THE RECEPTACLE:

Cultivating safe space for women

at Constitution Hill Precinct, Johannesburg

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by

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in the

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Figure 0.1 / Safe space graffiti, Parking lot B.

PROJECT DETAILS

Project address and location /
Constitution Hill Precinct
Address: 11 Kotze Street, Johannesburg
GPS coordinates: -26.190217, 28.041916

Research field /
Heritage and Cultural Landscapes (HCL)

Theoretical premise or **Architectural approach** /
1. Feminist notion of safe space
2. Safety as a social and practical construct
3. Architecture of lived experiences
    i. Fluid architecture, Lucy Irigaray (Rawes, 2007)
    ii. Fragile phenomenology, Juhani Pallasmaa (Shiraza, 2009)
    iii. Architectural sequencing, Bernard Tschumi (Tschumi, 1981)

Programme /
The over-arching programme is called *a place for women*, comprising of a series of events that unfold between the East-West pedestrian thoroughfare between Hillbrow and the Johannesburg CBD. *In lieu of the project focus, detailed attention is placed on the Western edge of the Precinct where the social support services for women and the extension of Constitution Square are located.*

Keywords /
- Violence Against Women (VAW)
- Gender-Based Violence (GBV)
- Women
- Feminist theory
- Safe space
- Constitution Hill Precinct
- Hillbrow
- Thuthuzela Care Centre
- Fluid architecture
- Fragile phenomenology
- Architectural sequencing

Clients /
1. Constitution Hill Precinct
2. Sexual Offences + Community Affairs Unit (SOCA)
3. Community orientated ownership
4. Rotating women-focused NGO's

Year Co-ordinator & Supervisors /
Year co-ordinators /
Dr Carin Combrinck
& Prof. Arthur Barker

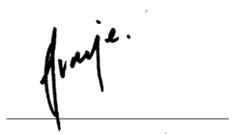
Supervisors /
Dr Nico Botes & Catherine Karusseit

Editor /
Genevieve Woods

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.



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ABSTRACT

BACKGROUND
Recent statistics have shown that Violence Against Women (VAW) affects one in three women worldwide. Not only is the issue prevalent at a global scale, it is embedded in the societal fabric of South Africa. Women and girls disproportionately experience public and private environments as unsafe due to the fear or threat of violence against them. Thus, limiting their movement, use and occupation of space.

In essence, such instances of violence infringe upon a women's human rights. In 1996, two years after South Africa became a democracy, it was necessary to manifest physically through architecture the symbolic significance of South Africa's Constitution.

PROBLEM STATEMENT + METHODOLOGY
An opportunity for architectural intervention is identified at the Constitution Hill Precinct. The aim is to make more visible and practical advocacy of women's rights through establishing an association of the Precinct as a safe space for women. The study, through mixed qualitative methods, explores the feminist notion of safe space to understand safety, as both a practical and social construct, is integral to reflect the lived experiences of women. Design principles to guide the architectural intervention are subsequently synthetized from primarily theoretical informants, followed by conceptual, contextual and programmatic informants. The result is the translation of safe space into an architecture of lived experience; where the threat of fear or violence does not intimidate nor limit the occupation and use of space by women; but fosters spaces of empowerment, healing and upliftment.

DESIGN OUTCOME
By programming underutilized in-between spaces along the East-West thoroughfare of the Precinct, through a transformative approach towards heritage, the advocacy for women's rights is made visible and attains an association as a place where women are received and celebrated. Focus is placed on the Western edge of the Precinct to explore social and public programmes in support of women and the community at large. The existing parking lot structures, identified as lost space, are adapted to reflect an architectural intent of safe space and become spaces of meaning and contribution towards the Precinct.

TECHNICAL OUTCOME
Finally, technical resolution of the project stems from the conceptual intentions of the design intervention; expressing a transformative approach between old and new.

THANK YOU

Thank you to my parents, Serf and Maryke, for support, love and guidance. For believing in my creativity when I could not.

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Place it in His hands.

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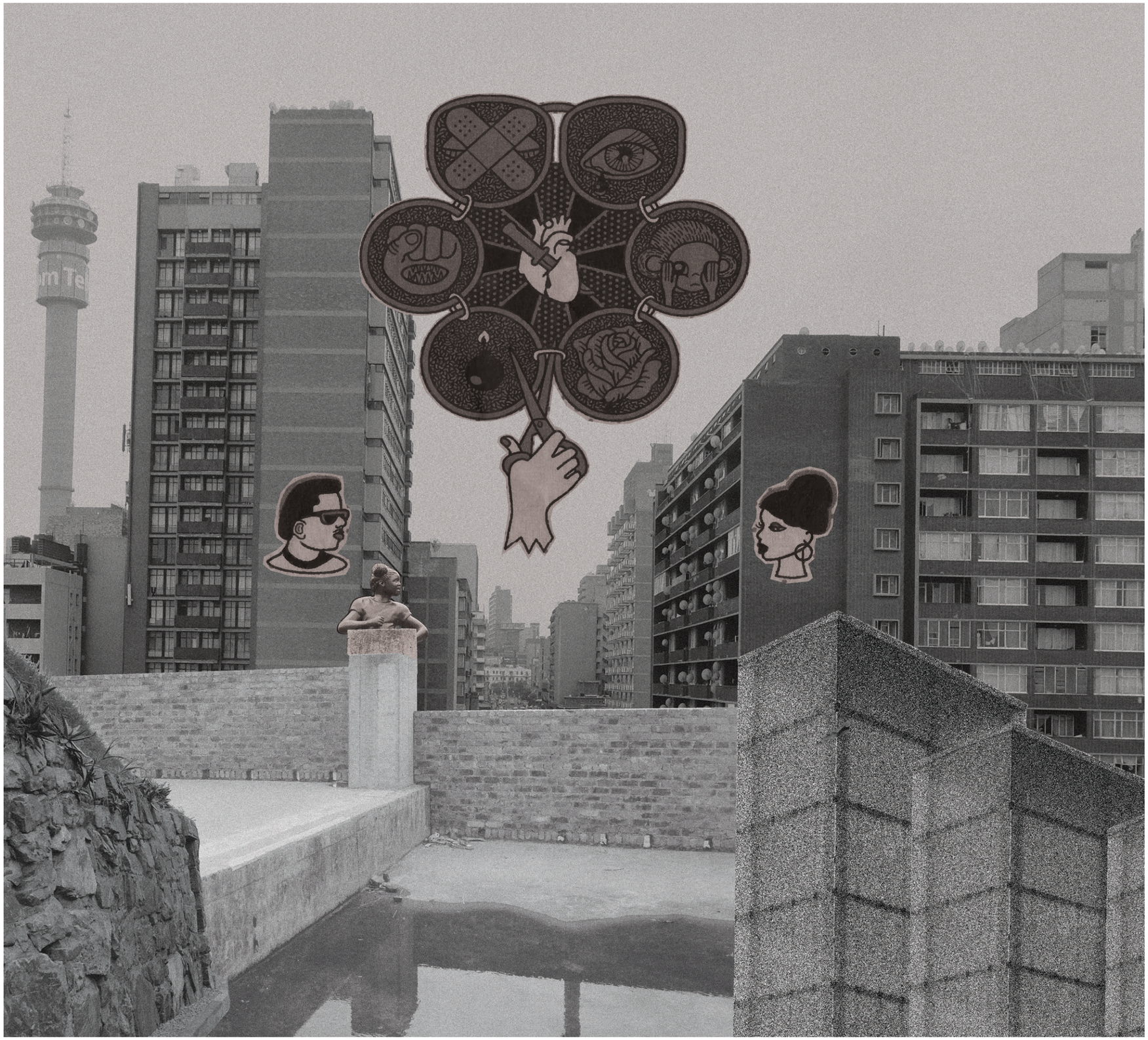
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and so he does it again; there sits a
shiner in her socket, which she hides
with shades and clumsy excuses

and then a deeper gash from words,
which fall like knives out of his
mouth, and her daughter sees, “shhh,

close your eyes monkey, no see, no
do” and then he’s sorry, and she
stands on her precarious pedestal

as he showers her with roses whose
thorns will pierce her skin the
tighter she holds on, and that night,

the curtains close, and he gets angry
at the deal that didn’t go through,
the waiting bills, the overdone

steak, and the loud way she chews
it and so he does it again; shiner in
her socket, words like knives, ssssh

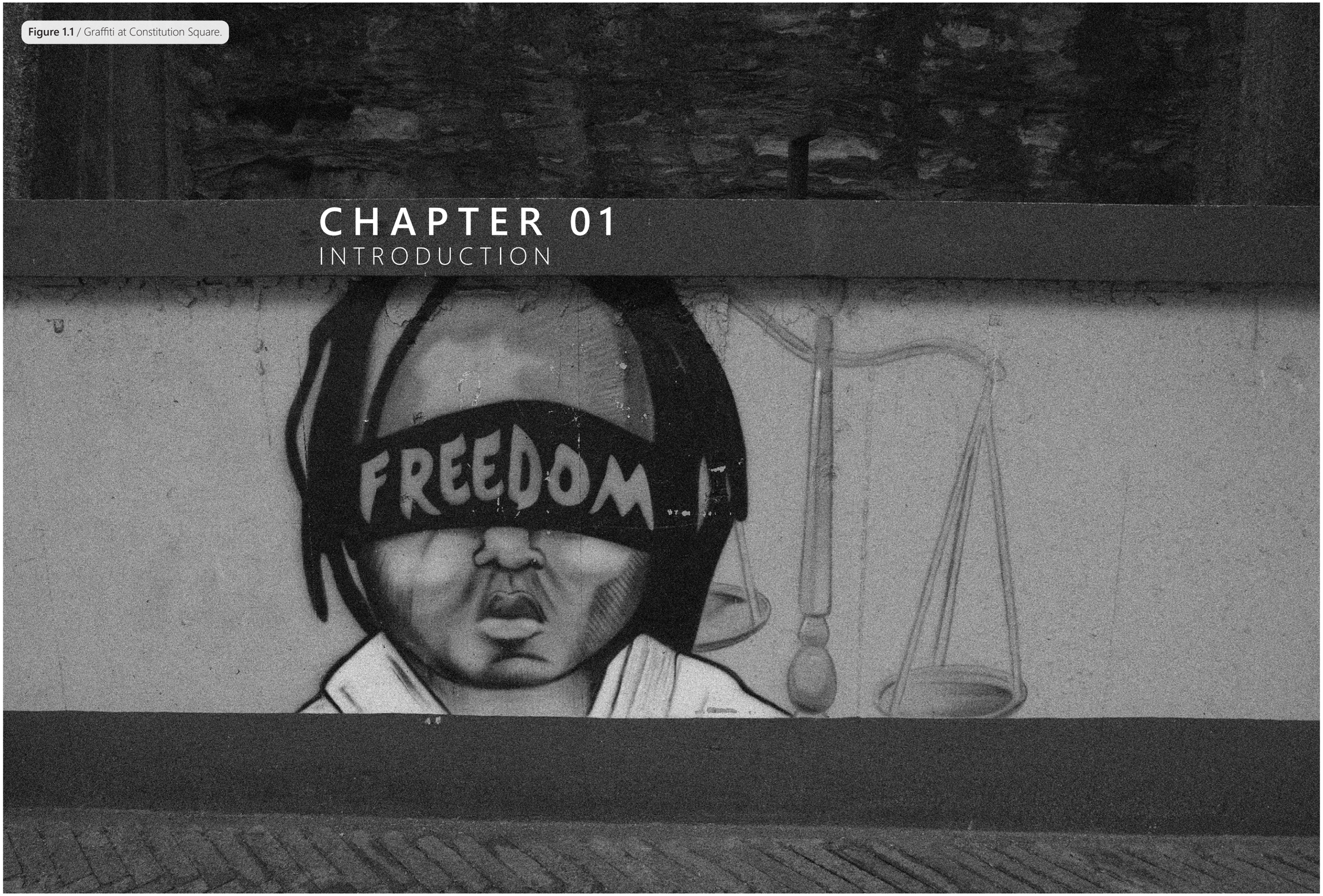
monkey, and then he’s sorry, shower
of roses, chewing loudly, he gets
angry and so he does it again, shiner,

knives, sshhh, sorry, roses, chewing,
angry and so he does it again, he
does it again again again again

(Take This Thread, 2019)

Figure 0.2 / Collage of context overlaid with the reality of Violence Against Women.

Figure 1.1 / Graffiti at Constitution Square.



CHAPTER 01
INTRODUCTION

Chapter 1 introduces the general, urban and architectural issues and intentions that drive the research investigation. It outlines the research questions and methodology undertaken and summarises the design and research project's aims, objectives, delineations and design contribution. To guide the reader, important definitions are introduced.

1.1
BACKGROUND

1.1.1
GENERAL ISSUE
VIOLENCE AGAINST WOMEN (VAW)

Violence against women (VAW) is ingrained in the moral fibre of South African society. Transcending racial, cultural, geographical and economic borders, the phenomenon is not only considered as a national outrage, but is widely regarded as a global event (Chalira & Ndimurwimo, 2018: 107). The United Nations (1993) defines Violence Against Women as "any act of gender-based violence (GBV) that results in, or is likely to result in, physical, sexual, or psychological harm or suffering to women or girls" including threats of "coercion or arbitrary deprivation of liberty, whether occurring in public or in private life". The World Health Organization (WHO, 2020) has estimated that one in three women worldwide have experienced physical or sexual violence. At a local scale, this is evident as statistics in South Africa have brought to light the urgency to address women's safety. For example, the South African Police Service, for the years 2018 and 2019, together with data released by Statistics South Africa noted that 68.5% of victims that reported sexual offences were women (Maluleka, 2018: 8). These statistics excluded women who did not report incidents due to the often insensitive and unsympathetic justice system. During the Covid-19 pandemic, incidents of gender-based violence saw an increase, where Police Minister, Bheki Cele, noted that at one stage, 87000 cases were reported in one week across the country (Lake, 2020). In addition, shocking waves of femicide prompted the President of South Africa, Cyril Ramaphosa, to refer to the issue of VAW as South Africa's second pandemic (Ellis, 2020).

This dissertation aims to shed light on the issue of Violence Against Women and to illustrate through a design response and supported by research how architecture can respond to a societal issue.

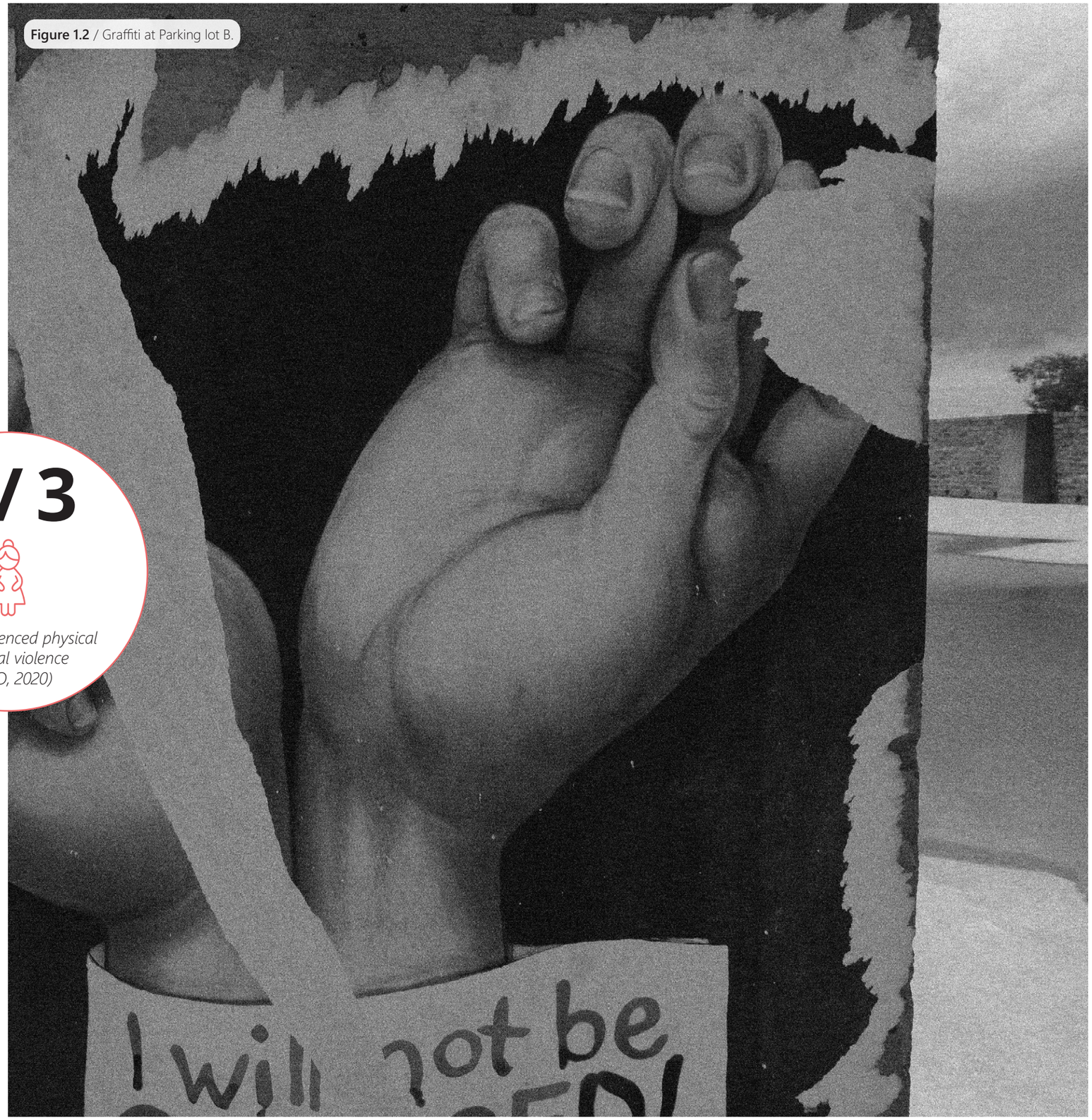


Figure 1.2 / Graffiti at Parking lot B.

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have experienced physical or sexual violence (WHO, 2020)



Figure 1.3 / Introduction to the site.

CONSTITUTION HILL PRECINCT

In essence, experiences of violence and vulnerability infringe on the rights of women as stated in the Constitution of the Republic of South Africa (Constitutional Court of South Africa, 1996: 5-6).

In 1996, two years after South Africa became a democracy, it was decided to manifest physically, in built form, the symbolic significance of South Africa's Constitution. The site identified for the Constitutional Court, Johannesburg's notorious prison complex, was chosen due to its central location to the inner city, its sense of place and "historical and symbolic" significance (Segal et al., 2006: 6). The court, completed in 2004, along with the old prison buildings, form a precinct that serves as one of the most prominent symbols of democracy in South Africa (Makin & Noble, 2009: 116).

As a symbol for human rights, equality and democracy, Constitution Hill Precinct is identified as a site for this dissertation to explore safe space for women in the inner city of Johannesburg (Gevisser, 2008: 285).

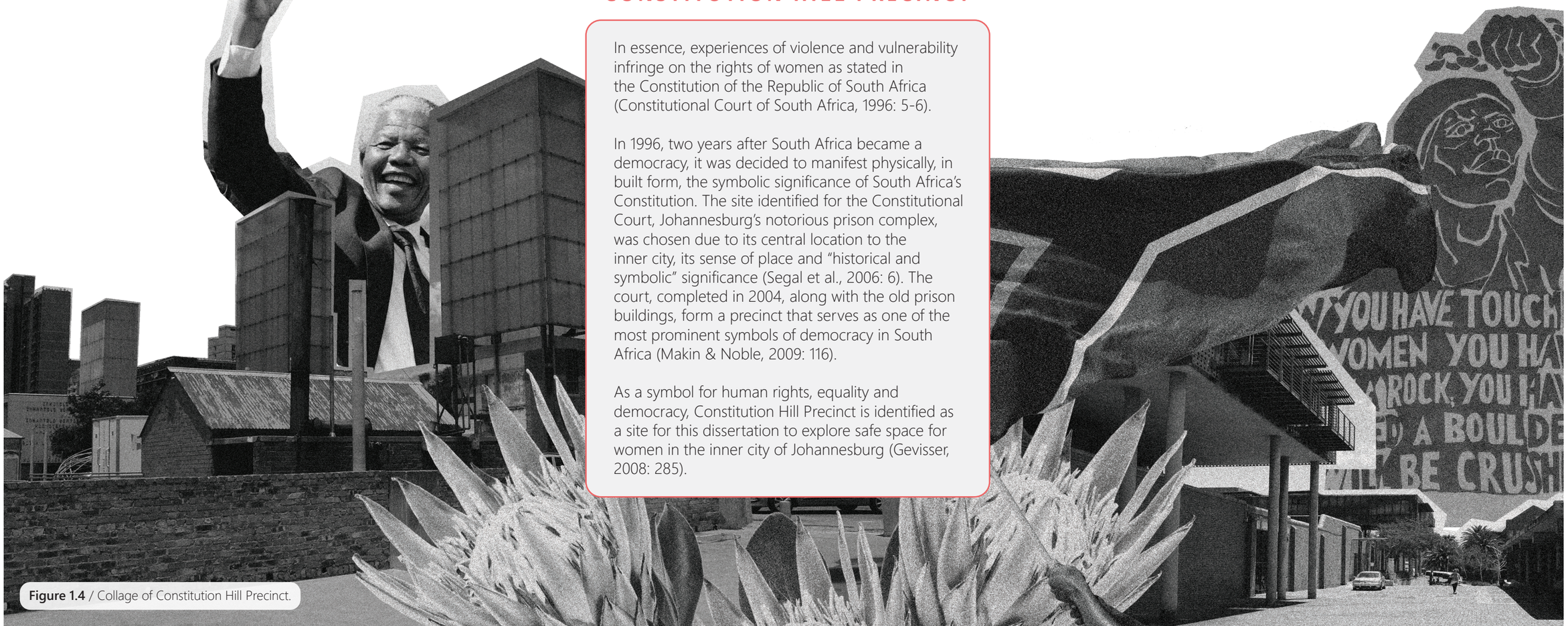


Figure 1.4 / Collage of Constitution Hill Precinct.

ELEMENTS OF CONSTITUTION HILL PRECINCT

AREA OF FOCUS

1. The Old Fort + restaurant
2. Constitutional Court
3. Constitution Square (AWT Towers)
4. Number 4 Prison
5. Women's Jail (Gaol) (Old and New extension)
6. Parking lot land parcel A
7. Parking lot land parcel B
8. Parking lot land parcel C
9. Parking lot land parcel D
10. Parking lot land parcel E
11. Recreational Grounds
12. Kidneys event space
13. Governor's House
14. Queen Victoria Hospital (VANSA)
15. Nursing Quarters

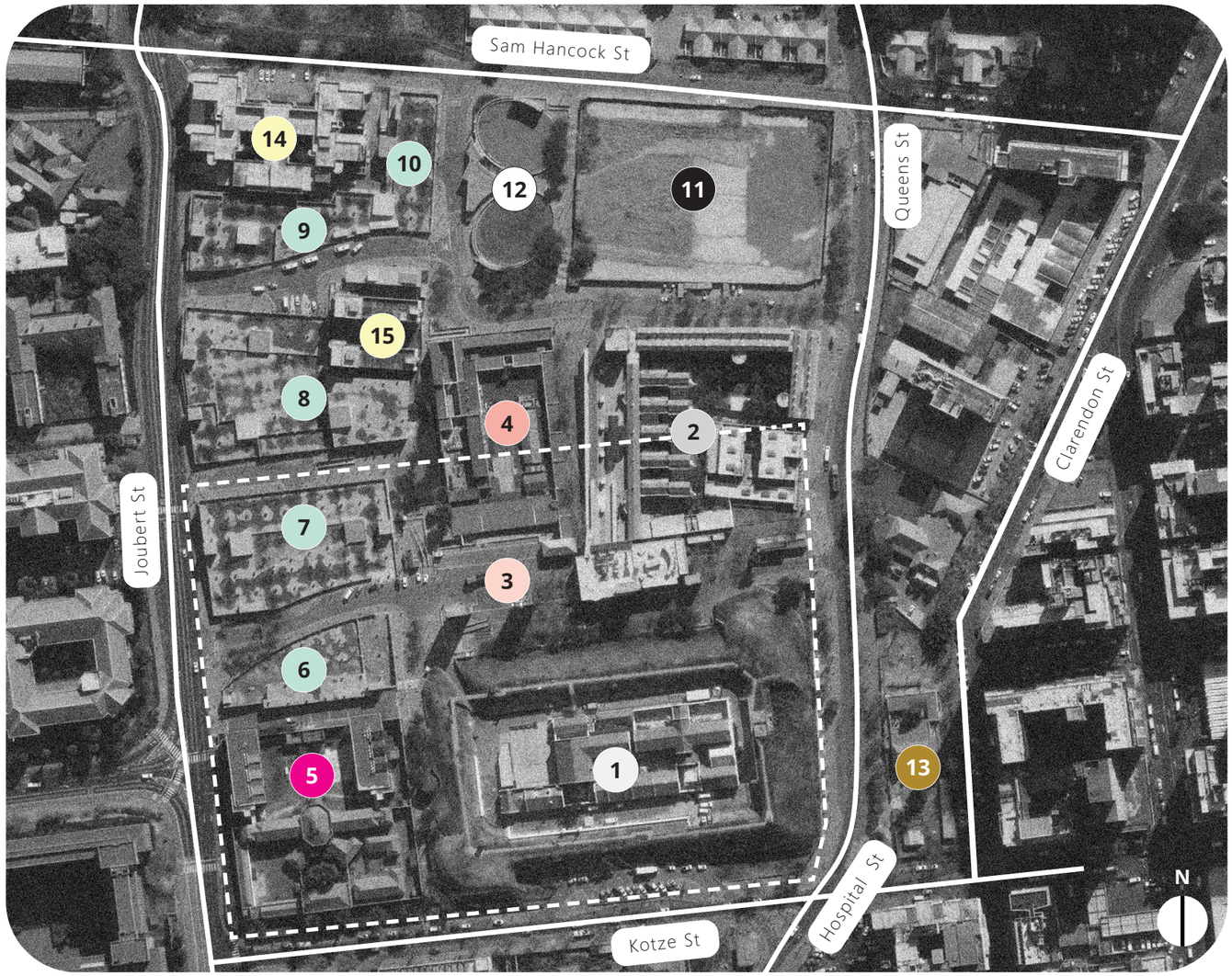


Figure 1.5 / Constitution Hill Precinct map.

1.1.3
URBAN ISSUE

Two main urban issues are identified:

A.
CONTEXTUAL:
THE RIGHT TO THE CITY IS GENDERED

The suburb of Hillbrow serves as a local example to view the issue of Violence Against Women through. Located in the inner-city of Johannesburg, Hillbrow is characterised by its "fragmented space of poverty, violence, and dysfunction" (Hunt, 2006: 104). Since its establishment in 1895, Hillbrow has nurtured a highly transient population, serving as a port of entry for migrants and immigrants (Stadler & Dugmore, 2017: 2). This transformative social character of Hillbrow has made it "a place of flow, of entry and exit" and of multiple, intersecting stories (Hunt, 2006: 113).

In support of the above, and for the purpose of the thesis project, a study called: "From fear to resilience: adolescents' experiences of violence in inner-city Johannesburg, South Africa", conducted in 2017, by Fiona Scorgie, Deborah Baron, Jonathan Stadler, Emilie Venables, Heena Brahmbhatt, Kristin Mmari and Sinead Delany-Moretlwe, will be used to understand the issue of Violence Against Women in context.

Qualitative methods were used in the study to document and understand interpersonal violence experienced by adolescent boys and girls, between the ages of 15-19 years old, in Hillbrow (Scorgie et al., 2017: 51).

The findings of the study by Scorgie et al. (2017), highlighted two core conclusions: firstly, that sexual harassment of girls occurred disproportionately to boys in both the public and domestic sphere, suggesting that the "simple act of moving around in public was a deeply gendered one" (Scorgie et al., 2017: 57). Secondly, and as indicated in Figure 1.7 on the following page, the study, through visual maps, revealed "a geography of personal safety and danger" indicating that different social realities are reflected in "physical spaces" (Scorgie et al., 2017: 58).

The experience and occupation of space by women, is thus determined by social perceptions and personal experiences of violence or fear.

As indicated in Figure 1.8, the study by Scorgie et al. (2017) indicates that the right to the city is gendered, especially when looking at its spatial translation onto a map in relation to the Constitution Hill Precinct.

Briefly explained, the right to the city is a concept advocated by theorists like David Harvey and Edward Soja, however the issue is rarely addressed through the lens of gender. The right to the city as defined Lefebvre (1996: 34) states that cities should "modify, concretise and make more practical the rights of the citizen as an urban dweller and user of multiple services".

Informed by the work of Lefebvre, the feminist bell hooks (1989), as a counter argument, advocates for a feminist perspective of the right to the city, stating that a more conscious spatial strategy should be undertaken to place focus on the marginalised; which in this case refers to women in Hillbrow (Soja, 2010: 218). By undertaking a shared spatial awareness (Soja, 2010: 218) new avenues of expressing social justice in a physical dimension is opened.

B.
SITE SPECIFIC:
DISCONNECT BETWEEN
THE EVERYDAY

In understanding the site at a precinct and urban scale, as will be shown in the preceding chapters, key observations suggest that the site, although well-positioned in its context, has largely developed in isolated pockets.

Where at a precinct scale, the in-between spaces form unprogrammed voids, thus disconnecting the pedestrian from engaging in the public realm.

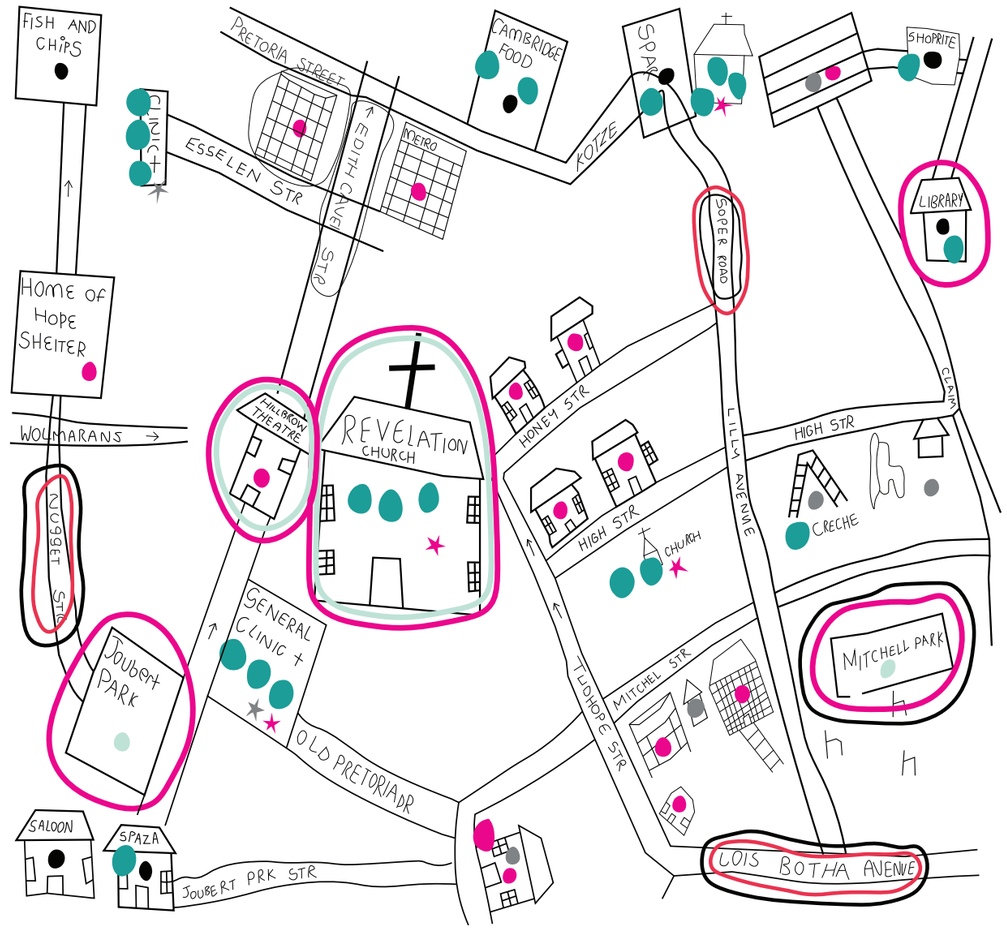
In addition to this, the Precinct's close proximity to the notorious suburb of Hillbrow has resulted in its public space being over-surveillanced by the presence of private security; and consequently, furthering the disconnect between the Precinct and the everyday user of the city.

Therefore, too much emphasis is placed on the Precinct's function as the highest court in the land, than its role in becoming an integrated node for city users (Patel & van der Merwe, 2013: 8).



Figure 1.6 / Collage summarising the urban issues.

GIRLS' MAP OF HILLBROW



BOYS' MAP OF HILLBROW

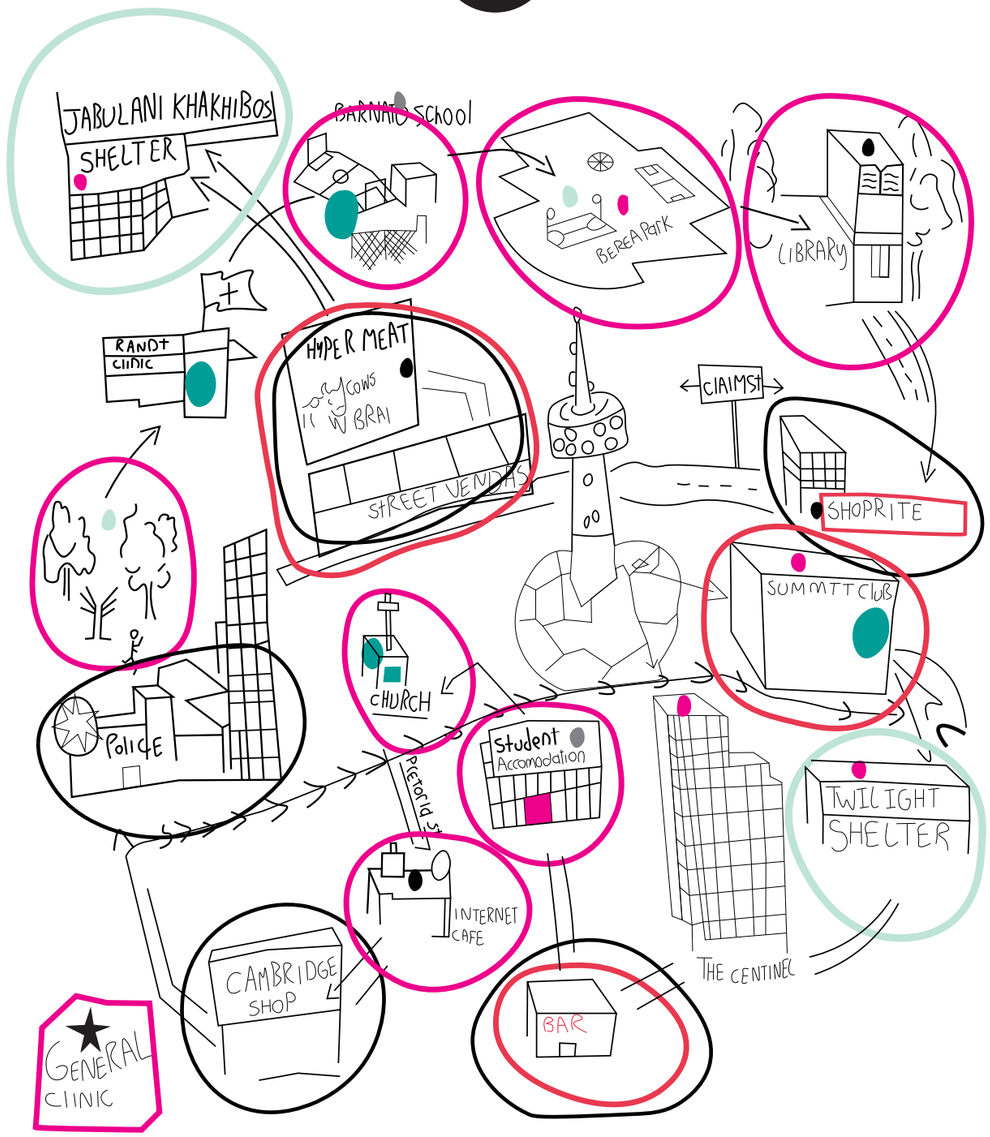


Figure 1.7 / Spatial arrangement of safe and unsafe space in Hillbrow.

SAFE & UNSAFE SPACES

IDENTIFIABLE PLACES MAPPED BASED ON A STUDY CALLED:

From fear to resilience: adolescents' experiences of violence in inner-city Johannesburg, South Africa (Scorgie et al., 2017).

1. Louis Botha Avenue
2. Soper Road
3. Nugget Street
4. Mitchell Park
5. Edith Cavell Street
6. Hillbrow Police Station
7. Hypermeat Hillbrow
8. The Summit Club
9. Pieter Roos Park
10. The Revelation Church of God
11. Hillbrow Theatre
12. Joubert Park
13. Shoprite
14. Kotze Street Spar
15. Hillbrow Library
16. Cambridge Foods
17. General Clinic
18. Esselen Clinic
19. Hillbrow Tower
20. Berea Park
21. Barnato Park High School
22. Jabulani Khakibos Kids
23. Rand Clinic
24. Twilight Kids (Shelter)
25. The Centinel Clinic
26. Home of Hope for Girls (Relocated to East Gate)

adolescent girls
adolescent boys
adolescent boys & girls

during the day
during the night
during the day & night

safe space
unsafe space
aspects of safe & unsafe space
landmarks

Figure 1.8 / Safe and unsafe space translated onto contextual map.



1.1.4
ARCHITECTURAL ISSUE

A.
INTROVERTED + FORTIFIED ARCHITECTURE

What is at stake architecturally can be summarised by the missed opportunity of programming the in-between public space; which has been further accentuated by the fortified and introverted nature of the existing architecture (Patel & Van der Merwe, 2013: 16). The nolli map indicates that, although the Precinct is unfenced and permeable to pedestrians, it has internalized and privatised the use of public space. Through the analysis it can be concluded that the relationship between public, semi-public and private space, limits the pedestrian from occupying the inner realms of public or semi-public space, like the internal courtyards of museums; and excludes the everyday use of the in-between spaces that could be appropriated as open public space. The East-West thoroughfare is therefore only designated as a movement route.

B.
PARKING LOTS AS LOST SPACE

Furthermore, and as will be discussed later in the document (c.f. 3.3.2), the zone of focus on the existing parking lot structures to the West of the Precinct, Parking lot A and B, introduces the notion of the dormant structures as lost space (Trancik, 1986). Briefly described, lost spaces are: "the undesirable urban areas that are in need of redesign – anti-spaces, making no positive contribution to the surroundings or users. They are ill-defined, without measurable boundaries, and fail to connect elements in a coherent way" (Trancik, 1986: 3-4). An architectural opportunity is therefore identified to adapt the structures as spaces of architectural intent.

- *Private space*
- *Public space (unprogrammed)*
- *Semi-public space (introverted)*
- *Primary pedestrian movement*
- *Secondary pedestrian movement*
- *Secondary vehicular movement*
- *Activated Southern half of the Precinct*
- *Parking lot A and B (lost space)*

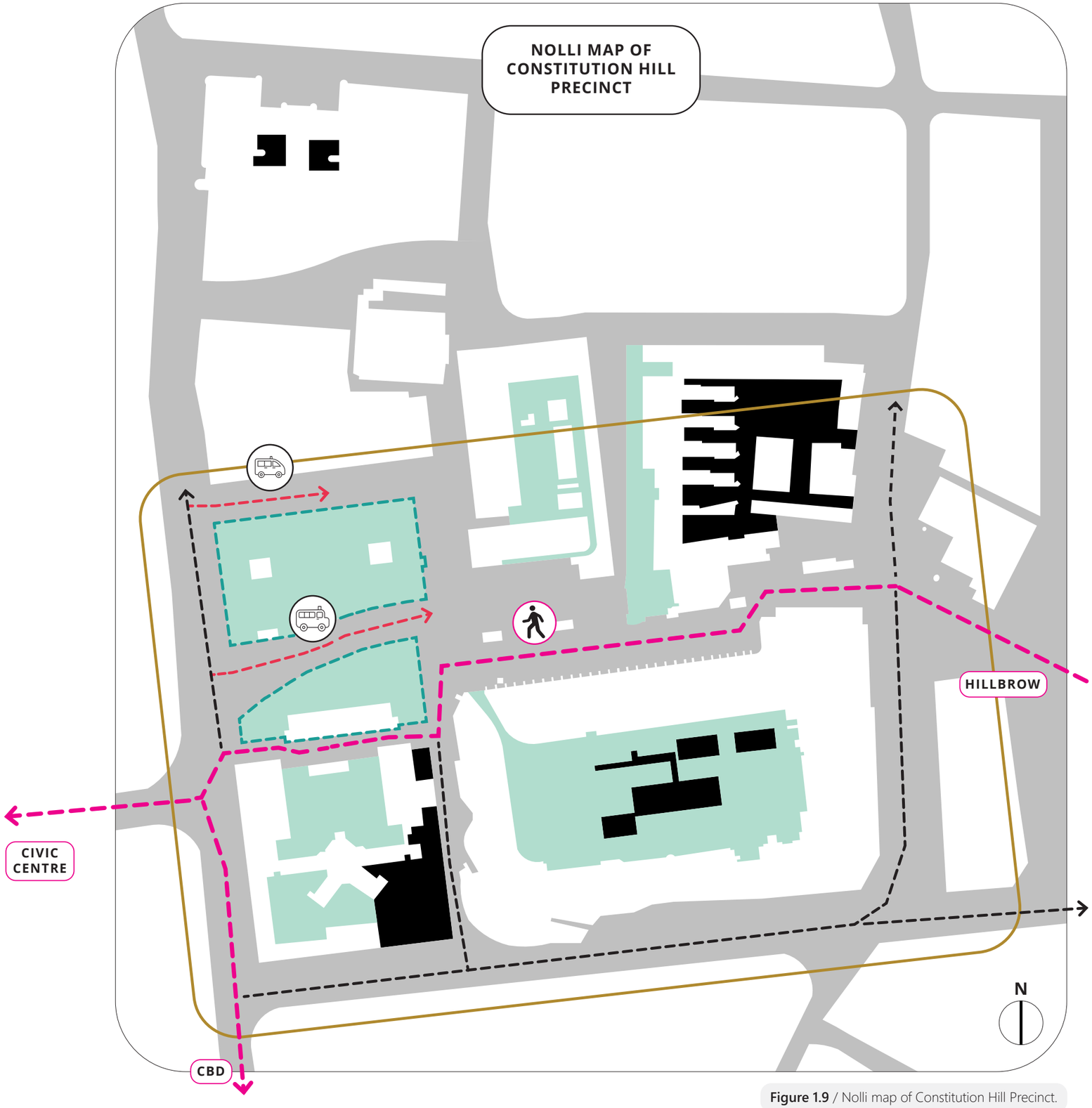


Figure 1.9 / Nolli map of Constitution Hill Precinct.

1.2
PROBLEM STATEMENT

Violence Against Women (VAW) is a violation of a woman's human rights, in response to which, this project aims to advocate for women's security, equality, dignity, life and freedom through the transformation of Constitution Hill Precinct as both a symbolic and functional civic public space (Constitutional Court of South Africa, 1996: 5-6). The project is relevant to the real-world issue of Violence Against Women, which has recently been referred to by the president as South Africa's second pandemic (Ellis, 2020). Women and girls disproportionately experience public space as unsafe, where the threat of violence and fear have profound effects on mobility, use, and occupation of space (Ahmed, 2003: 70).

In 1996, two years after South Africa became a democracy, it was necessary to manifest physically, in built form, the symbolic significance of South Africa's Constitution. The Court, completed in 2004, along with the old prison buildings, forms a precinct that serves as one of the most prominent symbols of democracy and human rights in South Africa (Makin & Noble, 2009: 116).

1.2.1
ARCHITECTURAL INTENTION

The architectural opportunity identified at Constitution Hill Precinct aims to use the feminist concept of safe space to propose that sites of safety can be cultivated for women to "feel free to act, speak, form collective strength and harness resilience" (Kenney, 2001: 24). Design principles were derived from the understanding of safe space as both a social and practical construct; as well as the synthetization of safe space into an architecture of lived experiences.

By creating a precinct with a "female face" (Hunt, 2019) and by programming the in-between public spaces of the East-West thoroughfare, especially the existing parking lot structures to the West, through a transformative approach towards heritage, the advocacy for women's rights is made visible and attains an association as a place where women are received.

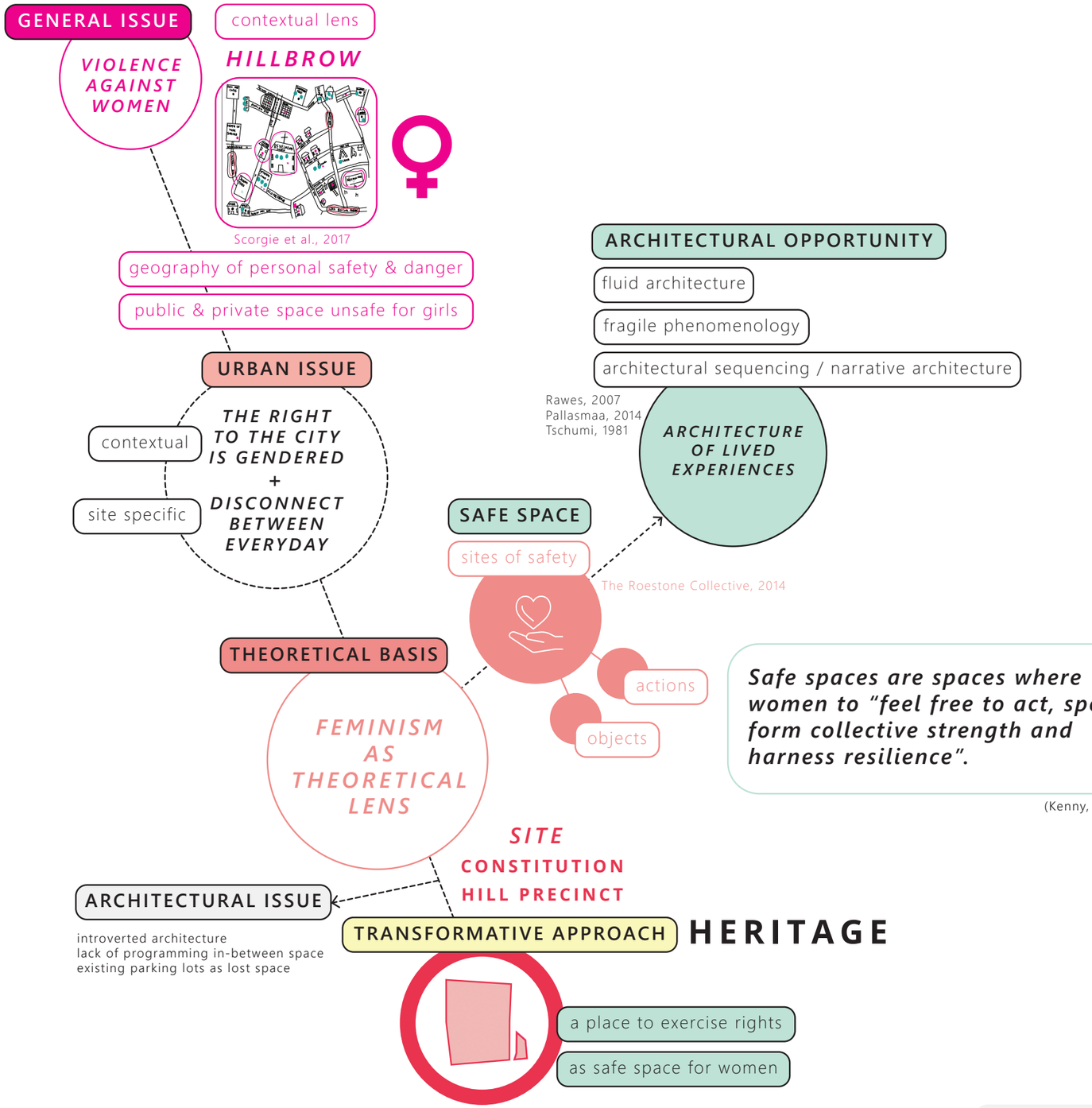


Diagram 1.1 / Problem statement.

1.3
RESEARCH QUESTIONS

The following research questions inform the study:

ARCHITECTURAL
1. How can the architectural opportunity of lived experiences create safe space for women, as defined by feminist discourse, at the Constitution Hill Precinct in order to advocate for and make visible a women's human rights?

THEORETICAL
1. What defines the relationship between women, the built environment, safety, public and private space as formulated in feminist spatial and architectural discourse?

CONTEXTUAL
1. What opportunities are presented for the cultivation of safe space and advocation for women's rights at the Constitution Hill Precinct when investigating the existing and historical narrative of the Precinct?
2. How can a transformational approach towards heritage contribute to the symbolic and functional narrative of Constitution Hill Precinct?

URBAN
1. How can a gender-based strategy in urban design facilitate social and protective networks for women and allow for their occupation of public space in the inner-city of Johannesburg?

1.4
RESEARCH METHODOLOGY

The research follows an interpretive qualitative methodological approach, as Du Toit (2015: 63) describes that interpretive research focuses on "meanings" made from abstract phenomena, place studies, human culture and experience. The research aims to understand social realities and how meaning is "constructed and constantly changing" (Du Toit, 2015: 63).

METHODS OF DATA COLLECTION

1. EXISTING NARRATIVE
In order to gain an understanding of the existing and historical narrative, archival documentation of the site and its surroundings is used.

2. UNDERSTANDING THE SITE
Documentation and analysis of the site and surroundings through observation, desktop studies, on-site photographs and archival and historic matter is presented through computer-generated presentation.

3. THEORETICAL UNDERPINNINGS
Feminism within architectural and spatial discourse is used as a theoretical lens to investigate safe space. Architectural theories referring to lived experiences is used to synthesise theoretical concepts into architectural principles.

4. PRECEDENT STUDIES
A combination of contextual, theoretical, conceptual, programmatic and technological precedents is used to gain an understanding of the investigation at hand.

5. DESIGN INFORMANTS
The design informants are synthesised from theoretical underpinnings and explorations, urban and contextual analysis of Constitution Hill Precinct and other relevant topics of investigation.

1.5
AIMS, OBJECTIVES + INTENTIONS

AIMS

1. SAFE SPACE AS A SERIES OF ACTIONS AND OBJECTS
To cultivate safe space for women, at the Constitution Hill Precinct, through a series of actions and objects that create a protective and supportive network of spaces.

2. SAFE SPACE AS A LIVED EXPERIENCES
To identify that safe space is not only cultivated through tangible or physical interventions of making the built environment safer, but that it is manifested as a social construct and expressed through lived experiences.

3. ACTIVATION OF THE IN-BETWEEN PUBLIC SPACE
To activate the in-between or left-over space of the East-West pedestrian thoroughfare to become extensions of the heritage structures themselves, thereby attaining symbolic and functional significance.

4. APPROPRIATION OF LOST SPACE
Parking lots A and B, identified as lost space should be transformed and appropriated into spaces of architectural intent that would contribute positively to the Precinct and its surroundings.

OBJECTIVES

1. AN ARCHITECTURE OF LIVED EXPERIENCES
To create a space where women are embraced, received, safe to act freely, express themselves, and gain a sense of social justice through the architecture of lived experience. This refers to architecture that engages in contextual responses, narrative architecture, multi-sensory experiences, spaces of dynamic exchange and fluidity.

2. A PRECINCT WITH A FEMALE FACE: TO MAKE VISIBLE AND ADVOCATE FOR WOMEN'S HUMAN RIGHTS BY CREATING A PLACE FOR WOMEN
By making the question of women's human rights more visible at the Constitution Hill Precinct, the Precinct will attain both a symbolic and functional association as a place that exercises tangible and intangible rights and freedoms of this important aspect of the nation's Constitution.

3. INCLUSIVITY: COMMUNITY BELONGING AND OWNERSHIP
To allow the community of Hillbrow and neighbouring communities to gain a sense of belonging and ownership at the Constitution Hill Precinct by introducing mix use, public functions and resources that are accessible to all, and importantly to women.

4. INTRODUCTION OF THE EVERYDAY
To activate the Constitution Hill Precinct as an engaging public space, where the East-West pedestrian corridor, connecting Hillbrow and the CBD, is fostered through spatial design in order to introduce and make part of everyday life. The thoroughfare becomes an internal street for the pedestrian to stop and linger, emphasising the relationship between the experience of place and community.

5. SUPPORTIVE PUBLIC INFRASTRUCTURE
To provide and ensure safe and accessible space and amenities for public use by all users of the city.

INTENTIONS

1. THE RECEPTACLE: CONCEPTUAL INTENTION OF CHORA
The concept of chora, serves to layer the conceptual idea of the receptacle, receiver or imprint-bearer onto the site. The site therefore becomes the receptacle, a space where women are embraced and received. The architectural intervention takes the form of a trace or imprint by means of which to respond to this concept and is an expression of the physical and conscious transition of the in-between space that defines the East-West thoroughfare.

2. ACCOMMODATING THE SYMBOLIC AND FUNCTIONAL THROUGH A TRANSFORMATIVE APPROACH TOWARDS HERITAGE
To engage symbolically and functionally with the heritage of the Precinct in a manner that is both sensitive and impactful in its response to the existing context. The architecture ought to represent how spaces can be honored, strengthened, appropriated and sustained through the use of transformative heritage strategies, which have been identified as insertions and parasitic attachments.

3. NARRATION THROUGH ARCHITECTURAL SEQUENCE
The spatial experience of the thoroughfare should express a narrative of women's rights, upliftment, commemoration, healing and protest. Architectural sequencing can be used to express this narrative where movement, event and space are framed as a sequence of experiences.

1.6 DELINEATIONS + LIMITATIONS

1. ETHICAL CONSTRAINTS
Due to the ethical constraints of involving vulnerable persons or minors as primary sources of data, the thesis will make use of data collected by the study conducted by Scorgie et al. (2017) and other online sources. Only secondary data is relied upon.

2. ZONE OF FOCUS
The Southern part of the Constitution Hill Precinct is identified as the site in focus for the architectural intervention as it is the most developed part of the Precinct.

3. LIMITED ACCESS TO DOCUMENTATION OF SITE
Due to limited access to architectural drawings and documentation, modelling of the site and context was interpolated from documents obtained and from photos taken on site.

4. LIMITED ACCESS TO SITE
Due to limited access to the site, inferences and observational conclusions regarding the site's current condition are made based upon online sources, visual and archival documentation.

5. PARKING LOT STRUCTURE
An assumption is made that parking lot structures A and B are constructed from reinforced concrete columns, slabs, and beams. Based on the urban design documentation and foreseen densification of the site, it is also assumed that the structure can accommodate structural loads.

1.7 RESEARCH + DESIGN CONTRIBUTION

In light of the topic at hand, the project aims to showcase how architecture plays a role in creating public space for women and in retrospection more inclusive public spaces for society. The research also contributes towards envisioning post-apartheid and post-colonial heritage sites as spaces of ownership, so as to ensure connectivity to its immediate community.

Drawing on feminism as a theoretical basis, the project extends the relationship between feminism and architecture in advocating for more equal and inclusive built environments.

1.8 DEFINITIONS

SAFE SPACE
Safe space is defined as spaces where women can feel free to act, speak, form collective strength and harness resilience (Kenney, 2001: 24).

SAFETY
Safety can be considered a "condition of being safe from undergoing or causing hurt, injury, or loss" (Merriam-Webster, 2020b).

UNSAFETY
Unsafety is defined as not having "protection from danger, harm, or loss" (Merriam-Webster, 2020c).

VIOLENCE AGAINST WOMEN (VAW)
Violence Against Women is defined as "any act of gender-based violence (GBV) that results in, or is likely to result in, physical, sexual, or psychological harm or suffering to women or girls" including threats of "coercion or arbitrary deprivation of liberty, whether occurring in public or in private life" (United Nations, 1993).

FEMINISM
Feminism is defined as "the theory of the political, economic, and social equality of the sexes" (Merriam-Webster, 2020a).

FEMININE
The feminine is defined as having traits that are typically associated with a woman (Cambridge University Press, 2020).

POST-STRUCTURALIST FEMINISM IN ARCHITECTURE
Largely interdisciplinary, post-structuralist feminists reach beyond the margins of theory, history, criticism and practice by challenging the idea of "what constitutes architecture" through the common understanding that "space is socially produced and a condition of social production" (Rendell, 2012: 88). It aims to reconsider conventional gender or binary roles, by focusing in on the margenalised in society.

GENDER-BASED STRATEGY
Gender-mainstreaming, synonymously referred to gender-sensitive urban design, is a strategy in urban planning that originated in Europe, and aims to promote gender-equality through planning and policy frameworks (Kern, 2020: loc. 780/3987). Based on its principles of equality, it is closely related to the concept of the Feminist City.

LIVED EXPERIENCE IN ARCHITECTURE
Similar to post-structuralist feminist thinking (Rendell, 2012), experience in architecture is closely linked with the body, sensorial perceptions, and socio-cultural interpretations (Coelho, 2015: 1).

FLUID ARCHITECTURE
Fluid architecture, places focus on the body, dynamic spaces of exchange and how the act of dwelling can influence one physically and psychologically (Rawes, 2007: 51-52). Fluid spatial experiences encourage inclusivity and social relationships, by encouraging the building of "continuously changing thresholds that embody the tactile, physical and emotional power of relationships between individuals" (Rawes, 2007: 53).

ARCHITECTURAL SEQUENCING / NARRATIVE ARCHITECTURE
Concepts of event, space and movement are considered as interdependent and aim to "introduce the order of experience". The primary characteristic is sequence, "a composite succession of frames that confronts spaces, movements, and events" (Tschumi, 1981: 10). Linearity of sequences forms the ordering device for events, movements and spaces into a single progression (Tschumi, 1981: XXIV).

FRAGILE PHENOMENOLOGY
Fragile phenomenology refers to architecture that is "contextual, multi-sensory, concerned with experiential interaction and sensual accommodation"; where the architecture "grows gradually, scene by scene, rather than quickly manifesting a simple, domineering concept" (Pallasma, 2014: 60).

THUTHUZELA CARE CENTRE
A Thuthuzela Care Centre is referred to as an all-encompassing 24-hour facility that provides legal, psychological, social and emergency medical assistance to women who have experienced violence (Foundation for Professional Development, 2016: 23).

1.9
OVERVIEW OF THE STUDY

This section provides an overview of the project, clearly demarcating the research focus and design intentions. The subsequent below is an overview of the study to follow:

Chapter 2: Theory
The theory chapter aims to explain the theoretical informants of the design through the identification of appropriate architectural theories as well as the understanding of other theoretical concepts such as feminism in architecture and its relationship to the notion of safe space.

Chapter 3: Context
Chapter 3 introduces the site and the zone of focus where the architectural intervention will be placed.

Chapter 4: Concept
Chapter 4 frames the conceptual drivers of the project, informing how the concept can translate into architectural principles.

Chapter 5: Programme, client and user groups
Chapter 5 presents the programme, client and user groups of the intervention. Precedents provide a means of contextualising and understanding programmatic intentions.

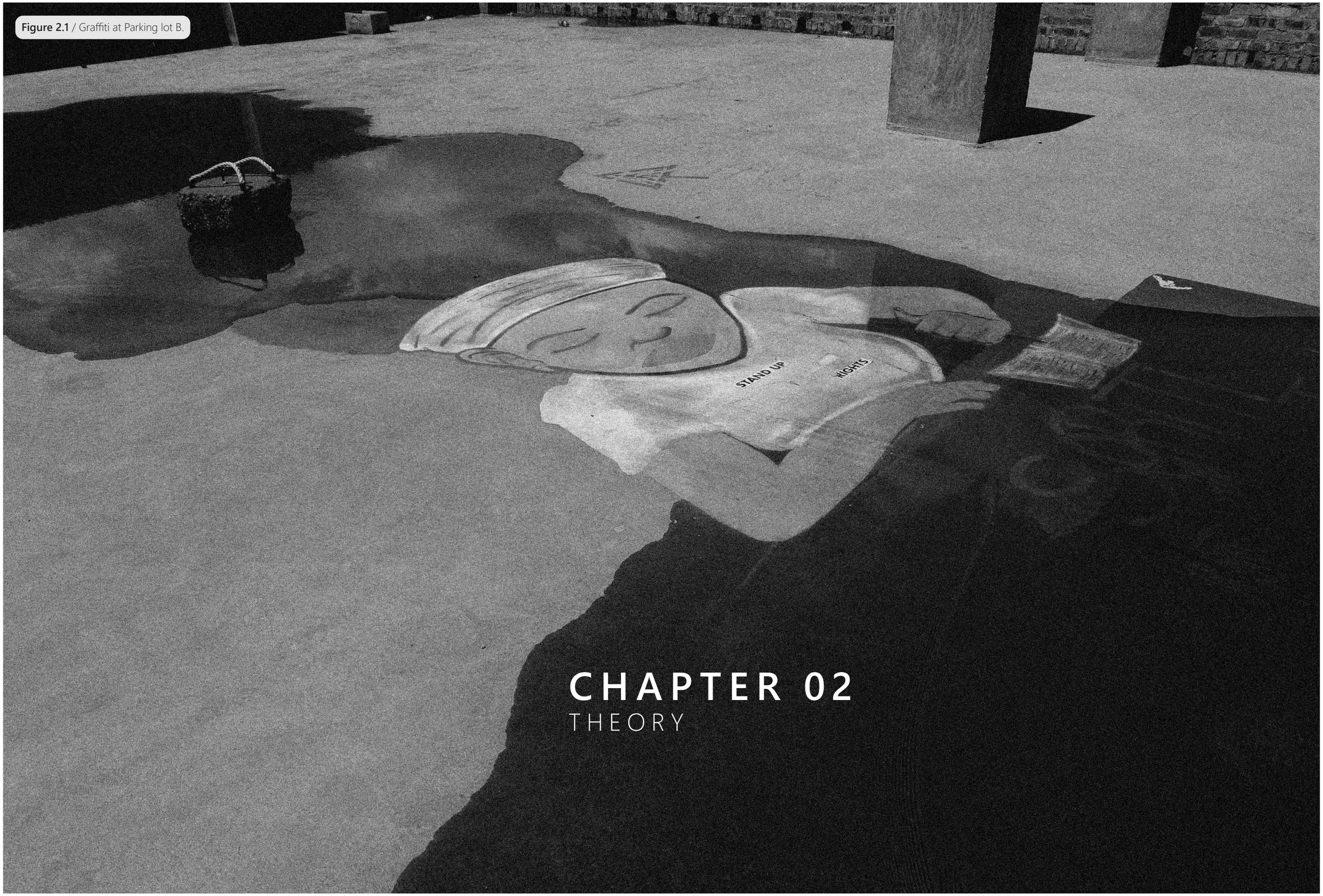
Chapter 6: Urban Vision
Influenced by previous frameworks, the Urban Vision uses the idea of the Feminist City to convey how urban design can aid in creating safer cities for women.

Chapter 7: Design Development
Chapter 7 summarises the various design iterations completed throughout the year. It also presents the final design proposal.

Chapter 8: Technical Resolution
The technical resolution of the project aims to reaffirm conceptual and architectural intentions of the project through the appropriate use of technology, materials and systems.

Chapter 9: Reflection
Chapter 9 summarises the intentions of the project and reflects upon how the dissertation has answered the research problem.

Figure 2.1 / Graffiti at Parking lot B.



CHAPTER 02
THEORY

Chapter 2 introduces the theoretical framework and how it applies to the urban and architectural issues of the identified site. Findings are synthesised into a theoretical framework which inform design principles for the design investigation and resolution.

2.1 THEORETICAL FRAMEWORK

Two core articles, namely the contextual study on violence experienced by adolescents in Hillbrow by Scorgie et al. (2017) and the article on the feminist concept of safe space by The Roestone Collective (2014), are used as a departure point for investigations into the notion of safe space and its translation into lived experiences in architecture.

2.2 FEMINISM AS A CRITICAL THEORETICAL LENS

The feminist debate on spatial discourse, which includes fields of architecture, urban design and geography developed in the 1970s gained rapid momentum up until the 1990s, when the relationship between gender and space became central to contemporary academic movements (Rendell, 2012: 85).

Although the gendered and feminist critique of architecture has embodied a wide range of opinions, central to its critique has been a focus on the body to uncover how the making of architecture is not only a physical or tangible representation of space or artifacts, but engages through living bodies and processes (Rendell, 2012: 85).

2.2.1 POST-STRUCTURALIST FEMINISM

The theoretical position of this dissertation frames itself within a post-structuralist feminist paradigm, which started in the late 1990's.

Largely interdisciplinary, post-structuralist feminists reach beyond the margins of theory, history, criticism and practice by challenging the idea of "what constitutes architecture" through the common understanding that "space is socially produced and a condition of social production" (Rendell, 2012: 88).

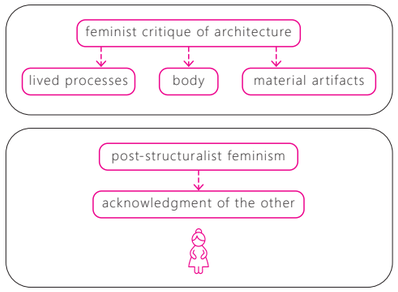


Diagram 2.1 / Post-structuralist feminism.

Furthermore, post-structuralist feminists refer to theorists like Jacques Derrida, Michael Foucault and Jacques Lacan in their description of the Other, the marginal or secondary, to place focus on women and marginalized communities in society. Hence, it would appear that an architecture that seeks to represent the Other, might be about women (Mcleod, 1996: 185).

2.2.2 CRITICAL SPATIAL PRACTICE

The feminist theorist, Jane Rendell, explores this dialect further by referring to a feminist approach to critical spatial practice as a means to explore the relationship between architecture and feminism in the 21st century. Briefly explained, critical spatial practice stems from the work of Michel de Certeau and Henri Lefebvre, suggesting that how one experiences space is defined by not only the design of buildings but its relationship to how space is occupied and experienced through everyday life (Rendell, 2012: 92). Feminist critical spatial practice is therefore indicative of a new-found relationship between feminism and architecture. The extracts to follow aim to explore the relationship between women, safety, space and the built environment through a feminist lens as described above.

2.3 GENDER & THE RIGHT TO THE CITY: THE RELATIONSHIP BETWEEN WOMEN, SAFETY, SPACE AND THE BUILT ENVIRONMENT

Gendered space, specifically women's fear of attack or violence within the built environment, has been a topic of debate for geographers, architects and urban planners (Koskela & Pain, 2000: 270).

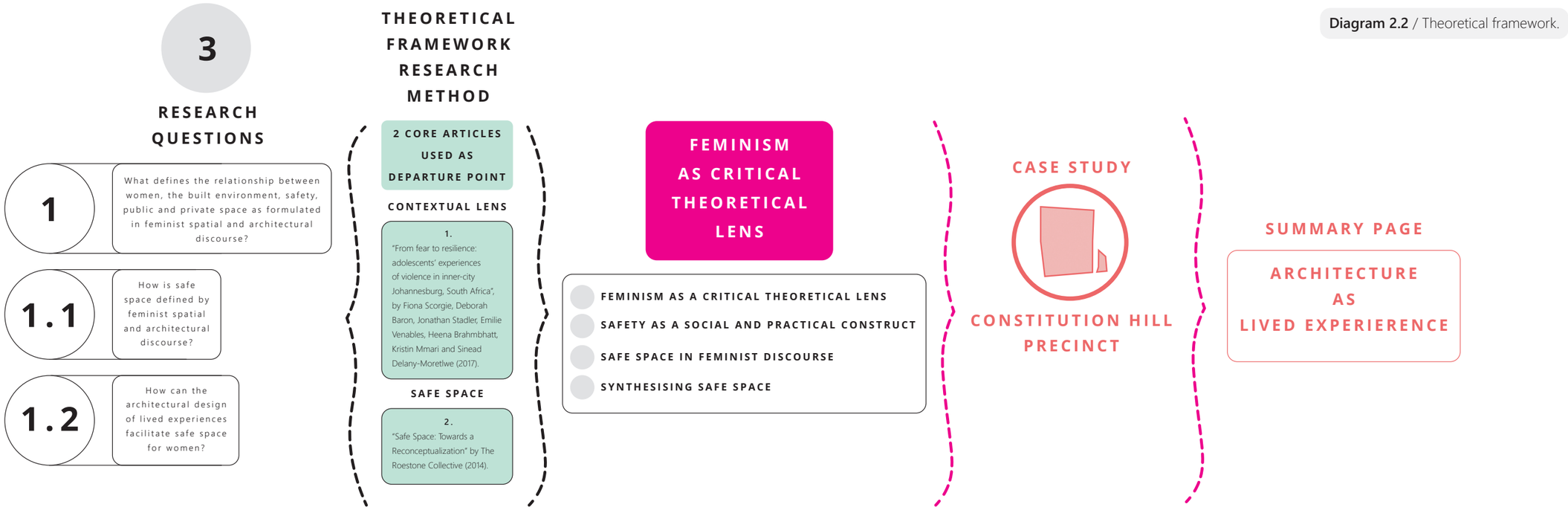


Diagram 2.2 / Theoretical framework.

The relationship between gender and the right to the city can therefore serve as a critical lens.

Originally, coined by Lefebvre, the right to the city describes the relationship between the city and the urban dweller, which encompasses two main rights: firstly, the right to appropriate urban space in everyday life and secondly, the right to participate in decision-making processes of urban space (Purcell, 2003: 577). However, the feminist and gendered critique towards this concept identifies the lack of recognising how power relations like patriarchy and governance often negatively influence comfort, belonging, and commitment (Fenster, 2005: 217) of women and other marginalised communities towards their cities.

To further understand the relationship between women, the built environment, safety, public and private space, two spheres of thinking related to gendered space need to be examined; namely that space is experienced as a social construct and that pragmatic solutions to the built environment have aimed to create more gender-sensitive and inclusive urban environments. To locate these topics in a local South African context, reference is made to the study by Scorgie et al. (2017) in combination to identified literature.

2.4
LIVED EXPERIENCES & THE EVERYDAY: SAFETY AS A SOCIAL AND PRACTICAL CONSTRUCT

"My gender is more than my body, but my body is the site of my lived experiences, where my identity, history, and the spaces I've lived in meet and interact and write themselves on my flesh"
(Kern, 2019: loc. 220/3987).

2.4.1
SAFETY AS A SOCIAL CONSTRUCT

The geographer, Hille Koskela, (1999: 112) describes three factors that define how the social production of space has an influence on women's experiences of safety; and how this furthers women's spatial exclusion.

The first factor concerns "spatial problems" (Koskela, 1999: 112), which cannot simply be limited to the "mobility or distribution in physical space" (Koskela, 1999: 112), but is constituted by a range of complex spatial domains. Considering the study by Scorgie et al. (2017: 54), themes of public violence, sexual abuse, and gang violence in Hillbrow extended to both the private and public sphere. This implies that spatial problems, and the relationship between girls, private, and public space is a complex terrain.

The second factor reiterates that space is determined by social power relations (Koskela, 1999: 112); whereby the threat of fear may be transferred to a specific environment which then become "markers of unsafety" (Koskela & Pain, 2000: 273). Valentine (1989: 386) supports this idea by stating that personal experiences and social cues influence how women develop spatial maps when they feel threatened. This is most certainly reflected in the public spaces of Hillbrow, where a "geography of personal danger and safety" were mapped by both adolescent boys and girls ((Scorgie et al., 2017: 58).

The third factor suggests that violence or fear has an influence on the mobility of women through space. As Ahmed (2003: 70) notes "fear works to enable some bodies to inhabit and move in public spaces through restricting the mobilities of other bodies to spaces that are enclosed or contained". Girls in Hillbrow consciously choose certain routes to avoid spaces of danger or unsafety, thereby altering their mobility in public space (Scorgie et al., 2017: 59). Aspects of mobility therefore play a vital role in how vulnerable bodies "exist and move freely" (Fast, 2018: 3).

Hence, the city can be mapped by women according to spaces and routes of safety or danger, respectively. The gendered exclusions produce public space as masculine, male-dominated, and heterosexual, where women live their lives under a form of "virtual curfew" (Koskela, 1999: 113). Concurrently, the private, domestic or home environment cannot be excluded. Threats of violence, sexual harassment and other experiences of violence are not limited to the public sphere, and often occur in the confines of home. Public and private space therefore exist in direct relation to power and exclusion and are mutually exclusive in how they exert a form of control over women (Koskela, 1999: 118).

2.4.2
SAFETY AS A PRACTICAL CONSTRUCT

The urbanist, Jane Jacobs, although not a proclaimed feminist, advocated for more inclusive and safer design of streets and communities since the 1960s and 1970s.

Through her studies on gendered public space, she viewed the city from a women's perspective, as a mother and a community activist. As Ahrentzen (2003:193) notes, the urban landscape that Jacob's described reflects a women's experience of the everyday. This manner of viewing the city or urban environment opens up new conversations with regards to who has power to access space.

Jacobs suggested that an indication of a city's safety is signified by its liveliness, community engagement, and sense of comfort whilst using the streets (Kern, 2019: loc. 1445/3987). Jacobs (1961: 45) therefore refers to "eyes on the street as an expression of this engagement and constant mix use" (Kern, 2019: loc. 1445/3987). It is important to note that Jacobs did not refer to "eyes of state surveillance, CCTV, policing or harassment" or "eyes that police things like gender expression, sexuality or behavior [sic]" (Kern, 2019: loc. 1445/3987).

However, Oscar Newman, in his conceptualisation of Defensible Space, does refer to physical spatial strategies that promote safety in urban environments. Coined by Newman in 1972, Defensible Space Theory, synonymously known as Crime Prevention Through Urban Design, suggests that the physical design of the built environment can be orientated to reduce crime by considering three elements: territory, surveillance, and image or milieu (Shjarback, 2014: 235). Newman's rationale for defensible space was derived from his observations of two housing projects in New York, namely the Van Dyke and the Brownsville projects (Shjarback, 2014: 235). Newman concluded that the Van Dyke project experienced 50% more crime than the Brownsville project due to the causal relationship between crime, influence and the physical design of space (Shjarback, 2014: 235).

The first element is territoriality, which is defined as zones that incite influence, allowing for the differentiation of smaller and larger areas, as well as public, semi-private and private degrees of separation (Newman, 1972).

Territoriality also includes symbolic or real boundaries, which can be facilitated by transition zones (Shjarback, 2014: 236). For example, real or physical boundaries can be shaped by walls, fences, or controlled access; whereas symbolic barriers can signal when persons enter into a more private space (Shjarback, 2014: 236).

Surveillance, secondly, suggests ways in which space can be monitored by advocating for ownership of space (Shjarback, 2014: 236). Strategies include orientating buildings to be observed through passive surveillance. Lastly, image or milieu influences how a place is perceived, according to uniqueness, isolation, or stigma (Newman, 1972).

Defensible space, over time, therefore has become a tool to evaluate the relationship between crime and design; and ultimately a starting point for other theoretical frameworks like Crime Prevention Through Environmental Design (CPTED) (Shjarback, 2014: 238).

2.4.3
CONCLUSION

Conclusively, practical measures improve perceptions of safety; however, violence is still experienced as a social construct. Safety is therefore based on the following: identity or association, temporality and permanence of how space is occupied and to a certain extent how it is controlled (The Roestone Collective, 2014: 1349).

The concept of safe space as defined in feminist theory is therefore in combination with social and practical measures of safety.

2.5
SAFE SPACE IN FEMINIST DISCOURSE

2.5.1
SAFE SPACE

The concept safe space, as coined by the late 20th century women's movement, can be described as a space where women feel free to act, speak, form collective strength and harness resilience (Kenney, 2001: 24).

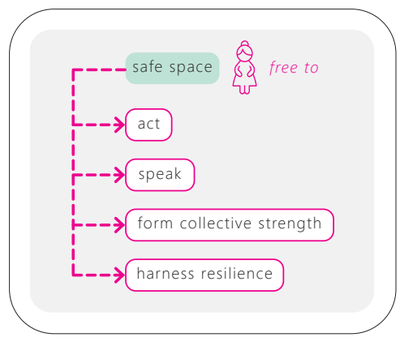


Diagram 2.3 / Safe space illustrated.

In “feminist, queer and civil rights movements” safe spaces are sites linked with “keeping marginalized [sic] groups free from violence and harassment” (The Roestone Collective, 2014: 1346). The Roestone Collective (2014: 1347), draws inspirations to define safe space from feminist geographers, Foord & Gregson (1986), to recognise that gender and social roles can be renegotiated (The Roestone Collective: 2014: 1347).

The Roestone Collective (2014) suggest that actions and objects allow women to exert a sense of control whilst navigating safe space.

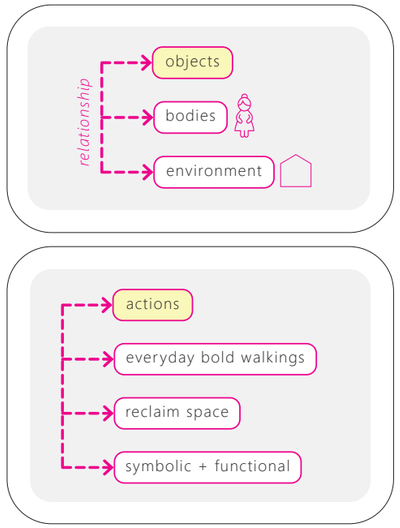


Diagram 2.4 / Actions and objects.

Objects are defined as physical objects of safety, and are interpreted as having both physical and spatial qualities of space (The Roestone Collective, 2014: 1357). The boundaries of objects are often blurred, suggesting that “objects are space and space is objects” (Jones, 2009: 491). In literature presented by The Roestone Collective (2014: 1358), sites or objects of safety referred to include educational classrooms, offices, community centres, private space and everyday objects like mobile phones and bicycles that are used to incite feelings of safety whilst moving through space. Objects therefore have a clear relationship between bodies and environments.

Actions of safety include “everyday bold-walkings”, which serve to claim ownership of moving through space, evidencing a conscious decision to “negotiate” space (Koskela, 1997: 308).

Through actions, women have the ability to “reclaim space” by “actively taking part in producing space rather than passively experiencing it”. Everyday activities therefore encompass “symbolic and functional collective actions” (The Roestone Collective, 2014: 1352).

Safe space is seen as reciprocal to unsafe space and can be seen as a consequence of objects and actions.

2.6
SYNTHESIZING SAFE SPACE

When considering that safe space is comprised of actions and objects as synthesised from The Roestone Collective (2014), and when overlaid with the study conducted by Scorgie et al. (2017), spatial characteristics of safe and unsafe space in Hillbrow are identified.

When looking at the spatial characteristics of the safe and unsafe typologies, as seen in Figure 2.3 and Figure 2.4 on the following page, spatial characteristics or qualities can be introduced and inferred upon when considering why and how women choose to act, gather or move in certain spaces. For safe spaces, girls prefer to gather in numbers, for refuge, educational purposes, self-expression, socialisation, or support from their community. During both night and day, the most notable safe space for girls included libraries, places of religion, and the Hillbrow theatre, which reportedly served as their sanctuaries in the city (Scorgie et al., 2017: 59).

Girls identify unsafe space as harbouring the threat of violence. The relationship between how girls use public spaces during the day and the night is noteworthy, suggesting that girls are limited to only the daytime in their interactions with urban surroundings. Girls often avoid spaces where they have previously experienced violence, limiting their mobility to “the few areas... in which they feel safe” (Scorgie et al., 2017: 62).

In synthesising the above, a paradox of safe and unsafe space is identified in Hillbrow where spaces like schools, the domestic realm and public space ought to ideally serve as safe space, but are often viewed as unsafe by girls, due to instances of or threats of violence. The synthesis of safe space can therefore be used as a tool to analyse safe space at Constitution Hill Precinct.

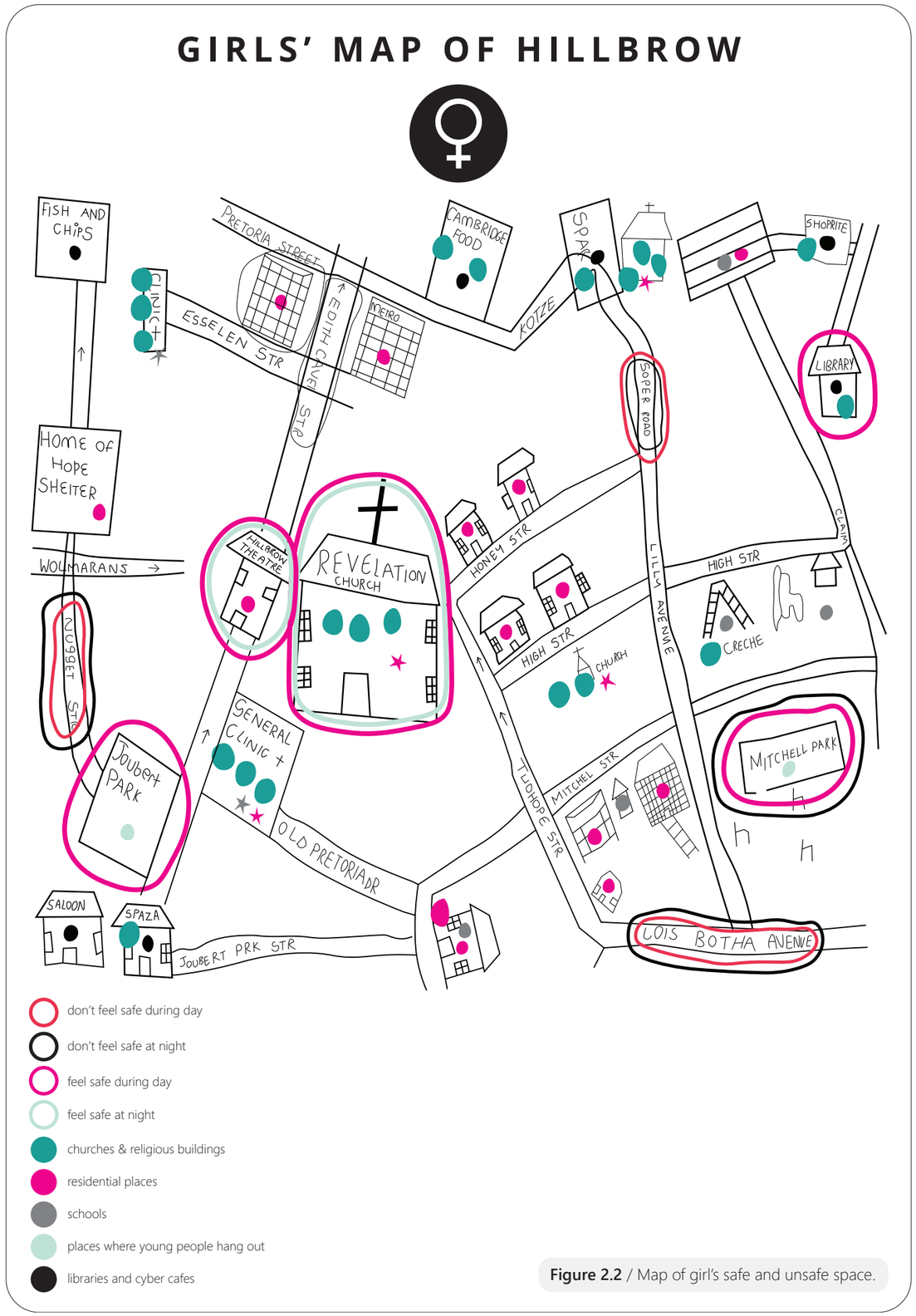


Figure 2.2 / Map of girl's safe and unsafe space.

2.7
CASE STUDY: CONSTITUTION HILL PRECINCT

The Precinct serves as a valuable case study to investigate theoretical constructs of safe space (c.f. 2.5), as well due to its significance and symbolism as a place of human rights, freedom, and equality for all. The community of Hillbrow is Constitution Hill Precinct's immediate or associative community. As part of the Precinct's intentions for urban regeneration and development, it is intended to be a vehicle for civic engagement and reconciliation (Naidu, 2003).

Scorgie et al. (2017) notes the normalization of VAW in Hillbrow, counter to the mandate of the Precinct to promote justice and equality.

For the Constitution Hill Precinct to be seen as a symbol of hope for not only the women of Hillbrow, but its community, the Precinct has to serve more than just as a thoroughfare or destination point. It has to become a place and anchor of safety, refuge, and engagement.

2.7.1
SOCIAL CONSTRUCTS OF SAFE SPACE

"And safety is important, because what is the Constitution if not a place of refuge for those in our society who are vulnerable? So just as the Constitution is a place of refuge, this place has to be a space of refuge, too" (Gevisser, 2004: 517).

Noteworthy instances of safe space occur at the Precinct, as shown in Figure 2.5 on the following page. More specifically, instances of the upliftment of women do occur at the Precinct, such as the

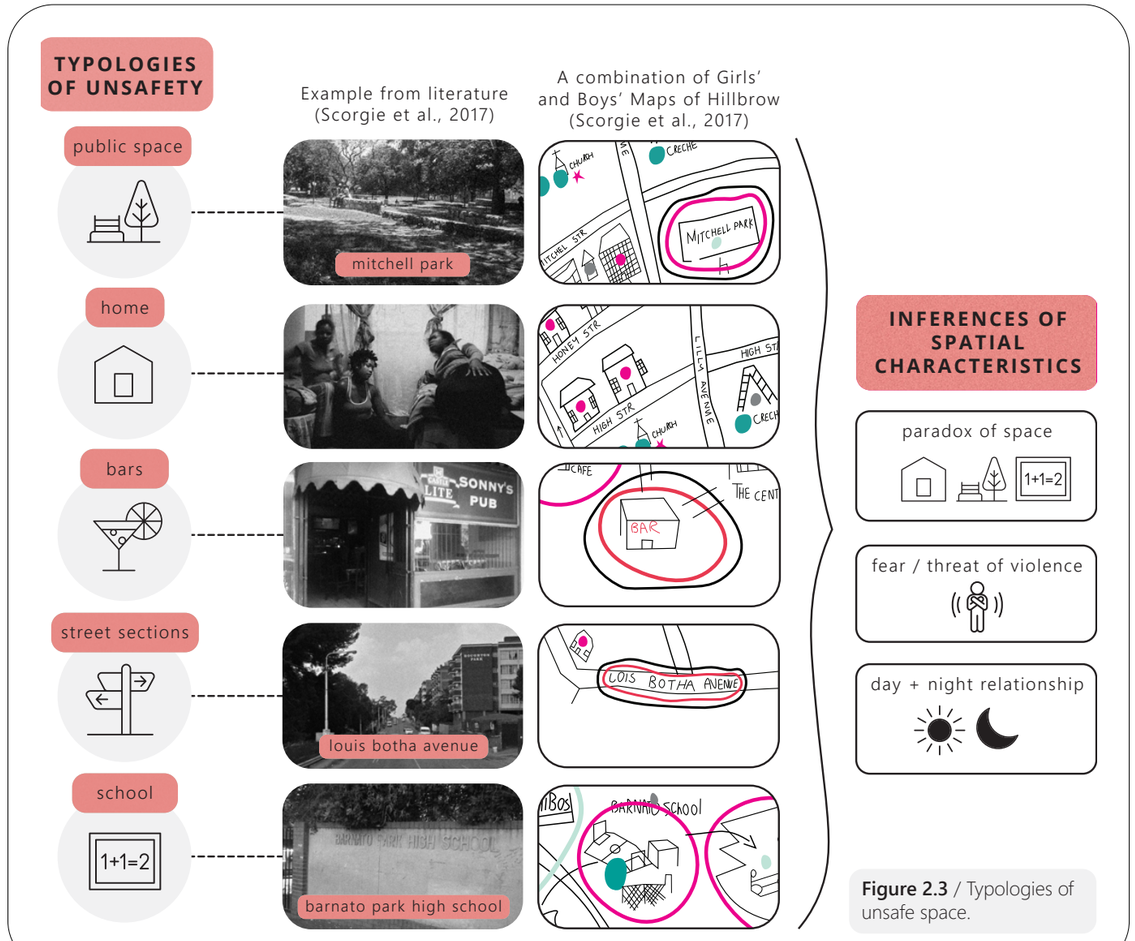


Figure 2.3 / Typologies of unsafe space.

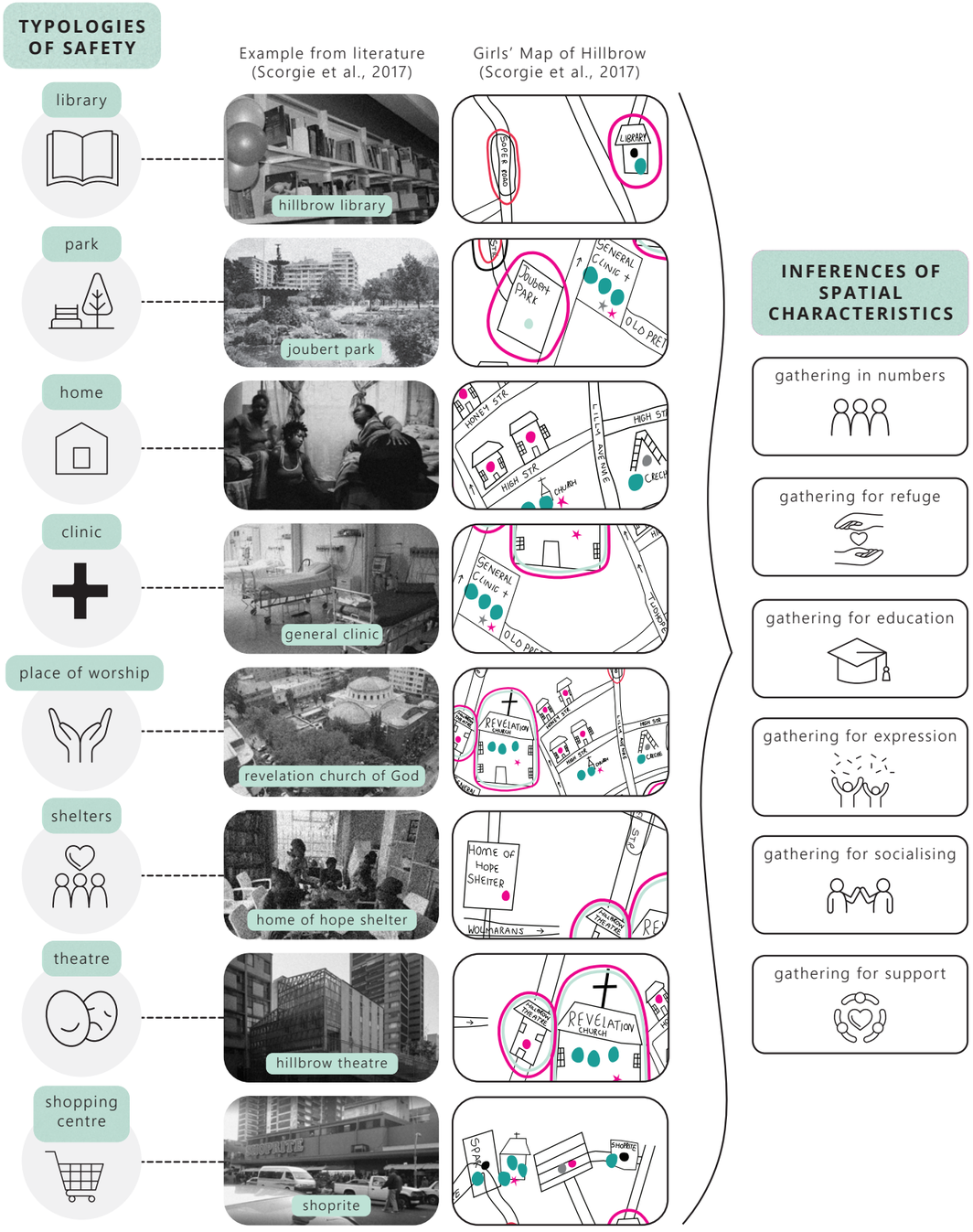


Figure 2.4 / Typologies of safe space.

cleansing ceremony at the opening of the Women's Jail (2005), the decoration of the Statue of Hope by Sho-Madjozi during the Human Rights Festival (21 March 2019), the Feminist Stokvel held at the Women's Jail (June 2015) and the multiple marches and protests held at the Precinct against gender based violence (2018-2020).

Noting the limitations of the study conducted by Scorgie et al. (2017) and the positive initiative by the Constitution Hill Precinct to make some effort to accommodate and facilitate the presence of community, an inference is made to suggest that the Precinct does not lend itself to its full potential of serving the community of Hillbrow.

The purpose of the Precinct is essentially to be both a "sacred and living, vibrant space" that provides access to public resources like community centres, libraries, recreational facilities and community meeting spaces (Naidu, 2003, Gevisser, 2004: 516).

As stated by Gevisser (2004: 516) the ideal of the Constitution is to become "a living, breathing document, a place where democracy is both at work and at play, where we perform the values of the Constitution into being". Therefore, Constitution Hill Precinct, in its efforts to create safe public space, lacks a sense of permanence to sustain community belonging and ownership.

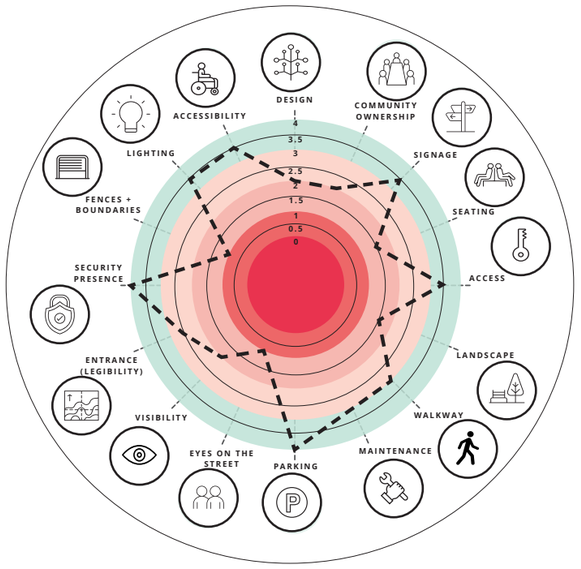


Diagram 2.5 / Practical measures of safety at Constitution Hill Precinct.

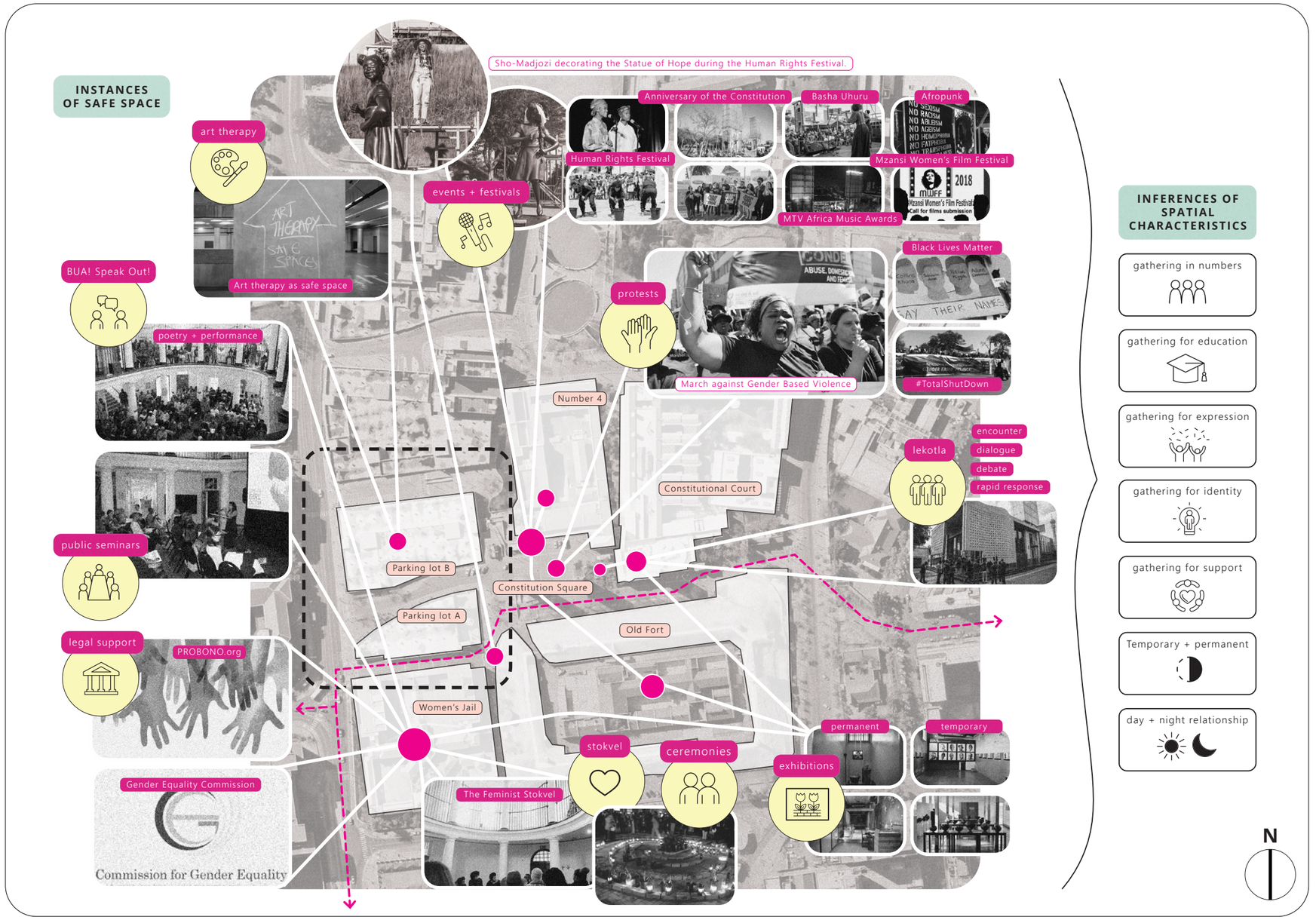
2.7.2 PRACTICAL CONSTRUCTS OF SAFE SPACE

Based on the evaluation chart below (Diagram 2.5) Constitution Hill Precinct can be considered a safe place due to its nature as a tourist destination, its high level of maintenance, and its comprehensive security presence. The values of measurement and principles on the chart were derived from practical theories of safety mentioned earlier in this section, which included references to Oscar Newman's Defensible Space Theory and CPTED principles (c.f. 2.4.2).

2.7.3 CONCLUSION

The issue of safety at Constitution Hill Precinct, or safe space, is therefore not necessarily in relationship with practical measures of safety but how the feminist concept of safe space as a social construct can be cultivated for women at the Precinct. Safe space is therefore in combination with a women's lived experiences, and how the built environment can shape this experience.

Figure 2.5 / Safe space at Constitution Hill Precinct.



2.8
ARCHITECTURE OF LIVED EXPERIENCED: SYNTHESIZING SAFE SPACE INTO ARCHITECTURAL THEORY

Considering that safe space is directly reflective of the lived experiences of women (Scorgie et al., 2017), the feminist concept can be furthered synthesised into an architecture of lived experiences; which is further distilled by three architectural theories. The unison of the three theories were developed in consideration with derived safe space characteristics, and will aid in design principles of the dissertation.

The three theories include:

i. Fluid architecture by Luce Irigaray;
ii. Fragile phenomenology by Juhani Pallasmaa; and
iii. Architectural sequencing, by Bernard Tschumi.

Before explaining each theory, it is noteworthy to understand the notion of lived experience as a conceptual idea in architecture. Similar to post-structuralist feminist thinking (Rendell, 2012), experience in architecture is closely linked with the body, sensorial perceptions, and socio-cultural interpretations (Coelho, 2015: 1). Additionally, experience is intrinsically linked to context where it plays a role as an "exterior stimuli" (Coelho, 2015: 2), allowing the user to appropriate space as a "creator of meaning" (Coelho, 2015: 3). Hence, lived experiences in architecture encompasses both tangible and intangible qualities of space, extending beyond function or use (Coelho, 2015: 3).

i
LUCE IRIGARAY
FLUID ARCHITECTURE

Fluid architecture, places focus on the body, dynamic spaces of exchange, and the way in which the act of dwelling can influence one physically and psychologically (Rawes, 2007: 51-52). Irigaray's view on fluidity in architecture places focus on how architecture, when viewed through the lens of gendered subjects, can influence spatial experiences. Architecture is defined by "fluid, permeable boundaries rather than discrete finite space" (Rawes, 2007: 52). Fluid spatial experiences encourage inclusivity and social relationships, by encouraging the building of "continuously changing thresholds that embody the tactile, physical and emotional power of relationships between individuals" (Rawes, 2007: 53).

ii
JUHANI PALLASMA
FRAGILE PHENOMENOLOGY

Juhani Pallasma (2014: 328) similarly refers to lived experiences in architecture by referring to fragile phenomenology as architecture that is "contextual, multi-sensory, and responsive, concerned with experiential interaction and sensual accommodation". The architecture "grows, scene by scene, rather than quickly manifesting a simple, domineering concept" (Pallasma, 2014: 328). Thus, architecture strengthens one's sense of being, "essentially giving rise to a strengthened experience of self" (Pallasma, 1996: 28).

For example, Pallasma (1996: 49) refers to Alvar Aalto's architecture, describing Aalto's use of skewed confrontations, use of surface texture, as well as crafted detailing and materiality as embodying atmospheres of warmth and intimacy. As illustrated in Figure 2.7, Aalto, for his project Villa Mairea, orientates the house linearly, where the main spaces are faced to the outdoors, projecting a sense of "protection and homeliness" (Shirazi, 2010: 251). The building is experienced from detail to detail (Shirazi, 2010: 252); expressed through tactile architecture.

An architecture of the senses thus involves the movement of the body, whereby architecture forms one's actions, thoughts and perceptions (Shirazi, 2010: 247).

iii
BERNARD TSCHUMI
ARCHITECTURAL SEQUENCING: EVENT, SPACE, MOVEMENT

Bernard Tschumi, in his theoretical project, The Manhattan Transcripts (1981: 163), refers to concepts of event, movement and space to introduce the order of experience in architecture, as shown in Figure 2.8. The primary characteristic is a sense of sequence to inform a narrative spatial experience (Tschumi, 1981: 167). Tschumi (1981: 154) goes on to describe three forms of sequencing, namely transformational sequences, spatial sequences, and programmatic sequences. Hence, sequencing in architecture develops a narrative, whether it is in the ritual of use, progression of space through a given route, or the form of the architecture that defines the space and event.

2.9
SUMMARY OF DESIGN INFORMANTS

The theoretical investigation establishes a framework of informants to direct the design exploration and resolution. Safe space, when understood as a practical and social construct, can be translated into an architecture of lived experiences, which is further defined by three architectural theories. The architectural theories referred to are fluid architecture by Luce Irigaray, fragile phenomenology by Juhani Pallasma and architectural sequencing by Bernard Tschumi. Safe space presents the opportunity for lived experiences of women to be expressed through an architectural language where practical measures of safety contribute to tangible design features engendering a sense of safety in women as they move through public environments.

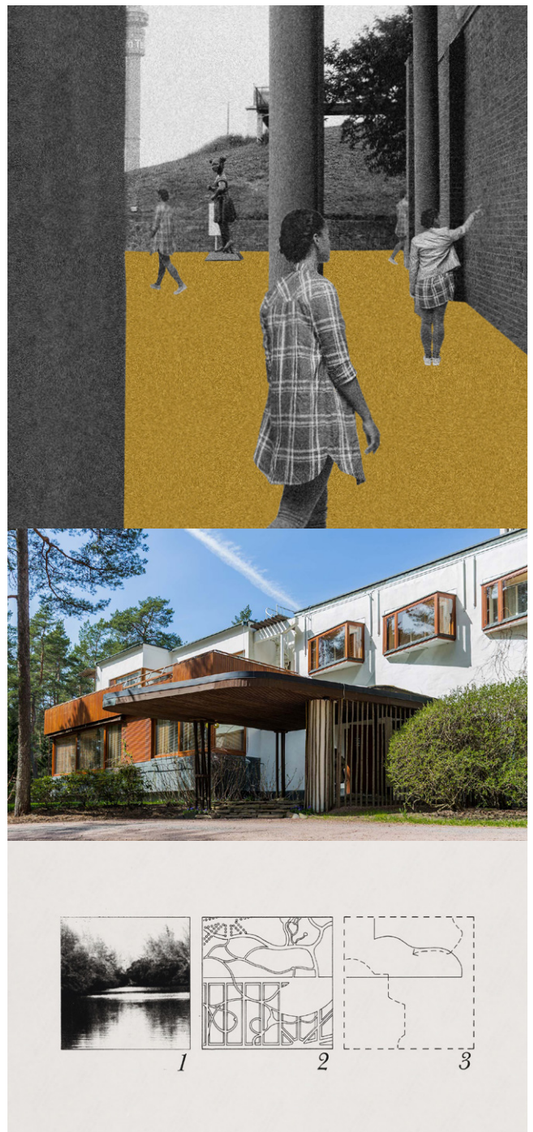
Fluidity in architecture, as described by Irigaray (Rawes, 2007), suggests that lived experiences in architecture are cultivated through spaces of dynamic exchange, where the architecture is expressed through tactile, physical and emotive relationships. In support of Irigaray, fragile phenomenology (Pallasma, 1996) employs multi-sensory perceptions, where contextually responsive architecture is experienced as a gradual progression through space. Tschumi (1981) reaffirms the theories of both Irigaray and Pallasma in advocating for architecture as narrative, where experience is defined as being located between people, movement through space and architectural form.

2.10
CONCLUSION ON THEORY

The chapter investigated feminist notions of safe space whilst relating it to the site in question in terms of both architectural theory and context. The conclusions and findings present a set of design principles, as show in Diagram 2.6 and Figure 2.9 on the following page. The theoretical chapter therefore serves as the primary driver of this dissertation. When viewing the city as gendered, the manner in which public space responds towards women become significant. The analysis of safe space, as a social and practical construct, at Constitution Hill Precinct, reaffirms the identified opportunity to extend the Precinct's symbolic and practical function.

Finally, the three architectural theories, namely fluid architecture by Luce Irigaray, fragile phenomenology by Juhani Pallasma and architectural sequencing by Bernard Tschumi provide a means to synthesise safe space into design principles which reflect the lived experiences of women in architecture.

From top to bottom
Figure 2.6 /
Conceptual depiction of fluid experiences.
Figure 2.7 /
Villa Mairea by Alvar Aalto.
Figure 2.8 /
Bernard Tschumi's depiction of event, space, movement.



SUMMARY PAGE:
AN ARCHITECTURE OF LIVED EXPERIENCES

theoretical concepts

safe space

social

practical

The Roestone Collective

The Roestone Collective., 2014. *Safe Space: Towards a Reconceptualization*. Antipode, 46(5), pp.1346-1365.

Jane Jacobs + Oscar Newman

Jacobs, J., 1961. *The death and life of great American cities*. New York: Random House.

Shjarback, J., 2014. Defensible Space Theory. In: J. Miller, ed., *The Encyclopedia of Theoretical Criminology*. West Sussex: John Wiley & Sons, pp.235-238.

architecture of lived experiences

Luce Irigaray

Rawes, P., 2007. *Irigaray For Architects*. London: Routledge.

Juhani Pallasmaa

Shiraza, M.R, 2009. The Fragile Phenomenology of Juhani Pallasmaa. In: L. Embree, M. Barber and T. Nenon, ed., *Phenomenology 2010, volume 5 : selected essays from north america, part 2*. Paris: Zeta Books, pp.245-256.

Pallasmaa, J., 2014. Toward an Architecture of Humility: On the Value of Experience. In: J. Gieseking, W. Mangold, C. Katz, S. Low and S. Saegert, ed., *The People, Place, and Space Reader*. London: Routledge.

Bernard Tschumi

Tschumi, B., 1981. *The Manhattan Transcripts*. London: Academy Editions.

Diagram 2.6 / Summary of design informants.

terminology

safe space

Safe space is defined as a space where women feel free to act and speak, form collective strength and harness resilience (Kenney, 2001: 24).

defensible space

First advocated by Oscar Newman in 1972 Defensible Space Theory suggests that the physical design of the built environment can be orientated to reduce crime (Shjarback, 2014: 235). To create a safe environment three key elements are considered: territory, surveilance and image or milieu.

fluid architecture

Fluid architecture, places focus on the body, dynamic spaces of exchange and how the act of dwelling can influence one physically and psychologically (Rawes, 2007: 51-52). Fluid spatial experiences encourage inclusivity and social relationships, by encouraging the building of "continuously changing thresholds that embody the tactile, physical and emotional power of relationships between individuals" (Rawes, 2007: 53).

fragile phenomenology

Fragile phenomenology refers to architecture that is "contextual, multi-sensory, concerned with experiential interaction and sensual accommodation"; where the architecture "grows gradually, scene by scene, rather than quickly manifesting a simple, domineering concept" (Pallasma, 2014: 60).

architectural sequencing

Concepts of event, space and movement are considered as interdependent and aim to "introduce the order of experience". The primary characteristic is sequence, "a composite succession of frames that confronts spaces, movements, and events" (Tschumi, 1981: 10). Linearity of sequences forms the ordering device for events, movements and spaces into a single progression (Tschumi, 1981: XXIV).

design principles

lived experiences

practical safety

- territory → public / private space
- surveillance → "eyes on the street" + active façade
- image / milieu → legibility of space

thresholds

- inclusive
- spaces of dynamic exchange
- tactile / physical / emotive

multi-sensory perception

- contextual
- gradual experience of space

event / space / movement

- sequence + narrative
- frames / site lines
- linear progression

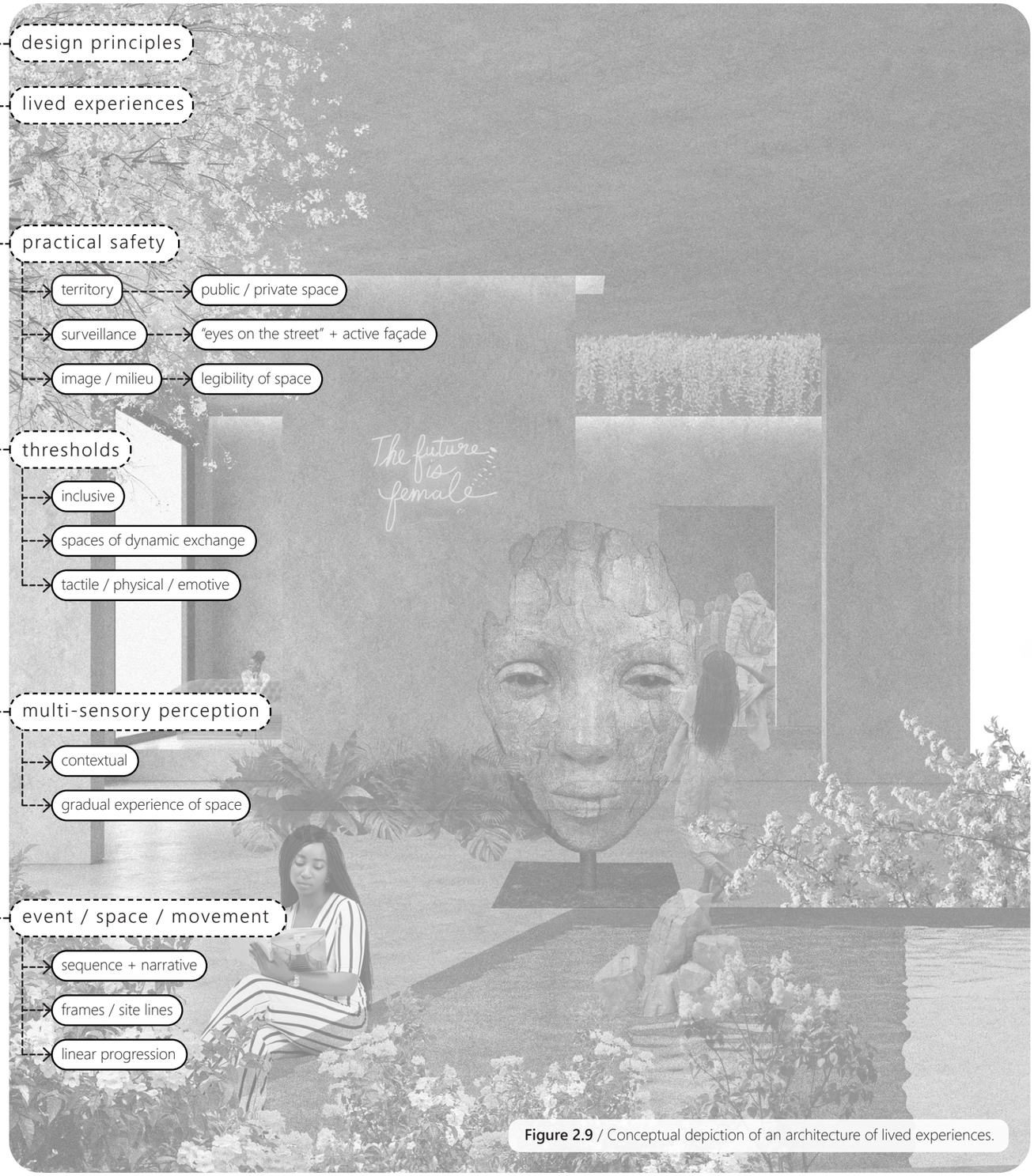


Figure 2.9 / Conceptual depiction of an architecture of lived experiences.

Figure 3.1 / View of one of the Awaiting Trial Block towers (Author, 2020).

CHAPTER 03
CONTEXT

Chapter 3 introduces Constitution Hill Precinct and its immediate context as the location of the site. The zone of focus for the design intervention is defined within the Precinct.

A contextual and heritage analysis provides a thorough understanding of Constitution Hill Precinct's historic and present narrative at an urban and precinct scale.

The analysis of the Precinct provides insights into design opportunities and constraints, which guide decision-making during the design process. Lastly, a heritage strategy presents a method for mediation between the old and new.

3.1 INTRODUCTION TO SITE

3.1.1 LOCALITY

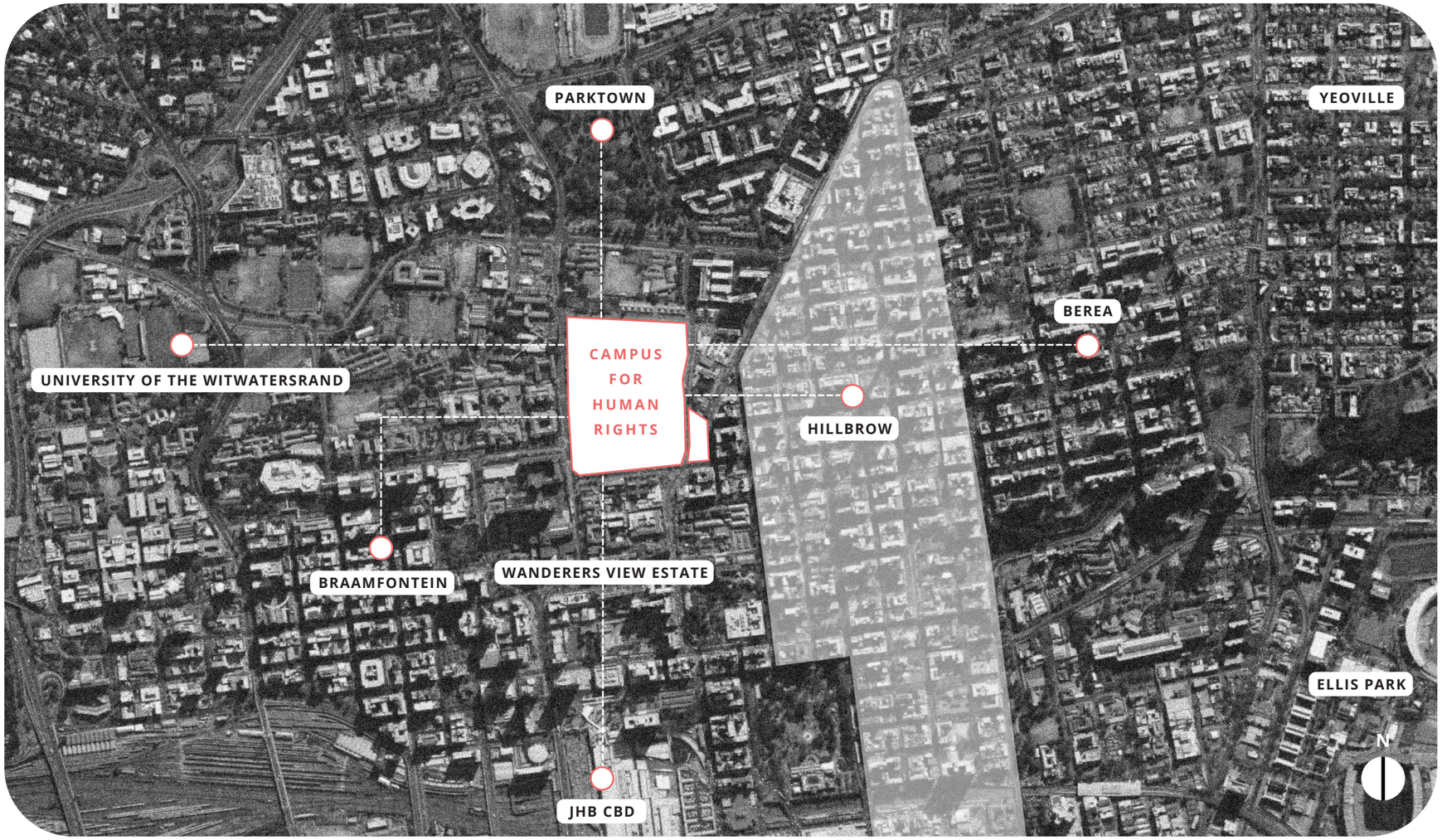
Located centrally, between the affluent suburbs of the North, the inner-city neighborhoods of Hillbrow and Berea to the East, Johannesburg's city centre to the South and the University of Witwatersrand to the West, the Constitution Hill Precinct is built on Johannesburg's notorious Old Fort prison complex (Gevisser, 2004: 507).

3.1.2 SUMMARY OF HISTORY

The mixed-use heritage precinct, declared the site for the new Constitutional Court in 1994, when South Africa entered democracy, is founded on principles of "freedom, democracy, equal opportunity, diversity, responsibility, reconciliation and respect" (Deckler et al., 2008: 19). The Constitution Hill Precinct will always bare the memory of the past as a space of trauma and imprisonment during South Africa's apartheid years, however the Precinct aims to provide urban regeneration to the inner-city of Johannesburg by merging the past and present.

Additions to Precinct, tangible and intangible, are intended to create a "campus for human rights" that will embody the "openness and transparency" reflected in the South African Constitution (Deckler et al., 2008: 19; Gevisser, 2004: 507).

CONSTITUTION HILL PRECINCT IN CONTEXT




aerial view of precinct


precinct from Joubert Street / M9


precinct from civic centre / CBD

Figure 3.2 / Constitution Hill Precinct in context.

3.2
TIMELINE

The timeline aims to frame notable events in South Africa, in relation to the development of Constitution Hill Precinct. Noteworthy instances relating to women at Constitution Hill Precinct are also highlighted.

Notable events in South Africa

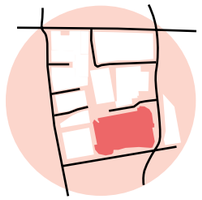
Constitution Hill Precinct history

Constitutional Hill history affecting women



Discovery of Gold in Johannesburg

1886



City of Johannesburg proclaimed

1890

Prison built by Paul Kruger (ZAR)

1893

Prison turned into a fort after the Jameson Raid

1896

Fort used by the Boers in the Anglo-Boer war

1899



British take over control of the fort, it is used as a prison

1900

est. as prison complex



"Native" prison (Number four) built

1904

Governors House built

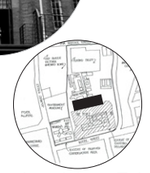


Women's goal is built

1910



Old Mortuary + support buildings (circa 1905)



Awaiting Trial Block is built

1928



Nursing quarters built

1938

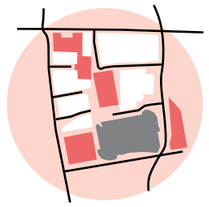


Queen Victoria hospital constructed

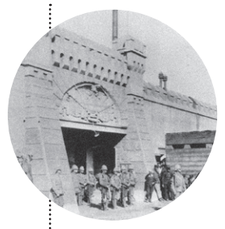
1943

National government voted into power

1948



Fort declared a national monument

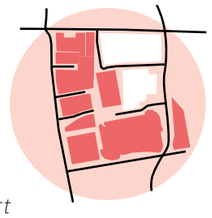


1964



Prison complex chosen as the site for the new Constitutional Court

1996



Demolition of the Old Mortuary + Awaiting Trial Block

2001



Constitutional Court opens

2004



Additions to Women's Jail

2005

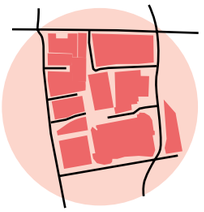
South Africa hosts the Soccer World Cup + completion of BRT on Joubert Street

2010



Statue of Hope installed at Women's Jail

2018



Recreational grounds renovated into a park

2019

50 Years of Democracy in South Africa

2044

First democratic elections in South Africa

1994

Inauguration of Constitutional Court by President Nelson Mandela

1995

Prison complex closes, prisoners moved to Diepkloof Prison

1983

Construction commences on Constitution Hill Precinct

Construction of super basement parking lots

2003

2020

Figure 3.3 / Timeline.

3.3
CONTEXTUAL LENS

3.3.1
URBAN SCALE ANALYSIS

The Precinct's "topographical siting" (UrbanWorks Architecture & Urbanism et al., 2012: 10) is distinct in relation to its urban surroundings, especially to the suburb of Hillbrow. This is directly reflective of its history and spatial development as a military fort on the Braamfontein Ridge. In an effort to further understand the Constitution Hill Precinct and its urban framework, the following layers of use and significance were mapped:

KEY

Land Use

- *Safe space*
- *Social support services*
- *Arts, culture, heritage & landmarks*
- *Legal services & government offices*
- *Education*
- *Hospitals & clinics*
- *Places of religion*
- *Green public space*

Transport & Movement routes

Figure 3.4 on the right illustrates the collective layers which will be explained graphically in the pages to follow.

3.1.2
URBAN ANALYSIS CONCLUSION

At an urban scale, the site has developed in isolated pockets, as seen in the image on the right.

In summary, and as seen from the urban analysis, the Precinct is well positioned between "significant concentrations" of "government, civic, educational and related institutional organisations", which can provide opportunities for Constitution Hill Precinct's contribution to the city (UrbanWorks Architecture & Urbanism et al., 2012: 10).

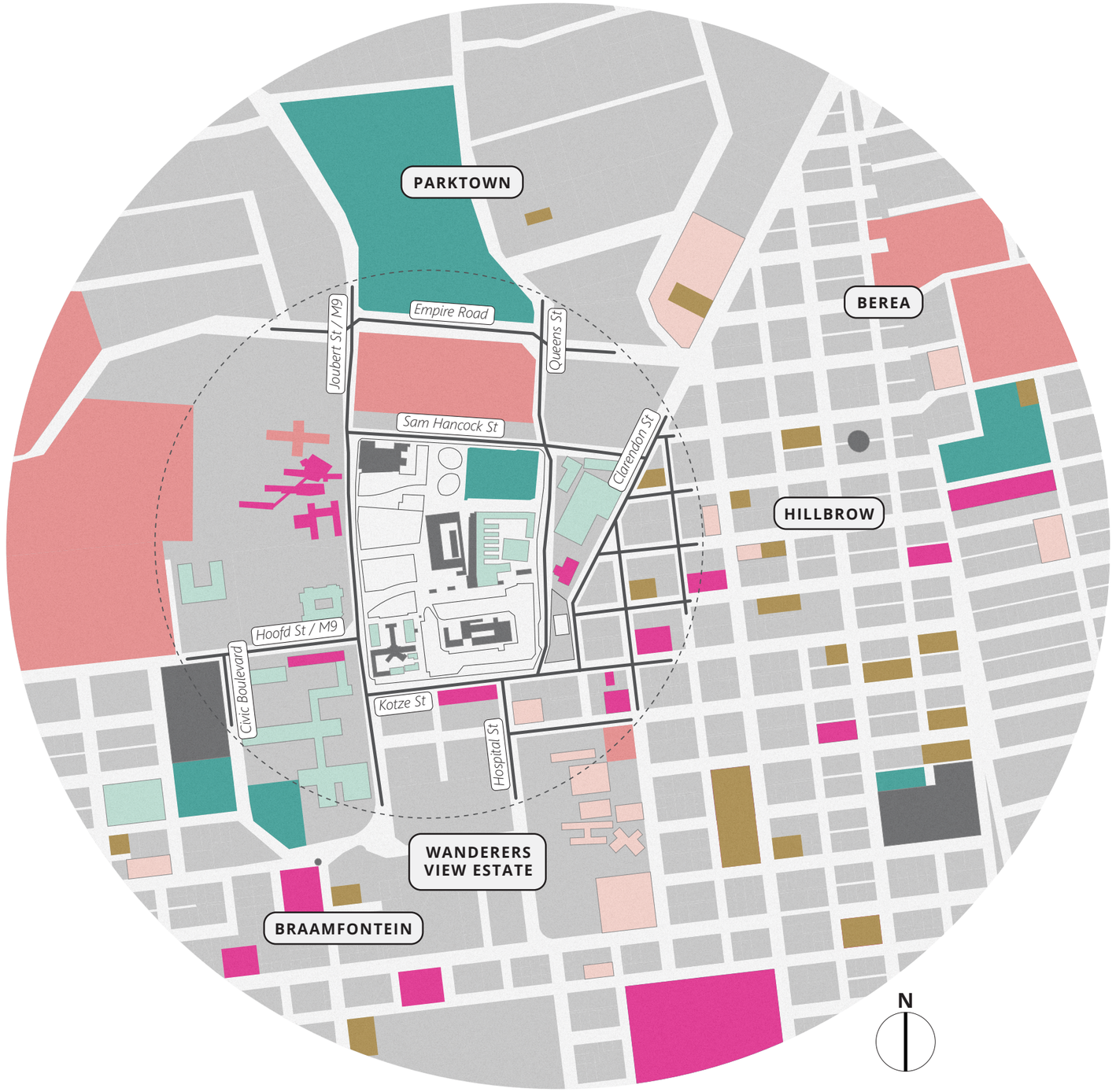
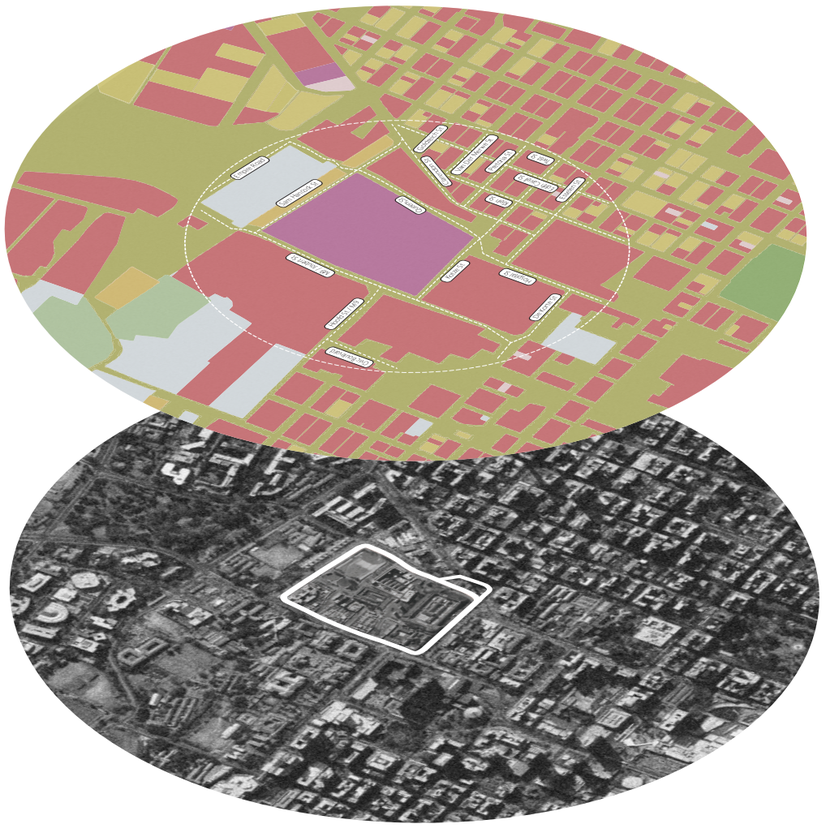


Figure 3.4 / Collective layers of the urban analysis.

• LAND USE

DISCUSSION

Land use patterns, dating back to 2007, allocate the Constitution Hill Precinct as a service; with the majority of land uses surrounding the Precinct being commercial, residential, recreational, and educational. Visually, it is evident that the Precinct is isolated by its functionality.



Informal/Formal Residential Housing
Education
Commercial
Community
High Rise Residential
Open Space
Parks and ecreation
Services
Residential Cluster Housing

Figure 3.5 / Land use.

• SOCIAL SUPPORT SERVICES + SAFE SPACE

DISCUSSION

Although most instances of safe space and social support services, as noted by Scorgie et al. (2017), were noted to fall outside of the Precinct's boundaries, some were noted within the Precinct. An opportunity presents to make more permanent and visible instances of safe space at the Precinct.



1. Revelation Church of God
2. Hillbrow Theatre
3. Joubert Park
4. Shoprite
5. Kotze Street Spar
6. Hillbrow Library
7. Cambridge Foods
8. General Clinic
9. Esselen Clinic
10. UTHANDO Centre
11. Children's Memorial Institute
12. Afrika Tikkun Centre
13. Childline
14. Hillbrow Recreational Centre
15. Siyakhana Food Garden
16. Malaika Orphanage Centre
17. African Children Feeding Scheme
18. The Salvation Army Wanderers View Estate
19. Hillbrow Recreational Centre
20. Braamfontein Recreational Centre
21. Lutheran Church Community Centre
22. PROBONO / Gender Equality Commission

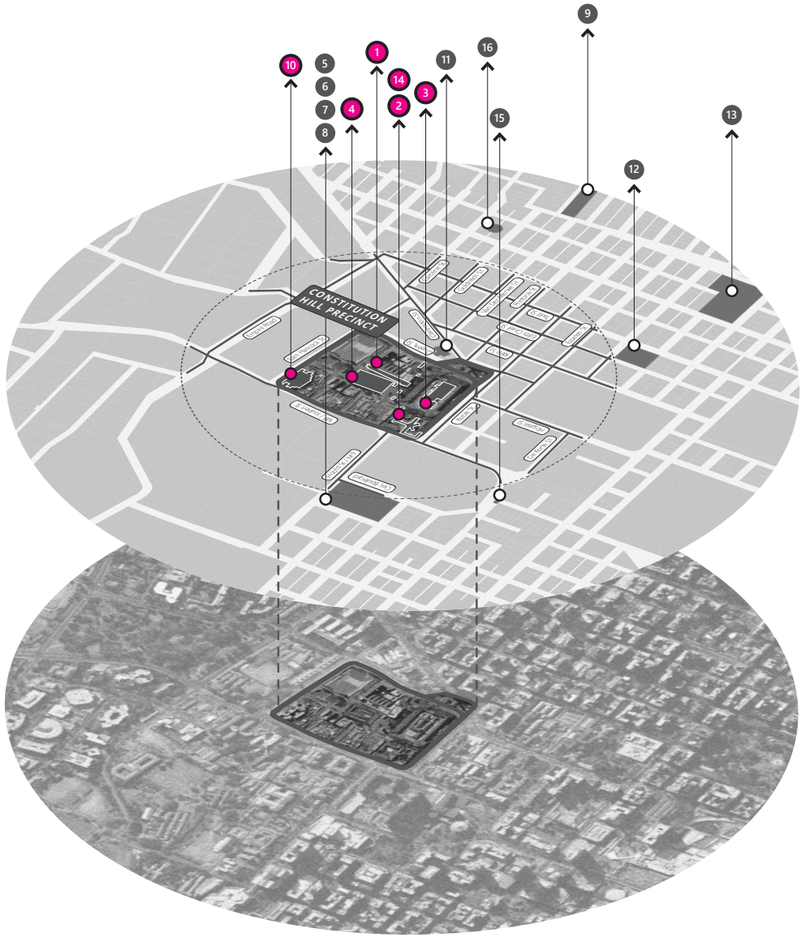
Figure 3.6 / Social support services and safe space.

• ARTS, CULTURE, HERITAGE + LANDMARKS

DISCUSSION

As seen on Figure 3.7 and the figures to follow (Figure 3.8-Figure 3.10), the Precinct and its surrounding area are strongly influenced by legal services, government offices, health and education functions. This gives an indication that the Precinct has potential to form a well-integrated node.

The identification of art and heritage is reflective of Johannesburg's layered cultural and social fabric. The city's focus on art, heritage, culture and the formation of landmarks are integral to inner-city regeneration.



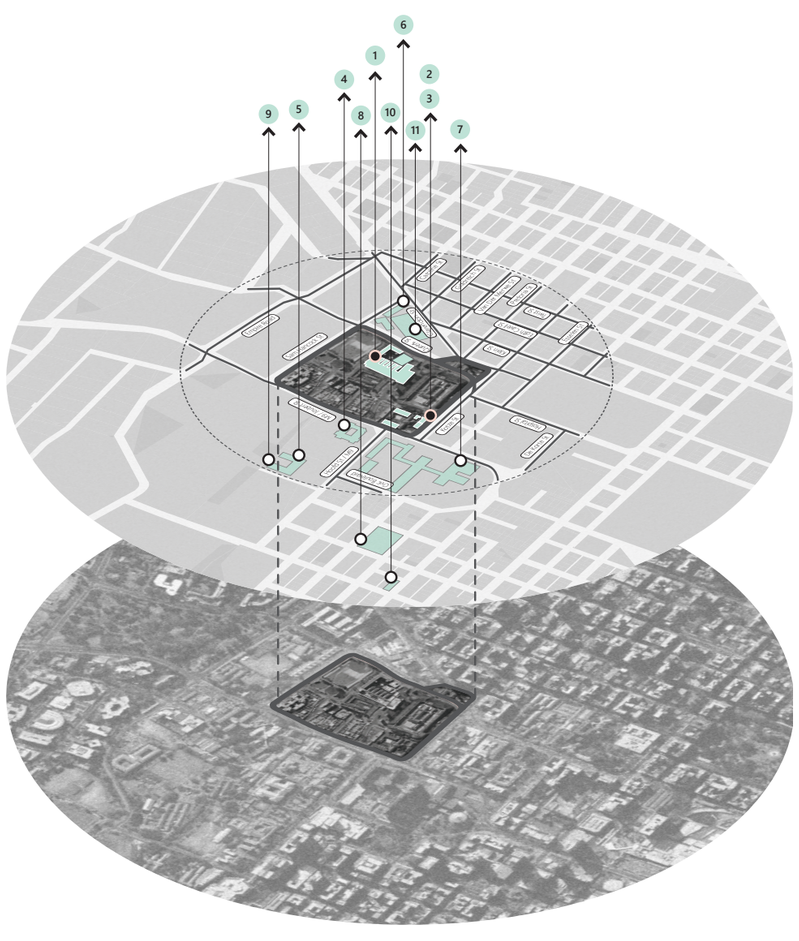
1. Constitutional Hill (Human Rights) Precinct
2. Women's Jail Museum
3. Old Fort Museum
4. Number 4
5. Nelson Mandela Theatre
6. Joburg Theatre
7. Peoples Theatre
8. Joburg Ballet
9. Hillbrow Theatre
10. Queen Victoria Hospital
11. Hillbrow Recreation Centre
12. Hillbrow Library
13. Windybrow
14. Statue of Hope
15. Gold Miners Monument
16. Hillbrow Tower

Figure 3.7 / Arts, culture, heritage and landmarks.

• LEGAL SERVICES + GOVERNMENT OFFICES

DISCUSSION

The Precinct is nestled between a number of legal and governmental offices, which is attributed by the provincial government of Gauteng being located in the CBD of Johannesburg. The Constitutional Court deems as one of the most important legal and governmental anchors in this regard.



1. Constitutional Court
2. Commission for Gender Equality
3. PRO BONO
4. South African Human Rights Commission
5. Cultural, Religious and Linguistic Rights Commission
6. Hillbrow Magistrate Court
7. City Council of Johannesburg & Civic Centre Braamfontein
8. City of Johannesburg (Thuso House)
9. Centre for the Study of Violence and Reconciliation
10. Lawyers for Human Rights
11. Hillbrow Police Station

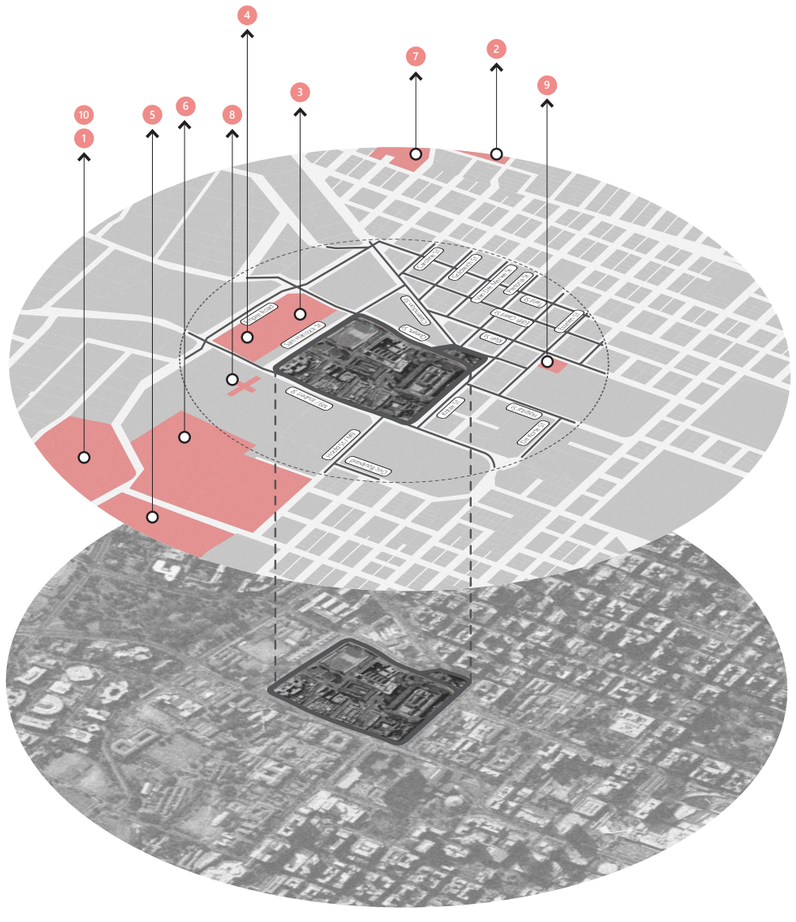
Figure 3.8 / Legal services and government offices.

• EDUCATION

DISCUSSION

Educational facilities surrounding the Precinct are indicative of the area's large residential population. Although not shown on this map, one of the most prominent educational facilities, forming an anchor within the larger urban sphere of the Precinct, is the University of Witwatersrand.

Furthermore, the close proximity of schools to the Precinct offers the opportunity for the Precinct to engage more actively, especially when looking at the North-South axis connecting the primary schools to the Precinct.



1. Parktown Boys' High School
2. Bernato Park High School
3. Roseneath Primary School
4. Parktown Public School
5. Helpmekaar College
6. Rand Girls' School
7. Johannesburg Girls Preparatory School
8. Johannesburg Hospital School
9. Wits Reproductive Health and HIV Institute (Wits RHI)
10. University of Witwatersrand

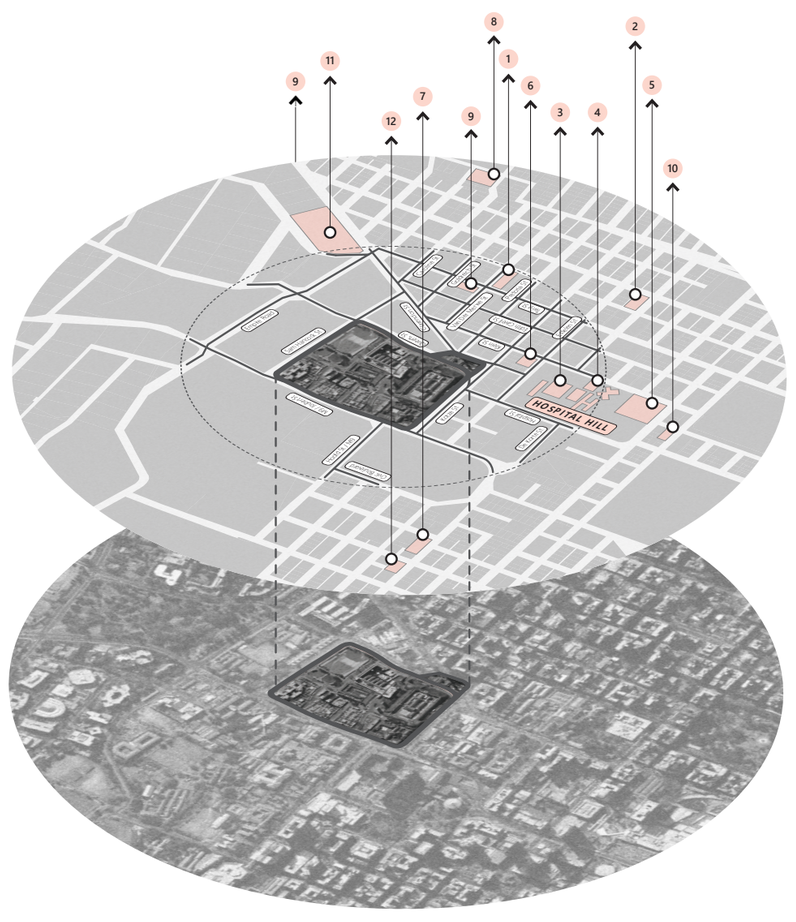
Figure 3.9 / Education.

• HOSPITALS + CLINICS

DISCUSSION

The establishment of hospital and clinics has strongly influenced the urban development of the area between Hillbrow and Braamfontein. In close proximity to the Precinct, it has been referred to as Hospital Hill, as early as the 1880's (Latilla, 2020). The first general hospital was built in Johannesburg, and opened in 1886.

With the addition of noteworthy health-care facilities like the Queen Victoria Maternity Hospital, the Precinct has developed to house "a high percentage of medical and governmental-related buildings" (Latilla, 2020).



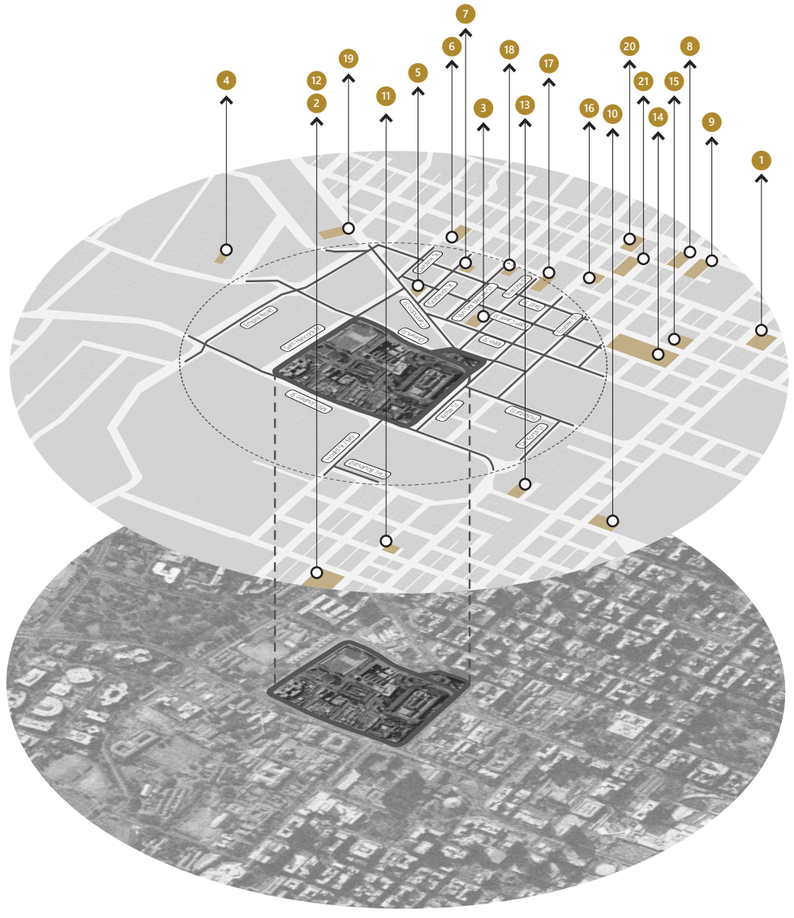
1. The Sentinel Clinic
2. General Clinic
3. Shandukane
4. Hillbrow Clinic
5. Hillbrow Community Health Centre
6. Esselen Clinic
7. Sinqobile Clinic
8. Rand Clinic
9. Twist Street Medi Clinic
10. Joubert Park Clinic
11. Life Brenthurst Clinic
12. Juta Medical Centre
13. Queen Victoria Hospital + Nursing Quarters (Mothballed)

Figure 3.10 / Hospitals and clinics.

• PLACES OF RELIGION

DISCUSSION

An abundant number of places of religion, including churches and mosques, can be identified in the suburb of Hillbrow. Places of religion reflect the moral, social and cultural values of a community and often form spaces of refuge.



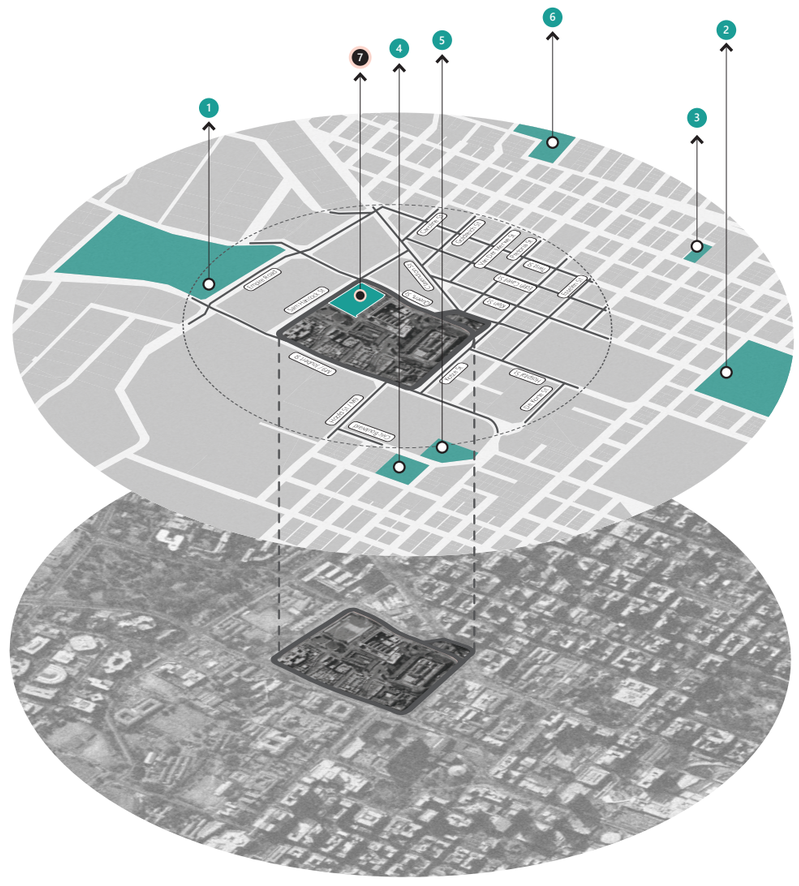
1. Revelation Church of God
2. Braamfontein Jamaat Khana Mosque
3. Hilbrow Masjid Jamaat Khana Mosque
4. Parktown East Jamaat Khana Mosque
5. Christ Church Hillbrow
6. Disciple Church of Christ (DCC)
7. New Apostolic Church Johannesburg Central
8. Brethren In Christ Church
9. First Church of Christ, Scientist
10. The Mission Church
11. God First Braamfontein
12. Hillsong Church Braamfontein
13. Good News Community Church
14. Friedenskirche Lutheran Church
15. Old Apostolic Church
16. Jesus is Lord
17. Universal Church
18. Revival Crusade Mission
19. The Anglican Church
20. Yahweh Shamma
21. Seventh Day Adventist

Figure 3.11 / Places of religion.

• GREEN PUBLIC SPACE

DISCUSSION

Green public space forms a well-integrated network, and has the potential to create a network of open public space.



1. Pieter Roos Park
2. Joubert Park
3. Ekhaya Park
4. Joburg Theatre Garden
5. Metro Centre & Surrounding Park
6. Johannesburg Park
7. Recreational Park

Figure 3.12 / Green public space.

DISCUSSION

The Precinct is well-connected to transport, like Park Station, bus stops and the Rea Vaya bus (BRT) routes.

An East-West pedestrian corridor through the Precinct is activated through the movement of pedestrians from Hillbrow, the Civic Centre and Central Business District (CBD). Joubert Street forms the primary North-South vehicular route into the Precinct, connecting to the BRT route. As noted by UrbanWorks Architecture & Urbanism et al. (2012: 10), Joubert Street has a negative impact on the Precinct's edges, describing it as "pedestrian unfriendly and highly trafficked".

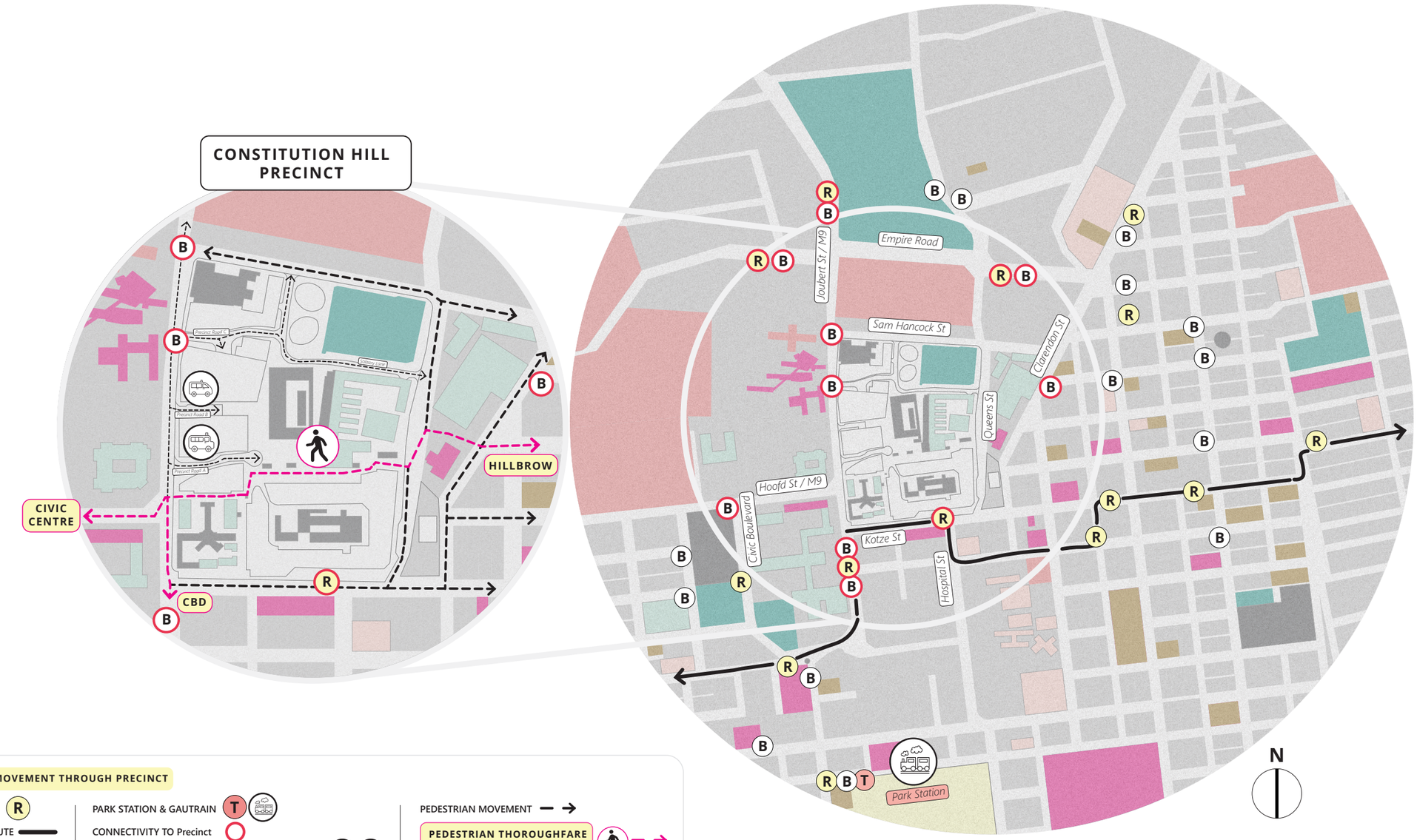


Figure 3.13 / Transport and movement.

3.3.2
PRECINCT SCALE ANALYSIS

• PATHS & EDGES ANALYSIS

To further understand the relationship between private, semi-public and public space at a Precinct scale, the spatial sequence of pedestrian movement is analysed. Reference is made to Kevin Lynch's paths and edges (1960: 46) in order to identify observational factors when moving through the site.

Lynch (1960: 46) defines paths as channels along which the observer moves. Elements observed include: streets, walk-ways, buildings – or anything that is primarily in the observer's image. Edges are linear elements that interrupt the observer's continuity (Lynch, 1960: 46). Although not always dominant, edges have organisational features, such as walls or penetrable barriers, that define the observer's interaction with space.

As observed in the views that follow (Figure 3.15-Figure 3.16), hard edges can be identified in a majority of the documented movement spaces. Space-defining elements often pose barriers and play an important role in the openness, legibility, or accessibility of public space. A lack of soft edges, influence how attractive and lively the Precinct is to the pedestrian (Gehl, 2010: loc 1082,1156/3972). The East-West pedestrian thoroughfare could be better articulated to provide opportunities for the pedestrian to rest, gather and participate in that which defines the Constitution Hill Precinct.

-

KEY

- *Private space*
- *Public space (unprogrammed)*
- *Semi-public space (introverted)*
- *Primary pedestrian movement*
- *Secondary pedestrian movement*
- *Secondary vehicular movement*
- *Activated Southern half of the Precinct*

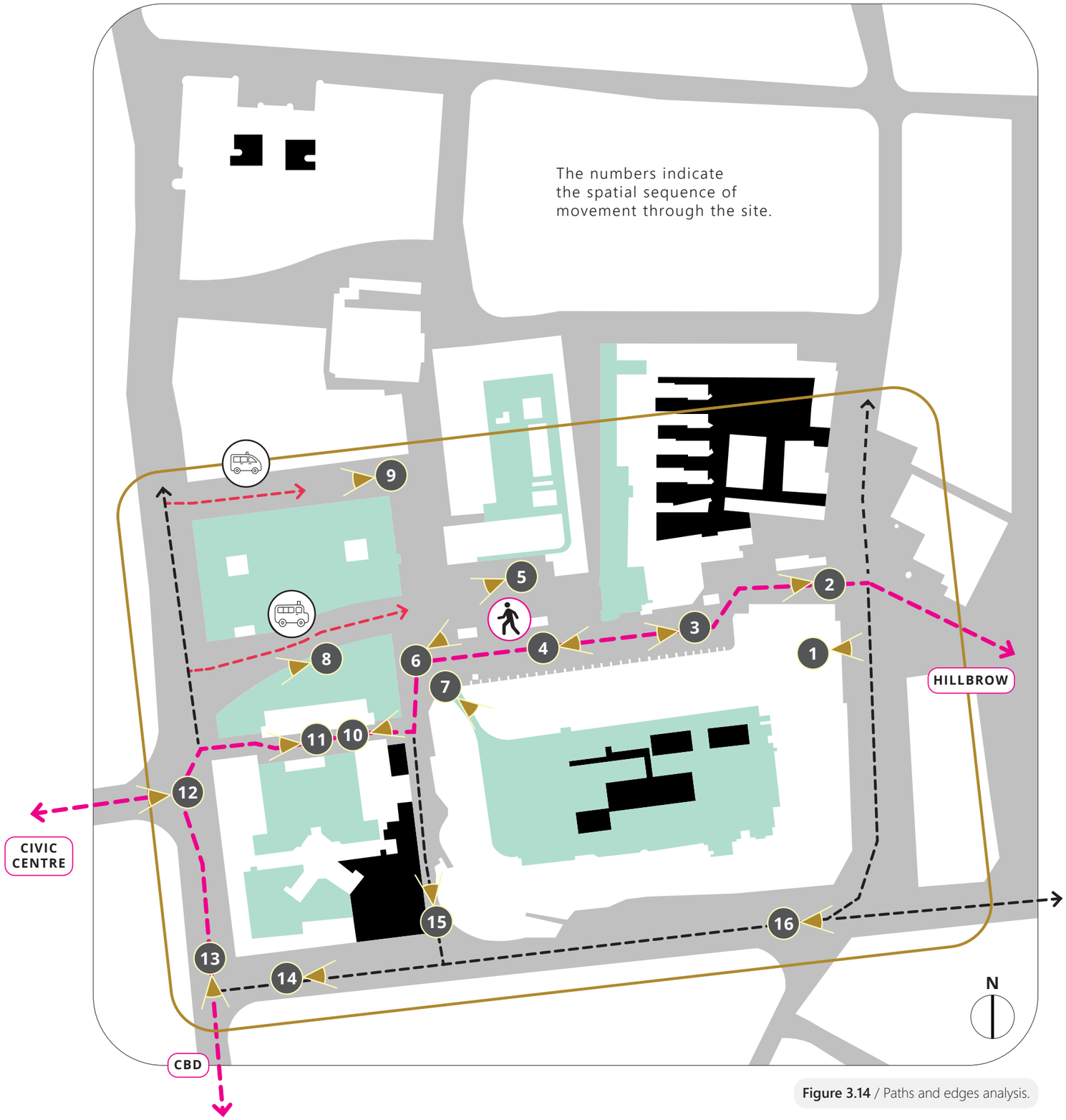
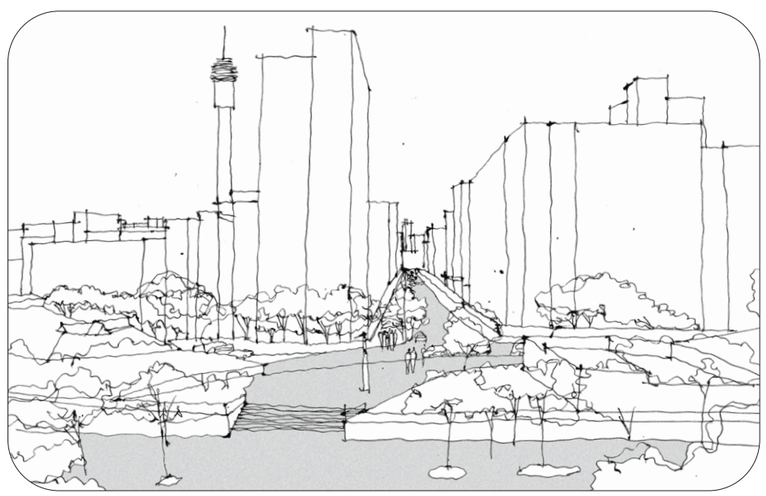


Figure 3.14 / Paths and edges analysis.



1 TOWARDS HILLBROW



Hillbrow serves as a primary gateway into the Precinct for pedestrians.

2 ENTRANCE INTO CONSTITUTION SQUARE FROM HILLBROW



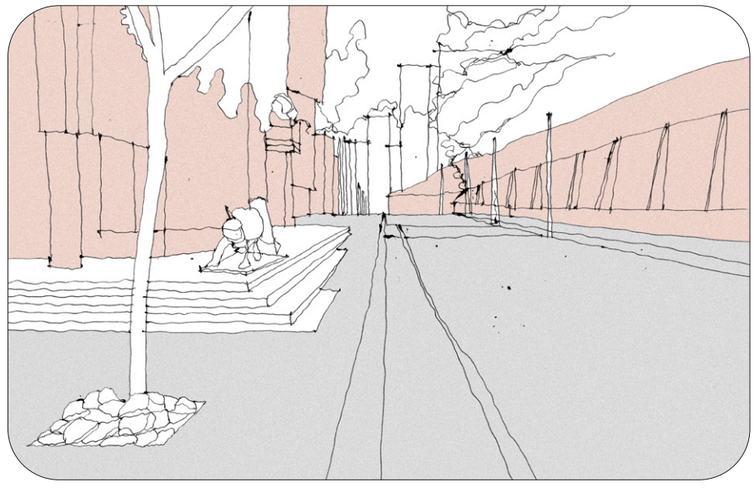
The pedestrian entrance into the Precinct is combined with a vehicular entrance. Combined with the security boom, this potentially discourages the pedestrian to freely enter the Precinct, to reach its inner realms like the Constitution Square.

3 CONSTITUTION SQUARE FROM QUEENS STREET



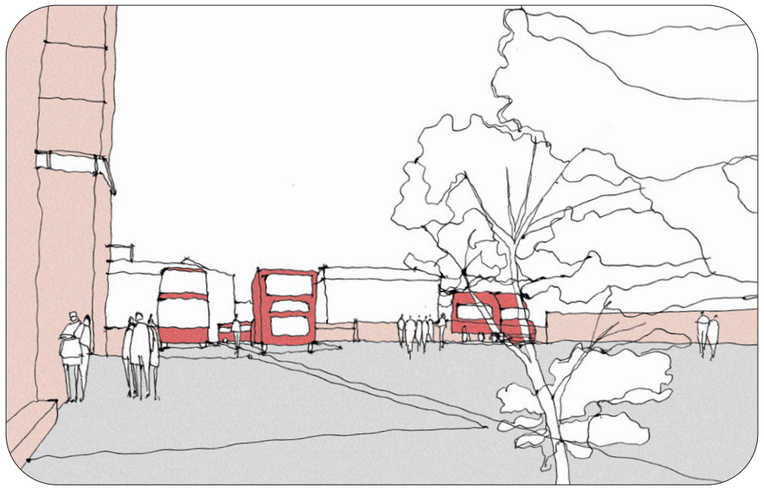
Public art and graffiti murals can be identified when moving through the Precinct. Lack of public infrastructure, like seating or water fountains, reinforces the pedestrian thoroughfare. There is no foothold to draw the pedestrian into the Precinct.

4 CONSTITUTION SQUARE FROM COURT



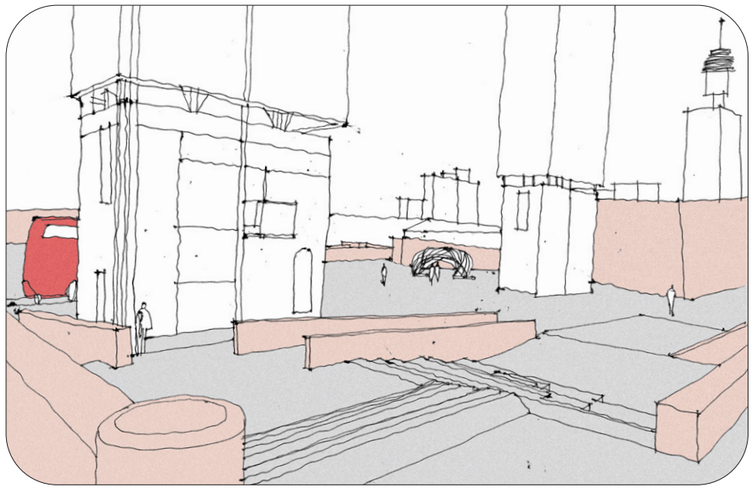
Constitution Square is defined by its overtly wide pedestrian thoroughfare and vehicular path running through the site. Limited street furniture provides opportunities for rest, relaxation, or gathering.

5 TOURIST ENTRANCE INTO CONSTITUTION SQUARE



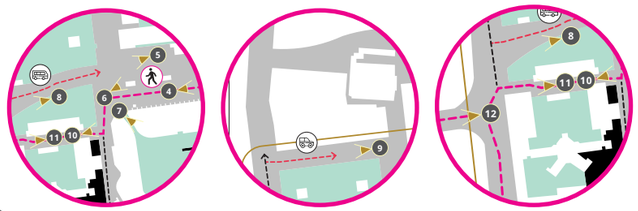
The overwhelming bustling presence of tourist busses, disrupts the monumentality and significance of the Constitution Towers and Constitution Square.

6 TOWARDS CONSTITUTION SQUARE FROM WOMEN'S JAIL

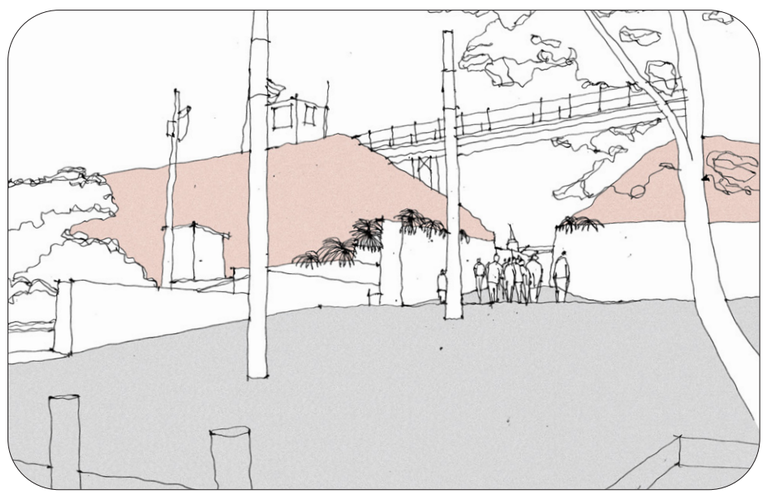


The ramps, staircase and lifts connecting the levels between the Old Fort and Constitution Square, are designed in a clustered configuration at the Old Fort's entrance. This configuration, obstructs the ease of pedestrian flow and open public space of the square.

Figure 3.15 / Views 1-6 of paths and edges analysis.



7 TOWARDS OLD FORT FROM CONSTITUTION SQUARE



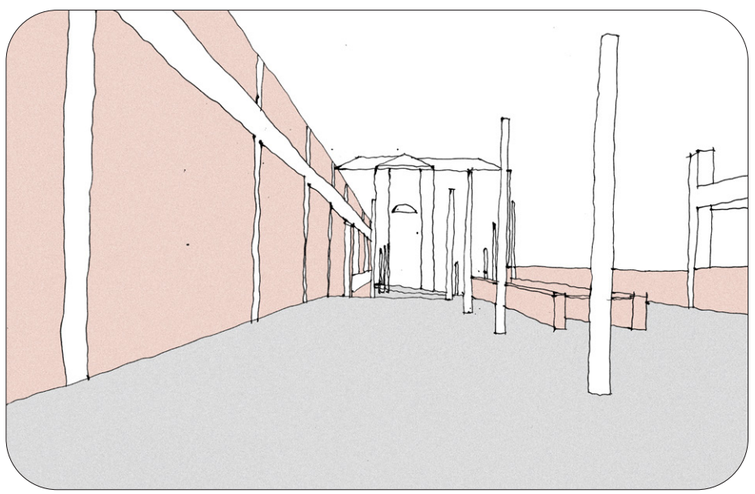
The thoroughfare through the fort is defined by its form and wide opening; which is further accentuated by the site's topography.

8 PARKING LOT LAND PARCEL A



The parking lot, built up to its concrete column stubs, limits the pedestrian's ease of moving through the Precinct as the parking's outer perimeters are filled with brickwork. The Women's Jail and surrounding institutional buildings serve as prominent visual landmarks.

9 PARKING LOT LAND PARCEL B



The street edge of the parking lot is defined by "hard edges" like the concrete columns and brickwork super-basement parking lot. Little consideration is given to "soft edges", comfort, or place-making strategies to draw the pedestrian into the Precinct.

10 WOMEN'S JAIL FROM CONSTITUTION SQUARE



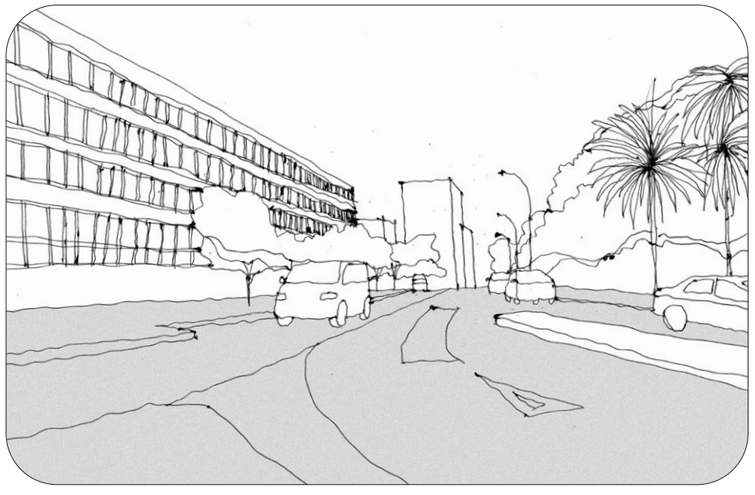
The thoroughfare created between the Precinct and Joubert Street is formed by the Women's Jail, to the left, and Parking lot Land Parcel A to the right.

11 WOMEN'S JAIL FROM JOUBERT STREET



The Women's Jail is distinctly placed in the landscape, its sheer height and volume of mass and concrete columns impose on the pedestrian passing by. The Statue of Hope forms a vista towards the Old Fort, leading the pedestrian into the Constitution Square.

12 TOWARDS CIVIC CENTRE FROM JOUBERT STREET / M9



Joubert Street can be identified as the primary vehicular route into the Central Business District (CBD). Pedestrians make use of the street to access the Civic Centre, CBD and transport nodes like Park Station and the Rea Veya bus route.

Figure 3.16 / Views 7-12 of paths and edges analysis.

• ACCESS + MOVEMENT OF IN-BETWEEN SPACES

Figure 3.17 illustrates the access and movement of the in-between spaces identified on the Southern half of the Precinct. As described in the urban analysis (c.f. 3.3.1) the vehicular and pedestrian paths leading into the Precinct, from Joubert Street and Queens Street, defines the East-West axis.

Secondary pedestrian routes follow a North-South direction, with various spill out points leading from the built fabric into the inner realms of the Precinct. Due to the fortified nature of the existing fabric, and the close surveillance of the site, access and movement between built fabric often seems controlled. The in-between spaces therefore become important when looking at how public space can be utilised.

• USES & FUNCTIONS OF THE PRECINCT

The Precinct's uses and functions have changed over time; currently it is mainly used for tourism, education, recreation and legal purposes (Figure 3.18). The Precinct can also be understood as comprising of two types of land, namely heritage, environmental and tourism (HET) and possible future development (UrbanWorks Architecture & Urbanism et al., 2012: 11).

HET represents "concentrated heritage resources" (UrbanWorks Architecture & Urbanism et al., 2012: 11) whereas possible future development refers to areas that have potential for mixed-use functions (Figure 3.19).

• USES + FUNCTION

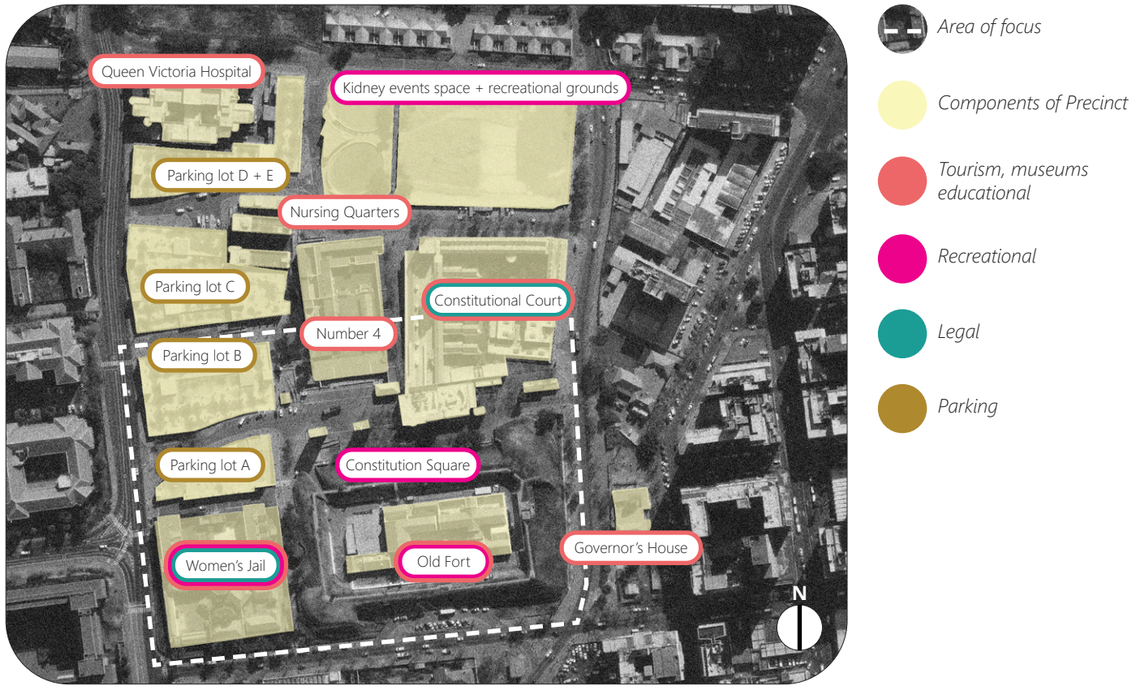
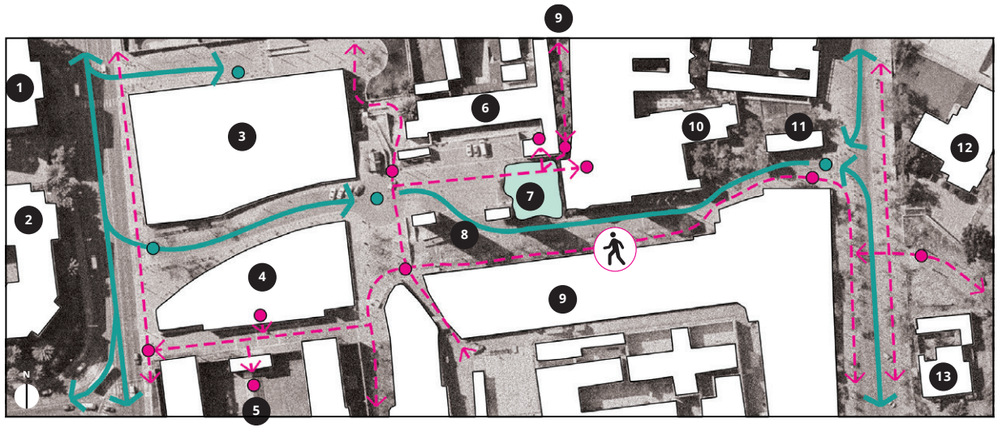


Figure 3.18 / Uses and function.

• ACCESS + MOVEMENT



- pedestrian movement
- points of entry and exit
- vehicular movement
- points of entry and exit
- forecourt of Constitutional Court

1. The South African Human Rights Commission
2. Afrika Tikkun Centre (Braampark)
3. Parking lot B
4. Parking lot A - ascention from basement
5. Women's Jail
6. Number 4 prison
7. Forecourt of Constitutional Court
8. Awaiting Trial Block (ATB) Towers
9. Great African Steps
10. Constitutional Court
11. ATB Visitor's Centre
12. Hillbrow Recreation Centre
13. Governor's House

Figure 3.17 / Access and movement.

• HERITAGE + POSSIBLE FUTURE DEVELOPMENT

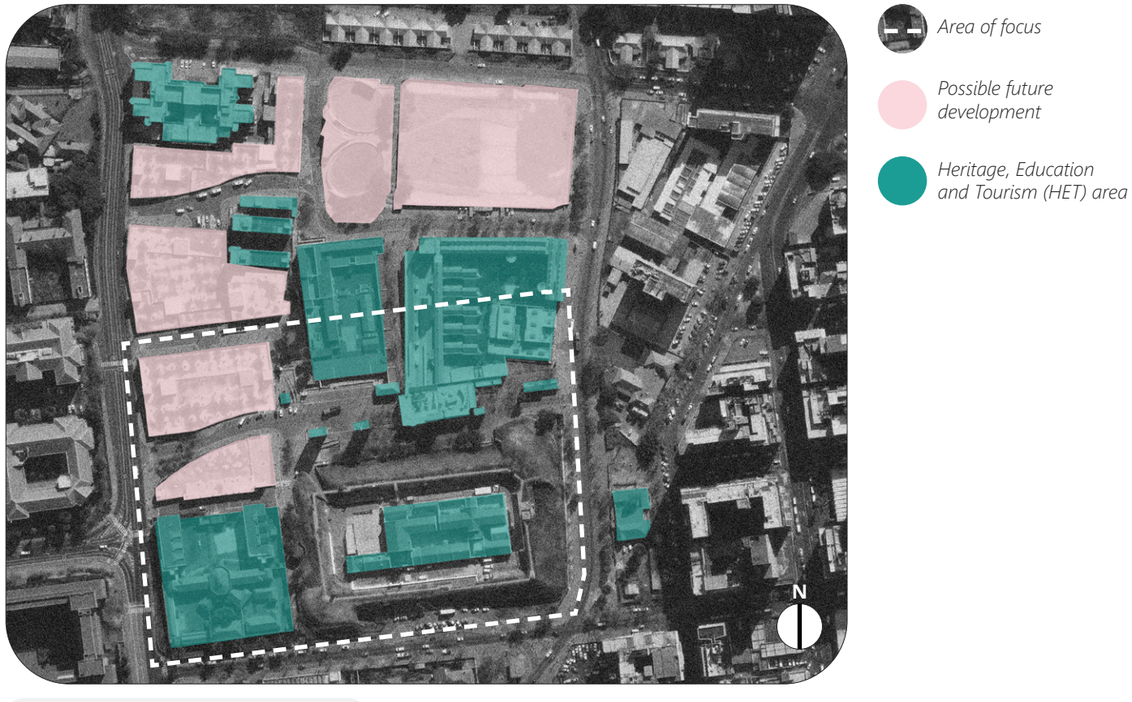


Figure 3.19 / Heritage and developable.

• ANALYTICAL SECTIONS

A series of analytical sections aid in understanding the spatial quality, use and relationship to the existing of the in-between spaces of the thoroughfare.

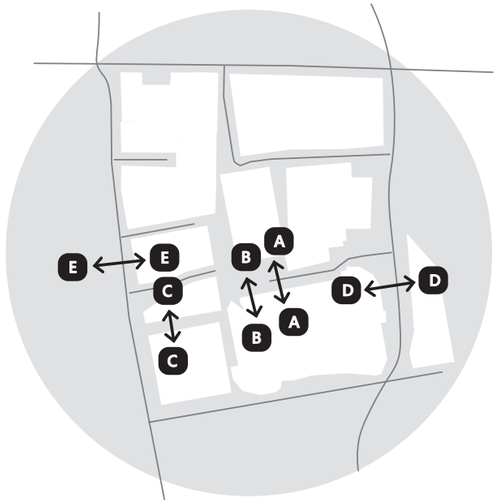


Diagram 3.1 / Map showing where analytical sections are taken through.

A CONSTITUTIONAL COURT + SQUARE + OLD FORT

The in-between spaces of the Constitutional Court, Constitutional Square and Old Fort illustrate the pedestrian thoroughfare linking the East and West of the Precinct. As previously mentioned in the paths and edges analysis, the path leading into the inner realms of the square is quite daunting and wide, with little opportunity given to keep the user interested. The Old Fort wall facing the square consists of a long, flat concrete interface, with parts of the natural mound exposed. This can possibly be altered to create more function and meaning.

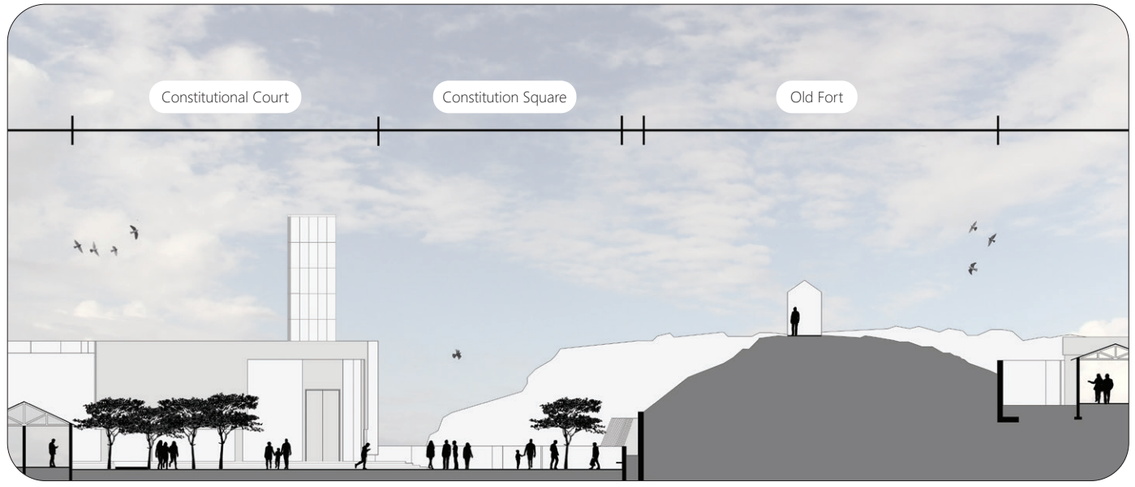


Figure 3.20 / Section through Constitutional Court, public square and Old Fort.



Figure 3.21 / Constitution Square towards Hillbrow.



Figure 3.22 / Constitution Square towards Old Fort link.

B CONSTITUTIONAL COURT + OLD FORT LINK

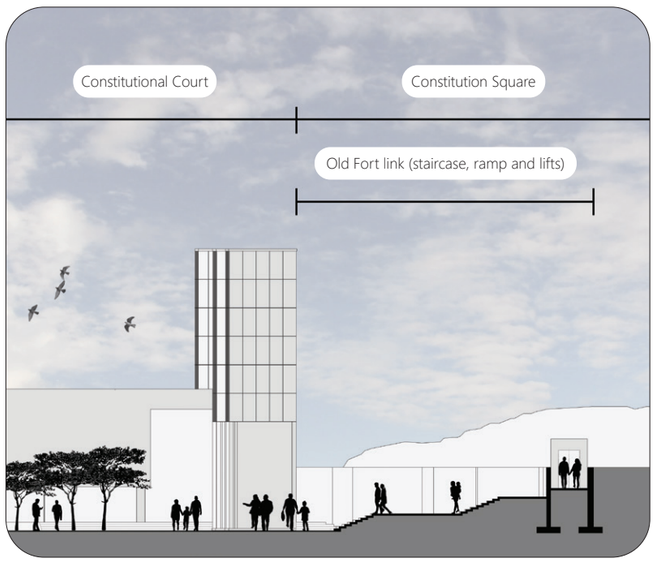


Figure 3.23 / Section through Constitutional Court and fort link.

The ramp and staircase clustered on one spot hinders the legibility and ease of use of the square. Although well-positioned one can possibly articulate this idea to attain more function and significance.



Figure 3.24 / Fort link connecting to square.

C PARKING LOT A + WOMEN'S JAIL

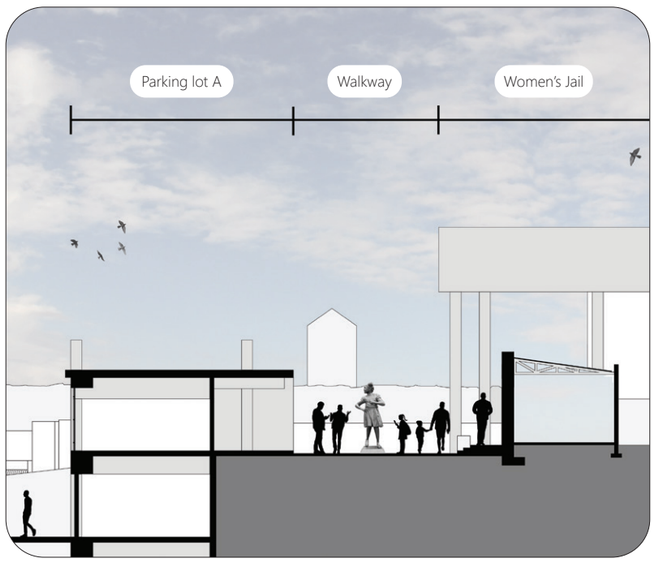


Figure 3.25 / Section through Parking lot A and Women's Jail.

The exaggerated scale of the Women's Jail column's, peeking over the Old Jail's walls, dominates the pedestrian moving through the threshold between the Precinct and CBD or civic centre.



Figure 3.26 / View towards Statue of Hope from Joubert Street.

D EDGE CONDITION: HILLBROW + OLD FORT

The edge condition between Hillbrow and the Old Fort is activated with pedestrian movement. Queens Street forms the interface connecting the bustling and vibrant suburb of Hillbrow to the Precinct and becomes significant when considering the flow of pedestrian movement through the Precinct.

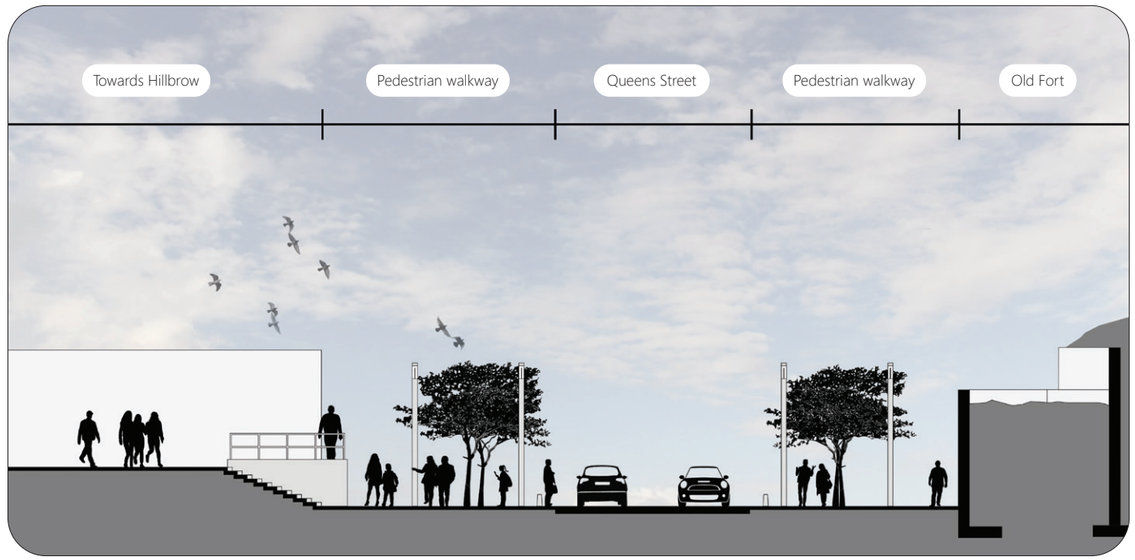


Figure 3.27 / Edge condition Queens Street, Hillbrow.



Figure 3.28 / Entrance into Precinct.



Figure 3.29 / Pedestrian thoroughfare into Hillbrow.



Figure 3.30 / Edge condition from Queens Street, Hillbrow.

E EDGE CONDITION: PARKING LOT B + JOUBERT STREET

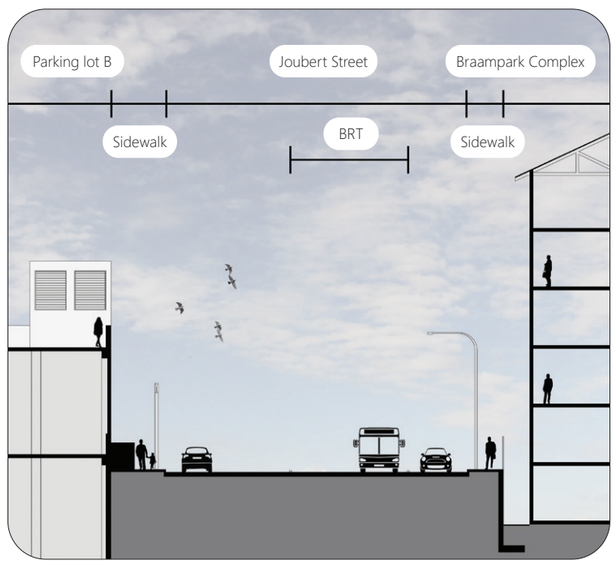


Figure 3.31 / Edge condition between Parking lot B and Joubert Street.

Street edge and interface between Joubert Street and Parking Lot B is particularly abrupt. A disconnect is formed between the street, pedestrian and building interfaces. Considering that Joubert Street forms the most prominent vehicular axis into the Precinct, and connects the BRT system to the inner-city (c.f. 3.3.1), an opportunity is identified to improve the pedestrian's street experience.



Figure 3.32 / Entrance into Precinct from Joubert Street.

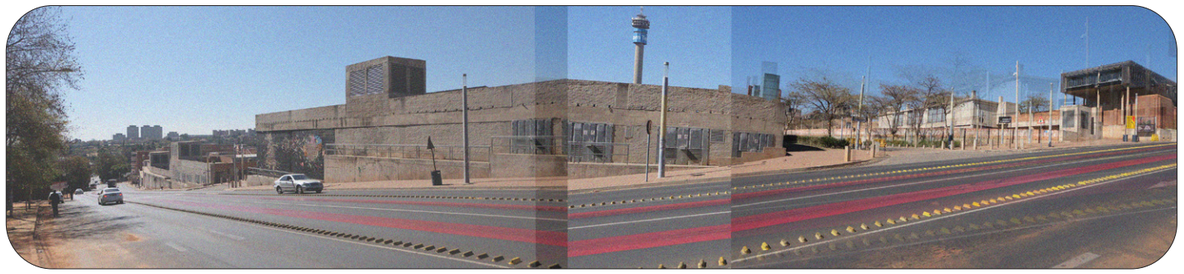


Figure 3.33 / Street view of Joubert Street's interface with the Precinct.



Figure 3.34 / Parking lot B vehicular entrance from Joubert Street.

• ZONE OF FOCUS

Description

For the purpose of the project (c.f. 1.5), the intervention is limited to Western edge of the Precinct which forms the primary vehicular entrance into the Constitution Square from Joubert Street, and consists of Parking lot A, Parking lot B and the Women's Jail (Figure 3.35).

The super-basement parking lot structure accommodates approximately 1725 parking bays, which are located on land parcels: A, B, C, D and E (Figure 3.35). The impact of the parking lot is stark and leaves a barren footprint that has become a prominent element of the Precinct. Consequently, the adaptation and reuse of this structure features as an important consideration in existing future developments of the Precinct (UrbanWorks Architecture & Urbanism et al., 2012: 5). Built in 2003, the super-basement parking is intended to provide sufficient parking space for the Precinct's envisioned densification and future use. The densification is discussed in Chapter 6 (c.f. 6.1.3).

The figures on the following page, indicate various views of the parking lot structures; illustrating the spatial quality of the parking lot spaces, a hard, cold dehumanizing space. The parking lot structures consist mostly of open and voided volumes, constructed mainly from concrete and brickwork.

Parking lots A and B frame the entrance into the Precinct and have the potential to define the Precinct's public realm, and more specifically square. Parking lot A's location is significant in terms of its relationship to the Women's Jail, Constitution Square and the Old Fort.

Parking lot B is located on the position of the Old Mortuary, which was initially built in 1896. It is intended that "commemorative heritage elements should be integrated" (UrbanWorks Architecture & Urbanism et al., 2012: 5) for the development of Parking lot B, which will be discussed in the chapters (c.f. 5.5, 7.1.1) to follow.

Parking lots as lost space

"Lost spaces are the surface parking lots that ring the urban core of almost all...cities...They are the no-man's lands along the edges..." (Trancik, 1986: 3).

The Parking lots are representative of lost space. Termed by Trancik (1986: 3) the concept can be defined as the opposite of "positive urban space" or "found space".

In summary, lost spaces are: "the undesirable urban areas that are in need of redesign – antispaces, making no positive contribution to the surroundings or users. They are ill-defined, without measurable boundaries, and fail to connect elements in a coherent way" (Trancik, 1986: 3-4). However, spite of their negative disposition, lost spaces also present opportunities for "creative infill" (Trancik, 1986: 3) to contribute to a city's development.

In this way, Parking lot A and B present an instance of lost space, which can be adapted to provide a positive architectural intention toward the Precinct and its users.

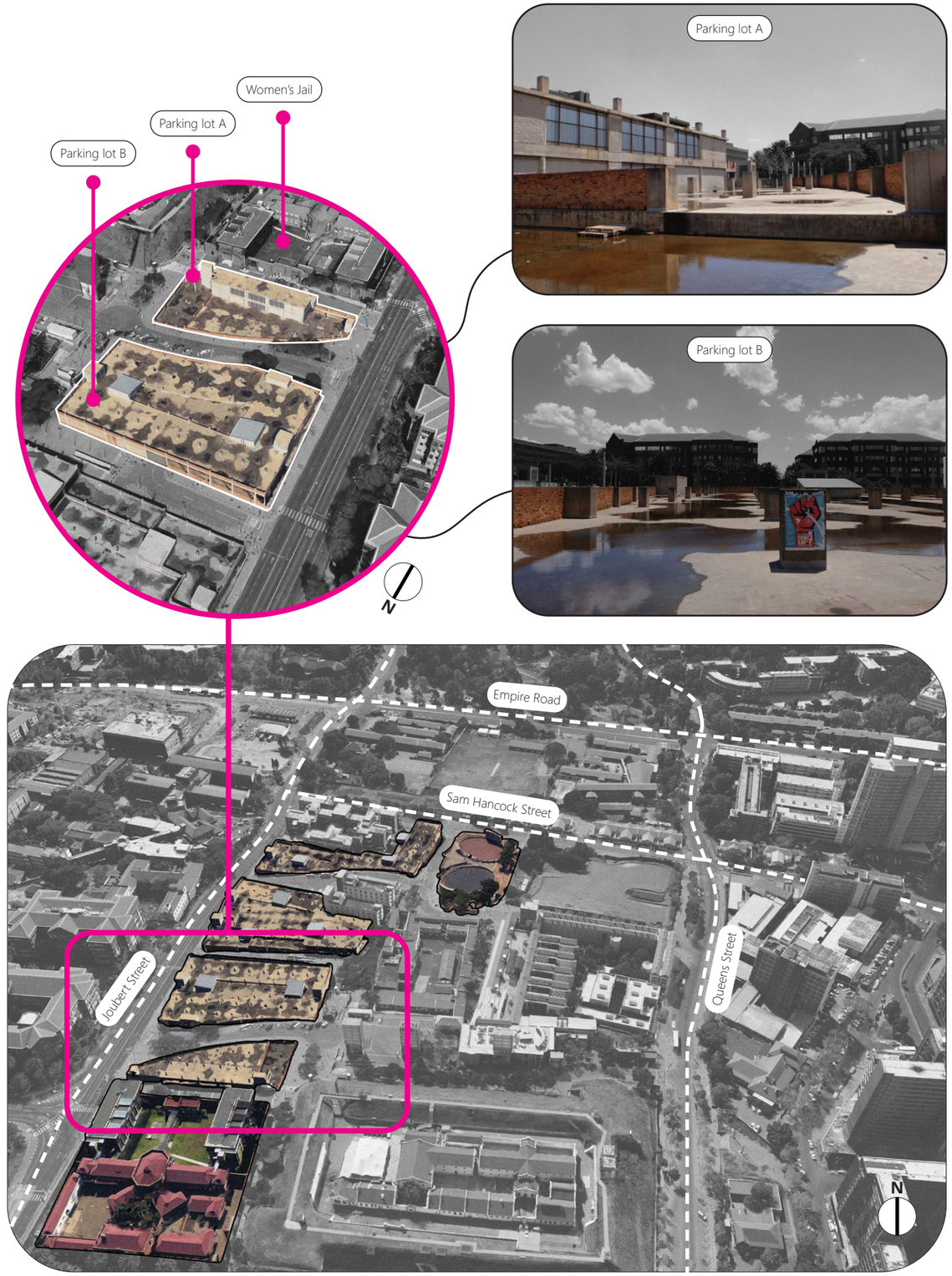


Figure 3.35 / Zone of focus.

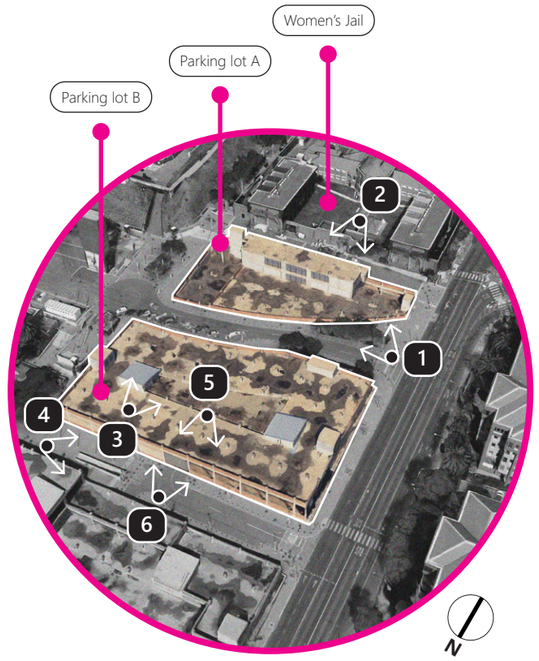


Diagram 3.2 / Map showing where analytical photographs are taken.

1 VIEW TOWARDS ASCENSION CORE, PARKING LOT A, FROM WOMEN'S JAIL



2 VIEW TOWARDS ASCENSION CORE, PARKING LOT A, FROM JOUBERT STREET

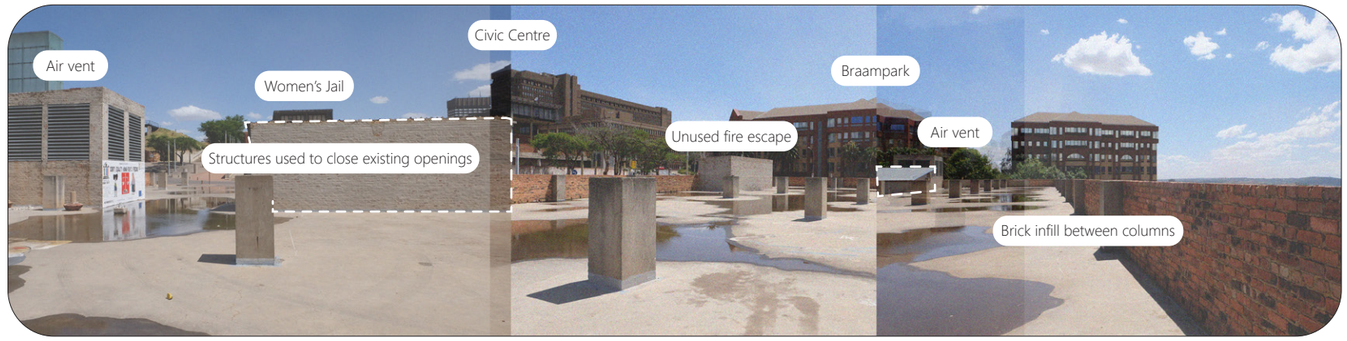


INTERIOR VIEW

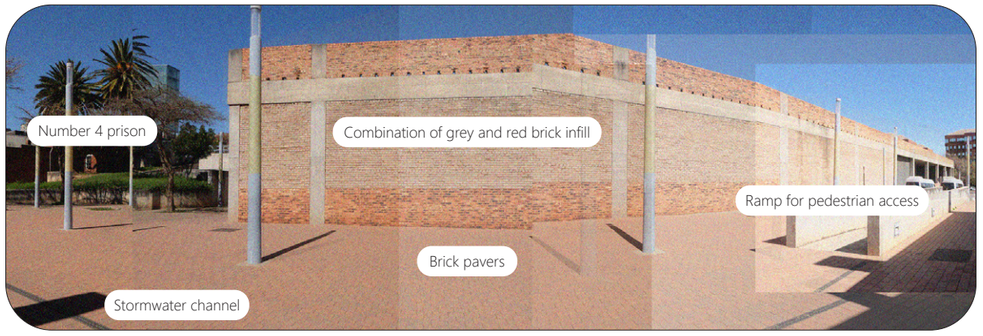


Left to right, top to bottom
Figure 3.36 / Ascension core.
Figure 3.37 / Interior view of Ascension core.
Figure 3.38 / Parking lot A from Joubert Street.
Figure 3.39 / Parking lot B.
Figure 3.40 / View from Parking lot C.
Figure 3.41 / View towards Johannesburg.
Figure 3.42 / Parking lot B interior views.

3 PARKING LOT B



4 VIEW FROM PARKING LOT C



5 VIEW TOWARDS JOHANNESBURG FROM PARKING LOT B



6 PARKING LOT B INTERIOR



• CONTEXTUAL PRECEDENTS

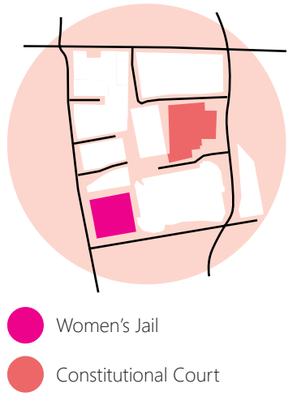
Two significant buildings that contribute to the democratic face of the Precinct includes the Constitutional Court by OMM Design Workshop (2004) + Urban Solutions and the Women's Jail by Kate Otten Architects (2005).

A.
CONSTITUTIONAL COURT
OMM DESIGN WORKSHOP
+ URBAN SOLUTIONS
2004

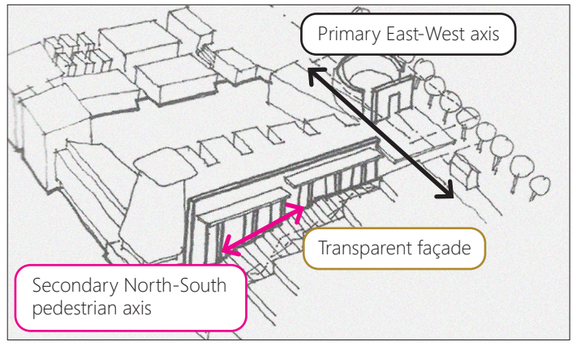
As mentioned before, the Constitutional Court is one of the most prominent symbols of democratic South Africa (Makin & Noble, 2009: 116). Purposefully placed, the Court aims to connect its surrounding prison complex, now museums and institutional buildings, and promote human rights.

The primary axis connects the East-West corridor between Braamfontein and Hillbrow, whereas the secondary axis, forming the African steps, connects the North and South of the Precinct. The arrival and circulation of the building is unconventional, purposefully distancing itself from the authoritarian structures of the past. The building's relationships between private and public spaces are gradually placed to allow the public to circulate alongside the more private areas like the judge's chambers. Concepts of memory form part of the design, as bricks from the demolished Awaiting Trial Block are used to acknowledge the historic and new. In addition, the slanted columns in the foyer resemble indigenous trees, and symbolises the gathering of a traditional African court, known as a *lekotla* (Makin & Noble, 2009: 116). The use of tectonic and iconic materials like concrete, glass, timber, stone and light, signifies the building's symbolism as a place representative of South Africa's multiplicity.

Finally, the integration between architecture and art, and the inclusion of artists in the making of Constitutional Court was central to the design intention (Makin, 2008: 37). Artworks curated are humane, for example, the sun screens informed by African beadwork, the mosaics on the slanted columns, or the carved Bill of Rights on the front doors. A collaborative process between artists, designers, architects and builders allowed the art to be integrated with the building, making it the primary contributor to its meaning and symbolism (Makin, 2008: 37).

















From top to bottom
Figure 3.43 /
View of Constitutional Court.
Figure 3.44 /
Axial arrangement of Constitutional Court.
Figure 3.45 /
Details and views of Women's Jail.

B.
WOMEN'S JAIL
KATE OTTEN ARCHITECTS
2005

Additions to the existing Women's Jail consist of office spaces and a museum. The new building compliments the past whilst unswervingly introduces a new layer of the present (Lipman & Otten, 2009: 119). Massing and proportions of the three-storey offices are based on Le Corbusier's proportions, where the double height concrete columns support the single-storey office spaces (Lipman & Otten, 2009: p.120).

The columns extend beyond the redbrick boundary wall, defying its old boundary walls. For sun protection, Corten perforated metal screens envelope the new structure and display "lace" or "gossamer-like" decorative patterned shadows (Lipman & Otten, 2009: 119). Although intended to represent the injustices of the past, the Women's Jail's fortified walls make a boundary between the pedestrian and the interior courtyards. Its exaggerated scale disconnects the pedestrian from interacting with the building.

LESSONS LEARNT

The Constitution Hill Precinct and the additions to the Women's Jail both represent architectural projects by the city as part of its inner-city generation (Poulsen, 2009: 111). The acknowledgement of the city's turbulent past through the lenses of a new democratic city adds to the "multi-layered cultural fabric" (Poulsen, 2009: 111) that forms the essence of Johannesburg.

As noted by Poulsen (2009: 114), when disregarding the lack of a "cohesive architectural sensibility" the projects are an attempt to express a "democratic, non-racial South African society" through architecture.

3.4
HERITAGE LENS

3.4.1
STATEMENT OF SIGNIFICANCE

As defined by the Burra Charter, the cultural significance of a place is defined by the "aesthetic, historic, scientific, social or spiritual value for past, present or future generations" (Australia ICOMOS Inc, 2000: 2).

For the purpose of the project's heritage lens, the zone of focus, which serves as the thoroughfare, is analysed to understand the cultural significance of the existing fabric. In this instance, cultural significance emerges from the value attached to aspects of heritage, and the way in which meaning and symbolism are bestowed upon a place.

- **AESTHETIC VALUE**

Refers to the sensory perception of a space, such as "form, scale, colour, texture and material" (Australia ICOMOS Inc, 2000: 12).

- **HISTORIC VALUE**

Historic value of a place increases with its association to historic figures, events or activities (Australia ICOMOS Inc, 2000: 12).

- **SCIENTIFIC VALUE**

A place's scientific value is measured by its ability to "which the place may contribute to further substantial information" (Australia ICOMOS Inc, 2000: 12).

- **SOCIAL VALUE**

Social value is defined by the "qualities" of a place that has attained either "spiritual, political, national or other cultural sentiment to a majority or minority group" (Australia ICOMOS Inc, 2000: 12).

- **SPIRITUAL VALUE**

Refers to a place's association with beliefs or "special connections that exist between people and a place" (Australia ICOMOS Inc, 2000: 3).

In order to determine scales of significance appropriate elements of the zone of focus are scored. The scores given aid in decision making with regards to the design response.

COMPONENTS OF FOCUS AREA



Possible future development

Heritage, Education and Tourism (HET) area

Figure 3.46 / Components of heritage focus.

CULTURAL SIGNIFICANCE

SYMBOLIC VALUE

 1	(1893) The Old Fort (Ramparts + Buildings)	23 / 25
 2	(2004) Constitutional Court	25 / 25
 3	(2004) Great African Steps	22 / 25
 4	(1928 + 2004) Constitution Square + Awaiting Trial Block Towers	18 / 25
 5	(1904) Number 4 Prision	24 / 25
 6	(1904) Old boiler room	10 / 25
 7	(1910 + 2005) Women's Jail (Old and new extension)	25 / 25
 8	(2003) Parking lot A	2 / 25
 9	(1905 + 2003) Parking lot B + demolished Old Mortuary	4 / 25
 10	(Various dates) Public art + sculptures (Symbols of justice)	25 / 25
 11	(1904) Information centre	17 / 25

3.4.2
CULTURAL SIGNIFICANCE

In conclusion, the cultural significance of the Constitution Hill Precinct is high, suggesting that its symbolic value is prominent within its position in South Africa's cultural landscape.

3.4.3
HERITAGE STRATEGY

The heritage strategy acknowledges the symbolic and cultural significance of the Precinct, and advocates for the purposeful and transformative approach towards built heritage fabric to become a "testament to change rather than a symbol of material endurance" (Loulanski, 2006: 227). The Precinct is developed from an "inherited landscape" (UrbanWorks Architecture & Urbanism et al., 2012: 12); thereby indicating that any new structure or intervention added ought to be undertaken in consideration of the existing as well as the future layering of the site.

Focus is placed here on the in-between spaces that define the East-West pedestrian thoroughfare between the Precinct, Hillbrow, and the CBD. As mentioned in the 2012 proposed Urban Design Heritage Guidelines (UrbanWorks Architecture & Urbanism et al., 2012: 33) in-between spaces and new buildings ought to be regarded as extensions of heritage fabric themselves, thereby attaining both functional and symbolic value.

Focus is therefore placed on the conceptual shift "where heritage evolves in accordance with the changing needs and demands people convey toward it and that there is a clear omnipresent move toward a people-centred, functional approach in regard to heritage" (Loulanski, 2006: 208). This includes three key shifts in thinking, namely: "from monuments to people, from objects to functions, and consequently from preservation to sustainable use and development" (Loulanski, 2006: 208).

3.5
CONCLUSION

Through analysis of the site and the zone of focus at both an urban and precinct scale an appreciation for the existing narrative is formed. Constitution Hill Precinct presents a unique palimpsest of tangible and intangible narratives that has been shaped by South Africa's past and present evolution as a democratic society. The layers, both built and lived, establish the historic significance of the site.

CHAPTER 04
CONCEPT



Figure 4.1 / Linocut artwork at Constitution Hill Court Art Gallery.

Chapter 4 frames the conceptual and architectural intentions of the project. Conceptual precedents illustrate how the concept of "chora" informs the making of architecture. Conceptual intentions inform architectural strategies, which further respond to stereotomic and tectonic intentions.

4.1 CONCEPT

The concept of the project stems from the feminist reading of the term chora. Chora, translated from the Greek, means "place", and illustrates the transformative process between "being and becoming" (Grosz, 2000: p.217). Originally termed by the writings of Plato's Timaeus, chora functions as the receptacle, the mother or imprint-bearer (Grosz, 2000: p.212). Safe space therefore materialises in the in-between, allowing for healing and creation to take place.

The project aims to create a network of interconnected spaces that are woven into the landscape, creating a layered imprint where women are received and embraced.

The touchstone (Figures 4.2-Figures 4.4) aims to represent this in-between space or atmosphere, by adopting an architecture of contrasting qualities. The atmosphere floating, wrapping, and encapsulating the inanimate abstraction of the site defines the space.

4.1.1 SPATIAL QUALITIES

The touchstone translates spatial qualities of the architectural intervention into the landscape mediating between the subsequent principles:

inside, outside, a movement space
lightness, darkness and shadow
the temporary and permanent
stereotomic and tectonic

4.1.2 TRANSLATION ONTO SITE

As seen in Figure 4.5, to link the touchstone to the site, the East-West thoroughfare is defined by creating an imprint and trace that weaves and inserts between the movement route to form an interconnected network of space. The conceptual notion of chora, as the imprint-bearer or receptacle, when translated onto the site becomes a space where women are embraced and received; a safe space.

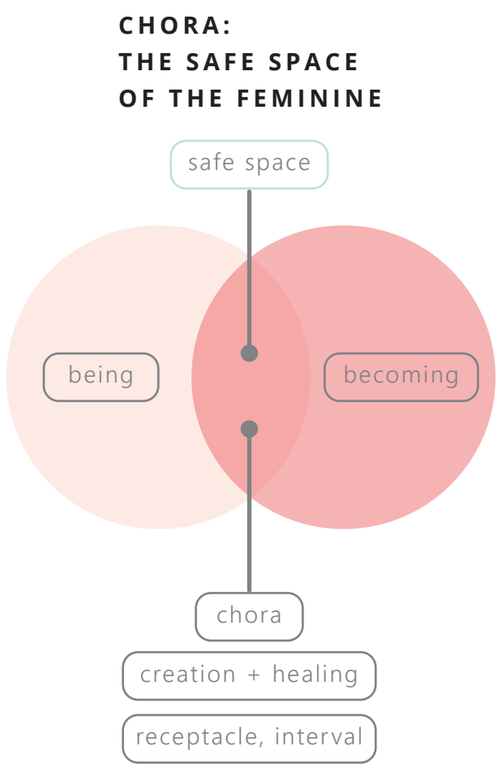


Diagram 4.1 / Concept.

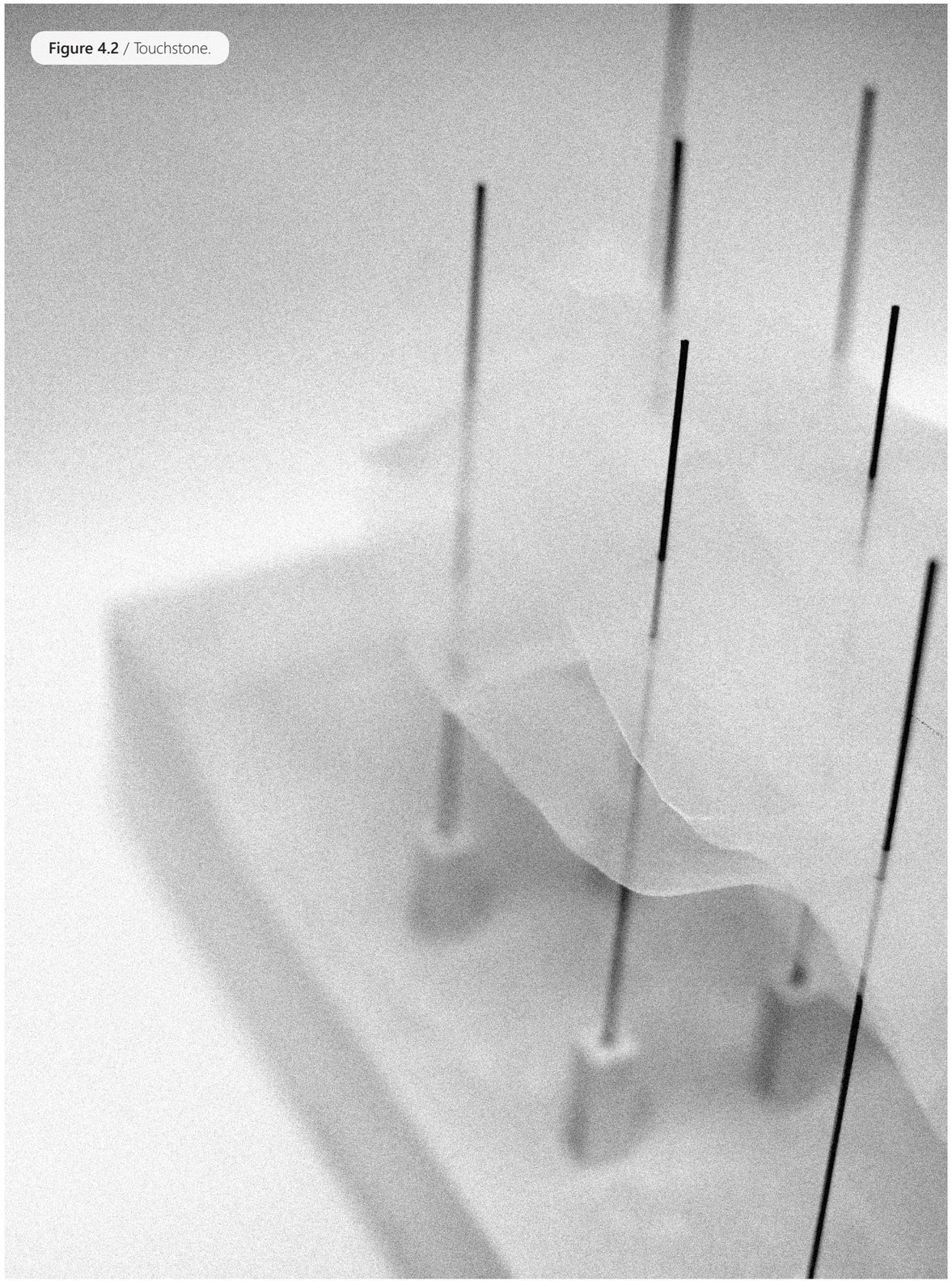


Figure 4.2 / Touchstone.

Figure 4.3 / Touchstone.

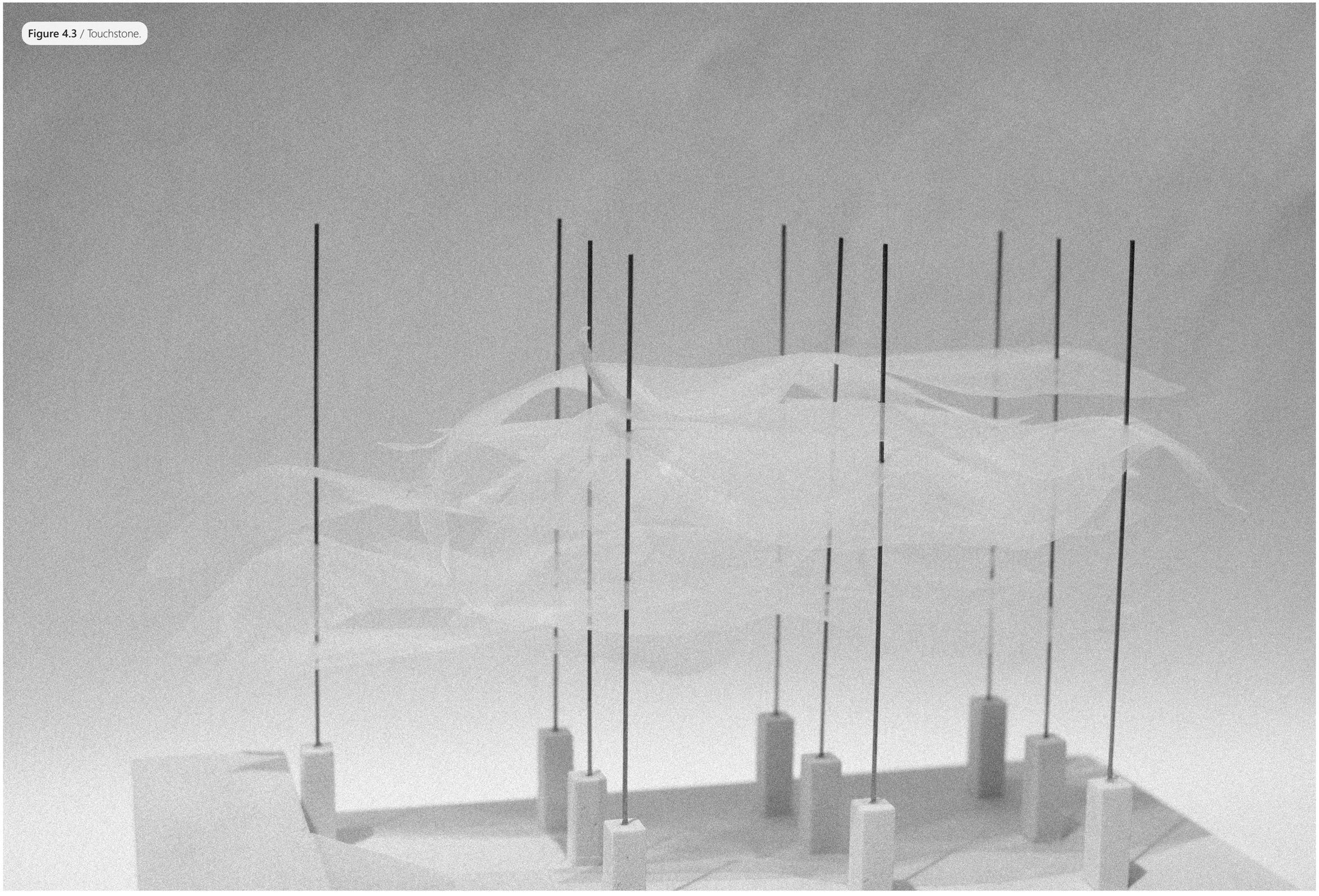
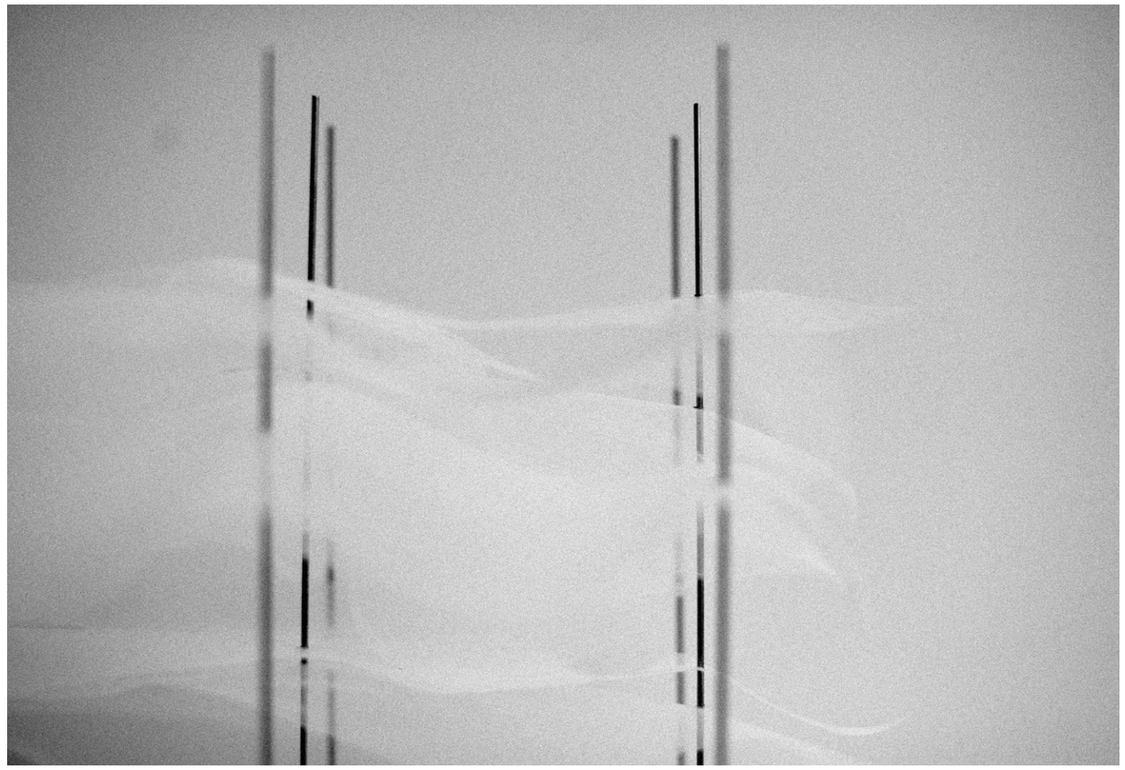
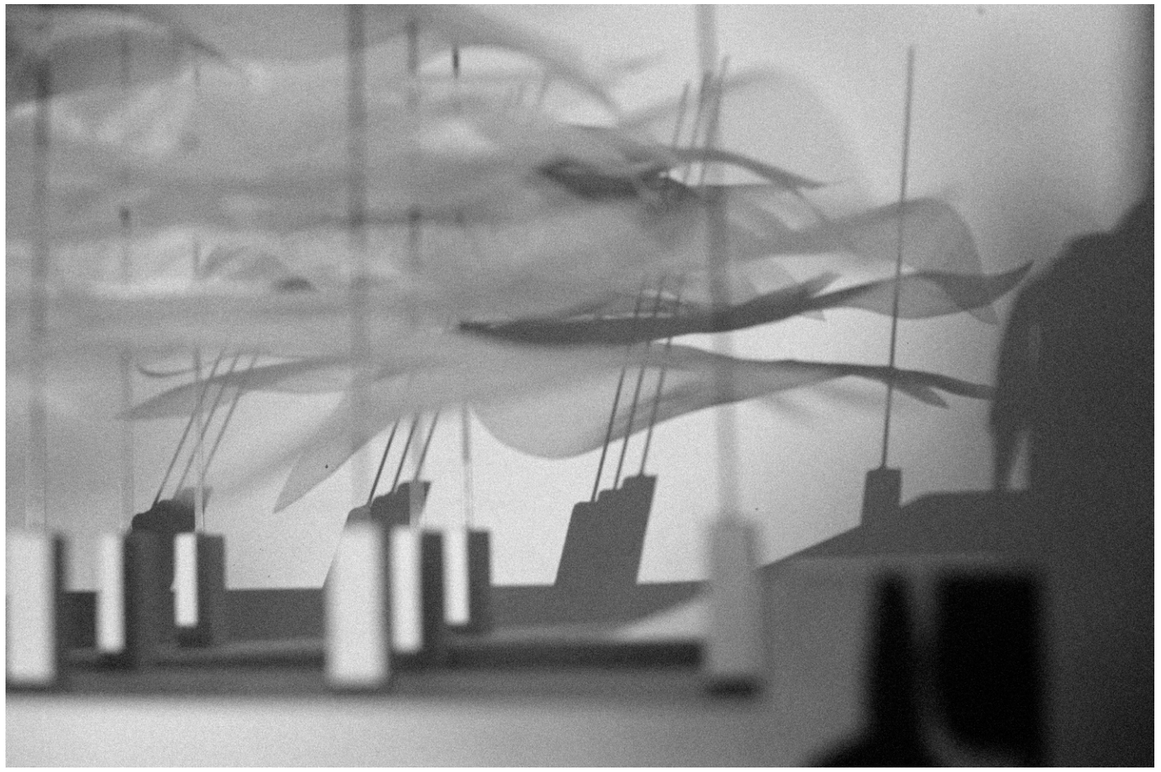




Figure 4.4 / Touchstone details.





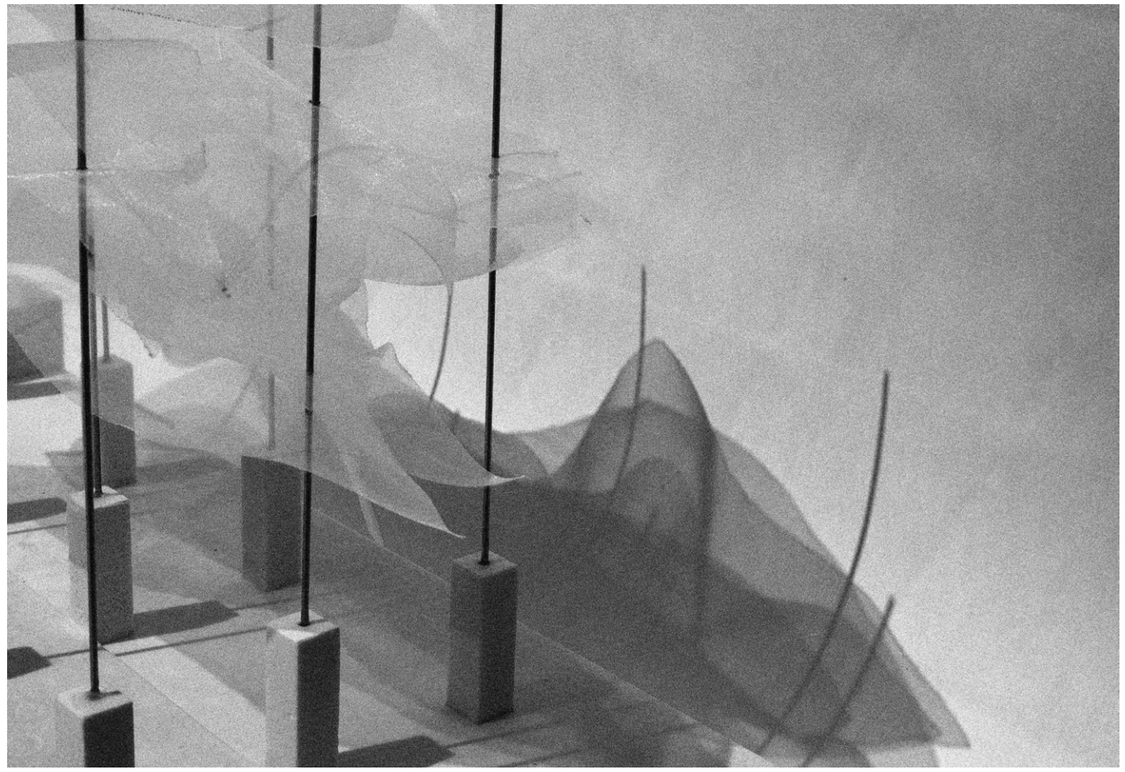
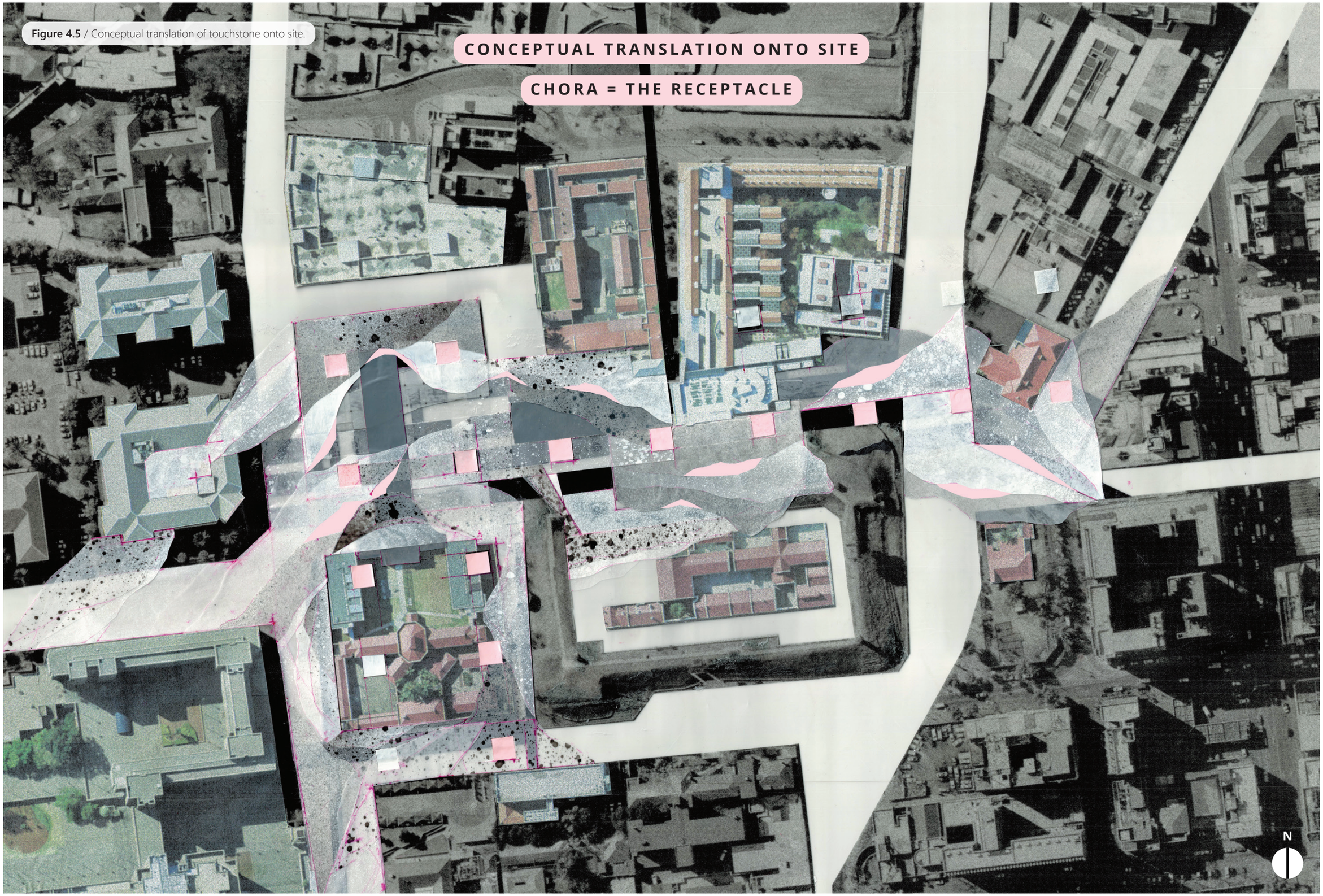


Figure 4.5 / Conceptual translation of touchstone onto site.



4.2 CONCEPT PRECEDENTS

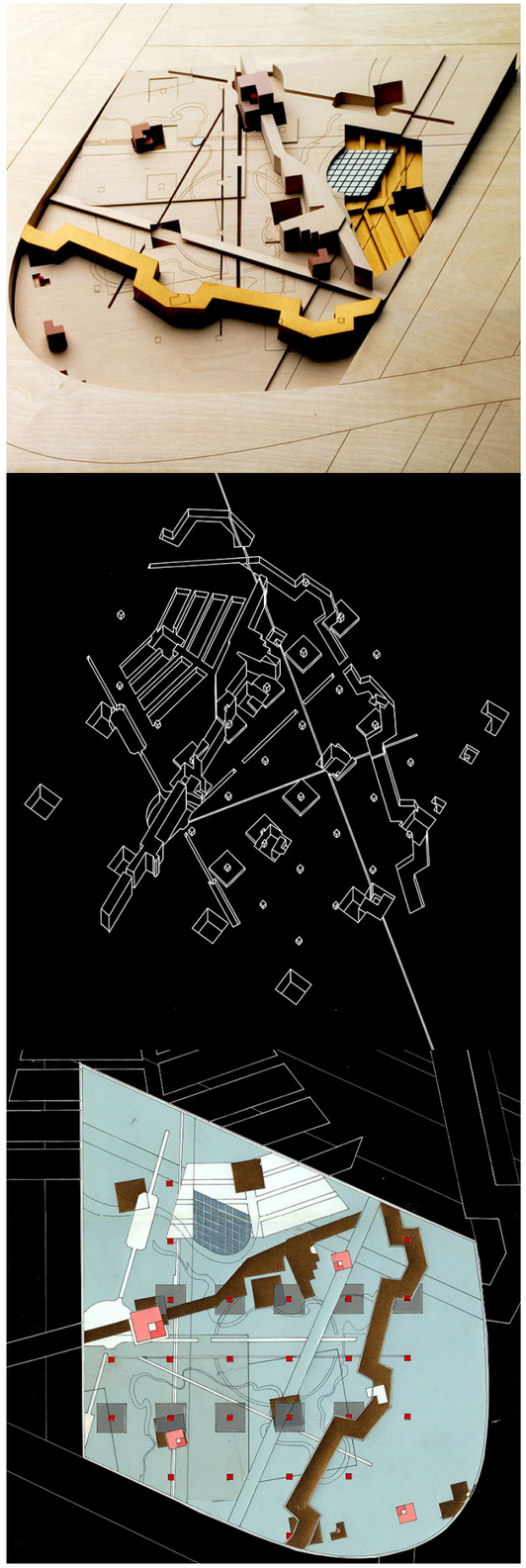
As a means to understand the conceptual application of chora in architecture the following precedents are referred to:

A.
PARC DE LA VILLETTE
PETER EISENMAN + JACQUES DERRIDA
PARIS
1987

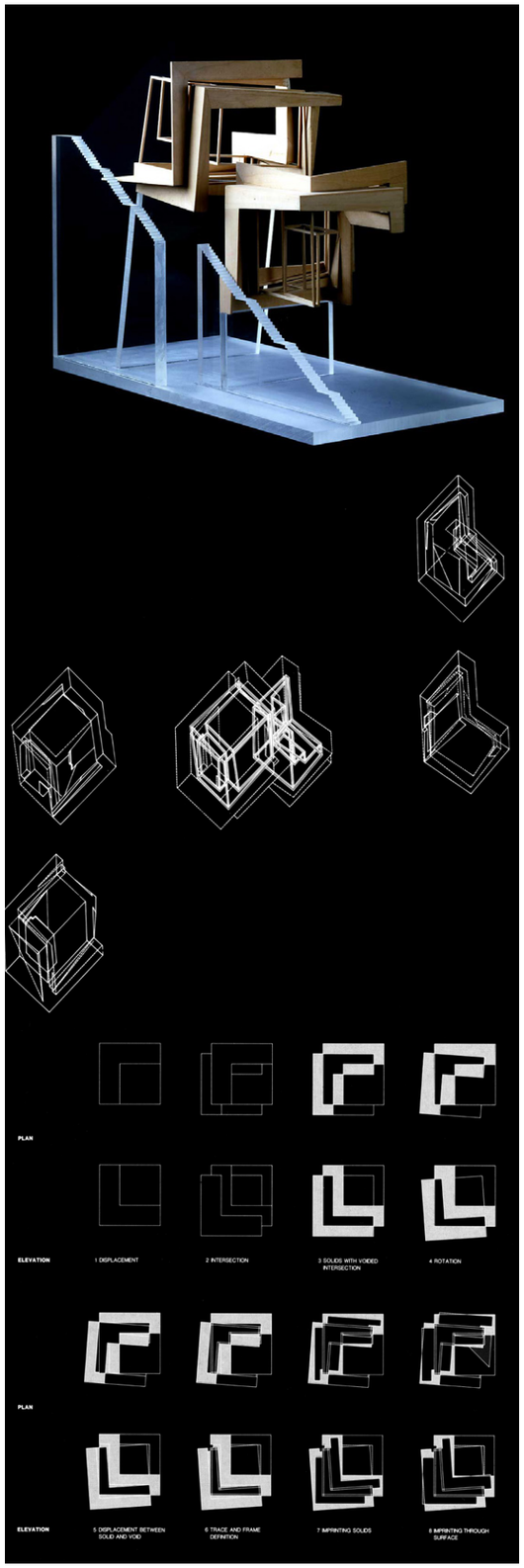
For the design of a garden in Parc de la Villette, Peter Eisenman and French philosopher, Jacques Derrida, collaborated to explore and question theoretical notions of time (past, present and future) and the representation of it in architecture (Eisenman Architects, 1987).

Analogies were made between the park's previous and present site conditions, by referring to it as a place that was once covered by Paris's city walls in 1848, to its occupation as an abattoir in 1867, to its revitalisation as a cultural park in 1982 by Bernard Tschumi, up until its then present condition in 1987 (Eisenman Architects, 1987). Coincidently, Eisenman's Cannaregio Town Square Project in Venice, Italy, shares similar features of Parc de la Villette such as "the wall, the abattoir and an existing grid" (Eisenman Architects, 1987).

The idea of trace and imprint became an important operating mechanism during the project as it illustrated how to give form to the concept of chora. Combined with traces of time and representations of the Cannaregio project, intersecting relationships were identified. For example, although abstract, trace and imprints were used to document the "third dimension" (Derrida et al., 1997: 135) referred to as the grid. As a result, the project represents that time and place in architecture forms a continuous set of references.



Right
Figure 4.6 /
Model of Parc de la Villette.
Figure 4.7 /
Conceptual diagramme of Parc de la Villette.
Figure 4.8 /
Plan showing collective layering of Parc de la Villette.



B.
HOUSE GUARDIOLA
PETER EISENMANN
CADIZ, SPAIN
1988

Conceptual application of chora by Peter Eisenman in his design for House Guardiola is manifested by layering l-shaped volumes and frames that overlap and intersect; creating an interweaved form (Eisenman, 1988). The fluctuation of volumes is unique in its departure from traditional relationships of inside-outside. Imprinted forms record movement of the patterns that are no longer frame or object; in other words what can be described as the imprint or trace (Eisenman, 1988).

The grid becomes a series of frames that are warped and distorted, where instead of being structural integers, they are now traces and imprints, which reveal the condition of the imprint as the intersection of the two figural elements (Derrida et al., 1997: 135).

LESSONS LEARNT

The precedents illustrate that time and place have a continuous effect on architectural references. Imprints and traces represent the conceptual intention of chora through a palimpsestic or layered approach to architecture; which can also assist in the project's intention of adopting a transformative approach to heritage (c.f. 3.4.2).

Left
Figure 4.9 /
Model of House Gaurdiola.
Figure 4.10 /
Conceptual diagramme of House Gaurdiola.
Figure 4.11 /
Analytical diagrams of House Gaurdiola.

4.3 CONCEPTUAL INTENTIONS & ARCHITECTURAL TRANSLATIONS

4.3.1 CONCEPTUAL INTENTIONS

As shown in Figure 4.12, conceptual translations into architecture connect the conceptual intentions of chora, which is to foster healing and creation, into an architecture of addition (creation) and revealing (healing).

4.3.2 ARCHITECTURAL STRATEGIES

This is further translated into two architectural strategies that respond to the transformative approach towards the heritage of Constitution Hill Precinct. The strategies include: parasitic approaches and insertions.

parasitic approach

Parasitic relationships in architecture suggest a symbiotic relationship between the new and old.

The original or existing provides "key functions", like "structural support, access, ready-made integration into an existing historical and cultural fabric, and an existing infrasturture". The additions to the existing provide space and uses originally not anticipated (Bollack, 2013: 65).

insertions approach

Insertions "reinvigorate, repurpose and enhance the existing heritage fabric" (Queale, 2015: 6). The "container is the carrier of memories and emotions, and the insertion provides 'the new'" (Bollack, 2013: 23).

Insertions therefore provide "new uses, new sensibilities or new relevance for the existing structure" (Bollack, 2013: 23).

4.3.3 ARCHITECTURAL TRANSLATION

Finally, Kenneth Frampton's definitions of tectonic and stereotomic elements in architecture can give insight into how an architecture of solidity or light can be expressed formally and spatially when in relation to parasitic or insertions as architectural strategies (Figure 4.12).

architecture of light

An architecture of light allows the infiltration of the sky. As Frampton & Cava (2007: 5) states "tectonics of the frame, in which lightweight, linear components are assembled so as to encompass a spatial matrix".

architecture of solidity

An architecture of solidity retains its connection to the earth. Stemming from the Greek etymology of stereotomy, from "stereos, solid, and tomia, to cut" (Frampton & Cava, 2007: 5).

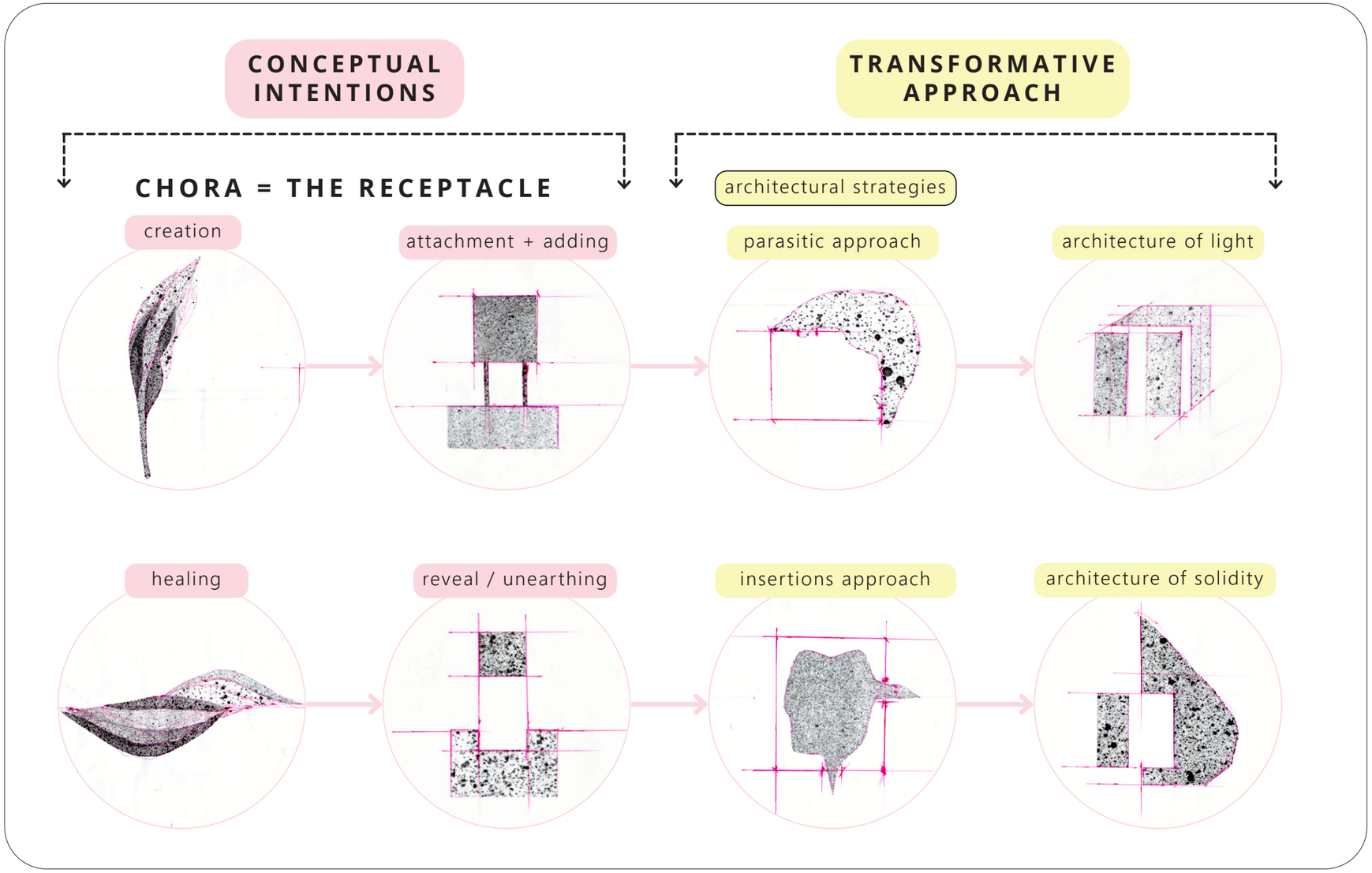


Figure 4.12 / Conceptual and architectural intentions.

4.4
CONCLUSION

The feminist understanding of the term chora aids in identifying a conceptual strategy that is transformative and adds to a palimpsestic or layered approach to architecture.

This allows for the architectural translation of the proposed heritage strategy, which is to adopt a transformative approach to the existing built fabric; where old and new are distinguished from another and additions are seen as extension of the existing themselves.

Parasitic and insertions are identified as architectural strategies to translate the conceptual notion of chora; which in summary can be described as a transformative process that allows for healing and creation to take place. The architectural strategies are further translated to define stereotomic and tectonic intentions; which is subsequently reflected in the touchstone (Figures 4.2-Figures 4.4).

The conceptual idea of chora is therefore used to identify a conceptual approach to architecture and link the transformative heritage strategy to architectural principles.

CHAPTER 05

PROGRAMME, CLIENT + USER GROUPS

Figure 5.1 / Graffiti alongside Joubert Street.

Chapter 5 introduces the programme, client and user groups for the proposed design intervention, where women are identified as the primary users. General user groups and key female personas and their imagined narratives help define the programmatic informants. Precedent studies aid in understanding programmatic intentions and requirements.

5.1
USER GROUPS

Although the project is intended for the benefit for all users, the aim is to provide spaces for women. For the purpose of the project, the user relationships are therefore depicted in a hierarchical format. The primary user groups include women, whereas the secondary users include the community in transit, the vulnerable, ex-prisoners and their families as well as the tourist or visitor to the Precinct. Lastly, the third user groups, referred to as the custodians of space, support the primary and secondary user groups. The custodians include: the community, non-profit organisations, law makers, staff, support personnel and government commissions and partners.

5.2
CLIENTS

- The clients of the intervention function in a hierarchical format where the core governing bodies such as the Constitution Hill Precinct and SOCA (Sexual Offences + Community Affairs Unit) provide support for women-focused NGOs. Focus is placed on ownership; therefore, it is crucial that part of the intervention is bestowed to the community.

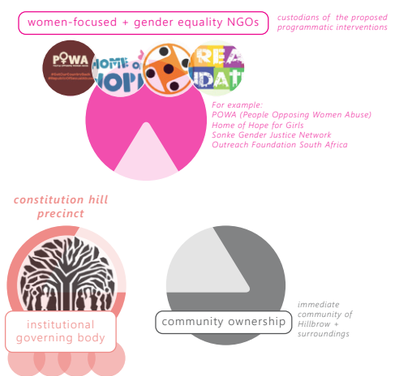


Diagram 5.1 / Clients.

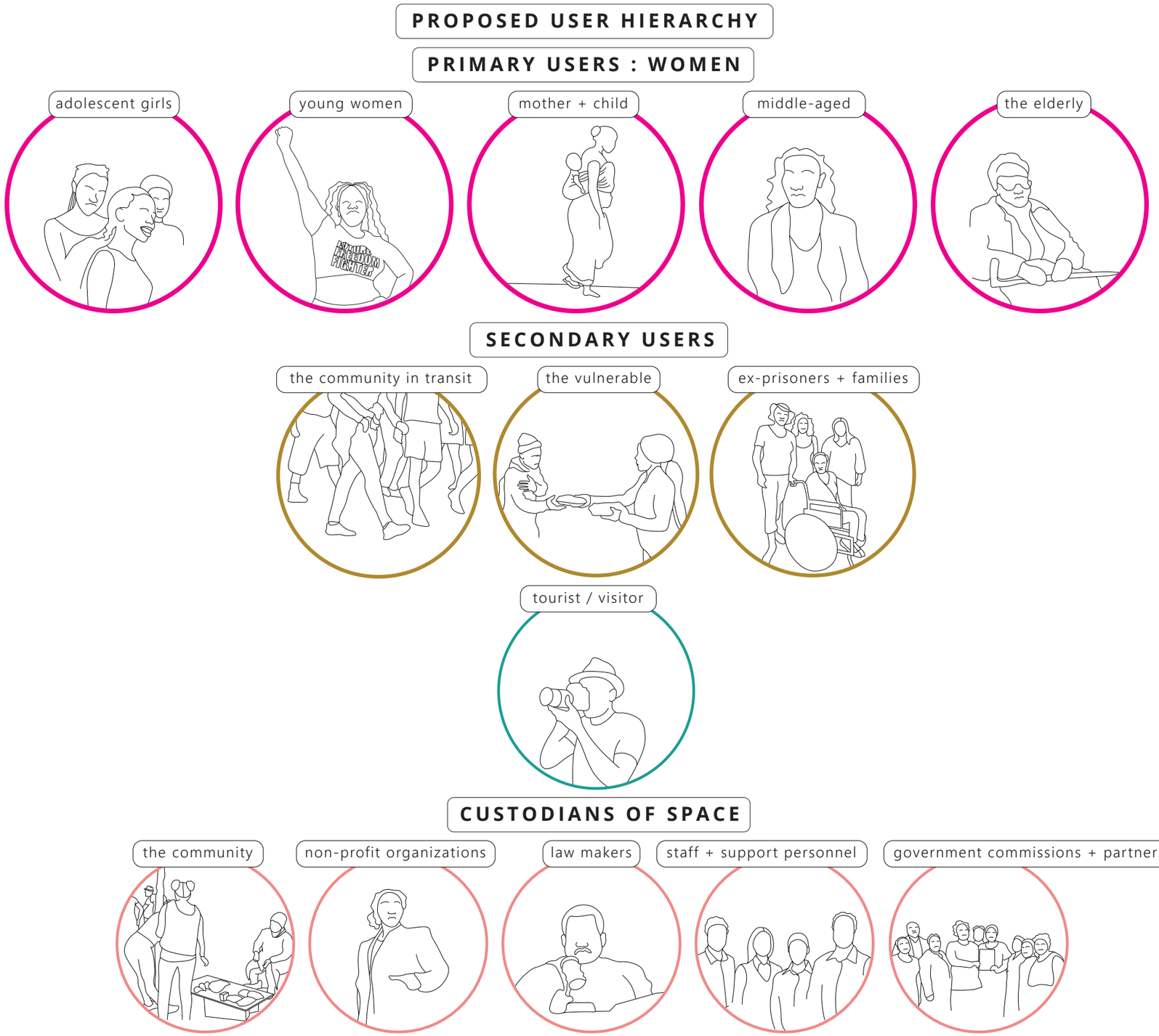


Figure 5.2 / User groups and relationships.

5.3
NARRATING THE LIVED EXPERIENCES & SOCIAL REALITIES OF WOMEN

Narrating the lives of women who would interact with the proposed intervention at the Constitution Hill Precinct aims to depict social realities, lived experiences, and spatial geographies of safe and unsafe space as this is experienced by women and girls residing in Hillbrow, the inner-city of Johannesburg and its surrounding communities.

The narratives highlight the systemic issue of Violence Against Women and aim to portray that this violence occurs both in the public and private realm. It also aims to depict that instances of Violence Against Women have become a societal norm and that it forms part of a women's everyday experience.

Women and young girls therefore adapt and become resilient to "reframe their surroundings in more positive ways that may ultimately serve to lessen the risk, fear or trauma associated with living in the inner-city" (Scorgie et al., 2017).

Sources consulted to construct narrative include:
(Scorgie et al., 2017)
(Amacreatives, 2020)
(Home of Hope for Girls, 2020b)
(Outreach Foundation, 2019)
(Site Specific, 2020)
(POWA, 2020)
(Sonke Gender Justice, 2020)

adolescent girls



I am an adolescent girl.
I am 15 years old.
In spite of its crime,
I call Hillbrow my home.

I live in a flat
with my uncle and his wife,
after my mother passed away.

I enjoy meeting up with my friends
after school or on weekends,
especially at the church, theatre,
library or park, (even if its only
during the day).

When it starts to get dark we know
we have to be in doors, an "informal
curfew". When we walk home, we
know which routes are safe and
which are dangerous.

Yet, sometimes I don't want to go
home, it is not always safe.
On those nights I sleep over at a
friend's house.

Although my friends are my pillars of
strength, I wish I could get support
from other adults, share and express
my feelings in a safe environment.

young women



I am a young women.
I am 25 years old.
I was born and raised in Hillbrow.

I am studying to become a lawyer at
Wits.

I stand up for my rights.
I empower myself.
I am proud of who I am.

I support the right
to freedom and equality.

Yet, I cannot move freely.

I am restricted.

I am controlled by time, space and
place.

I am bound by the invisible and
physical boundaries constructed by
societal norms of Violence Against
Women in my community.

I want to shout! STOP.

I AM YOUR EQUAL.

mother + child



I am a mother.
I am 35 years old.
I have come to Johannesburg from
Zimbabwe
to find better opportunities for
me and my children.

I am a provider.

I work to support my family.
I dream of becoming independent,
perhaps a business women or artist.

I care for my community.

We look after each other,
a network of strong women.
As I know the city is not always kind.
It is safe for some, and not for
others.

I long for the day to call the city a
safe place.

middle-aged



I am a middle-aged woman.
I am 45 years old.
I live in Braamfontein, and work in
Hillbrow.

I am a care-giver.

I own a local non-profit organization
and pride myself in mentoring young
women and girls.

I aim to help young people overcome
the psychological harm caused by
experiences of violence through
education, counseling and creating
a safe space for them to feel
empowered.

I know living in the inner-city has its
challenges, I wish for more women
and girls to know that there are
support services, programmes and
resources available to them.

the elderly



I am an elderly women.
I am 75 years old.
I live alone in an apartment in
Hillbrow.

I uplift my community by doing
charity work.

I moved to Johannesburg during
the 1970's. Although the city has
changed over the years, it is still a
place of hope and resilience.

I sometimes feel unsafe in my
apartment, as there is a lot of crime,
violence and drugs. Yet, the church
and outreach centre is my sanctuary,
I feel a sense of community and
belonging when I am there.

I wish there were more public places
like this, where both young and old
can gather and support one another.

Figure 5.3 / Narratives of women.

5.4
PROGRAMME PRECEDENTS

The precedents shown attempt to inform and explain programmatic happenings as a narrative, symbolic and spatial experience when moving through the East-West corridor. The following themes inform the precedents: remembrance and commemoration, space as power, symbolic gestures, social support services and public infrastructure.

- **REMEMBRANCE + COMMEMORATION**

A.
VIETNAM VETERAN'S MEMORIAL
MAYA LIN
NATIONAL MALL, WASHINGTON D.C.
1982

The Vietnam War, lasted from the late 1950's up until the 1970's. A need was identified to create a single place of recognition or mourning for the nation (Hobbs, 2014: 60). Maya Lin won the design competition by proposing a v-shaped insertion in the landscape, sloping gently into the ground, which was defined by two angled polished granite walls (Hobbs, 2014: 64). The names of those who passed away and those who are unaccounted for are inscribed on the wall, where the viewer "connects emotionally to those being mourned" as they see their own reflection on the wall's surface (Hobbs, 2014: 61).

The abstract design, almost like a "blank slate" is seen as a refreshing departure from traditional memorial architecture as viewers are able to make their own meanings and conclusions (Hobbs, 2014: 65).

LESSONS LEARNT
The precedent showcases how a purposeful incision in the landscape can inform a self-reflective experience and commemorate a happening to a multitude of audiences. A linear progression is used to circulate through the memorial, creating an arc of reflection.



Right
Figure 5.4 /
Incision in the landscape.
Figure 5.5 /
View of memorial.

- **SPACE AS POWER**

A.
MOTHERS OF PLAZA DE MAYO
PLAZA DE MAYO
30 APRIL 1977

On 30 April 1977, 14 women gathered around Buenos Aire's Plaza de Mayo in protest of their missing children and to confront the Argentinian dictatorship responsible. The mothers wore white headscarfs which soon became an international symbol for the struggle for human rights, specifically for women in public spaces (Perelman & Torras, 2020). This reoccurring event has defined the mother's protest as a "symbolic, social and political link between street mobilization, human rights and democracy" (Perelman & Torras, 2020).

The mothers have marched for 40 years and counting, with up to 2037 marches to signify their protest against the government and to demand justice for their missing children. As from 2016, more than 1000 of the dictatorship's killers and torturers have been tried with 700 being sentenced (Goñi, 2017). The notion of "space as power" (Torre, 2000: 141) is illustrative of the critical relationship between power and space, where marginalized populations, such as women, have acted to appropriate public sites in order to symbolise their exclusion or oppression.

LESSONS LEARNT
Appropriations whether in the form of large mass demonstrations or intimate displays in public settings, such as private offerings and mementos, establishes a women's rights to both inhabit and transform the public realm of the city (Torre, 2000: 141). It is through such actions that women are "transformative subjects, altering society's perception of public space and inscribing their own stories into the urban palimpsest" (Torre, 2000: 141).



Left
Figure 5.6 /
Map of Plaza de Mayo.
Figure 5.7 /
Women's march around statue.

- **SYMBOLIC GESTURES**

A.
THE FEARLESS GIRL BRONZE-STATUE
KRISTEN VISBAL
MANHATTAN, NEW YORK
2017

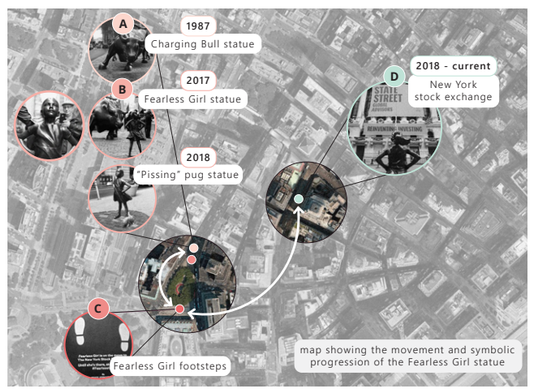
After the 1987 Black Monday stock market crash, the Charging Bull, designed by Arthur Di Modica, was installed in the Financial District in Lower Manhattan, close to Wall Street, to symbolise America's financial resilience and "can-do" attitude (Kagan, 2020).

In March 2017, the Fearless Girl statue, designed by Kristen Visbal, was installed in front of the Charging Bull statue to symbolise women's empowerment (Bekiempis, 2018).

After the artist, Alex Gardega, felt that the juxtaposition between the girl and the bull was disrespectful towards the original intent of the Charging Bull, he placed a statue of a pug urinating next to the Fearless Girl statue. Although temporary, the gesture drew commentary from feminist groups; inciting that the pug was distasteful and insulting towards women (Chainey, 2017).

Officials decided to relocate the Fearless Girls statue at the end of 2018 to its permanent position in front of the New York Stock Exchange to signifying female leadership (Garcia, 2018).

LESSONS LEARNT
The precedent showcases how statues or works of art can alter public space and public perception through symbolic gestures. Symbolic gestures included either moving the statue's locations or adding to the statues, thereby altering their original intent, public perception and symbolism.



Right
Figure 5.8 /
Movement of statue.

- SOCIAL SUPPORT SERVICES

A.
HILLBROW THEATRE
LOCAL STUDIO
HILLBROW
2015

As seen in the image below, mapping conducted by Scorgie et al. (2017) (c.f. 2.6), identified Hillbrow Theatre as a safe space. The identification of the precedent provides some clues as to what makes the architecture successful in how it caters to the community of Hillbrow.

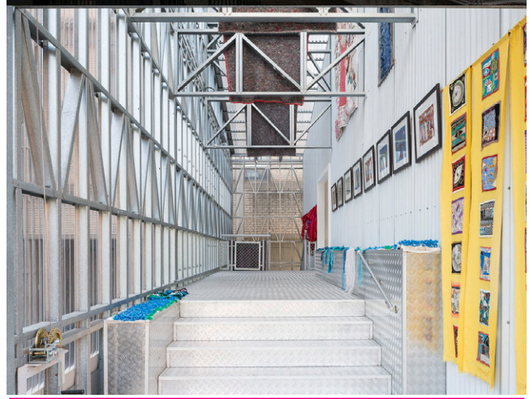
The project is located on the premises of the Lutheran Church and built on a staggered rooftop of an unfinished community hall (Local Studio, 2015). The new building houses three primary functions: a computer centre, a dance studio and office spaces.

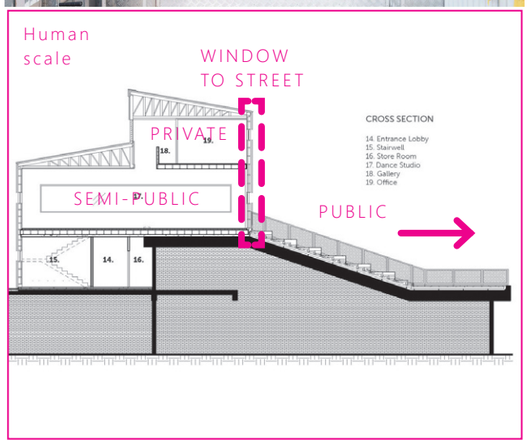
The building makes use of a vertical street, "in the form of an open staircase", "which invites the users from the central courtyard up to the public roof garden" (Local Studio, 2015). The roof garden allows the building to form part of the city's street scape. The building extends to its outer perimeters and opens up to the passerby, through the addition of a bench on the opposite side of the street (Local Studio, 2015).

The Hillbrow Theatre responds positively towards its street edges. In addition, its scale has a human factor to it, making it approachable. The Hillbrow Theatre serves as a valuable precedent as it illustrates the catalytic potential of architecture to be responsive towards its community.



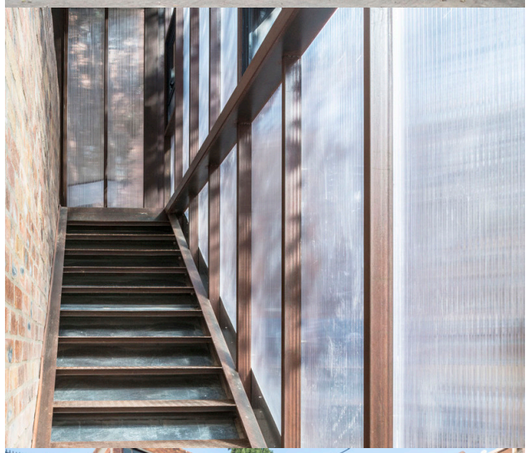




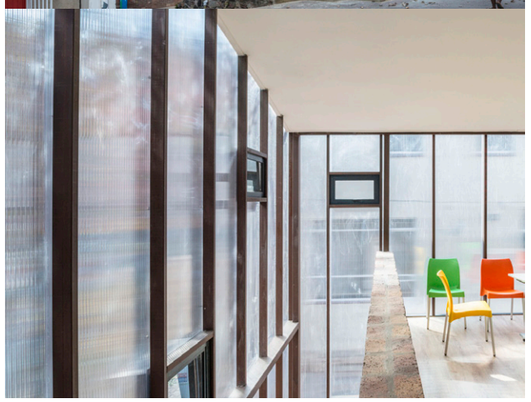


Right
Figure 5.9 /
Hillbrow Theatre in context.
Figure 5.10 /
Entrance to the building.
Figure 5.11 /
Vertical street.
Figure 5.12 /
Section showing public private relationships.









B.
HILLBROW COUNSELLING CENTRE
LOCAL STUDIO
HILLBROW
2017

Local Studio was tasked to create a singular centre that would unify the scattered counselling facilities on the site. New facilities include consultation rooms, a meeting room and work spaces where a sky bridge from the new building connects to an existing building housing the Boitumelo Project, a women's NGO focused on sewing and embroidery (Abdel & Southwood, 2017).

The aim of the new addition is to create a landmark in the area that is striking and attractive. To accommodate both privacy of use and the creation of a transparent facade, mottled polycarbonate sheeting was chosen to mimic a cocoon-like structure (Abdel & Southwood, 2017). The façade therefore "allows for the animation of the façade by changing colours and silhouettes of the interior, without revealing the inhabitants' faces" (Abdel & Southwood, 2017).

The precedent is useful as it showcases how an unassuming programme, like a counselling centre, can serve as landmark in the landscape; where the architecture is based on human scale, emphasising community and a sense of upliftment. The integration of the building with other NGO facilities speaks to an architecture of adaptability.

Left
Figure 5.13 /
Exterior view of counselling centre.
Figure 5.14 /
Interior staircase filled with light.
Figure 5.15 /
Connection to the existing NGO facilities.
Figure 5.16 /
Office space showcasing dappled light.

C.
THUTHUZELA CARE CENTRE
SOUTH AFRICA
ESTABLISHED EARLY 2000'S

A Thuthuzela Care Centre (TCC) is referred to as an all-encompassing 24-hour facility that provides legal, psychological, social and emergency medical assistance to women who recently were the objects of violence and abuse (Foundation for Professional Development, 2016: 23).

By providing such services secondary victimisation is improved, conviction rates are faster and women are able to experience a sense of healing quicker.

The chief aim of the centres are to be victim friendly by providing comfort and dignity at a time when women feel the most unsafe or vulnerable. The South African government started to introduce the concept in the early 2000's and have since then established 55 centres across the country (Foundation for Professional Development, 2016: 15). The model is led by the Sexual Offences and Community Affairs Unit (SOCA) along with other governmental partners and non-profit organisations.

As stated by the Foundation for Professional Development (2016: 16), factors that influence the success of TCC's include:

- Human resources
- Accessibility
- Health services
- Psychological support
- Equipment and supplies
- Transport

Core members of staff include:

SUPPORT STAFF
- Case manager (full-time)
- Victims assistance officer (full-time)
- Site coordinator (full-time)
- Social worker (full-time)
- On call trained lawyers, police and psychologists
- On call trained personnel to transport victims

MEDICAL SUPPORT STAFF
- Part-time (or full-time) doctor
- Part-time forensic nurse (or full-time)

PROCESS
As depicted in Figure 5.17, when a victim arrives at the centre the following process is followed:

1

The victim is received and welcomed by the site coordinator, where an explanation of the procedures is followed. A trained female officer can support in the receiving process to ensure safety for the victim (Foundation for Professional Development, 2016: 40).

2

If needed, the woman will be taken for a medical forensic exam, where a forensic nurse and doctor will provide emergency medical care (Foundation for Professional Development, 2016: 39). Emergency medical care includes a "medico-legal" examination and prophylaxis against STI's, HIV and pregnancy (Foundation for Professional Development, 2016: 39).

3

An opportunity is provided for the victim to shower as well as a change of clothes.

4

After which, immediate psychosocial support is provided by qualified staff (Foundation for Professional Development, 2016: 39).

5

A post-trauma plan is provided to ensure continuing emotional support, care and healing for the victim. This includes making provision for women to gain a new sense of control in their work, home environment, social and personal goals.

6

The relevant trained professionals are called in to assist with case reporting, statement and court preparation.

7

Finally, if needed, transport home or to a place of safety is provided (Foundation for Professional Development, 2016: 39).

LESSONS LEARNT
The social support services precedents illustrate how an architecture of safe space can be cultivated through lived experiences. The architecture becomes an associated space of safety and a landmark in the city for the community. The buildings are able to adapt to become multipurpose and are designed to engage the user at a human scale. The relationship between public, private and semi-public space are demarcated, whilst still aiming to serve the community at large. Furthermore, the Thuthuzela Care Centre (TCC) model provides a contextual strategy with regards to identifying an architectural response for victims of violence. Although often used in conjunction with a clinic or court, an opportunity is identified to appropriate the model's core values and principles in the creation of safe space for women at the Precinct.



Figure 5.17 / Processes of Thuthuzela Care Centres.

- **PUBLIC INFRASTRUCTURE**

A.
TKTS BOOTH
PERKINS EASTMAN + CHOI ROPIHA
NEW YORK
2008

The staircase and ticket booth, located in Times Square, formally responds to its slender-triangular-shaped site, a public park called Father Duffy Square (Perkins Eastman & Choi Ropiha, 2008).

The structure functions beyond its primary use as a ticket booth selling discounted tickets for Broadway by becoming a "civic magnet" and a "public theatre of its own" (Eastman, 2012). The staircase, acting as the booth's roof and constructed out of red laminated glass, provides opportunities for passers-by to stop, rest and look out onto the square's views (Eastman, 2012).

The treads are lit with LED lights 24 hours a day to give the illusion of a "shimmering floating carpet of colour and light" (Perkins Eastman & Choi Ropiha, 2008); making the staircase a landmark in Times Square.



Right
Figure 5.18 /
Collage of TKTS Booth.



B.
VICTORIA ON THE RIVER
EDWARDS WHITE ARCHITECTS
NEW ZEALAND
2018

The river walk, consisting of a ramp and staircase, form a public space that connects the city back to the river (Pintos, 2018). The design has two main functions: firstly, to create a destination where people can pause, interact and enjoy views to the city, and secondly, to link the lower river path with the upper promenade and main street (Pintos, 2018).

Surface treatments enhance the spatial experience of the promenade by visually delineating each level, whereas greenery softens the angular lines of the landscape (Pintos, 2018). The ramp spans across a 28-meter level difference and integrates its landings as terraced seating to become spaces of social gathering and vantage points; inviting the public to engage. The value of the ramp and staircase provides platforms and infrastructure for public use in addition to acting as a connecting device.

LESSONS LEARNT

Both precedents form a promenade and landmark through the use of ramps and staircases. Landings and greenery are used as points of social friction and gathering, whilst providing views to the city. Surface treatments add texture and visual demarcation of level differences. One critique of the Victoria on the river precedent would be that the ramp could be made more inclusive through the use of handrails.

Left
Figure 5.19 /
Collage of Victoria on the River.

5.5
PROGRAMME

The core programmatic informants include: programmatic precedents studies (c.f. 5.4), theoretical framework (c.f. Chapter 2), context and the urban analysis (c.f. Chapter 3).

The over-arching programme is called a place for women, comprising of a series of events that unfold between the East-West pedestrian thoroughfare between Hillbrow and the Johannesburg CBD.

In lieu of the project focus, detailed attention is placed on the Western edge of the Precinct where the social support services for women, the open market, the extension of the public square and amphitheater are located.

The social support services consist of two over-arching programmes, which include support services for women, based on the Thuthuzela Care Centre (TCC); and a community hall, art gallery and workshop. The programmes are divided into two wings which will be referred to as the First and Second Wing.

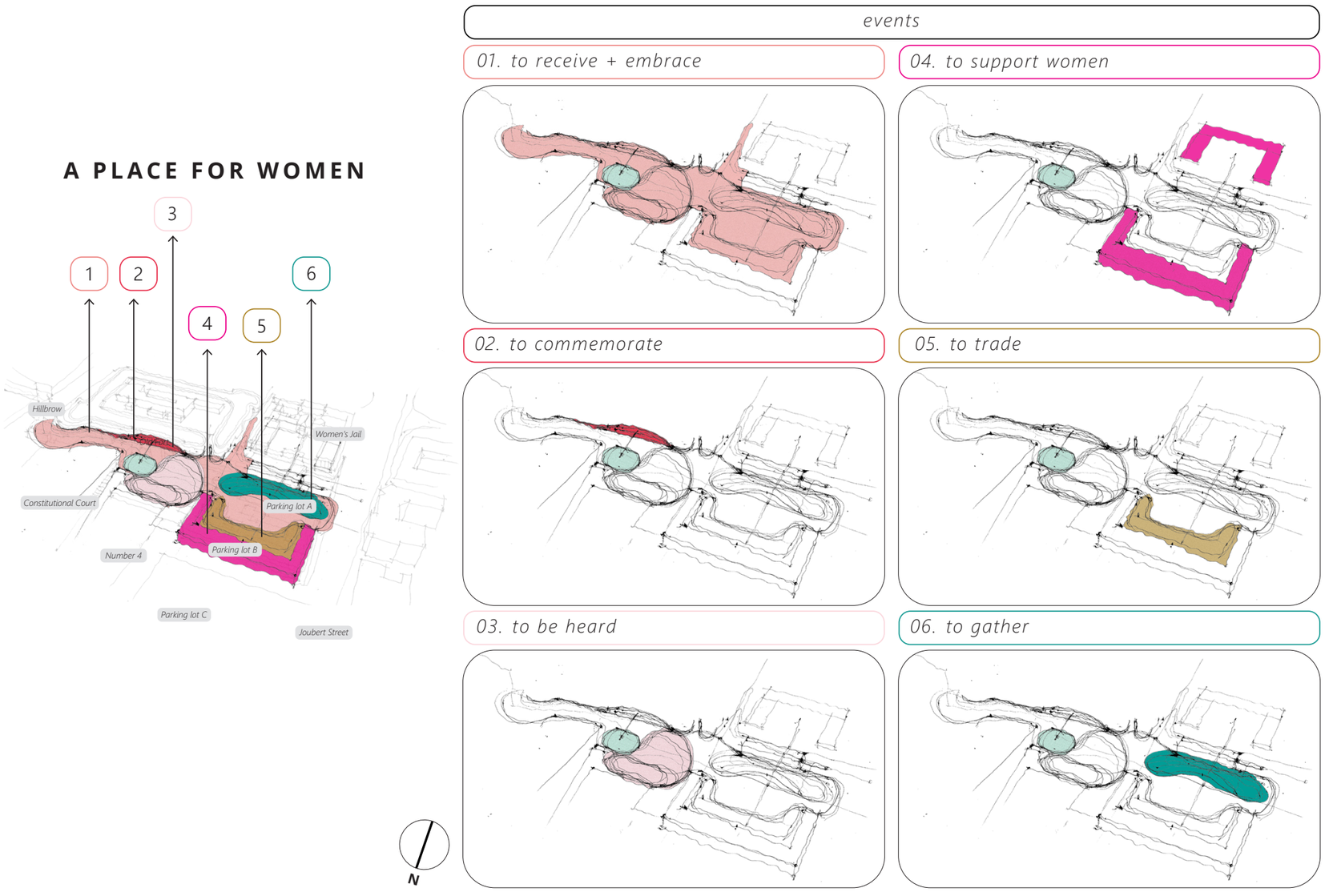
The six events identified to describe the narrative experience along the East-West thoroughfare unfold according to use (and not necessarily in order). The events include:

- ***Event 01 /*** to receive and embrace
- ***Event 02 /*** to commemorate
- ***Event 03 /*** to be heard
- ***Event 04 /*** to support women
- ***Event 05 /*** to trade
- ***Event 06 /*** to gather

5.5.1
EVENTS + USERS

The Six Events are described on the following pages. Events 01 through 03 are limited to conceptual exploration, while Events 04 through 06 serve as the focus for Design Development and Technical Resolution. Tables informing programmatic requirements are added as an appendix.

Users of the space are divided into primary, secondary users and custodians of space (c.f. Figure 5.2).



Above
Figure 5.20 /
Programme.

Next page
Figure 5.21 /
Event 01.
Figure 5.22 /
Event 02.
Figure 5.23 /
Event 03.
Figure 5.24 /
Event 04.

EVENT 01 /
To receive and embrace

Event 01 is defined by the activated edges of the Precinct, namely: when entering the Precinct from either Joubert Street, when entering the Precinct from Queens Street or when entering the Precinct from Parking lot A's ascension core.

The Precinct should be inviting to the pedestrian or visitor by providing spaces for gathering, lingering and everyday use.

Users





EVENT 02 /
To commemorate

The purpose of commemoration serves as a living memorial and interactive space to remember, acknowledge and represent victims of violence, particularly victims of Violence Against Women, past and present.

The memorial, abstract and adaptable in its typology and function aims to remember the past, whilst aiming to promote present issues of Violence Against Women. The wall becomes a visual representation of how violence has affected the country in the past and present. The fort is cut open to expose an "open-wound" – its relationship to the Constitutional Court's forecourt signifies its importance as a space to validate human rights, but particularly those of women and the vulnerable.

Users





EVENT 03 /
To be heard

Platforms of expression enable spontaneous and planned events to occur. The space is multipurpose and aims to connect the everyday to public institutions like the Constitutional Court.

The programme acknowledges that events and protests do occur regularly at the Precinct, and thus this event slots in with the Precinct's current mandate.

Users





EVENT 04 /
To support women

The social support services consist of two wings of programmes to support women. The First Wing consists of social support services for women based on the Thuthuzela Care Centre (TCC) model (c.f. 5.4); whereas the Second Wing consists of a a community hall, art gallery and workshop. The First Wing is intended to be more private and intentionally secure and surveillanced passively than the Second, more public, Wing. The journey to reach the Second Wing is one of celebration; whereas the First Wing provides privacy and security. The subsequent paragraphs aim to further describe each wing and their various programmatic responses.

Users





first wing

second wing

The First Wing /
Thuthuzela Care Centre

As mentioned previously (c.f. 5.4), a Thuthuzela Care Centre (TCC) is an all-encompassing 24-hour facility that provides legal, psychological, social and emergency medical assistance to women who recently were the objects of violence and abuse (Foundation for Professional Development, 2016: 23). The TCC-based facility aims to showcase the integration of crucial support services for women, in a public space, such as the Constitution Hill Precinct, where its known association with justice and human dignity can inform safe space, both practically and socially, for women.

The TCC model is adapted to inform the programme, where core processes include:
1. Reception and welcome
2. Emergency medical care if needed
3. Shower facilities and a change of clothes
4. Psychosocial support services
5. Post trauma plan
6. Case management and court preparation
7. Transport home or a place of safety if needed

The TCC model accommodates 4 permanent and 6 temporary staff members, and can assist up to an estimated 10-60 women throughout the programmes.

Core members of staff include:

Support staff
Case manager (full-time)
Victims assistance officer (full-time)
Site coordinator (full-time)
Social worker (full-time)
On call trained lawyers, police and psychologists
On call trained personnel to transport victims

Medical support staff
Part-time (or full-time) doctor
Part-time forensic nurse (or full-time)

The Second Wing /
Community hall, art gallery + workshop

Forming part of the public realm of the square, the second wing, aims to celebrate the journey of empowered women and aims to invite the users from the local community, as well as tourists and the general public, into the public space.

Ascension from the Ground Floor to the First Floor becomes an important aspect of celebration, and can be executed through a ramp.

An art gallery and exhibition spaces provide platforms of expression for women and opportunities to integrate the display of archival artworks from the Constitutional Court Art Gallery. The artworks thus become accessible to the everyday user of the Precinct.

The art gallery, together with a multi-purpose community hall, provide instances where the community can gather and share to raise awareness surrounding issues like as Violence Against Women. Finally, workshop spaces, potentially for arts and crafts, promotes community ownership.

EVENT 05 /
To trade

The open market space aims to invite the women of Hillbrow and surrounding community to sell goods, like arts and crafts, to visitors of the Precinct. The arts and crafts sold can be produced in the workshop rooms mentioned earlier, forming part of the programmatic intentions to empower women socially and economically. Service infrastructure, like water points and electricity, provides for larger markets to occur.

The market space becomes an extension of the public square, where public gathering is encouraged. Seating plinths and landscaping give recognition and commemoration to the Old Demolished Mortuary.

Users





EVENT 06 /
To gather

An open-aired amphitheatre, connects the new extension of the square, the Women's Jail, the open market and social support services. The amphitheatre is placed on top of Parking Lot A contributing to the promenade experience. It is intended that the amphitheatre can accommodate events, festivals or other instances of gathering.

Users





Right
Figure 5.25 /
Event 05.

Figure 5.26 /
Event 06.

5.6
CONCLUSION

For Constitution Hill Precinct to function and signify as a safe space for women programmes need to respond to serve as social and community catalysts within the immediate context. Thus, the proposed programmes are strategically identified to offer function and meaning to the existing underutilised in-between spaces of the East-West thoroughfare.

The focus on the Western edge, where the market, social support services and amphitheatre are located, provide an opportunity to express the lived experiences of women through architecture, ultimately creating safe space.

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Figure 6.1 / View towards Constitution Square from Parking lot B.

CHAPTER 06
URBAN VISION

Chapter 6 introduces an Urban Vision for the Constitution Hill Precinct. The proposed Urban Vision incorporates relevant findings from existing urban frameworks previously completed for the Precinct. Urban design principles are introduced and informs the Urban Vision.

6.1 INFLUENCES

Key influences that shaped the Urban Vision include the following:

6.1.1 URBAN SCALE ANALYSIS
6.1.2 2001 URBAN FRAMEWORK
6.1.3 2012 URBAN FRAMEWORK
6.1.4 ZONE OF FOCUS
6.1.5 URBAN DESIGN PRECEDENTS

6.1.1 URBAN SCALE ANALYSIS

The urban and precinct analysis (Figure 6.2), completed earlier in this document (c.f. 3.3.1 and 3.3.2), suggests that the Precinct has developed in isolated pockets and does not lend itself to its full potential to its immediate and surrounding communities.

KEY

- *Safe space*
- *Social support services*
- *Arts, culture, heritage & landmarks*
- *Legal services & government offices*
- *Education*
- *Hospitals & clinics*
- *Places of religion*
- *Green public space*

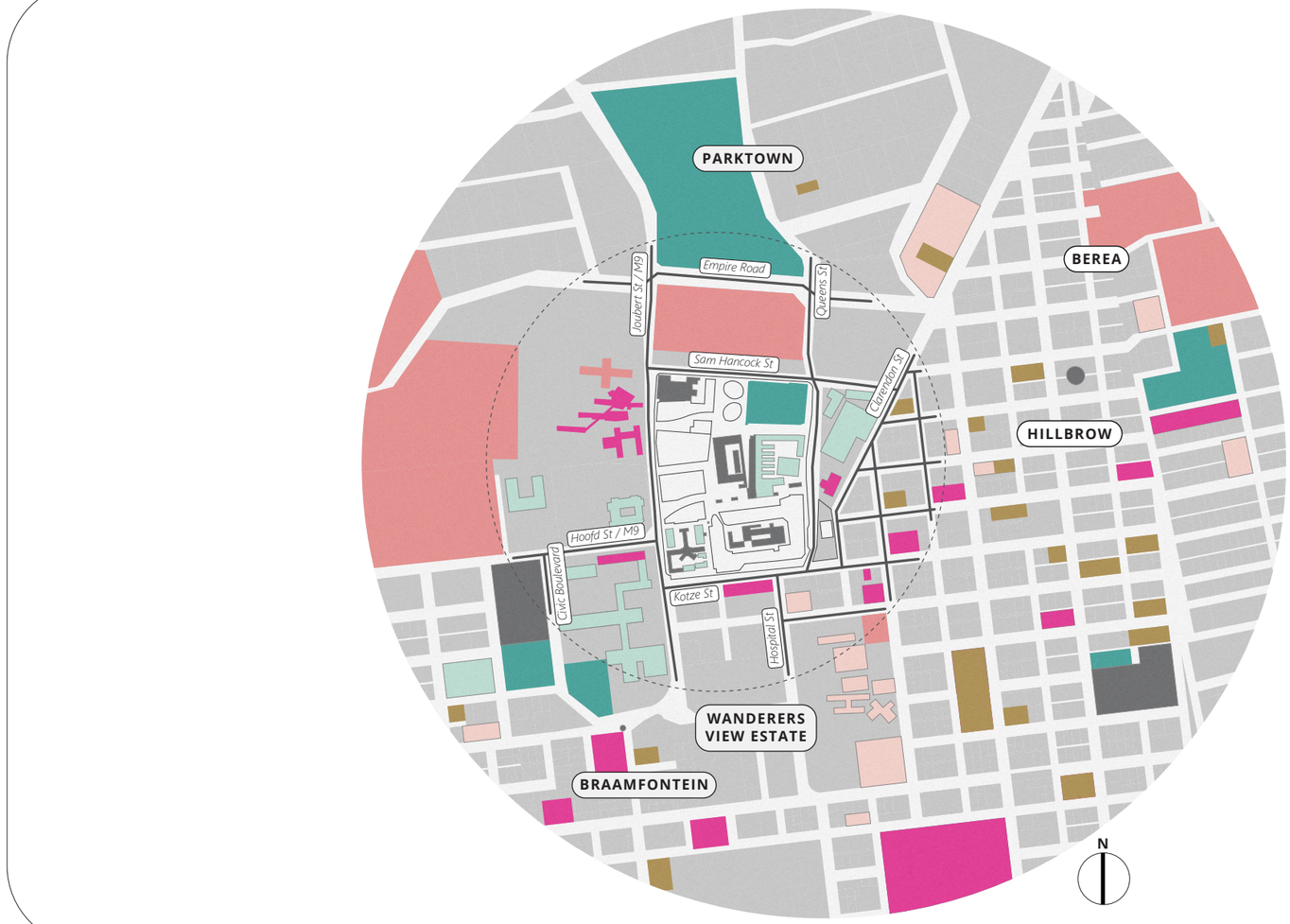
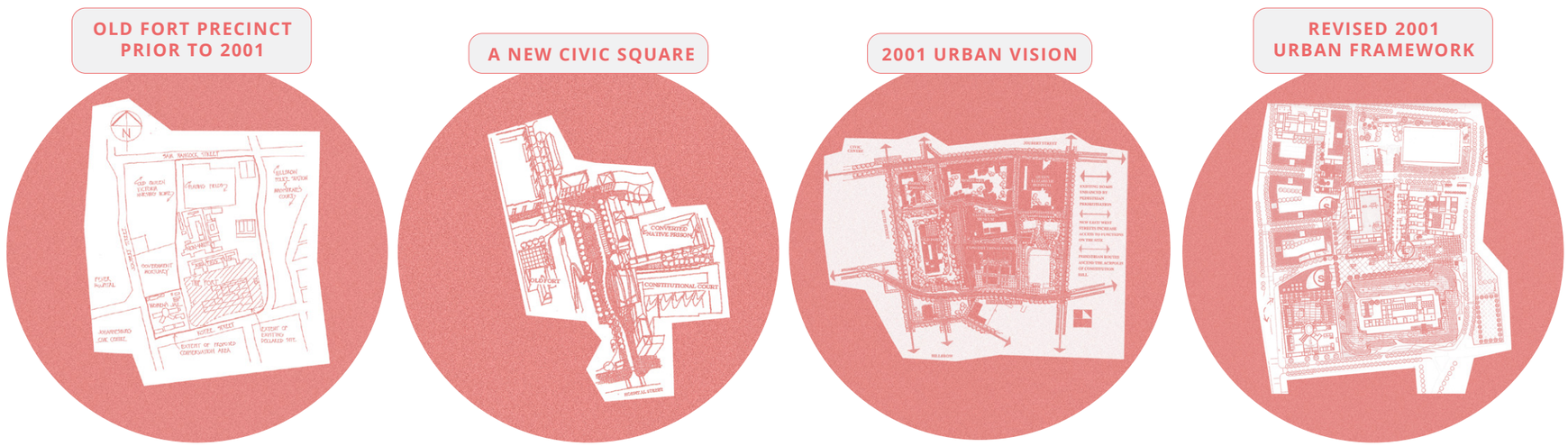


Figure 6.2 / Collective layers of the urban analysis.



Right
Figure 6.3 /
Old Fort Precinct prior to 2001.
Figure 6.4 /
Vision for the new civic square.
Figure 6.5 /
2001 Urban Vision.
Figure 6.6 /
Revised 2001 Urban Framework Master Plan.

6.1.2
2001 URBAN FRAMEWORK

In acknowledging the intention of the 2001 Frameworks initially proposed the Urban Vision for this project primarily recognises the intention of the framework to create a new civic square which would lend itself to the people. As the proposal describes a new civic square that would be: "edged by buildings, defined by street trees, allowing controlled vehicular access but primarily a place for people" (Segal et al., 2006: 91).

Core principles of the framework by OMM Design Workshop & Urban Solutions (2001: 4) include:

1. to provide a coherent, holistic, integrated and sustainable development of the Precinct;
2. to develop urban form that is more democratic in its attempts to empower people to access the city and its facilities;
3. integrated planning to ensure revitalisation of Constitution Hill Precinct and its surrounds;
4. to provide opportunities for social, economic and ecological sustainability; and
5. to correct the distorted spatial pattern of the apartheid city by reversing separation.

In terms of the urban design principles, new vehicular and pedestrian links are created between Joubert Street and Hospital Street in an East-West direction. Similarly, North-South pedestrian links are established between Kotze Street and Sam Hancock Street (Figure 6.5). The intention of the links is to encourage more pedestrian movement and passive surveillance through the site (Segal et al., 2006: 90). The 2001 Urban Framework (OMM Design Workshop & Urban Solutions) therefore aims to emphasise the Precinct's function to become part of the city's public open space network.

6.1.3
2012 URBAN FRAMEWORK

The Urban Vision for the project reaffirms its position within the framework revised in 2012 (Figure 6.7), and the Precinct's importance as part of the Johannesburg Cultural Arc (Diagram 6.1) (UrbanWorks Architecture & Urbanism et al., 2012: 41).

Core principles include:

1. Heritage and palimpsest;
2. Connectivity and acessibility;
3. Active streets and edges;
4. Views towards important features;
5. Facilitating an open space network; and
6. Materiality and layering.

6.1.4
ZONE OF FOCUS

As mentioned earlier in the document (c.f. 3.3.2) in which the zone of focus was introduced, reference is made to how the Parking Lot land parcels A and B are intended to be densified in the development of the Precinct.

When looking specifically at the zone of focus, the Western edge, where densification is planned, it is clear that the structures are designed to accommodate a significant amount of bulking.

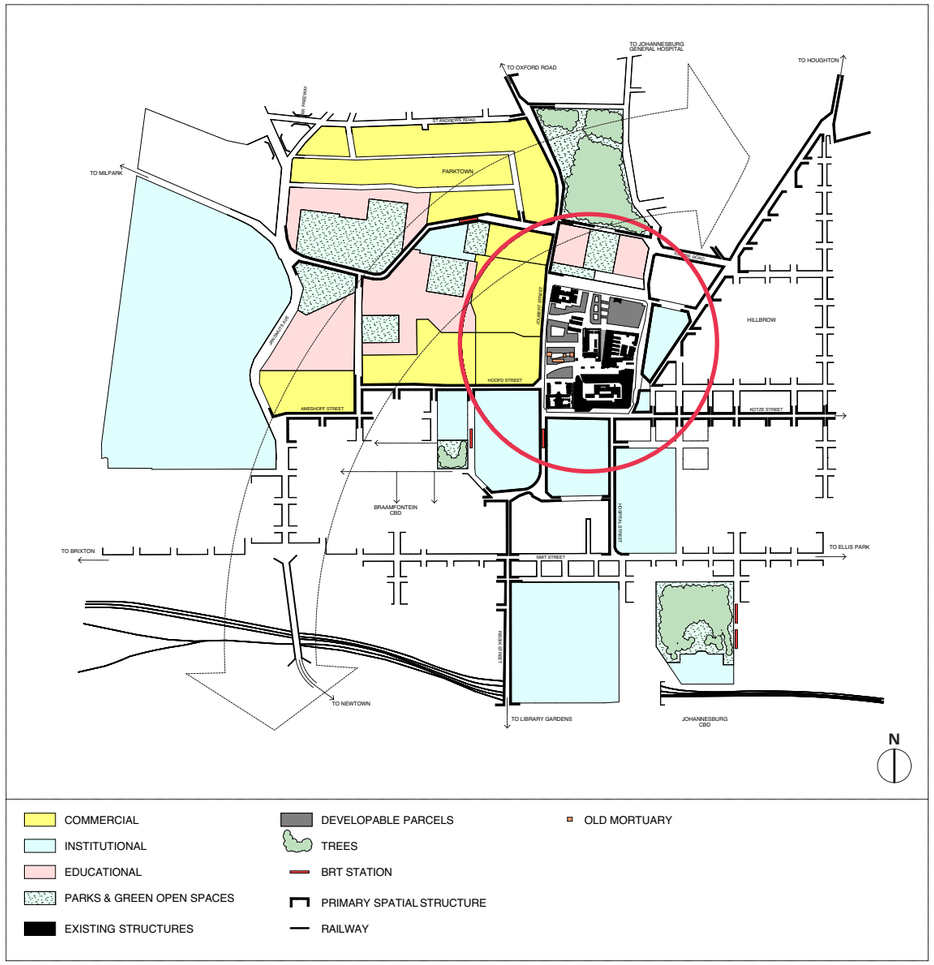
Parking lot A is zoned to accommodate 3 stories, whereas Parking lot B can accommodate up to 5 stories (UrbanWorks Architecture & Urbanism et al., 2012: 6).

Bottom left
Figure 6.7 /
2012 Urban Framework.

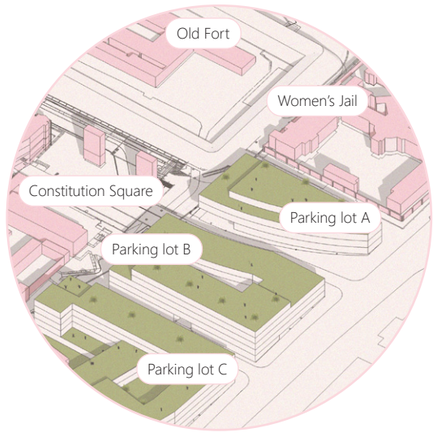
Top right
Figure 6.8 /
Proposed 2012 densification.

Bottom right
Diagram 6.1 /
Johannesburg Cultural Arc.

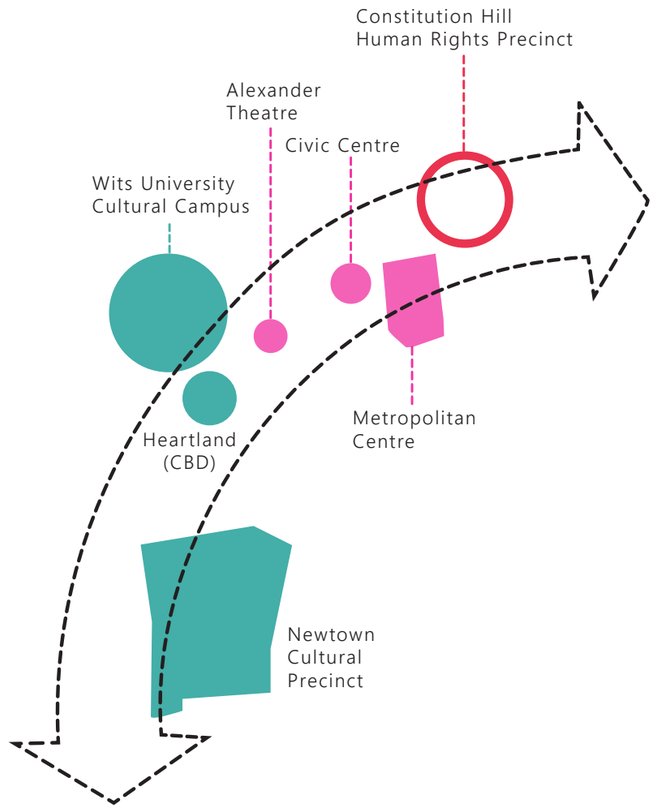
2012 URBAN FRAMEWORK



PROPOSED 2012 DENSIFICATION



JOHANNESBURG CULTURAL ARC



6.1.5
URBAN DESIGN PRECEDENTS

Three urban precedents informed the principles for the Urban Vision.

A.
"THE CITY WITH A FEMALE FACE"
VIENNA, AUSTRIA
2000

The city of Vienna, which is sometimes referred to as the "city with a female face" has committed itself to women's rights and gender-mainstreaming since 2000 (UN-Habitat, 2012: 33). Through gender mainstreaming strategies the city achieved a broader sense of inclusivity by making rules, laws and regulations that will benefit both society, men and women more equally. Gender-mainstreaming, synonymously referred to gender-sensitive urban design, is a gender-based strategy in urban planning that originated in Europe, aiming to promote gender-equality through planning and policy frameworks (Kern, 2020: loc. 780/3987). Based on its principles of equality, it is therefore closely related to the concept of the Feminist City.

LESSONS LEARNT

Women's needs were considered in the design of public space, housing, public transport and pedestrian-friendly design (Kern, 2020: 788/3987). For example, Seestadt in Aspern has named its important thoroughfares after strong women, citing that it helps shape their identity (Figure 6.9). Another example is the barrier-free ramp and staircase located in Vienna's Ninth District, which improved pedestrian mobility and resultantly formed zones of gathering in the community (Figure 6.10). The objective is that everyone has equal access to urban resources by reshaping the city.



Right
Figure 6.9 /
Seestadt in Aspern, Vienna.
Figure 6.10 /
Inclusive ramp and staircase.
Figure 6.11 /
Bird's-eye view of SESC Precinct.
Figure 6.12 /
View of leisure deck and sports centre.





Above, top to bottom
Figure 6.13 /
Shallow reflection pools softens space.
Figure 6.14 /
Hearths and seating for gathering.
Figure 6.15 /
Implemented VPUU in Harare.
Figure 6.16 /
View of community centre.

B.
SESC POMPEIA FACTORY
(LEISURE AND CULTURAL CENTRE)
LINA BO BARDI
SÃO PAULO, BRAZIL
1977-1986

The Old Drum Factory, now known as The SESC Pompéia cultural and leisure complex, was adapted by Lina Bo Bardi into a community space that invites the everyday community. An internal street is formed by creating a spine from which mix use programmes extend from. Elements like pebble-lined pools of water, light filled spaces and intimate gathering spaces surrounding a hearth were introduced to "dignify the human condition" (WikiArquitectura, 2020).

LESSONS LEARNT

The precedent deems as a valuable adaptive reuse project, where the main goal was to invite the spectacle of the everyday into an unutilised space.

C.
VPUU
(VIOLENCE PREVENTION THROUGH URBAN UPGRADING)
ACTIVE BOXES
CAPE TOWN
2016

The Violence Prevention Through Urban Upgrading Active Boxes (VPUU) in Cape Town promotes safer neighbourhoods through the design of an interconnected network of public space, where the buildings become visual markers and safety nodes in the landscape. The use of practical crime and safety strategies include the principle of "eyes on the street", designing for ownership, active edges, inclusivity, legibility of the built fabric, access and safe movement (VPUU, 2016).

LESSONS LEARNT

The precedent deems valuable as it illustrates how communities can assist in creating safer public spaces. The project makes use of a top-down approach, whilst inviting the community to participate. The precedent largely informed the Urban Design Principles of the project.

6.2
URBAN VISION

"An urban politics of care is enacted not only through an attachment to place, but as an active and collective working toward physical, symbolic, and relational transformations"
(Kern, 2020: loc. 867/3987).

A new layer is introduced to the existing Frameworks from 2001 to 2012 to place focus on how urban design can improve women and girl's experiences of the city and enhance inclusivity of the Constitution Hill Precinct through a gender-based strategy.

The Feminist City, which forms the over-arching idea of a gender-based strategy, must essentially be care-centred, and should aim to facilitate "the needs, demands, and desires of all women – women of colour, disabled women, queer women, single women caregivers, aging women...and for whom these identities intersect" (Kern, 2020: loc. 882,883/3987).

The strategy promotes activism of women and other marginalized communities through allowing individuals to freely access spaces of power and to confront governments and institutions. The Feminist City therefore measures its successes by the livability, comfortability and community engagement of people to use streets and public space (Kern, 2020: loc. 145/3987).

URBAN DESIGN PRINCIPLES

As indicated in Figure 6.18 on the following page, the Urban Design Principles (Figure 6.17) are applied in the following manner:

Civic square /

- Anchors of support or a network of safety extend beyond the Precinct, that would enhance the East-West pedestrian corridor and interaction of the Precinct with its surroundings.

- Extension of the Constitution Square, to form a more unified and defined public square. East-West axis is completely pedestrianised, where the drop-off points for tourist or visitors would include two lay-bys' in Queens Street and Joubert Street (M9), as well as using the existing dedicated entrance for vehicles at Precinct Road B. The intention to pedestrianise will significantly extend the pedestrian realm of the Precinct.

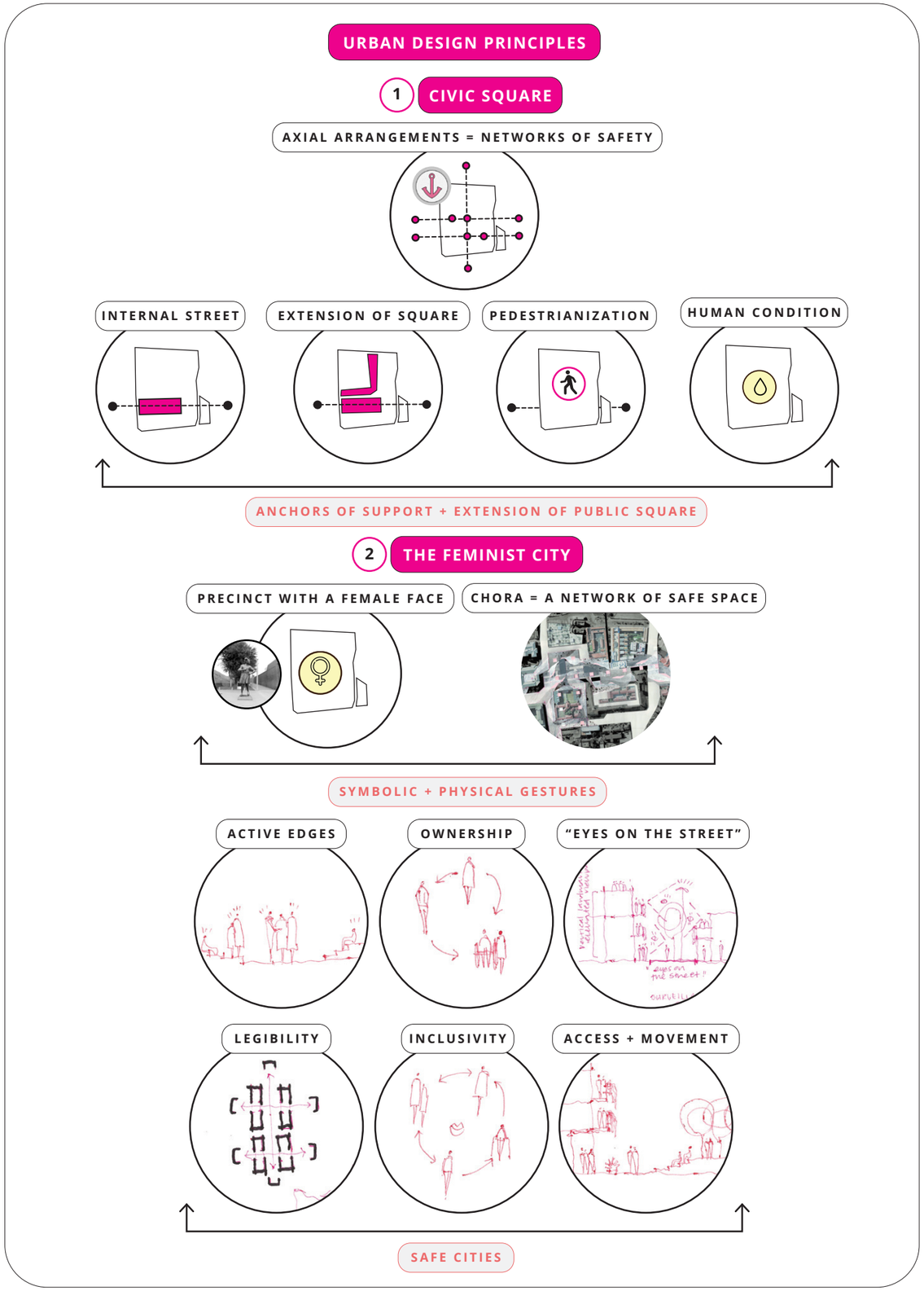
- Pedestrian-friendly interfaces when entering the Precinct from the East and West, emphasising the human condition.

The Feminist City /

- As a symbolic gesture to create a precinct with a female face, it is proposed to move the Statue of Hope to the centre of the new square.

- The Urban Vision is also influenced by the conceptual intention of the project, which refers to chora as a transformative process between being and becoming; where a network of interconnected safe spaces are formed.

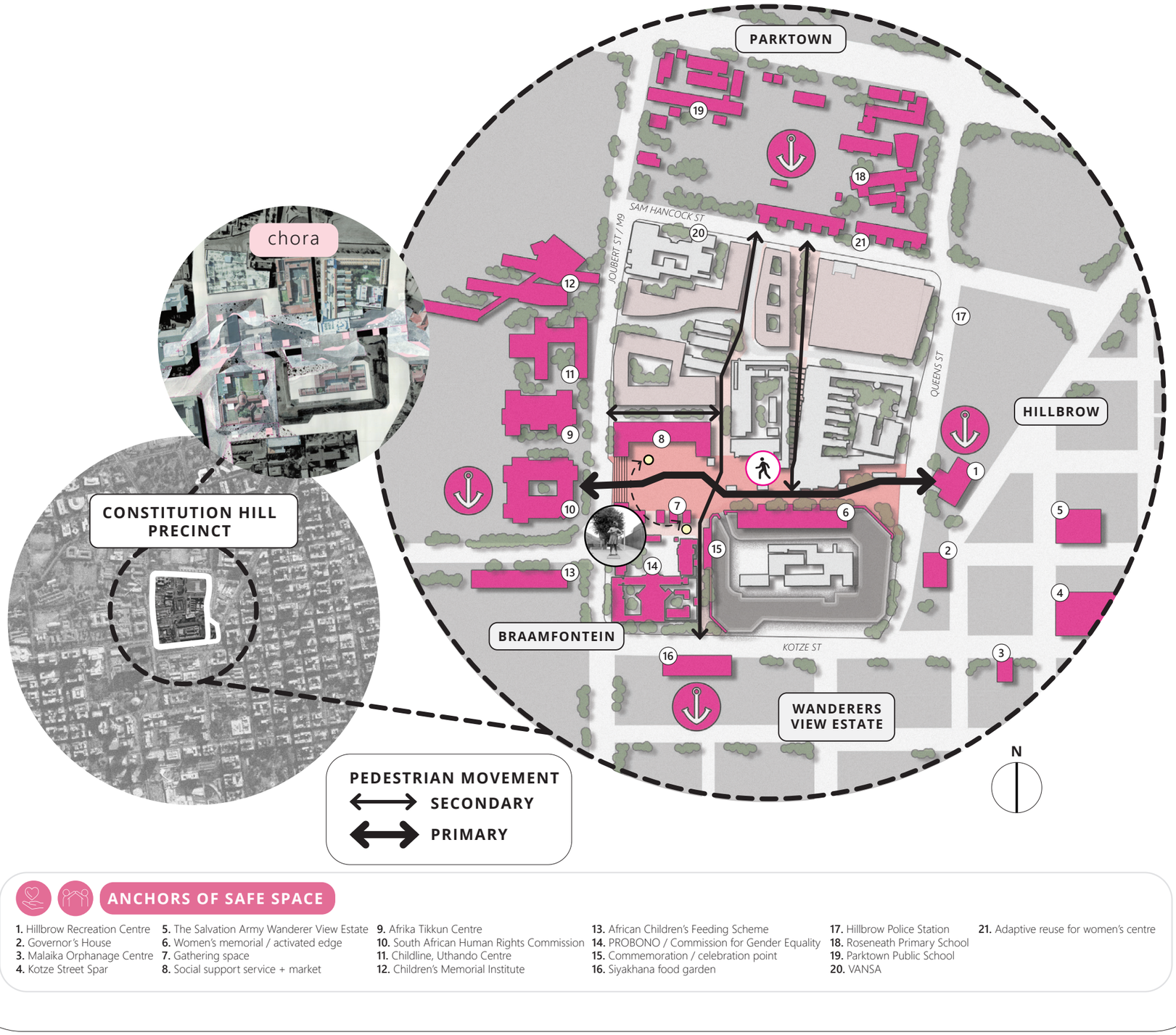
- Practical measures of safety promotes safer and more accessible public spaces for all.



Right
Figure 6.17 /
Urban Design Principles.

6.3
CONCLUSION

The proposed Urban Vision aims to exploit Constitution Hill Precinct's potential by extending its significance, function and symbolism beyond its current programs and use. In this way, the Precinct becomes a beacon of safe space, practically and socially, in the immediate urban landscape; providing spaces of refuge, healing and expression for those most vulnerable in society.



Right
Figure 6.18 /
Urban Vision.

Figure 7.1 / Graffiti Parking lot B.

CHAPTER 07
DESIGN DEVELOPMENT

Chapter 7 documents the design process and development. The design method followed an iterative process, repeatedly fine-tuning design responses to theoretical, contextual as well as user and programmatic informants. The articulation of design informants was an ongoing process in itself, with research continuing throughout the design-led process of investigation and exploration.

Initially theory and context drove the research to establish a conceptual approach and early design exploration. From there the design process took over and drove the research to provide further insight and refinement of the design. The design iterations also illustrate how the zone of focus evolved; all the while underpinned by core informants and design principles. The chapter is concluded with a presentation of the final design proposal through a combination of text and graphics.

7.1
DESIGN ITERATIONS

7.1.1
ITERATION 1

- **OVER-ARCHING INTENTION**

The first iteration forms the basis of the over-arching intention of the project, an expression of how lived experiences can be conveyed through architecture to inform safe space for women. The in-between spaces of the thoroughfare are populated to form an activated precinct **(Figure 7.2)**. Site lines and views to significant elements of the Precinct provided a means to overlay programmatic intentions.

The existing movement of the thoroughfare is articulated to form part of the functionality and symbolic significance of the Precinct; thereby transforming the existing to attain new relevance **(Figure 7.3)**. The primary axis forms a ceremonial progression into the square **(Figure 7.3)**.The promenade, consisting of ramps and staircases, therefore becomes an extension of the public realm **(Figure 7.4)**. As mentioned before **(c.f. 6.4)**, the Precinct attains a female face, by symbolically moving the statue of hope to the centre of the new square **(Figure 7.5)**. To commemorate the movement of the statue, landscaping will symbolize the traces and act as a mechanism to define the spatial sequencing through the site.

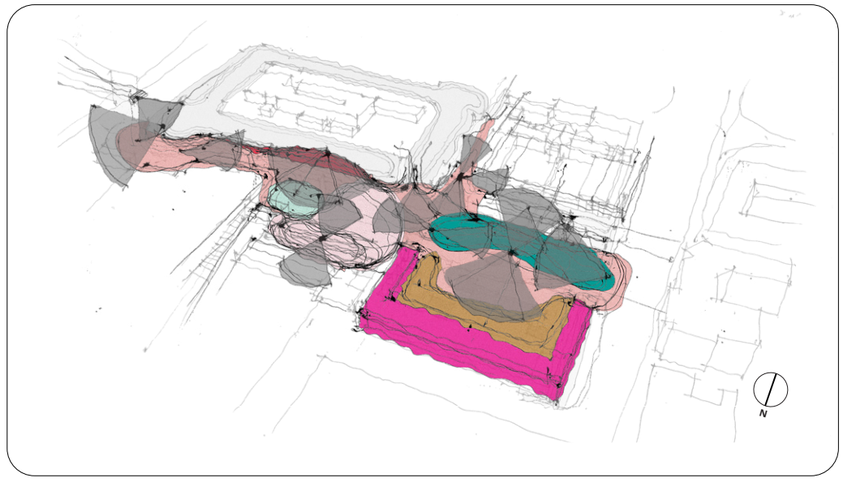


Figure 7.2 / Overlay of views and programme **(June)**.

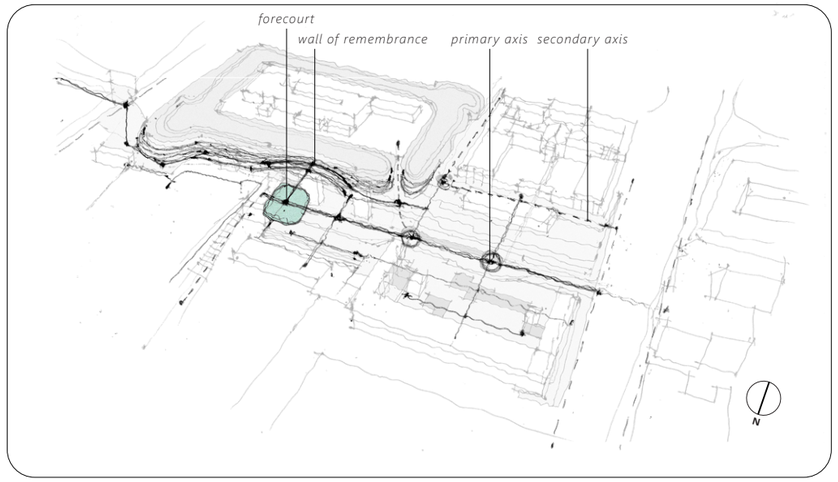


Figure 7.3 / Symbolic axial arrangement **(June)**.

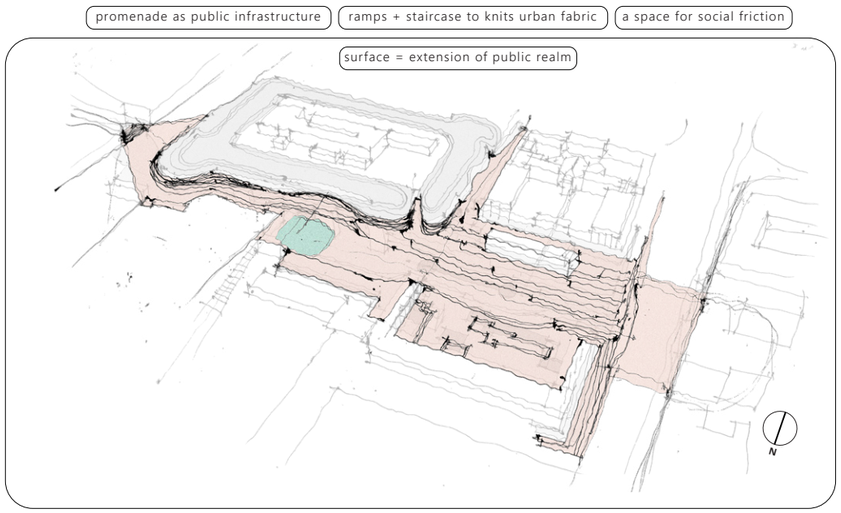


Figure 7.4 / Promenade forms part of public infrastructure **(June)**.

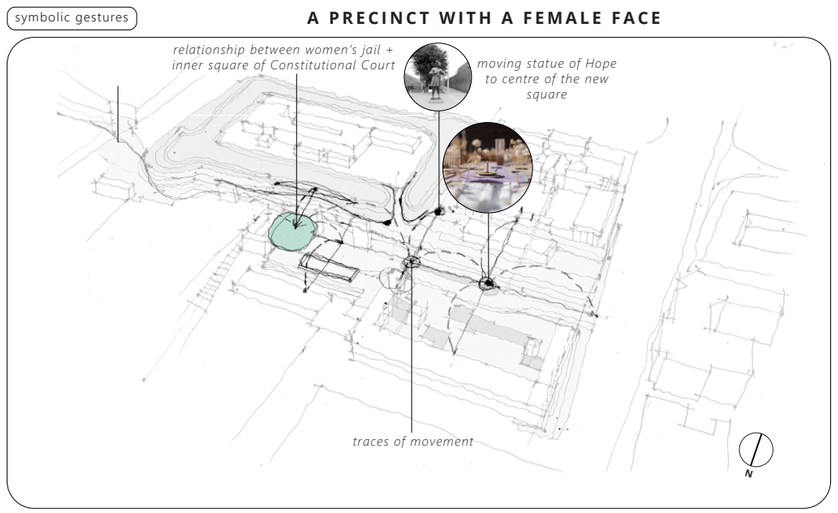


Figure 7.5 / Symbolic gestures forming a precinct with a female face **(June)**.

• ZONES OF FOCUS

Two zone of foci were developed, as indicated in the conceptual maquette and plans **(Figure 7.6, Figure 7.7 and Figure 7.8)**.

The first zone shows the interactive edge between Hillbrow and the Fort, leading into the Constitution Square and the insertion into the Old Fort wall, creating the memorial space **(Figure 7.8)**. The fort's dormant wall is given a new sense of purpose.

The second zone of focus showcases the social support services, the open market, the amphitheatre, and the extension of the Constitution Square, forming a unified square **(Figure 7.8)**. The second zone of focus is developed directly upon the existing super-basement parking lot structures, Parking lot A and B. The barren and dislocated concrete parking lots are adapted to attain new use and function towards the existing.

Landscaped seating plinths located in the proposed square give acknowledgement to the Old Mortuary demolished in 2001. An inclusive ramp and staircase with lay-bys on both Joubert and Queens Street are integrated to form an East-West promenade.

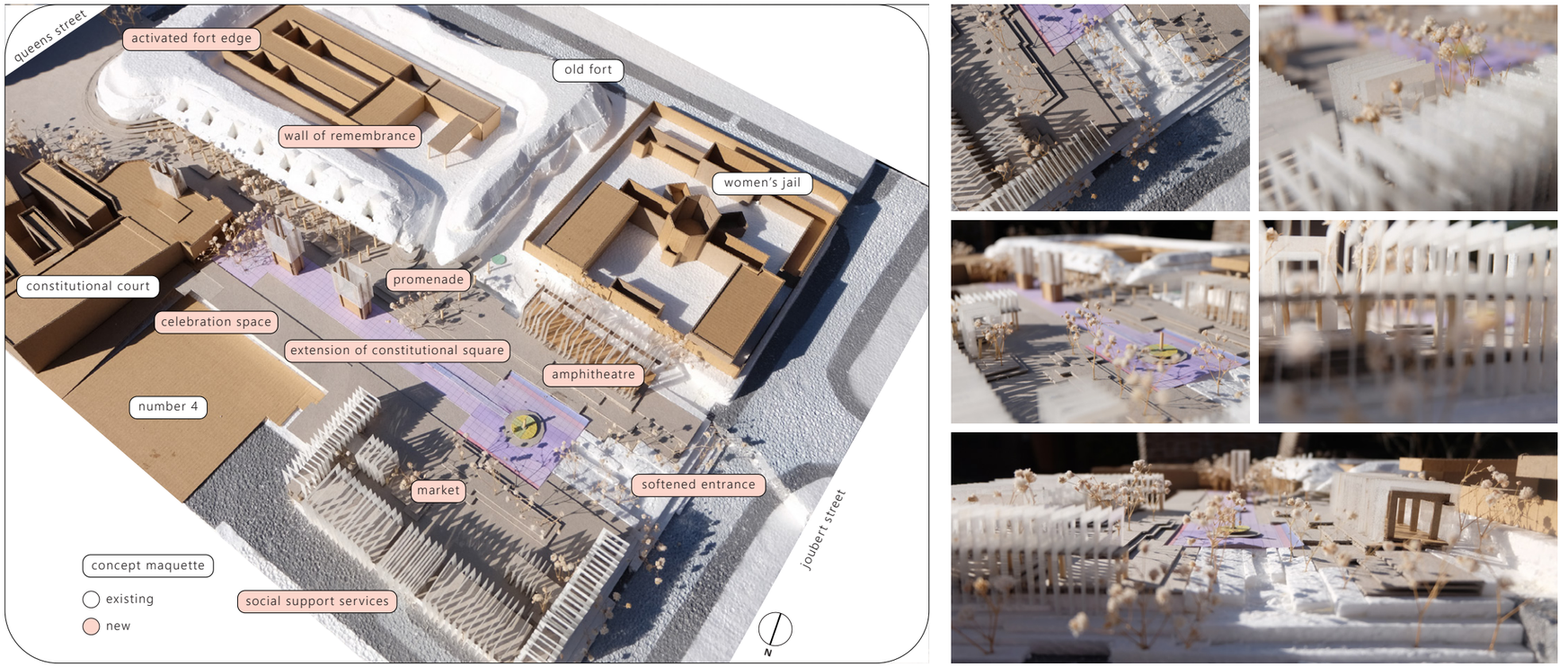


Figure 7.6 / Conceptual maquette **(June)**.

Figure 7.7 / Conceptual ground floor plan **(June)**.

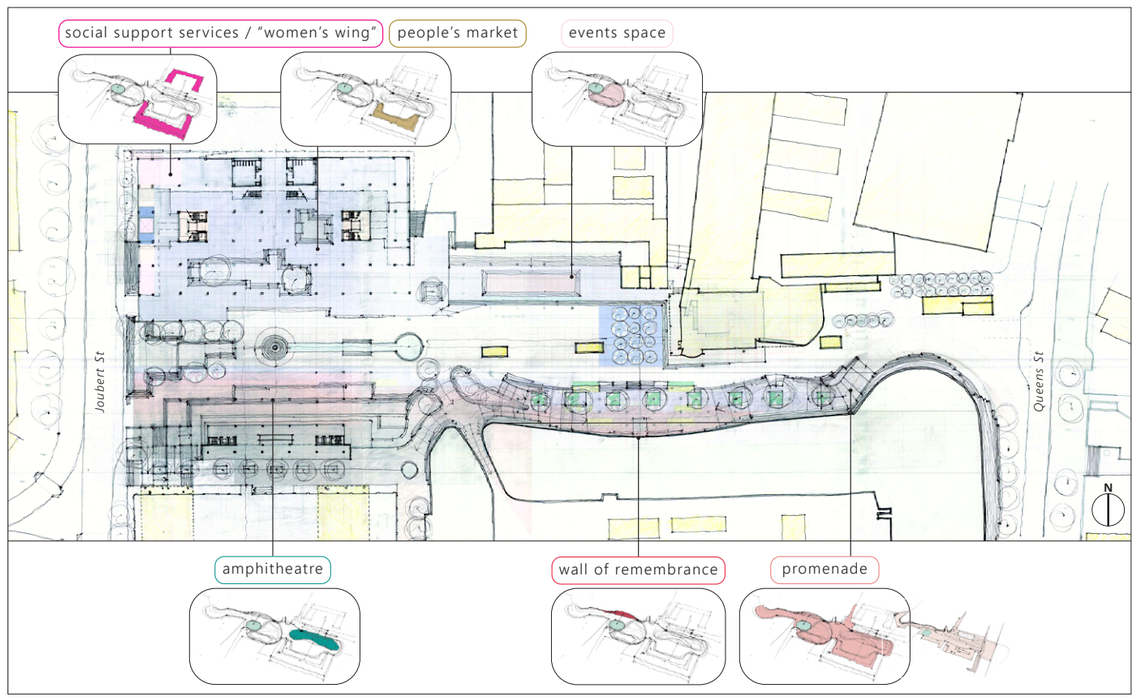
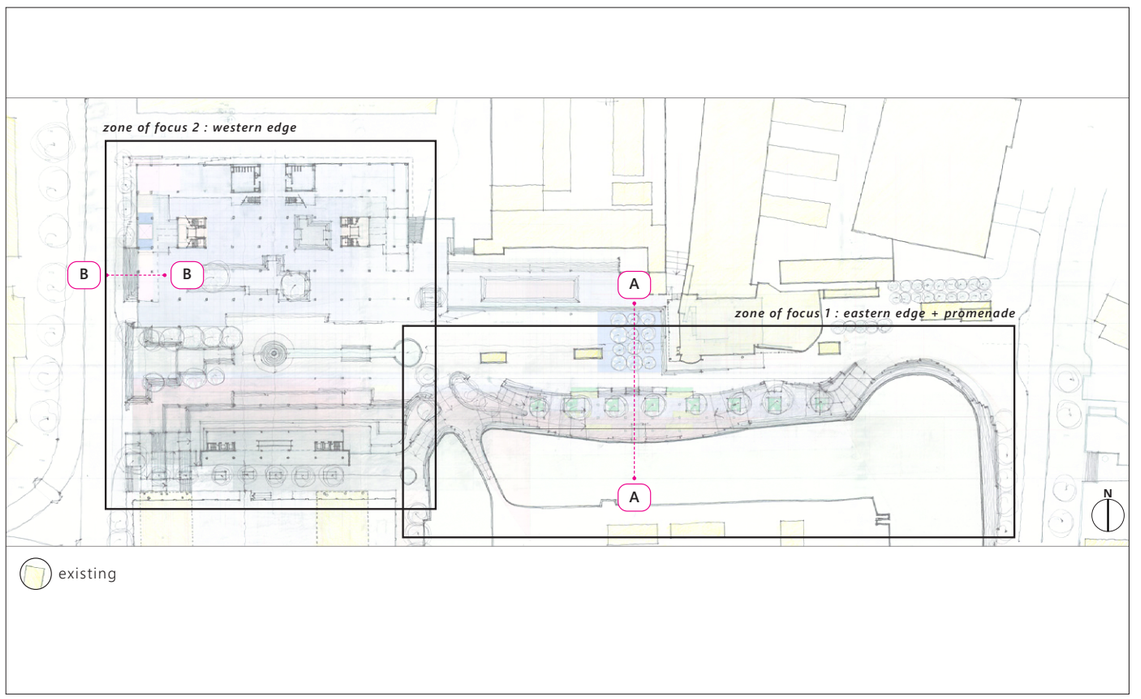


Figure 7.8 / Two zones of foci **(June)**.



• CONCEPTUAL SECTIONS

Conceptual intentions of parasitic attachments and insertions **(c.f. 4.3)** were translated into sectional explorations, as seen in Section A and B **(Figure 7.10 and Figure 7.12)**. Section A **(Figure 7.10)** shows the insertion into the Old Fort, that activates the wall, where lightwells create an atmosphere of reflection. It is important to note that this idea was only taken up to a conceptual level, and was not further explored after this iteration due to a shift in focus of the project to the Western edge.

Section B **(Figure 7.12)**, illustrates the attempt to activate and soften the edge between Joubert Street and the Precinct. An initial exploration of the tectonic quality of the structure can be seen, where perforated fins form an interactive façade. Interrogation on the existing parking lot at this point only consisted of parasitic attachments. The appropriation of the parking lots was later changed to include both insertions and parasitic attachments.

CRITIQUE

- The first iteration deemed too static and linear in its orientation of architectural form. The programme needed to be explored more specifically and a zone of focus allocated to illustrate the architectural intention more.
- The thresholds and transitions from private, public and semi-public space should become more articulated; and the architecture should integrate more with the landscape.

Figure 7.9 / Process work Section A **(May)**.

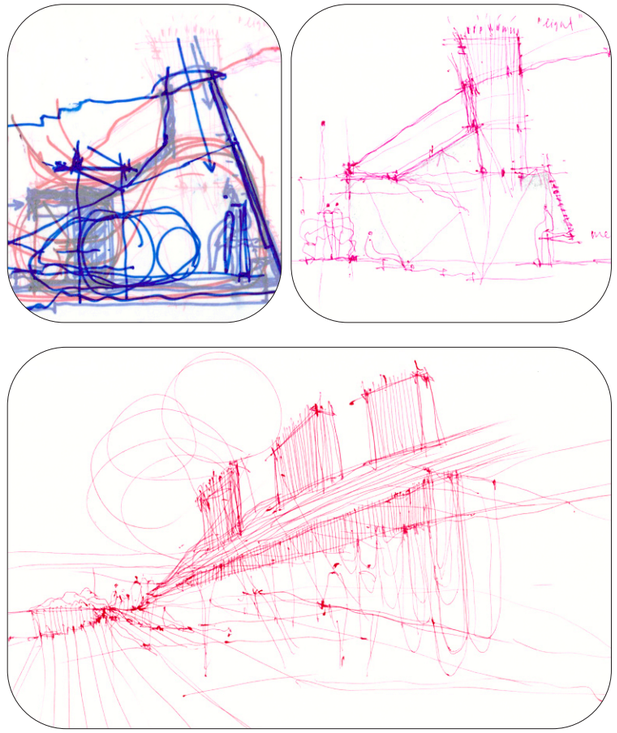


Figure 7.10 / Section A **(June)**.

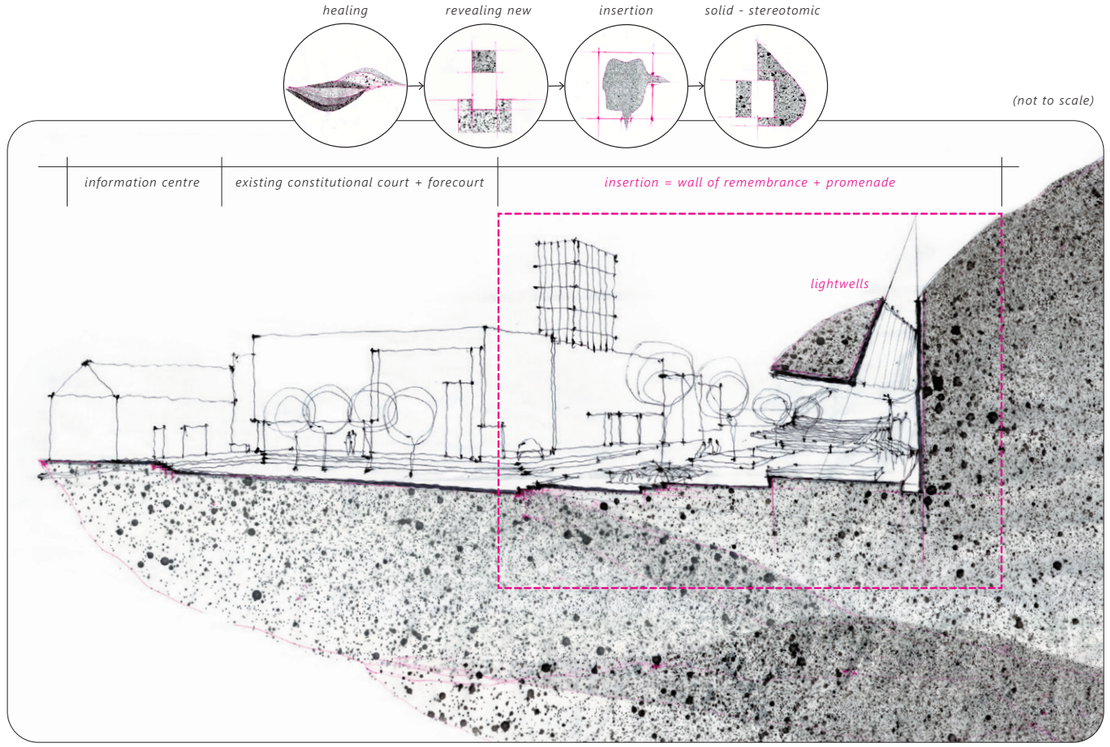


Figure 7.11 / Process work Section B **(May)**.

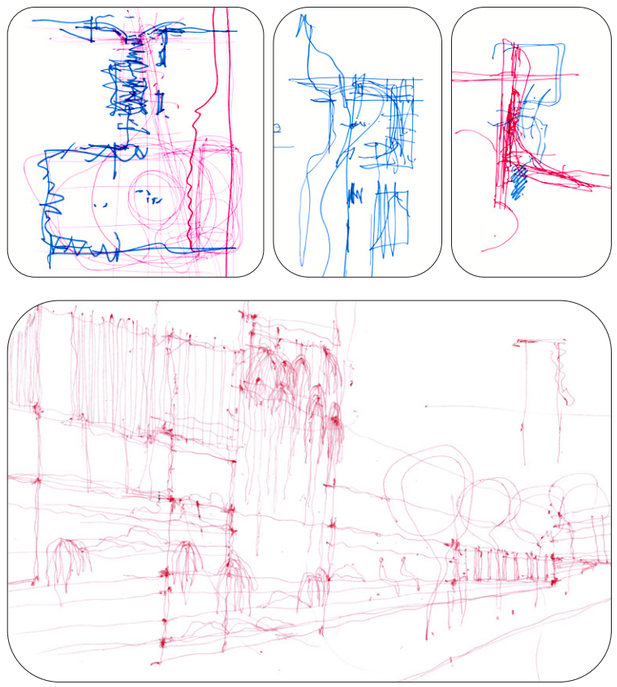
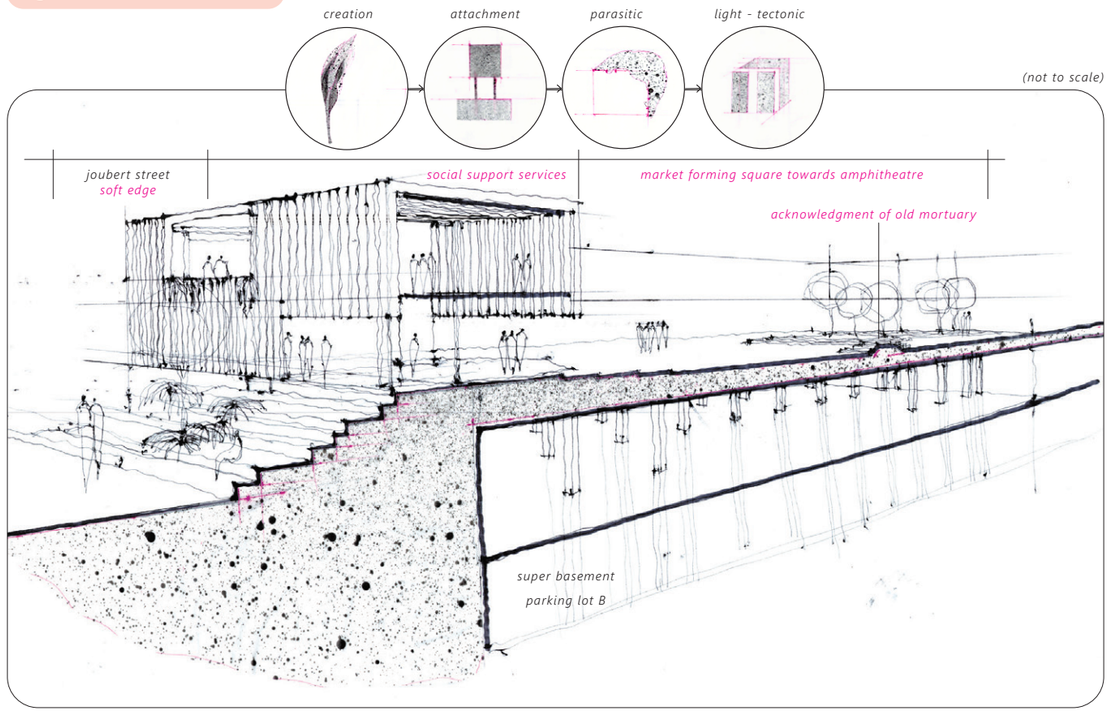


Figure 7.12 / Section B **(June)**.



7.1.2
ITERATION 2

• ZONE OF FOCUS

The zone of focus was finally settled upon **(Figure 7.13)**. The Western edge of Precinct was thus further developed for design as well as for the technical resolution of the project. As emphasis was placed on the expression of programme, the Thuthuzela Care Centre (TCC) model was implemented more directly in the zoning of the plan **(c.f. 5.4, 5.5)**.

Therefore, the zone of focus consists of the following programmes: social support services, open market, art gallery, community hall and a arts and crafts workshop. The Ground Floor is kept more public, whereas the First Floor and Basement Level attain private and semi-public functions, relating specifically to TCC and art programmes **(Figure 7.14)**. An axial arrangement is formed in the landscape connecting the Women's Jail, extension of the square and Social Support Services for women **(Figure 7.15)**.

CRITIQUE

- The architectural language of the building still deemed too static and linear in its expression of an architectural identity and form.
- The architecture needs to express the notion of safe space **(c.f. 2.4)**. The u-shaped form of the building, does not give recognition to the primary user of the space, women.
- The building should allow for the expression of spatial experience or narration through space **(c.f. 2.8)**. The circulation of the building therefore needs to be softened.

7.1.3
ITERATION 3

• LAYERING SPACE

By shifting the massing on the grid and adding an interactive ramp, the building and ramp layers the user into the inner-realms of the public square, to form an outdoor room **(Figure 7.16)**.

The building aims to be more sensitive to victims of VAW by positioning the entrance of the TCC **(c.f. 2.4)** more privately off from the square.The ramp becomes a feature in the landscape allowing it to attain significance and affirming its presence for passive surveillance onto the square **(c.f. 2.4)**. Views towards significant elements **(Figure 7.16)** frame the journey on the ramp, which is intended to be a celebratory journey to the First Floor.

CRITIQUE

- The ramp dominates the square and should be more refined.
- The ramp should adhere to international standards, where a 1:20 slope is preferred.
- The handrails should not extend beyond 1000mm, ideally 900mm, as it obstructs views towards significant elements on site.[1]

1 Ramp requirements of SANS 10400 PART S include: landings of no less than the width of the ramp, with the min. width of the landing 1200. Risings should be 750 for a 1:20 ramp slope. If the width of the ramp exceeds 2400 handrails should be placed in the middle. Lastly, handrails should extend 300 beyond the ends of the handrails to form a continuous handrail of no more than 900-1000 in height.

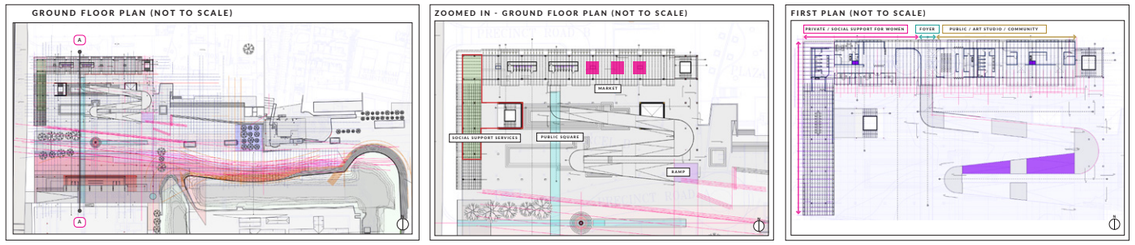


Figure 7.13 / Focus on Western edge **(August)**.

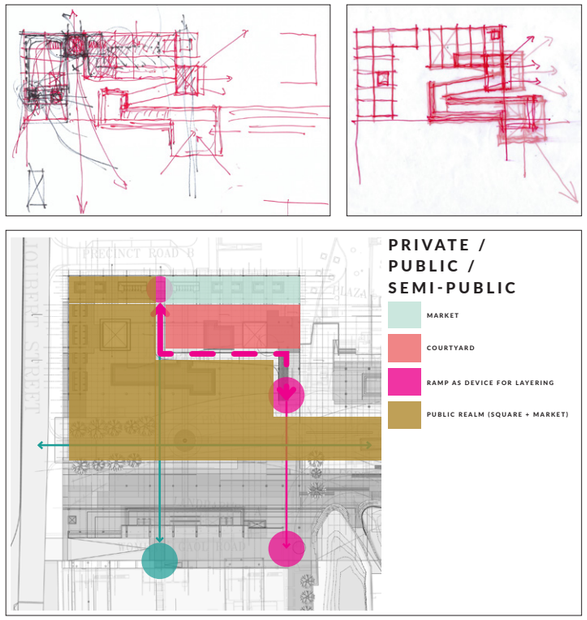


Figure 7.14 / Public, private and semi-public zoning **(August)**.

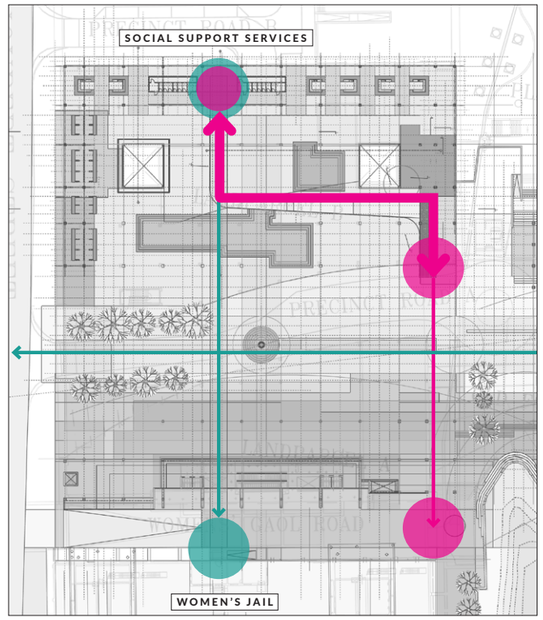


Figure 7.15 / Axis in the landscape **(August)**.

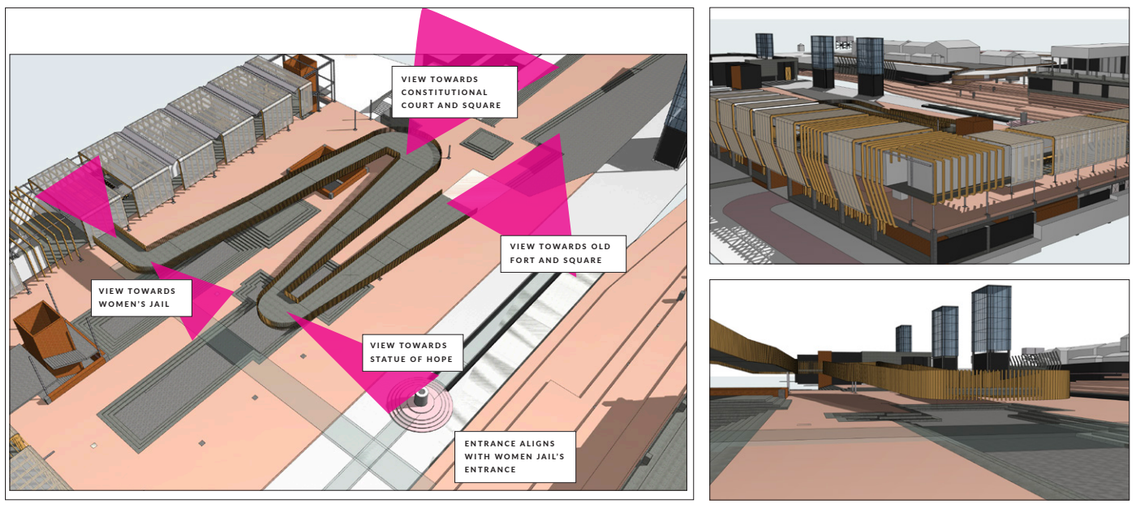


Figure 7.16 / Ramp as a device for layering space **(August - September)**.

7.1.4
ITERATION 4
- **TECTONIC SKIN, RAMP, FORM + STRUCTURE**

Structure + form

Iteration 4 informed the approach to materiality and expression of primary, secondary and tertiary tectonic and stereotomic elements. By reflecting back on the touchstone completed earlier in the year **(Figure 7.17)** one can start to draw visible conclusions with regards to the lightweight and ethereal quality that the building intends to give off; contrasting it to the stereotomic mass of the parking lot structure. The identified architectural approaches, namely parasitic attachments and insertions can therefore be expressed as stereotomic and tectonic elements **(c.f. 4.3)**. The touchstone therefore became the driver for the project's architecture from this iteration **(Diagram 7.1)**.

To illustrate a softer, lighter and more refined approach to structure and form a departure was made from the rigid and linear expression of the architecture to articulate an architectural identity of safe space **(Figure 2.18)**.

Curved elements and the circular insertion into the basement also adopts a transformative approach to the existing by deviating from the existing linear grid structure **(Figure 2.18)**. Exposing the beam and column structure of the parking lot to create a larger insertion into the existing opens up the opportunity to contrast old from new. The curved forms now illustrate a soft, flowing nature to the architecture of the building.

Hollow square tubes filled with reinforced concrete did not deem structurally sufficient for the approximate 9000 span needed between the columns, thus waffle or coffer slabs, with inverted slabs and beams, and cruciform columns were introduced. This informed the horizontal linearity of the structure and its floating quality, which tied back to the transformative conceptual intentions of the project.

The columns extrude beyond the structure to exaggerate its lightweight and floating quality. The slabs are also tapered at the ends to give an illusion of thin floating horizontal planes **(Figure 7.20 and Figure 21)**.

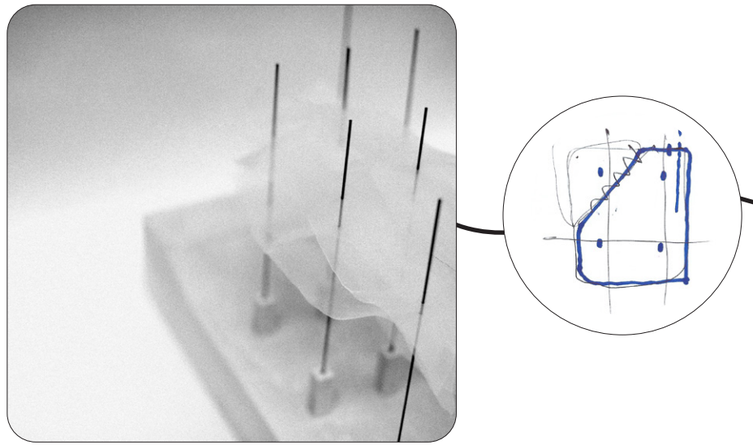


Figure 7.17 / Touchstone.

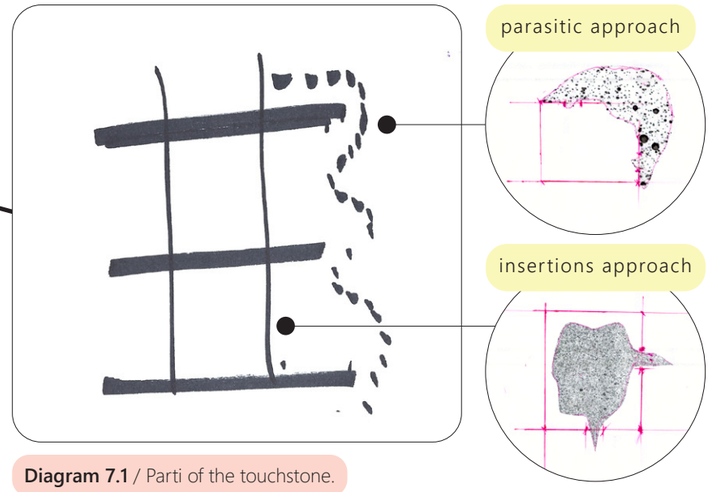


Diagram 7.1 / Parti of the touchstone.

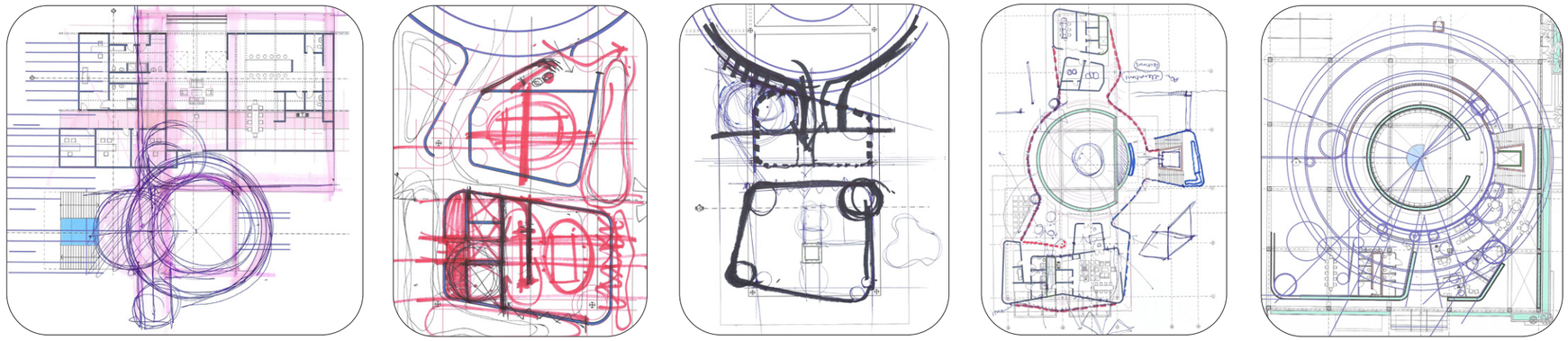


Figure 7.18 / Departure from existing grid **(September - October)**.

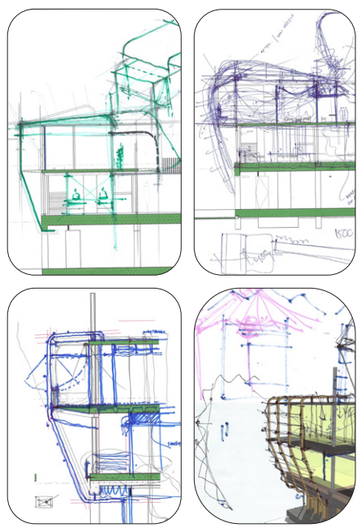


Figure 7.19 / Development of structure.

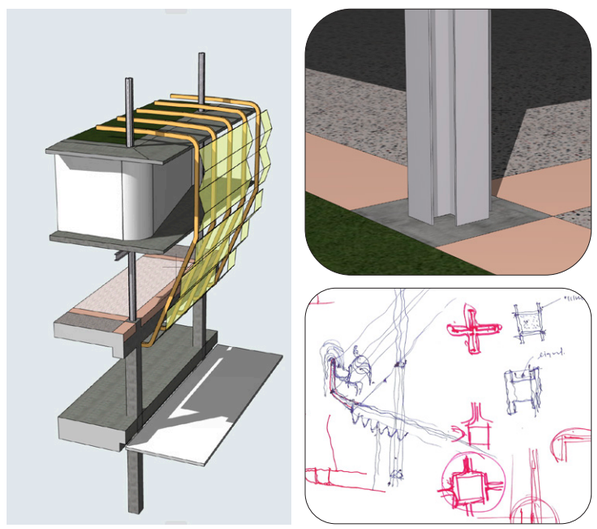


Figure 7.20 / Relationship between new and old **(October)**.

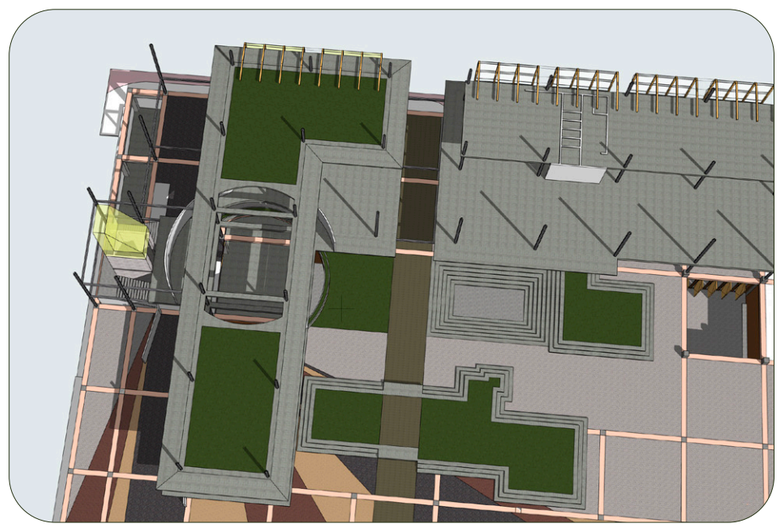


Figure 7.21 / Departure from existing grid with circular insertion **(September - October)**.

Building + landscape orientation
A break in the building's two "wings" offered significance to the axial arrangement connecting to the Women's Jail. The two wings assist in defining the legibility of the square **(Figure 7.22)**.

Although the buildings function differently, the same architectural character is taken throughout. Landscaping elements like planters and patterned paving are added to draw the user into the space, especially to subtly guide vulnerable women into the entrance of the social support services **(c.f. 2.4, 2.8)**. Materials are robust and low-maintenance, considering the public nature of the building.

The intention of landscaping elements is to soften the harsh parking lot's landscape, forming a lush, inviting oasis in the city **(c.f. 6.1.4)**. A few ways this was achieved was to add extensive green roofs, shallow reflection pools, planters, landscaped seating plinths and a green wall trellis that forms the circular enclosure for the social support services **(Figure 7.23 and Figure 7.24)**.

The green wall trellis provides a sense of tranquillity and safety as diffused light will filter through the vined planting **(c.f. 2.4, 2.8)**. It symbolically also suggests the notion of a women being embraced, showcasing how a building can act as a safety barrier **(c.f. 2.8)**.

Layered space
To illustrate the notion of layering space further, it was decided that the curved infill can be illuminated horizontally and vertically, thus forming an illuminated element in the landscape. The tower, serving as one of the ascension cores, becomes a beacon or landmark in the landscape and visually links to the verticality of the remaining AWT Towers **(Figure 7.23)**.

Polycarbonate walls were chosen as the infill's materials, as it provides translucency **(c.f. 2.8)**, allowing users of the space to see movement behind the panels; adding to the passive surveillance of the building **(c.f. 2.4, 2.8)**.

Brise soleil elements also aid in translating the notion of layered space, through the use of elements like the brick walls, green wall trellis and timber slats. The elements, especially on the First Floor, form small balcony or patio spaces that overlook the street and square **(c.f. 2.4, 2.8)**.

Tectonic skin
The images alongside **(Figure 2.25)** illustrate the notion of a tectonic skin informing an architecture of protection and attachment **(c.f. 2.4)**. The skin forms a light-weight device, protecting the building from the sun, whilst providing transparency towards the views of Johannesburg. The skin was iterated a few times in terms of materiality **(c.f. 2.9)**, starting with a polycarbonate skin which deemed too solid, with no possibility of ventilation. This was changed to laminated timber slats, to provide ventilation, and then a tensile fabric skin attached to laminated timber beams.

The timber slats did not convey the ethereality and lightweight attachment intended for the parasitic attachment **(c.f. 4.3.2)**. The tensile fabric skin provides transparency and lightness to the structure and was therefore considered more appropriate.

Ramp
The ramp was adjusted to adhere to SANS 10400 Part S. The ramp was iterated a few times to achieve its requirements. The ramp now integrates with the First Floor by becoming part of the exhibition space. In addition, the ramp purposefully frames views on the site and the journey towards the First Floor **(Figure 7.26)**.

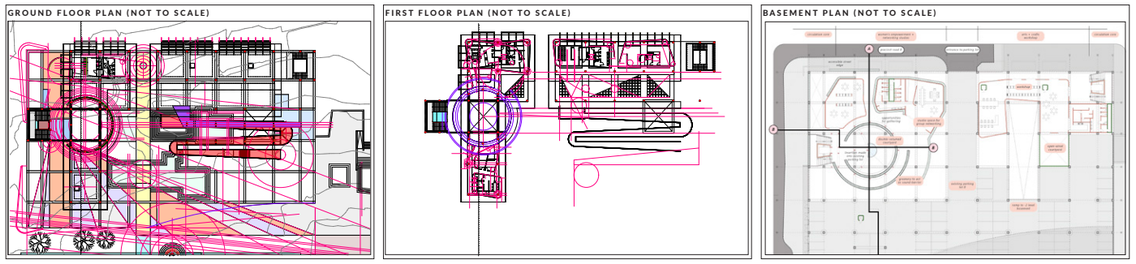


Figure 7.22 / Development of plan **(September - October)**.

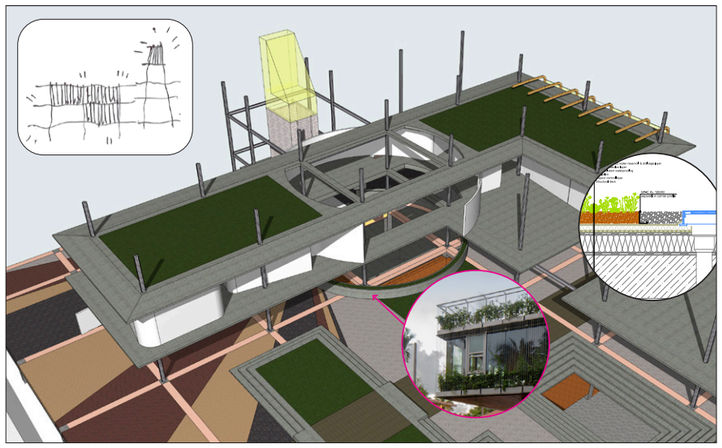


Figure 7.23 / Development of infill **(September - October)**.

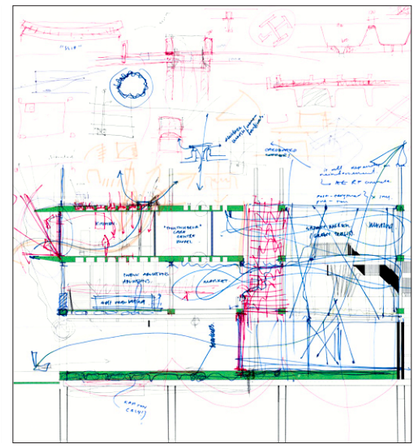


Figure 7.24 / Section A **(October)**.

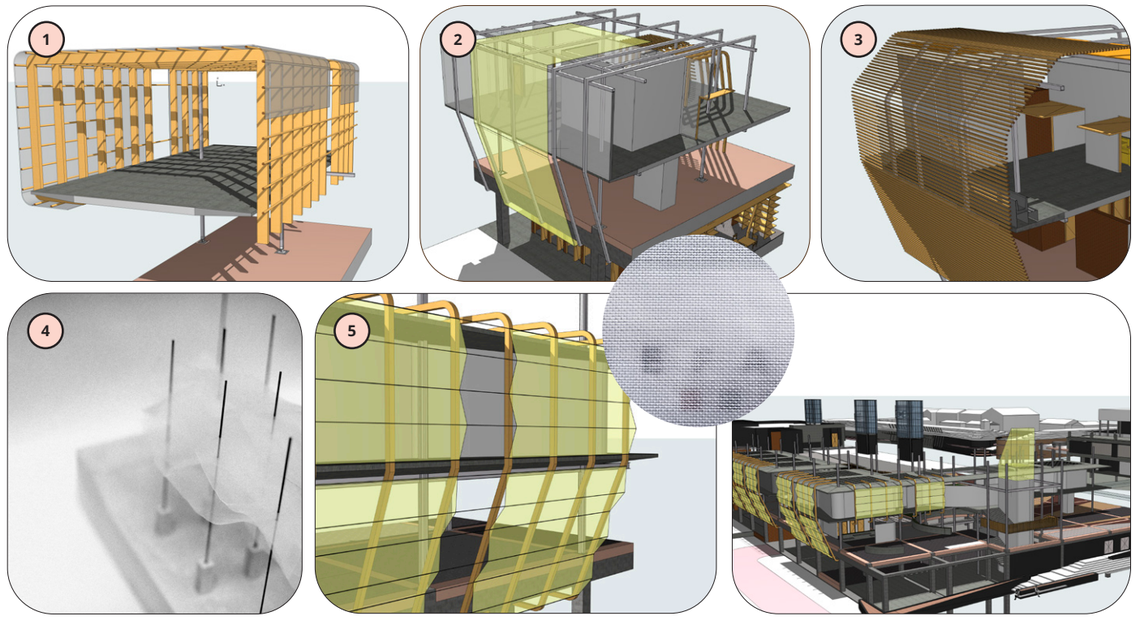


Figure 7.25 / Development of skin **(September - October)**.

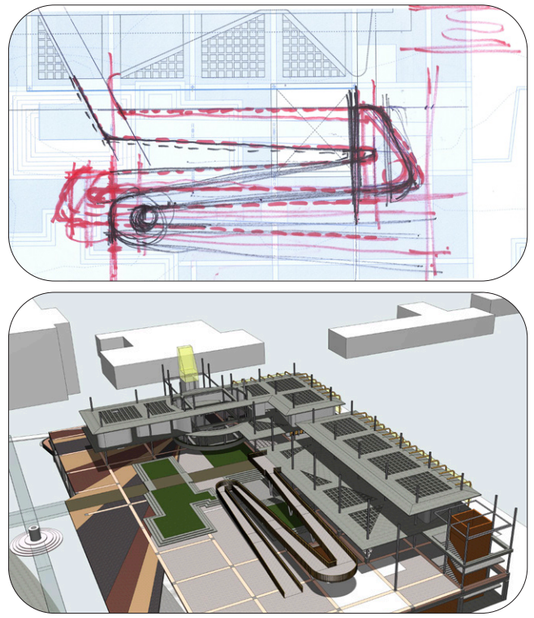


Figure 7.26 / Refinement of ramp **(September - October)**.

7.2
FINAL DESIGN PROPOSAL

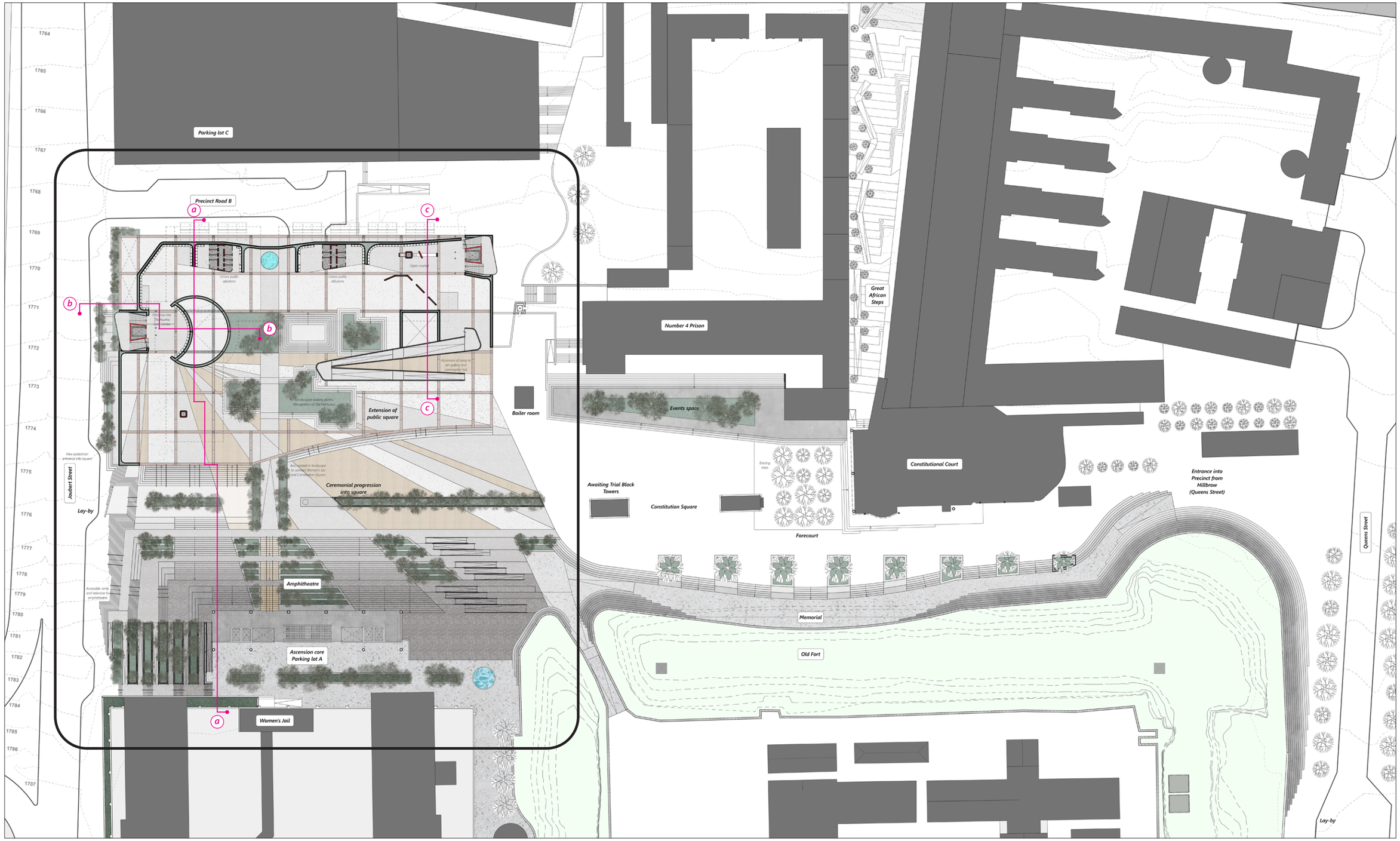
SITE PLAN (1:300 SCALED DOWN)

existing

zone of focus

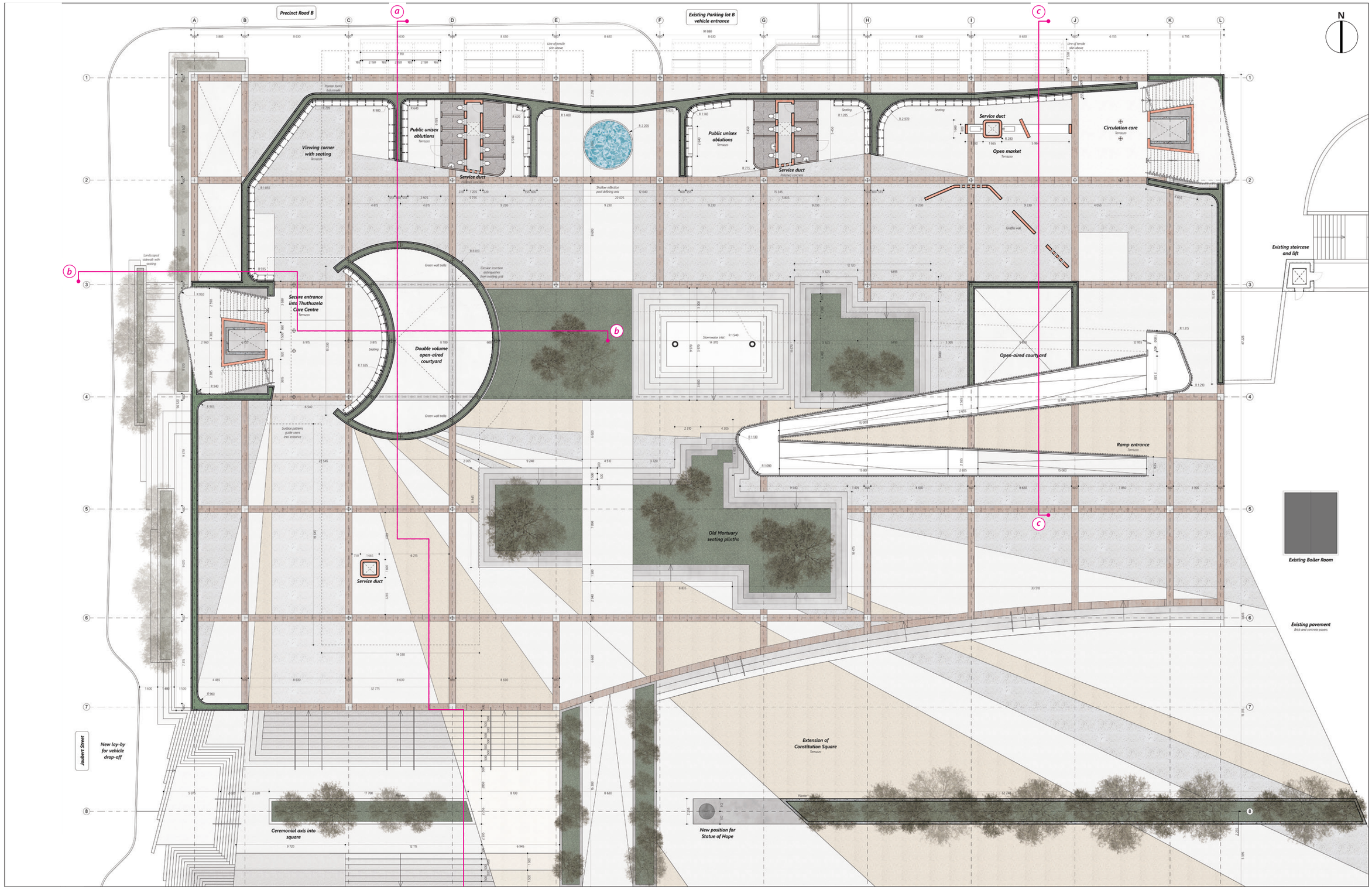
Figure 7.27 /
Site Plan.

N



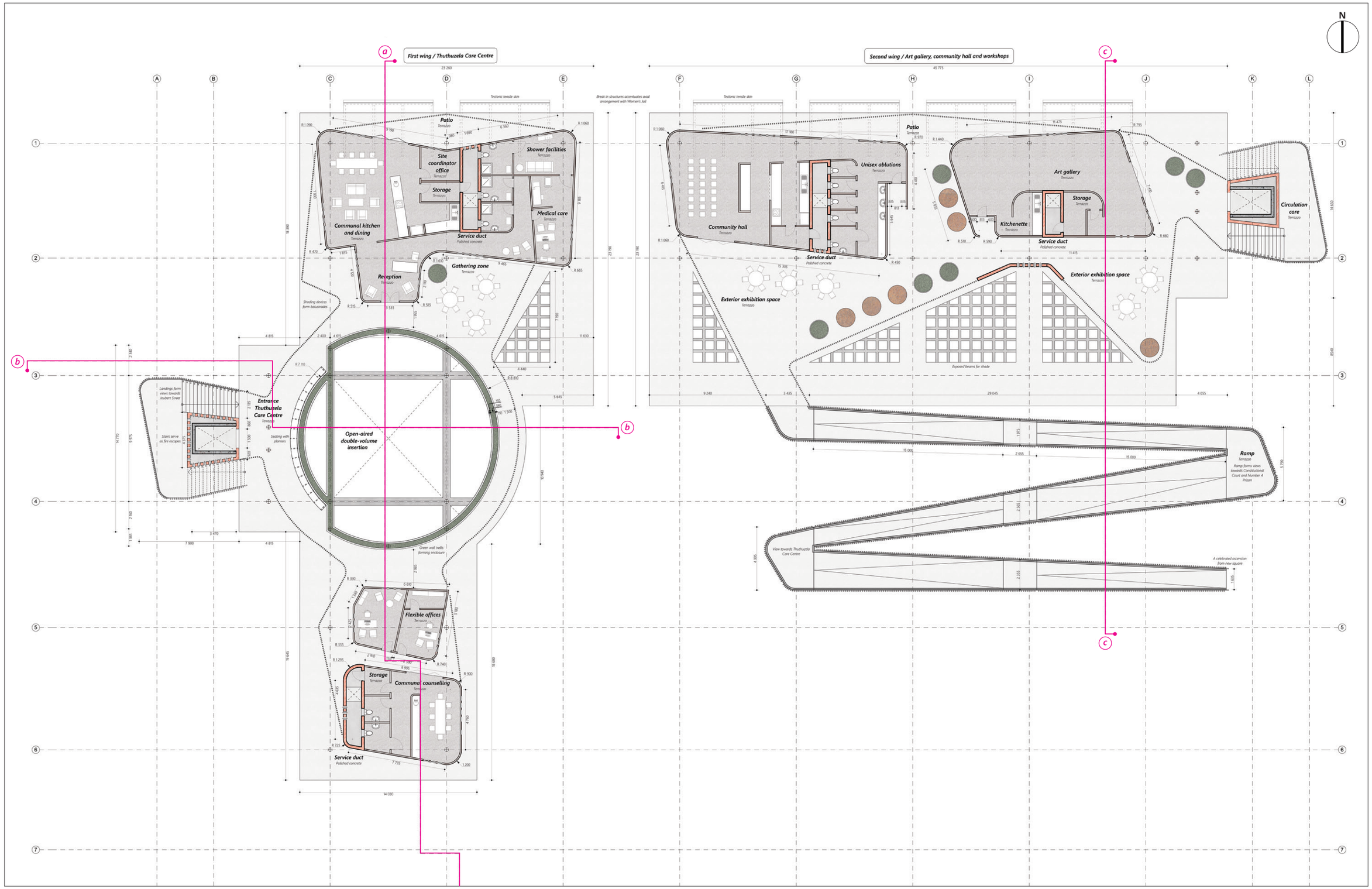
GROUND FLOOR PLAN (1:100 SCALED DOWN)

Figure 7.28 /
Ground Floor Plan.



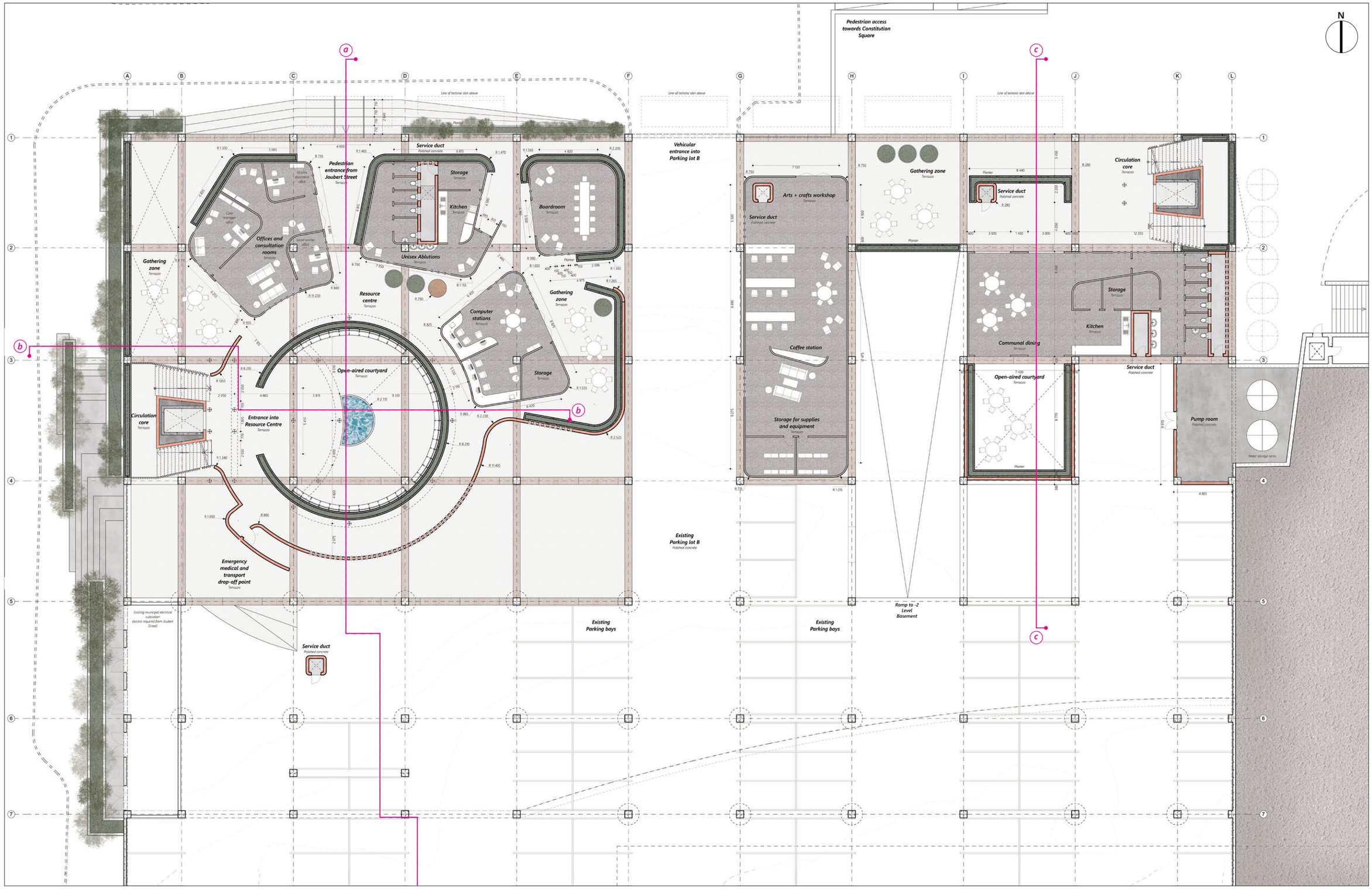
FIRST FLOOR PLAN (1:100 SCALED DOWN)

Figure 7.29 /
First Floor Plan.



-1 LEVEL BASEMENT PLAN (1:100 SCALED DOWN)

Figure 7.30 /
-1 Level Basement Plan.



ROOF PLAN (1:100 SCALED DOWN)

Figure 7.31 /
Roof Plan.

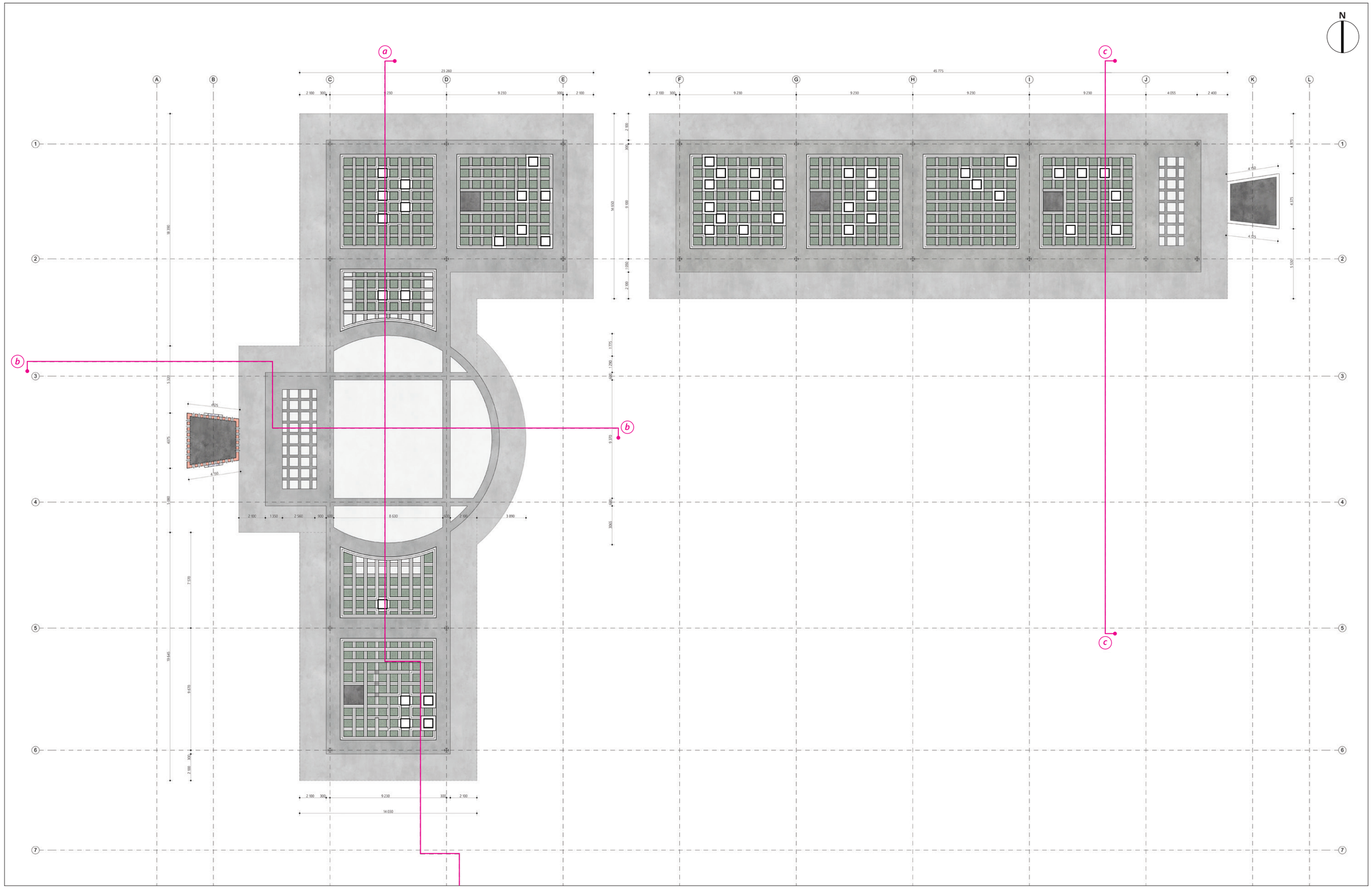


Figure 7.32 /
North and South Elevations.





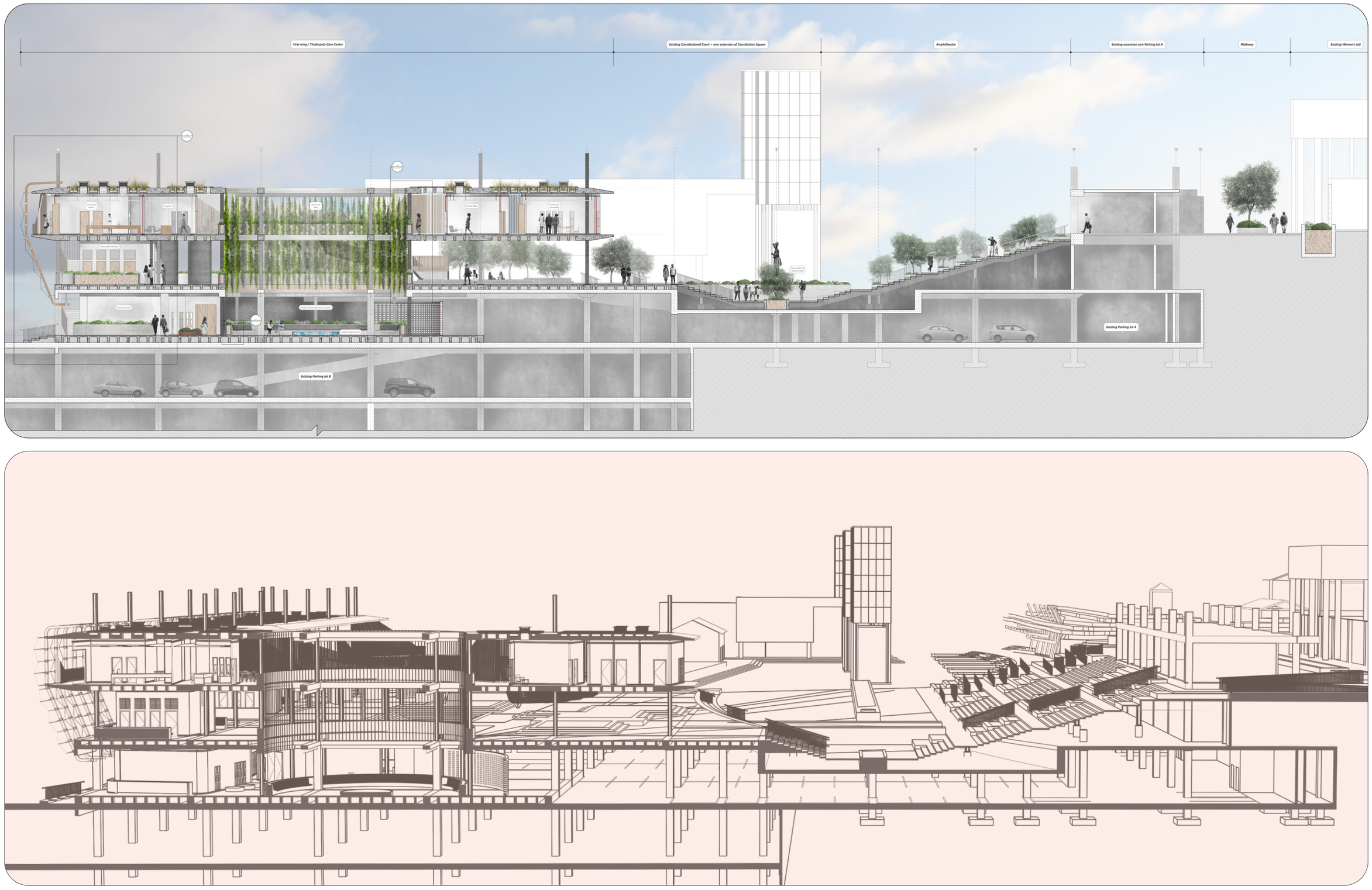
Figure 7.33 /
East and West Elevations.





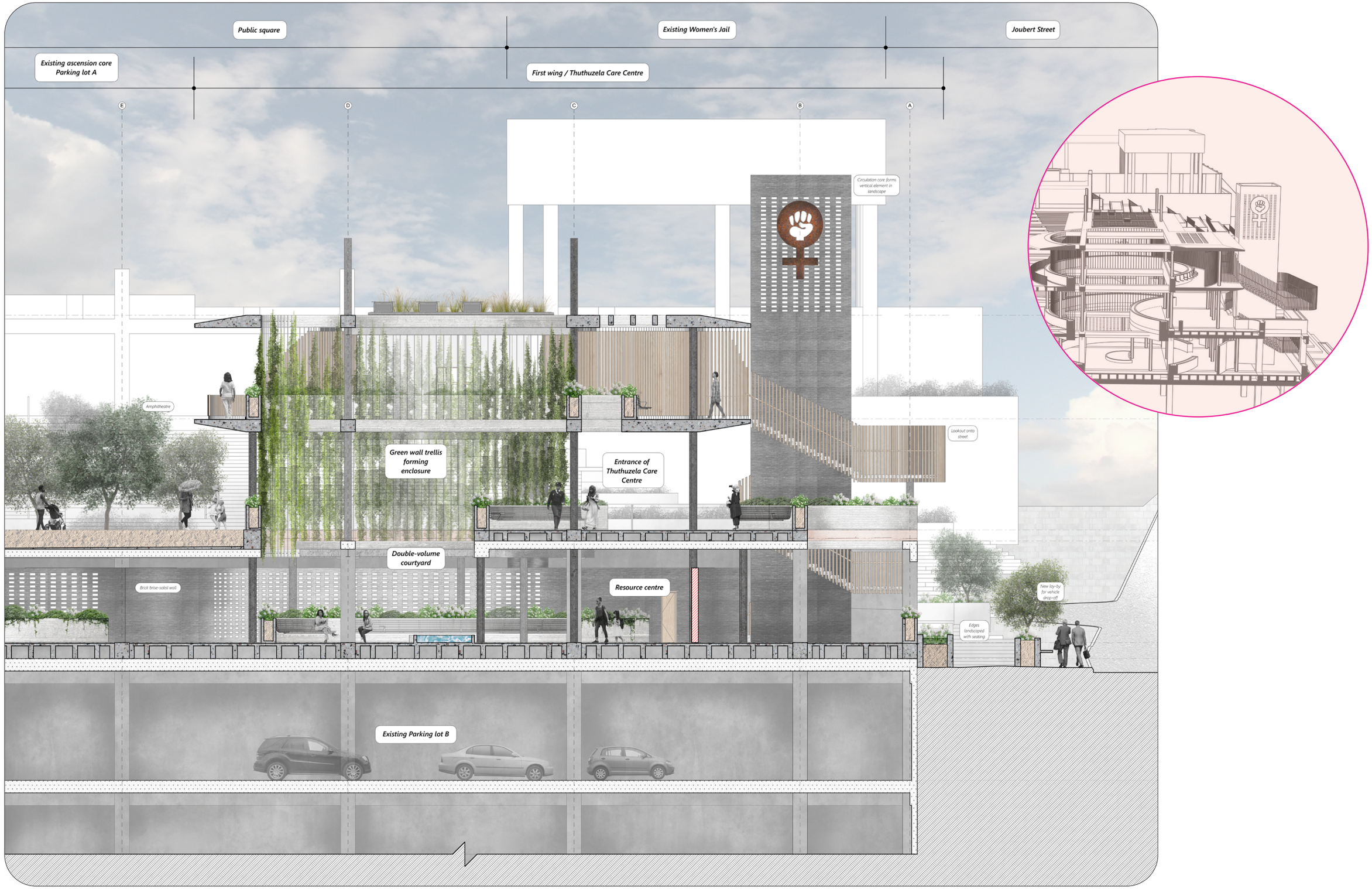
SECTION A (1:50 SCALED DOWN)

Figure 7.34 /
Section A.



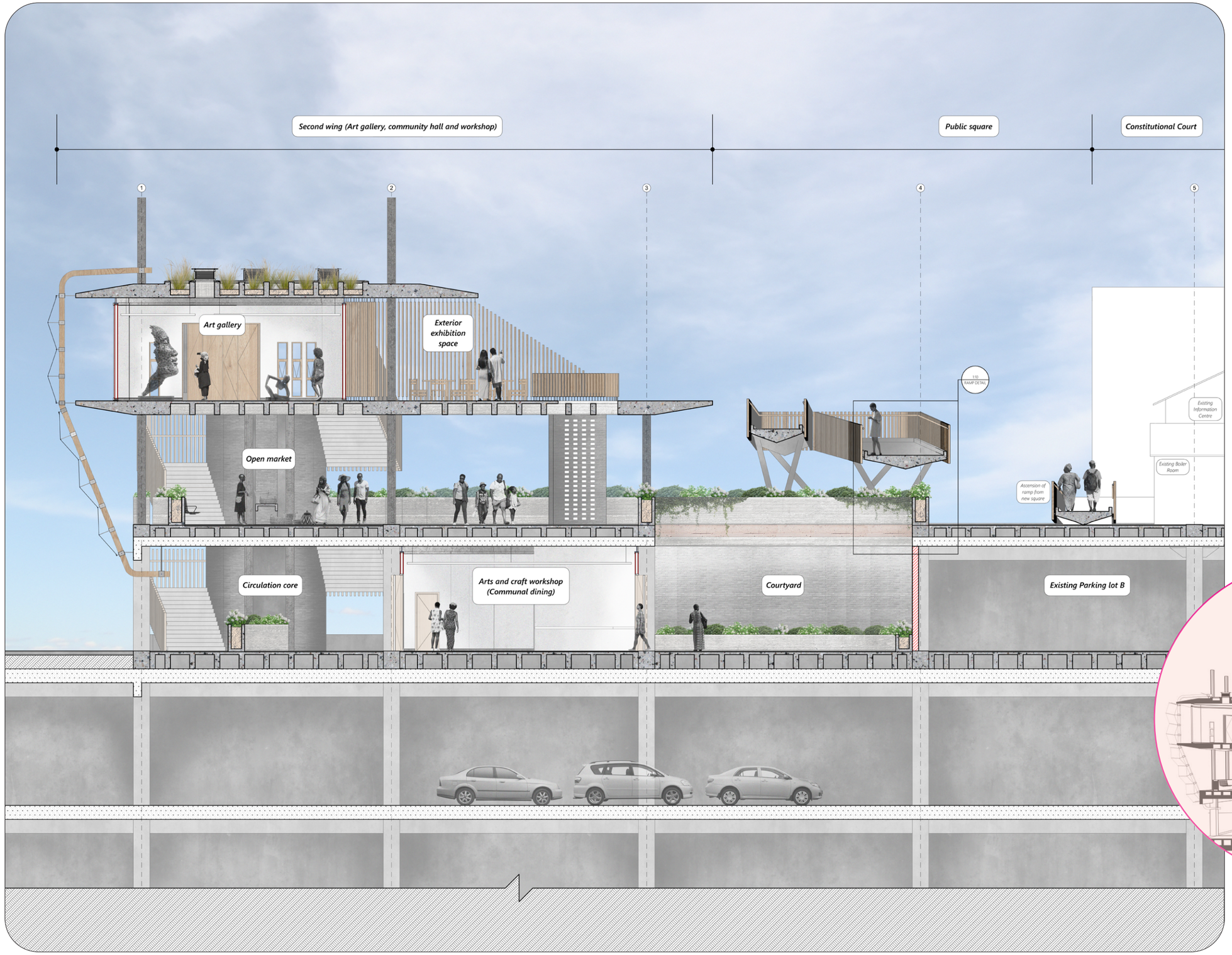
SECTION B (1:50 SCALED DOWN)

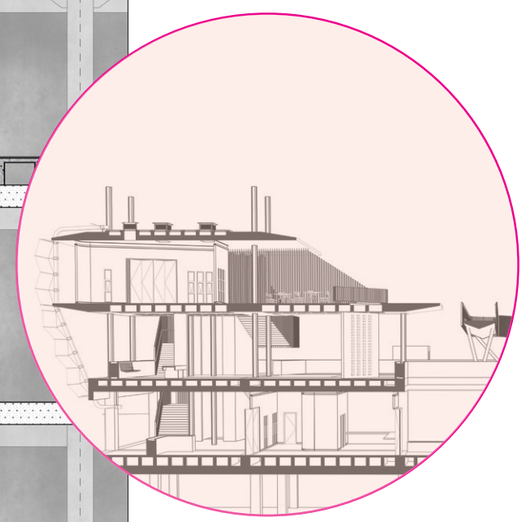
Figure 7.35 /
Section B.



SECTION C (1:50 SCALED DOWN)

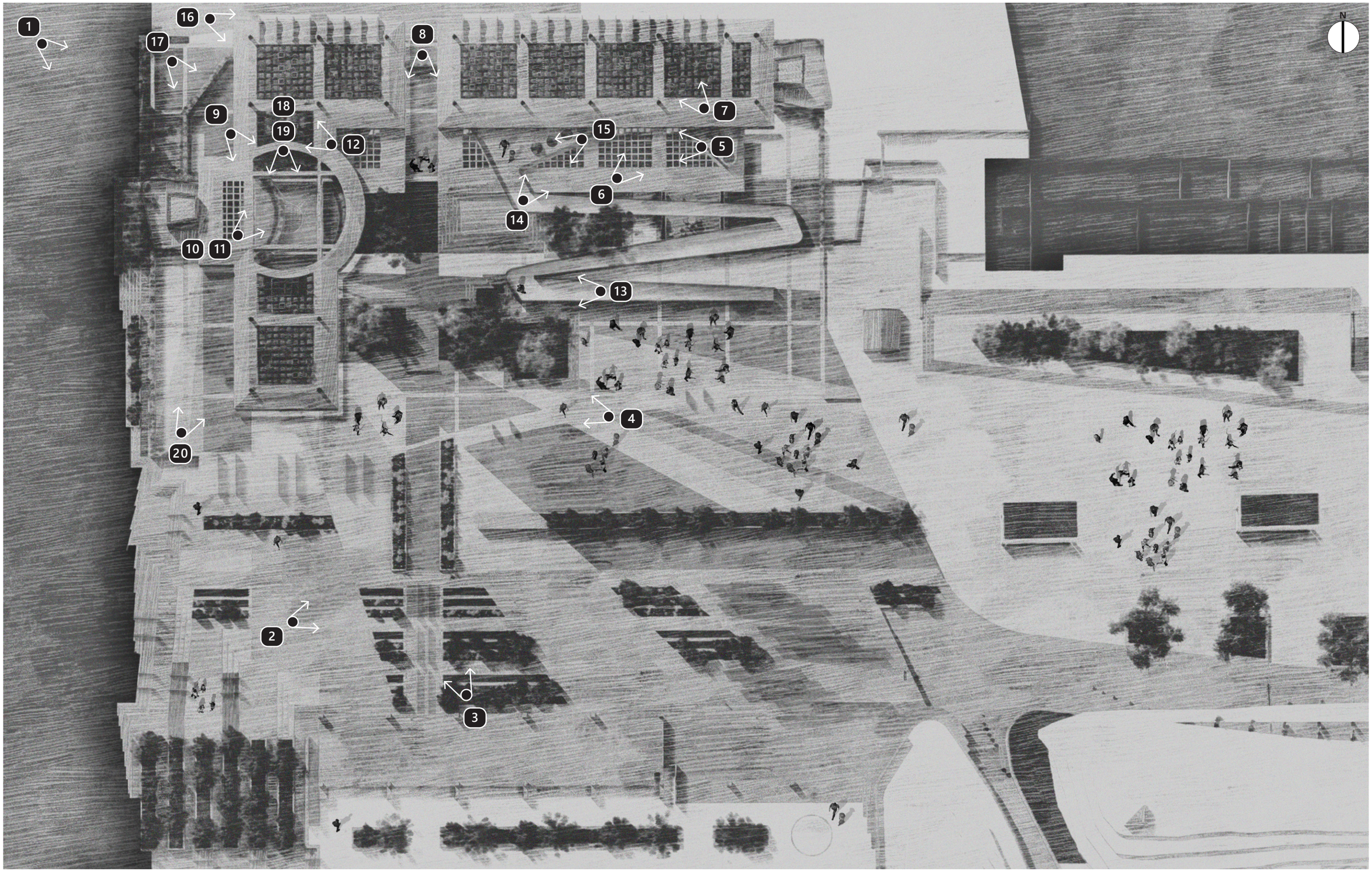
Figure 7.36 / Section C.





7.3
PERSPECTIVES

Figure 7.37 /
Site plan showing areas where perspectives are taken.



1 / View from Joubert Street

Figure 7.38 /





2 / Amphitheatre looking towards Constitution Square

Figure 7.39 /

Figure 7.40 /



Figure 7.41 /



Figure 7.42 /



Figure 7.43 /

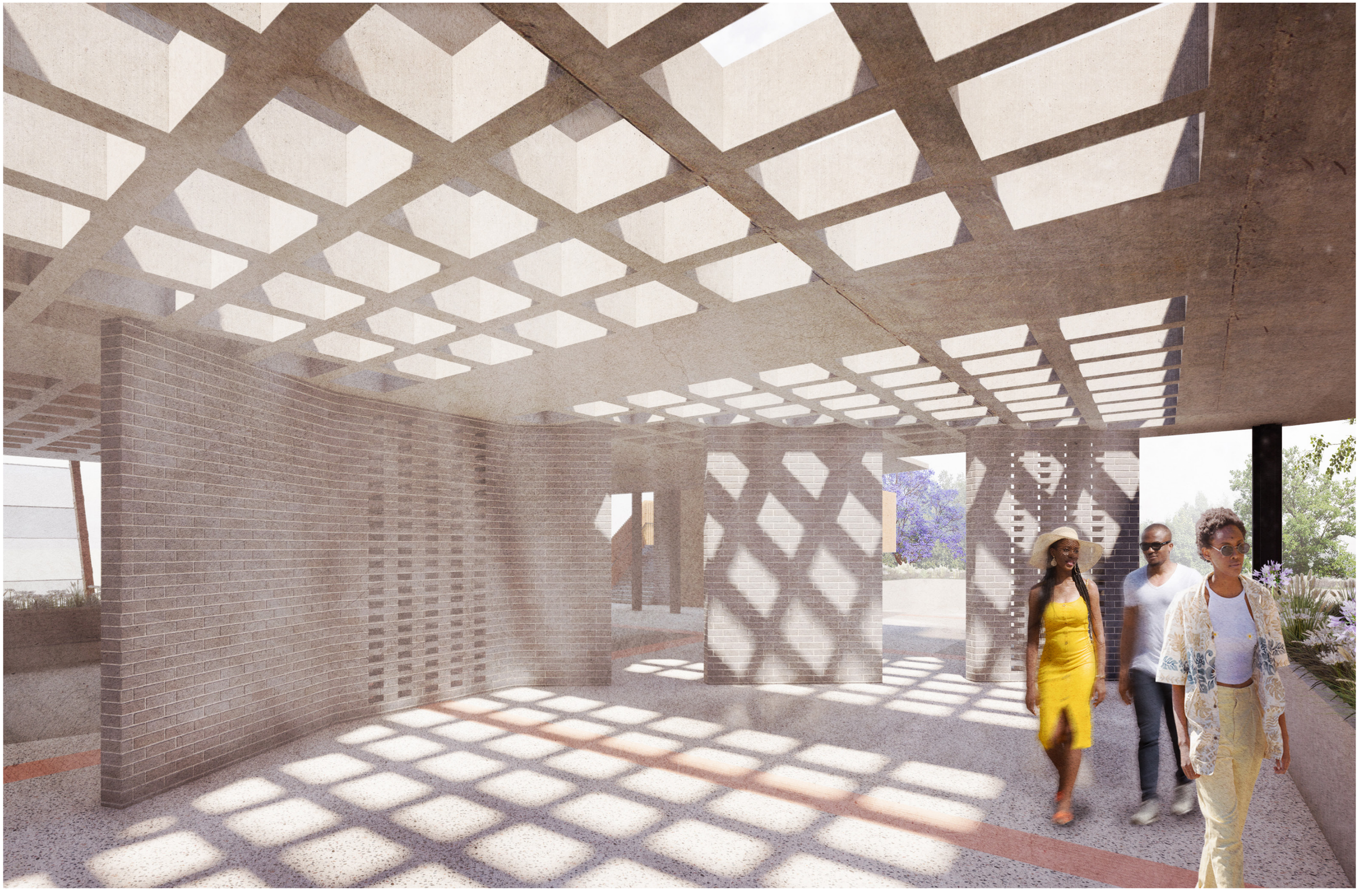


Figure 7.44 /



Figure 7.45 /





10 / *Secure entrance into Thuthuzela Care Centre*

Figure 7.47 /



11 / *First Floor seated entrance towards Thuthuzela Care Centre*

Figure 7.48 /



12 / Entrance into Thuthuzela Care Centre

Figure 7.49 /



13 / *View towards Thuthuzela Care Centre from ramp*

Figure 7.50 /



14 / *Gallery exhibition space, gathering zone + interior view of community hall*

Figure 7.51 /



15 / View towards TCC from Art Gallery

Figure 7.52 /



Figure 7.53 /



17 / *Entrance into -1 Level Basement from Joubert Street + interior view of counselling rooms*

Figure 7.54 /

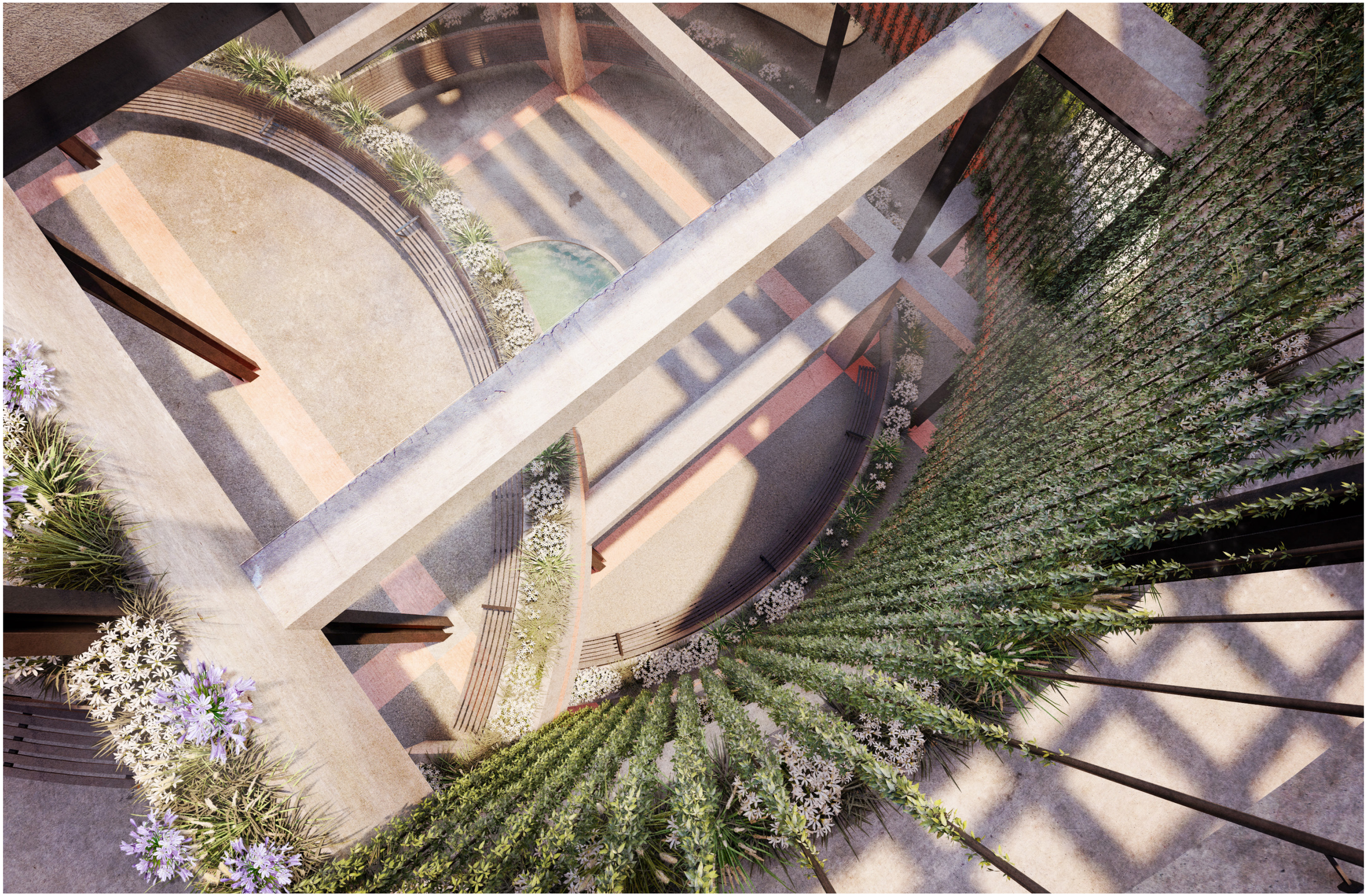


18 / *View looking up from trellis*

Figure 7.55 /



Figure 7.56 /



20 / *Night render towards Thuthuzela Care Centre entrance*

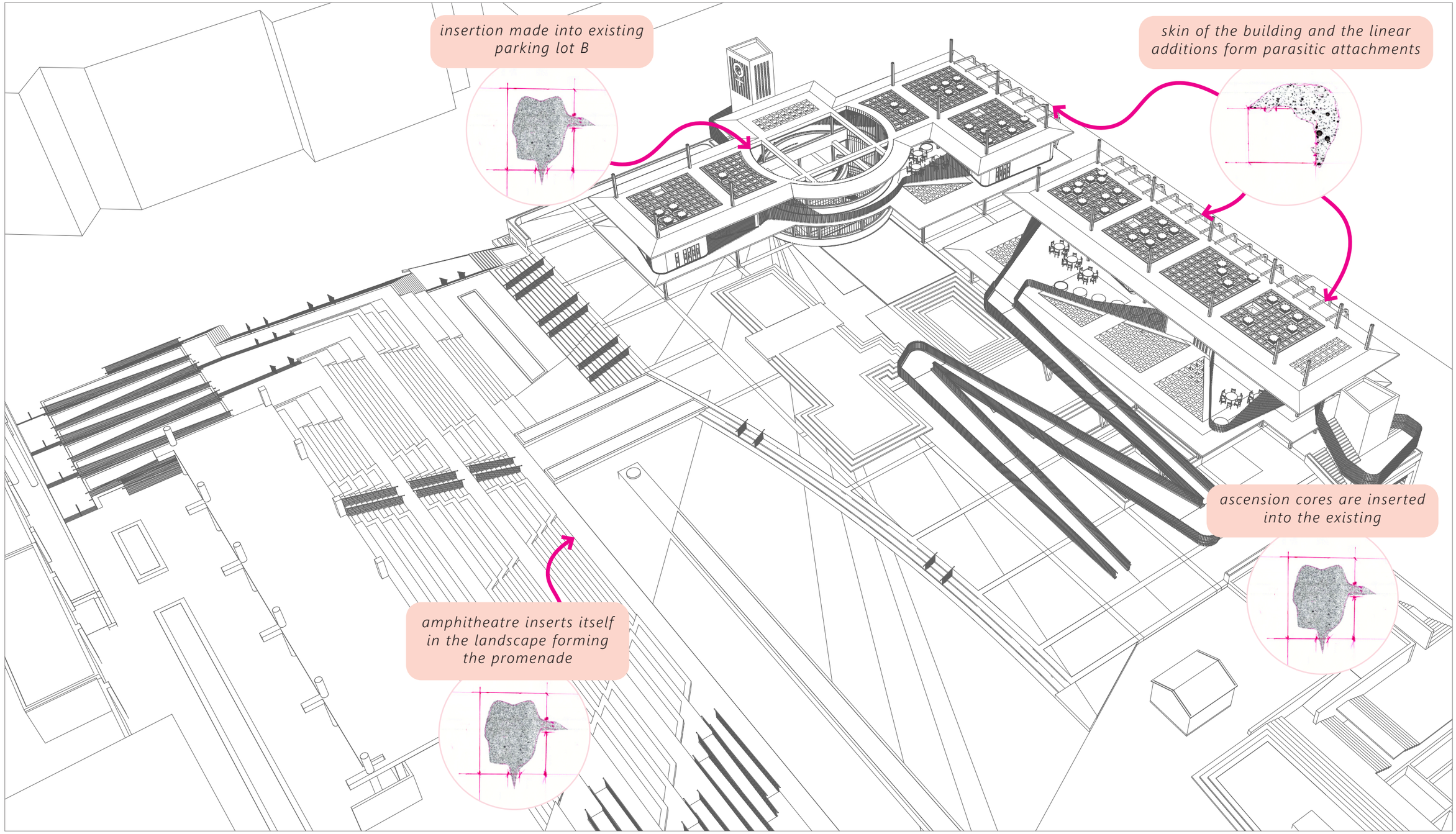
Figure 7.57 /



7.4
DESIGN COMPONENTS

7.4.1
APPLICATION OF CONCEPTUAL INTENTIONS

Diagram 7.2 /
Application of conceptual intentions.

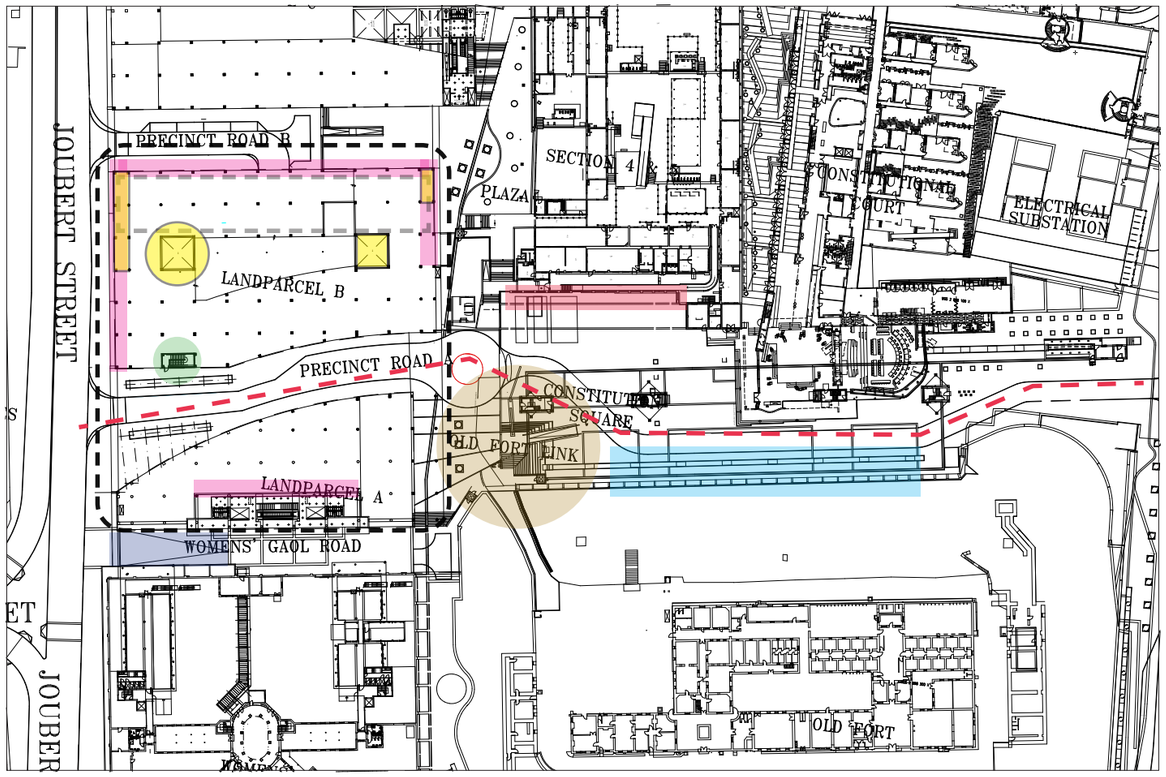


7.4.2
ELEMENTS ALTERED FROM EXISTING

- Opening up of the existing structure (removal of infill)
- Removal of clustered ramp and lifts to ease movement
- Vehicular road removed, completely pedestrianised
- Softening of the Old Fort wall towards the Constitution Square
- Opening up towards Number 4 Prison
- Existing column stubs adapted for new structure
- Removal of unused fire escape (new service core provided)
- Insertion to existing structure
- Disabled access addressed
- Focused placed on first 2 bays

Precinct site plan (current condition)

Proposed site plan (new condition)



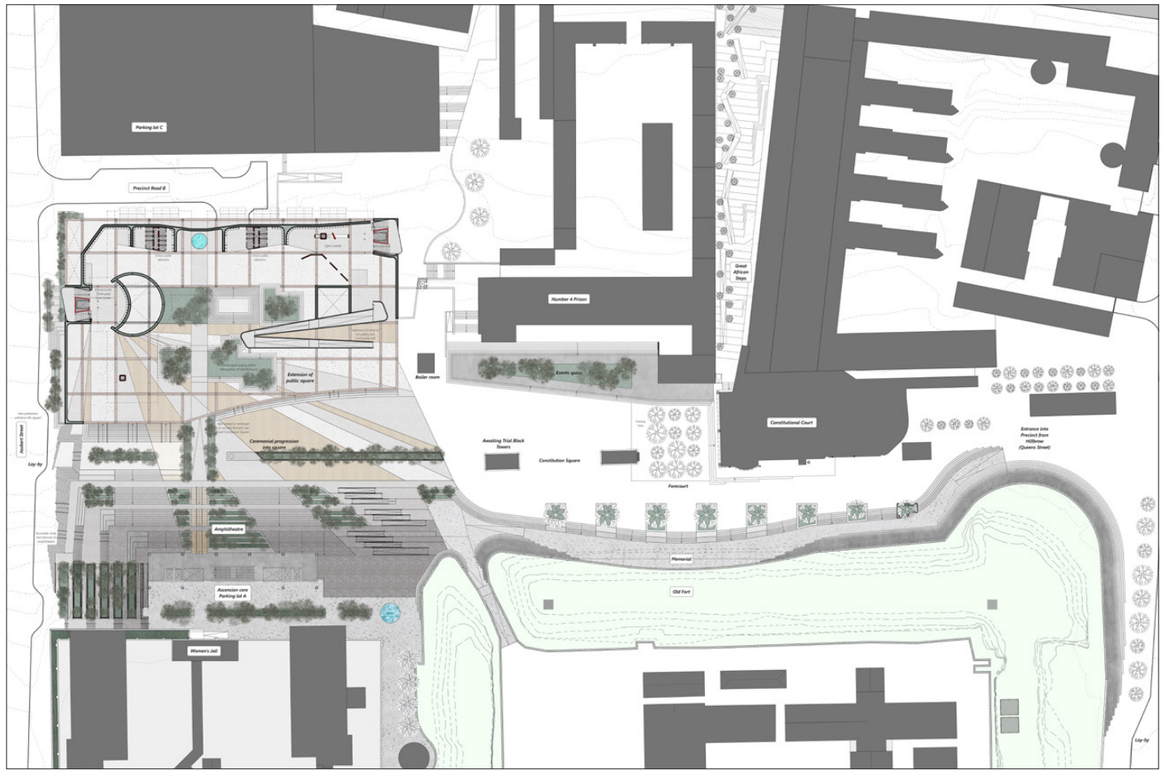


Figure 7.58 /
Existing and proposed condition.

7.5
CONCLUSION

The design development of the project shows how through an iterative process the architectural intentions of the project were achieved. It combines programmatic, conceptual and architectural intentions to achieve a design response to the various general, urban, contextual and architectural issues identified. The chapter concludes with the final design proposal and visualisations.

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CHAPTER 08
TECHNICAL RESOLUTION



Figure 8.1 / Governor's House Trees, statue of little boy.

Chapter 8 is concerned with the technical investigation and resolution. The aim is to tangibly connect the conceptual intentions with the technical resolution of the proposed design.

The chapter documents and explains the conceptually related technical concerns of materiality, structure, environmental strategies and a water system. These in turn are related back to the theoretical premise of safe space and research problem aiming to express lived experiences in architecture for women at Constitution Hill Precinct.

8.1
TECHNICAL CONCEPT

The technical concept builds from the conceptual intentions of the project which adopts a transformative approach towards heritage to distinguish old from new (Loulanski, 2013: 227).

By using two architectural strategies, namely parasitic attachments and insertions (Bollack, 2013: 23, 65), the new additions to the existing super-basement parking lot is transformed to become an extension of the Precinct's public realm.

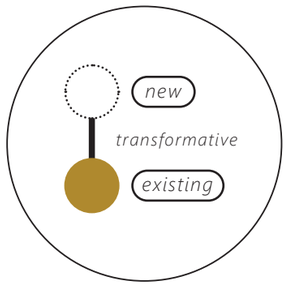


Diagram 8.1 / Technical concept.

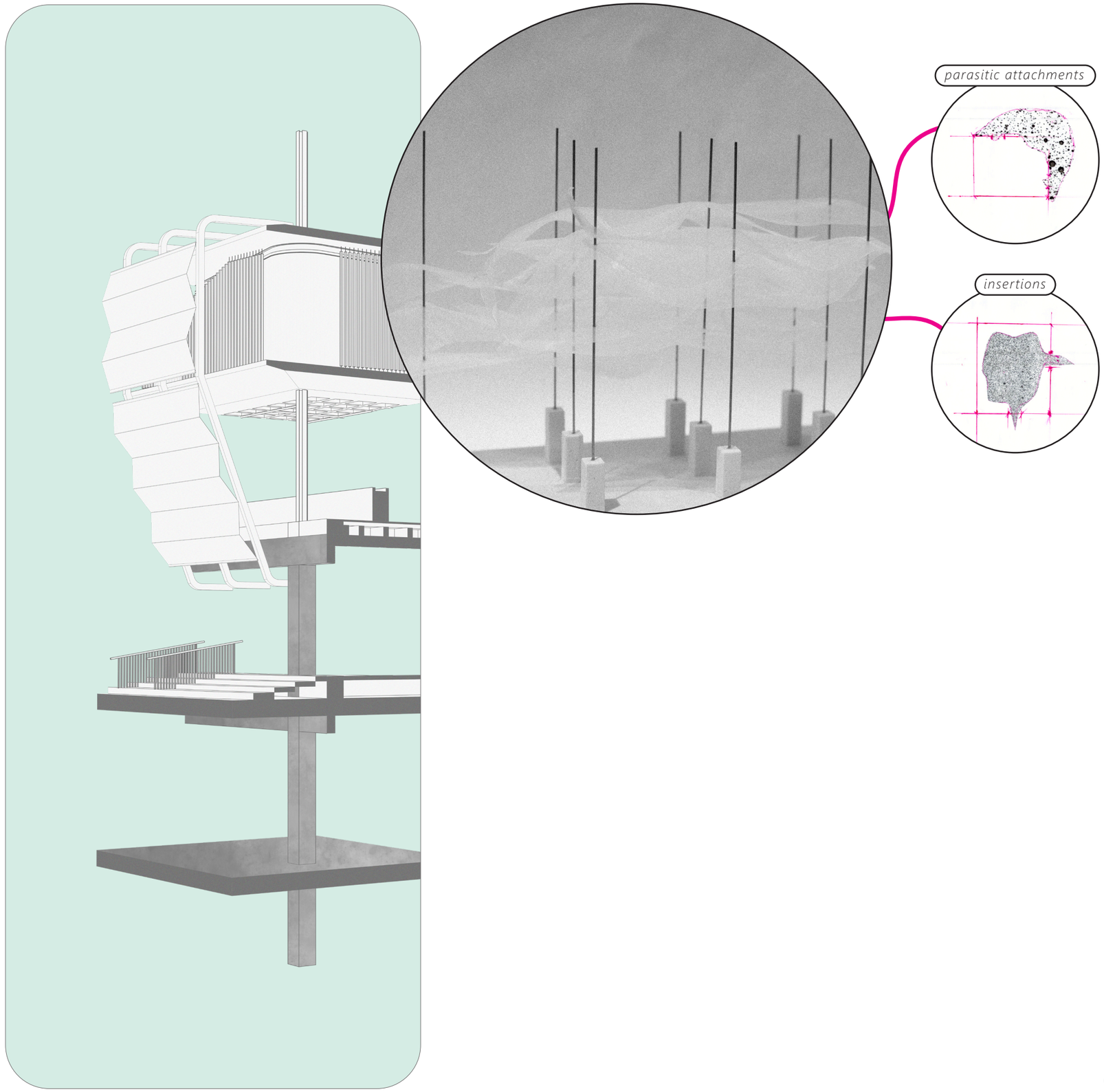


Figure 8.2 /
Technical concept illustrated with conceptual intentions.

8.2
TECHNICAL PRECEDENTS

- A TRANSFORMATIVE APPROACH TO STRUCTURE AND INFILL

BARCELONA PAVILION
MIES VAN DER ROHE
BARCELONA, SPAIN
1929

Originally called the German Pavilion, Mies van der Rohe designed the Barcelona Pavilion as part of the 1929 International Exposition in Spain (Kroll, 2011). Intended to be the "face of Germany after WWI" (Kroll, 2011) the pavilion also signified a departure towards Modernism in architecture. The building functions as a sculptural object, with natural and man-made materials like Swiss and Mediterranean marble, steel, Italian travertine, chrome and glass adding to the minimalist design. A tranquil user experience is created by raising the building on a plinth of travertine, removing the visitor from the city (Kroll, 2011). In addition, this is enhanced by the use of reflection ponds forming the interior of the courtyard.

The pavilion is laid onto a grid that serves to inform the patterns of the pavers as well as the framework for the walls and column structure. The low flat roof, forming one of the main components, accentuates the horizontality of the building, forming a floating plane in the landscape (Kroll, 2011). As Kroll (2011) states "the appearance of floating gives the volume a sense of weightlessness that fluctuates between enclosure and canopy". The eight chrome cladded cruciform columns, that support the roof, are fundamental devices that allow the building to attain its floating and lightweight quality (Kroll, 2011). The columns allow the walls to be independent of the structure, thus opening the interior floor plan and blurring the interior and exterior spaces.

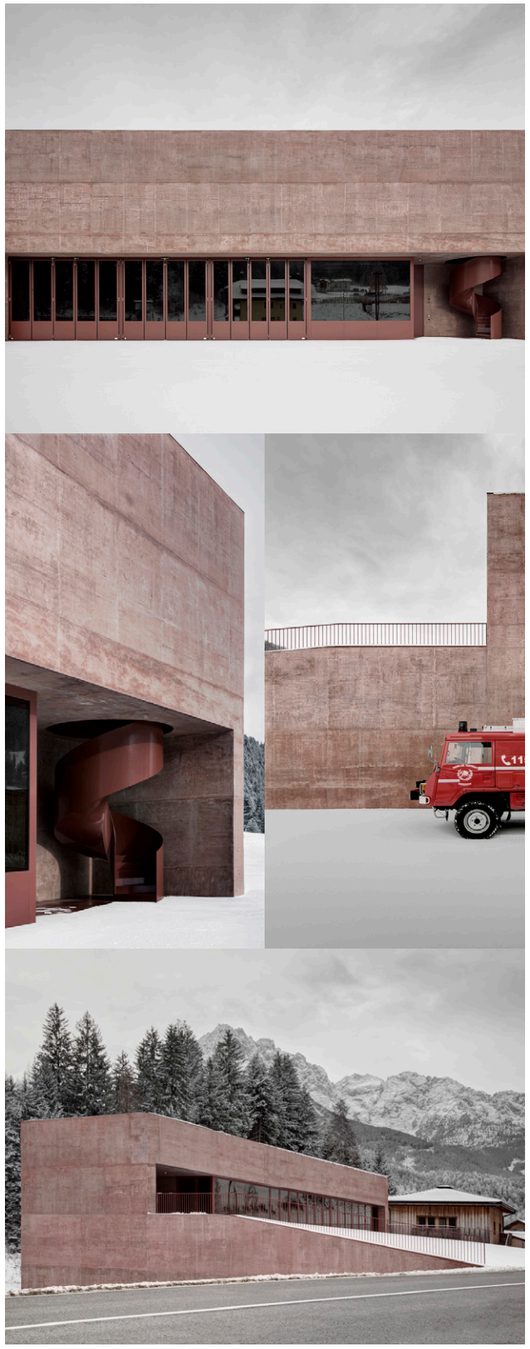
LESSONS LEARNT

The precedent serves as an example to illustrate the modernist principles of Pilotis and the free ground plan, as coined in Le Corbusier's five points of architecture.

A grid of columns supports the structure of the building, where walls and partitioning form the infill. Therefore, the absence of load bearing walls allows for adaptability and flexibility of space.



Above, top to bottom
Figure 8.3 /
View of reflection pool and courtyard.
Figure 8.4 /
View of building in context.
Figure 8.5 /
Chrome cladded cruciform column.
Figure 8.6 /
Cruciform technical illustration.



Above, top to bottom
Figure 8.7 /
Collage showcasing pigmented concrete colour.

The remainder of Le Corbusier's (1970) five principles include: the roof garden, horizontal windows and the free façade.

When viewed through the lenses of the dissertations' conceptual intentions, specifically in reference to the stereotomic and tectonic translation of the concept of chora, (c.f. 4.1, 4.3) the pavilion showcases a similar approach to structure. The notion that columns allow for the roof and infill, to be independent from the support system, allows the building to attain a light floating quality; which can similarly be adopted to reflect the ideas as illustrated in the touchstone (c.f. 4.1).

Furthermore, the pavilion, through its use of layering space, similarly reflects the narrative quality of revealing space through movement, as shown in Tschumi's use of architectural sequencing (c.f. 2.8-2.9). The space becomes a vessel where events can take place when moving through space. This idea is emphasised by Mies van der Rohe's use of materiality and walls to blur the inside and outside as well as drawing in or guiding the user through space. Although minimalist in its form and use of materials, the resulting architecture is one of sensory experience, where architecture frames the narrative of space (c.f. 2.8-2.9).

- PIGMENTED CONCRETE

THE ROSE OF VIERSCHACH FIRE STATION
PEDEVILLA ARCHITECTS
TIROL, ITALY
2016

The rose-tinted light-weight concrete fire station, designed by Pedeville Architects, is located close to the Austrian border. The building favours a minimalist approach to form, materiality and detailing, allowing the red colour of the fire station to emphasize its new identity in the landscape and monolithic structure (Effa, 2016). The red pigment is added to the concrete mix whilst wet, resulting in a unique aesthetic. The exposed concrete offers insulative properties to the skin as well as ensuring that the envelope is frost and waterproof (Effa, 2016). In addition, concrete is durable and robust, reducing maintenance on the building (Effa, 2016).

LESSONS LEARNT

The precedent offers a new perspective to the opportunities of pigmented concrete and showcases how it aids in conceptually translating the intention of a building through materiality.

• TENSILE SKIN

MUNICH ZOO AVIARY
FREI OTTO
MUNICH, GERMANY
1980

The German architect, Frei Otto, is well-known for his exploration of tensile structures, where forms resemble natural phenomena, like water droplets, with physical laws forming the basis for the structure (Boller & Shwartz, 2020: 566). His most well-known experiments with form-finding include soap models, aiming to minimise the need to intervene structurally. Stemming from this Otto often uses translucent materials like polyester or steel mesh to reflect his lightweight tensile structures (Boller & Shwartz, 2020: 566).

The Munich Zoo Aviary, built in 1980, serves as an example of Otto's explorations of tensile skins. The Munich Zoo, founded in 1911, was the world's first zoo designed according to animal's geographic origins (Hanley Wood Media, 2015).

As part of the renovations and additions, Jörg Gribl, Frei Otto and Ted Happold were commissioned to build an aviary for the zoo (Hanley Wood Media, 2015). The tensile skin forming a tent-like structure spans 5000m^2 and extends upwards to form the 18-meter-high aviary. The tent is held up by slender supports, with a thin stainless-steel mesh forming the net-like form. Sufficient space is provided to make the animals comfortable, while allowing visitors to experience their living environment.

LESSONS LEARNT

The precedent illustrates how tensile structures can be used in architecture to achieve a sense of lightness and ethereality, where transparency becomes an important space and atmospheric defining feature.

The circular free form of the structures, and the simplified use of structural support, defines Otto's use of form, technique and materiality. The lightweight quality of the tensile skin relates, in texture and atmospheric effect, to the touchstone presented earlier in the document (c.f. 4.1).



Right
Figure 8.8 /
Collage showcasing aviary and tensile skin.



• THE FIFTH FAÇADE: GREEN ROOF

EXTENSIVE GREEN ROOF

Office and green roof
COOKFOX Architects Studio
641 Avenue of the Americas, New York
2006

INTENSIVE GREEN ROOF

Nathan Phillips Square Revitalization
PLANT Architect/Perkins+Will in joint venture with Hoerr Schaudt Landscape Architect and Adrian Blackwell Urban Projects
Toronto, Canada
2015

Green roofs are often referred to as the fifth façade of a building. Not only offering an aesthetic appeal, green roofs also assist in stormwater collection and retention, improve species diversity, and insulation of a building against heat gain or loss (Growinggreenguide.org, 2020). Three main forms of green roofs exist namely intensive, semi-intensive and extensive green roofs.

Briefly described, extensive green roofs have a growing substrate of no more than 200 deep, are low maintenance, do not need an irrigation system and favour plant species like succulents and grasses (Growinggreenguide.org, 2020). Intensive green roofs can accommodate growing substrates of more than 1000, where structures are equipped to handle heavier loads. They offer a greater variety of plant and tree species when compared to extensive green roofs, and often need irrigation systems. Furthermore, intensive green roofs are often accessible spaces, whereas extensive green roofs form visual elements in the landscape. Semi-intensive green roofs are categorized in between intensive and extensive green roofs.

The image alongside showcase an extensive green roof constructed by COOKFOX Architects in 2006 (Figure 8.9). The lightweight modular extensive green roof added to the existing structure improves stormwater absorption, whilst lowering surface temperatures of the building; and thereby promotes urban sustainability (Greenroofs.com, 2020).

The intensive green roof shown (Figure 8.10), designed by PLANT Architect, Perkins+Will, Hoerr Schaudt Landscape Architect and Adrian Blackwell Urban Projects, forms part of the revitalisation of the Nathan Philips Square originally constructed in 1965 (PLANT Architect et al., 2015). Emphasis was placed on redesigning the existing to form a public civic space, whilst still acknowledging the heritage and connectivity to its surroundings.

LESSONS LEARNT

The project will make use of both extensive and intensive green roofs. Extensive green roofs are lightweight, do not need irrigation systems, affordable and low-maintenance, proving to be a good option for sustainable, yet, aesthetic solutions to landscaping. The adaptation of the parking lot structures (c.f. 3.3.2) will require the use of semi-intensive to intensive green roofs.

Left
Figure 8.9 /
Extensive green roof.
Figure 8.10 /
Intensive green roof.

- **A TRANSFORMATIVE APPROACH TO HERITAGE: INTERVENING BETWEEN OLD + NEW**

ZEITZ MUSEUM OF CONTEMPORARY ART AFRICA (MOCA)
HEATHERWICK STUDIO
CAPE TOWN
2017

Located at the V&A Waterfront, Heatherwick Studios adapted the abandoned historic Grain Silo Complex into the world's largest museum for contemporary African art. In order to make the silo accessible and so that it offers a spatial architectural experience, the architects used an innovative way to alter the existing fabric whilst preserving the building's industrial heritage (urbanNEXT, 2020).

To house the galleries and atrium, the core of the concrete silo is carved out to expose the cellular structure (urbanNEXT, 2020). The concept is informed by the curved edges of a single grain of corn; which was modelled to fill the 27 metre high volume, alluding to the volume of a vaulted cathedral (urbanNEXT, 2020).

To create guides for cutting the concrete, nails were physically marked onto the existing concrete walls. The existing 170 thick concrete tubes needed to be reinforced with an additional sleeve of reinforced concrete, which was added on the interior to create a 420 thick composite structure (urbanNEXT, 2020). Cutting through the existing concrete structure exposed rough aggregate edges, which were subsequently polished. The polished concrete expresses the architect's transformative approach towards heritage through establishing a direct dialogue between old and new.

LESSONS LEARNT

The precedent is valuable as it illustrates a transformative intervention of the existing silo structure. The integrity and uniqueness of the existing is kept, whilst adding value to the dormant silo structure.



Right
Figure 8.11 /
View of East elevation.
Figure 8.12 /
Auditorium showing carved core.
Figure 8.13 /
Detailed view of concrete finishes.



- **POLYCARBONATE**

HOUSE IN TOUSUIEN
SUPPOSE DESIGN OFFICE
HIROSHIMA, JAPAN
2012

The house designed by Suppose Design Office is located on a narrow site where three sides of it is enclosed by other residential buildings. The slender site and lack of space prompted the architects to make use of thin, translucent polycarbonate walls for the exterior skin, ultimately eliminating the use of thick and heavy walls, and maximising natural light and interior spatial quality (Suppose Design Office, 2012). The translucent quality of the material allows one to experience the changing environment of the outside, whilst allowing the privacy of a home.

LESSONS LEARNT

The use of polycarbonate for the skin of the building illustrates both the sensuous and fluid quality required for the materiality of this dissertation (c.f. 2.8-2.10). The translucent material promotes daylight, whilst providing privacy to the outside. When the house is illuminated at night, the building becomes a beacon in the landscape, forming part of the streetscape.

Left
Figure 8.14 /
Evening view (Yano & Ota, 2012).
Figure 8.15 /
Collage of interior light-filled views (Yano & Ota, 2012).

8.3
MATERIALITY

Materiality is purposefully chosen to contrast from the existing, adding to the palimpsest of the site. Parking lots A and B are constructed from concrete, with light grey and red brick infill. Core materials include: pigmented concrete, polycarbonate, grey facebrick, composite bamboo plastic, terrazzo, timber and translucent tensile fabric.

STRUCTURE + ROOF

Black intumescent painted cruciform columns /

The use of the columns conceptually allows the structure to distinguish from the existing and provides the bones for the floating structure (Rodriguez, 2019).

Extensive green roof /

As mentioned earlier extensive green roofs are lightweight, offer sustainable properties and forms a visual element in the landscape. Local grasses and succulents can be used for planting.

INFILL

Multiwall polycarbonate /

Polycarbonate is lightweight, promotes daylight, is fire-resistant and low-maintenance. It allows for the achievement of good insulation (U value: 0.39 W/m^{2}K). For the purpose of the project, both solid and 19% translucent polycarbonate will be used (Danpatherm K12) (Danpal, 2020). Polycarbonate has in recent years also become recyclable (EPSE, 2020).

FLOORS

Pigmented red and charcoal concrete /

Concrete is long-lasting, provides visual contrast from existing, yet still acknowledges the parking lot structure (Thomas et al., 2020).

Terrazzo /

Terrazzo is a good option for public buildings. It can be recycled and recycled glass can be substituted for aggregate (Union Tiles, 2020).

TECTONIC ELEMENTS / BRISE SOLEIL

Saligna laminated timber /

Timber when treated properly is fire-resistant, durable, provides human scale and tactility (GreenSpec, 2020, OT Joiners, 2020).

Grey facebrick /

Grey facebrick is locally produced in Gauteng and offers a departure from the existing use of brick (Corobrik, 2020).

Tensile fabric /

The exterior fabric is translucent, lightweight, breathable and weather resistant (Sefar AG, 2016).

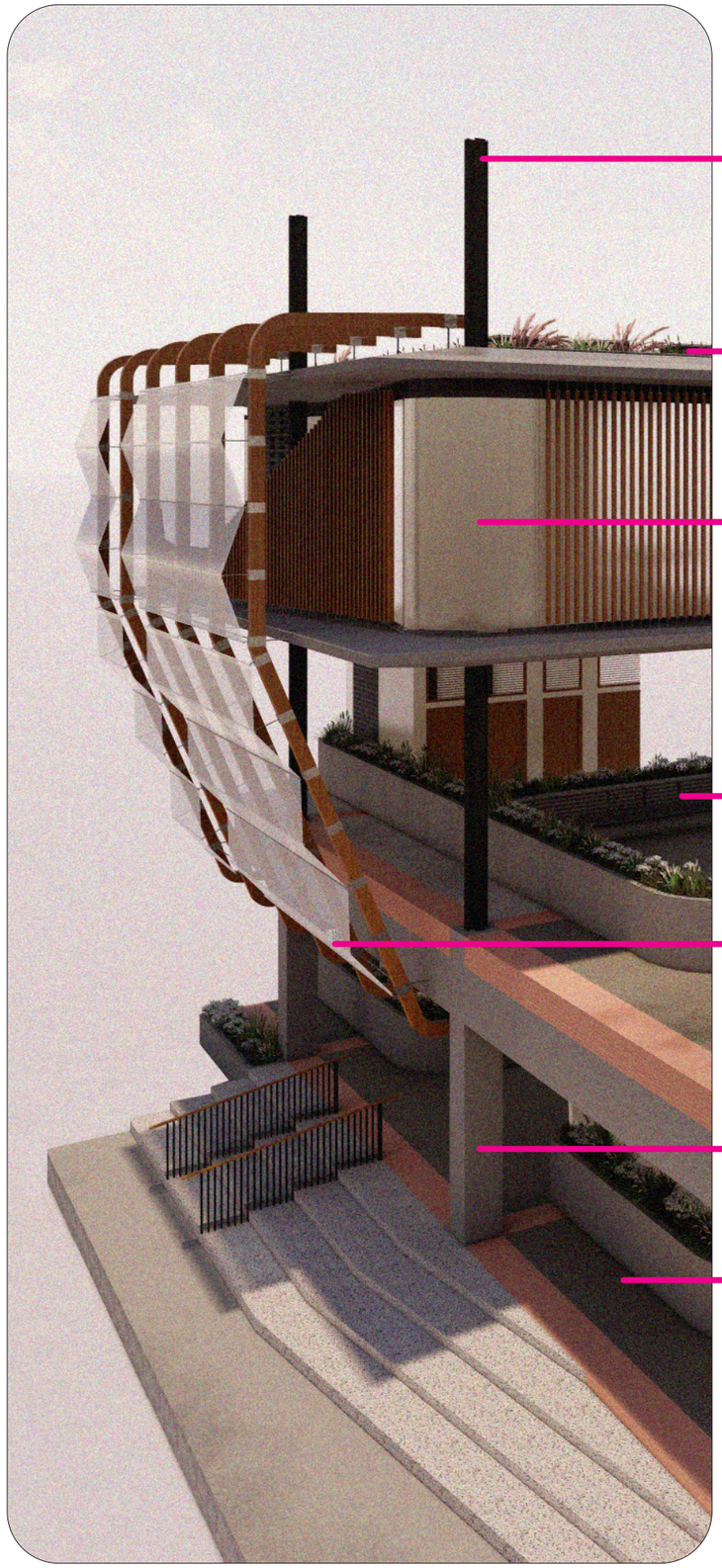




Figure 8.16 /
Materiality.
Figure 8.17 /
3D showing application of materials.

• LANDSCAPE

The existing planting palette consists of typical highveld grasses and trees. The proposed planting palette uses greenery and white accents to unite visual and sensorial aspects to the architecture. The plants selected are indigenous.

Trees



Buddleja Saligna (False olive) with white honey-scented flowers



Heteropyxis natalensis (Lavender Tree) with aromatic leaves

Climbers (green wall trellis)



Jasminum multipartitum (Wild Jasmine) with white fragrant flowers



Rhoicissus tomentosa (Wild grape) with green foliage

Grasses and succulents



Melenis



Aristida junciformis



Aloe rupestris

Ground cover and planters



Agapanthus nana white



Dietes grandiflora white (Fortnight lily)



Asystasia gangetica white (Creeping foxglove)

Figure 8.18 /
Landscape palette.

8.4
STRUCTURE

The *primary structure* is made up of concrete coffer slabs and inverted beams and slabs that are supported by intumescent painted mild steel cruciform columns, creating a structure that lightly floats above the existing parking lot; and thereby distinguishes itself from the existing. The slabs are tapered to exaggerate its floating quality and forms the roof of the building.

Extensive green roofs are incorporated for their visual and sustainable traits. The addition of the inverted slabs and beams as a roof structure adds intricacy to the structure from above.

To enhance the illusion of lightweight elements and to characterize the visual identity of safe space, *secondary infill* comprises of curved illuminated walls. *Tertiary skins* consisting of brise soleil elements emphasize that the building acts as a safety barrier, layering and defining the progression of space.

Where the existing between the concrete columns and slabs of the parking lot structure is removed, structural reinforcement is given.

The resulting design, when considering the longevity of the building, offers adaptability. The structure and its services remain permanent, whereas the infill can be changed. This illustrates that the opportunity of flexibility offers a positive contribution when designing buildings of a public nature.

KEY

- *Primary*
- *Secondary*
- *Tertiary*
- *Existing*

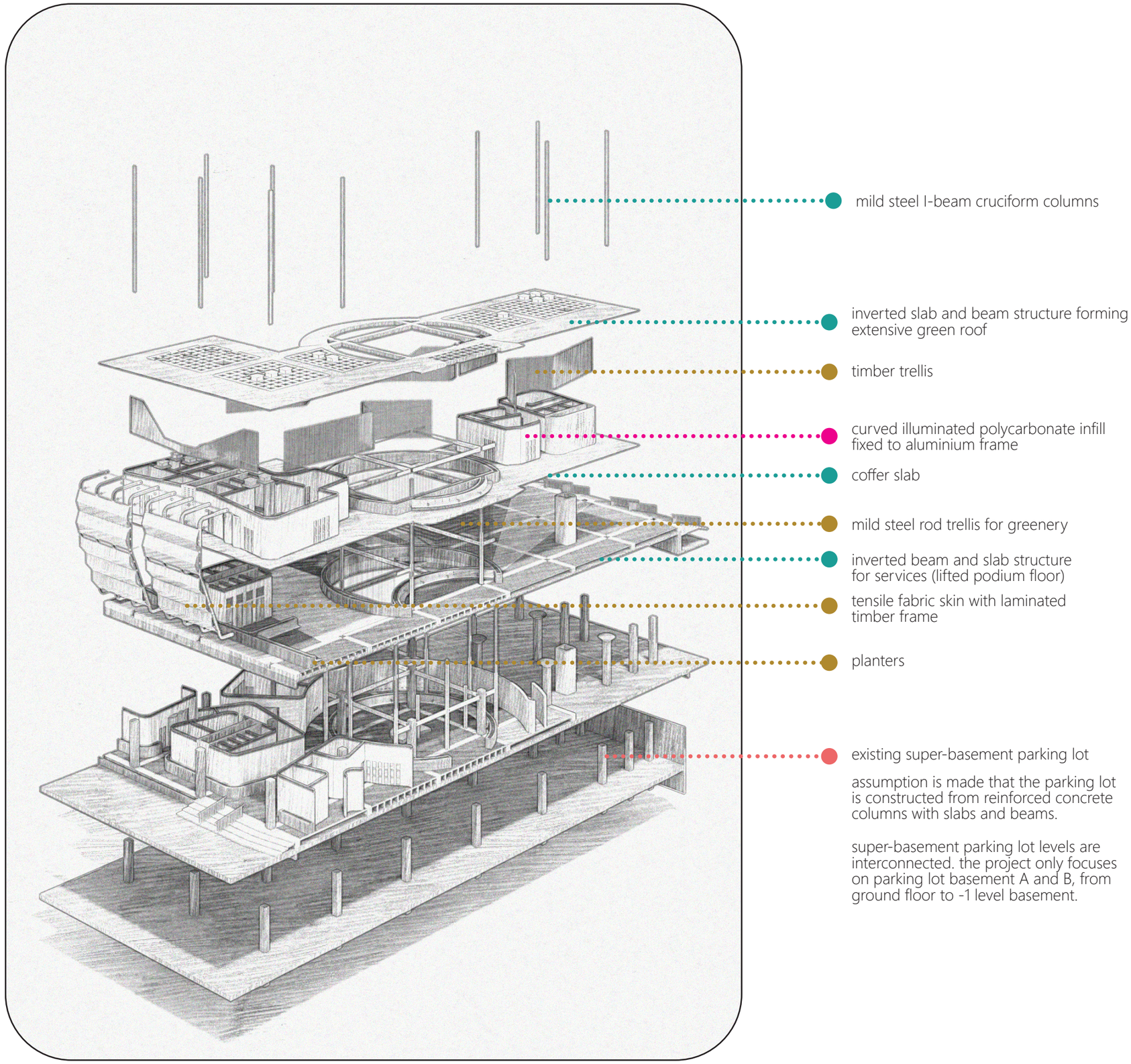


Figure 8.19 /
Structural system.

8.5
SYSTEMS:
WATER HARVESTING

Due to the public nature of the building, an opportunity is identified to give back to the users of the space. This is achieved through harvesting roof rainwater for potable uses and stormwater for irrigation (Diagram 8.3).

Roof water is collected via a syphonic drainage system and stored in underground tanks alongside Parking lot B; whereas surface run-off (stormwater) is collected via channels installed in the lifted podium floor and similarly stored in underground tanks alongside Parking lot B (c.f. Figure 7.30). Service hatches are installed in the lifted podium floor to allow access.

A syphonic drainage system, which is incorporated with the extensive green roof system allows for efficient run-off collection. The system requires fewer downpipes than conventional drainage systems and can therefore be reticulated to a single vertical stack (Geberit Pty Ltd, 2020).

Due to the high soluble content of stormwater, it is passed through a grease trap before entering the storage tanks. Water collected from the roofs do not require this step and can be stored directly.

Before any water is distributed it is processed through a UV filter. Water is distributed via pumps located in a pump room in -1 Level Basement. It is to be noted that 4 service ducts are distributed throughout the building to accommodate service reticulation (Figure 8.21). The ducts are ventilated through brise soleil openings in the brick walls. The ducts extend from the roof to the basement via access doors and cat ladders placed inside of the ducts. Access to the roof is provided (c.f. Figure 7.31).

Note / 50% of hot water supply of the building should be generated from alternative sources like a heat pump and/or solar systems (SANS 10400 XA). For example, heat pumps can be installed out of sight in the service ducts with the geysers.

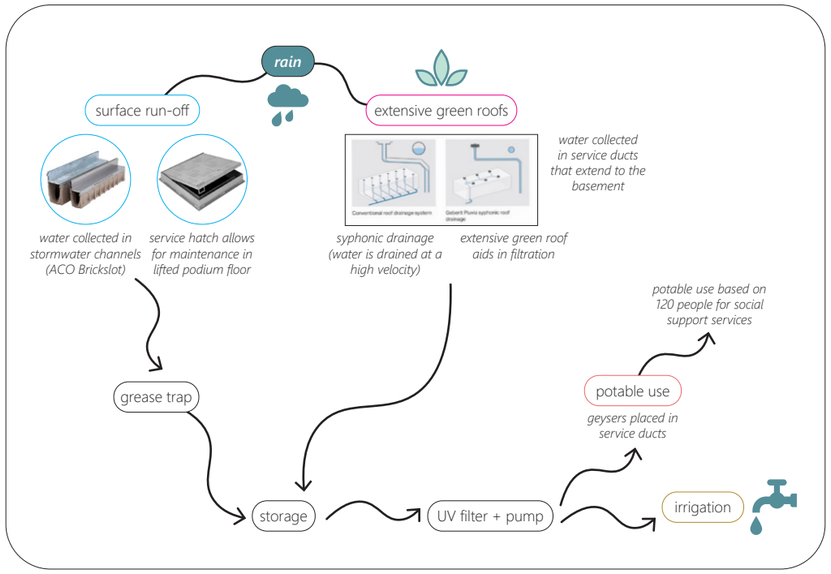


Diagram 8.2 /
Flow and distribution of water.

Figure 8.20 /
Water catchment.

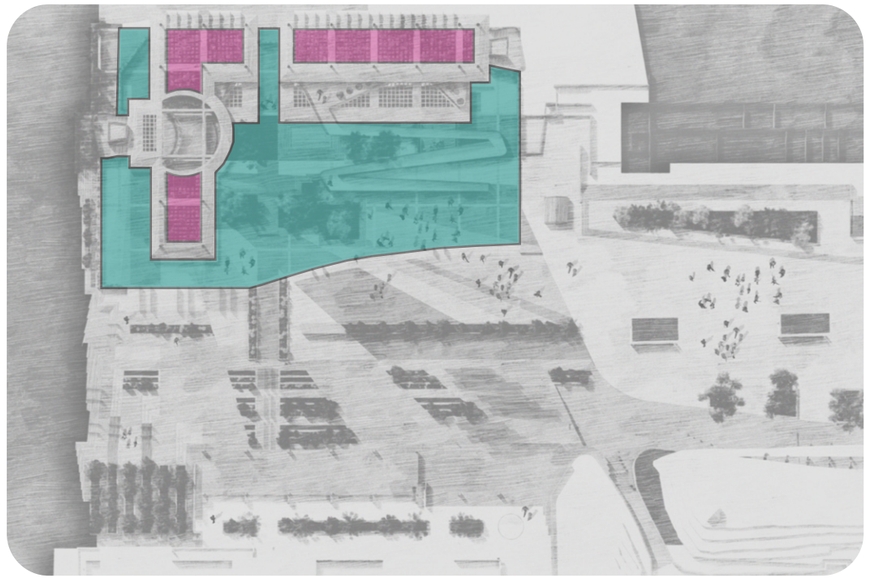
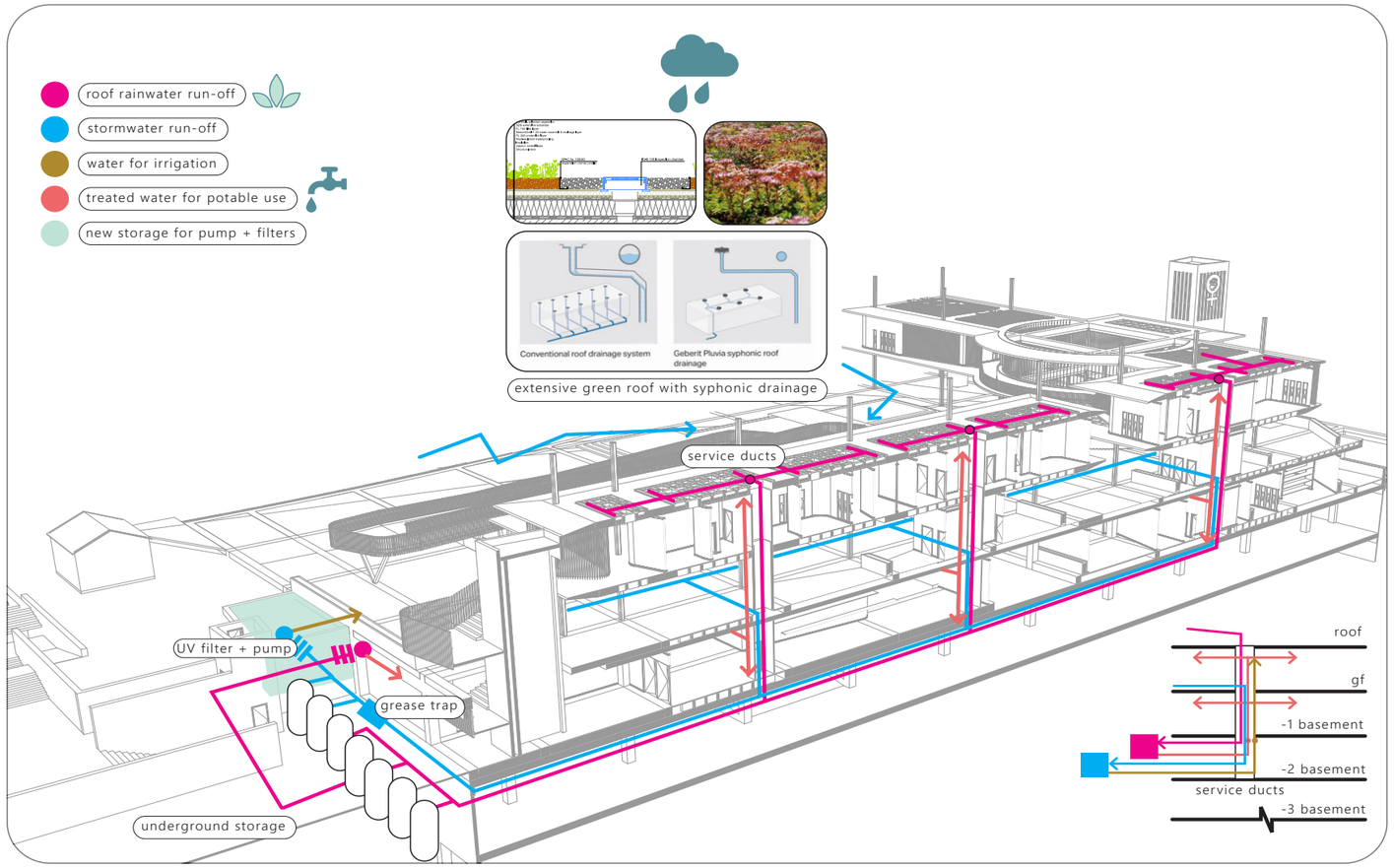


Table 8.1 /
Water catchment calculated area.

Catchment	Area, A (m^2)	Runoff Coefficient (C)	Weighted Runoff Coefficient (C) (A/Total Area)
New roofs (green roof)	376	0.45	0,15
New surfaces (terrazzo)	2070	0.9	0,85
Total	2446		1

Figure 8.21 /
Three-dimensional depiction of service ducts and storage.



The following table explains the accumulative water budget of the area identified for water harvesting (Figure 8.20). Tables showing this process is attached as an appendix.

Table 8.2 /
Water budget (accumulative).

Month	Yield (m^3)	Demand (m^3)	Monthly balance	Vol. water in tank (m^3)
January	306	153,08	152,9	132,6
February	230	144,08	85,9	132,6
March	220	153,08	66,9	132,6
April	132	150,08	-18,1	114,5
May	32	123,04	-91,0	23,5
June	22	120,04	-98,0	0,0
July	10	123,04	-113,0	0,0
August	15	153,08	-138,1	0,0
September	66	150,08	-84,1	0,0
October	17	153,08	-136,1	0,0
November	27	150,08	-123,1	0,0
December	252	153,08	98,9	98,9
Annual average	**1329**	**1725,84**		

The tank size required would need to accommodate, when rounded off, 133m^3 of water at its maximum, which equals 133 000 litres. Seven vertical 20 000 litre JoJo tanks can be installed to accommodate this demand (Figure 7.30).

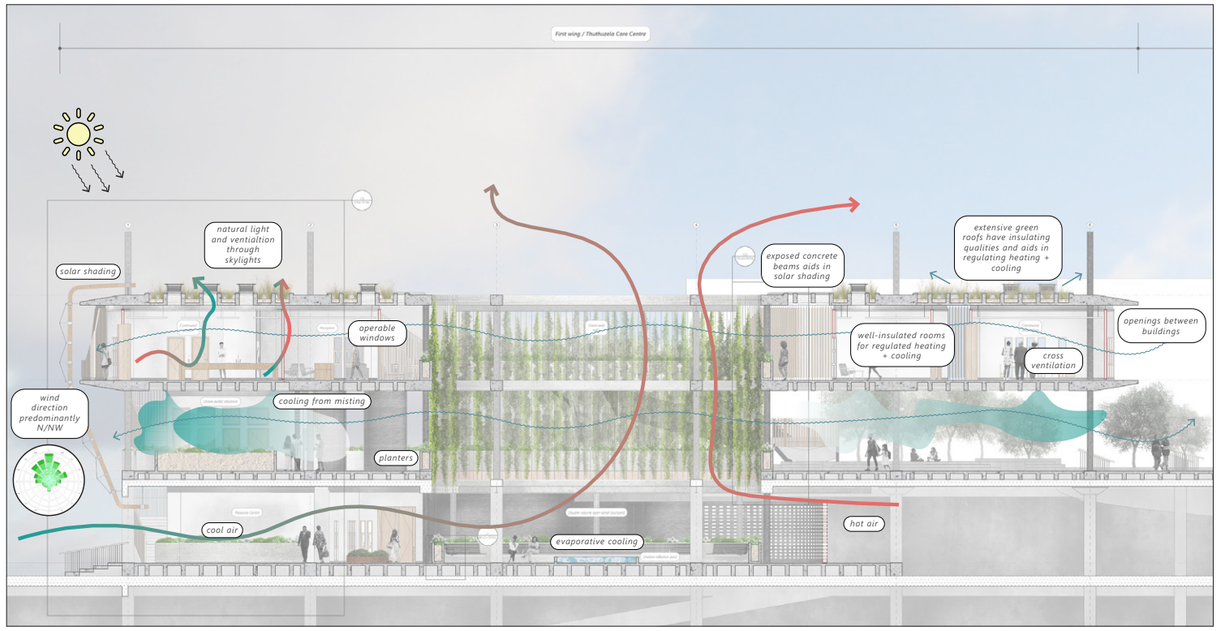
8.6 ENVIRONMENTAL STRATEGIES

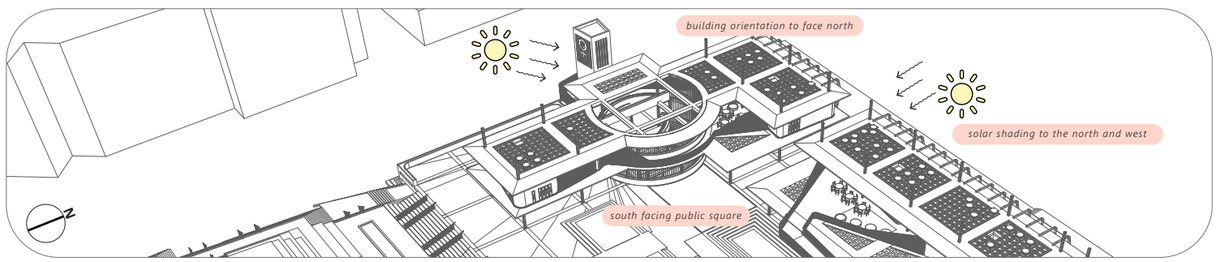
Environmental strategies consider user-comfort at a public, building and user scale.

The following image below illustrates the application of the strategies; which include passive ventilation, natural light, thermal comfort, greenery, solar shading and evaporative cooling via shallow water features and misting. The building is orientated to the North, forming a South facing square. For sun shading, vertical slats are placed on the West and the tensile fabric skin to the North.

Daylight calculations simulated on Sefaira (2014) illustrate the success of the building's daylight, glare and thermal comfort.

Diagram 8.3 /
Application of environmental systems and strategies.





• DAYLIGHT CALCULATIONS

Daylight can be described as the amount of light projected by the sun under "various conditions or by other light sources intended to simulate natural daylight" (STANDS4 LLC., 2020). Daylight uses sDA (Spatial Daylight Autonomy) and ASE (Annual Sun Exposure) to measure whether a space has achieved the correct amount of light during the day. In this case the First Floor's communal kitchen and dining area, emergency medical care and reception is used as an area of study. The required lux is also assumed to be 300 (recommended for office spaces).

sDA (Spatial Daylight Autonomy) measures whether a space has the correct amount of daylight (Sterner, 2017). The recommended sDA is between 55-100%.

ASE (Annual Sun Exposure) measures if a space is flooded with too much direct sunlight, "which can cause visual discomfort (glare) or increase cooling loads" (Sterner, 2017). The recommended percentage for ASE is 10%.

The table alongside illustrates the deemed to satisfy U-values according to SANS 10400 and SANS 10400 XA (2011) that will be used as input values when running daylight simulations. It is clear that the design offers satisfactory levels of relevant U-values. Briefly described U-value measures "the transfer of heat through a structure" (Lymath, & McPartland, 2020). The lower the U-value (W/m^2K) the more well insulated the material or structure is.

The first model serves as the baseline model (Figure 8.22). Based on the simulation the design deemed too over lit. sDA was measured at 58%, whereas the ASE measured at 47%. In this case the sDA measured in the desired percentage, whereas the as the ASE measured well above 10% (47%).

In the iteration (Figure 8.23) skylights and shading devices are introduced. This iteration drastically improved the ASE %, measuring 19%. sDA measured 48%, still measuring relatively close to the required 55%. To improve the sDA the skylights can possibly be removed or the orientation of the glass on the skylights can be altered.

Note / A combination of solid and 19% transmittable polycarbonate sheeting will be used, and thus will be assumed as a wall when "tagging" elements in Sefaira (2014).

Table 8.3 /
Deemed to satisfy and design U-values.

SANS 10400 (2011) deemed to satisfy U-value (W/m^2K) *Note:* *Johannesburg is classified as a cold interior (Climatic zone 1) (SANS 10400-XA, 2011: 12). Values are selected accordingly.*	Design U-value (W/m^2K)
Floors (Minimum value) U-value = 1 (W/m^2K)	**Floors** (100 thick coffer slab) U-value = 0,8 (W/m^2K)
Walls (Minimum value) R-value = 2.2 ($m^2 \cdot K/W$) U-value = 0.45 (W/m^2K)	**Walls** (150 thick polycarbonate composite wall fixed to aluminium frame) U-value: 0.39 (W/m^2K) *Note:* *In this instance an assumption is made that the U-value of the 150 thick polycarbonate composite wall is similar to a 120 thick DANPATHERM K12 product with multiwall skins. If needed further tests can be conducted by specialists, and the composite wall can be specified to achieve a minimum of 0.45 u-value.*
Roof (Minimum value) R value = 3.7 ($m^2 \cdot K/W$) U-value = 0.27 (W/m^2K)	**Roof** (Comprised of extensive green roof, 100 thick concrete roof and 80 thick insulation) Total U-value = 0.27 (W/m^2K) (U=1/R+R+R) R- value of 200 thick extensive green roof: 0.19 ($m^2.K/W$) R- value of 100 thick concrete: 0.07 ($m^2.K/W$) R- value of 80 thick LAMBDABOARD® insulation: 3.33 ($m^2.K/W$)
Glazing (Minimum value) (6mm clear toughened safety glass) U-value: 0.58 (W/m^2K)	**Glazing** (6mm clear toughened safety glass) U-value: 0.58 (W/m^2K) *Note: glazing should not be more than 15% of the net floor area (SANS 10400 XA: 2011). If this exceeds a rational for the building should be completed.*

Baseline model

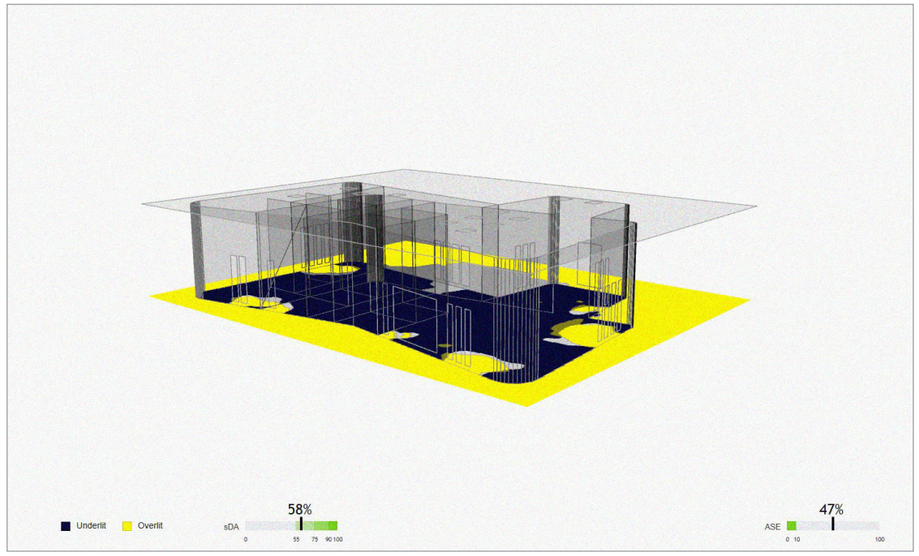


Figure 8.22 /
Baseline model.

Iteration 1

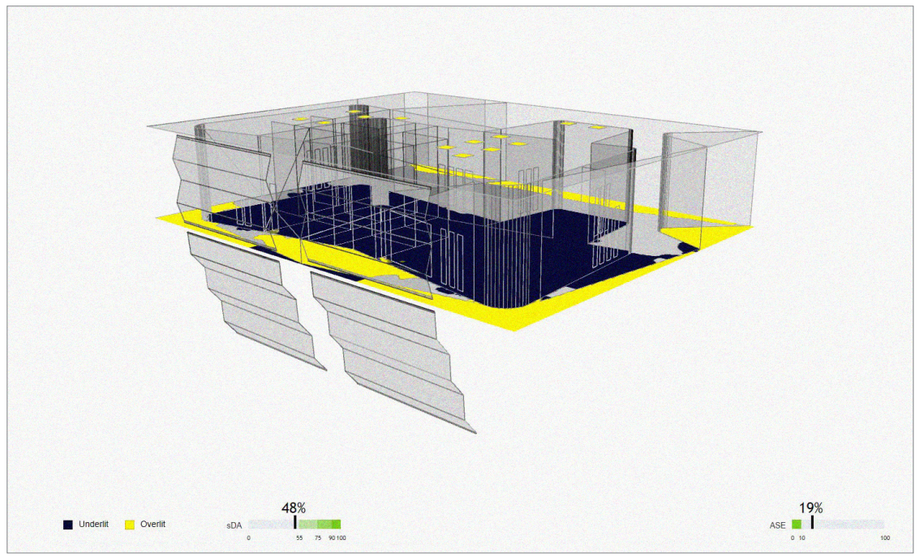
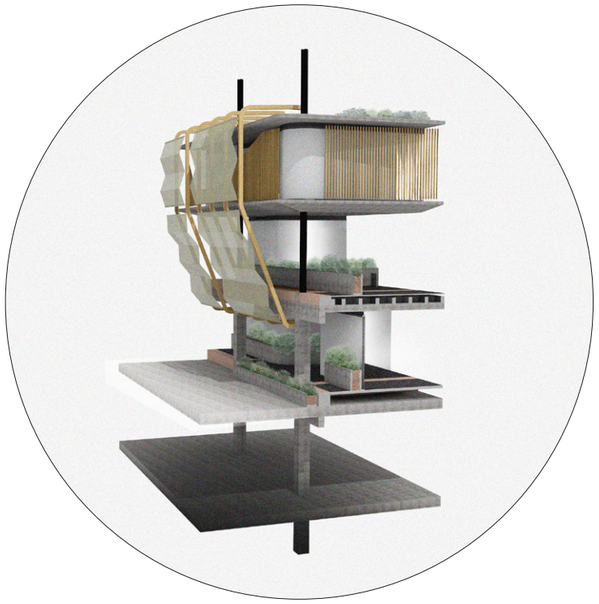


Figure 8.23 /
Iteration 1.

8.7
DETAILS

SECTION A /
EDGE DETAIL
(1:20 SCALED DOWN)



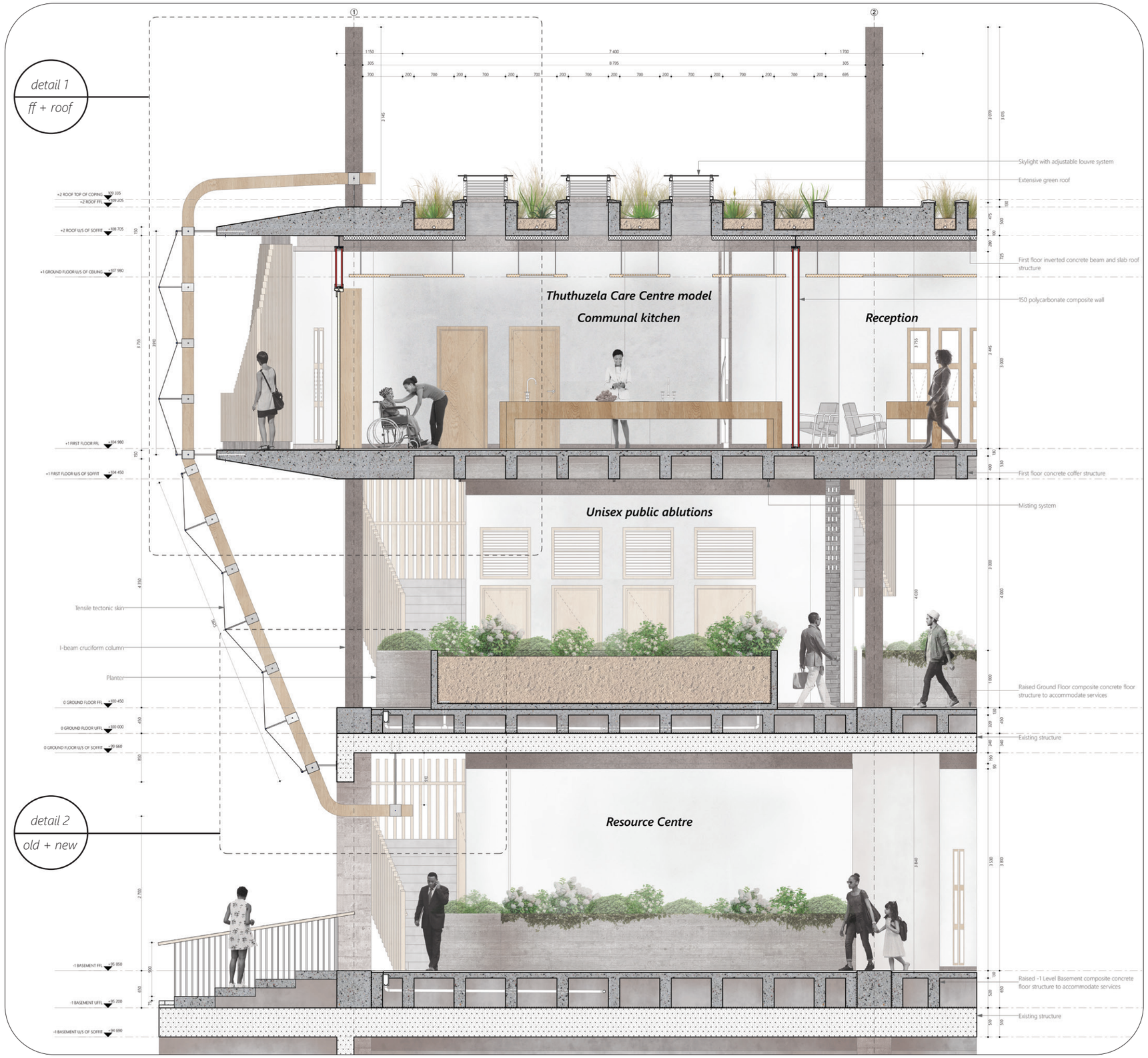
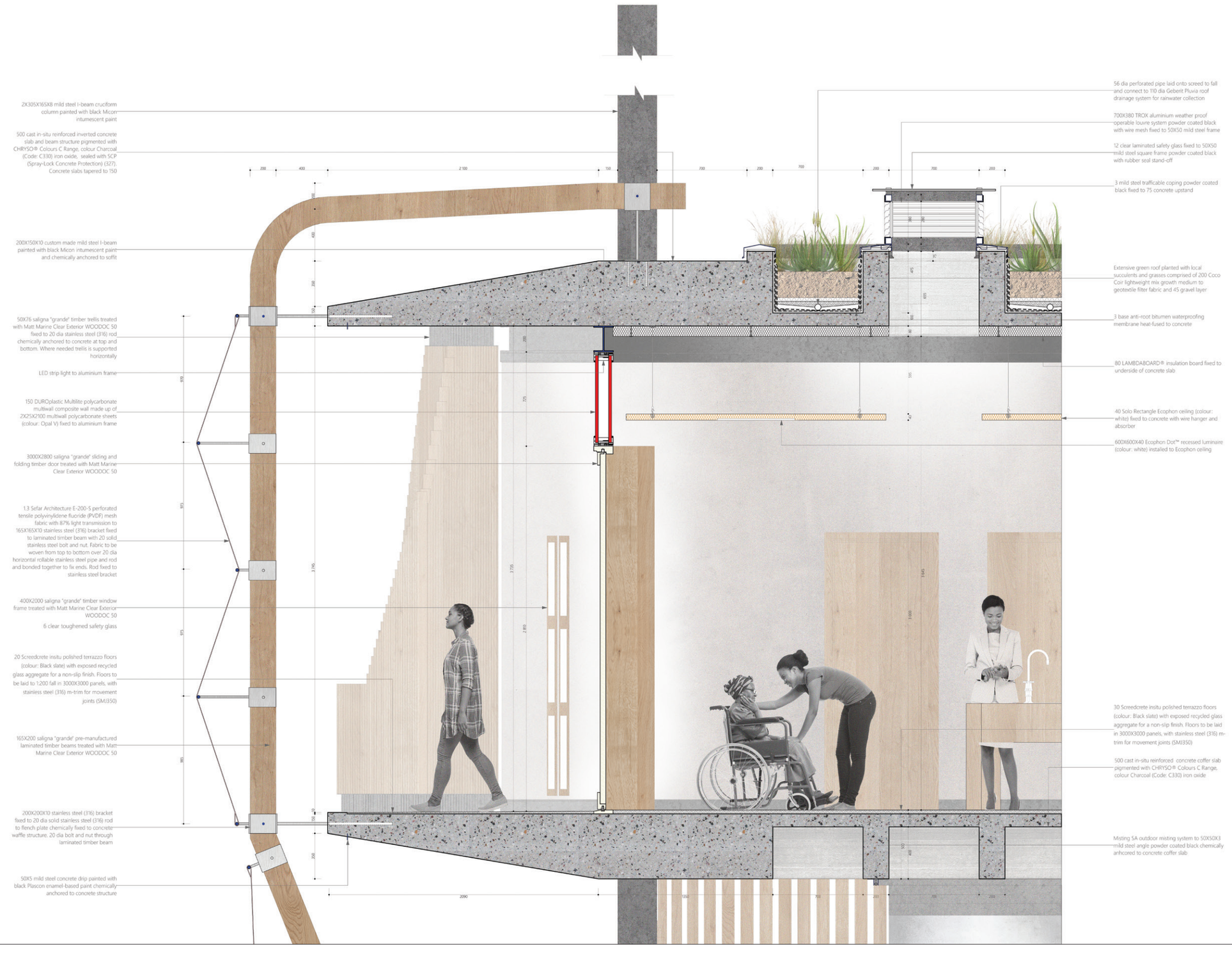


Figure 8.24 /
Edge detail
(1:20 scaled down).

DETAIL 1 / ROOF + FIRST FLOOR CONNECTION (1:10 SCALED DOWN)

Figure 8.25 /
Detail 1 / Roof and First floor connection (1:10 scaled down).

new



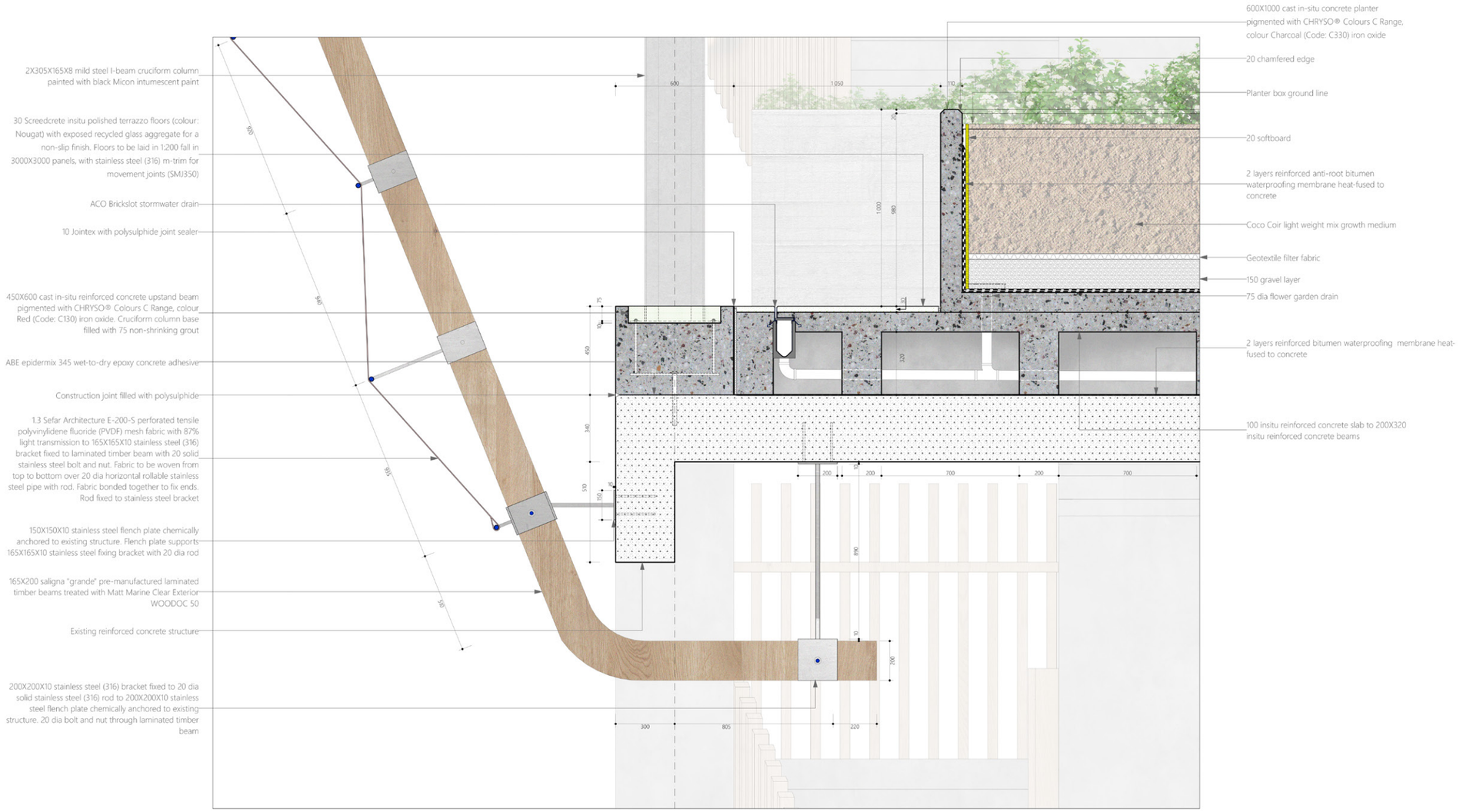
DETAIL 2 / OLD + NEW CONNECTION (1:10 SCALED DOWN)



Figure 8.26 /
Detail 2 / Old and new connection (1:10 scaled down).

existing

new



DETAIL 3 / BENCH (1:5 SCALED DOWN)

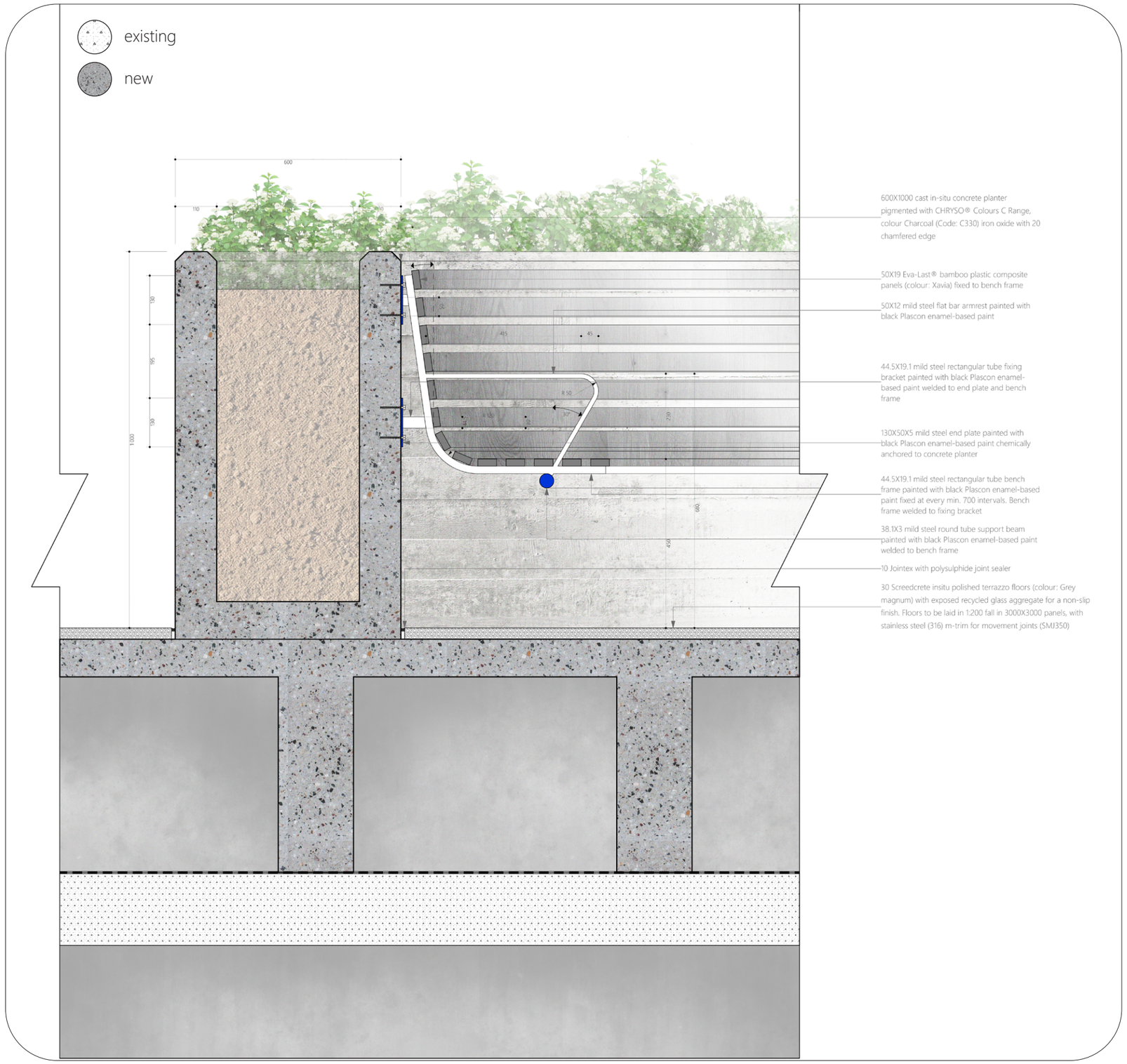
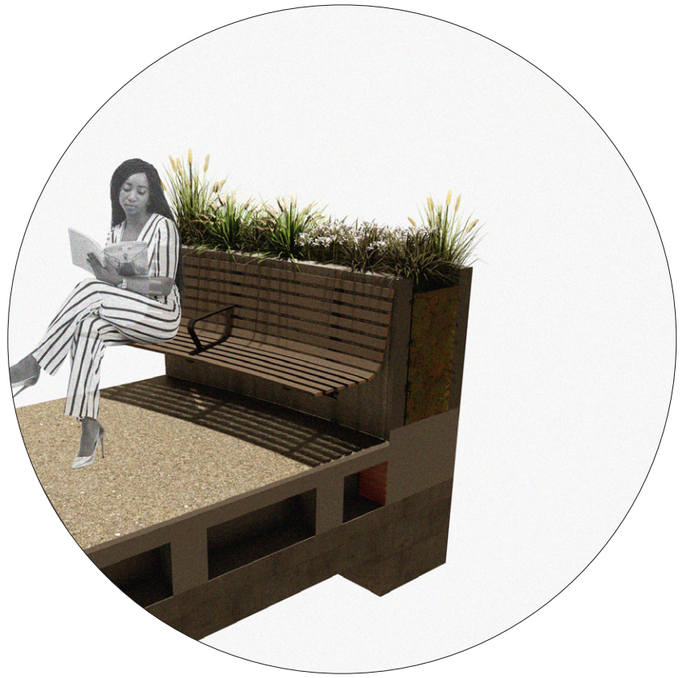


Figure 8.27 / Detail 3 / Bench (1:5 scaled down).





DETAIL 4 / RAMP (1:10 SCALED DOWN)

existing

new

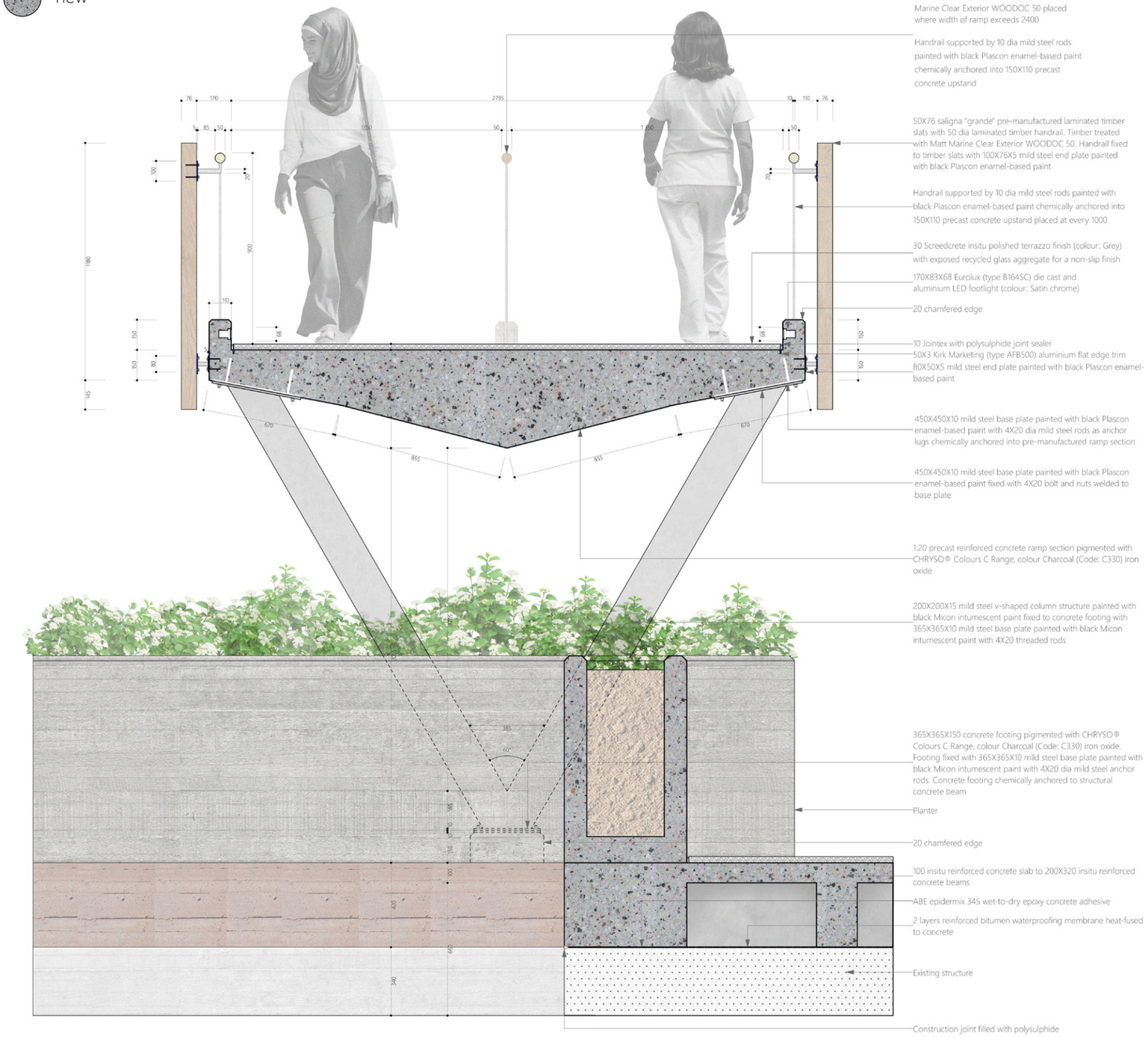




Figure 8.28 / Detail 4 / Ramp (1:10 scaled down).

DETAIL 6 / GREEN WALL TRELLIS (1:20 SCALED DOWN)











Figure 8.29 /
Detail 5 / Green wall trellis
(1:20 scaled down).

8.8
CONCLUSION

The technical resolution of the project aims to distinguish the old from new through a transformative approach to the existing. The resulting architecture adopts the identity as safe space and thereby venerates the rights of women through their lived experiences. Materiality chosen aims to add to the existing layering of the Precinct, whilst instilling a new layer of use and meaning. Furthermore, landscaping softens the design to create humane and tranquil spaces of refuge and comfort.

CHAPTER 09
REFLECTION

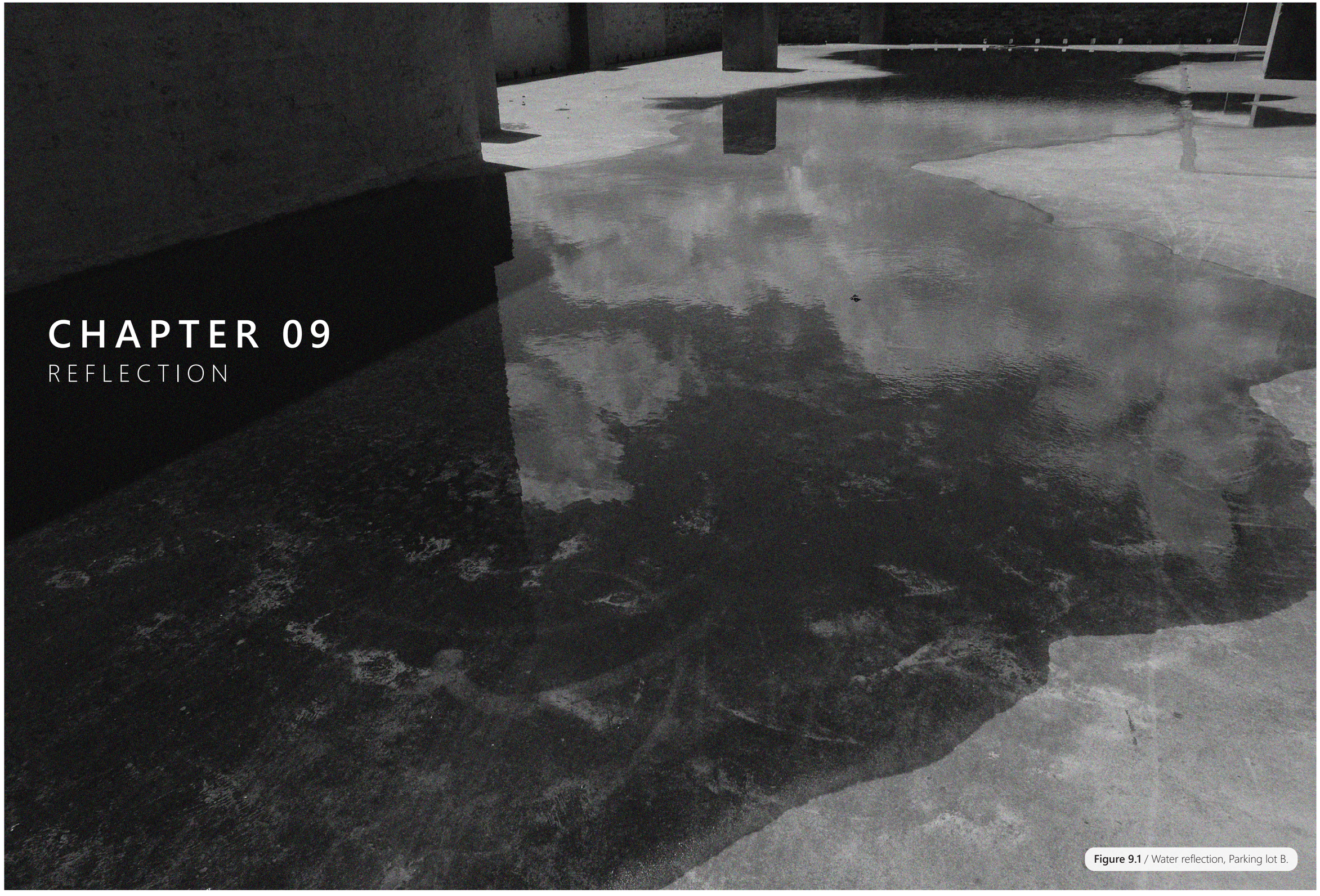


Figure 9.1 / Water reflection, Parking lot B.

Chapter 9 concludes the dissertation, summarising the dissertation's issues and intentions. It frames the synthesis of the solution, presents how the project contributes to the field of architecture and raises issues that require further attention.

The general issue of the dissertation places light on the global and local issue of Violence Against Women (VAW), and how this affects a women's perception, occupation and use of public and private space. The identification of Constitution Hill Precinct as a site representative of human rights, provided for the architectural opportunity to express and make more visible women's human rights and to take a stance against VAW through socially responsive architecture.

The architectural issues are summarised by the missed opportunity of the unprogrammed, introverted and fortified nature of the existing built fabric of the Precinct that disconnects the pedestrian from interacting with the everyday and inner public realms. In addition, the identification of Parking lot A and B as lost space, served as an opportunity to appropriate a dormant space.

Theory served as a prominent driver for the dissertation, followed by contextual and conceptual investigations. Feminism was therefore used as a lens of investigation. The dissertation uses the feminist notion of safe space, when understood as a practical and social construct, to create architecture reflective of the lived experiences of women.

The concept of chora, as a transformative process, enabled the application of a transformative approach to heritage whereby two architectural strategies, namely parasitic attachments and insertions were used to inform an architectural language.

The main architectural intention was to activate the in-between public spaces of the East-West thoroughfare through narrative programmes that contribute functionally and symbolically to the existing fabric; creating an architectural sequence of events. A clear focus was placed on the Western edge of the Precinct, which provided for attentive expression of programme, design resolution and technical exploration.

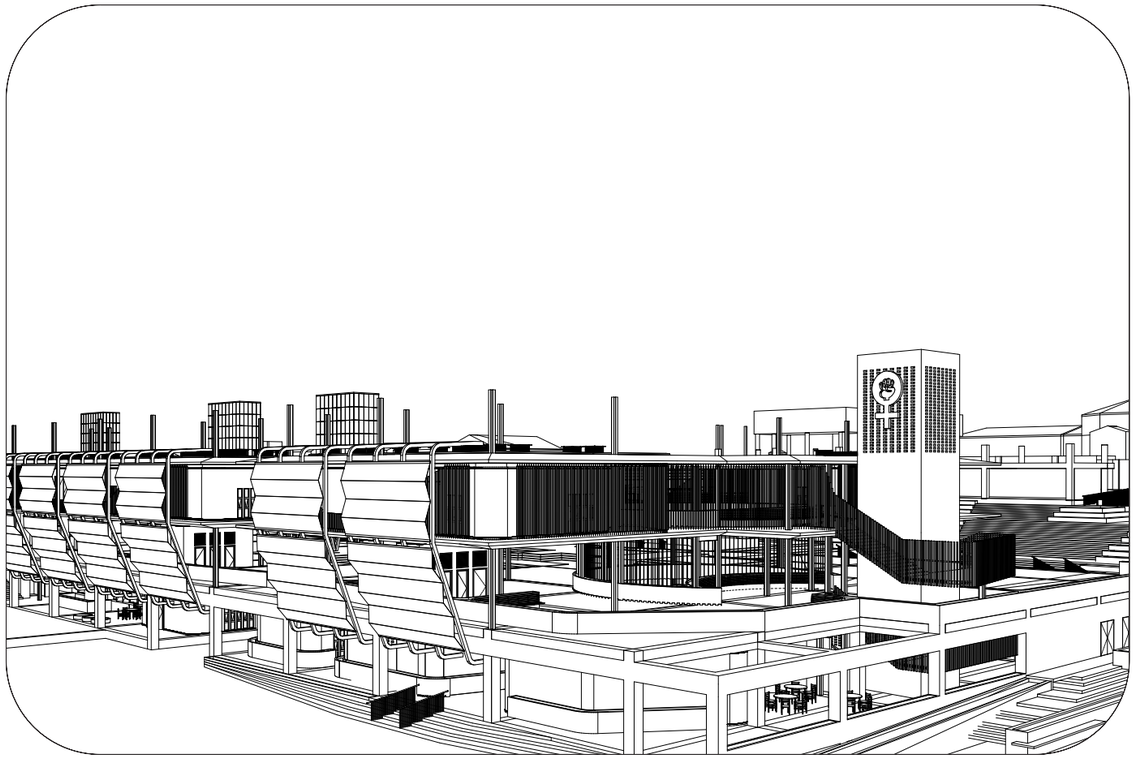
In addition, the Precinct attains a female face through symbolic and functional notions. The resulting architecture and its expression of form and materials inserts itself lightly in the landscape.

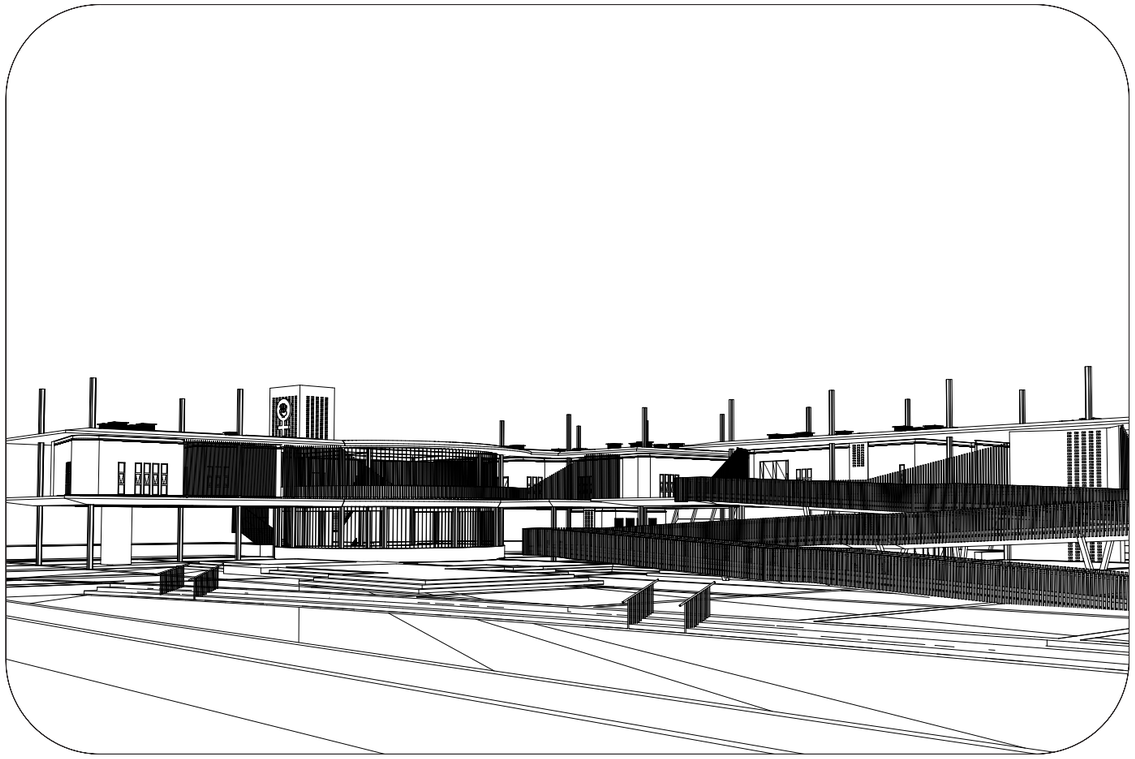
Curved infill and forms, landscaping and tectonic elements aids in the expression of an architecture of light, whereas the use of stereotomic elements are expressed through insertions and use of materials like concrete.

The contribution of the project aims to showcase how architecture can create more equal and inclusive spaces for both women and society at large. The prominence and significance of the Constitution Hill Precinct as a democratic space stresses that any new additions to the existing should contribute towards, connect and reflect its surrounding community. In light of the identified societal issue of VAW, the project aims to achieve this by creating programmes that uplift and represent women through architecture.

By transforming the parking lots, initially identified as lost space, into spaces of architectural intent and meaning, the barren space become validated through its appropriation and contribution towards the Precinct.

In summarising the shortcomings of the dissertation, an exploration could have been included to examine the cultural nuances of women when implementing the Thuthuzela Care Centres. The design should have also accommodated the experience of walking through the basement upon arrival via a car, where it currently only focuses on the pedestrian's movement. In summary of the technical feedback, refinement regarding the detailing of the brickwork could have been better and the orientation of the skylights should have been made different to improve the daylight conditions.





Right
Figure 9.2 /
View from Joubert Street.
Figure 9.3 /
View from square.

CHAPTER 10
APPENDICES

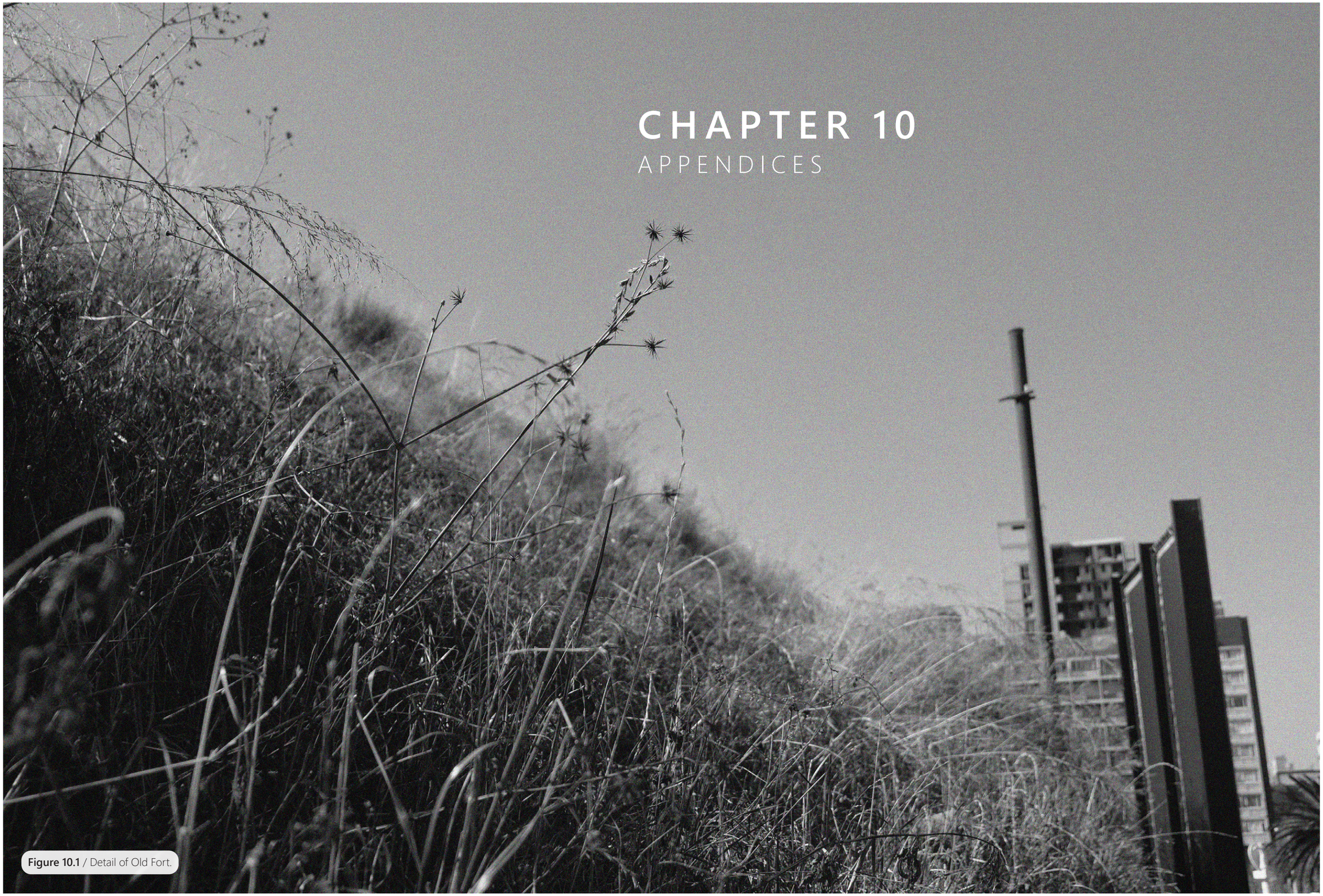


Figure 10.1 / Detail of Old Fort.

APPENDIX 1
Heritage chart analysis

	AESTHETIC VALUE	HISTORIC VALUE	SCIENTIFIC VALUE	SOCIAL VALUE	SPIRITUAL VALUE
 1 (1893) The Old Fort (Ramparts + Buildings)	●●●●○	●●●●●	●●●●●	●●●●○	●●●●●
 2 (2004) Constitutional Court	●●●●●	●●●●●	●●●●●	●●●●●	●●●●●
 3 (2004) Great African Steps	●●●●○	●●●●●	●●●●○	●●●●●	●●●●○
 4 (1928 + 2004) Constitution Square + Awaiting Trial Block Towers	●●●○○	●●●●●	●●○○○	●●●○○	●●●●●
 5 (1904) Number 4 Prision	●●●●○	●●●●●	●●●●●	●●●●●	●●●●●
 6 (1904) Old boiler room	●●○○○	●●○○○	●●○○○	●●○○○	●●○○○
 7 (1910 + 2005) Women's Jail (Old and new extension)	●●●●●	●●●●●	●●●●●	●●●●●	●●●●●
 8 (2003) Parking lot A	●○○○○	○○○○○	●○○○○	○○○○○	○○○○○
 9 (1905 + 2003) Parking lot B + demolished Old Mortuary	●○○○○	●●○○○	●○○○○	○○○○○	○○○○○
 10 (Various dates) Public art + sculptures (Symbols of justice)	●●●●●	●●●●●	●●●●●	●●●●●	●●●●●
 11 (1904) Information centre	●●●○○	●●●●●	●●●●○	●●●○○	●●○○○

APPENDIX 2
South African museums and memorials focused around women

As an attempt to understand the memorials that South Africa has dedicated to women throughout history the following memorials and museums were identified:

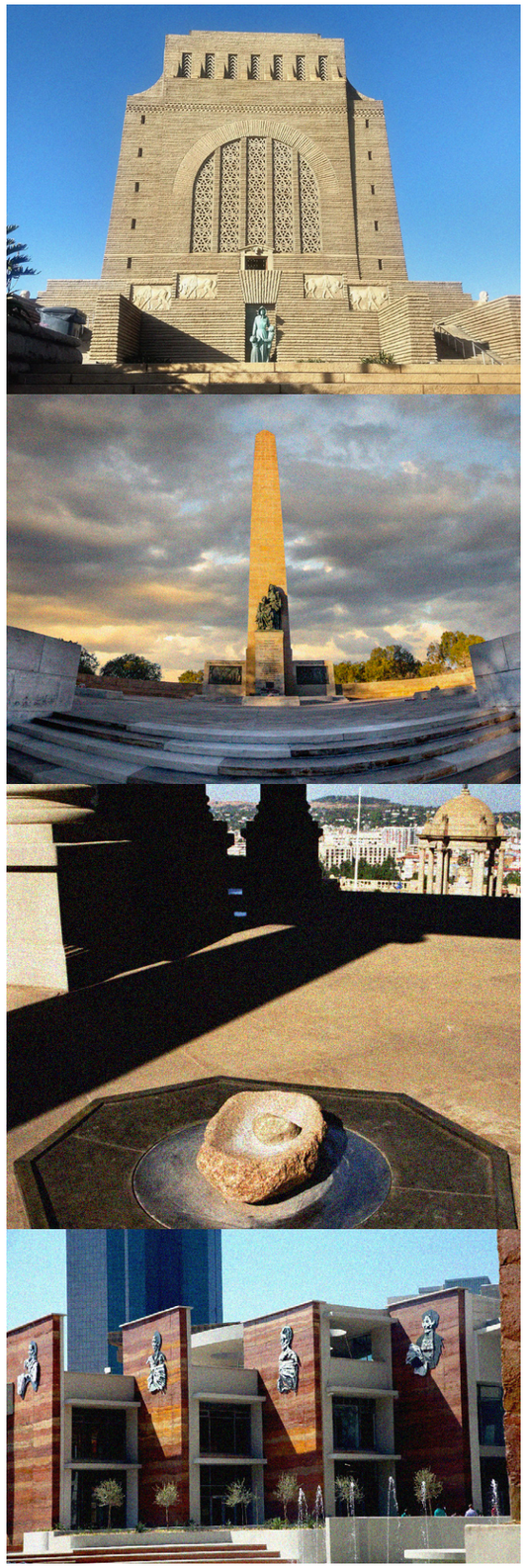
1.
NATIONAL WOMEN'S MONUMENT
FRANS SOFF + ANTON VAN WOUW
BLOEMFONTEIN, FREE STATE
1913

2.
VOORTREKKER MONUMENT
MEMORIAL TO WOMEN AND CHILDREN
ANTON VAN WOUW
PRETORIA
1914

3.
WOMEN'S MONUMENT
UNION BUILDINGS
WILMA CRUISE + MARCUS HOLMES
PRETORIA
2002

4.
WOMEN'S LIVING HERITAGE MUSEUM
DBM ARCHITECTS
PRETORIA
2017

It is to be mentioned that the precedents were not analysed further due to the zone of focus being shifted from the memorial space to the Western edge of the Precinct.



Right
Figure 10.2 /
Memorial at the Voortrekker Monument.
Figure 10.3 /
Women's monument in Bloemfontein.
Figure 10.3 /
Monument to women at Union Buildings.
Figure 10.5 /
Women's Living Heritage Museum in Pretoria.

APPENDIX 3
Programmatic requirement tables

Event 01 /
To receive and embrace

SPACE	FUNCTIONAL REQUIREMENTS	USERS	AREA (m^2)
Promenade, forming active fort and street edges as well as the extension of Constitution Square; which further forms part of the urban landscape	+ Seating + Soft landscaping + Lighting + Platforms for gathering and social friction + Inclusive ramp and staircase + Transport drop-off points	Primary Secondary Custodians of space	16000

Event 02 /
To commemorate

SPACE	FUNCTIONAL REQUIREMENTS	USERS	AREA (m^2)
Wall of remembrance	+ Wall commemorating victims of violence, particularly women (interactive wall to leave tokens or memorabilia) + No names specifically but it is the engagement with between the user and space that serves as a way of remembering those affected by VAW + Seating + Trees and soft landscaping	Primary Secondary Custodians of space	150

Event 03 /
To be heard

SPACE	FUNCTIONAL REQUIREMENTS	USERS	AREA (m^2)
Platforms of expression	+ Open space for planned or spontaneous events, slotting in with the current mandate of the precinct	Primary Secondary Custodians of space	1500

Event 04 /
To support women

First wing
Thuthuzela Care Centre

SPACE	FUNCTIONAL REQUIREMENTS	USERS	AREA (m^2)
Transition zones	+ Connecting private and public spaces + Possibly expressed through material changes + Circulation cores	Primary Custodians of space	Not applicable
Reception spaces	+ Seating area + Welcoming to victims + Controlled barrier by female security guards and site coordinator	Primary Custodians of space	30 each
Offices for the following permanent staff (4 in total): + Case manager + Victims assistance officer + Site coordinator + Social worker	+ Comfortable seating + Storage + Office furniture	Primary Custodians of space	7-20 each
Medical care room for on-call forensic nurse and doctor (Accommodates no more 3 people, SANS 10400 (Part A: 45) occupancy classification E4)	+ Examination bed + 1 wheelchair accessible WC with a WHB, a shower, bench and clothing storage + Desk and office furniture for consultations	Primary Custodians of space	45
Shower and change of clothes (2 in total) (Accommodates no more 2 people per occassion, SANS 10400 (Part A: 45) occupancy classification E4)	+ 2 showers + 2 WC's with 2 WHB + Storage for clothing and supplies		13
Communal kitchen and dining area	+ Kitchen + Storage and refuse + Seating and lounge area for up to 10 people + Patio space	Primary Custodians of space	76
2 flexible office spaces for on call trained lawyers, police and psychologists	+ Comfortable seating + Storage + Office furniture + Office to accommodate up to 3 people (including 1 staff member).	Primary Custodians of space	20 each
1 communal counselling room for large workshops (Accommodates no more than 15 people, SANS 10400 (Part A: 45) occupancy classification G1)	+ 1 communal room where larger groups can be accommodated, for up to 8 people. This room should include: - 1 wheelchair accessible WC with a WHB - 1 unisex WC with a WHB - Small kitchenette with a prep bowl - Storage - Access to service duct		50
Resource centre for upliftment and empowerment for post trauma plans (Accommodates 30 people, SANS 10400 (Part A: 45) occupancy classification G1)	+ 6 computer stations + 12-seater boardroom + Storage for resources and equipment + Zones for workshops, social gathering and building of community + Small kitchenette with a prep bowl + 4 unisex WC's + 3 WHB + 1 wheelchair accessible WC with a WHB and baby changing area + Storage + Access to service duct	Primary Custodians of space	570
Access to transport	+ Designated area(s) for victims to be transported to a safe space or home	Primary Custodians of space	Not applicable

Event 01 ***Event 02*** ***Event 03*** ***Event 04***



Second wing
Art gallery, community hall + workshop

SPACE	FUNCTIONAL REQUIREMENTS	USERS	AREA (m^2)
Transition zones	+ Connecting private and public spaces + Possibly expressed through material changes + Circulation cores	Primary Custodians of space	Not applicable
Art gallery	+ Exhibition space (exterior and interior) + Small kitchen with a sink + Storage	Primary Secondary Custodians of space	133
Communal hall (Accommodates more than 15 people, SANS 10400 (Part A: 45) occupancy classification C1)	+ Seating for up to 24 people + Small kitchen with a sink with a service hatch + 4 WC's + 1 wheelchair accessible WC with a baby changing area + 3 WHB + Storage + Access to service duct	Primary Secondary Custodians of space	154
Arts and crafts workshop (Accommodates 30 people, SANS 10400 (Part A: 45) occupancy classification B3)	+ Workshop stations + Small kitchen with a sink + Storage for supplies + Coffee station + Exterior gathering area + 5 WC's + 1 wheelchair accessible WC with a baby changing room + 3 WHB	Primary Custodians of space	581
Pump room	+ Pump room providing access to water storage tanks, filters and pumps	Custodians of space	80



Event 05 /
To trade

SPACE	FUNCTIONAL REQUIREMENTS	USERS	AREA (m^2)
Open market	+ The market will provide infrastructure for vendors to set up their own stalls, which only includes water and electrical points	Primary Secondary Custodians of space	520
Recognition of Old Mortuary through a commemorative heritage application	+ Landscaping plinths or textural outlines to trace the demolished structures	Primary Secondary Custodians of space	800
Gender neutral public ablutions (Accommodates more than 60 people, SANS 10400 (Part A: 45) occupancy classification A1)	+ 10 WC's + 2 wheelchair accessible WC's with 2 WHB and baby changing areas + At least 5 WHB (divided into slit-style basins) + Storage + Access to service duct + Seating and soft landscaping	Primary Secondary Custodians of space	260

Event 06 /
To gather

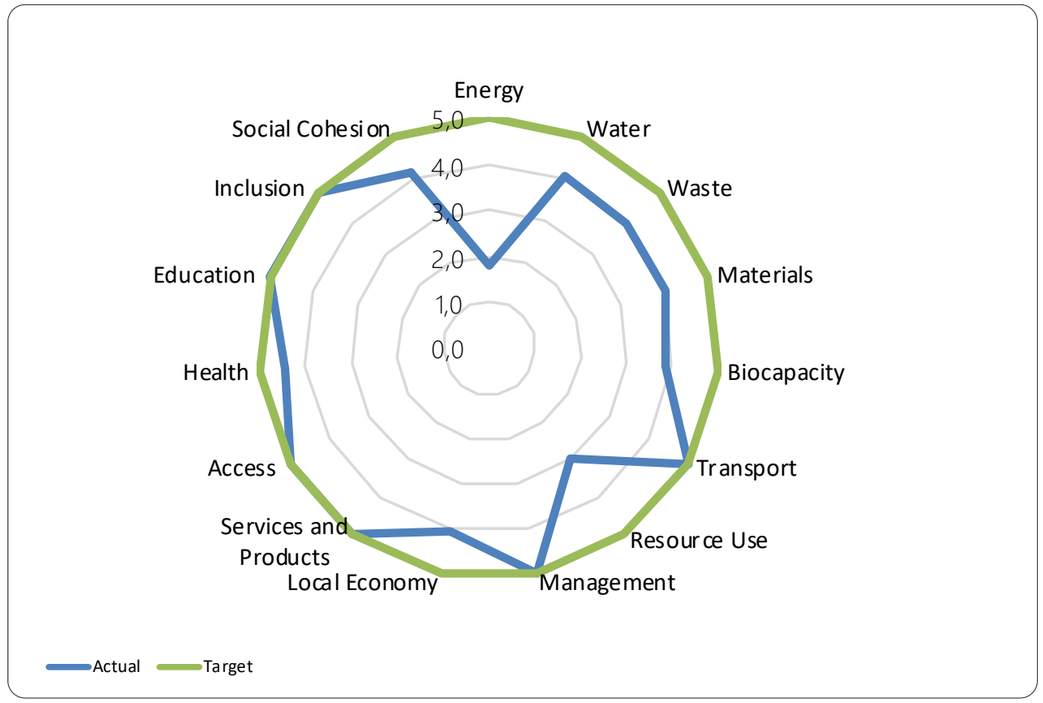
SPACE	FUNCTIONAL REQUIREMENTS	USERS	AREA (m^2)
Amphitheatre	+ Open-aired amphitheatre to accommodate events or festivals + Axial connection to Women's Jail, parking lot A's ascension core, market and social support services	Primary Secondary Custodians of space	3370





APPENDIX 4
SBAT tool

SB1	**Project**		
	The Receptacle: Cultivating Safe Space at Constitution Hill Precinct, Johannesburg		
SB2	**Address**		
	11 Kotze Street, Johannesburg		
SB3	**SBAT Graph**		
		Actual	Target
	Energy	1,8	5,0
	Water	4,1	5,0
	Waste	4,0	5,0
	Materials	4,0	5,0
	Biocapacity	3,8	5,0
	Transport	5,0	5,0
	Resource Use	3,0	5,0
	Management	5,0	5,0
	Local Economy	4,1	5,0
	Services and Products	5,0	5,0
	Access	5,0	5,0
	Health	4,4	5,0
	Education	5,0	5,0
	Inclusion	5,0	5,0
	Social Cohesion	4,2	5,0



SB4	**Environmental, Social and Economic Performance**	Score
	Environmental	3,5
	Economic	5,4
	Social	3,7
	SBAT Rating	4,2

APPENDIX 5
Water budget calculations

RAINWATER YIELD CALCULATION

Month	Average rain fall, P (m)	Yield (m^3) (Yield = P X A X C)
January	0.125	306
February	0.094	230
March	0.090	220
April	0.054	132
May	0.013	32
June	0.009	22
July	0.004	10
August	0.006	15
September	0.027	66
October	0.007	17
November	0.011	27
December	0.103	252
	0.543	1329

Average rain (mm) fall obtained for Johannesburg from Climatemps.com (2020).

IRRIGATION DEMAND

Month	Planting area (m^2)	Irrigation depth/month (m)	Irrigation demand (m^3/month)
January	751	0,02	60,08
February	751	0,02	60,08
March	751	0,02	60,08
April	751	0,02	60,08
May	751	0,01	30,04
June	751	0,01	30,04
July	751	0,01	30,04
August	751	0,02	60,08
September	751	0,02	60,08
October	751	0,02	60,08
November	751	0,02	60,08
December	751	0,02	60,08
TOTAL			630,84

DOMESTIC DEMAND

Month	Total amount of people	Water / Capita / Day (l)	Domestic demand (m^3/month)
January	120	50	93
February	120	50	84
March	120	50	93
April	120	50	90
May	120	50	93
June	120	50	90
July	120	50	93
August	120	50	93
September	120	50	90
October	120	50	93
November	120	50	90
December	120	50	93
TOTAL			1095

TOTAL WATER DEMAND

Month	Yield (m^3/month)
January	153,08
February	144,08
March	153,08
April	150,08
May	123,04
June	120,04
July	123,04
August	153,08
September	150,08
October	153,08
November	150,08
December	153,08
Annual total	**1725,84**

WATER BUDGET

Month	Yield (m^3)	Demand (m^3)	Monthly balance
January	306	153,08	152,9
February	230	144,08	85,9
March	220	153,08	66,9
April	132	150,08	-18,1
May	32	123,04	-91,0
June	22	120,04	-98,0
July	10	123,04	-113,0
August	15	153,08	-138,1
September	66	150,08	-84,1
October	17	153,08	-136,1
November	27	150,08	-123,1
December	252	153,08	98,9
Annual average		**1725,84**	

Water budget (accumulative)

Month	Yield (m^3)	Demand (m^3)	Monthly balance	Vol. water in tank (m^3)
January	306	153,08	152,9	132,6
February	230	144,08	85,9	132,6
March	220	153,08	66,9	132,6
April	132	150,08	-18,1	114,5
May	32	123,04	-91,0	23,5
June	22	120,04	-98,0	0,0
July	10	123,04	-113,0	0,0
August	15	153,08	-138,1	0,0
September	66	150,08	-84,1	0,0
October	17	153,08	-136,1	0,0
November	27	150,08	-123,1	0,0
December	252	153,08	98,9	98,9
Annual average	**1329**	**1725,84**		

The tank size required would need to accommodate, when rounded off, 133m^3 of water at its maximum, which equals 133 000 litres. Seven vertical 20 000 litre JoJo tanks can be installed to accommodate this demand.

APPENDIX 6

Faculty approved ethics clearance

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Engineering, Built Environment and Information Technology

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

Reference number: EBIT/53/2020

Ms C Karusseit
Department: Architecture
University of Pretoria
Pretoria
0083

Dear Ms C Karusseit

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 "Masters Professional Dissertation in Architecture, Landscape and Interior Architecture" is approved under the strict conditions indicated below. If these conditions are not met, approval is withdrawn automatically.

Conditions for approval
Approved based on the summaries provided.
Applications from each student (including application forms and all necessary supporting documents such as questionnaire/interview questions, permission letters, informed consent form, etc) will need to be checked internally by the course coordinator/ 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 the protocol number of this application will be required to be provided to EBIT REC administrator.
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.

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

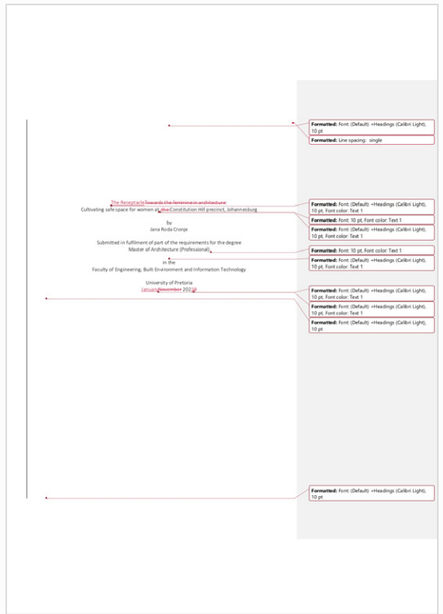
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3	www.h-gac.com Internet Source	<%1
4	www.mekabay.com Internet Source	<%1
5	www.qca.org.au Internet Source	<%1
6	www.nrc.gov Internet Source	<%1
7	www.pjmhsonline.com Internet Source	<%1
8	eprints.hud.ac.uk Internet Source	<%1
9	vdocuments.mx Internet Source	<%1



Figure 11.1 / Parking lot B.

CHAPTER 11
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