

NANA'S LIVING LIBRARY

AN OUTDOOR SOUTH AFRICAN FLORAL LIBRARY IN PRETORIA CBD



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MODULE: DESIGN PROJECT AND DISCOURSE 802

ABSTRACT

Urbanisation increasingly diminishes the availability of open space in cities, creating a disconnect between people and nature, especially in the heart of the Pretoria Central Business District (CBD), along Nana Sita Street. Here, local communities are restricted to poorly maintained public parks and occasional visits to natural landscapes, outside of the city, for brief interactions with nature. Meanwhile a deep connection with natural elements like flora is an important part of people's lives. A notable example of lack of engagement is that local floral knowledge is primarily restricted to botanical gardens and nature reserves on the city's outskirts. This project addresses these challenges by proposing a spatial framework to reintegrate nature within Tshwane's inner city, emphasising underrepresented floral knowledge exchange. Central to this initiative is exploring methods of knowledge sharing and translating it to landscape architectural elements. Nana Sita Street serves as the primary spine of the precinct development, with improved pedestrian conditions and pathways, creating a network of new and existing green spaces in the CBD as satellite floral gardens. These foster improved human-nature relationships, celebrating authentic interactions with locally indigenous plants by transforming current derelict open spaces into gardens with medicinal, edible, culturally significant and useful plant species. The proposal is further detailed on one site within Nana Sita Street, where leftover space is transformed into an outdoor floral library complete with a discussion pavilion, exhibition walls, herbarium, workshops and demonstration areas. Other proposed development includes the repurposing of a petrol station into a vegetated area, adding residences, play areas and shops. The owner of the site, FABA Properties Ltd is considered to be the primary client and collaborates with the South African National Biodiversity Institute and the Future of the City Centres Network, which focuses on improving city centres. The proposal serves the diverse community, including working professionals, school children, theatre goers, families and visitors from surrounding areas. Overall, this proposal acts as a catalyst to highlight the importance of good quality urban green spaces, advocating for alternative representations of urban nature that integrate floral knowledge and its significance within local human-nature relationships.

KEYWORDS | floral knowledge, Pretoria CBD, human-nature relationships, public urban green spaces, botanical gardens

PROJECT DETAILS

TITLE | Nana's living library. Public urban green space revival: An outdoor South African floral library in the CBD

PROGRAMME | An outdoor South African floral library

ADDRESS | Nana Sita Street, Pretoria CBD. Site within the block of Lilian Ngoyi, Nana Sita and Thabo Sehume Street
S 25°45' 0.392" , E 28° 11' 33.453"

DEPARTMENTAL RESEARCH FIELD | Designed ecologies

CLIENT | FABA Properties Ltd, Future of the City Centres Network and South African National Biodiversity Institute (SANBI)

THEORETICAL PREMISE | Knowledge exchange within landscape architecture

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PROJECT BRIEF

PROJECT INTRODUCTION | WHAT IS THE BIG PICTURE?

Issue 1: Global and local trends creating a disjunct between people and nature.

Urban residents increasingly need high-quality public spaces that facilitate their human-nature interactions and provide a means to engage with nature when away from natural landscapes. As cities globally experience urbanisation, the availability of open spaces within cities are shrinking. Where previously ecological features had great value, they become inferior to high concentrations of buildings that limit public green space options for urban residents. This growing disconnection leaves urban residents out of touch with nature.

Within South Africa, this is exacerbated by governance and spatial planning issues of unequal green space distribution, pressing demand for infrastructure and services as cities grow and lack of public transport. In the City of Tshwane, affluent suburbs often provide residents with private gardens or enclosed estate green spaces. Meanwhile CBD residents face restricted private green spaces, with natural landscapes and institutions like the botanical garden, key public spaces for protecting Indigenous plant species and sharing ecological knowledge, located outside the inner city and visited only on occasion (Ward, Parker & Shackleton, 2010). Therefore, with limited yard spaces or balconies, they rely solely on public parks for access to nature, which are often in poor condition.

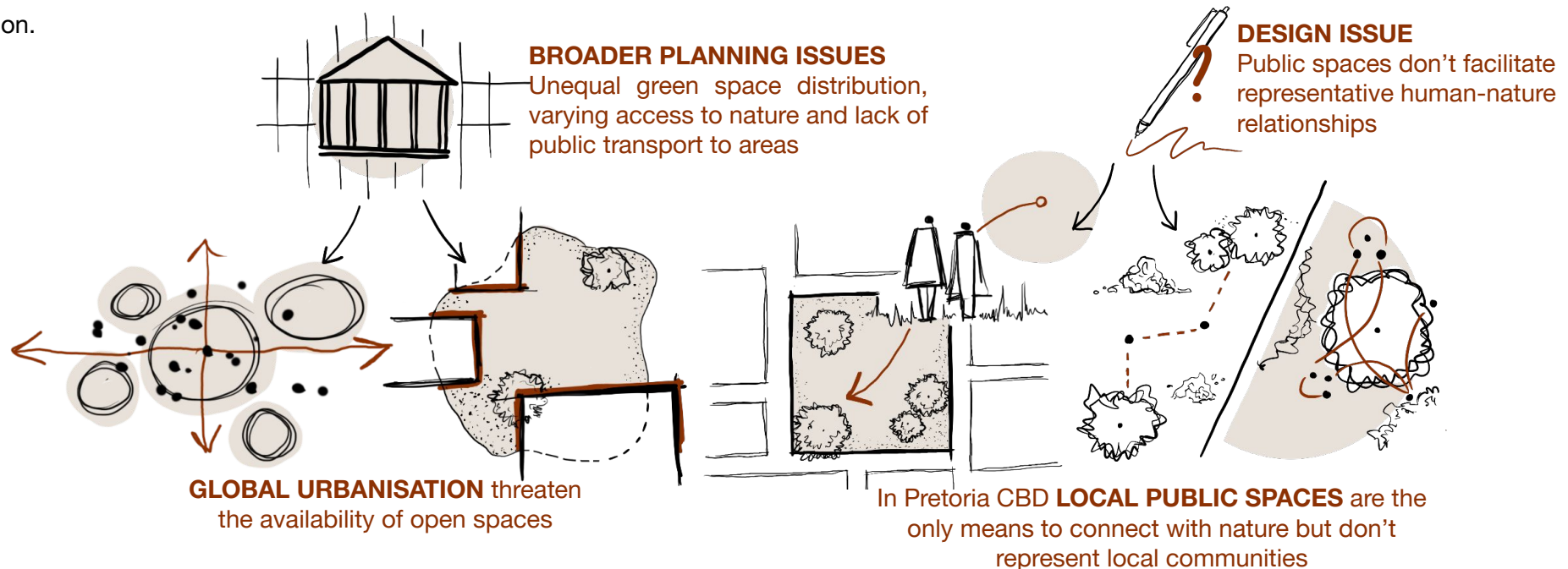


Figure 1 | Visual representation of problem statement (Source: Author, 2024)

PROJECT BRIEF

PROJECT INTRODUCTION | DESIGN PROBLEM

Issue 2: Realities of the local urban fabric on human-nature connection.

In the local context, many public parks are modelled after Western garden culture, which separates people from nature, commonly features non-native plant species and prioritises recreational activities as discussed by Shackleton and Gwedla (2021). Although recreational activities are important within these spaces, they often overlook the deeper, multifaceted connections that many South African communities have with nature. Nature is viewed rather as an integral part of daily life and cultural identity. As Cocks, Shackleton, Walsh, Haynes, Manyani and Radebe (2020) describe, people practice biocultural diversity through activities like harvesting wild plant species for cultural, spiritual, medicinal and edible functions, connecting with ancestors through the soil, spiritual connections, rituals and ceremonies, plant and animal observations. The question becomes how should urban landscape be designed to facilitate a more representative engagement between South African people and nature? How can these spaces acknowledge people's needs, cultural practices, experiences and knowledge related to natural landscapes and its features?

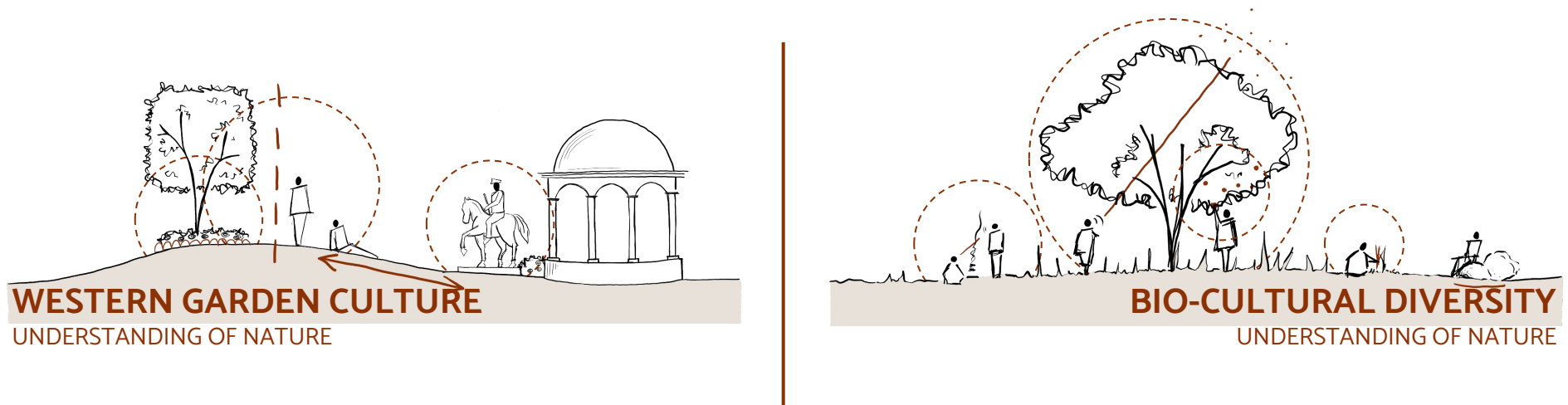


Figure 2 | Difference between Western and local understanding of nature (Source: Author, 2024)

PROJECT BRIEF

CONTEXT



Figure 3 | Pretoria CBD context (Source: Author, 2024)

Pretoria CBD

Pretoria CBD, situated within the City of Tshwane, demonstrates an area with limited public space options. Historically, people settled within this area for its rivers and ridges and the ecological benefits. However, as the city expanded beyond its central core, these natural features became inferior to development.

Today, the reality reflects a bustling urban area, with a strong economic focus, marked by a high concentration of retail spaces, residences and major roadways, connecting it to surrounding areas, prioritising vehicular traffic over pedestrian conditions. Public green spaces are scarce, with well-maintained options restricted to private, fenced-off areas. Sports fields, while present are typically on private intuitional grounds, and accessible nature areas, such as the Pretoria National Zoo, either require an entrance fee or are far from the city centre, limiting public access.

Nana Sita Street (previously Skinner Street)

As part of a spatial framework for the inner city, Nana Sita Street was selected as the main focus area, a key corridor that divides the CBD into north and south sections and serves as a major transportation route between Pretoria East and West. Despite its strategic locations, the street faces several challenges including a disconnect between the north and south sides, vehicle-dominated spaces with minimal pedestrian-friendly infrastructure, difficult pedestrian crossings, numerous abandoned buildings and empty façades facing the street. However, the street also presents significant potential. The unzoned, open spaces provide opportunities to integrate vegetation and the streets' alignment with the A Re Yeng bus route creates a basis for improved connectivity, featuring many attractions along the way, to facilitate improved human-nature relationships in the city.

PROJECT BRIEF

CONTEXT

Focus site

The initial site considered was Burgers Park, Pretoria's first botanical garden. However, to focus on a less established site, a new site was chosen based on criteria such as high pedestrian activity, whether it is part of people's daily lives and commutes, proximity to the A Re Yeng bus route, civic programming and available open space.



■ Site ■ Retail ■ Education ■ Residences ■ Public green space

Figure 4 | Neighbourhood context of focus site (Source: Author, 2024)

In the presence of these attractions, along with the nearby public transport options and wide sidewalks, it contributes to high foot traffic. Meanwhile its vacant areas and existing structures offer potential for its layered storytelling. However, challenges included shade from tall buildings, the road noise and heavy traffic, scarce natural features and uncomfortable pedestrian conditions.

The chosen site lies within the block bordered by Lilian Ngoyi Street, Nana Sita Street and Thabo Sehume Street (Figure 4), it includes an existing SASOL petrol station, commercial buildings, and a fenced field. Adjacent to it is the educational library (previously Staats Model School), governmental buildings, a shopping mall and Tramshed Mall, creating a strong civic and commercial presence. Within the area there is also a high density of small apartments. Across Nana Sita Street are the Little Theatre UNISA, university residences and several schools.

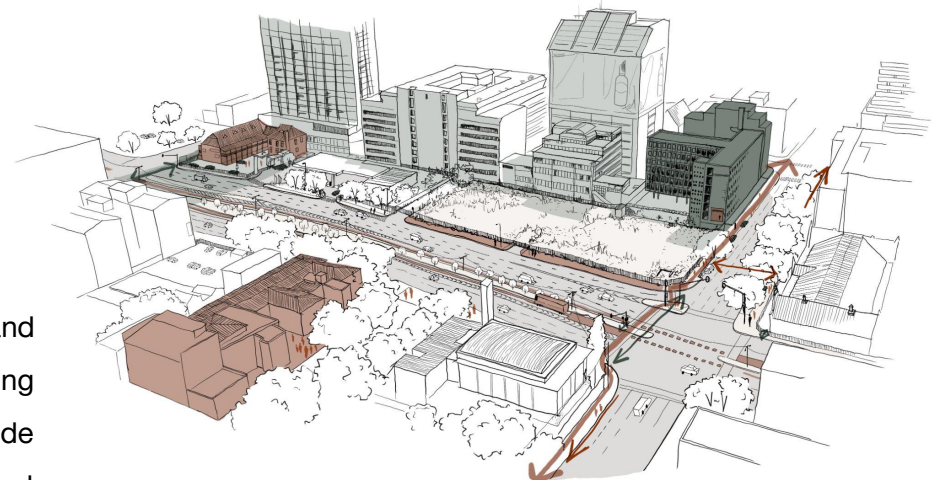


Figure 5 | Three dimensional representation of site (Source: Author, 2024)

PROJECT BRIEF

CLIENT

The site's owners, FABA Properties Ltd, is the proposed primary client. From on-site discussion, the petrol station owner revealed that the private developers plan to redevelop the site by relocating the petrol station and replacing it with residential units, eliminating the open field on the site. The proposal serves as a hypothetical alternative.

Additionally, the Future of the City Centre Network, a membership-based group, who have previously partnered with UNISA, is proposed as a secondary client as they focus on city centres revitalisation. The South African National Biodiversity Institute (SANBI) could also play an administrative role with a focus on the conservation of the site.

COMMUNITY

The local community within Pretoria CBD is a relatively young demographic, with the predominant age range between 20-29 and a majority Black African residents. They reflect a variety of backgrounds and professions, including taxi drivers, attorneys, security personnel, teachers, and street vendors. The area also severs school children, university students, theatregoers, families and visitors from surrounding areas, creating a dynamic mix of daily activity.



Figure 6 | Involved community that is designed for
(Source: Author, 2024)

PROJECT BRIEF

The precinct development | Nana's living library

PROJECT OBJECTIVES

The aims are 1) to design green corridors that connect both existing and new public green spaces within the CBD 2) to increase Indigenous and culturally significant flora within open spaces 3) design spaces that facilitate more representative human-nature connections

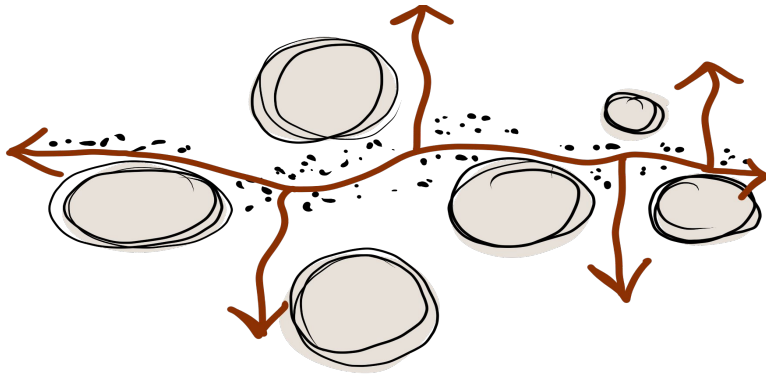


Figure 7 | Conceptual drawing of precinct development as a network of public green spaces (Source: Author, 2024)

PROGRAMME

The precinct has a proposed network of satellite outdoor floral libraries organised by themes, such as medicinal, edible and culturally significant plants, as well as play areas, multi-sports fields, social spaces and event areas and a nursery reintroduced within Burgers Park. The focus design becomes an example of an outdoor floral library part of the network.

Focus site

PROJECT OBJECTIVES

The main goals are to 1) facilitate knowledge exchange with regards nature and plants 2) design platforms that encourage community participation in sharing about nature experiences 3) address community's spatial needs within public green spaces and 4) increase the amount of fauna and flora within the urban conditions.



Figure 8 | Conceptual drawing of a design that facilitates knowledge exchange (Source: Author, 2024)

PROGRAMME

The focus site serves as a landmark for knowledge exchange. The site is divided into three areas dedicated to different modes of knowledge sharing 1) doing with outdoor workshop space and a rehabilitation area, 2) discussions with big and small discussion areas and a link to the theatre for outdoor performances 3) documentation with an herbarium, exhibition walls, and a link to the educational library. In addition, there is recreational and practical urban programmes such as new residences, shops, plazas and taxi stops.

PROJECT BRIEF

CONCEPT



Figure 8 | *Conceptual drawing of a design that facilitates knowledge exchange*
(Source: Author, 2024)

The outdoor floral living library concept stems from an interest to improve access to local floral knowledge within the urban environment. This involved explorations on traditional knowledge-sharing methods, such as mentorships, oral discussions and written sources, reinterpreting them on a spatial level. As well as learning from practices seen in natural landscapes, including sharing intergenerational knowledge through oral stories, storytelling, talks from significant members of groups, apprenticeships and ceremonies. And taking cues from botanical gardens, known for preserving Indigenous plant species and presenting plant diversity within a single space. However, the project seeks to improve on its shortcomings, by being more accessible, unfenced and interactive, improving signage, and a focus on reflecting local knowledge structures and experiences. The design proposal demonstrates how landscape architectural elements can start to accommodate these activities, whether it is oral discussions, participatory activities or part of a documentation process.

It builds on an improvement of underrepresented nature experiences for many CBD residents, incorporating knowledge that isn't currently shared in public spaces, including sustainable harvesting practices, plant by-products, plant names in different languages and Indigenous edible and medicinal plant use. This is a starting point for spaces that offer a platform for people to share about their own understanding and use of nature, making it a more regular part of people's lives, not just something reserved for occasional visits to natural landscapes or botanical gardens. The goal is to encourage more representations of deeper human-nature relationships within public green spaces as part of the work of landscape architects.

THEORETICAL CONTEXT

LINK TO RESEARCH | DIT-DPD INTEGRATION AND INTERPRETATION



Figure 9 | DIT research process (Source: Author, 2024)

The research study, carried out in the first semester of the year, to compliment the design project, confirmed the importance of public parks for many urban residents, who often used these spaces despite their poor conditions. The research findings provided insight into people’s use and preferences of public parks, which could now be explored on a practical manner in the design. In summary, people expressed a need for spaces that accommodated both social gatherings and individual secluded activities. They desired a range of activity spaces that could support different activities and activity levels, more designated quiet spaces, more play equipment, more flexibility in spaces. There was a notable interest from research participants in spaces with a “sense of life” through features like water sources and animal presence, rather than relying solely on vegetation.

It also showed that people had mixed opinions of what parks should look like. This feedback informed a design approach that balances manicured, well-maintained areas with more natural, untamed landscapes. Similarly paving considerations were influenced by preferences for both practical paved paths and unpaved areas that offer a closer connection with the earth. People mentioned that priority was given to social functions instead of ecological ones, which require a balance. People expressed preferences for more flowers and a desire to see native and culturally significant plant species represented in park spaces. These preferences collectively shaped the informants for the design project.

THEORETICAL CONTEXT

LINK TO RESEARCH | DIT-DPD INTEGRATION AND INTERPRETATION

People noted many common issues within parks including, the lack of maintenance, duplicated furniture, infrastructure damage, access issues and illicit activities. But notably people mentioned that there were minimal public parks in the CBD that cater for learning about animals, plants and people. This was often restricted to small signs that are difficult to read or no signs at all, as well as benches along pathways that do not encourage discussions. This inspired the design focus for the DPD design project.

As part of the research, the overlaps between what people value in natural landscapes, botanical gardens and public parks were examined.

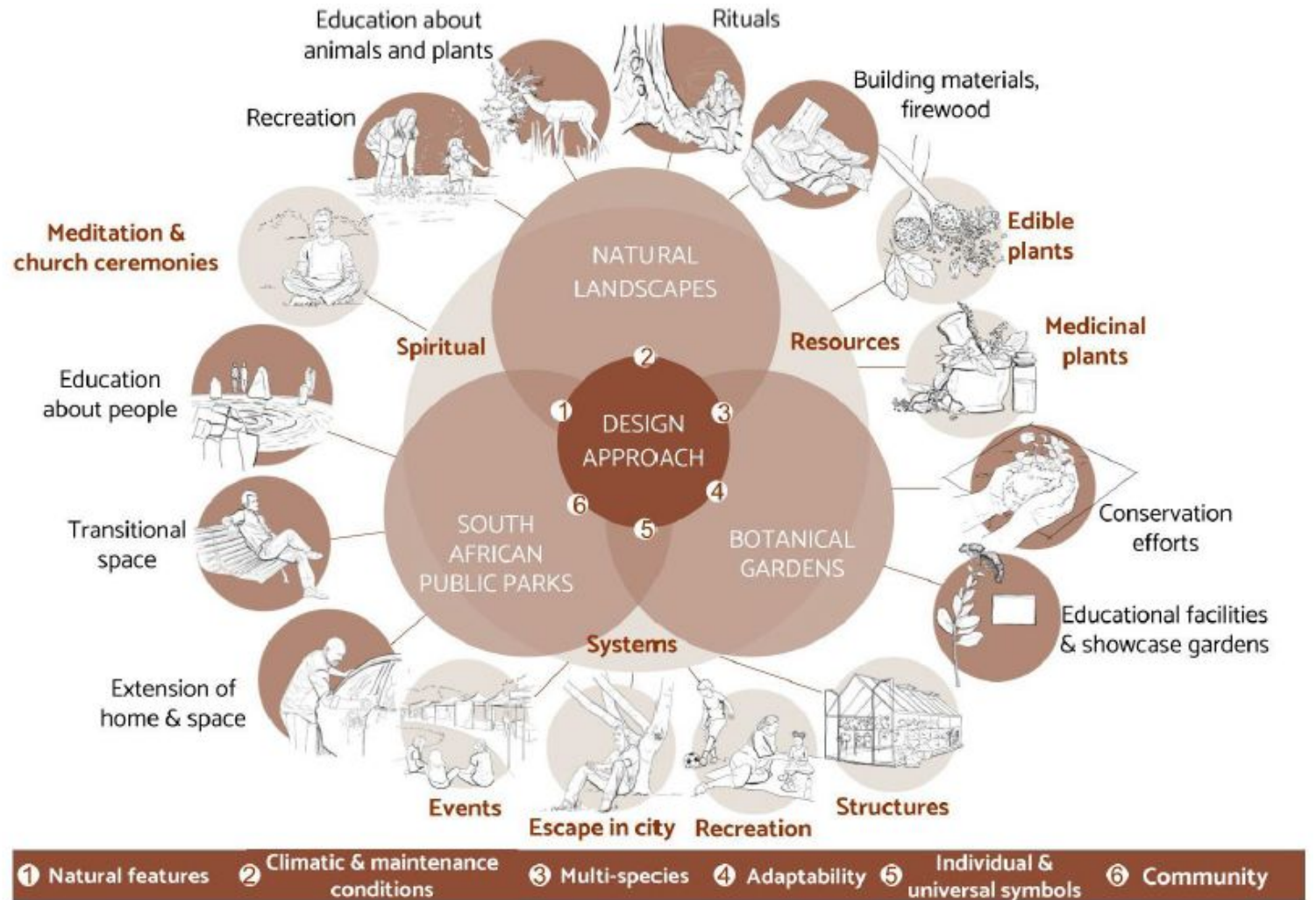


Figure 10 | Comparison between public parks, botanical gardens and natural landscapes (Source: Author, 2024)

This comparison revealed that similar activities occur in each setting but take place in unique ways. This informed that elements from botanical gardens, such as educational facilities and conservation efforts, can be integrated into public park design, alongside recreation uses and emotional connections evoked from natural landscapes. At the same time positive qualities of parks, such as their role as an escape, or a place to meditate and their function as an extension of space were highly valued by people and should be prioritised in park design.

DESIGN DEVELOPMENT & TECHNOLOGY INVESTIGATION

DESIGN PROCESS

Initial vision

At the start of conceptualising, many of the preferred activities that people mentioned from the research was going to take place on one site (Figure 11). But for the design to be impactful, it needed to connect with the broader context of the CBD. This led to developing a precinct plan that connects various public green spaces (Figure 12).

Precinct development

The process began by examining urban planning frameworks and identifying relevant principles, drawing on sources such as the *City of Johannesburg Complete Street Design Guideline*, the *Hatfield Metropolitan Node Precinct Plan* and the *City of Tshwane Town Planning Scheme*. In addition, precedents like the New York High line, which repurposed an existing railway structure as an elevated park, inspired the exploration of an elevated pedestrian bridge that could link various sites and improve pedestrian conditions. Other precedents highlighted ways to integrate nature within dense urban settings, demonstrating that green spaces could extend onto and through built structures, transcending small, isolated areas.

The focus site

The focus then shifted to the specific site, with iterations to include more vegetated areas and green infrastructure onto new and existing structures (Figure 13). Early iterations included the petrol station in its operational form, but later designs rather utilised its skeletal structure along with revegetating the area. This served as a reminder of the intention that natural elements reclaim urban spaces.

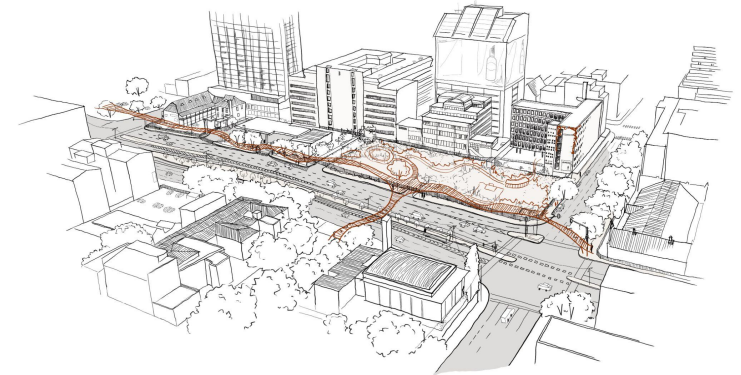


Figure 11 | Initial vision where all preferred activities took place on the site

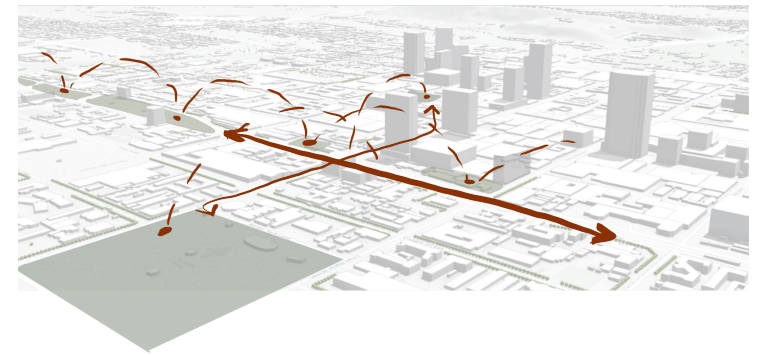


Figure 12 | Division of programs within broader context of the CBD, creating a network of public green spaces

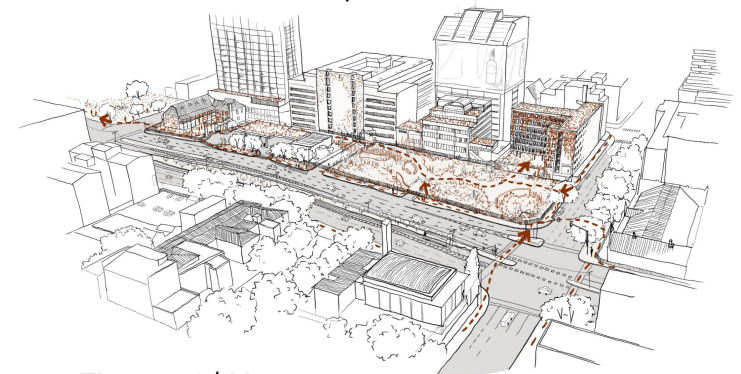


Figure 13 | Vision to integrate more vegetation

DESIGN DEVELOPMENT & TECHNOLOGY INVESTIGATION

Site organisation and program

For program placement, connections were first examined between existing programs like the theatre, library and plaza and the site, allowing the proposal to build on these elements, like a circulation route from the northern plaza, through the building to the theatre (Figure 14). A closer look at pedestrian circulation, from the site analysis, revealed common movement patterns along Lilian Ngoyi Street connecting Burgers Park, the Tshwane Secondary School, the educational library and the Tramshed Mall, which informed enhancements to this street edge, and the addition of commercial shops. Site analysis informed certain program requirements (Figure 15) like buffers and street furniture. Initially the abandoned building was going to be repurposed, but it was rather demolish with new residences in its place. The daycare and play area was relocated away from the busy shops closer to the residences for improved safety and accessibility (Figure 16). The rest was divided in learning by **doing** following the revegetation of the petrol station and an outdoor workshop, **discussions** in small and bigger spaces and **documentation** through reading nooks, a connection with the library and a herbarium.

Addressing site challenges

The design proposal had to address challenges like shade from tall buildings and noise from the surrounding road. Precedents dealing with similar issues informed the use of elevations and depression to create barriers between natural areas and heavy-traffic zones. Vegetation was also designed to display monumentally, with the help of elevated structures and framing certain plant species to match the scale of the surrounding built environment. The final design incorporated both depressed and elevated areas (Figure 17).

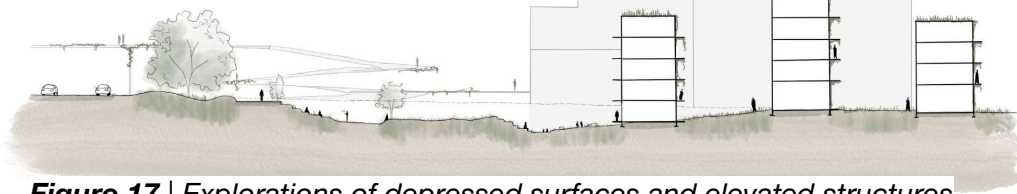


Figure 17 | Explorations of depressed surfaces and elevated structures

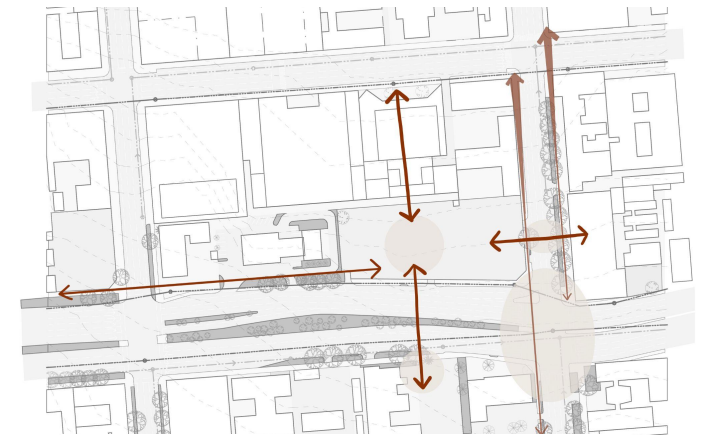


Figure 14 | Possible program connections

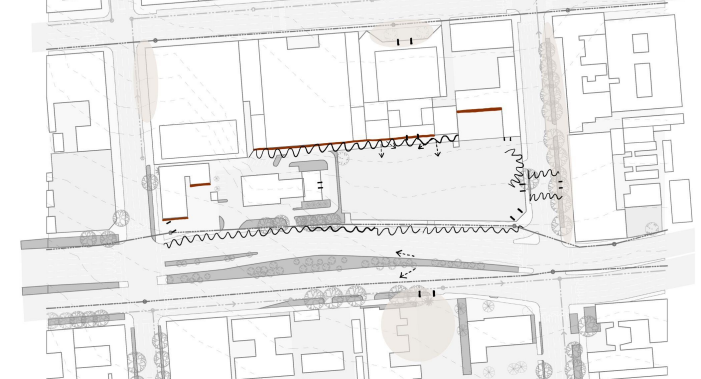


Figure 15 | Site requirements for buffers, views, furniture, entrances, thresholds and facades



Figure 16 | Program placement

DESIGN DEVELOPMENT & TECHNOLOGY INVESTIGATION

The design was further explored by establishing a design language for the project. It takes into consideration of the geometric requirements of the urban setting and balances it with softness and more naturalistic forms. An example of this is in the circulation routes, the main ones are wide and straight to support high traffic, while secondary, winding paths facilitate zones where people want to connect with nature more.

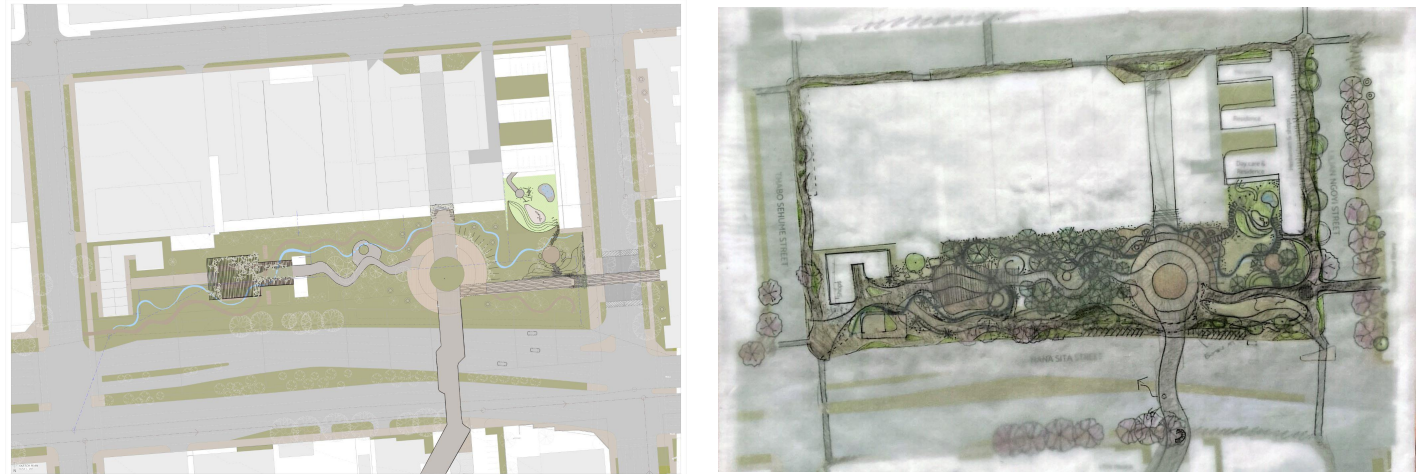


Figure 18 | Iterations of design layout

TECHNIFICATION

Site systems

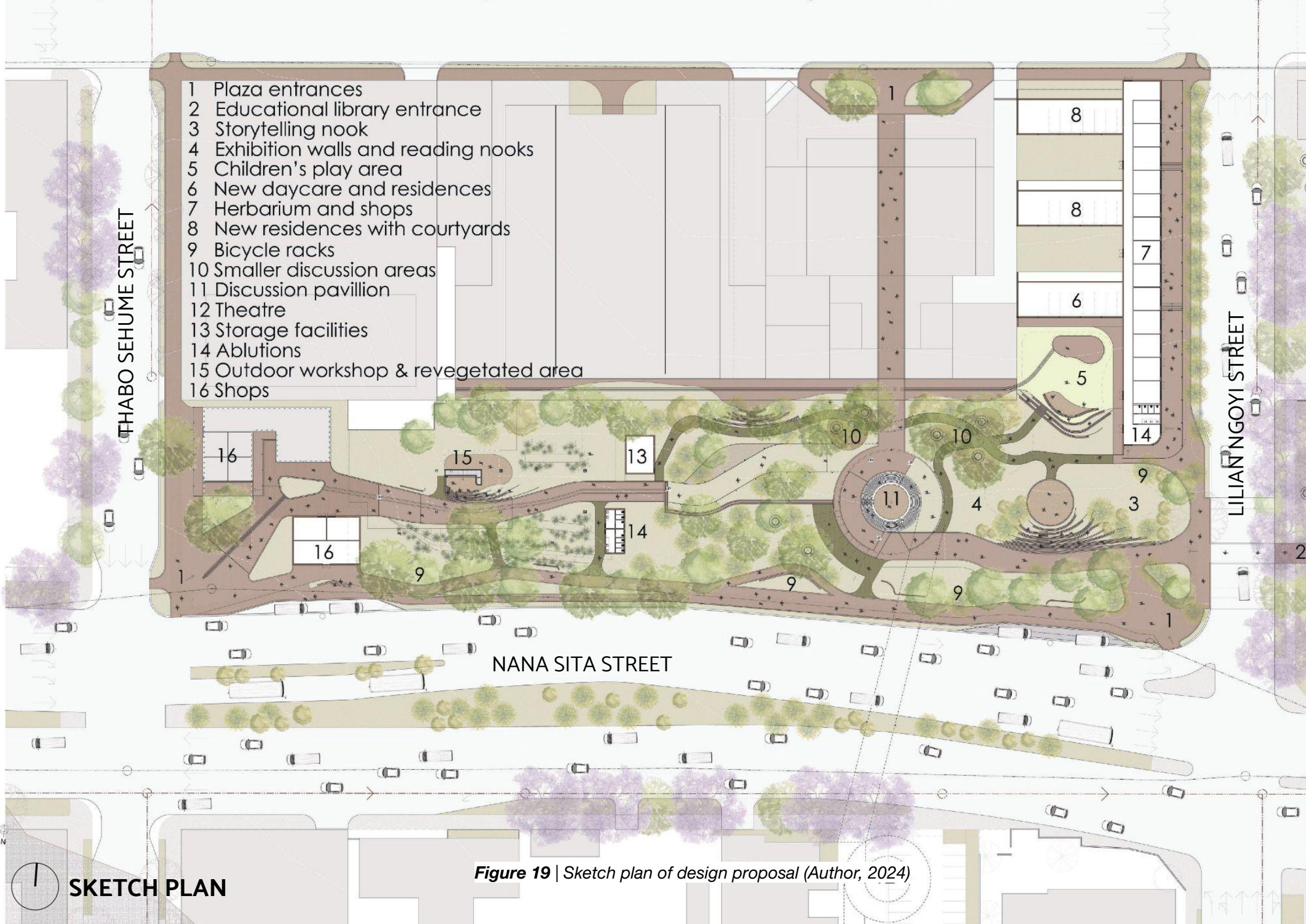
To ensure a positive environmental impact, three performance metrics were assessed, vegetation and soil, water and education value. This evaluation informed improvements in the amount of vegetated areas, planting strategies, water requirements and how much rainwater can be harvested, water features, demarcated areas for soil remediation, increased vegetated structures, and the development of educational and interactive elements.

Materiality

The site's material selection prioritised local resources, with repurposed materials like bricks and steel salvaged from demolished structures and metal sourced from the nearby automobile industry. Earth materials were made from soil and aggregate sourced from nearby suppliers, along with bricks, to reflect the city's architectural heritage.

Technical detailing of knowledge sharing

In the technical phase, deeper exploration was conducted on knowledge-sharing methods in both a spatial and construction manner. As well as incorporating lessons from how knowledge is traditionally shared within natural landscapes and botanical gardens. Key design elements manifested in an elevated structure doubling as a circulation path and a discussion drum, along with signage details and the petrol station repurposed for an outdoor workshop area.



- 1 Plaza entrances
- 2 Educational library entrance
- 3 Storytelling nook
- 4 Exhibition walls and reading nooks
- 5 Children's play area
- 6 New daycare and residences
- 7 Herbarium and shops
- 8 New residences with courtyards
- 9 Bicycle racks
- 10 Smaller discussion areas
- 11 Discussion pavillion
- 12 Theatre
- 13 Storage facilities
- 14 Ablutions
- 15 Outdoor workshop & revegetated area
- 16 Shops

THABO SEHUME STREET

LILIAN NGOYI STREET

NANA SITA STREET

SKETCH PLAN

Figure 19 | Sketch plan of design proposal (Author, 2024)

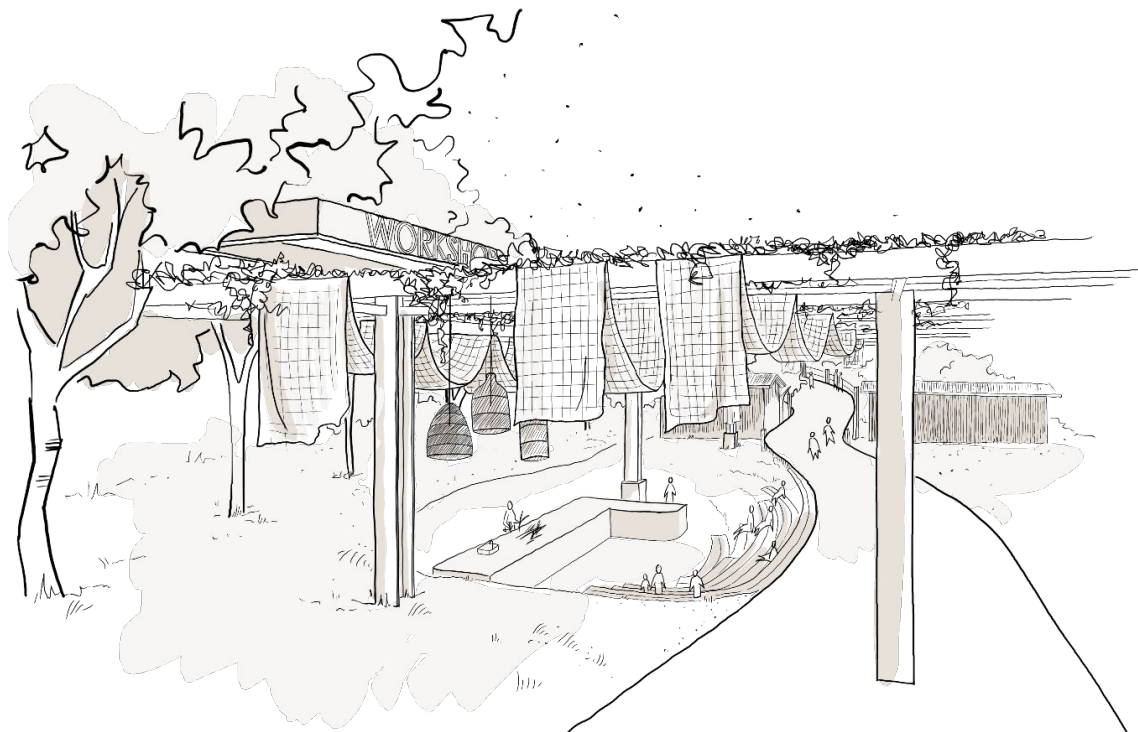


Figure 20 | Perspective of workshop area
(Author, 2024)

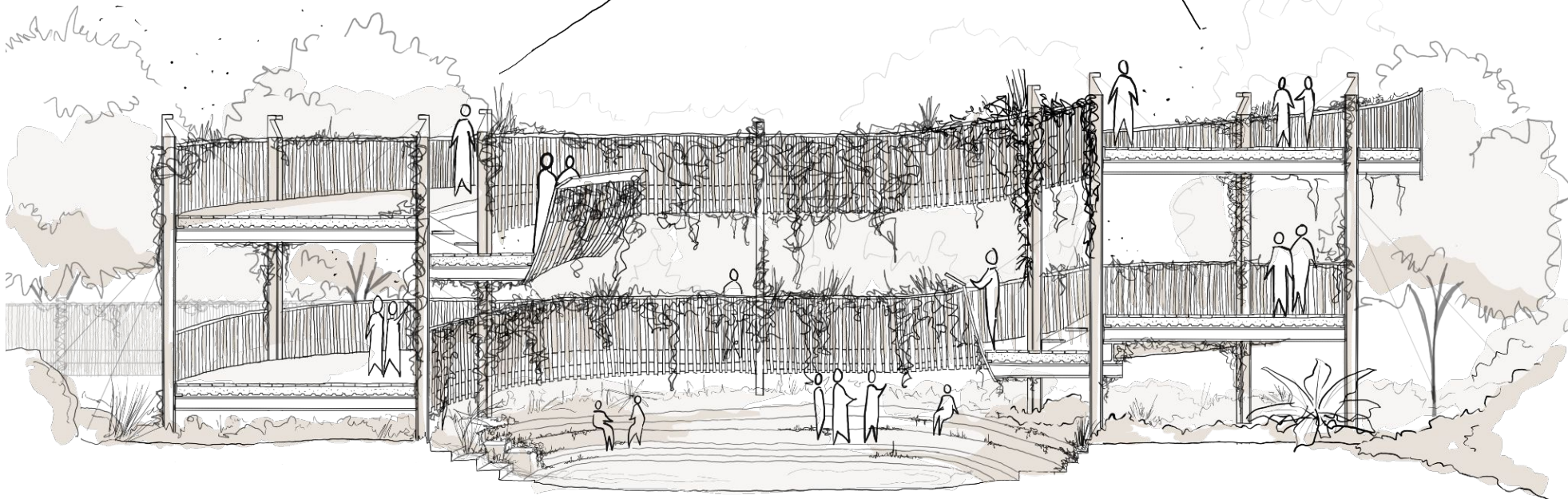


Figure 21 | Perspective of discussion pavilion (Author, 2024)

CRITICAL REFLECTION

PROJECT OUTCOMES

The final design acts a space where people can reflect on their relationship with nature while they are in the city, an essential but often diminished element in current public green spaces.

The project's strength lies in the grassroots approach, prioritising the community's input on nature and their view of current available green spaces. This resulted in a design approach that more authentically reflects people's views of nature, moving away from standardised designs that often lack local relevance. It highlights the responsibility of landscape architects to intentionally design with local perspectives in mind.

In this project, a holistic design where people and nature both benefit from the interventions was key. This was achieved with adding improved green spaces, the addition of green infrastructure that cools buildings, conserving resources for other uses by harvesting rainwater and more permeable paving to help with infiltration and reduced stormwater runoff. The design takes into consideration the role that nature can play to encourage nature conservation.

To be more intentional with resources, the project showed the potential of derelict and existing spaces, like transforming abandoned buildings into building material sources or converting a petrol station into a workshop area for nature conservation. This reflects the importance of working intentionally with available resources, enhancing existing programmes and not overlooking valuable urban assets.

Personally, this master's project came with many challenges; creating a viable project brief, making quick but informed decisions, quick explorations, delineating what feedback to use and mostly building confidence in my design decisions. But all of these become important skills for my future career as a landscape architect. There have also been many breakthroughs through integrating my architectural background with new landscape architectural knowledge and learning from my peers and other professionals.

CONCLUSION

The value of high quality public green spaces should not be overlooked, even amidst pressing urban challenges like rapid population growth. These spaces are not mere amenities but essential areas where people can connect with nature and feel its presence in their daily lives. Ultimately, this project highlights the potential of landscape architecture to reconnect people with nature in meaningful ways, even within dense urban centres. The project embraces a more inclusive vision for green space design where urban landscapes become platforms for cultural expression, environmental education and shared nature experiences. Without such places, urban populations risk losing their connection to nature, which is vital for both individual well-being and collective environmental consciousness.

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