LIVING WITH COMMONS

Deepened spatiality of injustice amidst COVID-19

LI, KA YIU KARRY

5117917

Adapting 20th Century Heritage, New Heritage
Delft University of Technology, TU Delft

M.Arch Thesis
Graduation Research Report

2020-2021

Research Supervisor: Lidwine Spoormans
Design Tutor: Nicholas Clarke
BT Tutor: Ger Warries

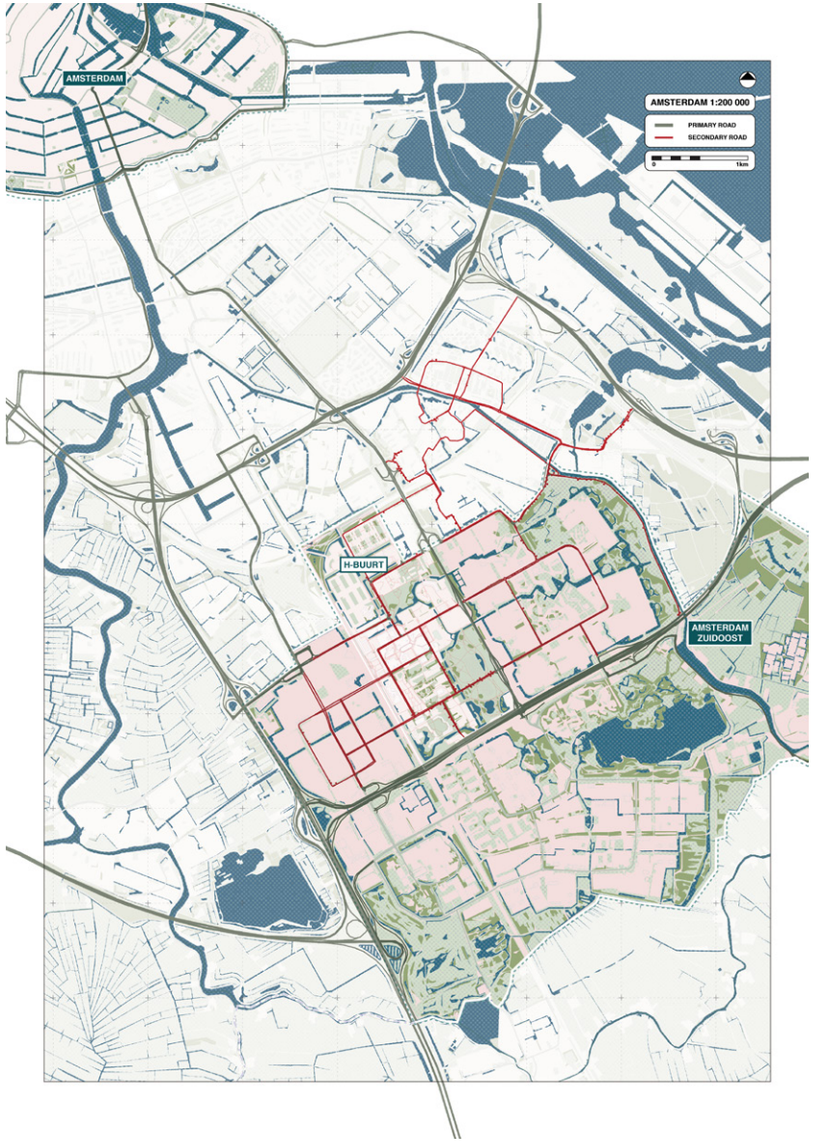


Fig.1 Map of H-Buurt

CONTENTS

Introduction 01

1.1 Why ‘New Heritage’

Questions breed thoughts, breed questions, and more thoughts. There cannot be an answer before, probably not ever after. But through holistic dialogue among stakeholders, I hope the attempt and may be courage, in recognizing the complexity can reward us with hints of the intricacies of such dichromatic architecture –

[1] NEW I HERITAGE

In the industrialization of building, its over power had made the architect as craftsman redundant. When the sudden intervention of a new ability of prefabricated masses abruptly solved the unsolvable housing demand, the solution came at a price. The modern architect left the stage.

[2] ARCHITECTURE ELIMINATED ARCHITECT?

Value of every invention lies in what it makes unnecessary, in the elimination of redundant processes. If the regime of design discussion among architects had been eliminated, whom we should put on the table to seek the bridge for the future of those remaining masses? I reckon the residents get the validation about the past to be remembered and which they remember.

[3] FORM FOLLOWS FORM - MEMORY OF MEMORY

In the era of mass production, those prefabricated public housing almost became a global solution in housing shortage in the 1960s and 70s. The rectangular buildings from ranges of housing projects feel incredibly familiar that the generic nature of every neighbourhood had become part of a larger story. They have transcended nations and political systems as the by product of universal response to a globally felt urgency. At a poetic level, the prefabricated panels had been representing our collective ideology. Whilst the demolition of buildings stipulates an ideological cleansing, a foreclosure of the historical chapter still leaves the major issue unresolved. Afterall, there should be a time to rethink their definition to the ‘contemporary’ regionally, if not globally.

[4] REGIONAL ISSUE TO UNIVERSAL IDEOLOGY

While some may see ‘heritage’ as a tangible inheritance that should be physically respected, the concept of ‘new’ and ‘heritage’ has been surprisingly developed and transformed into something less architectural along with the process of the graduation project. Intrigued by the ‘spatiality’ of injustice from the beginning, I have discovered that the space with historical value does not necessarily lie on the physical arrangement of the commons, but the concept and intention behind. So when the rationale of the construction of commons and mixed use is good, however with poor quality, renovation or partial demolition may be inevitable to reactivate the embedded good. Instead of insisting on nostalgia, a new revolution, a new normal might be a better way to allow the continuation of the ‘spatial heritage’ in the form of ideology.

[5] NEW CONTINUES HERITAGE / HERITAGE BREEDS NEW

Fig.2 Bijlmerplein cluster 7, 1991, sourced from City Archives

Fig.2 Bijlmerplein cluster 7, 1991, sourced from City Archives

1.2 Research proposition

1.2.1 Architecture without ‘architects’ as a ramification of modern urbanism

In the industrialization of building, the overpower of technology symbolized the domination of abstract, instrumental reason over humans and nature with orderly purified forms. Housings built in the modern age were designed to glorify this ‘machine style’ while simultaneously alleviating some of the worst living circumstances (Frampton, 1996). In the early twentieth century, this sudden unexpected intervention of a new ability that abruptly seemingly solved a previously unsolvable problem - the social, economic, technical and artistic questions (De Graaf 2019). However, the solution had come at a price. In the integration of people into rationalised mass production, this instrumental reason fetishized the technological means to human ends, which were conceived as developing according to a determinate logic beyond human control (Frampton, 1996). In fully banking on the power of industry over the skills of the craftsman, its over dominance had made the architect as craftsman redundant. Since then, the modern architect had left the stage leaving mass propagation of ‘living machines’ determined by plutocracy and technocracy (De Graaf 2019).

During the modern movement, architecture was nothing to be inherited but acquired. Housing in the era of machinery was studied what was there, what was invented, and then was processed by typological variations. Form had been following form, following the unexpected upcoming failure. The emergence of liveability problems in the residential neighborhood area designed under the name of modern urbanism had deviated from the egalitarian utopian manifestation (Wassenberg, 2013). In the late 70s and 80s, most of the bourgeois had given up hope on those massive concrete jungles and left, leaving the rest of the working class engulfed by those forms. The abandonment of style and taste had removed a bourgeois instrument to perpetuate class distinctions, but it did not kill the social class. Instead, the succession of anonymous buildings and the stripped of the presence of the author had embedded the inhabitants, in which most of them were working class, along, being anonymous and neglected.

1.2.2 Be a ‘non-architect’ in the justification of neighbourhood

Following the crisis of modern urbanism was not the grand return of the architect. Instead, a series of demolitions of those neighborhoods was taken in the hope of eradicating the liveability problem as well. The failure of the manifesto in creating a clean, classless society had provoked the residents’ desire back for the traditional housing. Counter movements and actions, followed by more reactions, were then carried out to remediate the residential urban structure (Wassenberg, 2013). The backlash of urban modernism was merely a social reaction, with no more heroic manifestation. The Bijlmermeer neighbourhood, one of those modernist urban projects, has also witnessed and experienced a series of tragedies and remediations as a victim of the failure of the experiment. For those massive slab housings created in the 1960s, on behalf of the CIAM manifestation, many of them have been replaced by parks and playgrounds, and lowrise midrise buildings in the late 20the century. The ‘Anti-Bijlmer’ movement in the 70s/ 80s attempted to normalise the neighbourhood by looking backwards to the traditional housing, was just another ramification of the remediation of those unwanted housing stock (Luijten, 1997).

And what the normalization of the grand modernism failure left us today is a ‘generic junk’ of even more anonymous, ‘non-styled’ 70s/ 80s housing.

In the era of modernism, the value of every invention lies in what it maquettes unnecessary, in the elimination of redundant processes. When the regime of design discussion among architects did not even exist amidst the erection of the mass housing production, apparently, the architects were not expected to play a hero in the partial or total demolition of them in the late 20th century, nor the design of those ‘anti-Bijlmer’ residential buildings. Followed by the decline of the architectural heroism, there is no ‘style’ in the residential buildings from the 70s/ 80s in Bijlmer (Therese van Thoor, 2020).

Bijlmer neighborhood, as an experimental product with no grand vision of architecture, nor architectural style, I am intrigued by the possible ways to justify or deny the existence of its mass ramifications through a non-traditional architectural lens. It is indisputable that they consisted of tangible attributes as they were constructed as a physical entity. They are architecture, a communication agency from the past. However, embedded under those attributes, they might be something more, with parentheses for its corresponding values or none. Undergone a dynamic continuity for almost half a century, these buildings and areas are not old enough to be regarded as heritage, but old enough for the next phase of change or anti-change. To interrogate the possible destiny of these residential neighbourhoods, assessment of the underlying values and problems is urged. And to prepare the next chapter for the ‘new heritage’, we do not only need architectural professionals, but more importantly, passing the validation to those ‘non-architect’ to determine the value of those architecture without ‘architects’.

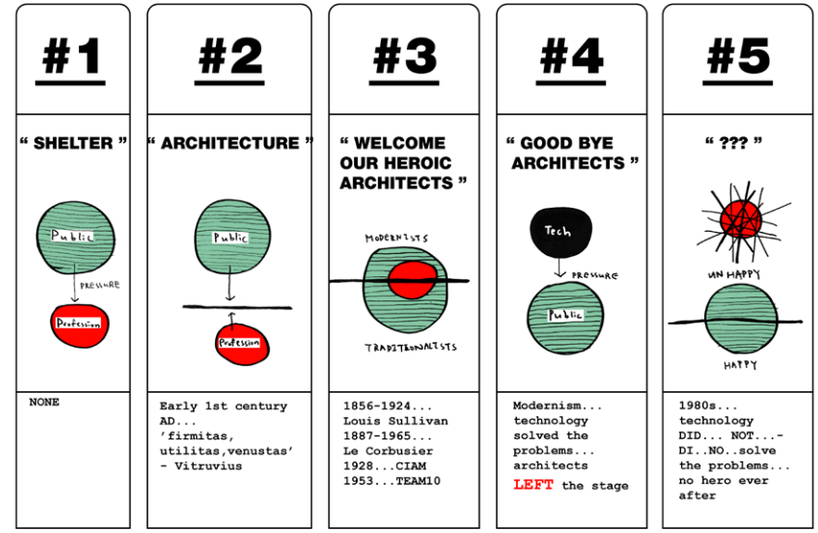


Fig.3 Architecture without ‘architects’, own illustration

1.2.3 Answer to an urban housing product of poor space and grand ‘maquette’

Amidst the erection of those 70s/80s housing, including the Bijlmerplein, they were mostly designed in the context of an urban plan. Makers were viewing the ‘buildings’ in a form of ‘maquette’ from a top down perspective. In an interview with Pi de Bruijn, one of the makers involved in Bijlmermeer urban design, when he was shown a photograph of an urban design model of Bijlmermeer redevelopment (Fig.3), he reacted strongly against that way of design back in the days. ‘It would be terrible for Bijlmer! It is an aesthetic exercise - it is “maquette” making. Poor guys living in Bijlmer are not interested in models... It just proves to me that the arrogance of architects and their shaping of blocks make people happy. But that is not true…’ (De Bruijn, 2020). As a result of the fictional top down design anticipation, those housings were placed as mere aesthetic solid blocks over a master plan. Under the negligence of building scale, the massive housing was designed as an urban product, however, with lack of urban quality.

Housings in Bijlmerplein are never referred to as buildings, but clusters. They are an enormous construction that can no longer simply be served as individual living vehicles. Instead, they have become collective clusters constituted by an urban composition of gigantic masses with its consequential void, a by-product as a public space. The homogeneity of solids did not only breed anonymous housings, but also abundance of boring space within the clusters. In reality, the ‘poor guys’ only spend their everyday lives inside the ‘maquette’ for the sense of intimacy, leaving the rest of the enormous space being overlooked. However, at the micro level of this urban shelter product, space is the most important commodity, which requires an optimal use not only for catering the immediate demands, but more importantly for reasons of the lifestyle, economics, and culture of the users (Correa, 1976). In the case of Bijlmerplein, a cluster serves as a collective asset for a spectrum of users, ranging from residents to visitors and from shop owners to workers. And hence, when attention has been paid to the design of building blocks, an optimised answer to a diverse need of the ‘commons’, should also be parallelly addressed.

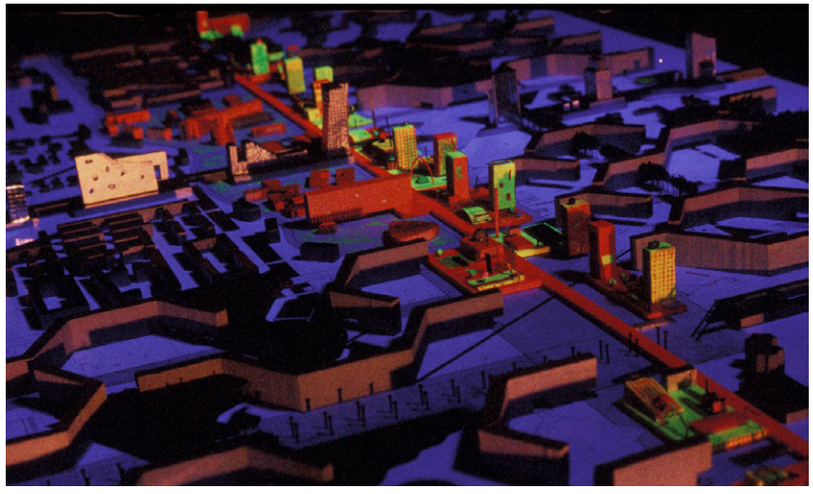


Fig.4 Bijlmermeer redevelopment model proposed by OMA in 1986 (photograph that was shown to Pi de Bruijn)

1.3 Theoretical framework - Revival of the diminishing egalitarian with the notion of just life

The emergence of modern urban movement was originally built up on the egalitarian vision. The early conception of the Bijlmermeer conformed to socialist ideals of equality and collectivism in the form of a uniform landscape (Fainstein, 2010). Yet, after layers of failure and following redemptions, not only did we not achieve social justice, what remained today in Bijlmermeer are segregated heterodox neighbourhoods. Even though liveability problems have been alleviated over time, social injustice is still an unresolved issue in current neighbourhoods, which are indicated by the relatively large size of vulnerable groups and high unemployment rate (Wassenberg, 2013).

To revive this diminishing vision of egalitarianism in Bijlmermeer, an initial step is to define the research framework of social justice, in which architects could find the position to interfere with. ‘Social justice’ generally refers to the distribution of benefits and burdens in society. And to measure justice in space, Frenkel and Israel have designed a conceptual framework (Fig. 5) entwining the normative sense of justice and the living environments, habitus and thus capital forms (Frenkel and Israel, 2017). Based on the complexion of the spectrum of constitutional roles involved in the cycle of this socio-spatial dynamics, their framework is deconstructed and synthesized in the next step to facilitate the possible positioning of an architect. In addition to the dissection of the intricacy between city and citizen, this research also references the thinking machine by Patrick Geddes in the understanding of the notion of life of four steps (Hysler-Rubin, 2011). With the four aspects - physical attributes, social space, local habitus and political milieu extracted from the rational of Frenkel and Israel (Fig.6), and the four bio-psycho steps - acts, facts, thoughts, deeds from the ‘thinking machine’ suggested by Patrick Geddes (Fig.7), the superimposition of both socio-spatial sense of justice and bio-psycho translation of justice sets the foundation for the notion of ‘just life’ (Fig.6). And to complete the inter relationships among those four aspects, additional spiral circulation illustrates the conversion of goods and commodities distributed in society constituting the personal capability set, which is further amplified in the functioning in social fields in a broader context leading to the sense of social justice. As another abstracted thinking machine entwining social justice in the context of a spatial constitution, it lays the basic ingredients for a just life. And among these inter-correlations, as architects, we may find our chances of contribution in the intervention of ‘physical attributes’ and ‘social space’, of which will be further elaborated as the foundation of this research.

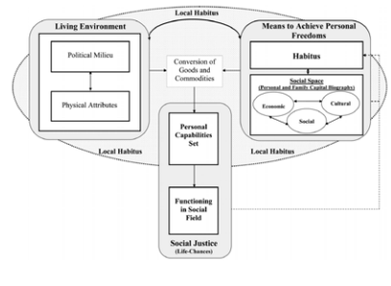


Fig.5 Conceptual framework for the measurement of justice in space by Frenkel and Israel

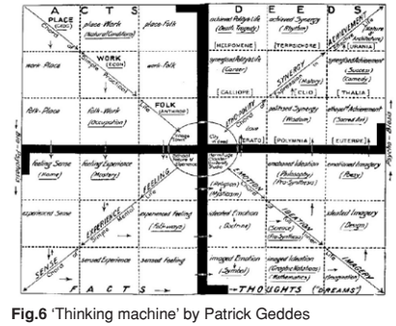


Fig.6 ‘Thinking machine’ by Patrick Geddes

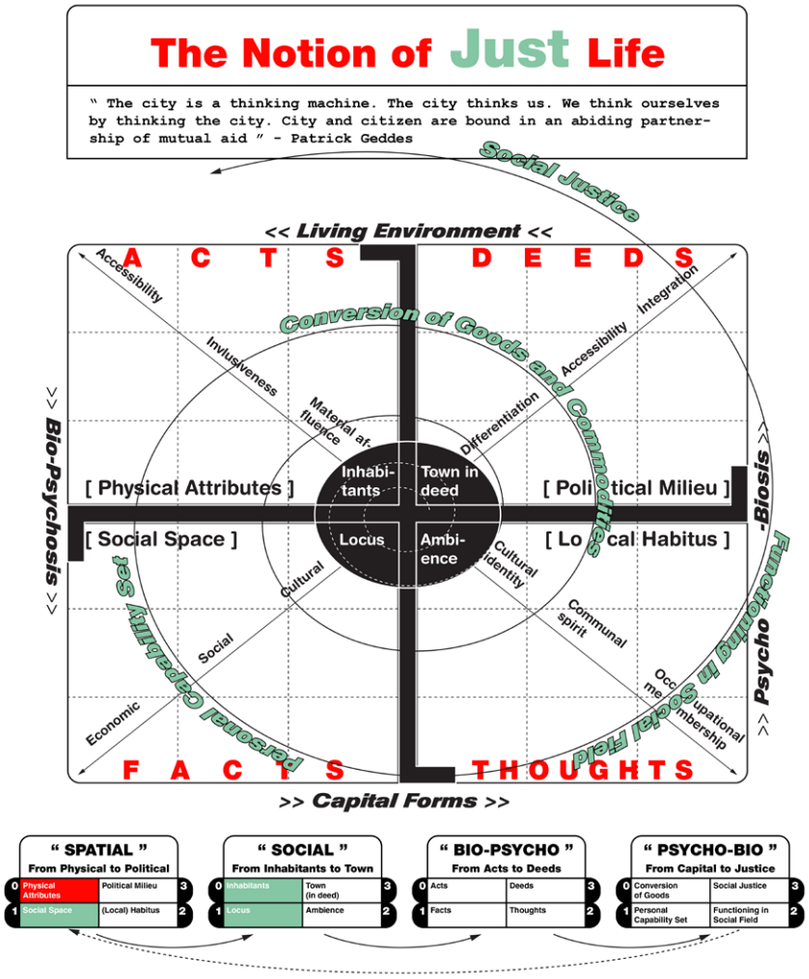


Fig.7 Notion of just life and its constituents, interpretation of (Frenkel and Israel, 2017), (Hysler-Rubin, 2011), (Fainstein, 2010)

1.4 Context and narrative

Once upon a time, architecture was nothing but a shelter. Until in the early 20th century, modernism emerged, and we thought architects could be our hero, saving us from the liveability problems. However, instead, technology took over the power and replicated a series of giant public housing blocks. All we were hoping for was egalitarian and equality.

Since then, architects have left the stage and returned as the urban man. Housing is not an architecture anymore, but an urban product. Unfortunately, those mass production of housing blocks failed us. They were torn down while the livability problems remain still unsolved. And today, instead of positioning myself as an architect or urban woman, I would like to take a 'non architect' lens to dissect those ramifications after our failure. In the belief that egalitarianism is a good ideology, a **just democratic life** is what this thesis aims for in the neighborhood.

Setting the site in Bijlmerplein in H-buurt area, it is a mixed use neighborhood where liveability should be interrogated from a holistic perspective. Therefore, living is not only about dwelling, but also the commons. Unfortunately, in recent years, the spatial structure of Bijlmerplein has failed to facilitate any good recreational, educational exchange. The shopping plinth not functioning properly has also brought a negative impact economically. Those vacancies and the poor qualities commons have rung the alarm of the embedded spatiality of injustice in the neighborhood. Particularly during covid-19, the malfunctioning has even been worse and those empty dead streets has marked the deepened injustice. As behavioral shift was found during the lock down and reopening, it has aroused the discussion of the long lasting impacts of it, and more importantly, the preparation for more possible pandemic coming.

Therefore, the **objective of the research** is about 'living with commons', facing the challenge of the deepened spatiality of injustice amidst covid-19. And the **goal of the design** has two parallel lines- social and spatial. It is aimed to catalyse the mixed use neighbourhood, in the form of a more pandemic proof commons.

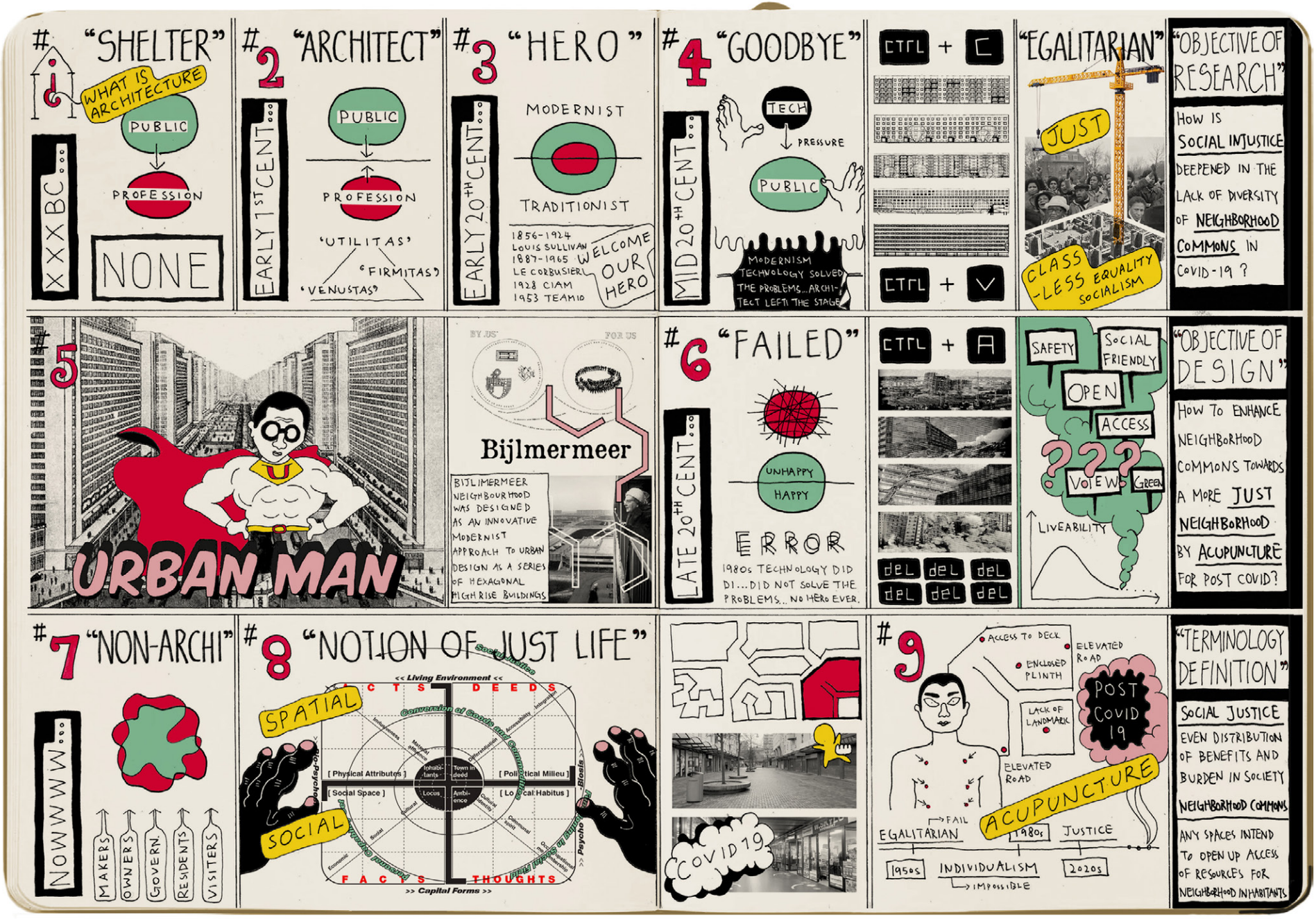


Fig.8 Context and Narrative

Problem Statement 02

2.1 Spatiality of injustice in the lack of diversity of the commons

While social justice could be understood as the distribution of goods, such as utility and liberty, 'spatiality of injustice' refers to the physical attributes and social space that sustain the production of injustice (Frenkel and Israel, 2017). To further consolidate this idea, in a context of a neighborhood, it would be interpreted as 'the neighbourhood commons which causes uneven distribution of the common goods - the economic, social and cultural capital'.

Rooted in the neoliberal critique of contemporary urban development in commodifying the collective resources of the city, there is a powerful social movement to reclaim control and promote greater access of urban space and resources (Foster and Iaione, 2016). Henri Lefebvre, a French philosopher, first articulated the 'right to the city' movement which has manifested to give more power to city inhabitants in shaping urban space (Lefebvre, 1996). Although the definition of the 'right' to the urban space by the scope of enhanced participation and access to urban resources remains politically unclear, where this research lays the interest in is the 'collective shaping of the urban space' which facilitates the distribution of common goods. Thus, regarding a neighbourhood scale, instead of 'urban commons', 'neighbourhood commons' is the key spatial constituent in the distribution of common goods as an inclusive and obvious confluence of most collective activities. Following the framework of 'neighbourhood commons' and 'injustice' is the clarification of the causal relation in between. Although the issue of justice has been raised in the field of geography, the factors of scale, theme and perspective have made the measurement of this political philosophy in the form of spatial principles particularly challenging. Overtime, among different streams of thoughts about the notion of spatial justice, a just form of social-spatial relationship is best represented by Suan Fainstein's book, The Just City (2010), suggesting three indicators: democracy, equity and diversity (Fainstein, 2010). Referencing these indicators in the context of the Bijlmerplein, the lack of diversity of the commons as a by-product of homogeneity masses, which is explained in the previous chapter, could be read as an underlying cause of social injustice. Based on the collective research, which will be explained in chapter 5, hindrance for an even distribution of all forms of capital can be identified as five categories.

> *The definition of the 'commons' could be spatially ambiguous with a spectrum of inclusiveness. Unlike 'public space' which is politically well-defined by the negative violation of order, 'commons' is vice versa which reclaims control for groups of heterogeneous users, often with minimal regulatory involvement. To avoid the possible misunderstanding of the form of 'commons', in this thesis, the 'neighborhood commons' refers to any spaces which intend to open up access of the resource in order to produce other common goods or to enhance social utility for a broader class of neighbourhood inhabitants (Foster and Iaione, 2016). Forms of the potential 'commons' could be first, 'raw' land (landscape), second, a variety of open spaces and infrastructure (streets and roads), third, public and private structures and buildings.*

2.2 Diminishing public realm and the neighborhood commons

First problematic commons is the ground floor public realm. One of the most dominant problematic phenomena is the vacant stores on the street and around the squares. In fall 2020, during site visits in Bijlmerplein, along the pedestrian streets towards the viaducts at the periphery of the neighborhood, there was no single store opened. The 'Carribean' atmosphere in the heyday of the neighborhood has been totally replaced by today's deadly ambience. In addition, the super flattened ground floor stores have been barely providing spatial opportunities for extension for unconscious social encounters. Together with the monotone type of stores which are mostly for necessity supplies, there has always been insufficient grounds for cultural capital exchange in the neighborhood. The second spatial form of injustice is the articulation of the plinth itself. Without access to fresh air and open areas within a compact shopping area, the form of a complete enclosure of the shopping plinth has constituted an unsafe consumption condition for public health particularly amidst pandemic. As a consequence, the entire indoor shopping area has to be shut down during the partial lockdown period, which has turned out to be a stagnation of the commons. The third one is the access to the upper deck. Due to the construction of housing above shopping, this dichotomy has been further segregated by the poor connection constituting two very different worlds above and below. The lack of access to the upper commons becomes a barrier for the flow of between two programs. Aside from the access to the deck, the access to the building is also another problem. The dark and compact staircase of the residential building is deprived of sufficient daylight and good ventilation making it a very uncomfortable experience to walk up four stories. While staircases are the circulation space where most of the neighbors encounter one another, a low quality dynamic space exploits the opportunity for neighbor encounters and interactions. Last but not least is the lack of diversity of roofscapes. The failure of the modern movement in highrise building blocks had buried every credit of any beneficial socio-spatial intention which led to the return of low rise and mid rise in the construction of Bijlmerplein as an anti-Bijlmer project. However, the 'dream' of pursuing a good view with fresh air is never wrong. And the homogenous midrise discrediting this idea of the equal opportunity for a good view point has been an exploitation of spatial accessibility in the neighborhood.

Fig.9 Site visit in Bijlmerplein on 24.10.2020 Saturday

2.3 Amplification of socio-spatial injustice amidst COVID-19

Major global events, such as economic depressions and wars have been shaping our society and the way we experience everyday life throughout history. The war gave the modernist a blank page to experiment with the ‘clean and neat’ utopian city, followed by the global failure of those mass produced slab housing urging the demolition of them. Pandemics in 2020 is one of them which demands a major shift in functional physical approaches of places as well. As pandemic regulations are being implemented throughout the globe, there is a behaviour shift in the public and human interactions (Gehl, 2020). Socially, environmentally, and also economically, open spaces play an essential role in maintaining a balanced public health amidst Covid-19. Witnessing the adaptation of city and citizens in this crisis, open urban commons has been proven its key to build on the sense of community and social cohesion while overcoming the economic challenges. While high quality of existing commons acts as a catalyst for the transition of the ‘new normal’, problematic ones, or the lack of neighbourhood commons becomes an amplifying device of social injustice in a neighbourhood.

The crisis of pandemic does not only raise a challenge in social activities, but also more significant in the form of economic capital. As an experimental neighborhood serving as a product of Anti-Bijlmer, the idea of separation of function, Bijlmerplein had intention to be a mix-use area with shopping streets, shopping plinth and arcade on the ground level with housing above. Throughout decades since its integration of consumptional leisure, Bijlmerplein has proved its higher level of resilience compared to other monofunctional neighbourhoods. Shops had been bringing more active street life and public realm to Bijlmerplein and hence, attracting higher influx of inhabitants compared to other neighbourhoods in the H-buurt. However, the paradigm shift in consumer behaviour to online in recent decades, with the noticeably escalating trajectory of online consumption amidst the pandemic, a lot of stores have been found vacant today in Bijlmerplein. The decline of the number of people spending time outdoors is limited by the lack of choices of outdoor space, as a consequence of less potential customers on the streets, causing closing down of more stores. On the other hand, under a circular effect, the shrinking spectrum of surviving shops on the ground floors has constituted a ‘deadly’ vibes of the public realm, which further suppresses the residents from getting on the street (Wassenberg, 2020). The diminishing public realm has raised an alarm on the impact of pandemic and potential economic crisis on the social resilience of Bijlmerplein under the paradigm shift in consumer behavior.

Fig.10 Site visit in Bijlmerplein on 14.11.2020 Saturday

Fig.11 Site visit in Bijlmerplein on 14.11.2020 Saturday

Aim and Objectives 03

3.1 Research question

How is social injustice deepened in the lack of quality of neighborhood commons amidst the crisis of pandemic?

1. What are the existing attributes and corresponding values constituting the neighborhood commons in Bijlmerplein?
2. How is the performance of those neighborhood commons during the COVID-19 partial lockdown?
3. What were the other neighborhood commons and what collective activities (both intended and unintended) had been there in the 80s and heydays before COVID-19?

This research begins with the question of what neighborhood commons are in Bijlmerplein and how they are being valued by different groups of stakeholders, of which the answer is retrieved from the collective research. Following the reflections of the neighborhood commons, the research explores how their performance during partial lockdown. And based on the two reports from Gehl about the public space and public life during COVID-19 and in the reopening of Copenhagen (Gehl, 2020), this supports the hypothesis that the commons would be negatively affected by the pandemic, which is elaborated in chapter 3.3. Aside from the research of the current conditions of the commons, the retrospective collective activities will be researched parallely by looking into the archive photos as a comparison in terms of the socio-spatial diversity.

3.2 Design question

How can adaptive reuse of an under-designed shopping mall from the 1980s can stimulate a fair healthy living environment within a broader neighborhood for the post-covid future?

1. What are the potential neighborhood commons demanding alteration or enhancement?
2. How to enhance the corresponding valuable attributes in terms of their spatial, social and heritage value?
3. How to create a more pandemic-proof commons which meets the standard of the ‘new normal’?

The aim of this research is to identify the current neighborhood commons and extract the potential ones as the base of the design. In response to the posed problems and the conclusion of the research question, a set of strategies of interventions corresponding to the neighborhood commons at Bijlmerplein cluster 7 will be explored in a form of ‘acupuncture’. Regarding the existing attributes of the neighbourhood commons, the design will anticipate the way of enhancement that would positively impact on its spatial, social and heritage value. In addition to the existing, the newly introduced interventions have to respond to the standard of the ‘new normal’ to optimize its distribution of common goods in preparation for any next possible pandemic.

Fig.12 Bijlmerplein in H-Buurt

Fig.13 Cluster 7 in Bijlmerplein

Research Structure and Methodology 04

Research and design is formulated into two parts, collective and individual. The collective parts focus on researching the values and attributes of case studies and the development of corresponding research methods, data collection and interpretation. It answers the question of 'what are the existing attributes and corresponding values constituting the neighborhood commons in Bijlmerplein?' Discovery of main values and attributes of respective neighborhoods will be selected for the development of design tools for the next stage. Bringing the collective code book about values and attributes, and a set of value-based scenario toolkit for 70s/ 80s residential neighbourhoods to the individual part, a more in depth research in cluster scale will be conducted. In response to the key findings and potentials of the existing from the collective part, the individual part will further explore the change of those attributes amidst the pandemic for a more holistic understanding of 'how is social injustice deepened in the lack of diversity of neighborhood commons amidst the crisis of pandemic'.

4.1 Collective

4.1.1 Research structure

Collective research consists of a research part **(I-IV)**, followed by research by design (V-VIII). The research undertaken in Almere Haven and H-Buurt serves as a foundation for the design process. **(I)** Pilot research exploring values and attributes in Almere Haven is conducted as the beginning of the experimental research. It is to test and adapt the research methods and documentation in values and attributes. **(II)** Research exploring values and attributes in H-Buurt as the target site study follows the test in the pilot research. Four groups are divided to cover four different stakeholders of H-Buurt to get a full insight of important attributes and respective values in the neighborhood. **(III)** Coding of collected attributes from different stakeholders will be conducted with Atlas.ti software to form an explanatory code book of attributes. **(IV)** Interpretation and selection of values and attributes from the code book will inform the tools in the stages of research by design.

Bringing the values and attributes to the confrontation with local issues and challenges which might have raised in the research part, research by design translates the code book into a design toolkit. **(V)** Defining the challenges embedded in the attributes in the code book presents the gap between the ideal attributes and the actual societal situations. **(VI)** Development of value-based tools are developed based on the confrontation of the challenges in (V) and attributes found in (IV). Sets of design scenarios linking values to challenges become a collection of tools for different scale levels, values and perspectives. **(VII)** Impact assessment of each design scenario is conducted based on its impact on the corresponding values which determines the likelihood of the design approach. **(VIII)** Toolkit of the approaches to an architectural intervention and its respective value impact will remain as a constant tool to be used throughout the design process.

4.1.2 Research methods

As an experimental collective research, different research methods are applied in various stages in the form of group work. **(I)** The research methods explore residents' memories and perception by images, which are carried out in two groups - media and on site. The media group develops on a more holistic perspective based on sources like social media and literature are used for data collection for attributes and values. Synthesis of data is presented in different forms of diagrams, such as Sankey diagram and hotspot map to test the effectiveness of representations. Parallelly, the on site group focuses on street interviews in the forms of open conversation, drawings, questionnaire and picture elicitation to collect the attributes and values from the resident perspective. **(II)** Research methods developed from (I) are further improved and integrated into the research from the perspectives of four stakeholders - government, makers, owners and users, while interviews with the first three stakeholders are conducted as in- depth ones by online meeting and narrative walk. **(III)** Aside from the help of the diagram presentation developed in (I), attributes and values collected are synthesized with the use of Atlas.ti software as a base for qualitative and quantitative analysis. Key words and photos are coded, grouped and rearranged to form inter relations among one another. **(IV)** Code book of both quantitative and qualitative analysis in the form of code network diagrams, dendrogram heatmap, and value matrix sets the foundation for discussion on the values and attributes, design assignments responding to problems and opportunities. **(V)** Identification of challenges and key attributes and values is generated based on a collective conclusion and discussion among groups to get a full insight from all four perspectives. **(VI)** In the theme of socio-spatial diversity, which serves as the starting point of the focus of this research, scenarios for diversity enhancement of social life and collective space are designed covering a spectrum of scale by variants, references and theories. **(VII)** In respect to this theme, social, spatial and heritage values set the metrics to evaluate the impact of involved key attributes in the scenarios. Impact assessment in the form of spider diagrams illustrates the change of value of each attribute when corresponding intervention is applied. **(VIII)** Toolkit of socio-spatial diversity consisting of impact assessment of all tested scenarios becomes the basis for developing approaches to acupuncture interventions in response to the enhancement of the neighbourhood commons. It will be constantly used for the selection of design variants in an iterative design process.

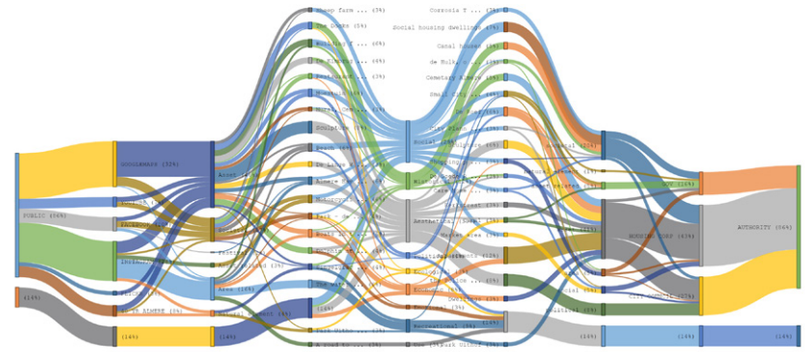


Fig.14 Sankey diagram of attributes of Almere from the points of view of the public and authority

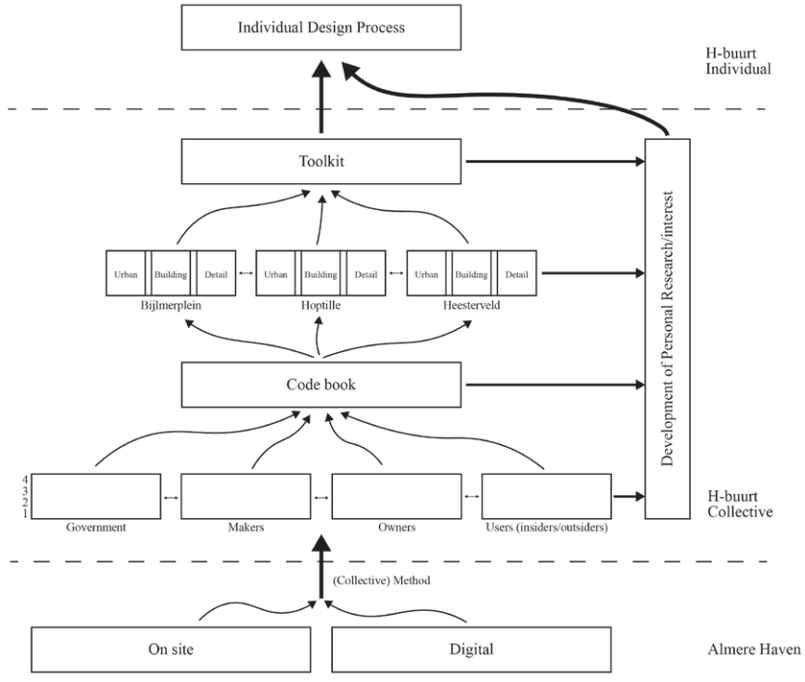


Fig.15 Collective research scheme

4.2 Individual

4.2.1 Research structure

Following the code book guided challenges and value-based toolkit setting up a design strategy framework, the individual research further interrogates the articulation of key attributes and the impact of covid-19 on the neighbourhood commons. The research consists of data collection (I), followed by two other sets of design tools (II,III). **(I)** Research is formulated in the data collection of the current neighbourhood commons and the ones in the old days in the form of physical attributes and social activities. Observation of the current and past forms of neighborhood commons responds to the hypothesis of 'deepened injustice' and feeds to the understanding about the existing key attributes during the pandemic. **(II)** Design tools of a catalogue of design abstractions from the neighbourhood commons and illustrations of pandemic related commons will be synthesized as a conclusion of the analysis. **(III)** Value-based tool box from the collective part will remain as the evaluation tool supporting the design tools from (II).

4.2.2 Research methods

(I) Regarding the research question setting on the conclusion of the collective part, clarification of the hypothesis of 'lack', 'diversity' and 'crisis of pandemic' is extended into sub questions as the base of the research. Four research methods are used to discover functionality, conditions and behaviour of the neighborhood commons back in the old days and the present days. As a highly sociological driven research, research methods referenced to Gehl's ethnographic public life tool plays an important role in the

data collection of the present days. Qualitative methods in cultural anthropology like ethnographic and observational approaches characterized by their humanism and hollism allow understanding the complexity of social relations and cultural dynamics for design and reconstruction (De la Torre, 2002). Particularly in this research of the neighborhood commons and its changes amidst pandemic, the data of social space and current performance of key physical attributes can be well attained by (1) observational survey and (2) on-site snapshots. Aside from the behavioral data collection of the current moment, (3) archive drawings documentation gives a more detailed insight of the spatial constituents of neighbourhood commons in terms of the socio-spatial diversity, technical flexibility and anti-pandemic quality of the existing. (4) Desktop research is a supplementary method focusing on the neighbourhood commons back in the old days. Snapshots from social media and archive photos provide evidence of the past social space. Besides, desktop research of case studies of the effect of pandemic on other commons gives another insight of the general impact of lock down and reopening on their performance. It serves as an additional reference for the post pandemic design guide. **(II)** Analytic architectural drawings and snapshot illustrations translate the collected data into annotated visual evidence corresponding to the research question. Two sets of design tools will be developed based on (I). First is a catalogue of design abstraction which illustrates the good quality attributes of both the past and present neighborhood commons. It will formulate a set of design language guidance for the acupuncture interventions. Second, a collection of scale of 'new normal' presents how the neighbourhood commons in Bijlmerplein and commons has been reacting to the pandemic. This collection of socio-spatial measurement will set a foundation for a more pandemic-proof design in the future. **(III)** Value-based tool box referenced to the (JMBC) J. Max Bond Center's 'Just City' values (Gehl and JMBC, 2015), 12 quality criteria from Gehl (Gehl and Svarre, 2013), and heritage value from Alois Riegl (Riegl, 1903) will be constantly referred to as an iterative design research, of which the 12 quality criteria will be the main metrics to evaluate the spatial decision in the entire design process.

	Snapshot	Attribute	Imageability	Abstraction	Reference	Impact
Current Cluster 7	* On site photo * Archive * Social media * Analytical drawing	* Potential attributes of the commons	* Path * Node * Landmark * District * Lower/ Upper edge	* Proportion * Language * Material	* 80s architecture * public space * pandemic adaptation	* Spatial * Social * Heritage +Pandemic +Technical
Current neighborhood						
Old past neighborhood						
Recent past neighborhood						

Fig.16 Framework of catalogue of abstraction

CURRENT BIJLMERPLEIN		COPENHAGEN LESSON	
Physical	**Social**	**During**	**Reopening**
* Furnishing landscape * Building facade activation * Entries * Urban connectivity * Neighborhood connectivity	* Stationary activity * Moving activity * Active program * Vacant program * Active users	Reference to "Public Space and Public Life during COVID-19" by Gehl	Reference to "Public Space and Public Life reopening COVID-19" by Gehl

Fig.17 Framework of pandemic-proof design measurements

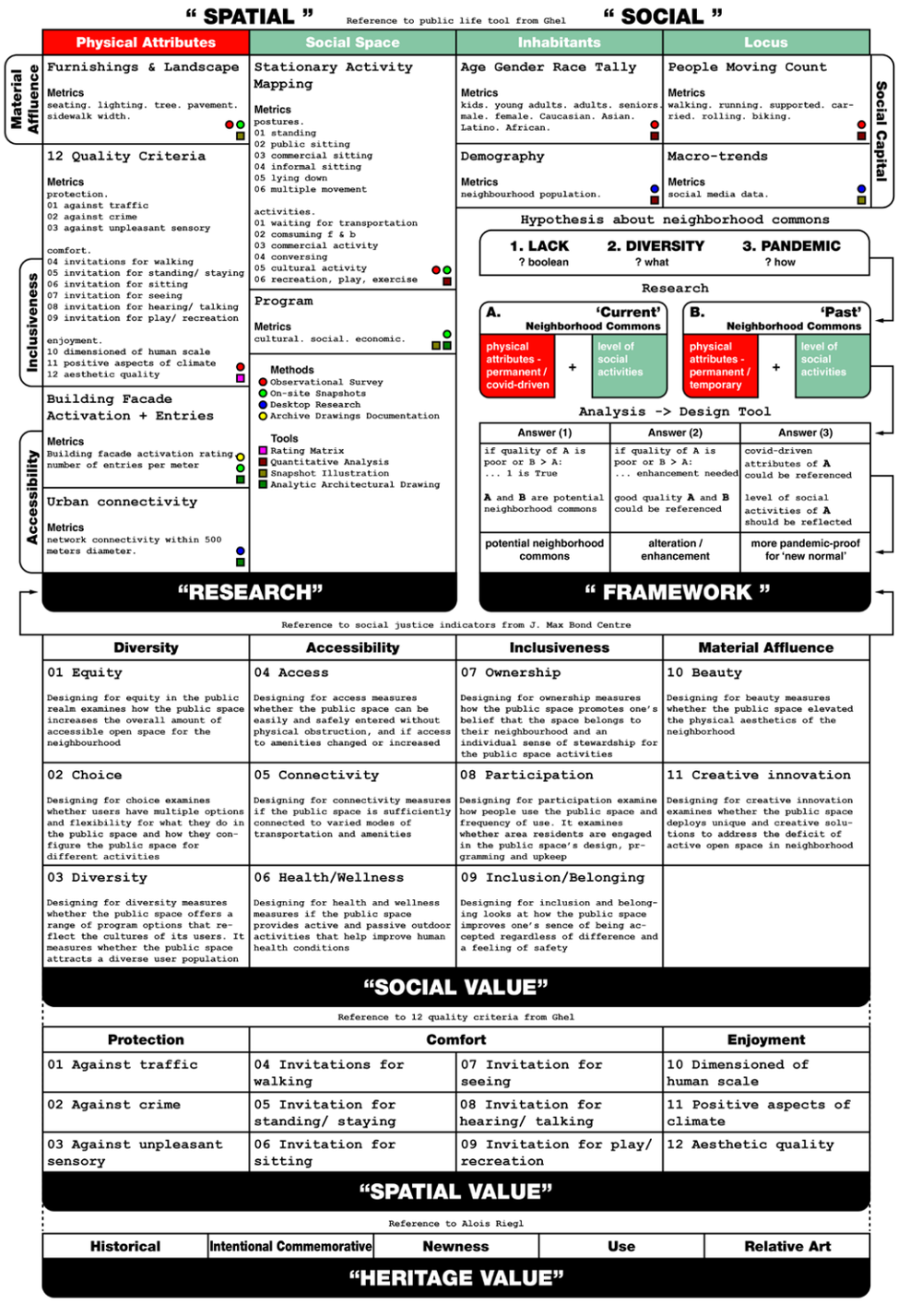


Fig.18 Individual research scheme

Research 05

5.1 Value and attribute

“Cluster 7.0” -3 0 3		SOCIAL VALUE				SPATIAL VALUE			HERITAGE VALUE				
		Diversity	Accessibility	Inclusiveness	Material Affluence	Protection	Comfort	Enjoyment	Historical	Intended Commem.	Use	Newness	Relative Art
Urban structure	Elevated road	0	2	0	0	1	-3	0	3	0	2	0	0
District	Mix use (street level)	2	1	1	0	-1	-1	-1	3	0	1	0	0
	Street art (political)	1	0	3	2	0	0	1	0	3	0	2	2
Surroundings	Sandcastle	0	1	1	3	0	0	3	3		2		3
	Public square	1	1	1	-1	1	1	1	0	0	2	0	0
	Street hawker	2	0	2	0	0	-1	0	0	0	2	0	0
Building block	Mid rise height	-1	0	-1	0	0	1	1	3	0	2	0	0
	Mid rise horizontality	-1	0	-1	0	0	0	0	3	0	0	0	2
	Elevated deck	-2	-1	-2	-1	1	-2	-3	3	0	3	0	0
	Shopping plinth	1	1	1	0	1	-2	-2	3	0	1	0	0
Skin	Entrance arch	0	1	1	1	1	0	1	2	0	1	0	2
	Round balconies	0	1	0	1	1	1	1	2	0	2	0	2
	White bricks	0	0	0	2	0	0	1	1	0	1	0	2
Structure	Glass roof arcade	0	1	0	1	1	1	1	1	0	2	0	2
Services	Access to deck	-1	-2	-2	-1	-1	-2	-1	0	0	2	0	0
Space plan													
Stuff													
Spirit of place	Multi cultural neighborhood	3	0	1	0	0	0	0	3	0	0	0	0
	Anti Bijlmer	2	2	3	2	0	0	1	3	0	0	0	0
	CIAM aspiration	-3	-2	-3	0	2	1	1	3	0	0	0	0

Fig.19 Attribute and value matrix in Bijlmerplein Cluster 7

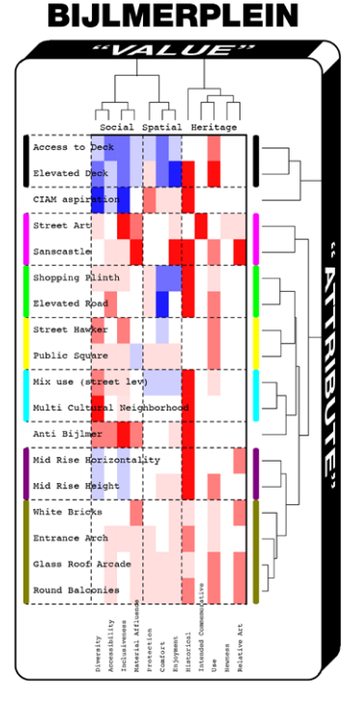


Fig.20 Dendrogram heatmap of attribute and value

Based on the research from the perspectives of four stakeholders - government, makers, owners and users, this is the value-attribute matrix concluded for Bijlmerplein cluster 7. While the blue indicates the low valued- attribute as the challenges, the red is the positively valued one as the potentials of the existing. It is then further translated into the dendrogram heatmap to show the relativity among all attributes to categorize them for a strategic corresponding resolution.

Relating these findings into the spatiality of injustice of the commons, **(I)** captured photos in site visit, **(II)** archive photos, **(III)** maps, **(IV)** supportive visual information about Bijlmerplein, are composed into a series of provocative collages to express the cynicism and hence the potential of the existing commons.

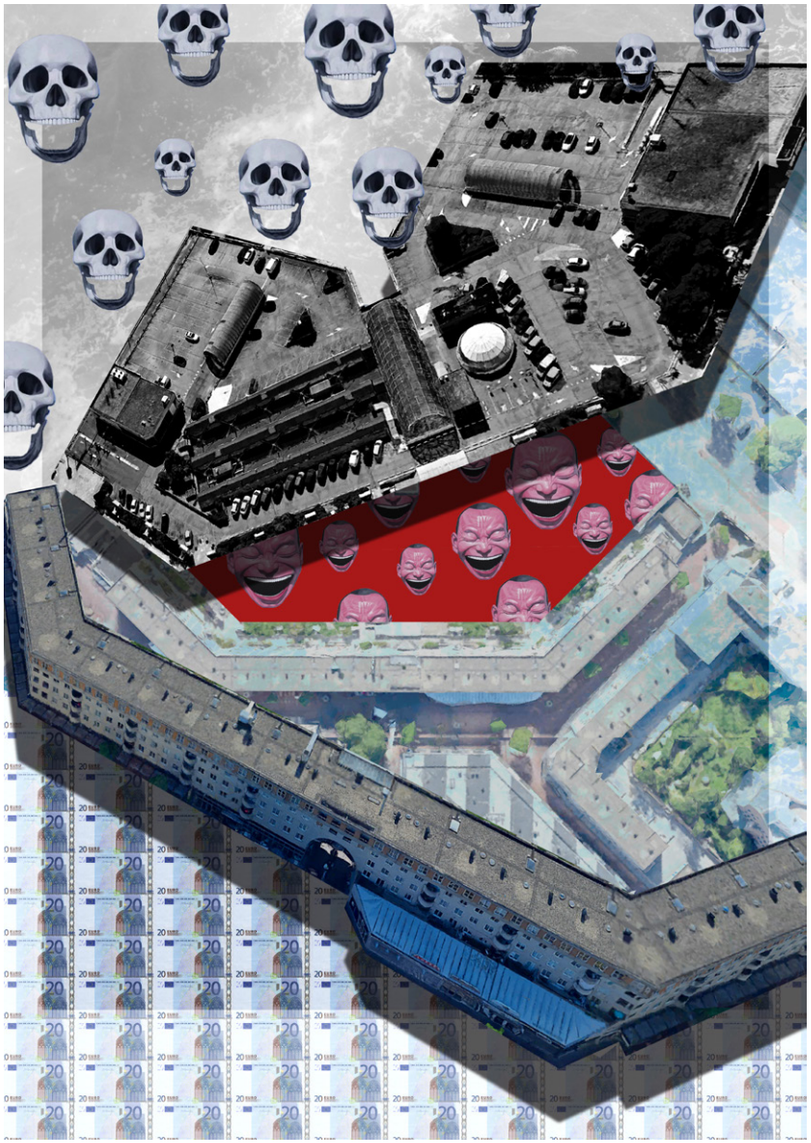
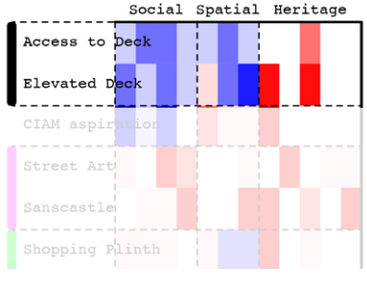


Fig.21 Lonely deck

Lonely Deck

Elevated Indifference

First challenge is the isolated lonely deck, where the ground and the deck level are totally separated as two indifferent worlds. As a result the deck always gives a deadly atmosphere.



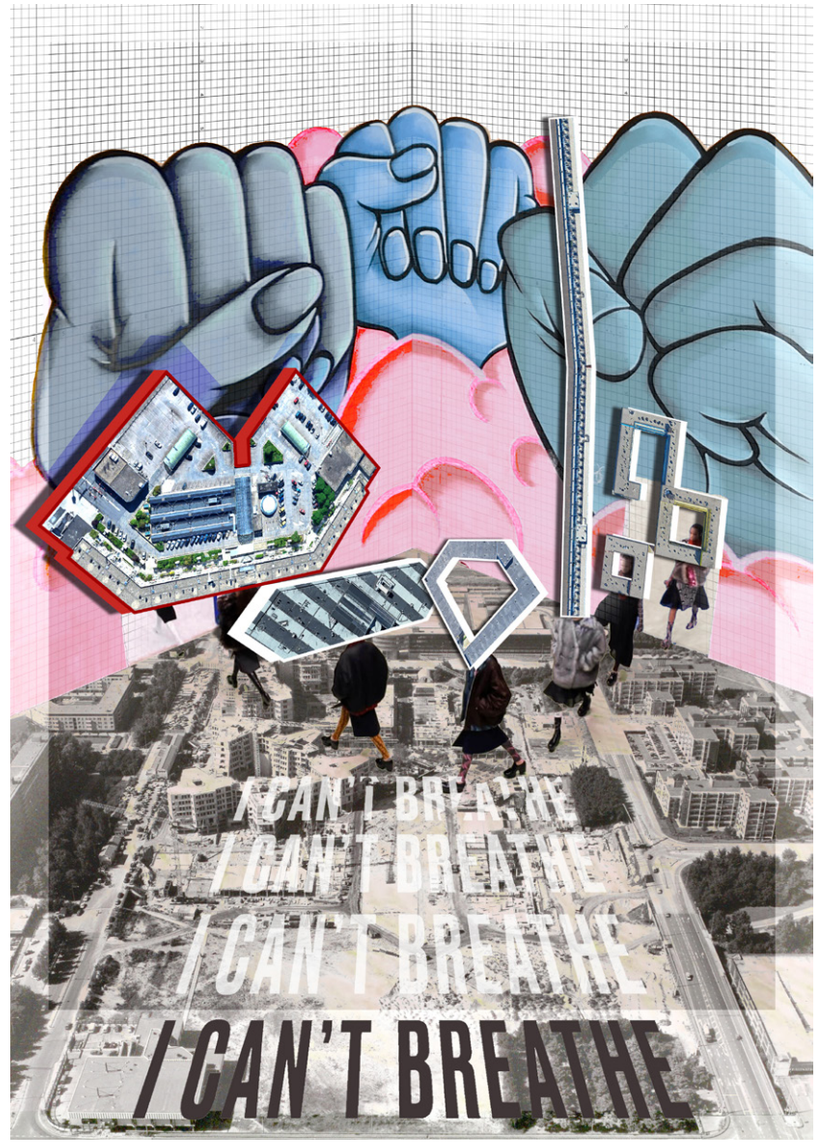


Fig.22 Plinth can't breathe

Plinth Can't Breathe

Gigantic Enclosed Chunk

The second one is the plinth not being able to breathe. In comparison of the cluster 7 in Bijlmerplein to Amsterdam Poort, and other residential blocks in the H-buurt, it appears as a gigantic enclosed chunk which is totally off the urban scale.

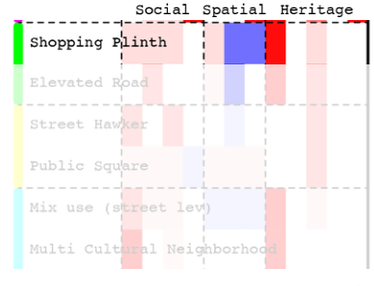


Fig.23 Highway borderland

Highway Borderland

Neighborhood Segregation

Then is the highway borderland, where the neighborhoods are surrounded by the elevated roads. Residents don't feel safe crossing under the viaducts that creates a sense of segregation.

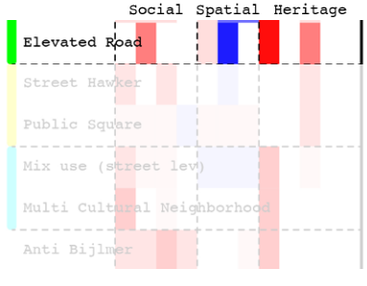


Fig.24 Limited mixed use

Not Mixed-Use at all

Lack of New Energy

The mixed use ideology in Bijlmerplein has such a high social and heritage potential, but it is currently lacking new energy. There are actually some emerging programs, like exhibition, entrepreneur organizations sprawling outside the centre. But meanwhile, there are increasing vacancies at the plinth.

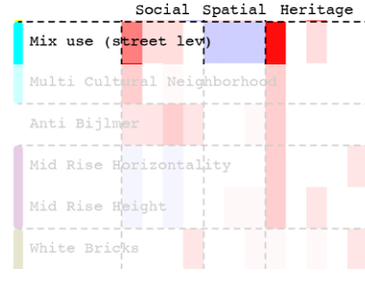


Fig.25 Arcade to a tree?

Arcade to a Tree?

Undesired Destination

Although the arcade serves as an important axis of the cluster with a high heritage value, it is ironic that it is leading to a tiny square with one tree. It is such a grand entrance to an undesired destination.

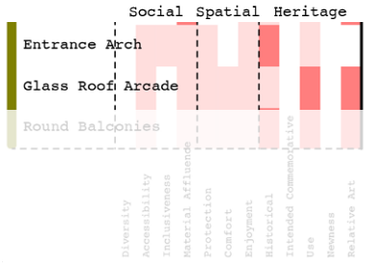


Fig.26 Covid apocalypse

Covid Apocalypse

No Store No Man

During the time of covid apocalypse, most of the places were forced to close down. Hence, there were no stores, no human in the gigantic plinth during the entire lockdown. While there is only limited open seating space for the public, it was a hard time to socilize during covid.

PLINTH-DECK CONNECTION

NEW ENERGY

SOCIAL

GOOD VENTILATION

24-7 SEMI-OPEN PUBLIC SPACE

SPATIAL

Unravel the malfunctioning commons → possible interventions

To translate those malfunctioning commons into any possible interventions, there are some corresponding resolutions.

Regarding the **social challenges**, the cluster needs a plinth-deck reconnection to bring liveliness back to the deck. Besides, a new program with some new energy is needed to reactivate the mixed use.

Parellely, for the **spatial challenges**, the plinth should provide a good ventilation system. And more 24-7 semi-open public space is needed. So the public can still socialize in a healthy, comfortable space in the next possible pandemic.

The last two concerning the neighborhood crossover and the axis to a public interest, are the less urging challenges that will remain a conceptual reaction in this project.

NEIGHBOR-HOOD CROSSOVER

AXIS TO PUBLIC INTEREST

5.2 Research by design

Research by design, lays its foundation on two metrics - the aforementioned attribute value matrix and a series of spider diagrams. The spider diagram for risk assessment. It is to assess the spatial, social and heritage value of individual attributes corresponding to different situations. For instance, when some changes happen and the new value becomes higher, the green colour on the diagram indicates a very low risk in that scenario.

The second part is scenarios design. In response to the challenges and potentials indicated in the previous matrix, design scenarios are created in corresponding resolution as a conceptual stimulation. Those scenarios serves as some intuitive exercises to anticipate the design impact on different attributes.

Such as scenarios related to the problematic elevated road, there are designs of connection to the deck or tearing down the road. There are possibilities to enrich the diversity of public roofscape and to reconnect the deck and plinth. Some other like reactivating the public realm and socio spatial enhancement of the dwelling on the plinth are all speculated through scenario design.

They were then brought to the risk assessment to evaluate their potential. For example in the scenarios of deck connection, there are pretty much increases in the value overall. And relating them back to the value matrix, some scenarios actually respond to the very problematic attributes, which is indicated by the blue colours.

And after individual assessment, it is concluded that scenarios about the **public realm**, **deck connection and reactivation** could be the potential positive ones for the design phase.

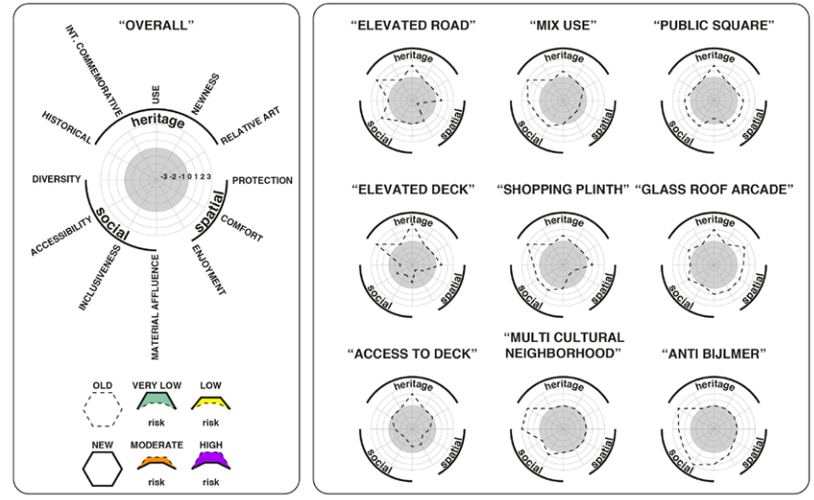


Fig.27 Spider diagram template

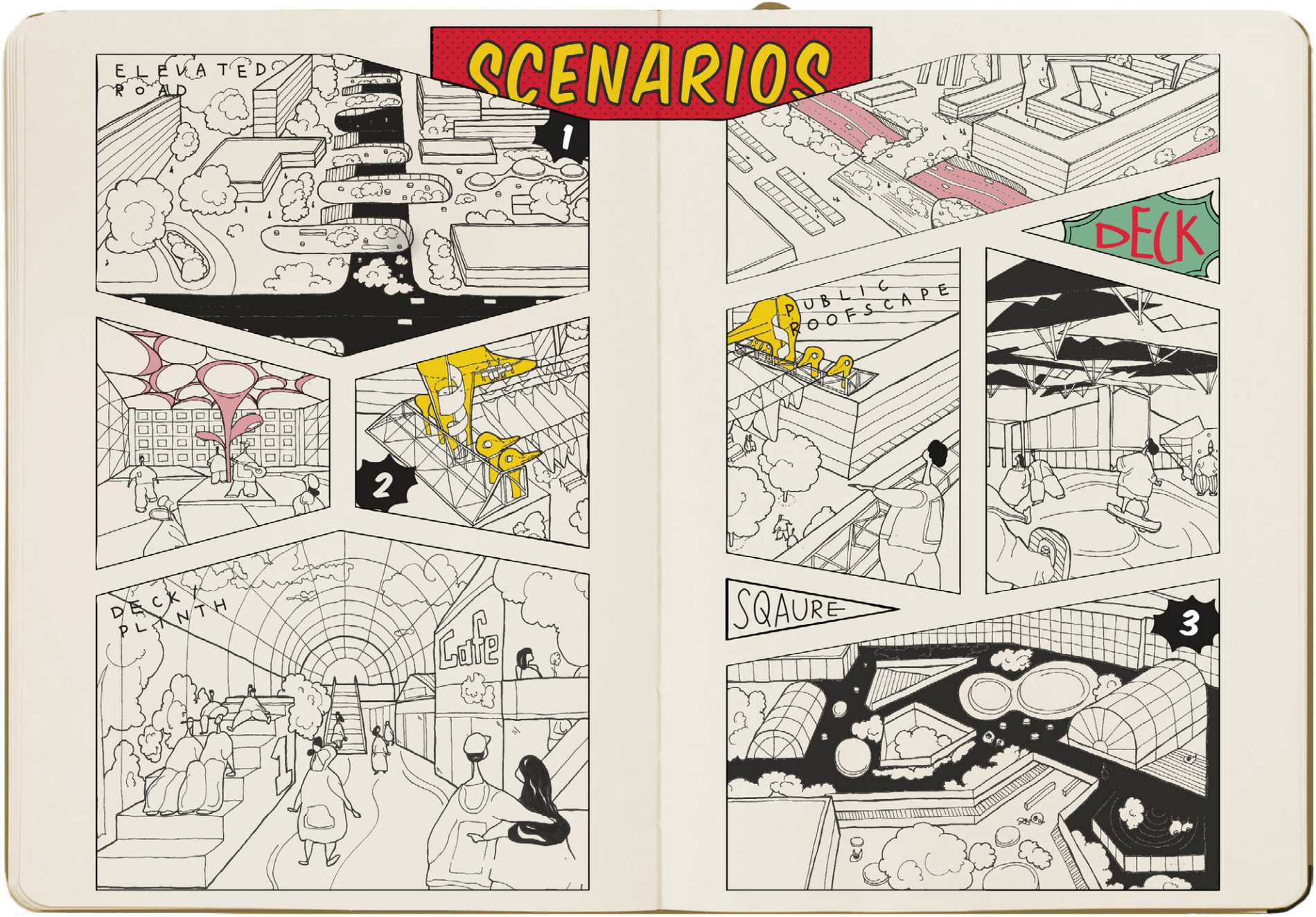


Fig.28 Scenarios

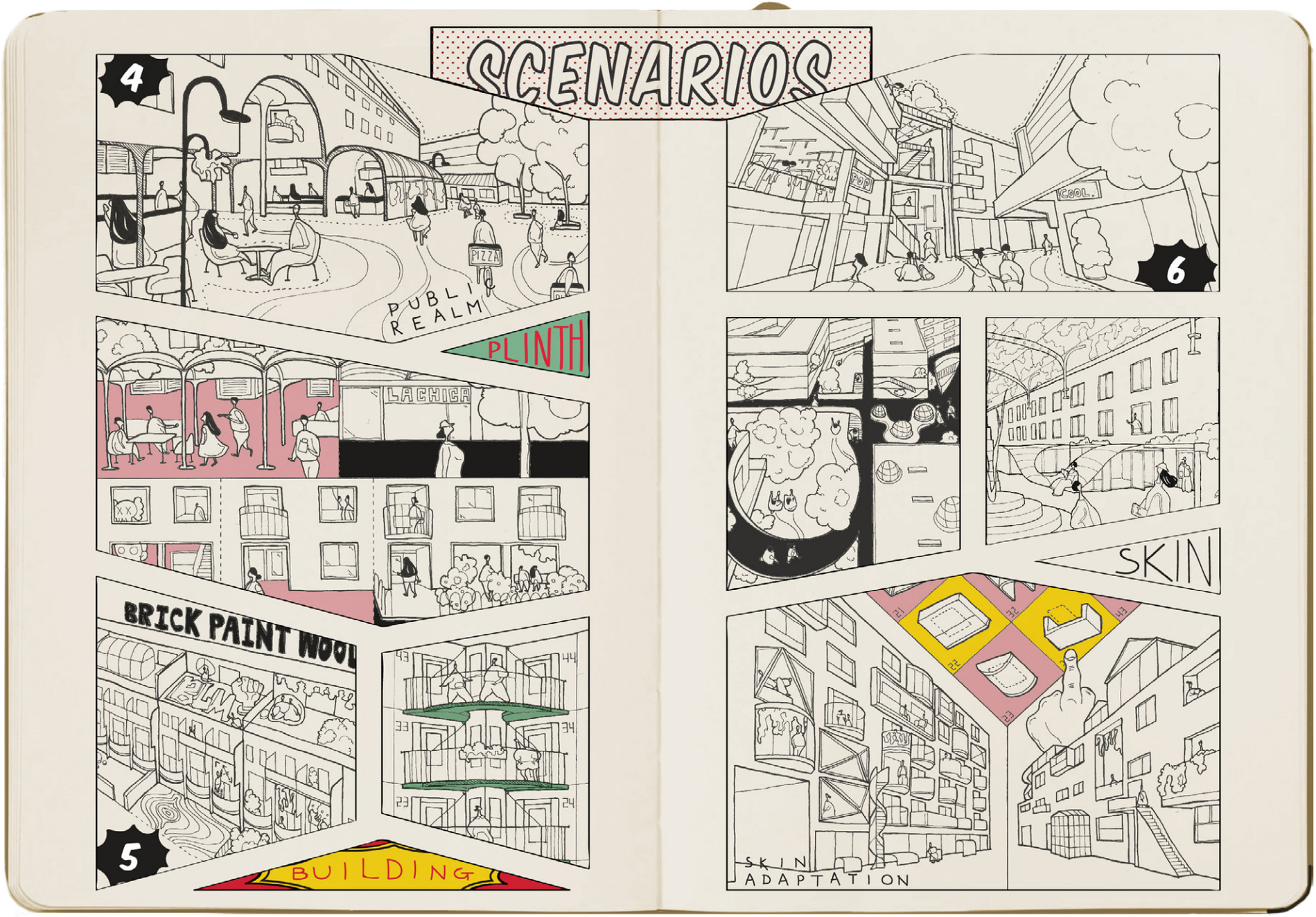


Fig.29 Scenarios

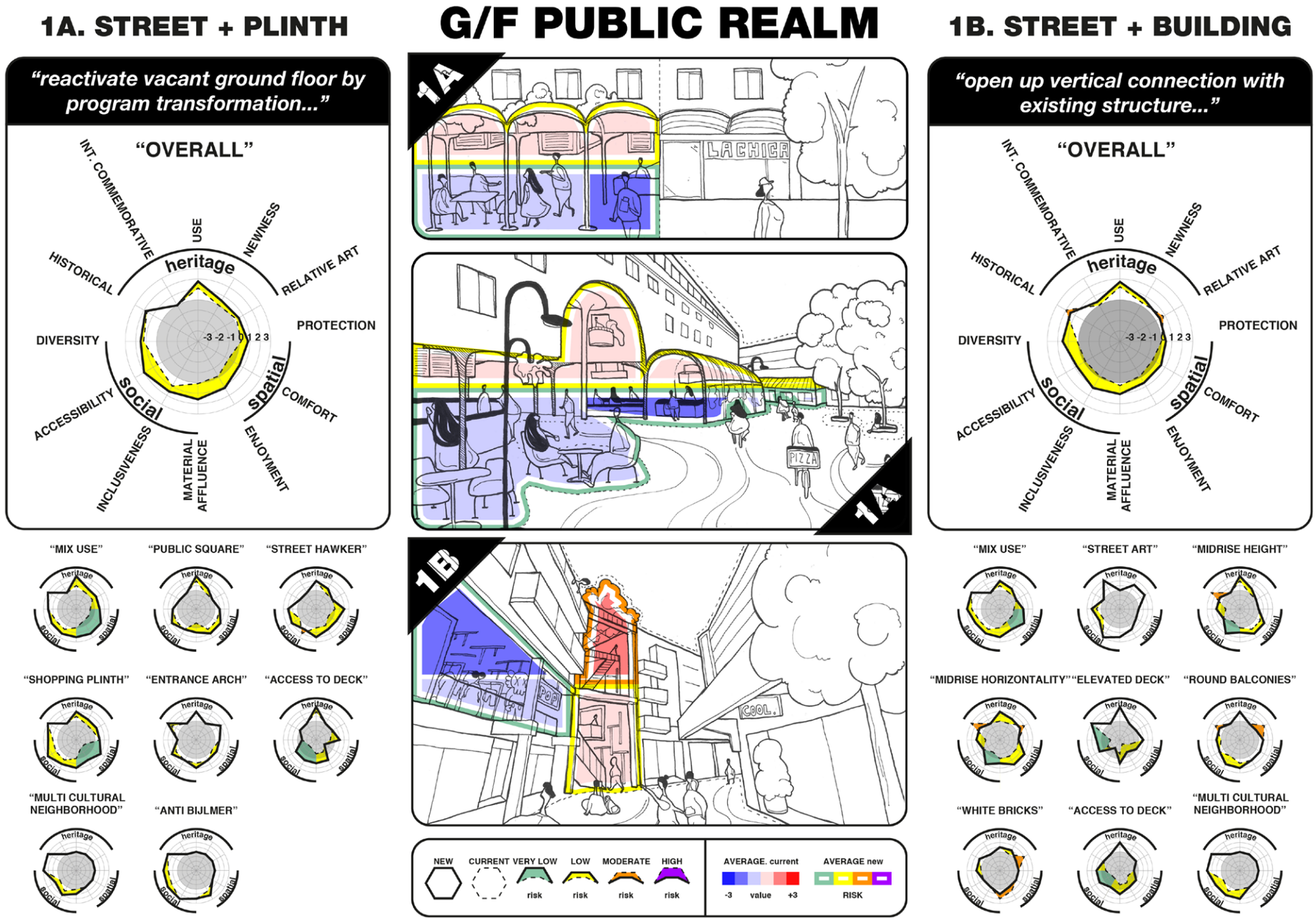


Fig.30 Scenario assessment 1

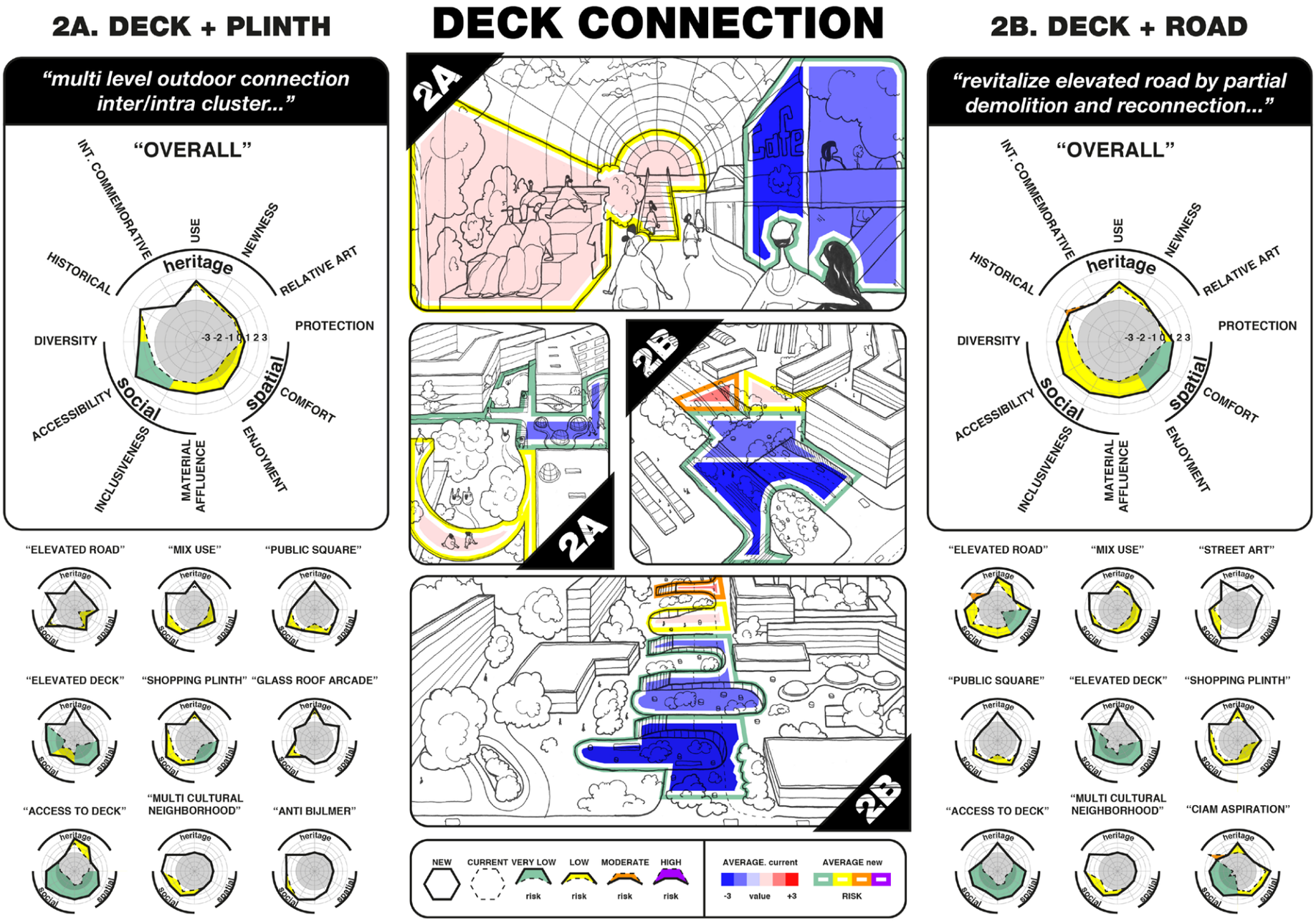


Fig.31 Scenario assessment 2

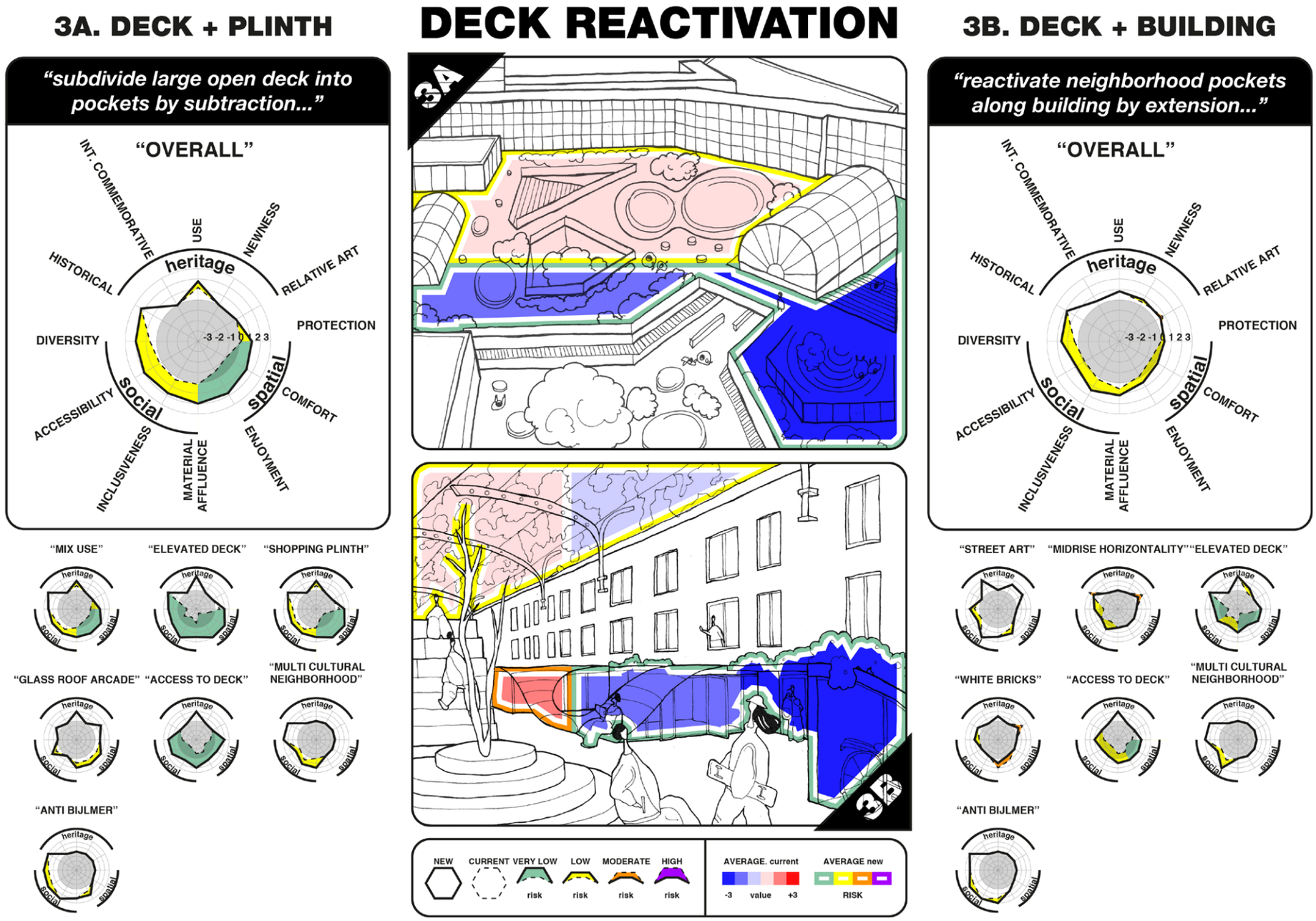
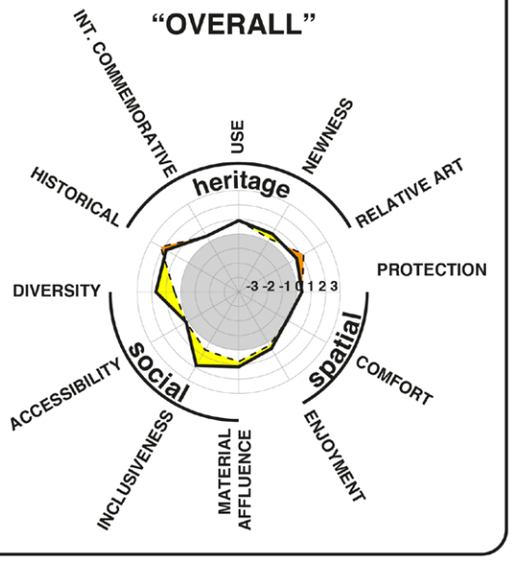


Fig.32 Scenario assessment 3

SKIN ADAPTATION

4A. BUILDING + MATERIAL

"visual diversity by clustering different skin material..."



"STREET ART"

"MIDRISE HORIZONTALITY"

"ELEVATED DECK"

"ROUND BALCONIES"

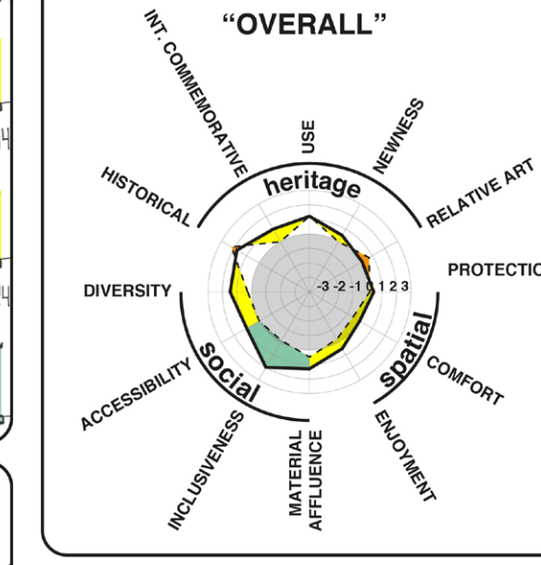
"WHITE BRICKS"

"MULTI CULTURAL NEIGHBORHOOD"

"ANTI BIJLMER"

4B. BUILDING + STRUCTURE

"spatial diversity by participatory add on structure..."



"MIDRISE HORIZONTALITY"

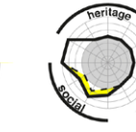
"ELEVATED DECK"

"ROUND BALCONIES"

"WHITE BRICKS"

"ACCESS TO DECK"

"MULTI CULTURAL NEIGHBORHOOD"



"ANTI BIJLMER"

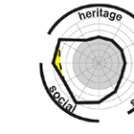


Fig.33 Scenario assessment 4

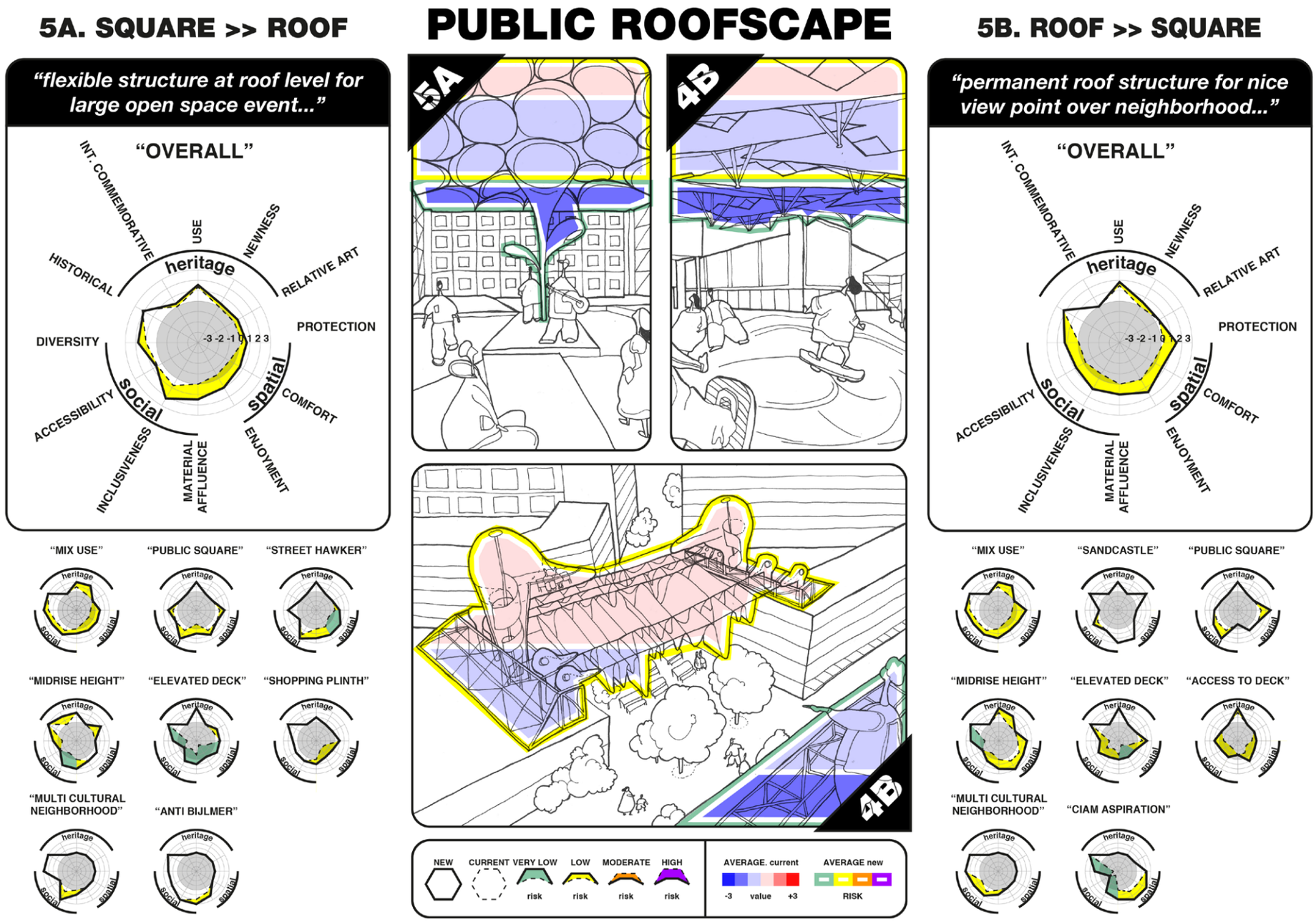


Fig.34 Scenario assessment 5

5.3 Typology abstraction

Abstraction of symbol to tectonic to social

Typology abstraction as the architectural language reference for the design phase.

First are the design elements in cluster 7, the building site. The arch entrance, glass roof arcade and speklaag are three main features with high heritage value. They are elements that the proposed design may resonate with.

Second are the elements from the surrounding site. Like the round play elements acting as a stimulation for creativity claimed by structuralist Aldo van eyck. The tower and canopy of sandcastle are also recognized as positive attributes in the interviews with makers.

Third ones are the covid related elements. During site visits recently, it was observed that people tended to stay around the columns waiting. The public, especially children, love hanging around the seating area with greenery. There was also a new form of circulation in the neighbourhood. And all these major covid related designs could be applied in the design proposal.

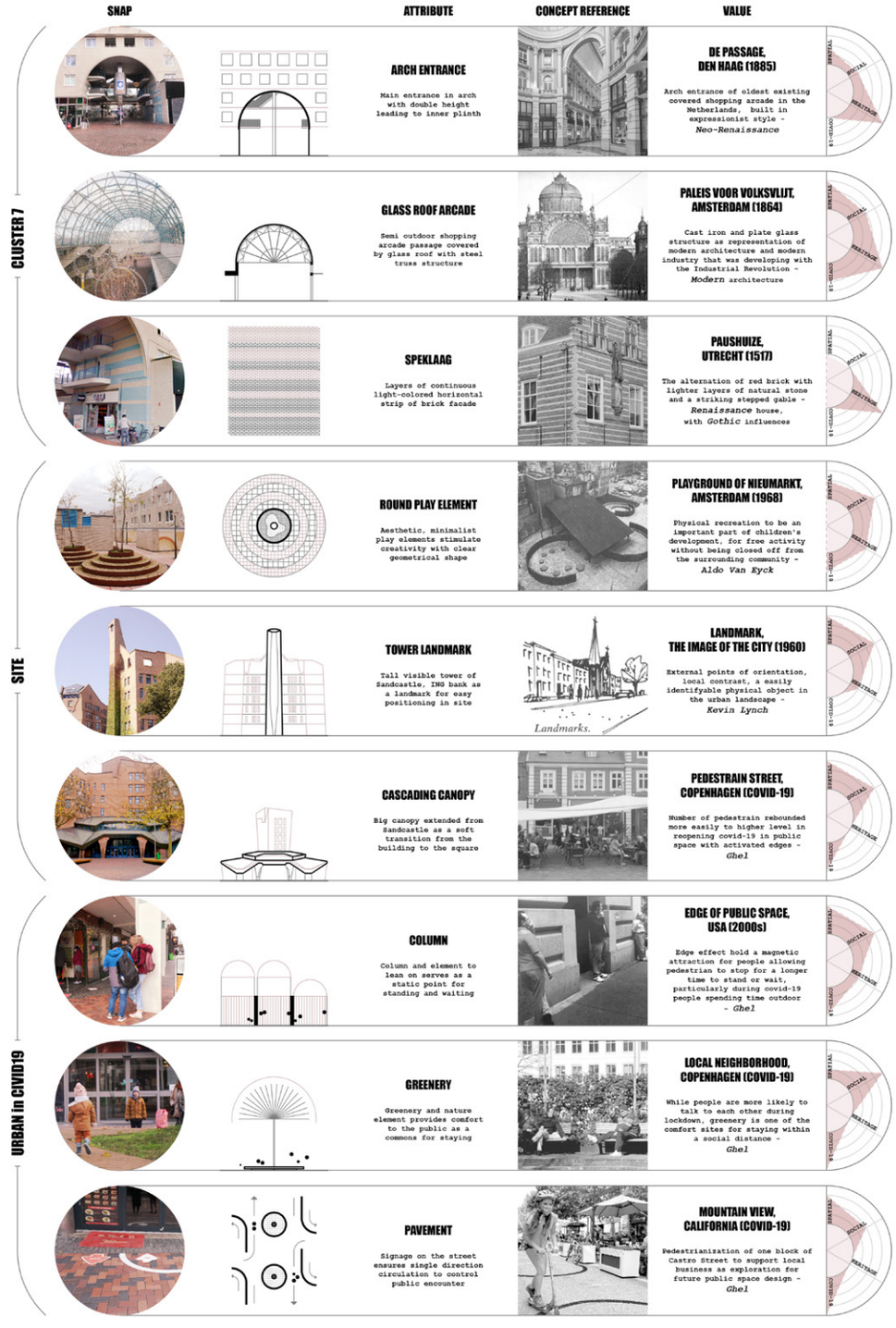


Fig.35 Typology abstraction

5.4 Covid Impact

Learning from Gehl -
How do we design for the lasting impacts of changed social – shopping – needs to adapt the commons for life after Covid?

To understand the situation and impact of covid in a broader picture, study about the public space and public life during lockdown and reopening by Gehl is taken as a reference for covid-related design elements. Aspects of social, shopping, (climate) needs are three of the most significant changes observed in during covid.

Regarding the social impacts, the report shows the importance of having more fun recreation spaces and new activities in the city. Redistribution of activities are needed as the perception of crowdedness also changes. In the impacts of shopping experience, it is found that the number of amenities and the diversity of them is vital for sustaining activities over time. Instead of closing down the public space, a well designed and easier controllable circulation is a positive articulation of the public space design. Last but not least, the needs of feeling safe and healthy plays a more important role since covid, especially the ability to be outdoor, nature and greenery.

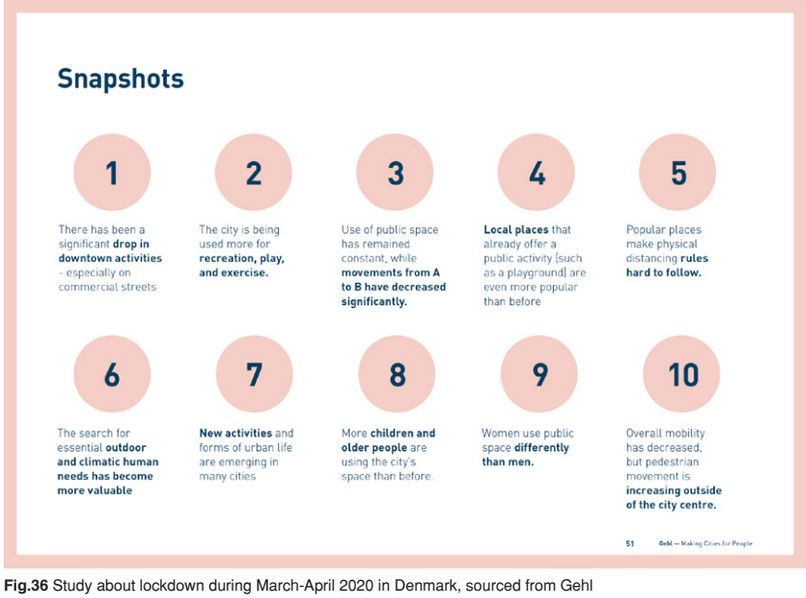


Fig.36 Study about lockdown during March-April 2020 in Denmark, sourced from Gehl

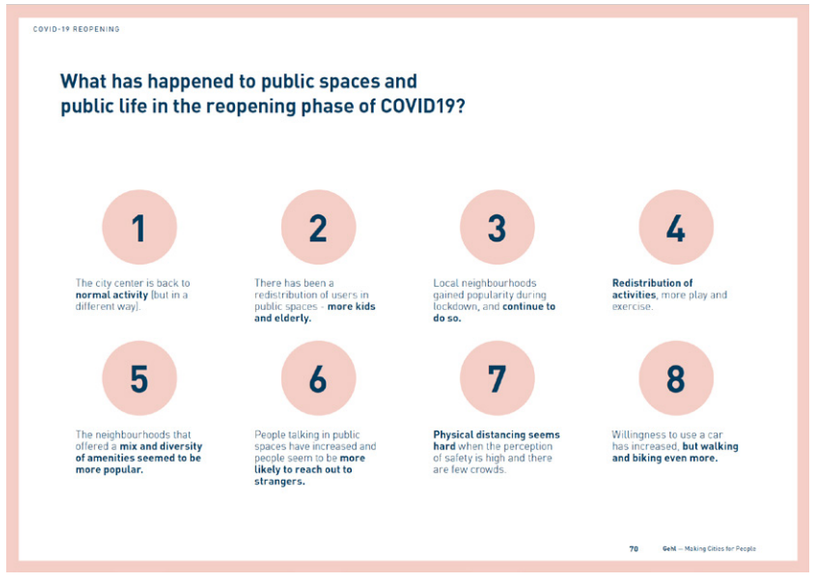


Fig.37 Study about reopening during April-July 2020 in Denmark, sourced from Gehl

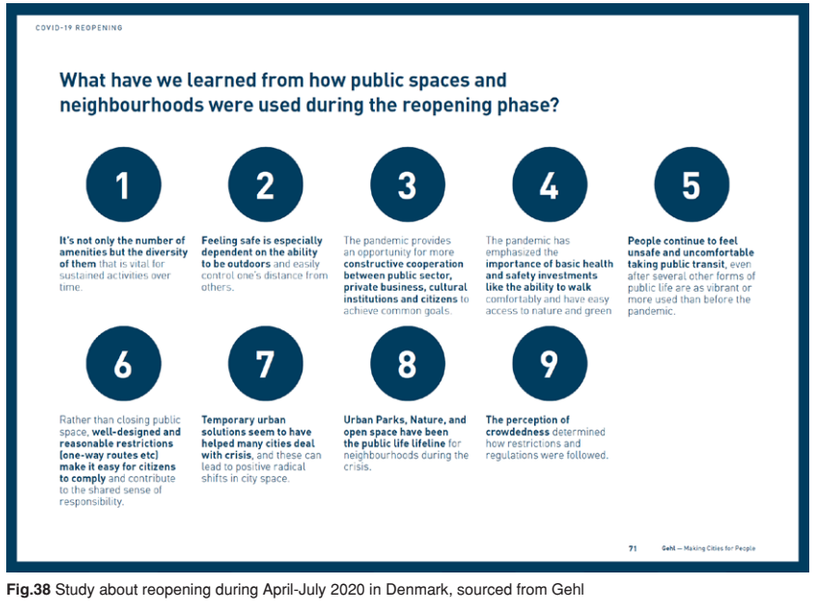


Fig.38 Study about reopening during April-July 2020 in Denmark, sourced from Gehl

5.5 Urban analysis

From H-Buurt to Bijlmerplein cluster7

The third part of the research is the urban analysis to understand the position of the site.

On a large urban scale, this is H-buurt (Fig 39). There are grids of highways, the red ones, connecting different districts. But as the decreasing demand on traffic, there is possibility that we can actually tear down this highway session in comparison to the districts at the other side.

In the H-buurt area, Bijlmerplein, (Fig 40), which was constructed in the 80s, located at the centre of this area, potentially serving as the tod. So with the potential increase of visitors and users in the future, the public elements and the commons in the neighborhood will play a more important role as the H-buurt gets further developed.

Looking into Bijlmerplein (Fig 41), the pink indicates the ground level pedestrian area. Most of the area is actually covered by the deck with elevated roads. It is positive to have those static commons along this axis leading to the market at the end. However, it also leads to the only ‘one tree’ in cluster 7.

For the ground and deck floor plan of cluster 7, it is such a gigantic plinth with only two subdivided chunks. On top of it is the peripheral dwelling with the rest area serving as car parks. The commons is apparently lacking porosity, connectivity and quality.

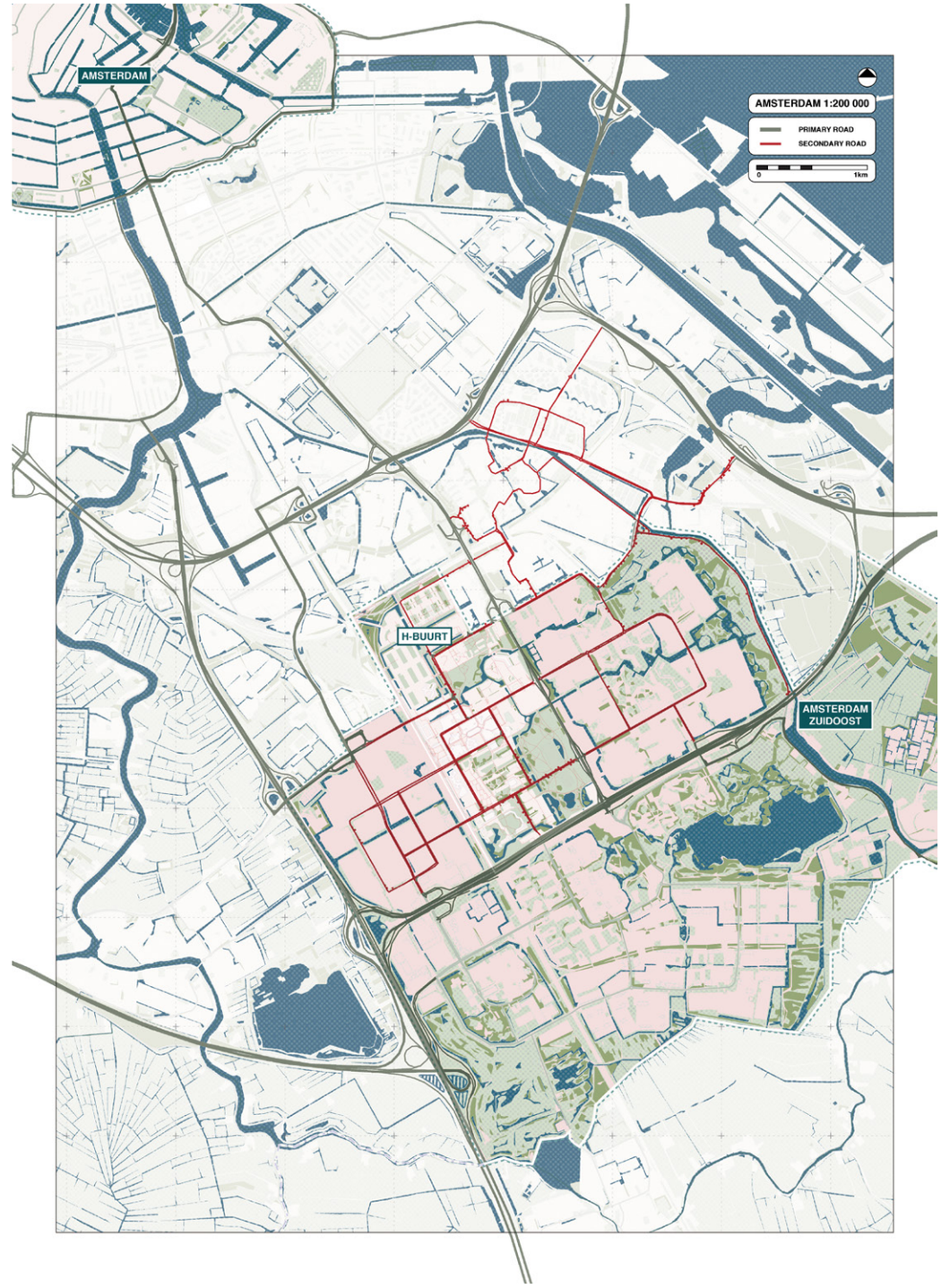


Fig.39 Map of Amsterdam Zuidoost

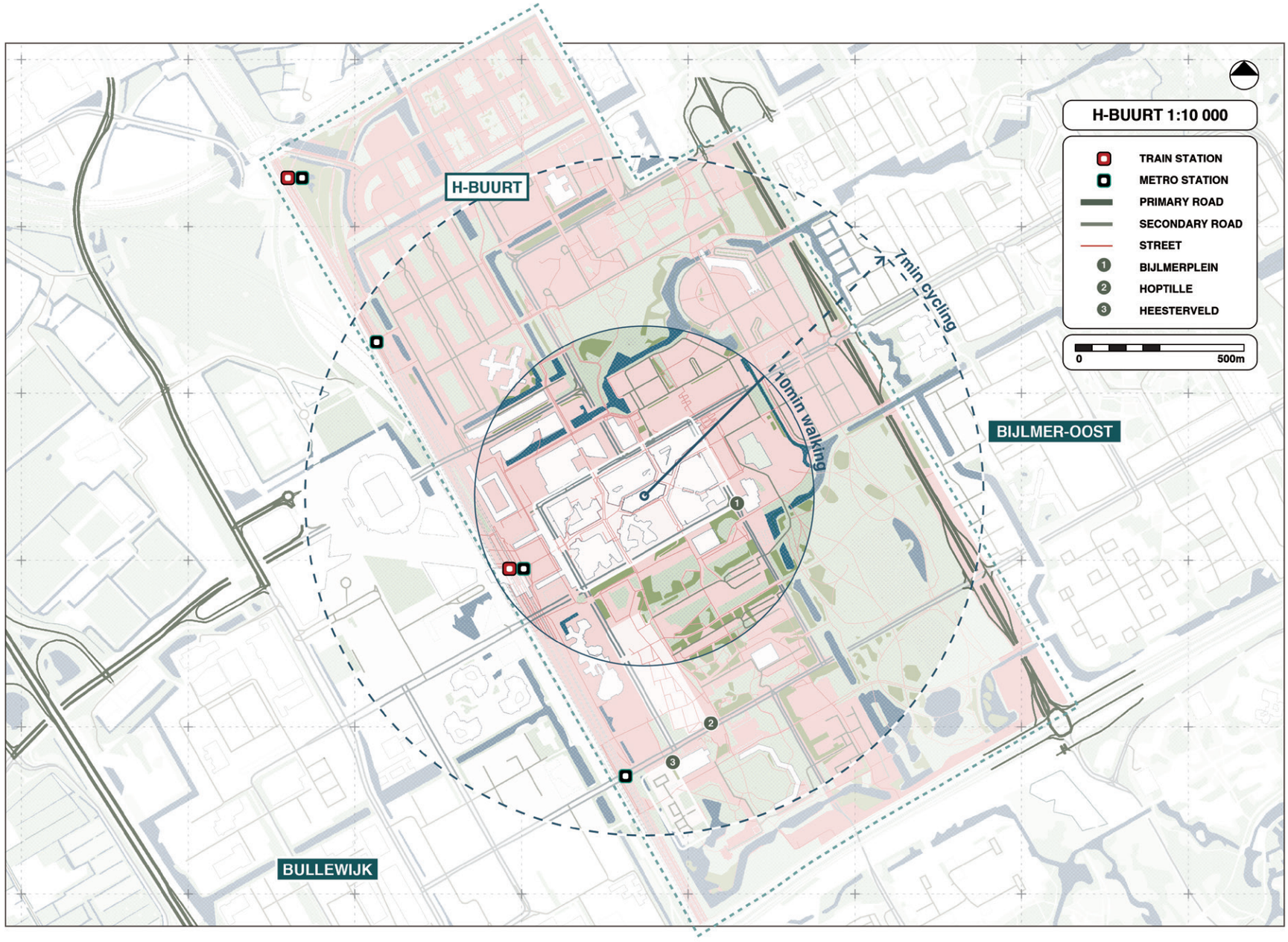


Fig.40 Bijlmerplein in H-Buurt

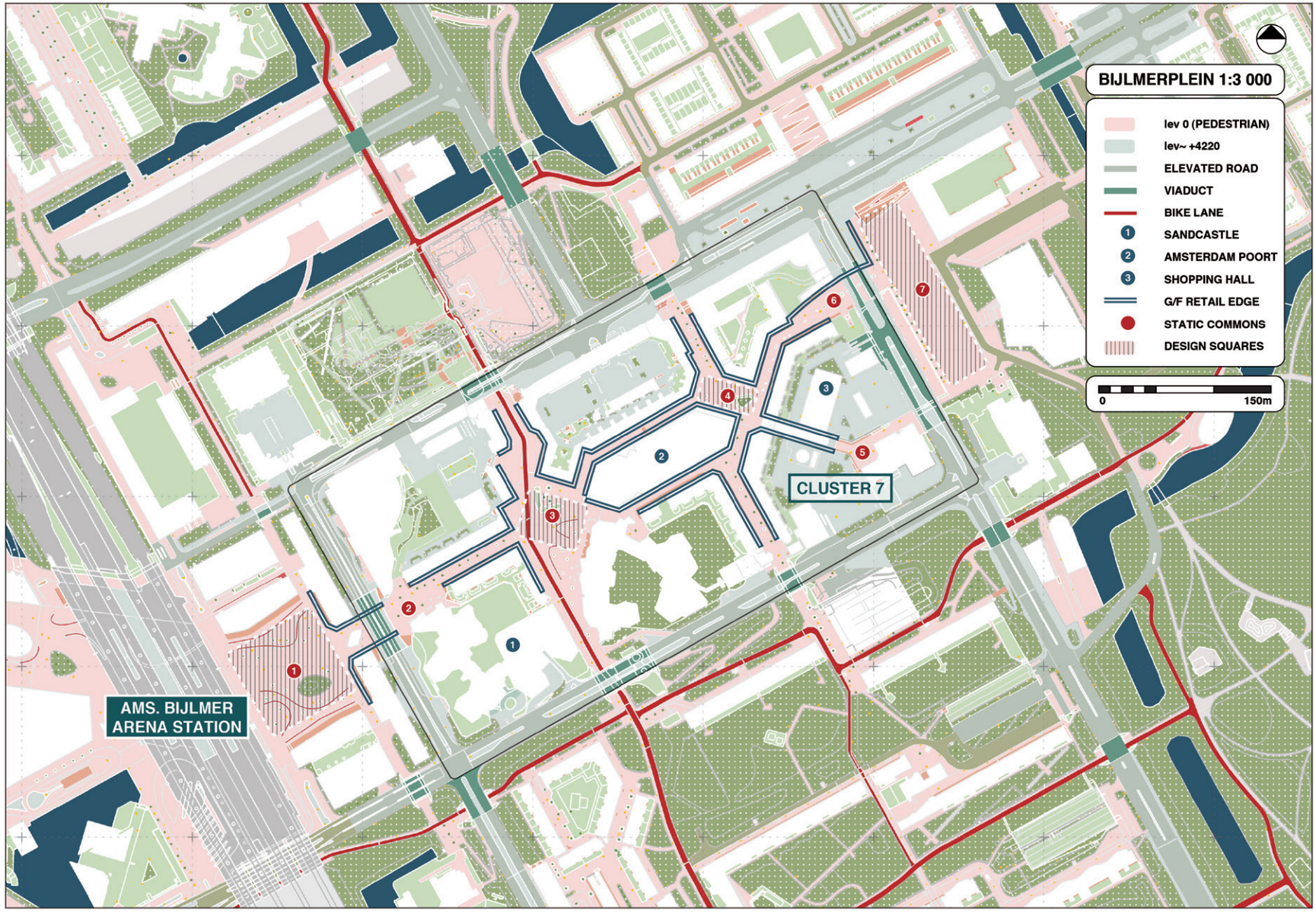


Fig.41 Cluster 7 in Bijlmerplein

Fig.42 Ariel photo of Cluster 7

Fig.43 Main entrance of Cluster 7

Fig.44 Arcade of Cluster 7

Fig.45 Square of 'only one tree' and PPT of Cluster 7

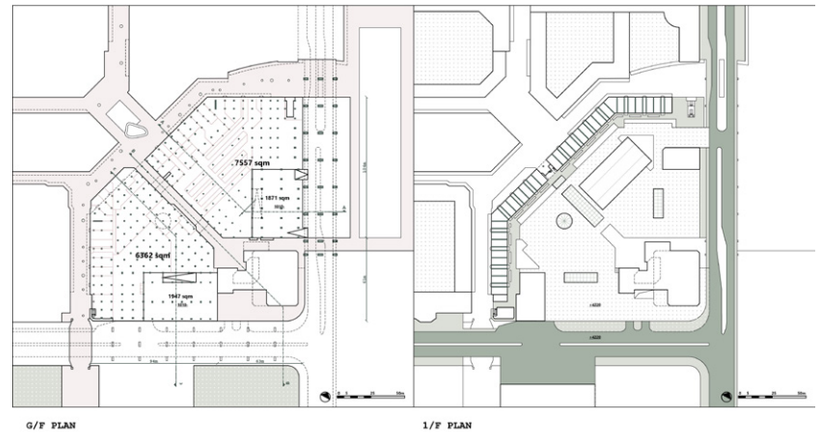


Fig.46 Plans of Cluster 7

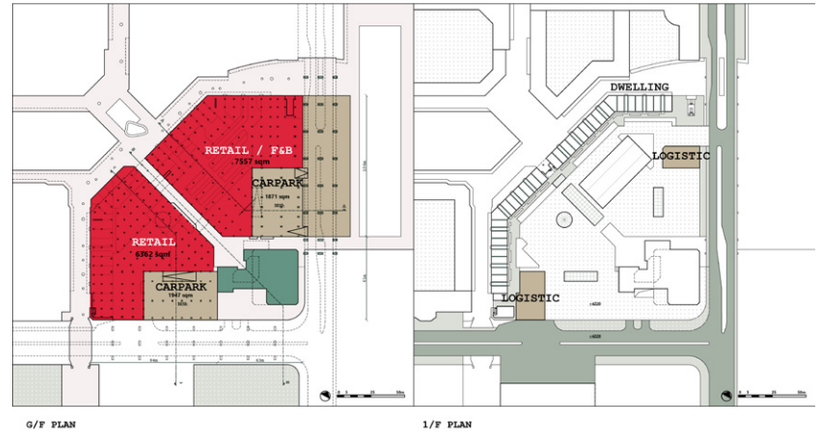


Fig.47 Programmatic plans of Cluster 7

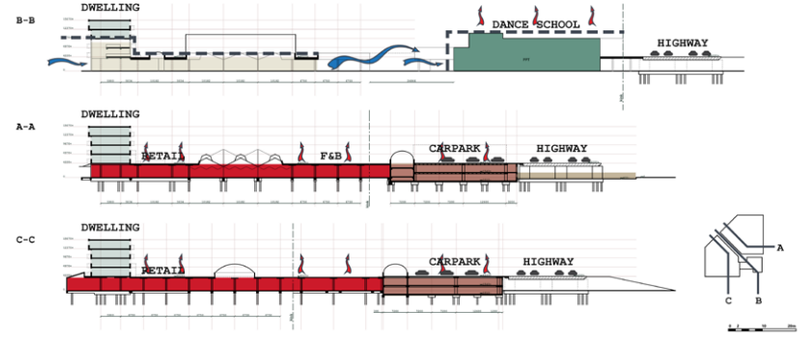


Fig.48 Programmatic sections of Cluster 7

Construction details of existing

As the arcade serves as an important axis of cluster 7 with high heritage value, to understand the existing architectural condition of it, the following details around the arcade and a typical construction of the plinth and deck illustrate the corresponding qualities.

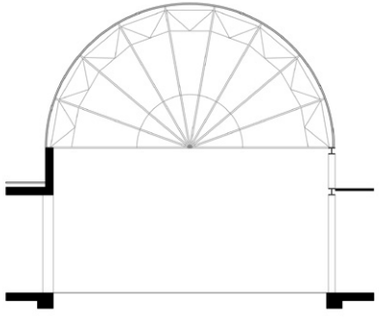


Fig.49 Arcade 1:50

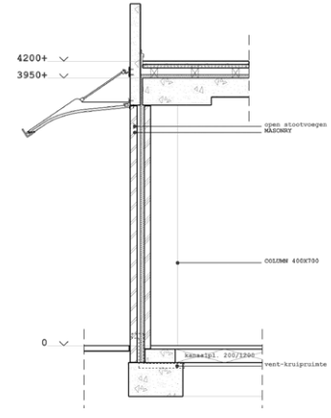


Fig.50 Plinth facade section 1:20

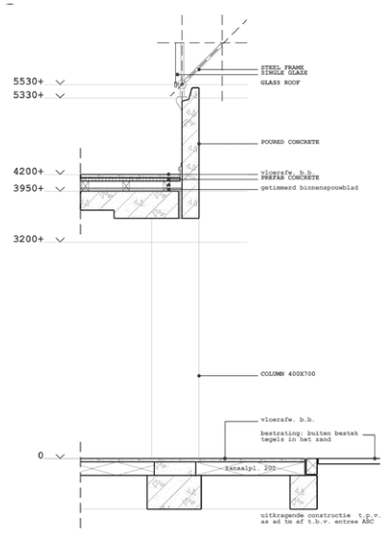


Fig.51 Arcade section 1:20

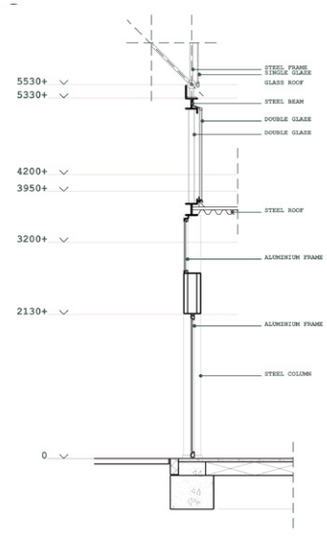


Fig.52 Arcade section 1:20

Design Development I 06

6.1 Initial redesign framework

Bringing all those major positive and negative findings from the research as the starting points to enhance neighborhood commons, (Fig. 53) is the initial concept of the redesign framework.

As mentioned before in the risk assessment, scenarios related to the public realm, deck connection and reactivation will be the major neighborhood commons issue to be addressed. In addition, the public roofscape will be another positive element.

Regarding those four issues, the followings are some major intervention ideas in the redesign.

0. Starting from the breakdown of plinth in reference to the existing urban structure,

1. then is pushing down the highway at one side,

2. and demolishing the highway on the other side.

3. The next is an additional access to the deck with another arch entrance.

4. So following the highway alterations are the softening of edges by introduction of multi dimensional extension.

5. Last but not least is a solar tower which enhances natural ventilation and at the same time serves as a public viewing tower which responds to the great views that modernism social housing had attempted to offer.

Comparing the original and the new design, some parts on the ground level are removed for adding new entrances. The highway on one side is replaced by an over-crossed pedestrian bridge. And the highway on the other side is replaced by the extension of plinth. And the third major addition is the solar tower with cascading canopy.

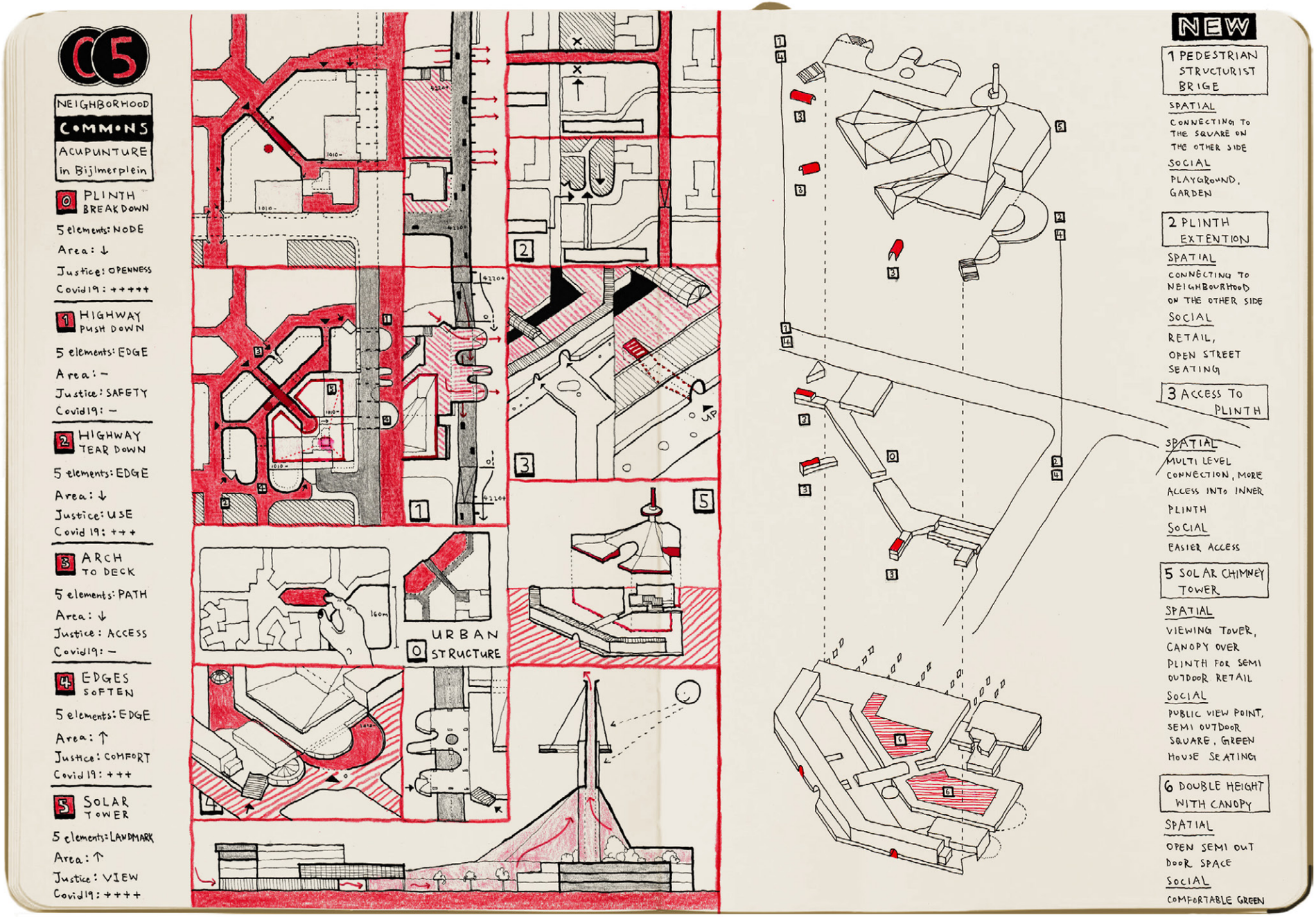


Fig.53 Redesign framework 1

6.2 Primary design proposal

For the ground floor, the plinth is broken down into smaller parts with more entrances and open passages. Pushing down the highway and bringing the road to the ground floor, the pedestrian crosses over these garden bridges instead. For the other side, the highway is totally demolished, replaced by extension of the plinth.

Regarding the program, the retail and F and B is kept and redistributed into smaller chunks. While we may not need that much car park anymore in the future, part of the car park also contributes to the retail program.

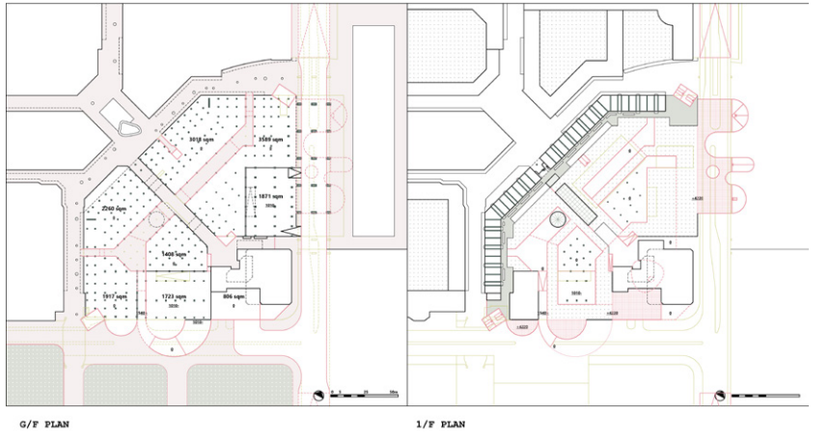


Fig.54 Plans of proposed design

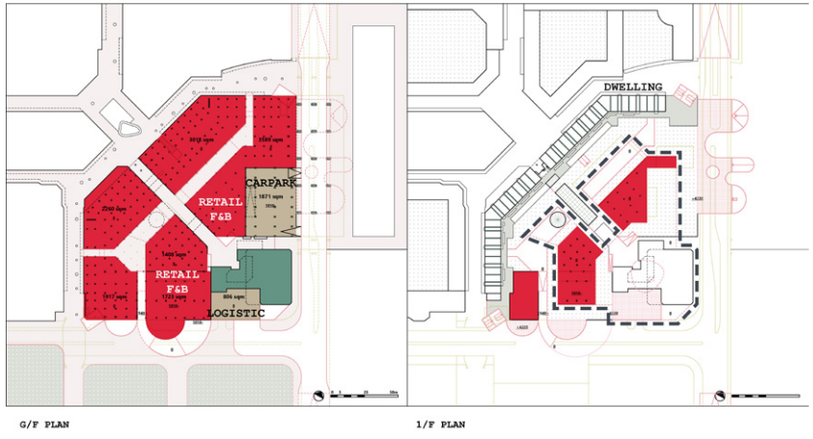


Fig.55 Programmatic plans of proposed design

In the sections, there is a significant change in the height. Along the existing main open passage, it leads to another arch of the solar tower. With the viewing deck hanging on the top. And across the plinth, the original floor slab is removed and covered by the solar canopy. Besides, there is an extended continuation from the semi open passage to the solar chimney. There is no longer an elevated highway, but the road on the ground level and pedestrian bridge cross over. In terms of the improvement of the climate system, there will be more green introduced within the solar canopy. So the greens cool down the plinth and enhance the air ventilation sucked up from the chimney.

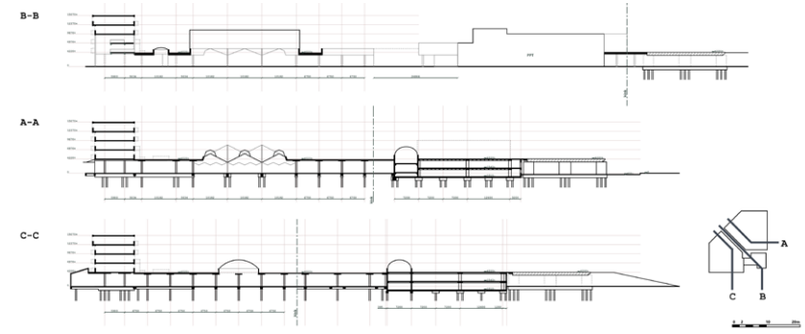


Fig.56 Sections of existing design

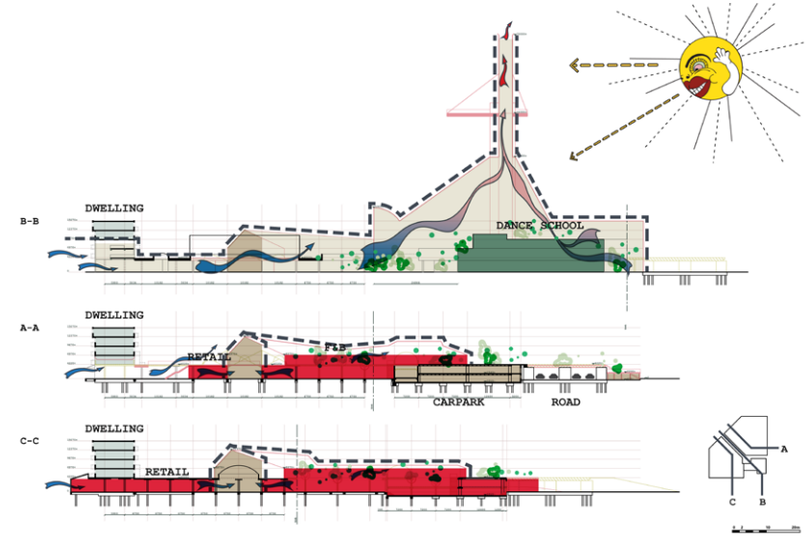


Fig.57 Programmatic sections of proposed design

Referencing the proportion of the tower of Sanscastle, the solar tower serves as another public anchor in Bijlmerplein. Here is the view from the corner of the cluster with the extended plinth in the front and solar tower right there. The pipes inside the canopy sucks up the air from the plinth inducing a more comfortable breeze within the plinth. Fig.49 illustrates how the solar chimney could work from the inner pipes to the solar tower.

Fig.58 Relevance to abstractions

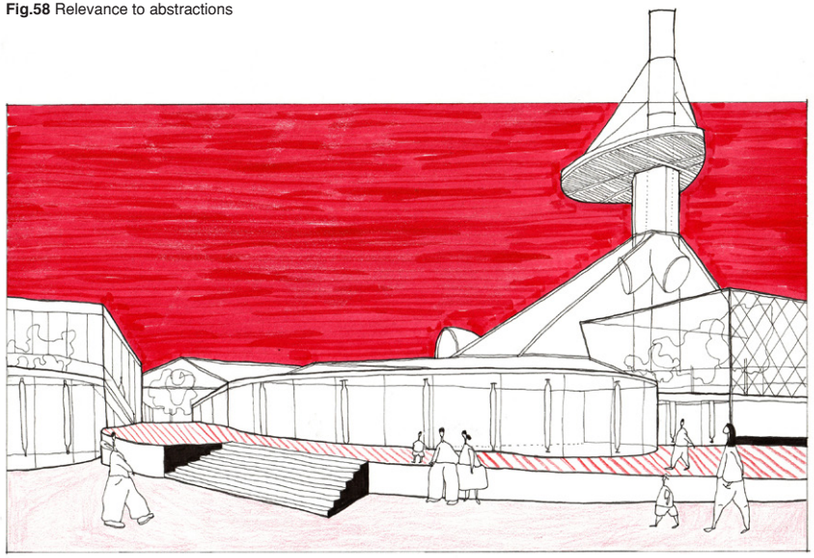


Fig.59 Conceptual moments of solar tower

Fig.60 Solar chimney reference, sourced from RPBW Architects and other existing projects

Referencing the canopy of Sanscastle, the solar canopy blurs the edges of the new intervention. Viewing down from the solar tower, here is the canopy covering the plinth as a result of semi open double height space. It could be made of etfe cushion. It is a lightweight, cheap and sustainable material. The framework will be made of steel frame to infill the air into the cushion. And the main load carrying structure could be in timber.

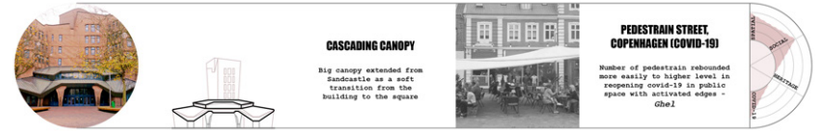


Fig.61 Relevance to abstractions

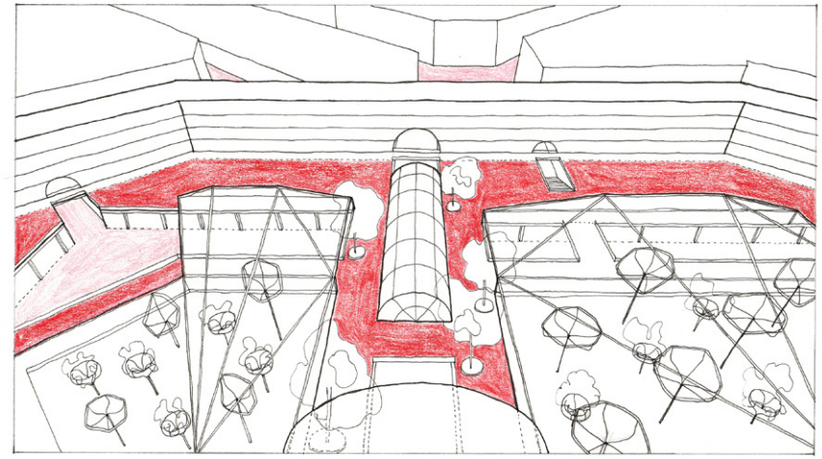


Fig.62 Conceptual moments of solar canopy

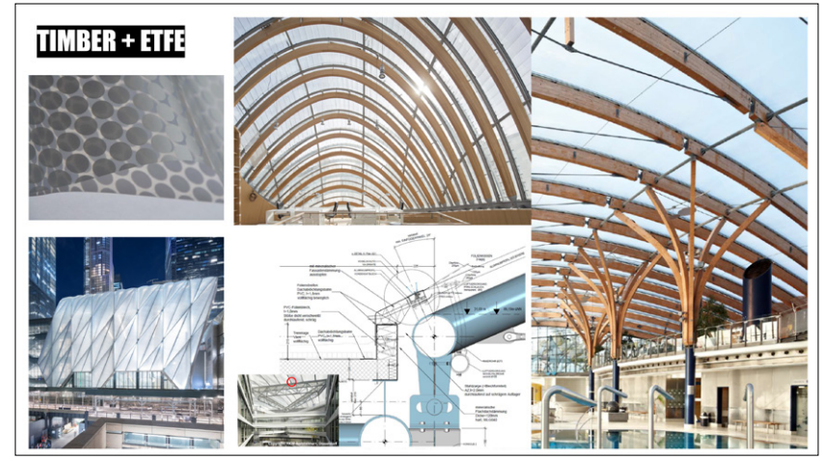


Fig.63 Solar canopy reference, sourced from RPBW Architects, Diller Scofidio + Renfro and other existing projects

During covid time, it is observed that columns with greeneries have served as a comfortable social static point. Viewing the plinth from the deck, it is a more flexible open plan for retail. Some of the columns serve as the support for the canopy, while some are transformed as a planter column. Those planter could make use of the existing reinforced concrete columns as a support of medium sized plants

Fig.64 Relevance to abstractions

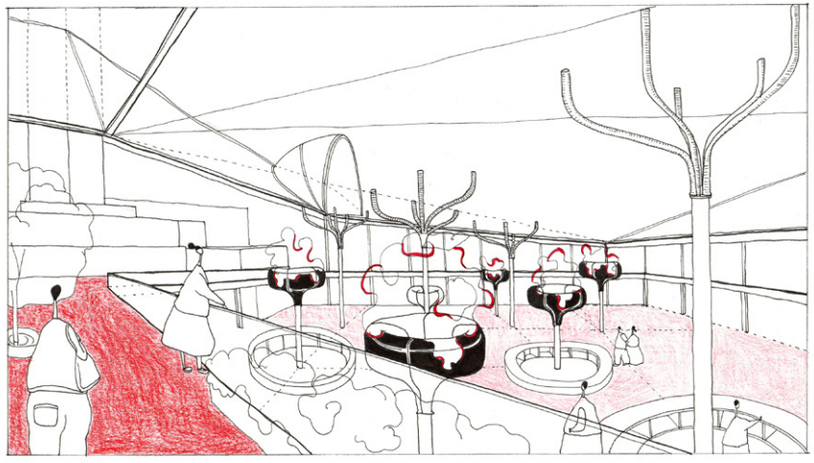


Fig.65 Conceptual moments of the double height intervention

Fig.66 Planer column reference, sourced from Heatherwick Studio and other existing projects

The geometric round design language serves as a playful affordance. This is the view from the new pedestrian bridge. Cars can now move on the ground floor. The existing structure of the elevated road is kept and serves as the support for the bridge. As this extension is an outdoor one, it needs to be a durable one. It is referencing the steel frame structure with porous steel frames as the slab.

Fig.67 Relevance to abstractions

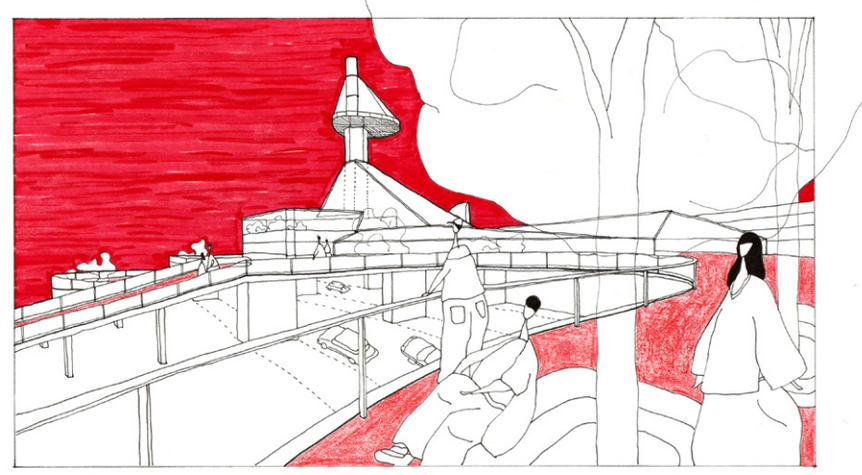


Fig.68 Conceptual moments of new pedestrian bridge

Fig.69 Solar canopy reference, sourced from RPBW Architects and Moon Hoon

At last is the accentuation of the essence of the arcade. This axis strengthens the essence of arch from the arcade to the solar tower to signify the heritage value of the existing arcade.

Fig.70 Relevance to abstractions

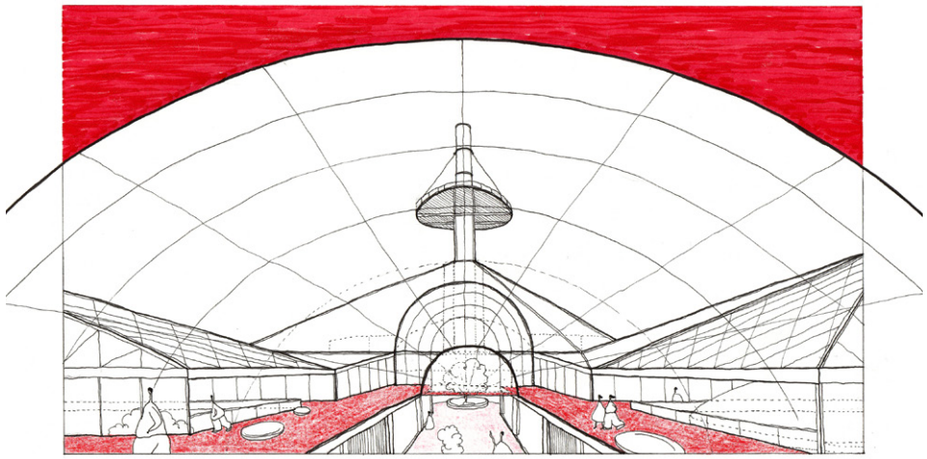


Fig.71 Conceptual moments towards the arcade

Fig.72 Arch entrance and arcade photos

6.3 Solar canopy optimization for next focus

Among those five important moments of the conceptual design, some of them are relatively less important or effective. Concerning the green column, the carbon footprint of the column construction may even be higher than the carbon absorption capacity by the supporting plants. Hence, this idea is abandoned. For the less urging challenge corresponded by the pedestrian bridge and arcade accentuation, they are first kept in a conceptual idea. Instead, the interest of the projects lie on the articulation and impact of the solar tower and solar canopy. The solar canopy optimization is interrogated in two aspects.

1. Social impact of the spatial and programmatic structure under the solar canopy
2. Environmental impact of the solar tower/ solar chimney/ solar canopy for ventilation, cooling/ heating

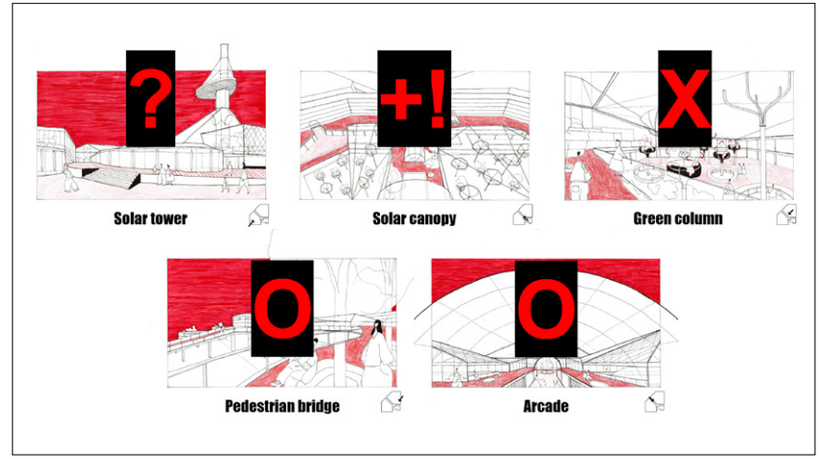


Fig.73 Reflection on five conceptual moments

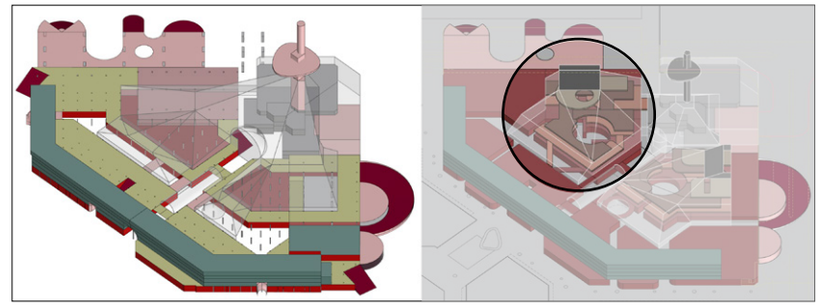


Fig.74 Solar canopy optimization (from left to right)

The accentuate the arcade axis, the solar canopy is subdivided into three main anchors - one at each side and one at the existing PPT. Due to the approximate symmetry, one of the ‘solar canopy’ (the circled one) becomes the next focus in the project for the investigation of the socio-spatial enhancement. The following development of environmental position, structural and spatial articulation will be based on that one ‘solar canopy’ venue at the context of other conceptual interventions as illustrated in previous chapter.

Environmental Position 07

7.1 Research question

How can **passive solutions** create a comfortable **micro climate** in the public realm for **better health** in the post covid future?

Energy Academy Europe building in Groningen, Book Mountain in Spijkenisse, Philological Library in Beriln are some of the pioneers in micro climate design with passive solutions, which are the case studies in the environmental position of this project.

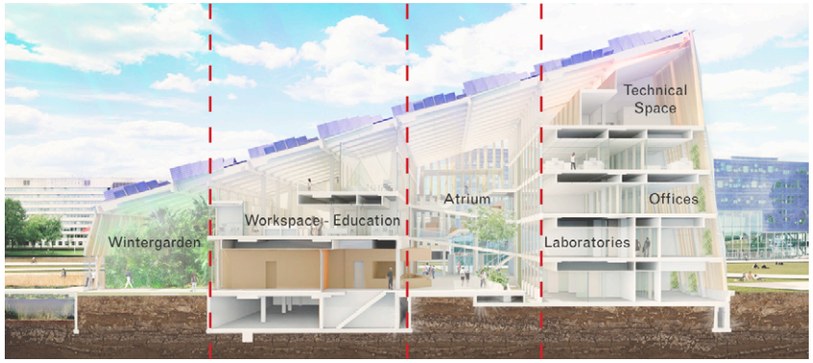


Fig.75 Energy Academy Europe building in Groningen, sourced from Broekbakema

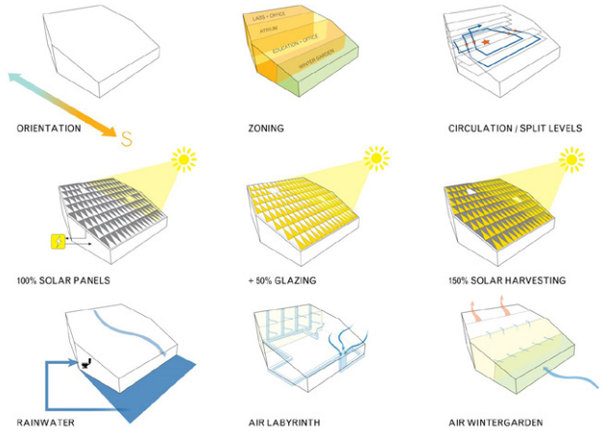


Fig.76 Energy Academy Europe building in Groningen, sourced from Broekbakema

Layering of winter garden, workspace, atrium, workspace with solar chimney integrated on the roof, facilitates the natural ventilation. With the support of air labyrinth and geothermal heat exchange, air is cooled or warmed by passive solutions before entering the air shaft.

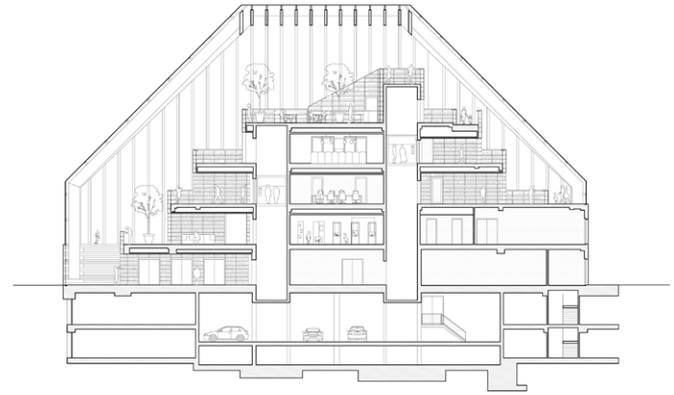


Fig.77 Book Mountain, sourced from MVRDV

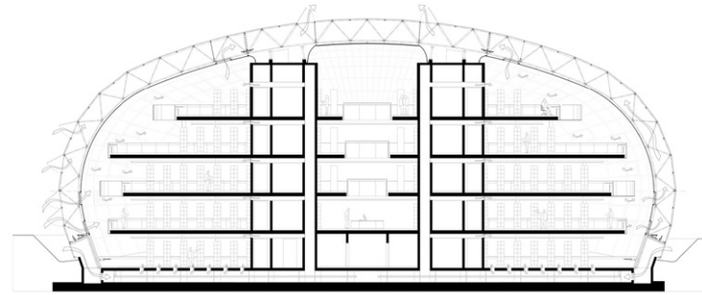


Fig.78 Philological Library, sourced from Norman Foster

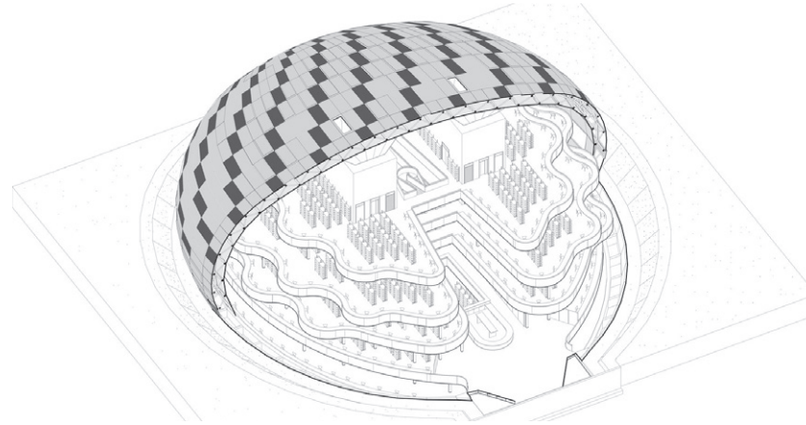


Fig.79 Philological Library, sourced from Norman Foster

The big envelopes of Book Mountain and Philological Library serve as both shading and ventilation devices. The deep timber beams of Book Mountain facilitate shading behind the lo e glazing facade, while Philological Library makes use of the double skin facade to filter extra heat gain. Its combination of different patches of aluminum panels, PV panels and glazing optimizes the solar energy and natural lighting into the building.

7.2 Climate concept of ‘solar canopy’

Translate the passive solutions from those case studies into the ‘solar canopy’ design, the climate concept of it is the ‘box in box’ principle with layers of green space in between. Under the large outer envelope, inside is a garden passage as the ‘winter garden’ concept, one big box as an open plan experience, and individual event boxes. Inside the big box is a courtyard facilitating the natural ventilation, with atrium on the other side serving the ventilation effect as well. To further enhance the comfort of the micro climate, more green is integrate on the terrace and rooftop garden.

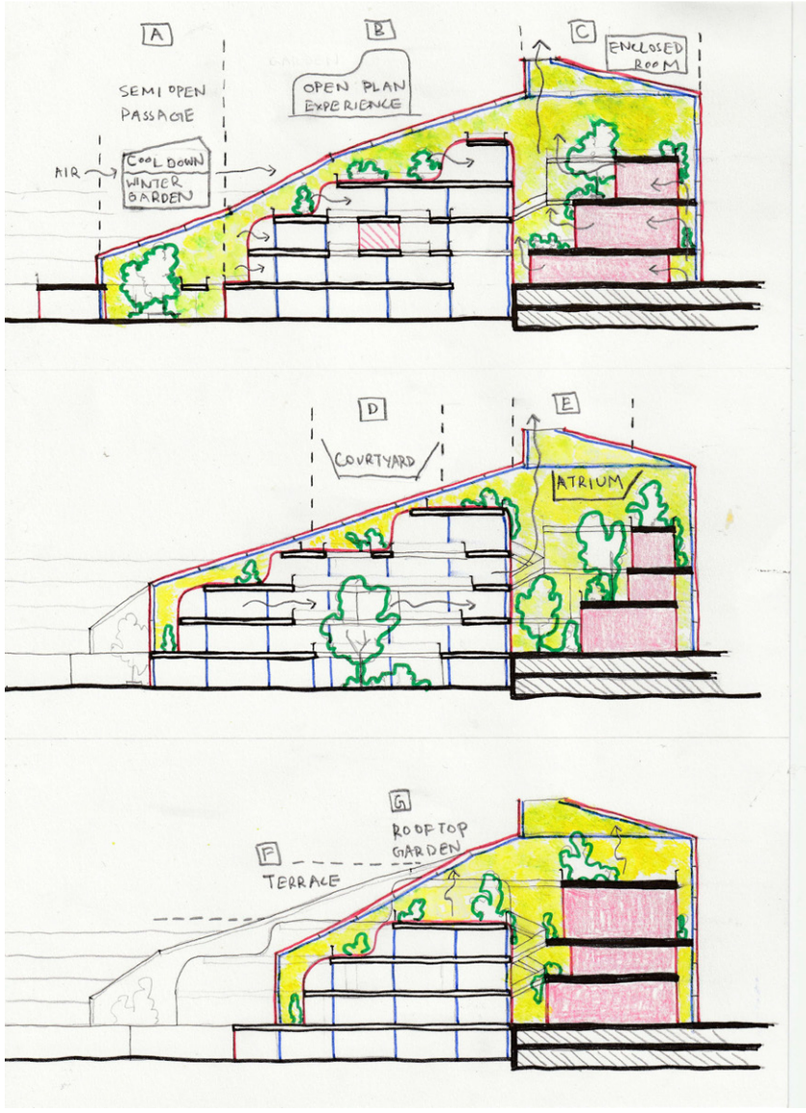


Fig.80 Conceptual section of ‘solar canopy’ venue

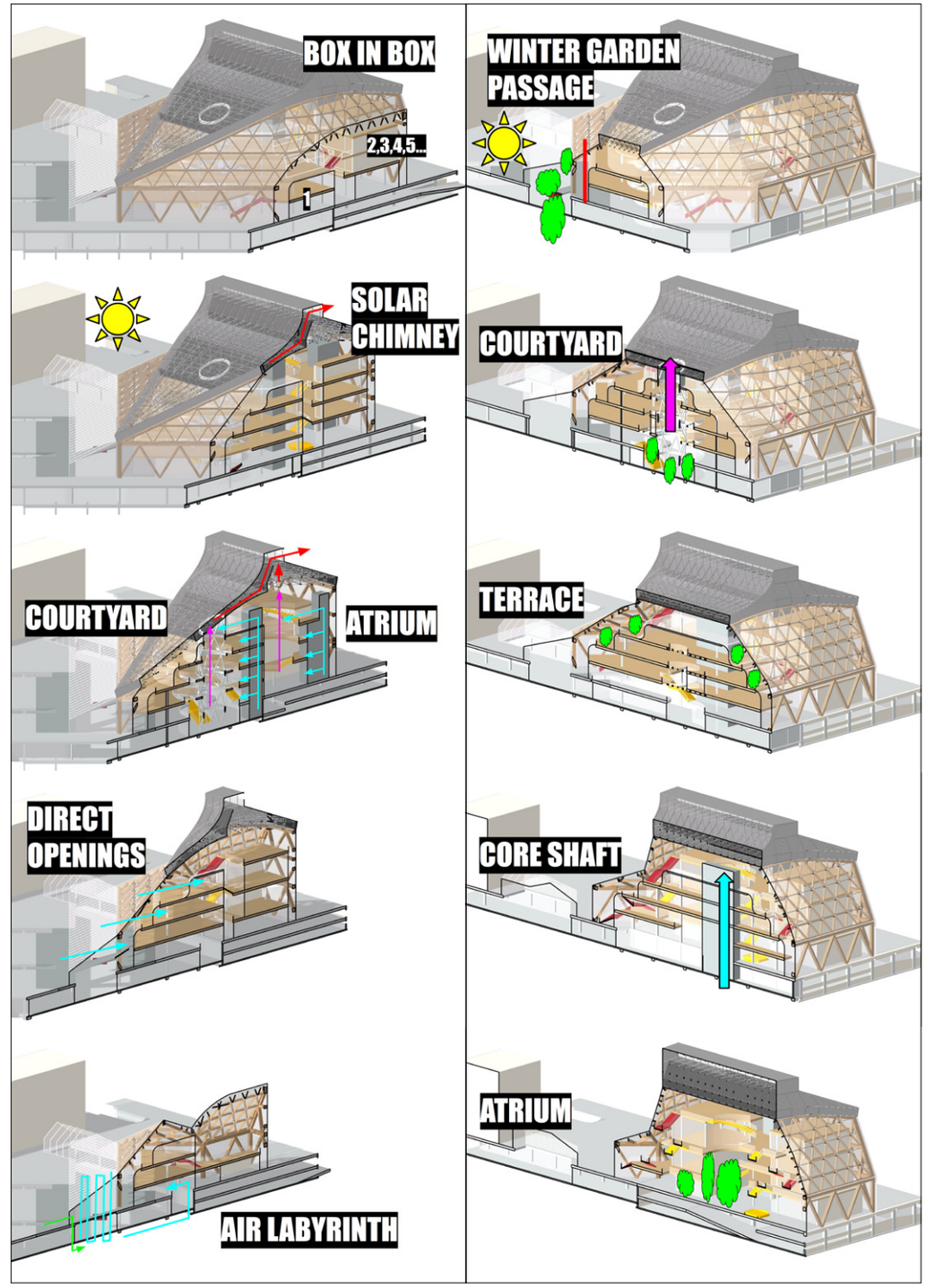


Fig.81 Conceptual sectional isometric of ‘solar canopy’ venue

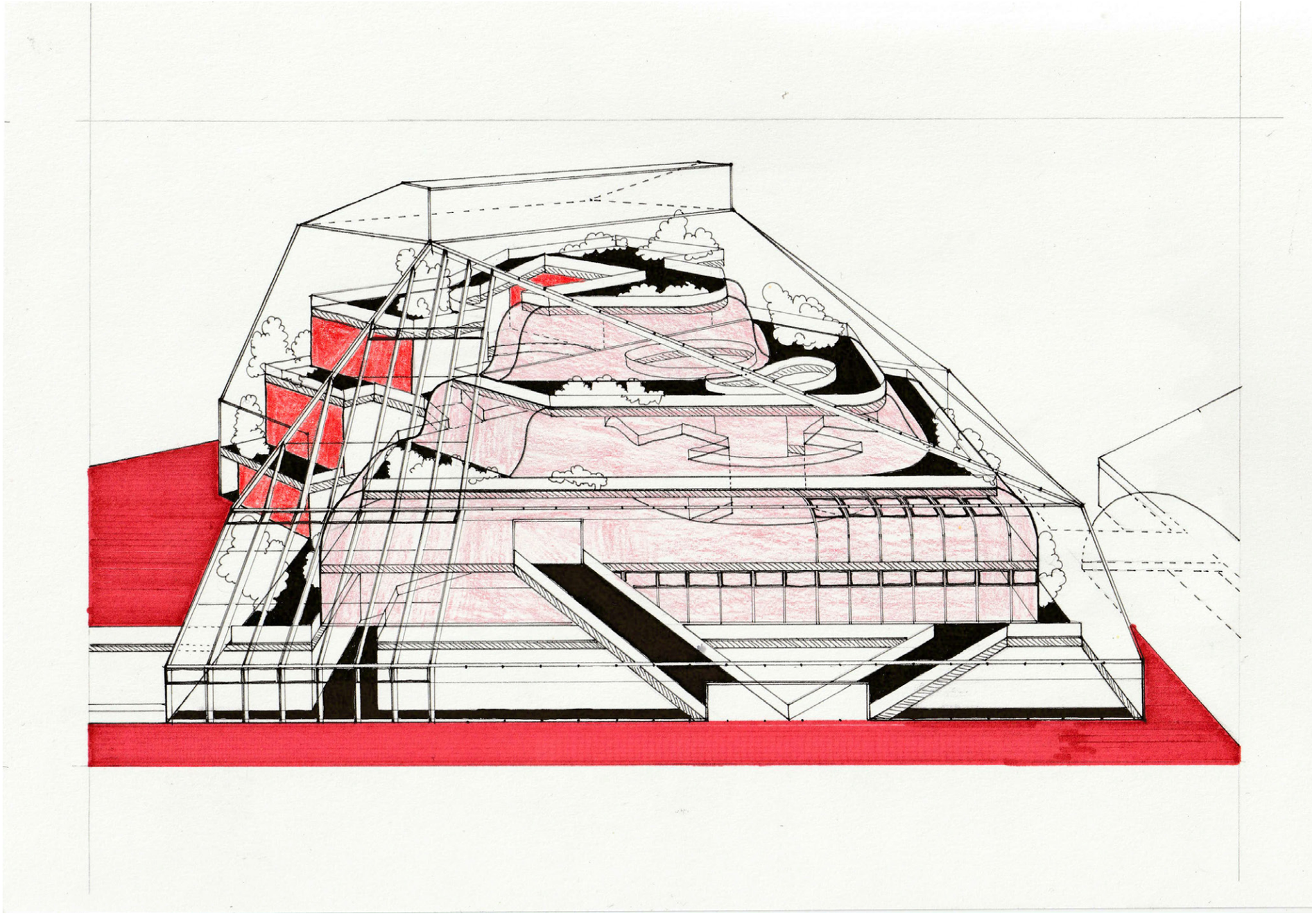


Fig.82 Conceptual perspective of ‘solar canopy’ venue

7.3 Routing in ‘box in the box’ construction

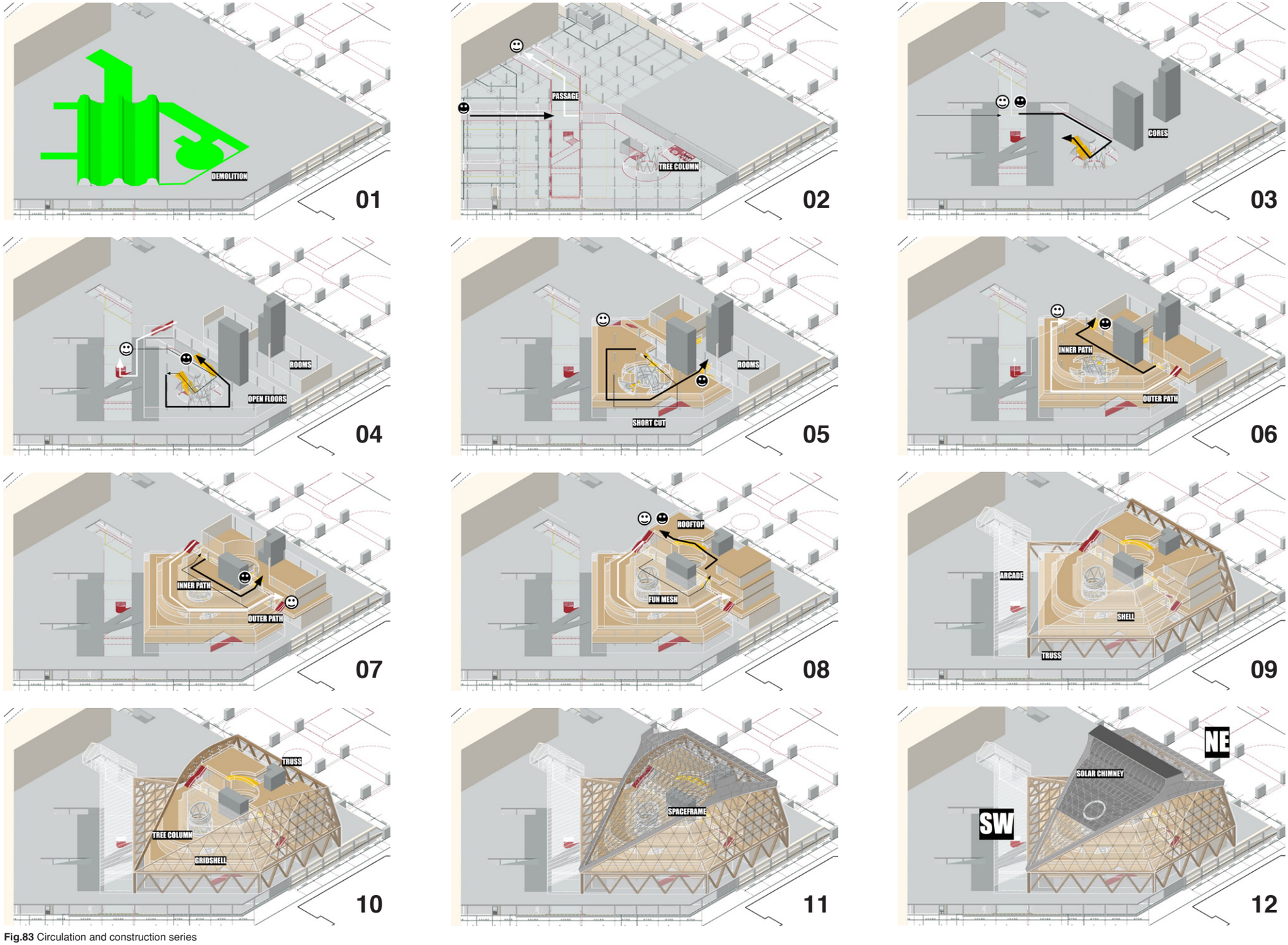


Fig.83 Circulation and construction series

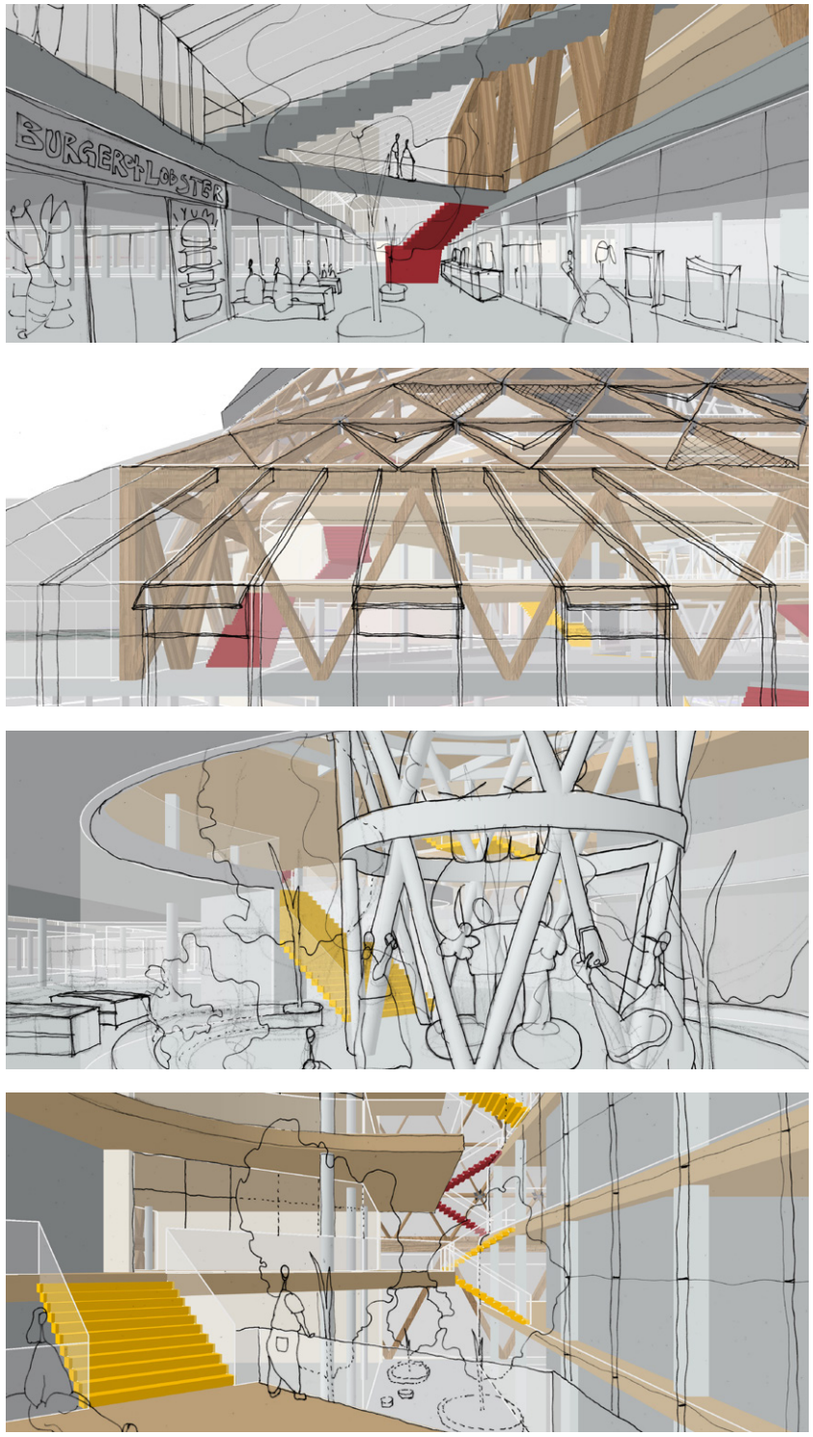


Fig.84 Climate concept of experiencing garden passage, outer facade, courtyard, atrium

7.4 Facade concept

Learning how Philological Library making use of the double skin facade to filter extra heat gain. Its combination of different patches of aluminum panels, PV panels and glazing distributes differently on different sides. There are PV panels towards the south, 33% glazing at the west, 66% glazing at east and north. This facade patches principle will be applied similarly in the ‘solar canopy’ venue according to the sun path radiance.

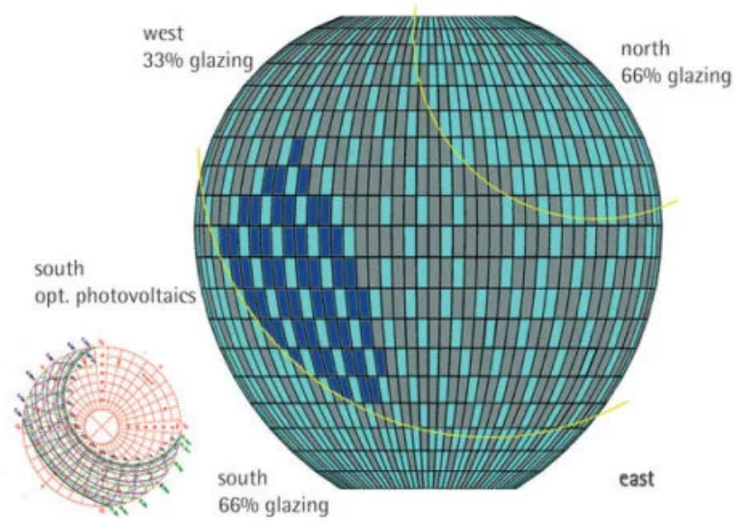


Fig.85 Facade diagram of Philological Library, sourced from Norman Foster

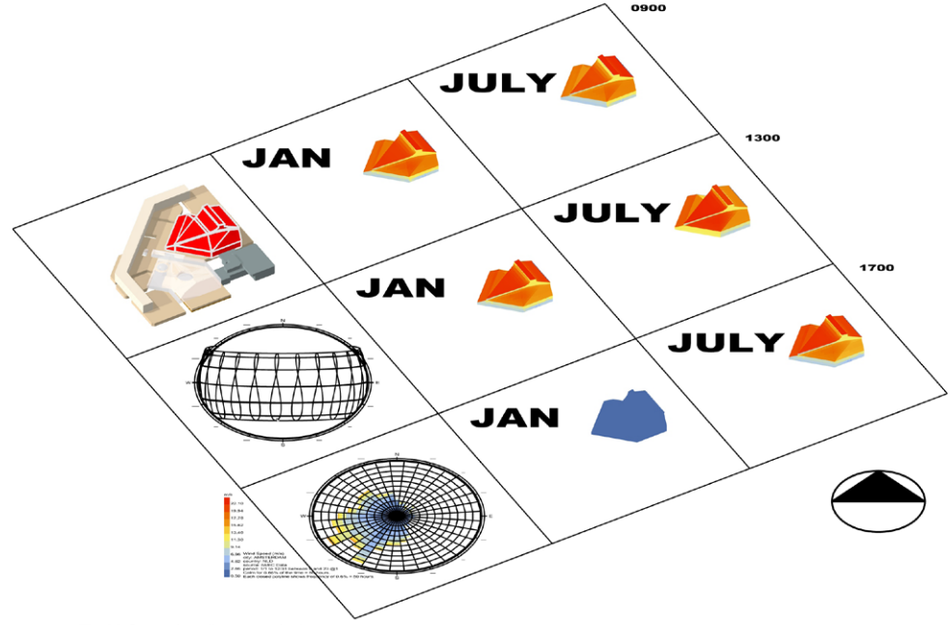


Fig.86 Sunpath radiance on design

Design Development II 08

8.1 Redesign strategies

Bringing all the major challenges and potentials from the research to reactivation of cluster 7, Fig.87 is the redesign framework.

Regarding the existing, as the research focuses on the commons, the dwelling and the dance school will be kept untouched. And for the arch entrance, arcade and dome, which is of high heritage value as an 80s architectural style, they are all preserved. But the partial roof and deck will be demolished for the new interventions.

For the conceptual new interventions, the deck and plinth extension dissolves the edges between the next neighborhoods. And there will be a new public anchor at the end of the arcade.

Translating the need of social and spatial enhancement into more detailed interventions, the new focus will be articulated in two parallel directions. Firstly, there will be two blocks inserted at both sides of the axis. They serve as an EPS venue for exhibition, production and socialization. One is more fun and design based, and the other is educational and heritage based to embrace the multicultural neighborhood. Regarding the spatial needs, another passage is introduced. It creates a 24-7 semi-open space for the public and serves as a winter garden when it is cold.

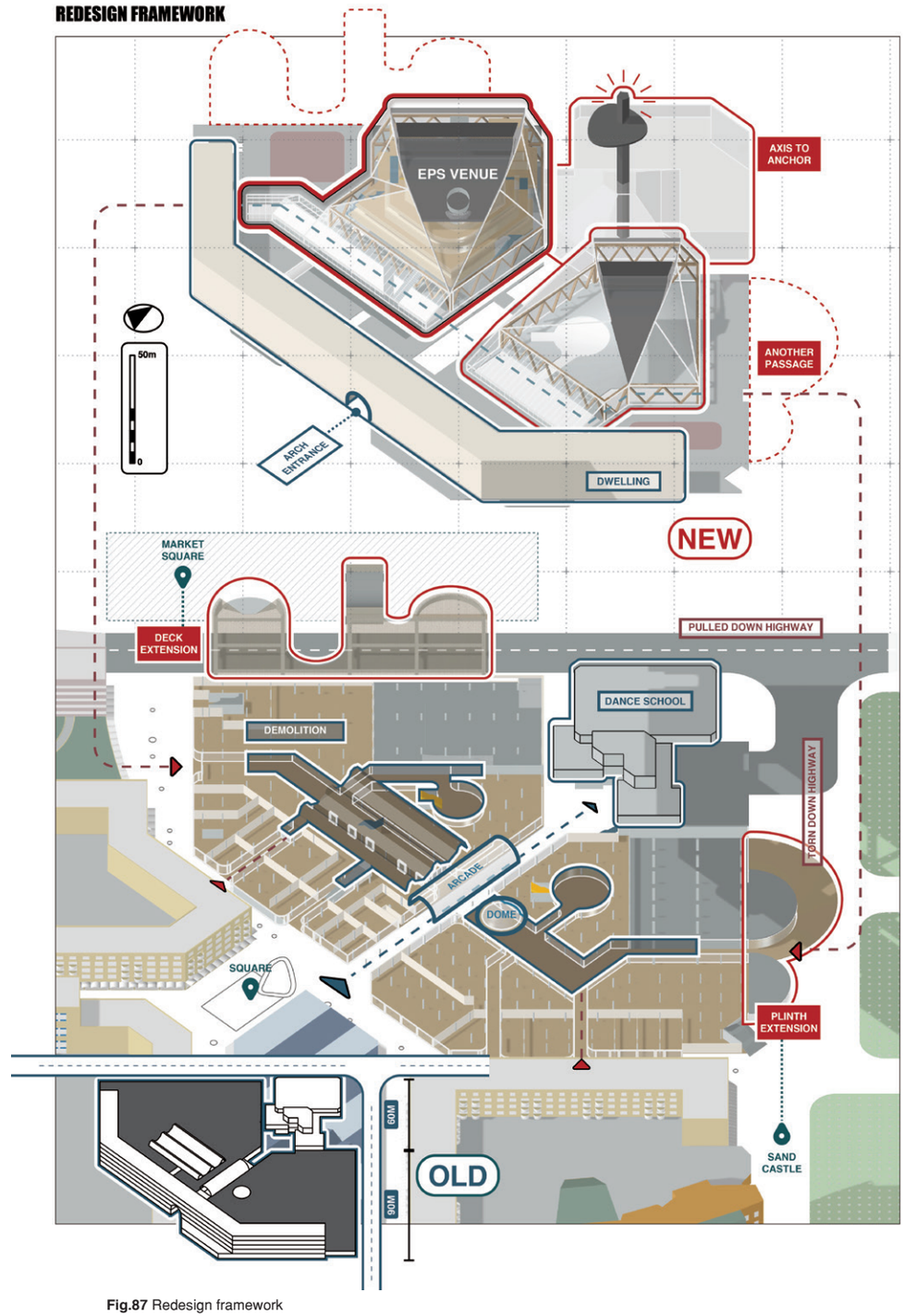


Fig.87 Redesign framework

1. Cluster Dissolution

The followings are some urban strategies, bringing those redesign ideas to the resonance with the site.

In terms of the cluster composition, although the perimeter dwelling blocks seem to be neat and clean, there is always an organic form sitting at the inner plinth. And with the passage scale referenced to the Amsterdam Poort, the plinth is first subdivided into this diamond shape. So the space behind will be some form of an organic block.

About the edges, to reopen the neighborhood to the Saturday market, the highway is pulled down to the ground level with a 'crossover funland' extended from the deck. So instead of the array of pillars next to the square, the commons are reconnected by this extension.

2. Morphology Integration

Concerning the morphologic impact in urban scale, the organic geometry of the extension accentuates the structuralism of public elements in the site. As introduced in the typology abstraction, the playful elements with high social and heritage value.

Both EPS venues cascade towards the residential providing a smooth transition between the dwelling and the commons. At the same time, they signify the sense of square at the other sides. The idea of cascading imitates the effect of the canopy of sandcastle which activates the edges and passages.

3. Socially Reinforced Axis

Facing from the main entrance, an additional arch entrance to the deck is introduced to enhance the connection between commons. Key public anchors are located along the symmetry to strengthen the axis socially. This social reinforcement signifies the arch feature of a high heritage value.

For the newly introduced program, the EPS venue serves for the emerging new energy in the H-Burrt like exhibitions, entrepreneur productivity as a social catalyst. Parallelly, the terraces, courtyards within the venue and the passage provides a healthy low risk semi open space for the public to socialize 24-7. This resonates with the socio-spatial significance of having greenery during covid.

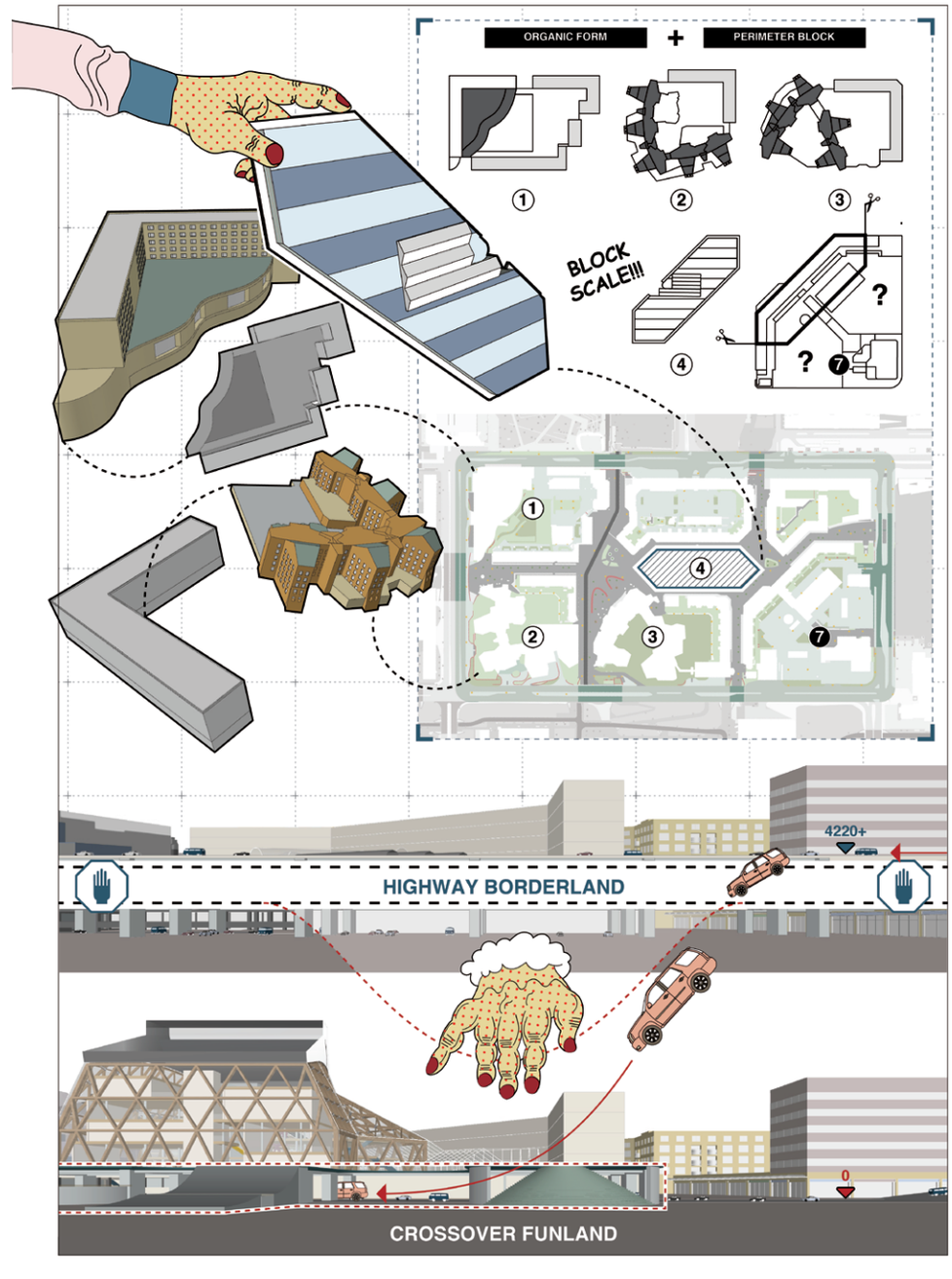
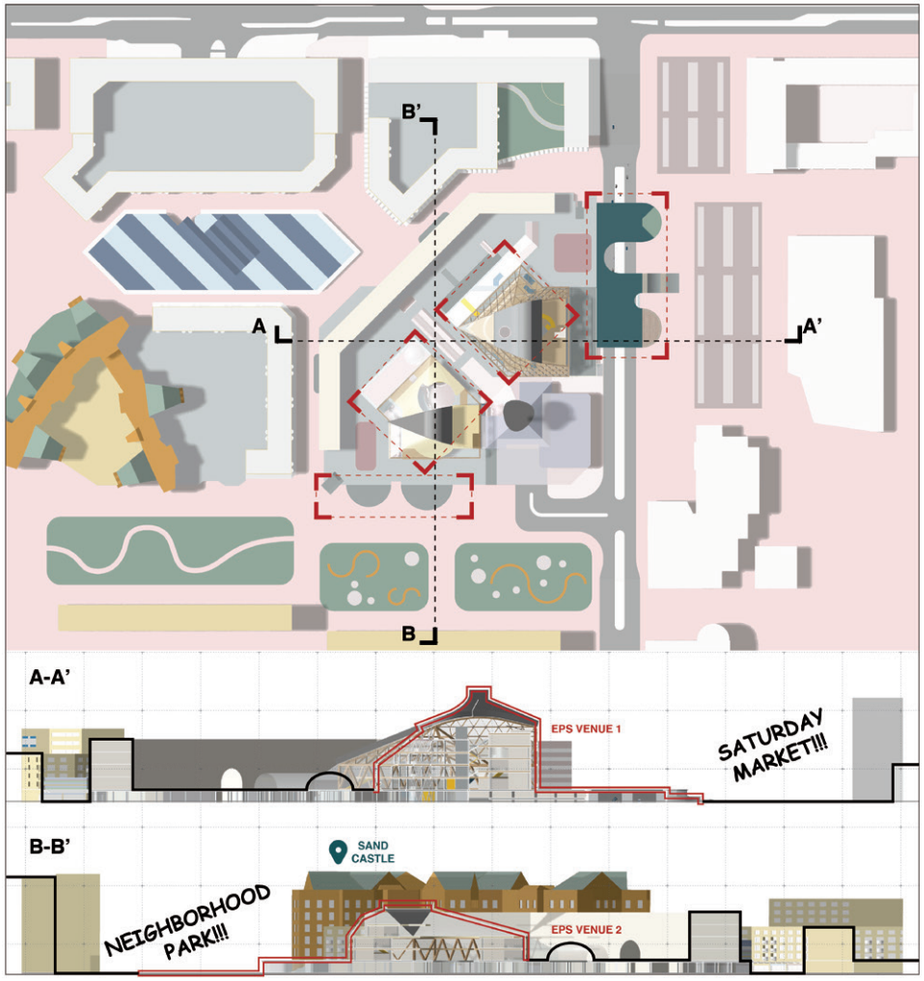


Fig.88 Cluster dissolution

2. MORPHOLOGY INTEGRATION



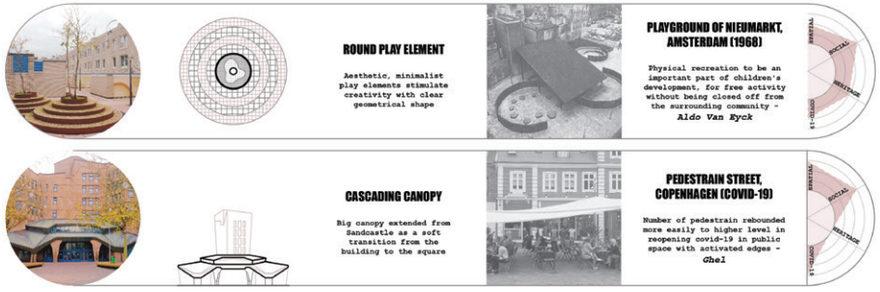
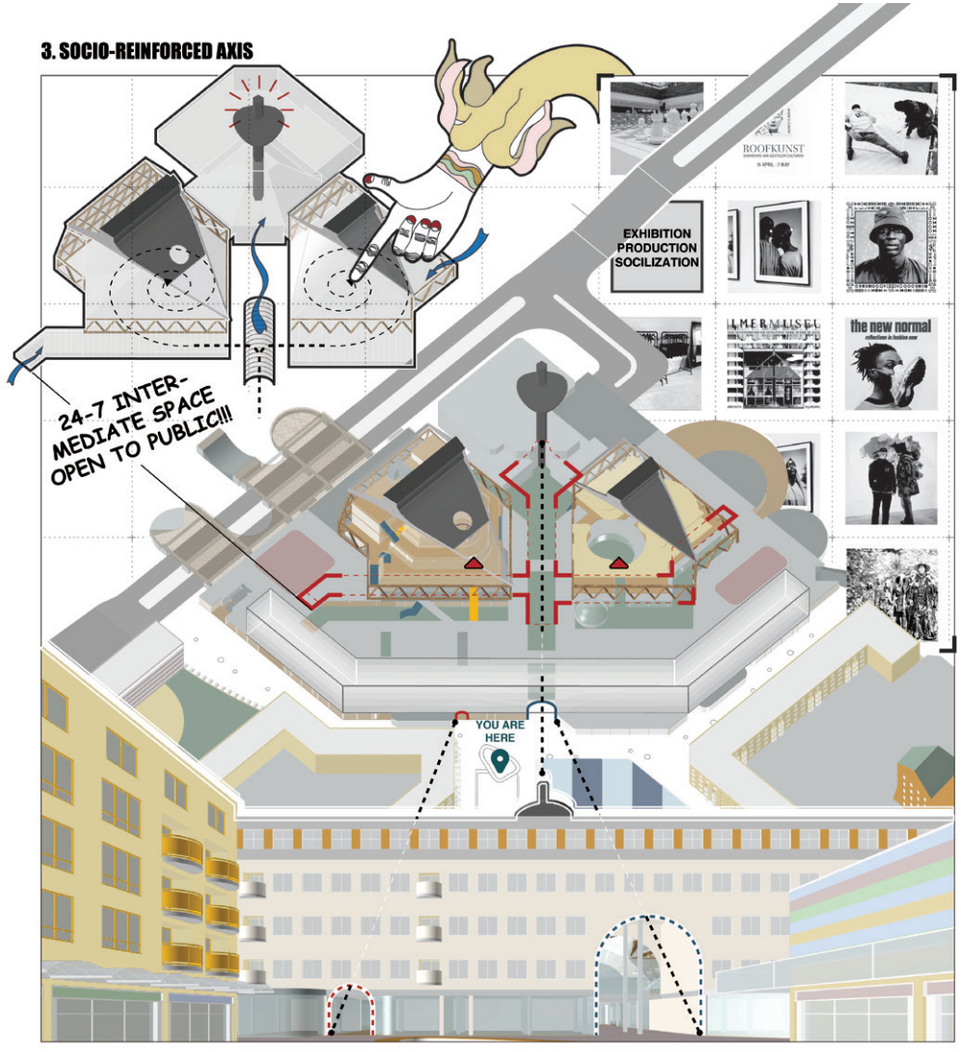


Fig.89 Morphology integration

3. SOCIO-REINFORCED AXIS



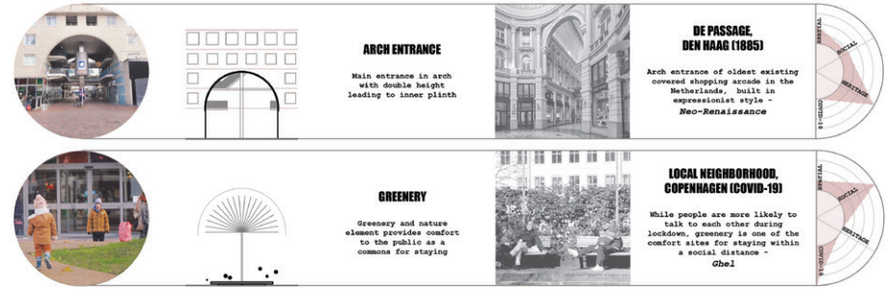


Fig.90 Socially reinforced axis

8.2 Design proposal

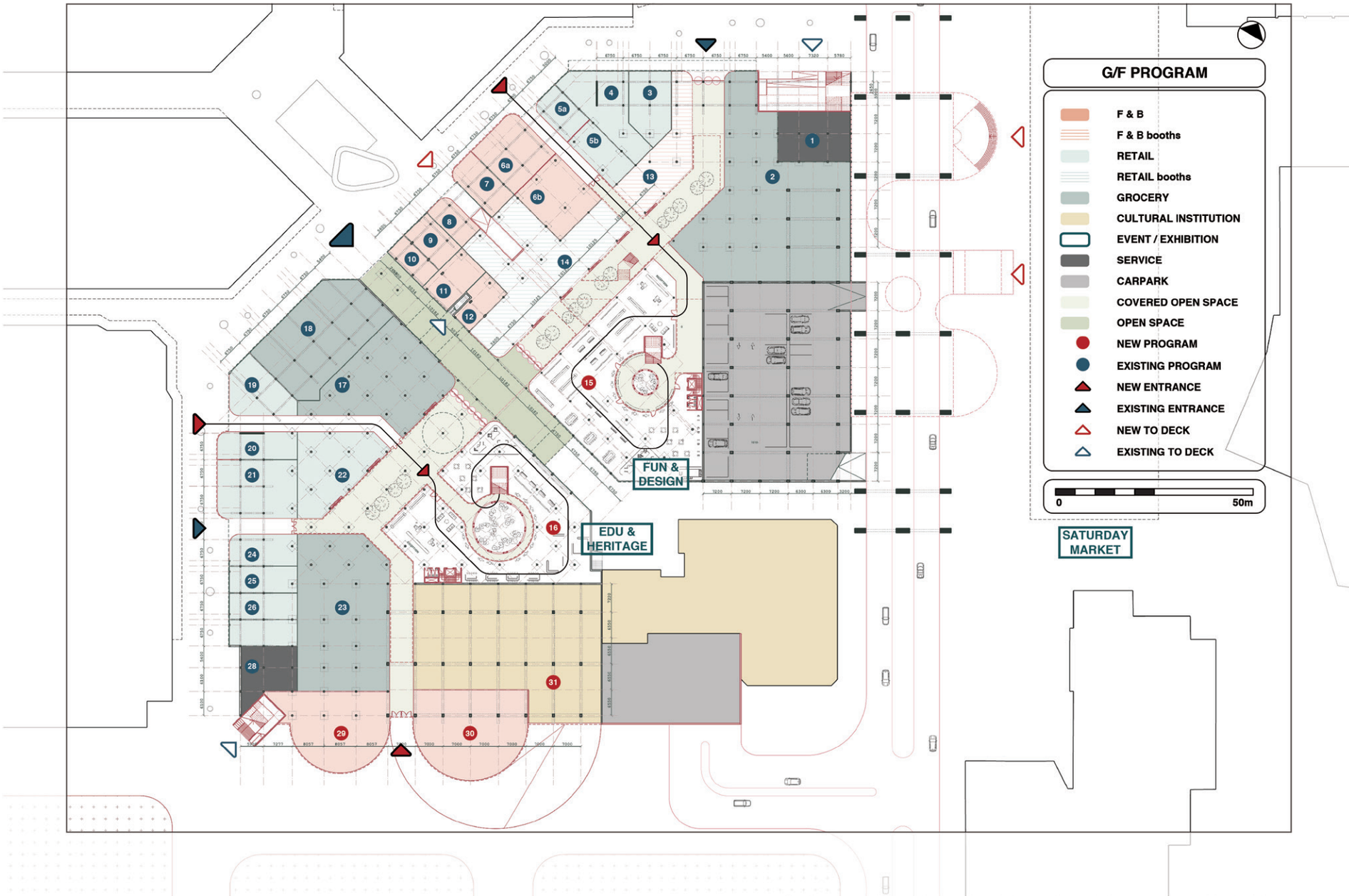
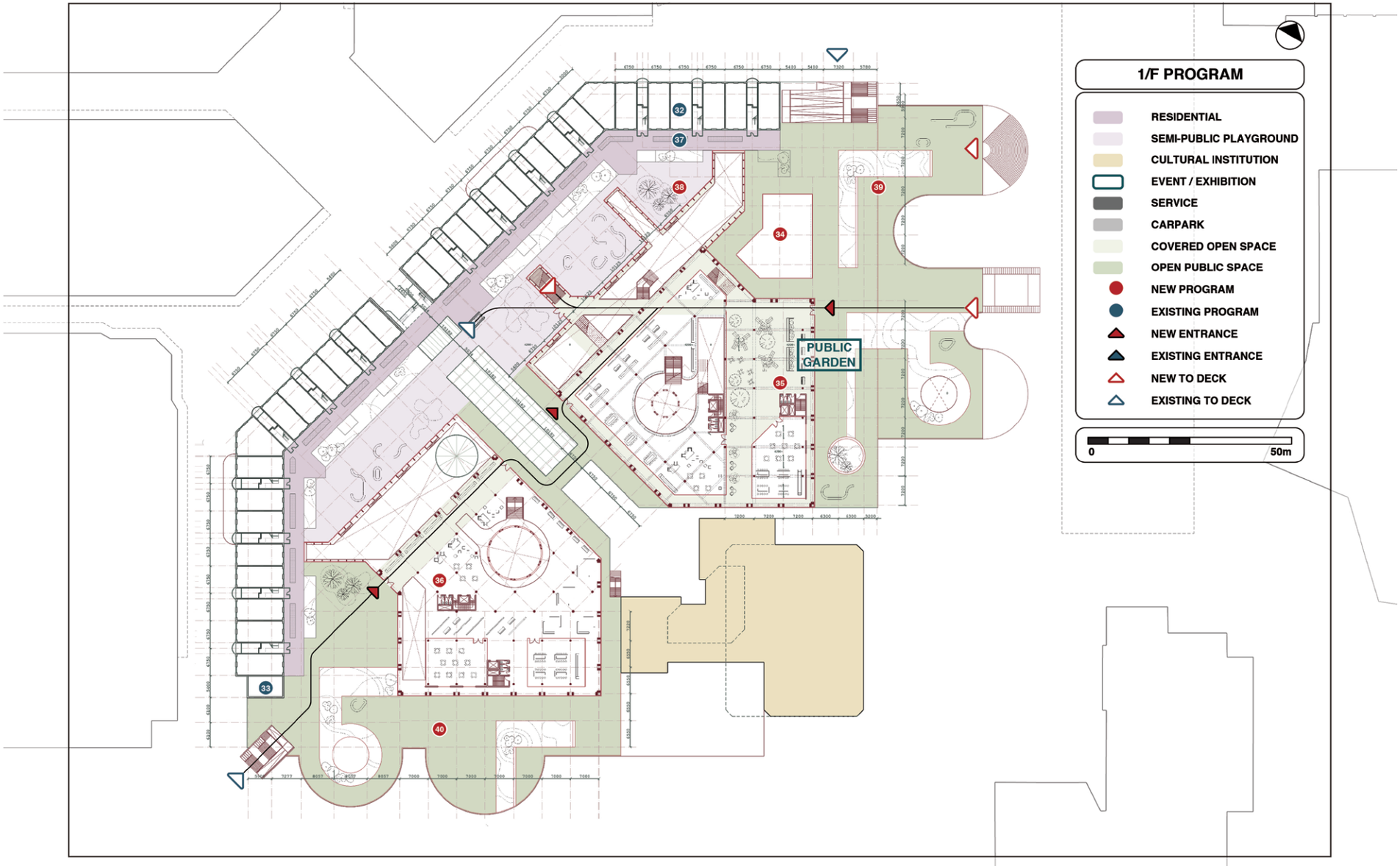


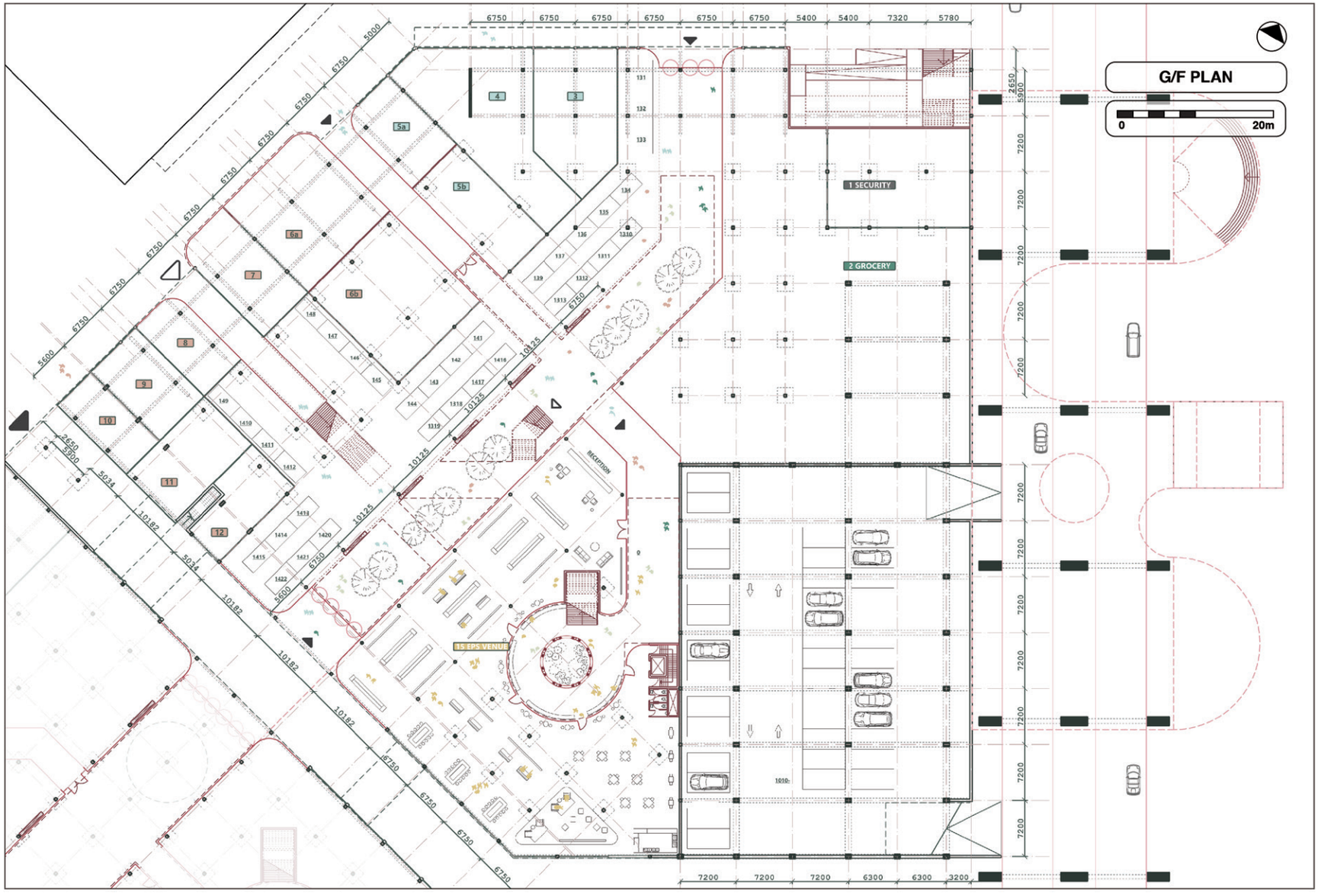
Fig.91 Cluster 7, Ground floor plan

On the ground floor, those blue dots are the existing programs. Most of them are retail and f/b. The introduced semi-open passage intersects with the arcade axis leading to the inner EPS venues. A new access to the deck and other new entrances indicated as red, enhance its porosity and connectivity.



On the deck level, the new passage has created a more distinctive open playground for the residents as the purple part and a public urban garden in green colour. As the deck extends with the bridges, this enhances the connection from the main square up to the deck, through the urban garden to the saturday market at the other end.

Fig.92 Cluster 7, Deck floor plan



Reenacting the focus intervention to the design objective, a healthy social catalyst, from the ground level, new programs like exhibitions enrich the current shopping experience. Parallelly, the garden passage and the courtyard introduces more breathing space within the plinth.

Fig.93 Cluster 7 North chunk, Ground floor plan

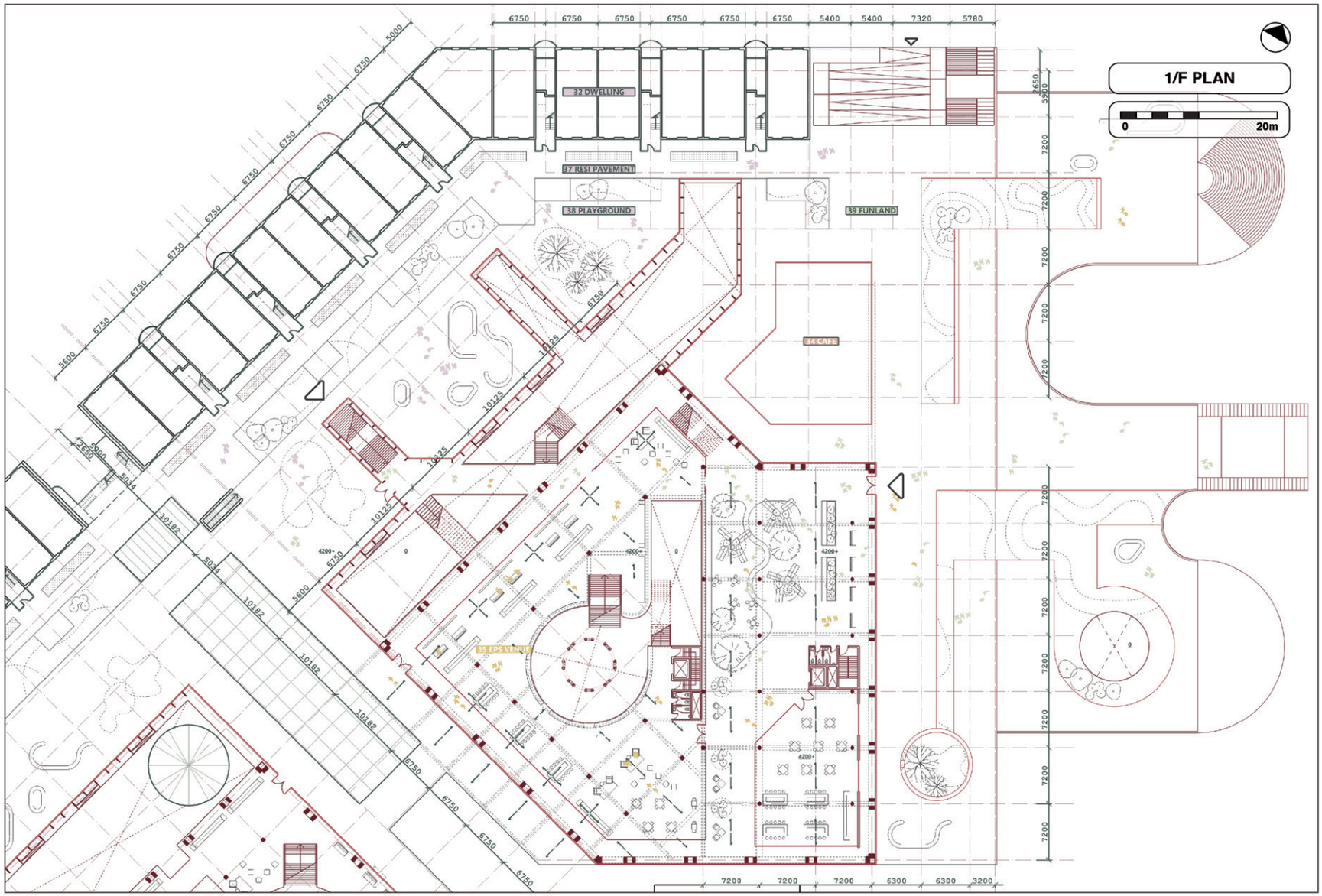
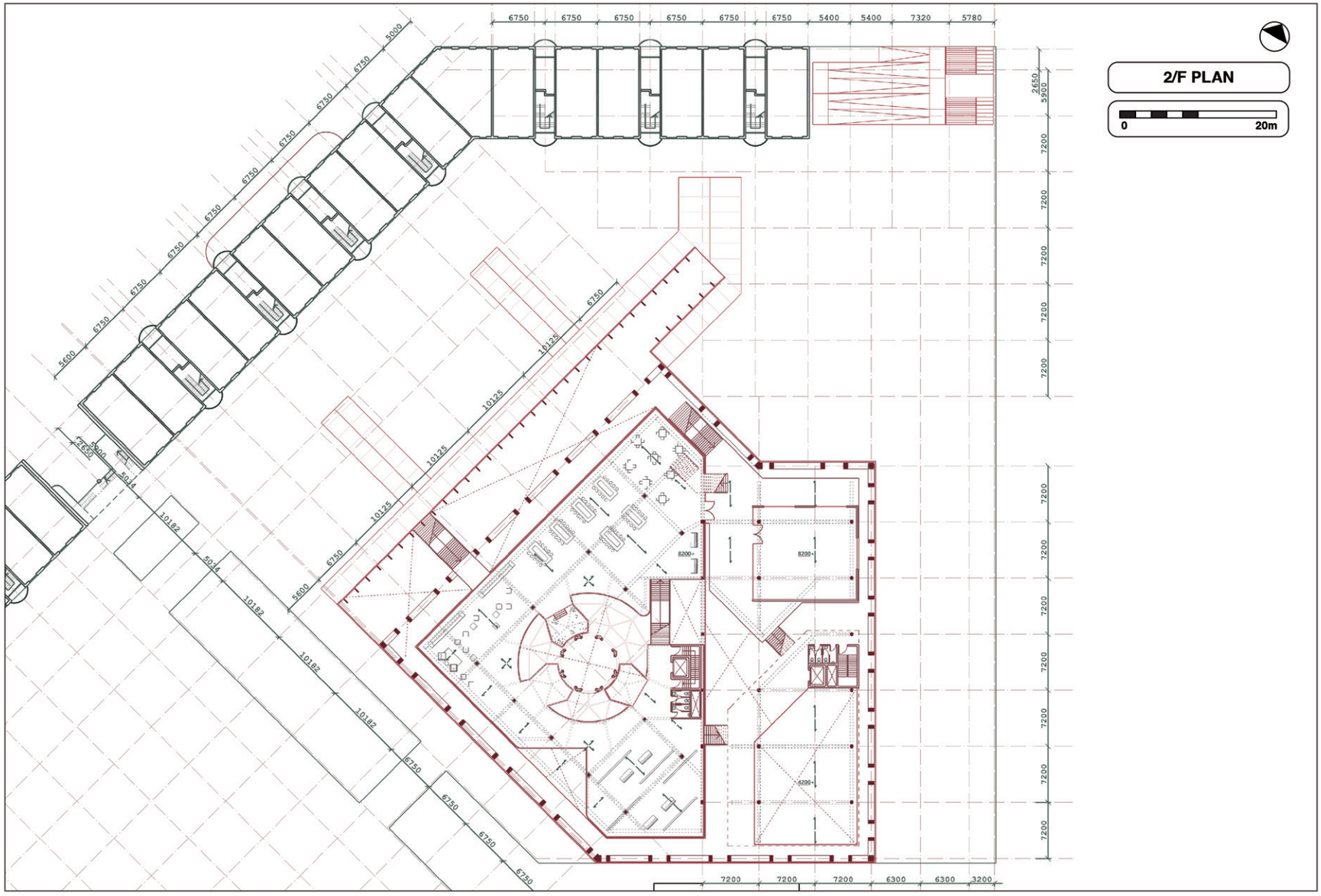


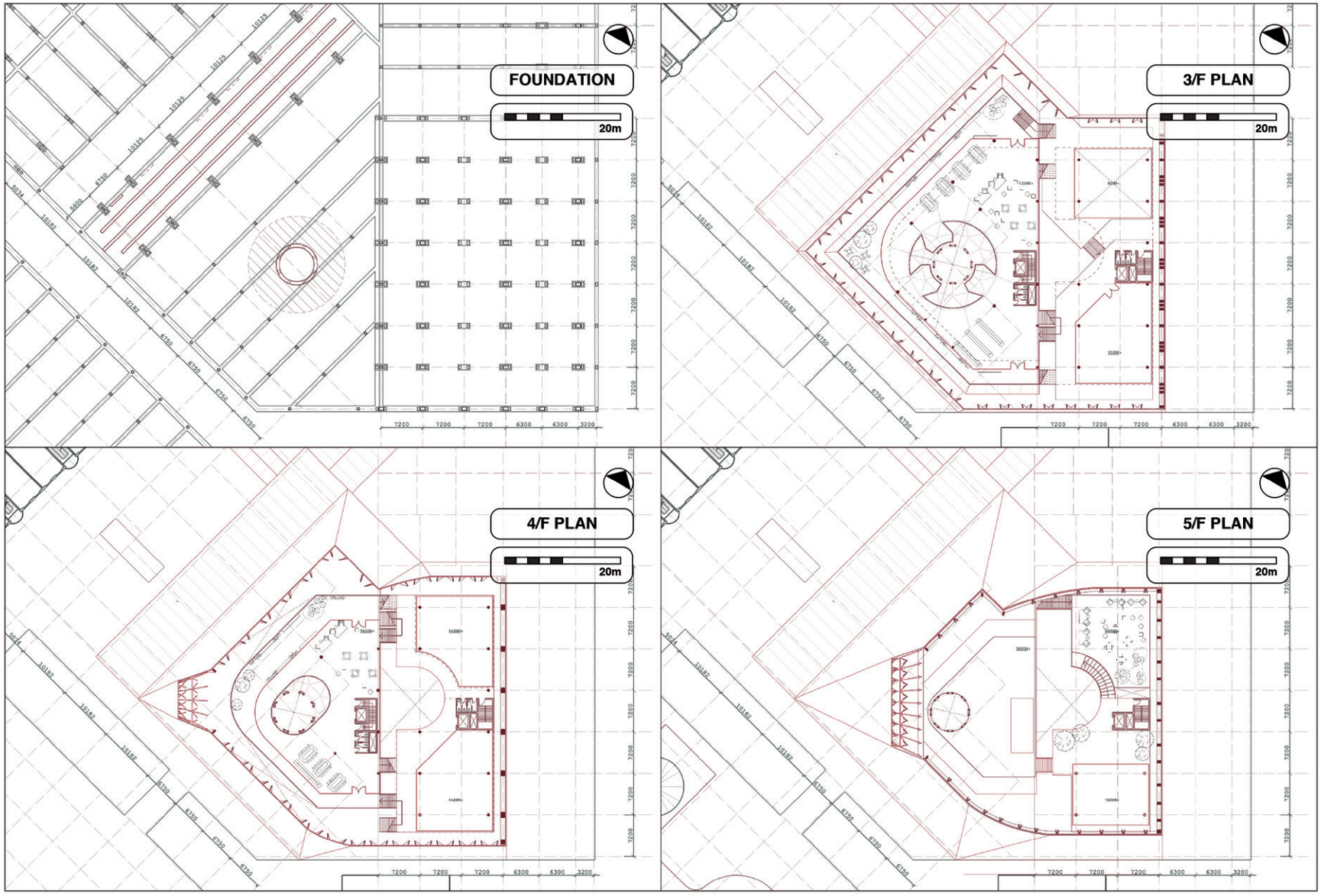
Fig.94 Cluster 7 North chunk, Deck floor plan

Up to the deck, regarding the social diversity enrichment, there are more public programs like exhibitions and entrepreneurship production. The shared playground and urban garden provides extra open space for the residents and the public. For spatial enhancement, the atrium and courtyard facilitates the ventilation within the EPS venue.



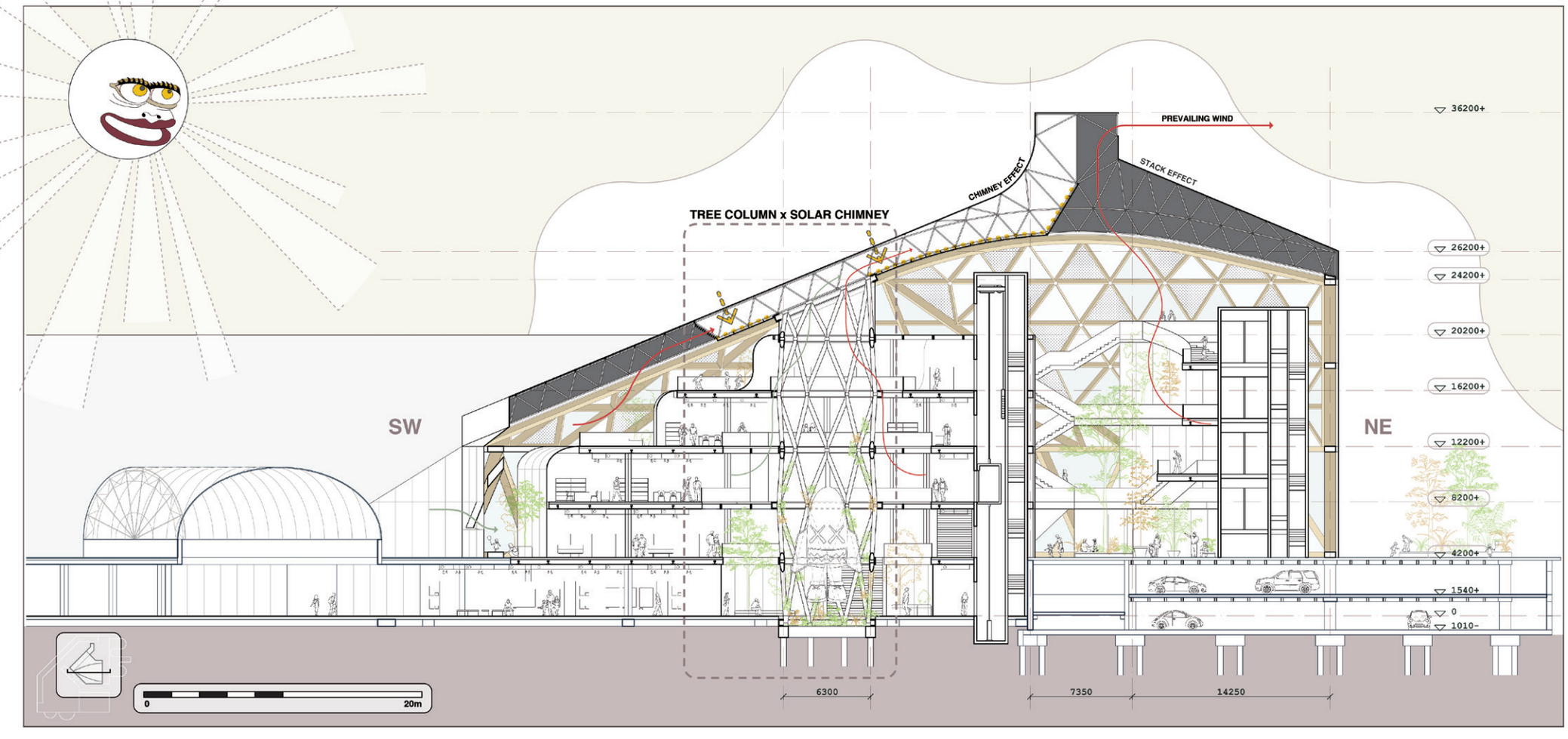
Further up is another exhibition and production space. In response to the spatial needs for post-covid, there are also more terraces within the envelope to enhance the ventilation by stack effect. They also serve as a 24-7 semi open space for public to socialize.

Fig.95 Cluster 7 North chunk, 2/F plan



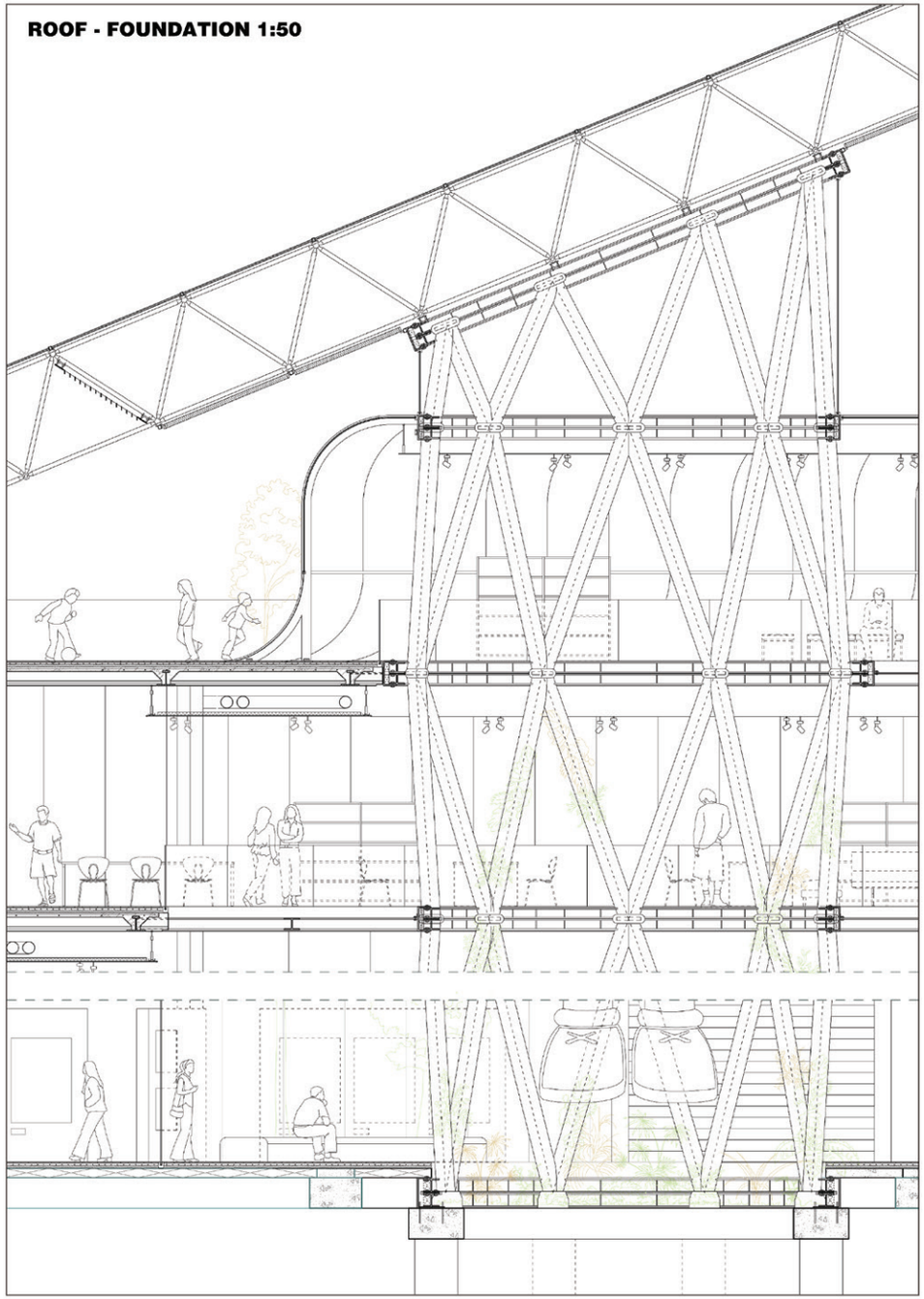
To Integrate the passive solution into air cooling and heating, New air labyrinth is integrated under the passage area. In additional to the existing structural grid, new foundation of an additional central structural element is constructed within the hatched circled area.

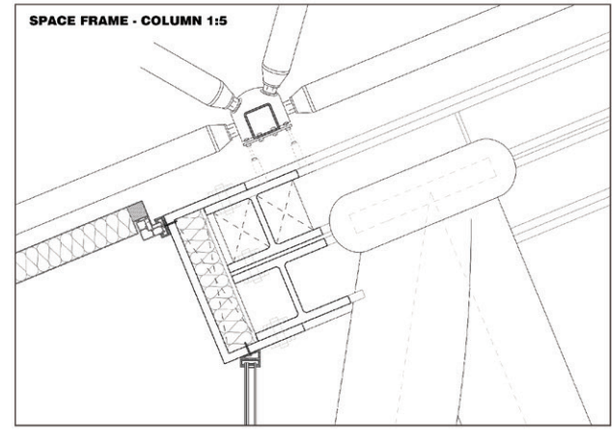
Fig.96 Cluster 7 North chunk, UG-5/F plans

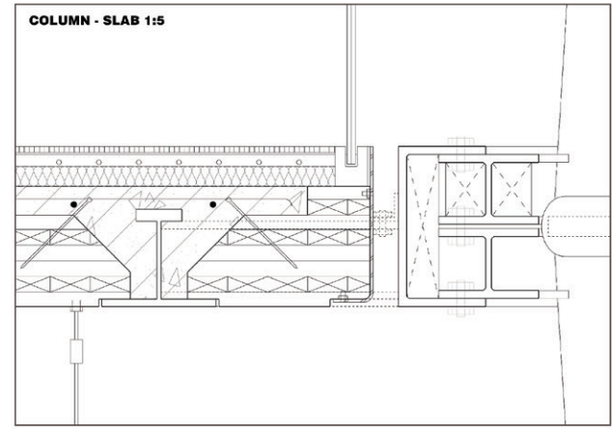


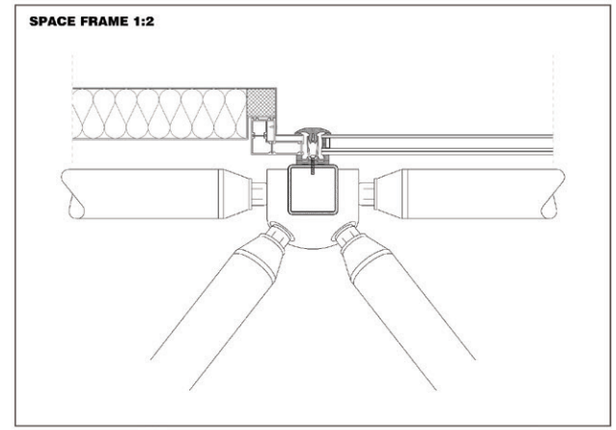
Here is the section cutting through one exhibition big box. The tree column acts as the main vertical structural elements supporting the slabs and the roof. The space frame transfers part of the loads to the truss to the foundation of the car park.

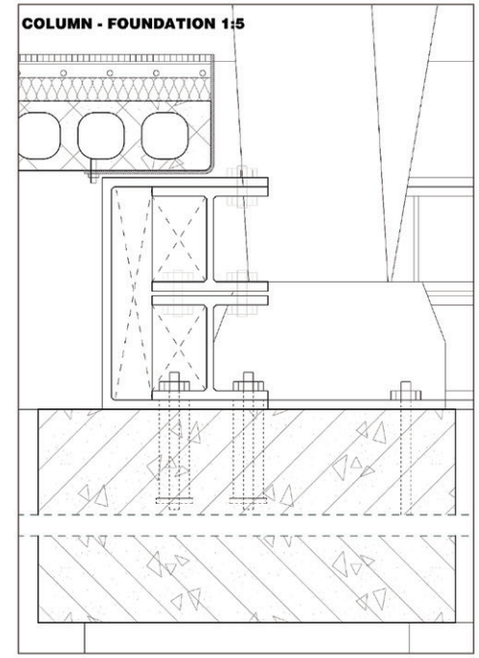
Fig.97 Section 1

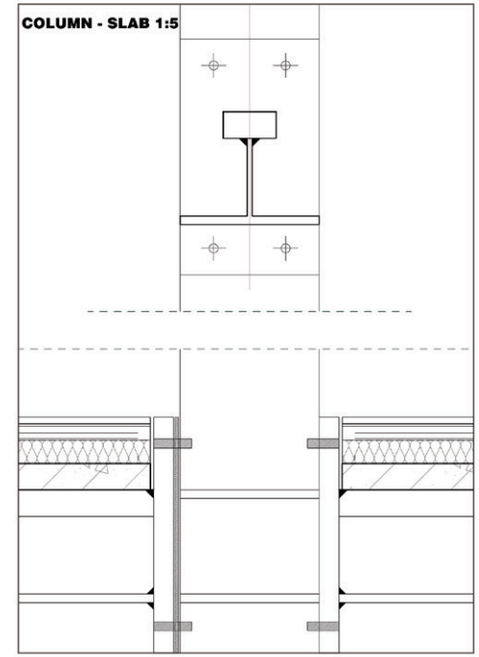






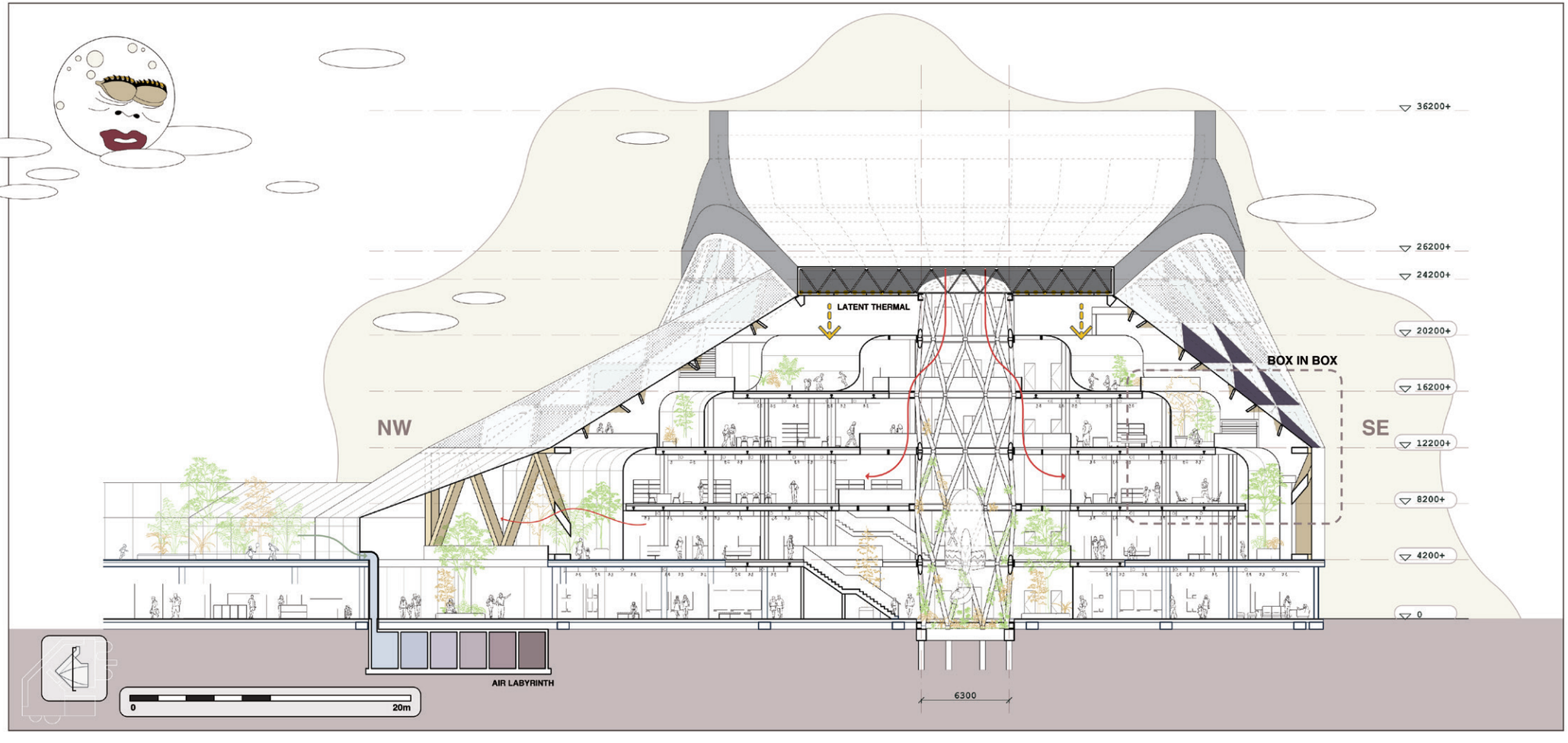






This is how the concrete foundation supporting the timber tree column, then to the steel beam and CLT floor. And up to the steel space frame roof. The outer facade allows flexibility of combination of different materials like the double glazing, aluminum or pv panel. And that is the typical connection between other timber columns and steel beams.

Fig.98 Sections



Here shows the cascading of terraces to the garden passage with air labyrinth underneath. The double height trusses serve as transfer beams between the existing columns to the new gridshell.

Fig.98 Sections

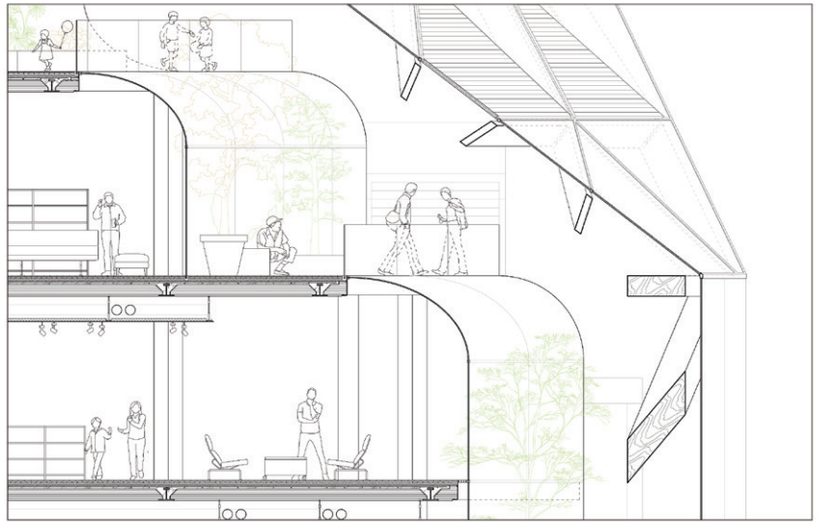


Fig.99 Section 1:50

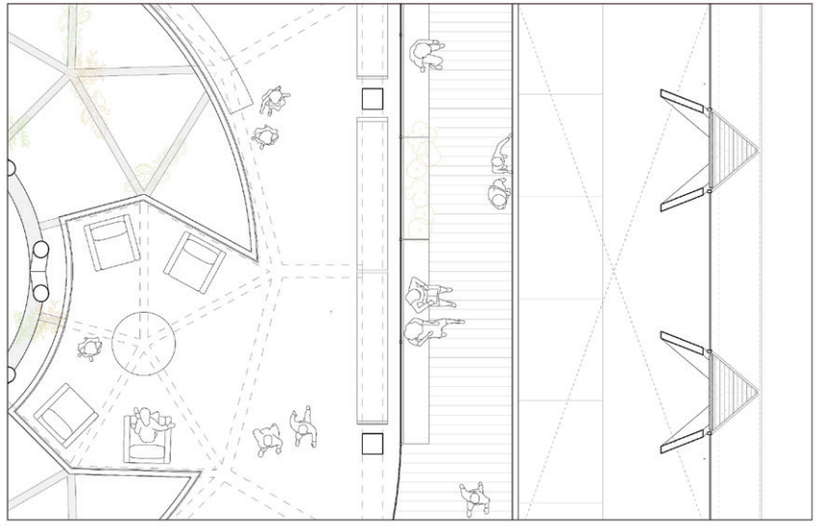


Fig.100 Plan 1:50

The layers of space using the box in box principle creates a green buffer space for socialising. It is formed by the outer facade with a combination of different panels, then the timber truss and gridshell behind. In between space are the terraces transiting to the single glazed facade and the inner courtyard.

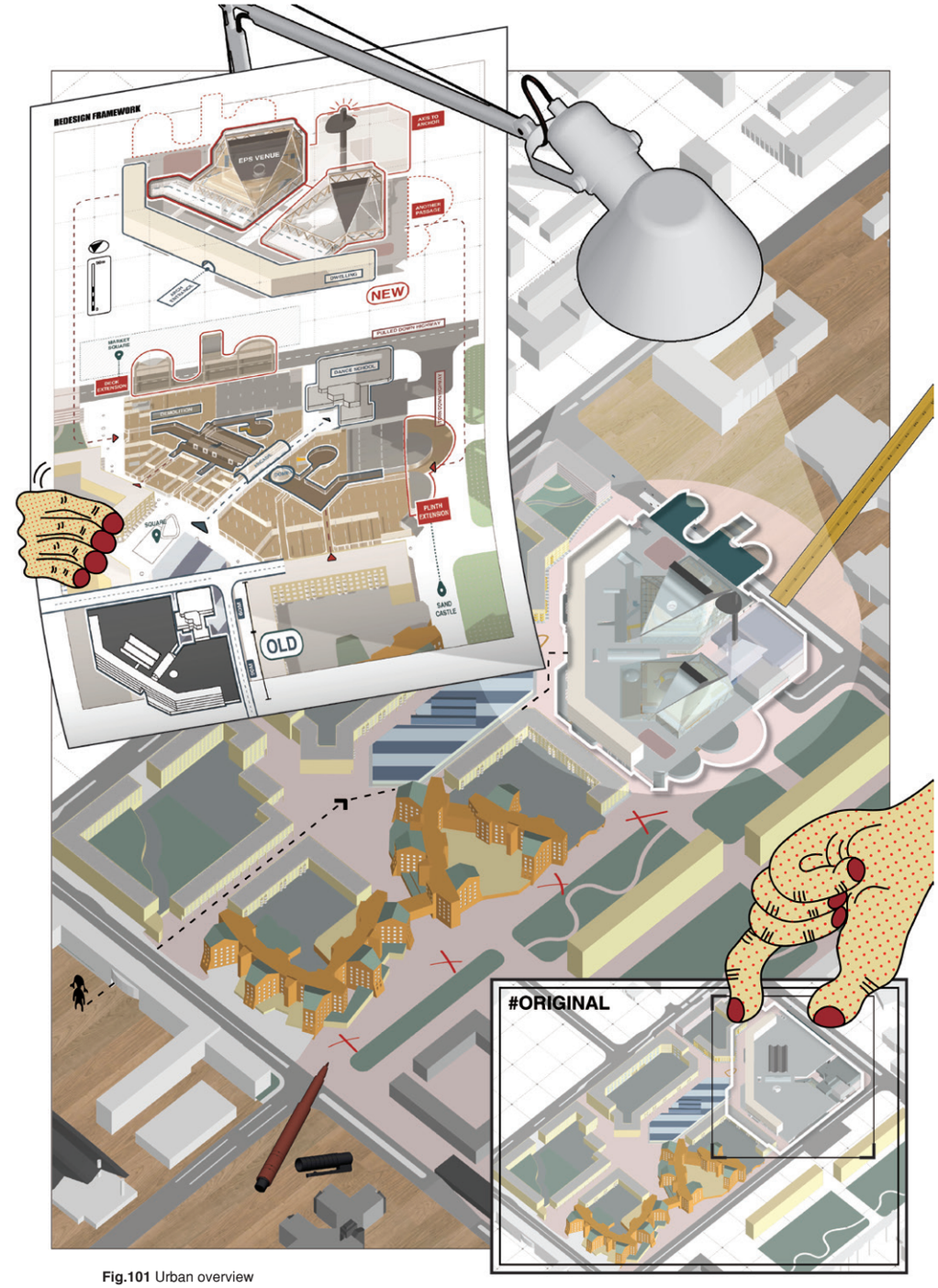


Fig.101 Urban overview

In the urban overview, the intervention ranges from the demolition of highway, to the extension of plinth and deck. And from the new passage to the three main public venues behind the perimeter block.

Structure and circulation

Regarding the main structure and spaces, the EPS venue can be deconstructed as this space frame roof, timber skeleton, timber tree column, individual boxes for entrepreneurship production and a big exhibition box. For the circulation, based on the reopening experience since the lockdown of covid, one way route is formulated so it's easier to control the human flow in case of any measures needed in the future. So basically visitors go up through the inner boxes till the rooftop terrace. Then they return along the outer ring along the terraces as a cool down space.

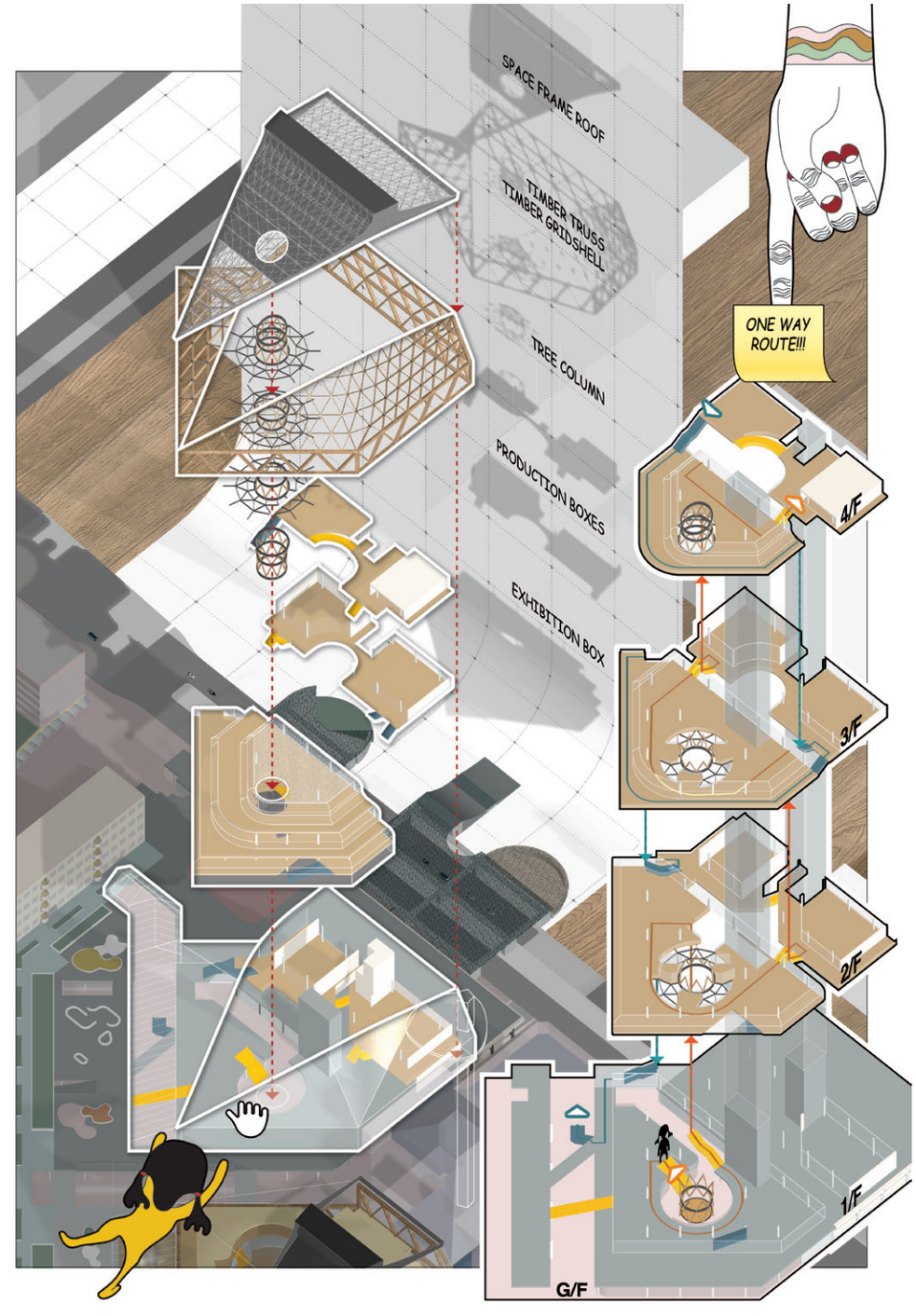


Fig.101 Structure and circulation

Climate and ventilation

This is how the ventilation works in summer. First the air enters the air labyrinth for cooling. Then it is further cooled down by the geothermal heat exchange before entering the air shaft. Parallely, natural ventilation happens through the garden passage entering the inner box through some openings.
The cooled fresh air moves towards the courtyard and atrium. At last the warmed air is sucked up to the roof by the solar chimney and stack effect. And based on the sun path radiation on the envelope in summer, the pv panels are distributed at the south face.
Only one third of the facade is glazing at the west, and two-third is glazing at the north and east facade.

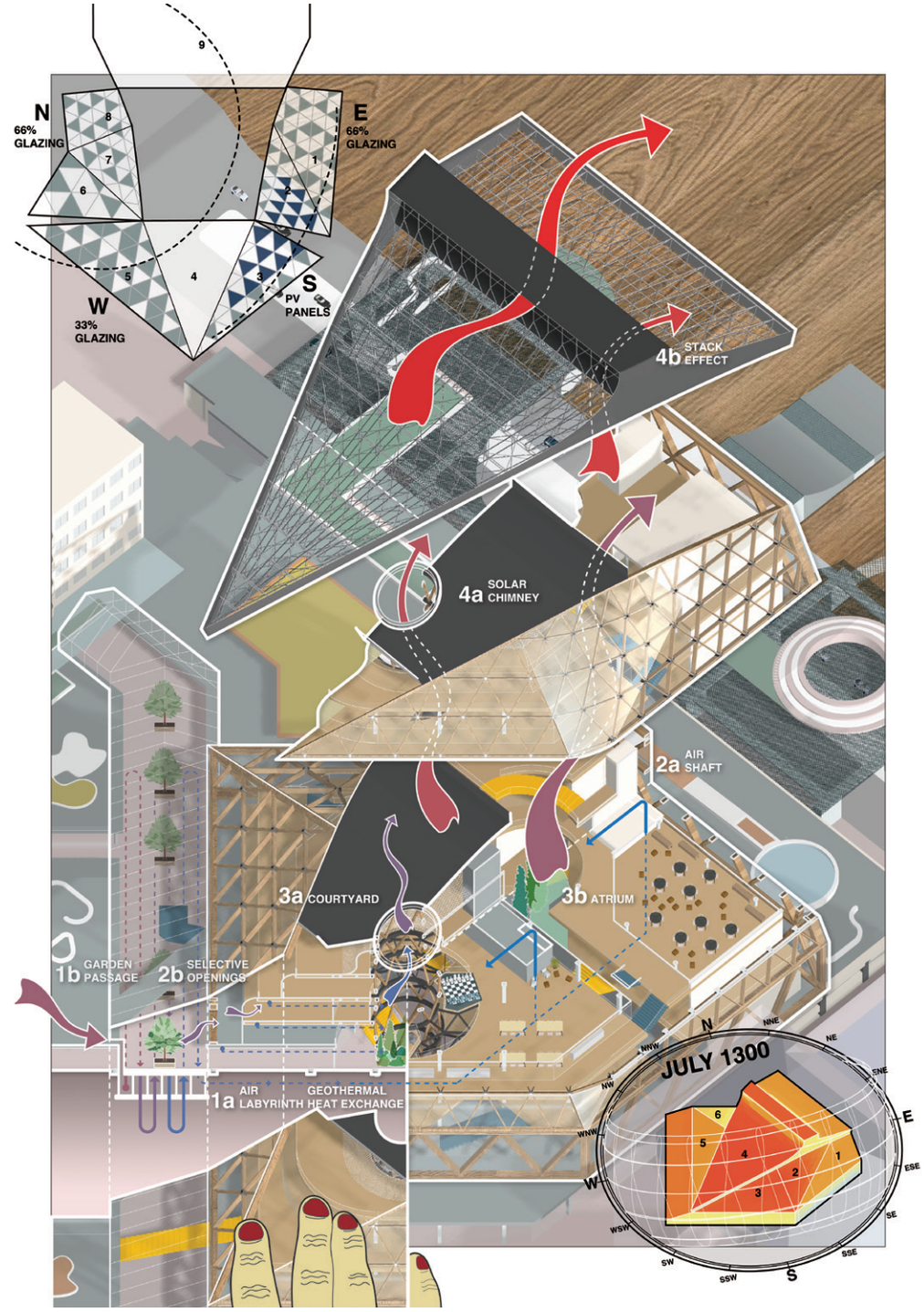


Fig.102 Climate and ventilation

Conclusion 09

How an adaptive reuse of an under-designed shopping mall from the 1980s can stimulate a fair healthy living environment within a broader neighborhood for the post-covid future?

"Cluster 7.0" -3 0 3		SOCIAL VALUE				SPATIAL VALUE			HERITAGE VALUE				
		Diversity	Accessibility	Inclusiveness	Material Affluence	Protection	Comfort	Enjoyment	Historical	Intended Commem.	Use	Newness	Relative Art
Urban structure	Elevated road	0	2	0	0	1	-3	0	3	0	2	0	0
District	Mix use (street level)	2	1	1	0	-1	-1	-1	3	0	1	0	0
	Street art (political)	1	0	3	2	0	0	1	0	3	0	2	2
Surroundings	Sandcastle	0	1	1	3	0	0	3	3		2		3
	Public square	1	1	1	-1	1	1	1	0	0	2	0	0
	Street hawker	2	0	2	0	0	-1	0	0	0	2	0	0
Building block	Mid rise height	-1	0	-1	0	0	1	1	3	0	2	0	0
	Mid rise horizontality	-1	0	-1	0	0	0	0	3	0	0	0	2
	Elevated deck	-2	-1	-2	-1	1	-2	-3	3	0	3	0	0
	Shopping plinth	1	1	1	0	1	-2	-2	3	0	1	0	0
Skin	Entrance arch	0	1	1	1	1	0	1	2	0	1	0	2
	Round balconies	0	1	0	1	1	1	1	2	0	2	0	2
	White bricks	0	0	0	2	0	0	1	1	0	1	0	2
Structure	Glass roof arcade	0	1	0	1	1	1	1	1	0	2	0	2
Services	Access to deck	-1	-2	-2	-1	-1	-2	-1	0	0	2	0	0
Space plan													
Stuff													
Spirit of place	Multi cultural neighborhood	3	0	1	0	0	0	0	3	0	0	0	0
	Anti Bijlmer	2	2	3	2	0	0	1	3	0	0	0	0
	CIAM aspiration	-3	-2	-3	0	2	1	1	3	0	0	0	0

Fig.103 Value attribute matrix of original

"Cluster 7.1" -3 0 3		SOCIAL VALUE				SPATIAL VALUE			HERITAGE VALUE				
		Diversity	Accessibility	Inclusiveness	Material Affluence	Protection	Comfort	Enjoyment	Historical	Intended Commem.	Use	Newness	Relative Art
Urban structure	Elevated road	0	1(+1)	1(+1)	0	1	1(+4)	1(+1)	1(+2)	0	0(-2)	0	0
District	Mix use (street level)	2(+1)	2(+1)	2(+1)	0	2(+3)	2(+4)	1(+2)	3	0	2(+1)	2(+2)	0
	Street art (political)	2(+1)		3	2	0	0	2(+1)	0	3	0	3	2
Surroundings	Sandcastle	0	1	1	3	0	0	3	3		2		3
	Public square	2(+2)	2(+2)	1(+1)	1(+1)	2(+1)	2(+2)	2(+2)	0	0	2(+1)	2(+2)	0
	Street hawker	2	1(+1)	2	0	1(+1)	1(+2)	0	0	0	2	0	0
Building block	Mid rise height	1(+2)	0	1(+2)	0	0	1	1	3	0	2	0	0
	Mid rise horizontality	-1(+2)	0	-1(+2)	0	0	0	0	2	0	0	0	2
	Elevated deck	2(+4)	2(+3)	2(+4)	1(+2)	1	1(+3)	1(+4)	3	0	3	1(+1)	0
	Shopping plinth	2(+2)	2(+2)	2(+1)	0	2(+2)	2(+4)	1(+3)	3	0	1(+2)	1(+1)	0
Skin	Entrance arch	0	1	1	1	1	0	1	2	0	2(+1)	0	2
	Round balconies	0	1	0	1	1	1	1	2	0	2	0	2
	White bricks	0	0	0	2	0	0	1	1	0	1	1(+1)	2
Structure	Glass roof arcade	0	1	0	1	1	1	1	1	0	1(+1)	0	2
Services	Access to deck	1(+2)	1(+2)	1(+3)	1(+2)	1(+1)	1(+3)	1(+1)	0	0	2	0	0
Space plan													
Stuff													
Spirit of place	Multi cultural neighborhood	3	0	2(+1)	0	0	0	0	3	0	0	0	0
	Anti Bijlmer	2	2	3	2	0	0	1	3	0	0	0	0
	CIAM aspiration	-3	-2	-3	0	2	1	1	3	0	0	0	0

Fig.104 Value attribute matrix of proposal

The socio-spatial value of the elevated deck and the access to deck, mixed use and the shopping plinth is highly strengthened from negative to positive. For the heritage value, the use value and newness of the plinth and deck increases to further embrace the intangible heritage of Bijlmerplein, which is the ideology of the mixed use.

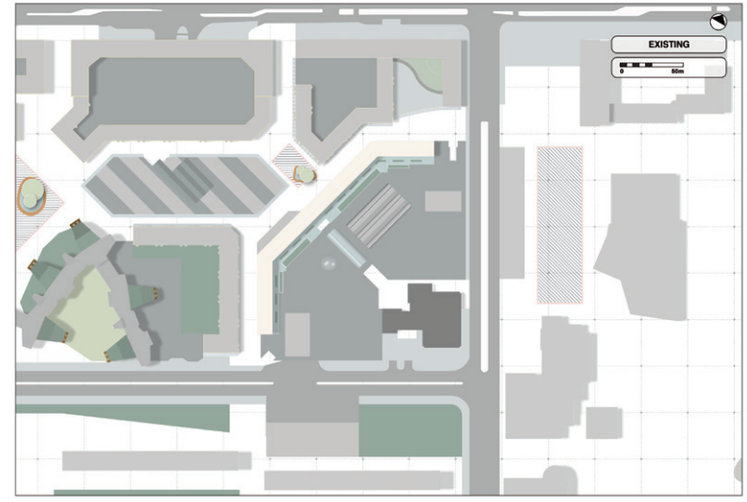


Fig.105 Urban plan of existing

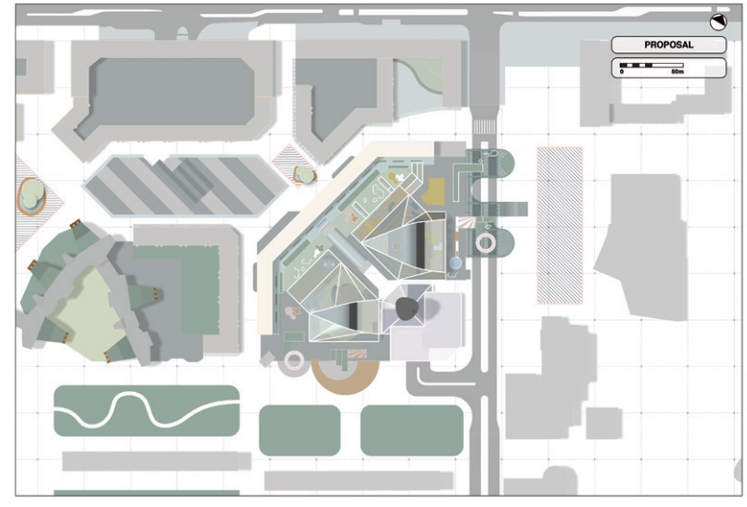
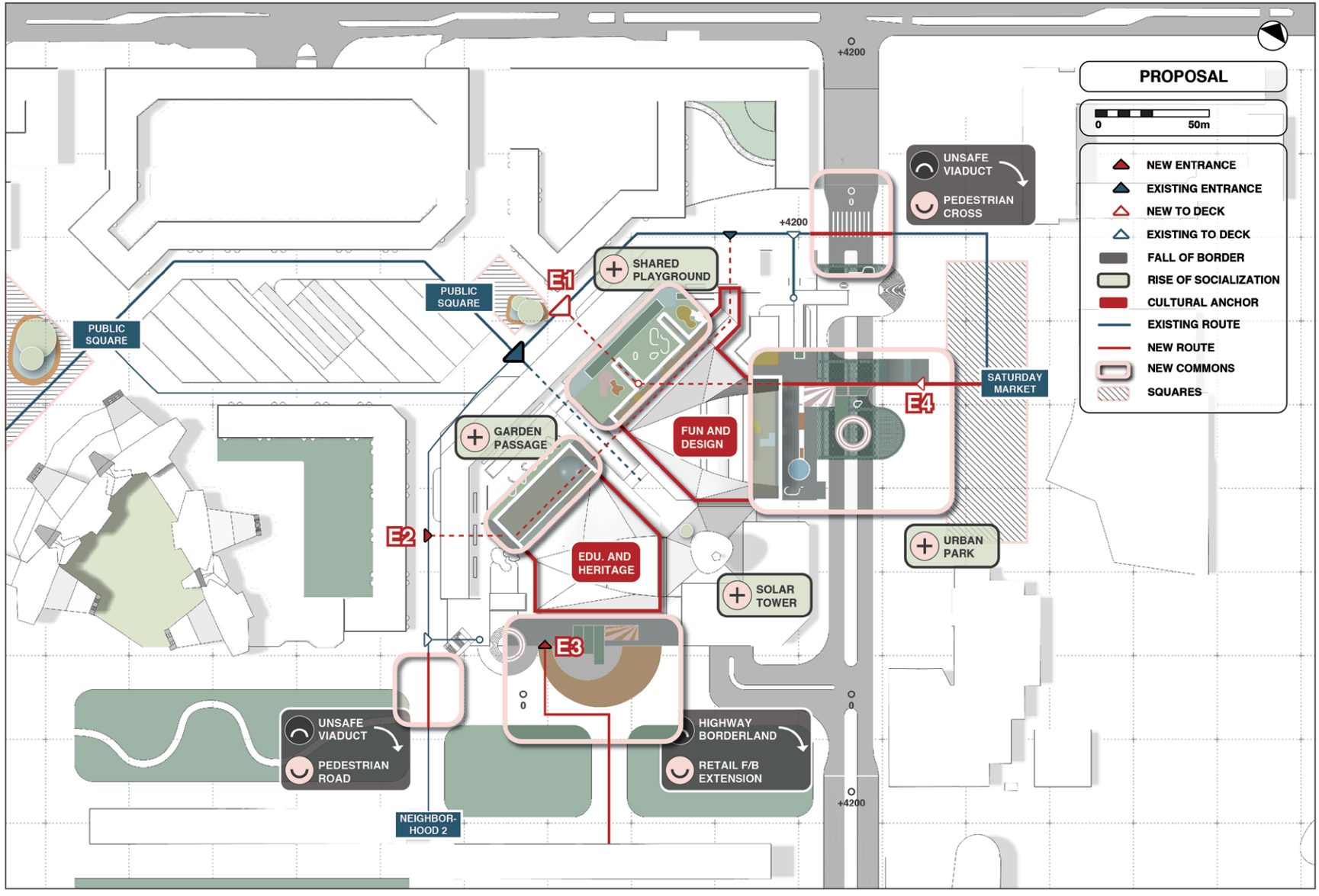


Fig.106 Urban plan of proposal

For better social interaction among neighborhoods, instead of the existing highway, we can have the extension of plinth and the urban park to the previously segregated area. Hence, there will be better connections among the series of public squares. People no longer need to cross under the viaducts with an unsafe feeling but they can enjoy the open pedestrian way for better accessibility.

To strengthen the cultural and economic capacity of the plinth, new entrances leading to the inner garden passage enhance the porosity of it. Instead of the limited mixed use currently, with the additional three main cultural venues and the constituted shared playground for the residents, there comes to a better programmatic diversity, and hence, a wider spectrum for social, cultural and economic exchange.



.

Fig.107 Urban diagram of proposal

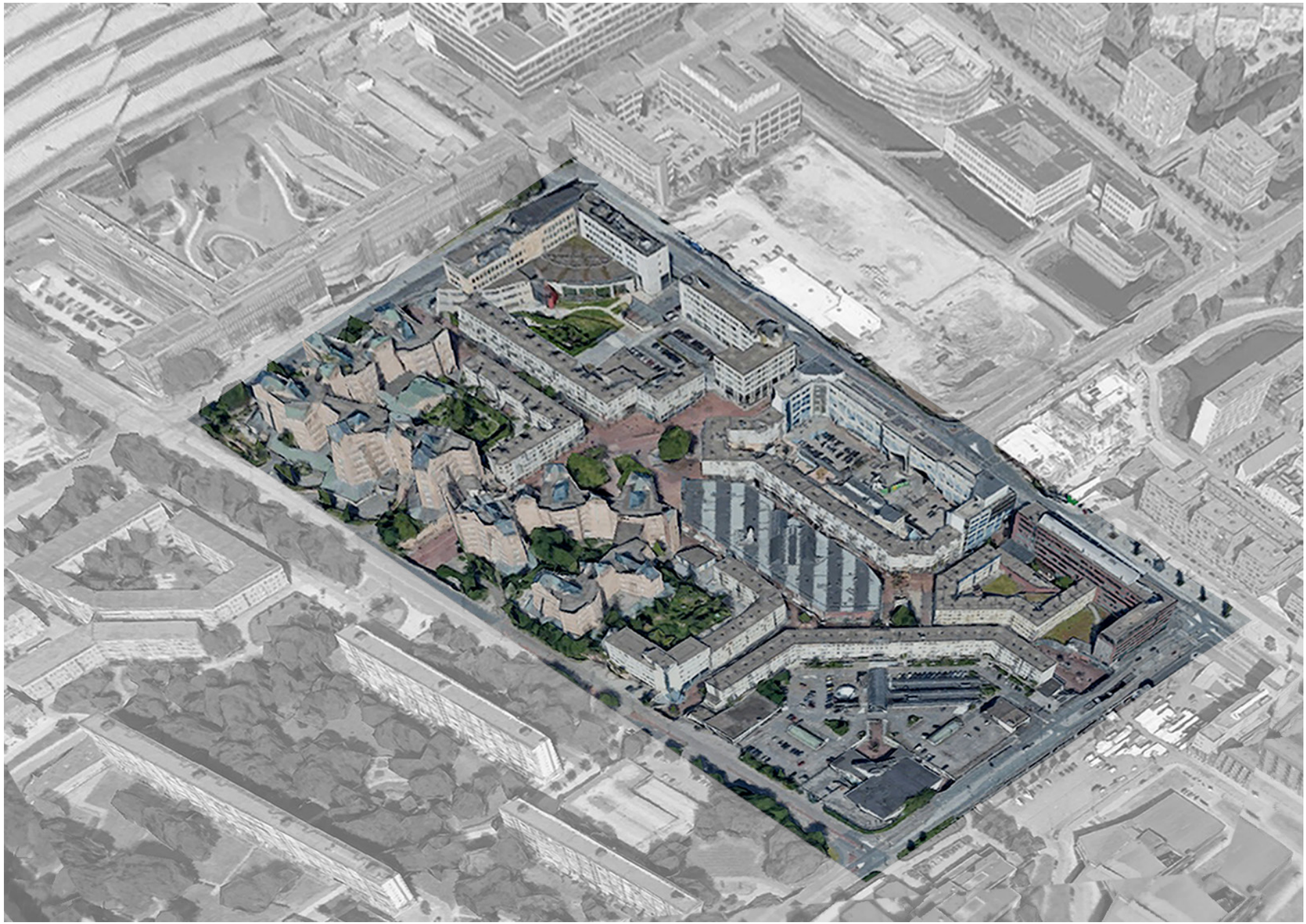


Fig.108 Aerial view of existing

Fig.109 Aerial view of proposal

Re-modelling of the urban structure around the shopping mall reconnects Bijlmerplein to the neighborhood at the other sides into the larger city with a better flow from the train station, to square 1, square 2, 3, to the new public spaces in cluster 7, then to the Saturday market.

Fig.110 Proposed main entrance

Currently the dominant arch entrance serves as the main entrance bringing the residents into the inner cluster

And to further expand the symbol of the public entrance, another small arch entrance to the deck resonates with this postmodernism feature. While the facade of the residential block is kept intact as the main image of the cluster periphery, a tip of the solar tower behind is visible to further bring people into the inner cultural venue.

Fig.111 Current main entrance

Fig.112 Aerial view from Saturday market of existing

Instead of the two independent levels of the deck and the square, the deck is extended to the market bringing more people to the cluster. Strengthening the tangible architectural quality of the plinth enhances the architectural, social and spatial value of it. And hence, the plinth, the squares and saturday market nearby serves better together for the broader neighborhood.

Fig.113 Aerial view from Saturday market of proposal

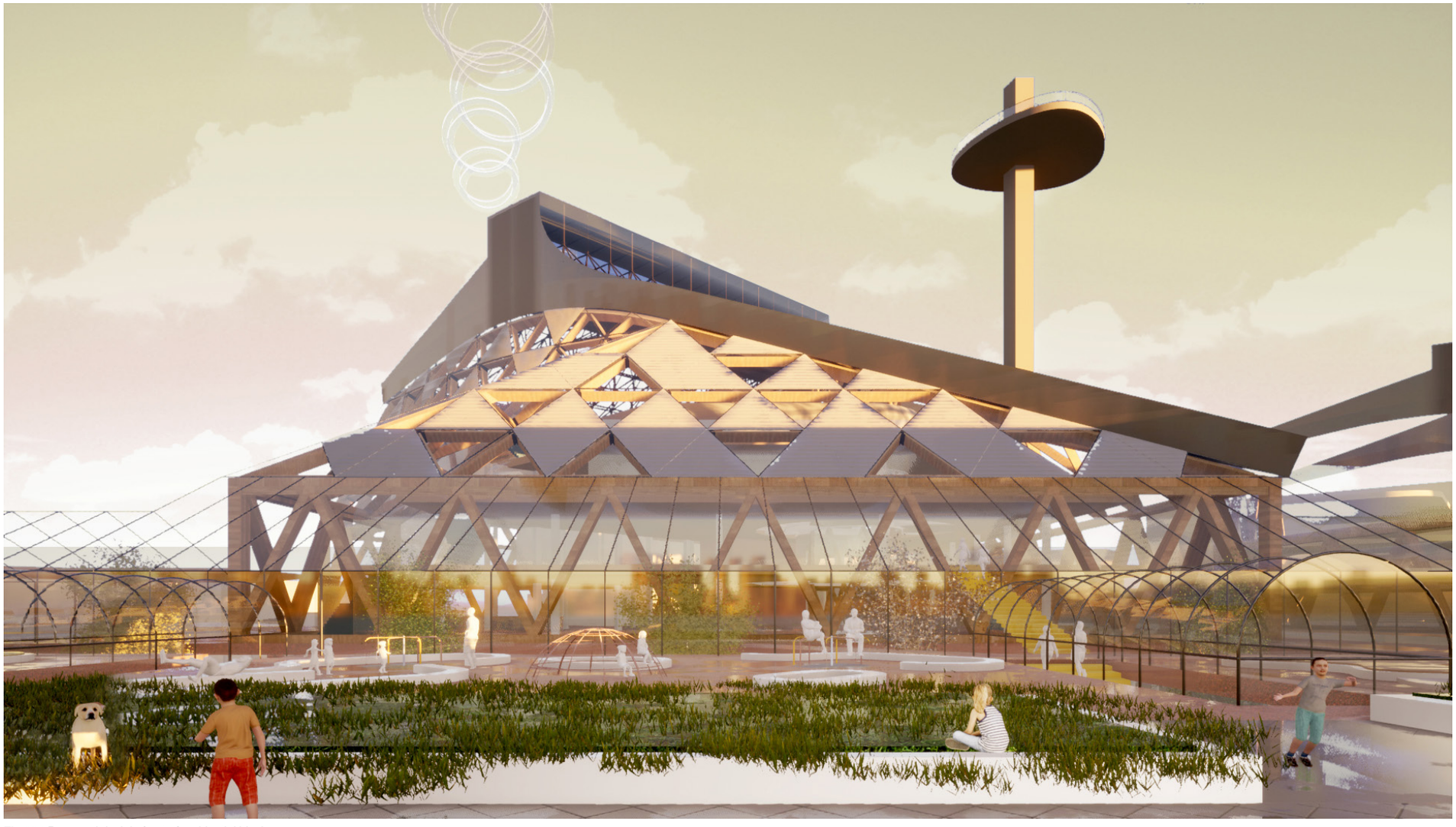


Fig.114 Proposed deck in front of residential block

Up on the deck level, instead of the carparks in front of the residential block, there will be the cultural venue, with greenery inside the garden passage. There will also be more green open space in front of the passage for the residents.

Fig.115 Current deck in front of residential block

Fig.116 Proposed courtyard inside the plinth

The shopping plinth is no longer one single enclosed layer, but with the courtyard punching through to the upper floors as an exhibition space with more greeneries.

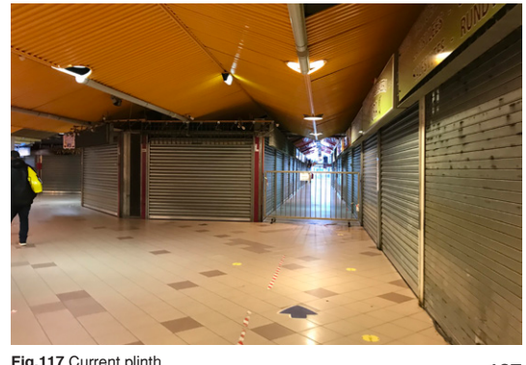


Fig.117 Current plinth

Fig.118 Proposed atrium in EPS venue

The underused deck is not an empty space anymore. The densification on the deck allows better use for social functions as the cultural centre embracing the local multicultural activities. It accentuates the intangible heritage value as a multicultural neighborhood in Bijlmer. It makes use of the vibrancy of the existing market squares and further enhances the viability of the surroundings.

Therefore, with the set of interventions working all together, it proposes a reciprocal activation between a spatial reform of an 80s shopping plinth, and the functional reinforcement of its local cultural activities. In a substantial future, the tangible heritage as an 80s shopping plinth and the intangible heritage of the local cultural activities could possibly support each other both spatially and functionally, so that the local residents can live with a better fair healthy commons.

Fig.119 Current deck

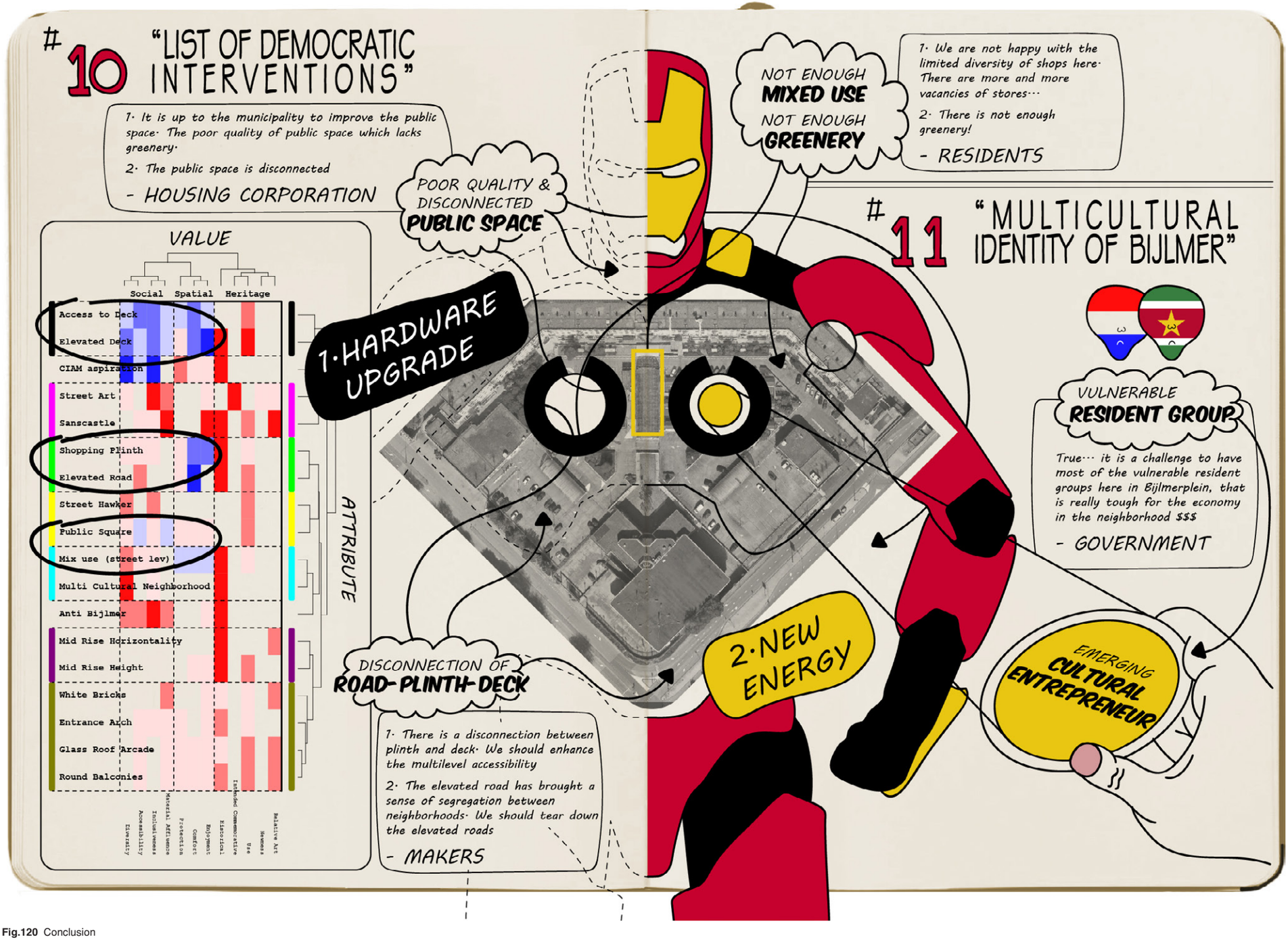


Fig.120 Conclusion

Reflection 10

10.1 Wider relevance

‘Non-styled architecture’ as an unpurified solution to spatiality of injustice

Never conflict can be avoided, nor can we fully rely on the social system itself in changing incrementally as a consequence of continued pressure for justice. The goal of this research and graduation design is not to seek a solution to the social injustice embedded in the neighbourhood. As explained in the theoretical framework about the notion of just life, the role of architecture in the entire system is limited, however, has set a spatial foundation as the acts and the casual facts in an individual’s life. While housing policy on economics and ownerships indeed might play a more effective role in the change of the system, which has also been more discussed and progressed, the impact from the uneven distribution of the commons has been overlooked. Thus, this research attempts to translate the constituents of social justice in the form of spatial metrics to suggest another lens to replant neighborhood justice in the form of commons. The specific acupuncture in the identified neighborhood commons will be anticipated as a catalyst for more even distribution of social resources.

As Saskia Sassen, a Dutch-American sociologist raised a query about ‘who owns the city’ in an era of plutocracy, public officials have acknowledged the fact that the socially vulnerable populations are being displaced by an urban development machine indifferent to creating an inclusive city (Foster and Iaione, 2016). In the introduction chapter, it has been claimed that the elimination of architects in the design process has led to the ‘non-styled architecture’ in the 70s/80s. While witnessing the failure of the arrogant heroism of architects in the modern movement, we have also learnt that architects are no god to a solution to egalitarianism. And hence, in response to the question of Saskia Sassen, the ‘non-architect’ who can justify the value and design of the neighborhood and the city, should be the residents and other heterogeneous groups of users. Through this research, a holistic perspective has always been emphasized in the evaluation of the neighbourhood, as the foundation of the aim of the design. As a result, the acupuncture design is totally responsive to the general opinions, and more importantly the needs and perceptions of the residents. In addition with the bottom up neighbourhood observation survey, this research aims to suggest a form of research, hence a humble design which is inspired by those ‘non architects’ for their own justice. After half a century, learning from the catastrophe brought by the domination of abstract, instrumental reason with grand architecture concepts over humans and nature, it is aimed that this research can explore the possibility of a heterodoxical unpurified solution regarding the contextualised spatiality of injustice by the means of neighborhood commons.

‘Pandemic proof’ commons to prepare for the next apocalypse

Throughout the past year combating covid-19 with no vaccine or cure available yet for the pandemic, physical space, has been serving as one of the agencies to fight and control the spread. Particularly for the commons, where most ranges of people encounter one another, the good ones have been providing intrinsic benefits for the public, while the malfunctioning ones have either worsened the social segregation or escalated the spread of virus. Therefore, the way that cities and neighborhood commons leveraging the public realm and living environment has casted a far reaching socio-spatial consequence, at the same time set the reference models for future pandemic proof design. The arrogance of ‘urban man’ might be the reason for the catastrophe in the past century. A contextualised heterodoxical solution could be the way out for the existing commons, however, the global health issue will be one of the significant challenges in the coming century, which urges additional attention to the health risk in a spatial design. Hence, this project has set its context on the available studies on the spatial precautions and social behaviour in response to the pandemic. Parallel to the articulation of existing values and attributes, speculation of being able to facilitate public interest in a low risk, healthy environment, even during the next pandemic is another main research objective in this thesis.

10.2 Possible ethical issues

The position of this research lays on the doubt of the architect's heroism in current days. Therefore, to seek the justification of the neighborhood, perspectives and opinions from residents, any kinds of users, the government, housing corporation, and the makers themselves are equally collected to gain a holistic view. However, research methods in the form of street interviews of strangers in the neighborhood, particularly hanging in the semi-private commons on the deck may raise an ethical concern. The interviews with the makers and academicians should also be handled very carefully as some of their opinions could be very personal, which might be not so objectively representative in a perspective of architecture. Besides, regarding ethnographic observations at the squares, although it is a public area, photographs and surveying notes might be too obvious that catching weird stares from the surrounding people. And to avoid the privacy conflicts, cameras are always directing slightly upward and further away from any specific person.

In addition to the issues with the research methods, the outcome of the graduation design could also be ethically controversial. Due to the closing down of stores, and the partial lockdown, the observation and the interview acquired might be myopic. Literature about the current COVID-19 situation may not be well founded based on the instant data collection and quick analysis. Hence, the design result in the aim of creating a more pandemic-proof intervention might be lack of social evidence.

Fig.121 One of the observation survey spots at the square in front of cluster 7

Fig.122 Semi-private commons on the deck of Cluster 7

Bibliography 11

Correa, C. 1991. Space as a resource. Building and Environment v26 n3 (1991): 249-252.
De Graaf, R. 2019. Four Walls and a Roof. HARVARD UNIV Press.
De la Torre, M. 2002. Assessing the Values of Cultural Heritage: Research Report. Los Angeles, CA: Getty Conservation Institute.
Fainstein, S. and Fainstein, P. 2010. The Just City. Ithaca: Cornell University Press.
Foster, S. and Iaione C. 2016. The City as a Commons. Yale Law & Policy Review v34 n2 (20160401): 281-349.
Frampton, K. 1996. Studies in Tectonic Culture. Cambridge, MA: MIT Press.
Frenkel, A. and Israel, E. 2017. Social justice and spatial inequality : Toward a conceptual framework. Progress in Human Geography.
Gehl, 2020. Public Space, Public Life, and COVID 19.
Gehl and JMBC. 2015. Public Life & Urban Justice in NYC's Plazas.
Gehl, J. and Svarre, B. 2013. How to study public life. Washington, DC : Island Press.
Lefebvre, H. 1996. The Right to City. Writings on Cities Chapters 2-17.
Luijten, A. 1997. A barrel of contradiction: the dynamic history of the Bijlmermeer, Archis 3, pp. 15-20.
Marcuse, P. 2011. Searching For The Just City. London: Routledge.
Hysler-Rubin, N. 2011. Patrick Geddes and town planning : a critical view. Abingdon, Oxon ; New York : Routledge.
Riegl, A. 1903. The Modern Cult of Monuments: Its Character and Origin.
Therese van Thoor, M. 2020. Interview about 70s/80s architecture in Bijlmermeer.
Wassenberg, F. 2013. Large housing estates: ideas, rise, fall and recovery : the Bijlmermeer and beyond, Amsterdam : [Delft University Press]
Wassenberg, F. 2020, Interview about 70s/80s architecture in Bijlmermeer.