

Urban Framework

This framework is a collaboration between Erwin Struwig, Pieter Swart and Gillian van der Klashorst. Part II serves as a continuation of the concepts and notions discussed in Part I: Urban Vision, and aims to refine and apply the ideas explored therein on framework level.







PART II: Observatory Ridge Framework

The proposed focus area includes the neighbourhoods of Yeoville, Bellevue and Observatory, and specifically the Observatory Ridge. The following chapter investigates the history and contextual analysis of the illustrated focus area to inform the urban framework for Observatory Ridge at the end of the chapter.

The surrounding context has seen many changes over time since the inception of the city; the rapid growth and influx of residents in the mainly residential areas have contributed to the high density to the west of the site in areas such as Yeoville, Berea and Hillbrow. These neighbourhoods have played a significant role in the cultural and political history of Johannesburg and South Africa. Over time, fantasy and desire have characterised these areas, from the way the neighbourhoods originated according to the nostalgic ideal based on European cities, to Yeoville and Berea today becoming the gateway into and a new beginning in the city for countless immigrants from other African countries.



Contextual Analysis - Yeoville, Bellevue and Observatory

The Neighbourhoods of Yeoville, Bellevue and Observatory, as well as the Observatory Ridge, are investigated in historical periods in section format. Important events, developments and changes in the urban landscape are represented in a conceptual spatial and architectural manner. This section is contributed by Erwin Struwig, Gillian van der Klashorst and Marzanne Roux.

Origin

The Witwatersrand region of hills was once crisscrossed by the migratory routes of game herds with perennial springs and grasslands rising up in a series of ridges – the Witwatersrand

Colonial capitalist city, entrepreneurial culture, cyclic economy, dustbin of discarded styles

Herman Charles Bosman: 'every citizen was imbued with one laudable desire of making all the money he could in the shortest amount of time'

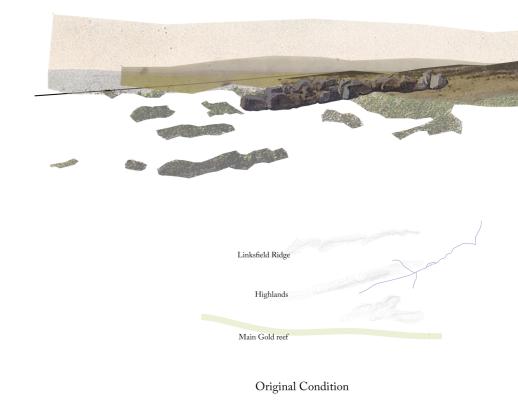
Johannesburg started to burst at its seams soon after its proclamation. Its insatiable growth was limited to the south by mining activities causing the establishment of its first northern suburbs; Yeoville, Berea and Bellevue

The northern suburbs became compounds of the rich, segregated residential reserves with heightened expectations, the new rich from the mining camps began to separate themselves distinctly from the vicinity of the mine workings: rooming-hotels, lodging-houses, brothels, gambling joints, outlandish cafes, boisterous vaudeville theatres, illicit bars and disorderly houses

1851 - Doornfontein Farm (map of farms)

1887 – James Sivewright – JHB Water Works
Strong spring down hill (Harrow /Saratoga road)
Corner stone laid by Mrs. Von Brandis

Old Doornfontein: Thomas Yeo Sherwell laid out township 620 stands

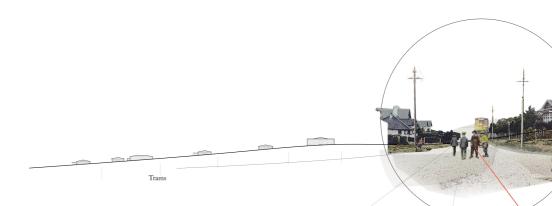




Development to the North

The development of *Uitvalgrond*





1880s-1900s

Timeline of suburbs

1890 – Yeoville: Thomas Yeo Sherwell from JHB estate syndicate.set out the town. The area developed slowly, by 1896 only 484 stands of 1214 stands were developed.

1893 - Doornfontein north

1894 - Berea

1896 - Barney Barnato bought Yeoville in (JHB consoli dated investments). Yeoville became known as a sanitorium for the rich: Those who could afford to live in country, far away from noise and dust. "Swagger suburb par excellence"

1900 - After the Anglo boer war randlords moved to sunny Parktown

1901 - Bezuidenhouts valley

1903 - Transvaal Metereological site established on highest point of the ridge, donated by Bezuiden hout family, on their farm Doomfontein. The 8 acres was offfered free of charge subject to the creation of a road from Yeoville to Bezuiden hout's home stead. (Observatory road)

1914 - Unique ater tower beacon in SA

The Johannesburg rich and comfortable classes religiously followed English norms of respectability but important exceptions to this colonial dependence were found in Berrams and over the hill in Yeoville, where premonitions of a renaissance would first appear.







Barney Bernato

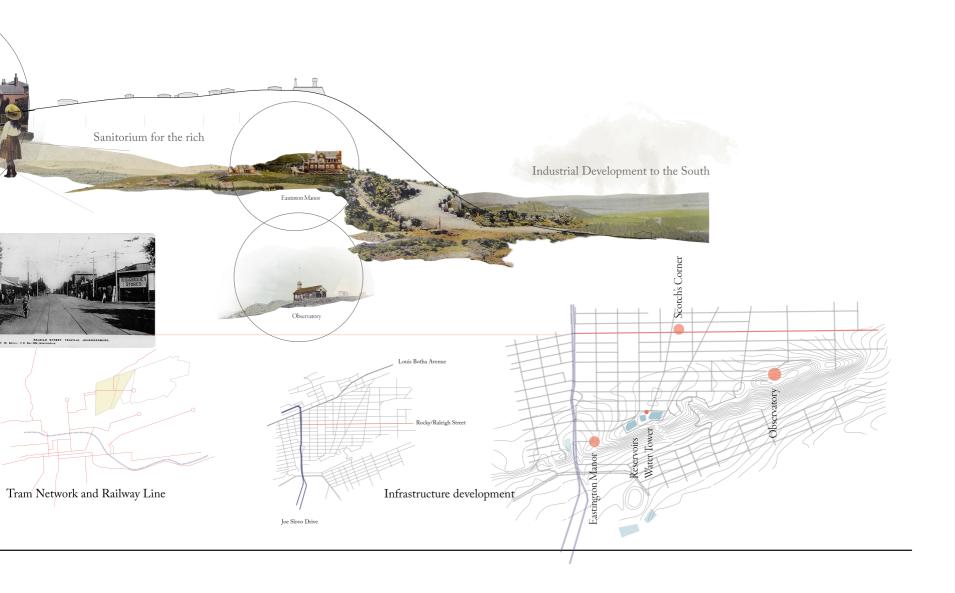
Bellegravia was built on the image of Belgrave square in London. Many houses and mansions, including the famous one built for Barney Barnato, was built form insiration of English architecture and styles. This created a sense of nolstalgia to feeling 'home' and the ideological notion of colonialism to create a sense of order in the 'wild dark Africa'.





The development of suburbs surrounding Yeoville





1930s-1980s

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1911 - Mines and Works Act 1913 - The Native Land Act 1930 - Houghton 1930s - Development in Hillbrow spills over into Yeoville accounting for the flats in international style. Predominant architectural influences where the Americanisms from Art Deco New York, pre disposed to the latest stylisms and hybrid forms of modernistic architecture. A debased classism under constraints of tight budgets, lack lustre pseudo-classical work, coarsened classical details also prevailed. 1935 - Hybrid architecture in Yeoville and Bellevue: Maisonettes double storey 4 unit locks were pre dominantly white modernist villas with blank cubist forms, projected slabs, rounded balconies and corners and stepped central stair towers- small builders versions of Corbusier pavilions. Yeoville gets its first metric swimming pool 1948 - National Party wins election - Implementation of Apartheid (aim of creating homogeneous residential areas inhabited by only one population group) 1970s Moving of non-white, middle-class population groups into areas became possible (So-called grey areas, government offices have been less and less able to enforce the Group Areas Act. Initially well-to-do coloureds and Indians, It was not until later that blacks and non-whites of generally lower social status followed) from the adjoining areas of Hillbrow and Berea Yeoville North of Raleigh Street, the local main street and shopping mall, the population of Ye oville is characterized by Orthodox Jewish communities. For this population group there are kosher shops, a Jewish kindergarten, a school and a number of synagogues and Torah centres. The area south of Raleigh Street is characterized on the one hand by students and self-employed persons (musicians, actors, journalists), who create a "more liberal", cosmopolitan residential at mosphere because of the ethnic variety of the white residential population Because there are a number of welfare organizations here and a choice of rent-protected one room apartments, we also find a concentration of retired persons 1988 The cultural centre for many persons belonging to intellectual and student circles is Rockey Street, the extension of Raleigh Street. Its restaurant and club atmosphere and the great variety of types of shops attract young people in particular. Despite the description of Yeoville as a "tolerant," happy community" 1991 Scrapping of the Group Areas Act (All over the country persons of all skin colours could now acquire property and settle anywhere, providing their personal income allowed them to do so.)

1944 ANC Youth league was formed in 1944. Nelson Mandela, Walter Sisulu and Oliver Tambo were the founding members

President D.F. Amaln of HNP (hervormde National Party) after winning the 1948 election. This was offically the start of Apartheid.





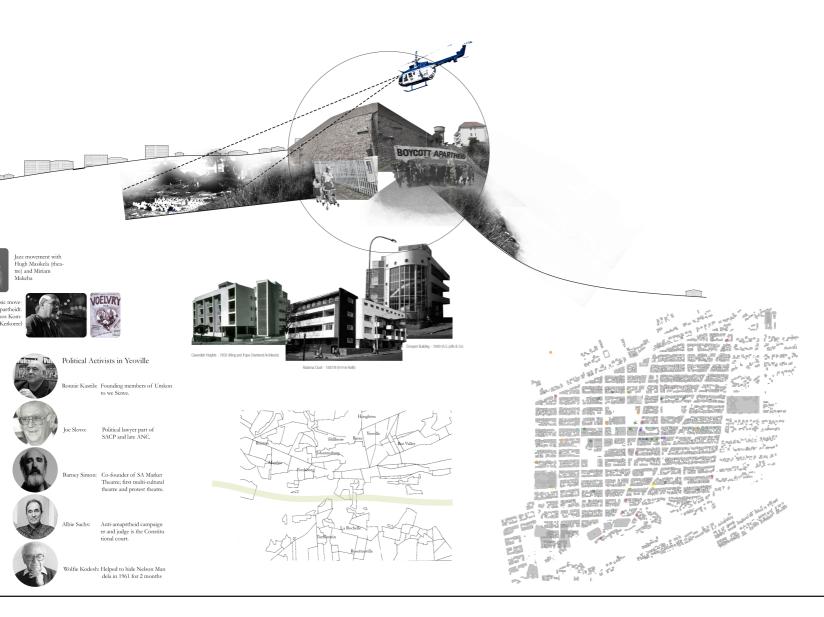




ment voiced against : Bernoldus Niemand/ K buis/ Johannes







1960-1980s

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-Wolfie Kodesh: Helped to hide Nelson Mandela in 1961 for 2 months

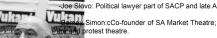
1963-4 - Rivionia Trail that sent Nelson Mandela to prison.



Political Activists:

-Ronnie Kasrils: Founding members of Umkonto we

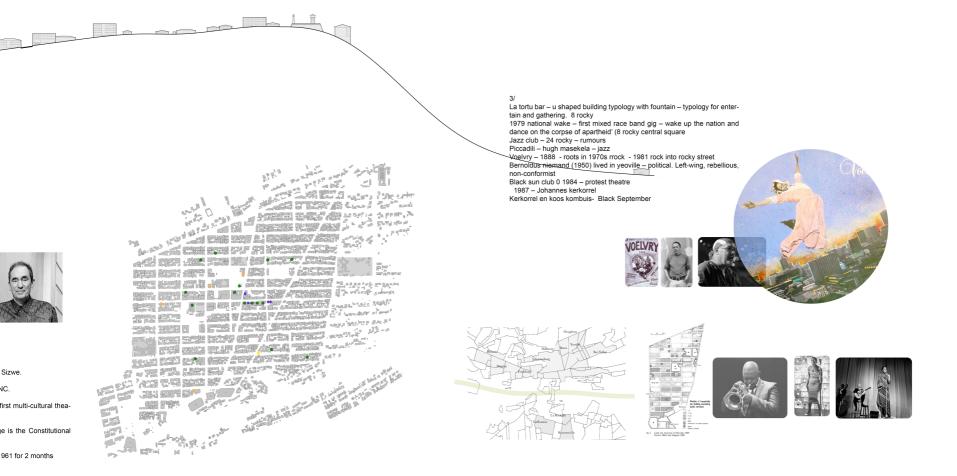




Arbie Sachs: Anti-amaprtheid campaigner and judge

Kodesh: Helped to hide Nelson Mandela in







The Witwatersrand - Observatory Ridge

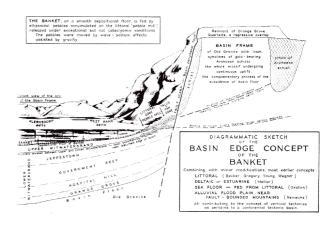
This segment focuses on the history and cultural significance of the Observatory Ridge. It concludes with a proposed framework as a contextual future development guideline for individual projects, as contributed by Erwin Struwig, Gillian van der Klashorst and Pieter Swart.

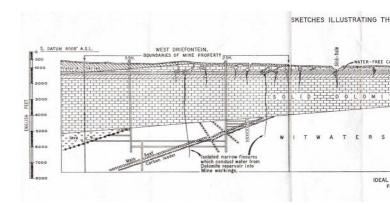
Origin and geological significance of the Witwatersrand and Observatory Ridge

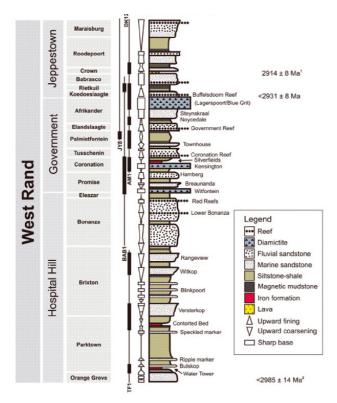
Coined by the Boers to describe a series of rocky outcrops extending from Bedfordview in the east to Krugersdorp in the west, the Witwatersrand or 'ridge of white waters' is named for the abundance of rivers and waterfalls found in the rocky area. The Hillbrow–Berea–Yeoville ridge (also known as Observatory Ridge), being the highest ridge in Johannesburg, forms the watershed between rivers that flow south and west towards the Atlantic Ocean, and east and north towards the Indian Ocean (Norman & Whitfield 2006:38).

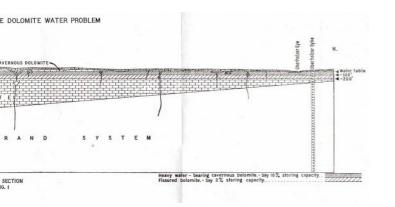
The Witwatersrand lies on the Kaapvaal craton (see Fig. x), one of the only remaining areas of pristine three billion year old crust on Earth. During the Archaean period, more than three billion years ago, the region where the city and its surrounds are located today was covered by a large inland sea called the Witwatersrand Basin. Networks of rivers flowed into the water basin, carrying materials like pebbles, sand and clay which were deposited in sedimentary layers of several kilometres thick. Lava eventually buried the sedimentary layers and created heat and pressure to transform the fragmented sediment into coherent sedimentary rock. The inland sea disappeared about 2,7 billion years ago due to numerous volcanic eruptions (Nachema 2008). The Vredefort asteroid hit the earth about two billion years ago, causing an impact crater extending 250 kms over the area of the Witwatersrand Basin. Being the largest and oldest meteorite impact recorded on earth, it is also suggested to be one of the major events that contributed to the rich gold reefs of the Witwatersrand. The combination of the Vredefort astrobleme and the weight of the water of the Witwatersrand Basin caused the sagging and tilting of the 'bowl' of the Witwatersrand. This caused the gold deposits at the bottom of the Witwatersrand Basin to be buried several kilometres deep, safeguarding the gold reefs against erosion. The layers of rock jutting out and sloping towards the south at an angle of 70° are what is known today as the series of ridges of the Witwatersrand (Nachema 2008).

The gold fields in the areas around Gauteng, North West and the Free State lie around the perimeter of the sedimentary Witwatersrand Basin. The Witwatersrand Supergroup is divided into two distinct classifications according to the different types and proportions of sedimentary strata. The Central Rand Group is located in the southern parts of Johannesburg; this 2 500 m deep quartzite group is responsible for the rich gold reefs, sloping at an angle of 30° at about one metre wide. The gold reefs are composed of thin layers of gold conglomerate, sandwiched deep into the earth. The West Rand Group, located in the middle to northern areas of the city centre of Johannesburg, is composed of almost equal amounts of shale, sandstone and minor conglomerate layers amounting to about 43 mm thick (Norman & Whitfield 2006:39).









The 'Contorted Bed'

The Observatory Ridge, the highest ridge in Johannesburg, consists of 3 000 million years old sedimentary rock known as Hospital Quartzite, that lies about six to eighteen metres below a younger, more unstable shale layer and dips about 50° in a south-south-easterly direction (Bremner 2014). Along the crest of the Observatory Ridge, extending into Braamfontein and Brixton, lies one of South Africa's 'few geological national monuments,' namely the 'Contorted Bed.' Occurring consistently about 750 m above a granitic basement, this important marker bed of the West Rand Group consists mainly of banded ironstone. This rock is further composed of thin bands of black magnetite, red jaspilite, grey chert, hematite, pyrite and iron-rich shale layers formed by sedimentary processes. There is no evidence that residual stresses still operate within the rock, and the Contorted Bed should therefore provide adequate founding for heavy structures (Brink 1983:82-84). The phenomenal qualities of this bed include its remarkable intricate contortions or folding, visually expressed in a range of brown, red and black colours (see figure 5.x), as well as its unique basin-wide extent. Evidence of this can be seen in areas near Jan Smuts Avenue and the Wits University as well as the area around Joe Slovo Drive (Norman & Whitfield 2006:43).

The Contorted Bed is also significant due to its strong magnetic feature, which has been used extensively to explore and trace gold-bearing reefs hidden under thick younger rock formations in the West Rand Group. Since the 1930s new gold reefs could be detected due to the magnetism of the beds. The magnetic response from the distances between the various reefs and marker beds made it possible to trace the position of the Main Reef. This led to the discovery of the western gold mines below dolomite such as the Carletonville and Welkom goldfields. The Contorted Bed is also weather resistant and thus usually ridge-forming, seen in the exposed crest of the ridge (Norman & Whitfield 2006:43).

The interesting geological history of the Witwatersrand helped to shape and mould the City of Gold into what it is today. Evidence of man's interaction with the subterranean is seen in the man-made mountains and steel headgear of the mining landscape. The ridges can be seen as a natural landmark of the rich geological wealth obscured in the subterranean layers of the city.

Cultural narrative of the Ridge: A nostalgic landscape

Johannesburg started to burst at its seams soon after its proclamation. With the early town rapidly expanding along the east-west corridor between the ridges of the Witwatersrand in alignment with its subterranean wealth, and growth being limited to the south by mining activities, the first suburbs were established north of the ridge: Yeoville, Berea and Bellevue. In the early developing years of the city the ridge acted as a natural and cultural barrier (Bremner 2014). The ridge became a threshold within the city, a symbol of separation and power.

"Always exceeding the intentions of their creators, buildings mediate their meanings through use as much as symbolism and representation. It is through such a play between intention, use, and symbolism that the residential enclave that grew up in Johannesburg at the turn of the century contributed to the growth and elaboration of colonial national South Africanism(Foster 2008:145)."

The northern suburbs became enclaves of the rich – segregated residential reserves with heightened expectations. The new upper classes began to separate themselves from the vicinity of the mine workings: rooming hotels, lodging houses, brothels, gambling joints, outlandish cafés, boisterous vaudeville theatres, illicit bars and disorderly houses. In this hinterland north of the ridge, nature was still preserved from the industrialisation and expansion taking place elsewhere, and thus presented an ideal place for the development of Johannesburg's most desirable residences.

Nostalgia for Europe predominantly dictated the development of these enclaves which became manifestations of the pastoral idealism which captivated Europe; these homes on the fringe of the city were perched, almost symbolically, above the endless grasslands of virgin country. Many houses and mansions, including the famous one built for Barney Barnato, were inspired by English architecture and styles, and Bellegravia (one of the suburbs of Observatory Ridge) was built in the image of Belgrave Square in London. This created a sense of nostalgia for 'home' and the ideological notion of colonialism to create a sense of order in 'wild, dark Africa'. This nostalgia was further manifested in the plantations of eu calyptus and fir trees (planted by the Braamfontein Company for construction timber) surrounding the ridge, which were reminiscent of the European forests and climate.



fig 7.1. Postcard of Johannesburg showing mine dumps



fig 7.2. Top Star drive-in located on a unused mine dump





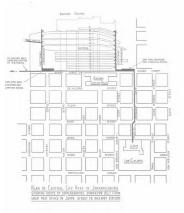


fig 7.4.

Plan of central JHB Subterranean tunnels



fig 7.3.

Inside Mining tunnels

The Ridge as vantage point

Throughout history there has been an important connection between topographic elevation and social power. Examples in the Highveld area can be seen in the evidence left by the ancient native Sotho–Tswana people's encampments on or near the summits of ridges and koppies. Jeremy Foster is the author of the book, Washed with sun, a study concerning the role of landscape in South Africa, both natural and constructed, in the shaping of cultural identities and spatialities that formed the geographical imagination and emerging nationhood of white South Africa during the early 1900s. Foster argues that the ... [c]onnection between social status and elevation are reinforced in places that are not only raised, but also level ... the elevated, level platform also implies orientation, another phenomenological in-habitational truth that combines pragmatic and existential knowledge. Orientation is a product of our frontally directed sense; it sublimely reveals what we consider most important and automatically configures the enhorizoning world (Foster 2008:151). The ridge therefore becomes an important place within the cultural construct of the city; it reveals what is regarded as significant as well as the relationship that a particular group within society has to the city.

The created landscapes of Johannesburg

Although Observatory Ridge is still mostly preserved as natural landscape, it nevertheless exists as a result of the ceaseless fragmentation taking place due to fantasy – nostalgia – which materialises as uitvalgrond (discussed in Chapter 2: Urban Vision). These resultant landscapes, however, occur throughout Johannesburg as new or created artificial landscapes in the form of mountainous mining dumps, the subterranean tunnel networks (mining tunnels, railroads, postal tunnels and so forth) and, perhaps most significantly, Gold Reef City which becomes the most lucid demonstration of how nostalgia is transformed into artificial landscapes. It is a nostalgic fantasy existing in hyper-reality which has been cartographically charted and artificially reconstructed. There is, however, a general inaccessibility or exclusivity to these landscapes.

Historically playing a role in the development of the city, today the Observatory Ridge is a disregarded surplus ground, or uitvalgrond. Fenced off, with no access or ownership, this significant natural oasis within the dense surrounding neighbourhoods holds the potential to become a place which can give meaning and identity to the city and its dwellers. The urban framework proposes a site-specific approach, aiming to reinforce the hidden character and narrative of the site in a contemporary and relevant manifestation which would contribute to the surrounding context.





















































The 'Contorted Bed'

Melville Koppies, situated on another set of rocky outcrops that make up the Witwatersrand, is one of the city's oldest nature reserves and geological heritage sites. This piece of natural heritage is the last conserved ridge within Johannesburg's Witwatersrand ridges that represents the state of Johannesburg's ridges from before the discovery of gold in 1886. Remnants of early Stone Age tribes with stone tools from 500 000 years ago as well as Iron Age tribes arriving within the last 1000 years can the seen in the reserve. The vegetation on the ridge itself is completely indigenous and is said to be the most pristine example of the richness and splendour of the Highfield flowers, grasses, and trees still in existence. (Baines, n.d., p. 1)

The similar topographical condition and close proximity of the Melville Koppies to Observatory ridge affords the appropriate precedent study for the rehabilitation of Observatory ridge.

Conservation

The rehabilitation and conservation of Melville Koppies Ridge took place from 1959 till 1993 when the park was opened to the public as a prayer space and nature reserve. In 1993 the city of Johannesburg parks and cemeteries joined forces with the Melville Koppies team to establish a joined venture which then established the Melville Koppies management committee.

The approach that the Melville Koppies conservation team took was to eliminate all exotic invasive trees and plants. The most important exotic tree that was removed was the Australian black wattle (Acacia mearnsii) and conifers. These invasive species leave the area desolated and thus rehabilitating the area around the removed tree or conifer. These invasive species tend to regrow in the area they have been removed from for years to come. The approach that the Melville Koppies conservation committee took was to replace these invasive species with pioneer species, which reduces the regrowth of alien species.

A brief investigation of the appropriate flowers, trees and grasses was done guideline to introducing similar pioneer and indigenous species to Observatory ridge.

Flora

The wild flowers of the Highlands or otherwise known as "pre rain flowers" are generally geophytes which allows for their vegetative bulk to collect and store summer rain water in order to get the required nutrients. These wild flowers are late bloomers and tend to flower irregularly between September and November. These flowers unlike those of the Namaqualand are stimulated by increase in soil temperature rather than rain in order to flower. These spring wild flowers only last about a week or two, but are replaced by summer wild orchids and wild gladiolus. These wild orchids are similar to those found in greenhouses, they are generally smaller when found in the wild and therefore need to be taken care of if to increase the number that survive. Another well-known plant that is able to withstand the killer frost of the Johannesburg ridges is the protea caffra or more commonly known as the "common sugar bush". These Proteas thrive on the acidic soils found on the ridges and share characteristics with those found in the Cape fynbos biome. (Baines, 2015, p. 1)



Trees

The trees found on the Melville Koppies ridge are mainly found on the northern slopes of the ridge to protect themselves from the frost, along the "spruit" which runs through the reserve as well as on soil with a rich granitic basement layer which rich in minerals. (Baines, 2015, p. 1)

Some of the more dominant trees found on Melville Koppies:

- Acacia robusta
- Acacia caffra
- Euclea crispa
- Celtis Africana
- Brachylaena rotundata

Also previously found on the Melville Koppies is the Acacia mearnsii or more commonly known as the Australian Black Wattle which is a South African conservationist's worst nightmare, and have all been removed from the ridge.

Similar to the staggered flowering of the bulb flowers on the ridge are the flowering patterns of the trees. The Acacia robusta is the first tree to flower in the early spring with yellow pastel coloured pom-poms. The Acacia caffra flowers quite a bit alter with similar yellow flowers. The Brachylaena rotundata also flowers quite late in spring also with yellow blooms. The Kiggelaria Africana or more commonly known as the wild peach allows for both insect and bird to live within its branches.

Thus the trees of Melville Koppies are all indigenous to Southern Africa and more importantly are historically

Melville Koppies is situated within the grassland biome, more specifically the "sourveld" area which means that the grasses are mostly perennial and die during winter. These grasses mainly store nutrients in the roots. The reason for the name "sourveld" is because they are non-nourishing to grazers and thus have been called "sourveld" by farmers. Melville Koppies is home to 56 recorded species of grass.

Some of the more recognisable grasses found on Melville Koppies:

- Harpochloa falx
- Allotopsis semiolata
- Themeda triandra
- Panicum maximum
- Cymbopogon excavates
- Monocymbium ceresiiforme

The grasses of Melville Koppies also seed and disappear at various times during the seasons. Harpochloa falx, more commonly known as Caterpillar grass has seeded and faded by mid-summer while Allotopsis semiolata (black seed grass) can be found in early spring. Themeda triandra found spread over large areas in the Freestate is a grass indigenous to parts of Asia as well as Australia. This means that it originated in Southern Africa before the breakup of Gondwanaland 160 million years ago. Another grass that finds its roots in Southern Africa before the Gondwanaland breakup is the Panicum maximum, a grass that attracts birds of all kinds and grows easily from its seeds. At the end of summer the grasses reach a wonderful bronze colour glazing the entire ridge.

Proposed Framework: Observatory Ridge Park

Framework Vision

Observatory Ridge can be identified as part of the legacy of created landscapes in the city. Although it is currently one of the rare natural landscapes remaining in inner city Johannesburg, it still bears layers of fantasy and of its nostalgic legacy. Buildings on the Ridge (mostly Modernist and Art Deco houses and manors) bear witness to endless cultural flux – many with a low tolerance for change and now either in disrepair or abandoned. Ponte City serves as a poignant testament to this condition. Both the tower of Ponte City and the stone and concrete water reservoirs opposite can be regarded as part of the landscape of the Ridge, albeit artificial. The artificial landscape extends to the south of the Ridge which, although mostly natural, is covered by exotic flora left over from the Braamfontein Company plantations. It is scarred by mining activity.

Observatory Ridge is investigated and developed on a conceptual framework level as an exploration of the heterotopic potential of such created landscapes. The intention is to restore the site to its original, pre-colonised and -industrialised landscape, by exterminating any exotic and invasive plant species and reintroducing indigenous pioneer species to the site. Rehabilitation of the ridge is necessary to prevent the extinction of red dot species which are only found on the Ridge. A sensitive intervention strategy is thus crucial, and therefore the only architectural intervention on this scale is proposed as formalised walkways to follies (revealing certain spatial conditions) on selected parts of the site, allowing pedestrian access to the Ridge. Mapping of the hydrology and the condition of the existing flora is undertaken to mark and anticipate growth on the landscape and thus inform the placement of the follies. Terraces and water retention ponds are also introduced at hydrological channels on site to prevent erosion and provide water for use on site.

The nostalgic landscape is thus recreated (or fabricated)², giving access to the fantasy inherent in the transitory nature of the created landscapes. In imitation of the original it becomes a portal to a new fantasy, just as the uitvalgrond has become the heterotopia. Each of the projects introduced to the ridge forms part of this framework and can be regarded as individual interpretations of the idea of 'portals'.