

AN ARCHITECTURAL AGON

An investigation looking at creating a contextually relevant, resilient public building within an ever changing political and cultural continuum.



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An Architectural Agon



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To mom and dad, enabling me to be anything I wanted to be.

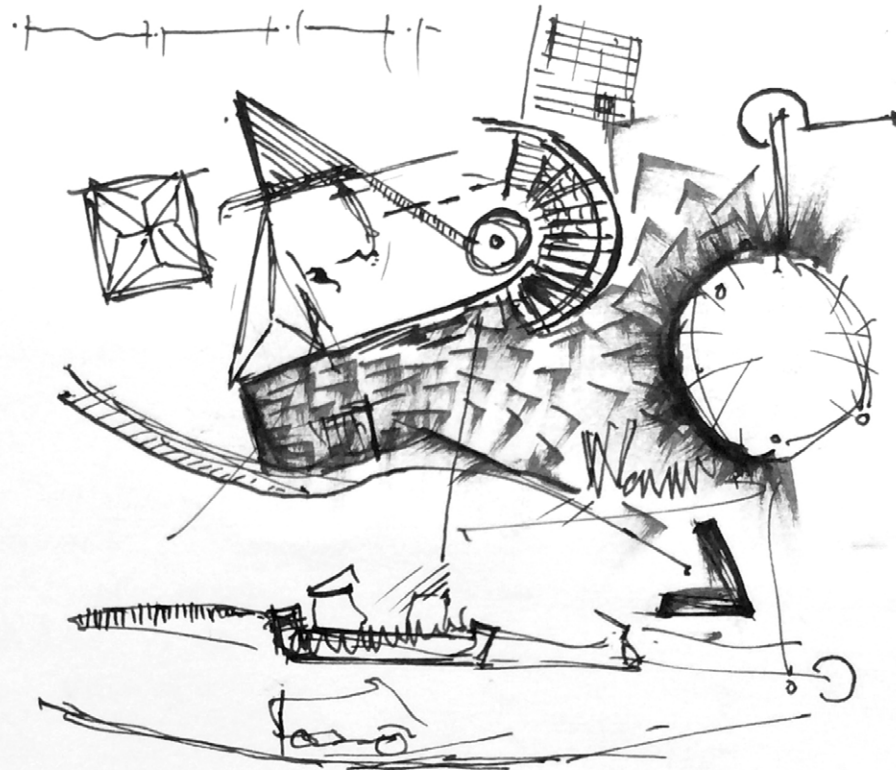
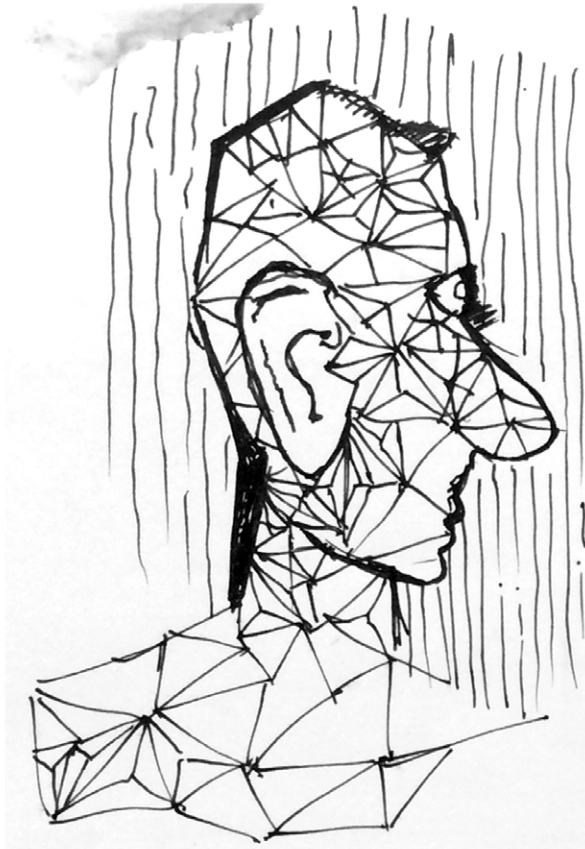


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PREFACE

The past two years have proven to be an interesting time as a student in a tertiary institution. The general dissatisfaction with the progression of equality in education since the end of apartheid has come to a critical tipping point. We, as students, question the governing structures of the state and universities, specifically concerning fee structures in an attempt to make education accessible to all, for a wider segment of society.

What inspired me was the power that a collective body has on questioning how we are governed. It is a profound example of our functioning democracy, where the institution of government is fundamentally directed by the people it governs.

As a scholar of architecture, as well as a student within the collective of students, I questioned how the critical realities of our time may be explored within our city, space and architecture. Considering weather architecture could have a prominent role in pushing and enabling ideas of democratic society, as well as seeking an outlook that may critically challenge the essential role of architecture in society.

This dissertation is in some way a commentary of how I perceive my place and time, concerned with what I may contribute through architecture and the skill set developed during my own education.

It is, more so then ever, an absolute privilege to be a student of Architecture in South Africa.

Figure 1 Paul Kruger statue in church square protected from protesters in early 2016.



ABSTRACT



This investigation looks into creating a resilient public building within a political continuum which can remain contextually relevant to multiple cultures and civic contexts that are in a constant state of change.

The project is considered within the political context of *Agonistic Purism*, which regards consensus as a temporary order of domination. In this regard, any consensus may be challenged by another conflicting notion. Nothing can be regarded as permanent, but rather in a state of temporary hegemony.

Architecture is permanent in relation to rapidly adapting societal life in the city. In Pretoria specifically, Buildings do not have the ability to accommodate a constantly changing society, further becoming irrelevant within its immediate context.

The proposed design serves as a backdrop to facilitate the temporary sociological order of domination in Pretoria. Continued contested public claim to the building through multiple users, groups, and event scenarios require it to be functionally, culturally and systemically adaptable in the manner it can facilitate whatever it may be required to. The design attempts to create a permanent structure that can facilitate every individual and accommodate rapid change in an attempt to be a democratic, however, contested built form.

Challenging the perception of built structure as private space in Pretoria, the building acts as an inclusive internal public space.

RESEARCH METHODOLOGY AND DISSERTATION STRUCTURE

- A note from the author.

The approach of this dissertation is one of application and iteration. The desire is that decision making is based on contextual and theoretical investigations. In that manner, nothing is predetermine, but is a result of a series of investigations that are assessed and reassessed in search of the 'best fit'.

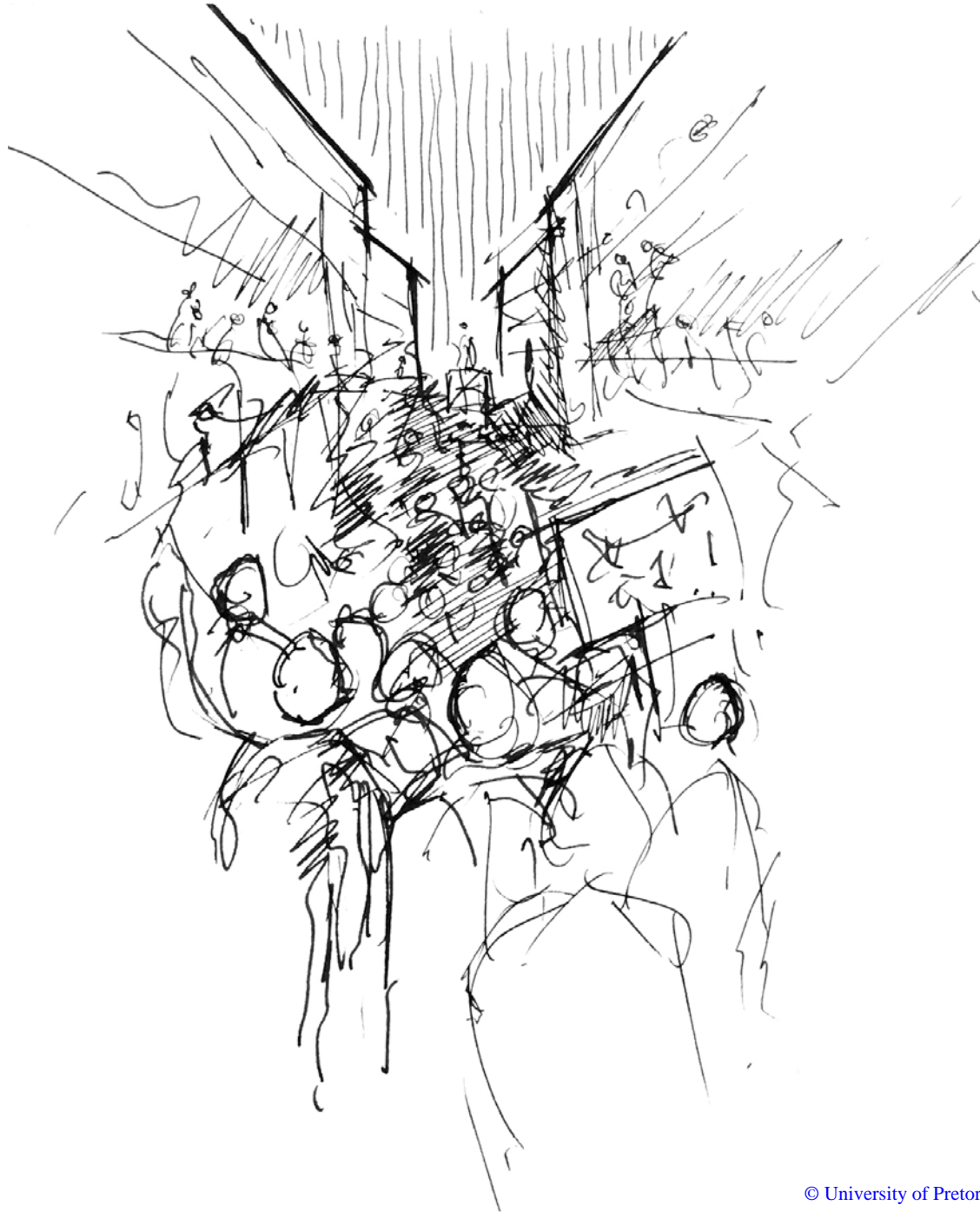
The dissertation is organised to reflect this process undertaken over the course of the year. The chronological order of the authors investigation, decision making and iteration is similar to the order which this dissertation is structured.

The critical outline is as follows:

1. Determining the scope of investigation from the context.
2. Investigating general theories which apply to current conditions.
3. Investigating theories of space and architecture which link to the outlined conditions.
4. Determining a suitable site for investigation.
5. Exploring form based response to site and argument.
6. Considering programme which supports both argument are form.
7. Generating an architectural response.
8. Testing.
9. Iterating. >
10. Outcome.



PART 1 _ CONFLICT



GENERAL ISSUE

Understanding protest culture in Pretoria.

UNDERSTANDING PROTEST CULTURE IN PRETORIA.

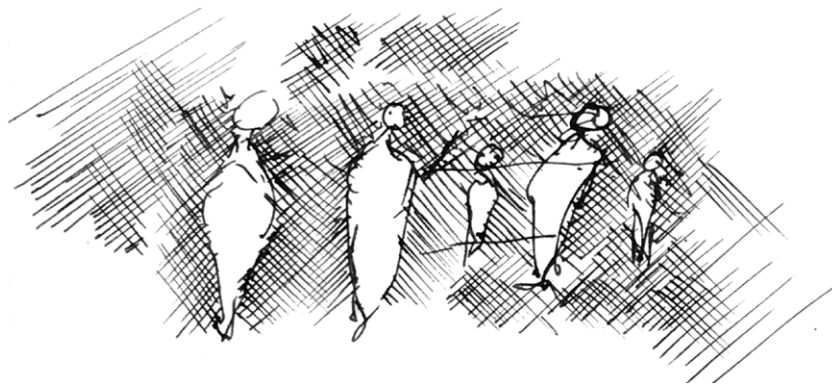


Figure 2 Student protests in Pretoria 2015 (AFP, 2015)

South Africa has a rich political history. Our story from oppression to democracy is often told as an example of struggle and freedom. Yet still the story continues to be written. Constant public protest against government makes it clear that our political and socioeconomic reforms remain fraught with inequality. Democracy has become a misnomer; freedom, a fallacy.

The relationship between politics and the public has been well documented. Jürgen Habermas refers to the term 'public spheres', stating that publicness was originally 'coextensive with public authority' (Habermas, 1989, p. 30). With modernism, a new 'sphere' developed, coined as the emerged sphere; a sphere where 'private people can come together as a public' (Habermas, 1989, p. 27) and that 'which the vehicle of public opinion ... puts the state in touch with the needs of society' (Habermas, 1989, p. 31). A democracy depends largely on this relationship.

The relationship between the individual, the public and the state forms the varying political theories and turbulent discussions on how people should be governed. One such theory of particular relevance to South Africa's current political climate, is that of political analyst Chantal Mouffe. A theory crucial in the understanding of political unrest and protest culture, Mouffe considers conflict to be an integral aspect of any young democracy. She argues that conflict is necessary to ensure society continuously challenges the current conditions of life. She coins the term 'Agonism', which can be summarised in principle as the positives that emerge through conflict and positive growth through contestation (Mouffe, 1999, p. 754).



Agon is an ancient Greek word meaning a contest or struggle, describing a process from which an order of domination emerges. The idea of *agon* is intrinsically linked to the dualities of a condition; the winner and loser of a marathon, or the triumph of one political party over another. This dichotomy is evident in both an architectural and spatial context: public versus private, mass versus void, form versus function.

The concept *agon*, as described by Mouffe, relies on the principle that order exists as a temporary state of domination. This temporary entropy is ultimately a zero-sum game. For one notion to exist as a superior construct, all other notions must be suppressed. An order of domination relies on the continued contest in negotiating a temporary result (Figure 3). She notes this relationship, stating that 'ethico-political (perhaps even ethico-spatial) principles can only exist through many different conflicting interpretations such as a consensus is bound to be a conflict consensus' (Mouffe, 1999, p. 756). This consensus is in conflict because it cannot be absolute, it 'forms around clearly differentiated positions' (Mouffe, 1999, p. 756) but is continually challenged by 'the other'. In this manner, consensus is never unanimous, but exists as a temporary result of provisional hegemony.

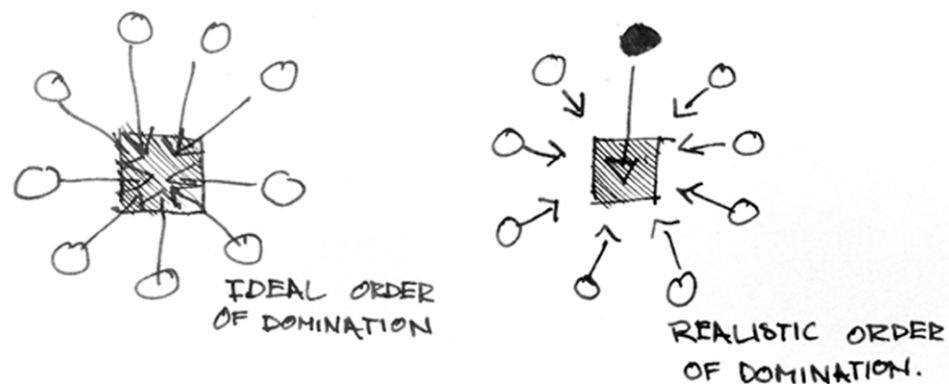


Figure 3 Diagram depicting Political Agonism.



Figure 4 Student Protests at Wits, October 2016 (Balliah, 2016)



Figure 5 Student Protests in Cape Town 2015 (Balliah, 2016)

THE POLITICAL CITYSCAPE.

The role of the city within the continuum of political protest.



Figure 7 ANC woman's march at union building in 1956 (Schadeberg, 1955).



Figure 8 Display of the body of Nelson Mandela, 2013. (Reuters, 2013)



Figure 9 Student fees must fall protests in 2015. (Unknown, 2015)

'When we accept that every consensus exists as a temporary result of a provisional hegemony, as a stabilization of power that always entails some form of exclusion, we can begin to envisage the nature of a democratic public sphere in a different way.' (Mouffe, 1999, p. 756)

Using Mouffe's *agonism* as a framework from which to understand democracy, the socio-political conflict of Pretoria's history provides insight into exclusion, marginalisation and struggle from which the city of today has been formed. The continued conflict and temporary domination of the city as a contested space is evident throughout the city's history.

Recording of settlers dates back to that of the small AmaNdebele tribe, who dwelled along the Apies river. The militant rise of the Zulu in the early 19th century disrupted and dispersed the AmaNdebele tribe. In 1841, the Boer's trek led them to the temporarily uninhabited site, where they settled. The Boers laid claim to the land and began the early development of the city of Pretoria as we know it today.

The claim to Pretoria has been vast and the manner in which it has been governed equally contested. The stabilisation of power displayed gross forms of exclusion. Figure 11 shows a political timeline of relevant political events that shaped the past century in Pretoria.

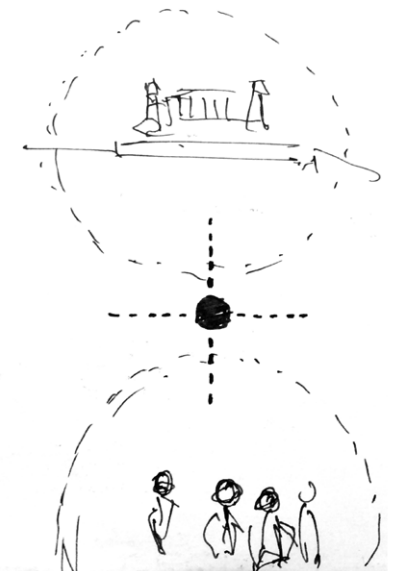


Figure 6 The relationship between city and user through space.

The relationship between the public of Pretoria and the physical city fabric is evident. At each point of conflict over time, specific locations are recurrently relevant. The manner in which the public in Pretoria express mass opinion appears to be linked to space. The union buildings are a good example of this. In 2015, it was the site of student protest (Figure 9); in 2013, it was where the body of Nelson Mandela was displayed and in 1956 (Figure 8), the destination of the ANC woman's march (Figure 7)(Africa, 2015). This illustrates the intrinsic and inextricable link between societal events and spaces in Pretoria.

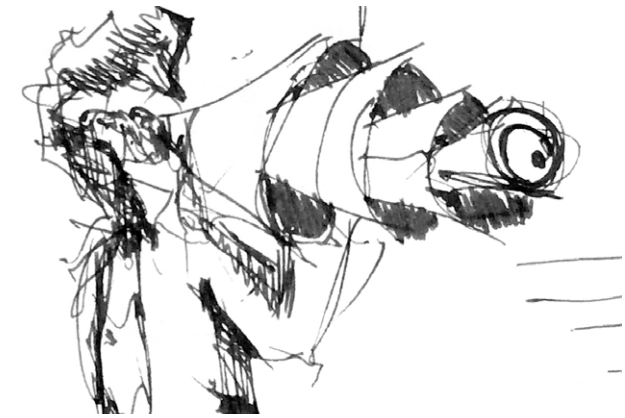


Figure 10 A political lens.

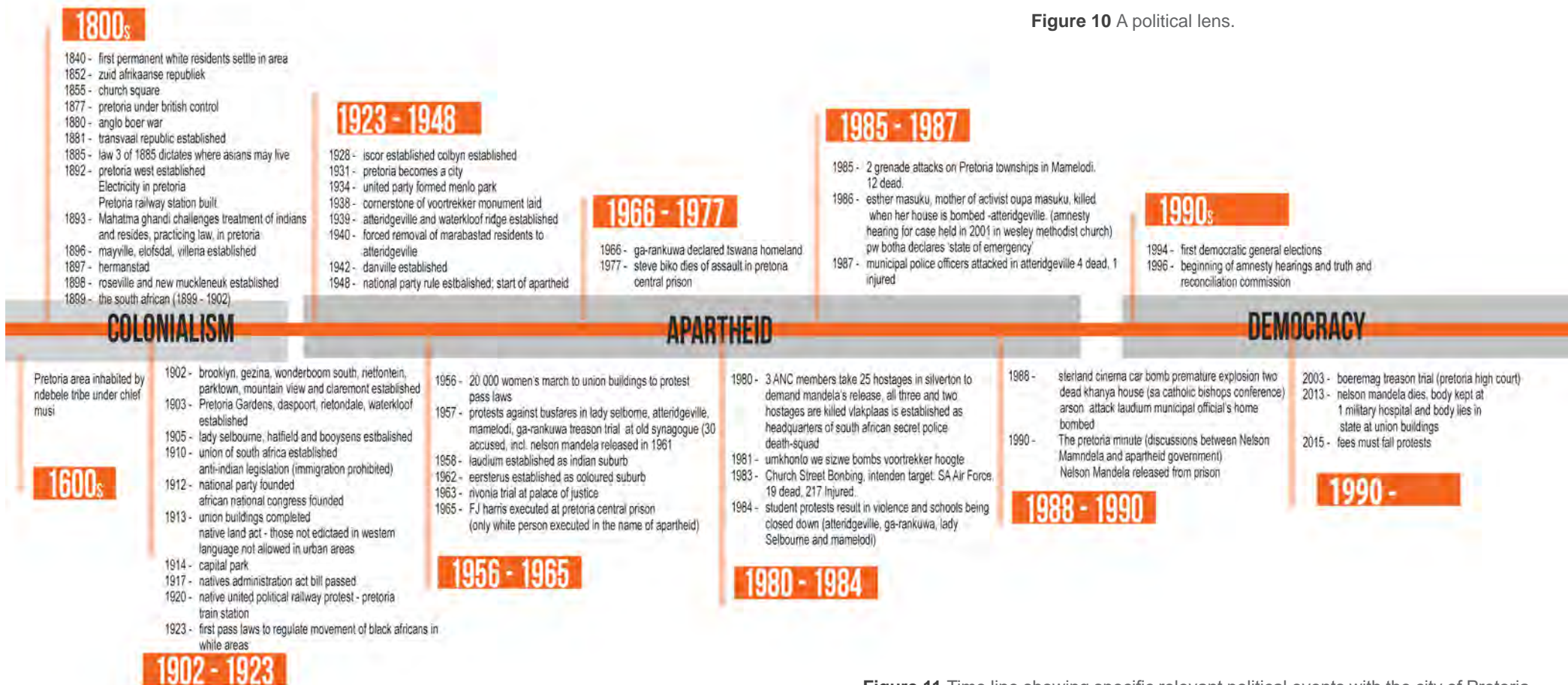


Figure 11 Time line showing specific relevant political events with the city of Pretoria



URBAN ISSUE.
EXCLUSION AND THE RESILIENT GRID.

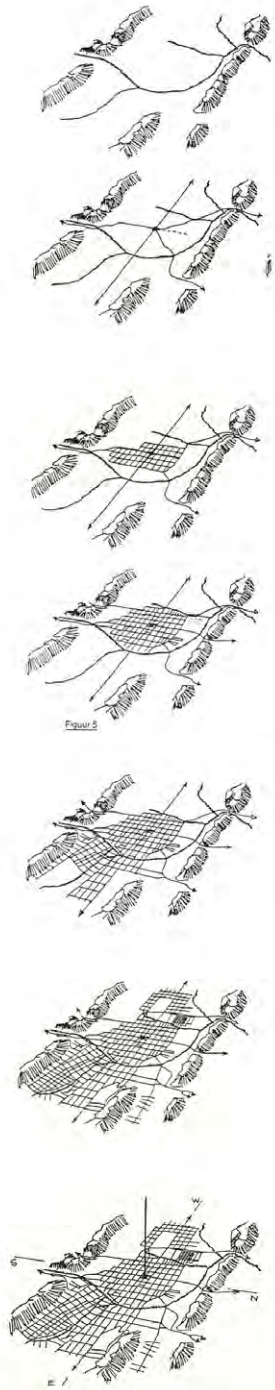


Figure 13 Development of Pretoria

The physical cityscape of Pretoria has morphed over time as a result of the continued contests and social orders of domination. As much as the cityscape justifies these conflicts in space such as in protest, these conflicts justify the manner in which the cityscape is formed. The relationship between user and space is intertwined. The notable spatial outcome of the past century is the development of urban barriers.

From its earliest development, Pretoria has been strategically planned through fortification and barriers. The apartheid government planning led to the development of urban boundaries. These include industrial zones, government buildings and railway yards. The townships of Mamelodi and Atteridgeville to the east and west of the city centre are direct intents of spatial marginalisation (Engelbrecht, 1955, p.153). Major road arteries spatially dislocate the historic city centre and cause disruption through vehicle use. These urban scars disrupt pedestrian movement and human city space (Kruger & Viljoen, 1972, p.88).

Conversely, the original city grid of Pretoria has proven to be a resilient historical trait, able to accommodate the continuously shifting use of the city. Although the grid provides structure and encourages very definite edge conditions, the temporary nature of the in-between is successfully accommodated. Within the organised system, there is a flexibility able to 'accommodate future developments [which] is expected to have a lasting future.' (Corten & von Dun, 2009, p. 13) These changes to the manner the city grid is formed and occupied over time are noted.



Figure 12 Historical narrative imposed onto a city creating spatial complexities.

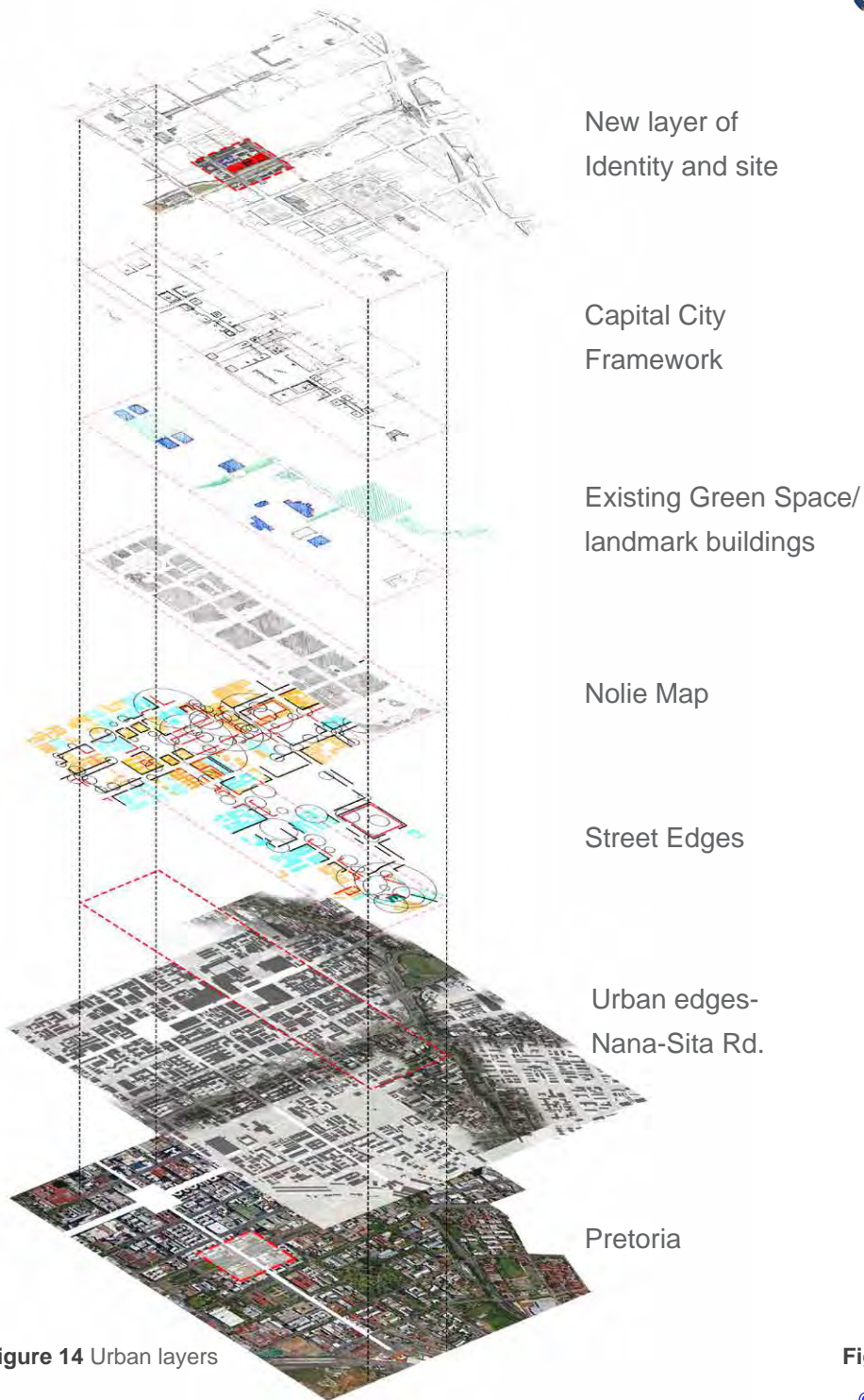


Figure 14 Urban layers
7.

Under the leadership of Paul Kruger, strict building line regulations were imposed, ensuring the edges of the grid were adequately defined (Clark & Corten, 2009, p. 884). It was the responsibility of citizens to plant trees and look after the streets, which was prominent social space. In the second half of the 19th century, conflict within Pretoria prompted morphological change of the city and the rise of British rule after the Boer War (Clark & Corten, 2009, p. 884). Under the British crown, Pretoria prospered in the first half of the 20th century. Industrialisation and strengthened economy created a building boom. Along with this came the international modernism where the street edges were clearly defined, but they lacked street activity and use (Jordaan & Roux, 1990). In 1961, when Minister Verwoerd removed South Africa from the commonwealth, there were reduced trade agreements which put pressure on the economy (Clark & Corten, 2009, p. 884). Furthermore, Apartheid politics created dramatic structural changes to the city. 'Racial segregation left its mark on the city of Pretoria, even noticeable after Apartheid was abolished in 1994, and still is present today' (Corten & von Dun, 2009, p. 884). Considering the many historical narratives imposed on the city, the new layer of a current narrative should be respectful to the continued dialogue while reinforcing the resilience seen in the city over time (Figure 14).

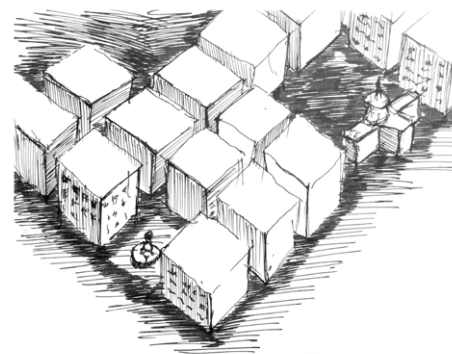


Figure 15 The exclusive cityscape

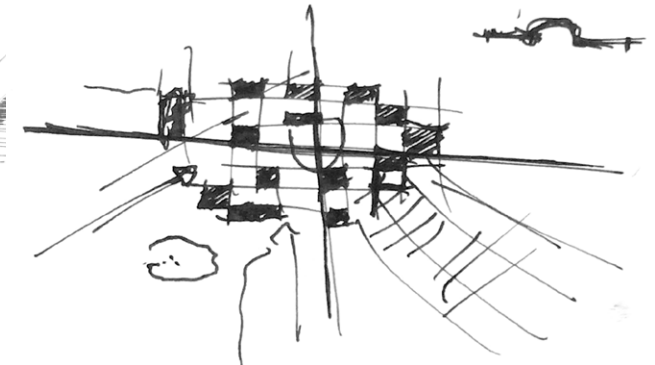


Figure 16 Image 16. Pretoria coincided as inclusive and exclusive.

The only changes to the original grid are to that of Nana Sita road (previously Skinner), with the intentions to carry out a ring road proposed by William Holford in 1949 (Bryant, 1963), an objective which was never realised (Corten & von Dun, 2009, p. 24). The result of the widening of Nana Sita road in 1994 has led to an urban scar in the city that divides the north and south of the city grid and imagined promenade, as a pedestrian unfriendly barrier (Figure 17).

This dissertation proposes that the break in the city grid at Nana-Sita road reduces the resilience of the grid as displayed over history. Furthermore, the large road creates an unintentional urban barrier and urban scar which spatially divides the imagined promenade and protest route. The leftover vacant sites allow for 'opportunities to improve public space and pedestrian needs' (Corten & von Dun, 2009, p. 24). On an urban scale, opportunities arise as a result of the expansion, which allows for effective morphology through stitching to reconnect the resilient Pretoria grid (Figure 18).

The site for this project is at the crossroads of Nana Sita road and Paul Kruger road. Along the protest route, the crossing not only forms an urban divide but also lacks significance for the protest. Recognising the potential for re-stitching the urban grid in achieving resilience, as well as locating a point along the protest route where public identity may be intensely represented in amongst an otherwise government precinct. Considering the site choice and the important relationship to public space and the city user, public space in Pretoria is further investigated.

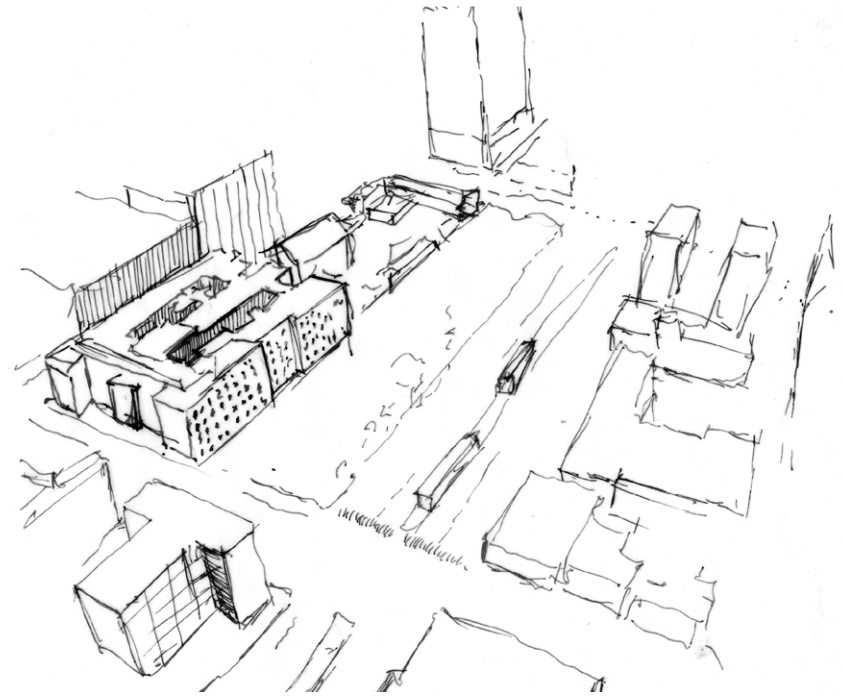


Figure 17 Image 17. URBAN SCAR

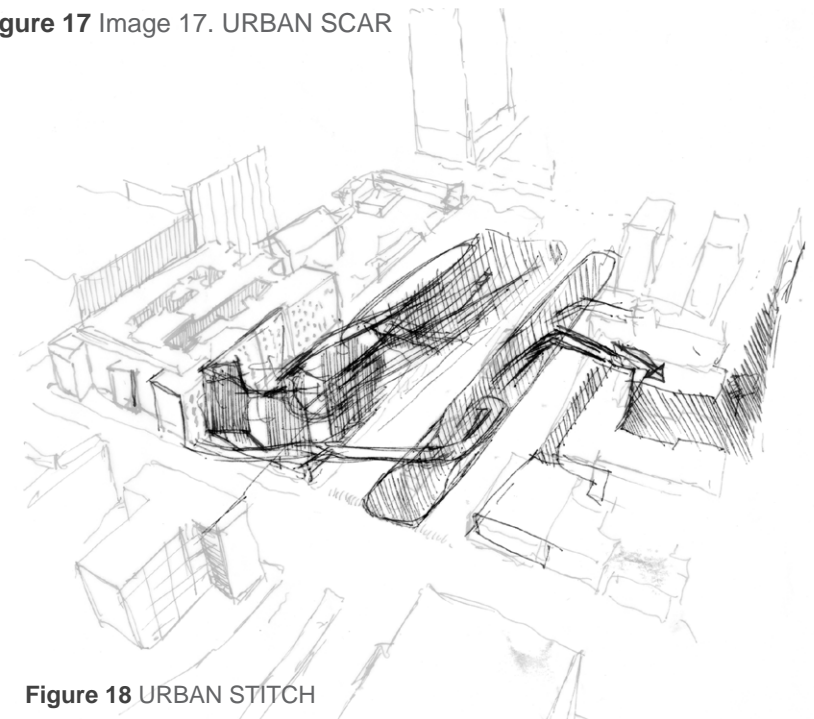


Figure 18 URBAN STITCH

URBAN STRATEGIES

Engaging with protest action in the city.

Through an observational study, the relationship between public use of space is further clarified in the reoccurrence of the route taken during protest marches. The incidence of public protest within relevant space, potentially points out tangible layers of the city's fabric and heritage defined by public action. The relevance of city space to a public action is explored on an urban level, through an imagined urban framework.

The framework regards protests as a valued public activity that contributes to democracy (Figure 20). The proposed framework is a development of the physical city specifically focused on the manner in which it contributes to the protest.

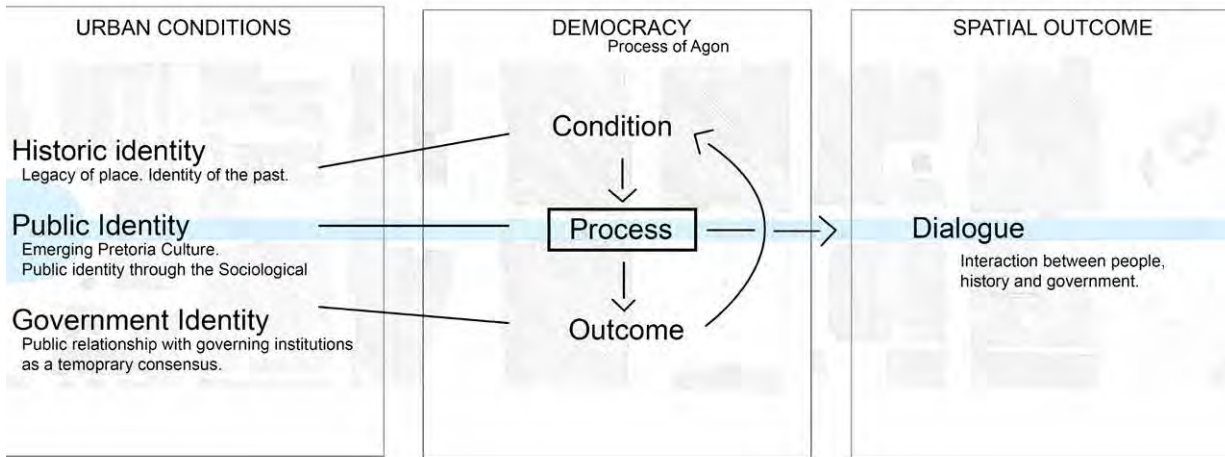


Figure 20 Diagram showing space and process within a political city.

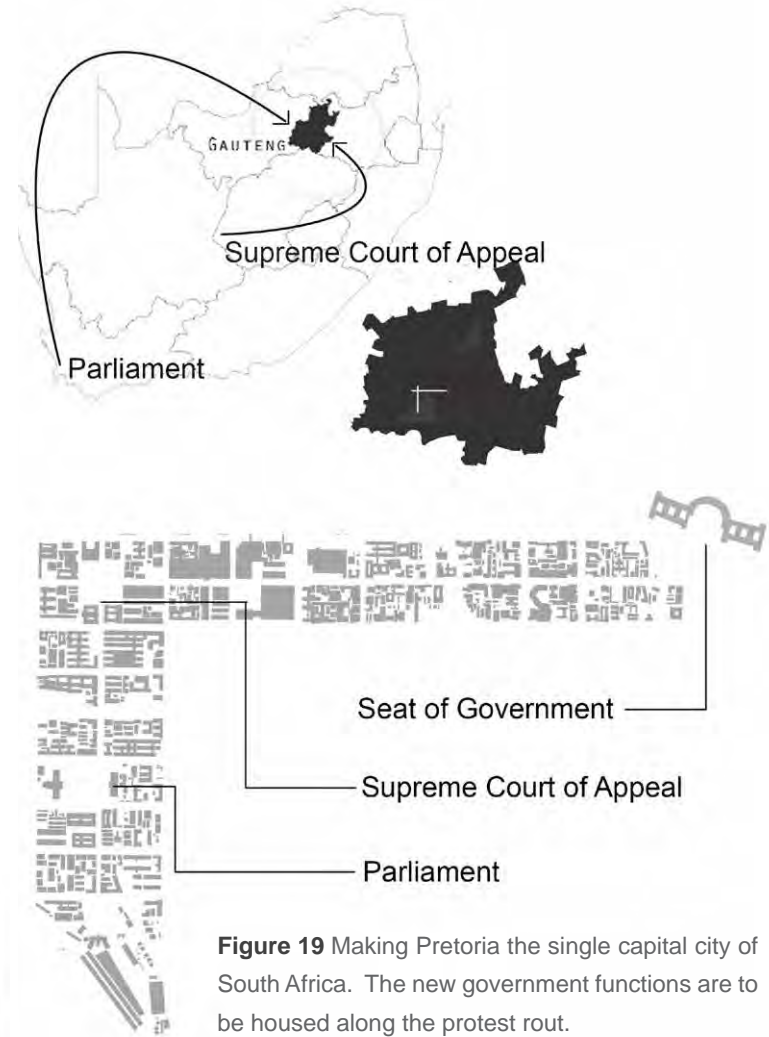


Figure 19 Making Pretoria the single capital city of South Africa. The new government functions are to be housed along the protest route.

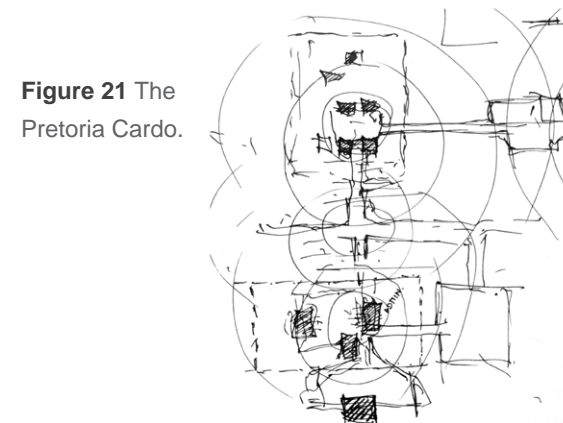


Figure 21 The Pretoria Cardo.

SPATIAL CODING

Developing the protest route spatially, a system of public interaction with built fabric is proposed, forming a public promenade along Paul Kruger Road (Figure 22).

Different types of ground level public interactions with buildings in Pretoria are mapped. Notably, government buildings largely restrict interaction and access through fences and a single security controlled front door. Residential buildings house informal and formal trade on ground level, which creates a desirable public condition on the ground edge of the building.

Determining specific types of ground conditions for public interaction through the building's use, buildings are grouped (figure 24). A set of rules for each condition is applied (Figure 23). Through this, the promenade is spatially and programmatically defined.



Figure 22. Imagined Promenade

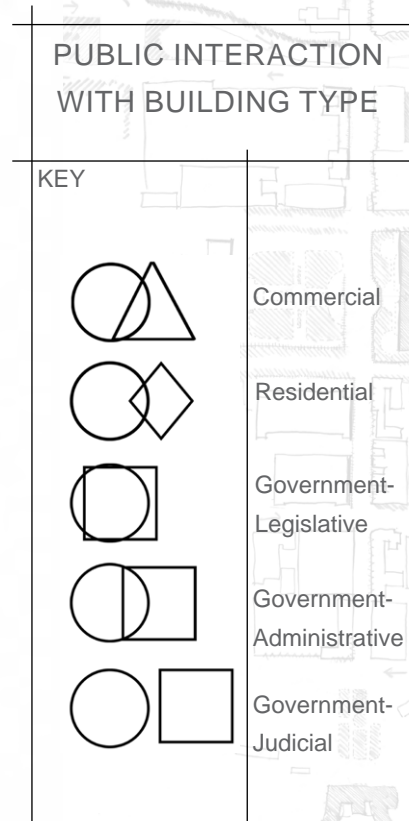


Figure 24 Grouping building based on the proposed street level inter© University of Pretoria

	Judicial	Residential	Commercial	Administrative	Legislative
Residential Density					
By Right	Not Applicable	12units/ Ac. Gross	6 Units/ Ac. Gross	Not Applicable	Not Applicable
By % Function	0%	70-90%	30-50 %	0%	0%
Thoroughfares					
Vehicles	Not Permitted	Permitted	Permitted	Permitted	Permitted
Public T/P Rd Only	Permitted	Required	Required	Required	Required
Servitude Ally	Not Permitted	Required	Permitted	Permitted	Permitted
People					
Bicycle Route	Not Permitted	Required	Required	Permitted	Permitted
Commercial Ped.Street	Permitted	Permitted	Permitted	Permitted	Permitted
Arcade/Passage	Not Permitted	Not Permitted	Permitted	Permitted	Permitted
Internal C/Y access	Not permitted	Not Permitted	Permitted	Required	Required
Civic Space					
Square	Not Permitted	Permitted	Permitted	Permitted	Required
Plaza	Required	Not Permitted	Not Permitted	Required	Permitted
Lot Occupation					
Lot Coverage	Not Applicable	min 60%. Max 80%	min 60%. Max 80%	Not Applicable	Not Applicable
Setback Principles (Table2)					
From Build line	0m	Crn 0m. Int 5m.	Crn 0m. Int 0m.	Crn 5m*. Int 5m.	0m
Private Frontage					
Fence	Not Permitted	Not Permitted	Not Permitted	Not Permitted	Not Permitted
Public Forecourt	Not Permitted	Required	Not Permitted	Required	Permitted
Stoop/Plinth	Permitted	Not Permitted	Not Permitted	Not Permitted	Not Permitted
Shopfront	Not Permitted	Required	Required	Required	Permitted
Second Story Function	Not Permitted	Not Permitted	Required	Required on Crn.	Permitted
Gallery	Not Permitted	Permitted	Permitted	Permitted	Permitted
Building Configuration					
Building Levels	07-Oct	5	7 int. 10 Cnr.	7 int. 10 Cnr.	5
Building Function	Single	Mixed	Mixed	Single	Single
Initiator (See Phasing- Image 1.1)					
Phase	1	2	2	1	1
Initiator	Government	Private Investor	Private Investor	Government	Government

Exceptions Exceptions to the coding are context specific. Heritage and urban context must be considered before applying the coding. The code is to be used as a guide line.

Figure 23 Table showing spatial coding adapted from of Duany Plater Zyberk & Company's 'smart coding' (DMZ, 2009. p5)

PEDESTRIAN PROXIMITY

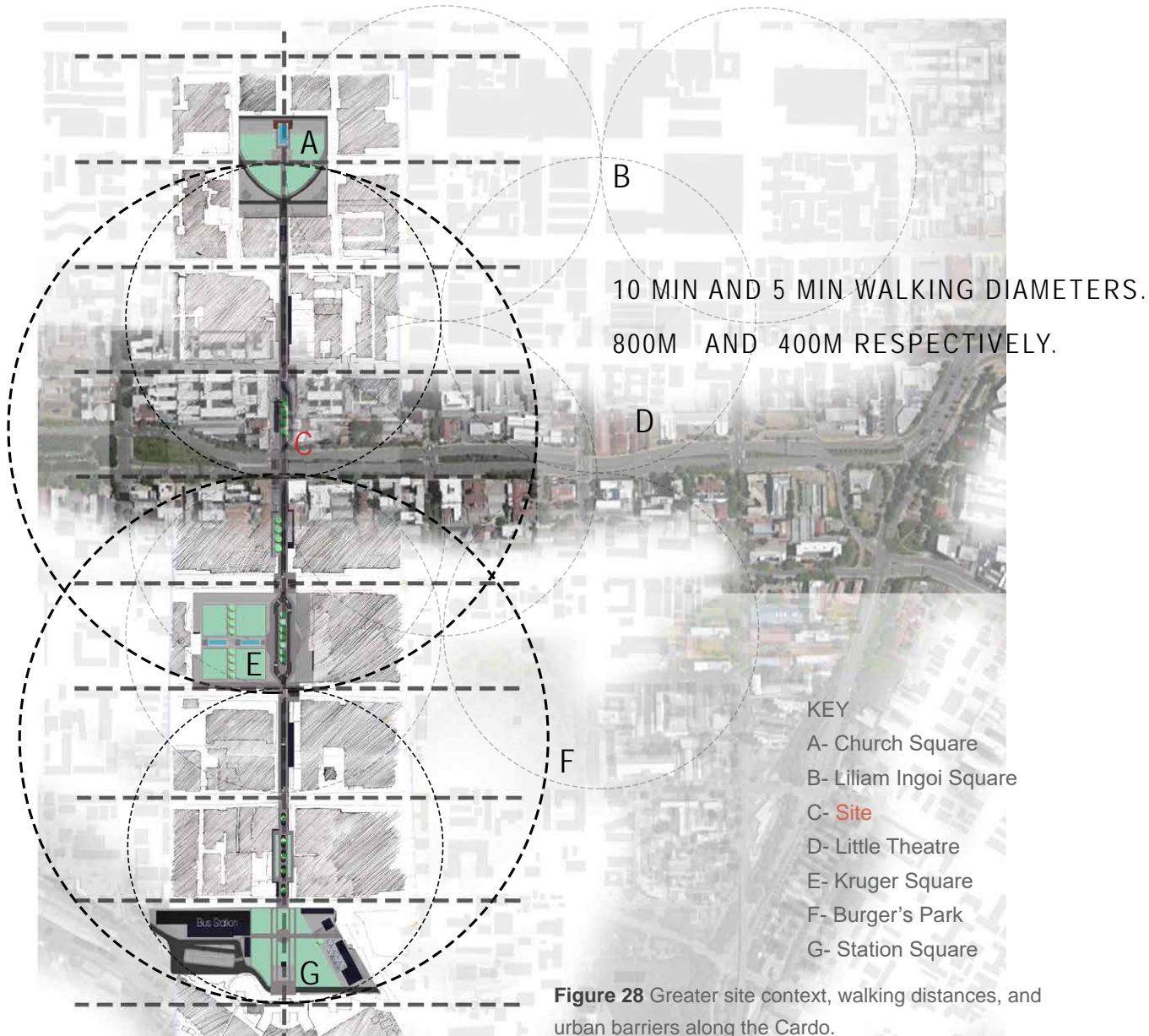


Figure 28 Greater site context, walking distances, and urban barriers along the Cardo.



Figure 27 Image 26. Urban boundaries through roads

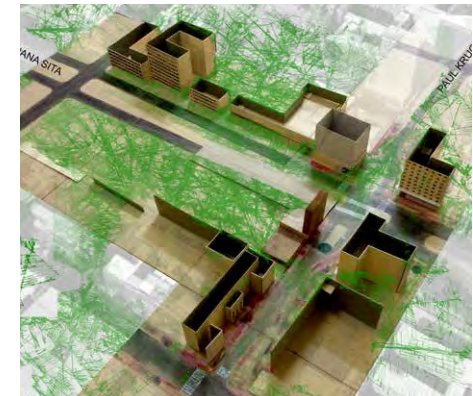


Figure 26 Image 27. A green network in the urban structure

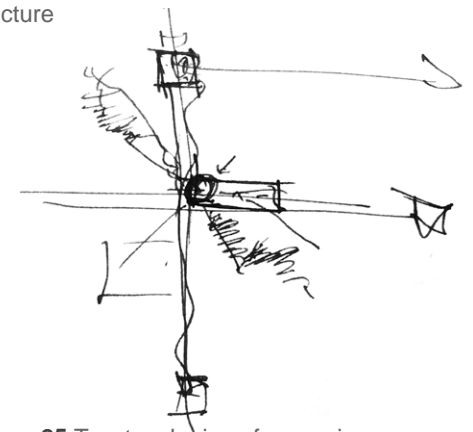


Figure 25 Two typologies of space in conflict conflicting at the site.

IMAGINED PARK NETWORK

Don Mitchell refers to hijacked public space, where public space does not belong to the public, but other actors in society, such as commerce (Mitchell, 2003, p. 2). This condition is noted in Pretoria (figure 30), where Church Square serves the banks surrounding it and where Lilian Ngoyi square is occupied through commerce activity. Conversely, Burgers park can be considered an honest public space, occupied by, and functioning only through public recreational activity.

Image overleaf (figure 28) shows the potential for a pedestrian network along the protest route, where significant sites are located within walking distance of one another.

With focus on the pedestrian scale, an imagined park network is proposed throughout the city of Pretoria. Utilising the potential of the open space between buildings on the large city blocks, private open space is made public. Figure 29 maps the potential for these spaces. The recreational sports park proposed on the site for this dissertation forms an important point of the park network. The neglected open spaces and awkward building edge condition as a result of the urban scar created through the widening of Nana Sita road is treated in a similar manner down its length, removing the emphasis from building and infrastructure to place for the inhabitants of Pretoria.

The new public space network connects green spaces in Pretoria, on an urban scale, the network protests and opposes the urban order defined by the built city fabric and grid.



Figure 30 Mapping of Existing open spaces



Figure 29 Open space within the city blocks highlighted as potential to develop an urban park space network.

A PUBLIC BUILT FORM



BLURRING ABSOLUTES.

Regarding *agon* and conflicts of the everyday city user on a street level scale, the investigation focuses on the 'other'. If the city is regarded as being in a state of temporary consensus, which 'entails some form of exclusion' (Mouffe, 1999, p. 756); how are the excluded catered for? This question considers both user and space. The manner in which the built environment excludes the user is hypothesised to be the result of building edges; where the street as a public entity and the building as a private entity meet (Figure 33).

Publicness is often viewed in dichotomy of public and private. Rather, public and private should be seen as a scale from public to private. Looking at both the Nollie map (Figure 31) and edge mapping (Figure 32) exercises, it is apparent that public and private exist largely as separate conditions in the city reflected as building and street. Each excluding one from the other, but so too defining and challenging one another. Private and public space cannot be conceived as absolutes (Hertzberger, 2005), and the edges that allow this condition in Pretoria are investigated through this dissertation. The relationship between building as private and street as public is the crux of the spatial investigation in this dissertation. Could this perception be reduced, blurred or even reversed? The desired result explores an internal public space.

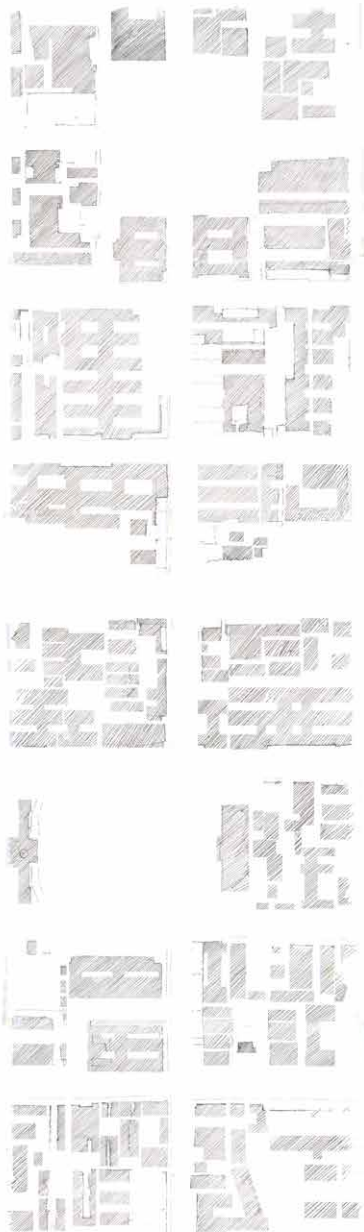


Figure 31 Figure ground study of the Cardo.

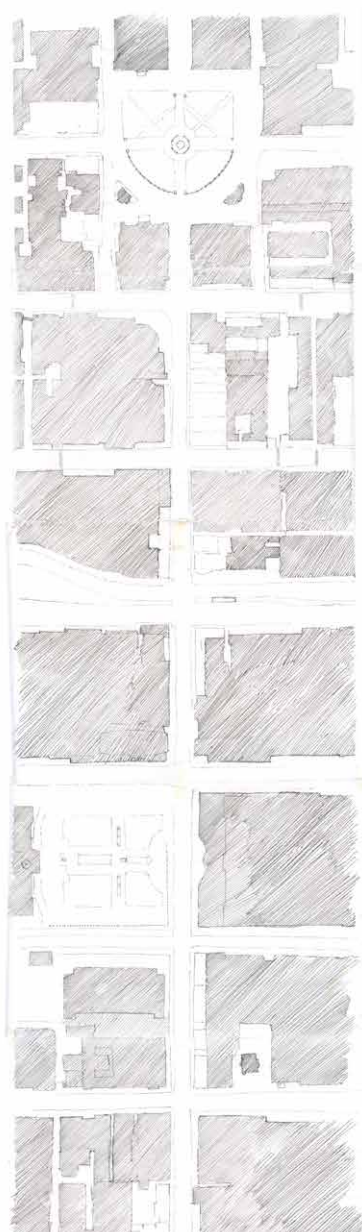


Figure 32 Nollie Map study of the Cardo.



Figure 33 The street drawn as a margin of space between the building and road.

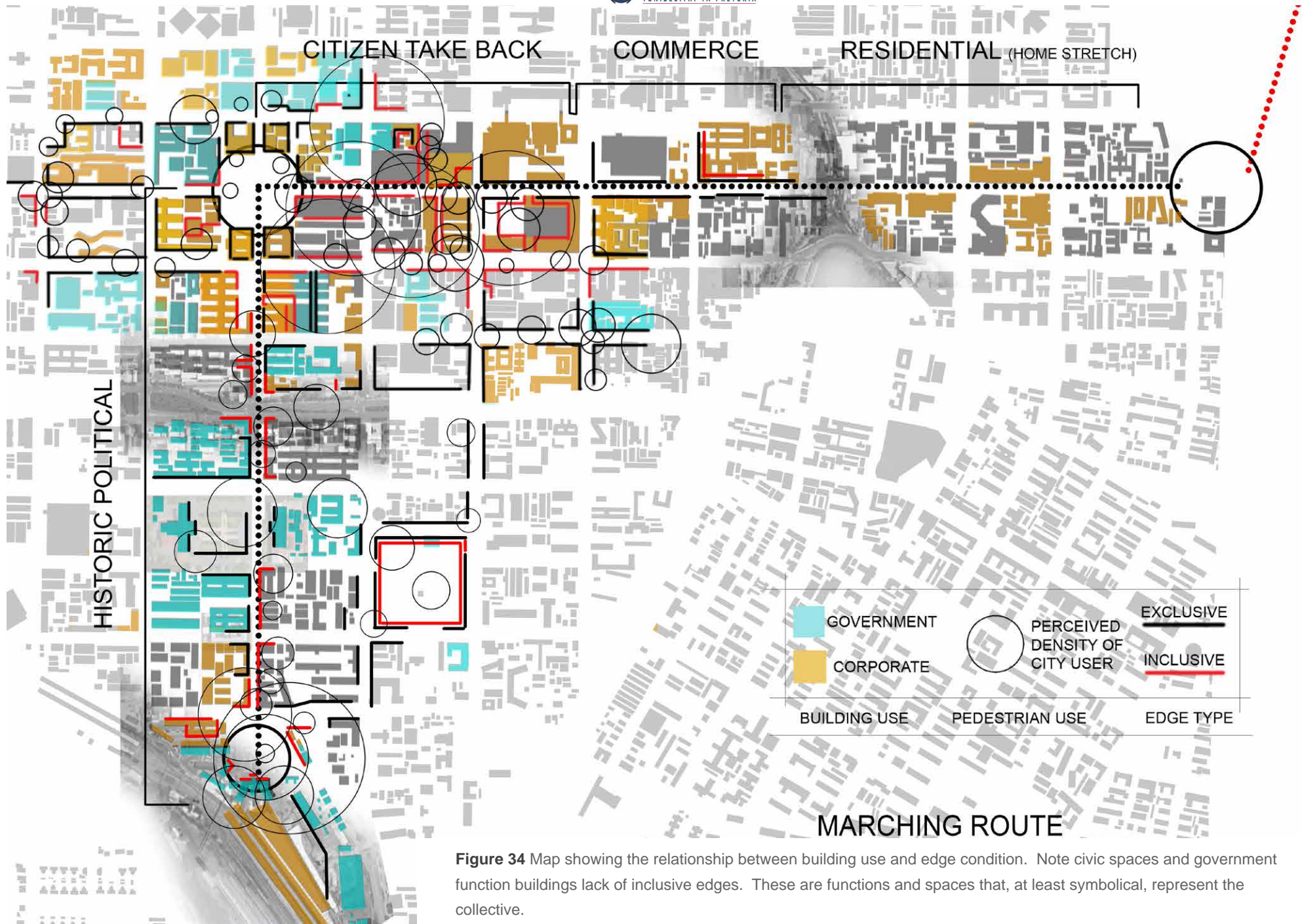


Figure 34 Map showing the relationship between building use and edge condition. Note civic spaces and government function buildings lack of inclusive edges. These are functions and spaces that, at least symbolical, represent the collective.

EDGES

The relationship between building as private space and street as public space is the crux of the spatial investigation. Could this perception be reduced, blurred or even reversed? The desired result explores the notion of an internal public space (Figure 35).

The streetscape in Pretoria appears to be the most collectively used space that the city offers for its users, even more so than the ‘public’ parks and ‘civic’ squares. However, the only real public space appears to be the sidewalk, the margin between road and building. The Street condition is not one that is designed to create adequate public space, but rather a product of necessary function. The road belongs to the vehicles, and the buildings belong to private users.

Leon Krier states that public space is where the city becomes legible to its user (Krier, 1980). The sidewalk as a public space is defined largely by the building edge. However, it is noted that the edge is utilised in an opportunistic manner (Figure 38, overleaf). Interestingly, the exclusive edges of space become inclusive in a manner that people engage with and utilise them. As with the city grid, the relationship that the city has on the user, and the user has on the city, is congruent. Jacobs confirms this relationship in stating that, “cities have the capability of providing something for everybody, only because, and only when, they are created by everybody.” (Jacobs, 1961, p. 238)



Figure 35 Investigating a public built form. Designing a building as an internal public space.

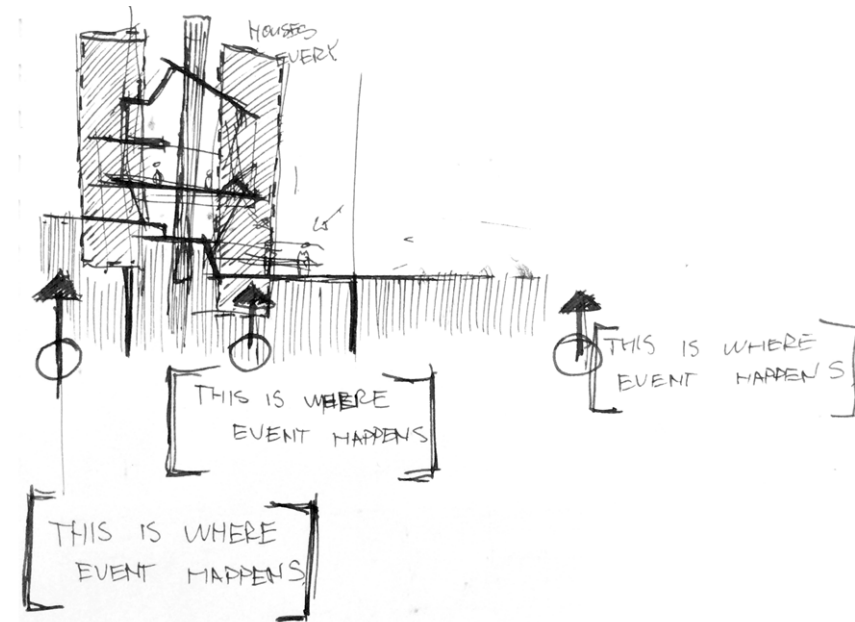


Figure 36 Showing the edge of street and building as a generator of opportunity.

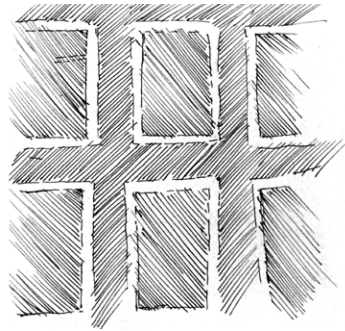
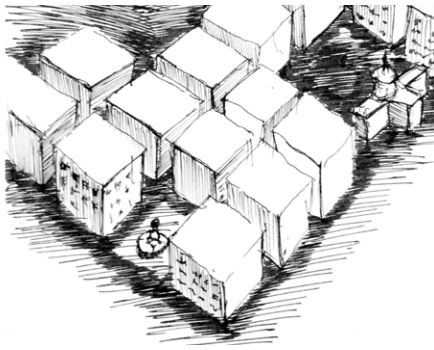


Figure 37 Documenting the urban condition. Streets as public space and built form as private in Pretoria CBD.

Tschumi refers to this relationship, where there is no ‘architecture without action... no architecture without violence’ (Tschumi, 1997, p. 123). He elaborates on how the user in a space ‘violate[s] the space’ (Tschumi, 1997, p. 123), noting that the occupation of space changes that space. The person is a mass that alters the quality of a space. People are objects in space. The same can be said about the inverse, space is implicit to the user, where ‘each door implies movement through it’. Large crowds change the space in a different manner to an individual. He describes this relationship as ‘violent’ (similarly, in a state of conflict, *agon*) where one always violates the other (Tschumi, 1997, p. 122).

Space cannot be understood as a physical object and form alone, but deeply intertwined with the user where ‘architecture is at once social and spatial; temporal, designed and experienced...it is both produced and reproduced’ (Borden & Rendell, 2000, p. 225). Henri Lefebvre (Lefebvre, 1996, p. 139) elaborates on edges and social dialogue, such that social boundaries are not a result of the edge, but an edge is invented as the result of a divided societal condition. The manner one negotiates space in the city is unconscious, an ‘accepting [of] a prohibition of some kind... where some edges [are] more extreme negotiators than others’ (Lefebvre, 1996, p. 139).

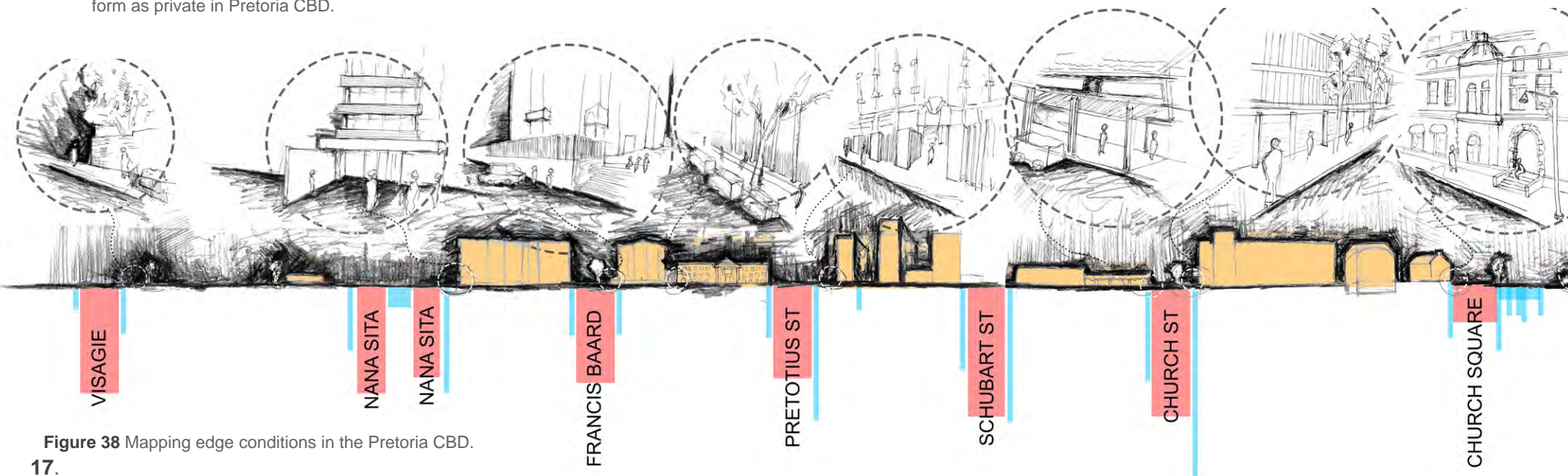


Figure 38 Mapping edge conditions in the Pretoria CBD.

Architecture and user have a critical relationship (Figure 39). Architecture begins to mould the environment that moulds the users, but so too does the user mould the environment. The relationship is one in *agon*, where space and user are in a temporary consensus. This notion of space/use contest- an architectural *agon*- reaffirms that an edge 'is not a spatial fact with sociological consequences, but a sociological fact that forms itself spatially' (Simmel, 1997, p. 143).

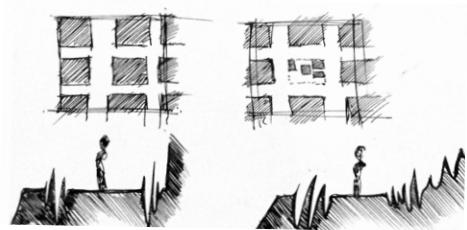


Figure 40 The city block drawn to include a public street condition through blurring the edge.

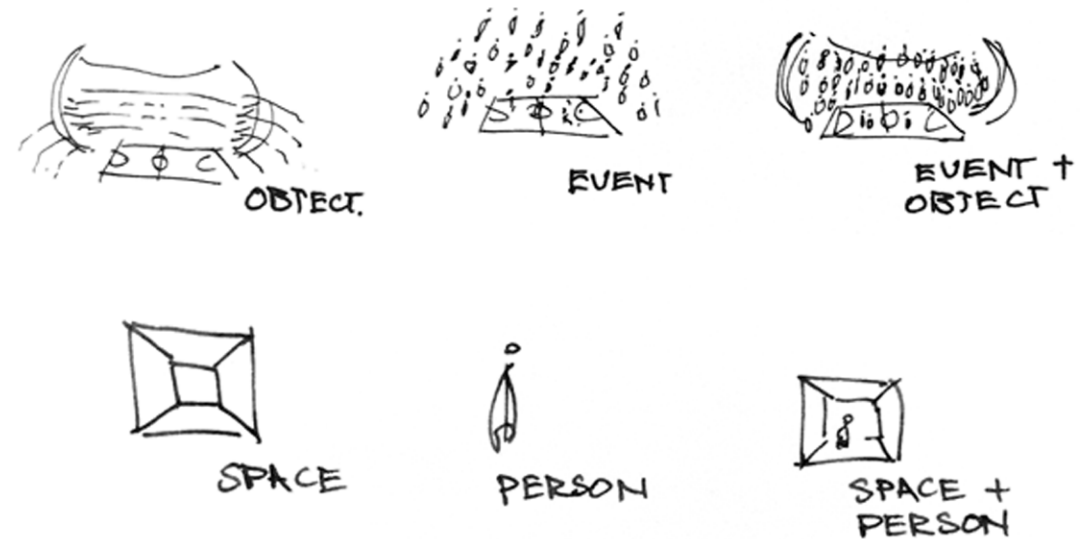
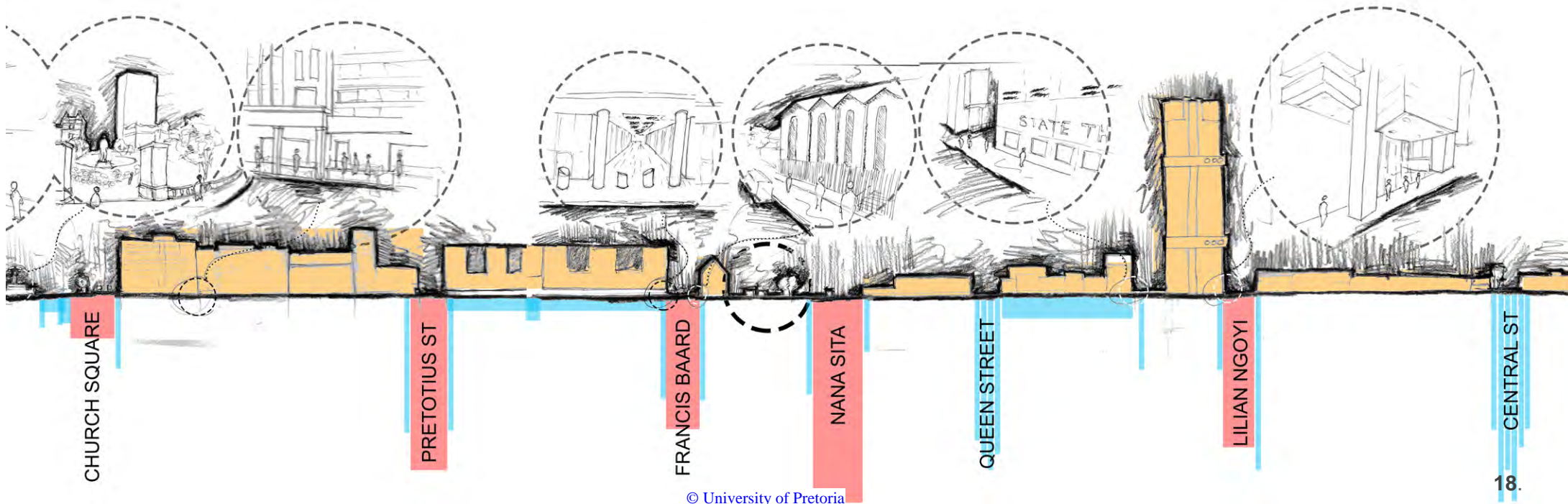


Figure 39 Relationship between use and space.



IDENTITY

A comparative study to critical regionalism.

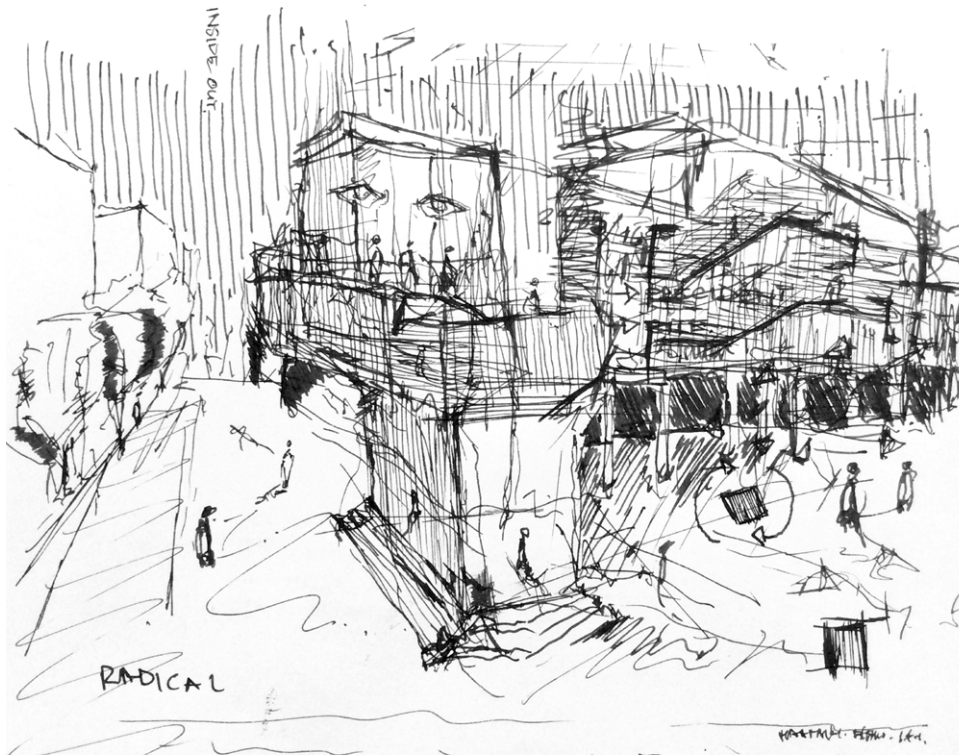


Figure 41 Concept diagram investigating a building which holds the identity of the user.

The desire to create a building that facilitates many functions and different people brings to light the concept of identity. The proposed building is nonspecific in how and who would use it. However, the building needs to have a specific urban character and be bold in its identity, representative of the public. Contrast is explored through design on a scale of autonomy to typology, i.e. what spaces have to be fixed and what spaces can be anything they are required to be. This contrast between general and specific, with a focus on identity, leads to a comparative investigation into critical regionalism. Critical Regionalism attempts to protect ‘traditional cultures’ from the ‘subtle destruction [of the] phenomenon of universalization’ (Ricoeur, 1965, p. 276). Lewis Mumford realised in his investigation into culture and identity that the two are mutable within their condition of place. To create regional architecture, he expresses, ‘is not a matter of using the most available local materials, or of copying some simple form of construction that our ancestors used. Rather regional forms are those which most closely meet the actual conditions of life and which most fully succeed in making people feel at home in their environment. They do not merely utilise the soil but they reflect the current conditions of culture in the region.’ (Mumford, 1941, p. 30)

Critical regionalism is regarded as a process as opposed to a style, the idea is both general and specific. It assumes that one style cannot be appropriate to all regions, in fact, this is the very concept it contests. In seeking identity in place, regionalism ‘alerted people to the loss of place and community’ (Eggener, 2002, p. 229) not by creating a shallow sentiment of the past but through encouraging an awareness, that may become a local manifestation of world culture. Regionalism’s relationship with modernism and postmodernism is important to its argument. The process suggests that a region should embrace technologies of the western world, while too suggesting that these technologies can be applied in a manner that may be more familiar to the people of a specific place (Eggener, 2002, p. 230).

However, many of the works cited as part of critical regionalism reference specific architects to specific regions, ‘Taddeo Ando for Japan (Figure 42), Oscar Niemeyer for Brazil (Figure 43), Luis Barragan for Mexico (Figure 44)’ (Frampton, 1985, pp. 314-327). This implies that the interpretation of one architect can create an architectural style for a region. Ironically, the architecture resisting a world style becomes singular, imposed through a specific interpretation, ‘often from outside the region’ (Eggener, 2002, p. 229). This criticism on critical regionalism points out an important condition which relates to this dissertation. Historian Ella Shohat poses the question: ‘...who is mobilizing what in articulation of the past, developing what identities, identifications and representations, and in the name of what political vision and goals?’ (Eggener, 2002, p. 230)

Regarding the scope of *agonism* in architecture, ‘identities... articulations... representation... and political visions’ (Eggener, 2002, p. 230) cannot be considered as finite, rather as a temporary order of domination. If architecture is viewed as a permanent object, then ‘reflect[ing] the current conditions of culture in the region (Mumford, 1941, p. 30)’ could result in the context outdated the building, noted as a condition in Pretoria.

Mouffe argues that identity is ‘something to be constructed, not empirically given.’ (Mouffe, n.d., pp. 65-66) Since identity is constructed, it too is an exclusionary process, where the ‘we’ will always be contested by the other. The architecture needs to ‘reflect the current conditions of culture’ without permanently reflecting a temporary condition. The result would be to reflect culture in its adaptability, representing the continued state of conflict.

One can consider that if ‘built form does not simply reflect culture; it shapes it...’ (Eggener, 2002, p. 232) and that architecture is a ‘sociological fact that forms itself spatially’ (Simmel, 1997, p. 143) then the architecture should facilitate both shaping and being shaped by the sociological context. Identity is not represented in the form alone, but rather as the backdrop to the user, where ‘architecture is at once social and spatial’ (Borden & Rendell, 2000, p. 225). Accepting this, the backdrop is the focus of the design investigation, discovering where the line between the general and specific lies.



Figure 42 Taddeo Ando. (Mabel, 2007)

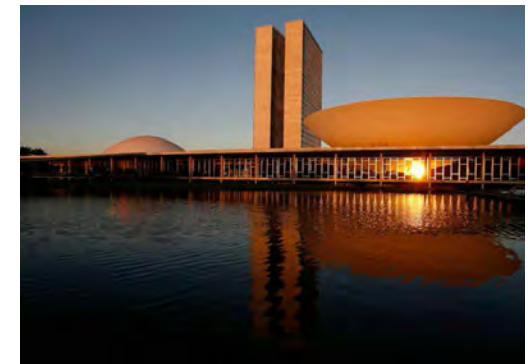


Figure 43 Oscar Niemeyer. (Viramonte, 2016)



Figure 44 Luis Barragan . (Press, 2015)

ARCHITECTURAL ISSUE

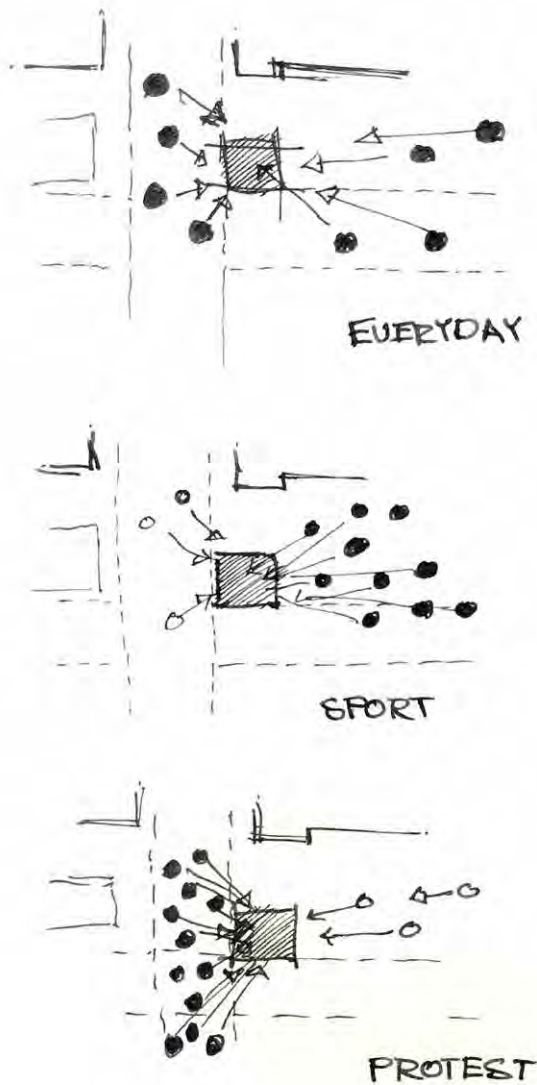


Figure 45 Diagrams showing different orders of domination on a space highlighting the design requirements to facilitate each scenario.

The city is in a constant state of *agon*. A temporary consensus of societal actors informs an order of domination in the city. Architecture is permanent in relation to the rapidly adapting societal ebb and flow. In general, buildings in Pretoria have no ability to accommodate a constantly changing society, it is as if the context they are designed for no longer exists.

This design attempts to create a permanent structure that can facilitate the diverse users of the city of Pretoria. Shifting the perception of built structure as a private space in Pretoria, by drawing public activity into a vertical building through the treatment and manipulation of edges. The proposed building is adaptable within a structured logic. Therefore, an increased emphasis is placed on the user in the building, increasing the user and space relationship as to be recreated and 'form itself spatially'. The building acts as a background to its inhabitants who give it an identity. As it is filled and emptied, during different events with different subcultures, the building changes to best accommodate its use. This ultimately implies different identities in relation to the relevant condition it serves. Focus is placed on the function as a backdrop for the people within Pretoria. In the same manner that a museum holds a painting, displaying art as a function, the public building serves to host its inhabitants. Resilient in the manner it can facilitate whatever it may be required to.

The resultant study questions are formed-

Sociological question-

Can architecture remain constantly relevant to multiple cultures which are in a constant state of change?

Urban Question-

Can architecture mediate conflicting conditions of a city within a continuum to respond to and remain contextually relevant to space?

Architectural question-

Can built form in the city of Pretoria be regarded as inclusive public space?



This investigation looks into creating a resilient public building within a political continuum which can remain contextually relevant to multiple cultures which are in a constant state of change.

Figure 46 February journal entry. Pretoria mosque as an example of a building typology specifically designed for its unchanging user.

PART 2 _ CONSENSUS



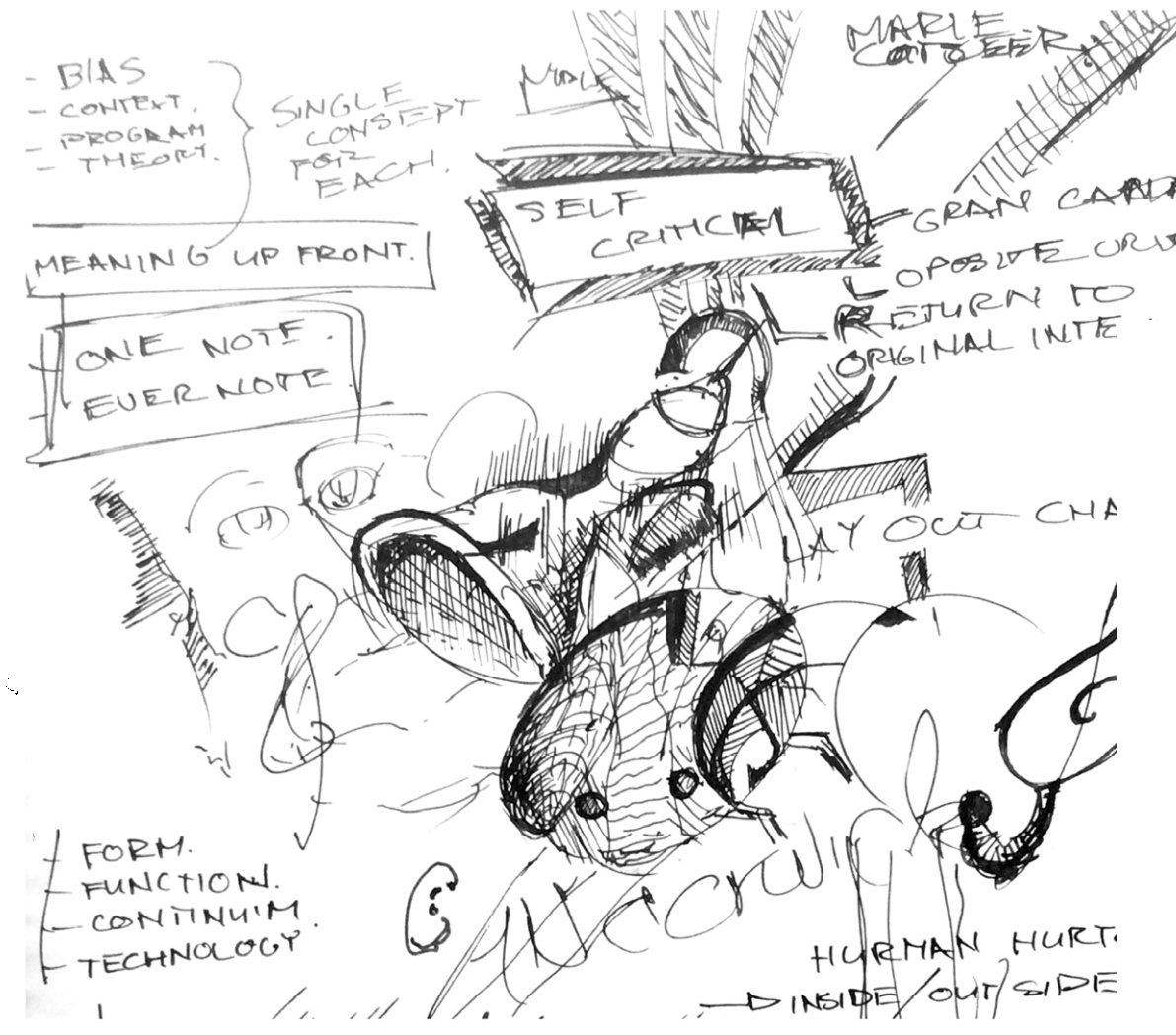
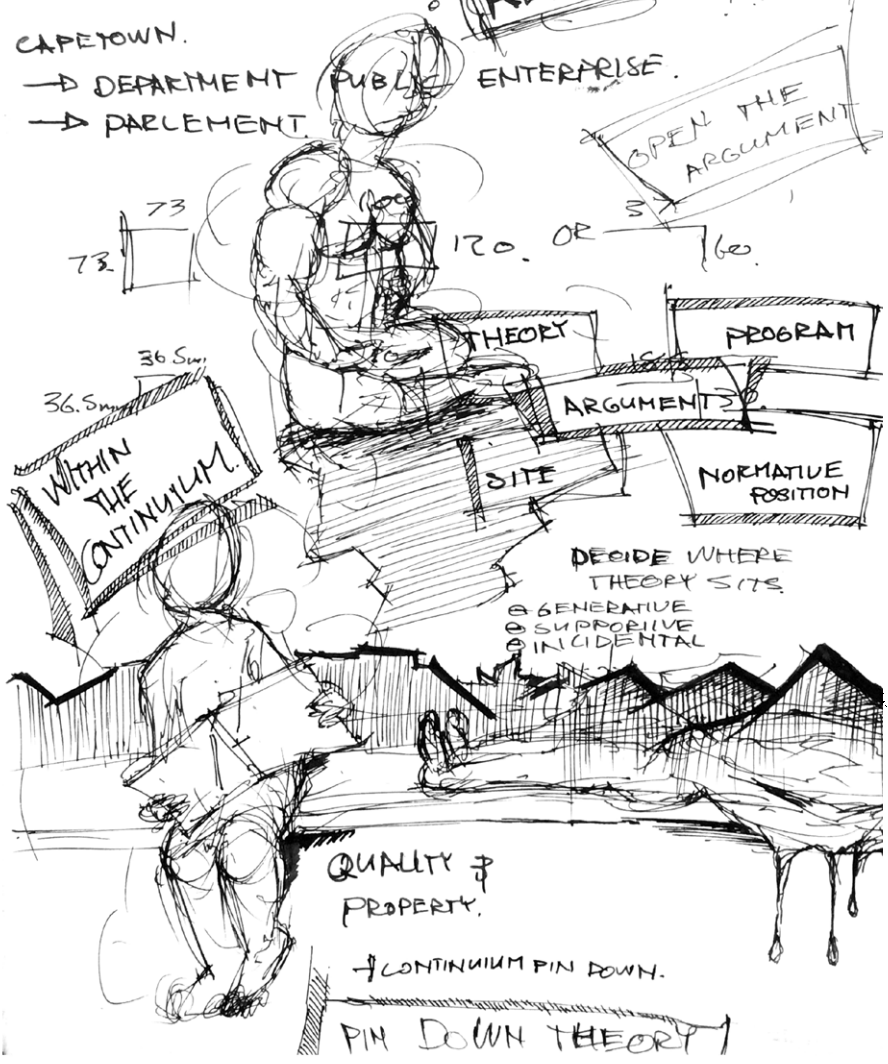
A hand-drawn rectangular box with a question mark inside. The box is drawn with a simple black line, and the text "WHAT AM I DESIGNING?" is written inside in a casual, hand-drawn font. The box has a small circle on the left side, suggesting it might be a bullet point or a callout.

WHAT AM I
DESIGNING?

JHB
 → COMMERCE & INDUSTRY.
 → ARTS COUNCIL OF [NATIONAL]

BLOEM.
 → YOUTH DEVELOPMENT AGENCY
 → COURT OF APPEAL.

CAPETOWN.
 → DEPARTMENT PUBLIC ENTERPRISE.
 → PARLEMENT.



Notes from the authors journal after a module class presented by Dr Barker.

PROCESS AND ITERATIONS





Figure 47 Image 41. Documenting the city edges noting the opportunistic nature of the user and the relationship to manipulating edges which allow interaction



Figure 49 Edge

Edge-less



Figure 48 A Shifting edge, negotiating between two conditions.

SITE AND CONTEXT

Edward Chambers Building. 1943. Retained heritage. Currently a computer training centre.

Department of Labour.

Pollies Arcade. SAPS Office.

St Albans Cathedral.

Residential/
Ground level Commercial

Demolished building built in the late 90's.

Residential Building

SITE

Tswana Multiplicity offices.

PAUL KRUGER RD

BRT STATION BRT

NANA-SITA RD

Parking space converted to public park with underground parking.

Proposed mixed use building. Corner anchor building as per proposed urban framework.

South African Museum of Science.

Residential Building

Residential building



Google Earth. 9/1/2015 25o45'.00"S 28o11'21.64E Elev 1328 Eye Alt 1.52Km

Figure 50 Site and context shown looking north.

EXPLORING EDGE AND PUBLIC SPACE

The following explorations investigate the treatment of edges as a response to the analysis and theory, through different architectural elements which create different condition for the city user. The exercise also considers early massing responses to the site with regards to the urban surroundings and the placement along the protest rout.

A **Horizontal surfaces**

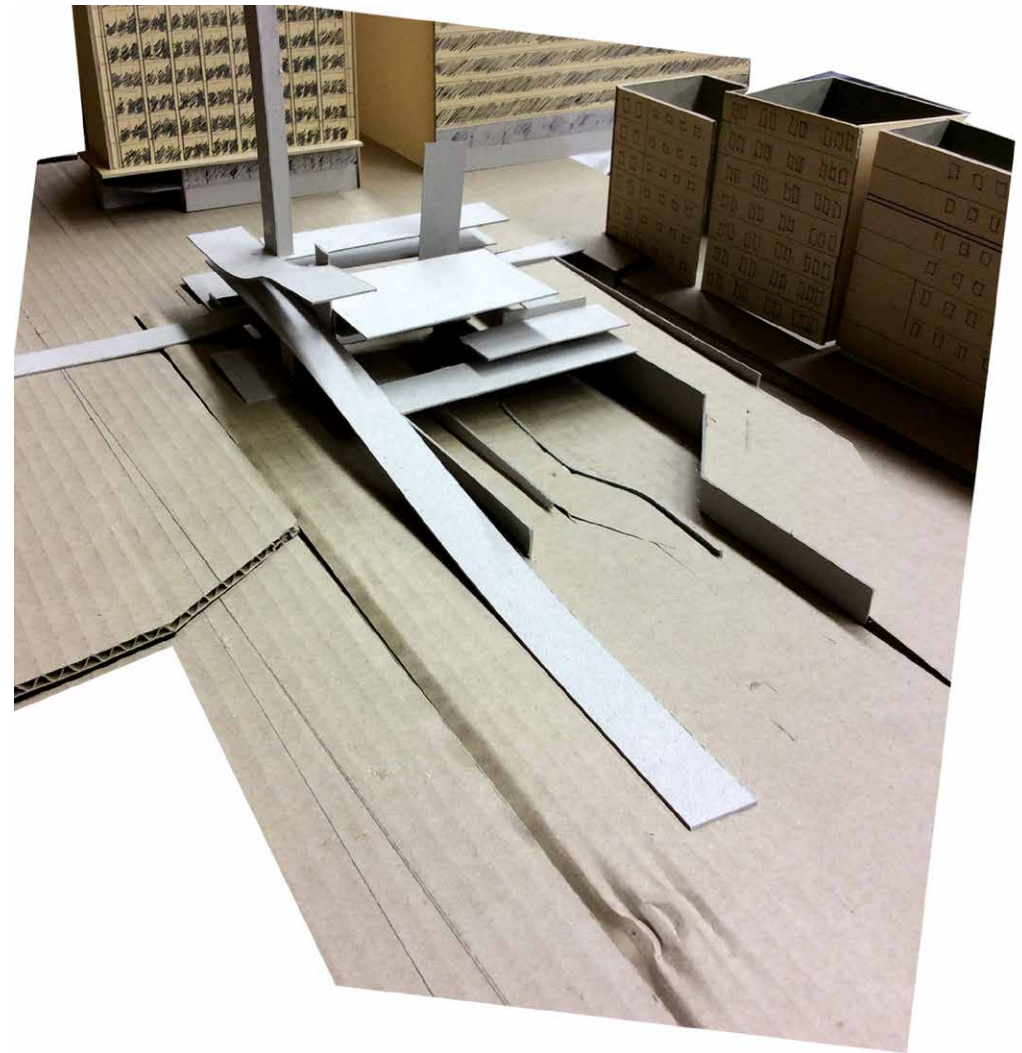
This model explores manipulating the horizontal surfaces. There is a clear relationship between building and site, as if the street itself is lifted into or under the building. These thresholds are far less clear, and no entry point is explicit.

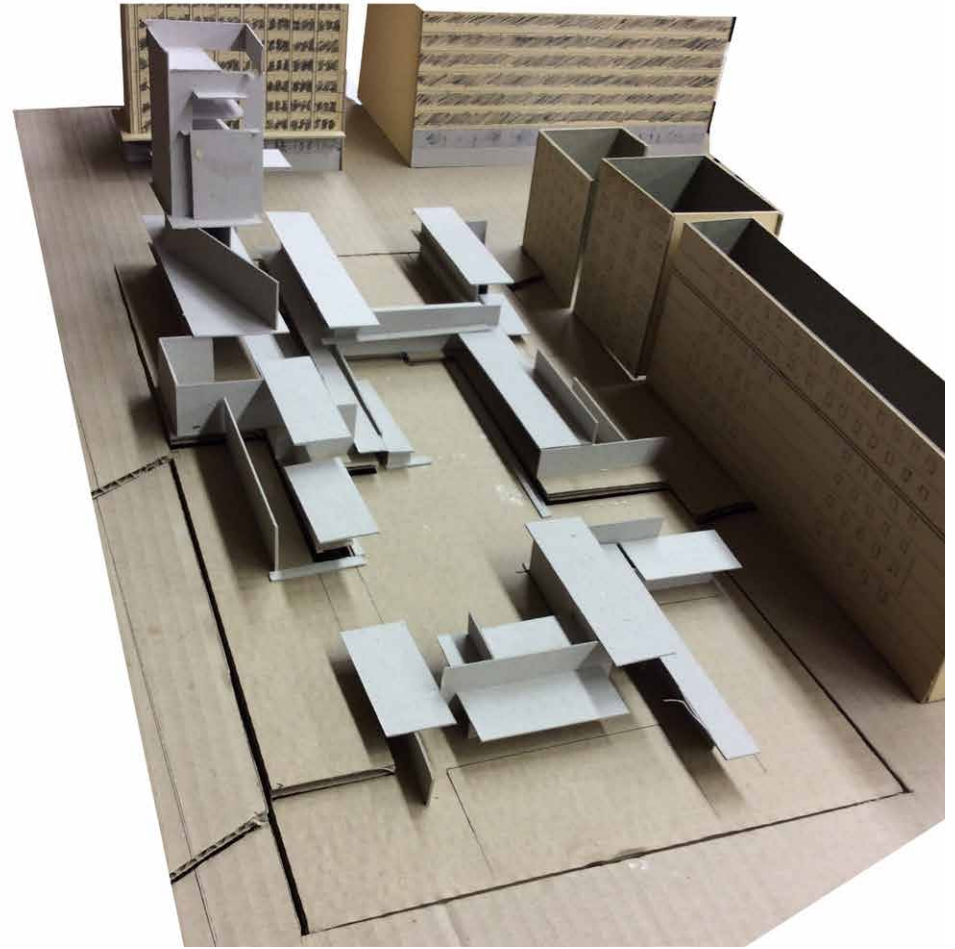
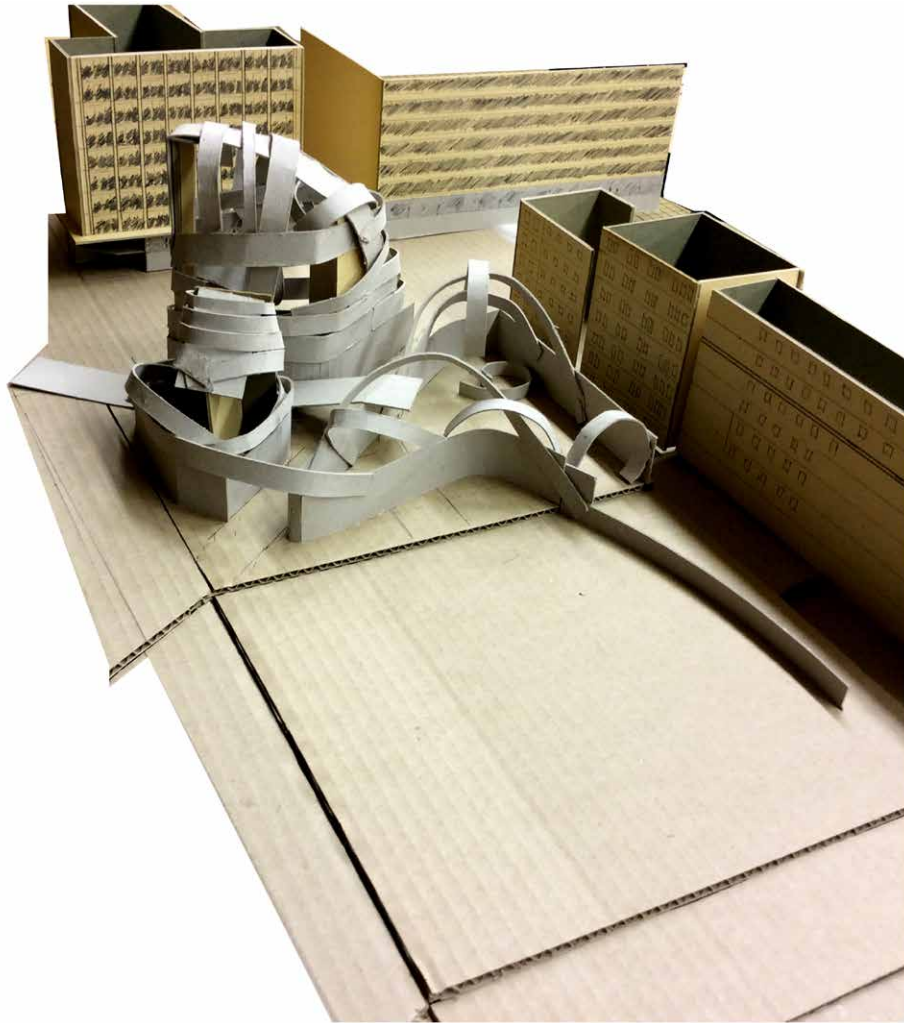
B **Vertical Surfaces**

This model explores manipulating the vertical plane. The user is drawn in from the street where the edge lifts up and a divide between ground and building is formed. The entrance points are clear and thresholds fairly abrupt.

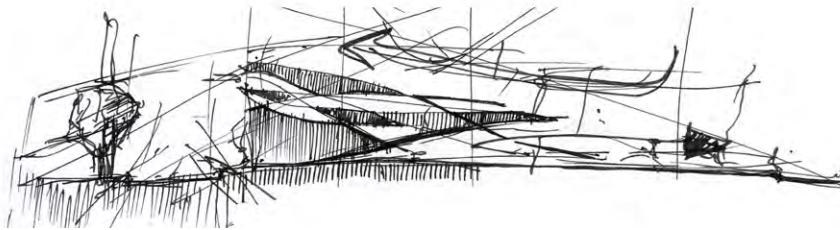
C **Manipulating Scales**

This model explores changing the scale of the edges between building and street, focusing on the ground level interaction with a building. The street building relationship- private vs public- becomes a manageable condition, where walls create spaces for opportunity.





B



C



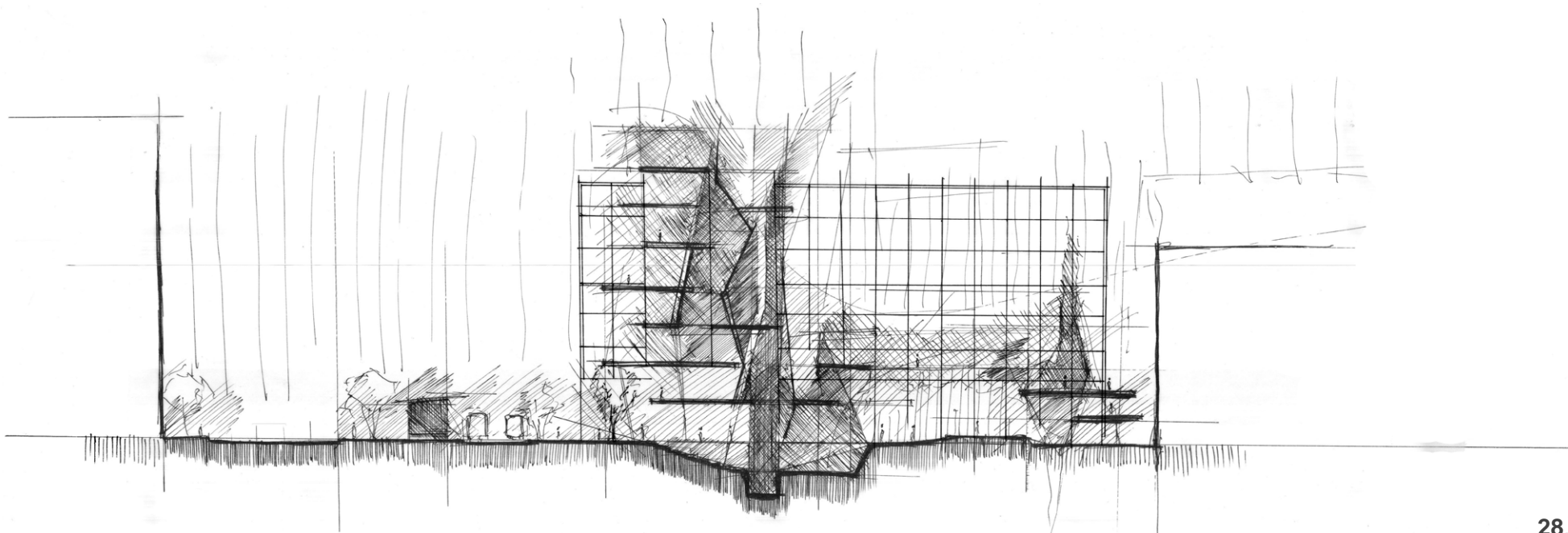
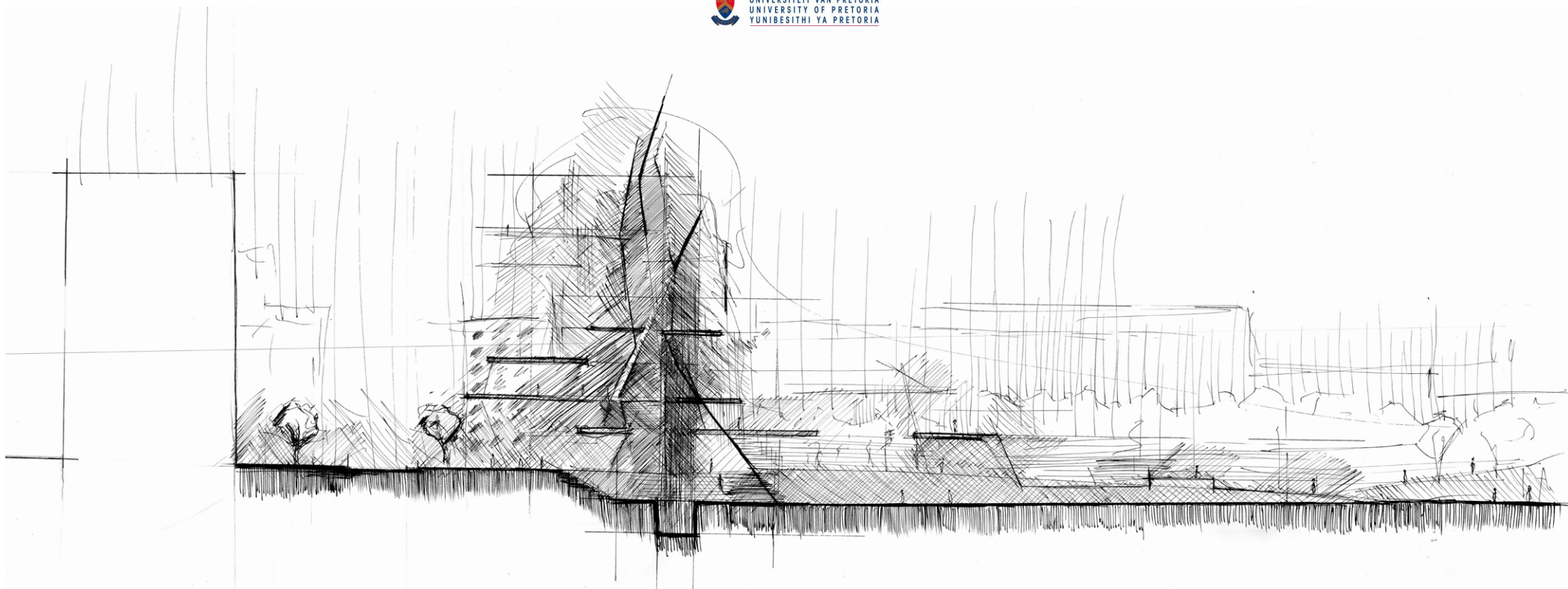
Right: 'Madness in Making'

(Image 46) A follow on of the previous models, the idea for this model was to explore a process of making that forces an enquiry beyond an intuitive understanding due to the complexities of the construction material. When sticking cardboard together, one knows that they will be held by glue and be of a consistent thickness. What if the model building process forced design decisions to accrue because of the effort required to cut and join? Every element is unknown before it is thought through and discovered. This, an enquiry into design explored through the process of making.

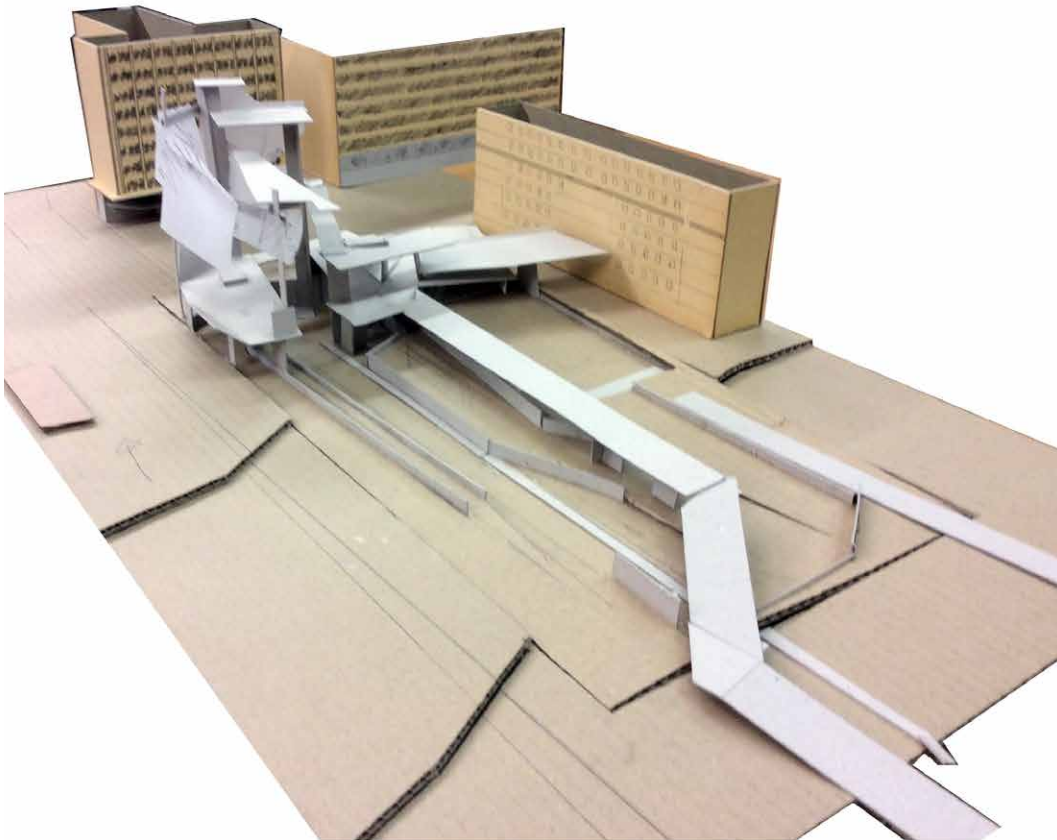
Overleaf: 'Edge-less Sections'

This intuitive drawing exercise investigates the massing explored in the model investigation through section. Using drawing as a process tool, the aim is to consider the connection of the urban to the park; how the building may mediate spaces through scales as well as indefinite edges. Furthermore, it considers how one may invite public activity on the upper levels of the building through space and movement.





ITERATION 1_March



The initial exploration focuses on how the streetscape as a public condition could be drawn up into built form, noted as a private condition.

The exploration considers public stairs -an urban atrium- as a link and threshold between the street condition and building condition. The staircase exploration attempts to draw people to elevated public levels which are specifically programmed to public recreational activity, functioning as elevated platforms of public/park space. The stairs criss-cross, demarcating thresholds and areas, linking horizontal street activity to the vertical nature of the building. Ascending up the building, a subtle play between screens (building) and stair (street) draws the users into the progressively private spaces on higher levels, serving as an extended threshold as regarded through the notions of Herzberger. Herzberger's (Hertzberger, 2005) principles of thresholds and public/private space has a noticeable influence on initial design explorations as the author found much similarity in the desired outcome of this scheme.

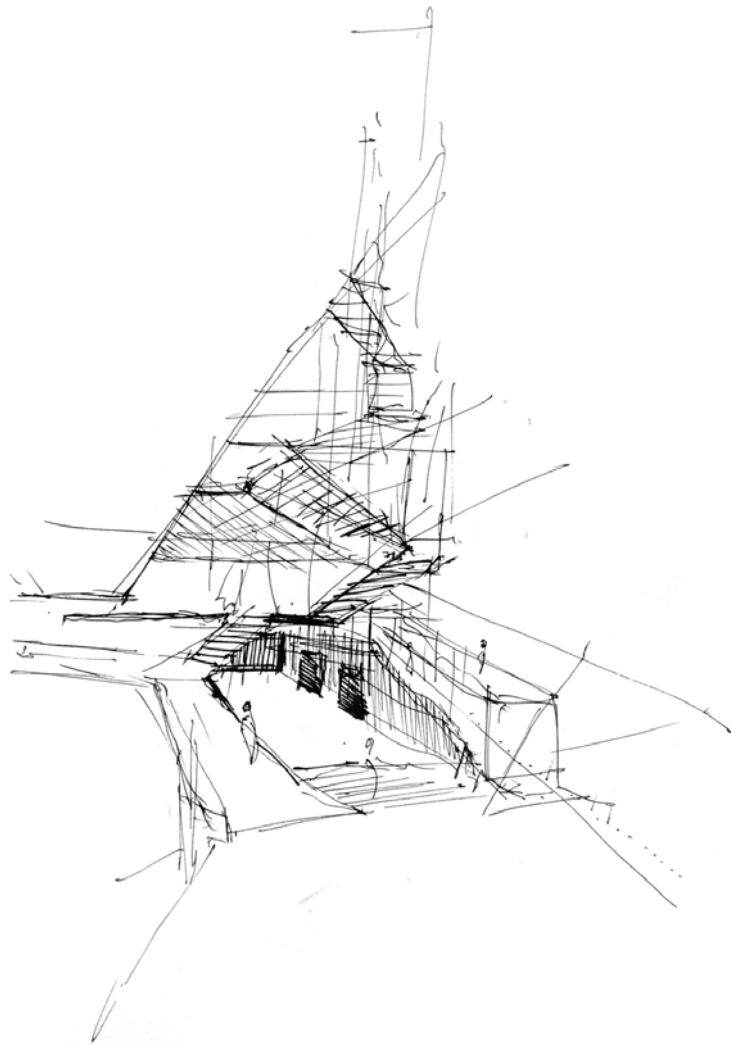


Figure 51 Stairs drawn as a link between the street and the building conditions.

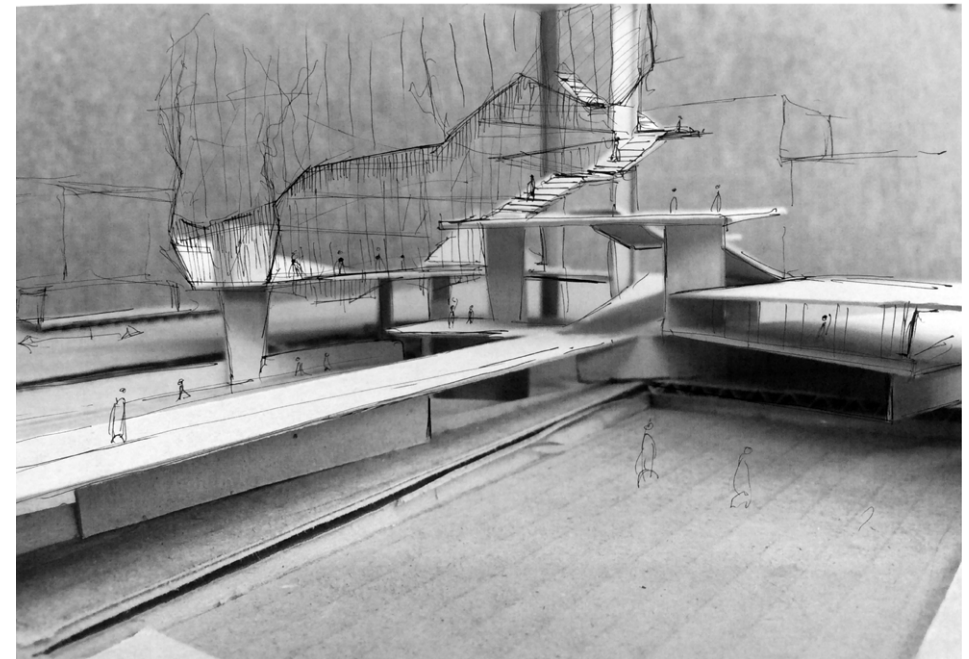
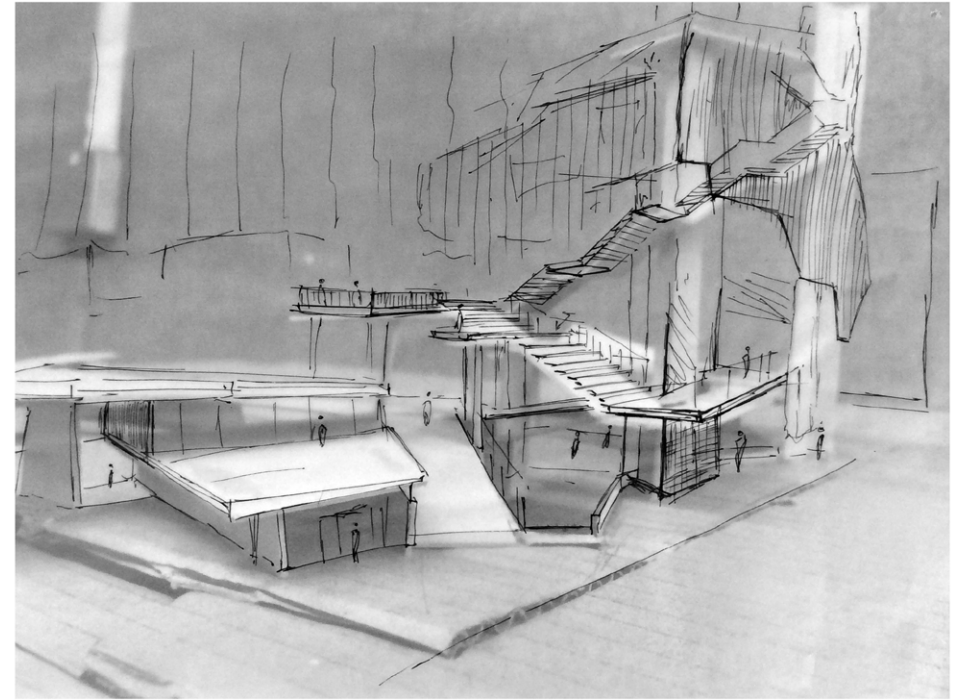


Figure 52 Photos of physical model, sketched over exploring skin as building and stair as street.

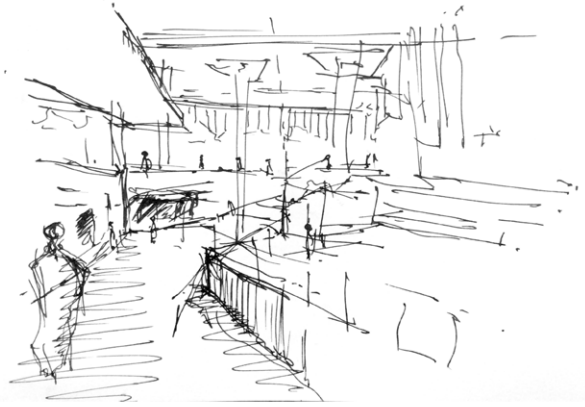


Figure 55 Elevated building allows street to pass under it.



Figure 56 Considerations of a running track and sport activity from the park to enter under the building.

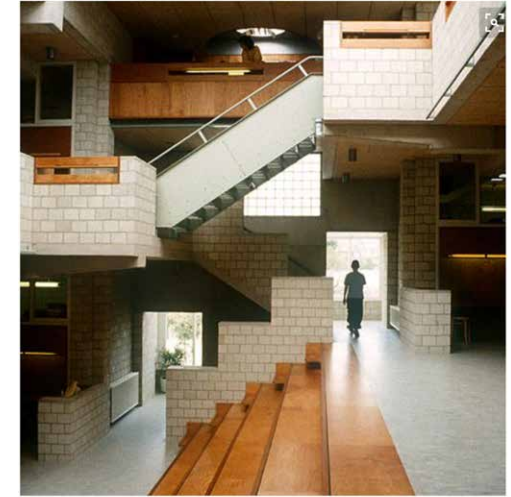


Figure 57 Herman Hertzberger. Montesorios school. (Hertzberger, 1991)

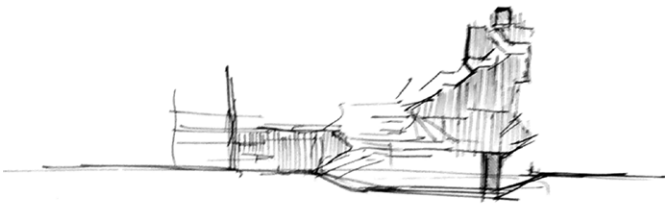


Figure 53 Sketch elevation looking at the interplay between the street (stairs) and the building (screen)

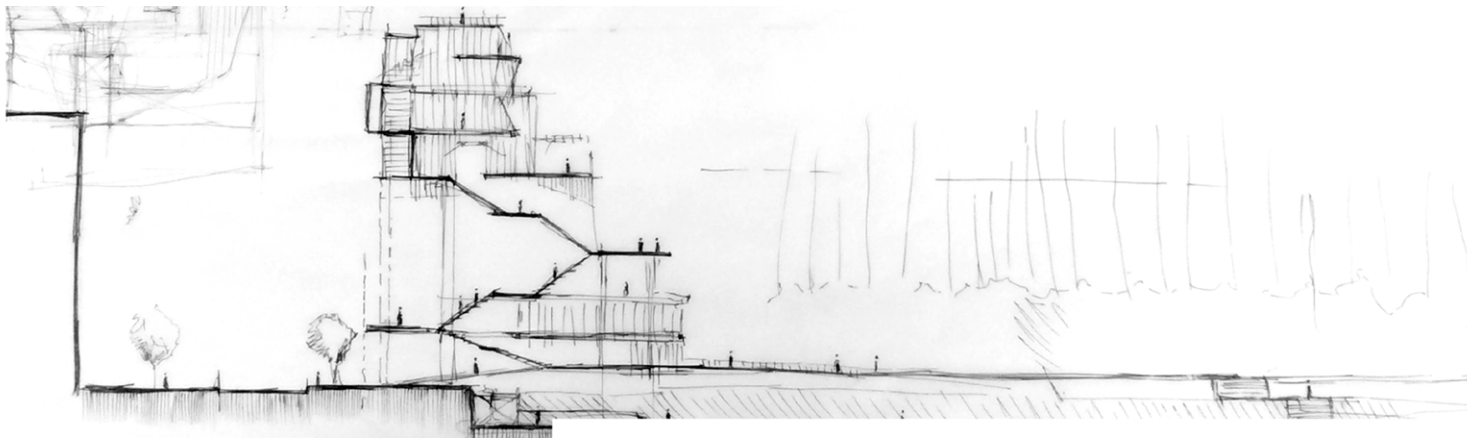
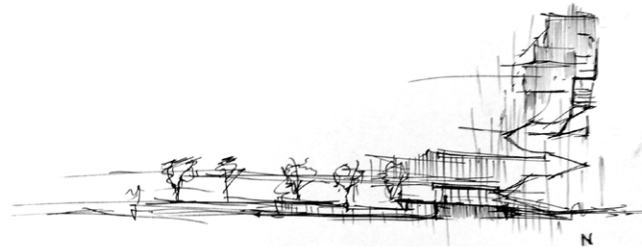


Figure 54 Scaled section questioning the feasibility of stairs regarding volumes and regulations.

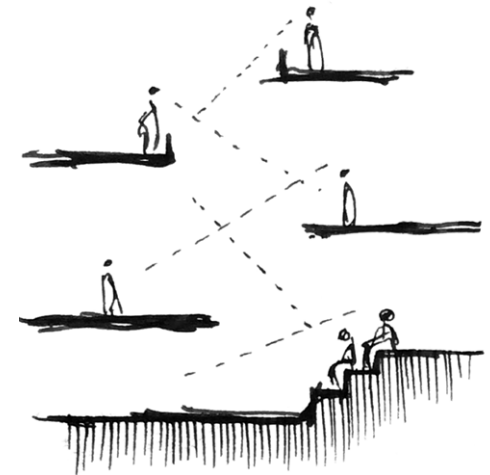
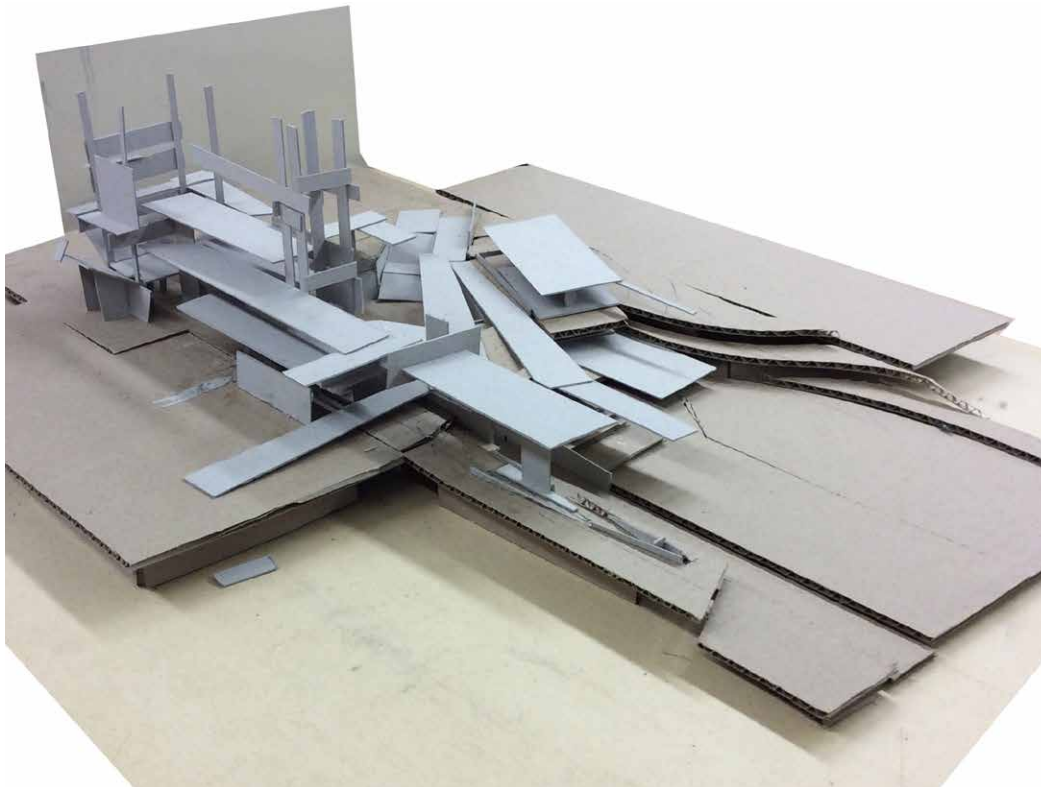


Figure 58 Diagram by Herman Hertzberger of Montesorios school redrawn by Author.

ITERATION 2 _April



The edges of the building, and the relationship to the urban street scape are further considered.

Focusing on ground level, the building is considered through its use of edges, as if the structure is a skin or container to the public space it defines. The building is pushed back on the site and is orientated east-west along its long axis. The manipulation of edge is considered by intended user's interaction with the edge.

Each designed edge condition responds to how a user would be required to interact with the building. For instance, in a protest scenario, the edge attempts to exclude activity. In an everyday scenario, the intention is to include the user. This interaction is broken down into design categories, namely: pass-by, pass-through, screen, enter and integrate.

An urban 'Ha-Ha' is investigated, as a way to control masses of people in and around the site. The visual connection with the civic activity is maintained, however, to partake in the civic activity suggests a commitment to entering the space. The entry points are intentionally narrow, disarming large crowds but adequately accommodating everyday activity.

The urban atrium faces the public Ha-ha space as opposed to the street in an attempt to highlight the created street condition of the new civic space. Emphasis is diverted from the roads, and the building acts as a buffer between the existing inhuman road and the new proposed public space. Specific programmatic typologies are introduced in attempting to investigate how the 'skin' can be occupied. Very specific forms for singular functions are introduced, such as the boxing ring and theatre. Exploring these forms gives direction to the form making, however, are limited in adapting to secondary programmes. It is realised that in order for the building to be both generic and specific in function, form needs to be considered on a scale from typology (specific form for a function) to autonym (generic form for any function). It should be neither too prescriptive to a singular activity nor so generic that it contains no specific value to any activity.

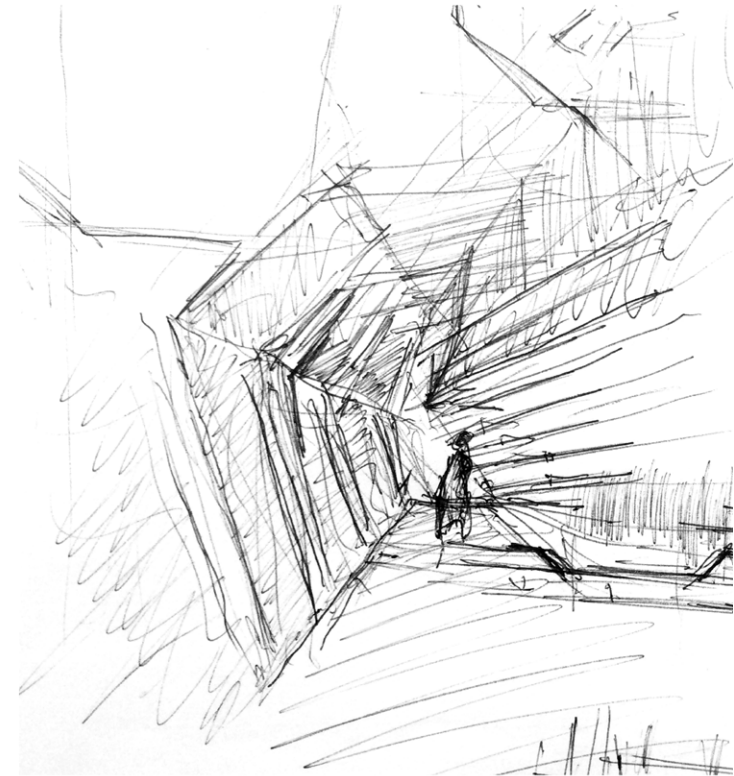
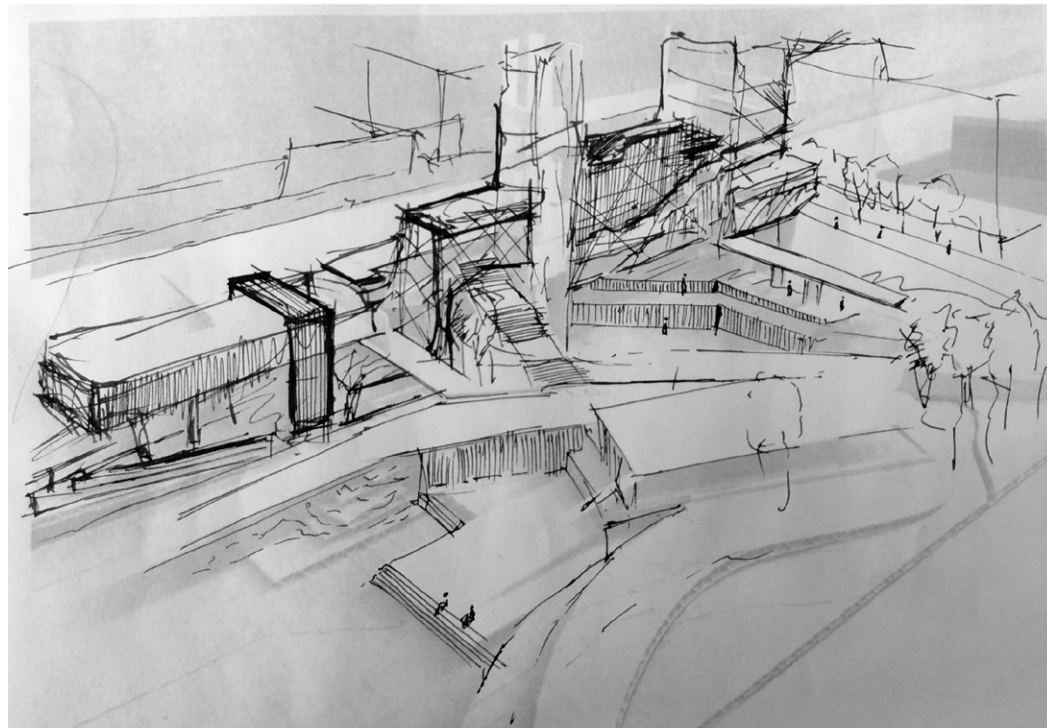
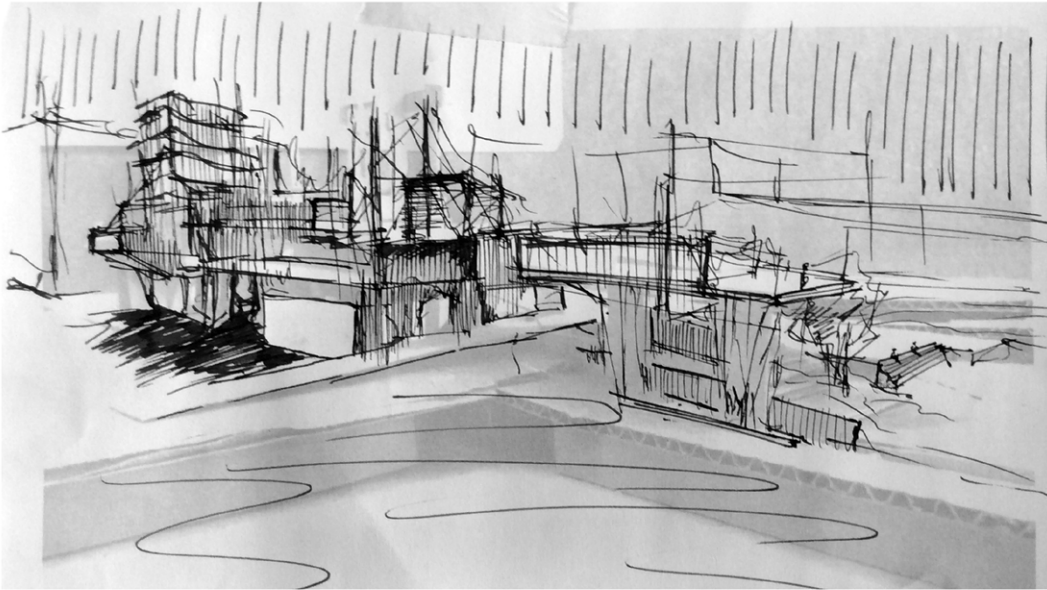


Figure 59 Making function out of form.
Investigating passages behind the boxing arena.

Figure 60 Above and below. Photo of physical model, sketched over. Exploring the skin and form of the building.

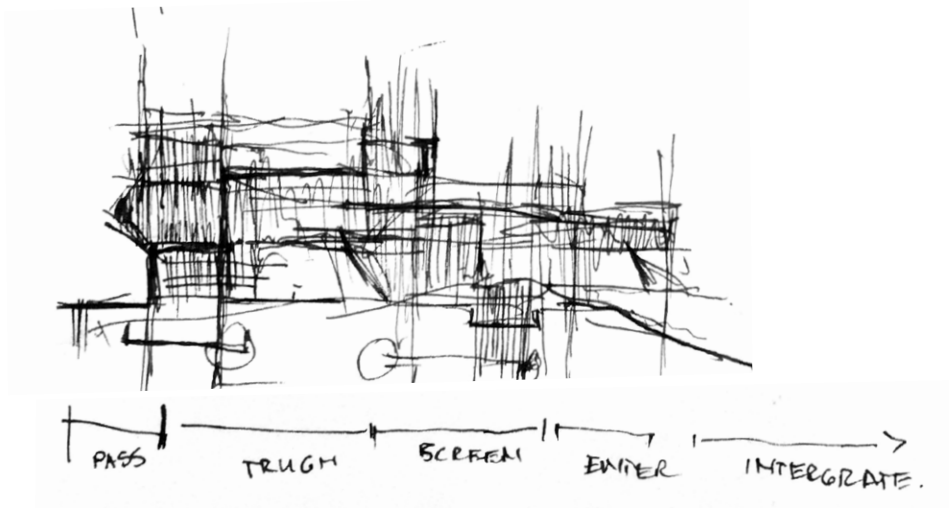


Figure 62 Sketched elevation showing different edge condition categories.

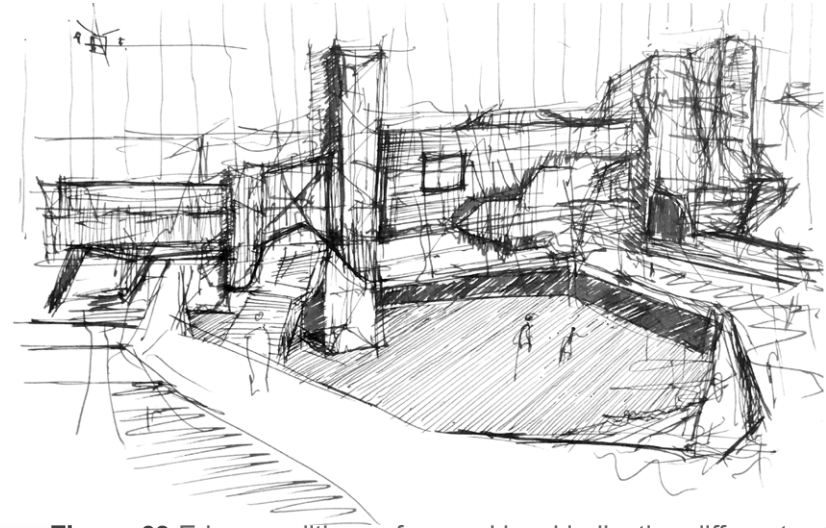


Figure 63 Edge conditions of ground level indicating different activities.

Figure 64 Exploring the potential for the urban Ha-ha.



Figure 61 Investigating an urban Ha-Ha the relationship between ground and building.



Figure 68 Elevation exploring staircase connecting elevated levels of public space.

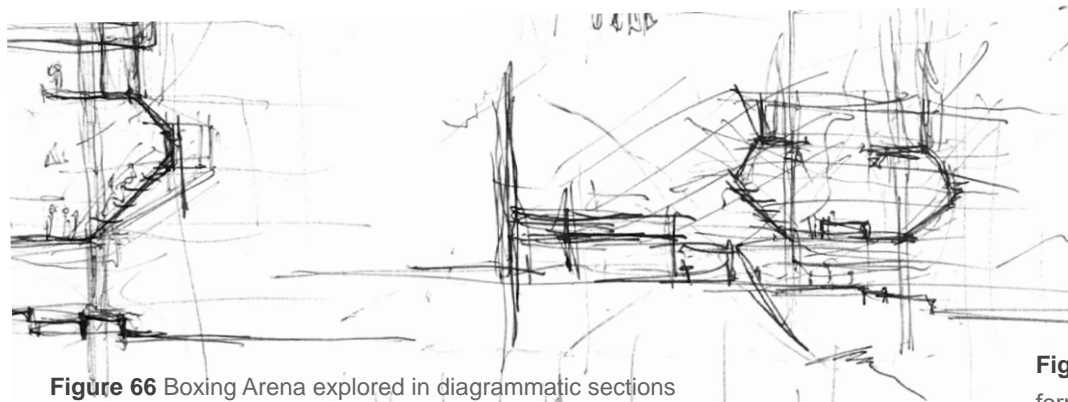


Figure 66 Boxing Arena explored in diagrammatic sections

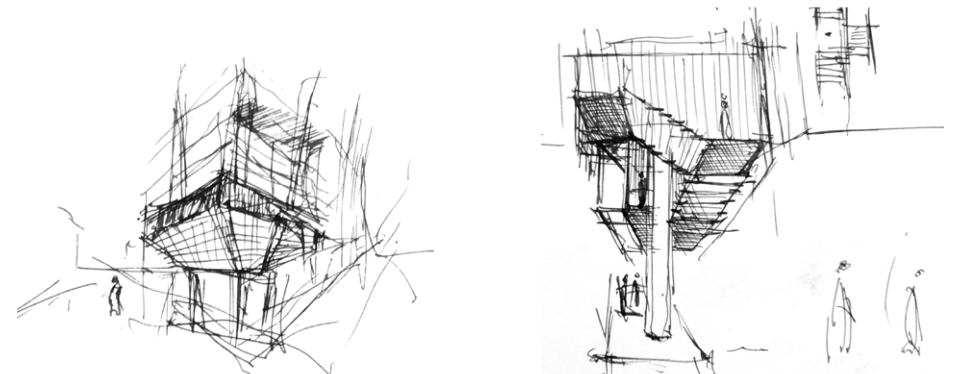


Figure 67 Building turning the corner through form derived from specific typology.

Figure 65 Designing with various typology's.

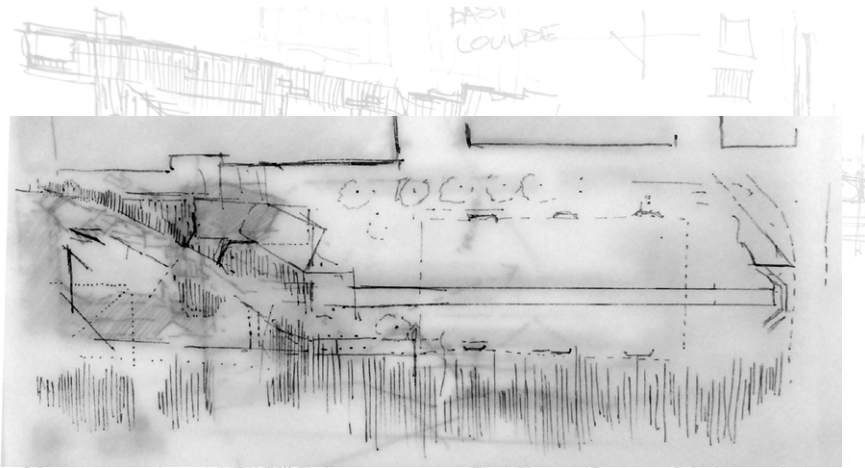


Figure 71 Image. Defining the park. Early site plan with the 150m running track into the civic space.

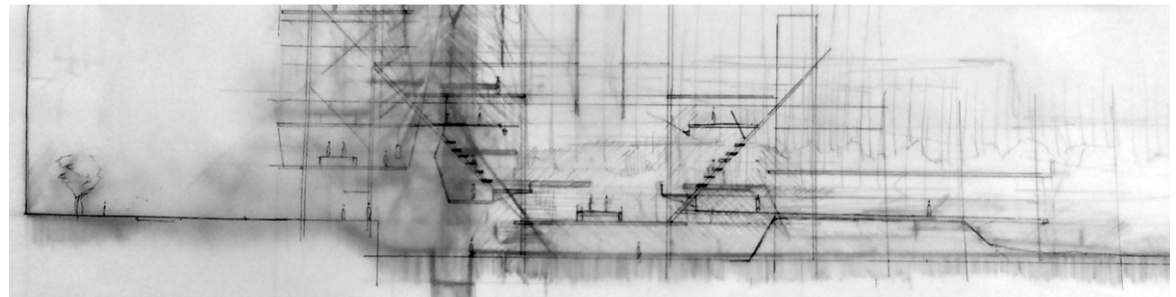
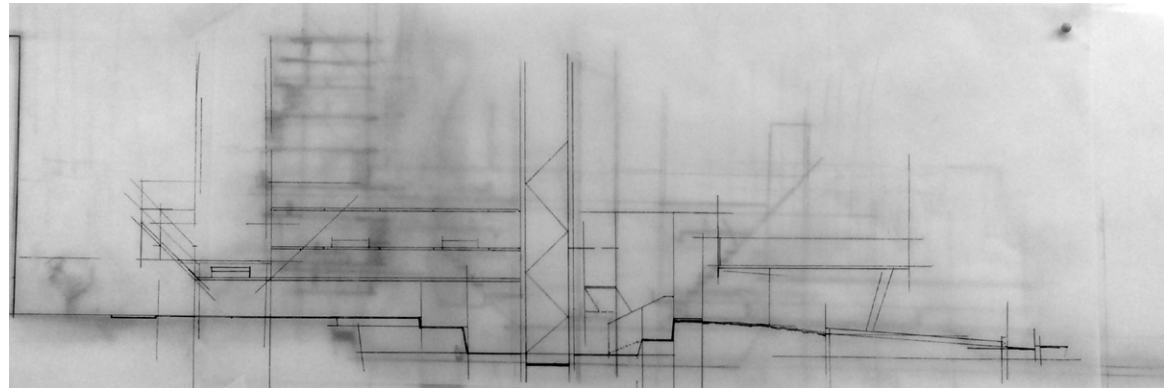


Figure 69 Image. Above and below. Exploring typology and form through section. With focus on the relationship between building and ground and how each can articulate threshold and function. A boxing stadium.

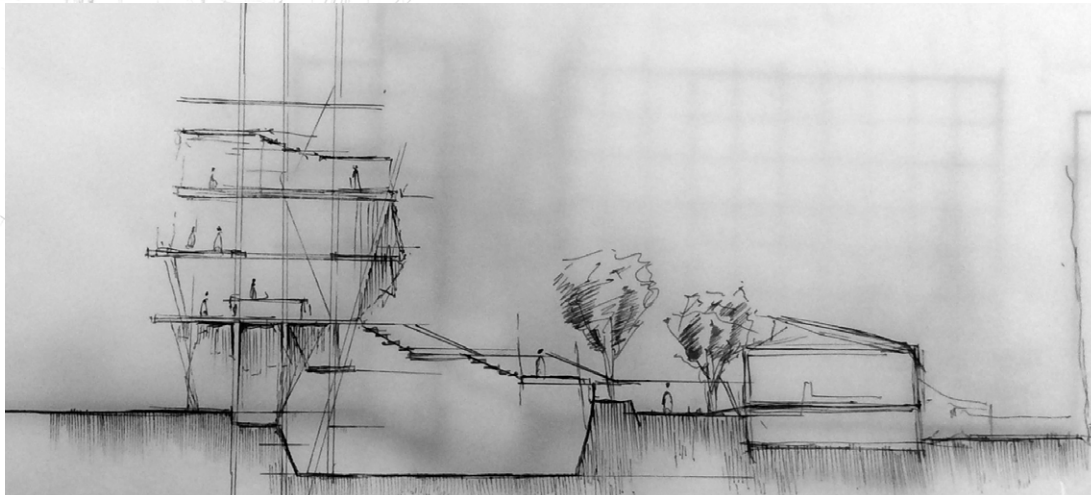
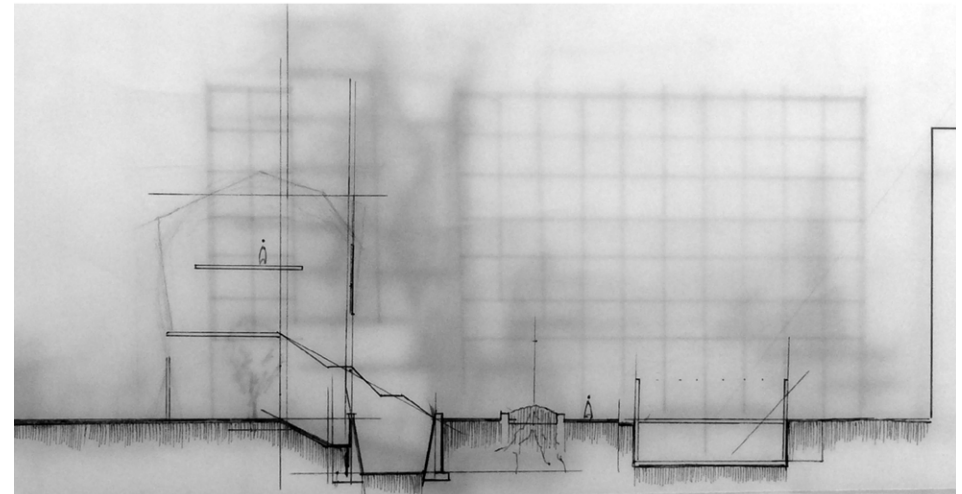
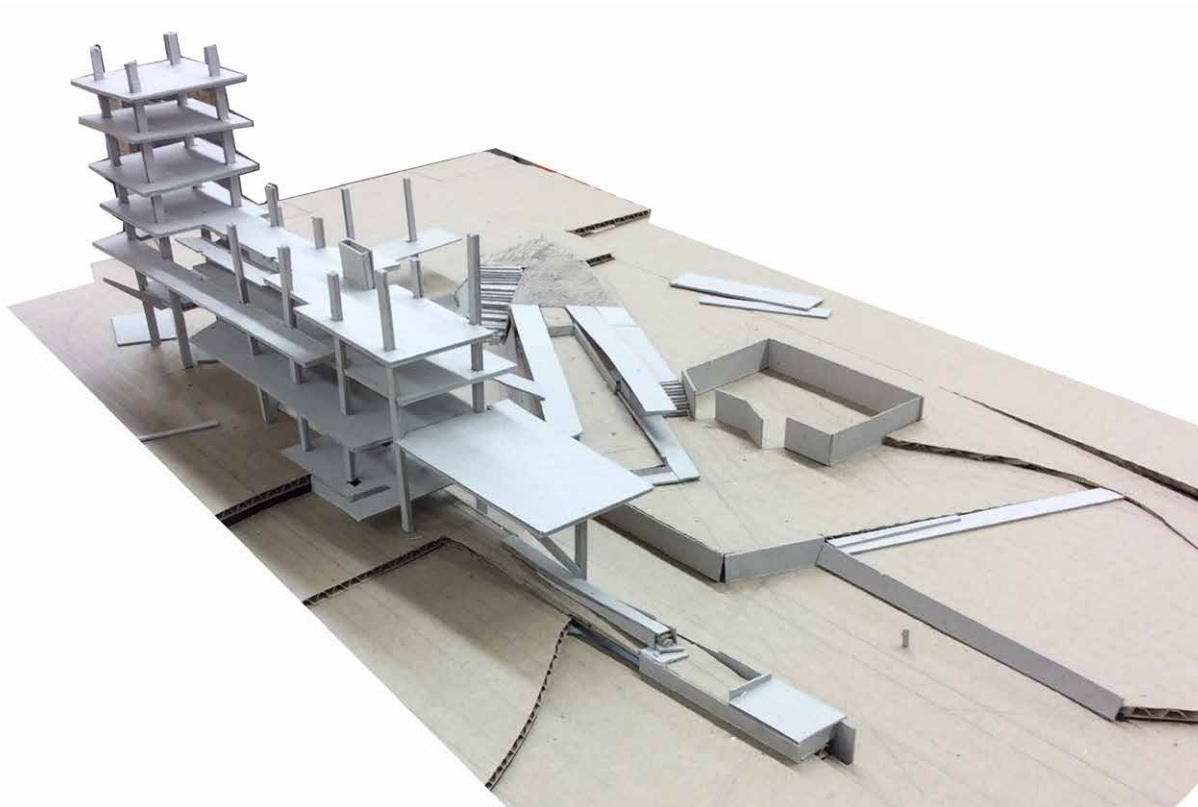


Figure 70 Exploring the threshold between street and building over the urban Ha-Ha.



ITERATION 3 _April



The form and space of the design is invested further terms of a structural system.

This results in the building losing the spatial quality evident in previous explorations, where the design becomes spatially constrained by the grid imposed onto it. The edges which negotiate the street and building conditions become too rigid. The building represents the existing condition of a private object in public space, where the thresholds are too implicit and sudden. The skin, which defines the public space is more of a wall, with a staircase that ascends its facades. As a result, screens are introduced which help dissolve the edges of the building. The use of screens, as noted in Jean Novell's building (precedent) introduces a third condition, somewhere between the building and the street.

Screens begin to define one public space to another. The urban atrium developed into a series of thresholds before the stairs draw users up the vertical public space. The public space is considered as a mix of both street and building condition. Passing through the screen, one is neither inside the building nor on the street.

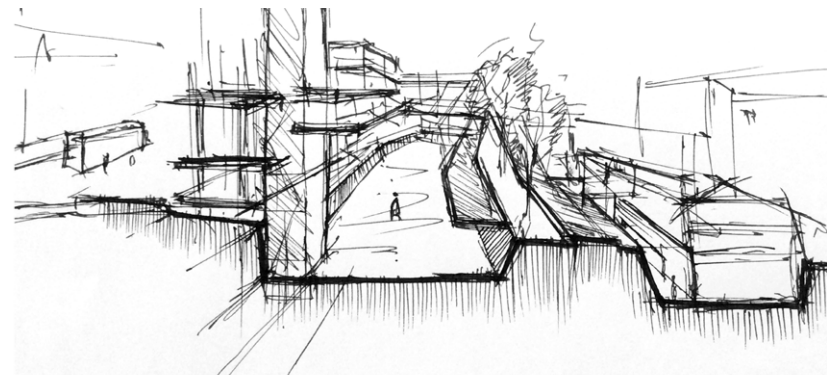
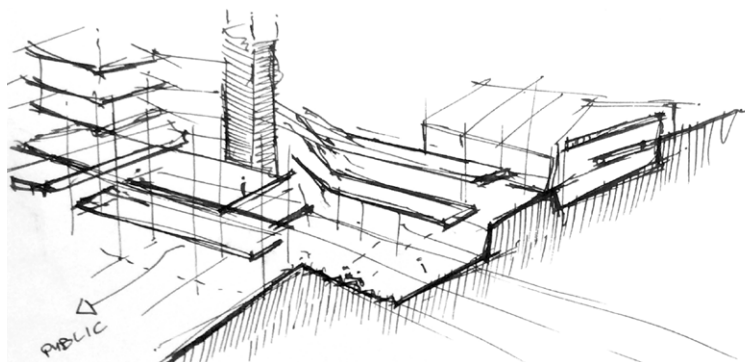


Figure 72 Sketches investigating horizontal relationships between ground plane and building as an occupied skin to the public space.

PRECEDENT

Jean Nouville. Fondation Cartier pour l'Art Contemporain.
Screens creating secondary thresholds of outside space.

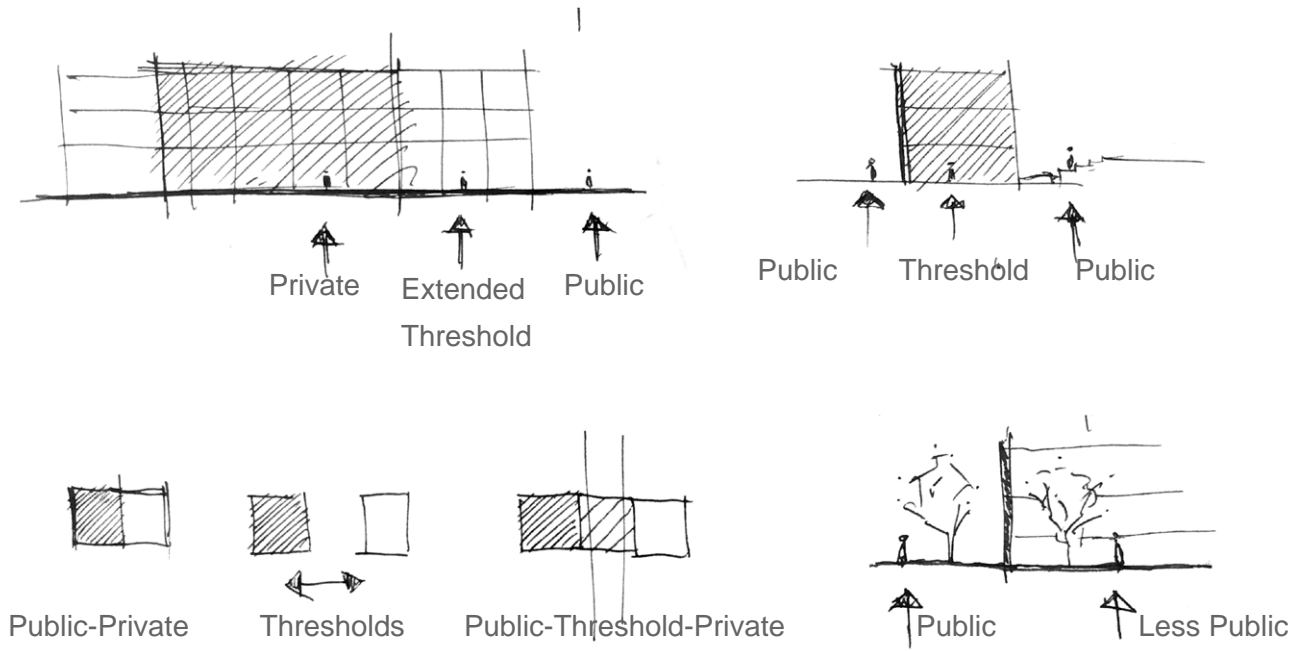


Figure 76 Diagrams elaborating on the concepts of screens to extend threshold.



Figure 73 Image (Nouvel, n.d.).



Figure 74 Image. (Ruault, 2010)



Figure 75 Image. (Glynn, 2001)

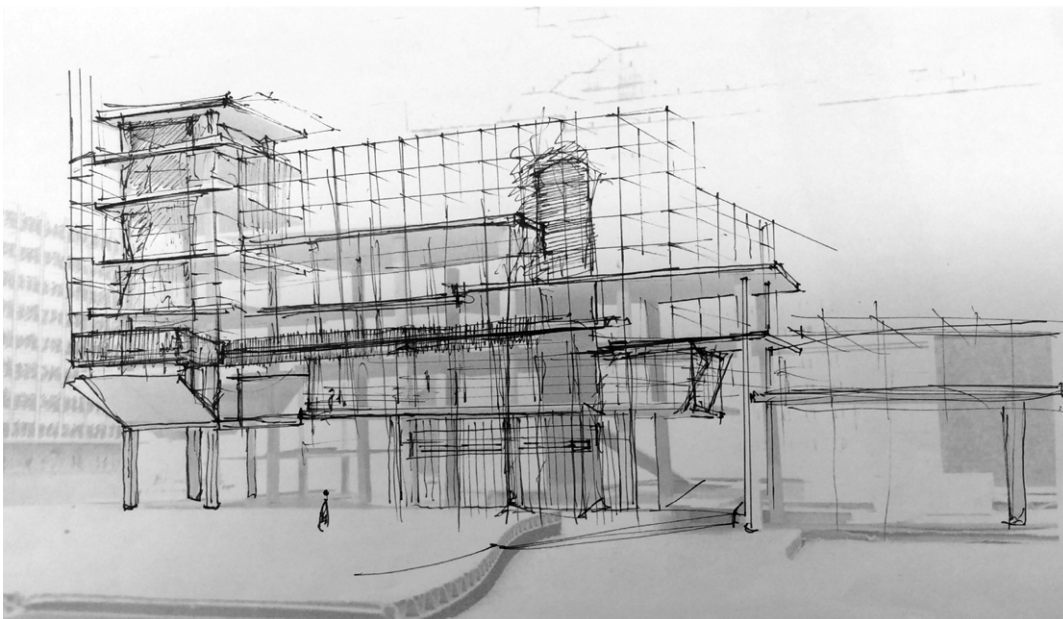
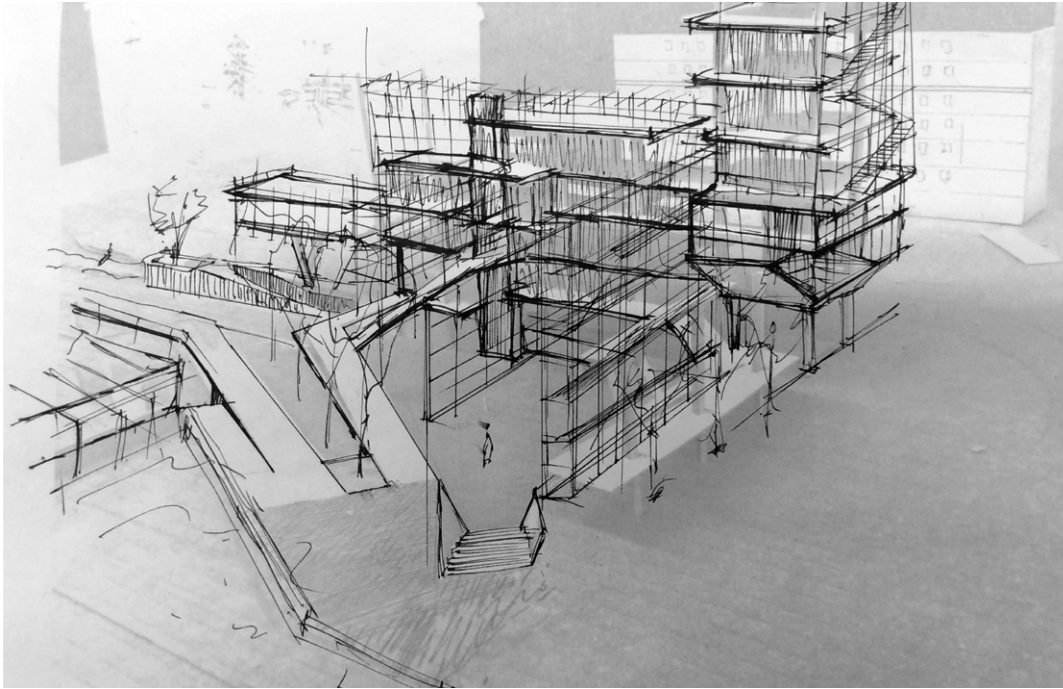


Figure 77 Above and below. Photo of physical model, sketched over exploring using screens as extend the thresholds and blur the edge of the building.

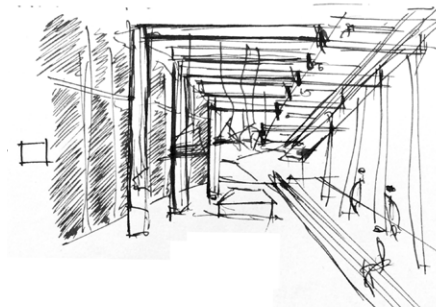


Figure 78 Structure informing space.

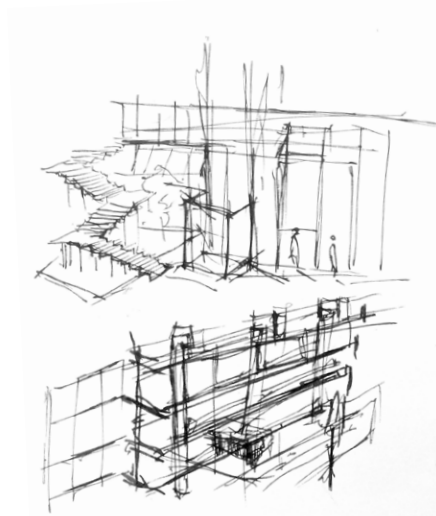


Figure 79 The building occupying space between the screen.

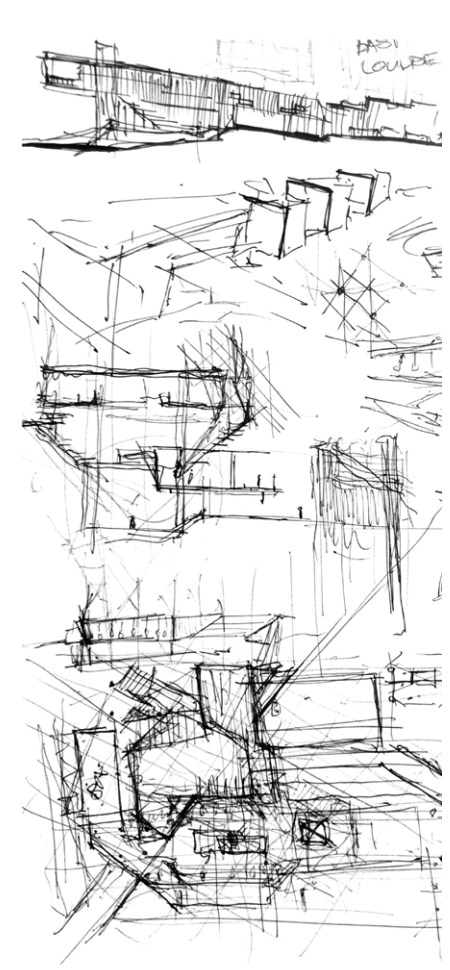


Figure 81 Elevation, section, plan.

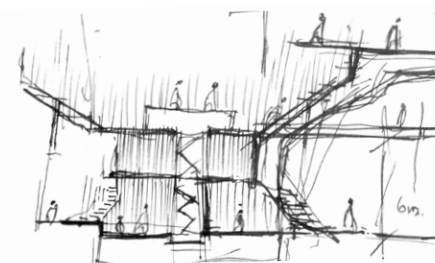


Figure 80 Typology explored with structure.

ITERATION 4 _June

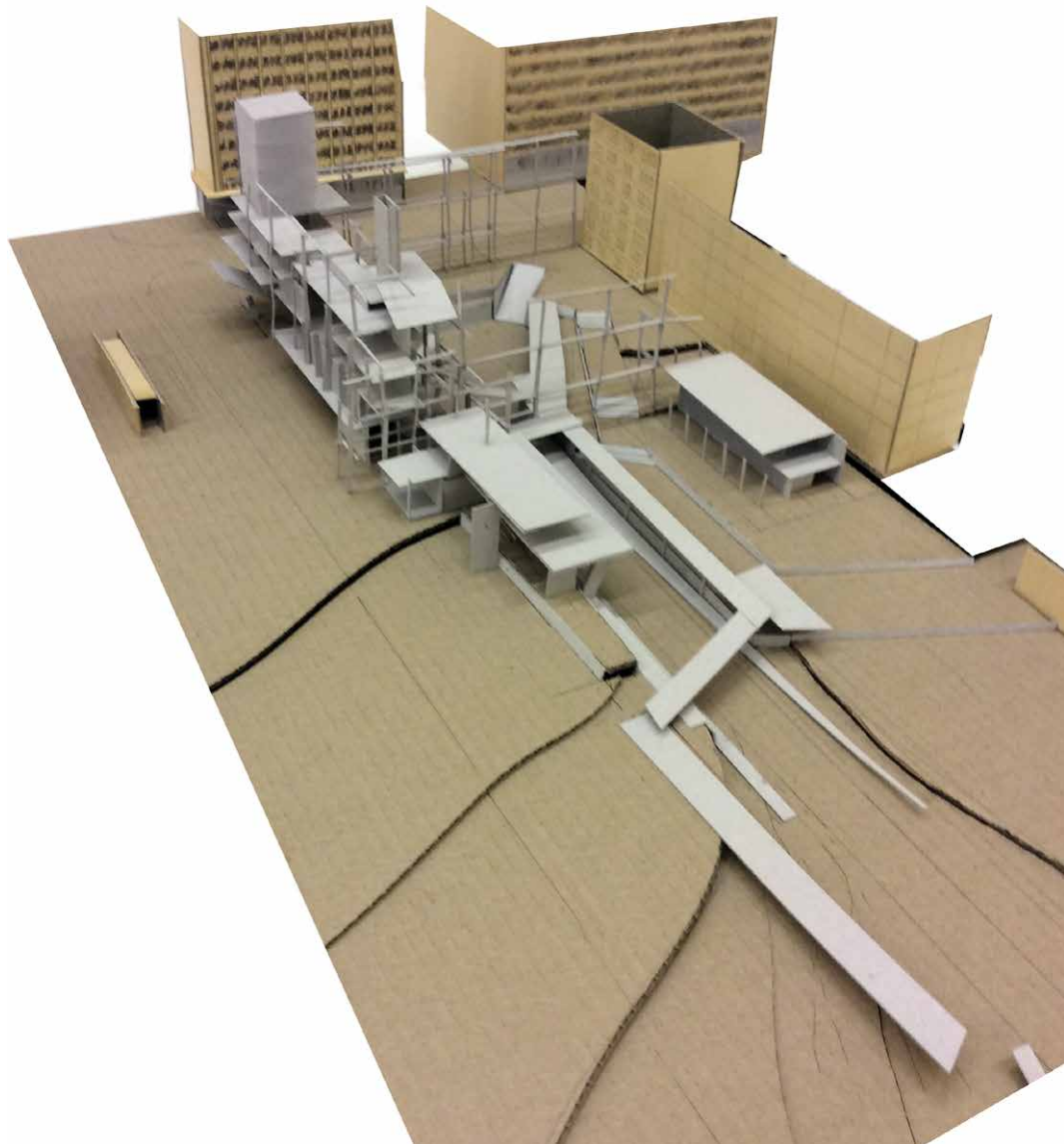


Figure 82 Model showing the relationship between building and park and growth of scale mediating the street scape and building scape.

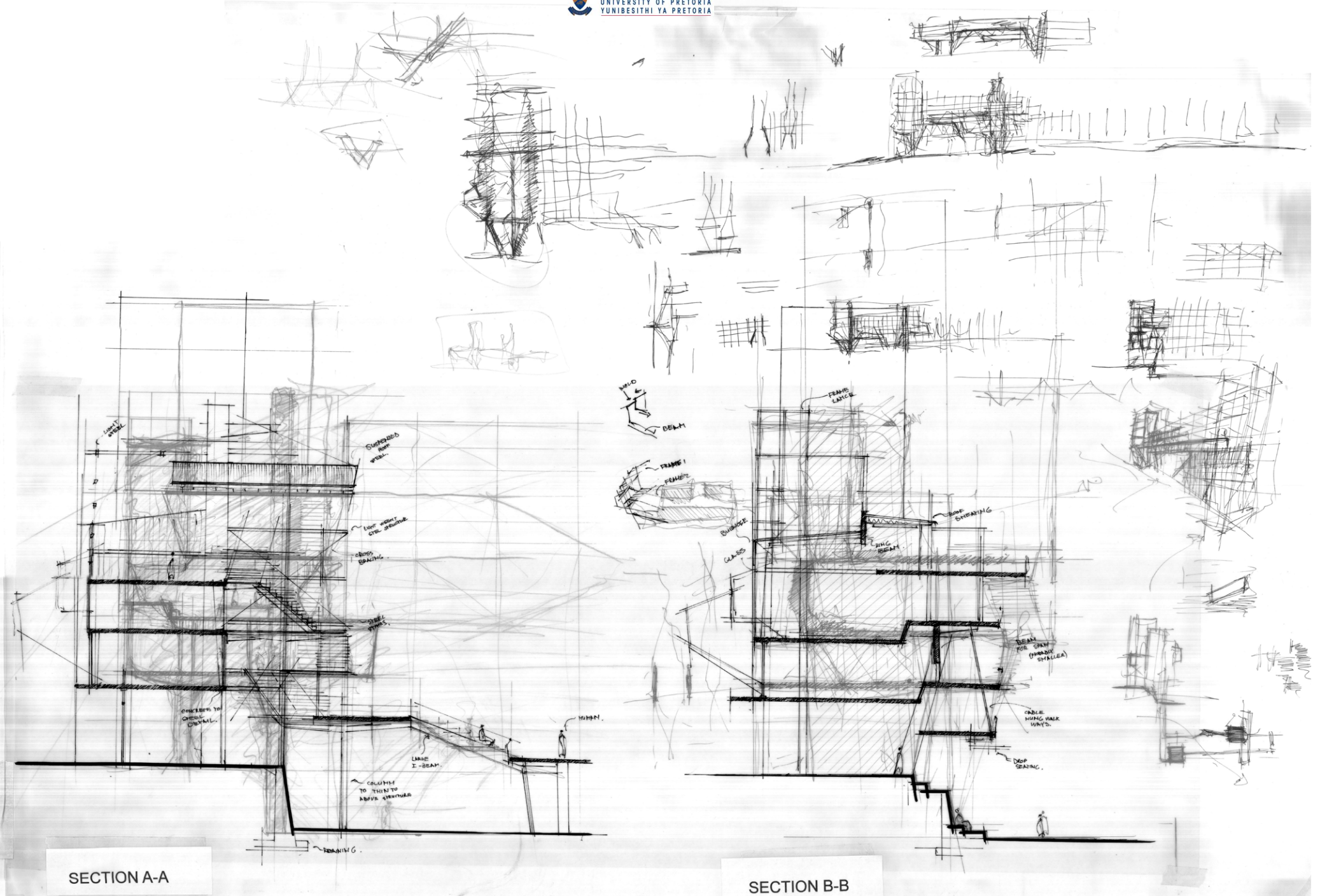
The façade exploration investigates the use of screens.

The screens are used to articulate thresholds and entrances, as well as break down the massing and dissolve the edge of the building. The building occupies space between screens which inform the building edge conditions.

The gesture of the building emerging from, and becoming an extension of the public park space is managed in a more gradual manner using the dissolved edges as well as reconsidered massing.

The massing of the building articulates the progression from public to private. Public is represented as light screen, where private is represented as closed massing. This progression is expressed in the tectonic resolution, playing with light and heavy both vertically and horizontally.



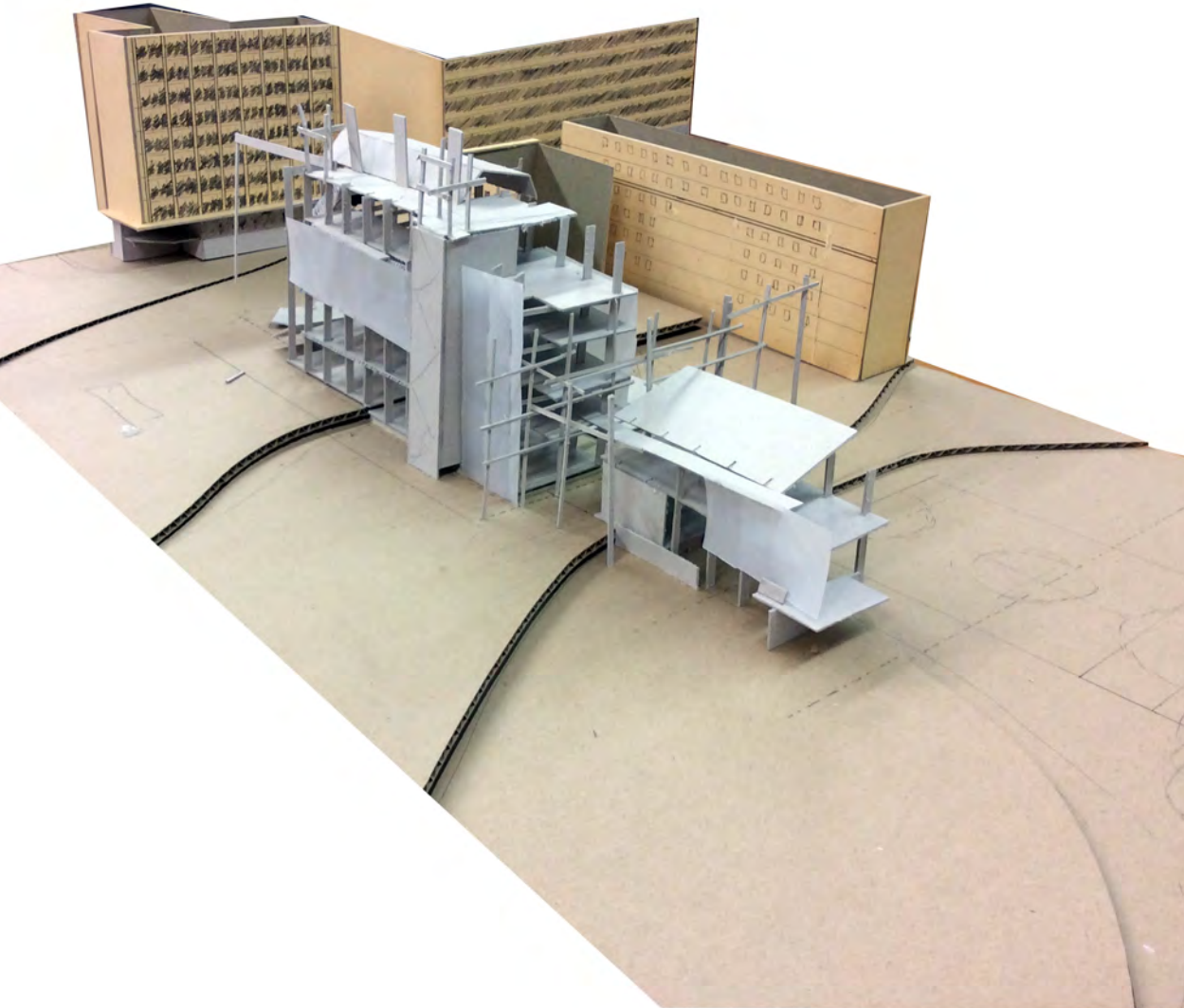


SECTION A-A

SECTION B-B

Figure 83 Working explorations in section, investigating the internal space of the occupied skin.

ITERATION 5 _August



Reintroducing the heritage building on the site leads to a different approach of dealing with how the building occupies the corner.

The building is pushed back from the corner into the park, going against the urban framework, which states that each corner should have a tall building that defines the urban edges. Instead, the corner is opened up to become a public space, as a response to the existing perception that open space is public space. A screen is then used to occupy the space the building would have, as a response to urban condition and framework. Entering the open space, one passes under the screen, becoming the first threshold into the building.

The urban atrium is moved back to the street edge as a public entrance. A second staircase is introduced as the public staircase. The programmatic concept of contesting the building space is introduced, where the public and private uses of the building continually change and challenge each other.

The urban Ha-Ha is reconsidered in a critical response to its function during public protest and its practicalities for the everyday and sporting activities. Instead, a plinth is introduced mimicking the plinth portico entrance noted in the existing surrounding buildings. The form of the plinth responds to conflict in protest, allowing a platform for conflicting notions to be presented to protesters along the protest route. The size of each step restricts masses moving into the civic space. The plinth creates hierarchy and encourages activity for the everyday users at different points. Reverting to the original use of the stairs, as a link between street and building conditions, the urban atrium is placed on the corner and grows from the plinth as a heavily defined public staircase into the contested floor spaces within the building.

The programmatic requirements and zoning of the building are established; internal use of the building is considered further.



Figure 84 Initial concept sketch for including the heritage building and pushing the proposed building back from the corner.

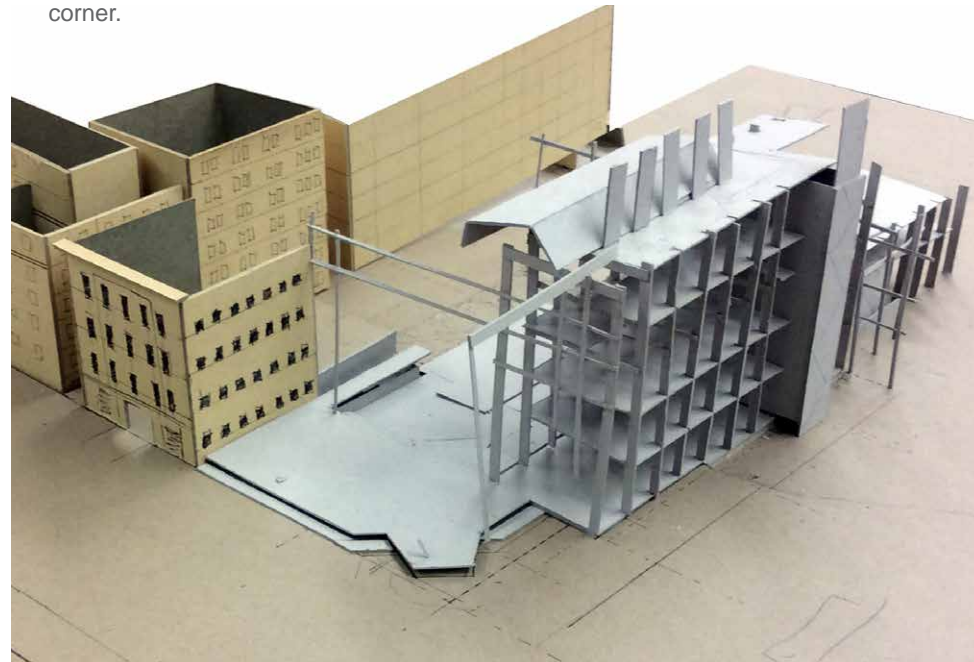


Figure 85 Model showing the relationship between heritage and new.

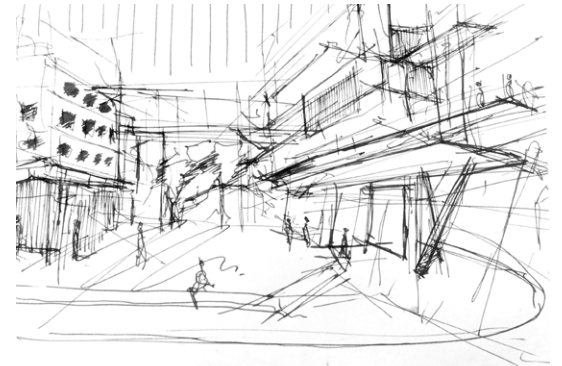
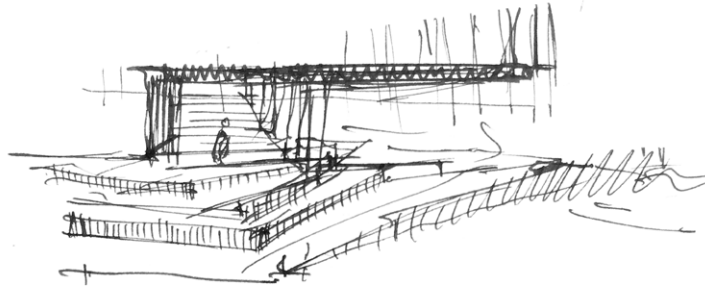
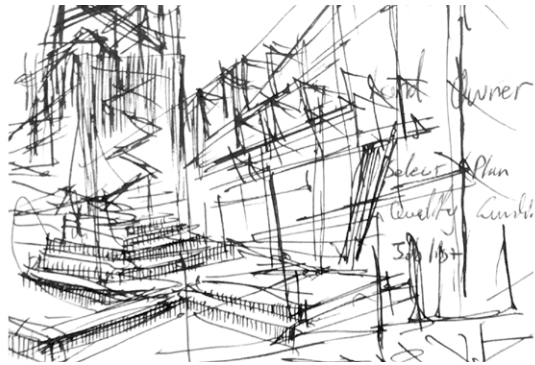


Figure 88 Sketches exploring plinth as threshold and element to control protest masses.

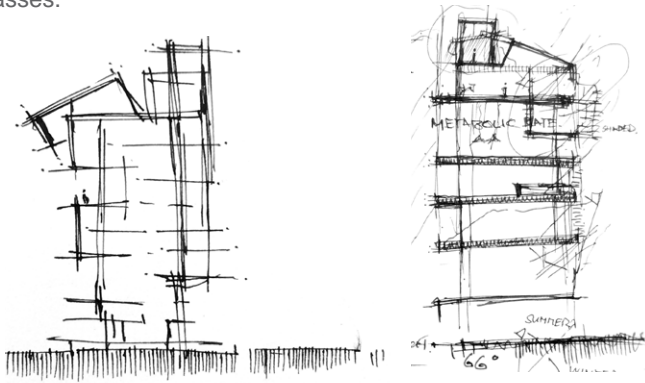


Figure 89 Diagrammatic section considering technology and volumes.

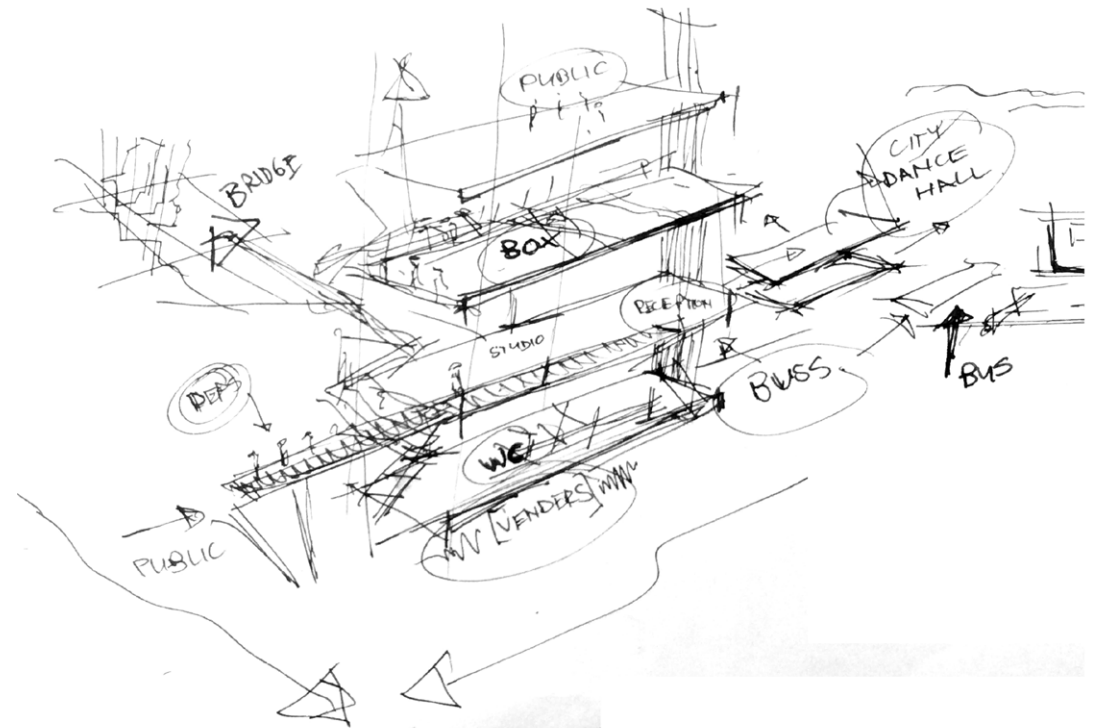


Figure 87 Sketch showing the program of internal space in the building considering fixed functions and possibilities for other functions.

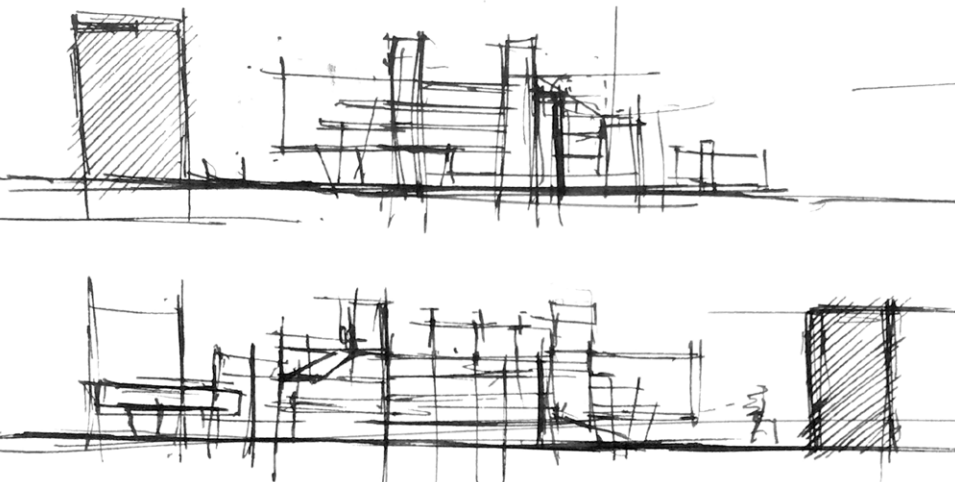


Figure 86 Exploring through elevation the possibility of moving the building away from the corner.

ITERATION SUMMERY

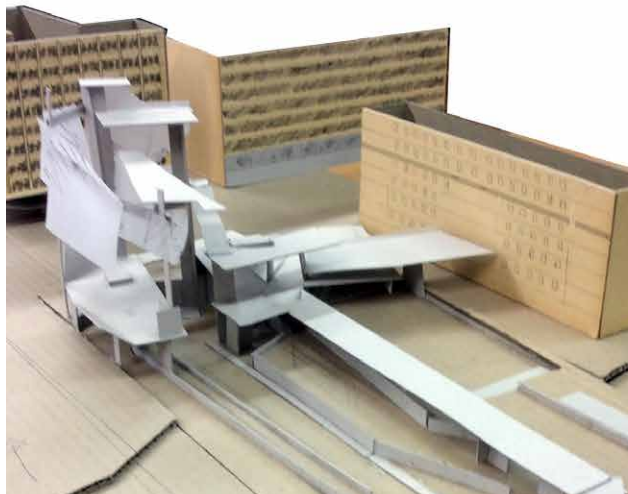


Figure 90 Iteration 1

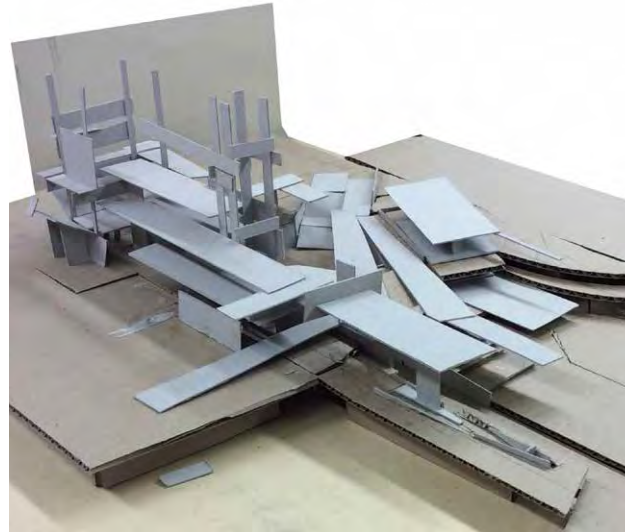


Figure 91 Iteration 2

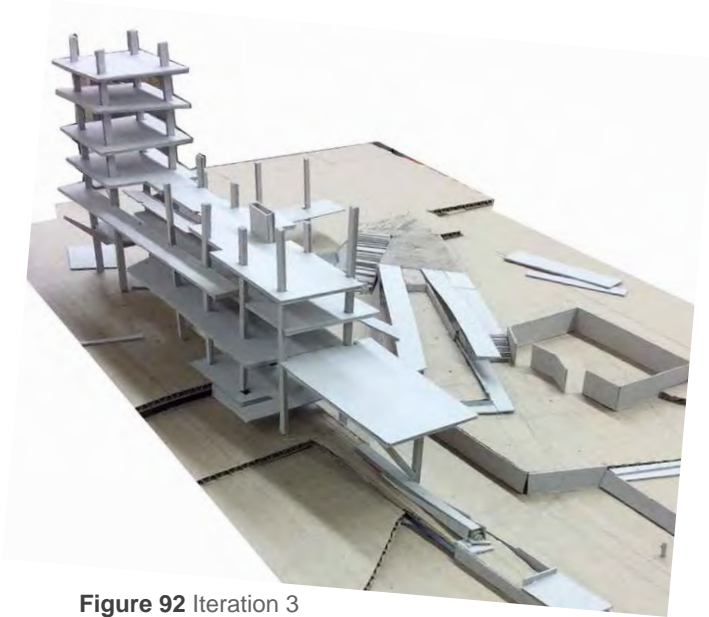


Figure 92 Iteration 3

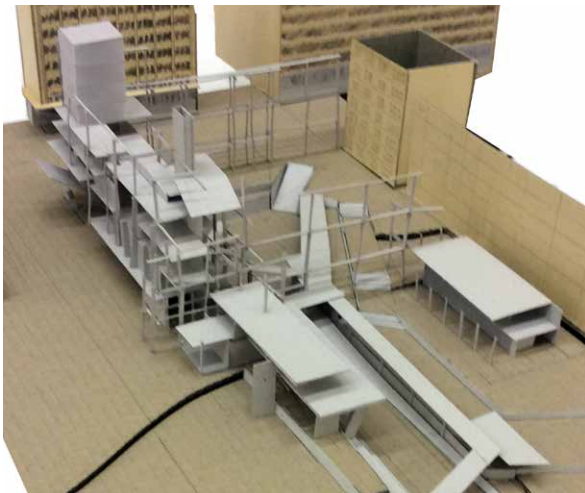


Figure 93 Iteration 4



Figure 94 Iteration 5

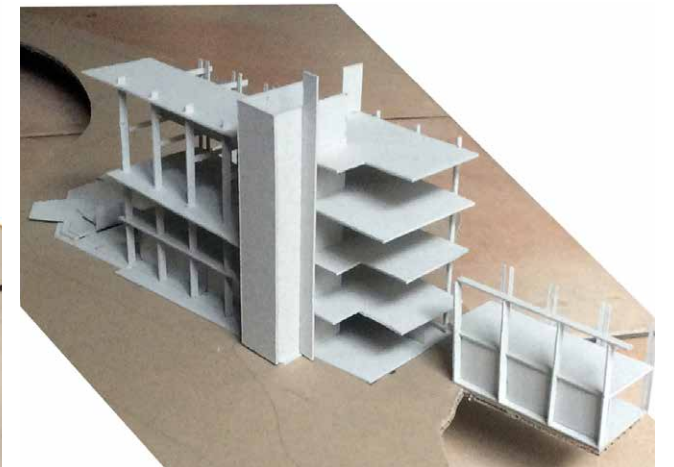


Figure 95 Preview of final design model

ATTITUDE TO HERITAGE

The Edward building (Image 97) was built in 1942. It was originally designed and used as a hotel, owned and run by Mr. Edward. Currently, the building is used as a private computer college.

The response to heritage reflects that of the argument of *agon* and space. The building is used to represent a single point in space where conflicting elements collide: the old and the new, identity of the past with identity of the present; built urban and open park space, the public and the private. The new addition cuts into the old as an aggressive gesture of the contest for space. Looking at the building from the street, the urban identity of the existing remains completely intact (Figure 99). On the back elevation, the public identity of the imagined park space dominates (Figure 101). From the public space 'Courtyard' each condition can be viewed (Figure 100), and the single point where they crash expressed as a conflicting consensus (Figure 102).

The structure is concrete with brick infill. Where the new language takes over the building, the existing brick is removed and reused as pavers in the public space. The new infill, or skin, gives the new identity matching the language of the new proposed building next to it.

The building's use remains a computer learning centre, as this is a good example of permanent built form needing to adapt to that of the societal. The current function of the building did not exist when the building was built, reinforcing the investigation to a freely contested and adaptable building.



Figure 96 Existing heritage building on site.

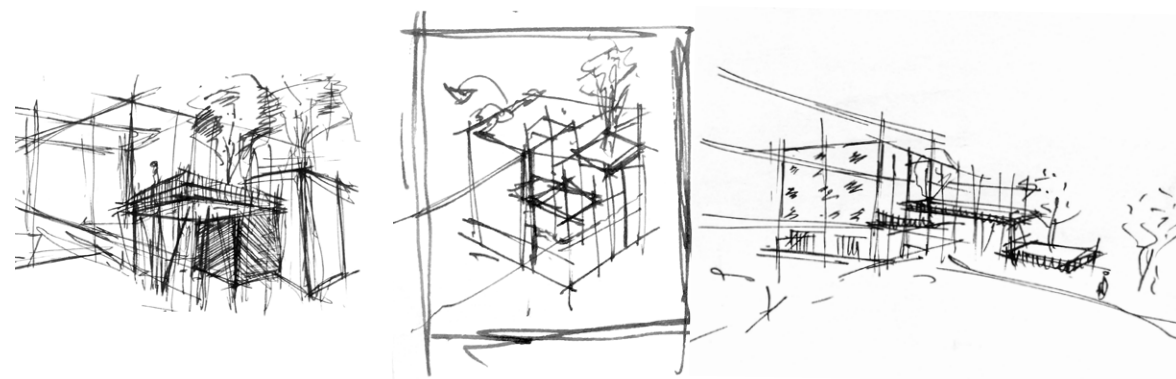


Figure 97 Exploration sketches of the heritage building with the new language attached.

A response to heritage in the design manipulates design principles of the existing surrounding buildings. The structure of these buildings is reflected on the outside of the building creating rhythm on the facades. The gable side of the buildings (Figure 103) have exposed concrete structures and are infilled with brick. In a similar manner, the new buildings structure is reflected on the outside, articulating the facades. The structure and services are exposed as if to be honest in its construction, hiding nothing, expressing each building element in its own right. The structure and infill are considered in a new complexity with modern technologies and materials. The adaption of the building relates to the structure and infill established from the heritage response.



Figure 101 President used as an example of a heritage response to contrast old and new. (Tham & videgard Arkitekter- Moderna Museet Malmö) (LINDMAN, 2010)



Figure 102 Building opposite site used as an example to show structure as an expressed element on the façade and the gabion wall in-filled with brick.

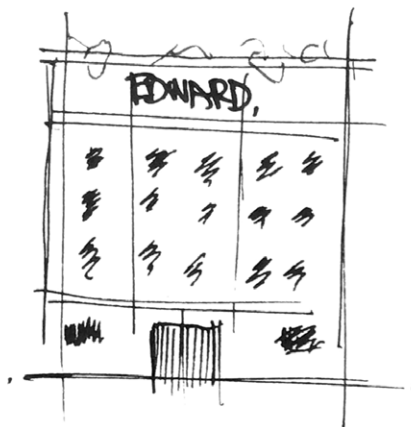


Figure 98 Retained Heritage.

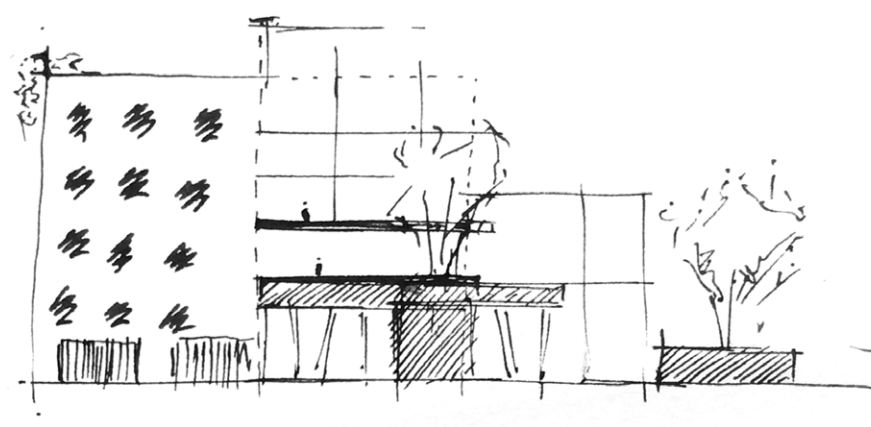


Figure 99 Contest for space each between old and new.

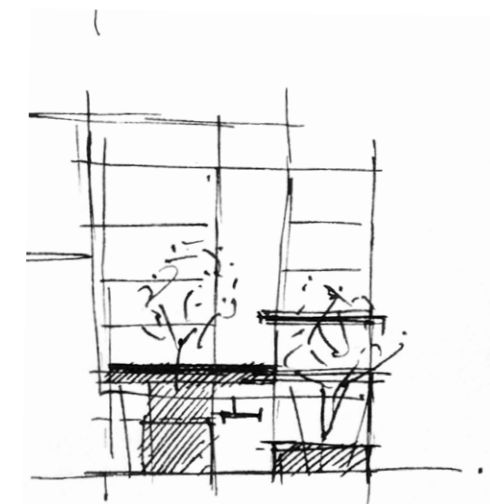


Figure 100 New public identity expressed.

PROGRAMME

When the gym closes, the building opens.

The concept for the building use is twofold. As an extension of the sports facility of the proposed park, a boxing gym, dance studio and fitness centre is suggested. When the facility is less busy, or closed, adaptable floor spaces allow the building to be shared, enabling other functions to occur in the building. Figure 104 shows the potential other use of the building.

Allowing programmable adaption of the building allows for the people to define its use. However, the flexibility is within a rigid structure, allowing a specific everyday function as well as general function.

A public staircase and a private staircase carry different users into the building (Figure 104). The floor spaces between the two stairways are considered as contested floor space as an extension of a streetscape on elevated levels (figure 106). The gym may occupy the floor spaces through private use activities, such as boxing and dancing. If unused, other civic activities are free to claim the space. In this manner, the threshold between the street condition and the building condition continually shifts through use. At times, it is exclusive, at other times it is inclusive.

The relationship between space and use reflect the dualities of conditions as experienced in *agon-* flexibility and structure, everyday and specific, typology and autonomy, public and private.

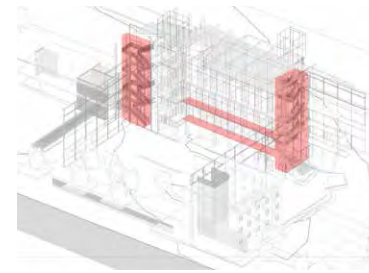


Figure 103 Circulation- Public and Private.

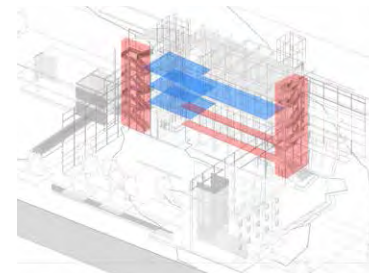


Figure 104 Fixes- Permanent gym spaces.

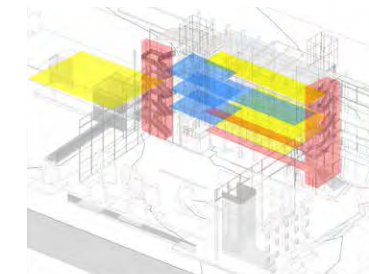


Figure 105 Variable- Contested spaces used for Gym functions as well as Other.

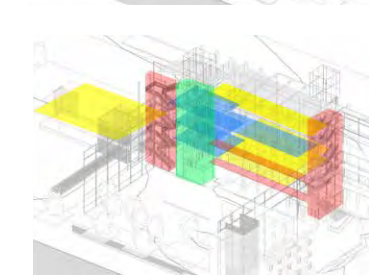


Figure 106 Shared Services.

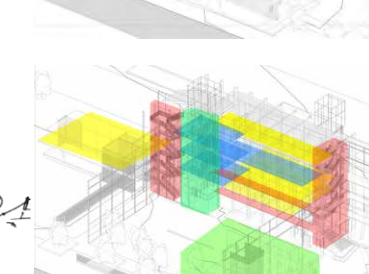
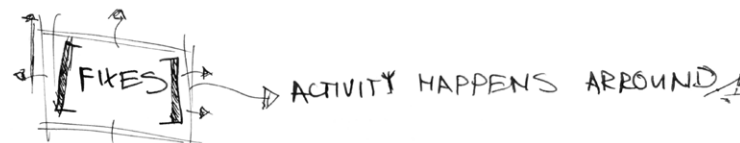
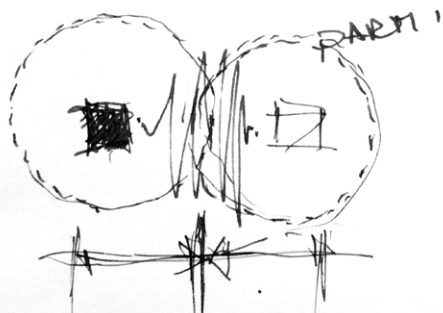


Figure 107 Relationship to Heritage



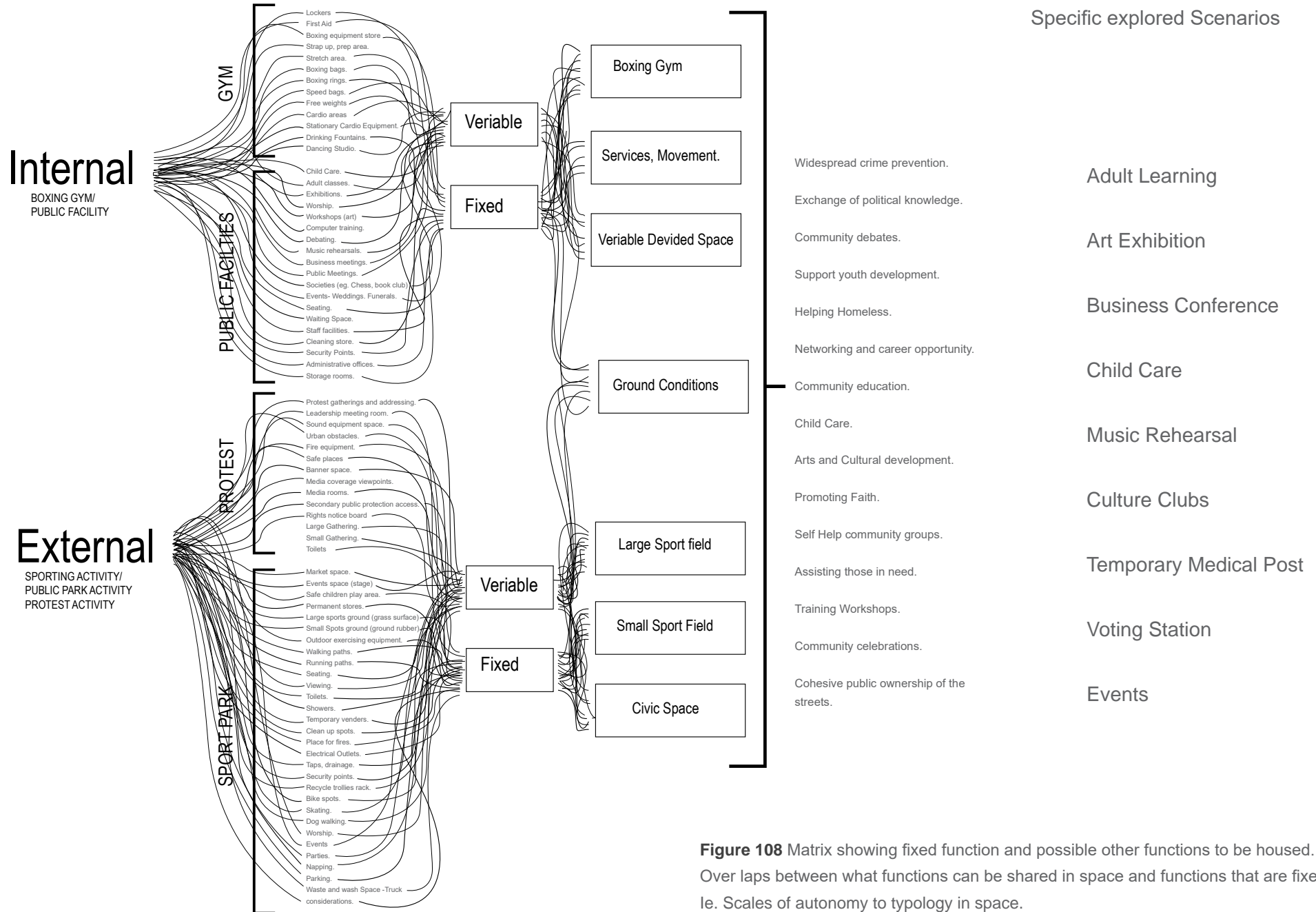


Figure 108 Matrix showing fixed function and possible other functions to be housed. Over laps between what functions can be shared in space and functions that are fixed. I.e. Scales of autonomy to typology in space.

PRECEDENT

Mixed use zoning based on user activity.

The Watershed in Cape Town by Wolf Architects is helpful to this dissertation in understanding how the building is zoned based on the many different functions its houses.

There are layers of public to private which progresses from the ground floor vertically. The ground floor is treated as a main movement space from the road to the waterfront, similar to promenades found in Pretoria. A visual link connects the different zones with utilising large volume atrium-like space (Figure 112).

The fastest moving activities are on the ground (Figure 110), where shoppers pass through. The top level is mixed-use office space, where businesses can rent meeting rooms or work desk space. The level in between mediates the two spaces through programme, with coffee shops and relaxation areas, where people may spend a few hours.

Organising activity through the nature of the duration that each activity takes, and recognising the link to public and private space is admirable.

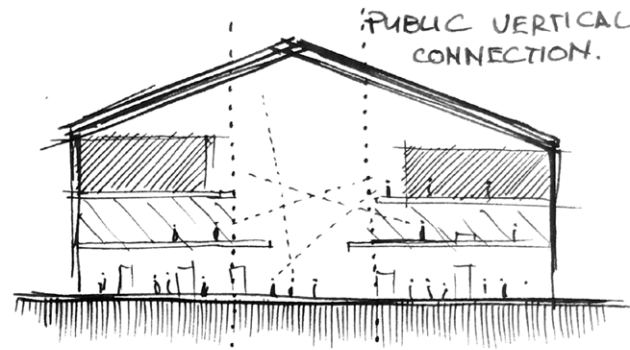


Figure 111 Vertical relationship.

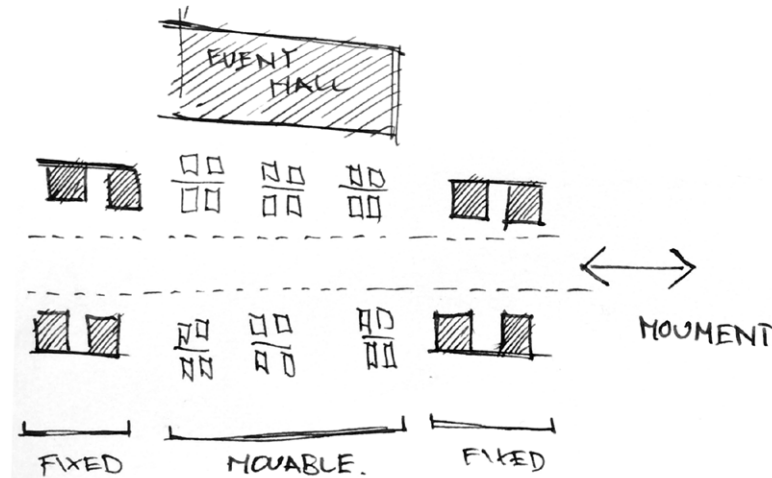


Figure 110 Relationship between fixed and movable. Perminet and temporary.

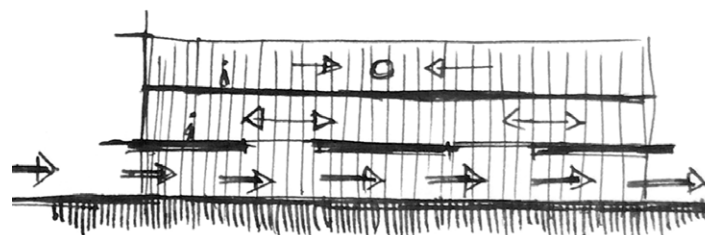


Figure 109 Relationship between use and time occupancy.



Figure 115 (Wolff, n.d.)



Figure 114 (Wolff, n.d.)



Figure 113 (Wolff, n.d.)

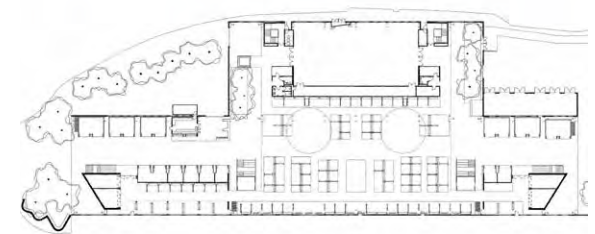


Figure 112 Plan from Architects. (Wolff, n.d.)



Figure 116 The user in space and the user as space.

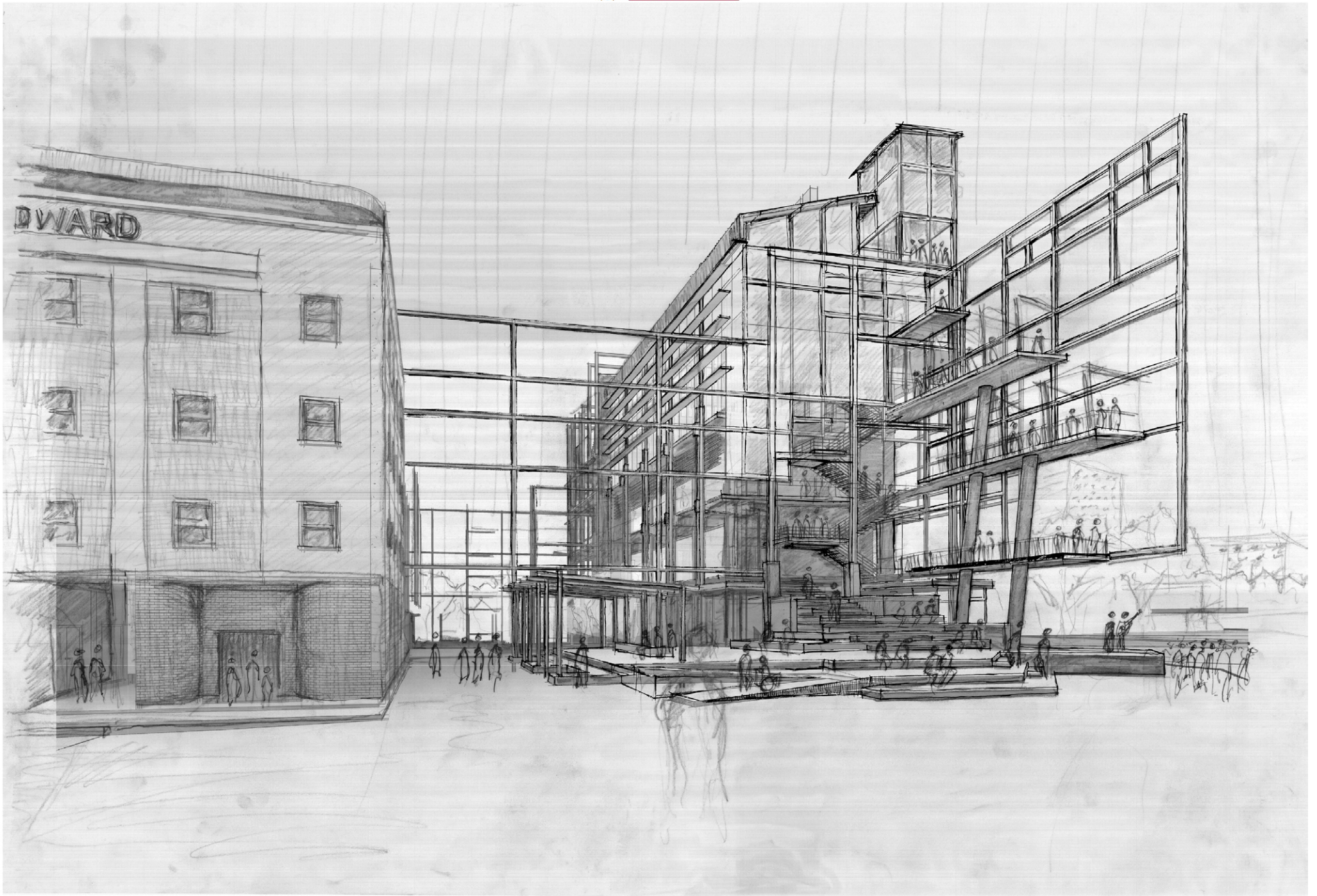
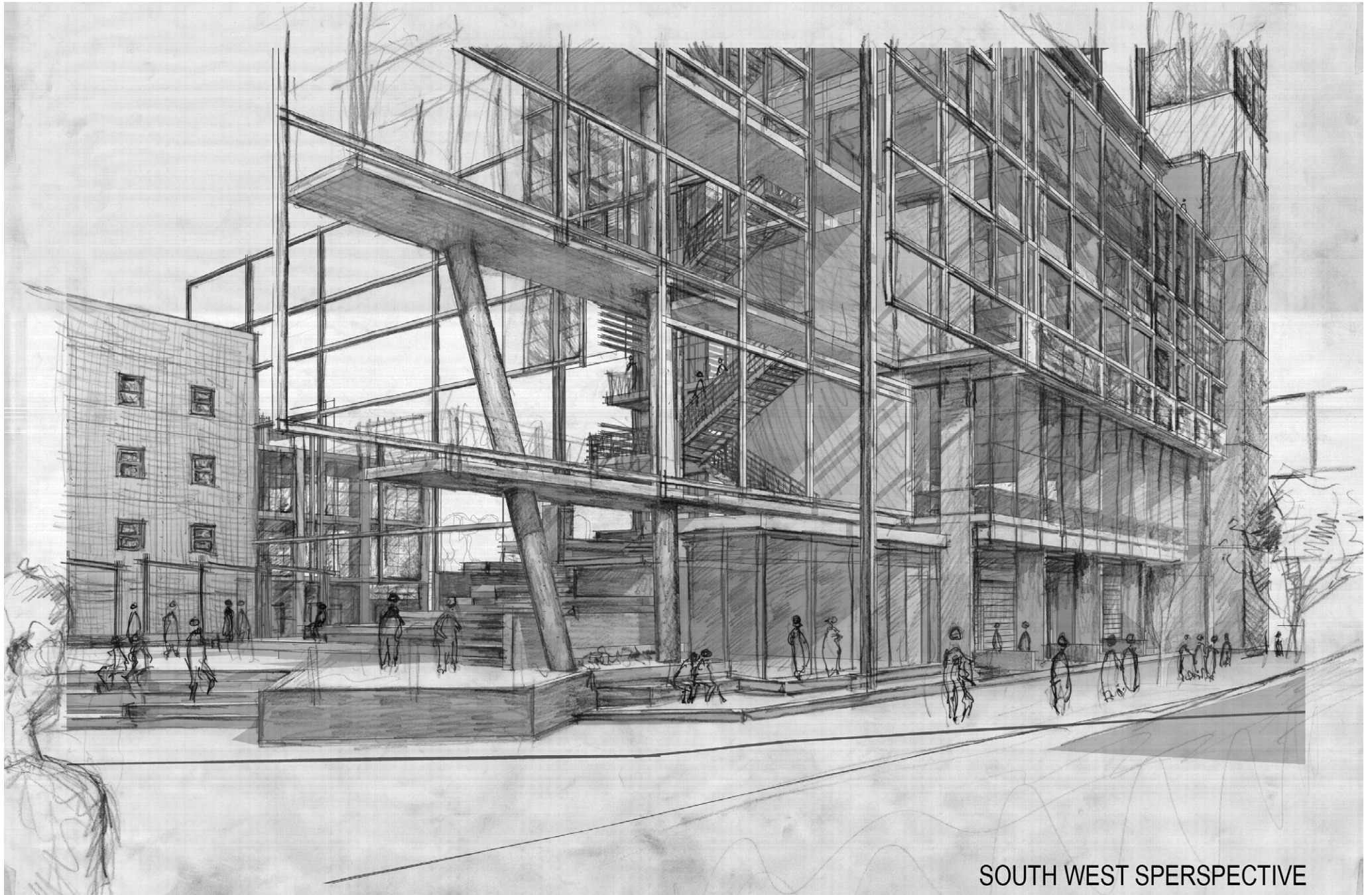


Figure 117 The urban atrium, south west perspective.



SOUTH EAST PERSPECTIVE

Figure 118 South east perspective



SOUTH WEST SPERSPECTIVE

Figure 119 Protest platform, north west perspective.

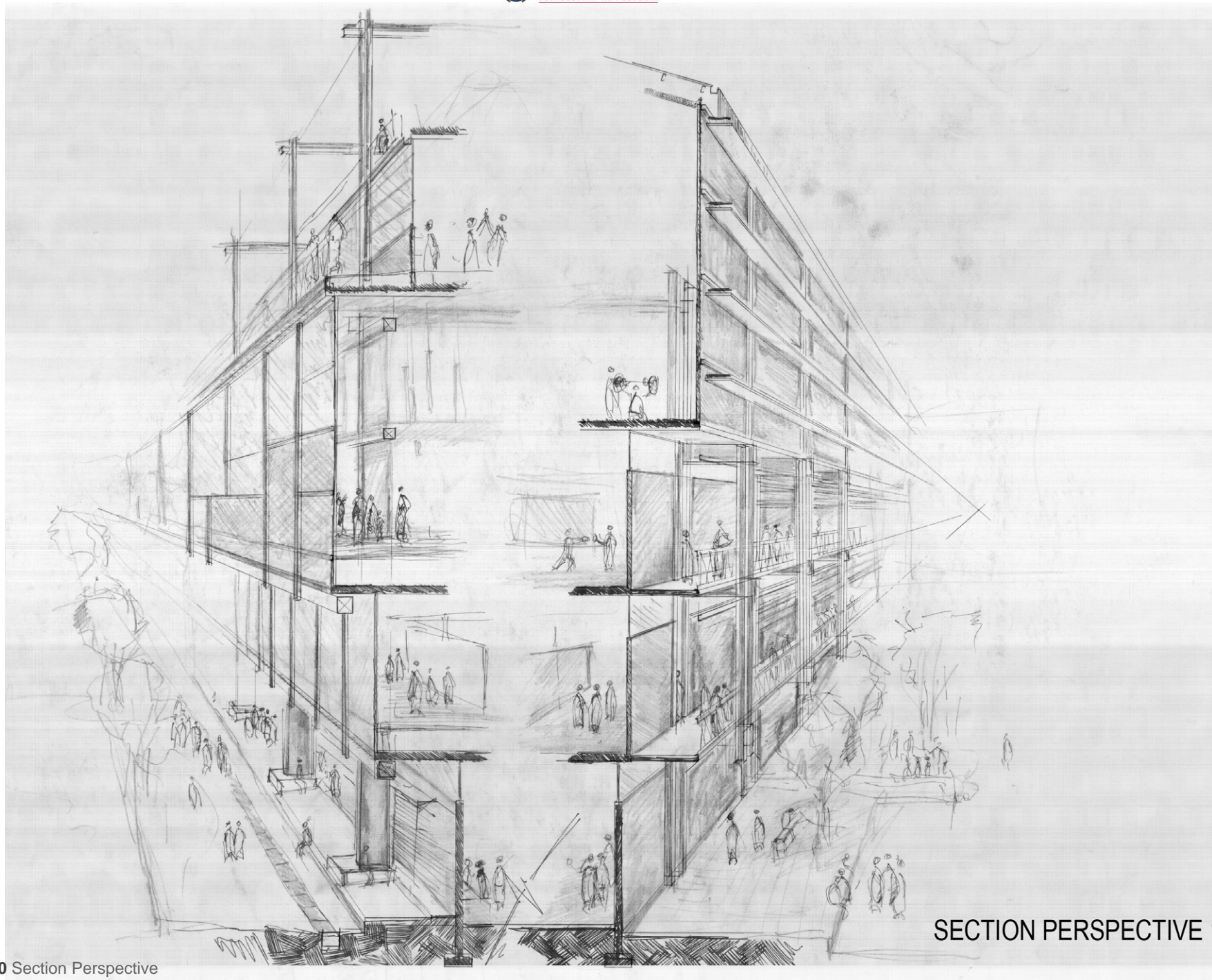
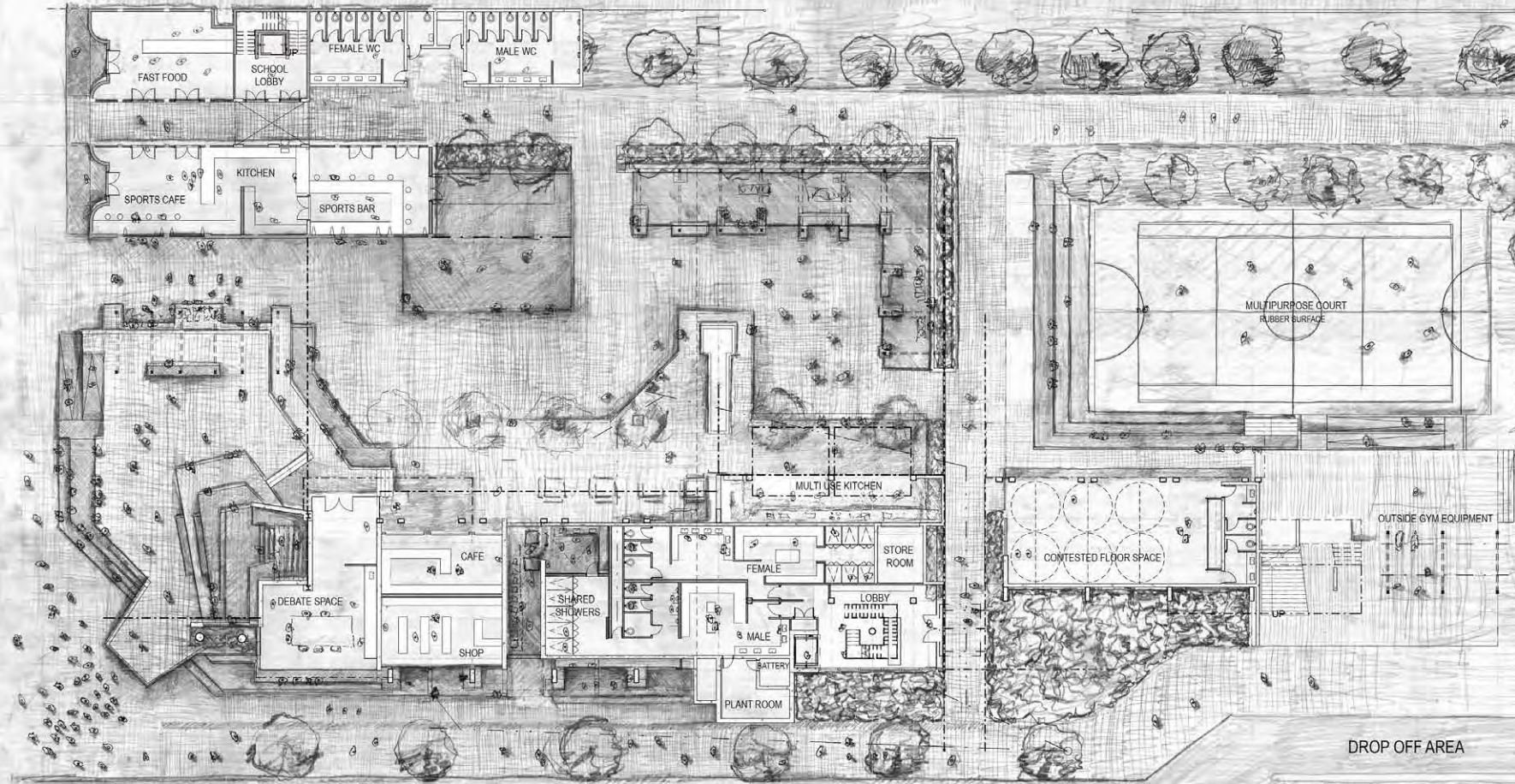


Figure 120 Section Perspective

PAUL KRUGER PEDESTRIAN PROMENADE



NANA SITA ROAD

BUS RAPID TRANSPORT

BUS RAPID TRANSPORT

Figure 121 Site plan



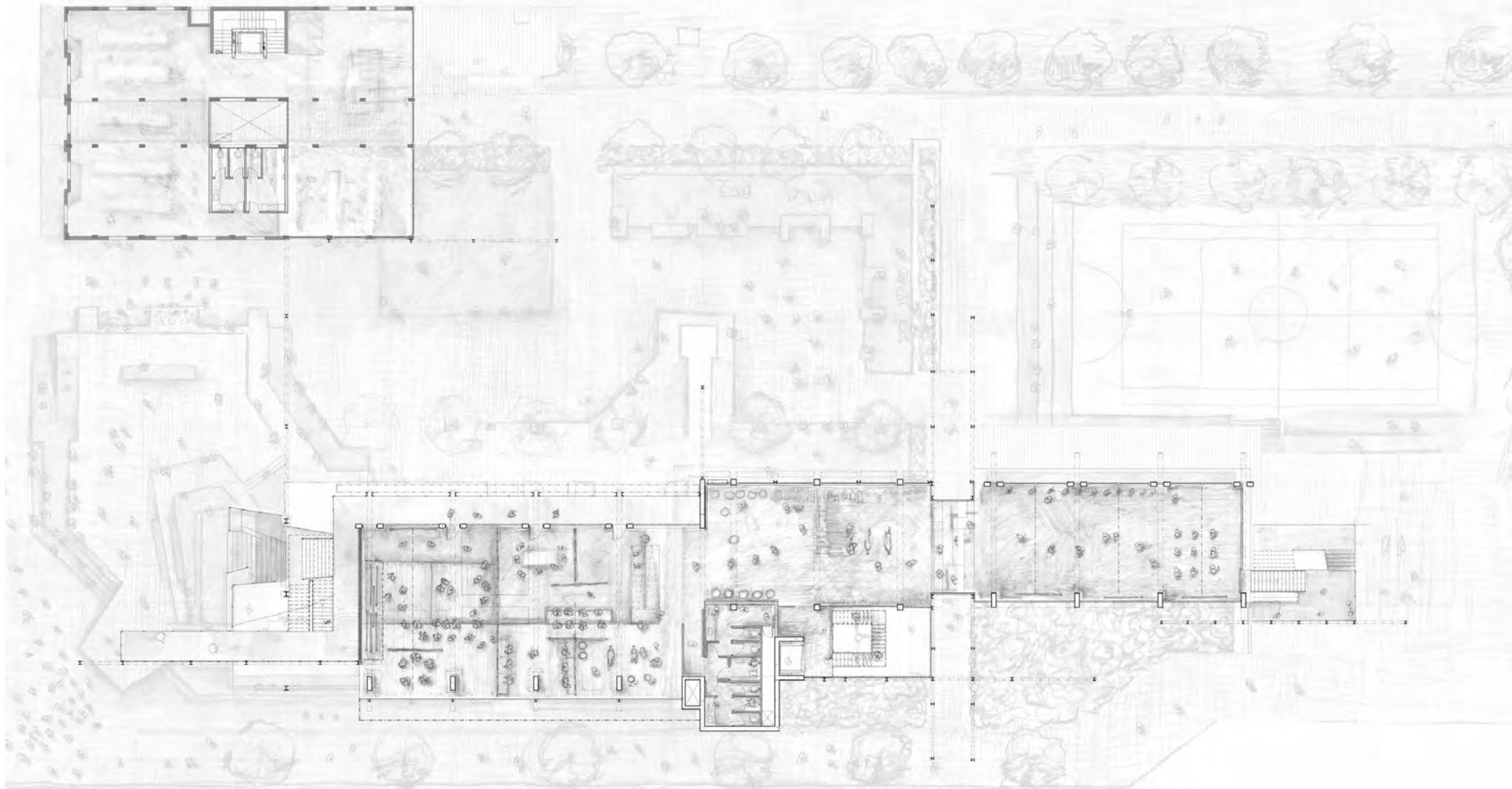


Figure 122 A shifting threshold, first floor plan.

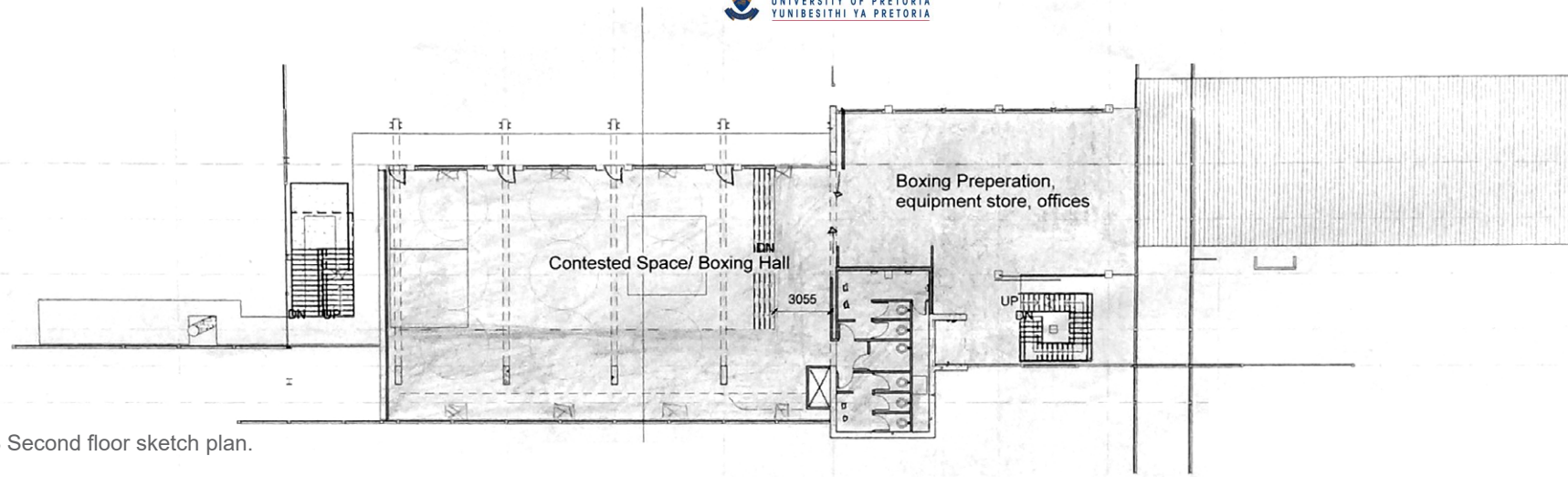


Figure 123 Second floor sketch plan.

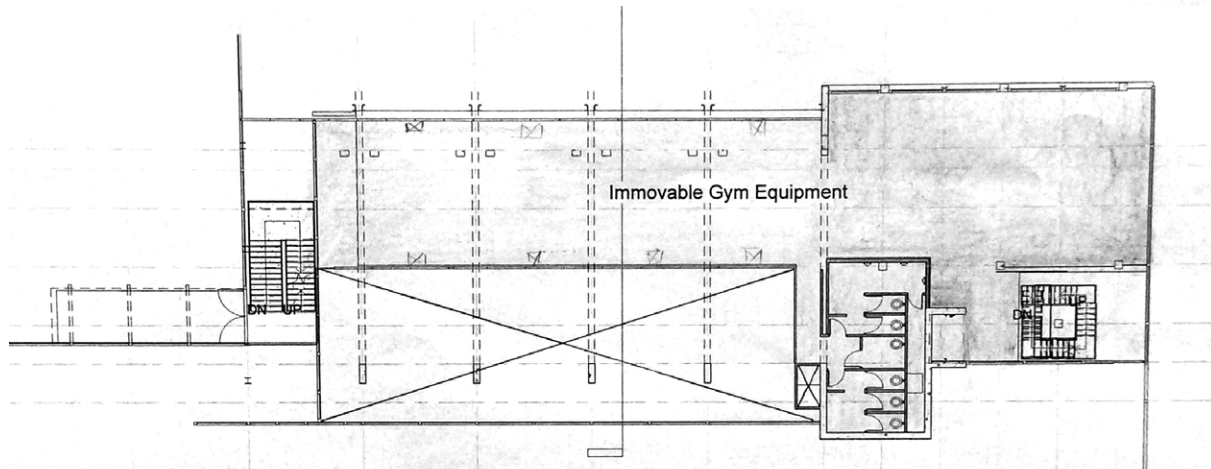


Figure 124 Third floor sketch plan

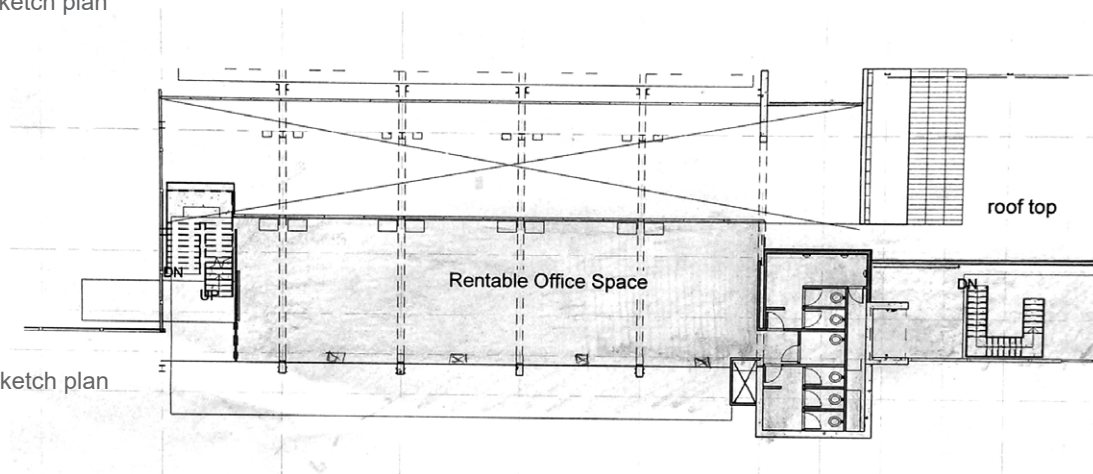
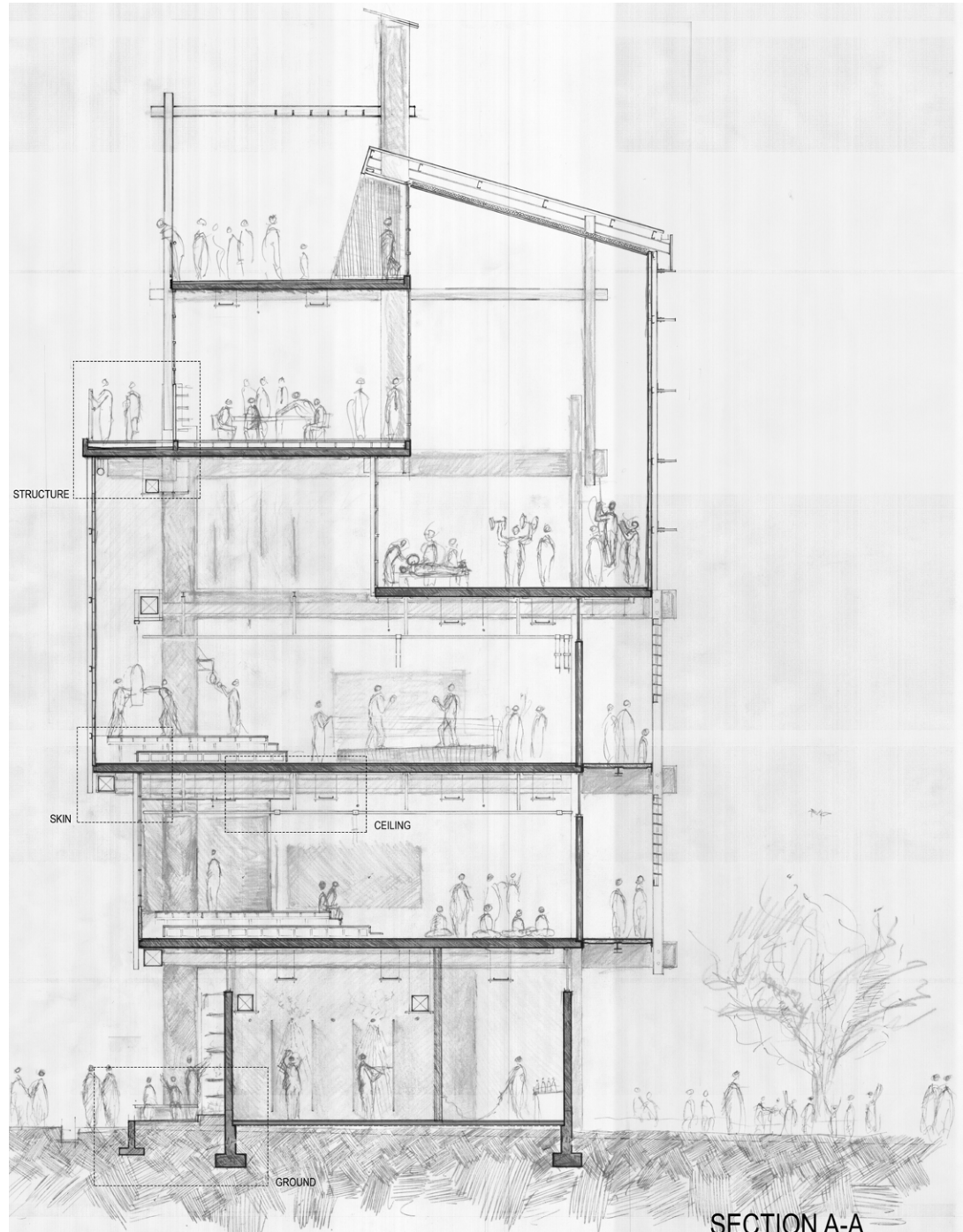


Figure 125 Forth floor sketch plan



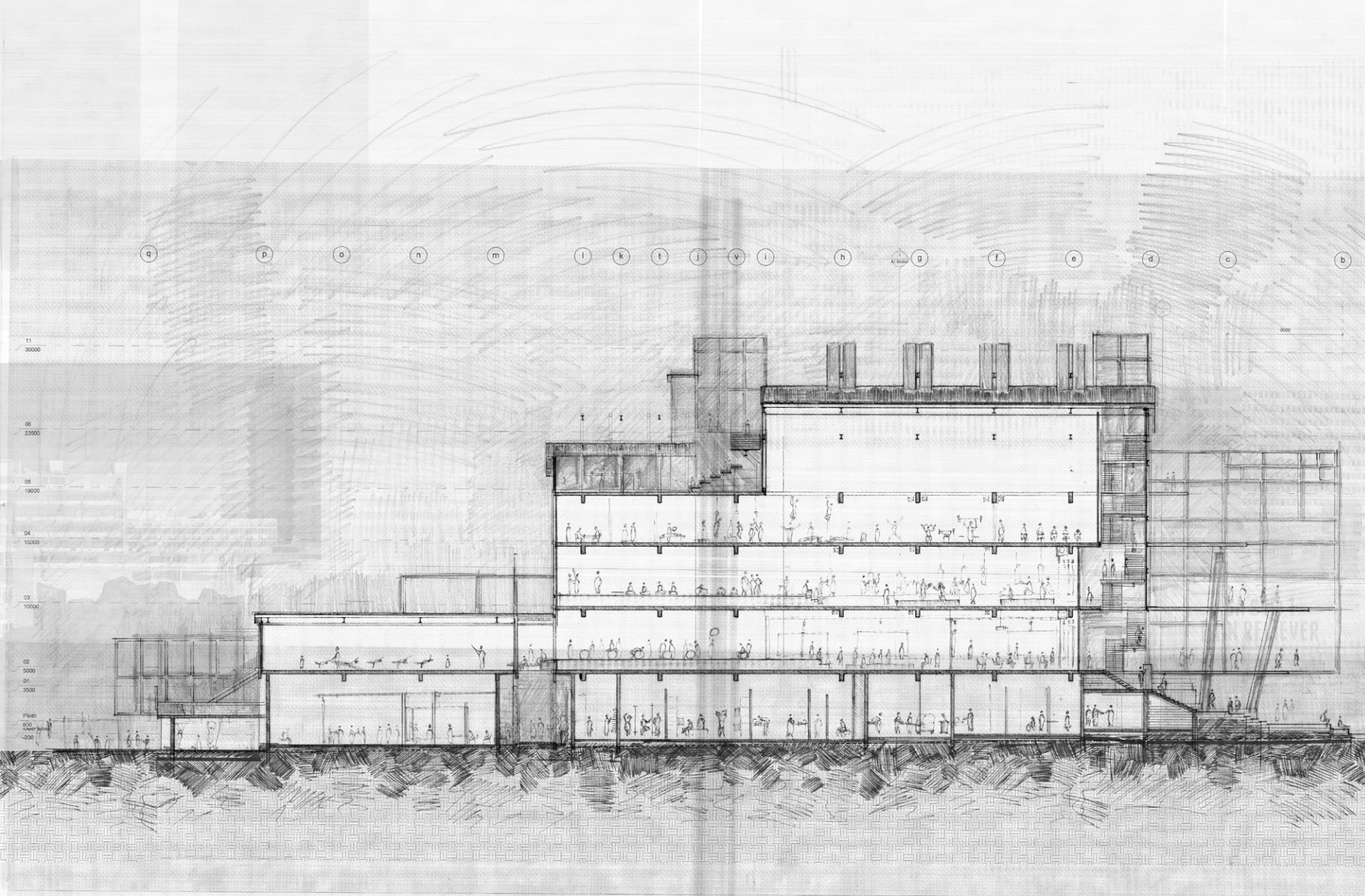
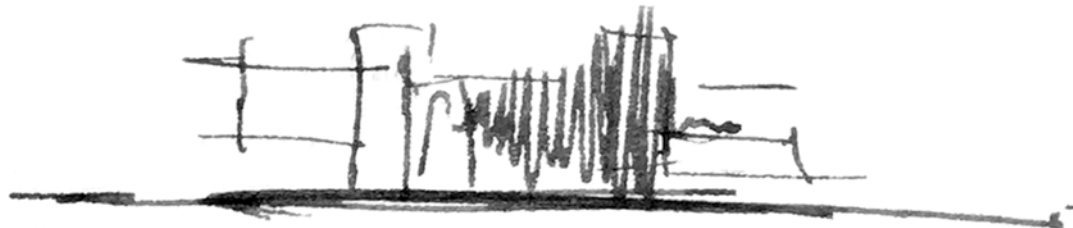


Figure 127 Section B-B

TECTONIC CONCEPT.

Shifting threshold between the street condition and the building condition.



TECHNICAL INVESTIGATION



CONFLICTING CONSENSUS

Life cycle adaption from space-use conflicts over time.

The adaptable nature of the building captures the notions of a temporality consensus, where each use and user may change how the building is perceived. Through this connection with the different users, identity is not captured in the building itself, but the user of the building at a point in time. The continual shifting of the use of space through different time cycles results in a temporary conflicting consensus always enabled to be challenged.

The everyday life cycle of the building makes use of screens and doors, which are easily manipulated, changing space in minutes (Figure 119, Figure 123 overleaf).

A week long life cycle change makes use of moveable furniture and partitions to be assembled (Figure 124, overleaf). The required time from the users is higher, but the spaces can be more specifically created for specific functions.

In the ten-year life cycle, the walls of the building are designed to allow for potential change over time. However, this sort of change is labour intensive, costly and disruptive to the everyday use of the building. The skin of the building is connected from the inside of the building, allowing changes to it without needing scaffolding (Figure 120). The skin is supported by a secondary steel structure which can also be changed by bolting or disassembling more or less supports as required which connect to pre-drilled and threaded bolts.

The primary structure of the building is concrete, regarded as the permanent structure and ordering system the adaptability occurs around. Making use of a grid system, the internal workings of the building reflect that of the urban resilience expressed previously through the city grid.

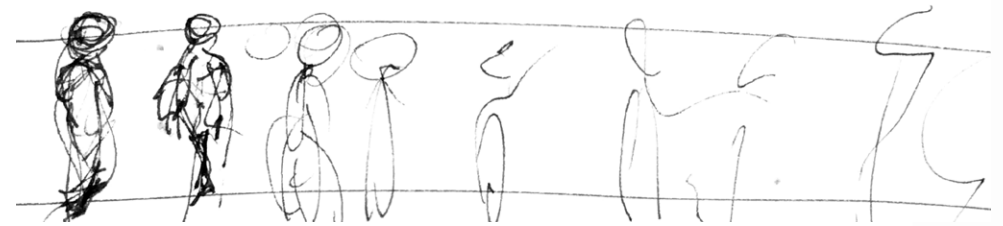


Figure 128 Image. Fast changing effect on space nature of people in space.

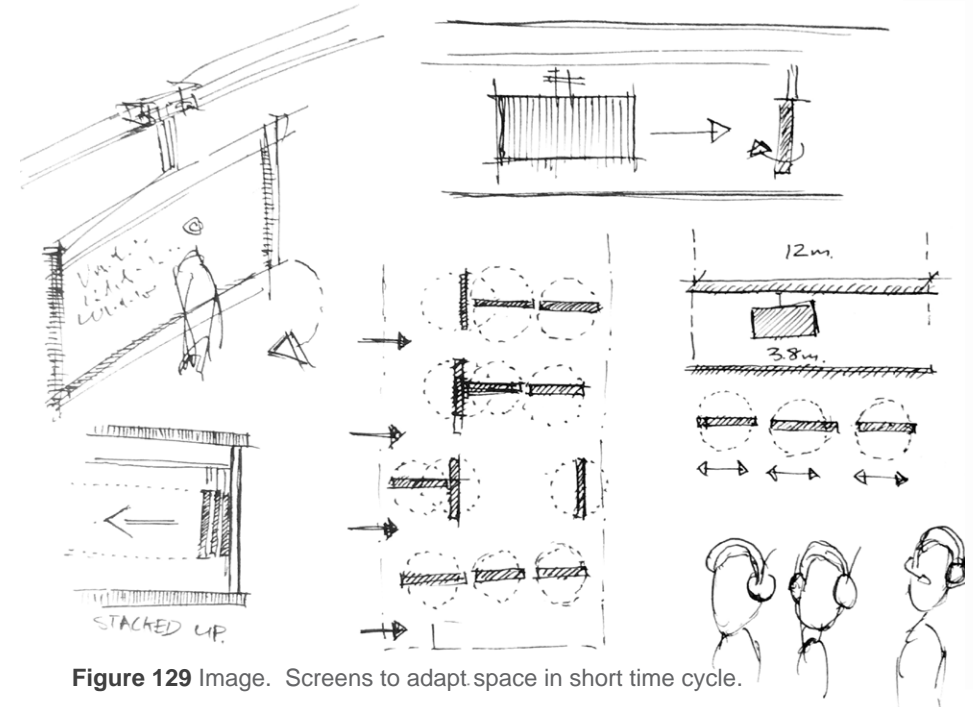


Figure 129 Image. Screens to adapt space in short time cycle.

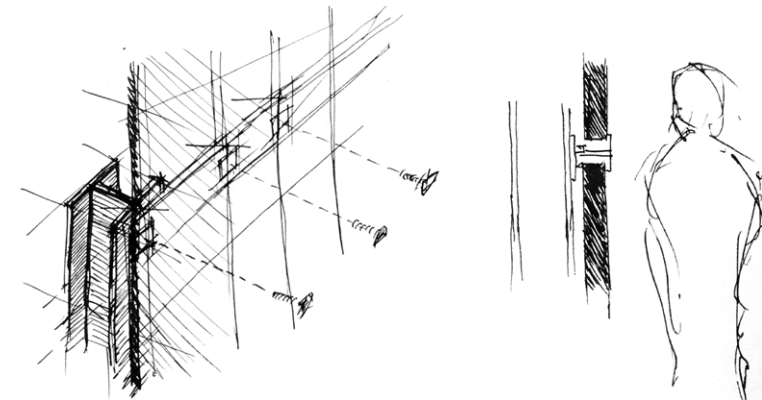


Figure 130 Image. Building skin that can be disassembled from the inside without

LATENT POTENTIAL OF SPACE

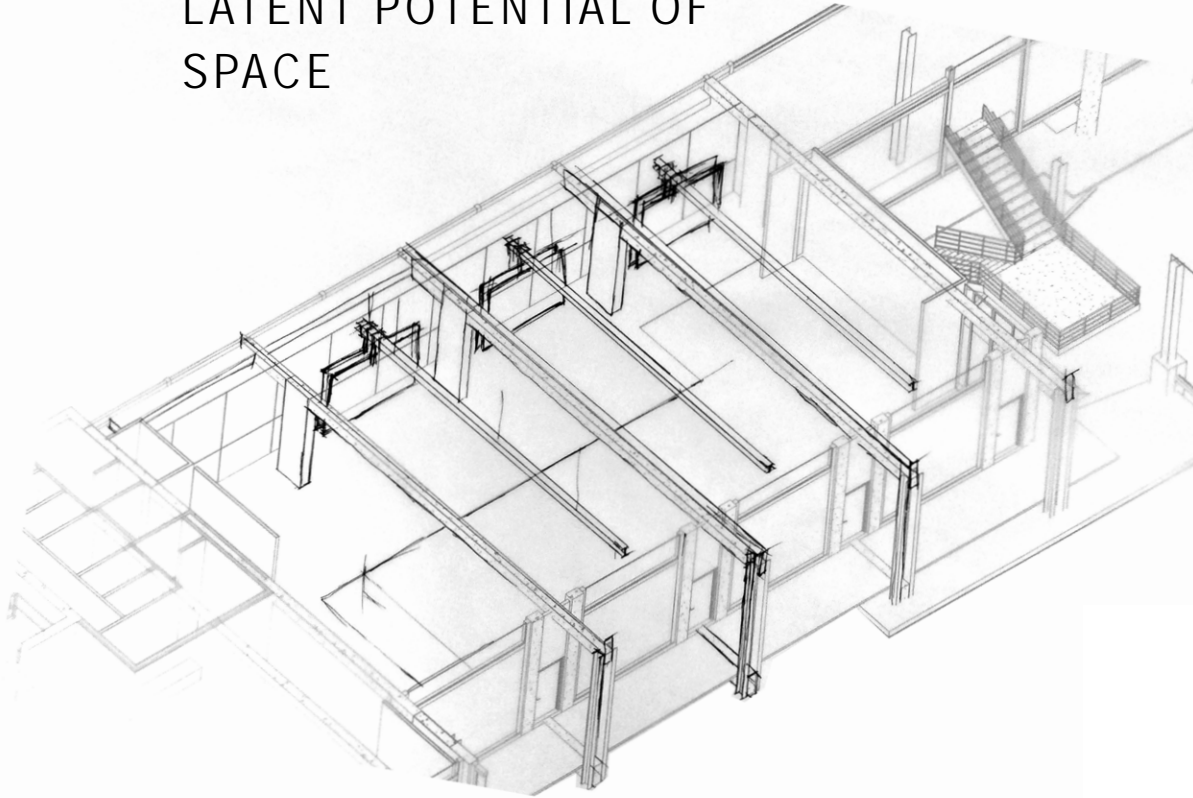


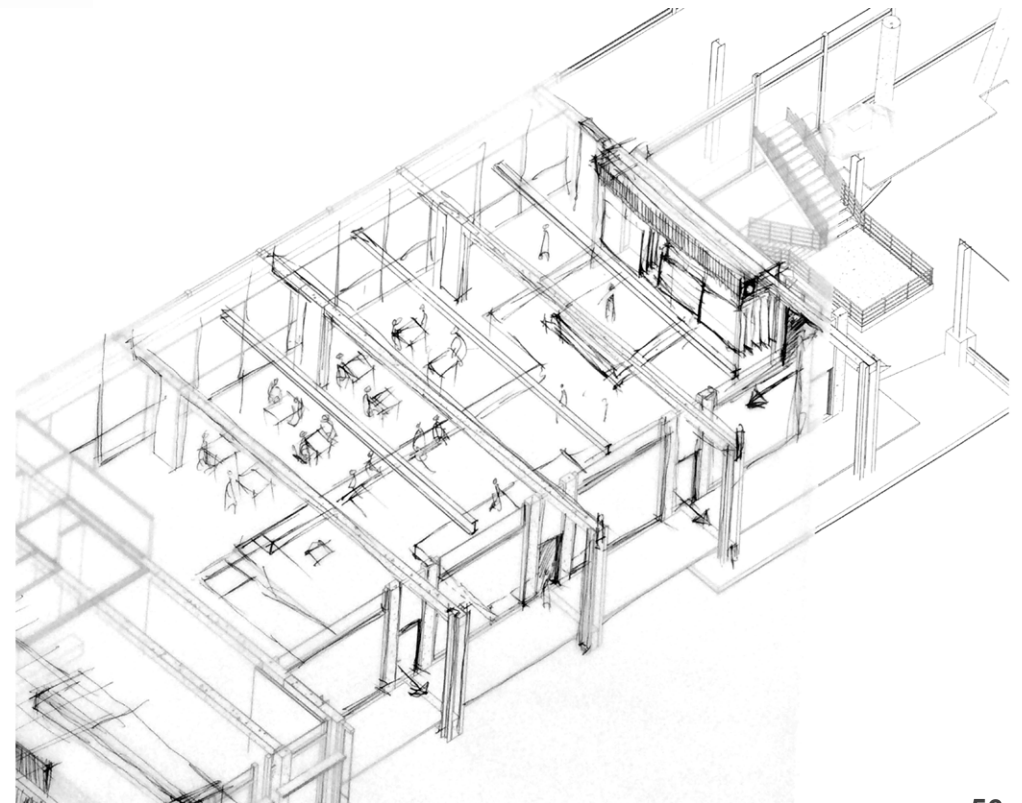
Figure 131 ABOVE. Empty space with latent potential.

The internal floor space is designed to allow easy adaption to fit the many potential uses. The floor is an adaptable surface to manipulate horizontal space. Different screen systems allow manipulation of vertical space. The Ceiling is considered as fixed, where the services may function despite the configuration of the spaces below. Pictured left is the space without any additional configuration.

OCCUPIED SPACE

Movable, foldable furniture is stored in the west end of the space and allow the space to function like a large hall. Pictured right is an example of the whole space being occupied without divisions.

Figure 132 BELOW. Movable furniture stored and store.



HOURLY SCREEN ADAPTABILITY

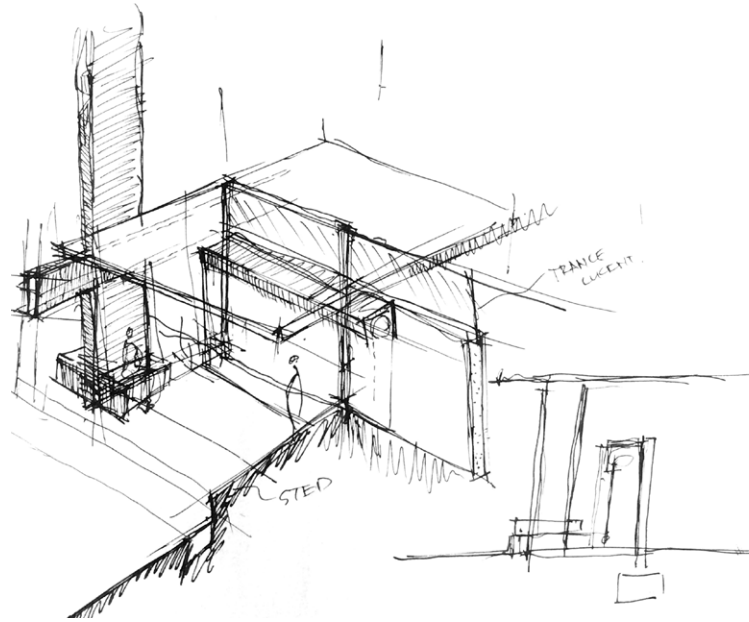
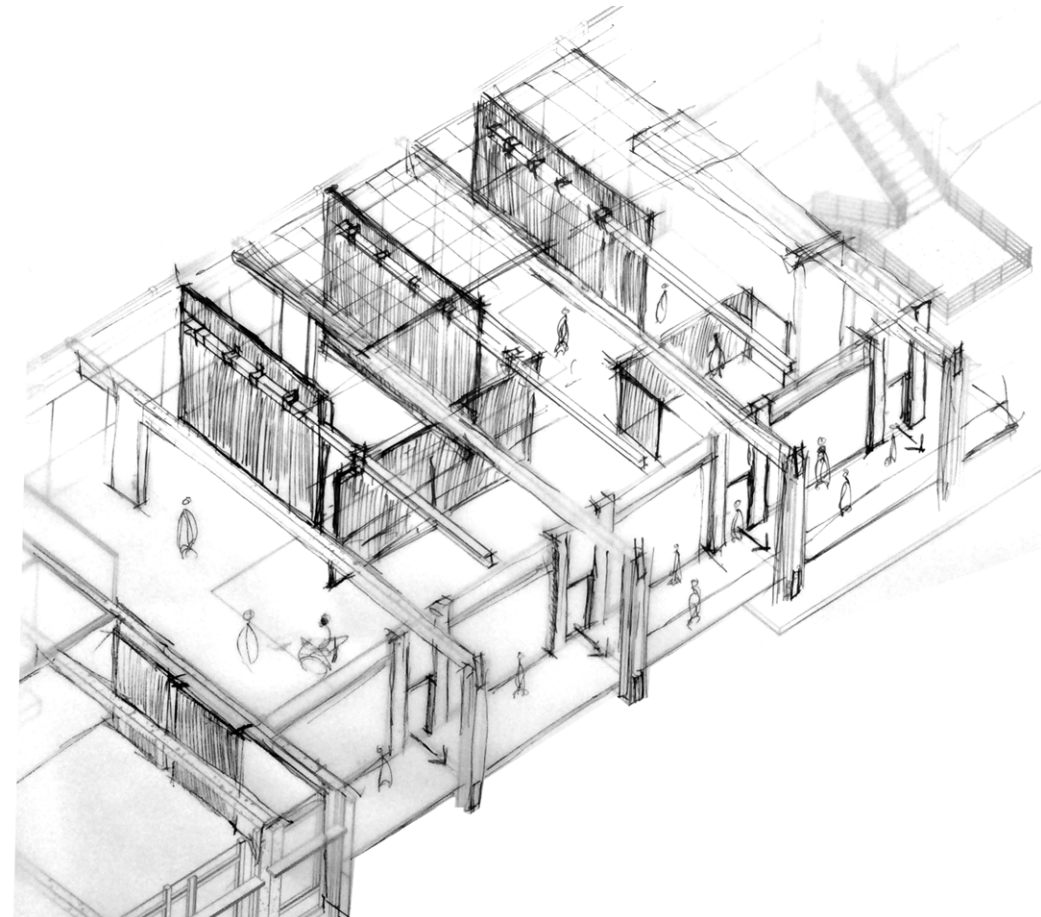


Figure 134 ABOVE. Screen system running along rails.

Temporary screens run along beams in the ceiling space, and swivel, to create visually divided spaces. They can be manipulated in seconds and different configurations are numerous. Screens may be added or removed from the rail and stored in the storing hanger on the west end. Where uses require further acoustic divisions, such as two classes occurring at the same time, wireless head phones are proposed, where many different classes may occur simultaneously on different channels.

WEEKLY SCREEN ADAPTABILITY

Where room like private spaces are required, panels may be fastened onto the ceiling rails. Where necessary additional acoustic ceiling panels can also be added. However, the time investment to assemble and disassemble the desired spaces would be longer. These spaces are considered for couple-day-long conference or exhibition type requirements.



YEARLY SERVICE ADAPTABILITY (CABLE TRAYS)

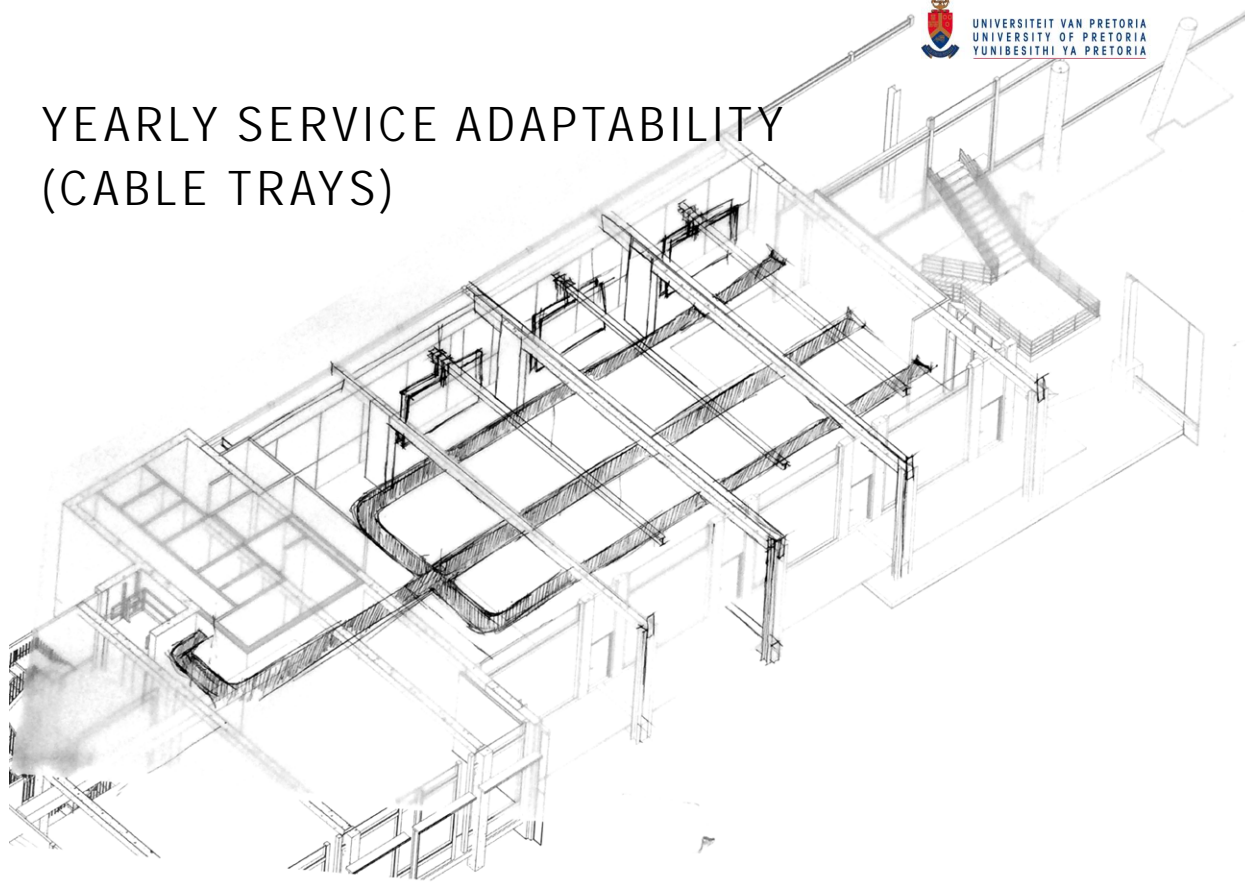


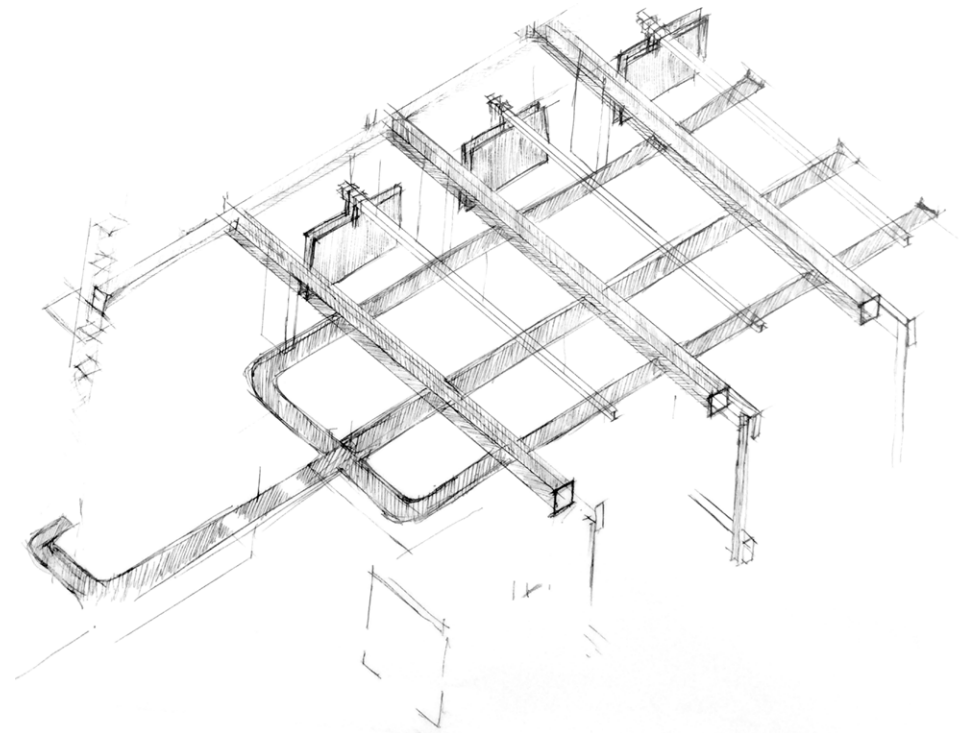
Figure 135 ABOVE. Ceiling space containing cable trays.

Services that run in the ceiling space are considered in long life cycles, where fire sprinklers, lighting and electrics, and air ducts will remain consistent despite the configuration of the space. Acoustic panneling can also be assembled and disassembled without hindering any of the other services.

YEARLY SERVICE ADAPTABILITY (DUCTING)

Manipulating the services would take time, skills and money. The services are all exposed making them accessible for adding or removing should there be different user requirements.

Figure 136 BELOW. Ceiling space with ducting.



SYSTEM DESIGN FOR VARIABLE OCCUPANCY

The different possible functions in the building are zoned as a result of the required ventilation rate based on the number of users and the heat given off from each user in different activities. The table below (Figure 129) explains the maximum capacity of the airflow systems noting that high anabolic rate activities require more space and low anabolic activity requires less ie. dancing verses studding. The relationship between activity and space required is inversely proportional. The ventilation strategies and technologies are explained in Figure 130 overleaf.

Air Flow Principle

Adaptive capacity to air flow requirements

Different air flow rate to function requirements		
Function	L/s per Person	Max Occupant Density Per 100m ²
Classroom	5	65
Conference	2.5	50
Cafeteria	3.8	100
Sleeping Areas	3.8	35
Waiting Area	2.5	80
Galleries	3.8	20
Spectator Areas	3.8	150
Barbour Shop	3.8	25
Beauty Salon	10	25
Stages	5	70
Court Room	2.5	70
Dance	10	35
Health Club	10	40
MAX	10	150
MIN	2.5	20

$$\text{Quantity of Air (l/s)} = \frac{\text{Floor Area (m}^2\text{)} \times \text{Air flow rate per person}}{\text{Floor Area per Person (m}^2\text{)}}$$

Example of inversely proportional air change requirements and occupancy.

$$\text{Quantity of Air (l/s)} = \frac{400(\text{m}^2) \times [10 \text{ or } 5]}{[1 \text{ or } 2]}$$

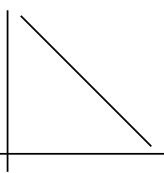
High anabolic rate (10l/s) and large space (2m²) requirement.

$$\text{Quantity of Air (L/s)} = \frac{400(\text{m}^2) \times 10}{2} = 2000 \text{ l/s}$$

Low anabolic rate (5l/s) and small space requirement (1m²).

$$\text{Quantity of Air (L/s)} = \frac{400(\text{m}^2) \times 5}{1} = 2000 \text{ l/s}$$

Occupant density (m²)



- Higher required Air Change Rates activity require more space.
- Lower Required Air change rate activity require less space.
- Anabolic rate and Air change is inversely proportional.

Air Change (l/s)

Figure 139 Table showing relationship between occupancy use and air change rates.

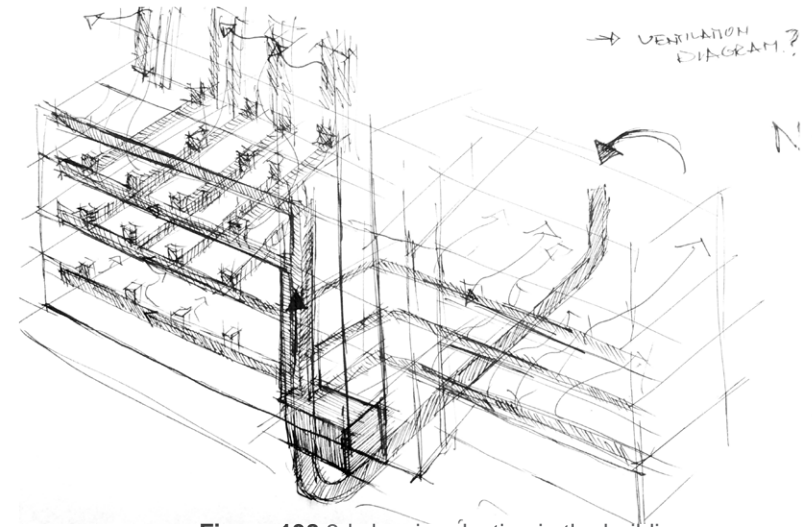


Figure 138 3d showing ducting in the building

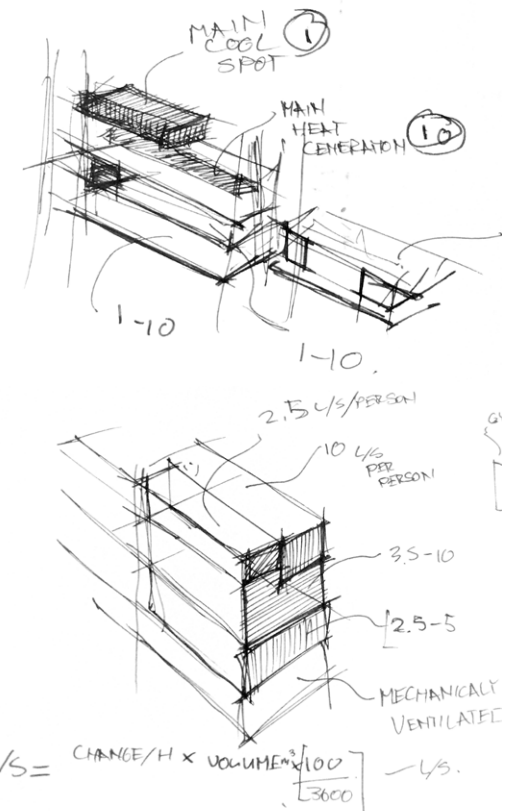
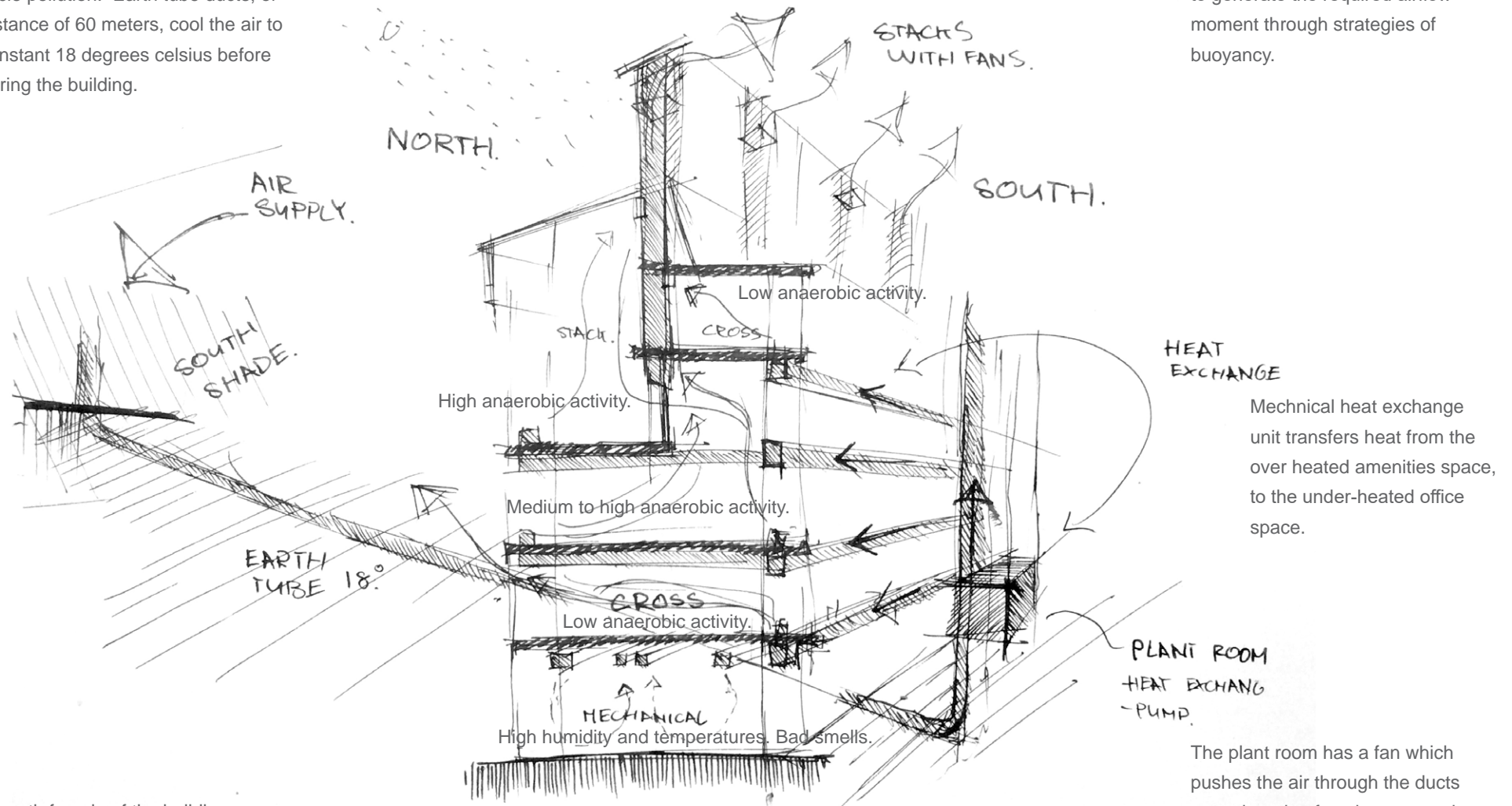


Figure 137 Zoning different activities based on the amount of heat is produced using the activity.

Air is supplied from the south side of the neighbouring building where there is no vehicle pollution. Earth tube ducts, of a distance of 60 meters, cool the air to a constant 18 degrees celsius before entering the building.

Solar chimneys are used as engines, supplemented by fans, to generate the required airflow moment through strategies of buoyancy.



The north facade of the building is heated by the sun creating a low pressure generating cross ventilation in the second floor.

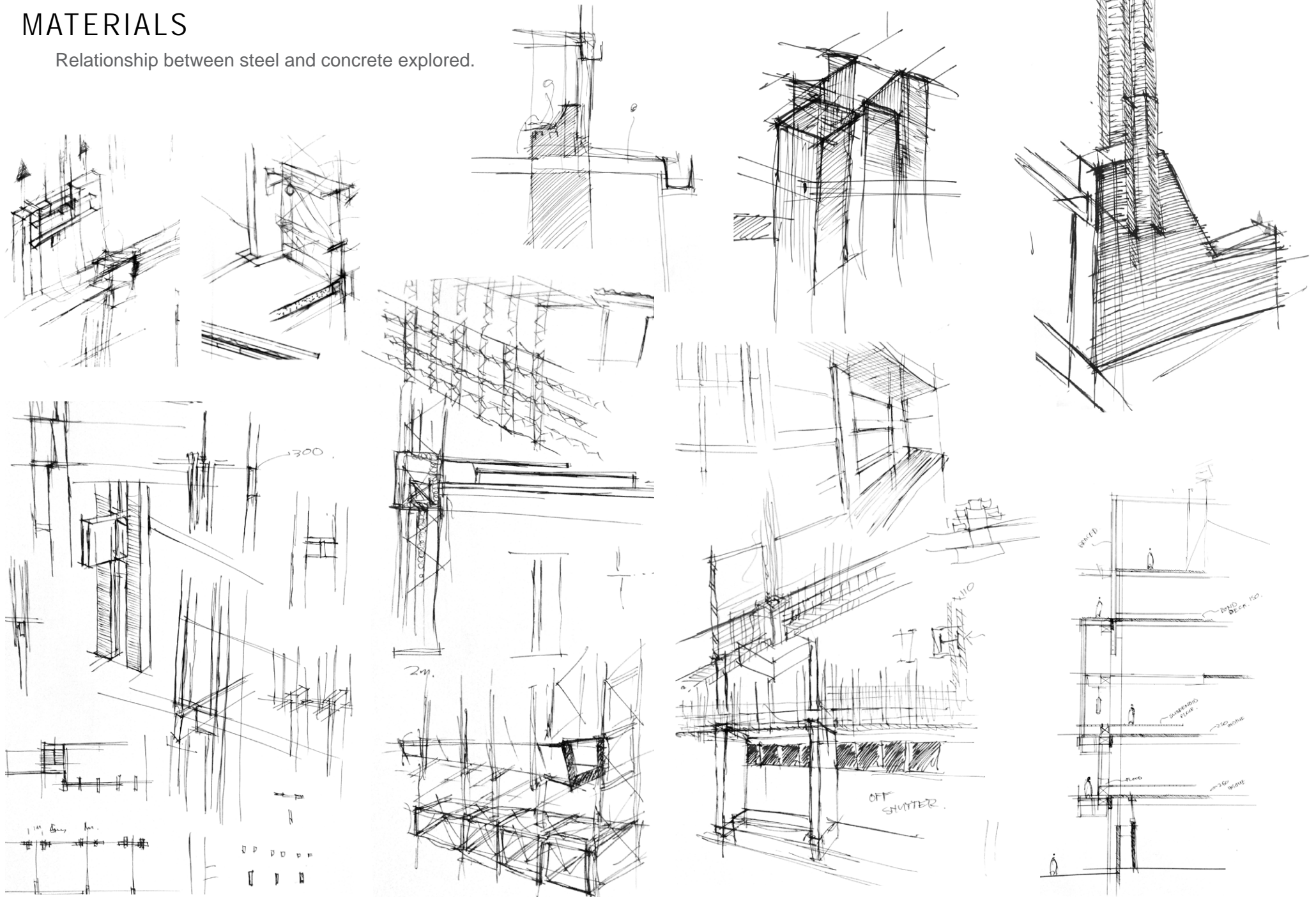
Mechanical heat exchange unit transfers heat from the over heated amenities space, to the under-heated office space.

The plant room has a fan which pushes the air through the ducts to each outlet, for where natural ventilation strategies move the air through the space. The ground floor is mechanically ventilated due to the ventilation requirements of the amenities.

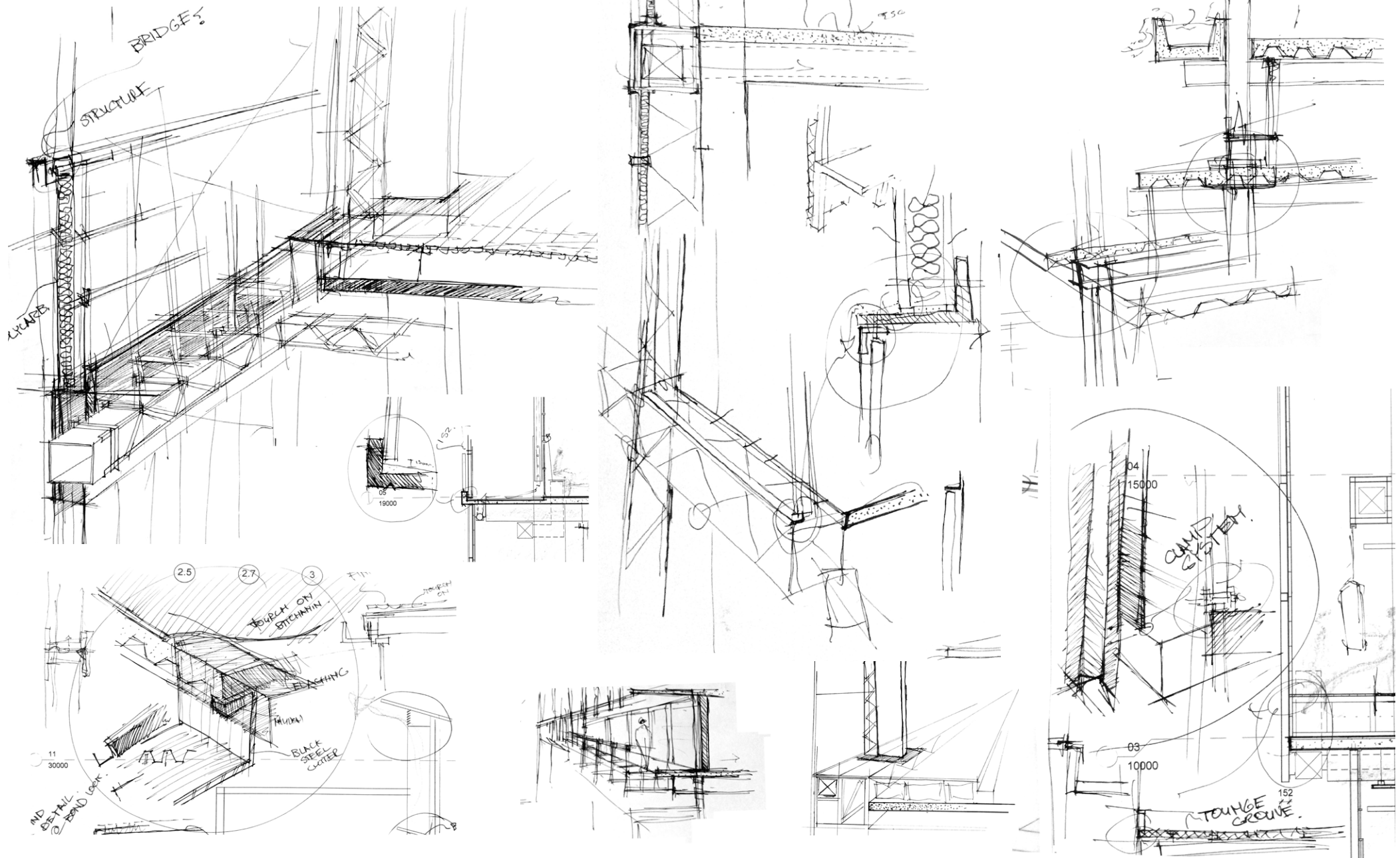
Figure 140 Diagram showing ventaltatong strategies.

MATERIALS

Relationship between steel and concrete explored.



EXPLORING THE ADAPTABLE SKIN



ADAPTABLE URBAN STRUCTURES

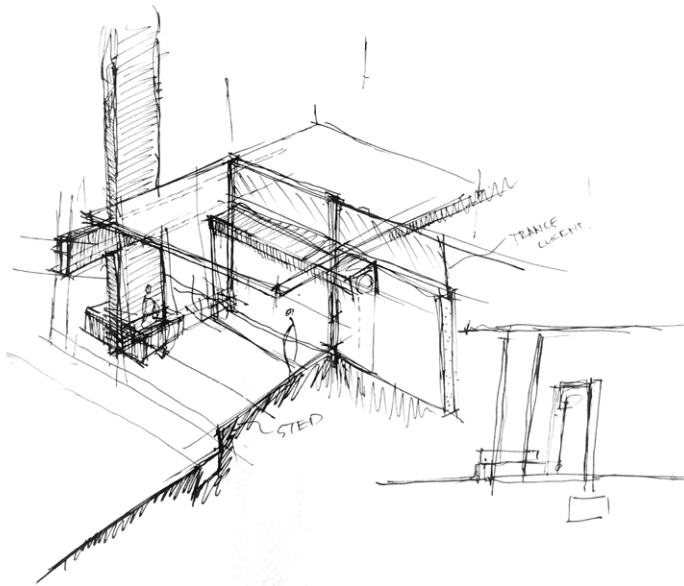


Figure 141 Where the building meets the ground, opportunity is created through activated edges and designed space.

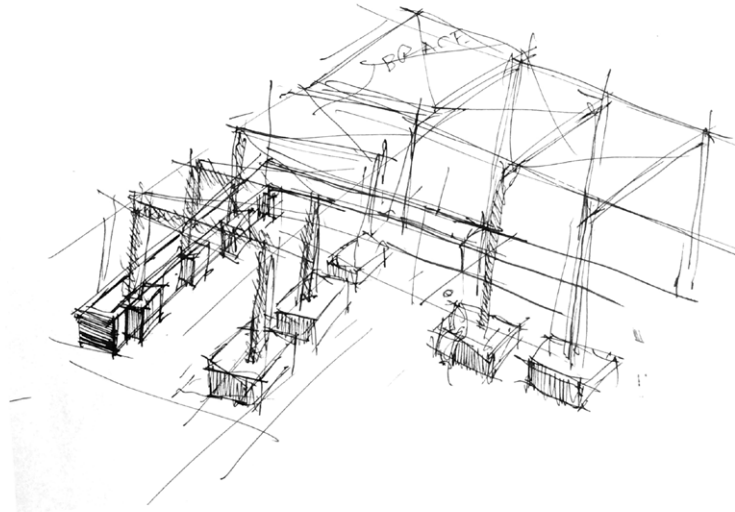


Figure 142 Structures in public park space create hierarchy and enable various activity's to occur in space.

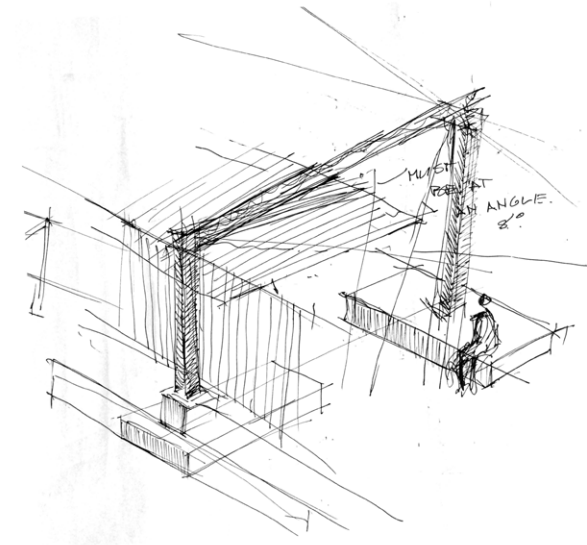


Figure 143 Urban structures are adapted for specific needs. Cladding can be added to allow different event scenarios to play out.

ADAPTABLE BUILDING STRUCTURES

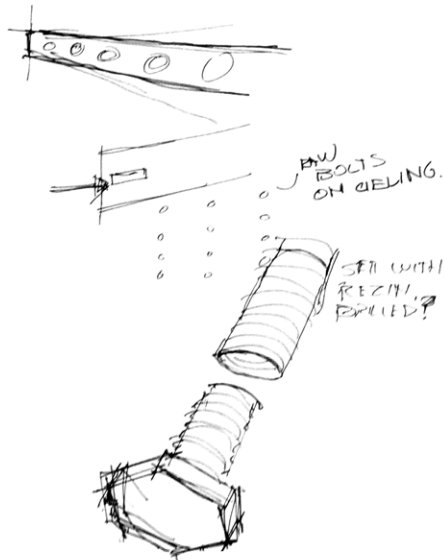


Figure 144 A bolting system placed on the concrete slabs allows adding and removing steel within a fixed system.

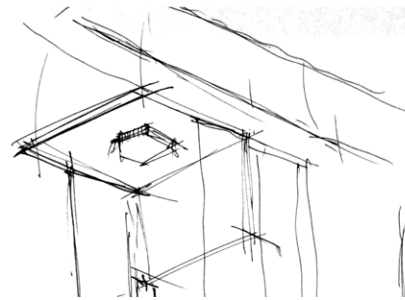


Figure 145 Steel members can be assembled around the permanent concrete slab allowing easier alterations to the structure.

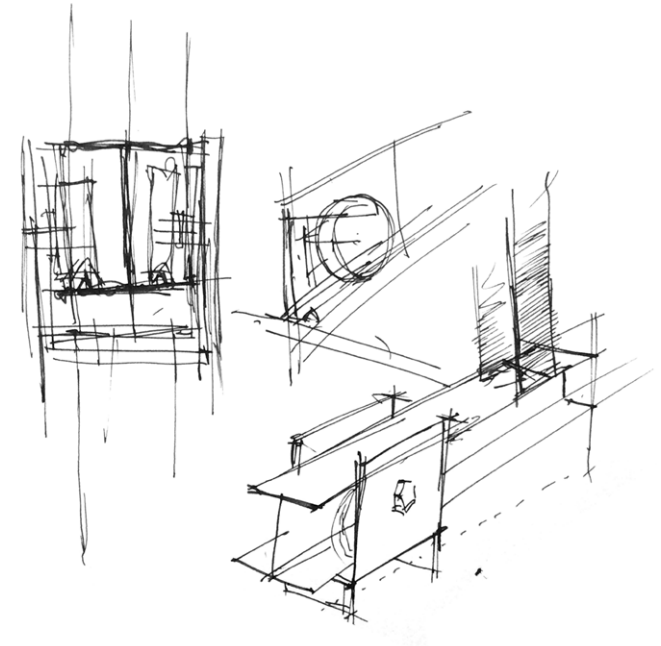


Figure 146 Robust steel movable parts enable a quick manipulation of space.

STRUCTURAL INTENTION

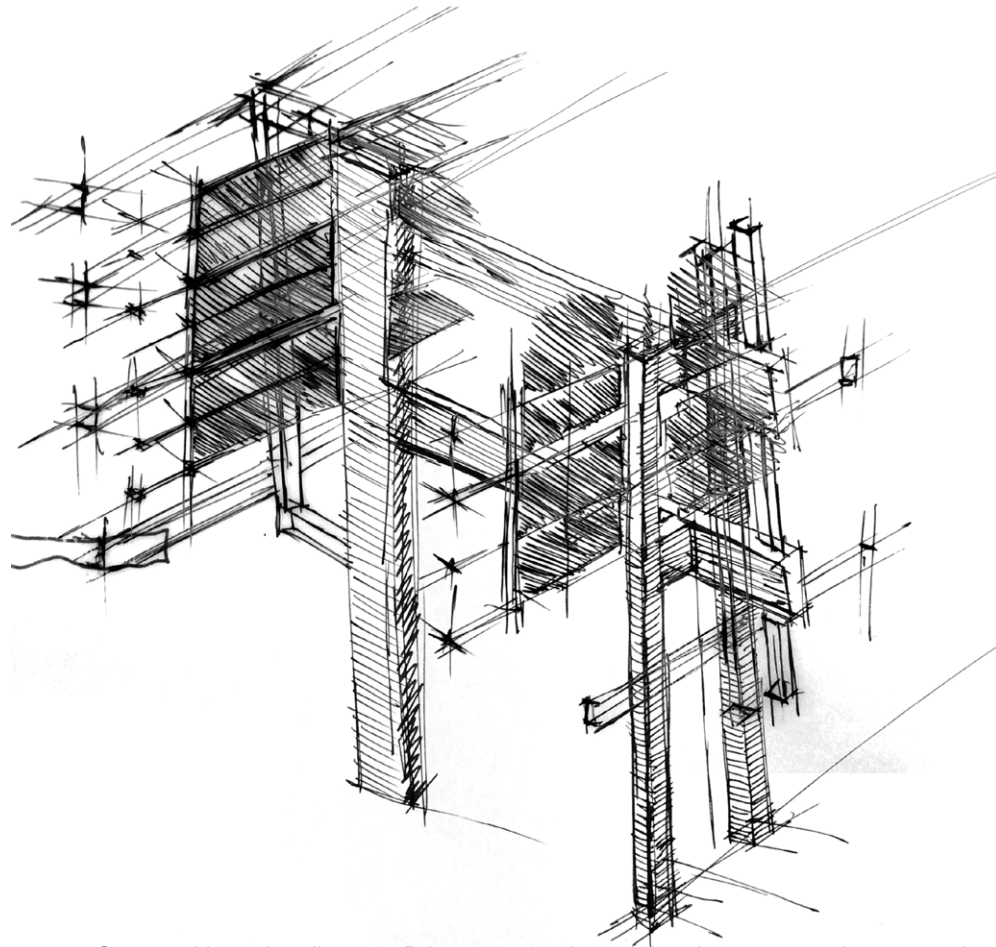


Figure 147 Structural intention diagram. Primary, secondary and tertiary structure in structural consensus.

The dissertation's theme of contested space is reflected in the tectonic development. A play between the contrasting properties of concrete and steel reinforce the notions of a conflicting consensus- Light and heavy; compression and tension; wet and dry; pre-fabricated and insitu- however, the one relies on the other, as there must be a structural consensus. These dualities are expressed throughout, as if each has material has an equal right to be represented in space.

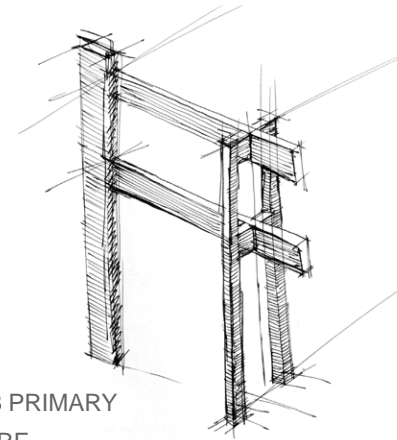


Figure 148 PRIMARY
STRUCTURE

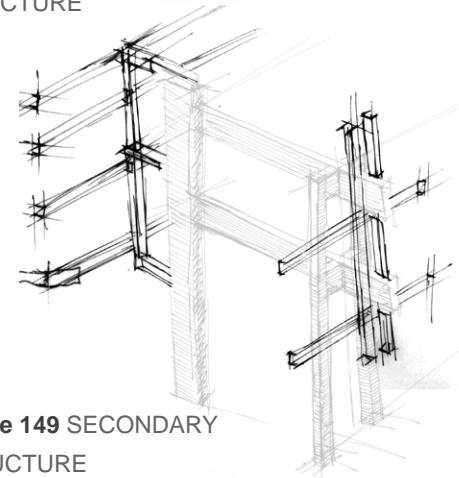


Figure 149 SECONDARY
STRUCTURE

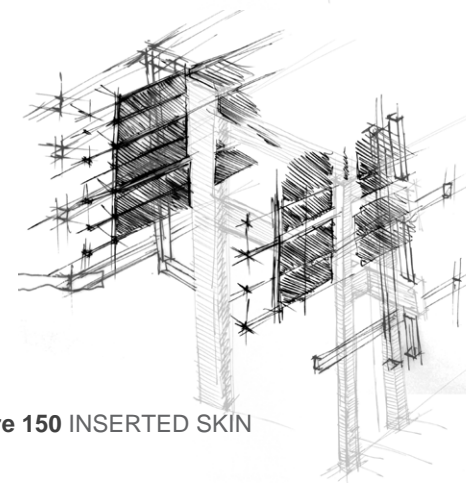
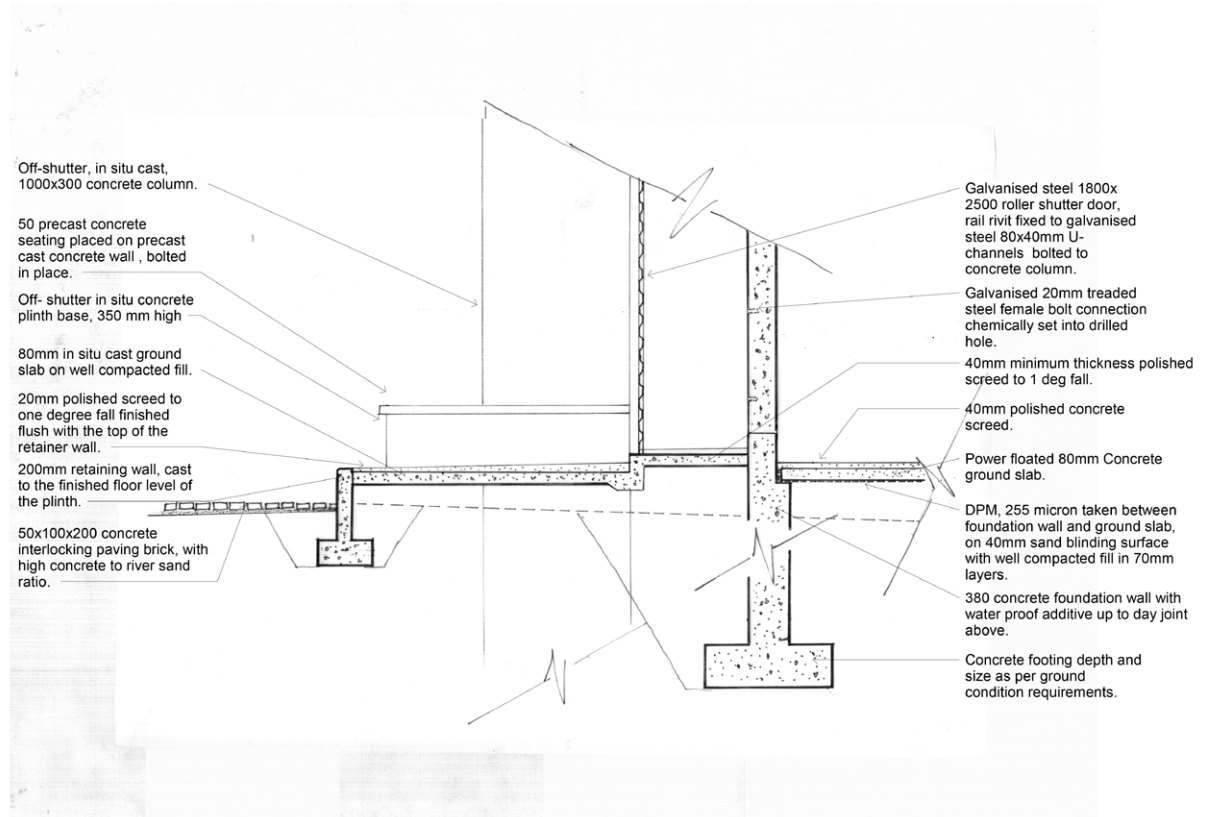


Figure 150 INSERTED SKIN

DETAIL- GROUND

Intention.

Display the robustness of dealing with protests on ground level as permanent building that does not allow adapting or disassembly as a considered fix from which change accrues around it. Show how the vendors can easily shut and protect their belonging, and the quality of the space when there are no vendors. Show storm water drainage channel collecting run off.



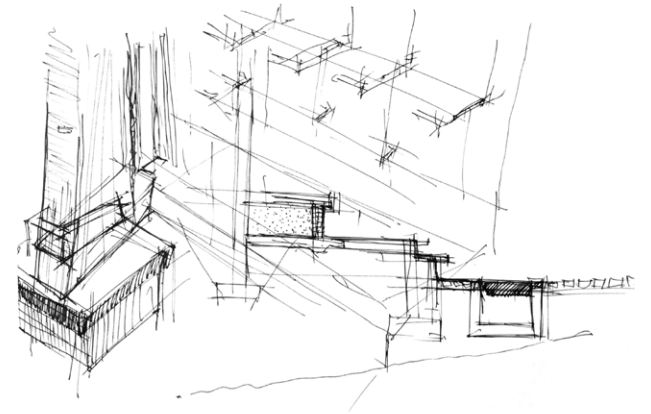
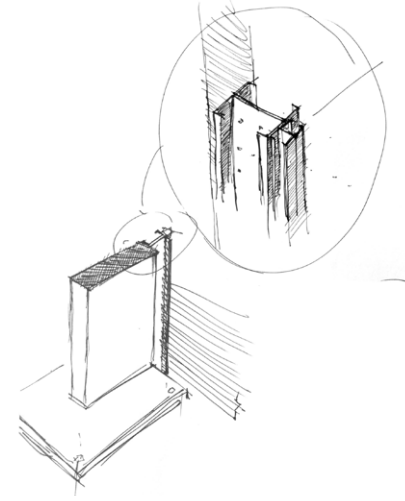
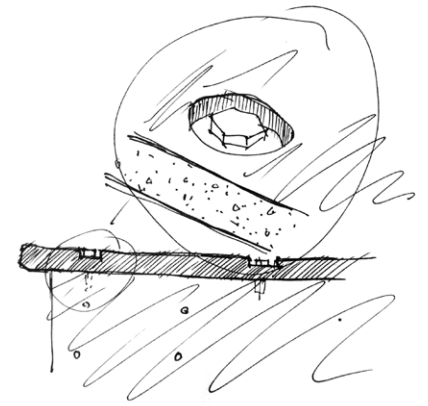
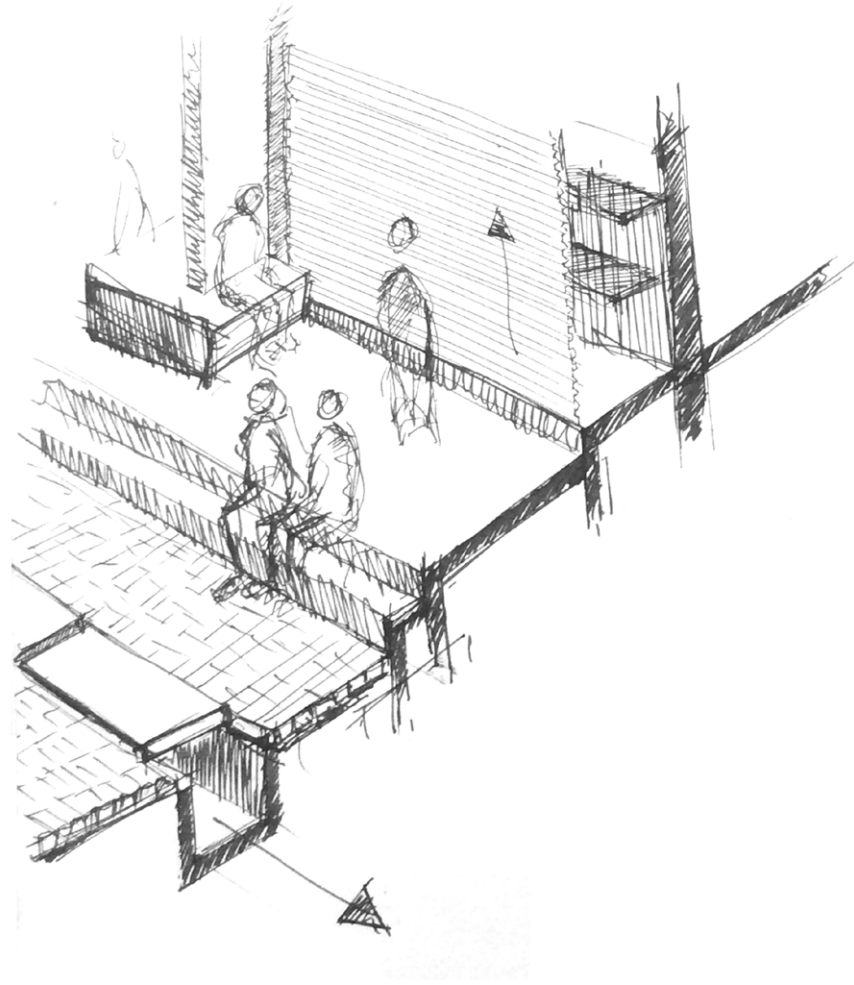
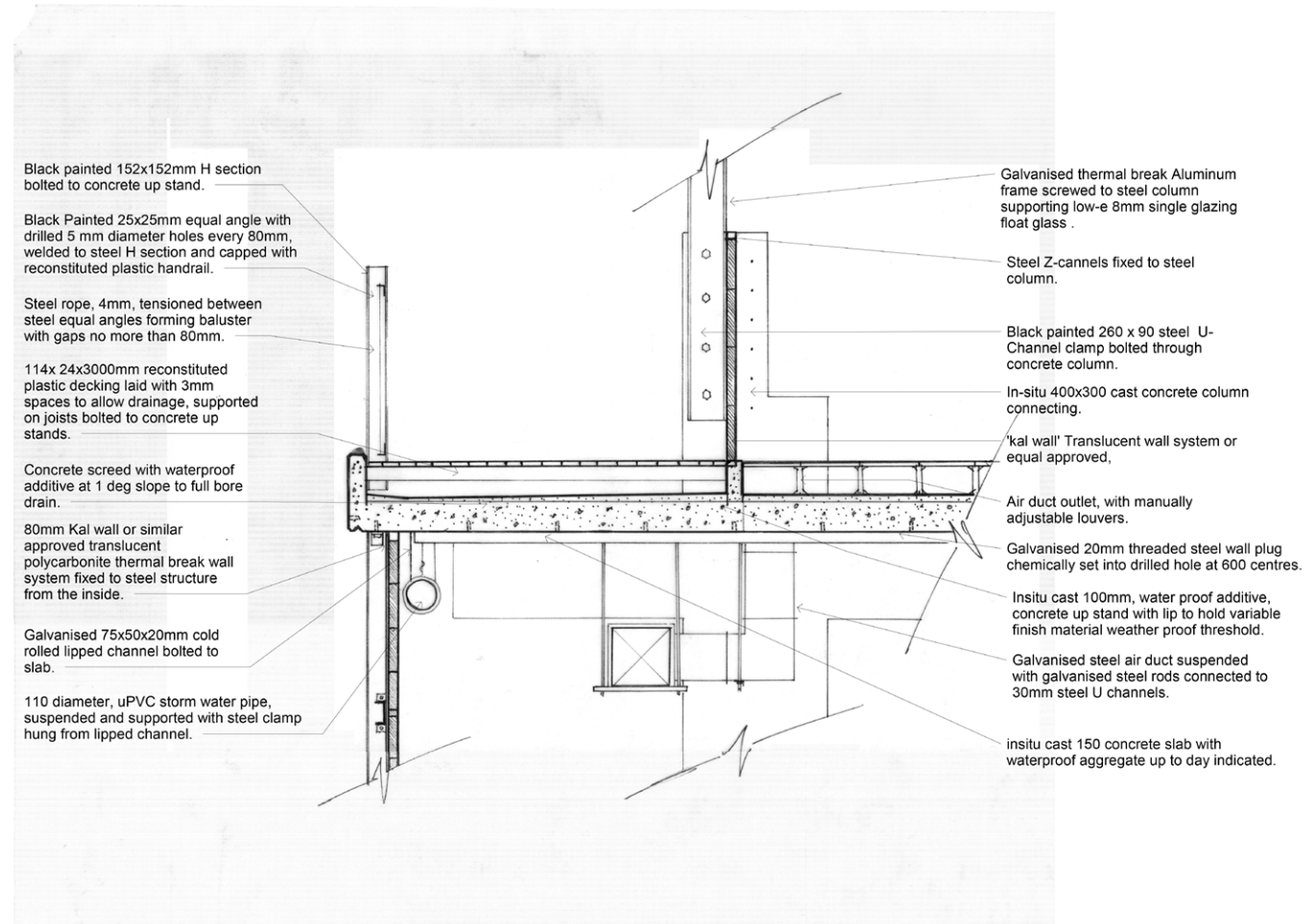


Figure 151 Ground detail sketch

DETAIL- STRUCTURE.

Intention.

Expressing the join where primary structure changes from concrete to steel supporting the last floor and roof. Concrete regarded as a permanent structure (century) and the steel regarded as that which could be disassembled (Yearly). Each meet at different planes, as an expression of each material's right to be represented in space.



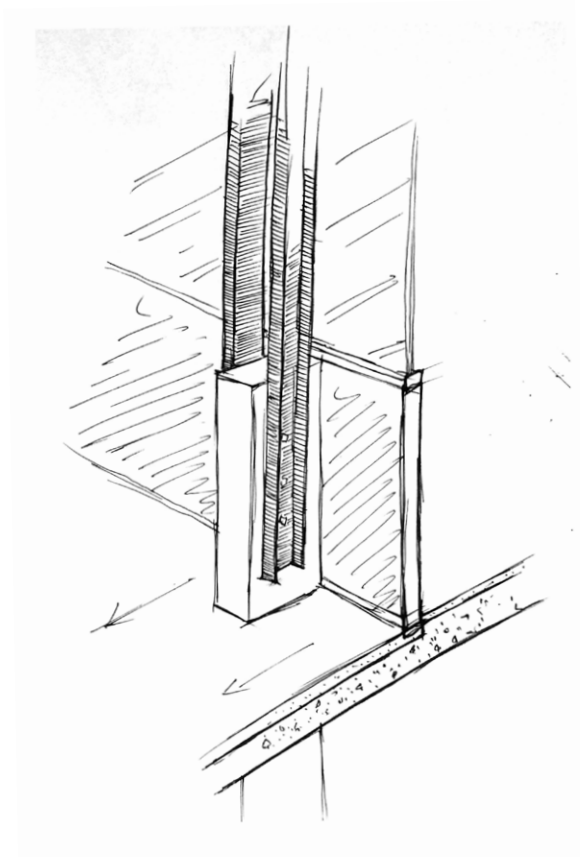
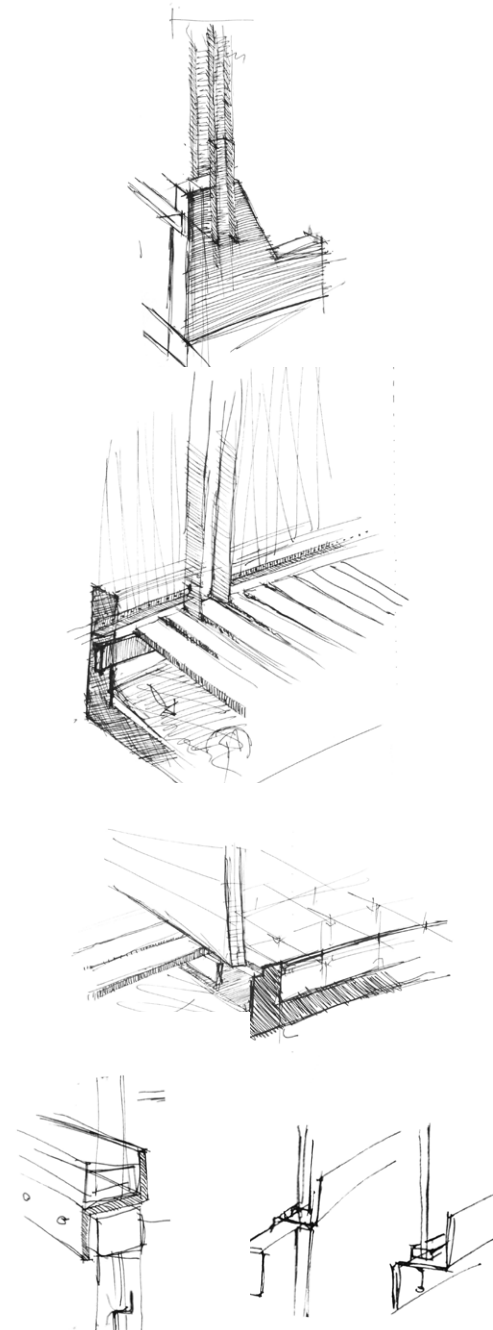
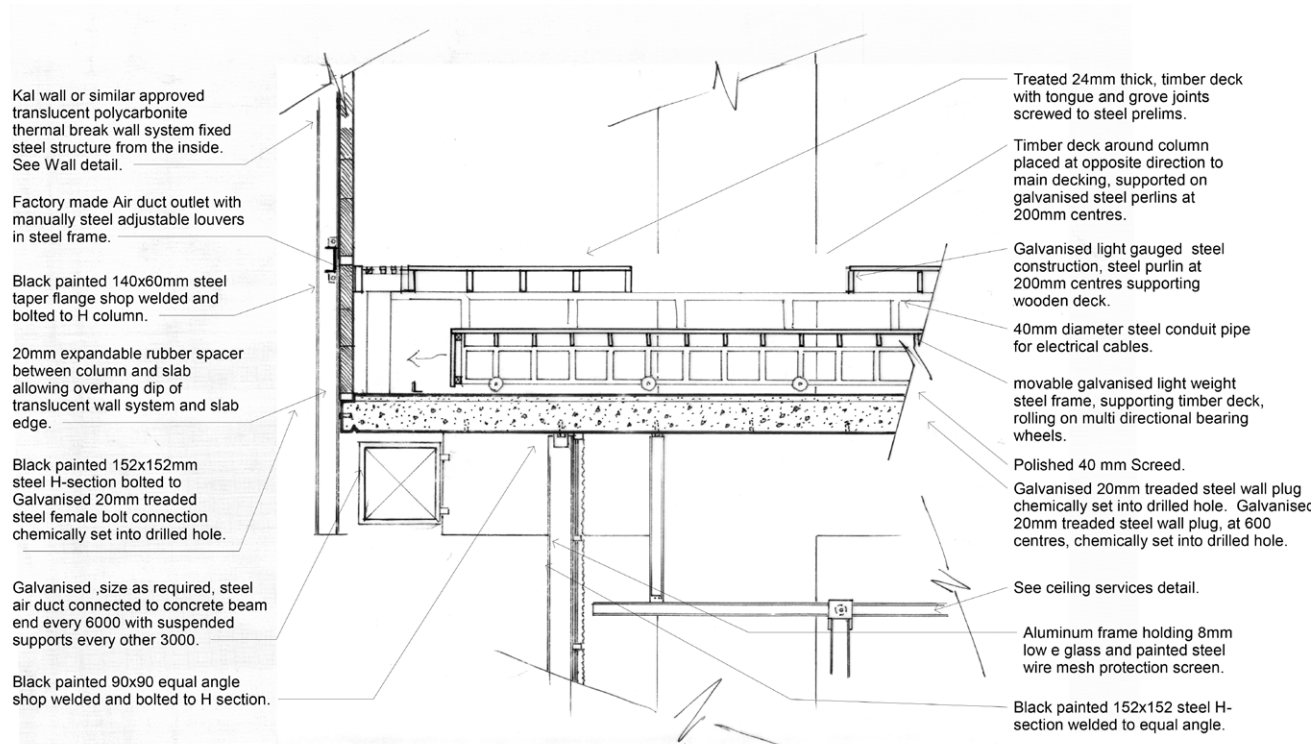


Figure 152 Structure detail sketch





DETAIL- SKIN

Intention.

Join between floor slab, access floor, and ventilation duct. Show the concrete, how the steel can be joined in many different places through how the concrete is cast. Show the waterproofing of the changeable skin and how the 'Kal Wal' is assembled from the inside. Show the access floor and how floor space may be changed as well as services added. Express the ability for the ventilation system to be adapted, as the reasoning for the ducts to be exposed.

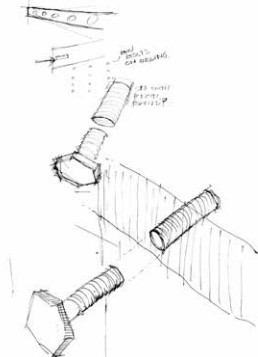
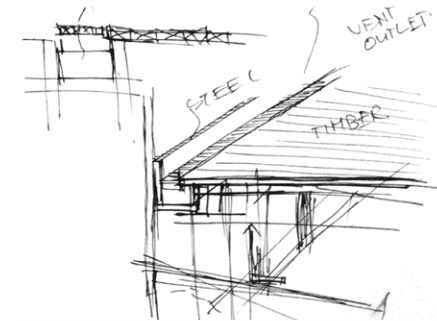
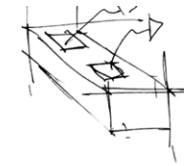
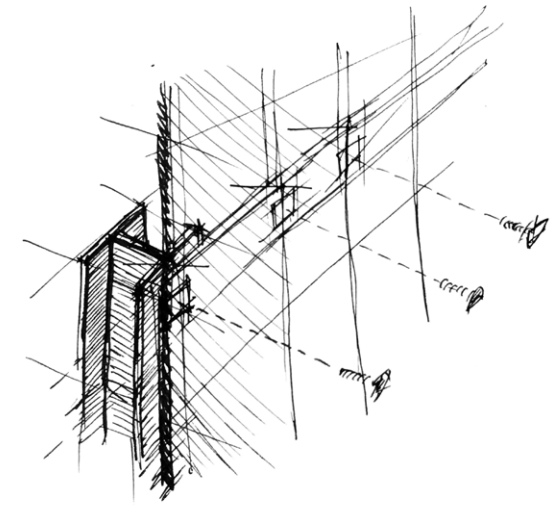
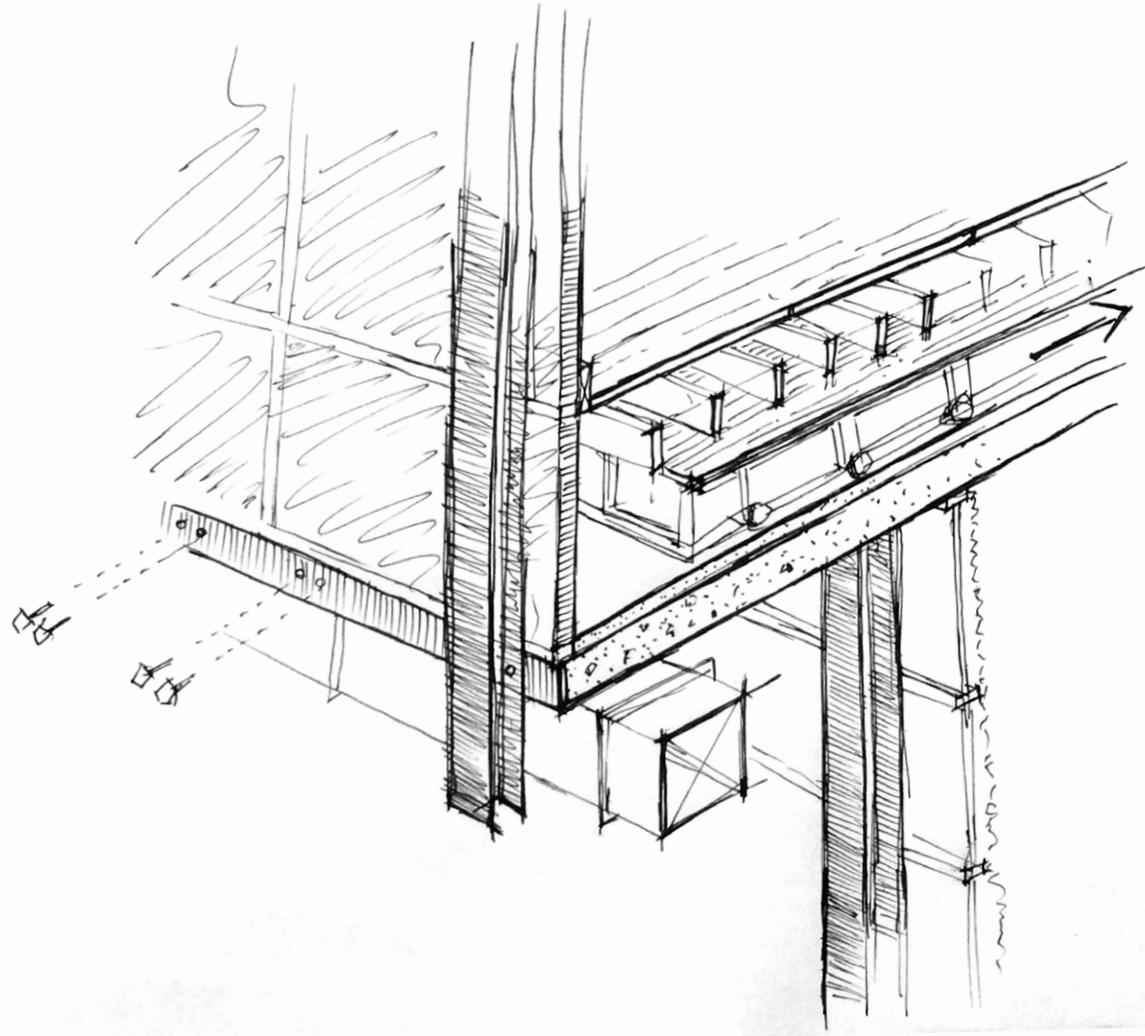
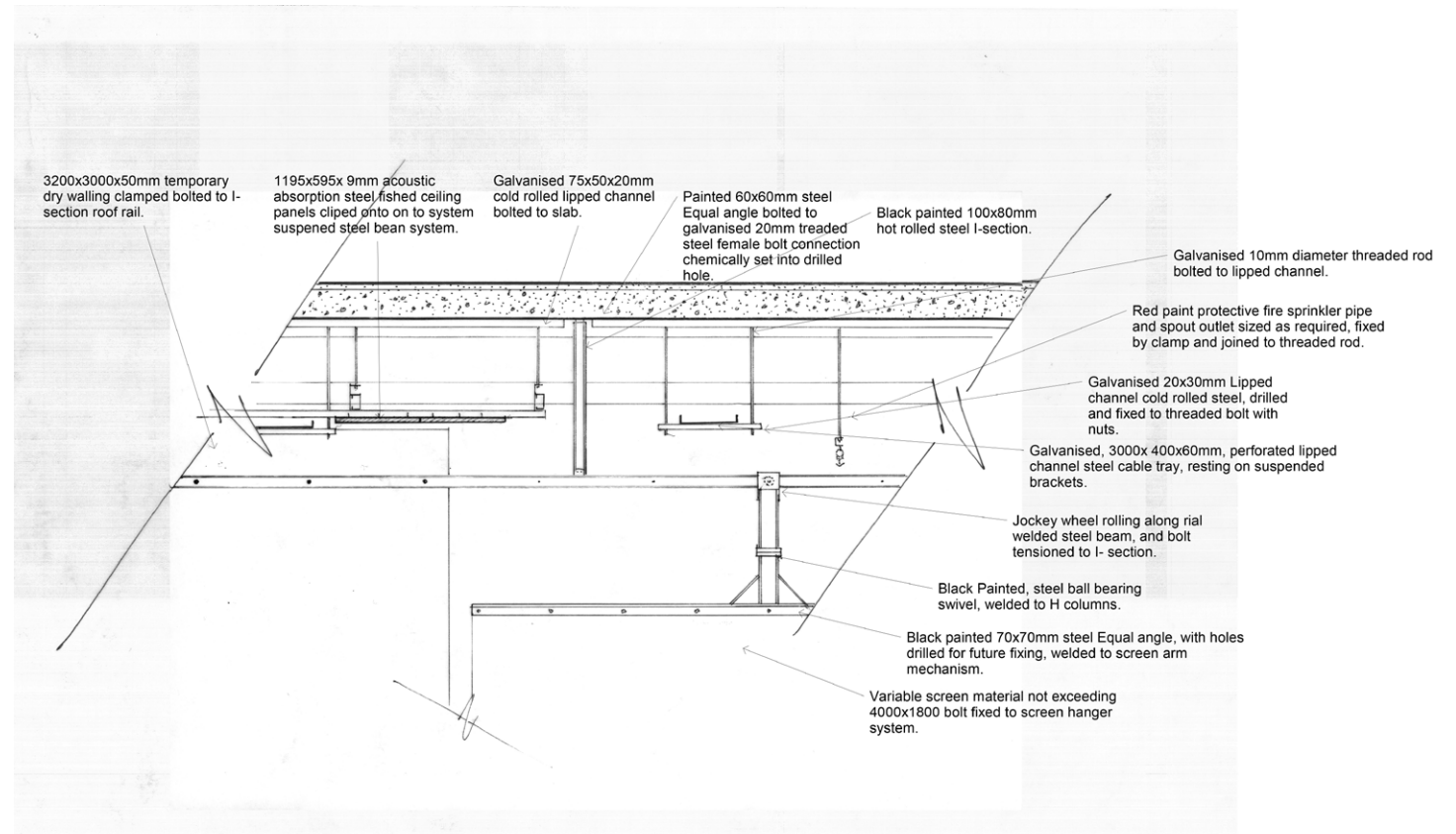


Figure 153 Skin detail sketch

DETAIL- CEILING

Intention.

Ceiling system in the ceiling space. Show the exposed services, cable trays, lighting and fire sprinklers which are spate from the quickly adapting screens, acoustic panels and assess floor. Make clear which systems fit into which life cycles (Daily, weekly, yearly, century)



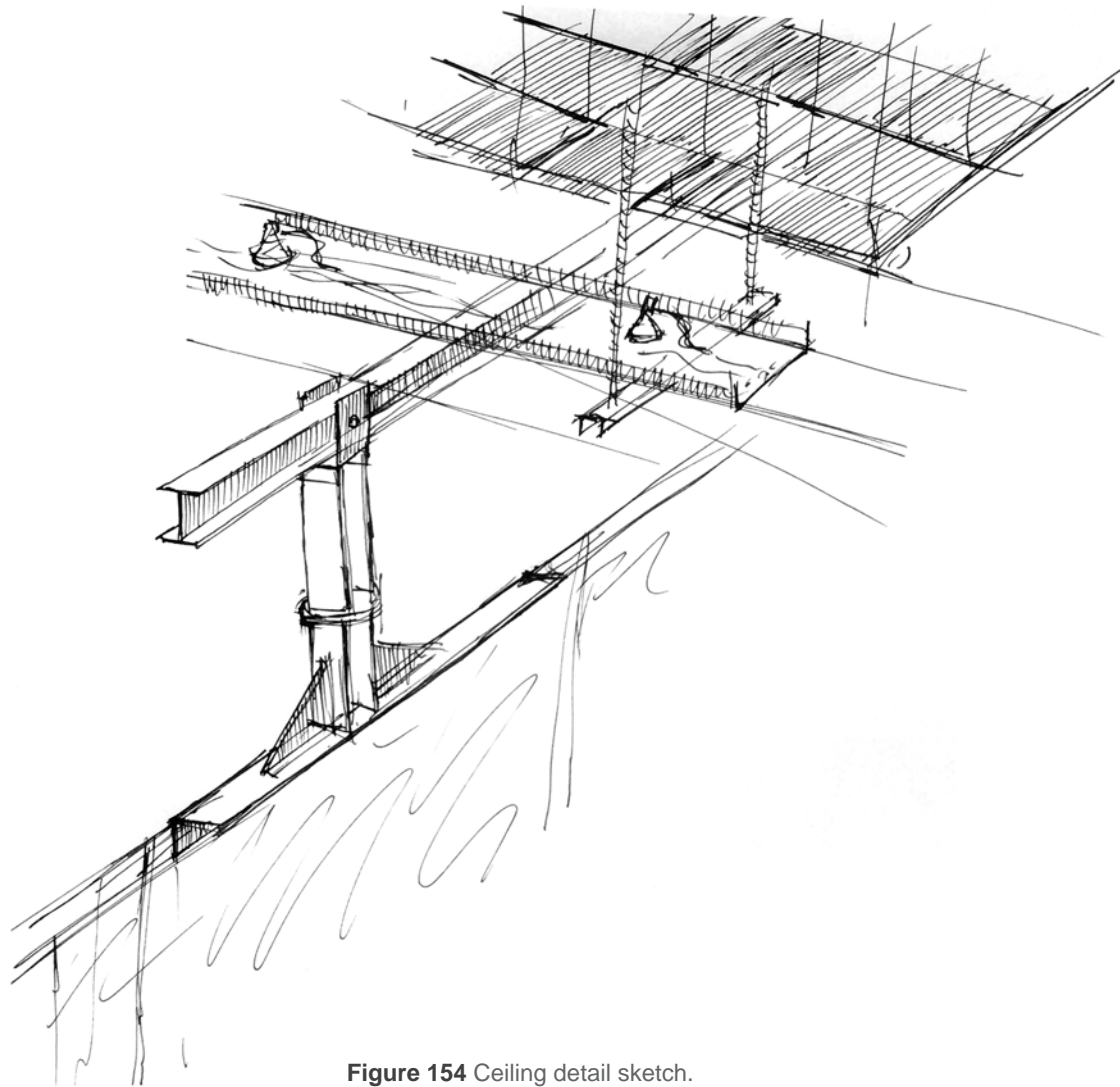
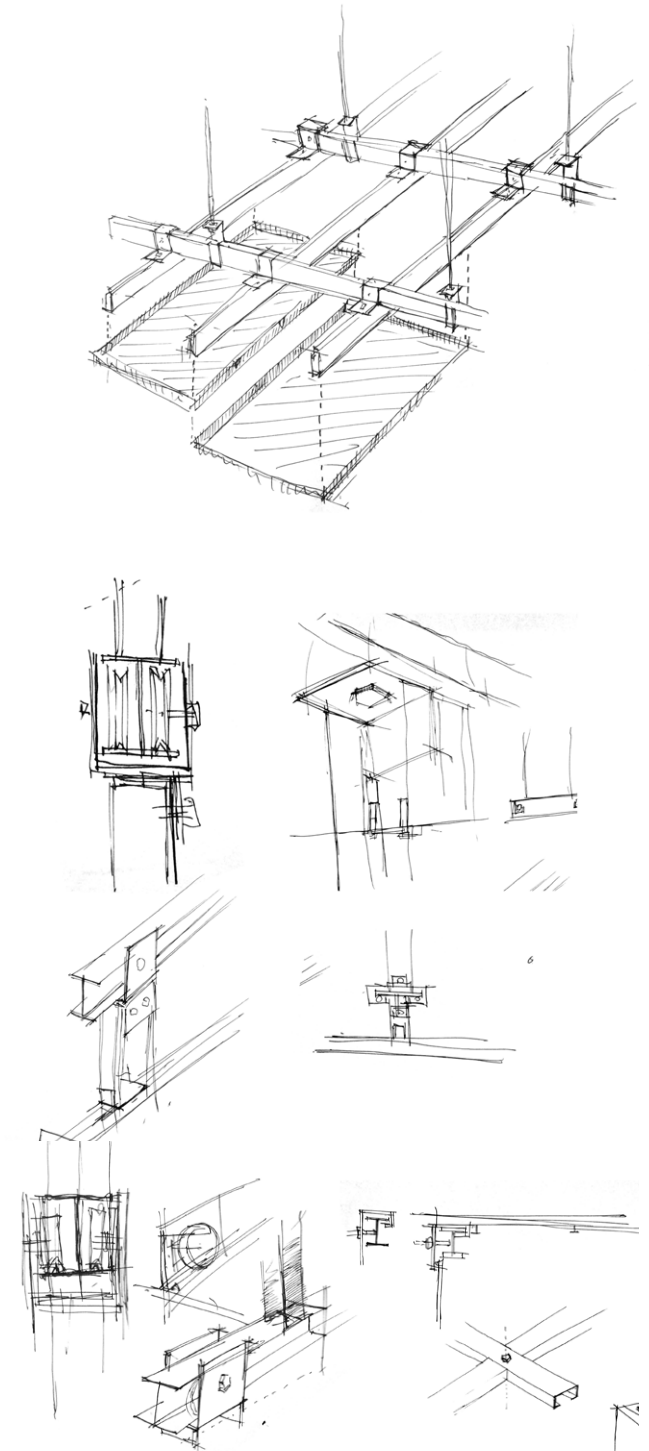


Figure 154 Ceiling detail sketch.



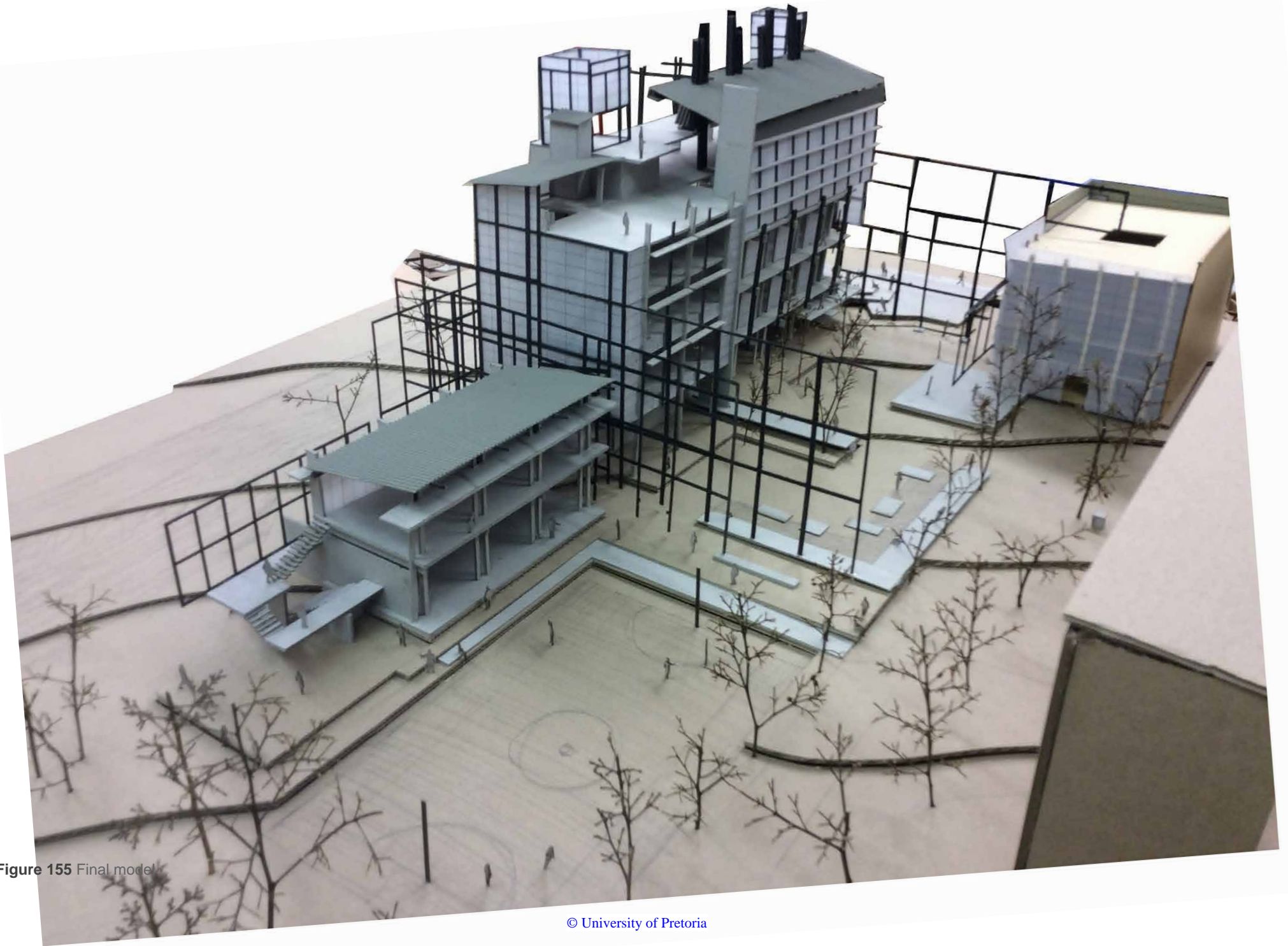


Figure 155 Final model

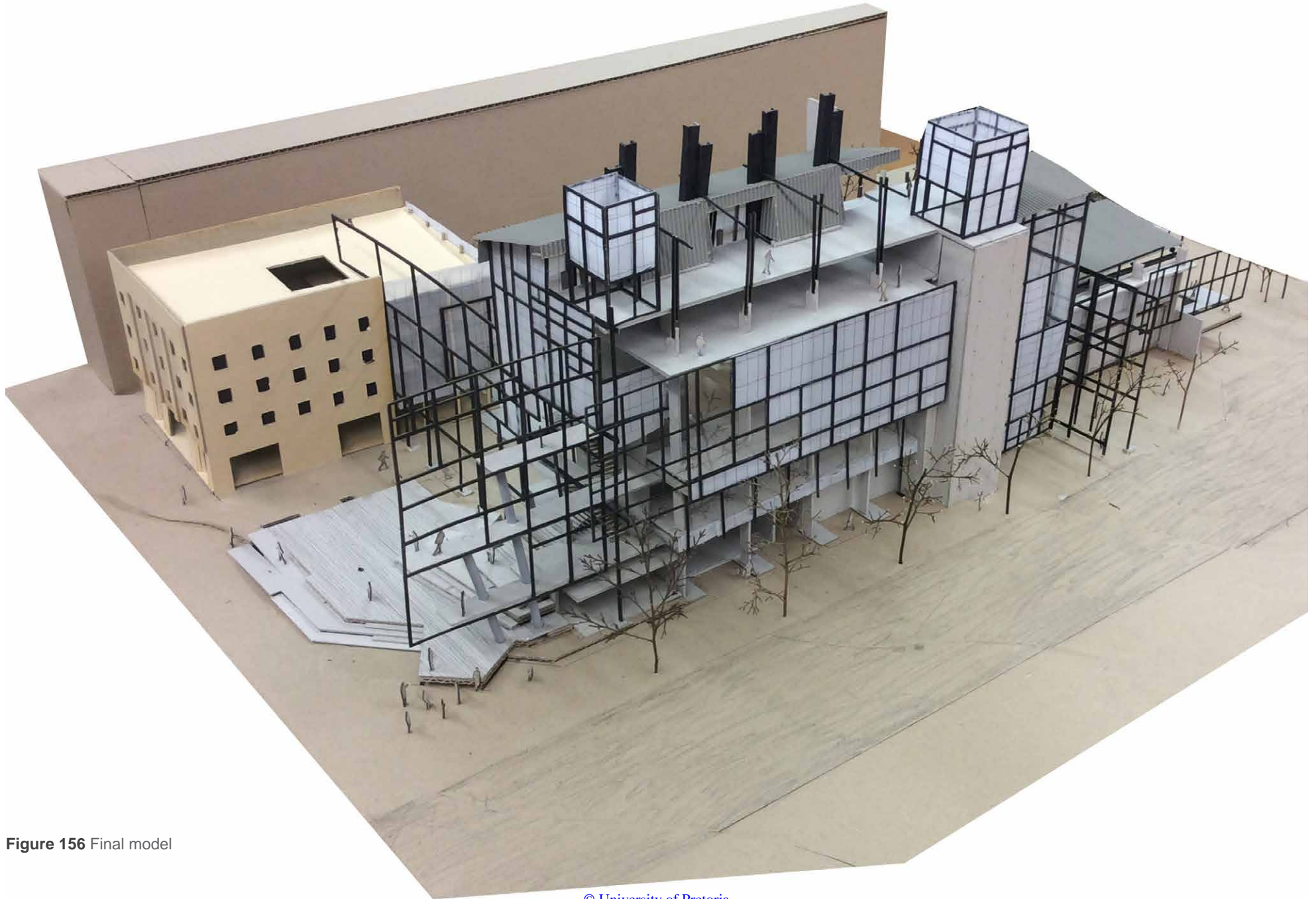


Figure 156 Final model



Figure 157 Presentation



Figure 158 Presentation

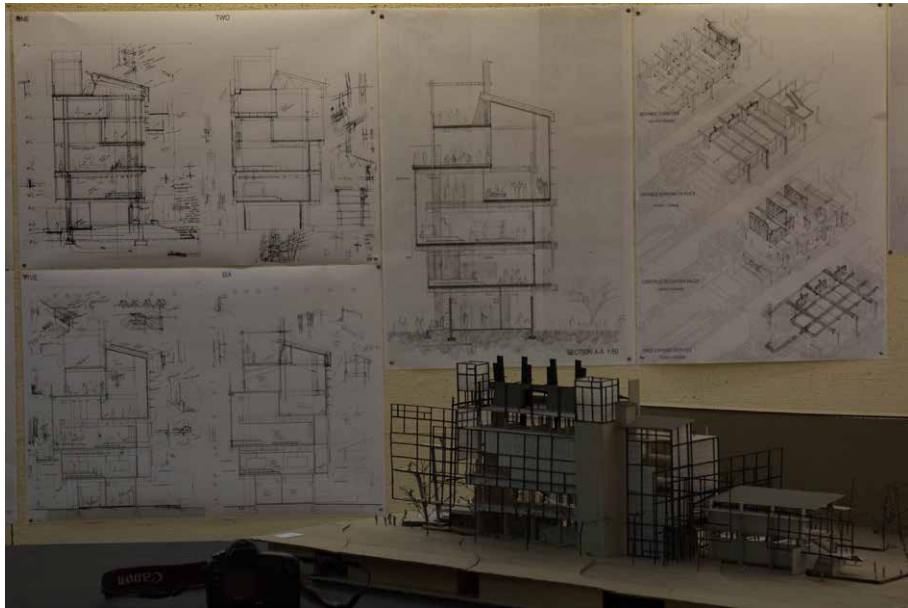


Figure 159 Presentation



Figure 160 Presentation



CONCLUSION

Considering space through the political theory of agonistic pluralism, the architecture is regarded as a temporary stabilisation within an order of domination. As a result, the building is a system of fixed function which allows different uses to accrue in and around the structure. Form and space is not determined by the activities proposed for the inhabitants but rather through a contextually responsive design approach. The manipulation of thresholds between the street condition and the building condition makes an inclusive, democratic, built form plausible.

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