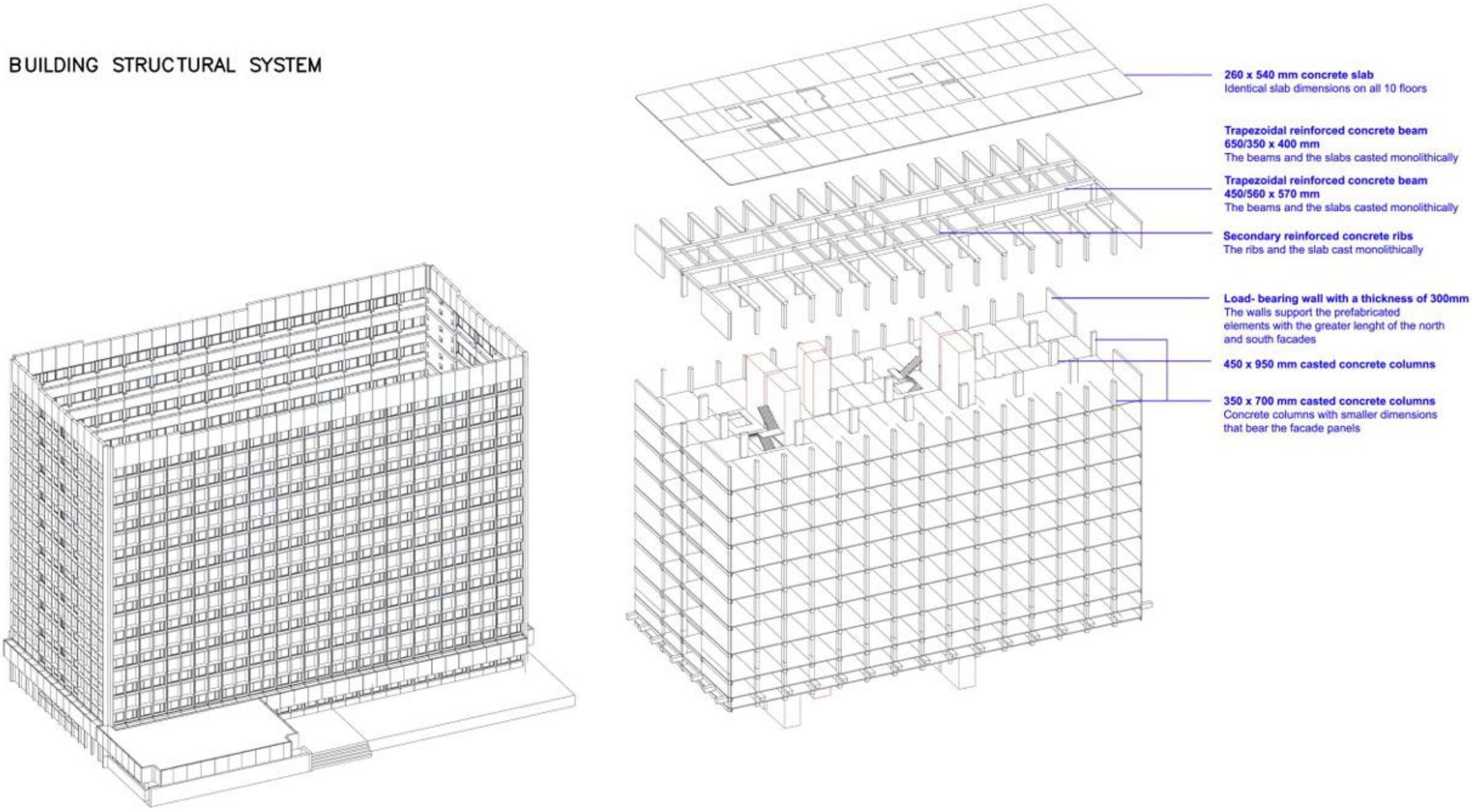


Figure 16 : Exploded Axonometric of the Structural System

4.2. DAYLIGHT AND SPATIAL LIMITATIONS

The **existing layout** is **repeated across all floors** of the building, resulting in a series of spatial and environmental limitations.

Figure 17: Typical Existing Floor Layout

Combined with the deep floor plate, the current organisation **restricts daylight penetration** and reduces the overall **spatial quality** of the interior environment.

Natural light is primarily limited to the **perimeter of the building**, while the **central core** relies heavily on **artificial lighting**. As a result, large portions of the floor plan lack visual connection to the exterior and experience poor environmental conditions.

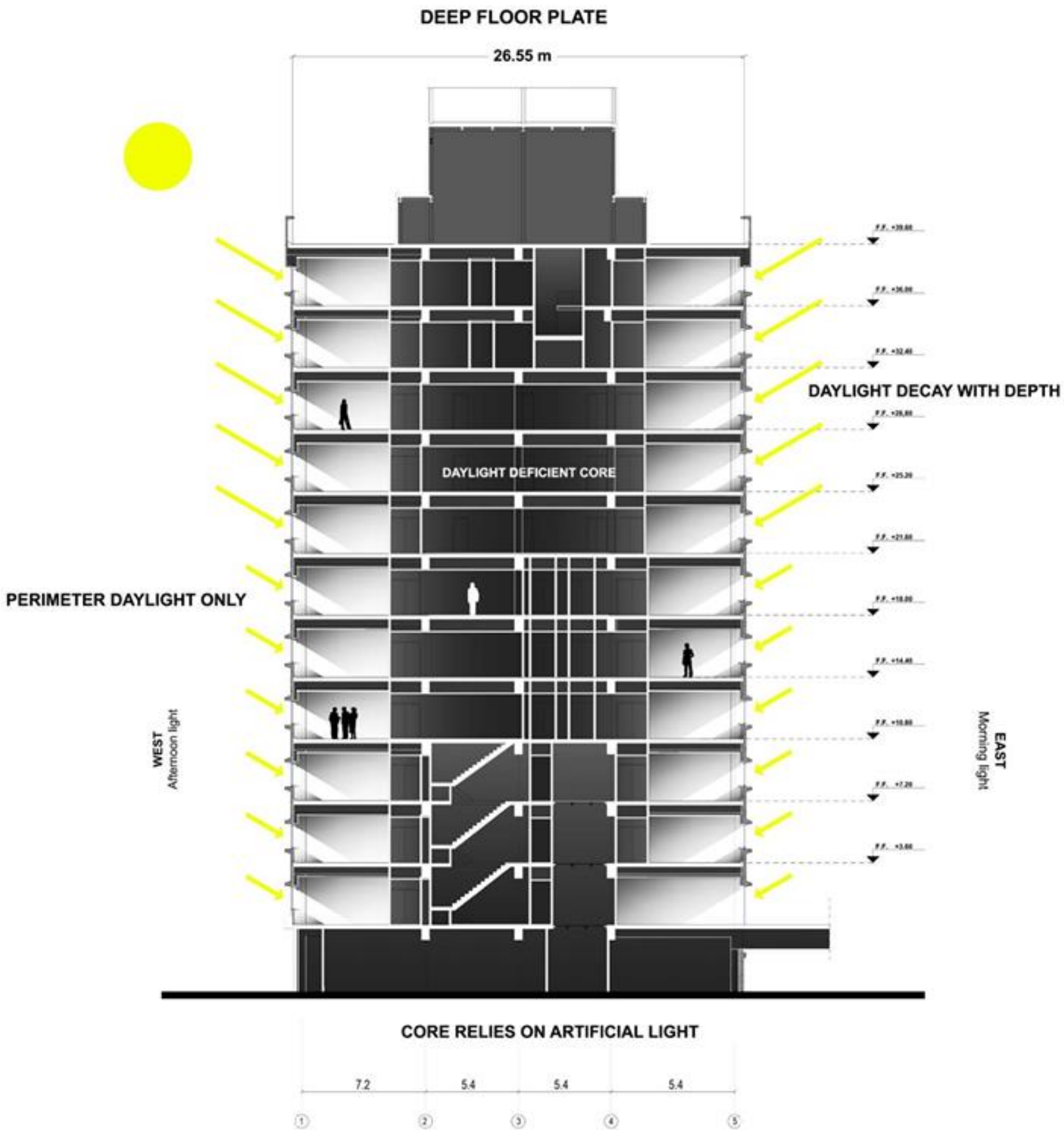


Figure 18: Daylight Limitations of the Existing Building

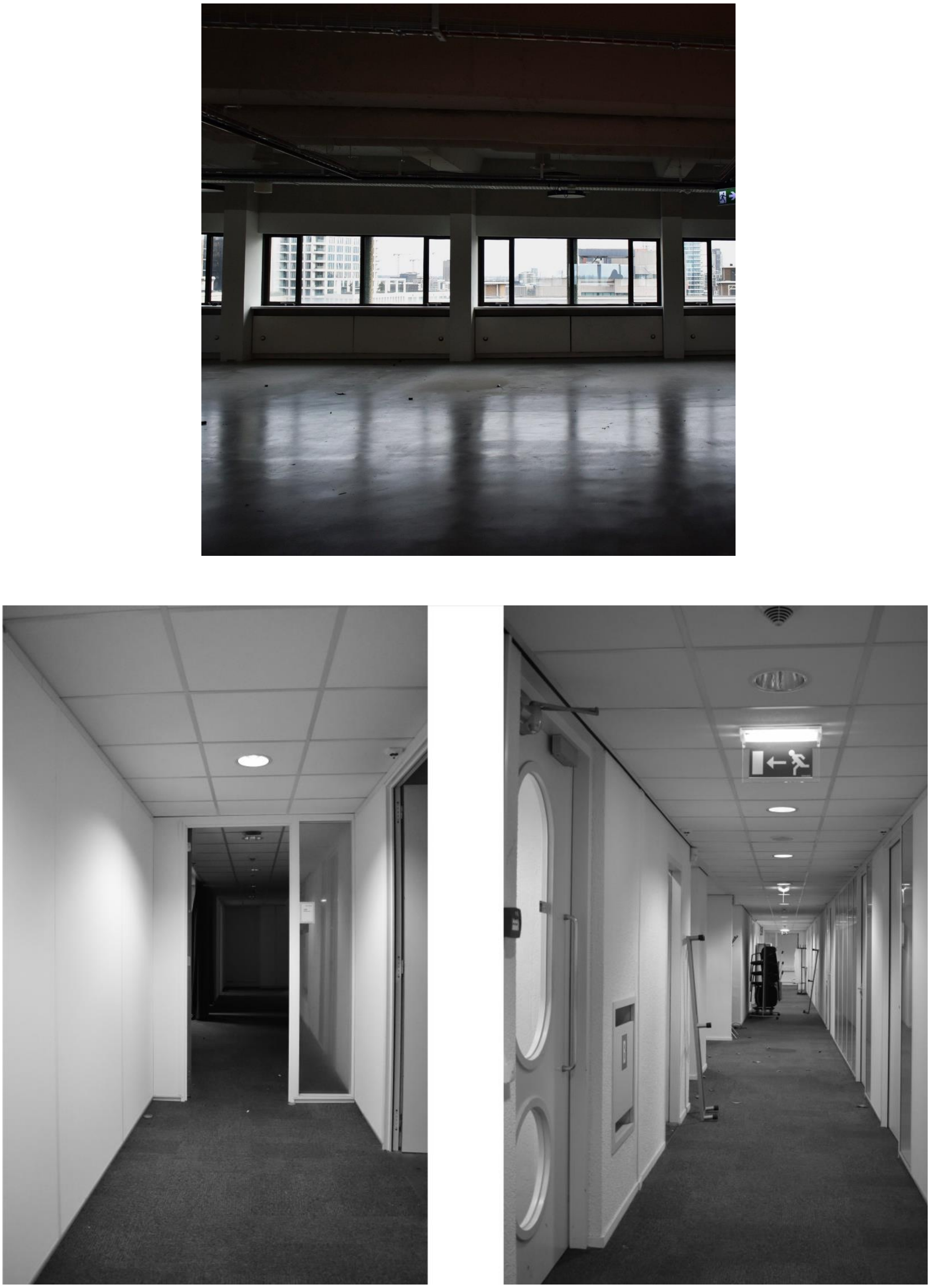


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Figure 19: Existing Interior Spatial Conditions

In addition, the existing office layout creates **fragmented circulation routes** and together with the **suspended ceiling system**, this contributes to **enclosed** and repetitive spatial conditions.

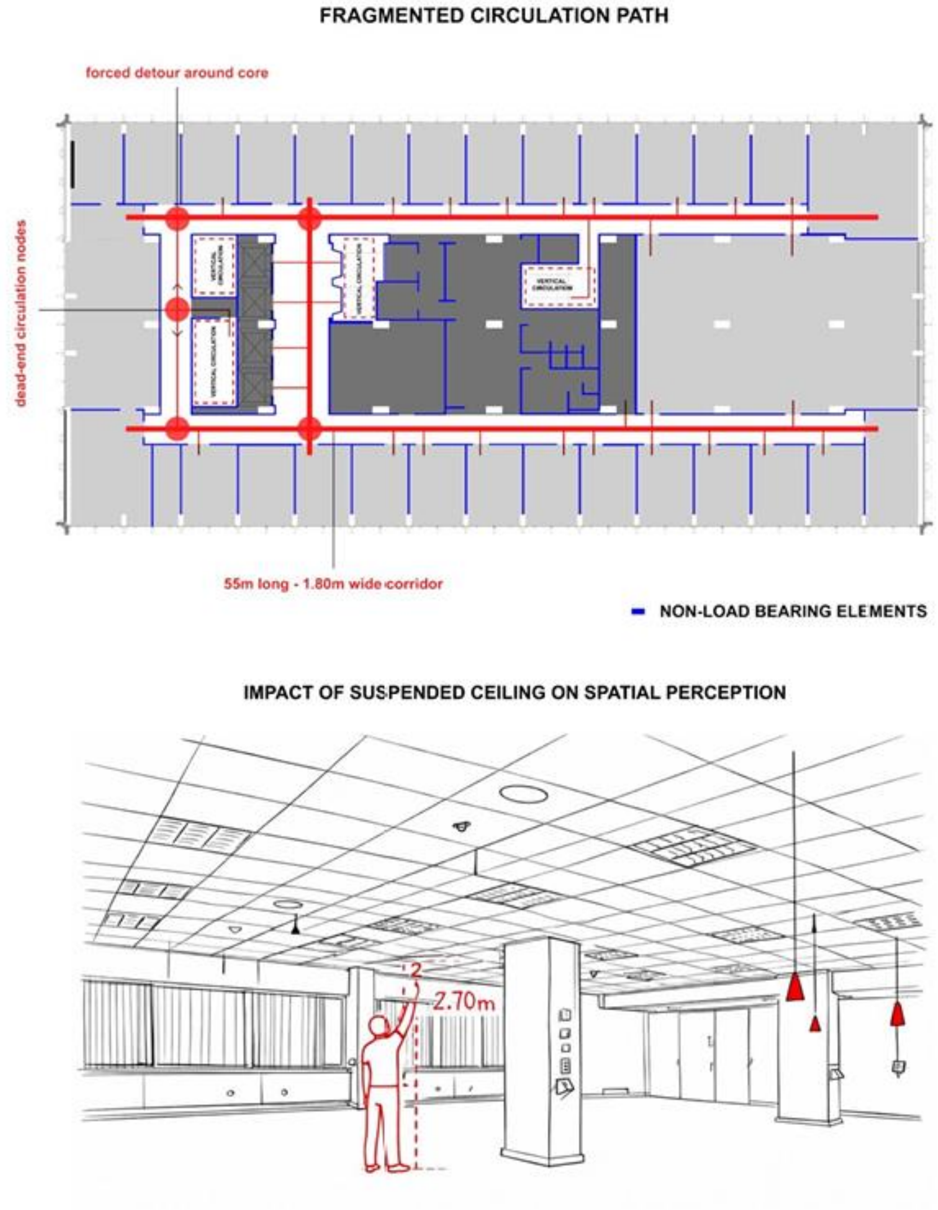

Figure 20: Fragmented Circulation and Enclosed Spatial Conditions

However, these spatial limitations are layout related rather than structural and therefore changeable.

4.3. TRANSFORMATION POTENTIAL

The existing concrete structure of the SFF Bosch Gebouw contains qualities that allow the building to accommodate transformation without requiring major structural replacement. The **regular structural grid, large spans, and repetitive construction system** create a stable framework capable of supporting new spatial configurations and sectional interventions within the existing building.

During site visits, partially dismantled office floors revealed the spatial openness of the concrete structure beyond the suspended ceilings and interior finishes. The exposure of slabs, beams, and technical layers demonstrated the **capacity** of the existing frame to **support greater spatial height, visual openness, and alternative forms of occupation** than those imposed by the original office layout.

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Figure 21: Spatial Potential of the Existing Structure

It is worth mentioning that the damage assessment indicates that the existing prefabricated **façade system** remains largely **intact**. Most identified issues are limited to surface deposits, local repairs, and isolated cracks, while no extensive structural deterioration was observed. This suggests that the existing façade can largely be retained and **adapted rather than replaced**.

Consequently, the transformation strategy focuses on **targeted interventions**, including selective panel removal, increased transparency, and material reuse, while preserving the material character of the existing building.

5. DESIGN POSITION

5.1. REPROGRAMMING FOR HYBRID OCCUPATION

The initial sketches explored how the existing office building could evolve into a more **diverse urban environment**. Rather than treating residential, working and collective functions as separate entities, the studies investigated how these programs could overlap and interact within the same structural framework.

The concept of a **"city within the city"** emerged from this exploration. The building was understood as a vertical urban system composed of **different degrees of privacy**, where collective spaces act as connectors between living and working environments. These intermediate spaces became a key design interest, creating opportunities for encounter, exchange and shared occupation.

The sketches therefore established the foundation for the project's hybrid occupation strategy, where the value of the building lies not only in the individual programs it accommodates, but also in the relationships created between them.

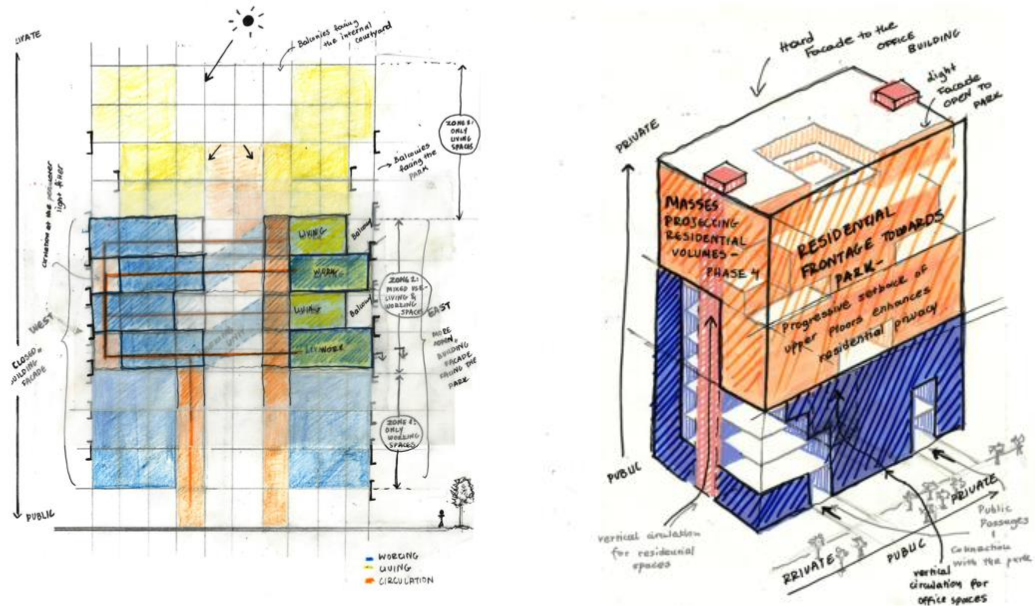
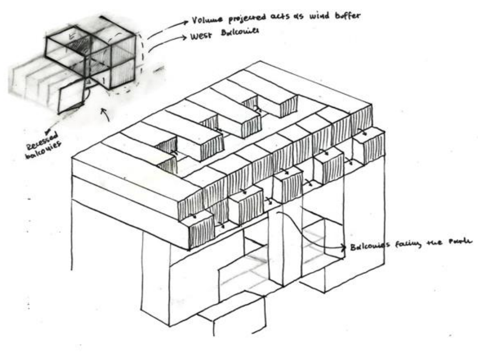
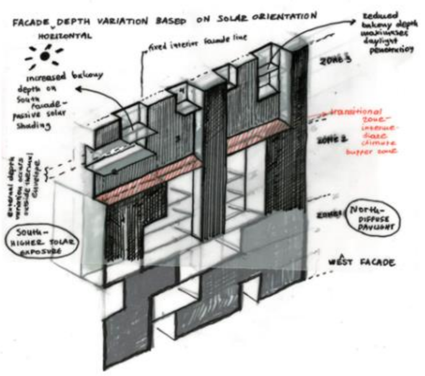


Figure 22: Early Hybrid Occupation Explorations



Residential modules experimentation responding to the environmental needs



Flush and receesed balconies different quality on the east facade and different privacy levels

Early design investigations **explored** the possibility of a **horizonticahly connected hybrid core**. Different degrees of publicness were distributed on the same level throughout the building, while residential and collective functions were directly interconnected.

However, this approach revealed **several limitations**. The direct integration of hybrid and residential spaces reduced the distinction between collective and private domains, creating challenges related to privacy and residential comfort. At the same time, the hybrid spaces remained largely internalized, limiting their relationship with the surrounding urban environment.

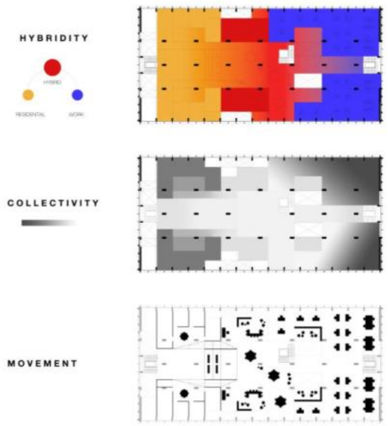


Figure 23: Horizontal Hybrid Core Investigation

As the design developed, the strategy shifted towards a **clearer spatial separation between the residential and hybrid domains.** Through selective **slab removals** and the introduction of **intermediate circulation zones**, the residential floors became physically detached from the hybrid core while maintaining **visual connections** across the voids. Access to the hybrid core is now mediated through the transitional hybrid spaces and the main collective circulation system, creating a **gradual sequence from private to collective environments.** This approach preserves opportunities for social interaction while establishing clearer thresholds and improving residential privacy.

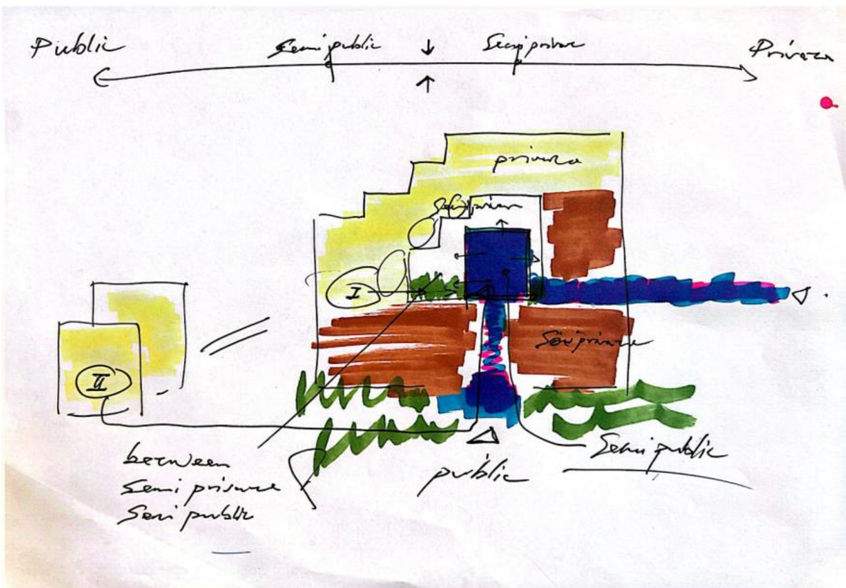


Figure 24: Transition from Collective to Private Spaces

5.2. DAYLIGHT AS A SPATIAL DRIVER

The daylight studies began with the identification of one of the building's main limitations: its **deep floor plate**. While the perimeter receives sufficient natural light, the central zones remain largely disconnected from daylight, resulting in poor spatial quality and limited opportunities for occupation.

Early sketches explored how daylight could become a **generator of spatial transformation**. Different strategies of slab subtraction, vertical voids and sectional openings were tested to evaluate how natural light could penetrate deeper into the building. These investigations revealed that daylight could not be addressed solely through façade interventions but required a reconfiguration of the building section.

The studies ultimately established daylight as the **primary design driver**, informing the location of voids, collective spaces and the development of the hybrid core.

As the studies developed, daylight investigations became increasingly linked to **the building's orientation.** Different sectional strategies were tested to evaluate how sunlight could penetrate the deep floor plate from the south façade, where solar exposure is most favorable. A series of **stepped massing configurations were explored**, examining the relationship between slab removals, solar access and spatial quality.

These studies also investigated how the recessed residential terraces generated by the stepped massing could contribute to daylight penetration. **Beyond functioning as private outdoor spaces**, the **terraces** create opportunities for **sunlight** to reach deeper levels of the building and improve illumination within the hybrid and collective spaces located behind them.

The final daylight strategy therefore emerged through the combination of **orientation-based façade transformations, sectional subtractions and stepped massing interventions**, allowing natural light to become a key organizational element of the project.

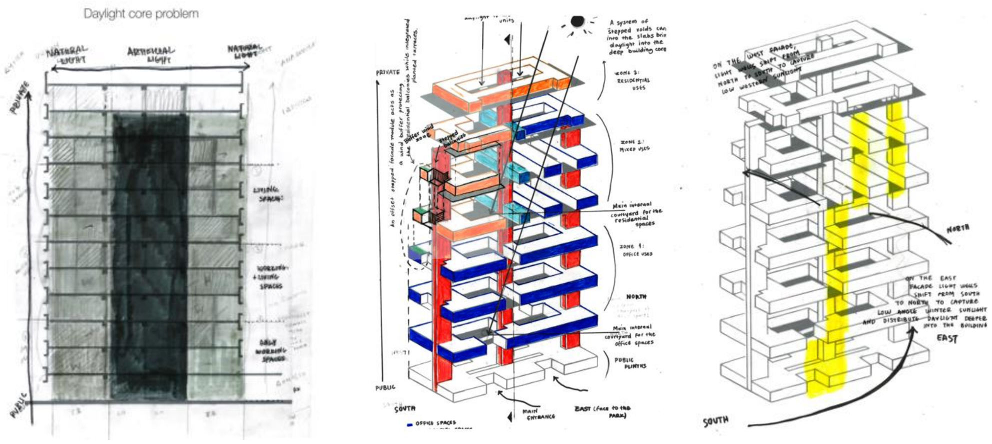


Figure 25: Daylight Strategy Development Process

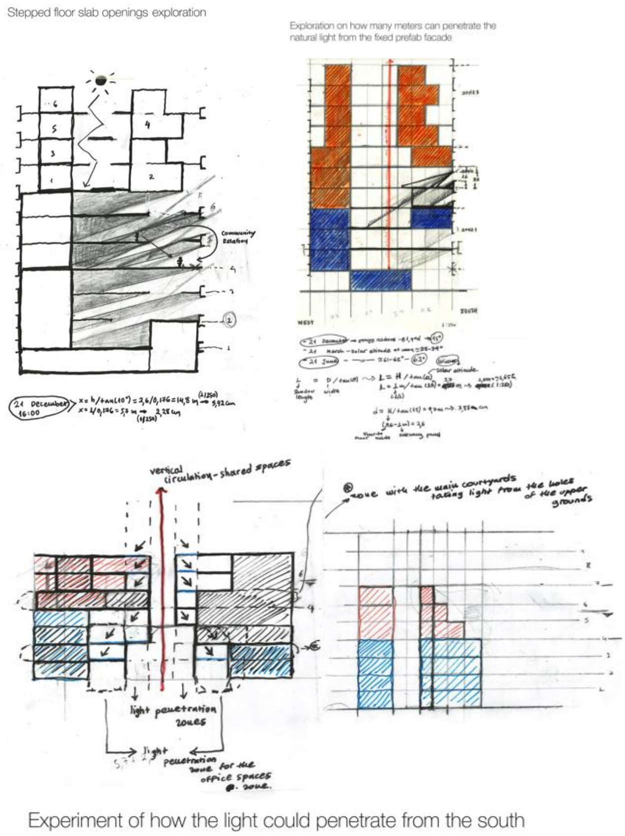


Figure 26: Early Daylight Penetration Studies

5.3. CONTEXT DNA AND SPATIAL ACTIVATION

Initial reuse explorations investigated multiple applications for the removed prefabricated façade panels. These studies informed the final reuse strategy, which focuses on integrating the recovered elements within the park landscape.

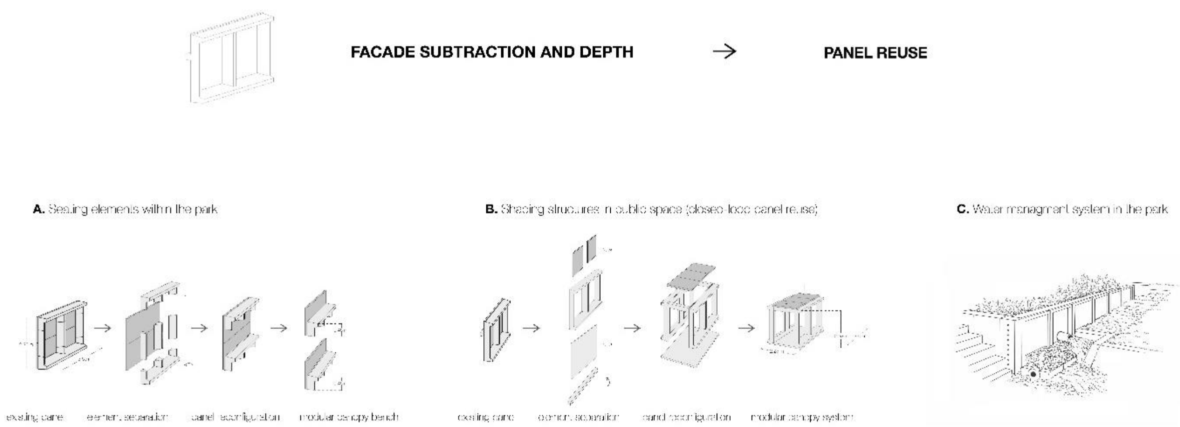


Figure 27: Prefabricated Panel Reuse Explorations

6. RESEARCH TOOLS

Urban analysis was conducted through historical mapping and height studies, revealing the relationship between age, verticality and urban prominence. Comparative perception analysis examined professional publications, popular press and public discourse, highlighting contrasting narratives surrounding the building.

The qualitative perception analysis was further developed through a series of thematic diagrams structured along positive and negative axes. These diagrams synthesised statements and references derived from architectural articles, interviews, institutional and online platforms, reflecting the perspectives of multiple stakeholder groups, including professionals, popular press, local users and online commentators.

Based on this structured qualitative mapping, the recurring patterns of attention and perception were subsequently normalised and translated into a comparative framework. This process resulted in a **line chart** that synthesises the relative **level of interest** attributed to the Klokgebouw, the Apparatenfabriek and the SFF Bosch Gebouw across the successive redevelopment phases of Strijp-S.

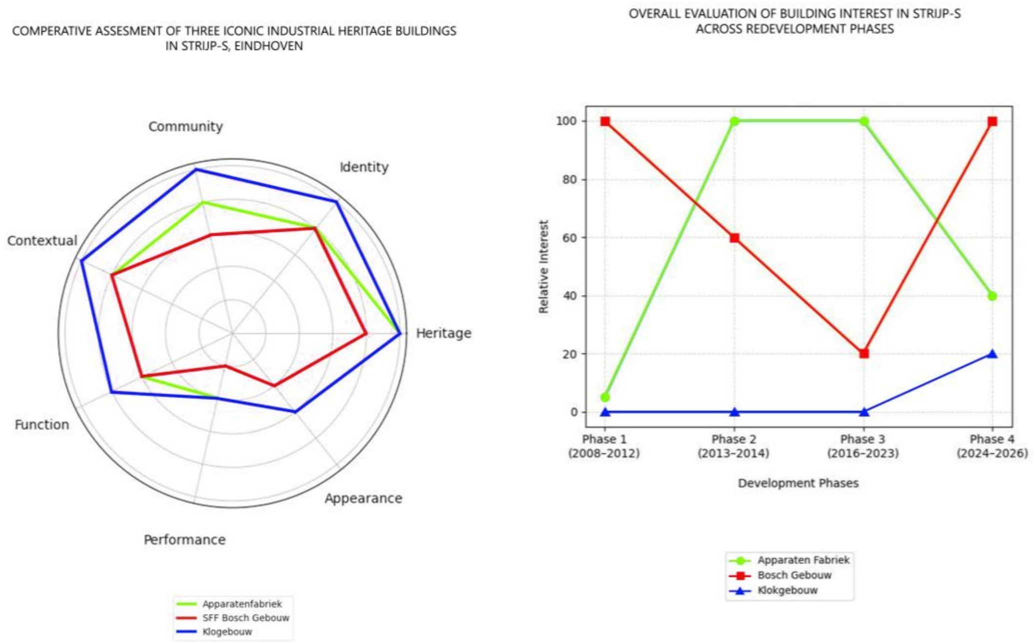


Figure 28: Comparative Perception Analysis of Strijp-S Industrial Buildings

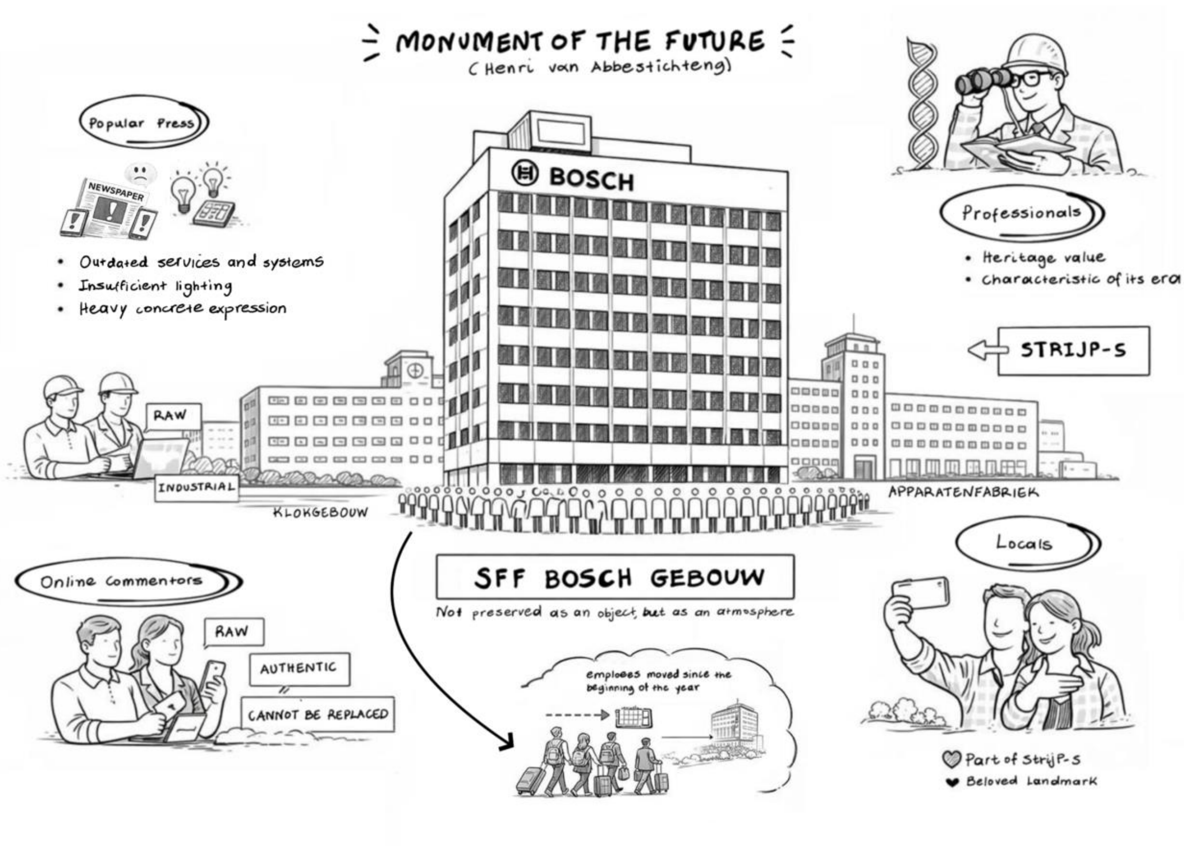


Figure 29: Stakeholder Perception Mapping

Light Analysis Research Tools

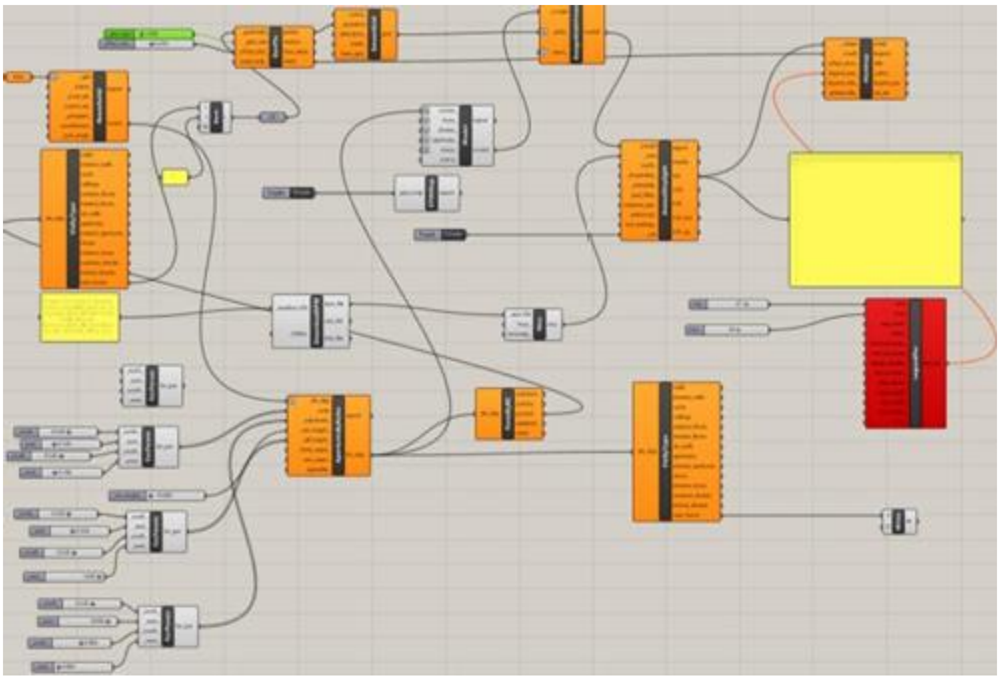


Figure 30: Spatial analysis focused on daylight penetration to address the daylight problem of the SFF Bosch Gebouw

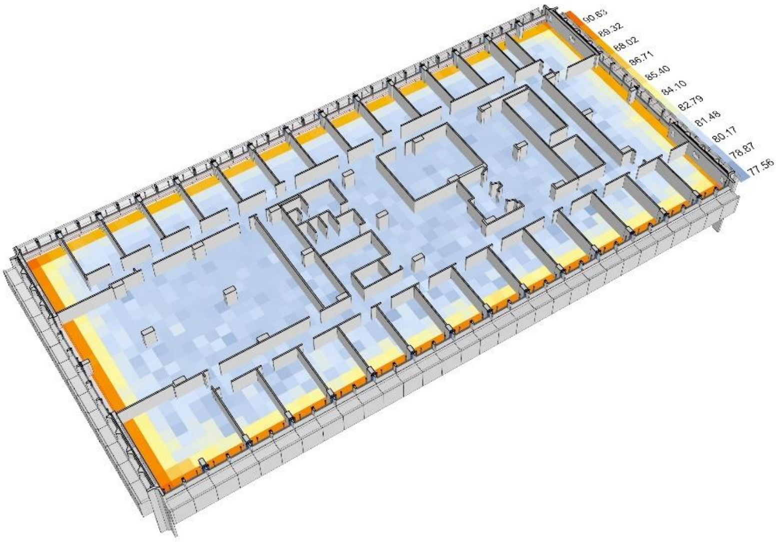


Figure 31: Spatial analysis focused on daylight penetration to address the daylight problem of the SFF Bosch Gebouw (location-based analysis developed in Grasshoper)

Material analysis investigated the prefabricated concrete panels, their assembly logic and observed damage patterns, based on original technical drawings obtained from the Municipality of Eindhoven. To identify the aggregate and binder composition of the existing concrete, the study further relied on Historic Concrete: From Concrete Repair to Concrete Conservation by Heinemann (2013), which was used as a reference framework to interpret material characteristics documented in the drawings.

Daylight-Driven Massing Exploration

This study explored how different façade subtractions and massing modifications could improve daylight penetration within the deep floor plate. By testing the building in relation to solar orientation, the analysis evaluated which interventions could most effectively introduce natural light into the interior

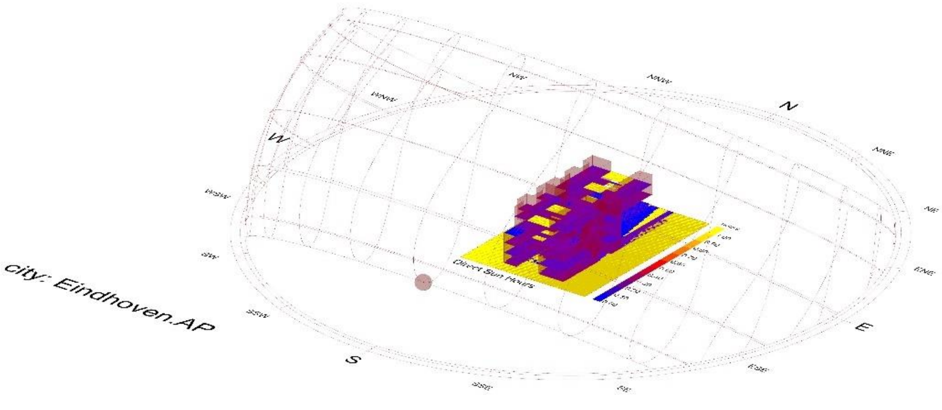


Figure 32: Winter Solstice 21/12 12:00

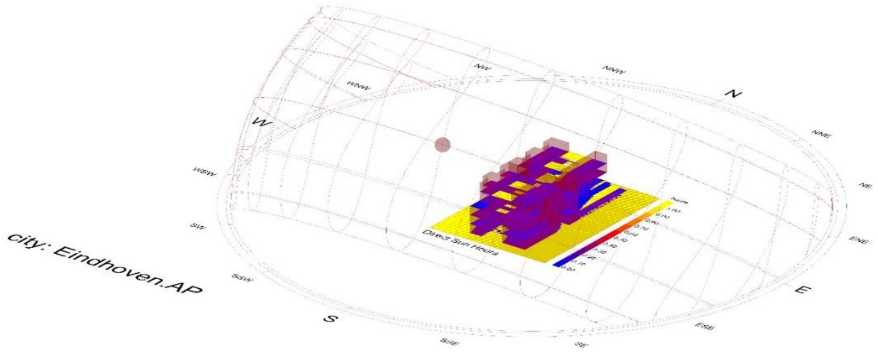


Figure 33: Equinox 21/3 12:00

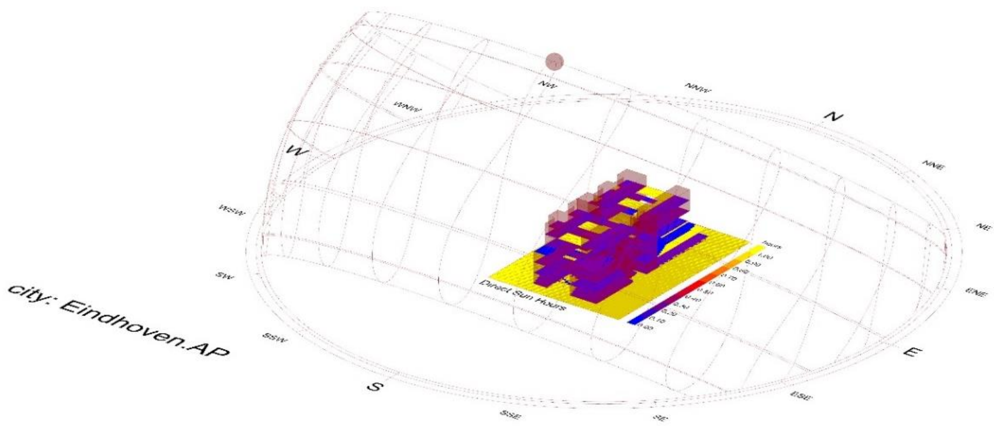


Figure 34: Summer Solstice 21/6 12:00

Programmatic Subtraction Study

Physical model testing how different programmatic zones (office and residential) could be organized through strategic subtractions within the existing structural framework.

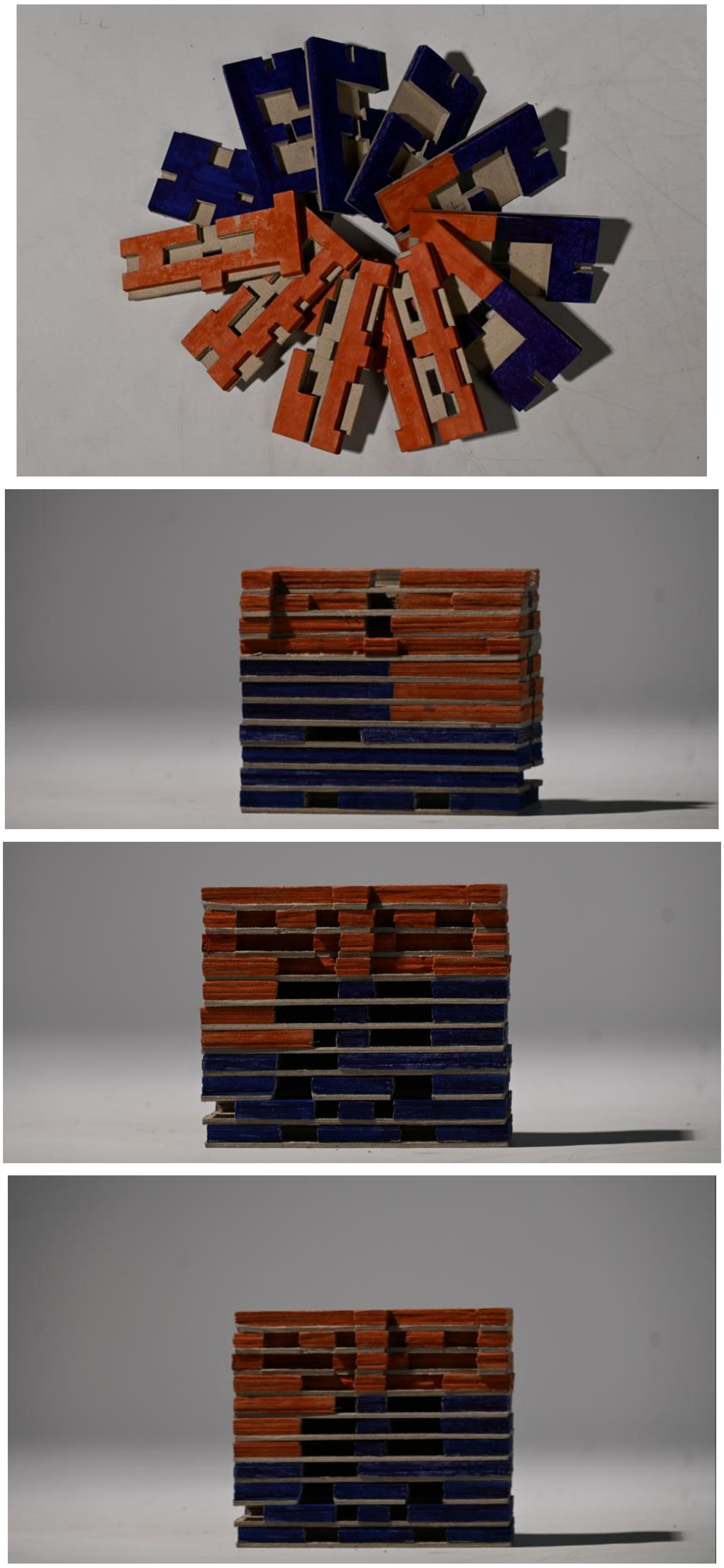


Figure 34: Programmatic Subtraction Model Study

7. CONCEPT DEVELOPMENT

7.1. A “CITY WITHIN THE CITY”

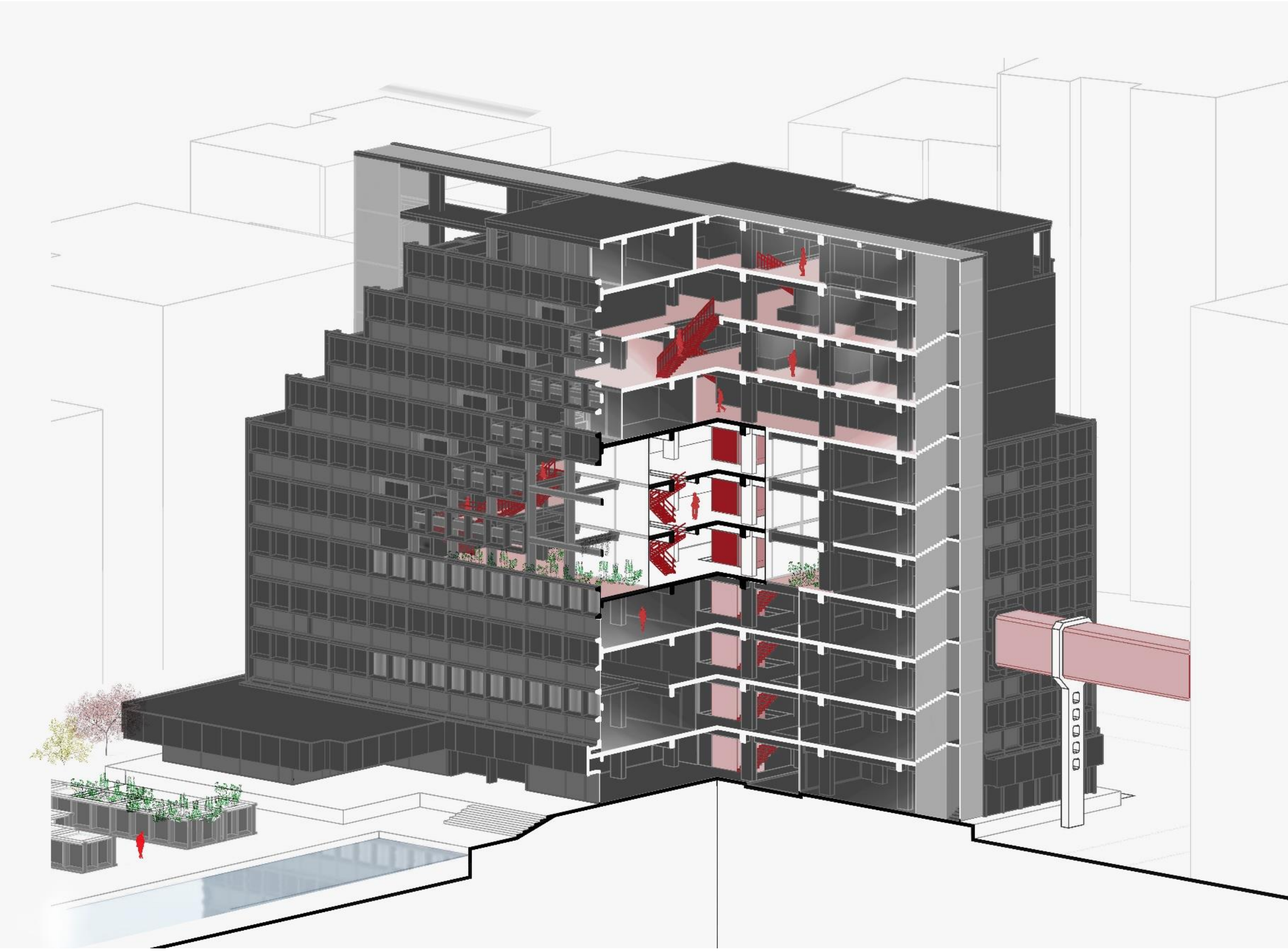


Figure 35: The “City Within the City” Concept

The concept of a **“City within the City”** forms the organizational framework of the proposal. The project introduces a vertical urban system where living, working and collective activities coexist within the same structure.

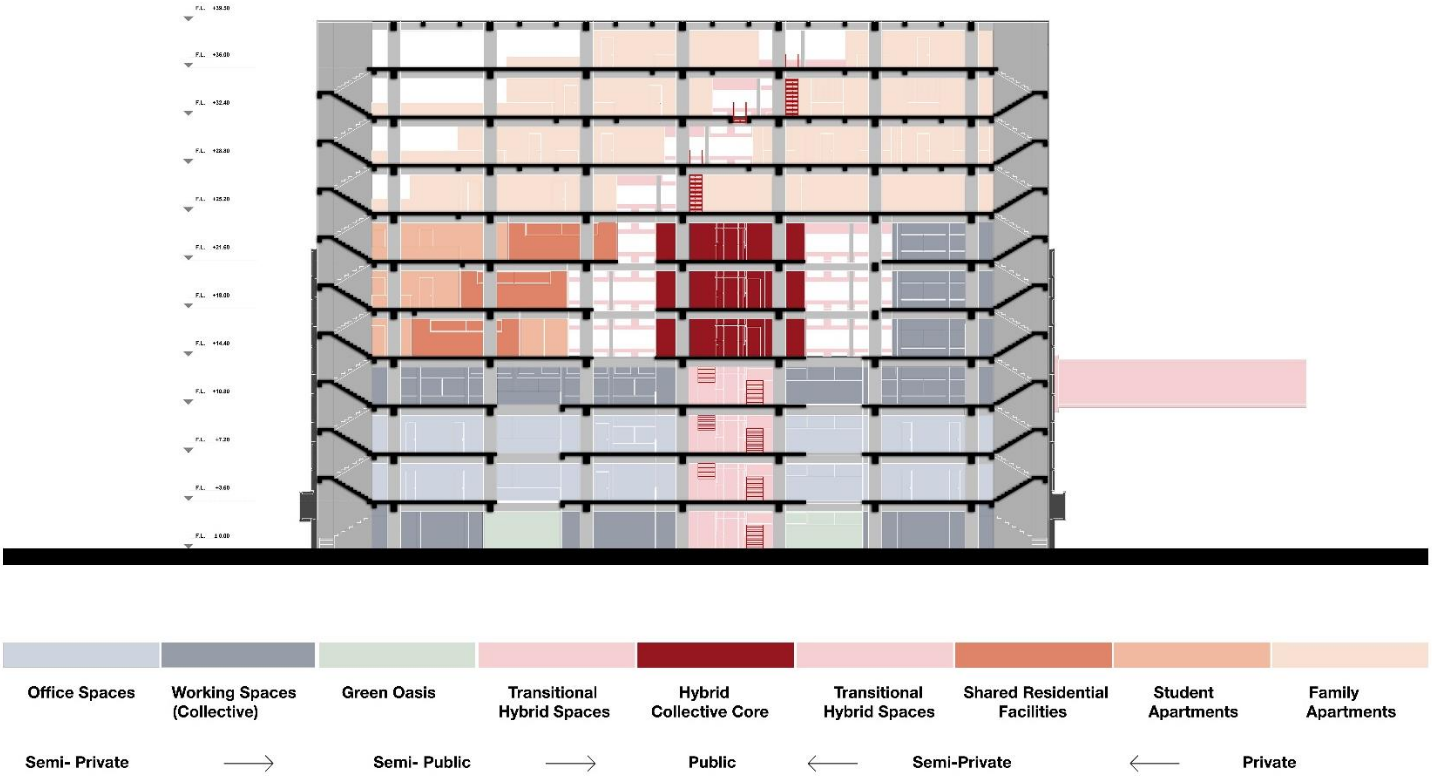
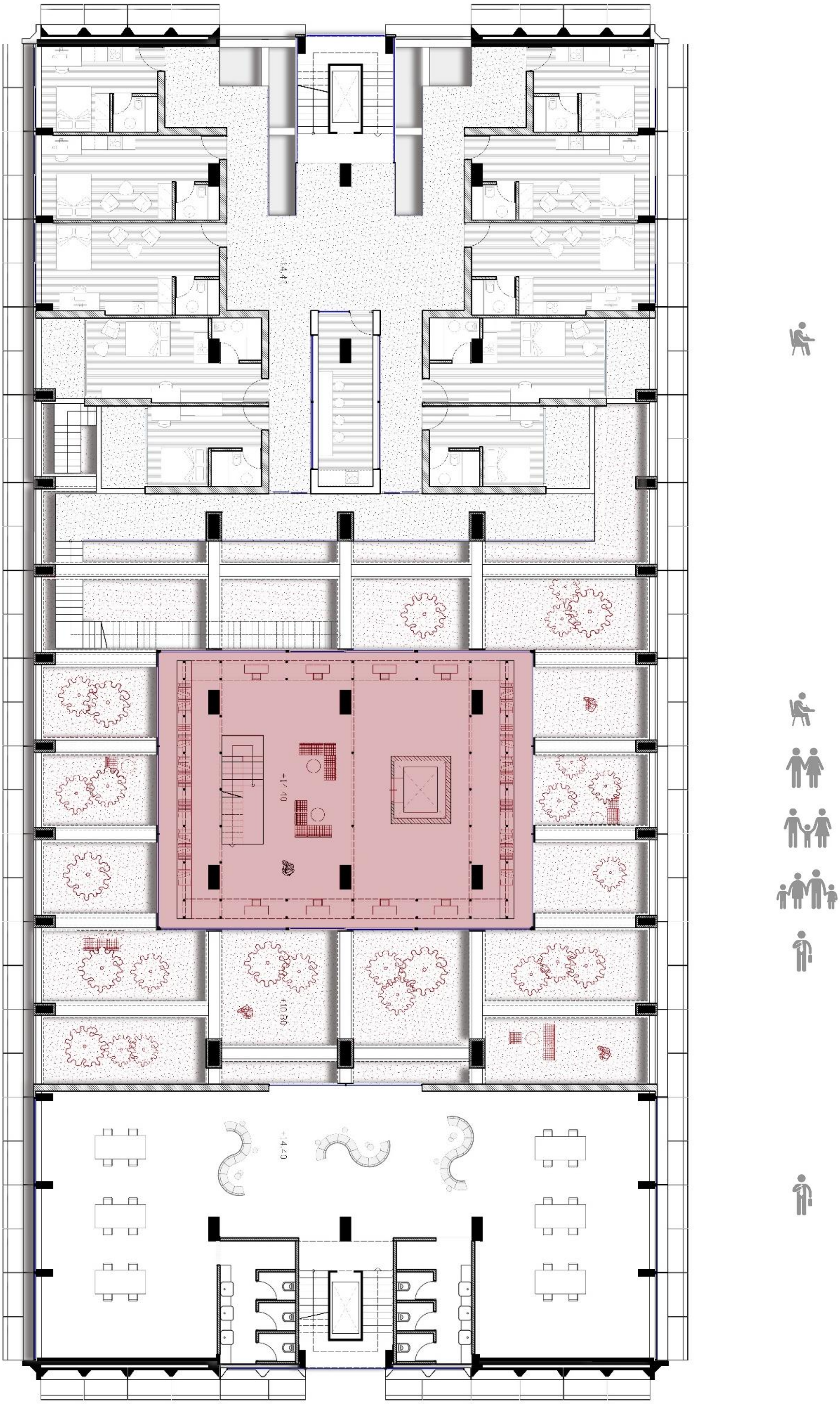


Figure 36: Gradient of Collectivity through the Hybrid Core

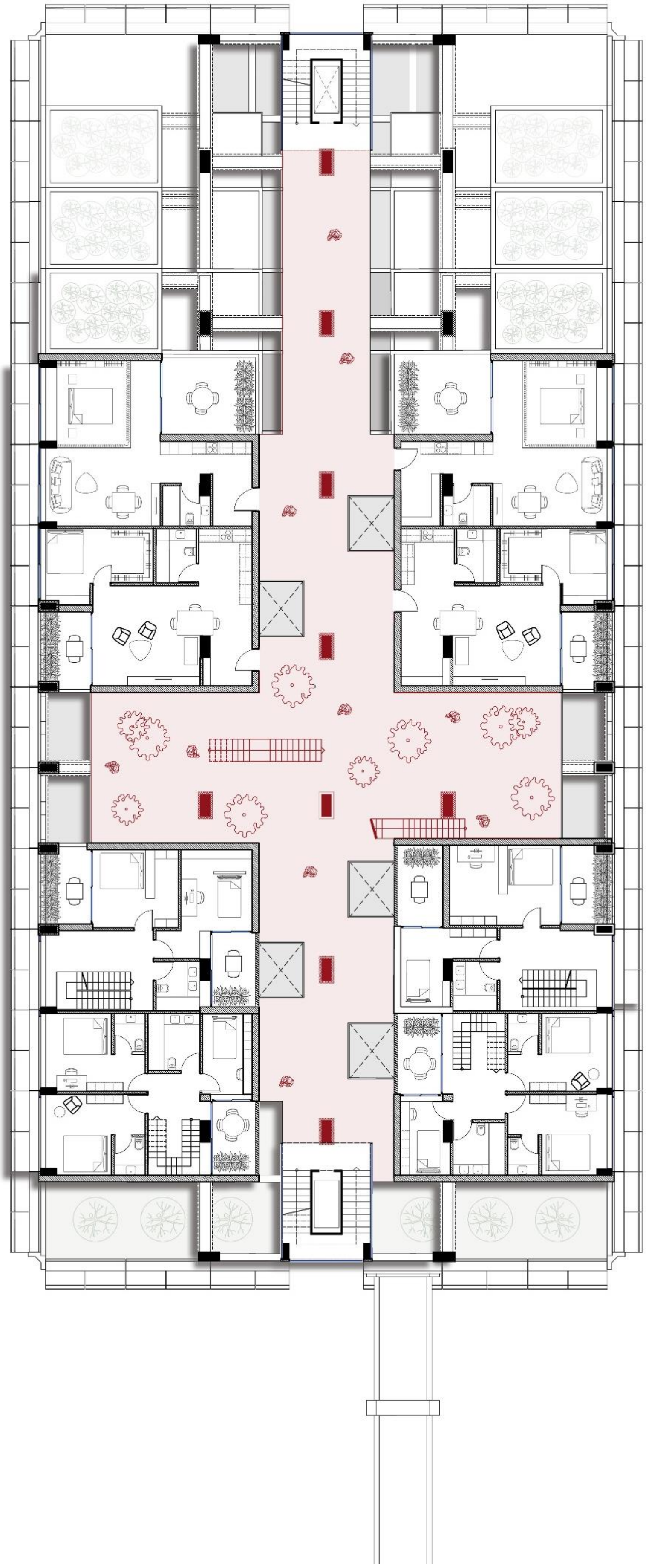
Different degrees of publicness are distributed throughout the building, creating a gradual transition from public and collective spaces to semi-private and private residential environments.

At the center of this system, the hybrid core operates as **a social condenser**, bringing together residents, workers and visitors through a sequence of shared spaces distributed across multiple levels.

The proposal therefore **reinterprets the existing office building as a compact urban environment**, through a hierarchy of spatial relationships rather than through strict programmatic separation.



5^{th} F.P (Hybrid)



9th Floor Plan (Residential)

Type A 50 m2

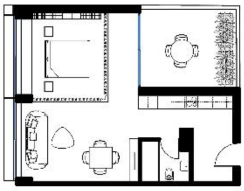
SOUTH ORIENTED LIVING UNIT

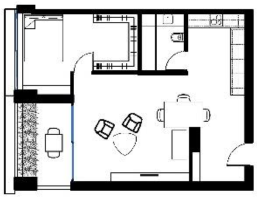
Type B 50 m2

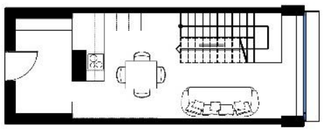
EAST-PARK ORIENTED LIVING UNIT
/ WEST

Type C 85 m2

DUAL ORIENTED LIVING UNIT
(EAST-PARK + INTERNAL "STREET")
/ WEST







7th FLOOR PLAN

8th FLOOR PLAN

Type C 85 m2

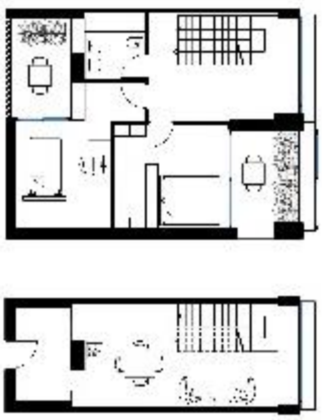
DUAL ORIENTED LIVING UNIT
(EAST-PARK + INTERNAL "STREET")
/ WEST

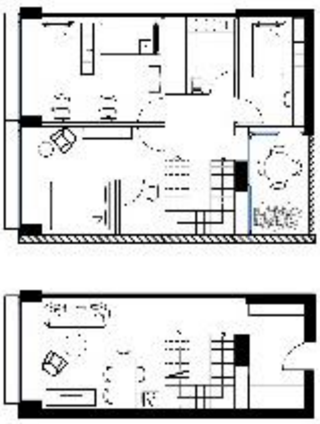
Type D 100 m2

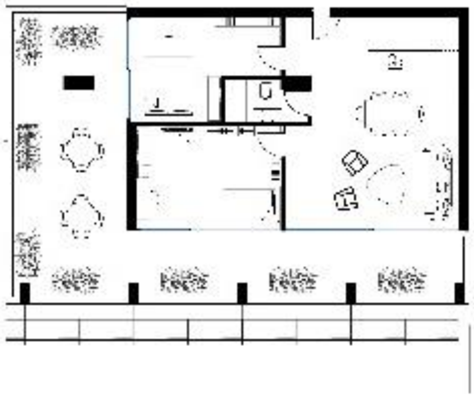
INTERNAL "STREET" ORIENTED LIVING UNIT

Type E 75 m2

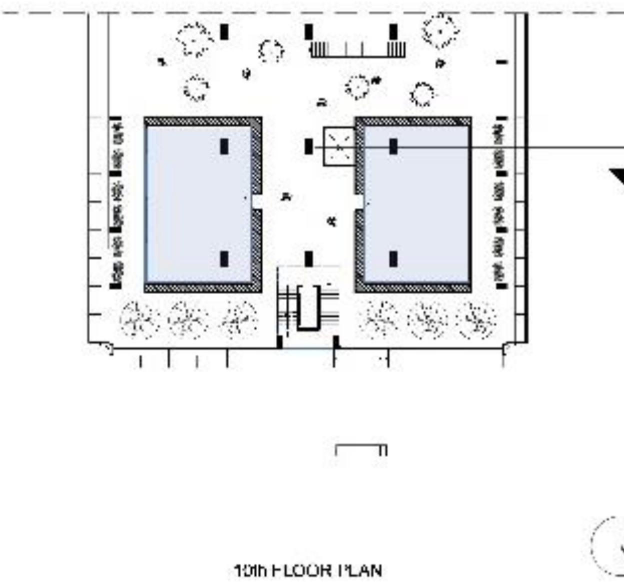
DUAL ORIENTED LIVING UNIT
(EAST- PARK + SOUTH)
/ WEST



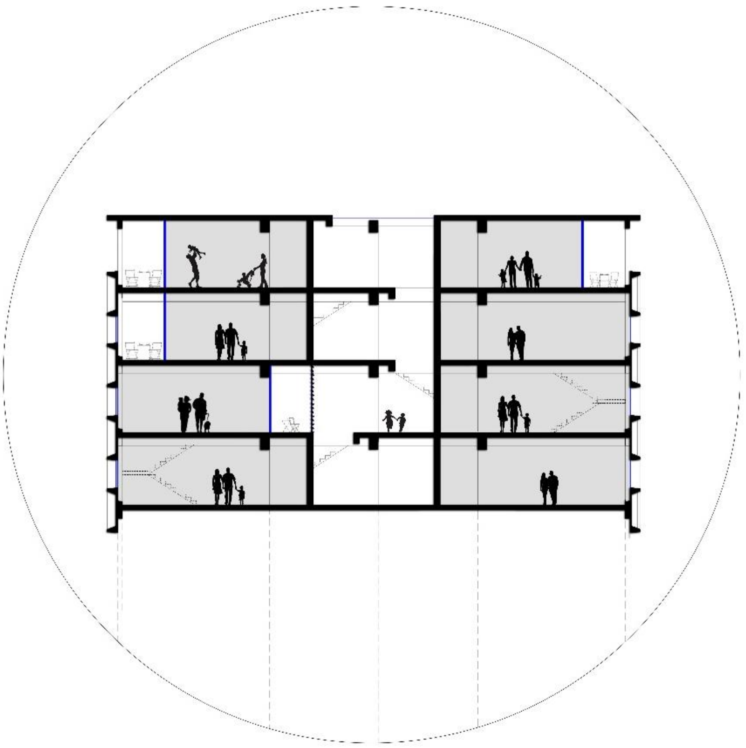




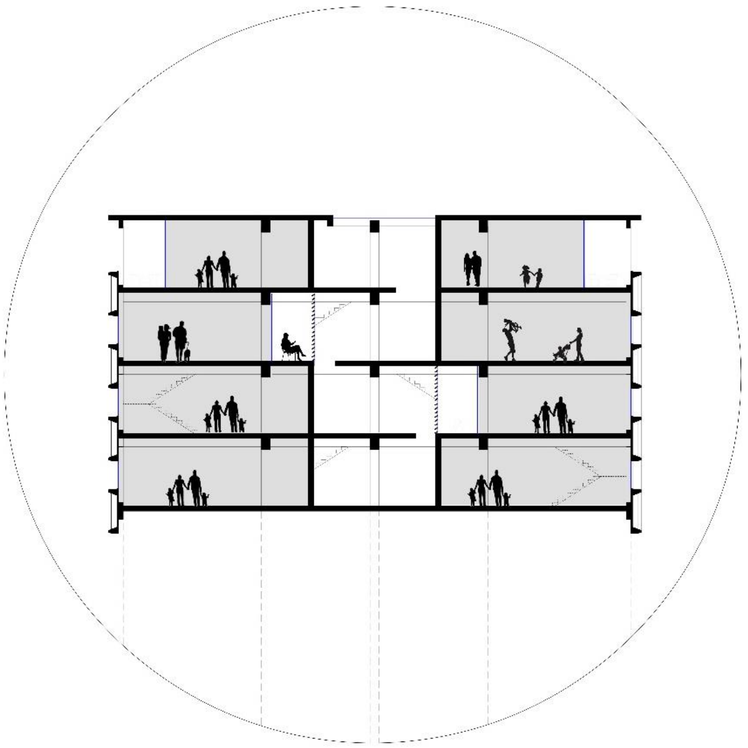
8th FLOOR PLAN



10th FLOOR PLAN



SECTION A- A'



SECTION B- B'

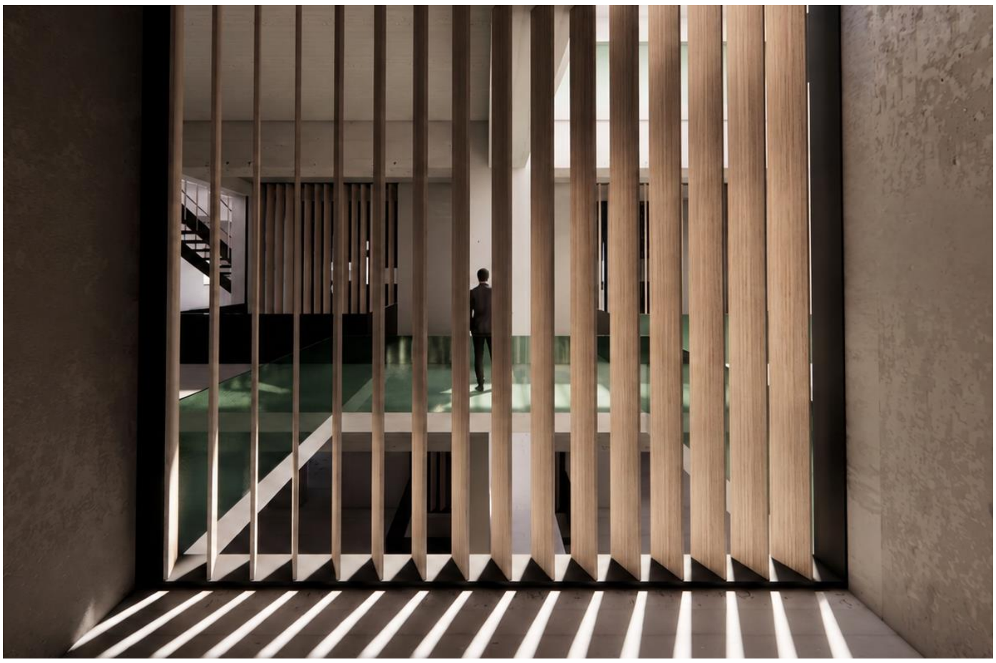


Figure 37: Visual connection between residents across the internal street

The **Voids** simultaneously act at the same time as **spatial buffer between residential units and circulation space**, while allowing **daylight** to penetrate **deeper** into the building

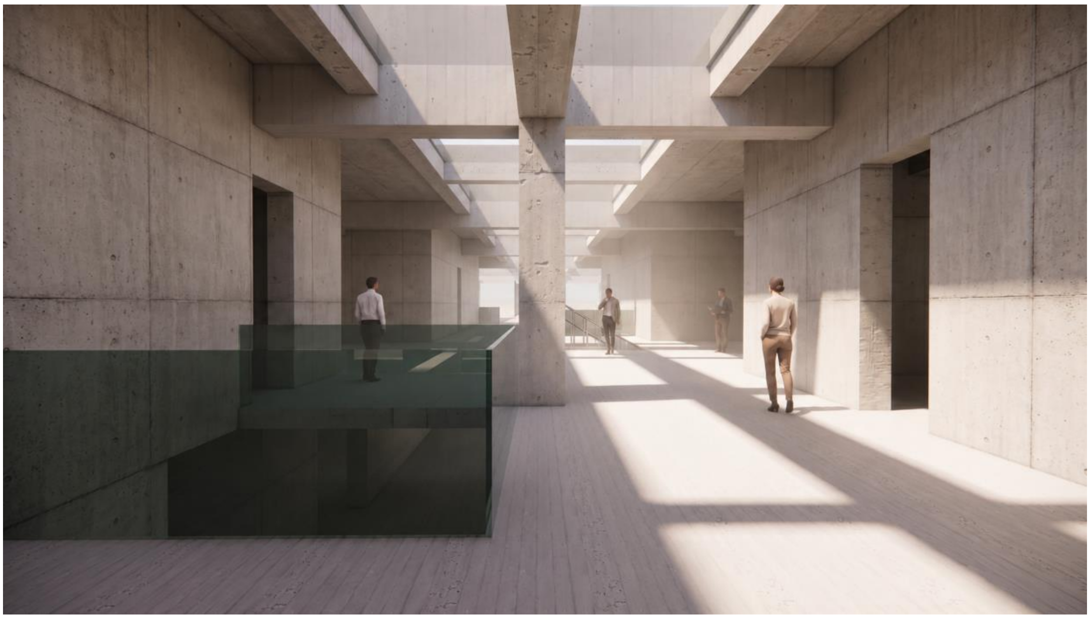


Figure 38: View from the collective circulation space on the top residential level

Figure 39: View from the transitional hybrid space on the residential levels

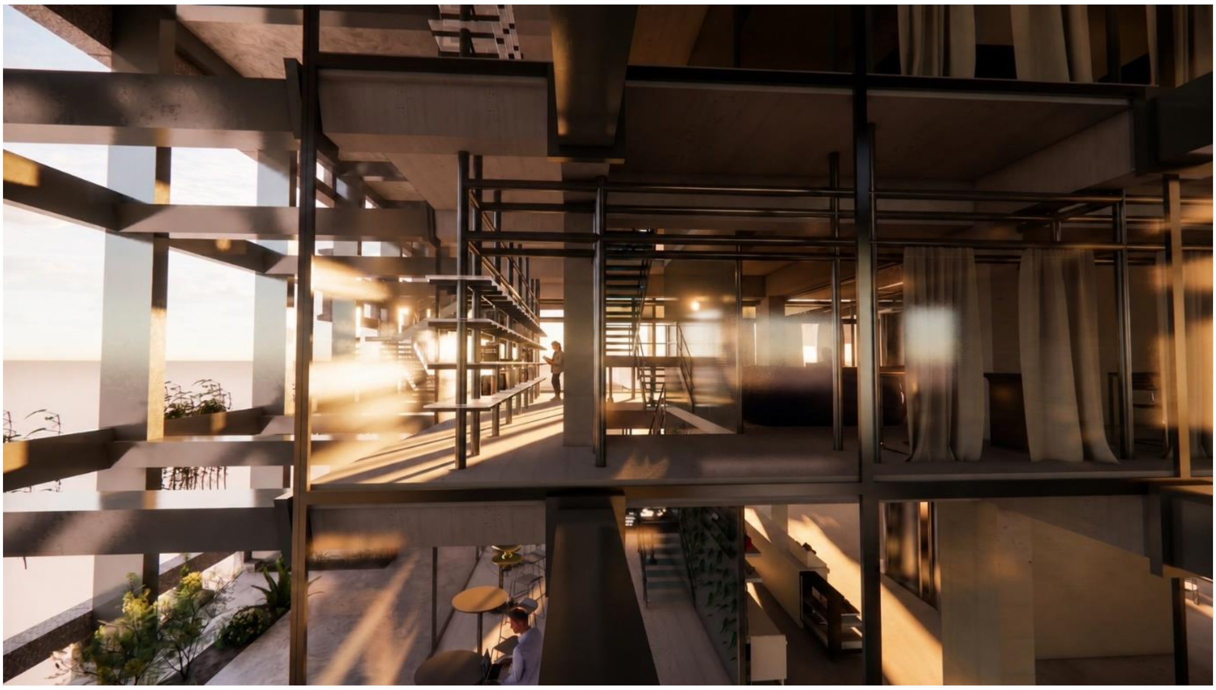


Figure 39: View from the office collective office space of the 5th floor to the hybrid core

Figure 40: Hybrid semi- Open Space

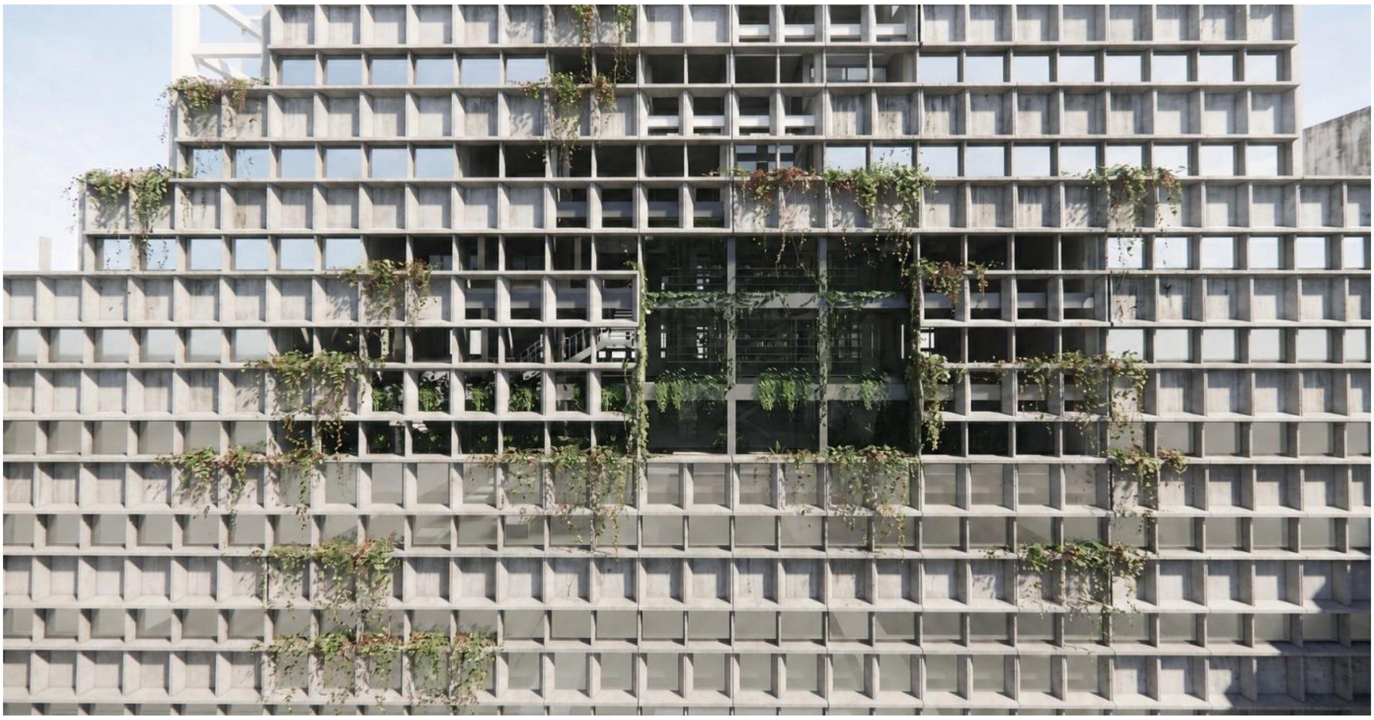


Figure 41: Outside View to the Hybrid Core

7.2. REVEALING THE DEPTH

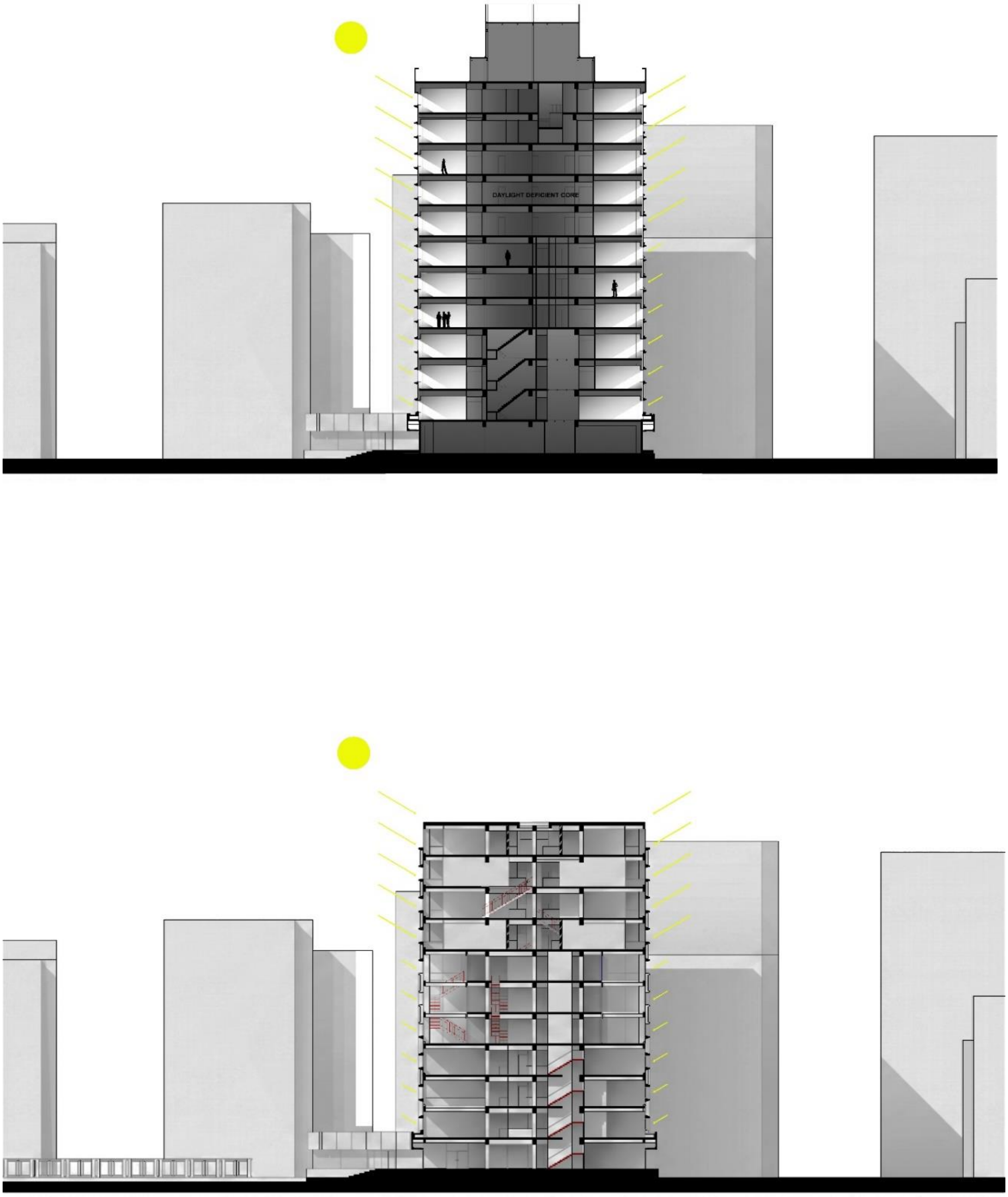


Figure 42: Before and After-Revealing the depth of the existing structure through daylight and spatial reorganization

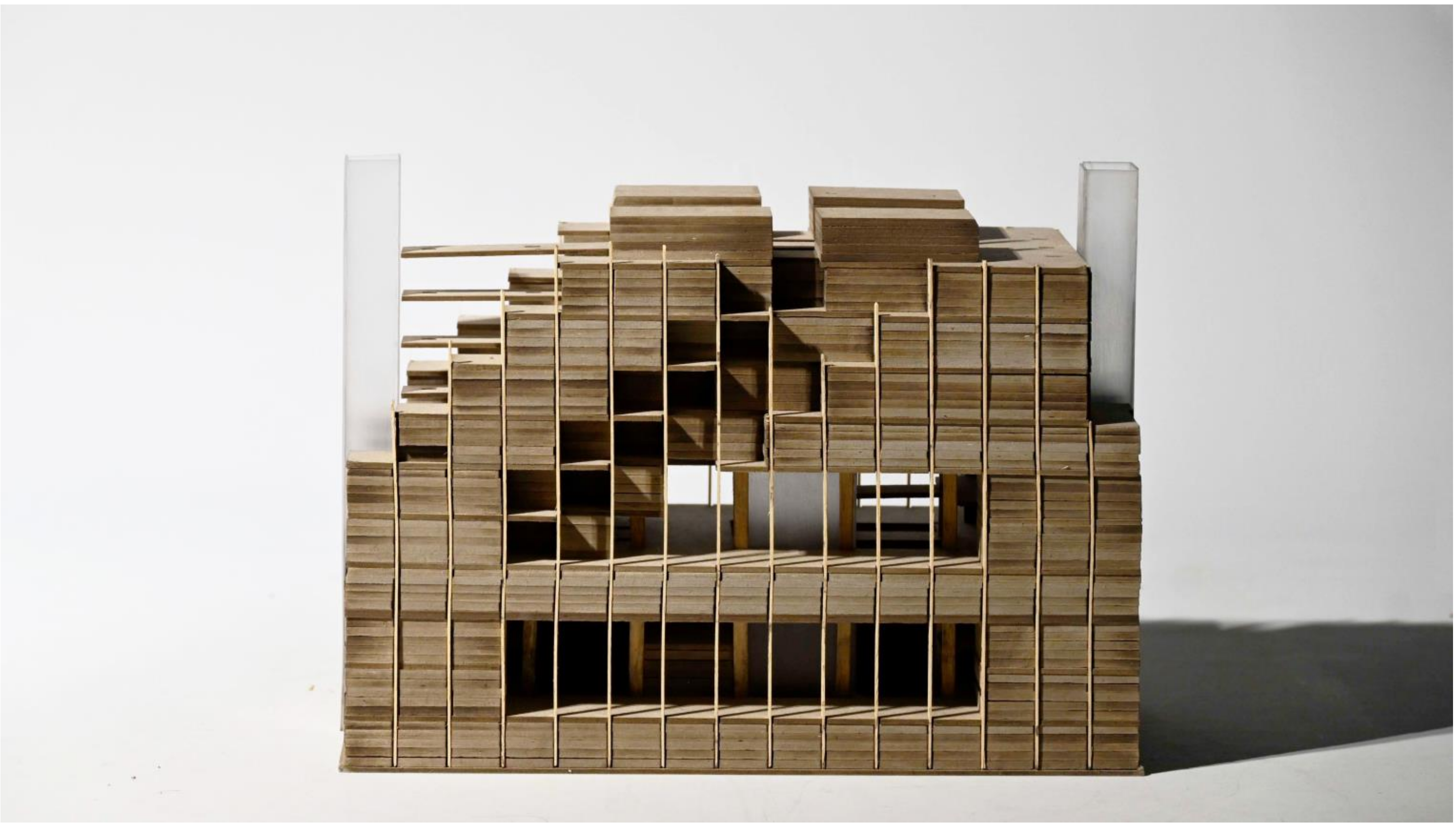
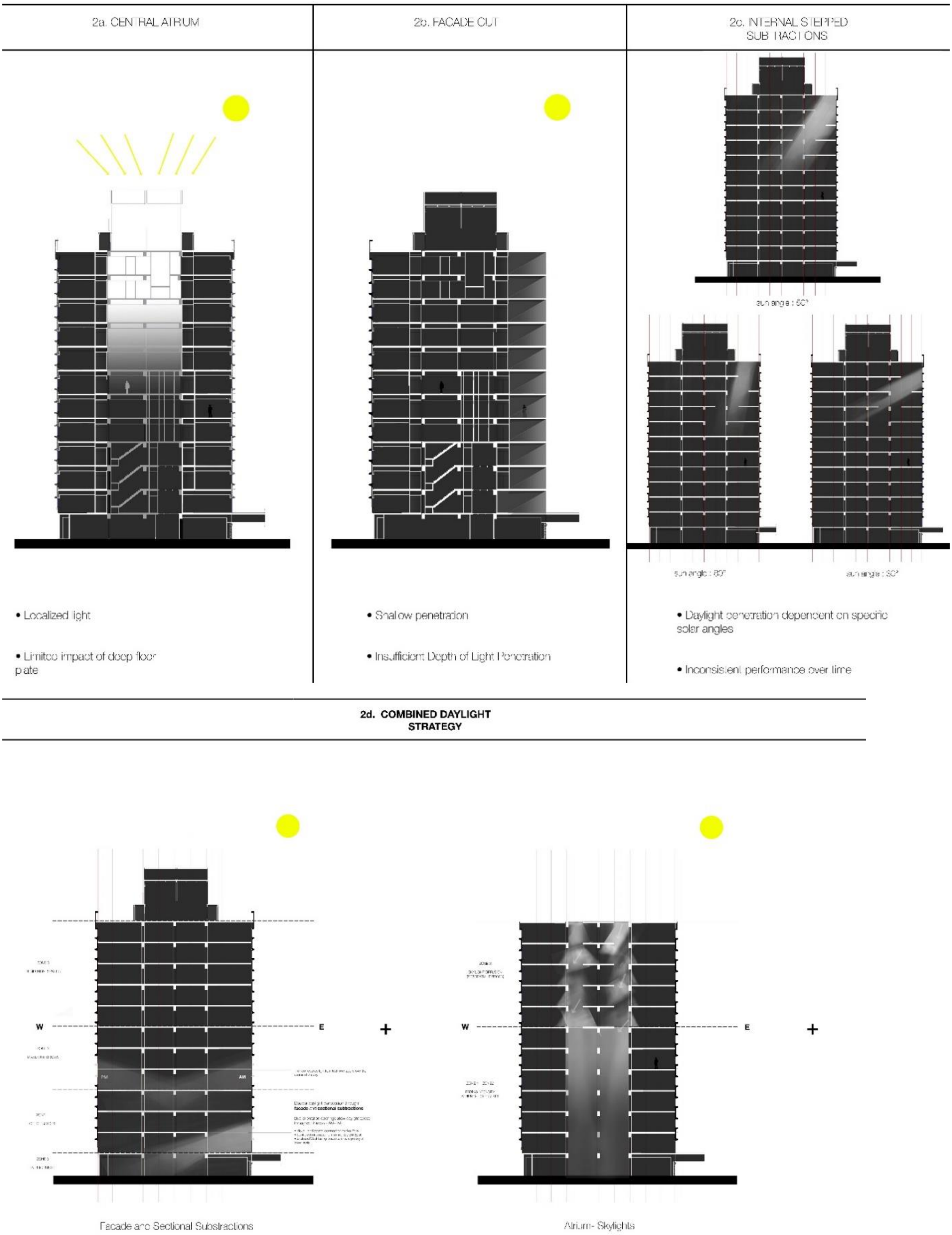


Figure 42: Physical model illustrating the spatial relationship between the stepped massing, the hybrid core and the sectional voids

To achieve this transformation, **a series of daylight strategies** were combined and tested at both **façade and sectional level**. The following diagrams illustrate how different interventions contribute to bringing natural light deeper into the building.



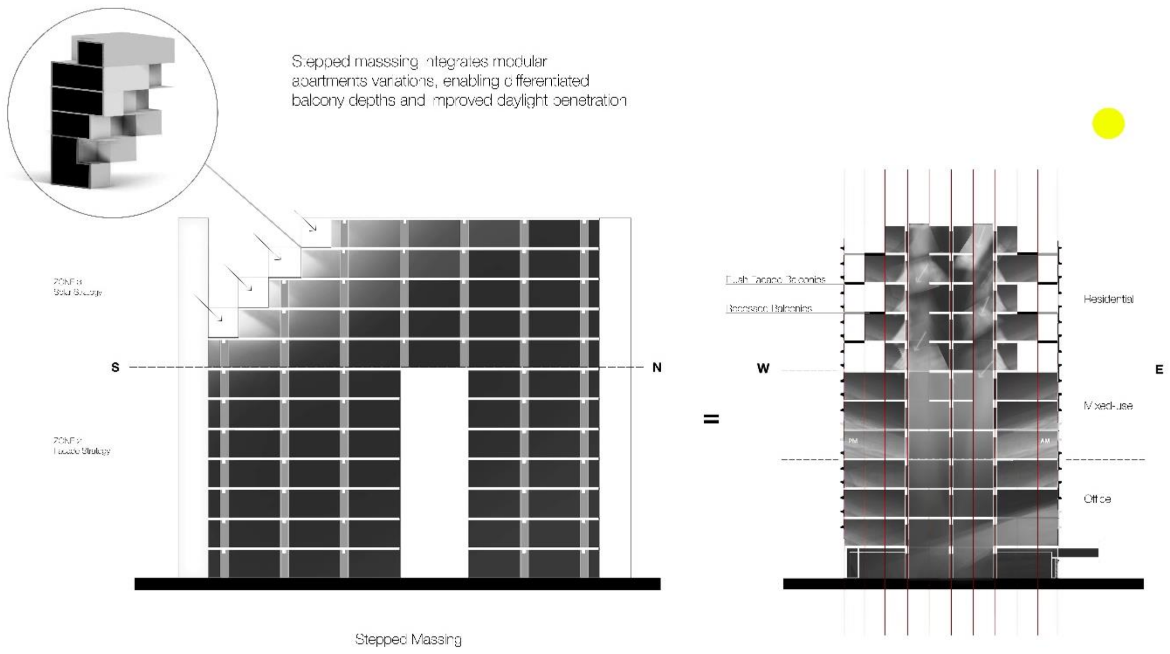


Figure 43: Daylight Strategies

The deep floor plate of the existing building cannot be transformed through a single daylight intervention.

Façade subtractions, stepped massing and recessed residential terraces improve daylight penetration from the south, while **vertical voids and skylights** introduce light into the **central zones** of the building. Together, these interventions **reveal the depth of the existing structure** and transform previously inaccessible interior areas into occupiable collective spaces.

Rather than treating depth as a limitation, the project uses it as a spatial resource. The resulting **hybrid core becomes the main daylight collector of the building**, establishing visual connections between users while creating a sequence of illuminated collective environments throughout the section.

7.3. RECONNECTING SFF BOSCH GEBOUW AND LANDSCAPE

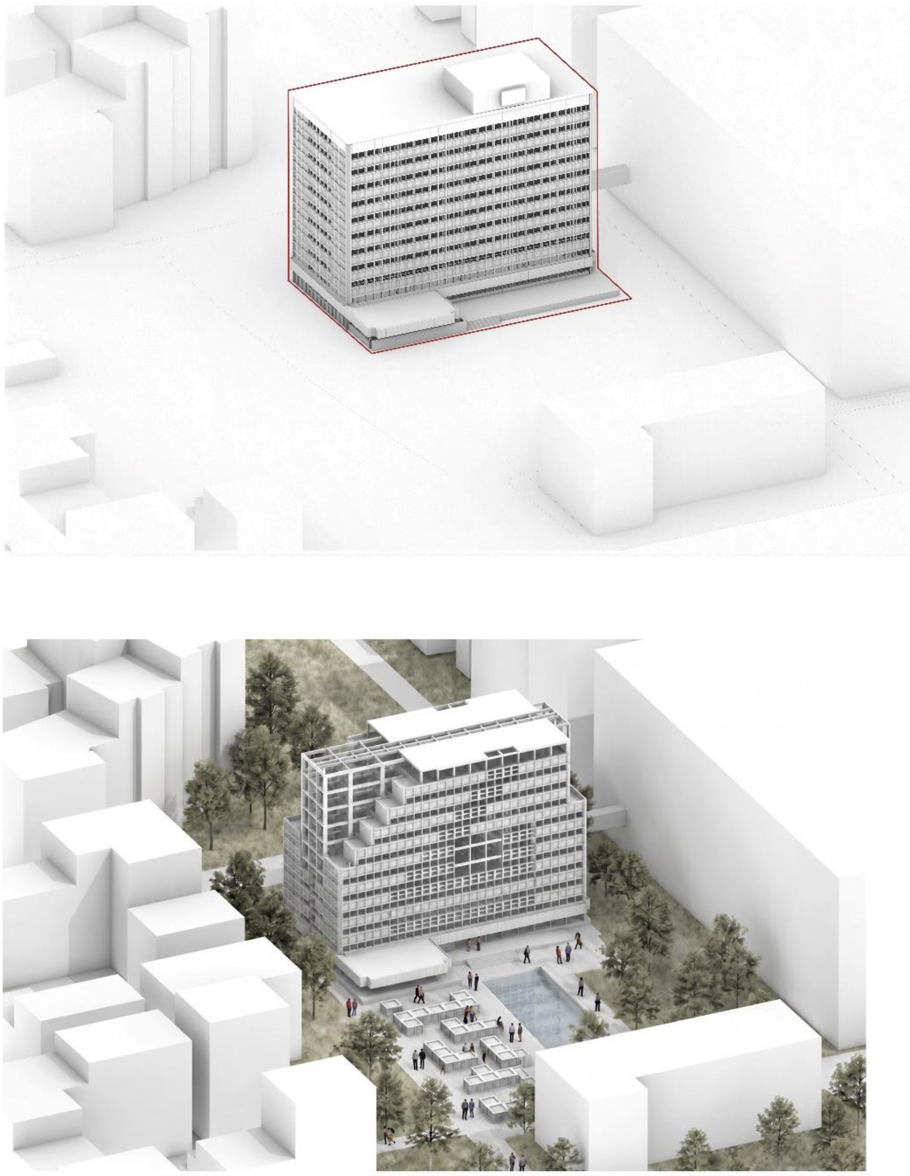


Figure 44: From an Isolated Building to a Landscape Activator

The transformation **extends beyond the building envelope** and establishes a stronger relationship with the surrounding landscape. While the existing building functions as an isolated object within the site, the proposal introduces spatial interventions that reconnect the building with its immediate environment.

The **opening of the hybrid core** and the introduction of **ground-floor green oasis spaces** create visual and spatial continuity between interior and exterior environments. The **atriums** extend this relationship vertically through the building, allowing vegetation, daylight and collective activities to become visible across multiple levels. At the **landscape level**, removed prefabricated façade elements are reused as **planting structures** and landscape components. The landscape therefore becomes an **extension of the building's transformation process**.

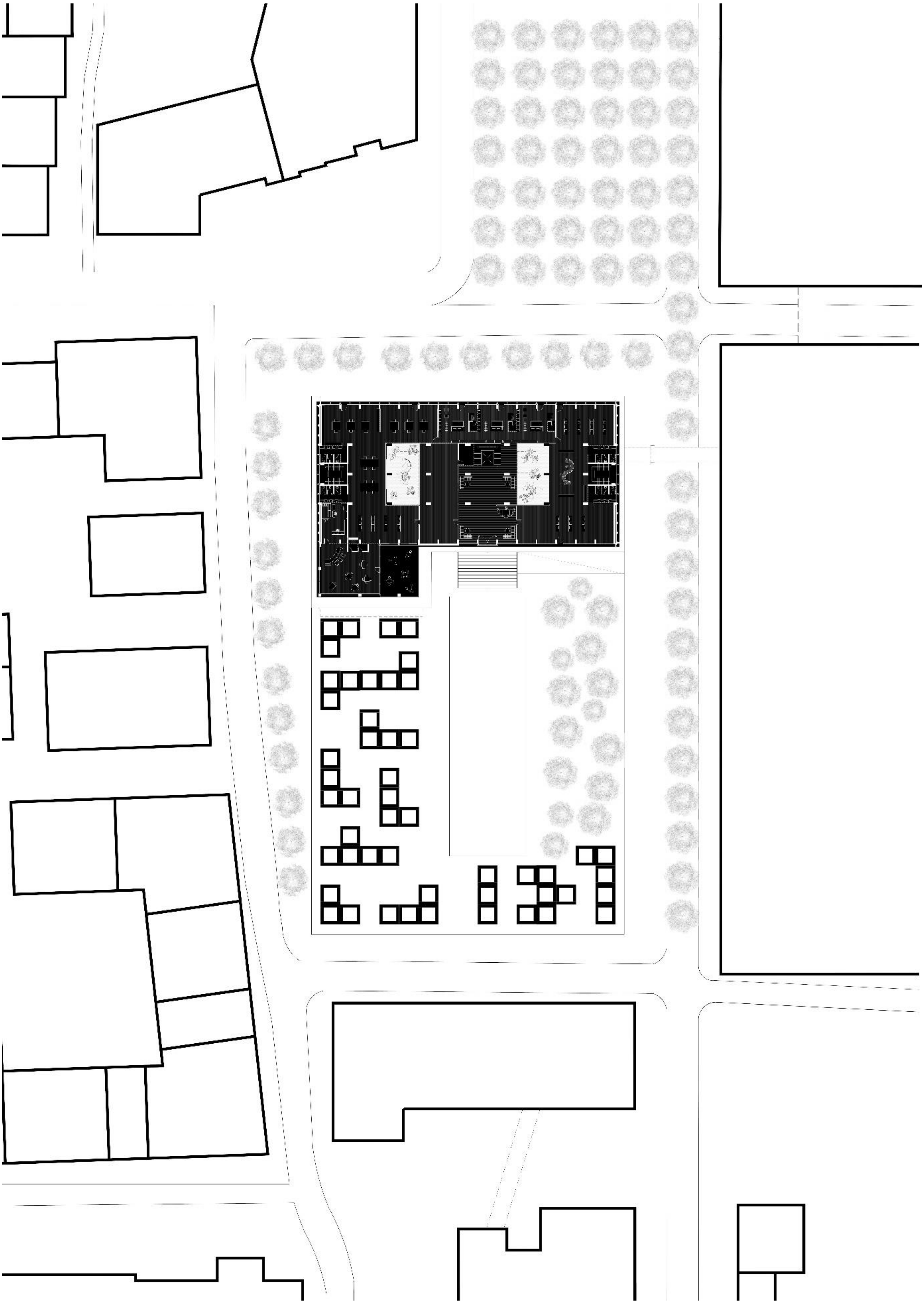


Figure 45: Ground Floor Plan

8. FAÇADE TRANSFORMATION AND MATERIAL REUSE

8.1. EXISTING FAÇADE CONDITION

The prefabricated panels were produced using exposed aggregate concrete (C30/37), typical of Dutch prefabrication practices of the late 1960s and 1970s.

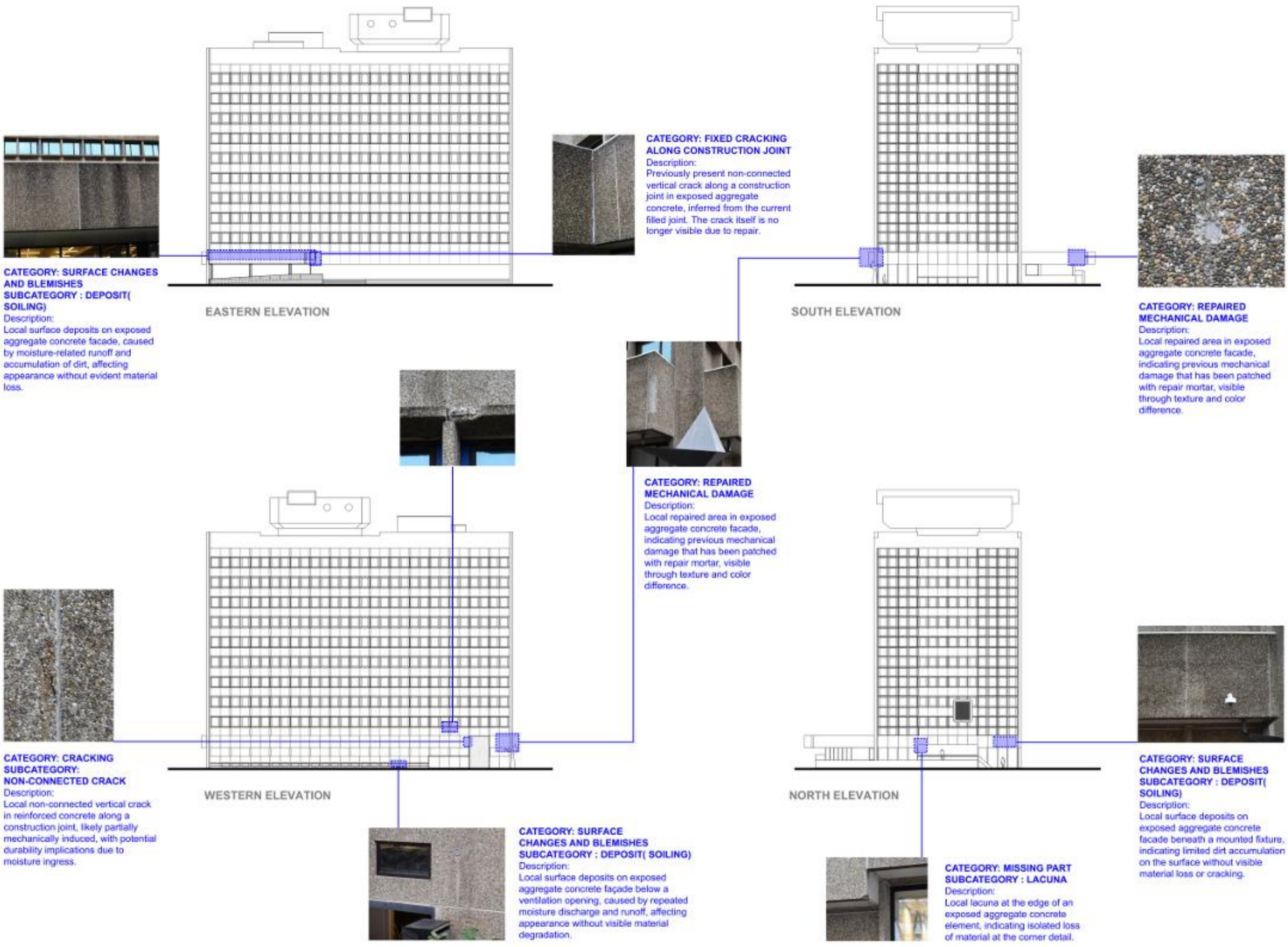


Figure 46: Material Assessment Damage Map

8.2. FAÇADE TRANSFORMATION STRATEGY

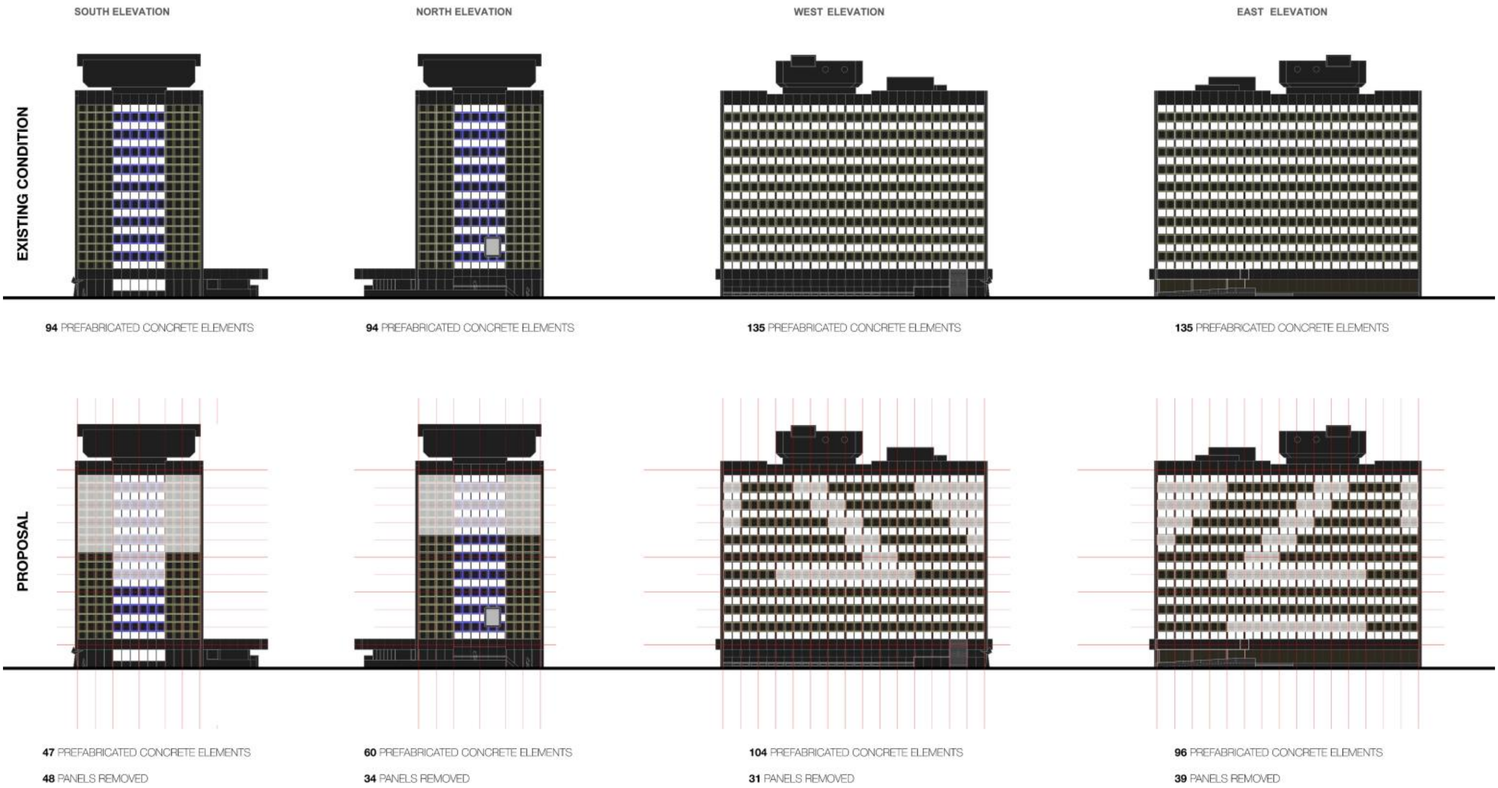


Figure 47: Façade Transformation according to the Programmatic and Daylight Requirements of each Orientation

The **façade transformation strategy** is driven by **daylight performance, orientation** and the need to create **stronger relationships between the interior collective spaces and their surroundings.** Rather than applying a uniform intervention, the existing prefabricated concrete panel system is adapted according to the specific conditions of each façade.

The largest number of panels is removed from the south and east elevations, where greater openness improves daylight penetration and strengthens the connection between the residential units, the hybrid core and the adjacent public spaces. In contrast, the **north** and **west façades** remain **more enclosed**, responding to lower daylight requirements and preserving the existing building character and reflecting the predominantly office-oriented unrabn context of Strijp-S.

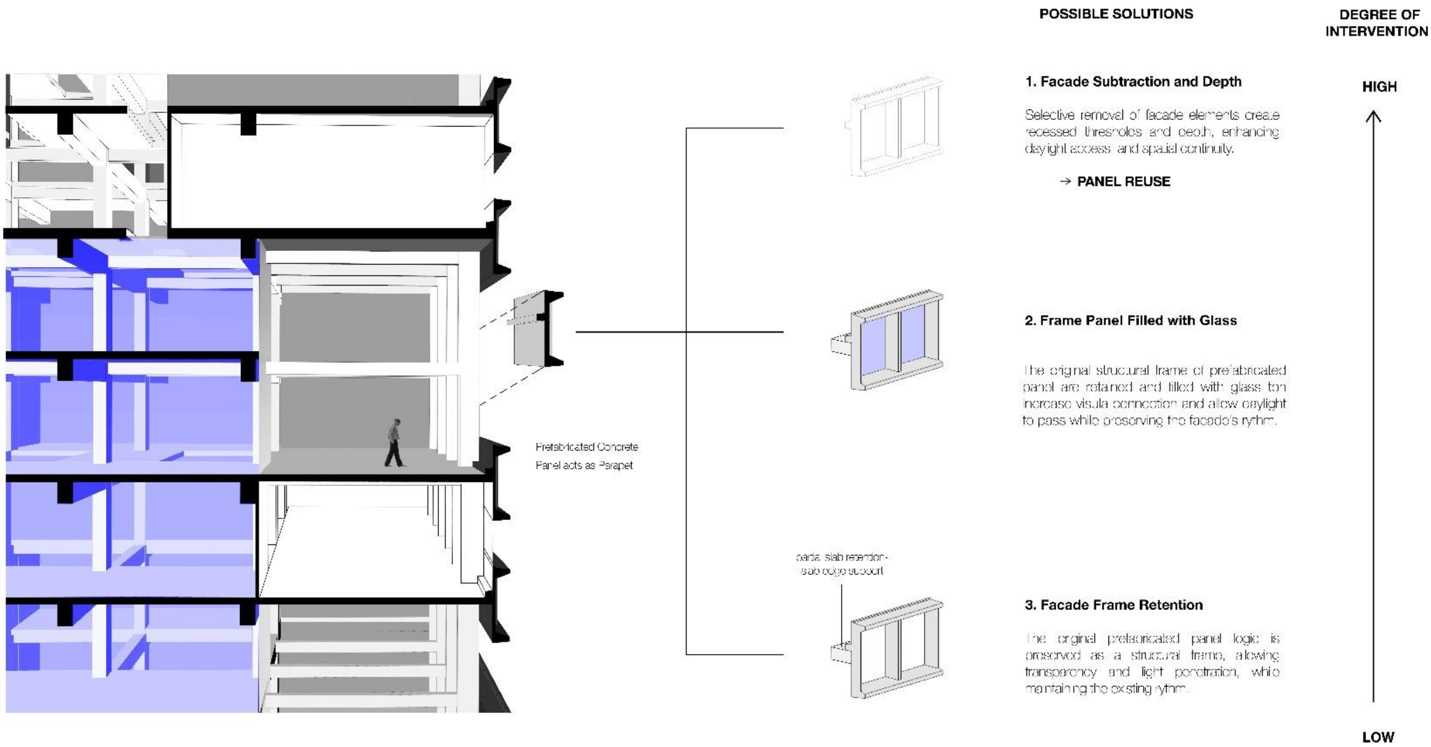


Figure 48: Degrees of Facade Transformation

Three transformation approaches are explored: **façade subtraction**, **frame retention** with **glass infill** and frame retention and . Together, these strategies allow **different degrees of intervention** while maintaining the logic and **rhythm** of the original prefabricated façade system.

8.3. REUSE OF PREFABRICATED FAÇADE ELEMENTS

The reemoved panels are reused as park lansdscape elements integrated with planting

Figure 49: Reuse of Prefabricated Facade Elements within the Landscape

9. CONSTRUCTION STRATEGY

9.1. STRUCTURAL INTERVENTIONS AND ENVIRONMENTAL ENVELOPE

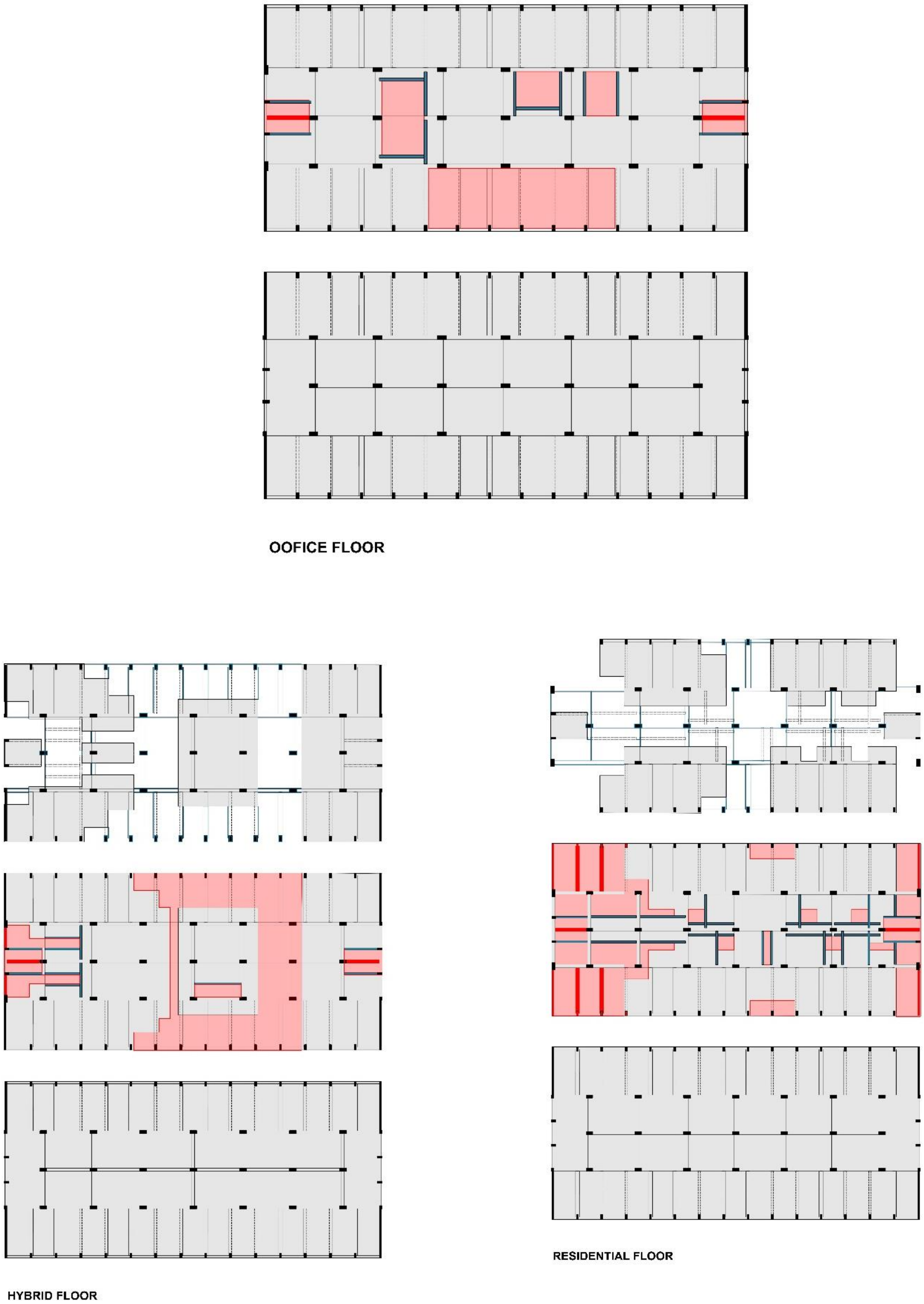


Figure 50: Structural Response to Floor Subtractions

The intervention is based on a selective subtraction strategy that transforms the deep-plan configuration while **preserving the primary structural framework of the existing building**. The majority of the structural grid, columns and beams are retained, minimizing structural intervention and maintaining the logic of the original prefabricated system.

Subtractions are concentrated around the **hybrid core** and the **stepped southern façade**, where floor slabs and selected structural elements are removed to improve daylight penetration, visual connectivity and spatial interaction between different programs. The resulting floor configurations respond to the specific requirements of office, hybrid and residential environments while remaining embedded within the existing structural framework.

The introduction of semi-open collective spaces within the hybrid floors and residential circulation zones exposes parts of the existing structural system that originally formed part of the conditioned building envelope. To **prevent thermal bridging** between the heated office floors and the newly exposed spaces, a **continuous external thermal envelope is introduced** around the affected beams and columns. This insulation layer wraps the existing structural elements, maintaining thermal continuity while preserving the legibility of the original concrete structure.

9.2. REPRESENTATIVE DETAIL

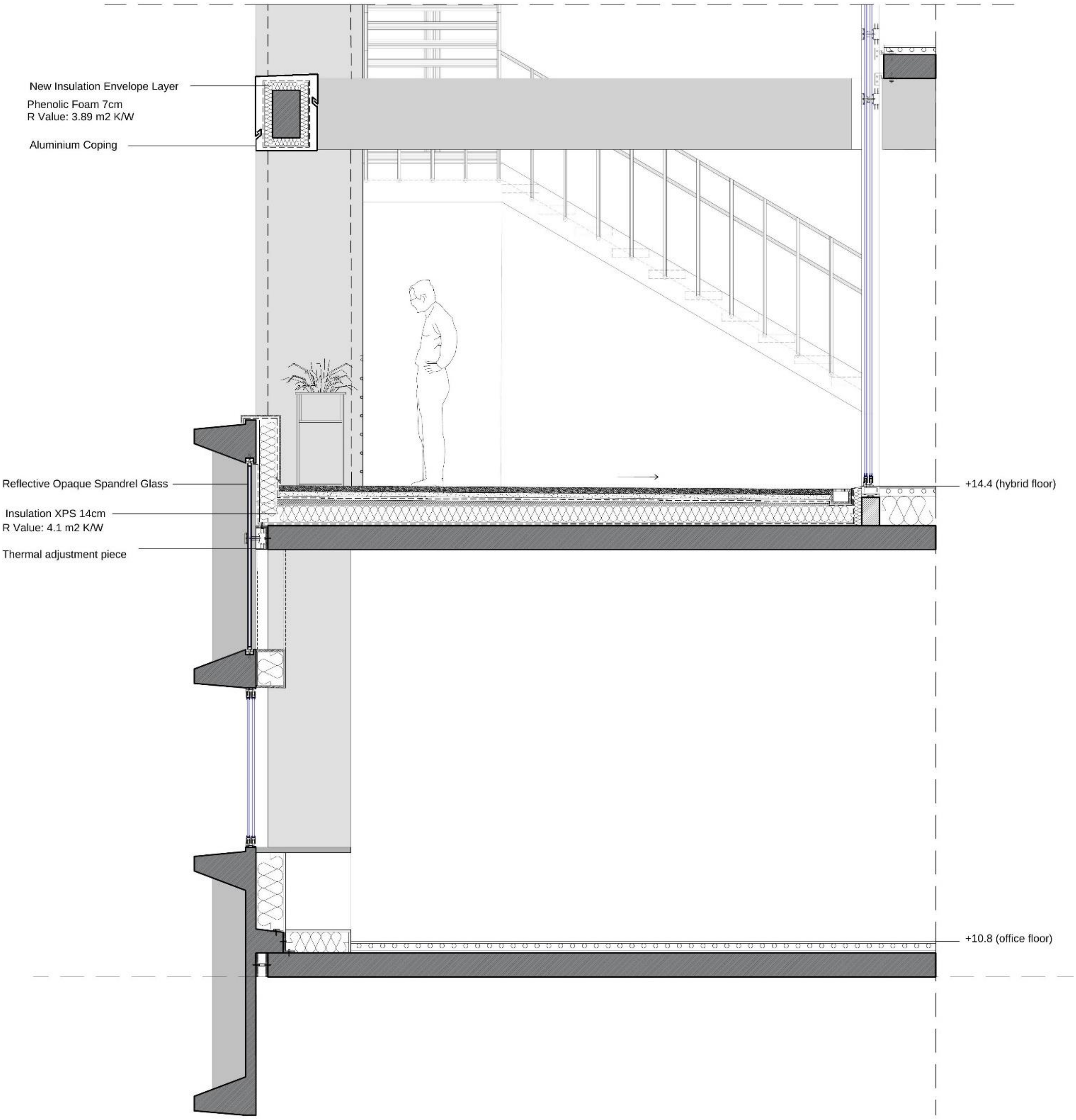


Figure 51: Environmental Envelope Strategy at the Hybrid Floor

10. CONCLUSION

Ultimately, the project suggests that the limitations of the SFF Bosch Gebouw should not be understood as obstacles to its future, but as opportunities for transformation.

While the deep floor plate and limited daylight penetration have contributed to the building's obsolescence, the flexibility of its structural framework and large-span organization provide the capacity for adaptation. By working with these existing conditions rather than replacing them, the proposal reveals new spatial possibilities embedded within the building.

The introduction of daylight, the selective exposure of the structural frame and the reinterpretation of existing spatial relationships allow the building to respond to contemporary social and urban demands while maintaining a visible connection to its industrial heritage.

In this way, the project reinterprets the notion of connectivity that characterizes Strijp-S, transforming the former office building into a contemporary urban environment capable of acting as one of the collective hearts of the district.

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Group Research Booklet

Damage Atlas – Monument Diagnosis and Conservation Systems (https://mdcs.monumentenkennis.nl/damageatlas/7/material)