



Figure 1-1 Collage cover image
(Author 2021)

The kinetic city shows the importance of a needed systemic shift, from consumption driven development to the creation of value and value chain based networks (Meagher 2018). This amended agenda argues that the static city needs to absorb crucial parts of the kinetic city in order to increase the overall resilience of static suburbia (Mehrotra 2008).

RECOGNISE
ANTICIPATE
MEDIATE
VALORISE
PROTOTYPE

“
In a highly divided and unequal society, the point is not to arrive at consensus but rather to bring differences and conflicts to the surface, in order to generate deeper democratic engagements. Only then, can the root causes of social and economic conflicts emerge, creating the basis for more radical and transformative debates” Edgar Pieterse and Mirjam van Donk (2014) in *From Hosuing to Human Settlements* (Pieterse & Van Donk 2014:153)

Figure 1.2 Micro and macro cataloging
(Author 2021)

Plagiarism

Ethics

Submitted in fulfillment of part of the requirements for the degree:

Master of Architecture (Professional) in the Faculty of Engineering, Built Environment and Information Technology

University of Pretoria

November 2021

Course Coordinator:
Prof Arthur Barker

Study leader:
Paul Devenish

Co-supervisor:
Dr Carin Combrink

Declaration:

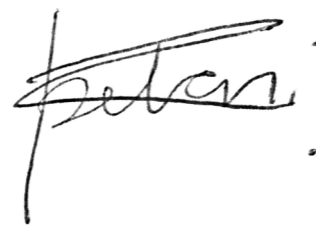
In accordance with Regulation 4(c) of the General Regulations (G.57) for dissertations and theses, I declare that this thesis, which I hereby submit for the degree Master of Architecture (Professional) at the University of

Pretoria, is my own work and has not previously been submitted by me for a degree at this or any other tertiary institution.

I further state that no part of my thesis has already been or is currently being, submitted for any such degree, diploma or other qualification. I further declare that this thesis is substantially my own work. Where reference is made to the works of others, the extent to which that work has been used is indicated and fully acknowledged in the text and list of references.

Delani Kriek

Student Number: 16101520



Faculty of Engineering,
Built Environment and
Information Technology

Fakulteit Ingenieurswese, Bou-omgewing en
Inligtingtegnologie / Lefapha la Boetsenere,
Tikologo ya Kago le Theknolotši ya Tshedimošo

Reference number: EBIT/259/2020

Dr C Combrink
Department: Architecture
University of Pretoria
Pretoria
0083

Dear Dr C Combrink

FACULTY COMMITTEE FOR RESEARCH ETHICS AND INTEGRITY

Your recent application to the EBIT Research Ethics Committee refers.

Conditional approval is granted.

This means that the research project entitled "Urban Citizen Studios: Public Interest Design" is approved under the strict conditions indicated below. If these conditions are not met, approval is withdrawn automatically.

Conditions for approval

Conditional approval on the understanding that:

- Applications from each student (including application forms and all necessary supporting documents such as questionnaire/interview questions, permission letters, informed consent form, researcher declaration etc) will need to be checked internally by the supervisor. A checklist will need to be signed off after the checking.
- All of the above will need to be archived in the department and at the end of the course a flash disc / CD clearly marked with the course code and the protocol number of this application will be required to be provided to EBIT REC administrator.
- Any personal and demographic data (eg gender, income, education) have provided the motivation that is acceptable based on the supervisor's evaluation.
- Students using organizations data not publicly available or collecting data from employees have the permissions in place.
- No data to be collected without first obtaining permission letters. The permission letter from the organisation(s) must be signed by an authorized person and the name of the organisation(s) cannot be disclosed without consent.
- Images and observation of people will require consent. Images and observation of minors are prohibited.

This approval does not imply that the researcher, student or lecturer is relieved of any accountability in terms of the Code of Ethics for Scholarly Activities of the University of Pretoria, or the Policy and Procedures for Responsible Research of the University of Pretoria. These documents are available on the website of the EBIT Ethics Committee.

If action is taken beyond the approved application, approval is withdrawn automatically.

According to the regulations, any relevant problem arising from the study or research methodology as well as any amendments or changes, must be brought to the attention of the EBIT Research Ethics Office.

The Committee must be notified on completion of the project.

The Committee wishes you every success with the research project.

Prof K.-Y. Chan
Chair: Faculty Committee for Research Ethics and Integrity
FACULTY OF ENGINEERING, BUILT ENVIRONMENT AND INFORMATION TECHNOLOGY



Thank you

I would like to thank those hereunder for their unending support and guidance.

Thank you, Paul for your: unending patience, challenging me to think critically and subtly guiding me to uncover the many nuances of urban spontaneity. You have helped me cultivate creative thoughts and translate them to structure. Your investment in me contributed greatly to the success of this study.

Thank you, Carin for exposing me to public interest design, pushing me to produce quality work and being a shoulder to cry on. Your endearing words of encouragement inspired me to keep on going and push through this year.

Thank you, Alexia and Chris for being my calm in the storm. You have become forever friends, who I can count on for just about anything. Your support and Spout coffee sessions have become crutches for me during the course of this year, and although we make an odd trio, working with both of you has opened my eyes to the potential group work holds

in our profession.

Thank you, Megan for your willingness to help with model building, ever-calm presence and affirmative remarks on the 'final product'.

Thank you to my parents and closest family for your: uplifting phone calls, "Ons is trots op jou, die einde is in sig" written encouragements, endless support and never allowing me to feel too sorry for myself. Without you none of this would have been possible.

Thank you, Bertus for: always believing in me, challenging me to work toward goals I set, ensuring I am never hungry, helping me with model building and engaging in long discussions with me about this study. Your excitement, encouragement and soft words came at the right time, every time.

Thank you to all my dearest friends for the laughs and cheerful conversations. Every take-away coffee, comforting note and conversation has helped me through this year. Even though many of you are working in

radically different fields than architecture, you always lent an ear and provided insightful comments.

Thank you, specifically to my studio friends: the Boukinders. Your presence, ridiculously random jokes and peer curation has shaped my emotional and academic state of mind this year. The lunch breaks in the sun on Boukunde's stairs and rooftop-sunsets will be engraved in my memory.

Thank you, residents of Plastic View for: opening your neighbourhood to us, the excitement about the live-build project, the incredible amount of knowledge you were open to share and your friendly smiles – always making us students feel welcome.

And lastly, thank you, Father for blessing me with the energy to live abundantly and enjoy a life in abundance, the ability to love the work I do and allowing me to cultivate my creative talents through hard work. Throughout this challenging year I have found my rest in God.

Abstract

The exclusionary landscape of Moreleta Park is defined by SLOAP (Space(s) Left Over After Planning) and can be viewed as a hyper-densified trope of South Africa's tense suburban state – and of its possible future (Creswell 2013). Empty pockets of land (aiding in the increasing emergence of spontaneous urban settlements) create barriers between isolated developments and the only planned attempt at stitching these suburban islands together exists in the form of wide roadways (City of Tshwane 2018).

The main objectives of this study are to address root issues instead of symptoms of root problems, recognise the legitimacy of kinetic urban currents and ultimately, mitigate spatial injustice in suburbia through decentralised, prototypical built forms (Roy 2005; Mehrotra 2008 and Hamdi 2010). In response to these objectives, the role of the architect in this study, is one of facilitator, anticipator and

technifier - working alongside community members to valorise local skills, materials and knowledge systems in order to enable a self-sustaining urban future.

It is argued that the multi-scalar spatial response proposed by this study has the ability to articulate the dialogue between the static and kinetic cities – revealing spatial connections and other means of mitigation. This study visualises how crucial it is for the static city to engage with kinetic urbanism and absorb parts of the kinetic city, so that essential socio-economic principles can be shared between the formal and informal city, expanding networks and connections to increase the overall resilience of Moreleta Park. The kinetic city shows the importance of a needed systemic shift, from consumption driven development to the creation of value and value chain based networks (Meagher 2018).



Architecture as a method of articulation provides, through its immersive design process and outcomes, a platform for mitigation - whereby negotiations between polarised users can be

facilitated. Through this method it is revealed that collective and accretive knowledge systems have the potential to translate theory to structure - and eventual syntax of design.

Summary

Supervisor

Paul Devenish

Co-supervisor

Dr. Carin Combrink

Project Type

Decentralised prototypical public administration

Project Location

Moreleta Park, Pretoria East, South Africa.

GPS co-ordinates

25°49'33.57"S; 28°18'46.27"E

Client

Department of Home Affairs (DHA), South African Post Office (SAPO) and Atterbury Property.

Theoretical premise

This dissertation considers the increasing emergence of spontaneous urban settlements in exclusionary pockets of suburban land as a result of Pretoria East's consequential geography. The project investigates a spatially just future condition and questions authorship, agency and adaptability.

Architectural premise

This dissertation considers the role of the architect as technifier and the resultant prototypical architecture as a symbol of the legitimacy of spontaneous urbanisation - articulating the dialogue between the static and kinetic city.

Terminology

Abbreviations

1. Spontaneous urban settlement

A term used by Mark Napier and Peter Kellett (1995) referring to unplanned informal settlements or *slums*, emerging in urban environments (Kellett & Napier 1995).

2. Kinetic urban current

Informal socio-economic movement superseding and evading the laws of the formal built city (Mehrotra 2008).

3. The static city

The formal built environment of a city that is less flexible and resilient, associated with the formal market (Mehrotra 2008).

4. Rapid urbanisation

Increased rural-to-urban migration as a result of various socio-economic factors.

5. Spatial justice

A term used by Edward Soya (2010) tying justice to geography, alluding to the remnant apartheid legacy in this study (Soya 2010).

6. System D

A term used by Robert Neuwirth (2012) referring to resilient, adaptable self-reliant micro-economies, often emerging from informal communities (Neuwirth 2012).

7. Participatory Action Research

A qualitative data collection method involving on-site engagement and prolonged participatory engagement (Hamdi 2010; Du Toit and Mouton 2012). In this study a live-build prototype forms part of the PAR (Hillgren *et al.* 2011).

8. Spatial Agency

Shared authorship over spatial interventions that advocate for *the role of the architect* as an equal member of a larger team working toward the enablement of a community. Agency in architecture challenges the norms of the profession and reacts *otherwise* by prioritising mutual knowledge transfers (Awan *et al.* 2011).

9. Circular material flow

Often paired with circular economics, material circularity introduces a minimum to zero-waste building cycle, placing a crucial focus on environmental sustainability.

10. Urban press disturbance

A term used relating to an urban disruption unfolding over long period of time (Du Plessis & Peres 2013).

11. The Future City

A term referring to the future condition of many developing urban environments, where urban *slums*

are anticipated to be the predominant urban form (Neuwirth 2005).

12. Hyper-densification

A term referring to an increased density of the built form in order to optimise space and minimise the harmful ecological impact caused by the built environment.

13. Alternative mode of urbanism

A term used by Ananya Roy (2005) describing spontaneous kinetic urbanism as an equally legitimate mode of urbanism compared to formal urbanism - associated with the static market (Roy 2005).

14. Epistemology

A philosophical term relating to the manner in which theoretical knowledge is gained and the link between the theory and the body acquiring the specific knowledge.

15. Ontology

A philosophical term referring to the specific nature of a body of theory and the reality thereof.

16. Pragmatist paradigm

A theoretical paradigm that maintains its value through the practical application of knowledge (O'Leary 2007).

17. Critical theory

A theoretical perspective that uncovers assumptions in an explanatory and practical manner to empower and emancipate individuals (Creswell 2013).

18. Grounded Theory

The generation of theory for a process or action that is grounded in uncovered codified data (Creswell 2013).

19. Consequential geography

A term used by Edward Soya (2010) tying justice to a geographical location as a result of certain socio-political factors, alluding to the remnant apartheid legacy in this dissertation (Soya 2010).

20. Urban acupuncture

A series of linked small-scale architectural projects addressing social and urban issues through positive micro changes.

3. SPLUMA

Spatial Planning and Land Use Management Act of 2013

4. RSDF

Regional Spatial Development Framework

5. UISP

Upgrading of Informal Settlements Programme

6. CCF

Community Caring Forum

7. CoT

City of Tshwane

8. PAR

Participatory Action Research

Abbreviations

1. SUS

Spontaneous Urban Settlement

2. SLOAP

Space(s) Left Over After Planning

Figure 1.6: Background: Sketched site map (UISP 2021)

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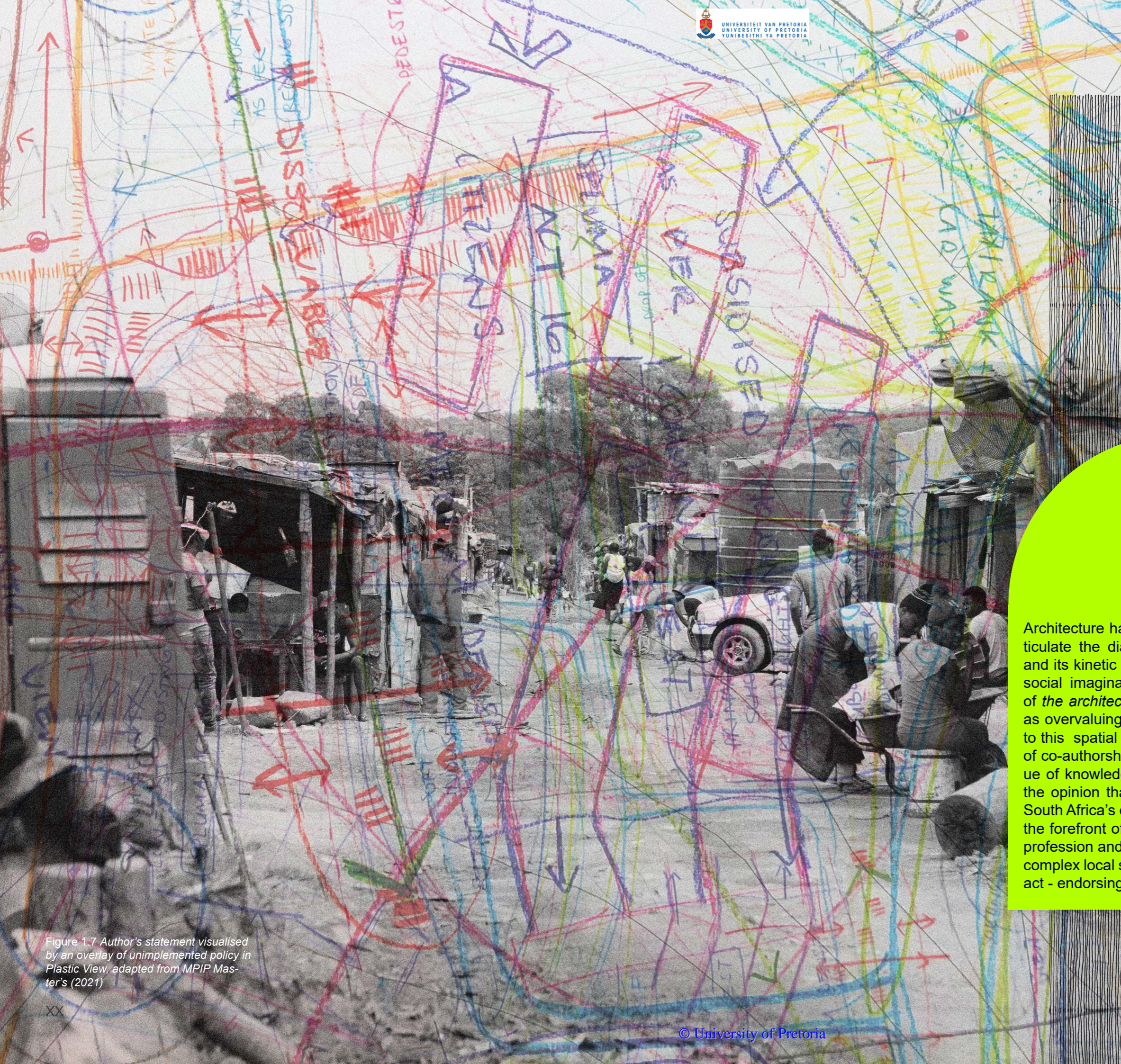
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Architecture has the incredible capacity to articulate the dialogue between the static city and its kinetic counterpart, creating form from social imagination. Undermining the power of *the architecture* is equally as irresponsible as overvaluing its resultant built form. Crucial to this spatial privilege is an early recognition of co-authorship, spatial injustice and the value of knowledge transferral. The author is of the opinion that a richer discussion between South Africa's consequential geographies is at the forefront of an ever-adapting architectural profession and that a brazen disregard for our complex local socio-spatial divide is a reckless act - endorsing further fragmentation.

Figure 1.7 Author's statement visualised by an overlay of unimplemented policy in Plastic View, adapted from MPIP Master's (2021)



CONSEQUENCE

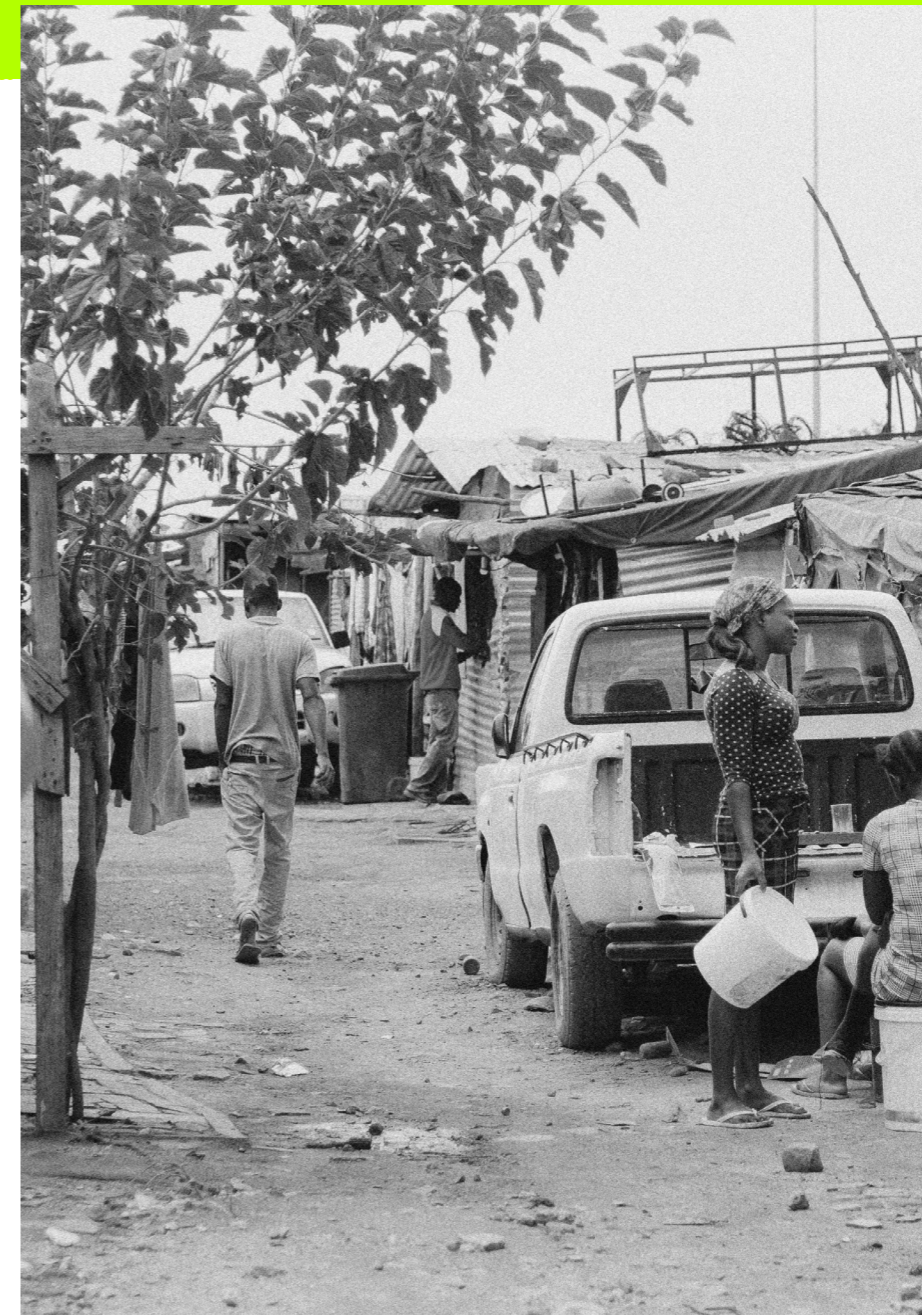
Negotiating a normative position

Spontaneous urbanisation as an alternative mode of urbanism

In *Cities with Slums* Marie Huchzermeyer (2011) defines spontaneous urban settlements as unplanned, sporadically occurring residential areas with sub-standard housing that accommodate the poor and often absorb the new migrant population of the city (Huchzermeyer 2011). This definition, although partially accurate, is inadequate to describe the existent level of complexity and resilient configurations ever present in spontaneous urban settlements. Spontaneous urban settlements are viewed as city press disturbances, and emerge within exclusionary pockets of land also referred to as SLOAPs (Space(s) Left Over After Planning). These pockets are often situated between up-market housing developments and malls, creating a perfect niche of opportunity for spontaneous settlers to build a livelihood (Du Plessis &

Peres 2013). As informal currents often do, these in-between spaces address a need for affordable living spaces close to work opportunities, in reaction to non-provision thereof. The Spatial Planning and Land Use Management Act (SPLUMA) (Act no. 16 of 2013) does, however, advocate for urban integration in an attempt to address spatial injustice, but to date few aspects of the Act have been implemented (SPLUMA 2013:12(1)(h)).

In this study the main symptom of rapid urbanisation: spontaneous urban settling, is viewed through the lens of Moreleta Park in Pretoria East, South Africa, with a specific focus on the ever-contested spontaneous settlement of Plastic View located in the centre of Moreleta Park. It is asserted that the settlement of Plastic View and its paradoxical location and consequential issues is a densified narrative of the post-apartheid South African urban condition. The reluctance of the Moreleta Park community and of practitioners to recognise and engage with the formalised



“

The issue is not really the larger over-arching thing that is urban poverty but the issue is for us to recognise that these are neighbourhoods and this is a legitimate form of urban development and that cities have to engage with these residents because they are building the cities of the future” (Neuwirth 2005: 70)

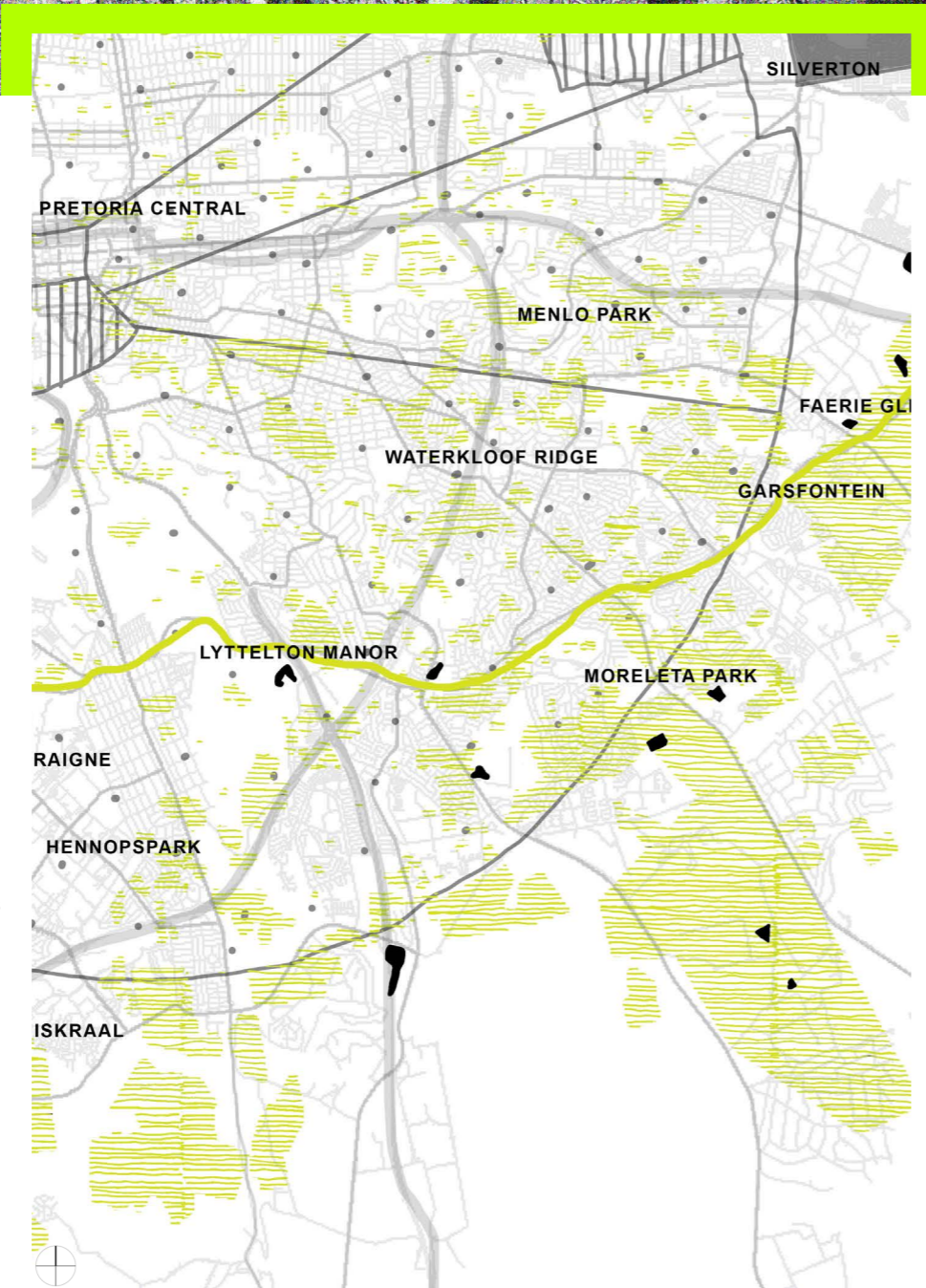


Figure 2.2 Map: *Apartheid spatial planning in correlation with new development in Pretoria (Author 2021)*

settlement of Plastic View is emblematic of a broader reluctance to negotiate with this kinetic mode of urbanism (Roy 2005; Mehrotra 2008). This reluctance to recognise the permanence of Plastic View is further demonstrated by the latest open letter sent on the 14th of May 2021 to the Mayor of the City of Tshwane, Randall Williams, and other recipients. In this letter the Community Caring Forum (2021) aggressively reminds its readers of the seventeen court orders against Plastic View, leading up to a list of requests including “the removal and deportation of all undocumented citizens” and “the breaking down of the shacks of these citizens to prohibit expansion at all costs” (Community Caring Forum 2021:6).

Study summary: The study views Moreleta Park as a hyper-densified trope of the country’s tense urban state – and of its possible future (Creswell 2013). This focus area serves as a departure point to provide a precedent for negotiating with urban spontaneity; to recognise the legitimacy of this kinetic mode of urbanism (Roy

2005; Mehrotra 2008); and ultimately to mitigate spatial injustice in suburbia through decentralised, prototypical built form programmed to address root issues (Hamdi 2010).

Critical position

Democratic South Africa is synonymous with rapidly evolving urban environments. As the pace of local urbanisation intensifies, the continual emergence of spontaneous urban settlements in areas of commercial and residential development will too (Neuwirth 2008). Rahul Mehrotra (2008) maintains that spontaneous kinetic currents supersede and evade the norms of the static formal city, increasing their presence and effect as urbanisation intensifies (Mehrotra 2008:205). Reluctance to recognise and negotiate this inevitable kinetic urban future can result in an even more volatile urban landscape that further endorses exclusion.

Critical position: Between the contested and the inevitable, the capacity of architecture to articu-

Figure 2.3 Above: *Unimplemented policy in Plastic View as captured by 2020 drone footage (MPIP Honour’s 2020)*

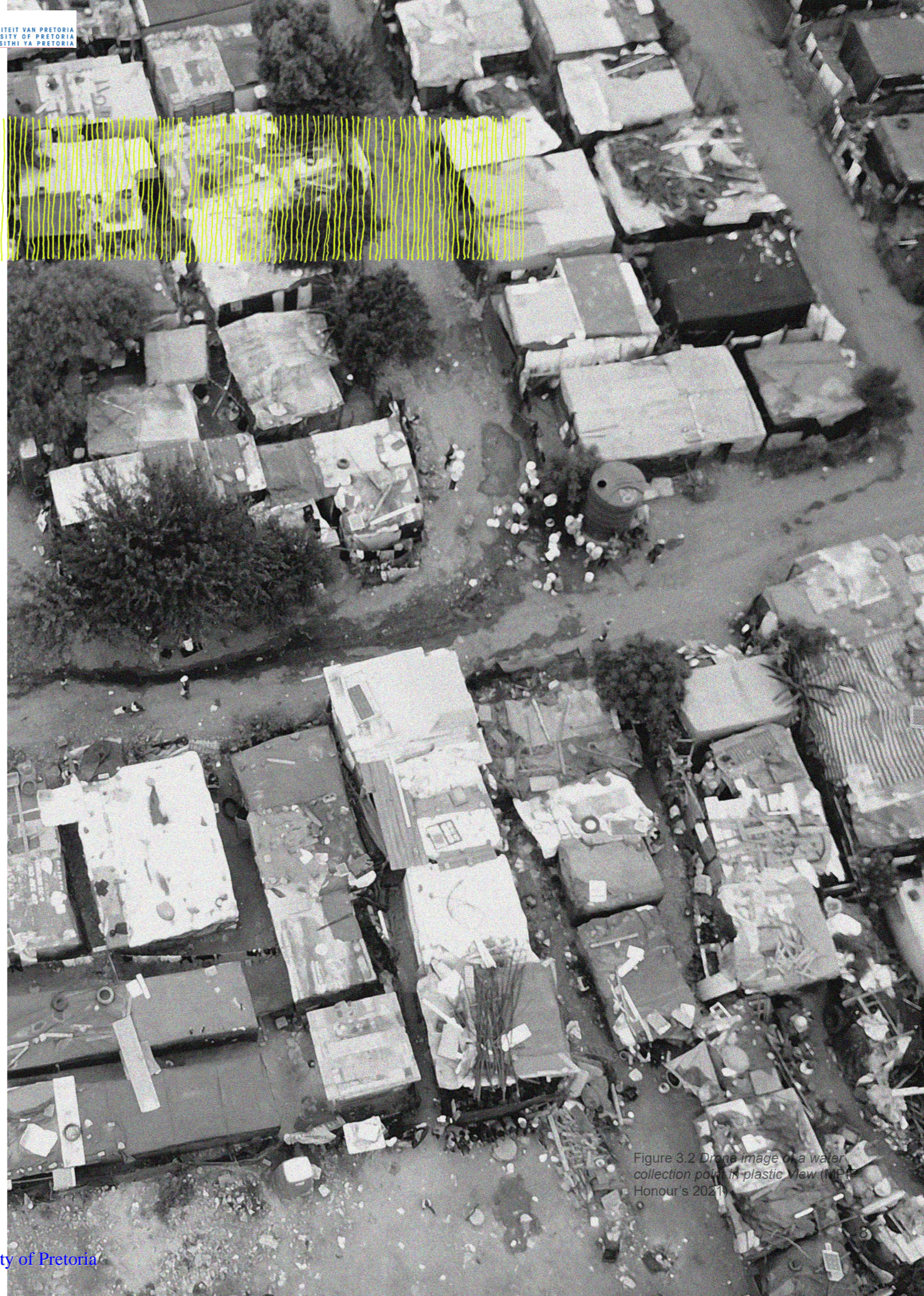


Figure 3.2 Drone image of a water collection point in plastic View (MPH Honour's 2021)



Figure 3.1 Generalised progression of spatial planning, adapted from McLaglan (2016)

- 1) 1600-1795 Early Colonial planning
- 2) 1800-1900 Industrial Revolution
- 3) 1898 Garden City
- 4) 1924 Radiant City Planning
- 5) 1948-1994 Apartheid City Planning
- 6) 1994-2008 Reconstruction and Development Programme
- 7) Spontaneous Urban Settlements

late a dialogue between the static and the kinetic urban landscape is revealed. Although architecture cannot facilitate this complex mitigation on its own, the spatial implication thereof can enable participants through knowledge transferral and provide a place for negotiation with spontaneous urban settlements. Subsequently the main objectives of this study are: negotiate urban spontaneity spatially, provide a designed kit-of-parts to do so and, in time, legitimise spontaneous urban development as an alternative urban model. The architecture that is in conversation with these objectives valorises local skills, recognises multiple authors, discreetly postulates its presence and programme within the urban landscape, and aims to serve all members of a polarised community equally.

Situating the problem

Consequential geographies: recognising spatial injustice

Nearly twenty-seven years into

democracy, South Africa's urban landscape is still rife with inequality and spatial injustice. The spatial legacy of apartheid continues to assert itself within the current urban condition of Pretoria in many ways whereby the effects of these laws (Group Areas Act (41) 1950) are still prominent in the following: distance between townships and urban opportunities, exclusionary development, the segregated urban structure, and the government's low-cost housing efforts in these township areas instead of in the rapidly developing suburban landscape. Moreleta Park serves as a model landscape, exhibiting the way in which old scars are retraced in a post-apartheid suburb to replicate exclusionary forms. As Edward Soya (2010) argues, from these far-reaching implications one can affirm that justice or, for that matter, injustice is inextricably bound to a consequential geography (Soya 2010:2).

The general issue (illustrated in Figure) consists of two parts: The circumstances guaranteeing rapid urbanisation in Pretoria East, and



the visible reaction to and effect thereof on the suburban landscape. The rapid urbanisation of Pretoria East is determined by four sets of circumstances: the continual eastward expansion of the city; a rapidly declining rural economy; press and pulse disturbances in bordering countries causing residents to seek refuge in South Africa (Du Plessis & Peres 2013); and, most importantly, the spatial legacy of previous policies pressing residents of peripheral settlements to move closer to urban opportunities. Consequently city migrants settle spontaneously on well-located residual land (SLOAP) in areas of residential and commercial development, as is evident in the case of Plastic View in Moreleta Park. As a result of the non-recognition of the legitimacy of spontaneous

neighbourhoods and the subsequent non-provision of services, the symptoms of Pretoria's systemic root problems are exacerbated by Plastic View.

Delimitations, Limitations and assumptions

Delimitations

1. In this study the author focusses solely on Plastic View in Moreleta Park, Pretoria East, although the existence of various similar settlements in Gauteng and the larger South Africa are acknowledged.
2. The main intervention is located adjacent to Plastic View and not in the neighbourhood itself, in order to firstly, activate SLOAP and secondly, provide space for the mitigation between the static and kinetic cities of Mo-



Questions of justice cannot be seen independently from the urban condition, not only because most of the world's population live in cities, but above all because the city condenses the manifold tensions and contradictions that infuse modern life" (Swyngedouw 2006:21)

Figure 3.3 The general issue (Author 2021)

Moreleta Park.

3. This study does not include the spontaneous urban settlement of Cemetery View located in a wetland area one kilometre from Plastic View, as residents from this neighbourhood were hesitant to interact with university students and the author opted to avoid an uncomfortable and unethical relationship.

4. The programme of the architectural project is delimited to public administration and general public amenities (such as bathrooms, transportation and markets spaces), although the designed kit of parts and their possible configurations are flexible enough to accommodate a variety of programmes.

5. The designed kit of parts allows location flexibility, although this study and the architectural configurations of catalogued pieces are explored on a single site in order to explore on a more detailed level.

6. High-tech water filtration and energy systems are deemed inappropriate components of the designed kit-of-parts because of their high cost, the expertise needed for installation and the difficulty to replicate without adjustments or redesign. More implementable passive design techniques utilising local materials

are instead used.

Limitations

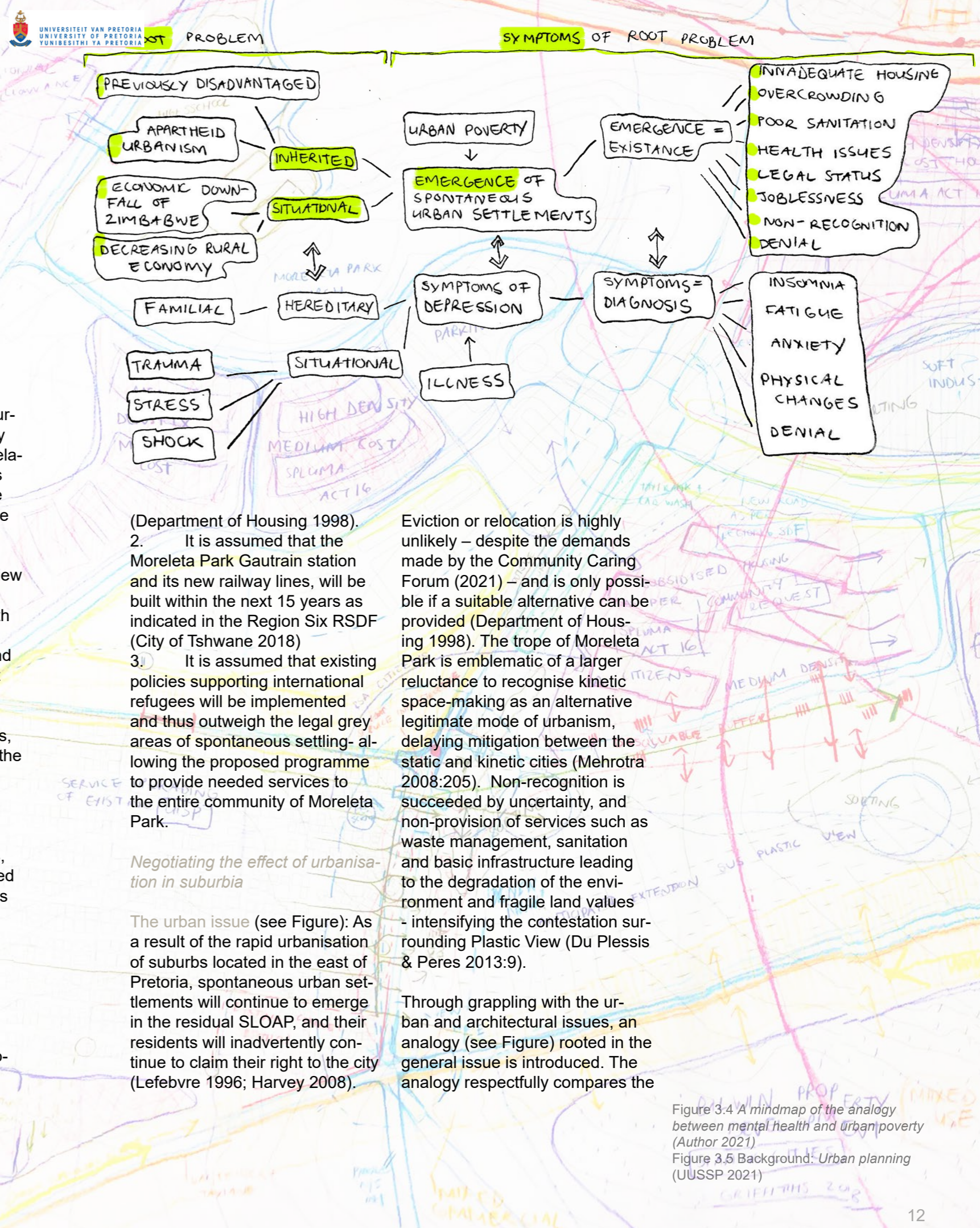
1. The great uncertainty surrounding the future of Cemetery View has rendered an ethical relationship with residents from this neighbourhood near impossible as residents verbally warned the author to not interfere.

2. The University of Pretoria's involvement with Plastic View dictates the type of relationship residents are willing to have with the author.

3. The cost of materials and manufacture of parts is of great concern to the author as either found or low-cost materials assembled by use of existing skills, are crucial in order to increase the implantable nature of the architectural project. These existing skills and materials have been identified through the coding of the following: on-site interviews, online questionnaires (completed on site) and photos of structures in Plastic View and the greater Moreleta Park area.

Assumptions

1. It is assumed that the neighbourhood of Plastic View and its residents will not be relocated in the foreseeable future



(Department of Housing 1998).

2. It is assumed that the Moreleta Park Gautrain station and its new railway lines, will be built within the next 15 years as indicated in the Region Six RSDP (City of Tshwane 2018)

3. It is assumed that existing policies supporting international refugees will be implemented and thus outweigh the legal grey areas of spontaneous settling- allowing the proposed programme to provide needed services to the entire community of Moreleta Park.

Negotiating the effect of urbanisation in suburbia

The urban issue (see Figure): As a result of the rapid urbanisation of suburbs located in the east of Pretoria, spontaneous urban settlements will continue to emerge in the residual SLOAP, and their residents will inadvertently continue to claim their right to the city (Lefebvre 1996; Harvey 2008).

Eviction or relocation is highly unlikely – despite the demands made by the Community Caring Forum (2021) – and is only possible if a suitable alternative can be provided (Department of Housing 1998). The trope of Moreleta Park is emblematic of a larger reluctance to recognise kinetic space-making as an alternative legitimate mode of urbanism, delaying mitigation between the static and kinetic cities (Mehrotra 2008:205). Non-recognition is succeeded by uncertainty, and non-provision of services such as waste management, sanitation and basic infrastructure leading to the degradation of the environment and fragile land values - intensifying the contestation surrounding Plastic View (Du Plessis & Peres 2013:9).

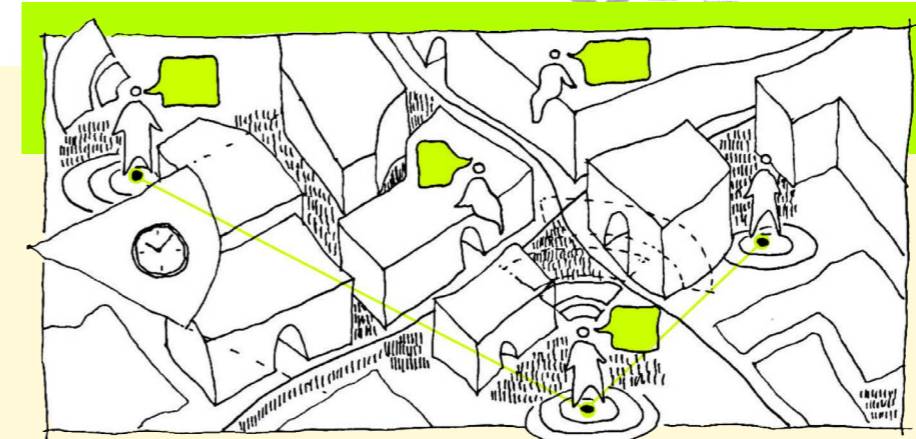
Through grappling with the urban and architectural issues, an analogy (see Figure) rooted in the general issue is introduced. The analogy respectfully compares the

Figure 3.4 A mindmap of the analogy between mental health and urban poverty (Author 2021)
Figure 3.5 Background: Urban planning (UUSSP 2021)



condition that urban spontaneity is in (in Moreleta Park specifically) with the mental illness of depression. In the same way that the illness is either situational, familial or a combination of the two, the reasons behind the emergence of spontaneous settlements are a combination of inherited issues and situational influences. To truly initiate a process of healing one must consult with significant role players and professionals to actively begin to address the root problem and subsequent symptoms (Hamdi 2010:72). Similarly, the process of spatial healing in Moreleta Park can only be initiated when community members recognise spatial injustice as a root issue in their area. Recognising the validity of spontaneous settling as a reaction to the root issues that induce their emer-

gence is a crucial departure point for introducing the urban issue (see Figure). Urban spontaneity itself, if recognised and supported, can offer many benefits to the urban condition (if one considers the potential of the kinetic city) – the side-lining of these settlements by suburban residents is perhaps one of the root inherited and situational issues, and perhaps the cause of this urban depression. Although the architect can contribute to a spatial validation of spontaneous urbanism, the focus of this study is on the ability of architecture to facilitate a negotiation between the static and kinetic cities whilst asserting the permanent presence of spontaneous urban settlements within the urban fabric of Pretoria East. Here the architectural issue is introduced (see Figure).



The architectural issue (see Figure): Spontaneous urban settlements are viewed as pulse disturbances by the City of Tshwane, instead of recognising their growing permanent reality in line with urbanisation trends in Pretoria East (Du Plessis & Peres 2013). This persistent public denial yields kneejerk responses from the already polarised community of Moreleta Park in reaction to the continual emergence of neighbourhoods like Plastic View. These static socio-spatial reactions exclude kinetic currents-preventing inclusive, sustainable cities from developing- continuing a cycle of spatial injustice (Roy 2005, Mehrotra 2008).

The research problem: Due to inherited and situational press-

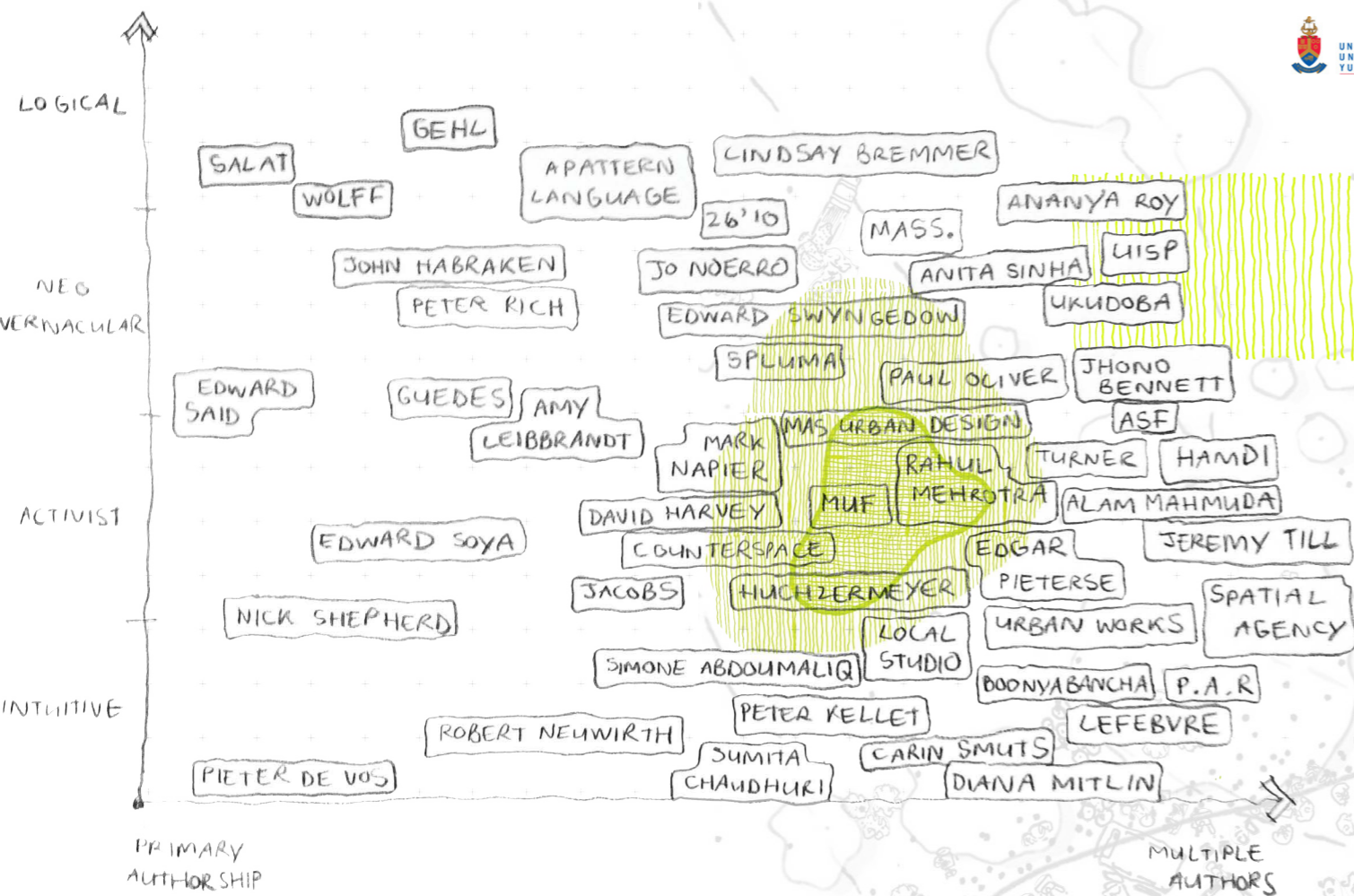
disturbances, urbanisation will intensify in Pretoria East, resulting in the continuing emergence and densification of spontaneous urban settlements in the residual areas of Moreleta Park. By not recognising the permanence of this alternative mode of urbanism, the inevitable mitigation between the static and kinetic city is only further delayed, leading to escalating tensions that endorse spatial injustice.

Research question: How can the built form be disassembled to address root problems on various scales whilst concurrently articulating and facilitating mitigation between the kinetic and static cities- initiating a process of spatial healing in Moreleta Park?

Sub questions: How can meso-

Figure 3.7 The urban issue (Author 2021)

Figure 3.8 The architectural issue (Author 2021)
Figure 3.9 Background: Sketched site plans (UUSSP 2021)



scale spatial development frameworks (SDFs) – addressing spatial injustice in Pretoria East – be linked with micro interventions that serve all members of a divided community? How can residual SLOAP in Moreleta Park be activated and connected to address the needs of polarised communities in the area? How can truly public spaces centred on pedestrian activity and public transport be designed in a previously vehicle-dominated environment?

Theoretical framework

Literature and policy review

Edward Soya (2010) affirms that literature supporting studies that recognise and address spatial injustice should serve as bridg-

es between the abstract realms of research paradigms and the practical implications of this knowledge (Soya 2010:67). Both the theoretical and contextual frameworks of this study therefore adopt an approach that oscillates between inductive and deductive research, building on new practical information at certain stages whilst extending knowledge based on existing information at other stages. The guiding literature used in this study is grounded in its applicability in praxis (see Figure). It is thus crucial that the spatial implication of this dissertation address the apparent gap between theory and practice, often caused by budgets, time constraints and non-susceptibility of spatial agency frameworks by developers.

International literature on spatial justice (Soya 2010), the right to the city (Lefebvre 1996; Harvey 2008), recognising and addressing urban poverty (Satterthwaite 1997), kinetic informal currents (Mehrotra 2008), action research and participation (Hamdi 2010), and the architect's role in addressing urbanisation in developing countries create a framework for local literature to focus the current study and supplement more specific knowledge. Working within the structure provided by international theories, the local literature reflects on the South African condition as well as the practical application and existing local policies regarding the main themes. The themes related to the spatial legacy of the divided city (Strauss & Liebenberg 2014; Murray & Shepherd 2007), design activism (Pieterse & Van Donk 2014), urban disturbances (Du Plessis & Peres 2013:9) and incremental upgrading (Department of Human Settlements UISP: 2009 (3)(13)) – all highlighted by existing policies (SPLUMA 2013) – contribute to the framework but, most importantly, serve as the in-fill situating the study within a rich local understanding of the issues.

This study critiques the work of John F.C. Turner (1976) and Paul

Oliver (2007) as slightly romanticised rationalisations of urban poverty, and rather proposes a stance that recognises local ingenuity through a practical valorisation thereof (Turner 1976; Oliver 2007). In *Architecture Depends*, Jeremy Tills (2009) similarly argues that built environments should be seen as verbs – constantly enabling adaptation in line with changing contextual factors (Till 2009). This argument is in line with main themes drawn from Turner's (1976) findings and also localises the notion of 'flexible design for change'. The spatial theory considered persists that the process-focused methodology followed is only justified by an equally valuable programme and product in conversation with this process. Through engagement comes enablement (Hamdi 2010), and by seeing the built environment as a verb (Turner 1976), by designing with flexibility in mind (Habraken 2008), and by building authentic relationships with community members, the author maintains that valuable architecture can materialise as a product of a rigorous process.

Figure 4.1 Literature review roughly planned out on a graph with two axes organising theory and practice (Author 2021)

Figure 4.2 Background: Sketched site plans (UUSSP 2021)

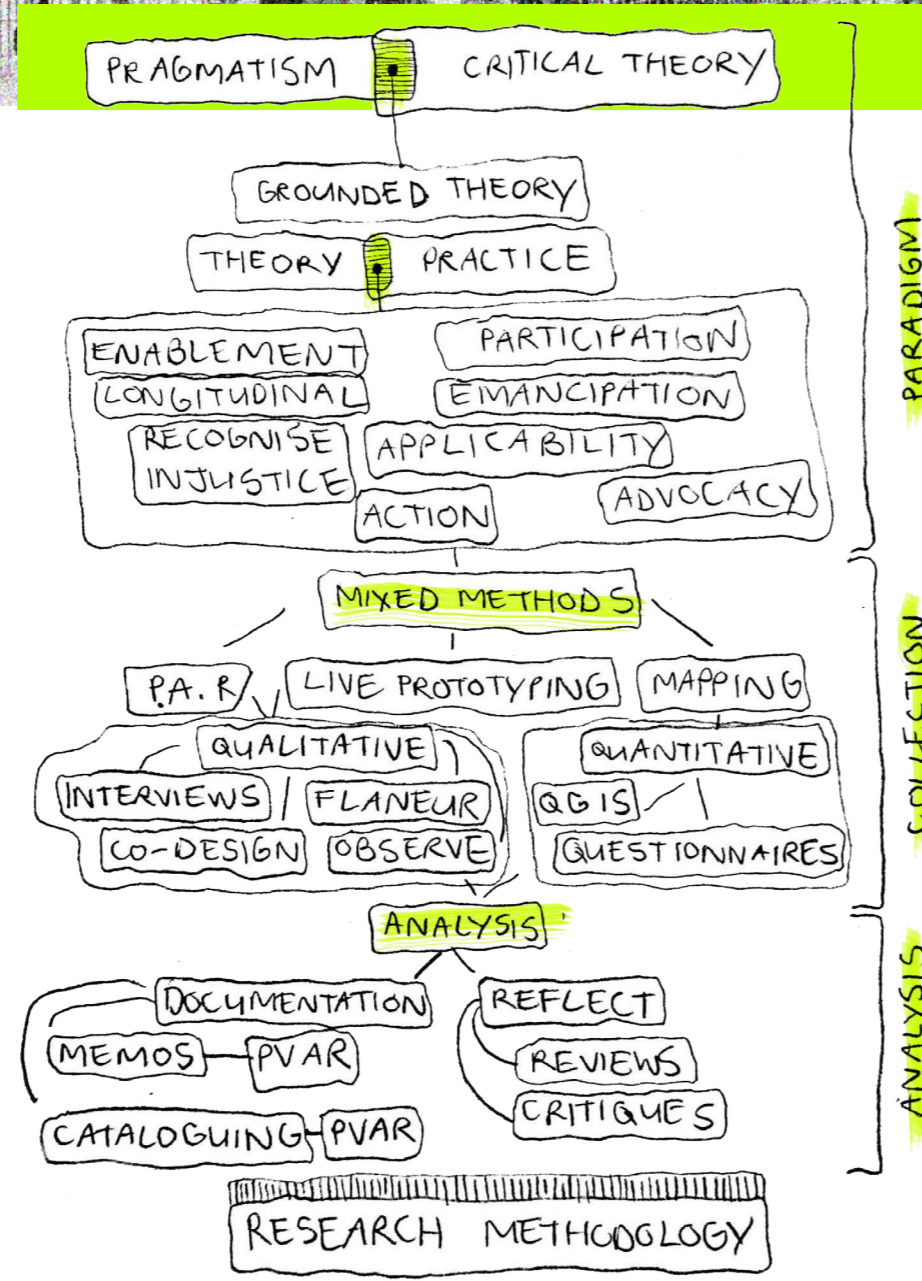


Figure 4.1 Research methodology mind map (Author 2021)

Contextual Framework

Research methodology: situating the study

The research methodology (see Figure) is based on both a pragmatist and critical epistemology (Goldkuhl 2012:135), and refined by a grounded theoretical ontology (Creswell 2013). This combinatory paradigm speaks to a method that uncovers assumptions, recognises injustices and, more importantly, realistically translates theories into action (Horkheimer 2002:188) on a longitudinal timeline. This combined epistemology emphasises the importance of reflection and close collaboration.

The qualitative information systems paired with the study consist of three main components: authentic relationships, data collection methods and analysis methods. Authentic relationships are often difficult to qualify but for purpose of this study, it is maintained that an authentic relationship is one

that develops on a longitudinal time-scale (the author and other group members have been in contact with residents of Plastic View since 2020), is transparent in all its intentions and enables knowledge transferal between all involved parties. A framework grounded in practical applicability warrants prolonged engagement with its environment and its people – from the inception phase through to the post-design and reflection phase. This collection process is supported by Participatory Action and Design Research (Hamdi 2010; Du Toit & Mouton 2012) as well as Live Prototyping (Hillgren et al. 2011).

Data collection methods: The qualitative data collection methods supported by advocacy and participatory core logics (Du Toit & Mouton 2012) include free-flowing interviews, traversing walks to observe patterns, co-design workshops (refer to Figure), policy reviews, precedent studies and community reflection sessions. Supporting quantitative data collection methods rely on desktop and vulnerability mapping

Figure 5.2 Above: Visualised financial polarisation in Moreleta Park (MPIP Master's 2021)

and questionnaires drafted in Epicollect.

Data analysis methods: Crucial to a grounded-theoretical ontology is constant documentation and continuous collaborative reflection (Creswell 2013). The storage of all empirical data is followed by a two-part coding process that draws comparisons between data sets and then catalogues this information. Analytic Memo Writing (Saldana 2013:57) is used to transcribe Participatory Verbal Action Research (Charman et al. 2019:51), whilst Visual Cataloguing (Lianto 2019:3) is used to organise Participatory Visual Action Research (Charman et al. 2019:51). Through ongoing reflection the validity of the data analysis can be determined along the way and appropriate adaptations made if conclusions do not relate closely to reality (Lianto 2019).

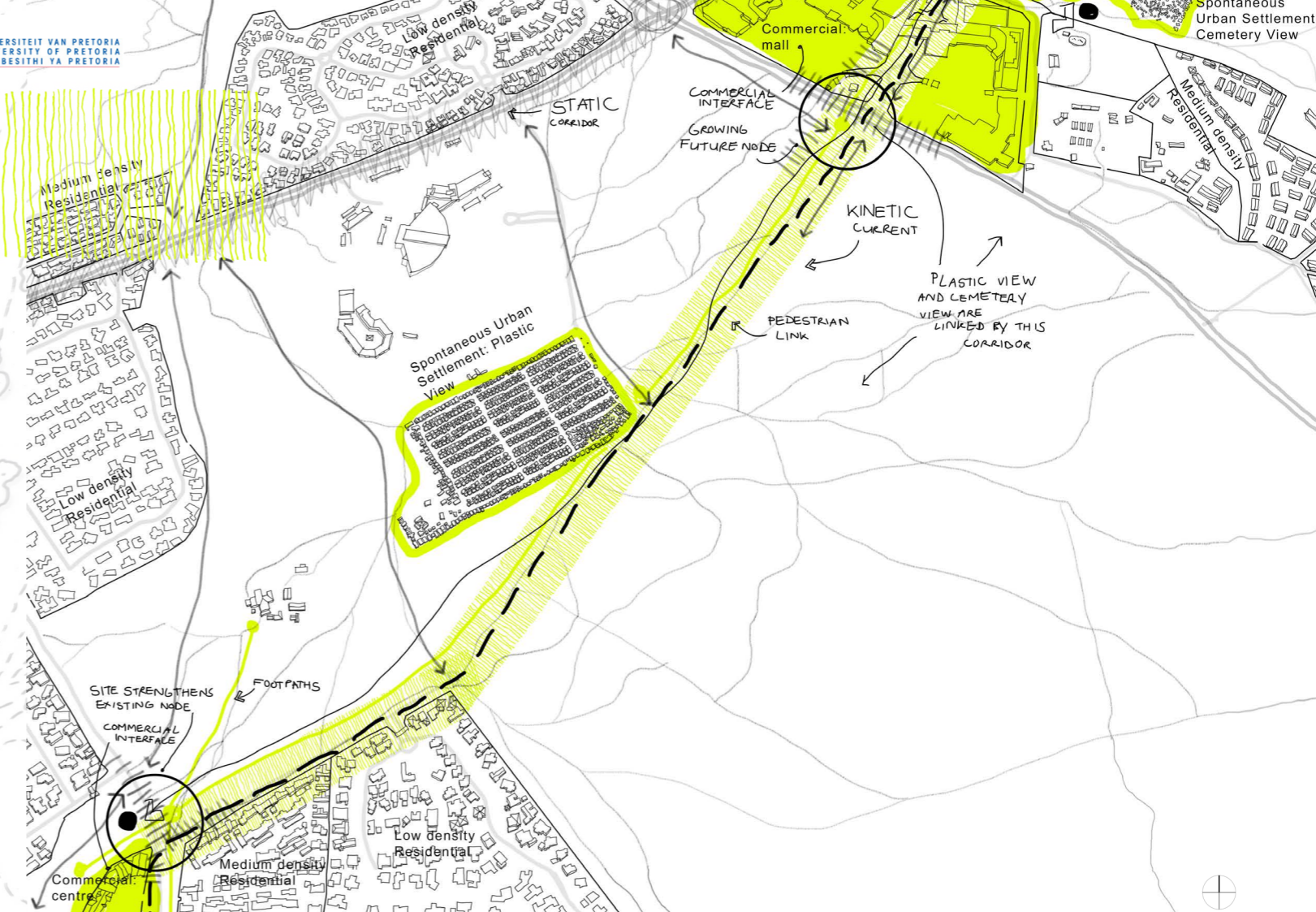
As seen in Figure on page , Analytic Memo Writing (Saldana 2013:57) and the cataloguing and coding of unprompted narratives has highlighted a root issue, causing various other symptoms. The root issue relates to the legal status and documentation of community members residing in Plastic View and is suggestive

of a possible administrative programme for the spatial design portion of this study. The spatial application of the research methodology is expected to determine the way project phasing unfolds in the design and the large extent to which co-design practices will contribute to the technification of available materials (Awan et al.2011). Most importantly, the coded methods applied in this study introduce the opportunity of an architectural prototype as a spatial response: addressing urban issues through decentralised and replicable micro-forms.

Programme postulate

Critiquing the current situation

Although the current RSDF for Tshwane Region Six (2018) does not recognise the permanence of Plastic View, it does anticipate an increase in pedestrian activity in Moreleta Park (supported by proposed public transport systems) and is also well grounded in recognised urban design principles (City of Tshwane 2018; Lynch 1960). The issue of deliberate silence from the City of Tshwane on the possible future of Plastic View, as pointed out by the Community Caring Forum



(2021), creates more room for miscommunication, and justifies a merger between the private and public sector - as considered by the spatial project's client (refer to page V).

By providing a critique of the current spatial policy, a series of legislative amendments – in response to the issues, argument and research questions – is proposed in this study (see Figure). The rigidity and disconnectedness of the current Region Six RSDF (2018) warrants an urban response - with decentralised spatial responses - slotting into a more flexibly designed urban framework (City of Tshwane 2018).

In Figure on page , the mentioned policy critiques are visualised alongside participatory methodologies and indicate public administration in the form of a Home Affairs office and a Post Office as viable programmes for the spatial design portion of this study. These administrative functions spatially interpret methodologies followed by this study and address the policy critiques made through suitable programming.

Urban spontaneity, specifically in the case of Plastic View, is more often than not paired with a series of social, spatial and economic issues. The root causes

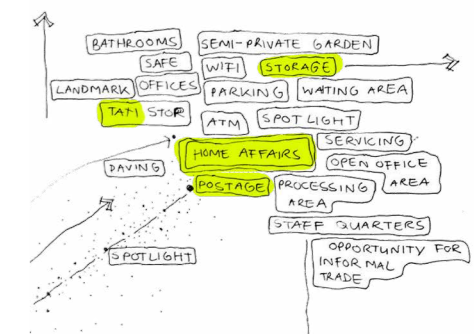
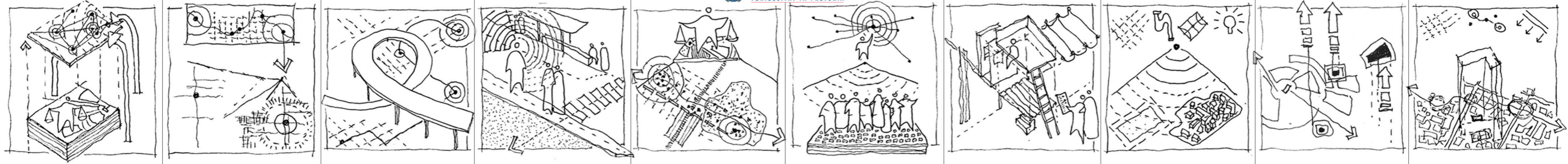


Figure 6.1 Background: Sketched site map (UOSSP 2021)

Figure 6.2 A possible future urban framework for Moreleta Park (Author 2021)



1. SDF's to be amended to set-aside pre-planned portions of land within urban settings for future low-cost development.
2. SDF's to be simplified. Simplified frameworks and strategies to be flexible in terms of anticipating future spontaneous urban development.
3. SDF's to recognise the potential of SLOAP by providing development frameworks that reclaim unused land pockets for spontaneous urban development.
4. SDF's amended to be more pedestrian-centred in areas of emergent spontaneous urban settlements and encourage further pedestrian-centred development.
5. The categories of settlements eligible for UISP implementation to be expanded to include spontaneous urban settlements.
6. UISP to adapt its agenda to include the infrastructural development of SLOAP's for future low-cost development.
7. NBRBS to be reassessed to recognise vernacular architecture and the utilisation of non-standard building materials (Charman et al. 2018:102).
8. CoT to investigate the feasibility of formalising established spontaneous urban community planning tribunals when these communities reach a certain size.
9. SPLUMA to clarify principle of spatial justice in line with land use and historical spatial injustice coupled with spontaneous urban settlements.
10. SPLUMA to be altered to mandate RSDf's to be explicit about addressing spatial injustice-ensuring rezoning in areas of high rural-urban migration.

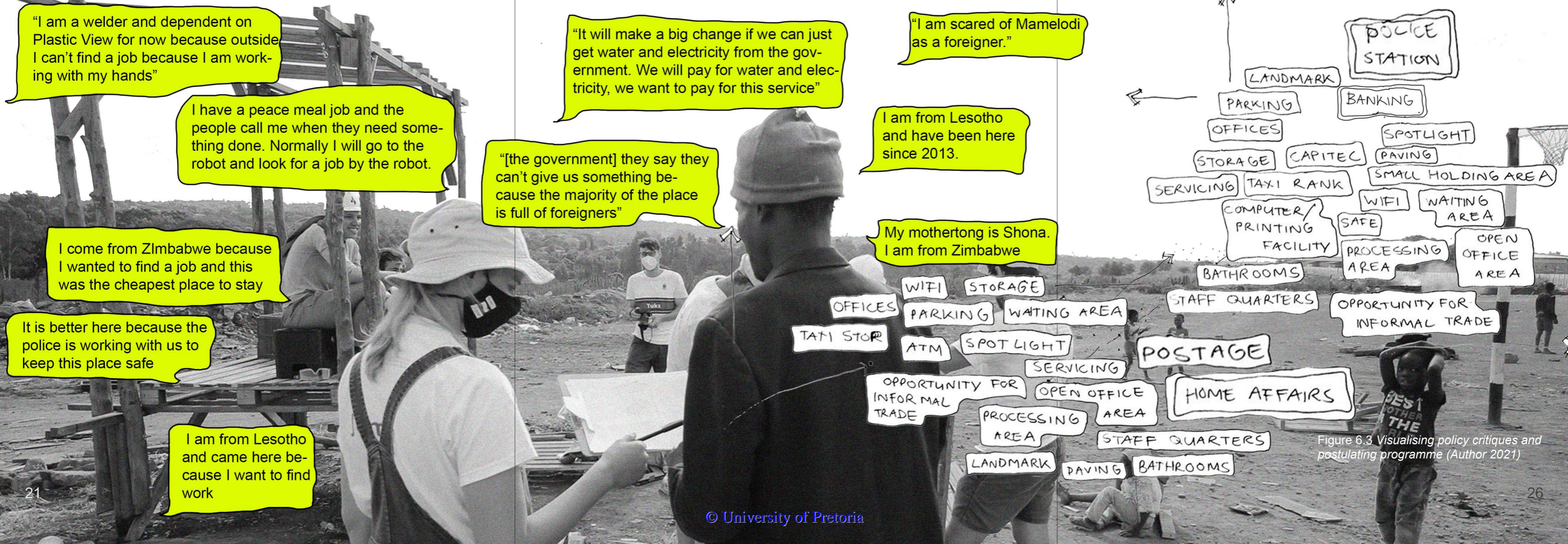
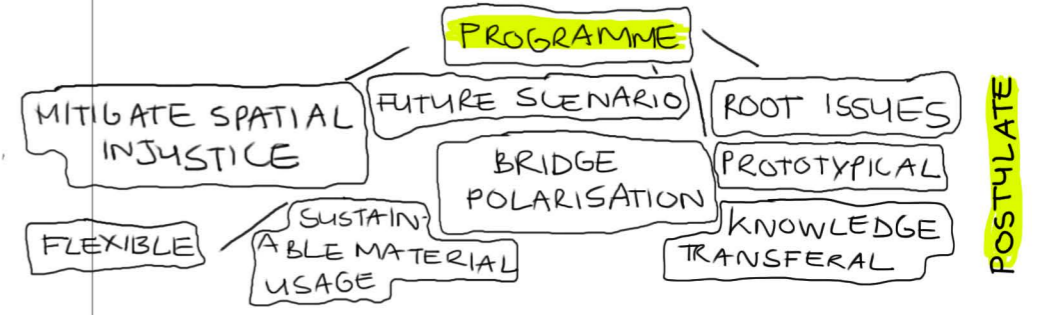
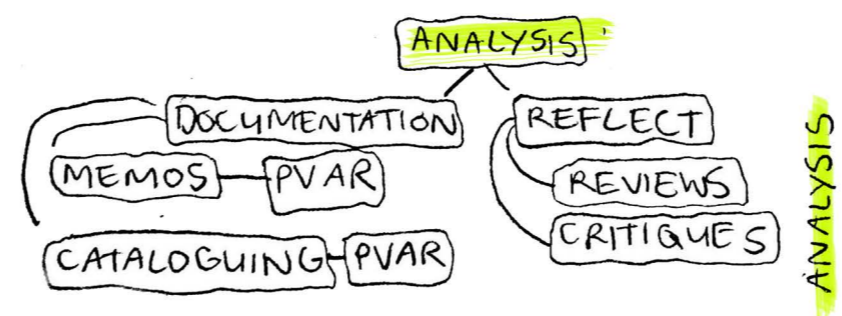
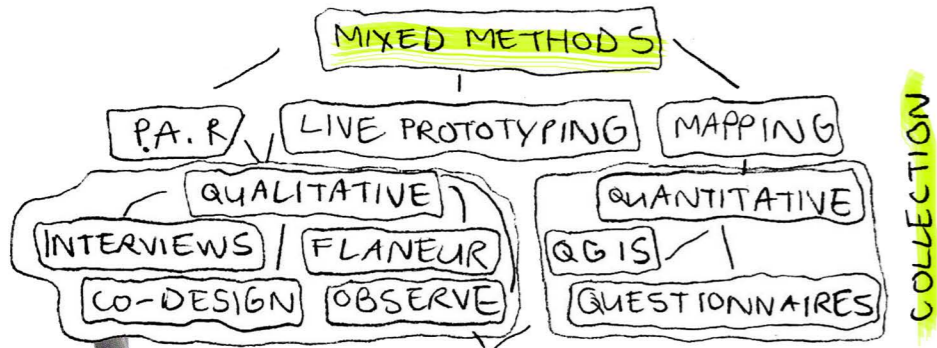
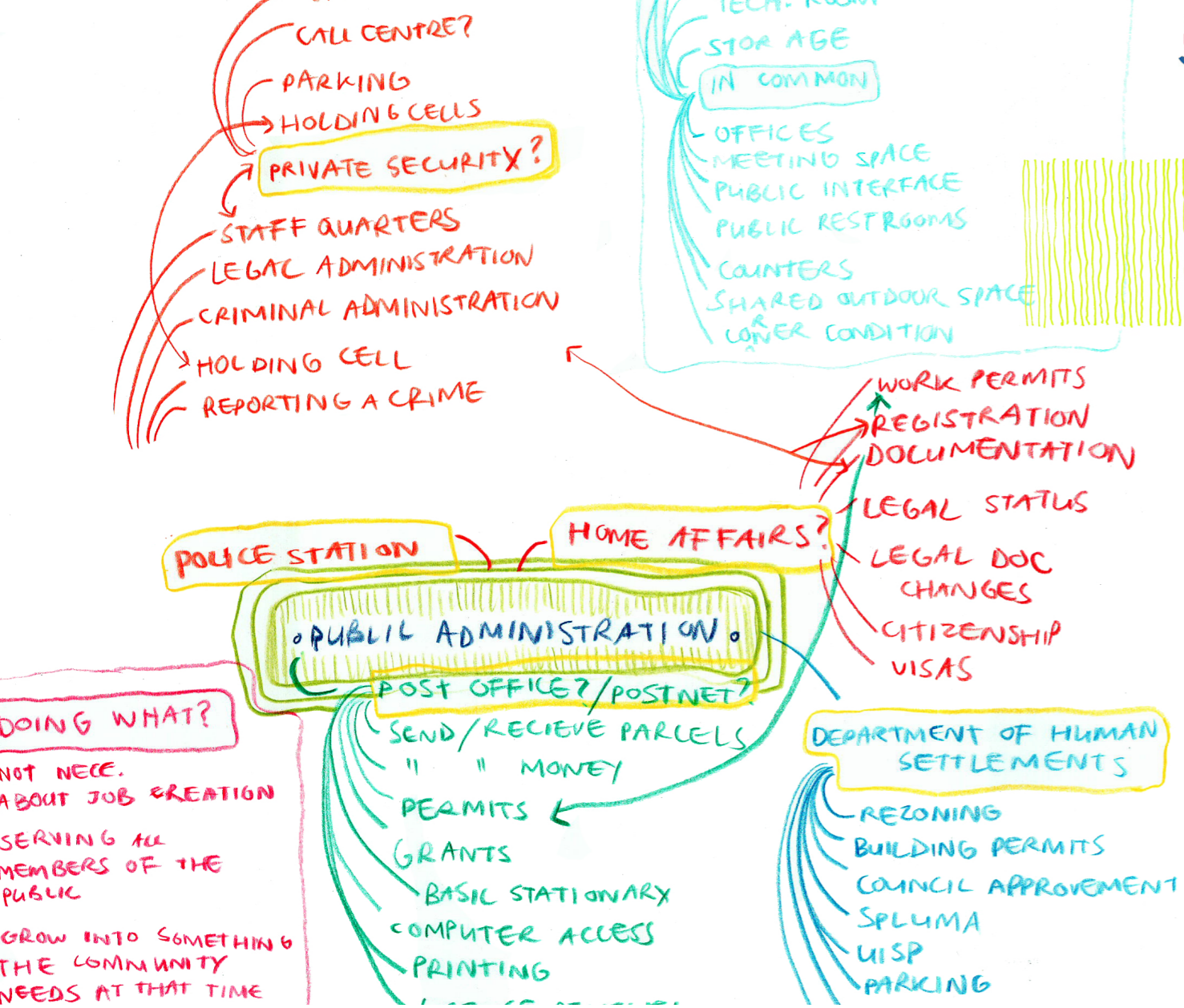


Figure 6.3 Visualising policy critiques and postulating programme (Author 2021)



DOING WHAT?
NOT NECE.
ABOUT JOB CREATION
SERVING ALL
MEMBERS OF THE
PUBLIC
GROW INTO SOMETHING
THE COMMUNITY
NEEDS AT THAT TIME

of these issues surface through the mentioned participatory methods and can all be traced to legal status and documentation (Hamdi 2010; Refugees Act 1998:130(1)). Although the lack of access to a home affairs office within a close range contributes to the issue of documentation (and the absence thereof), the discriminatory attitudes of home affairs employees toward undocumented residents often fuel the lack of issuing asylum (Marnell 2021). The home affairs and post office proposed in

this study, therefore focuses on activating the urban environment to display the potentials of kinetic cities as a means to address aspects of multicultural exposure and the so called discovery of the other. As a result of inadequate documentation and the legal status of most residents from Plastic View, the local municipality and many other community members of Moreleta Park, refuse to recognise Plastic View residents' right to the city (Lefebvre 1996; Harvey 2008).

The clients decided upon by the author (see figure) intend to side-line individual biases by proposing a public service (initially funded by the public sector) maintained by the private sector and managed as a business. Developing companies, such as Atterbury Property have begun to recognise the financial opportunity of kinetic investments in relation to the financial turnover versus required square meterage (Van der Watt 2021). Although the programming of the home affairs and post office don't radically differ from the current type of services provided by these places, the client merger proposed addresses issues of maintenance, biases and urban and financial sustainability – carrying the potential for actualisation. If a neutral, yet needed service could improve the lives of all members of the Moreleta Park community, the root problem could be addressed simultaneously to providing a place for mitigation between the static and kinetic cities (Mehrotra 2008 and Hamdi 2010). Although the programme addresses the legal status of many residents in Plastic View primarily, it also provides an essential service to all other documented residents in the area needing to renew

or adapt documentation. A programme as mundane as public administration has the ability to concentrate polarised community members in a shared space, where similar services discreetly bind people from diverse backgrounds. Without having to force an integration of the formal and informal city, a home affairs office and post office subtly provide a place for mitigation whilst simultaneously addressing a core issue.

Projecting a suburban future

As development continues to intensify in the eastern suburbs of Pretoria (see Figure), the fragmented landscape of Moreleta Park will continue to attract urban dwellers (Du Plessis & Peres 2013). This study projects a suburban future where spontaneous urban settlements weave their kinetic influence through the dull, static fabric of Moreleta Park in a more intensified manner, despite community objections. This future city (Neuwirth 2007) condition, if not planned for appropriately, can cause an environmental collapse as a result of the non-provision of services to these neighbourhoods. In reaction to the research problem and issues,

Figure 6.2 A possible future urban framework for Moreleta Park (Author 2021)

- RECOGNITION
 - COMMUNITY FORUMS
 - CO-DESIGN OF SDF
 - WORKSHOPS
 - MEETINGS
 - FORMALISING SDF
 - FEASIBILITY

- INTRODUCTION OF SOFT INDUSTRY
 - REZONING
 - MICRO-CHANGES
 - LEGALISATION
 - HONOURS CO-DESIGN INTERVENTION
 - BASIC OF SDF

- NEW ROADS
 - PUBLIC ADMINISTRATION
 - LEGAL DOCUMENTATION
 - UISP
 - HOME AFFAIRS
 - PRIVATE SECURITY
 - LINK
 - FIRST PHASES OF NEW SDF
 - INFRASTRUCTURE
 - CO-DESIGN

- COMMERCIAL SPINE DEVELOPMENT
 - POSTNET
 - UPGRADE HIGH SCHOOL
 - REWORK PUBLIC ADMIN NEEDS
 - SOFT INDUSTRY ASSESSMENT
 - RERWORK LINK
 - POST-OFFICE
 - UPGRADE URBAN FRAMEWORK
 - CO-DESIGN
 - ASSESSMENTS

- DISSOLVING WALLS
 - ECONOMIC ASSESSMENTS
 - GAUTRAIN STATION
 - GAUTRAIN STATION
 - EXPANDED URBAN UPGRADING
 - FRAGMENTATION OF MALL

- BALDWIN PROPERTY DEVELOPMENT
 - CO-DESIGN
 - UPGRADE ECD
 - LINKS
 - NEW MEDIUM MEDIUM COST

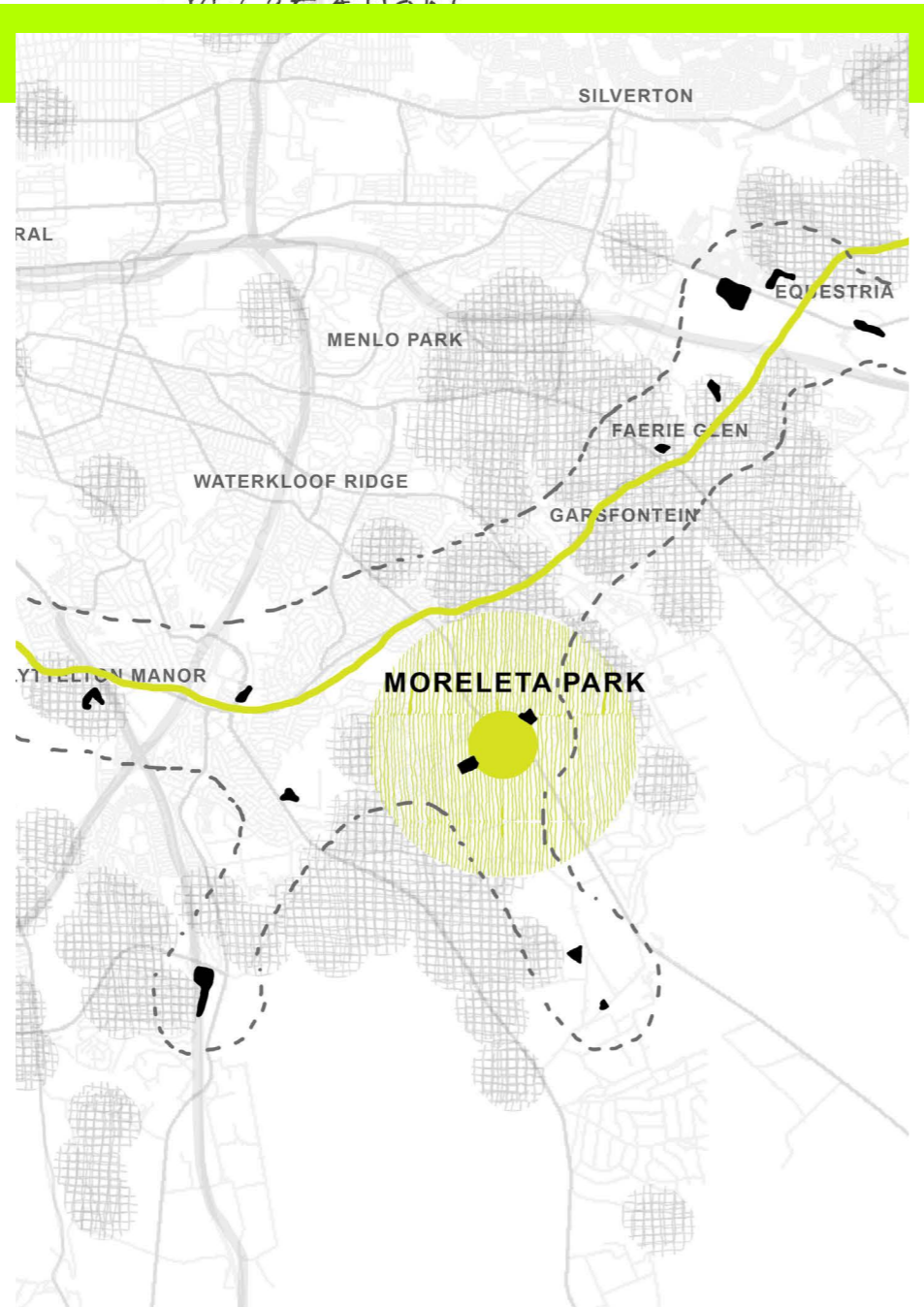
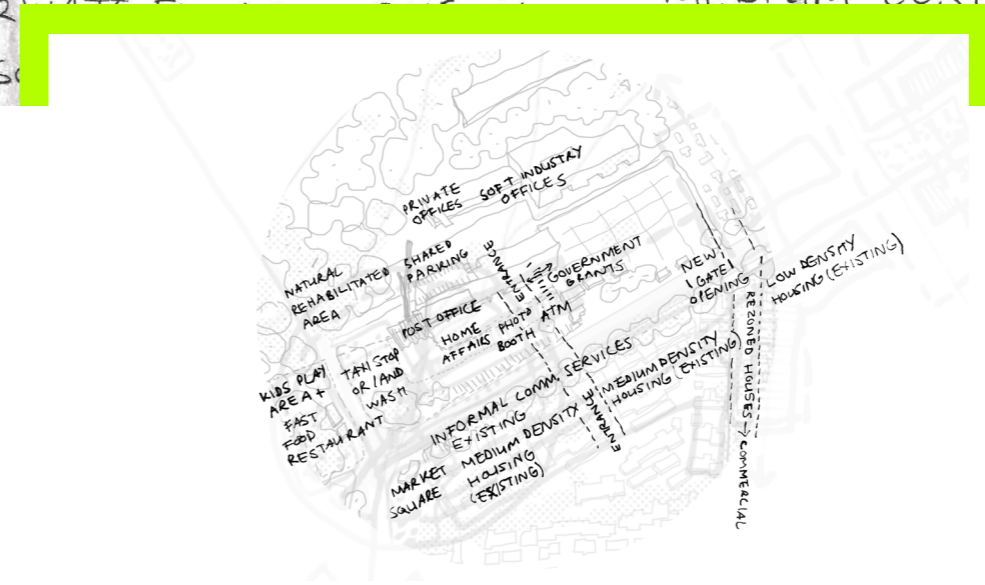


Figure 6.4 Map: Economic growth from 1994 to 2016 in Pretoria East (GCRO 2021) (Author 2021)
 Figure 6.5 Background: Sketched site plan (UOSSP 2021)

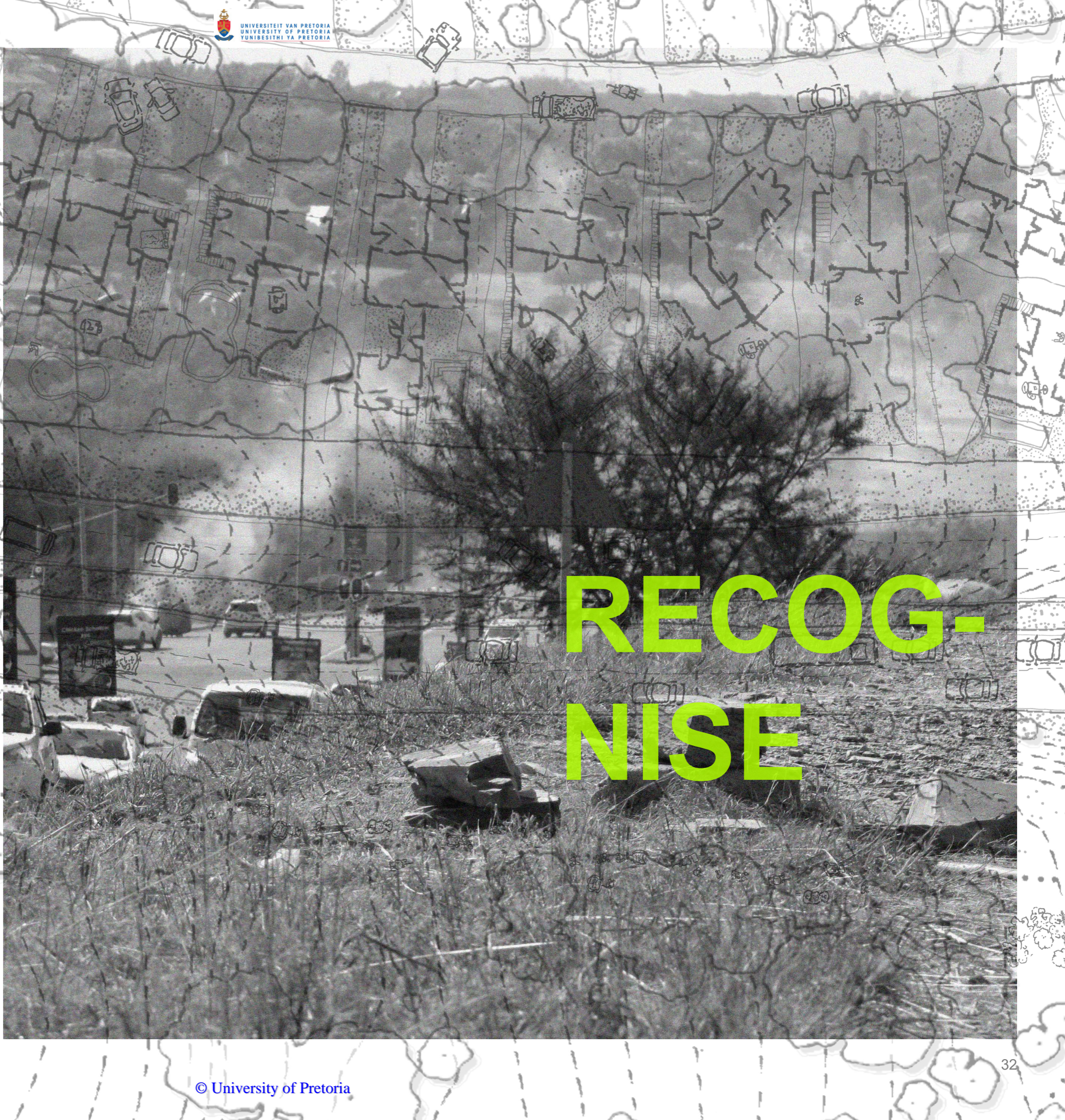
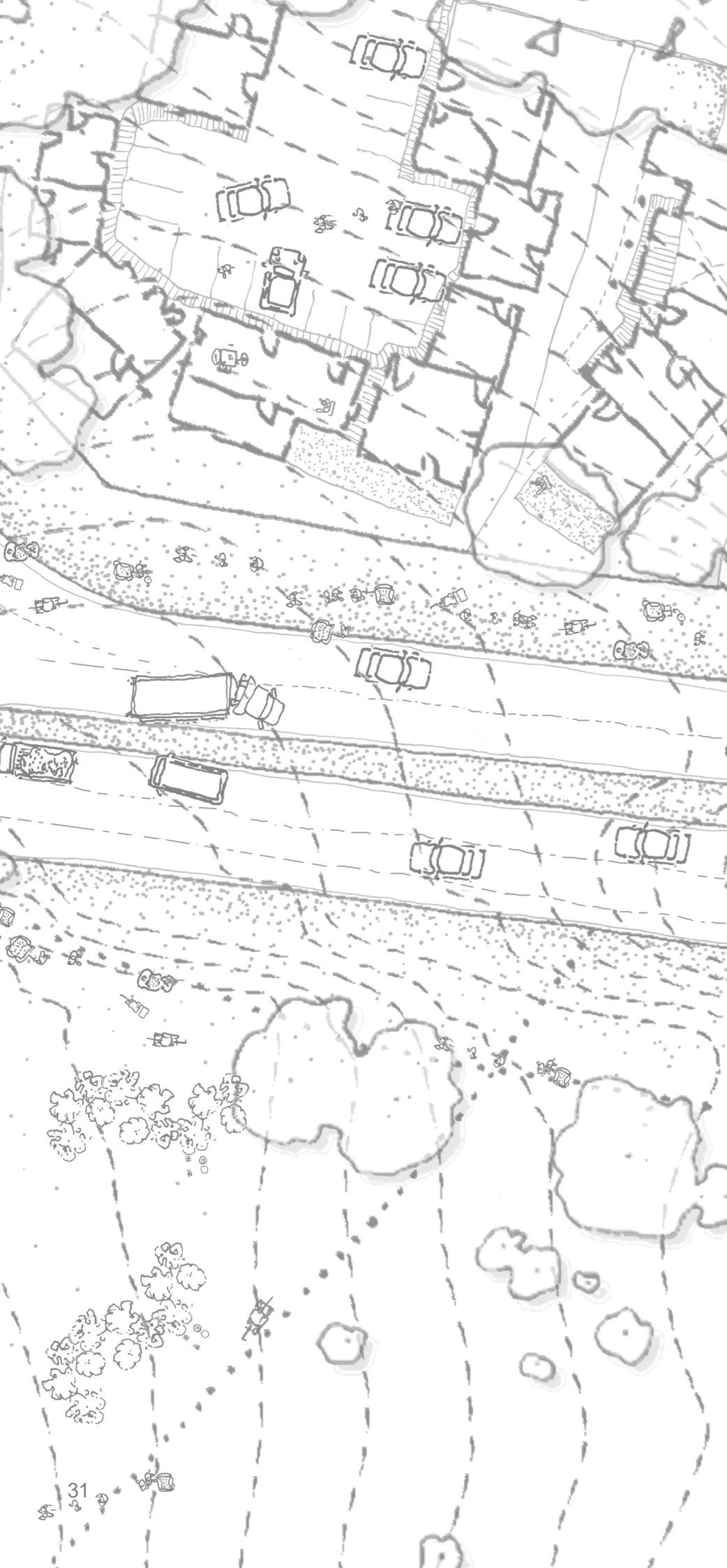


the architectural premise relies on a phased prototypical project designed for kinetic enablement, with the possibility of future alternative configurations and locations in response to similar issues in surrounding areas.

It is anticipated that the designed kit-of-parts emerging from the research methodology will have the capacity to articulate the tense dialogue between Moreleta Park's static and kinetic cities (Mehrotra 2008). The urban and first-phase architectural response intends to address the root problem of documentation instead of mere symptoms of these problems (Hamdi 2010).

This administrative scheme provides the polarised community of Moreleta Park with neutral, yet needed services utilising the architecture as a platform for mitigation.

By raising awareness of the inevitable urbanisation of Moreleta Park, the larger community can begin to recognise spontaneous settling as a legitimate kinetic mode of urbanism (Roy 2005) - and negotiate with it, ultimately providing spontaneous urban settlers an equal right to the city by mitigating spatial injustices (Lefebvre 1996; Harvey 2008).



RECOGNISE



subsequent coding of available materials, skills and verbalised needs, have contributed extensively to the design intentions of this study (see figure on page) (Saldana 2013:57).

The main method of open-source data collection, coding and cataloguing has surpassed its primary theoretical influence, and in this project phase also directly informs the manner in which the author designs (refer to figure on page) reality studio catalogues vs catalogue of pieces. As information is catalogued to curate theoretical intentions, the author similarly explores a kit-of-parts with various configurations to translate theory to implementable design. Throughout the design development portion of the study, local and international precedents located on contested sites, further inform the author's urban and detailed design intentions. Along with the mentioned methods undertaken thus far, the author's design process for this portion of the study is reliant on precedent studies: displaying the link between theory and action. The

precedents selected for assessment in this study, grapple with the way in which the static form can enable certain kinetic moments and purposefully unfold on various scales. The lens, through which these local and international precedents are assessed, looks at the specific relationship between the static and kinetic. This lens also limits precedents that unintentionally enable kinetic moments, ensuring that design decisions made to intentionally enable kinetisism, can be critiqued equally.

Mitigating suburban islands

Moreleta Park- its fortified estate developments, spontaneous urban settlements and divided community, can be viewed as a hyper-densified trope of Pretoria's post-apartheid suburban landscape (Creswell 2013) photo of estates, mall etc. This landscape is defined by SLOAPs (Space(s) Left Over After Planning)photo of SLOAP, where exclusionary empty pockets of land create barriers between isolated developments and the only planned attempt at

Figure : (Author 2021)

Figure : (Author 2021)



stitching these suburban islands together exists in the form of wide roadways, mostly operated by private vehicles (City of Tshwane 2018). SLOAP can also be associated with Junkspace which also includes, more conceptually, the disjunction of modern planning approaches where multiple ideas and agendas are often compartmentalised and their junctions left unresolved. Moreleta Park most evidently displays the many negative effects of sprawl on the urban environment and showcases these effects to an extreme extent. This suburban archipelago enforces further exclusion through rampart boundary conditions without planning for a spatially just urban future (Soya 2010) photo of current new developments in

area. Many static suburbs in the East of Pretoria have similar socio-spatial characteristics but also display layouts and building styles associated with a global suburban typology. (photo of moreleta park streets and Tuscan houses). Rapid kinetic urbanisation patterns, as observed in the way Plastic View and Cemetery View initially emerged, (see Figure of plastic view and cemetery view growing over the years), can be traced to multiple suburbs all over South Africa. Paired with the contained formal perception of suburbia, the increasing emergence of spontaneous urban settlements, located in empty pockets of municipal land, give rise to kinetic currents

that supersede and evade the static city of Moreleta Park. Although residents of Moreleta Park (as well as residents from other similar communities) are reluctant to recognise the permanence of spontaneous urbanism within their static settings, these suburban areas unknowingly continue to provide ideal conditions for this alternative mode of urbanism. (Roy 2005; Mehrotra 2008; Community Caring Forum 2021:5). Over twenty new spontaneous urban settlements have been catalogued by the author in Pretoria East alone (see Figure map with settlements). In line with urbanisation trends traced in Gauteng, at least ninety other spontaneous settlements have emerged in Pretoria over the last five years (Du

Plessis & Peres 2013; Community Caring Forum 2021:2). Through the cataloguing and coding of various individual socio-spatial attributes of the spontaneous urban settlements selected by the author, eight shared characteristics have been revealed (see figure eight different characteristics). These characteristics range from patterns of emergence to settlement configurations and when understood together, this list has the ability to determine the location probability of future spontaneous settlements. The record of attributes has proven applicable to countless other existing spontaneous urban settlements, tracked with a variety of GIS programming, all

Figure : (Author 2021)

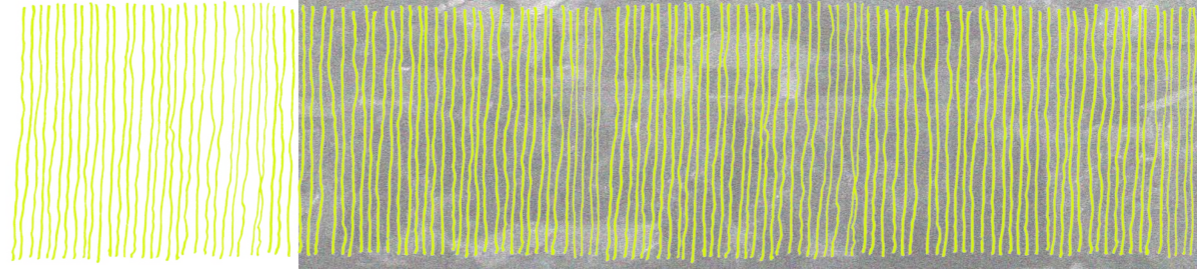
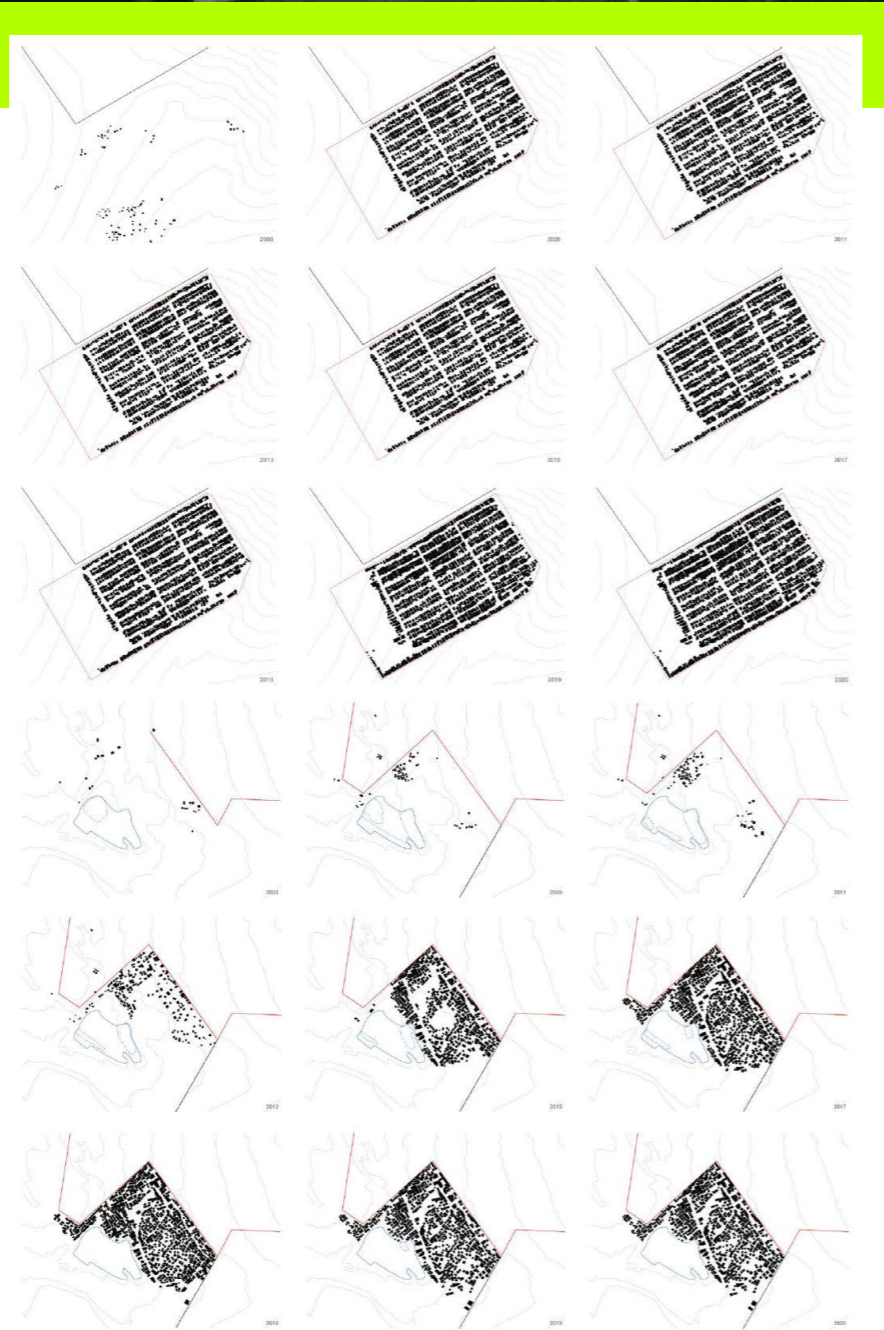


Figure 3.2 Drone image of a water collection point in plastic View (MPIP Honours 2021)

Figure : (Author 2021)



over South Africa. Since a kinetic neighbourhood located within a static suburb isn't an anomaly bound to Moreleta Park, the possibility of a prototypical architectural response to the urban and architectural issues, is revealed.

Through the catalogue and coding of individual settlements, it is clear that the urban and architectural response to Plastic View in Moreleta Park has the ability to transcend its single location and possibly address issues related to kinetic urbanism in various local and international areas. Plastic View isn't an isolated urban phenomenon, but rather an early indication of how the kinetic city can, and will, develop in similar suburban areas: constantly manifesting its resilient presence in a suburb that refuses to acknowledge its permanence. It is predicted that spontaneous urban settlements will continue to emerge as a result of four major occurrences (see image of the general issue), namely: the vast amount of developable land available in the East of Pretoria and the subsequent Eastward expansion of the city, a

volantly declining rural economy, unrest and economic uncertainty in South Africa's six neighbouring countries and most importantly: the exclusionary spatial legacy engraved within Pretoria. Through the information uncovered in this portion of the author's process, it is evident that the future urban and architectural condition will influence design decisions greatly. Designing the urban environment by means of phases is a catalytic moment in the project insinuating ever-evolving architecture that serves the current community but grows to be equally well situated for the future condition.

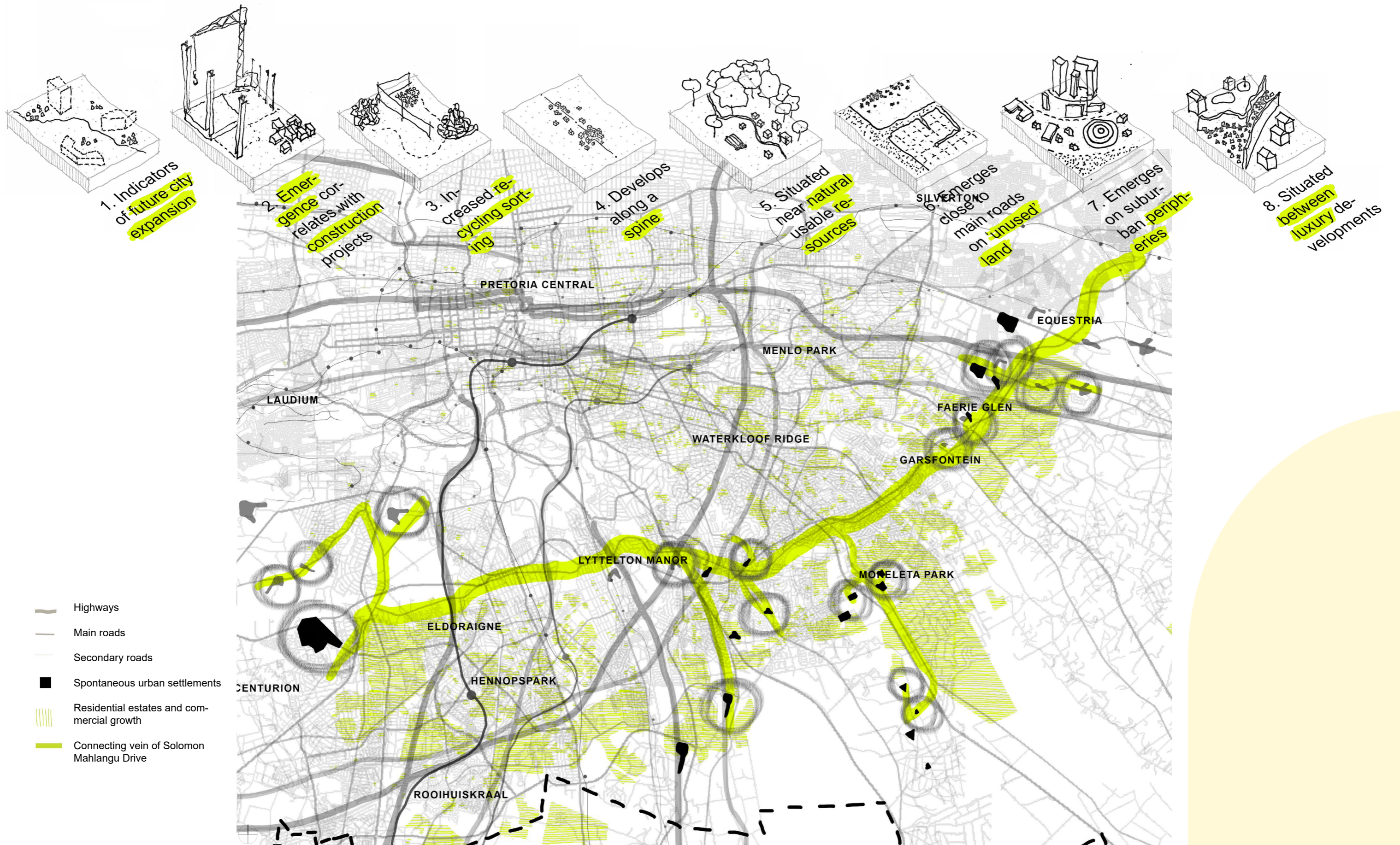


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NEGOTI- ATE



Arguing for a sustainable urban future

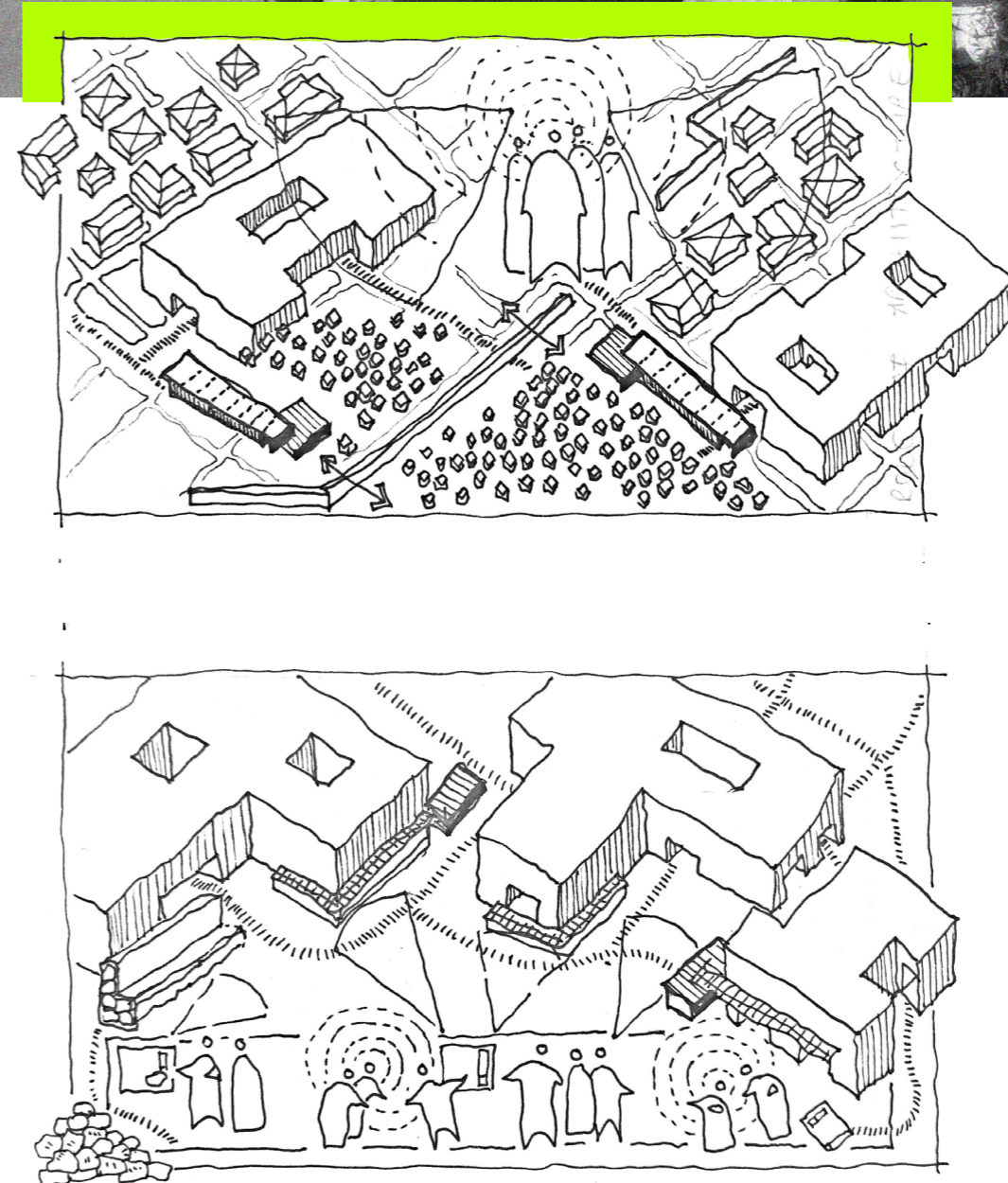
The argument

By designing an urban framework grounded in theory, in conjunction with built prototypes, the architecture generated, is seen as the main method in which theory is translated to structure and eventual syntax of design.

It is argued that the role of the architect see sketch is one that is ever-changing; adaptable, and often realigned in relation to the context. When working with polarised communities, architecture serves as a mitigator: negotiating exclusion and initiating dialogue. Disconnected communities, such as those living in Moreleta Park, require the architect's longitudinal emergence within context- in order to reveal socio-spatial nuances. The architect thus firstly serves as the facilitator of a flexible design process; anticipating what the built form's position in the future urban condition could be. And secondly, the architect

serves as technifier: working alongside community members to valorise local skills, materials and knowledge systems in order to enable a self-sustaining urban future. In the case of Moreleta Park: where people construct such silos around themselves see map of estates, it is often necessary for the architect to reveal the possibility of spatial connections. In this study the role of the architect further includes that of revealing the potential of connections and interfaces in place of present boundaries and to facilitate the negotiations that might unfold around these.

Further, the role of the architect see sketch within this specific project is argued to be a method of articulation: spatially negotiating the static and kinetic cities of Moreleta Park (Mehrotra 2008). This 'method' expresses two crucial roles: mitigation and prototyping. Through recognising spontaneous settling as an alternative mode of urbanism in South Africa the effects can be mitigated spatially; ultimately creating a flexible prototype materialising as





a kit-of-parts- to be experimented with on multiple locations.

The study as a whole therefore argues that the built environment has a responsibility to create adaptable spaces for the mitigation of spatial injustice and that these designed places need to be flexible enough to serve as equally important platforms of negotiation in a less divisive urban future. In order for this argument to ring true in the case of Plastic View in

Moreleta Park, multiple authors photos of engagements in plastic view need to actively contribute to architecture that equally serves most members of their polarised community.

The kinetic city shows the importance of a needed systemic shift, from consumption driven development to the creation of value and value chain based networks (Meagher 2018). This amended agenda argues that the static city

needs to absorb crucial parts of the kinetic city, so that essential socio-economic principles can be shared between the formal and informal city, expanding networks and connections to increase the overall resilience of an area like Moreleta Park. Although, the static city is reluctant to engage with kinetic 'disruptions', the refusal to do so can be detrimental to the urban futures of both these modes of urbanism (Roy 2005). If the static city does not, however, plan for an urban future that consciously enables kinetisism, the socio-environmental issues paired with spontaneous urban settlements will persist, heightening contestation and imposing continuous segregation (Du Plessis & Peres 2013).

Introducing a sustainable urban future

As significant as the prototypical built form emerging from this study is, equally as important is the design of a phased urban plan into which the architecture generated, can slot into. Four existing urban frameworks (designed for

the focus area in which Plastic View is located in Moreleta Park) have been analysed in order to inform a group urban framework and refined individual urban plan see images of four assessed frameworks and the compiled image of all of them. The assessed frameworks were completed by NGO's, individuals, architecture firms and the City of Tshwane and differ radically. Although these existing urban schemes make use of various global urban principles, none of the schemes recognise the spontaneous settlement of Plastic View as a legitimate neighbourhood with a permanent place in the urban future of Moreleta Park. The frameworks also focus predominantly on vehicular nodes that exclude existing pedestrian patterns and seem to continue to assert division in the already divided area. As a group of three students working in Moreleta Park, an impulse urban framework reacting to the existing frameworks was drafted first see simplified group framework.

This initial design response was then followed by a theoretical

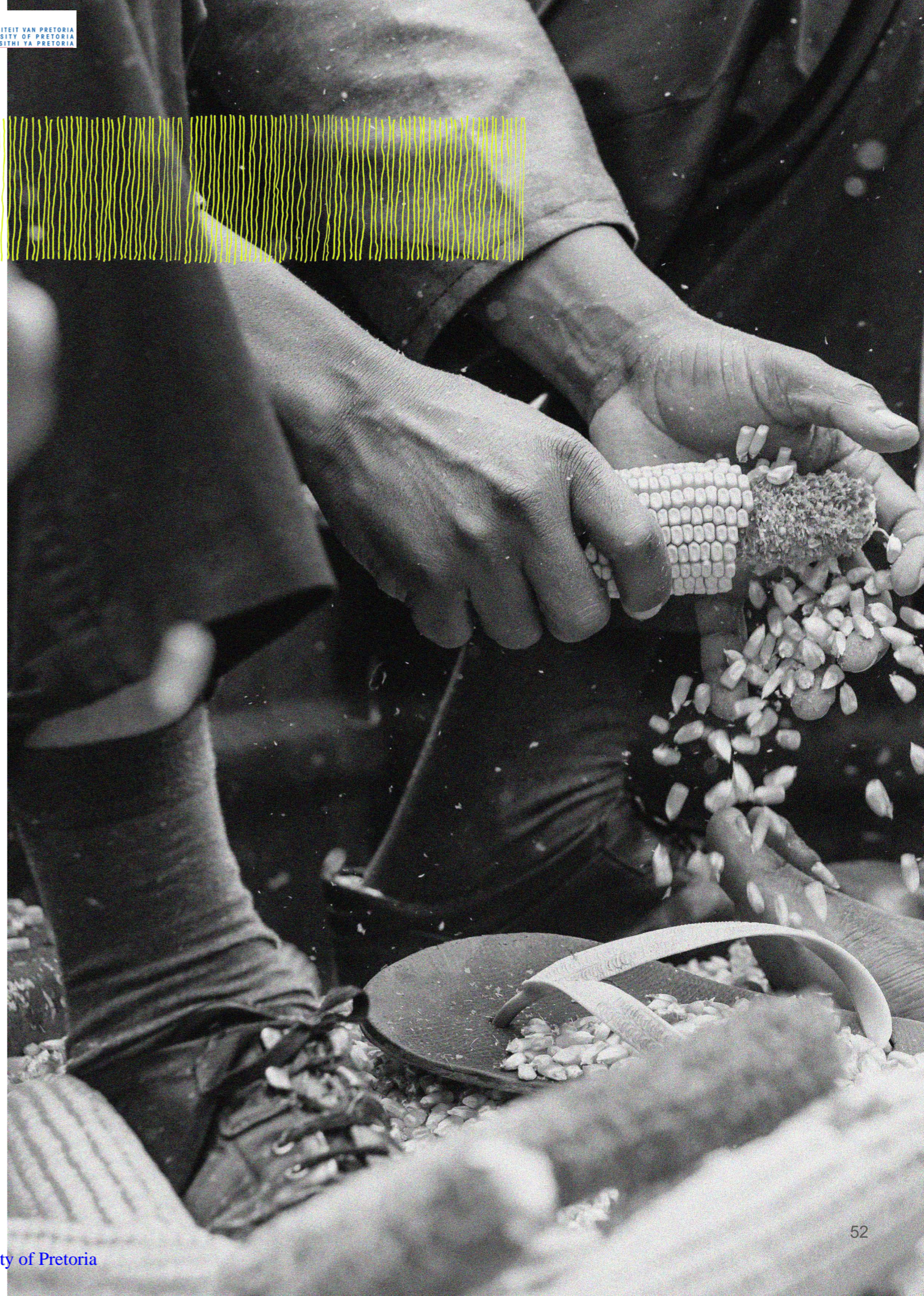
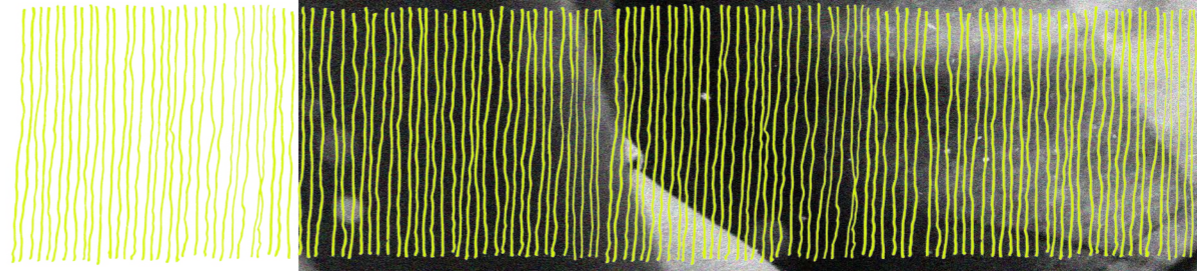


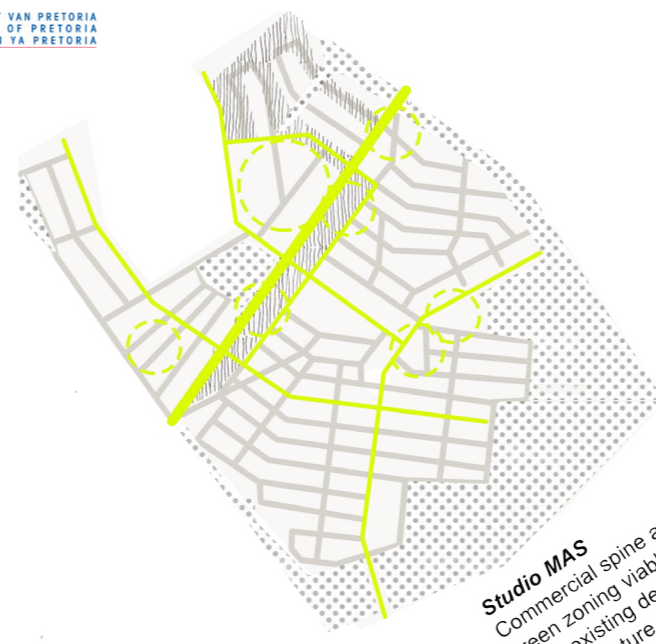
Figure : (Author 2021)



Tswelopele urban plan
Eurocentric radial plan disregarding the future of Plastic View



Marianne de Klerk
Viable roadwork and natural area layout, however, the future of Plastic View is still being disregarded.



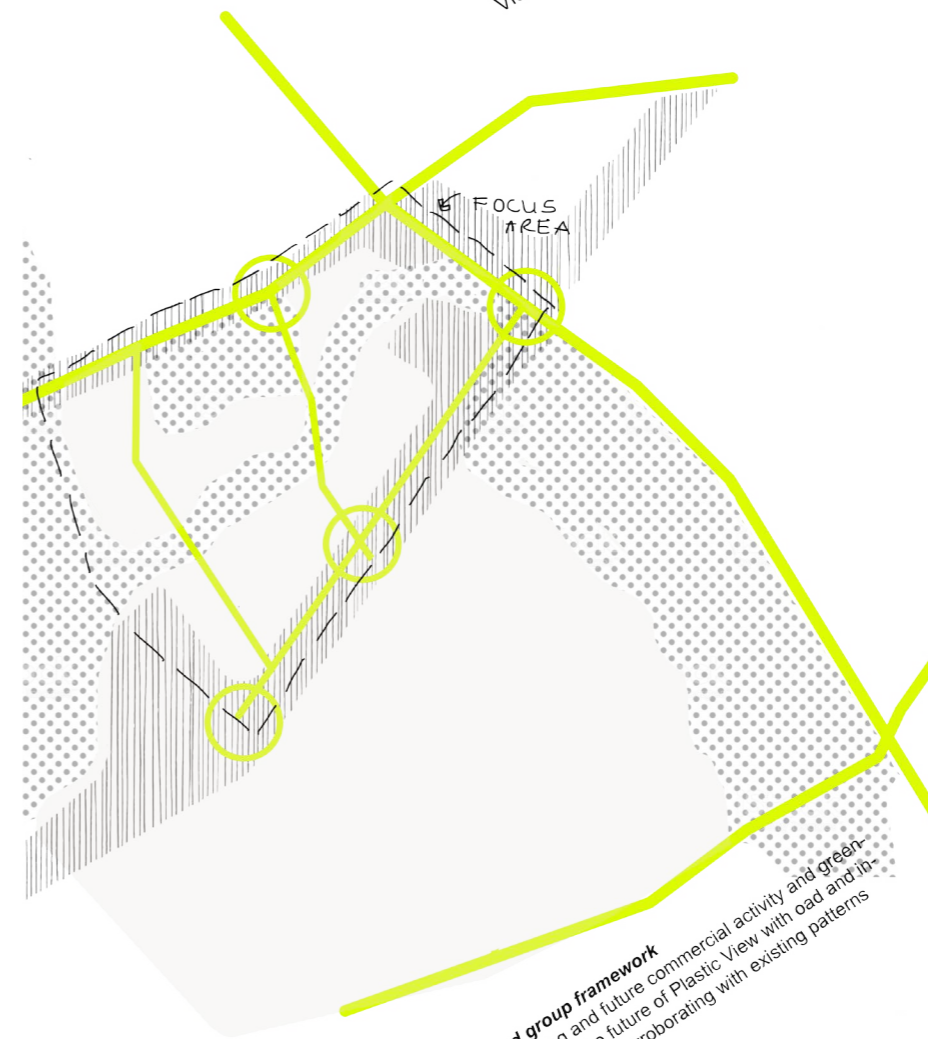
Studio MAS
Commercial spine and green zoning viable, however, existing desire lines and the future of Plastic View is disregarded.



CoT RSDF
Commercial only in relation to Woodlands and disregarding the future of Plastic View and existing footpaths

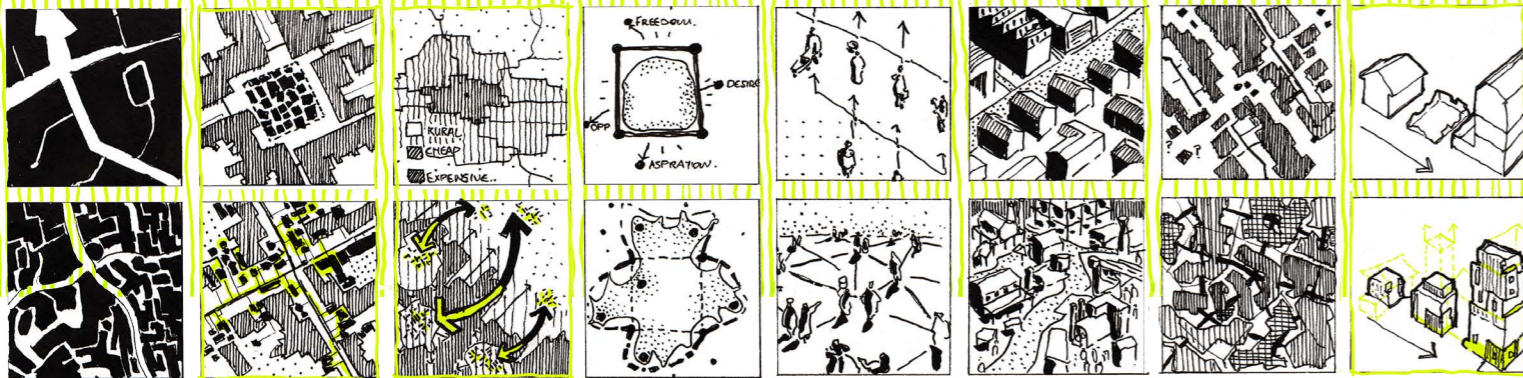


Simplified consolidated map
Green areas not linking well, existing commercial activity not linked, disregard for the future of Plastic View, road and infrastructural layout works well with existing patterns

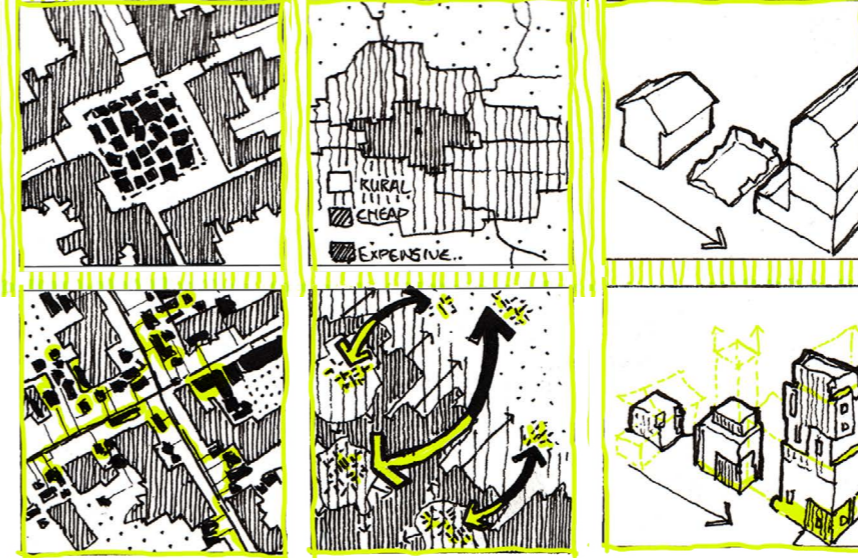


Simplified group framework
Linking existing and future commercial activity and greenery anticipating the future of Plastic View with road and infrastructural layout corroborating with existing patterns

- Built-up area
- Commercial
- Green area
- Main Roads
- Future nodes



1. Design for transformation:
From fragmentation to integrated economically diverse environments toward a systemic shift, from consumption driven development to more inclusive agendas (Meagher 2018)
2. Design for urbanisation:
Recognise and accept increased spontaneous kinetic currents within the static urban fabric as a consequence of rapid urbanisation (Mehrotra 2008:205, Pieterse 2011:1, Dodman et al. 2017)
3. Design for informality:
Recognise the spontaneous settlement as the entry-point to the city; in its role as a means to enable upward socio-economic mobility (Griffiths 2018, Simone 2006)
4. Design for agency:
Viewing the right to the city as the right to pursue multiple aspirations ensures places the focus on how freedoms and opportunities are allocated, instead of assets or rights (Simone 2006).
5. Design for resilience:
Salat (2011) argues for self-sufficient districts with a strong recognition of the existing condition: compact, walkable, mixed use with a high level of economic self-sufficiency. Resilience in interconnectivity (Salat 2011:18)
6. Design for soft industry:
Soft industry as a means to ameliorate the diminished livelihood prospects linked to the disconnect between urbanisation and the industrialisation necessary for sustainable growth (Meagher 2018, Dodman et al. 2017).
7. Design with infrastructure:
From fragmentation to integrated economically diverse environments toward a systemic shift, from consumption driven development to more inclusive agendas (Meagher 2018)
8. Design flexibly for change:
Informal urban contexts present rapidly changing environments; demanding of its surroundings to be ever-adapting- in contrast to the more permanent "formal" infrastructure.



2. Design for urbanisation:
Recognise and accept increased spontaneous kinetic currents within the static urban fabric as a consequence of rapid urbanisation (Mehrotra 2008:205, Pieterse 2011:1, Dodman et al. 2017)
3. Design for informality:
Recognise the spontaneous settlement as the entry-point to the city; in its role as a means to enable upward socio-economic mobility (Griffiths 2018, Simone 2006)
8. Design flexibly for change:
Informal urban contexts present rapidly changing environments; demanding of its surroundings to be ever-adapting- in contrast to the more permanent "formal" infrastructure.

understanding of Moreleta Park's possible urban future (in the form of ten urban principles), followed by a group framework focussed to a smaller area and finally an individual urban design (UUSSP 2021). The shared urban principles can be seen in figure of 10 principles and are all grounded in existing urban policies but guided by a less divisive urban future for Moreleta Park. The urban ideal envisioned for Moreleta Park is socially sustainable, diverse in nature and accepting toward unplanned kinetic currents. It's an urban environment that encourages upward mobility within a single suburb: providing places where formal and informal cities collide, mitigate and thrive inter-

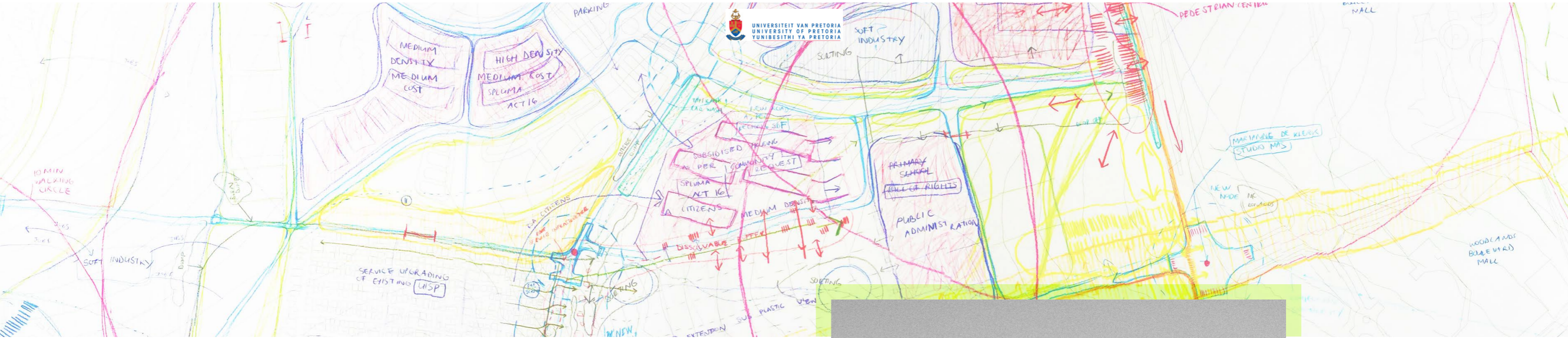
dependently.
For the purpose of this study, three of the ten principles have been highlighted and directly influence the author's urban and architectural outcomes. These three principles are see enlarged version of the three main principles, namely: 2. Design for urbanisation by recognising and accepting increased spontaneous kinetic currents within the static urban fabric as a consequence of rapid urbanisation (Mehrotra 2008:205, Pieterse 2011:1, Dodman et al. 2017), 3. Design for informality and spontaneity by designing from the perspective of the slum , recognising it as the heart of the city (Pieterse 2011:5),

the entry-point to the city in its role as a means to enable upward socio-economic mobility (Griffiths 2018, Simone 2006) and lastly, 8. Design flexibly for change because informal contexts present rapidly changing environments, demanding adaptability- in contrast with the formal permanent infrastructure (Simone 2006).
These three principles transcend their urban influence and begin

to inform the architecture developed in this portion of the study. Not only should the urban environment recognise and embrace kinetic currents through adaptable design methodologies, but so also the architecture situated within this environment. Urban adaptability presents a slightly more challenging issue; however, the neighbourhood of Plastic View clearly demonstrates high levels of resilience and increased op-

Figure : (Author 2021)

Figure : (Author 2021)



opportunities for adaptation photo of resilience and flexibility in plastic view. On an architectural scale, the emphasised principles can materialise as a static kit-of-parts that enables kinetism through its building process, its use and its ability to change and adapt easily.

Precedent studies

Critiquing through a lens

The precedents selected for analysis- although vastly different in terms of location, structure, scale, intended user and materiality, all respond to urban spontaneity in different ways through multi scaler designs see parti of each precedent. Although some of the precedents aren't necessarily investigations into design, the kinetic interactions they enable reveal pedestrian patterns, human scaled considerations and hint toward the urban and architectural future of certain projects. Theoretical, urban and architectural projects form part of the precedent scope, addressing the urban element of this study- but

more importantly displaying the translation between theory and action in an implementable manner (Horkheimer 2002:188).

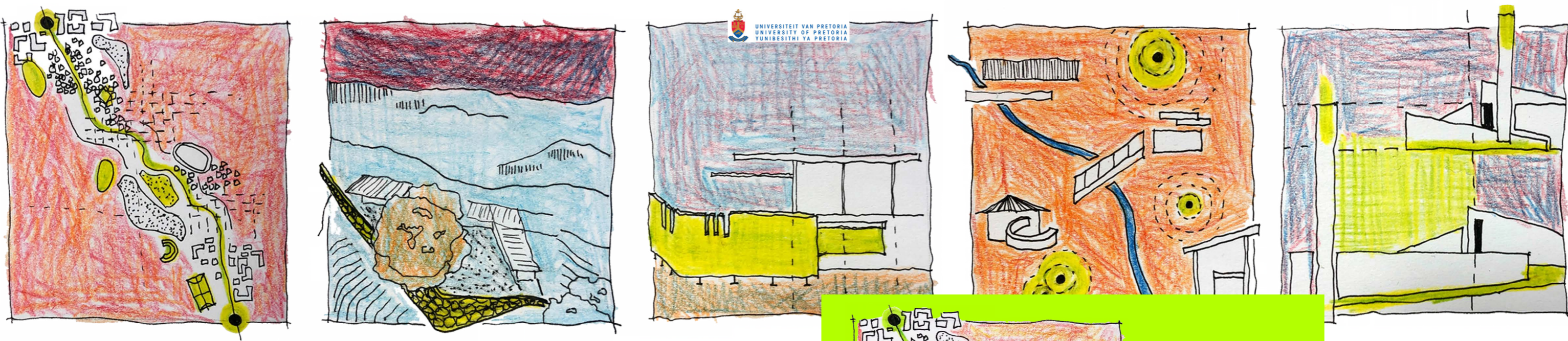
The author intends to assess hyper-local issues through the global lens of the five selected precedents in the hopes of revealing a variety of spatial responses to similar urban and architectural issues observed in Moreleta Park. In order to evaluate the precedents, a list of criteria has been used to assess each of the five projects through a similar lens.

This list is as follows:

1. Assessing the way in which the structure enables certain kinetic functions
2. How programming addresses spatial injustice
3. How well theory is translated into praxis and lastly,
4. The type of spatial considerations made to address the future of the project within its urban setting.

The order in which the precedents are assessed relate to the author's own design process: first acknowledging the need for an





urban scaled understanding of the project before focussing on the structure.

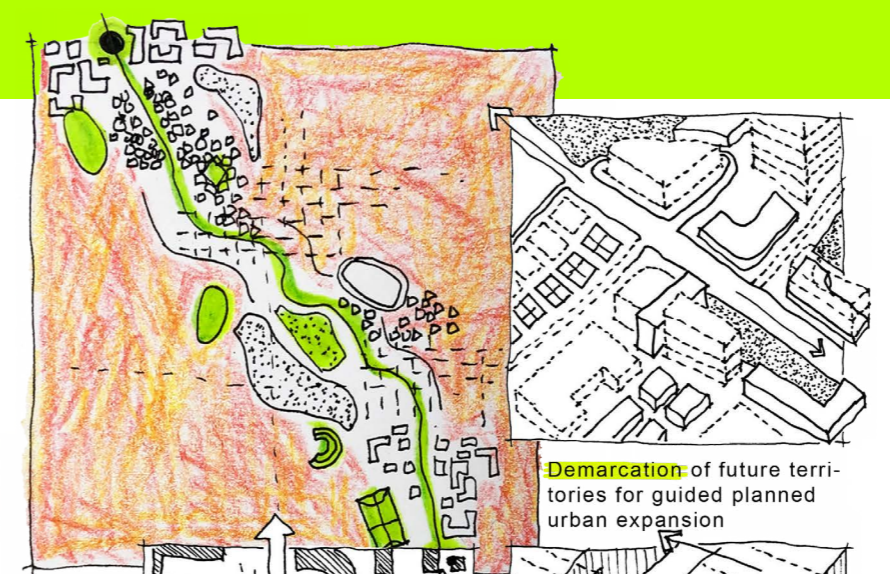
Urban precedents

The first precedent informing this portion of the study is: the Cidade de Deus Urban Framework by MAS Urban Design, located in the favela of Cidade de Deus, Rio de Janeiro, Brazil and completed in 2012. This specific project's main design intention is to not be built but instead be compiled into an academic zine, informing its readers on the myriad of possibilities for the urban future of Cidade de Deus.

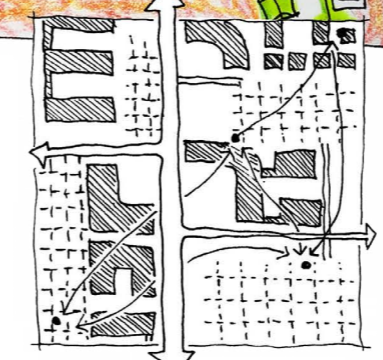
The precedent can be summarised as a spatial development framework that links two favelas in Rio de Janeiro with one another through a network of infrastructure and public spaces as a catalyst to integrate polarised communities. The MAS Urban Design group asserts that the financially segregated community of Rio d Janeiro merges when all members of the community get together for sports events or other

outdoor activities. Through designing an urban framework that provides an infrastructure for public outdoor areas, the precedent addresses spatial injustice within the city of Rio and also plans for a more inclusive future city.

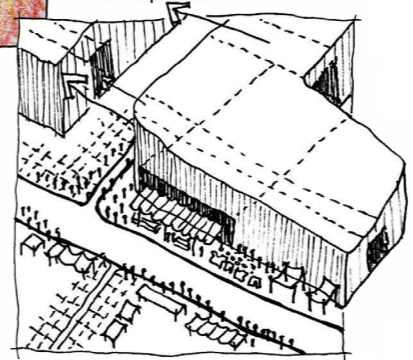
Unpacking and critiquing the Cidade de Deus Urban Framework has led to a set of five main principles that have the ability to influence the author's design decisions in the next phase of this study see image.



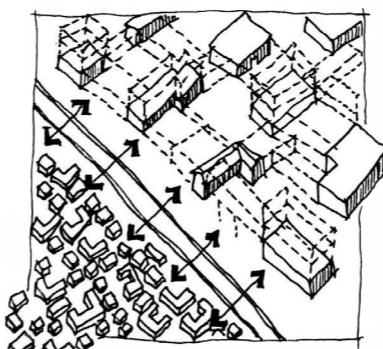
Demarcation of future territories for guided planned urban expansion



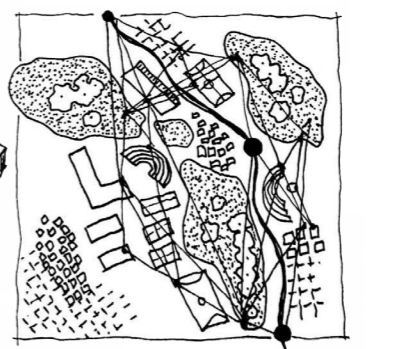
Anticipating and planning for changing realities



Focus on alternative urban economies and providing spatially for alternative trade

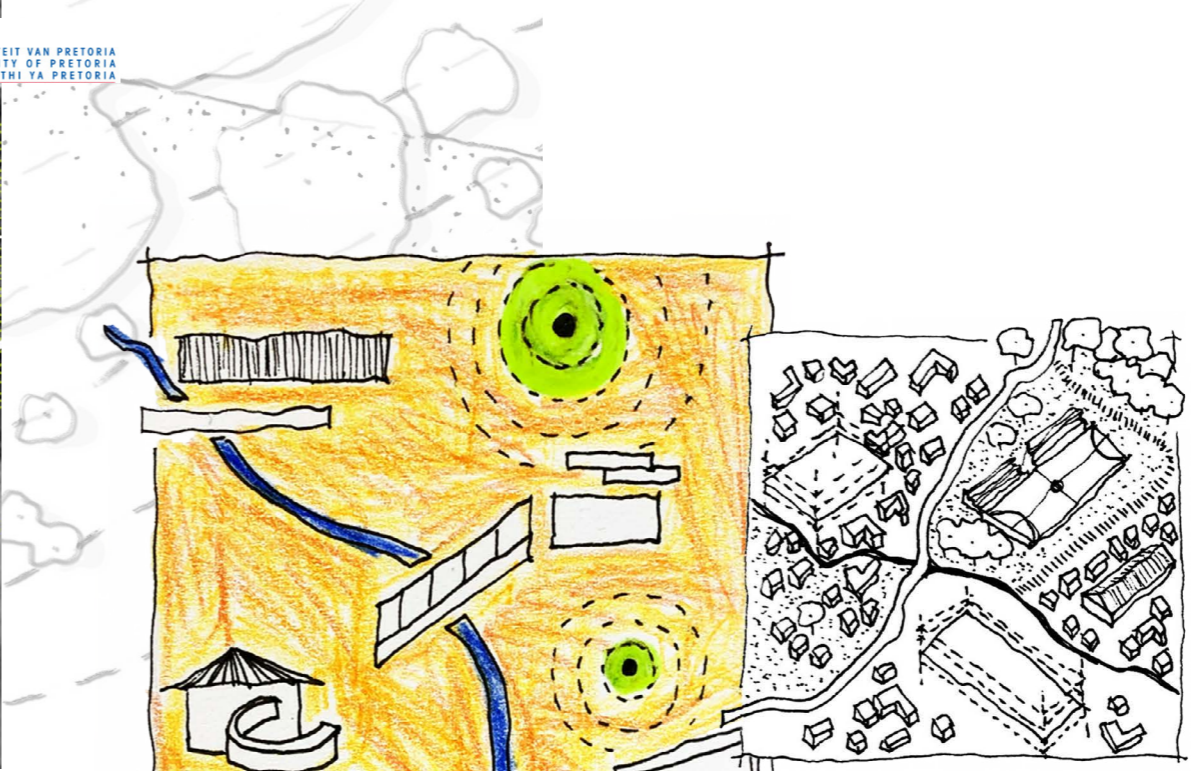
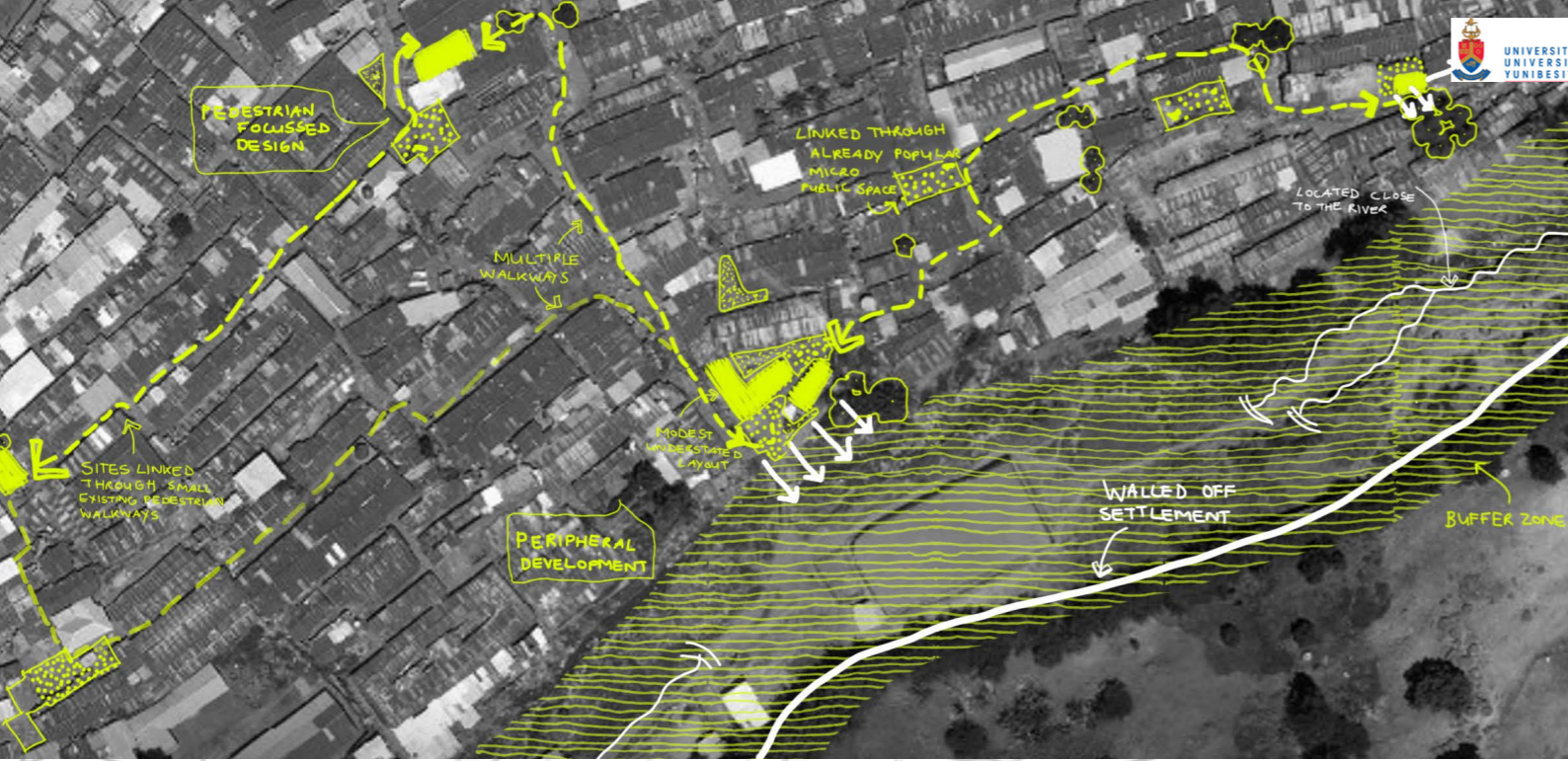


Advocated for the compact-city: spontaneous urban environments as the ultimate sustainable neighbourhood



Attempts to bridge two polarised environments through hybridisation and a network of public space

Figure : (Author 2021)



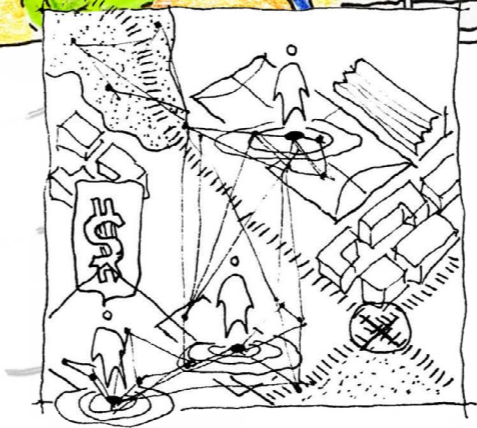
The second precedent informing this portion of the study is the Kibera Public Space Project by Kounkuey Design Initiative, located in Kibera, Nairobi, Kenya and initiated in 2008 but is still ongoing. This project's main design intention is to upgrade communal service areas with the help of key community role-players. These spatial upgrades unfold on a variety of sites and provide services that generate economic return as well.

The precedent can be summarised as an urban upgrading scheme that rethinks the manner in which informal settlements are generally upgraded by through introducing a network of co-designed and managed productive public spaces meeting the community's economic, social and physical needs. The Kounkuey design Initiative asserts that the upgrading of informal settlements should be focussed to public areas first. The design process further encourages spatial agency,

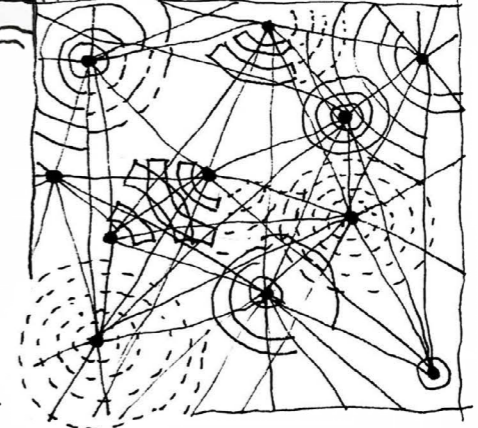
linking local expertise with technical resources. The meso-scaled projects unfold along a larger macro-scaled urban design, with the ability to expand in the future and enable residents to co-create and uphold spatial interventions – increasing the socio-economic sustainability of the intervention area.

Unpacking and critiquing the Kibera Public Space Project has led to a set of five main principles that have the ability to influence the author's design decisions in the next phase of this study see image.

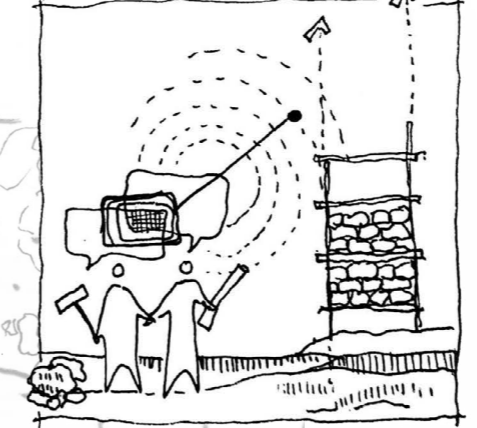
Initiate upgrading programs through firstly **upgrading public areas**



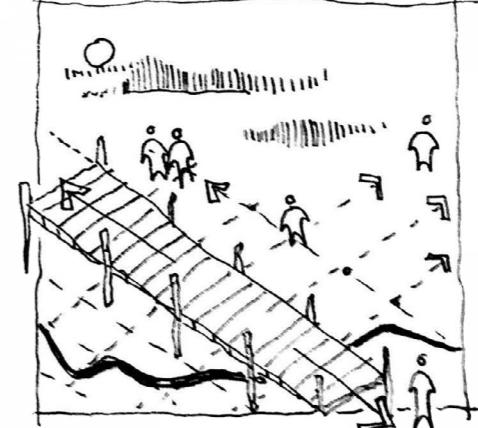
Resident managed programs of **productive public spaces** generate income while building skills



A well **connected** ever-growing network builds **resilience**

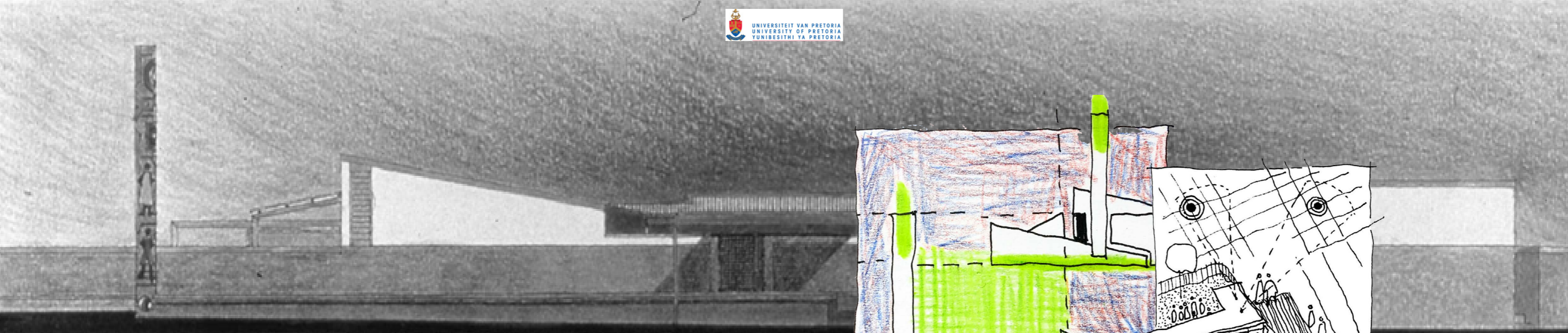


Co-design processes ensure authentic collaboration, **linking** local expertise with technical resources.



Resident-led climate conscious **infrastructural** projects provide a model for sustainable resilient informal settlement upgrading

Figure : (Author 2021)



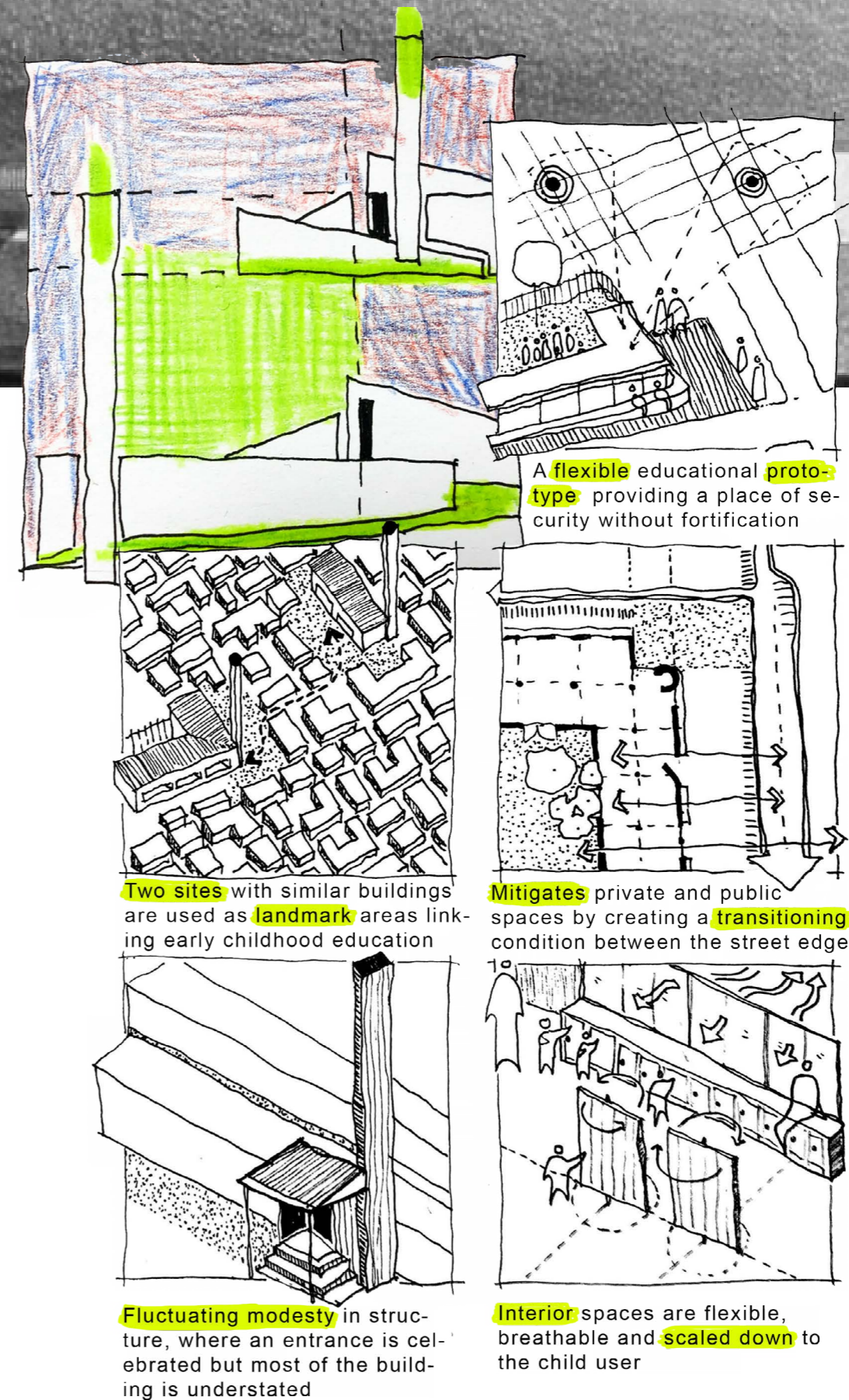
Structural precedents

The Delft day-care centres were designed by Jo Noero in 2006, built in 2016 and are located in Delft, Cape Town, South Africa. This project's main intention is to modestly revive early childhood development facilities and create community landmarks centred on education in conjunction.

The precedent can be summarised as a duo of educational structures, providing a flexible prototype for future similar developments: downscaled to the child user and safe and secure without excessive fortification. Because of the vertical landmarks forming part of both buildings, the centres are linked not only through their shared programme but also by their roles visual as way-finders. Private and public spaces are mitigated through the provision of transitional spaces and by designing for future kinetic enablement along the structure's edge a sustainable future interface is possible.

Unpacking and critiquing the Delft

day-care centres has led to a set of five main principles that have the ability to influence the author's design decisions in the next phase of this study see image.



A flexible educational prototype providing a place of security without fortification

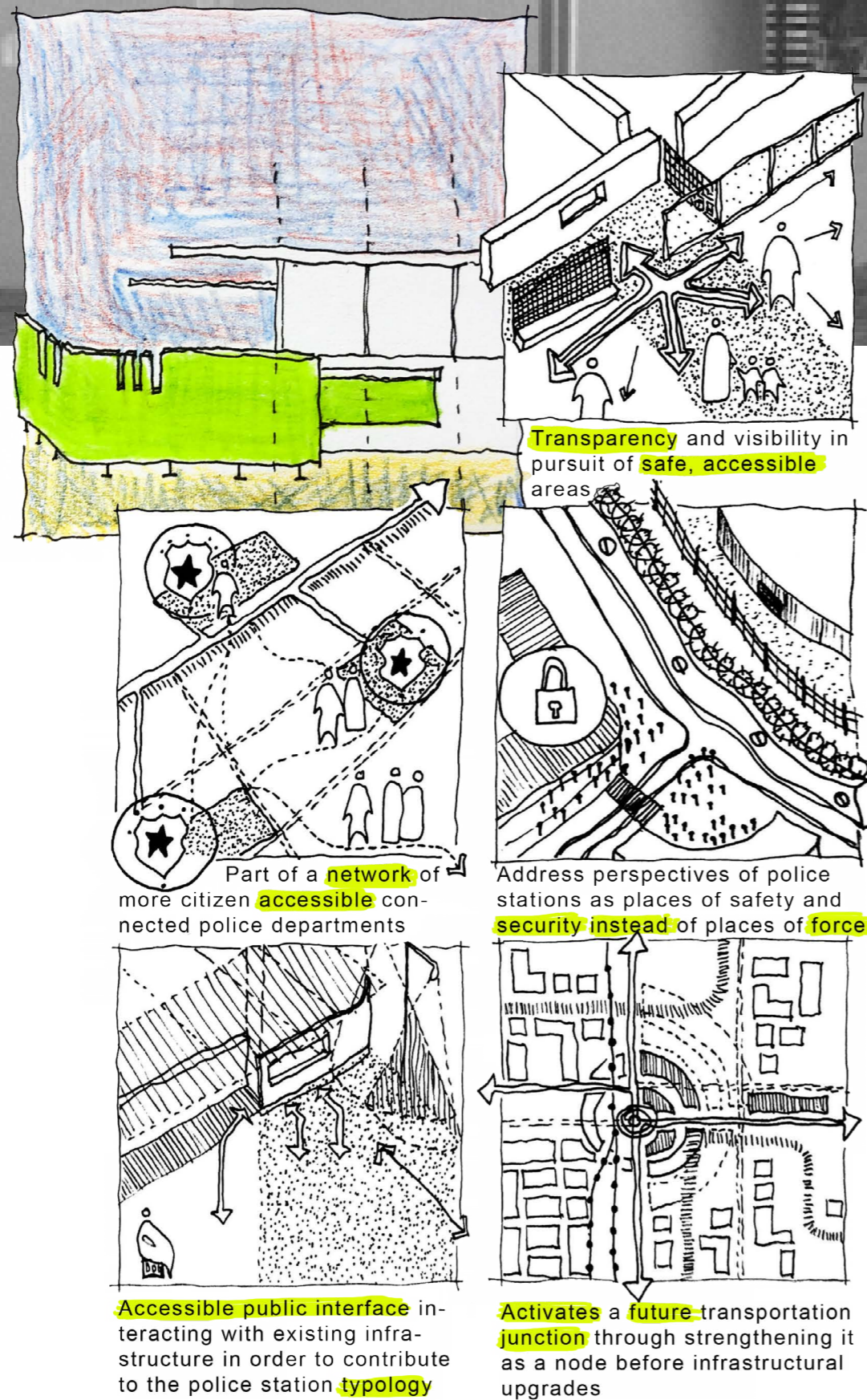
Two sites with similar buildings are used as landmark areas linking early childhood education

Mitigates private and public spaces by creating a transitioning condition between the street edge

Fluctuating modesty in structure, where an entrance is celebrated but most of the building is understated

Interior spaces are flexible, breathable and scaled down to the child user

Figure : (Author 2021)

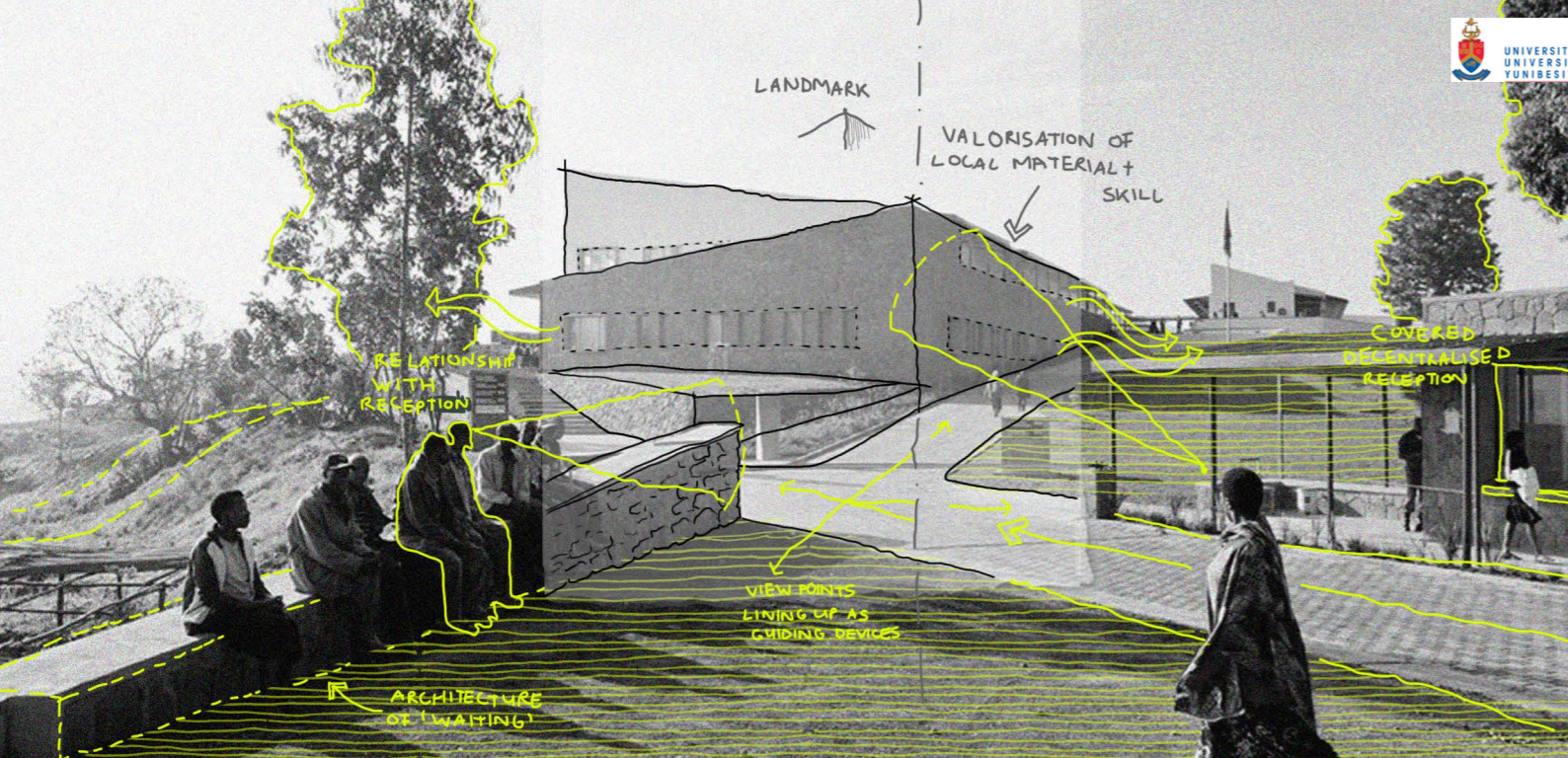


The SAPS Retreat Railway police station by Mokona Makeka located in Retreat, Cape Town, South Africa was completed in 2006. This project's main intention was to create a new typology for South African Police Stations (SAPS) that are woven into the urban fabric and promote safety and security instead of force and fear.

decisions in the next phase of this study see image.

The precedent can be summarised as a typological exploration promoting transparency and visibility in pursuit of safe and accessible areas of public administration. Historic associations of force and fear portrayed by the police are addressed by designing a connected, pedestrian accessible structure. The location of the project is also reminiscent of the intention to connect, as the new police station is located within an existing travel node and interacts with this existing node on an infrastructural scale. Unpacking and critiquing the SAPS Retreat Railway police station has led to a set of five main principles that have the ability to influence the author's design

Figure : (Author 2021)



The Butaro District Hospital by MASS., was completed in 2011 and is located in Burera, Butaro, Rwanda. The project's main intention is to provide basic services to communities in need with an accompanying structure that strengthens existing skills and technifies local material usage in pursuit of communal enablement.

The precedent can be summarised as a climatically appropriate health care centre, facilitating a programme that provides much needed care to society's most vulnerable. The hospital is built through construction methods that intentionally make use of labour-intensive practices reinvesting into the local community economically as well as on a knowledge base. Further, the architect only serves as technifier of local skills and materials, working alongside community members. Not leading the built project. This project promotes decentralised services as a manner in which to decrease health risks.

Unpacking and critiquing the Butaro District Hospital has led to a set of five main principles that have the ability to influence the author's design decisions in the next phase of this study see image.

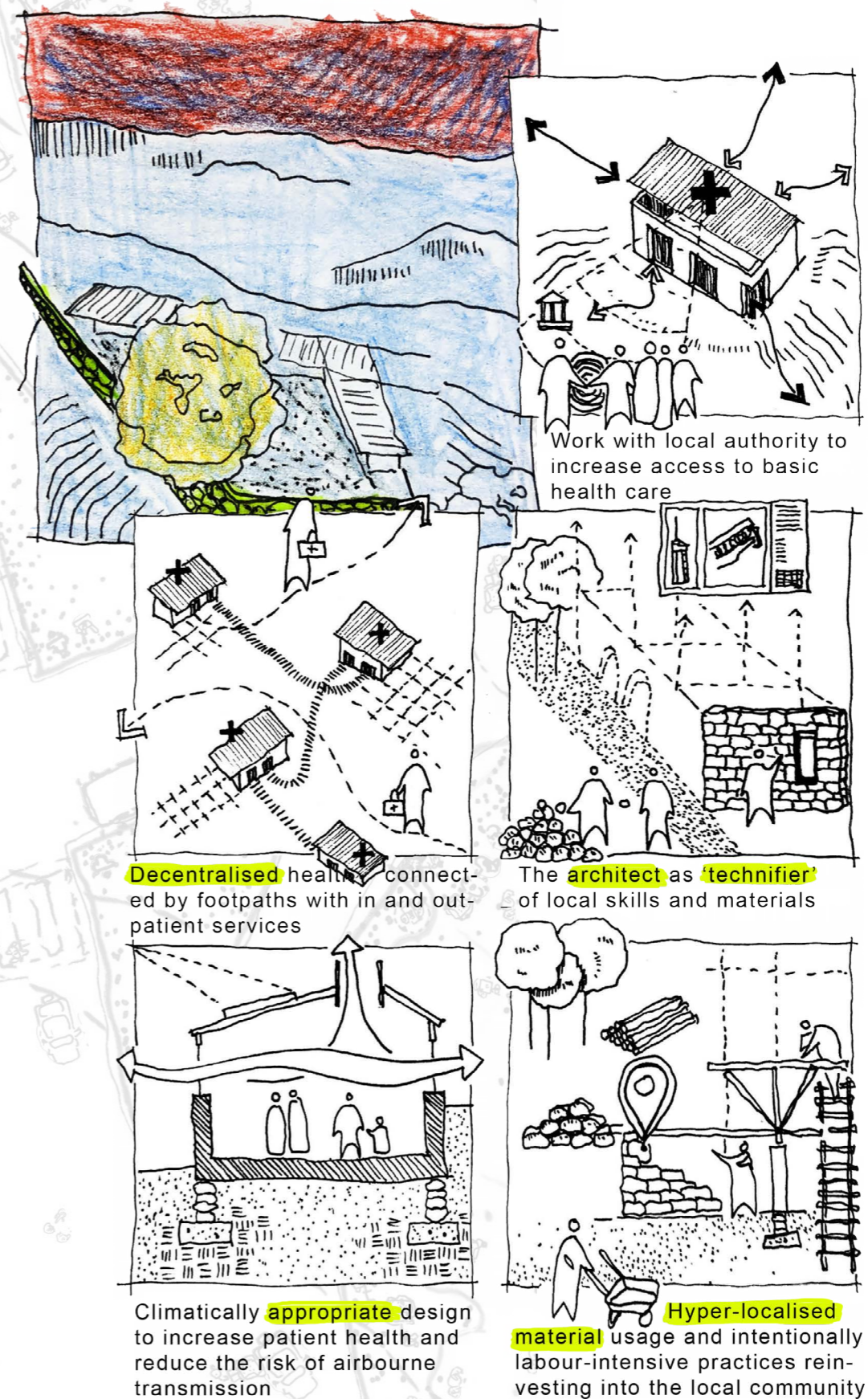


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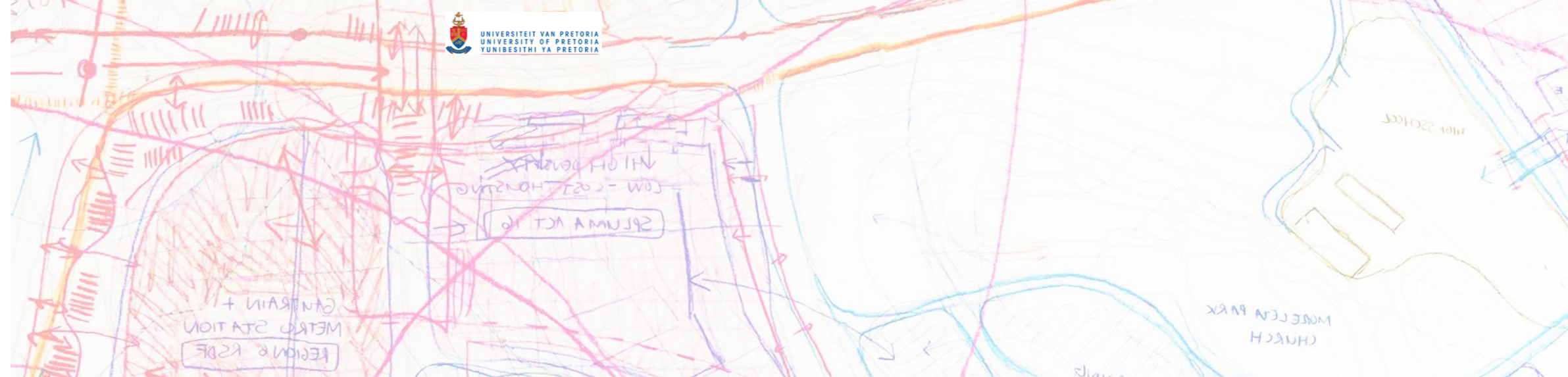


Figure : (Author 2021)

Figure : (Author 2021)



FACILITATE

Precedent findings and design strategy

Learning from precedents, how they respond to existing patterns and how this reflects in their layout, how to respond to existing pedestrian desire lines and to the big roadways close to the site, how to respond now in order to provide for the future scenario, opportunity to tap into existing patterns and strengthen links

The paradoxical location of Plastic View add map helps establish a relationship between extremes within both the design and technical concept of the study. The theoretical concept of the study quick summary insert (6 diagrams) is continued throughout the design and technology synthesis phase of the project evident in the constant interplay between formal and informal, static and kinetic and high-tech and low-tech. Subsequently this delicate relationship is revealed through materiality, programme, layout and structural flexibility. A few diagrams
As a result of various circum-

stances, the emergence of spontaneous urban settlements toward city edges- where residual SLOAP is well-located and plentiful- have increased exponentially. This frequently observed urban issue is not bound to Moreleta Park, prompting a replicable yet adaptable design response to be implemented on different sites in a future urban scenario refer to map of different settlements on page.

Design development and the future condition

The design development process followed was iterative and non-linear and involved working simultaneously on multiple drawing and time scales. For the purpose of accessibility, the design process is presented in this document starting from an urban scale and concluding with the detailed technical development

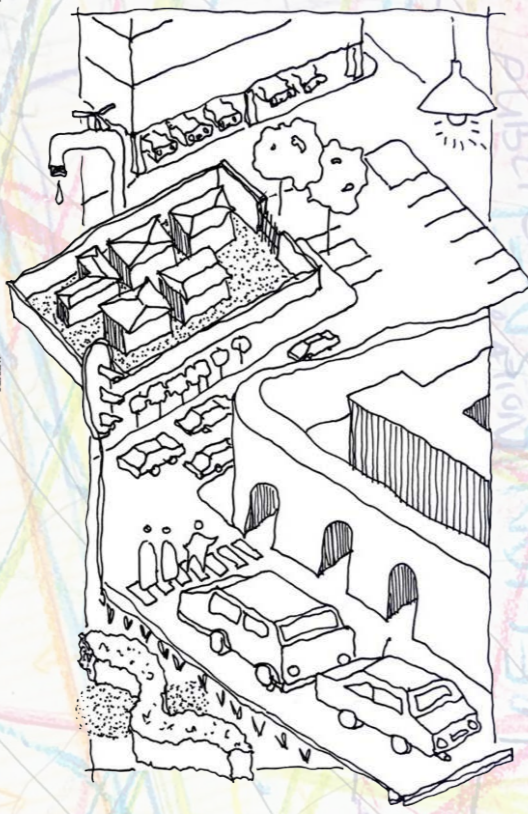
The subtitle of this portion of the study insinuates that there is an inevitable relationship between the formal static city and the informal kinetic city; however, this



Figure : (Author 2021)



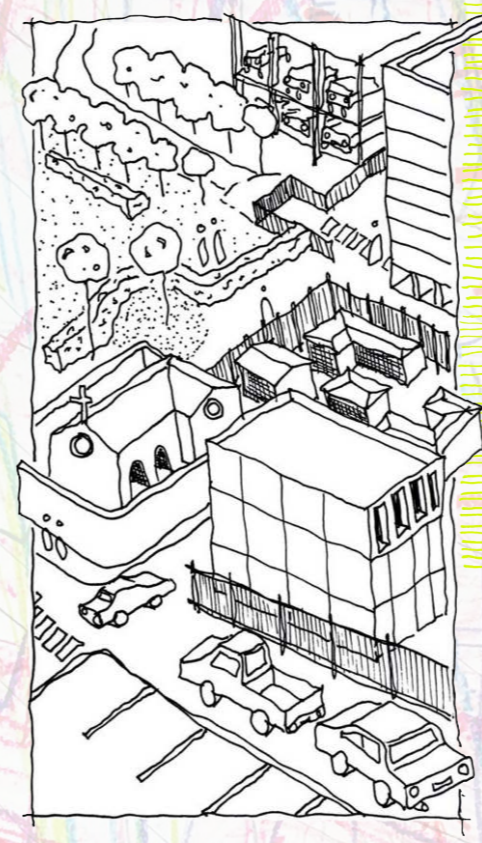
Informal, bustling, unplanned, spontaneous



Formal, planned, predictable, set, rational, logic



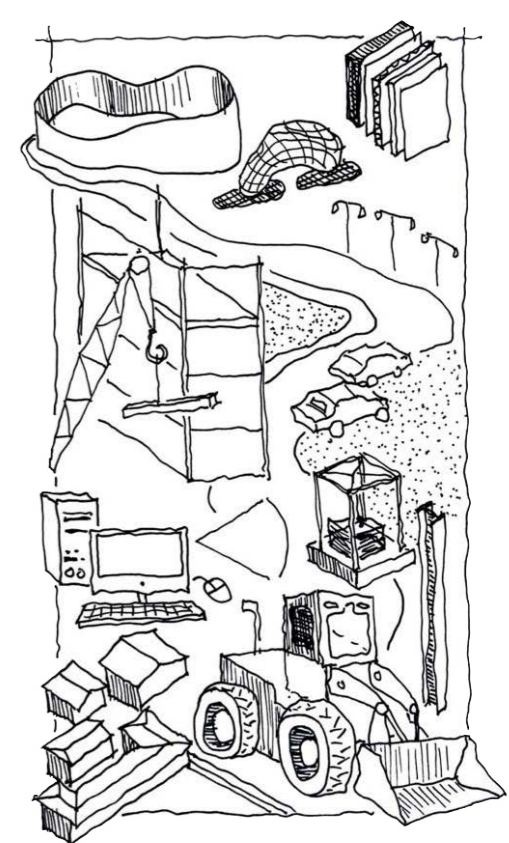
Kinetic, moving, adaptable, ever-changing, loud, resilient



Static, organised, quiet, fixed, still-standing



Low-tech, rural, affordable, in-expensive, sustainable



High-tech, expensive, extensive, skilled

Figure : (UOSSP 2021)

Figure : (Author 2021)



relationship is strained in Moreleta Park (Mehrotra 2008; 2021). In order to initiate an anticipated negotiation between the two urban extremes of Moreleta Park, the built form generated by this study focusses on how the static elements of an architectural project can enable essential kinetic interactions without designing for specific kinetic actions. Viewing the relationship between the static and kinetic city from an urban perspective, the harsh lines dividing the polarised communities of Moreleta Park are even

more distinct. These extreme urban conditions warrant an equally essential urban scaled mitigation concurrent to the architectural form. The project's phased urban scheme is designed akin to the architectural and technical project portions implementing similar strategies in order to articulate the dialogue between the static and kinetic cities of Moreleta Park. Contributing to the main project goal of realistic implementation, phasing of both the primary structure and larger urban framework is vital. The phasing strategy

is divided into a short and long term plan comprising of specific phases to be completed on both timescales. The short-term strategy is made up of five main building phases unfolding concurrently with the first and second long-term urban phasing strategy. The short-term phasing strategy is centred solely on the building process of a single structure but the prototypical nature of the project ensures that this strategy remains relevant for the building of other similar structures on different sites.

The long-term phasing strategy is centred on large-scale urban operations in order to upgrade, diversify and densify a demarcated area of Moreleta Park. Add four urban phase images The first phase of the long-term plan mainly involves the preparation and completion of new roads, initial corridor development, demarcating and preparing various sites according to the new zoning plan and the construction of the structure on the primary site. The second and third phases seek to create a diversified neighbour-

hood where residents can become upwardly mobile in a small area. The second and third phase also focusses on the densification of the main kinetic corridor and private investment opportunities. The fourth urban phase initiates a process of opening up existing enclaves and expanding the influence of the development area into the greater Moreleta Park

emphasis in this description how a number of open sites are demarcated along this spine in order to pre-empt kinetic spaces in the urban framework and as a means to establish sites of interface and dialogue between the various macro urban functions proposed

Summarised concept

Design concept: The design project subtly articulates kinetic urbanism within the static setting of suburbia; enabling mediation between these extremes without forcing a negotiation of space. Simultaneously, the spatial mitigation of the current urban condition anticipates the future condition of spontaneous urban settlements



Figure : Existing urban conditions in the focus area of Moreleta Park. Harsh boundaries, excessive SLOAP and spatially unjust distribution can be observed (Author 2021)

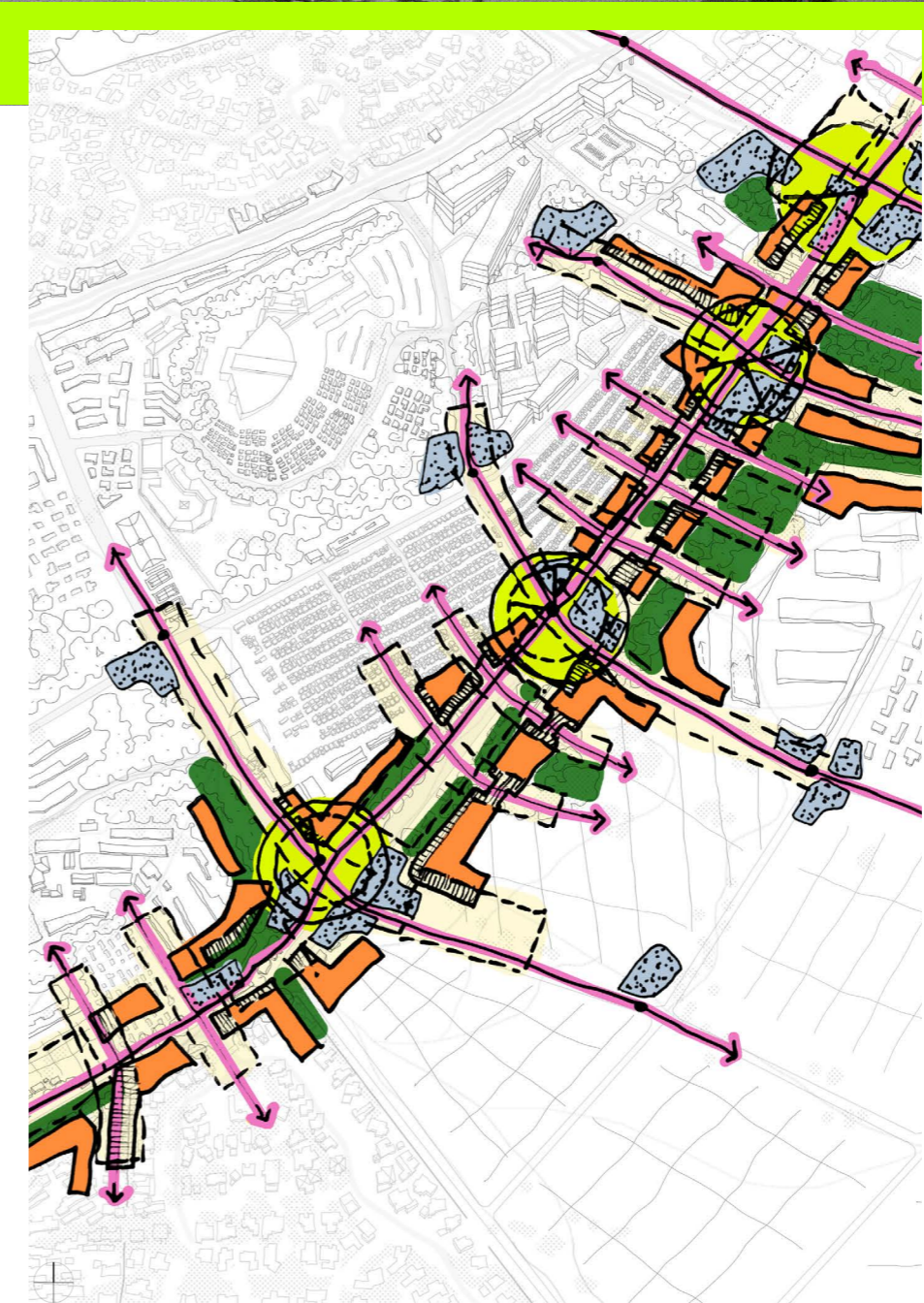
Figure : Phase 1 of the urban design scheme. The first project phase immediately initiates the diagonal link between Woodlands mall, Cemetery View and Moreleta Centre through Plastic View. Other roadways, basic services and the project proposed by this study all begin to develop in the first urban phase (Author 2021)

Figure : Top: Phase 2 of the urban design scheme. The second urban phase focuses on the strengthening and making of new nodes along the diagonal corridor stretching across the site. This phase also begins the initiation of various residential and mixed use developments, alluding to the fact that upward economic mobility would be possible in the demarcated area (Author 2021)

Figure : Phase 3 of the urban design scheme. The third urban phase clearly illustrates the demarcation of a green belt in the neighbourhood as well as the development of various housing and live-work typologies toward the North of the site (Author 2021).



Figure : The final phase of the urban vision, in anticipation of private developments (needing to adhere to certain parameters) unfolding on the Southern portion of the site. (Author, 2021)



within the exclusionary fabric of Moreleta Park and the greater Pretoria East.

The project articulates kinetic urbanism within the static setting of suburbia; negotiating the effects thereof within the current urban condition- and most importantly anticipating the future condition of spontaneous urban settlements within the fragmented fabric.

Design and technological intentions

“There is a relationship between the structures we design and those that we enable to emerge. This relationship is dynamic and in constant need of adjustment. How much structure will be needed before the structure itself inhibits personal freedoms, gets in the way of people and progress? At what point does it disable the natural and organic process of emergence?” (Hamdi 2010:192)

Figure : Adapted from (UUSSP 2021)

Figure : Final urban corridor iteration, linking the two malls and two spontaneous urban settlements on either side of the spine with one another through a concentration of movement and form extended into the landscape by use of specific thoroughways (Author 2021).



Figure 7.1: An overlaid sketch of the floor plans of homes in security estates in Moreleta Park (USSP 2021)

Figure 7.2: Right: The author and a friend, Alex Mbedzi, bolting timber elements together during the live-build of the prototype built in Plastic View (MPIP Master's 2021).



LEGITI-
MISE



Translating theory to structure

Design Intention

Through viewing the architect merely as technifier and facilitator, the notion of spatial agency is achieved by designing a kit of parts that combines both high and low-tech materials in its individual parts or applications. These 'parts' can be assembled through rudimentary methods in various configurations. The final layout of this scheme aims to project multiple configurations contained within a single structure, setting a precedent but not limiting the possibilities of alternative layouts and configurations.

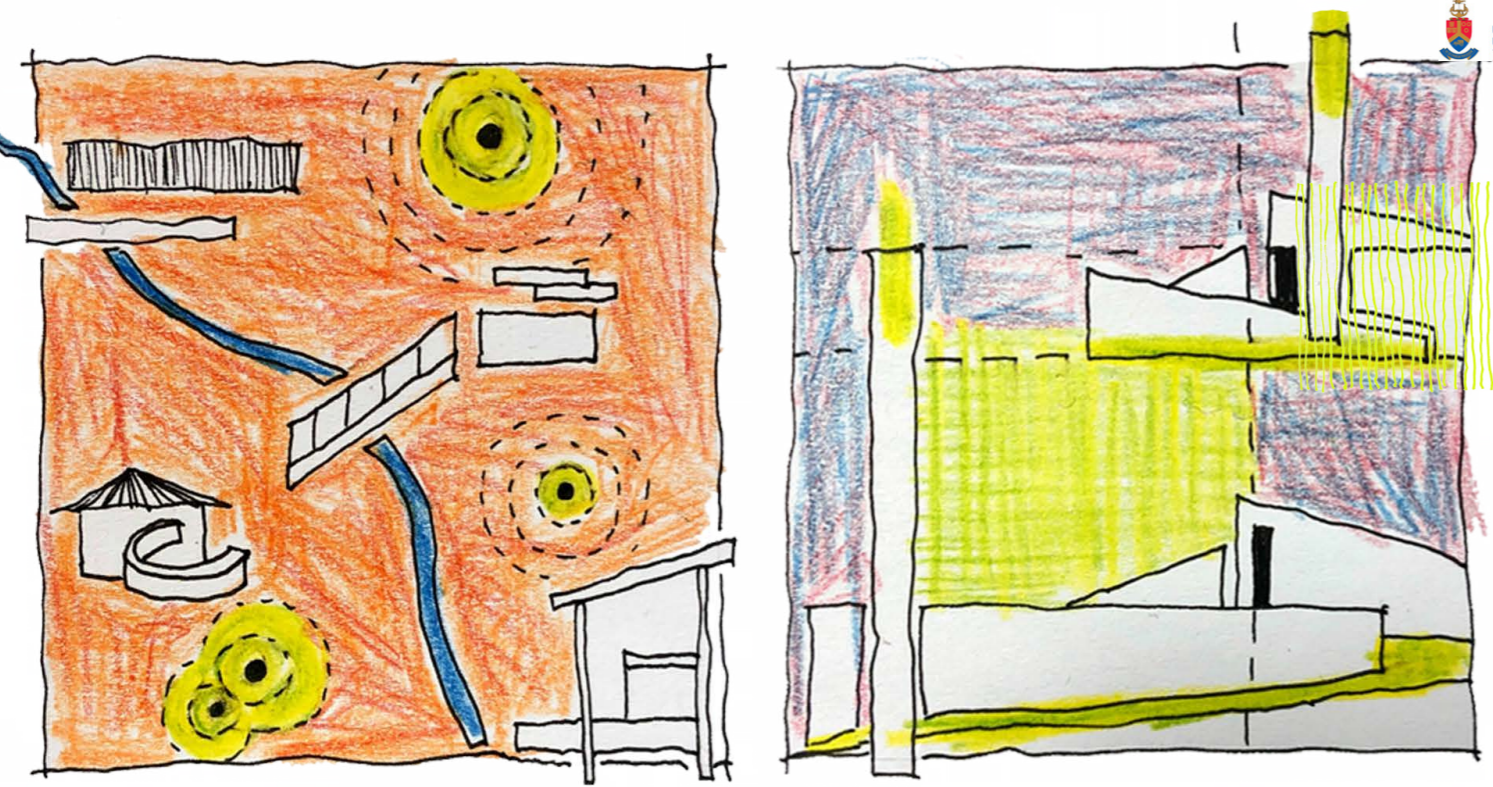
The urban design intention can be read in conjunction to the architectural design intention: whereby certain parameters and elements are fixed, but these static elements enable and promote fluidity, appropriation and kinesis. The macro scale intervention intends to create opportunity for upward mobility within a demarcated urban area but unfolds in phases in order to adapt spatial

decisions as the surrounding context alternates. A main corridor linking various existing and future nodes with one another intends to focus initial urban development along a spine and then expand outward as project phases materialise.

Further, this study intends to showcase how the static suburb of Moreleta Park can increase its overall urban resilience through absorbing specific elements of the static city (referring but not limited to Plastic View). The architecture produced by this study intentionally makes use of building methods associated with informal space-making, but merges these methods with off-site manufactured products – enabling the kinetic act of building through high-tech components delivered to site. Additionally, the integrated urban environment alongside architectural components designed, anticipates and plans for kinetic activities to unfold within the spaces provided. Although kinesis is often sporadic, the urban and architectural design intends to provide adequate, roughly

Figure 7.3: Left: A master builder at work at the new pre-school in Plastic View, showcasing a low-tech method of fastening steel wire for a fence for the school (MPIP Master's 2021).

“



demarcated areas that enable kinetic moments such as: markets, car washing, hairdressing and other movable services as well as possible outdoor events. Through designing the static in such a way that it enables and includes the kinetic, more sustainable urban environments can be created because of increased levels of resilience.

Design Brief

As seen in the previous chapter, a phased urban framework serves at catalyst to the design phase of this study. The intricate urban plan allows the author to anticipate and plan for change on a variety of scales but also adds grain to a bland suburban landscape, realistically grounding the architecture within a current and future urban context. From this macro scale intervention, the meso and micro design responses grow in the form of a kit-of-parts, represented by meso-scale configura-

tions and detailed connections.

The kit of building parts combines both high and low-tech materials and is designed in response to a need for increased structural flexibility. The set of parts is specific enough to replicate on alternative test sites but allows for contextual adaptations through not specifying a fixed manner in which these parts connect, but instead providing a series of possible configurations – to be built as is or adapted to suit community needs better. The configurations, comprising of parts from the toolkit, are experimented with and displayed on 20m² areas. These possible assemblies have the ability to serve as stand-alone place-makers or be arranged in a sequence that can be unified through a single roofing structure. For purpose of this study, the multiple possibilities of the kit-of-parts is displayed by arranging smaller configurations on a longitudinal axis – creating a rhythm through

form and programme distribution. It is crucial that the built form, unfolding through the arrangement of configuration on site, is woven into a resilient urban framework that could be implemented immediately and develop and unfold over a period of time. The outcome should make use of local skills and materials aiming to initiate long term relationships with stakeholders culminating not in a single time-frame, but rather developing over a longer period of time, extending success periods.

Enabling kinetisism

Interchangeability and modularity are two of the main themes derived from the assessed precedents specifically deduced from one international and one local precedent, namely: The Kibera Public Space Project by Kounkuey Design Initiative in Nairobi, Kenya () and the Delft day care centre by Jo Noero in Delft, Cape Town () add parti diagrams. Although radically different in implementation, both of these precedents are grounded in design theories that promote replica-

bility and flexibility demonstrated on more than one building site. A level of experimentation resulting in a prototypical form is clearly present in both precedents, extending crucial principles into the author's design and technological concepts.

The author's design process has influenced the technical concept greatly, whereby a jump between scales is often reminiscent of an important juncture in the design project, aiming to address issues on both a detailed and urban scale quick timeline of process. By resolving issues and reflecting theoretical concepts on a detailed 1:10 scale before fully resolving layouts, the possibility of replication is exposed in a more implementable way to then further inform design decisions on a larger scale. This oscillating process has inevitably lead to a design project that is centred around modularity and the pivotal opportunity to reproduce adapted versions of the same project: joining materials through mimicked construction details.

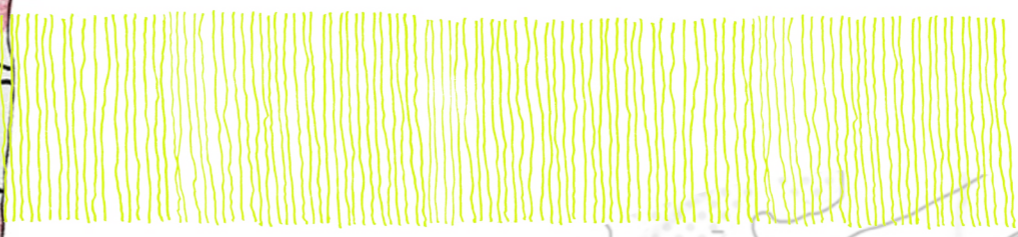


Figure 7.5: A watermark of the programme explored on the corner site eventually decided to be the main implementation area (Author 2021).

Figure 7.4.1: A parti diagram of the Kibera Public Space precedent assessed (Author 2021)
Figure 7.4.2: A parti diagram of the Delft Daycare centres assessed as precedents (Author 2021)

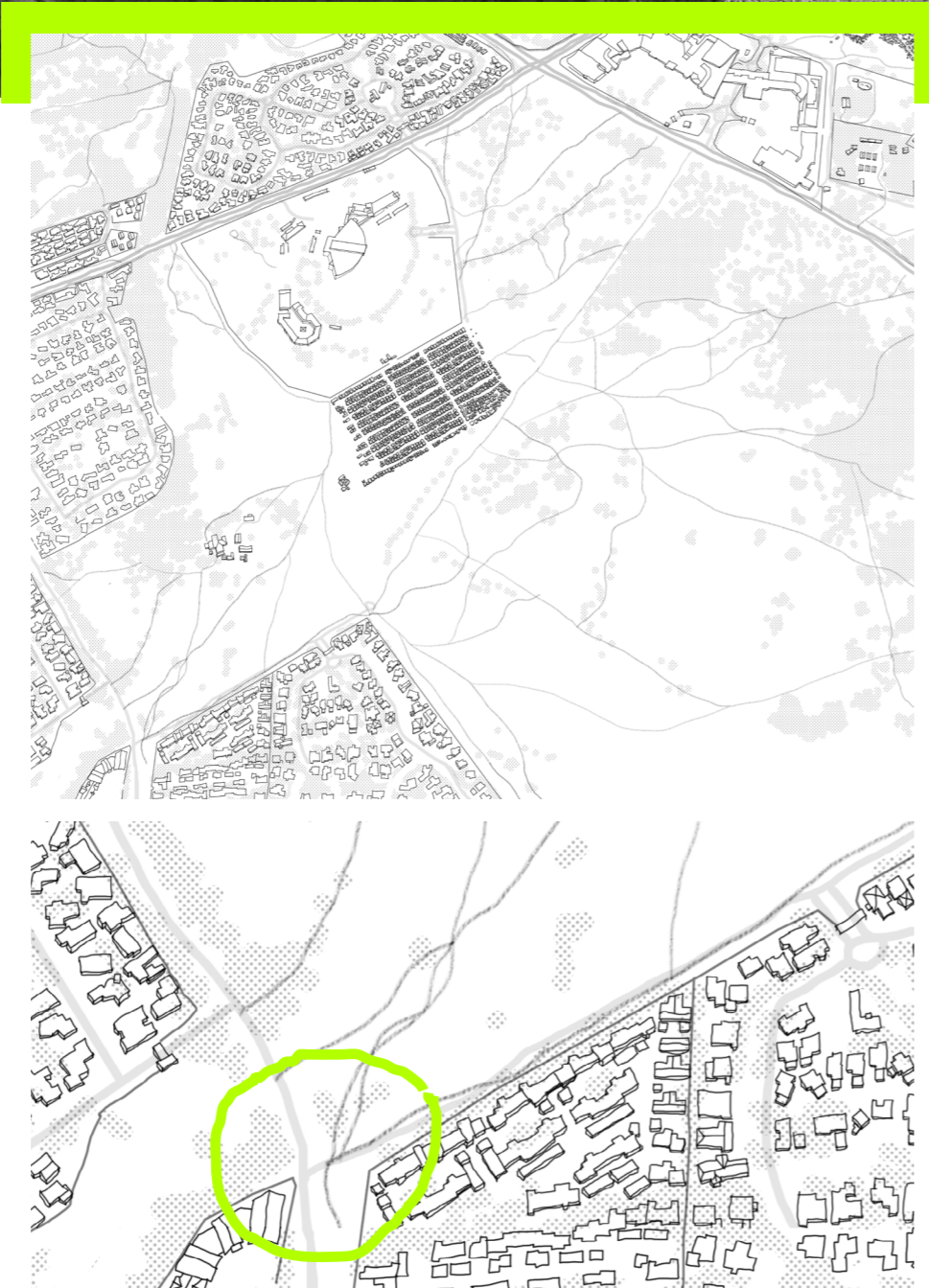


Figure 7.6: Above: An image of the existing taxi stop in close proximity to the chosen site (USSP 2021).
Figure 7.7.1: A macro-scale view of the urban focus area, with Plastic View in the centre (Author 2021).
Figure 7.7.2: A macro-scale view of the focus corner where the assembly of configurations will unfold (Author 2021).

By the final design iterations the author opted for a primary building site show place of site and zoomed in site plan as the main experimentation area: the most influential existing node with the largest available space to test out different modules, rhythms and orientation. Through focussing on developing modular structures and replicable building methods on a single site, various potentials can be explored and perfected before experimenting on alternative site with a single module or grouping.

As the design process develops, a constant referral to the initial theory lays the ground for alternative iterations and improvements. True to the author's process, the project responds to both the urban and architectural issues by also designing in a multi-scaler manner. The urban plan concentrates on the development of a central corridor that links the Woodlands Mall with The Village Shopping Mall and with the spontaneous urban settlements of Plastic View and Cemetery View add urban plan with corridor.

Although the phased urban design does not solely consist of a corridor development, the diagonal line connecting these existing sites is strengthened in order to, firstly; interact contextually with smaller scale architectural forms unfolding along this developing spine. The focus of the urban vision as a corridor linking nodes can also be drawn back to initial theoretical concepts, whereby, secondly; a road ringed with various static formal typologies enables kinetic life and lastly; the linear urban focus allows more opportunity for multiple future sites to evolve along a spine.

Experimentation and iteration

Sustainable technologies: methods and materials

The delicate relationship between the kinetic and the static translates structurally to an interplay between both the fluid and the fixed, as well as low-tech and high-tech technologies.

Similarly, the building material assessment and subsequent re-

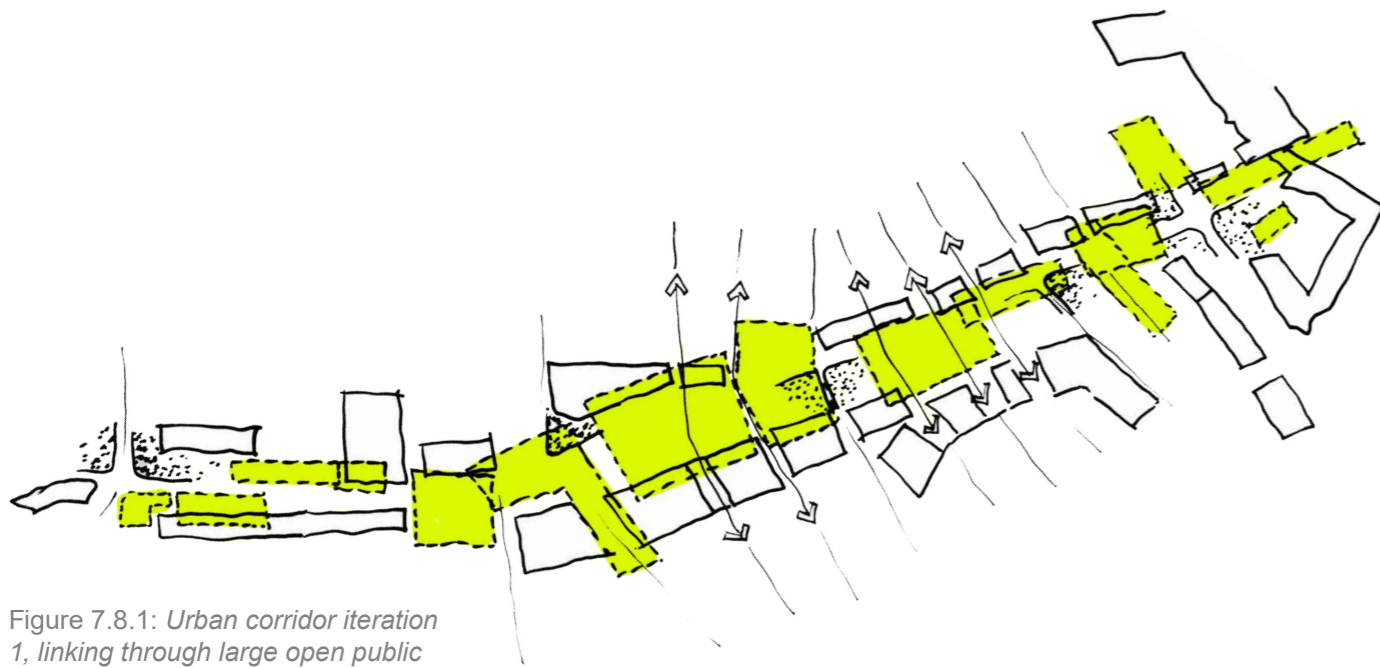


Figure 7.8.1: Urban corridor iteration 1, linking through large open public areas (Author 2021).

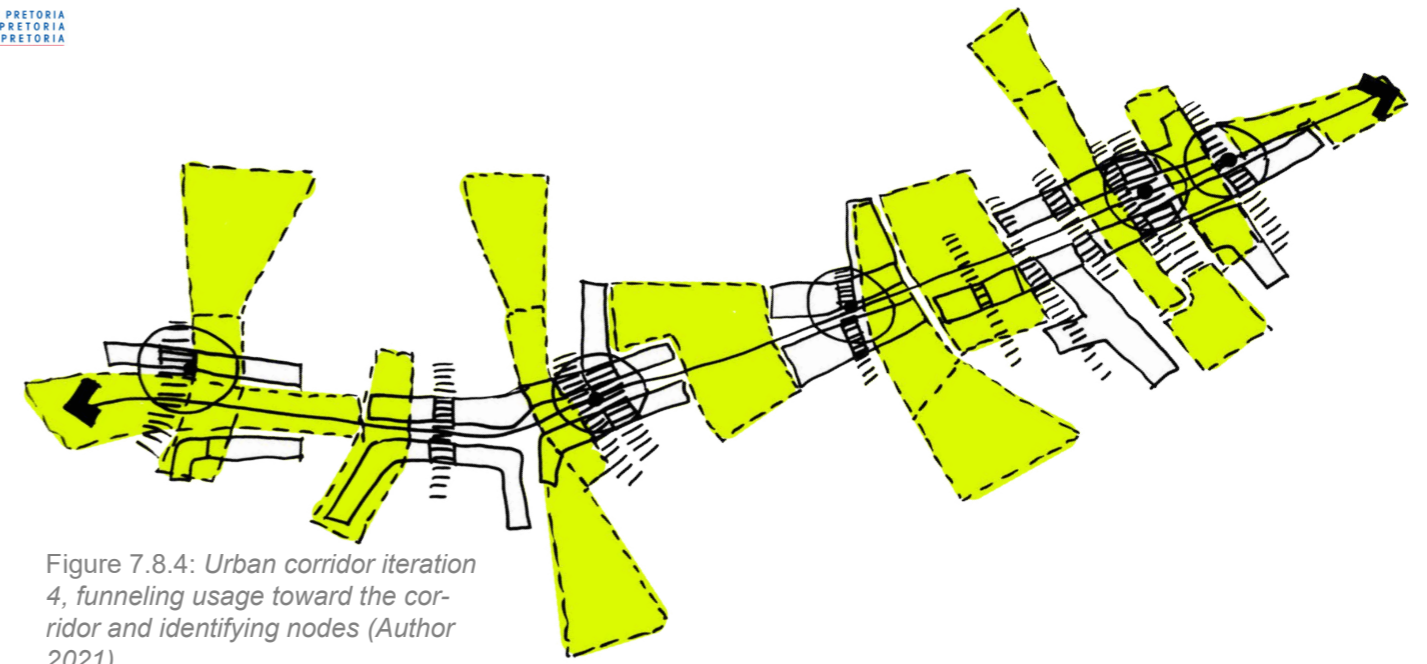


Figure 7.8.4: Urban corridor iteration 4, funneling usage toward the corridor and identifying nodes (Author 2021).

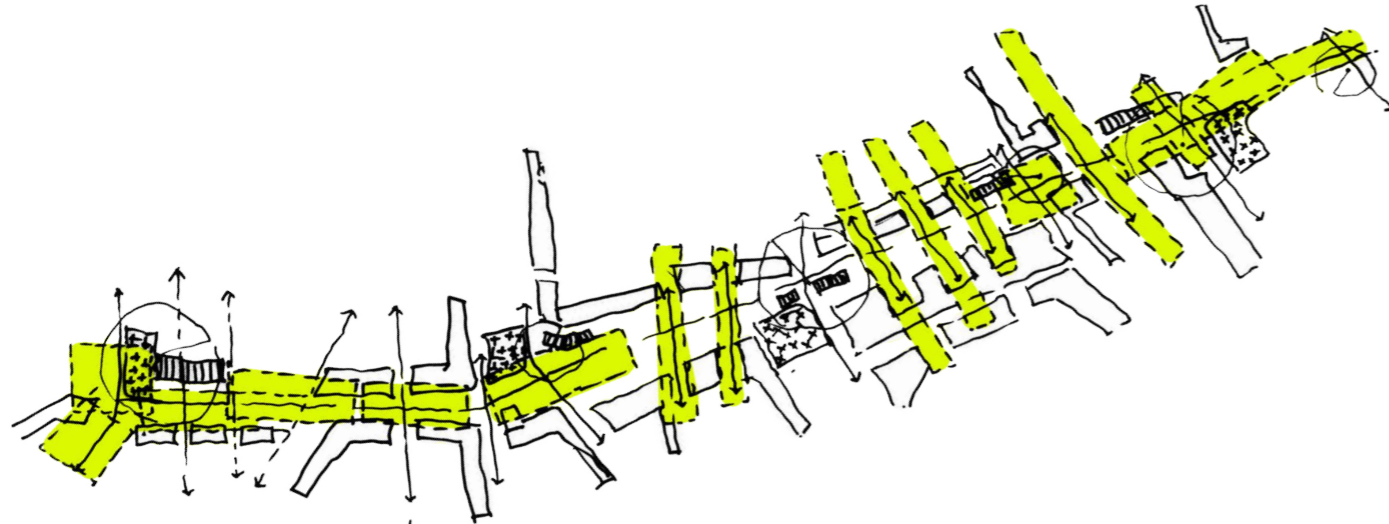


Figure 7.8.2: Urban corridor iteration 2, linking through vertical throughways (Author 2021).

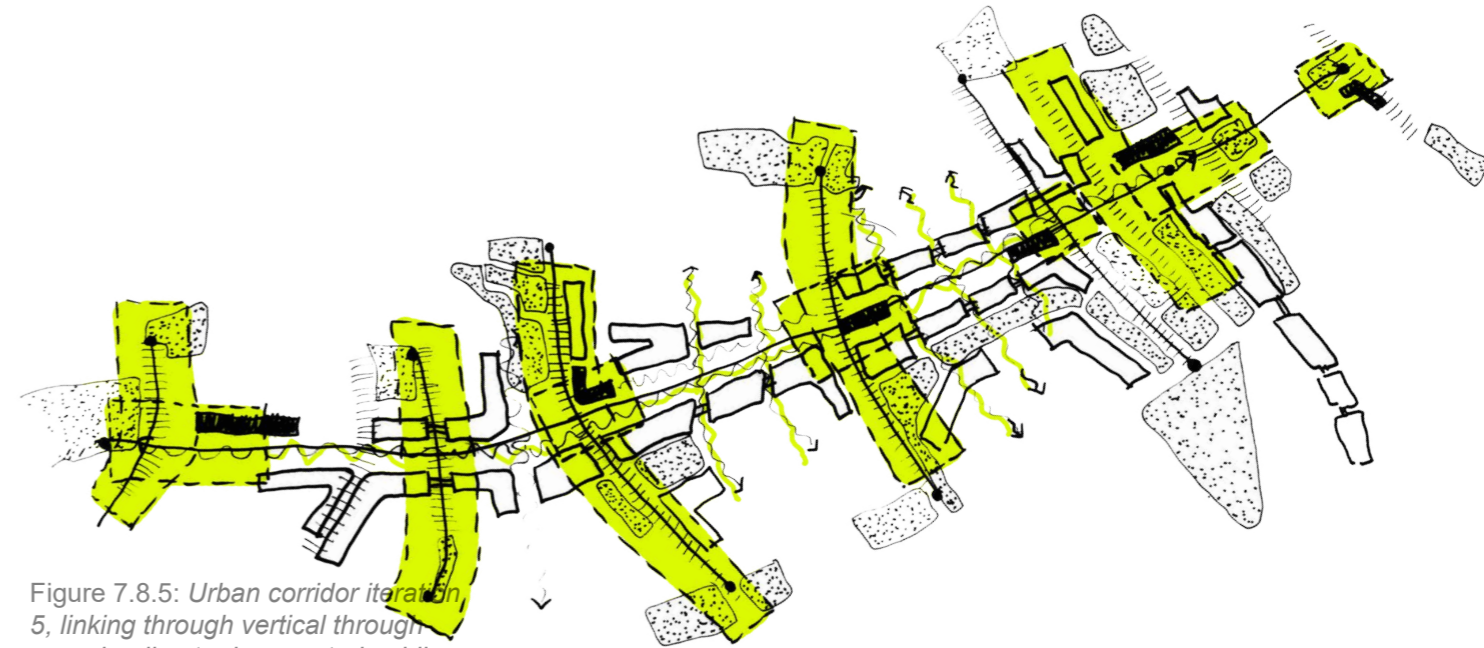


Figure 7.8.5: Urban corridor iteration 5, linking through vertical throughways leading to demarcated public spaces – concentrating movement to the corridor (Author 2021).

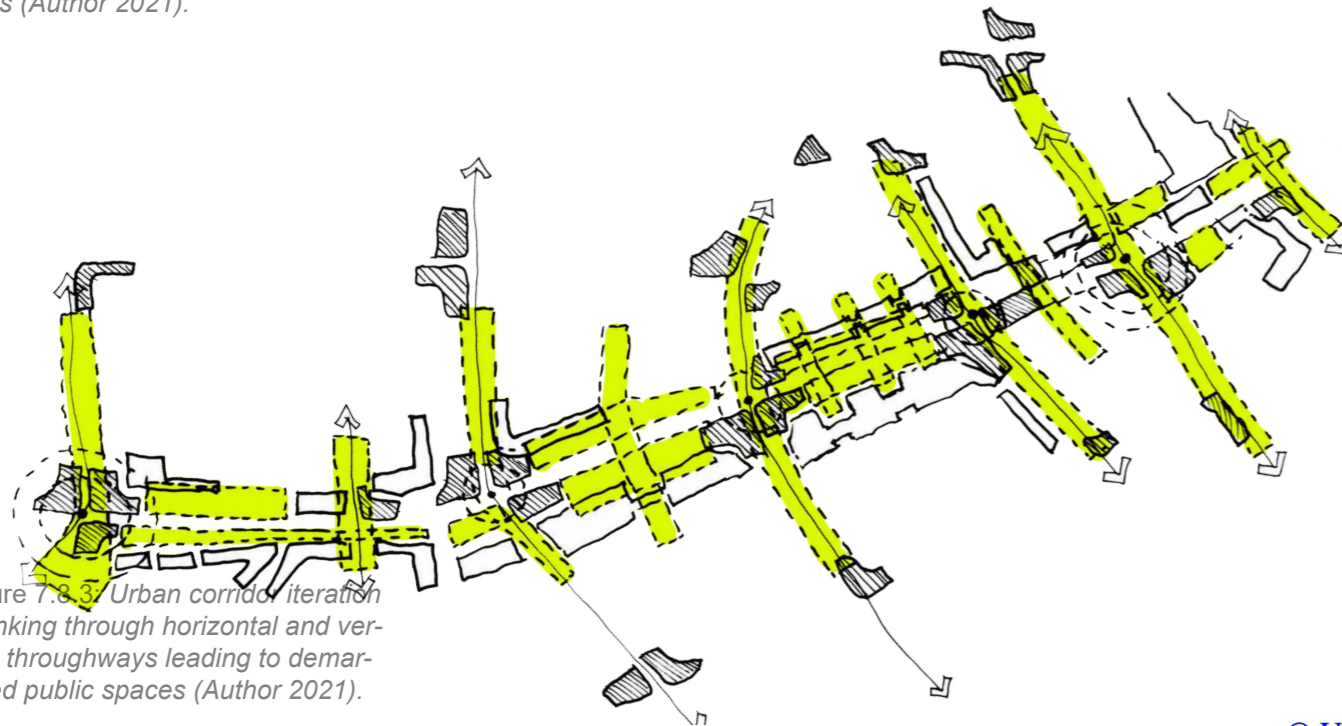


Figure 7.8.3: Urban corridor iteration 3, linking through horizontal and vertical throughways leading to demarcated public spaces (Author 2021).

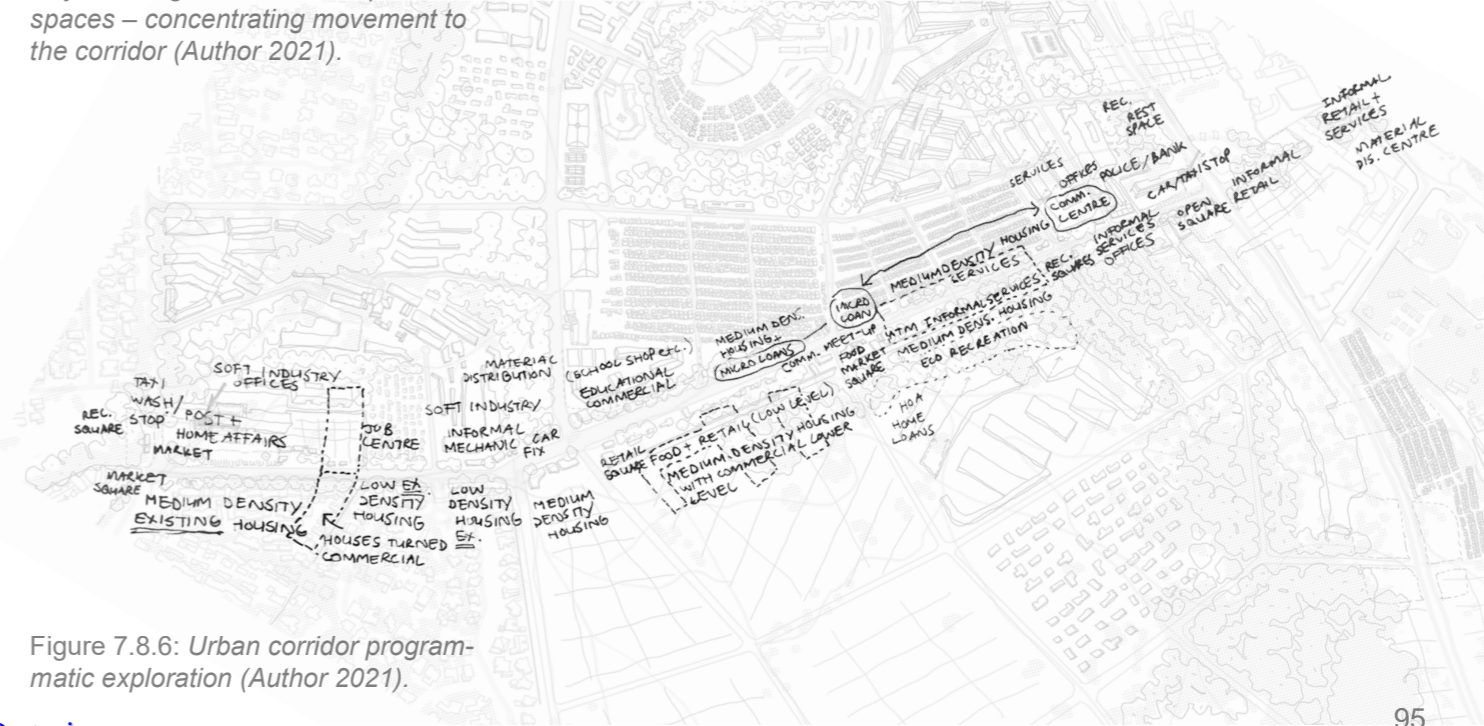


Figure 7.8.6: Urban corridor programmatic exploration (Author 2021).

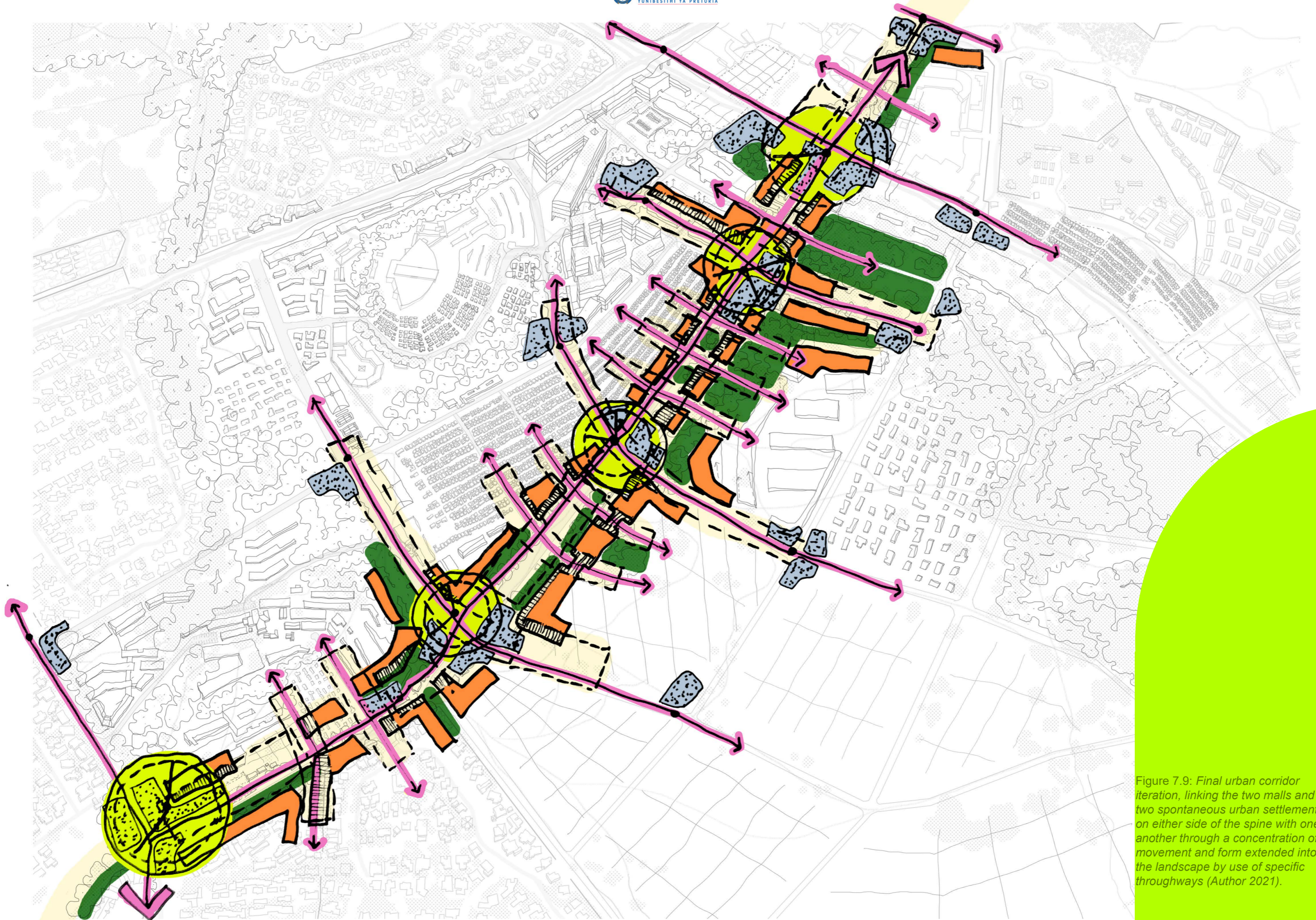
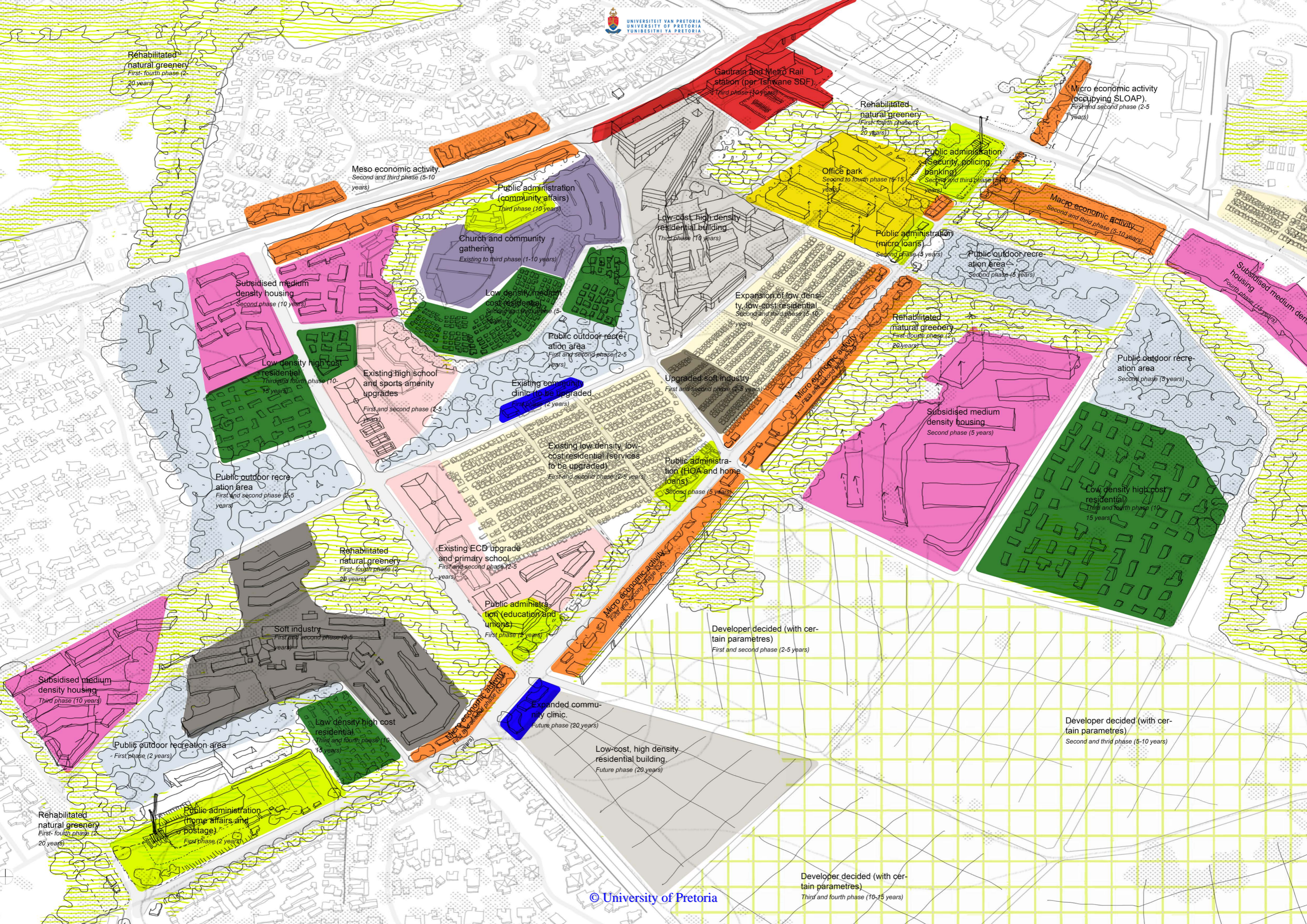


Figure 7.9: Final urban corridor iteration, linking the two malls and two spontaneous urban settlements on either side of the spine with one another through a concentration of movement and form extended into the landscape by use of specific throughways (Author 2021).



Rehabilitated natural greenery
First-fourth phase (2-20 years)

Meso economic activity
Second and third phase (5-10 years)

Gautrain and Metro Rail station (per Ishwane SDF)
Third phase (10 years)

Micro economic activity (occupying SLOAP)
First and second phase (2-5 years)

Subsidised medium density housing
Second phase (10 years)

Public administration (community affairs)
Third phase (10 years)

Office park
Second to fourth phase (5-15 years)

Public administration (Security, policing, banking)
Second and third phase (5-10 years)

Macro economic activity
Second and third phase (5-10 years)

Church and community gathering
Existing to third phase (1-10 years)

Low-cost high density residential building
Third phase (10 years)

Public administration (micro loans)
Second phase (5 years)

Public outdoor recreation area
Second phase (5 years)

Subsidised medium density housing
Fourth phase (15 years)

Low density high cost residential
Third and fourth phase (10-15 years)

Low density, medium cost residential
Second and third phase (5-10 years)

Expansion of low density, low-cost residential
Second and third phase (5-10 years)

Rehabilitated natural greenery
First-fourth phase (2-20 years)

Public outdoor recreation area
Second phase (5 years)

Existing high school and sports amenity upgrades
First and second phase (2-5 years)

Existing community clinic (to be upgraded)
First phase (2 years)

Upgraded soft industry
First and second phase (2-5 years)

Micro economic activity (Fika and traditional shops)
First and second phase (2-5 years)

Subsidised medium density housing
Second phase (5 years)

Public outdoor recreation area
First and second phase (2-5 years)

Existing low density, low cost residential (services to be upgraded)
First and second phase (2-5 years)

Public administration (HOA and home loans)
Second phase (5 years)

Low density high cost residential
Third and fourth phase (10-15 years)

Rehabilitated natural greenery
First-fourth phase (2-20 years)

Existing ECD upgrade and primary school
First and second phase (2-5 years)

Micro economic activity
First and second phase (2-5 years)

Developer decided (with certain parameters)
First and second phase (2-5 years)

Subsidised medium density housing
Third phase (10 years)

Soft industry
First and second phase (2-5 years)

Public administration (education and unions)
First phase (2 years)

Expanded community clinic
Future phase (20 years)

Developer decided (with certain parameters)
Second and third phase (5-10 years)

Public outdoor recreation area
First phase (2 years)

Low density high cost residential
Third and fourth phase (10-15 years)

Low-cost, high density residential building
Future phase (20 years)

Rehabilitated natural greenery
First-fourth phase (2-20 years)

Public administration (home affairs and postage)
First phase (2 years)

Developer decided (with certain parameters)
Third and fourth phase (10-15 years)

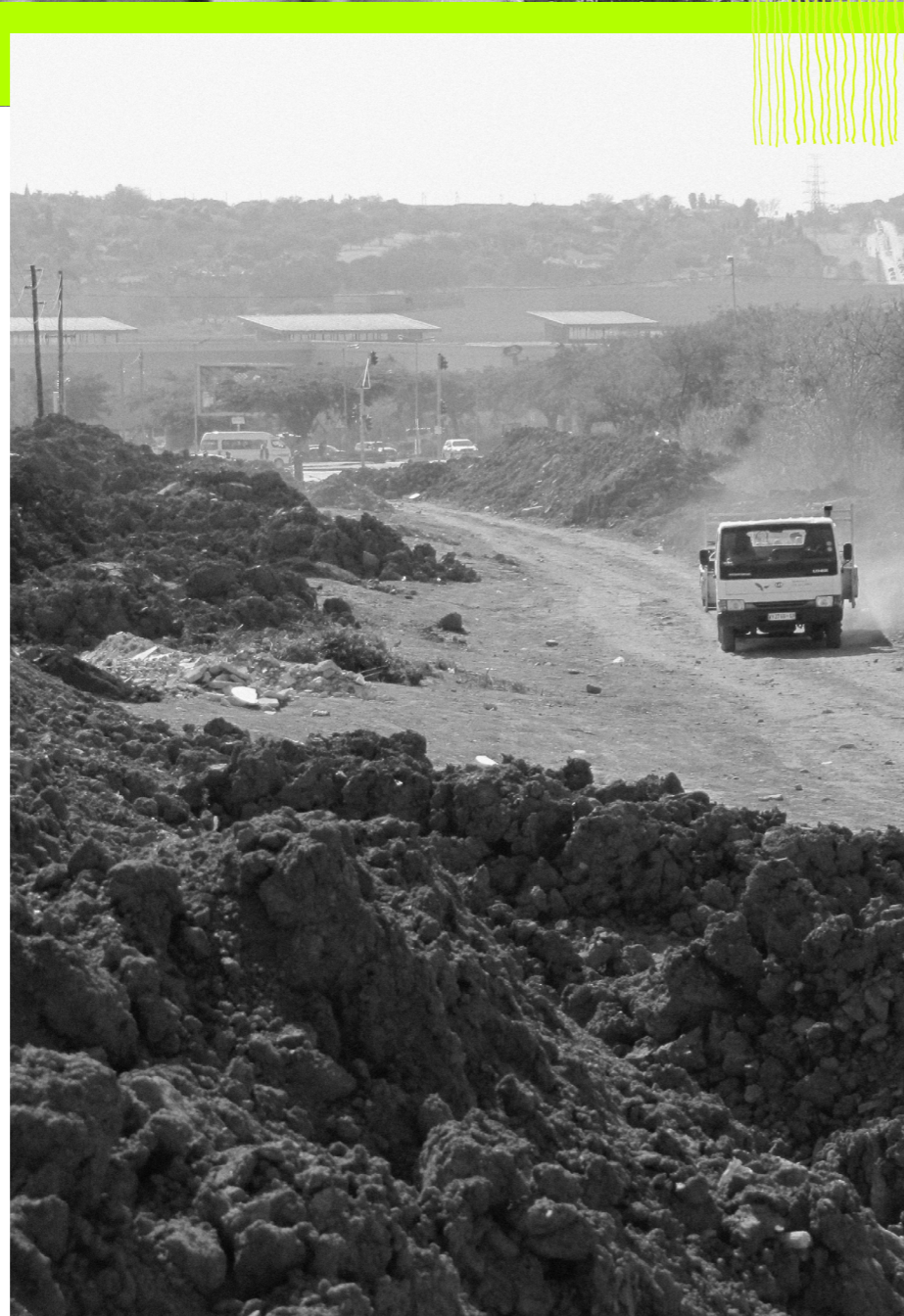
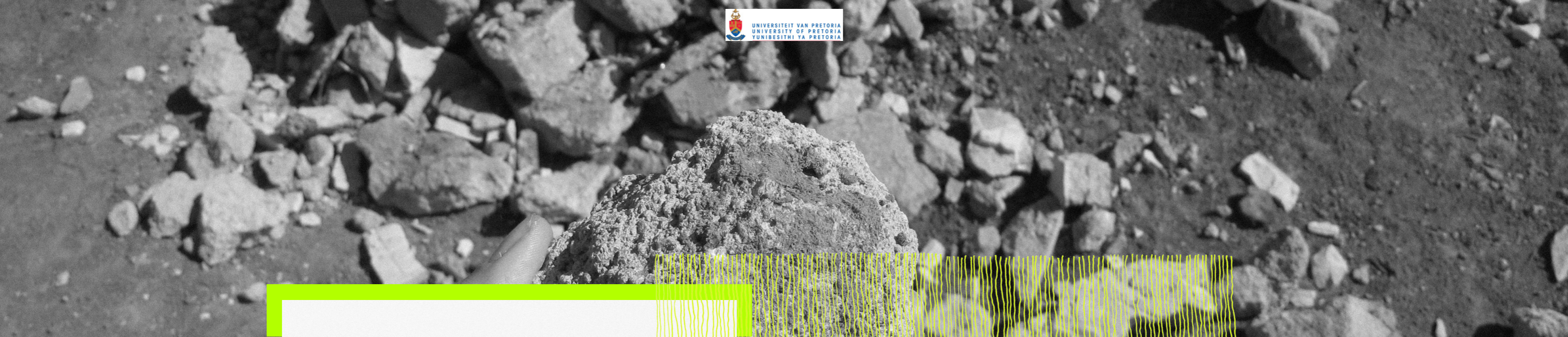


Figure 7.10: Above: Concrete rubble and finer aggregate found in copious amounts around Plastic View (USSP 2021).

Figure 7.11: Clay soil mounds found along the entire diagonal corridor on either side of the dirt road, ideal to fill hessian bags with and compress into large clay bricks (USSP 2021).

finement, expresses the interplay between the static and kinetic in a variety of ways. The relationship between materials reciprocates methods often related to the formal and informal building processes in the form of high-tech and low-tech materiality and connections. Seeing that this study repeatedly promotes the architecture as a method of articulation, the building method applied further facilitates the needed mitigation between the static and kinetic cities of Moreleta Park.

The integration of sustainable materials and technology is crucial to the social, economic and structural elements of this study. Through a process of knowledge transferal, whereby building methods and materials were analysed in Plastic View (and other spontaneous urban settlements in Pretoria east) and guided interviews were conducted, the probability of future socio-spatial sustainability brought by the implementation of this study was assessed and deemed a crucial technological consideration. The initial conversation had between

residents from Plastic View and students from the University of Pretoria on topics relating to the built environment specifically, influences material decisions greatly, but also establishes the notion of knowledge transferal as an integral technological consideration from the data collection project phase already.

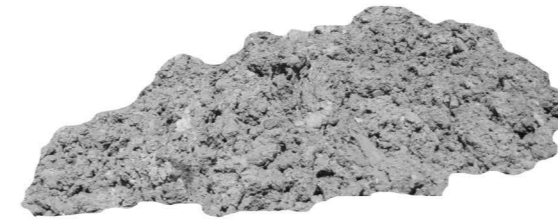
By relating the material palette back to key theoretical methodologies and concepts, the structural intentions of this study are visualised more clearly. Materials often associated with low-tech construction methods are, where needed, used in more high-tech applications – resembling the interplay that exists between the static and kinetic city, but also increasing the possibility for the methods proposed by this study to be implemented in various realistic scenarios. In conjunction with the above, this study's translation from theory to practice is further articulated by the interplay between materials found and manufactured on-site (low-tech assembly methods) and those manufactured off-site (high-tech



SLATE FOR CLADDING/OUT-DOOR FLOORING
Found all over site



TILES REUSED AS CLADDING/FLOORING
Found at the 'white house'



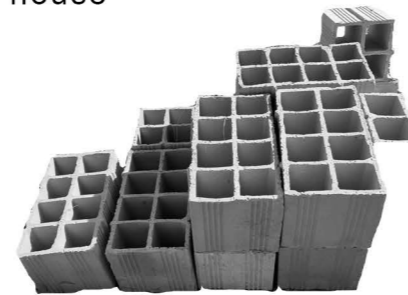
CLAY MOUNDS FOR SAND-BAG WALL CONSTRUCTION
Available all over site



PLASTIC BOTTLES TO 3D PRINT CONNECTORS
From recyclers in the area



SQUARE SHAPED STONE FOR PERMEABLE PAVING
Dumped along single track dirt roads on site



CLAY BREEZEBLOCKS FOR SCREENING
Dumped along single track dirt roads on site



TIMBER FRAMING REUSED SIMILARLY
Available from the 'white house'



PLASTIC CANVAS FOR COURTYARD SHADING
from old recycling bags



STONE STRUCTURES FOR PLINTH SEATING
Structures scattered in open field



BUILDING RUBBLE FOR FOUNDATIONS AND AGGREGATE
Found along all inward vehicular roads



CLAY ROOF TILES FOR ENTRANCE COVERING
From the 'white house' on site

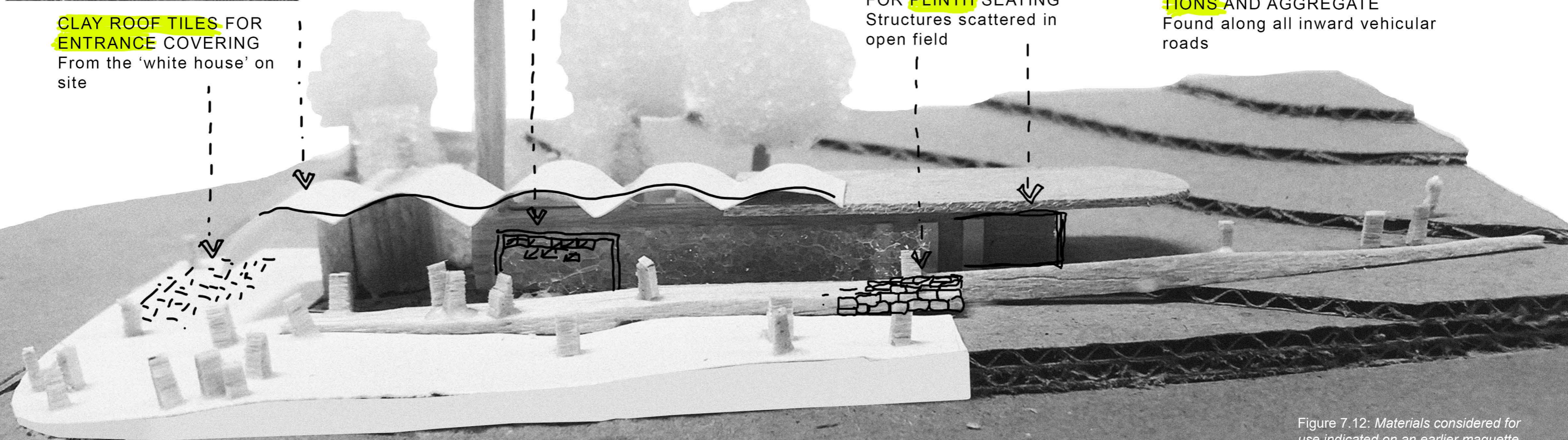
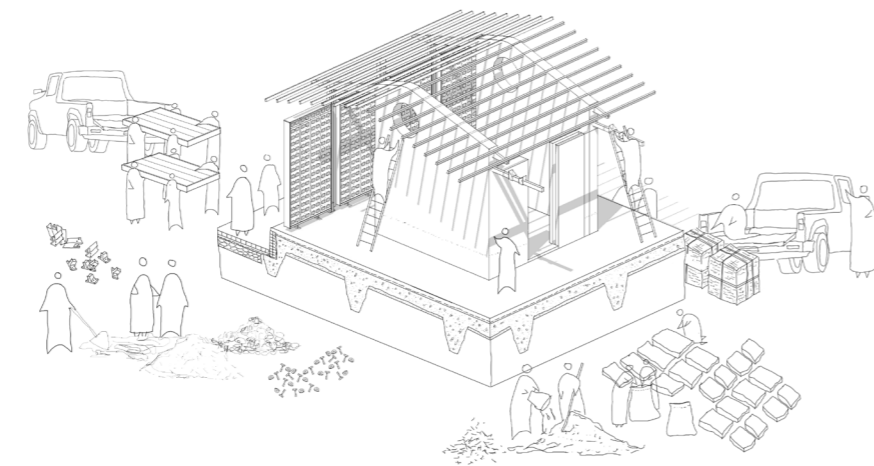
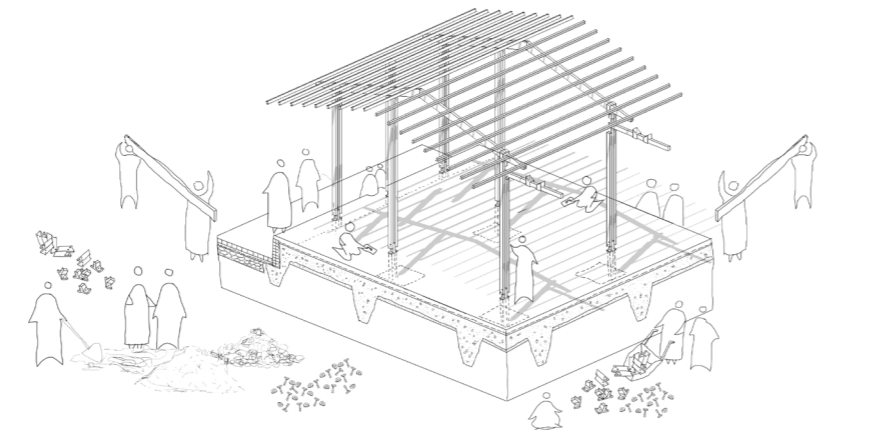
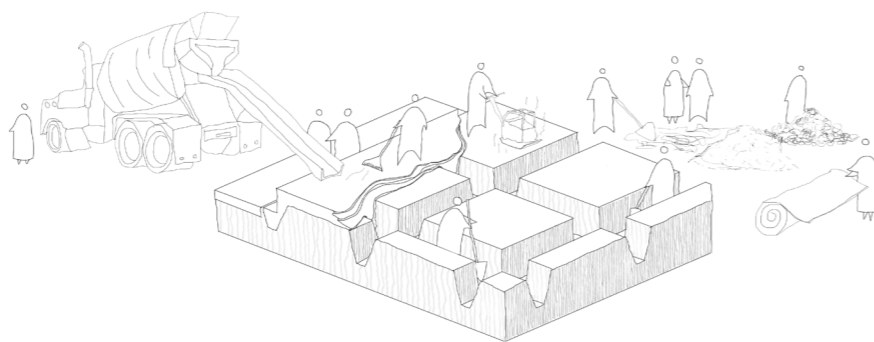


Figure 7.12: Materials considered for use indicated on an earlier maquette (Author 2021).



“

There is a relationship between the structures we design and those that we enable to emerge. This relationship is dynamic and in constant need of adjustment. How much structure will be needed before the structure itself inhibits personal freedoms, gets in the way of people and progress? At what point does it disable the natural and organic process of emergence?” (Hamdi 2010:192)

assembly methods) and their eventual mitigation unfolding through the method of building.

The components and materials they are comprised of, proposed by this study, are listed as follows:

Low-tech substructure:

1. Site preparation: Well-compacted fill and sand binding layers from existing sit material.
2. Raft foundation: DPM on well-compacted site-work with in-situ cast raft foundation with internal steel reinforcement and steel mesh.
3. Building apron: From building rubble evened with excess concrete from foundations, DPM, sand layer from site and Low-grade slate stepping stones (also found on site).

Low-tech superstructure:

1. Timber columns, beams and trusses: Cut, treated and manufactured off-site and made of affordable and locally available Saligna timber, per engineer specification.
2. Purlins and girders: Man-

ufactured off-site and made of SA pine

3. Roofing: Chromadek IBR roof sheeting manufactured off-site

Low-tech infill:

1. Sandbag walls: Manufactured on site from existing surplus clay soil and pine needles (bags are filled with clay soil, water and pine needles, compressed and then sun-dried on site) to be laid and mortared. Bagged and painted white.
2. Brick walls: Affordable stock bricks manufactured off site and assembled on-site bagged and painted white.
3. Paving and floors: Either in-situ Polyurethane screed on DPM or flexible brick paving manufactured on-site from clay soil, water and pine needles, compressed and then sun-dried.
4. Timber doors and windows: Manufactured off-site from affordable Meranti timber.
5. Beer crate planters: Found and manufactured on-site from beer crates, waterproofing and soil layers.

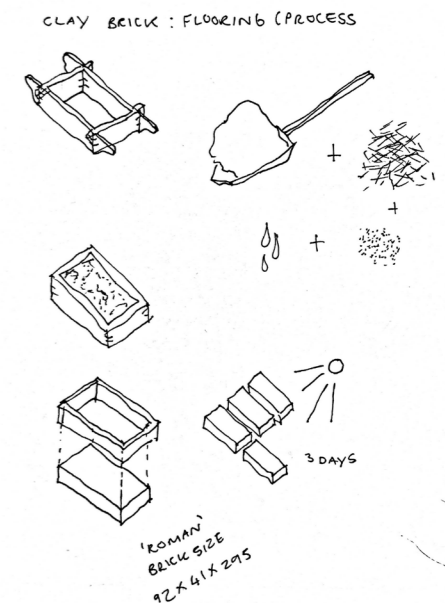


Figure 7.13: Above: Treating gum-poles for water and insects before placing them into the ground as part of the live-build in Plastic View (MPIP Master's 2021).

Figure 7.14.1: Left: Visualising building methods and materials, foundations (Author 2021).

Figure 7.14.2: Left: Visualising building methods and materials, structure (Author 2021).

Figure 7.14.3: Left: Visualising building methods and materials, infill and screening (Author 2021).

Figure 7.15: Drawing out the clay brick making process (Author 2021).

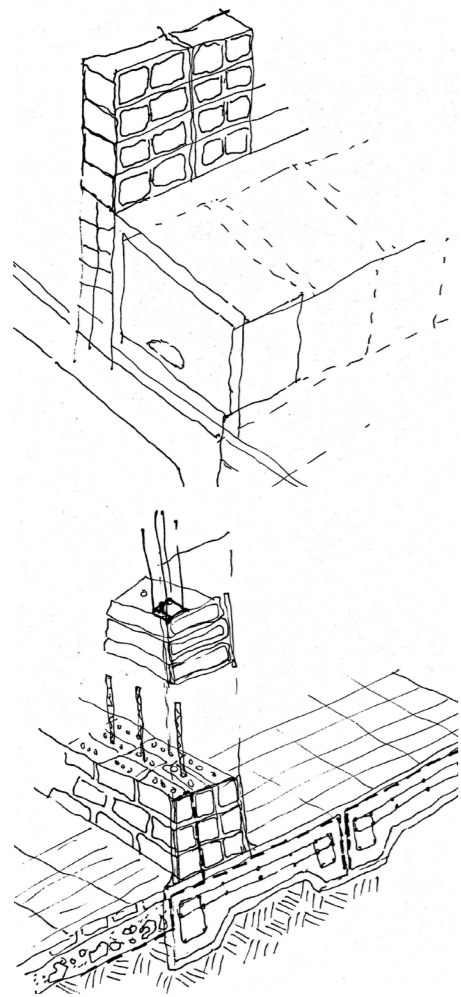


Figure 7.16: Designing for deconstruction in the Boukunde maker's space during the week of the Plastic View live-build (MPIP Master's 2021).
Figure 7.17.1: Exploring seating by using filled beer crates (Author 2021).
Figure 7.17.2: Wall detail exploration (Author 2021).

High-tech infill:

1. Roofing insulation and ceiling panels: Manufactured as panels off-site from fibre-cement and mycelium insulation, clad with unfinished, treated timber poles.
2. Service ventilation screens: Manufactured off-site from locally available and affordable Saligna timber.
3. CMU screens: Manufactured as panels off-site from CMU blocks encased in a Saligna frame.
4. Kinetic timber screens: Manufactured off-site from locally available and affordable Saligna timber.

High-tech connectors:

1. 3D printed column stubs, column and beam connectors, clips and hooks: Manufactured off-site from recycled plastic found on site and polypropylene to engineer's specification.

Prototyping detailed kinetic enablers and configurations

Technological concept: Through the realistic detailed development

of formal built elements, serving as prototypical construction details and modules, the dialogue between urban extremes can be articulated through a subtle design enabling mediation between the static and kinetic without forcing a negotiation of space.

The construction details designed in the technological portion of this study can be seen as the micro-scale design response, whereas the configurations of parts would be the meso-scale response and the urban framework and assembled configurations the macro-scale spatial response. The differing design scales allow theoretical concepts to flow through various project decisions, but more importantly – acknowledges urban and architectural issues through an integrated design response, combining spatial problem solving on an urban, structural and detailed scale (the macro, meso and micro).

The author's process appears relatively scattered because micro-scale kinetic details are explored before configurations,

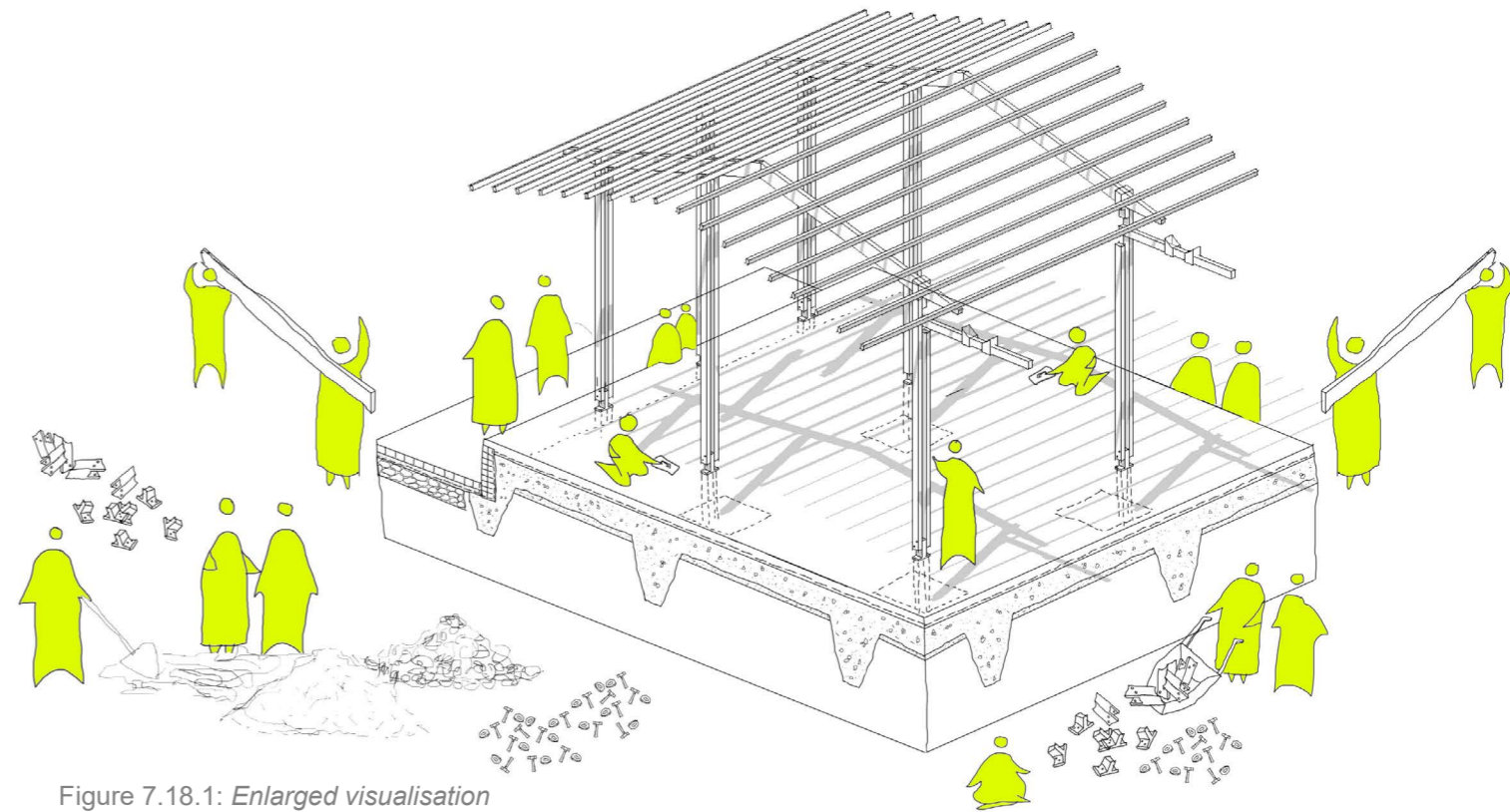


Figure 7.18.1: Enlarged visualisation of the needed labour, methods and technology applied for the structure of configuration 1 (Author 2021).

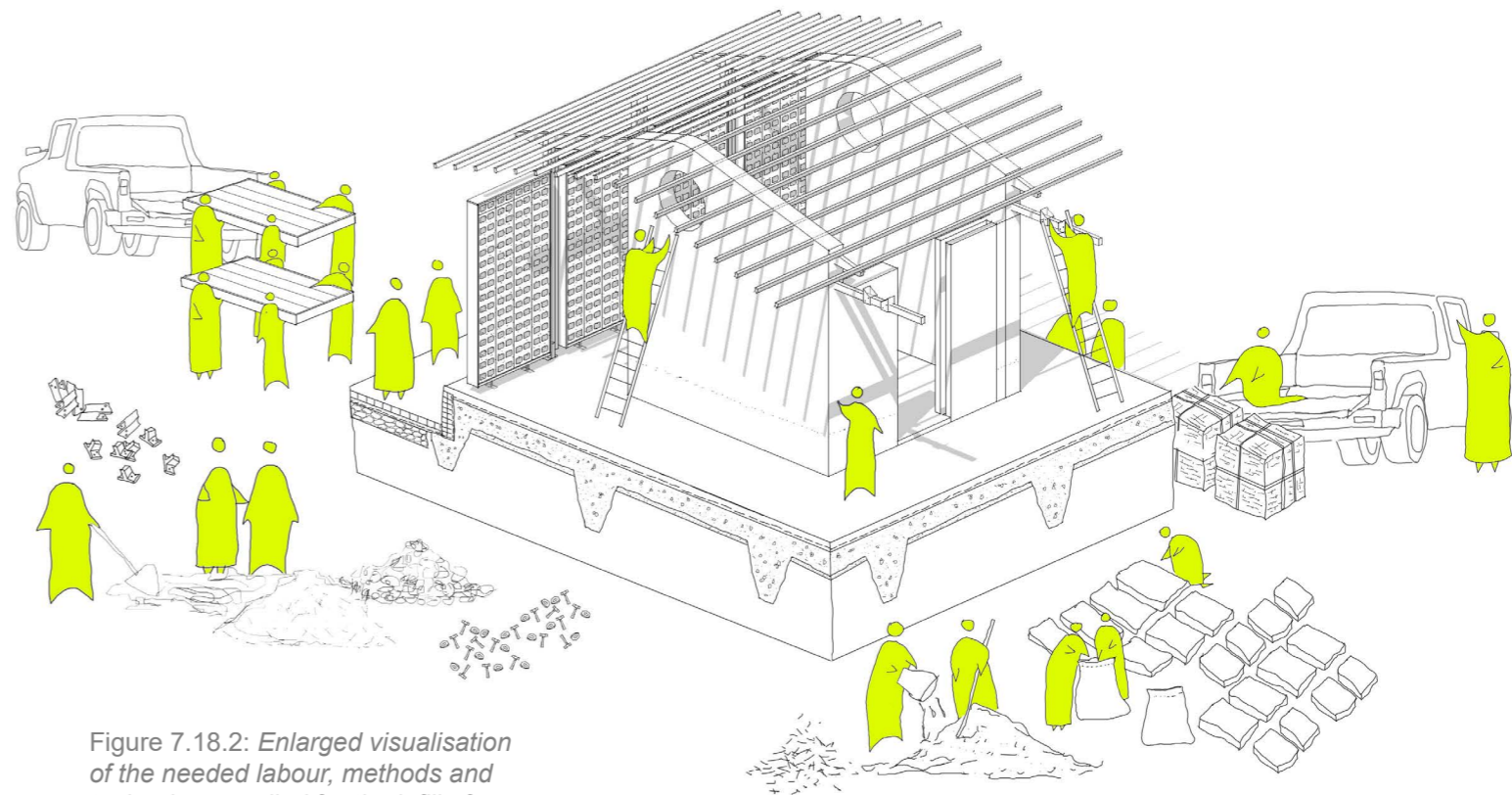


Figure 7.18.2: Enlarged visualisation of the needed labour, methods and technology applied for the infill of configuration 1 (Author 2021).

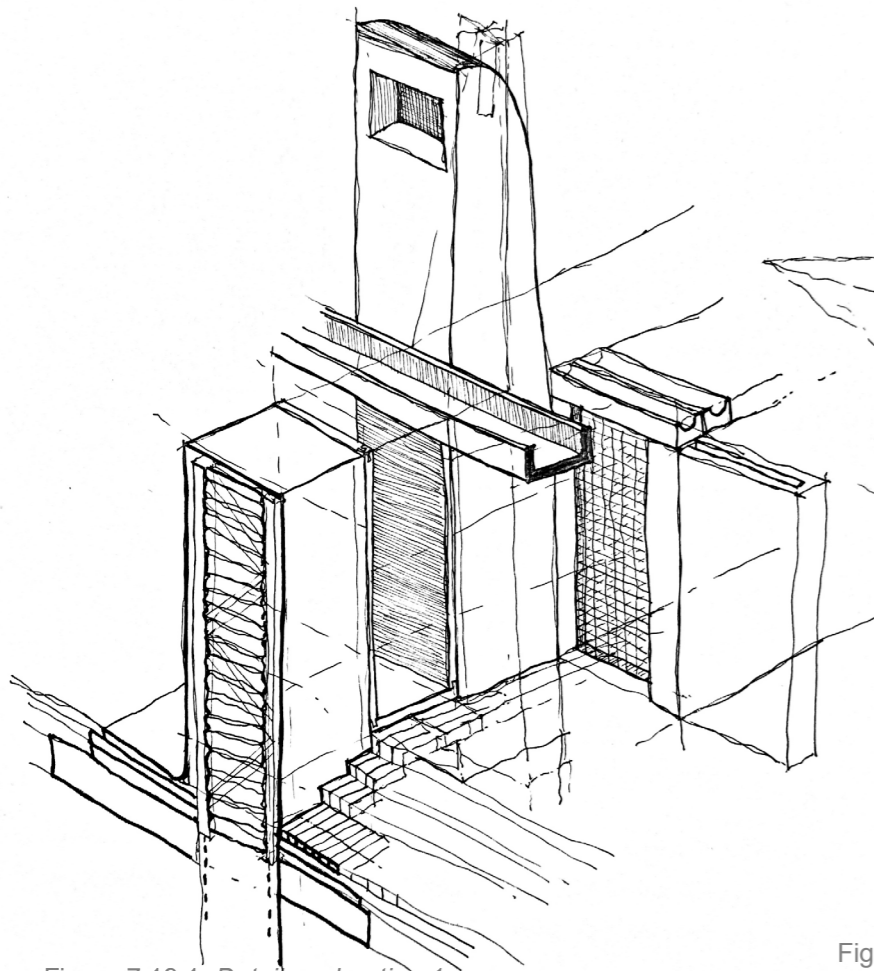


Figure 7.19.1: Detail exploration 1, an entrance framing a view toward the taxi stop (Author 2021).

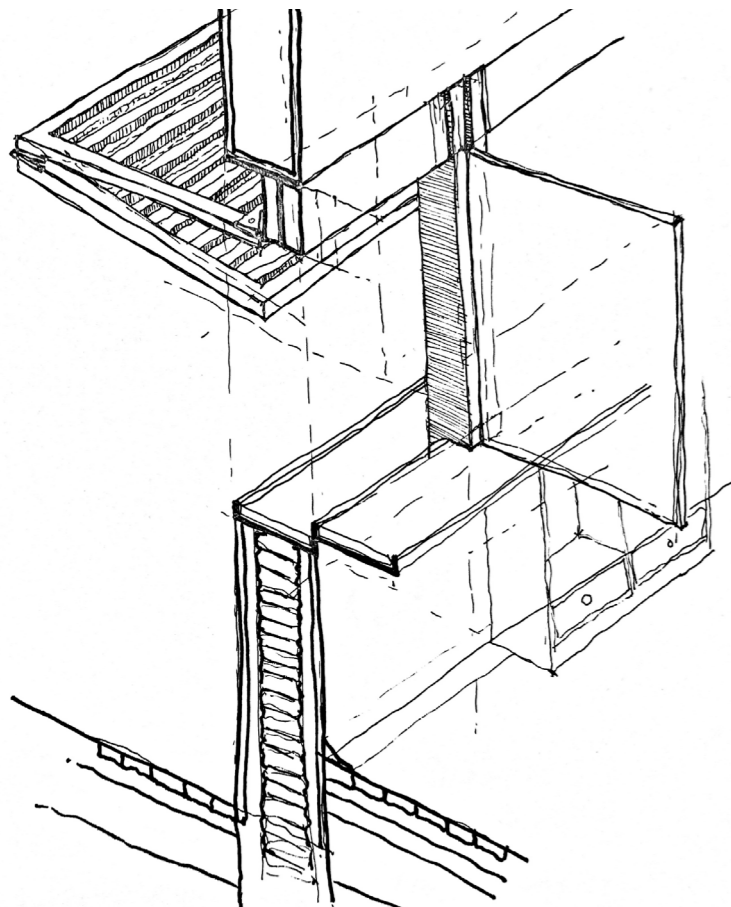


Figure 7.19.2: Detail exploration 2, a service counter and movable screen as a pedestrian interface (Author 2021).

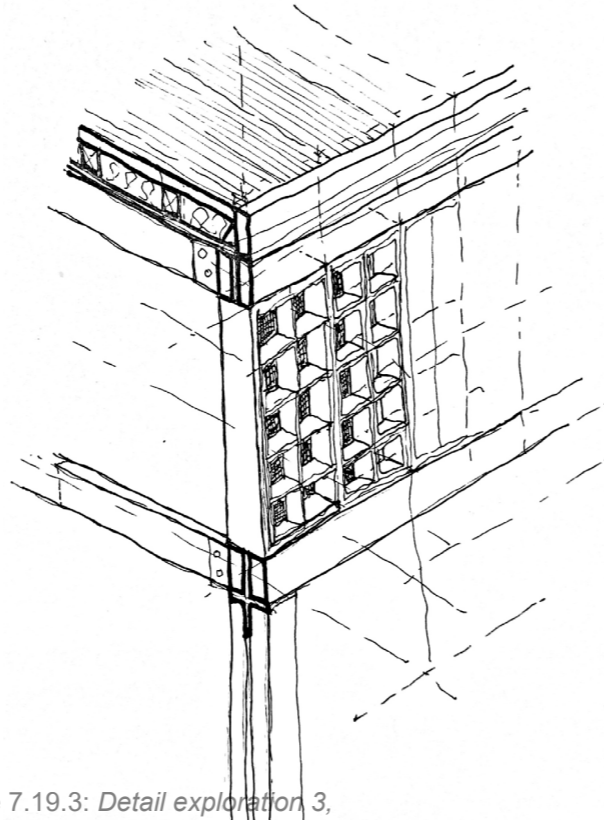


Figure 7.19.3: Detail exploration 3, a fixed screen clerestory allowing light in from the West during the early afternoon (Author 2021).

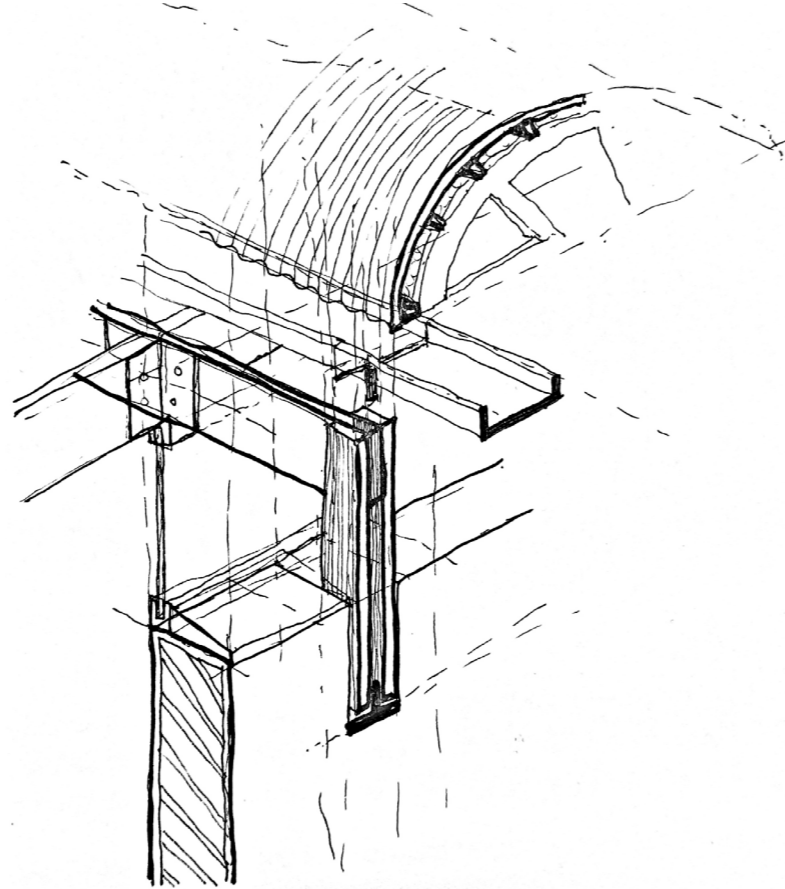


Figure 7.19.4: Detail exploration 4, a roof, column and gutter connection focussing attention to the extended gutter (Author 2021).

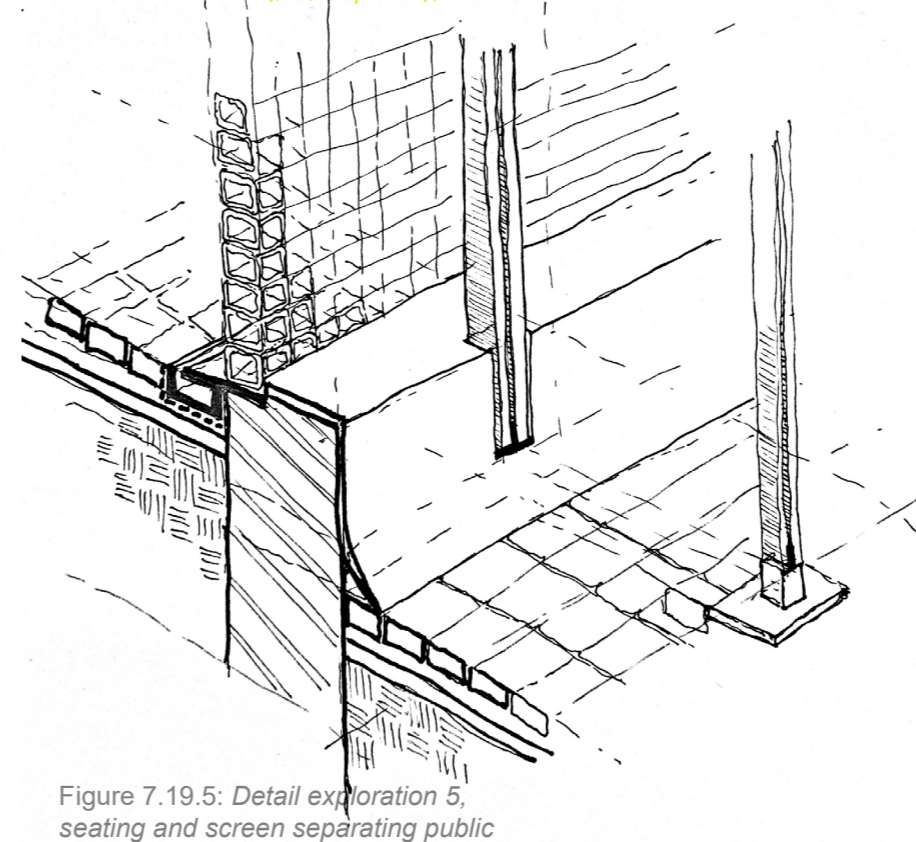


Figure 7.19.5: Detail exploration 5, seating and screen separating public and private areas – enabling kinetic activity on the building edge (Author 2021).

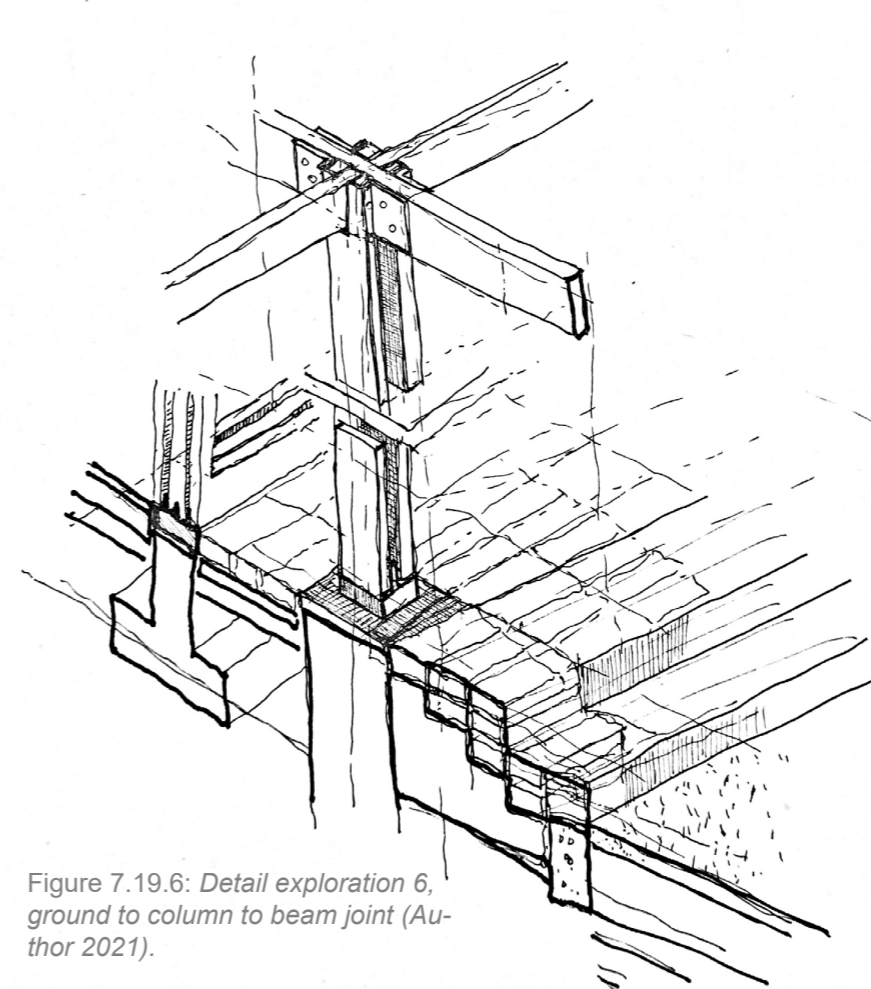


Figure 7.19.6: Detail exploration 6, ground to column to beam joint (Author 2021).

but the process of construction detailing is what lead to the designed kit-of-parts followed by four possible configurations made up of these parts. The four possible meso-scale configurations of parts are then re-assessed in terms of joints and detailing, whereby construction details are then extracted and resolved before the macro-scale assembly of configurations. Before fully resolving the various parts of the toolkit and the configurations they can be arranged in, it is considered that the construction details decided upon for refinement and eventual use should intend to capture a moment whereby the static form enables the kinetic.

Technical contribution: The catalogue of components, their configurations and various flexible programmes can be replicated and adapted on similarly tense urban sites – extending the reach of the needed mitigation between the static and kinetic, ultimately increasing the implementable nature of the scheme.

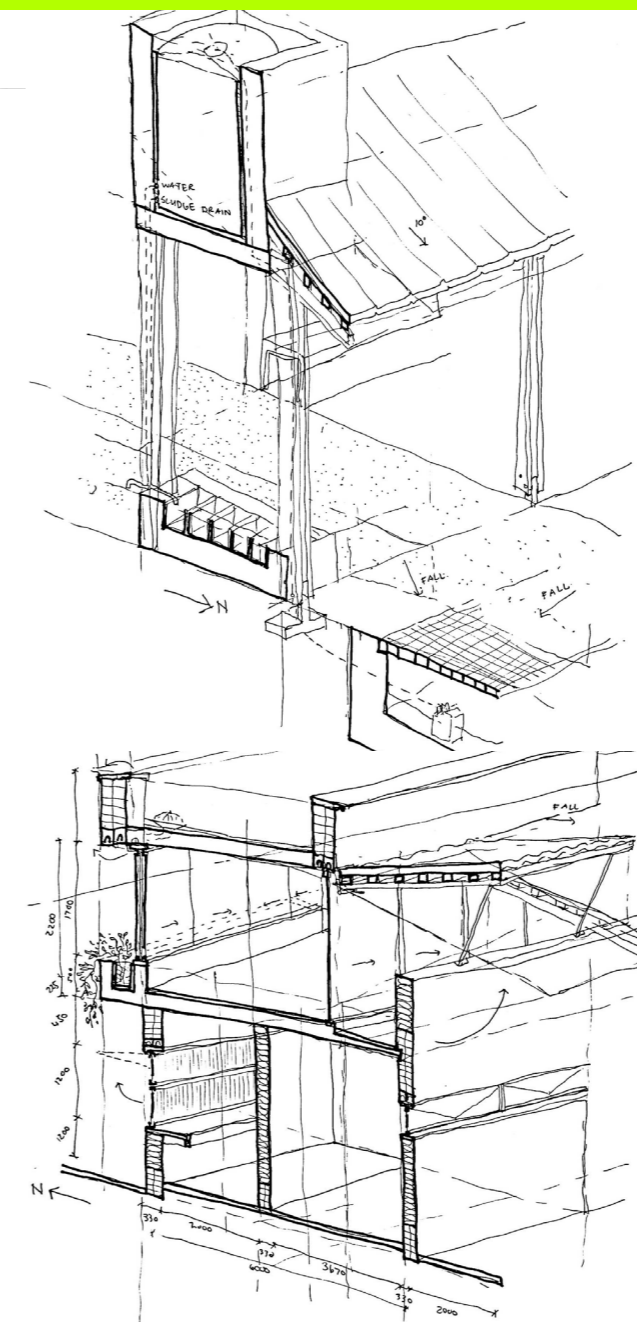
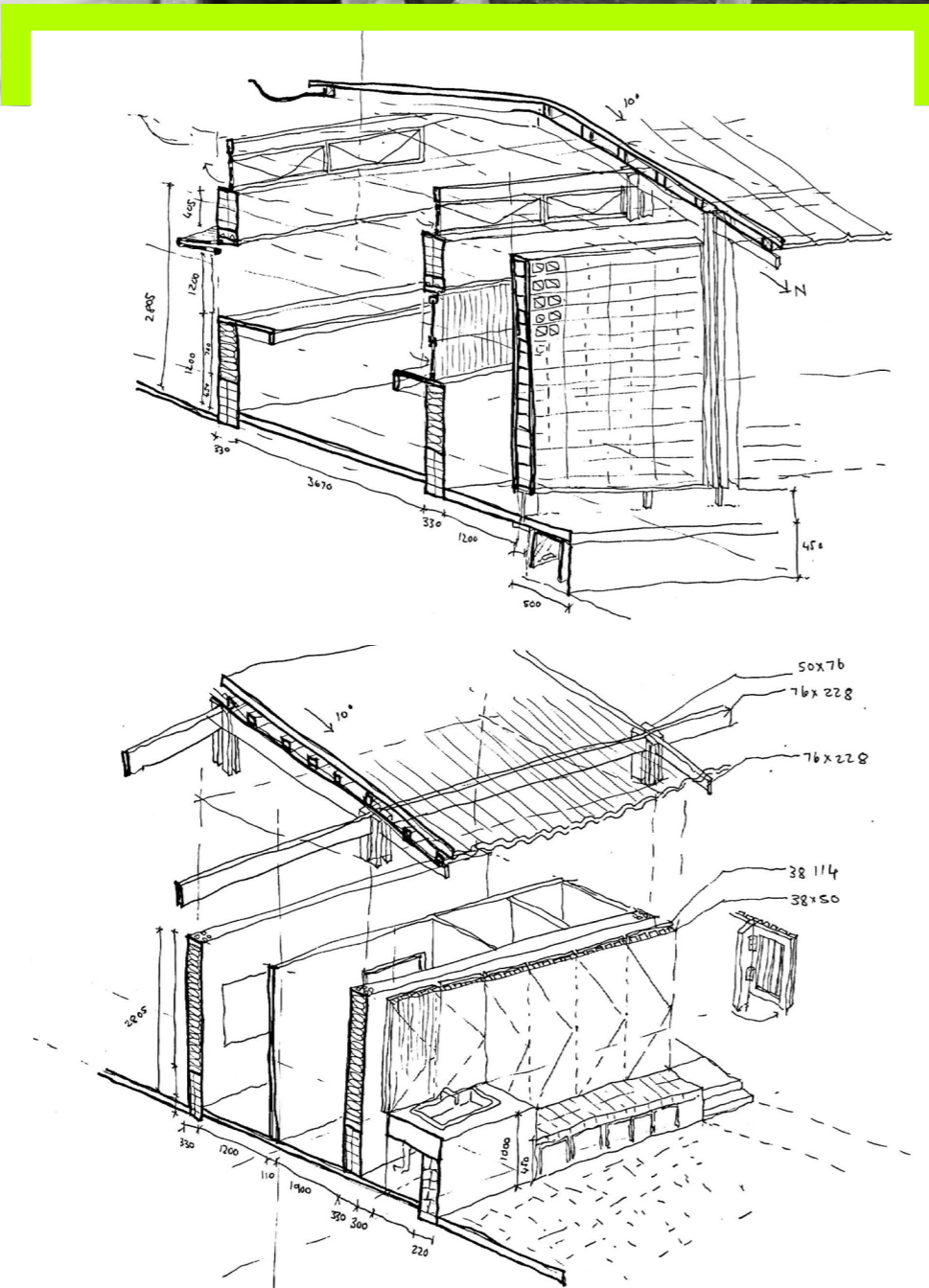
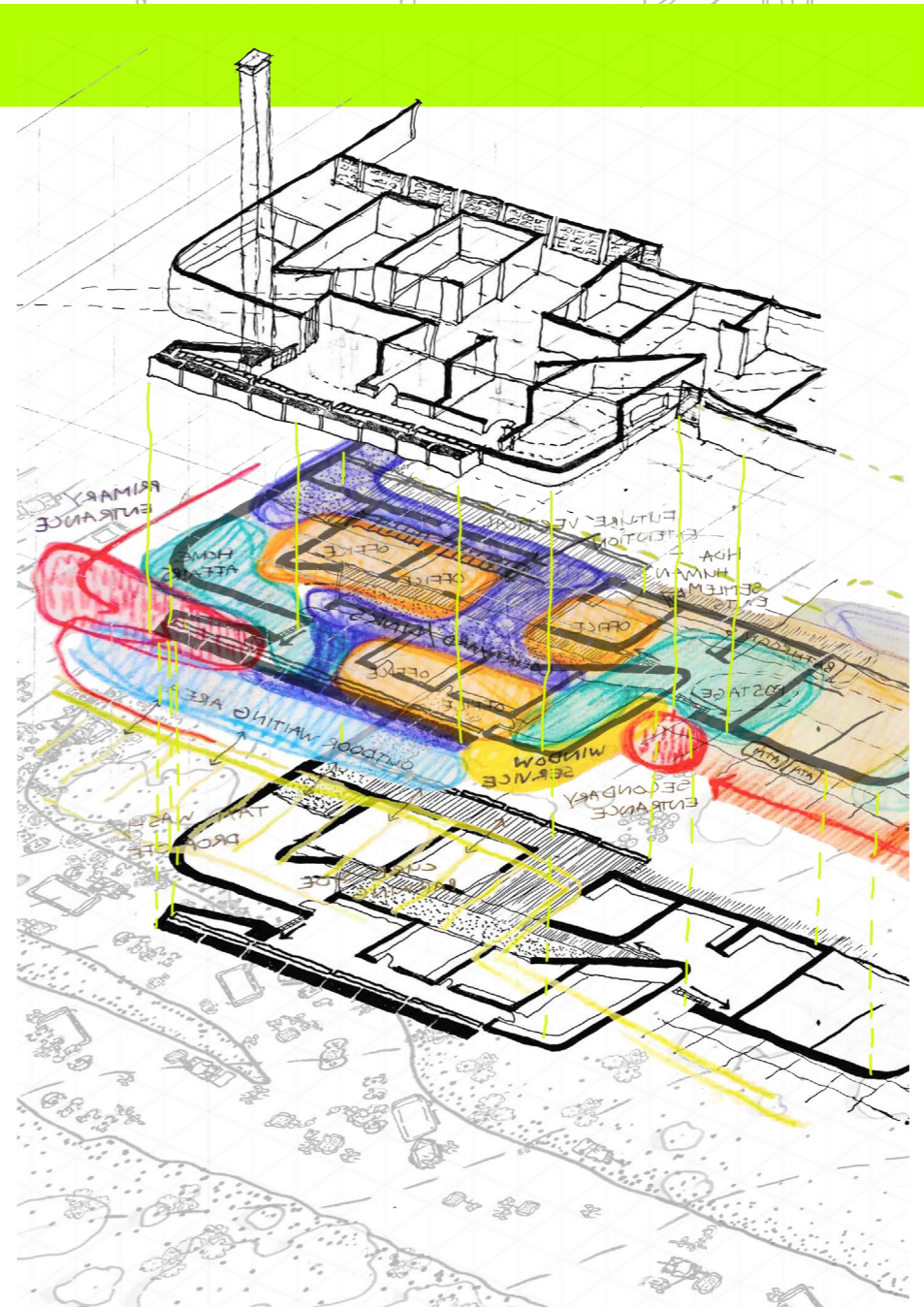
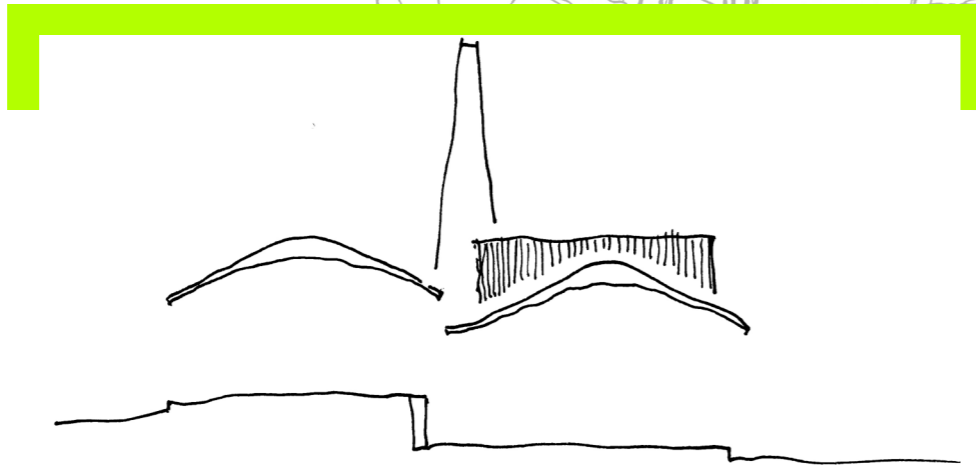
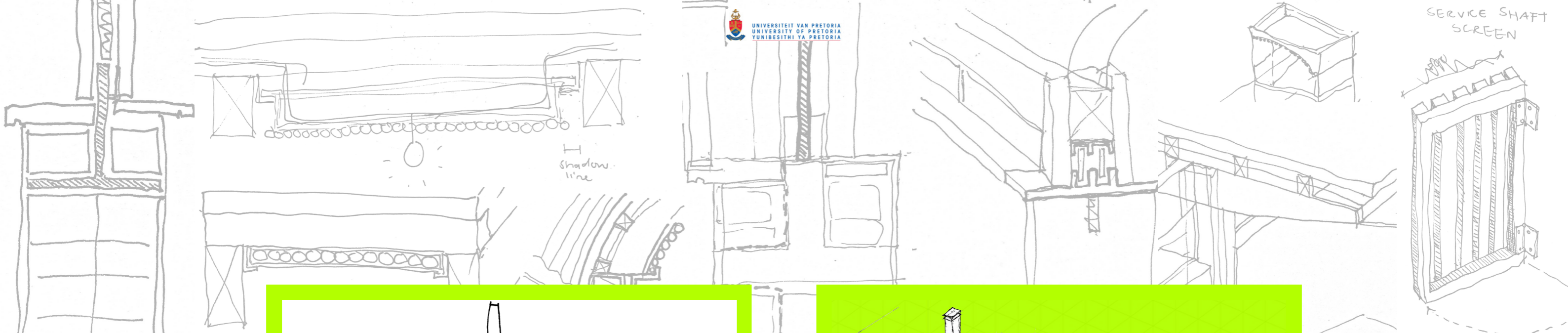


Figure 7.20: Above: *Initial maquette, exploring a combination of parts assembled to create certain rhythms (Author 2021).*
 Figure 7.21.1: *Configuration 1, the service counter (Author 2021).*
 Figure 7.21.2: *Configuration 2, the servicing public interface (Author 2021).*

Figure 7.21.3: *Configuration 3, outdoor covering and water point as an urban intervention unfolding close to the existing taxi stop (Author 2021).*
 Figure 7.21.4: *Configuration 4, double storey with a service counter and storage space on ground level and a private office on the first floor (Author 2021).*



Initial assembly iterations

The assembly of configurations is organised along an East-Westerly axis with the meso-scale configurations scattered linearly along this pathway. Just as various openings, screening techniques and threshold conditions are explored on the micro scale, these elements are also experimented with on the macro scale. The placement of configurations is in line with existing footpaths and sightlines, opening up to the public completely at certain corner conditions but selectively closing at less private areas.

The corner site's position also serves as a point of mitigation between the static and the kinetic,

as it is located between a strip mall, private residential estate and an existing taxi rank. The location itself further promotes an arrangement not completely confined to a single structure, but rather a series of structures unified by a roof. The assembly encourages its users to occupy smaller, more intimate in-between spaces provided by the static form and realistically furthers the chance of interaction between polarised community members. The unifying roof allows for easy extension in an East-Westerly direction, speaking to an ever changing context as well as various possible future conditions (in-line with the adaptable phased urban framework).

Figure 7.22: Above: Rough journal sketches of connectors and detailed joints (Author 2021).

Figure 7.23: A parti diagram of the Western façade of the assembled structure (Author 2021).

Figure 7.24: Initial extrapolated floor plans, which were adapted on plan to read more loosely as a series of elements (Author 2021).



Figure 7.25: Developing the assembled plan through sketching and colour coding. Light pink and purple relate to sight lines, through ways and links between existing and future public spaces. Dark green and blue illustrate designed green outdoor areas. Orange refers to a threshold condition and light green illustrates the use of one of the resolved configurations.

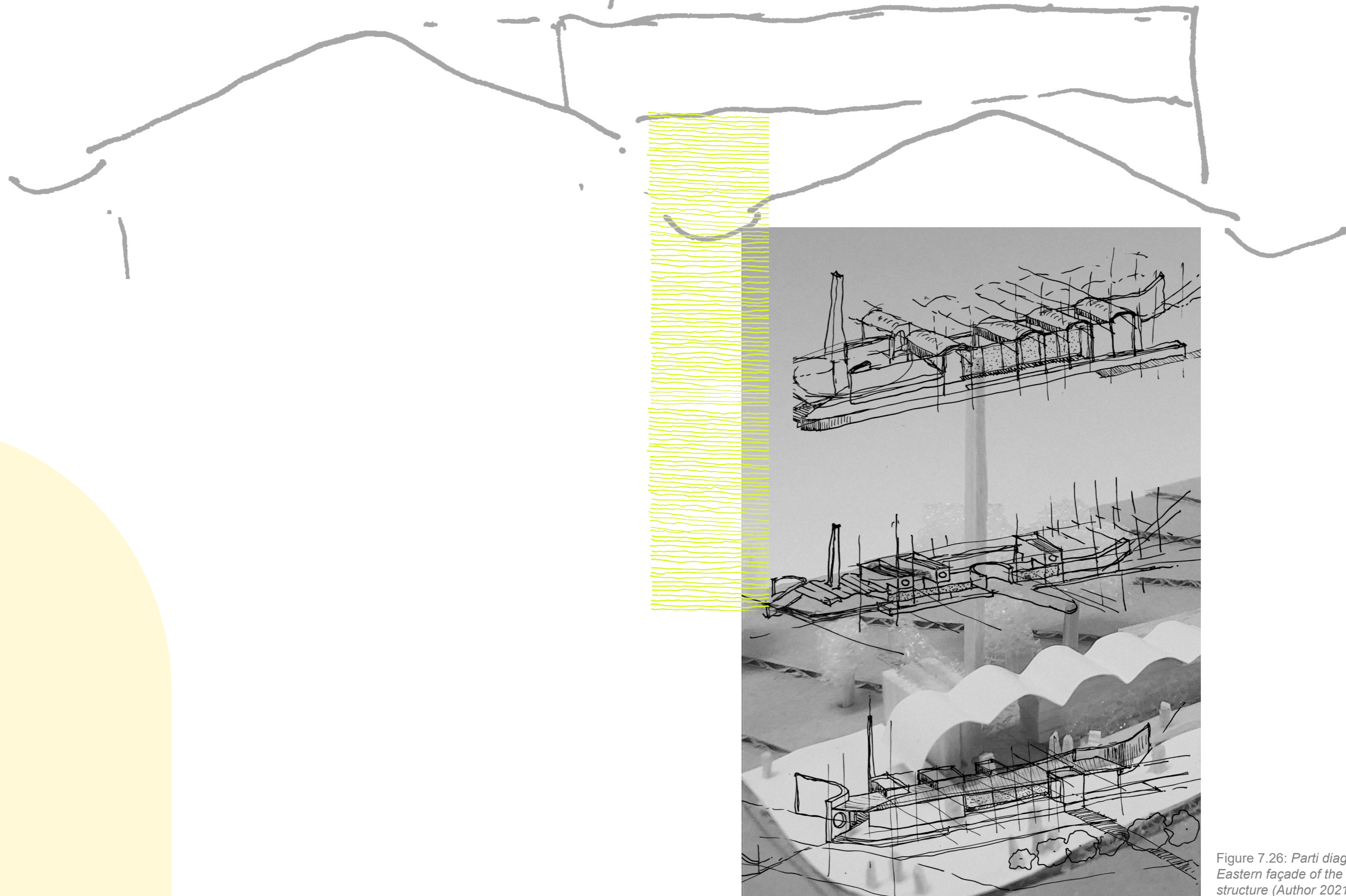


Figure 7.26: *Parti diagram of the Eastern façade of the assembled structure (Author 2021).*

Figure 7.27: *Left and Right: Photograph and rough sketches of possible rhythms to be created by the alternating placement of different configurations (Author 2021).*

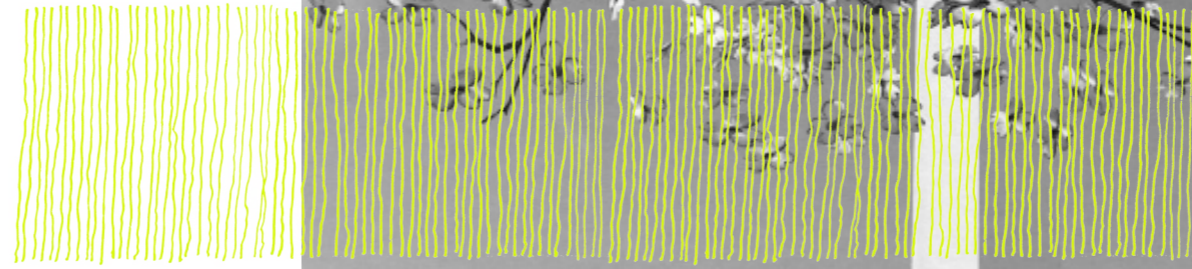


Figure 7.28.1: Main Southern entrance (Author 2021).
Figure 7.28.2: Northern approach from taxi-stop (Author 2021).
Figure 7.28.3: North-eastern view of the assembled configurations (Author 2021).
Figure 7.29: Right: Guiding entrance and seating leading from the taxi-stop to the outdoor washbasins, into the semi-public interior grants collection area (Author 2021).



Figure 3.2 Drone image of a water collection point in plastic View (MPIP Honour's 2021)

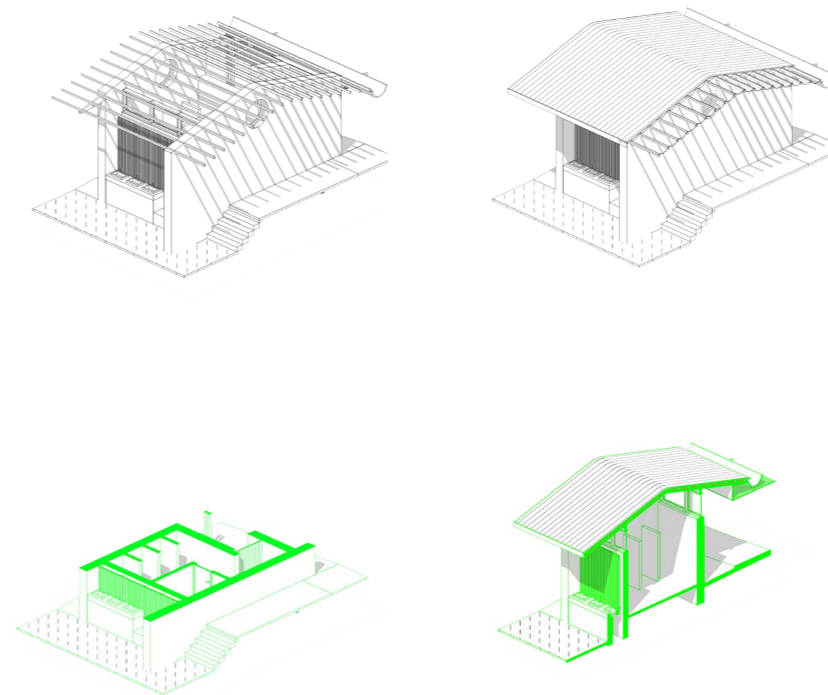
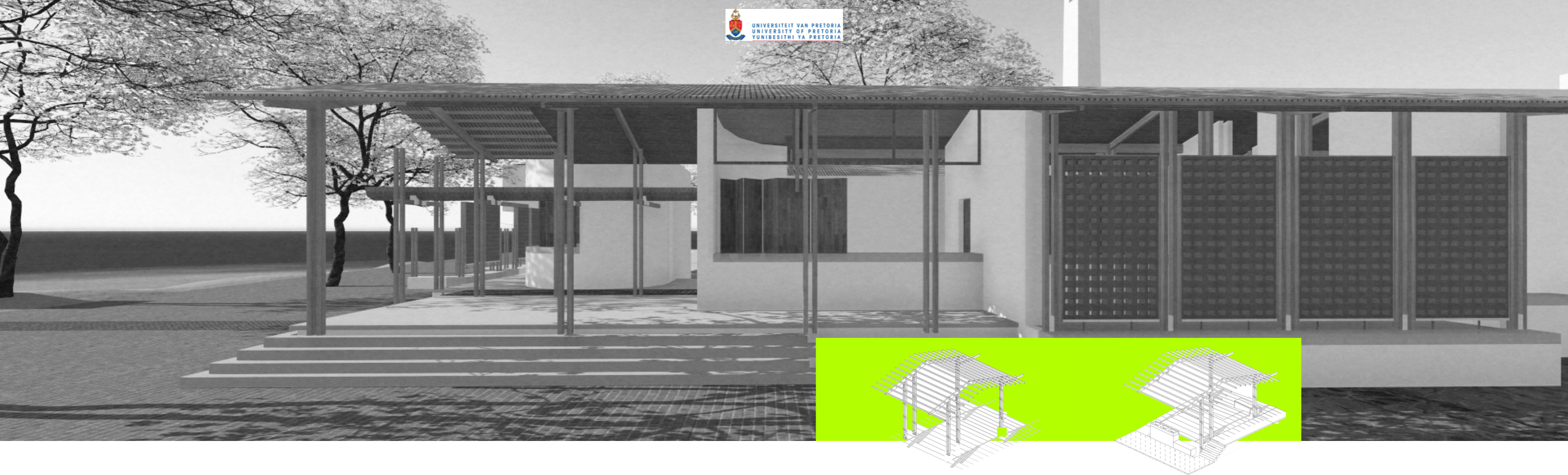


Figure 7.30: Above: *Enlarged view of the Southern main entrance with a postage collection point and semi-private screened postage parcel drop-off point with seating space on the exterior building edge (Author 2021).*
Figure 7.31.1: Right: *Configuration 1, structure phase, flooring, counters and seating, service and walling infill, other attachments and screens, floor plan and section (Author 2021).*

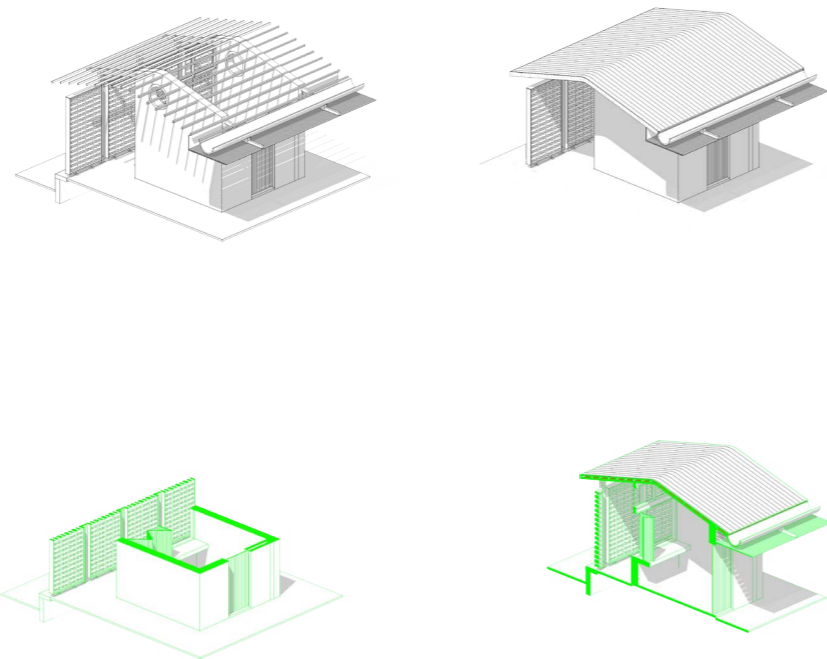


Figure 7.32: Above: Enlarged view of the North-Western approach from the taxi-stop up the ramp to the information counter and toward the home-affairs and gathering area on the left (Author 2021).

Figure 7.31.2: Left: Configuration 2, structure phase, flooring, counters and seating, service and walling infill, other attachments and screens, floor plan and section (Author 2021).

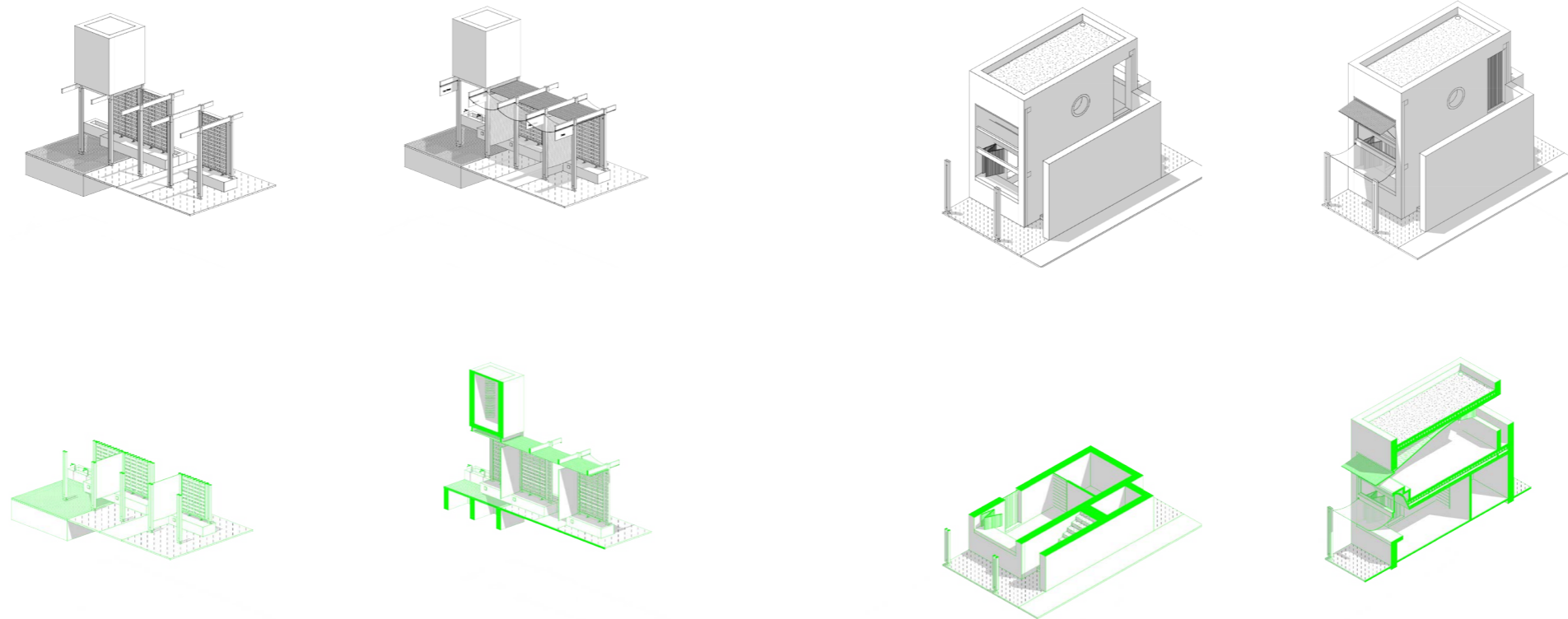
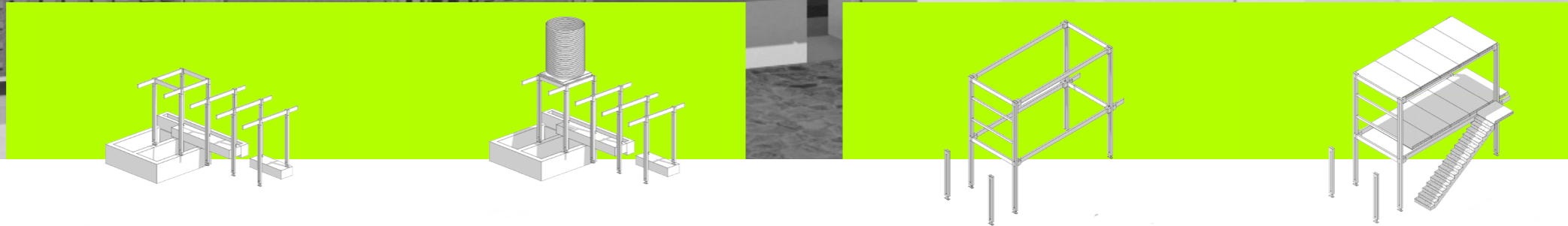


Figure 7.33: Above: *Enlarged view of North-Eastern pedestrian approach with CMU screens separating semi-private activities relating to home-affairs documentation (Author 2021).*

Figure 7.31.3: *Configuration 3, structure phase, flooring, counters and seating, service and walling infill, other attachments and screens, floor plan and section (Author 2021).*

Figure 7.31.4: *Configuration 4, structure phase, flooring, counters and seating, service and walling infill, other attachments and screens, floor plan and section (Author 2021).*

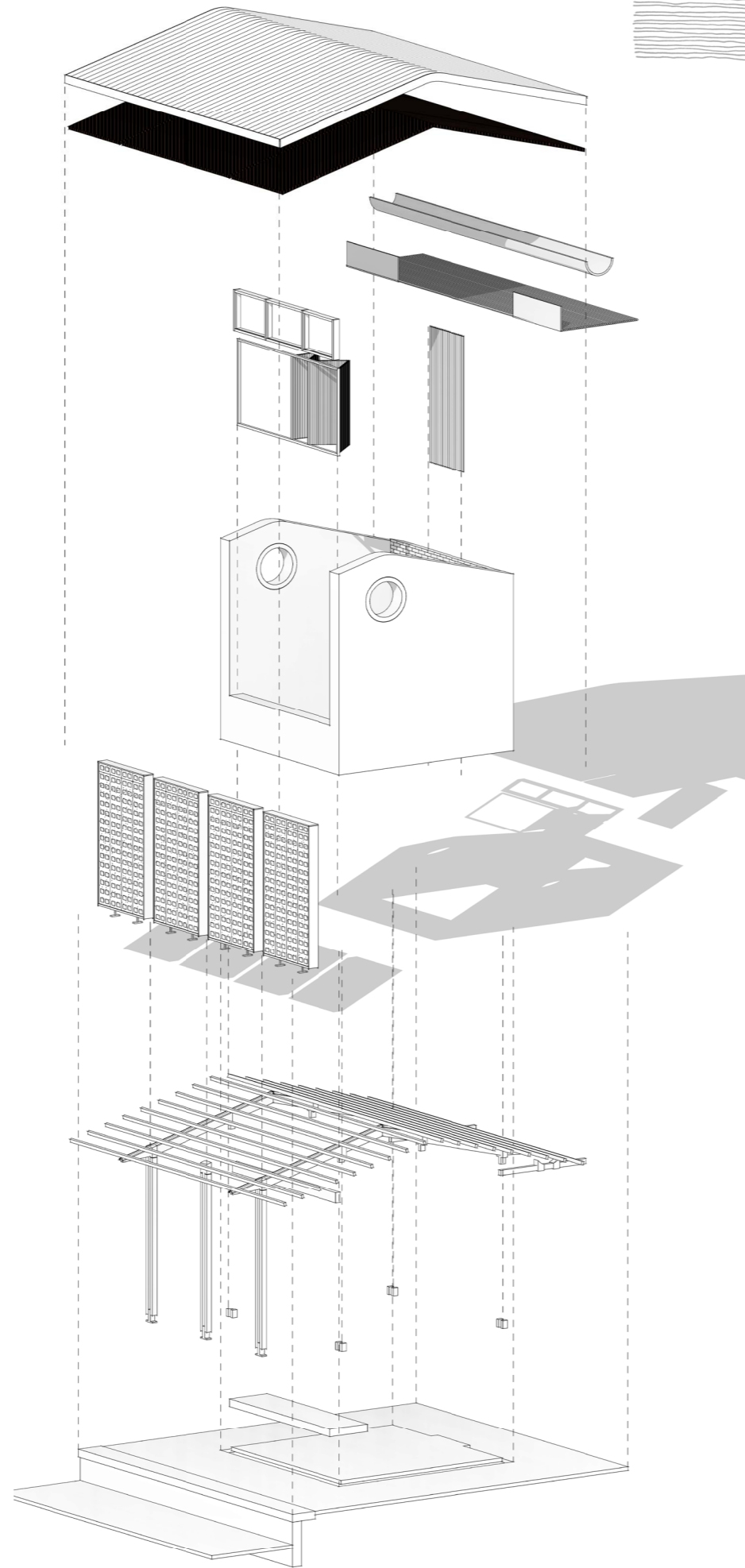


Figure 7.34.1: Configuration 1 exploded, visualising various building elements assembled on site in order to enable kinetic interaction between users needing administrative help and users occupying the outdoor seating and screens (Author 2021).

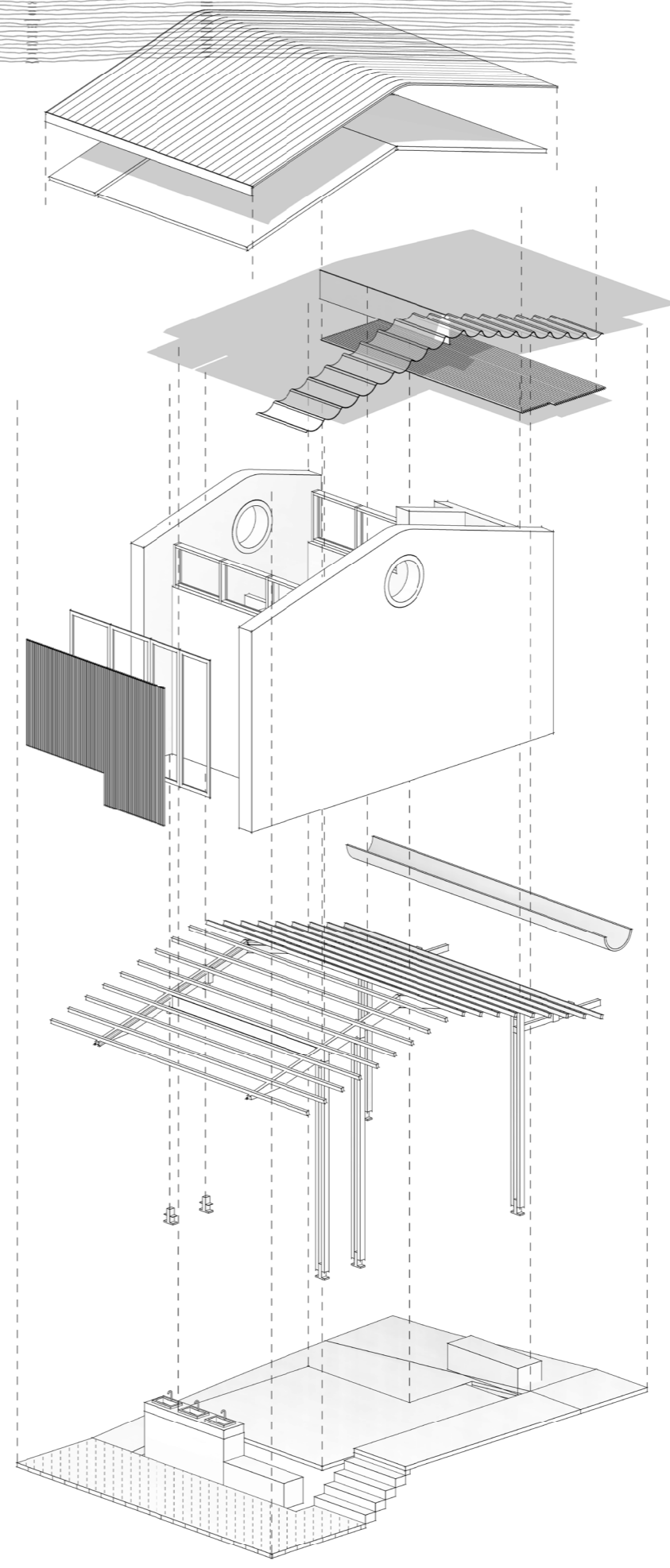


Figure 7.34.2: Configuration 2 exploded, visualising various building elements assembled on site in order to provide passers-by and users waiting for taxi services with sanitary services (Author 2021).

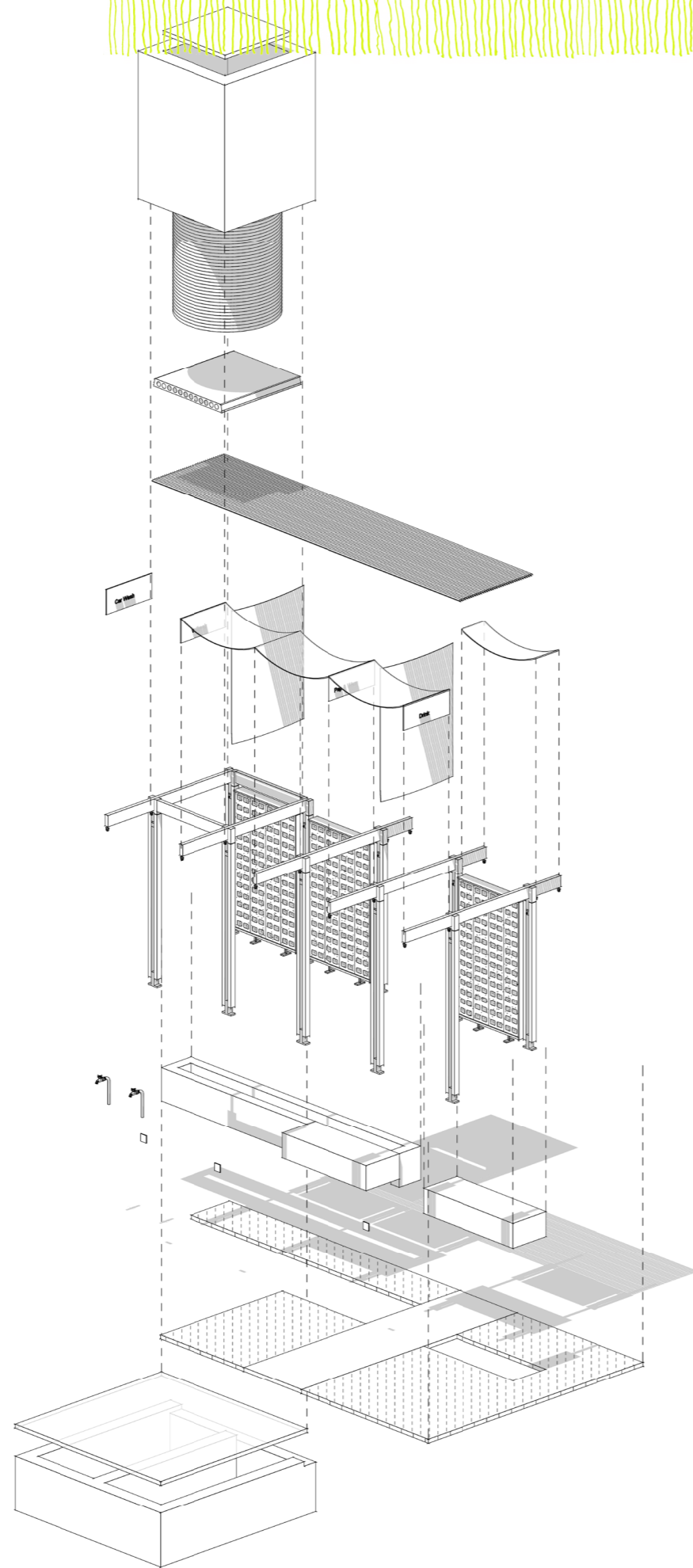


Figure 7.34.3: Configuration 3 exploded, visualising various building elements assembled on site in order to enable the largest variety of kinetic activity through providing an electrical plug-point, opportunities for advertising, water points for washing cars and hooks and clips for further extension of shading (Author 2021).

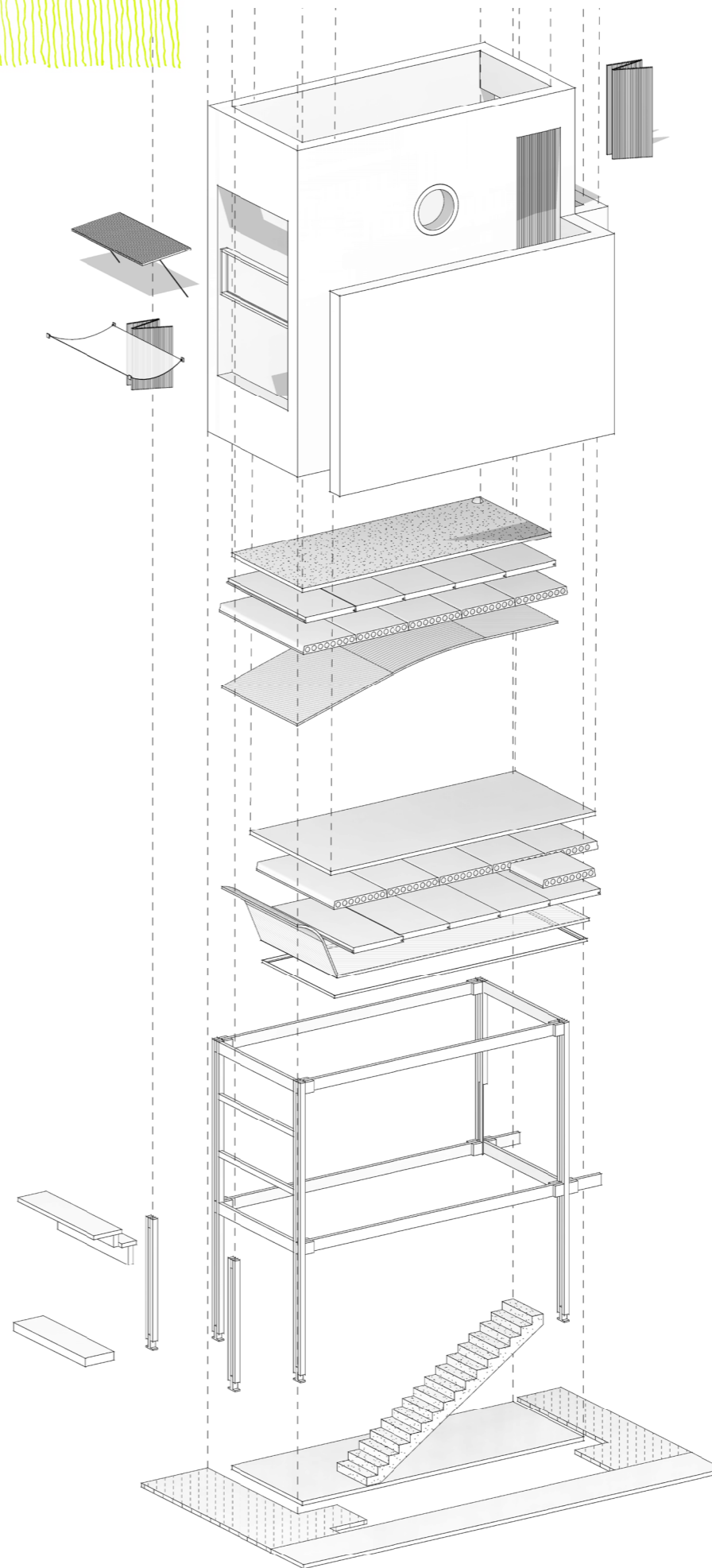


Figure 7.34.4: Configuration 4 exploded, visualising various building elements assembled on site in order to enable services and other kinetic activities on ground floor and maintain a more formal space on the first floor (Author 2021).

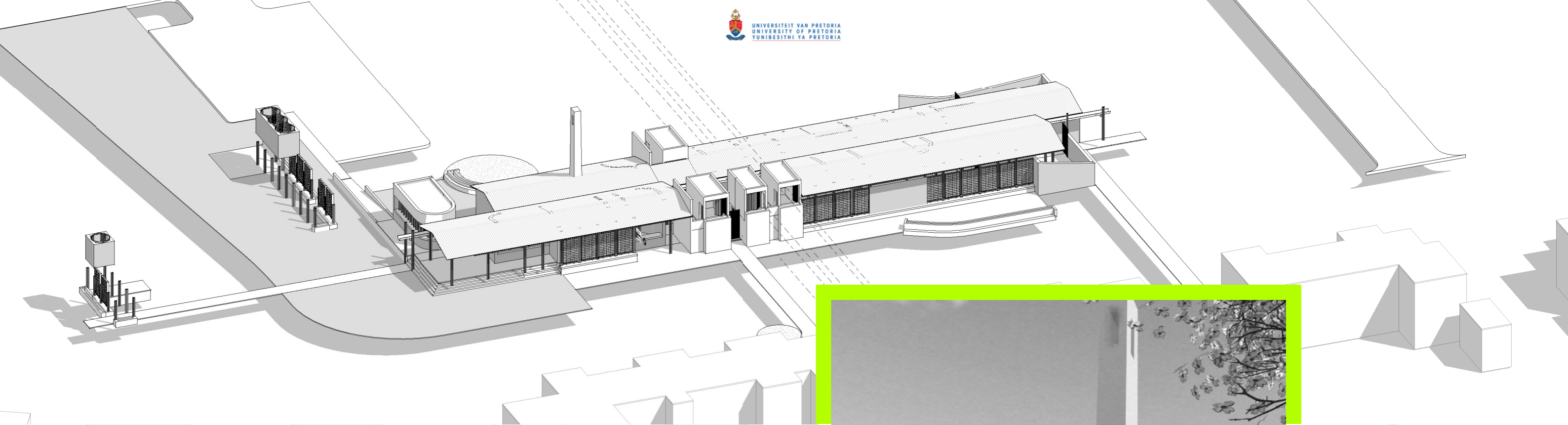


Figure 7.35: Above: *South-eastern bird's eye view of the assembly of configurations unified by the roof (Author 2021).*

Figure 7.36: *Rough visual catalogue of pieces forming part of the kit-of-parts (Author 2021).*

Figure 7.37: Right: *Threshold space on the Northern façade of the structure, the curved service counter of the grants collection office leads pedestrians inward toward a covered semi-public area (Author 2021).*



Figure 7.38: Floor plan of the assembly of configurations as expressed through the three-dimensional renders (Author 2021).
Figure 7.39: Background image of the final phase of the urban plan (Author 2021).
Figure 7.40: Enlarged view of the Western pedestrian approach, guiding one inward through the curved information counter framed with an extended gutter (the tall floodlight serving as a landmark and safety mechanism is visible in the background) (Author 2021).

Zone: Agricultural
Re-zone: Industrial 2 (Soft Industry)
374-JR

Zone: Agricultural
Re-zone: Public Open Space
374-JR

Zone: Public Open Space
R/6262

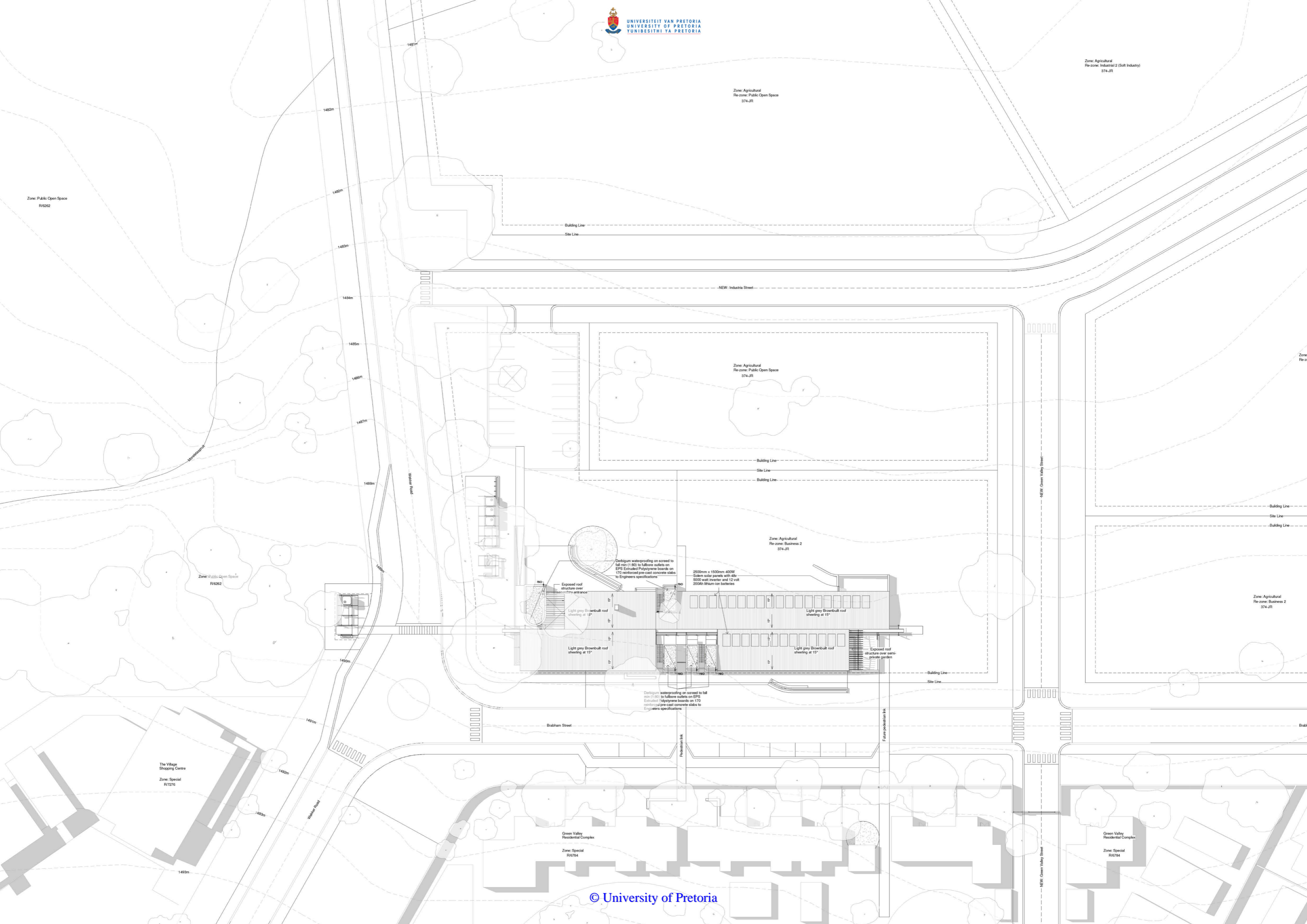
Zone: Public Open Space
R/6262

The Village
Shopping Centre
Zone: Special
R/7276

Green Valley
Residential Complex
Zone: Special
R/6784

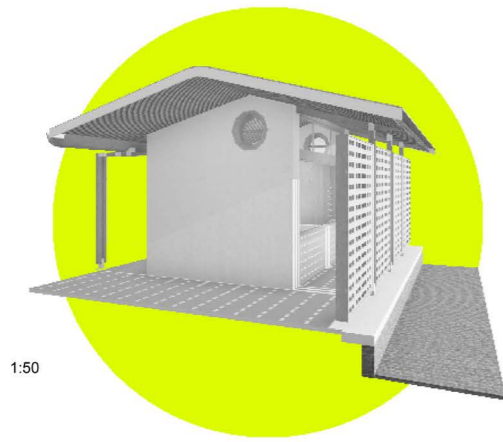
Green Valley
Residential Complex
Zone: Special
R/6784

Zone: Agricultural
Re-zone: Business 2
374-JR



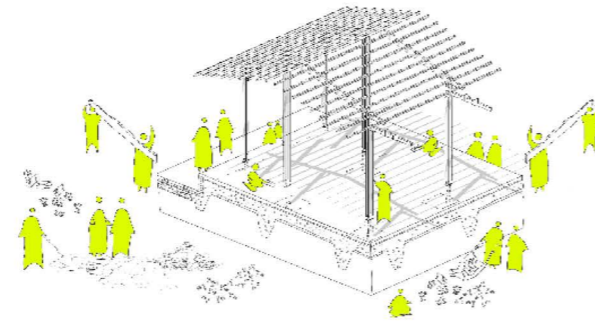




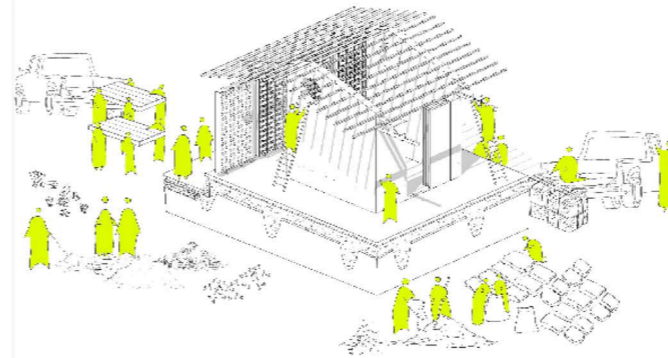


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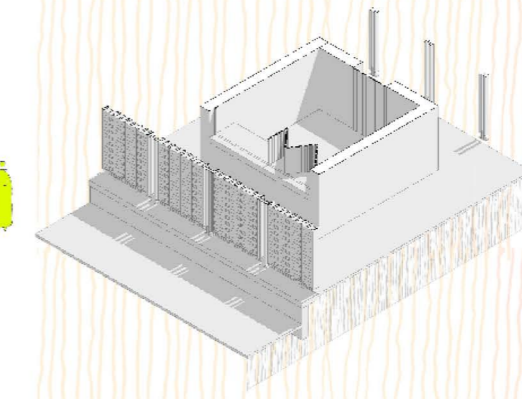
Configuration 1



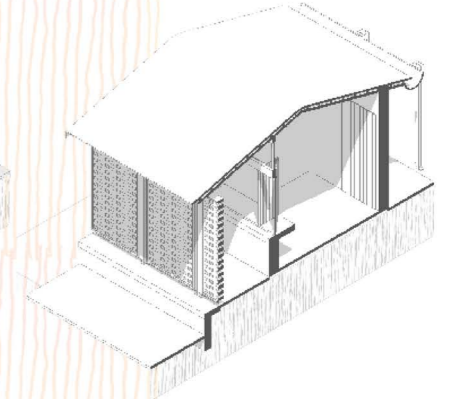
Construction phase 2



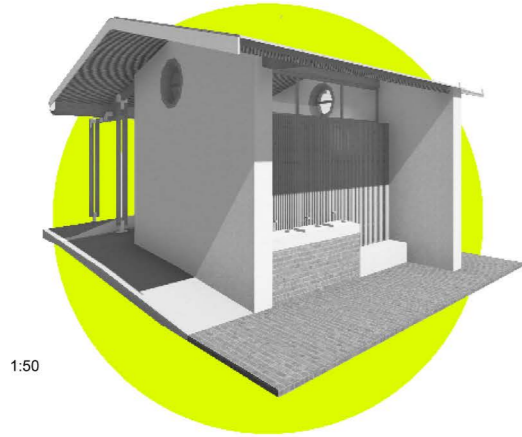
Construction phase 3



1:50 Plan

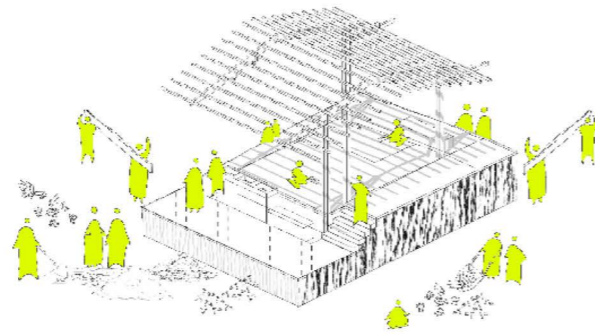


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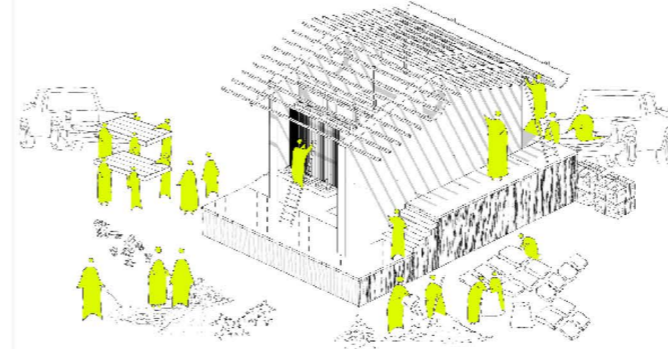


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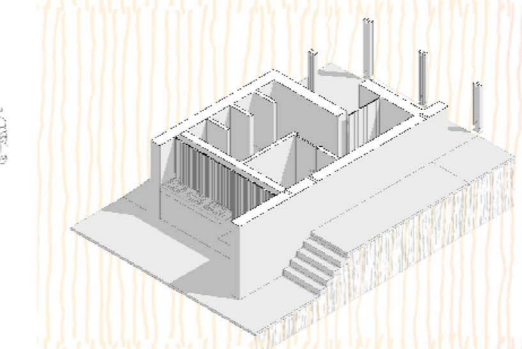
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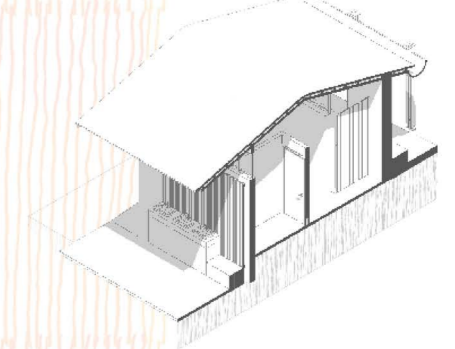
Construction phase 2



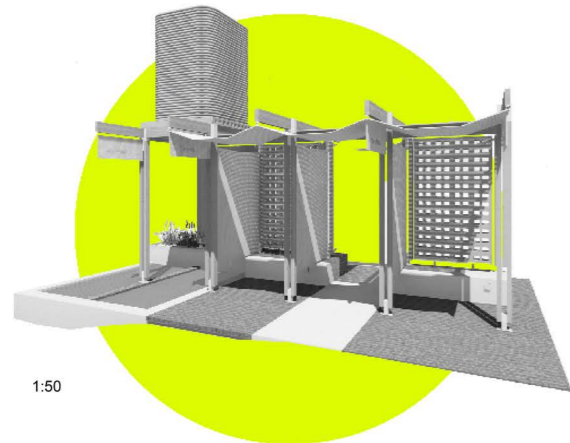
Construction phase 3



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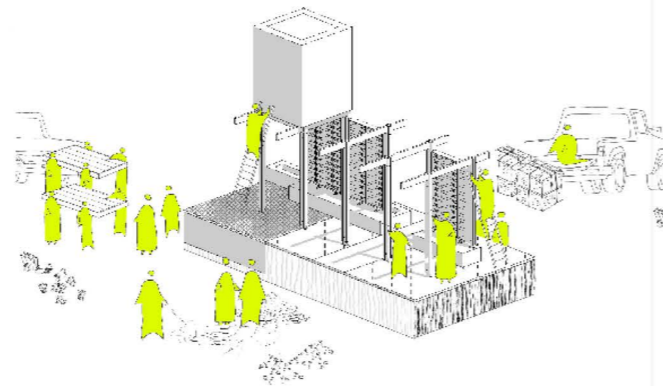


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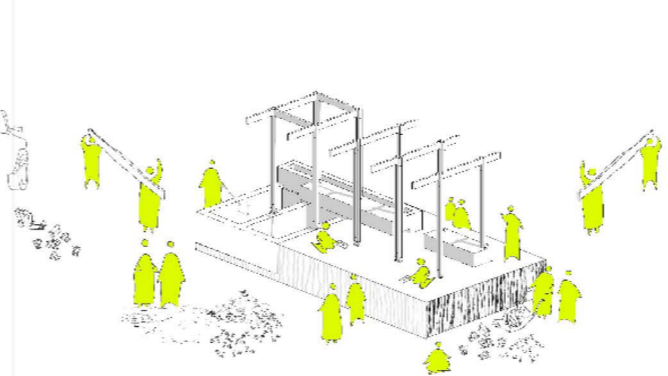


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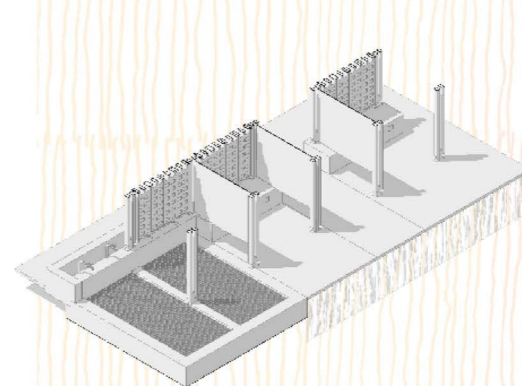
Configuration 3



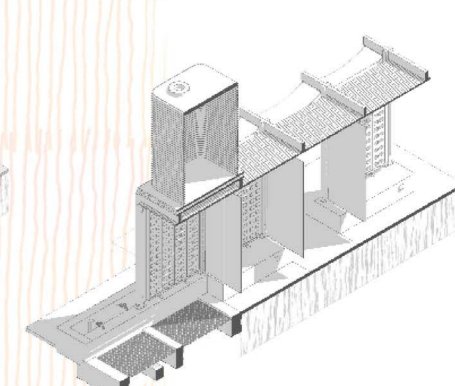
Construction phase 2



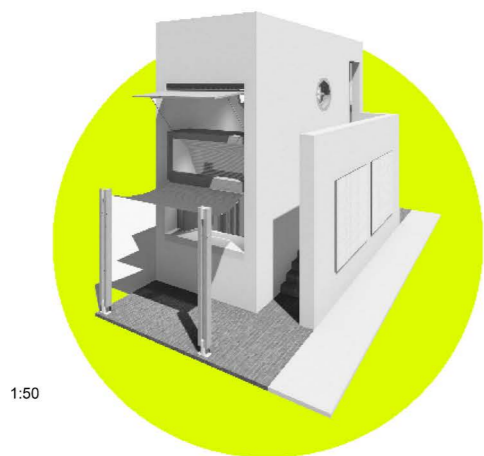
Construction phase 3



1:50 Plan

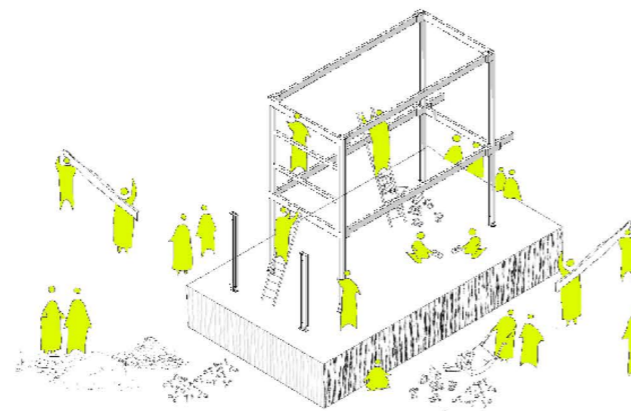


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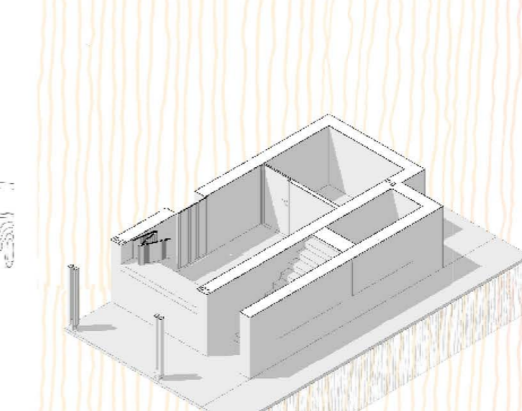
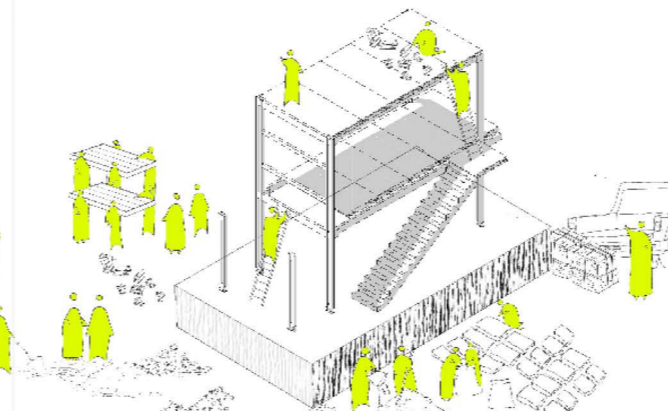


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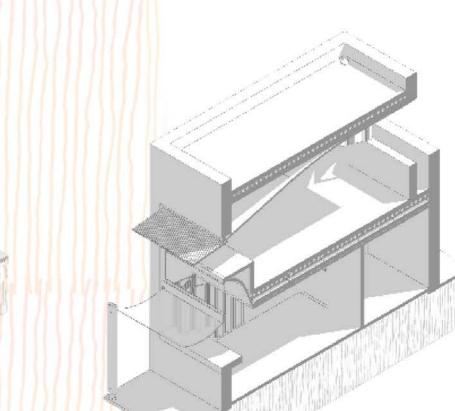
Configuration 4



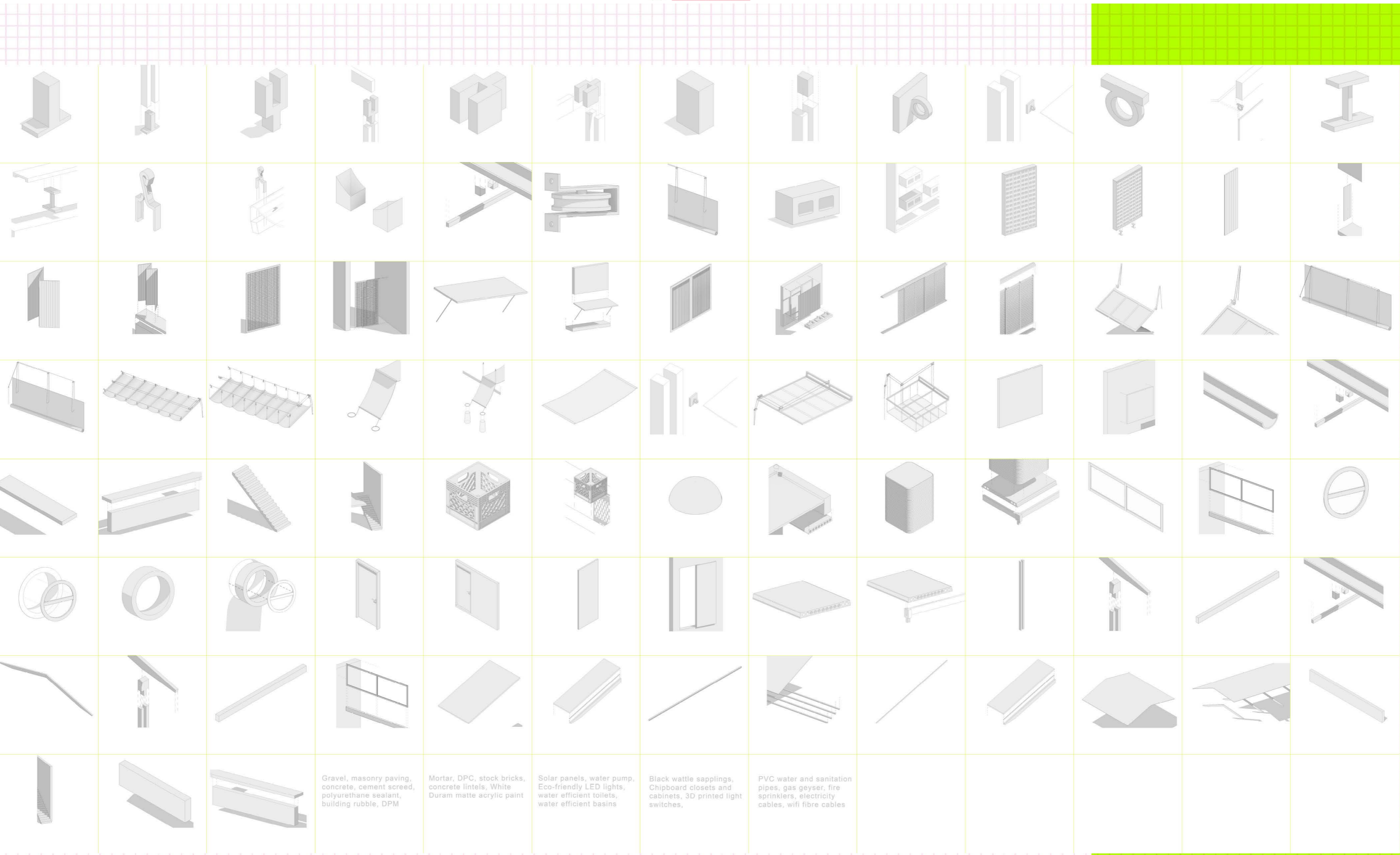
Construction phase 2



1:50 Plan



1:50 Section



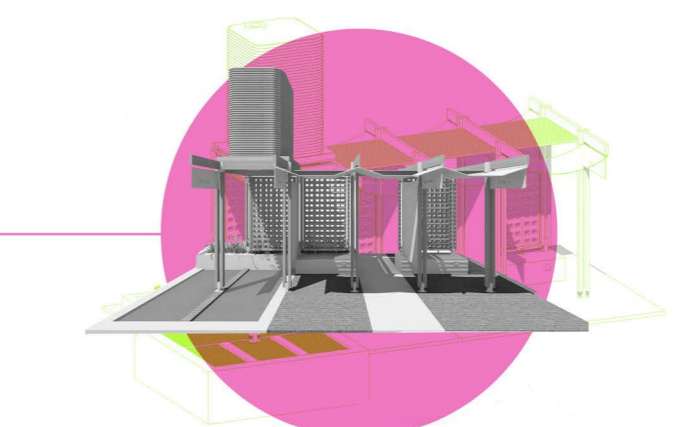
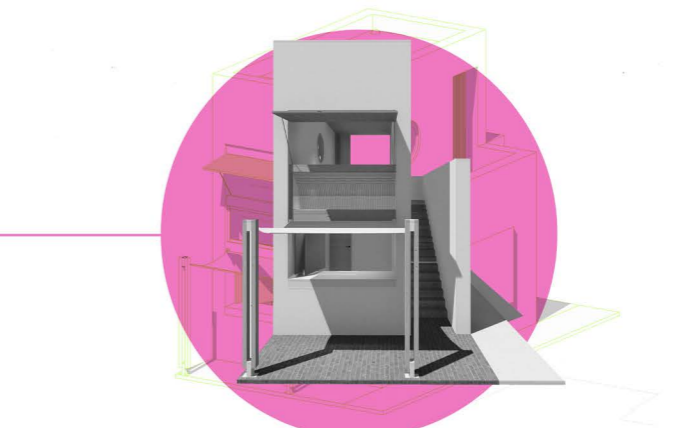
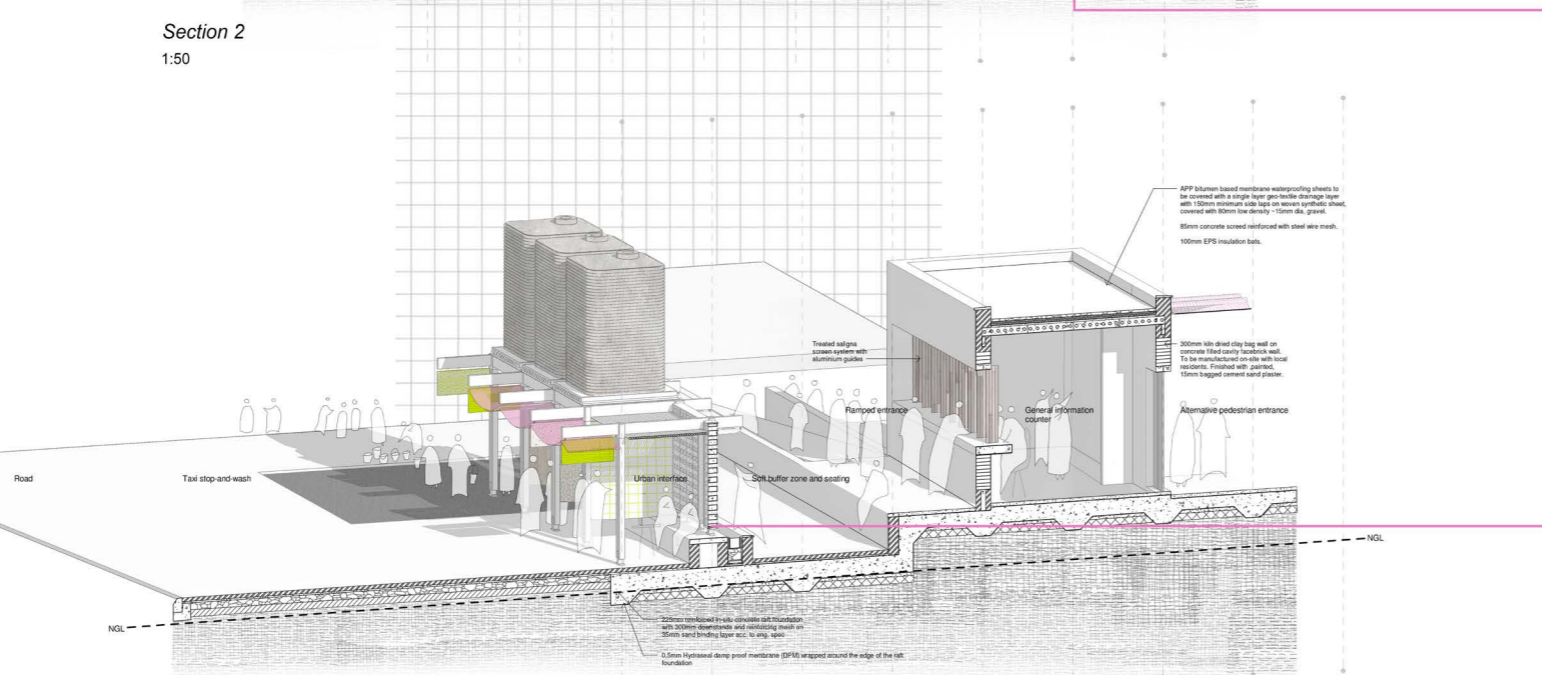
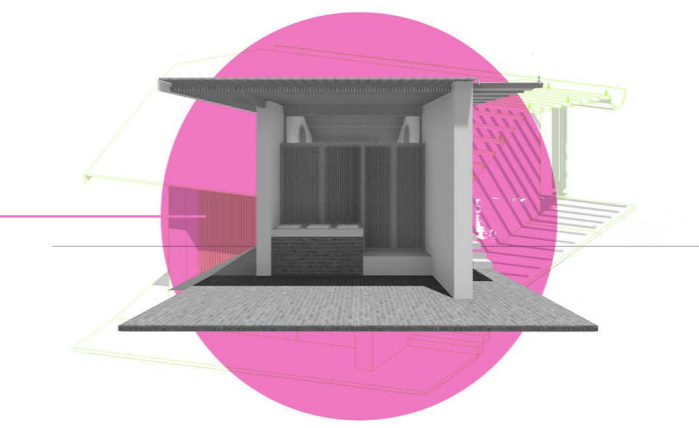
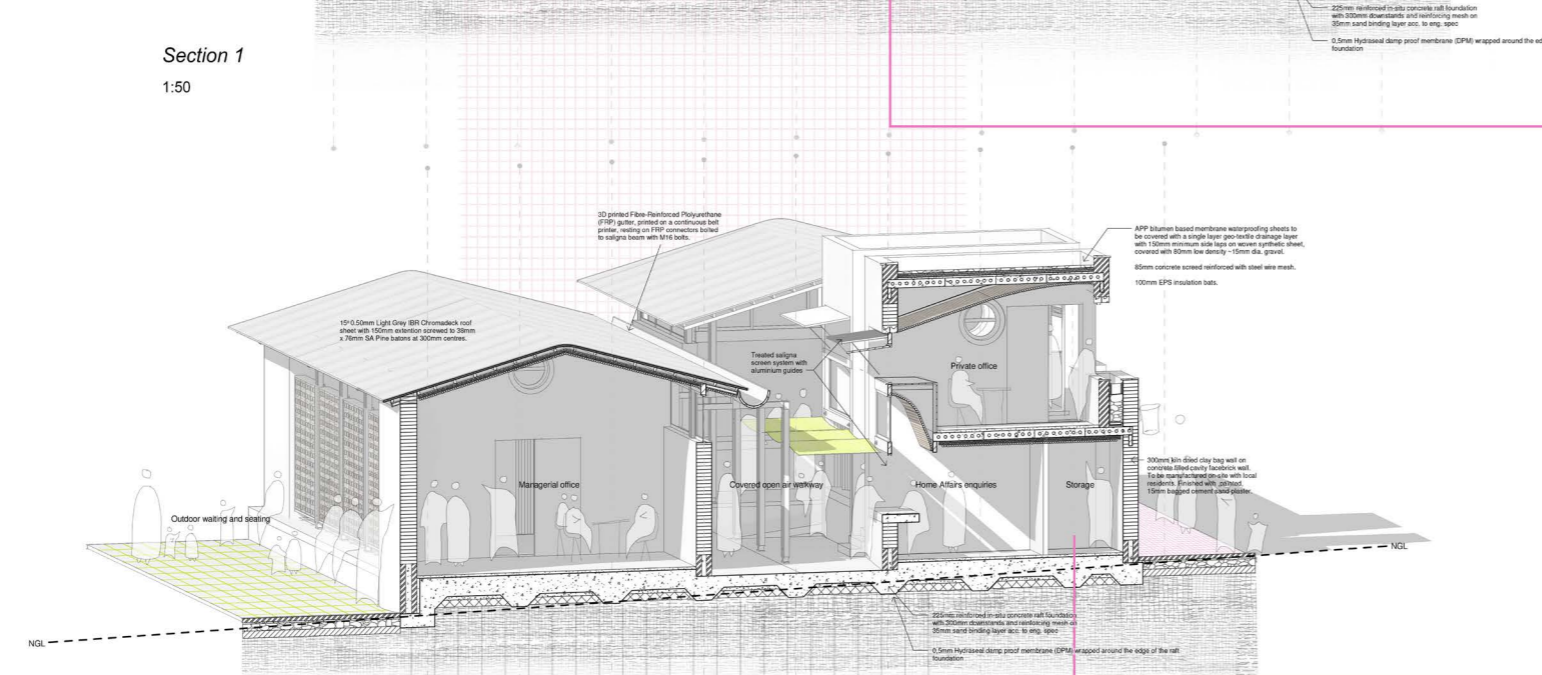
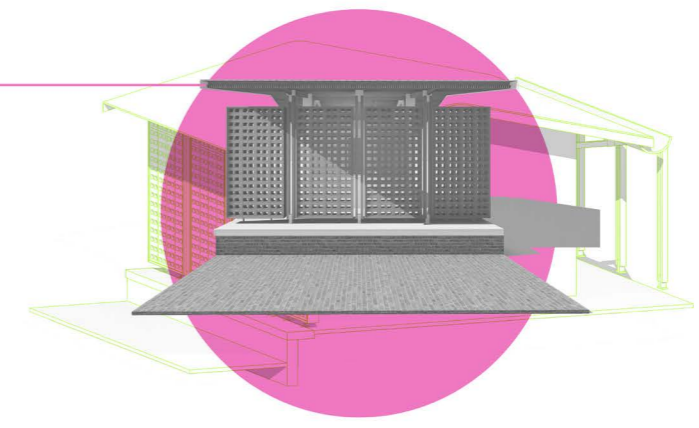
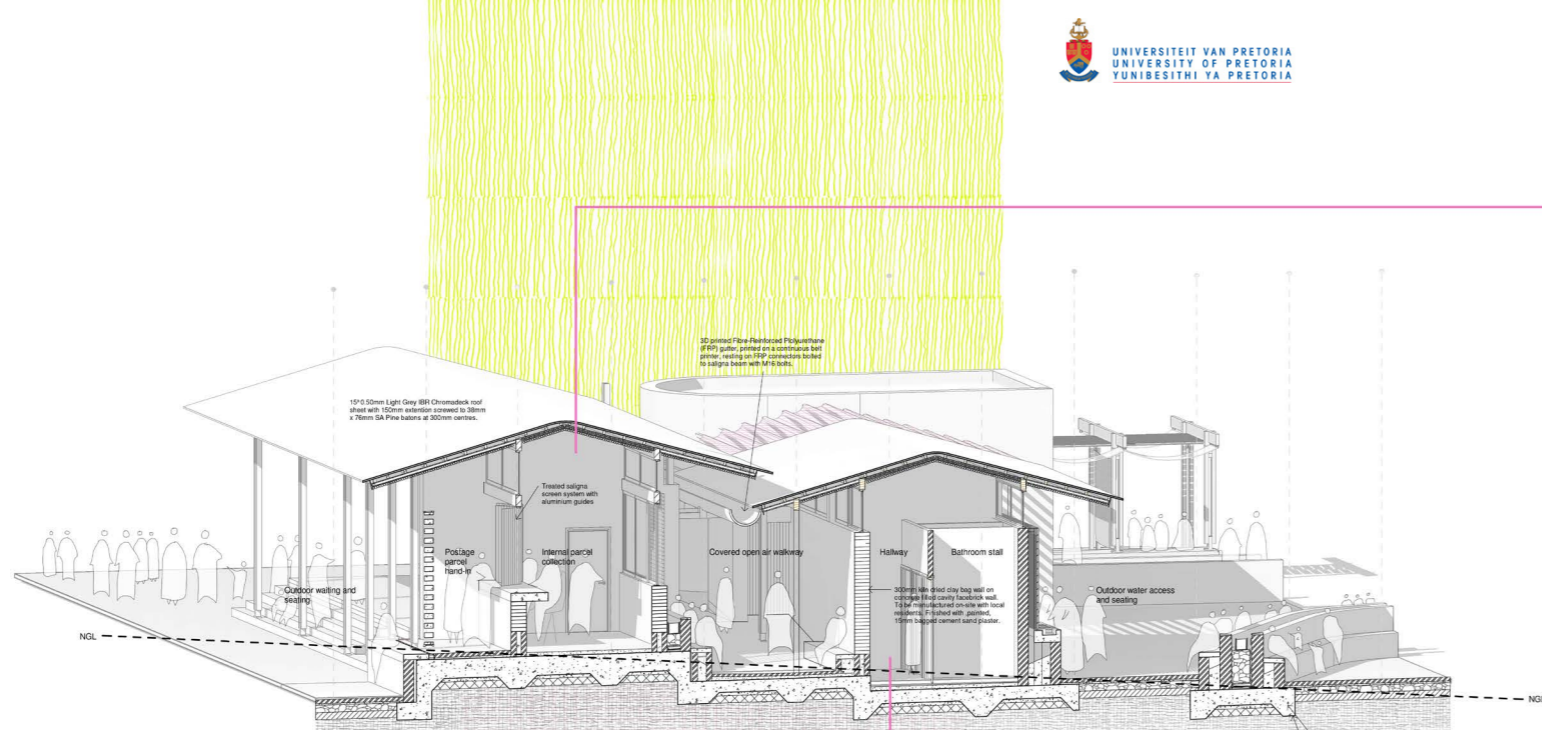
Gravel, masonry paving, concrete, cement screed, polyurethane sealant, building rubble, DPM

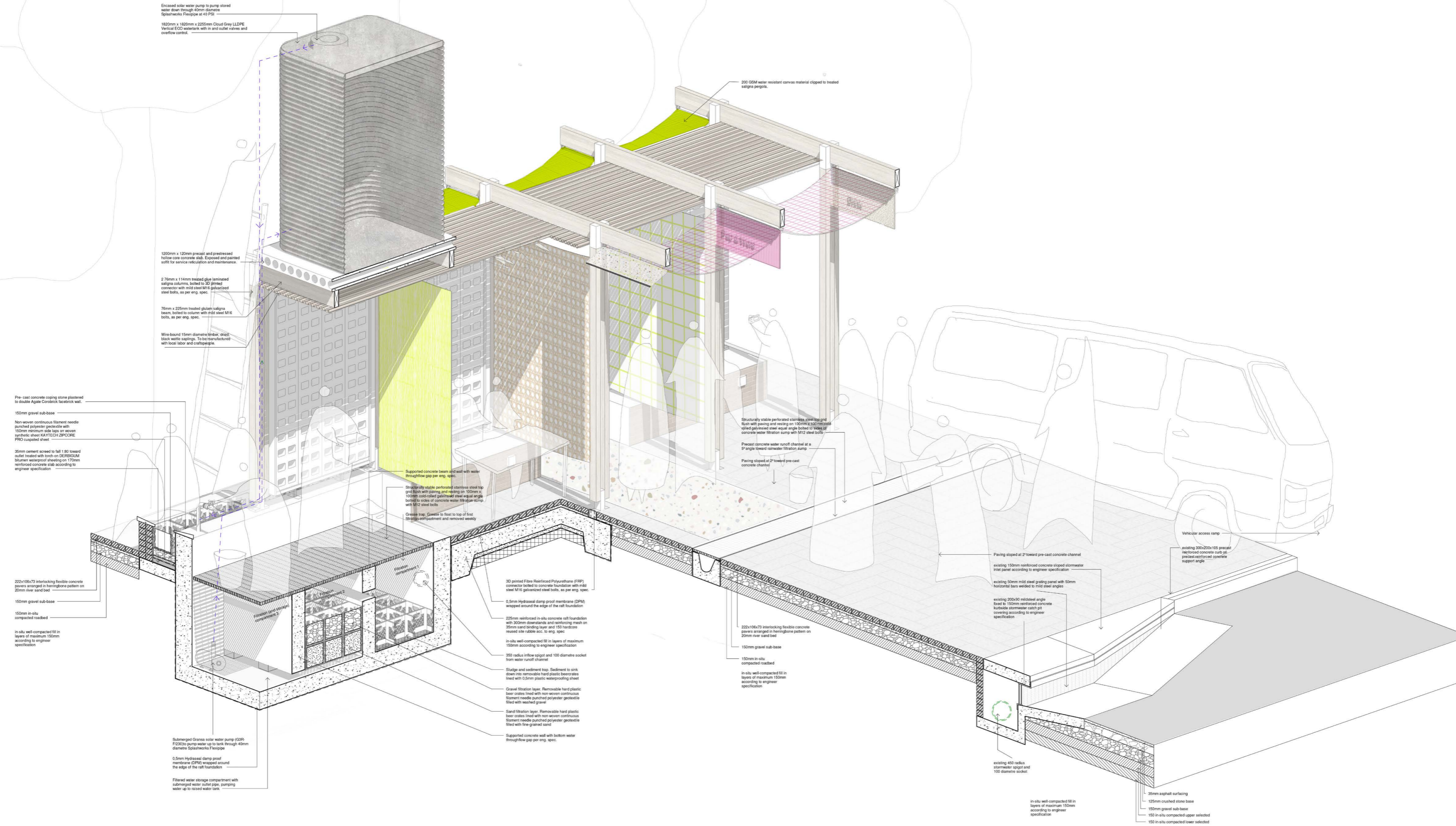
Mortar, DPC, stock bricks, concrete lintels, White Duram matte acrylic paint

Solar panels, water pump, Eco-friendly LED lights, water efficient toilets, water efficient basins

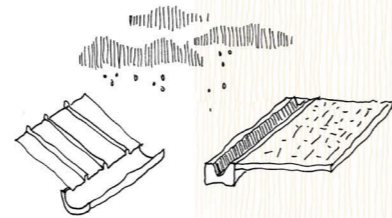
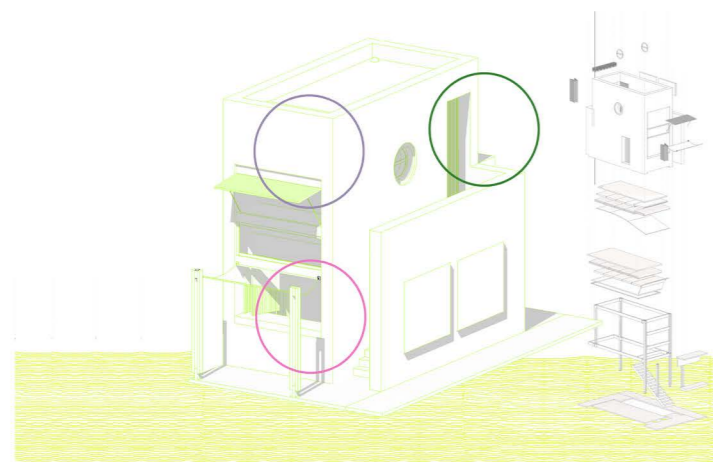
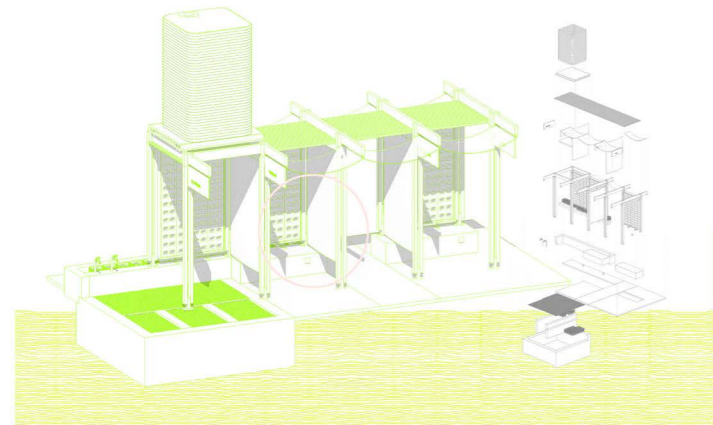
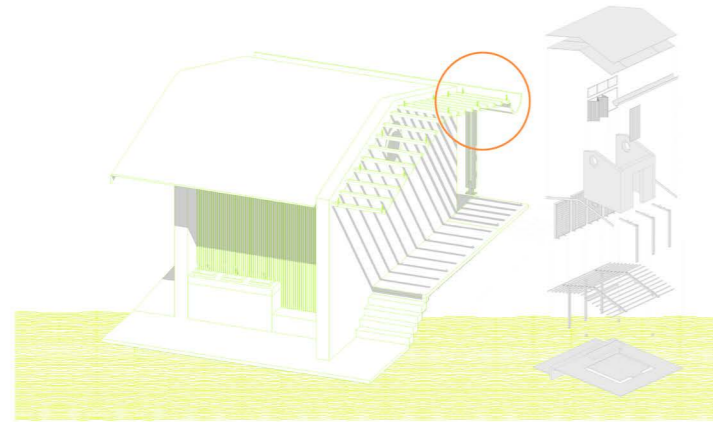
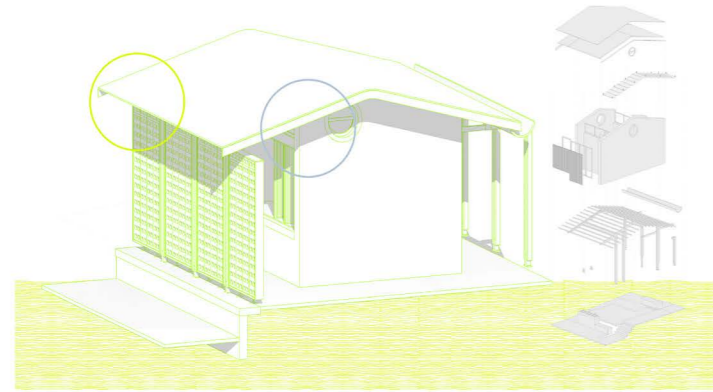
Black wattle sapplings, Chipboard closets and cabinets, 3D printed light switches,

PVC water and sanitation pipes, gas geyser, fire sprinklers, electricity cables, wifi fibre cables



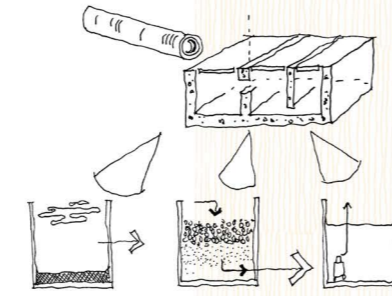


With 661mm average rainfall in Pretoria, rainwater can be harvested and stored to be used specifically in the summer months.



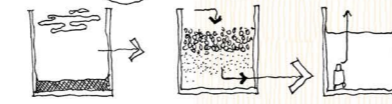
2. Runoff

Although runoff from roofing is generally cleaner than that from paving, the water catchment system is merged in order to simplify the filtration process because the water will only be used for the washing of cars.



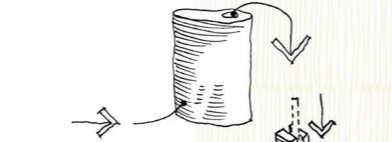
3. Water transport

From the concrete rainwater channel the collected water flows into an underground pre-cast concrete pipe toward a three compartmented concrete sump.



4. Filtration

The runoff water flows from the concrete pipe into the first filtration compartment: separating grease and sludge first. From there, the water flows into the second filtration compartment where a gravel and then a sand filtration layer further filters the runoff. The water then flows into the third compartment where relatively clean water is stored.



5. Raised water tank

From the third compartment, the clean water is pumped up toward a secondary water storage tank to be stored and pumped downward to maintain water pressure.

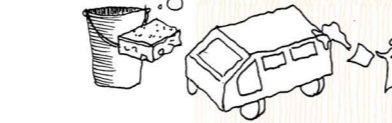
6. Downflow

Water to flow down from water tank in a Flexi-pipe fixed between two timber columns toward a tap.



7. Water usage

From the downflow water pipe and tap, buckets to wash cars and taxis with can be filled, with any spillage flowing back into the third water storage compartment through the steel grid cover.



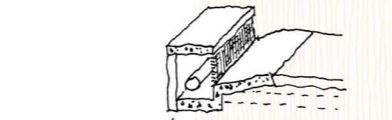
8. Overflow

Water overflow from the storage tanks, compartments and usage will either flow back into the filtration system or flow down toward the street and municipal storm water collection.



9. Re-use

Overflow water that ends up in the municipal storm water system could in a future project phase be rerouted and filtered to be used in the proposed building (because of the municipal nature of the proposed structure).

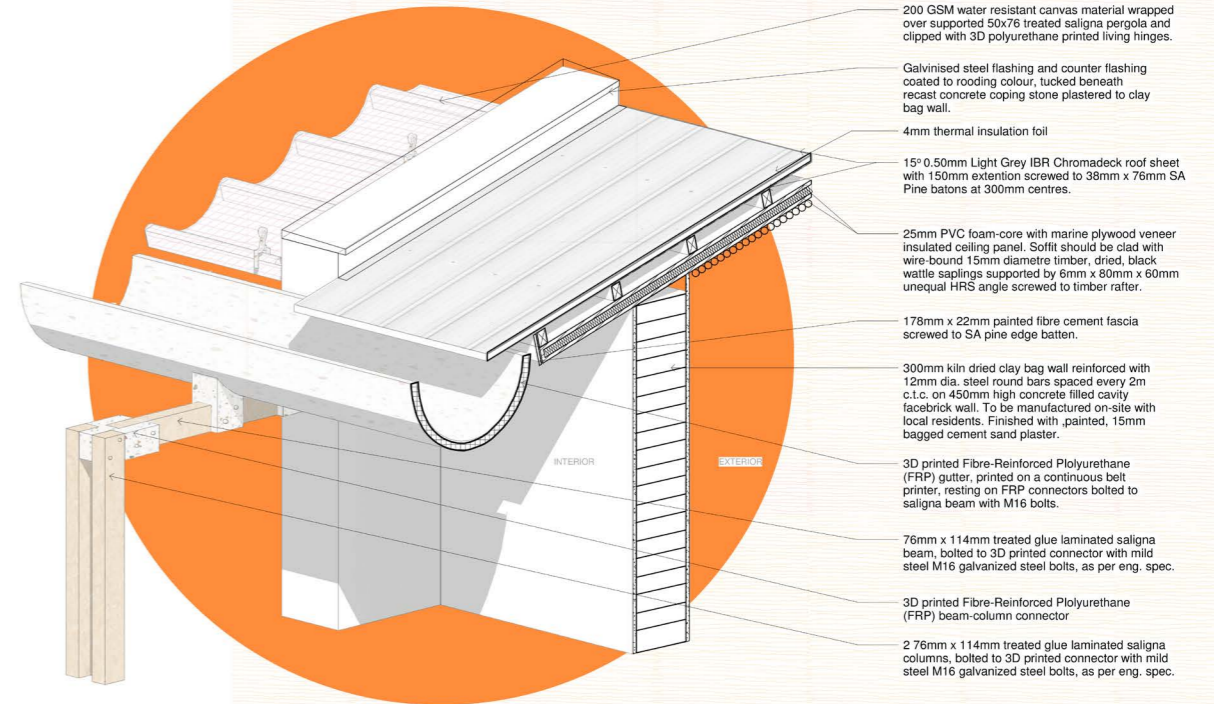
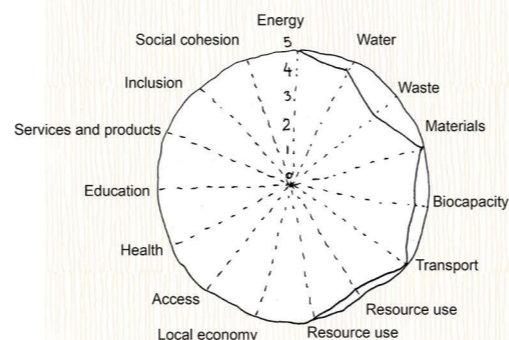
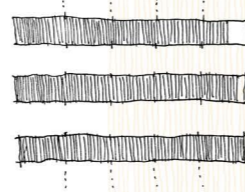


SBAT Report overall score: 4,8

Environmental performance: 4,6

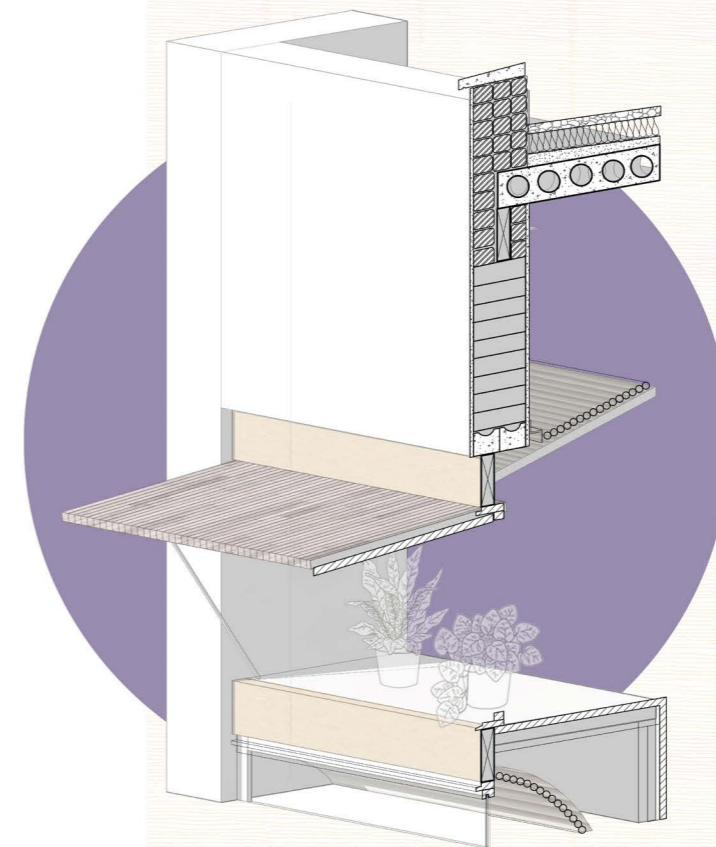
Economic performance: 4,6

Social performance: 4,6



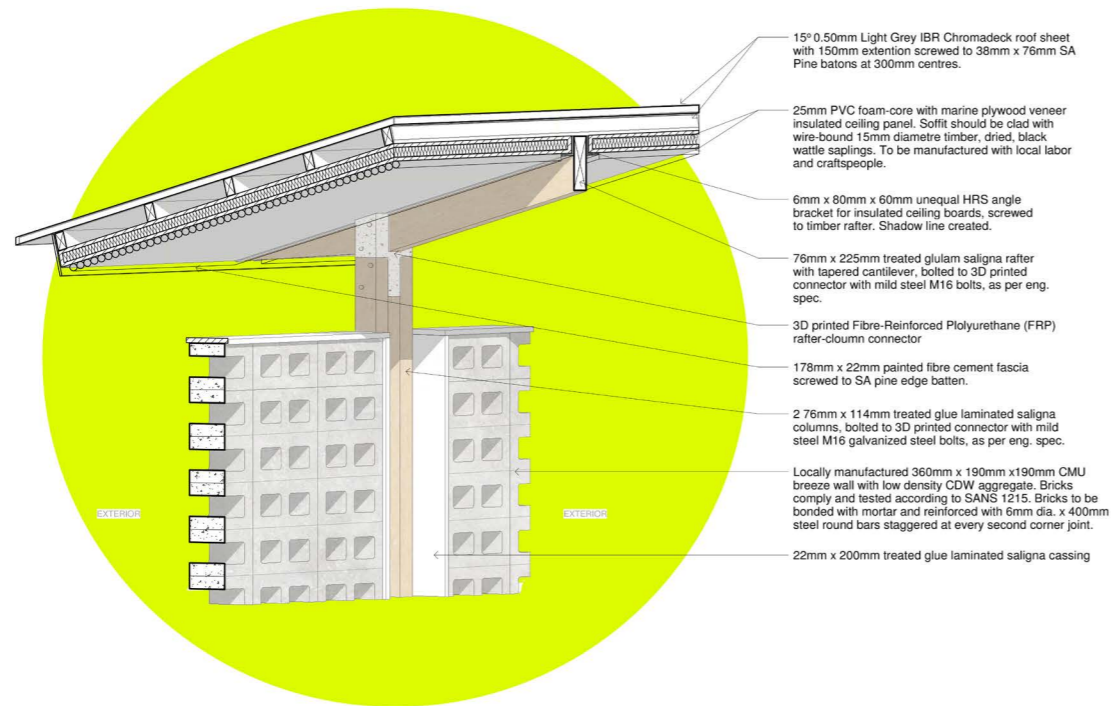
Detail 3

1:10



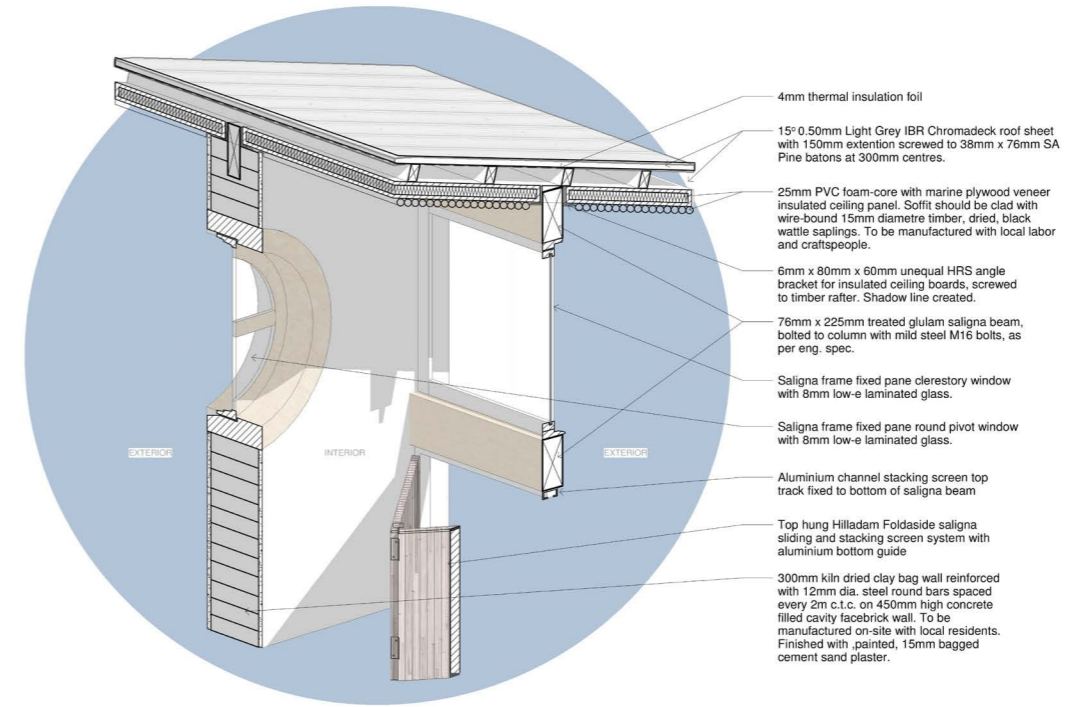
Detail 6

1:10



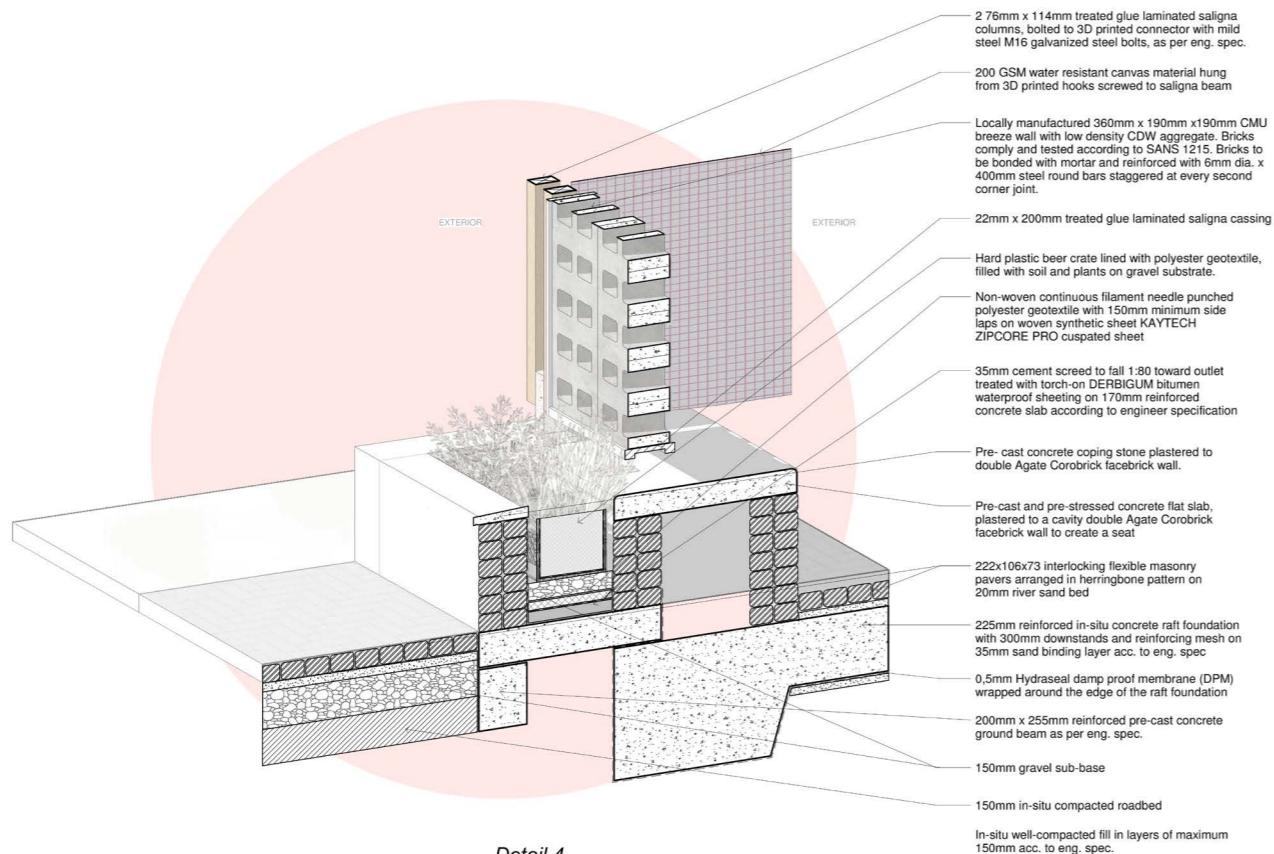
Detail 1

1:10



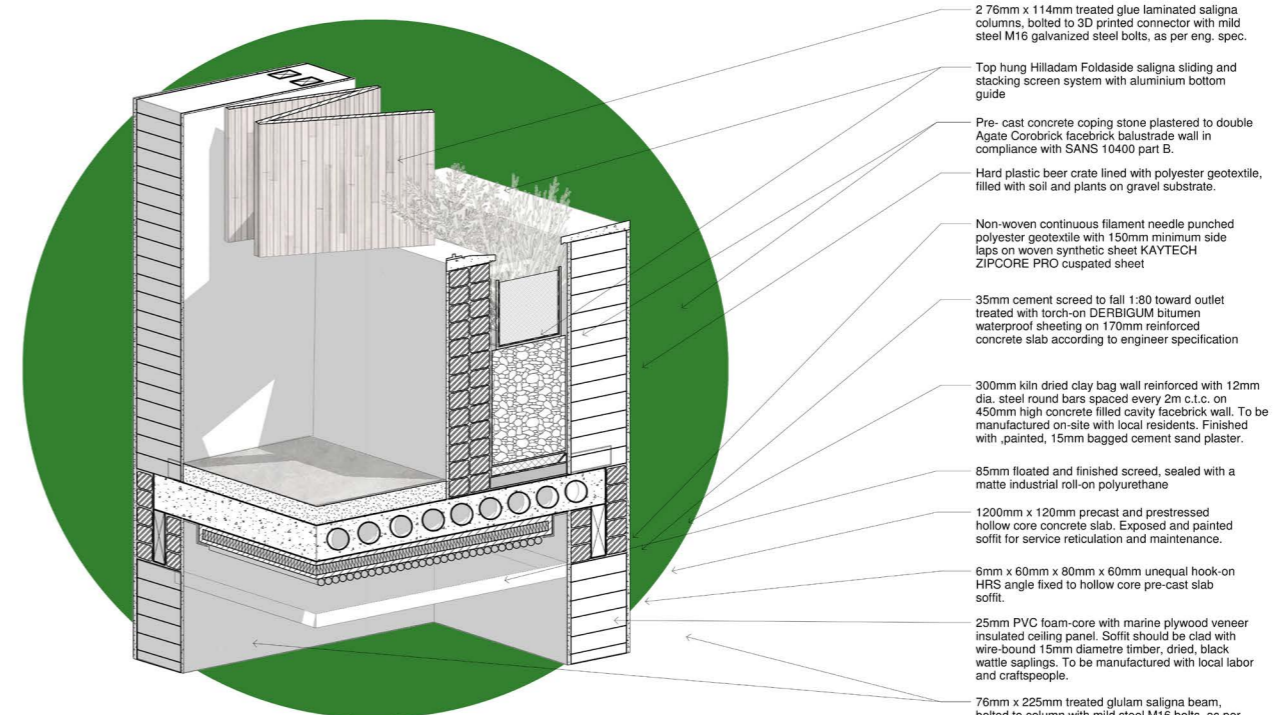
Detail 2

1:10



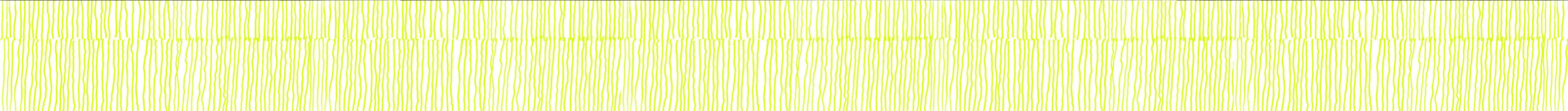
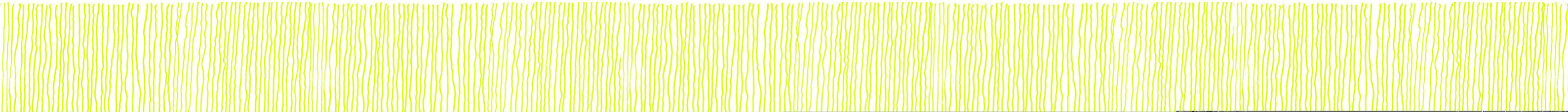
Detail 4

1:10



Detail 5

1:10





RE- FLECT

Critical reflection

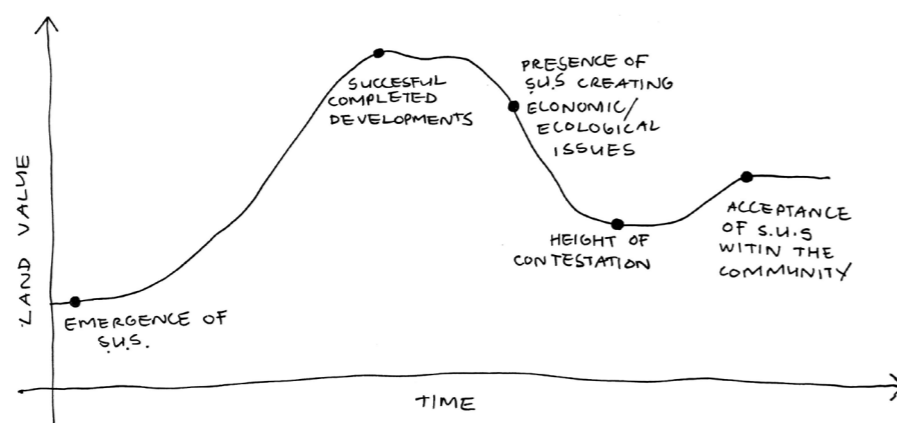
Process, explorations and findings

The data collection and analysis process undertaken during the initial months of this study provided a critical departure point into the design of the built form (Hamdi 2010; Du Toit & Mouton 2012; Saldana 2013:57). Although it can be argued that more in depth spatial responses should have taken shape during earlier phases of the study, the author maintains confidence in the length of time spent fully immersed in on-site data collection, prototyping and relationship building on site engagements photos. The author was enrolled for a semester subject: Reality Studio, during the first semester of the year, presented by the Chalmers University in Sweden (Reality Studio 2021). Joint research projects were completed, culminating in a live-build in Plastic View and final online exhibition images of the stuff we did. The collaborative research completed during

the international online exchange was focussed on a toolkit consisting of a series of 'parts' that would aid with site analyses and relationship building in contested areas, such as Plastic View. The research method undertaken, as well as the constant reflection sessions, greatly influenced the author's designed kit-of-parts and subsequent configurations. The Reality Studio also revealed the endless possibilities for uncovering underlying nuances through coding of data.

A modular design approach was initially considered, instead of the toolkit presented in the study, during the final iteration phase of the study, but was found to be less flexible in terms of configuration and also less susceptible to change than the kit-of-parts decided upon in the final design phase. By reverting back to the initial concept of catalogue, the relationship between theory and praxis is translated more clearly, further displaying the appropriateness of a designed kit-of-parts as a spatial outcome for this study.





Contribution to the field and extension

It is anticipated that this study and its resultant built form will raise awareness on the need to absorb certain parts of the kinetic city into the static city as a means to increase the overall urban resilience of the static city. This study clearly illustrates the need for community members to first, recognise the existence of spontaneous urban settlements as legitimate alternative neighbourhoods in their area, negotiate with these settlements and the kinetic currents associated with them, and hopefully actively address spatial injustice together. If one

were to track the emergence of spontaneous urban settlements over Pretoria East, one can clearly see that these settlements are indicators of urban growth see figure of graph. A possibility to track these settlements in-line with investment opportunities arises and presents a very exciting future for this study after this year.

This study has the capacity to contribute both to a theoretical and design field because it specifically focusses on the translation between the two. The high and low-tech kit of parts and their configurations - experimented with on the site, is however a method of design not often used

in the Urban Citizenship Studio. This method can be replicated and adapted on similarly tense urban sites – extending the reach of the needed mitigation between the static and kinetic, ultimately increasing the implementable nature of the scheme. By viewing architecture as a method of articulation and the role of the architect as facilitator and technician, the spatial response produced by this study can be seen as interventions that reveal the potential of connections and interfaces in place of present boundaries. The design process, as well as the resultant built form, thus fulfils its role as a mitigator.

The author strives to create opportunities in the workplace where theoretical frameworks and site engagement can form the foundation of certain projects, and where local skills and materials (if possible) can be utilised to their full extent. Without projecting unrealistic expectations, this study and the precedents explored throughout, have proved that elegantly built

architecture (serving communities equally) is achievable in our current context and can be further investigated in a career in South Africa. It is however stated that the architect has a responsibility toward her/himself to constantly question their role and adapt to the type of role needed for specific projects. Being flexible in one's job, utilising networks and building on existing connections, increases overall resilience, ensuring that the right type service can be provided for every individual project.

Conclusion and project reflection

Reflecting on the research methodology as a whole, the rigorous on-site engagements provided a firm foundation for the spatial portion of the study. The urban data collection and the cataloguing and coding of data, directly influenced the type of architecture produced in the second semester of this study (Lianto 2019:3) photos of original catalogues and the coded interviews. In observing the



flexibility granted by catalogued and coded visual data, structural elements forming part of a larger catalogue of parts were experimented with (Lianto 2019). This kit of parts and the refinement thereof, translates the theoretical framework of this study directly into an implementable design, unfolding on both a detailed and urban scale image of the built form's kit-of-parts.

Adjusted normative position

Architecture as a method, has both the capacity to articulate the dialogue between the static and the kinetic urban landscape, and provide space for juxtaposed users to negotiate. Although the architect and the method of architecture can't facilitate this complex mitigation on its own, the immersive process of design and the subsequent built form generated, can provide a neutral platform for interaction. There is a recognition that buildings and design cultures can be a product of collective and accretive knowledge systems. It is asserted that architecture's ability to cre-

ate form from social imagination holds a certain responsibility. Undermining the spatial privilege linked to the built form is equally as irresponsible as overvaluing its resultant architecture. And so, the author maintains that young designers have a responsibility toward their communities to recognise the effects of consequential geographies, address spatial injustice, anticipate future adaptation and actively strive to rather technify and facilitate the building process than aiming to solve far too large issues through single structures designed by individual authors.

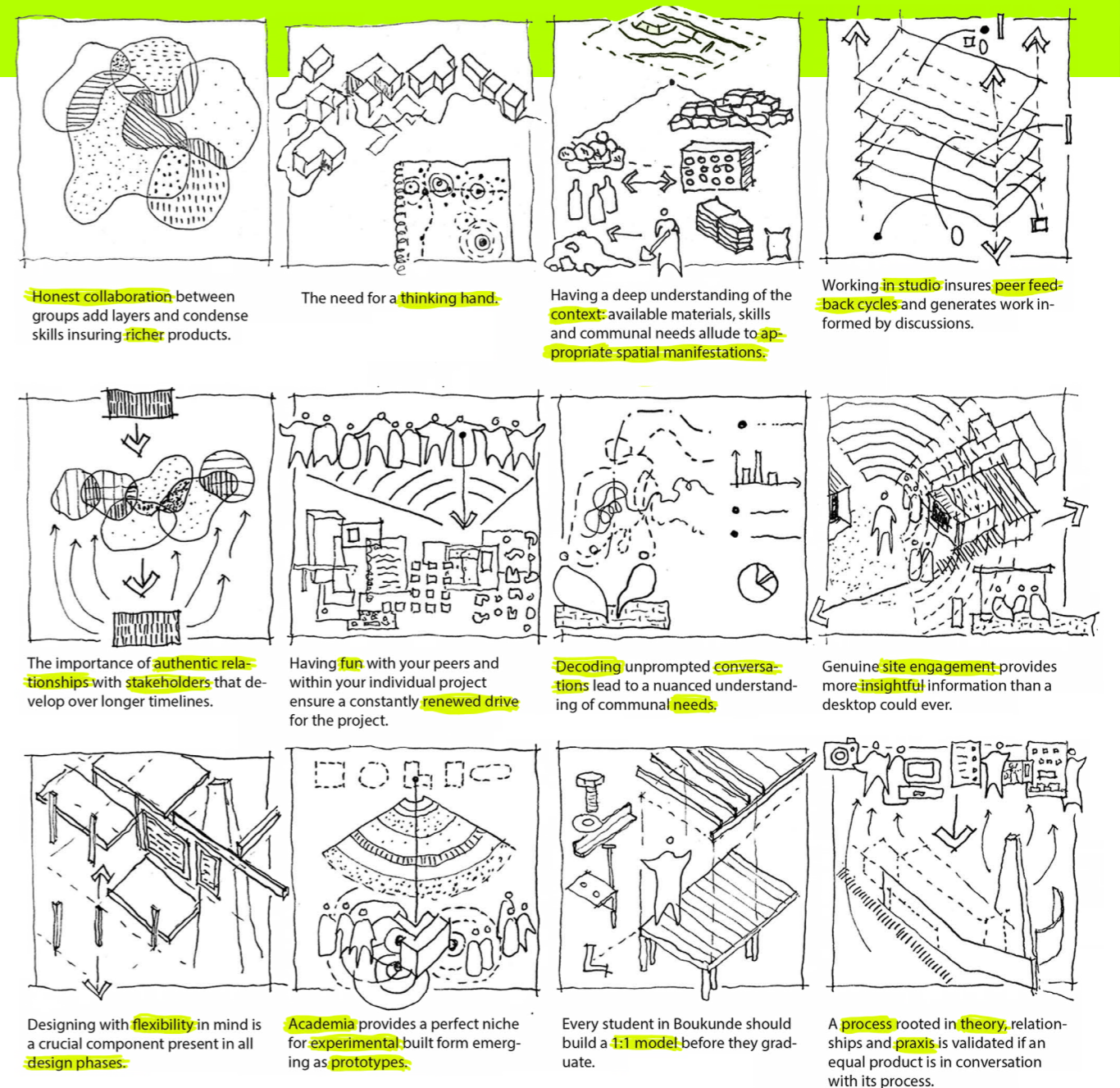


Figure 7.3 Lessons learnt (Author 2021)



“
We are all players; agents who inhabit the environment, transforming it to our liking and making sure things stay as we choose within the territory we claim. Few are passive. Humble impulses of habitation lead to maintaining and adapting building forms and ultimately to erecting, demolishing and replacing buildings and settlements”
(Habraken 2008:11)

Figure 7.1 Essay 2 visualised by an overlay of unimplemented policy in Plastic View, adapted from MPIP Master's (2021)

Figures

01

02

Consequence

04

Recognise

05

Negotiate

06

Facilitate

03

Catalogue

07

Legitimise

08

Reflect

Figure 1.6: Background: *Urban planning* (UUSSP 2021)

Footnotes

1. A term used by Mark Napier and Peter Kellett (1995) referring to unplanned informal settlements emerging in urban environments (Kellett 1995; Napier 1995).

2. A term used relating to urban disruption unfolding over an extended period of time (Du Plessis & Peres 2013).

3. In 2008 a boundary fence, grid layout and a single street light was erected and all settlers living on the municipal land pocket were condensed into an eight hectare area later named Plastic View (Venter 2012).

4. A community forum consisting only of community members residing in luxury estates in Moreleta Park whose main concern is the relocation of all Plastic View residents.

5. A term used by Nabeel Hamdi (2010) referring to core societal issues and not symptomatic issues existing as a result of these core problems (Hamdi 2010).

6. Neighbourhoods situated on urban peripheries previously allocated to non-White South African citizens in an effort

to contain and control the majority of the population (Du Plessis & Peres 2013).

7. A term used in relation to a short-term shock urban disruption (Du Plessis & Peres 2013).

8. In this study, inductive research refers to new knowledge gained through on-site engagement and data-collection.

9. In this study, deductive research refers to an extension of knowledge (such as data-coding) based on existing information.

10. A term used to refer to a theoretical paradigm that maintains its value through the practical application of knowledge (O'Leary 2007).

11. A term used to refer to a theoretical perspective that uncovers assumptions in an explanatory and practical manner to empower and emancipate individuals (Creswell 2013).

12. An ontology that generates a theory for a process or action grounded in uncovered codified data (Creswell 2013).

13. An online platform compatible with QGIS suggested as a guiding collection tool in the

UkuDoba Methodology (Chalmers University of Technology & University of Pretoria 2020).

14. Refers to unscripted narrative enquiries and informal talks (Charman et al. 2019:51).

15. Refers to site photographs, sketches and the documenting of the live-build project (Charman et al. 2019:51).

16. As seen on Figure , this study uses the term 'static' in relation to 'high-tech' materials and methods used within a formal city setting (Mehrotra 2008)

17. As seen on Figure , this study uses the term 'kinetic' in relation to 'low-tech' materials and methods used within an informal city setting (Mehrotra 2008)

18. In line with urbanisation trends revealed all over South Africa, the frequency by which spontaneous settlements emerge is on the rise (Du Plessis & Peres 2013 and City of Tshwane 2018).

19. QGIS, Google My-Maps, Google Earth Pro and Tshwane GIS were all used together in order to pinpoint existing and emerging spontaneous settlements in the Gauteng region.

20. Marie Huchzermeyer (2011) and many other scholars refer to spontaneous urban settlements as 'slums' without derogatory intent (Huchzermeyer 2011).

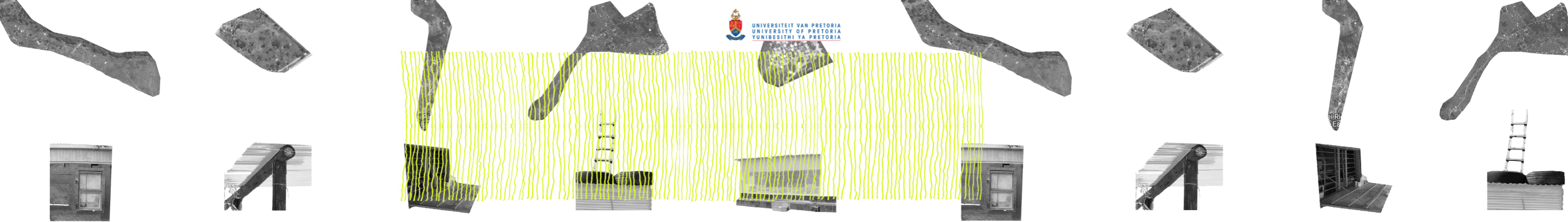
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6. Cirolia, L. R. et al. 2016. *Upgrading Informal Settlements in South Africa: A partnership-based approach*. 1st ed. Cape Town: University of Cape Town Press.
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8. Combrinck, C., Vosloo, P., & Osman, A. 2017a. *Informal Settlements: An Upgrade*. *Architecture South Africa*, 85(1):42-48.
9. Combrinck, C., Vosloo, P., & Osman, A. 2017b. *Informal Settlements: An Upgrade*. *Architecture South Africa*, 86(1):32-38.
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Figure 8.2 Background: *Sketched site plans (UUSSP 2021)*



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Figure 8.3 Above: Micro and macro cataloging (Author 2021)

Figure 8.4 Micro and macro cataloging (Author 2021)