



CONTEXT ANALYSIS



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

3.1. LOCATION

Fig. 3.2: South African provinces with Gauteng highlighted in green

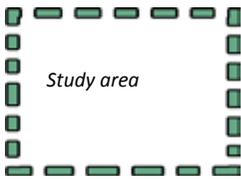
Weskoppies hospital is significant in the context of South Africa not only because it is the largest psychiatric hospital in the country but also due to the ground breaking work concerning modern psychiatric treatment done at the hospital (Lewende Monument 1992:11).



Fig.3.3: Map indicating the location of Pretoria West in Tshwane.



Weskoppies is situated in Pretoria-West. This part of Pretoria has a rich and colourful history (Fig. 3.3). In the 1870's this area was surveyed for burger right erven. There was an agreement that the Voortrekkers would receive farms in the Transvaal, but many preferred large stands and settled mostly in Pretoria West. After 1902 farmers flocked to the city from the countryside, and so the existing Goede-Hoop residential area developed rapidly. There was some criticism on the Urbanization of the area from foreigners and Newspapers, who wanted this area to maintain its rural character (Meiring 1980:35).



3.1.1. CITY CONTEXT: STUDY AREA

The study area includes Pretoria west, the central business district and stretches south to Freedom Park and the Voortrekker Monument including the embankment between the Langeberge and the railway line. This area will be studied to gain knowledge on the possibilities of integrating Weskoppies as a healing outdoor environment into the city and surrounding areas (Fig. 3.4).



3.1.2. CAMPUS CONTEXT: PROJECT AREA

The whole 149 hectares of the Weskoppies campus will be studied to give guidance and inform the development of a therapeutic open space framework (Fig. 3.4).

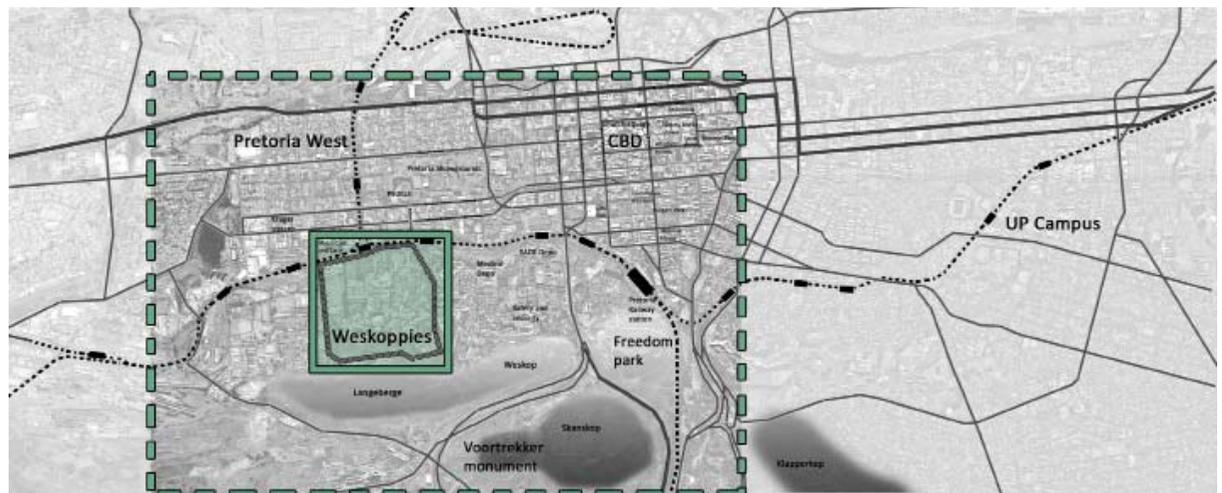


Fig 3.4: This map indicates the study area & project area (Author 2009)

3.2. STATUS QUO

Weskoppies hospital provides psychiatric services to 1087 in-patients, a large number of outpatients with 1137 full time staff members and others in session posts. The 149 hectare site contains 274 buildings and structures (Weskoppies, 2009:3). The hospital is also used as a centre for Court observations by the Department of Justice and serves as a training facility for medical faculties at the University of Pretoria. Throughout the year there is an influx of students at Weskoppies.

As a specialized institution Weskoppies serves as a referral point for hospitals located in the Tshwane municipal area. The catchment area stretches as far as Mpumalanga, the North western province and also includes forensic patients across the border (Mabena, 2009). The hospital serves a diverse population in terms of culture and social standing and comprises urban, informal and rural communities (Weskoppies 2009: 4).

Weskoppies provide mental care for all the different mental illnesses while schizophrenia, bipolar disorder and substance abuse are amongst the most common. It is the only psychiatric hospital in the province with a maximum security unit and facilitates children and adolescents that cannot be managed at other institutions (Mabena, 2009).

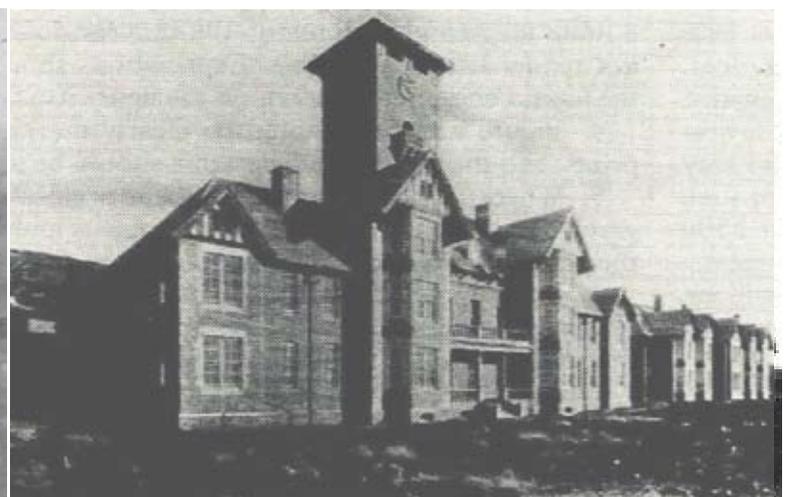
3.3. HISTORICAL CONTEXT OF WESKOPPIES

Weskoppies hospital, formerly known as the *Krankzinnigengesticht te Pretoria* was established as the first psychiatric institution in the independent Zuid Afrikaansche Republiek. Although there were already several mental hospitals in South Africa by 1890 including Grahamstown (1875), Pietermaritzburg (1880), Bloemfontein (1883), and Port Alfred (1889) none of these were in the independent Zuid-Afrikaanische Republiek(ZAR) (Plug & Roos, 1992:218).

Tenders for the first building were invited in February 1890 based on plans by the Government Engineer Architect S. Wierda. The building was erected at its current location, 2km west of the Pretoria railway station (Fig. 1.5). By May 1892 the hospital advertised in newspapers to inform the public that the curators were ready to consider applications for admissions (Plug & Roos, 1992:218).

Fig 3.5. (left): The first photograph of the Administration block in 1892 (Breedt, 2009).

Fig 3.6. (below): View from the north east (South African Medical journal, 1992:221)



By the end of 1898 the number of patients increased to 138 of which more or less 25 of the earliest patients were transferred from various prisons in the ZAR to the asylum where they were kept due to a lack of appropriate accommodation. Due to overcrowding in the hospital at the beginning of the 20th century this practice was stopped. The number of African patients turned out to be larger than expected and plans for additional accommodation was already considered before the institution was officially opened, but there was no money left for new buildings and accommodation became problematic (Plug & Roos, 1992:219).

3.3.1. THE HOSPITAL ENVIRONMENT (Fig. 3.7)

The building was situated in the “Old Botanical Garden” and during the first year 500 trees were planted even though the water supply from a well in the grounds was limited. In 1893 the hospital was connected to the municipal water supply and a 2, 5 ha vegetable garden was laid out. At that stage the hospital was described as ‘a beautiful building very healthily situated, with large gardens and cultivated fields’ (Plug & Roos, 1992:219).

In May 1896 Dr. Smeenk from Holland was appointed as the medical director for the hospital. In his first annual report he declared that the asylum was both a custodial institution for chronic patients and an institution for healing acute patients. His approach required that every effort should be made to promote the eventual cure of patients. Proper physical care led to significant improvement in a number of patients. The curators after lengthy observation congratulated the country that the money invested for improving the hospital environment was well spent because a significant improvement could be seen in patients with previously poor environmental conditions (Plug & Roos, 1992:219).

Dr. Messum a physician at the hospital noted that the physical condition of many of the patients only improved during the first two months and stayed constant thereafter due to their unemployed existence. He and Dr. Smeenk then stressed the importance of various forms of work and recreation. These activities formed part of their treatment and the hospital made use of the patients remaining mental abilities. Their aim was to counteract the harmful effects of institutionalization. The success of their approach was reflected in the amount of patients that passed through the institution. Dr. Smeenk seldom mentioned the use of medication in his reports (Plug & Roos, 1992:219).

Fig 3.7: The Hospital environment in 1892 (Breedt, 2009)



3.3.2. THE DARK DAYS

The conditions in the hospital deteriorated considerably during the Anglo-Boer War. Serious overcrowding led to the erection of many temporary galvanized iron cells and due to a lack of space violent patients could not be separated from the other patients. There were insufficient work and recreation facilities and a lack of attendants. In 1899 the editor of the Transvaal Leader newspaper made an unauthorized visit to the hospital, in his report he described the hospital as dark, poorly ventilated, overcrowded, insanitary, lacking facilities for work or recreation and run by untrained staff. Frederick B. Higginson, a patient released from the hospital in 1899 published a story of his experiences during this time and added to this description: unhygienic conditions, nightly confinement of patients in small cells without any sanitary facilities for 12 hours and of patients being beaten by uncaring attendants. Until February 1901 this period remains one of the most difficult times in the history of the hospital. A doctor at the institution described the conditions in a report during this time; "All the patients were filthy in the extreme, their hair long and matted and they were all swarming with lice.... No provision was made for patients who required relieving themselves at night. . . ." (Plug & Roos, 1992:220).

The staff shortage was relieved in May 1901 and four attendants and four nurses were appointed from the asylum near Grahamstown. New buildings were ready for occupation in 1906. The new administration gradually restored the hospital to what it had been in its earliest years (Plug & Roos, 1992: 221).

3.3.3 CONCLUSION

The early history of Weskoppies hospital proves that an enlightened approach with a stimulating hospital environment and outdoor activities, recreation and work opportunities can significantly improve mental and physical health. However due to a lack of resources during the Anglo-Boer War it was difficult for Weskoppies to maintain and put these ideals in practice. Another limitation of the enlightened approach was the fact that it was only practicable if there was adequately trained staff to supervise and segregate patients. The availability of effective medication in the 1950's has changed, but not removed, the limitations of the enlightened approach. The lesson that can be learned from Weskoppies early history is that these enlightened approaches can only be effective when there are sufficient resources to put these ideals into practice (Plug & Roos, 1992: 221).

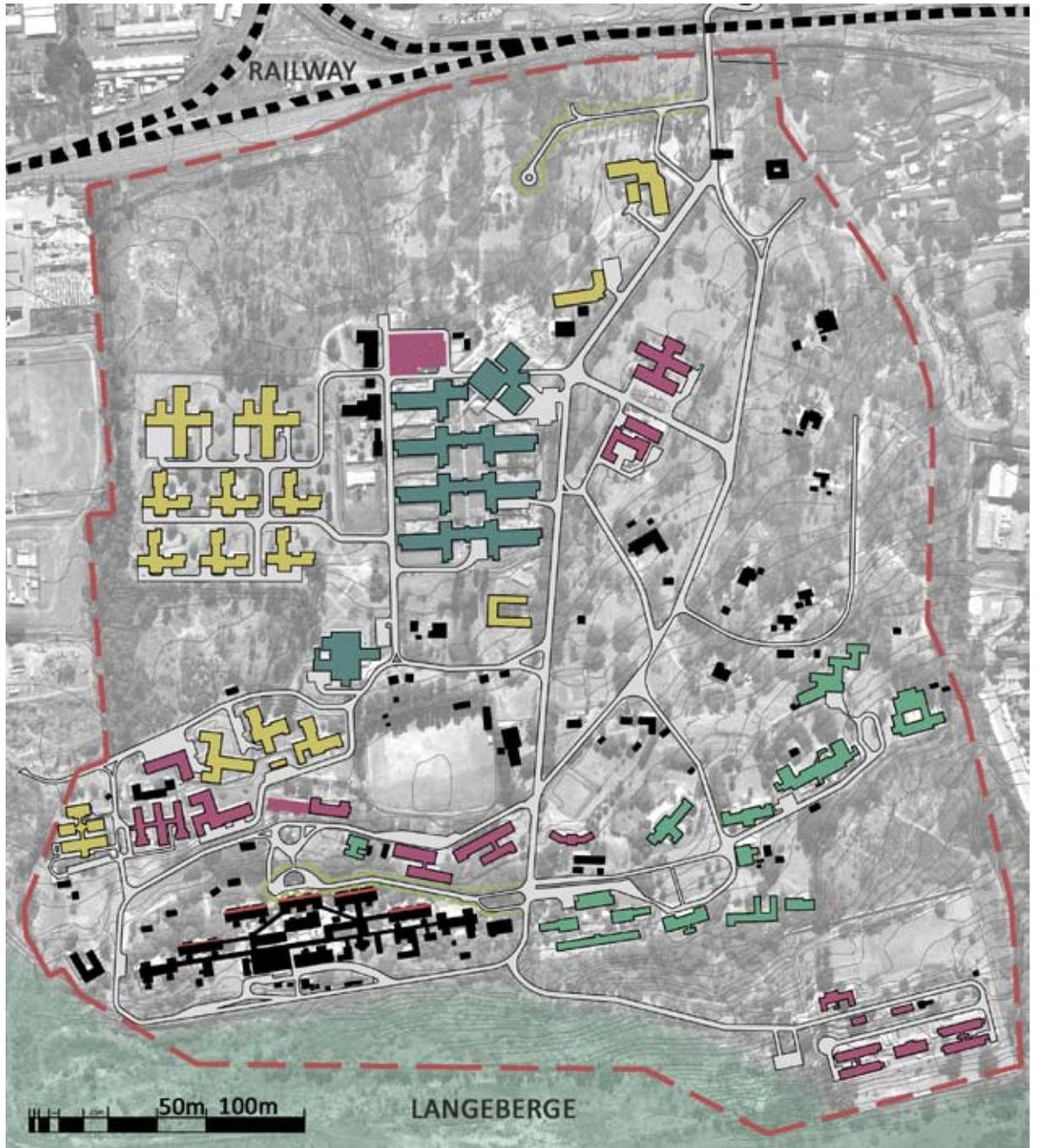
Today the main building complex now declared Cultural Heritage buildings houses most of the administrative and support services, clinical psychology and social work as well as five female wards. The campus consists of a patchwork of hundred years of additions with a combination of old and new buildings (Fig. 3.10). The infrastructure is already overloaded while patient and staff numbers are still increasing therefore the history of the hospital should be preserved in a changing environment. (Weskoppies Business plan, 2009:3).

Fig. 3.8 (below left): View from the north drawn by Hannes Meiring (Meiring1980:17)

Fig. 3.9 (below): Front view from the north west drawn by Hannes Meiring (Meiring1980:17)



Fig 3.10: Historical growth: a patchwork of more than hundred years additions. The buildings in black on the southern edge were the first buildings to be erected. (Author 2009)



HISTORICAL GROWTH

LEGEND

- | | | | | | | | |
|---|------------------|---|---------------|---|----------------------------|---|-----------------------|
|  | 1890-1910 Fabric |  | 1970's Fabric |  | 2000's Fabric |  | 1890's tree boulevard |
|  | 1950's Fabric |  | 1980's Fabric |  | Facades protected by SAHRA | | |



3.4 CITY CONTEXT

On a city wide scale, Weskoppies is hidden and doesn't have an "address". The site is isolated from the city by means of the railway line and industrial zone that forms a barrier on the northern edge while the mountain range forms a barrier on the southern edge.

3.4.1. LAND USE, ACTIVITIES AND FEATURES (fig. 3.11)

- The site is bordered by an industrial land use on the north, housing on the east and west and the natural landscape of the Langeberge on the south.
- The South African Defence Force is situated on the east and the Police Training College on the west (Geel 2005:20).
- Places with cultural and historical significance within a 2km radius from the campus include Freedom Park, the Voortrekker monument, Church Square and the Transvaal museum.
- Other activities include Pilditch Athletic stadium and the Pretoria showground situated 500m north of the site.
- Shopping facilities in close proximity to the site includes Nedwest and Metro Cash and Carry.

3.4.2. MOVEMENT AND ACCESS (fig. 3.11)

- Weskoppies is bordered by the railway line with a small railway station on the north making it accessible to the staff, outpatients and the public that have to travel long distances to the campus.
- The major East-West routes that serves the site includes the N4 national route, situated 1.3 km north of the campus entrance and the two through routes Soutter and Mitchell street within 500m from the site entrance leading into the CBD. Busses and taxis make regular use of these routes. Some busses also accommodate drop-offs on the campus (Geel 2005:20).
- The site is accessed from a single entrance point for vehicles and pedestrians from Ketjen Street.
- On the southern side of the railway line near the Weskoppies entrance a not very obvious vehicular route connects the site to Freedom Park and the Voortrekker Monument.

3.4.3. URBAN OPPORTUNITIES AND CHALLENGES (fig. 3.12)

The following opportunities and challenges were identified at a contextual level:

- Possibility for a connection between Weskoppies, activities at the showground's and Pilditch stadium.
- The historical significance of the original buildings at Weskoppies gives the opportunity to link the campus with the other surrounding areas with cultural and historical significance.
- Improve sense of arrival and integrate into city's open space system
- Improve pedestrian movement towards the site from taxi/bus drop-offs and surrounding areas.
- Give Weskoppies an address/ identity.
- Good publicity and increased contact between the public and the mentally ill is essential in changing the negative stigma associated with Weskoppies as a psychiatric hospital. Due to its isolated position within the city, integration with the rest of the city by means of changing surrounding infrastructure will be costly and inadequate. In order to make Weskoppies a destination in the city it needs to provide the visitors with an unique experience that can't be found anywhere else in Pretoria making the visitor whether pedestrian or vehicular willing to cross the barriers created by the Railway line and industrial zone.

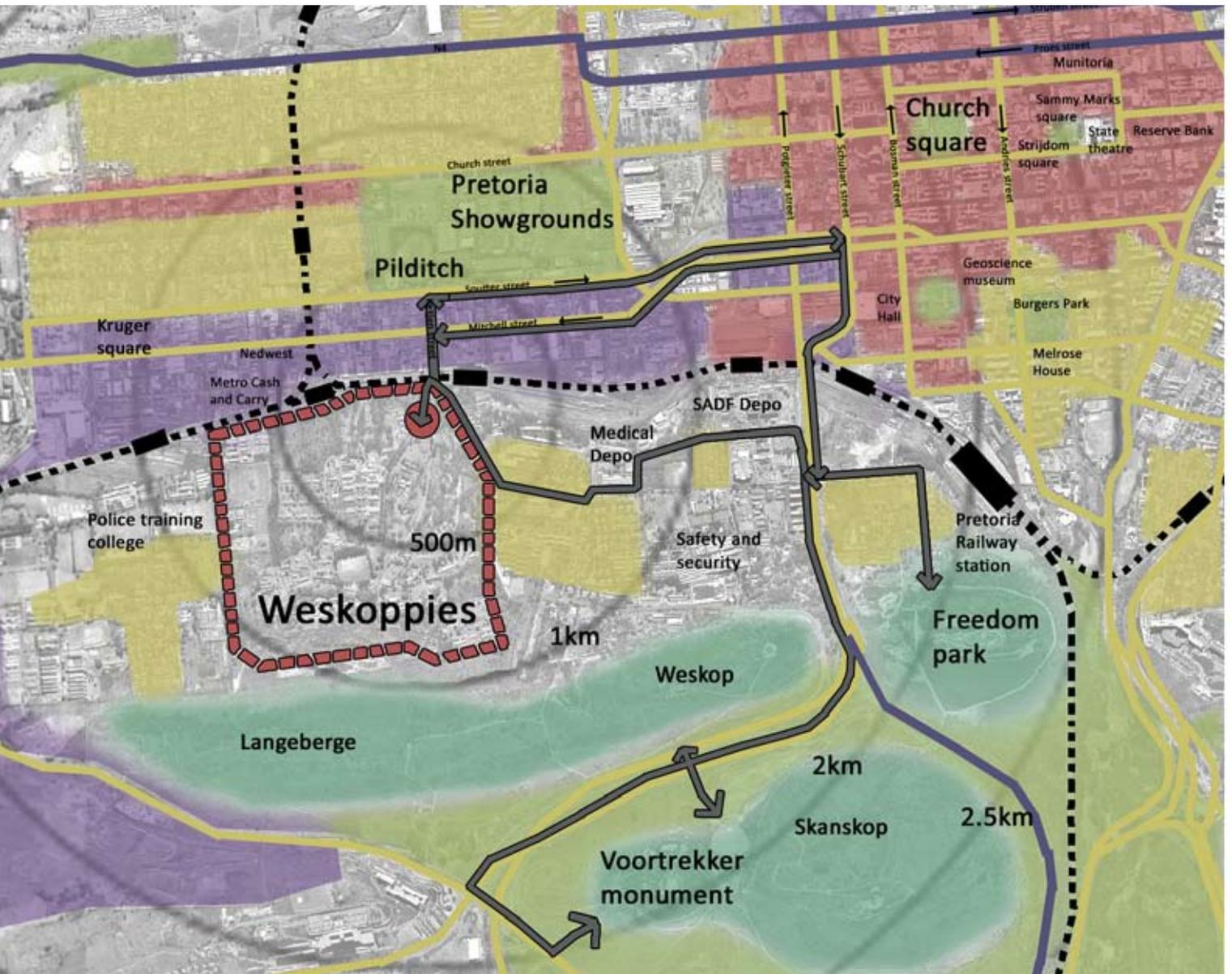


Fig 3.11: City Context analysis illustrating land use, activities, features, movement and access (Author 2009).

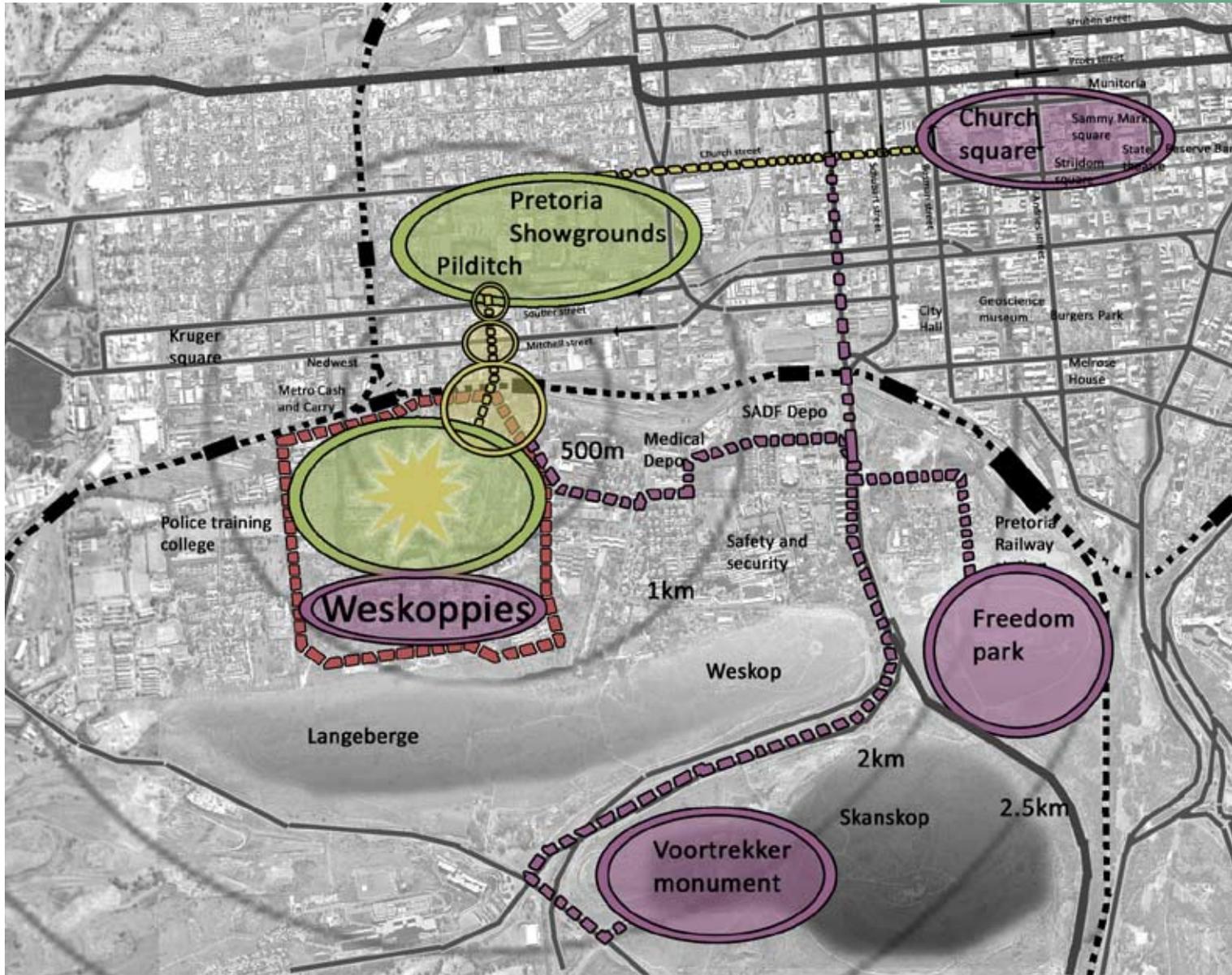
CITY CONTEXT ANALYSIS
LAND USE

- Industrial
- Bussiness
- Residential
- Residential
- Ridges

MOVEMENT AND ACCES

- National Route
- Main Through Route
- Other Routes
- Railway
- Site boundary
- Access point
- Railway station





URBAN OPPORTUNITIES

LEGEND



Places with historical significance



Places with recreational value



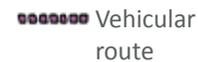
Celebrated Nodes



Unique attraction



Improved pedestrian route



Vehicular route



Fig 3.12. Map illustrating Urban opportunities and challenges for integrating Weskoppies into the open space system of Pretoria (Author 2009).

3.5. PHYSICAL SITE ANALYSIS

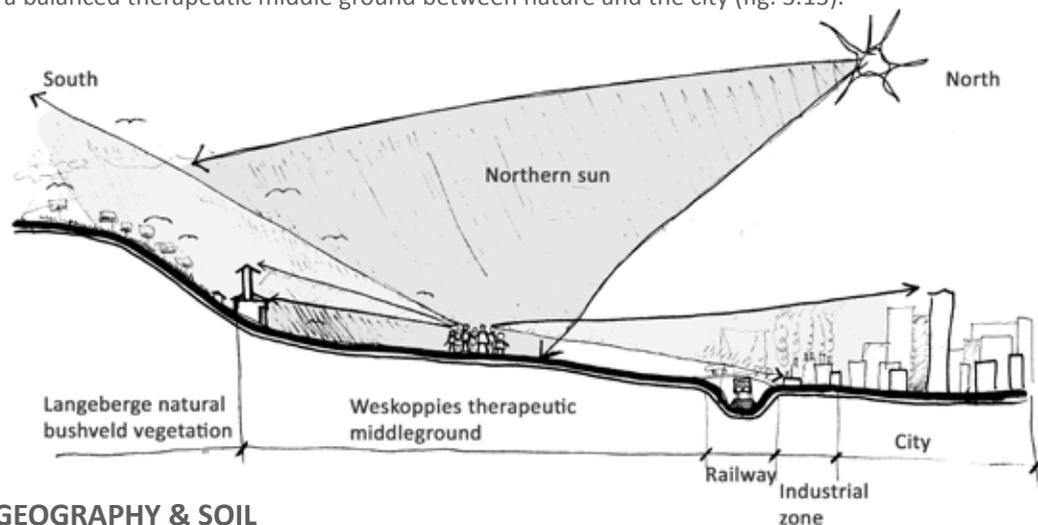
According to Lewis(1990:55) a community's physical environment which includes buildings, vacant spaces and streets influences the way members of the community feel about themselves.

3.5.1. TOPOGRAPHY

Weskoppies is situated on the ridge of the Langeberge which forms part of the ridge system that provide structure to the city. The Topography varies from a gradient of 2. 5% on the lower slopes to 12% on the upper slopes in a north south direction and a slope that varies between 1% and 3% in a east west direction.

The site slopes down to the north, resulting in maximum northern sun exposure and a warmer micro climate. The slope also exposes the site to prevailing summer and winter winds. The position and gradient of the site provides excellent views to the city on the north and the natural landscape from the site. The site has the potential to become a balanced therapeutic middle ground between nature and the city (fig. 3.13).

Fig 3.13 Topography with gradient allowing views to the city and the mountain and maximum sun exposure (Author 2009)



3.5.2. GEOGRAPHY & SOIL

Quartzite can be found on the southern upper slope of the site while the rest of the site consists of Shale. Due to the high resistance of quartzite to chemical weathering and the high silica content the upper slopes are covered by a thin layer of soil (fig. 3.15).

Geology		Soil		Geology		Soil	
	soil pattern	Soil form		soil pattern	Soil form		
shale	Plinthic Catena:Upland duplex and marginalitic soils rare, dystrophic and/or mesotrophic, red soils widespread.	Hu 34% Av 22%	Quartzite	Miscellaneous land classes, rock areas with miscellaneous soils.	Rock 55% Ms 24%		
Red-Yellow-Grey Latosol Plinthic Catena Neutral, sands/loams, red dominant but with much rocky land							

Fig 3.14 . Table indicating the Geology & Soil on campus . Legend for fig. 3.1 (Author 2009)

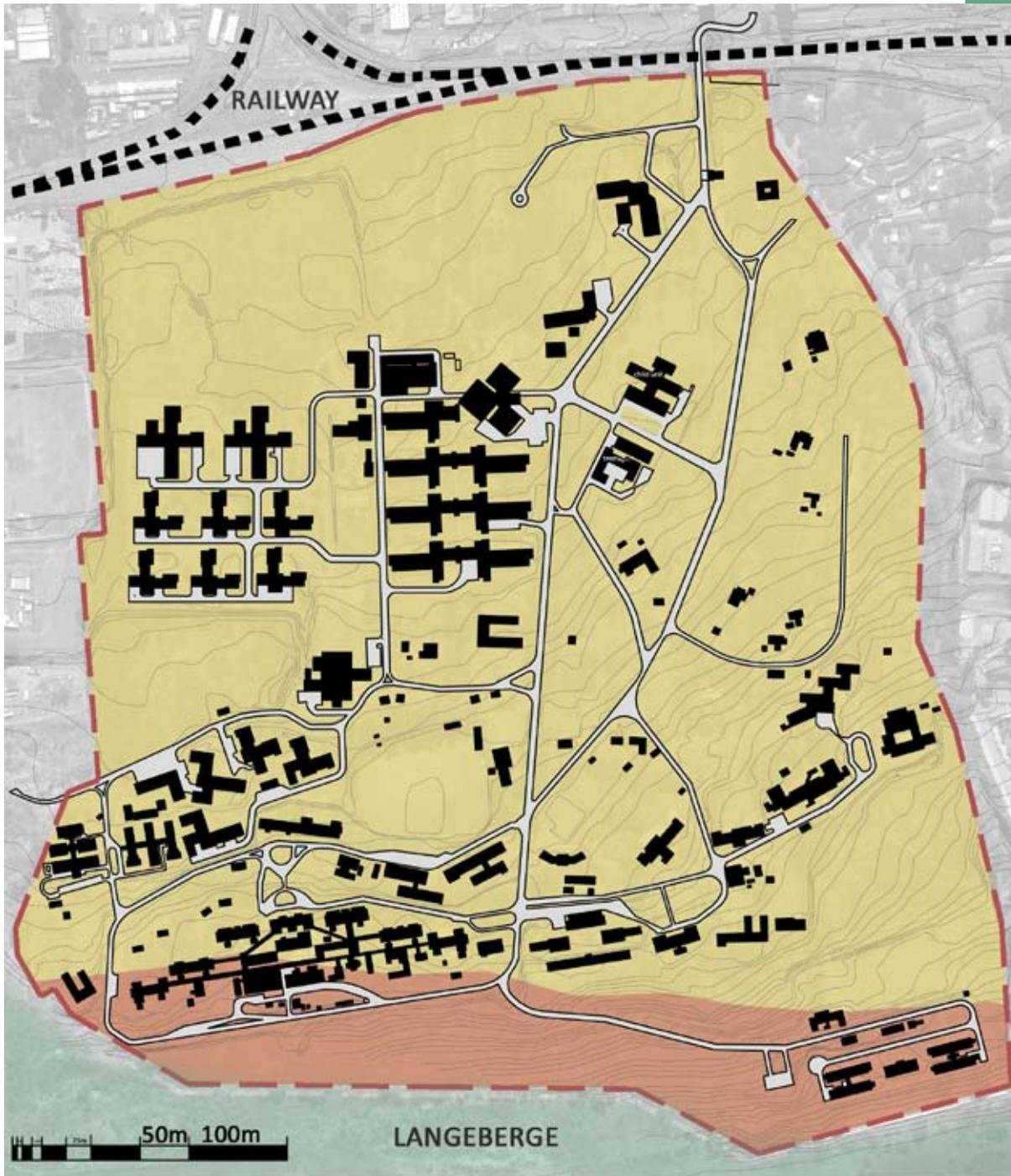


Fig 3.15: Geographic and soil map. The Southern slopes of the Langeberge ridge consists out of Quartzite, whereas the northern larger part of the campus consists out of shale (Author 2009).

GEOGRAPHY AND SOIL



3.5.3. VEGETATION

Fig 3.16 (right): Earlier years- an open view to the main building, very little trees in sight (Breedt 2009).



Fig 3.17 (far right): Today- trees block the views towards the building (Author 2009).

When the hospital was established in the vegetation type could be described as grass veld vegetation with very little to no trees (fig.1.16) . In the early years a lot of effort was put into creating a beautiful hospital environment and 1280 Trees were planted in 1918. On the northern side of the building complex Himalaya pine trees were planted (Lewende Monumente 1992: 11).

Today the site is characterized by lush indigenous and exotic trees on the lower slopes with typical *Acacia caffra* bushveld trees on the higher slopes (fig. 3.17). The FMU is in the process of removing a large number of exotic trees.

The author distinguished between 3 different types of vegetation on the campus

NATURAL BUSHVELD

DISTURBED BUSHVELD

MAINTAINED VEGETATION

Fig 3.18 (right): Natural Bushveld (Author 2009) get a better picture!



Fig 3.19 (middle): Disturbed Bushveld (Author 2009)

Fig 3.20 (far right): Maintained vegetation (Author 2009)

A variety of grass species, *Acacia's* and other typical bushveld trees can be found on the higher mountain slopes.

The natural bushveld vegetation in this area should be protected, kept free of invader species and rehabilitated where possible.

This area provides an opportunity to satisfy the basic human need for contact with nature in its pure form by means of a hiking trail and lookout points.

The lower slopes of the site are overgrown with invader shrubs, exotic trees (mostly *Eucalyptus*) and grass species.

This area could be rehabilitated to its natural state where possible and could also be used for agricultural purposes.

A large portion of the site is made up of lawn with scattered trees. The natural grassland vegetation in this area is severely disturbed due to development over the years. The tree species include a variety of exotic species like: *Eucalyptus*, *Jacaranda mimosifolia*.

Indigenous species typically include various *Acacia's*, *Combretum's*, *Celtis africana* and *Phoenix canariensis*. These areas could also be used for agricultural or intensive landscaping purposes. The use of indigenous species should be encouraged.

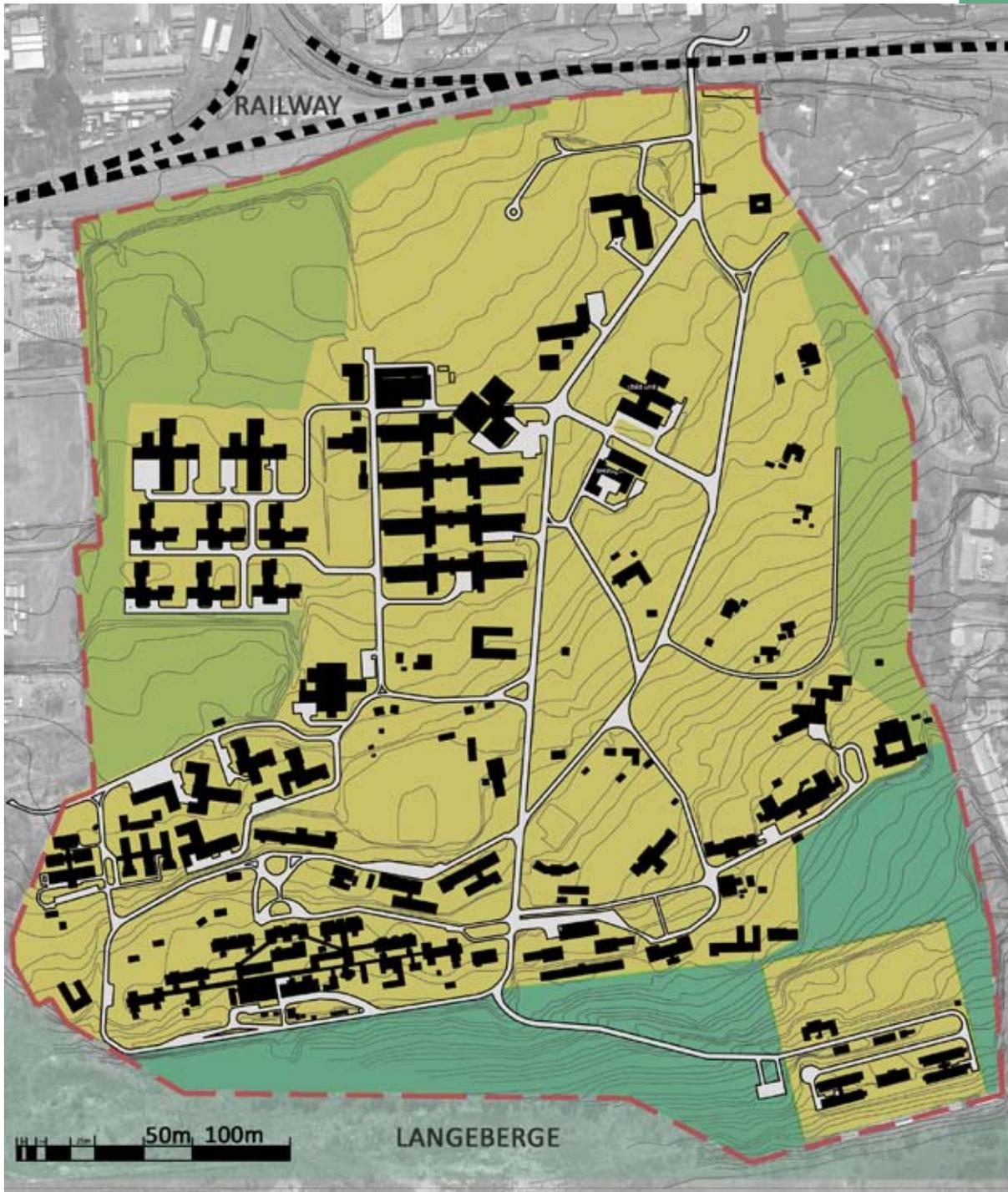


Fig 3.21 :Map indicating the three vegetation types as identified by the author (Author 2009).

VEGETATION TYPES

 Natural Bushveld

 Disturbed Bushveld

 Maintained Vegetation



Fig 3. 22. Table indicating the temperature and rainfall of Pretoria (<http://www.weather.co.za/Climat/Climstats/Pretoria-Stats.jsp> accessed on 5 March 2009)

3.5.4. CLIMATE

Relative humidity: 30%
 Hours Sunshine: 60%
 Winter solstice: 22 June -44
 Summer solstice: 22 December 87
 Temperature: see fig. 3.22

PREVAILING WINDS

Summer: North-East
 Winter: North-East to North-West
 (Geel 2005:27)

Month	Temperature (° C)				Rainfall (mm)
	Highest Recorded	Average Daily Maximum	Average Daily Minimum	Lowest Recorded	Average Monthly
January	36	29	18	8	136
February	36	28	17	11	75
March	35	27	16	6	82
April	33	24	12	3	51
May	29	22	8	-1	13
June	25	19	5	-6	7
July	26	20	5	-4	3
August	31	22	8	-1	6
September	34	26	12	2	22
October	36	27	14	4	71
November	36	27	16	7	98
December	35	28	17	7	110
Year	36	25	12	-6	674

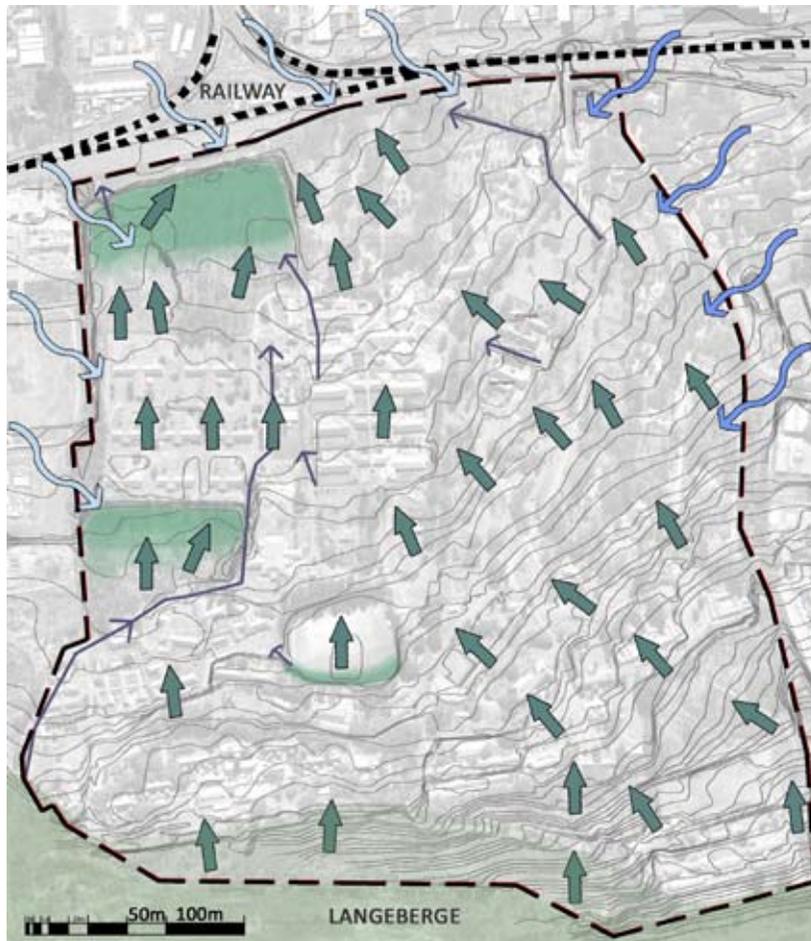
3.5.5. RAINFALL AND WATER MOVEMENT

Pretoria is situated in the summer rainfall region and receives an average annual rainfall of 674mm (Fig. 3.22). Rainwater could be captured during summer and stored for the dryer winter months.

The high water table on the upper slopes of the mountain results in high amounts of water coming from the mountain and accumulating on the site against buildings. Agricultural trenches are being used to disperse the water away from the buildings (Breedt 2009). There is an opportunity to capture the water and use it for irrigation.

Apart from the two wetlands water also settles at other small lower areas on the site, creating habitats for a variety of bird species, amphibians and other animal species. These areas should be protected and rehabilitated where possible (Fig. 3.23).

Fig 3. 23. Wind direction, water movement and wetlands. (Author 2009)



WIND AND WATER MOVEMENT

-  Wetlands
-  Water movement on contours
-  Streams and swales



3.5.6. CIRCULATION AND ACCESS (Fig. 3.33 next page)

Access

The site is accessed from a single access control point at the northern side of the site (fig. 2.24). Busses are accommodated with drop offs and pickups at bus stops on the site (fig. 2.25) and makes use of the prominent vehicular route (fig. 2.26) (Geel 2005:31) . However working patients and some staff members, that make use of other types of public transport outside Weskoppies have to walk from these transport nodes. To enter or exit the site, the pedestrian patients and staff have to make use of vehicular route that crosses the railway line with a bridge. This road is far too narrow for pedestrians and vehicles at the same time and becomes a safety hazard.



Fig. 3. 24. Weskoppies entrance, note the absence of a pedestrian path. Pedestrians have to make use of the vehicular route (Author 2009)



Fig. 3.25. Bus stops. Note the absence of a pedestrian movement system (Author 2009)



Fig. 3.26. Prominent vehicular route. Note the absence of a pedestrian walkway (Author 2009)

Movement

Due to a lack of a formal walkway system, pedestrians make use of informal paths and vehicular routes across the site to move between wards, offices and the outdoor gathering area.

The site does not accommodate wheelchair users but golf cars are also used for movement around the site.



Fig. 3. 27. Pedestrians have to make use of the vehicular route due to the absence of a pedestrian movement system (Author 2009)



Fig. 3. 28. Pedestrians have to make use of the vehicular route (Author 2009).



Fig. 3. 29. Informal pedestrian paths (Author 2009).

Boundaries

Buildings have very strict access control, especially closed wards and the maximum security unit. High retaining walls can be found at many areas on the site due to the steep slope, these become boundaries between different areas. There is a number of fenced off areas around buildings but also randomly around pieces of land.



Figure 3.30. (far left) retaining wall as a boundary (Author 2009)

Figure 3.31. (middle) Fenced off areas without buildings (Author 2009)

Figure 3.32. (left) Fenced off closed wards (Author 2009)

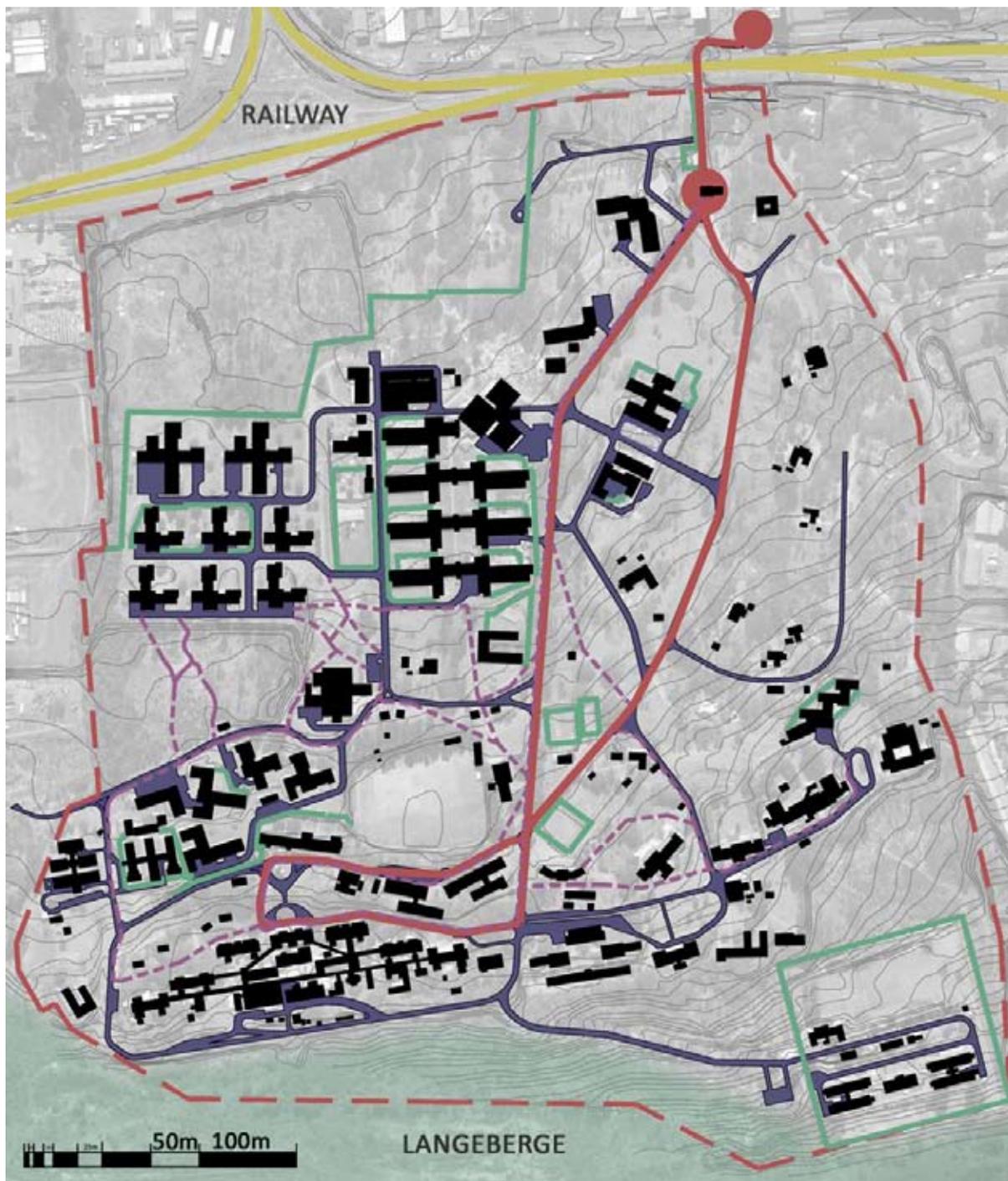


Fig 3.33: Read in correspondence to Fig. 3.24-32 Map indicating the existing movement, Access & Boundaries(Author 2009).

MOVEMENT AND ACCESS

- | | | | | | |
|---|---------------------------------------|---|--------------------------------|---|--------|
|  | Railway line |  | Informal pedestrian movement |  | Access |
|  | Primary vehicular route |  | Physical boundaries and fences | | |
|  | Secondary vehicular route and parking |  | Site Boundary | | |



3.6. CONCLUSION

Weskoppies' colourful history, heritage and character should be taken into consideration when selecting materials and making design decisions. Its isolated position within the city context could be improved by providing a unique outdoor experience within the cities' open space system. A sense of arrival and improved pedestrian circulation to and within the campus will also help to counteract the physical isolation of the campus (Fig. 3.12). Currently the outdoor environment at Weskoppies is not being optimally used as an integral part of the healing process. Due to the topography enough natural vegetation on the site, vast open spaces, and adequate rainfall, it can accommodate contact with nature and natural systems, provide a variety of experiences and support a feasible agricultural industry. For these reasons the outdoor environment at Weskoppies has great potential to serve as an additional component in the healing process.

Through analysis the following ideas, opportunities and constraints were identified:

- Areas with natural vegetation can be used for a hiking trail that provides the user with a wilderness experience (Fig. 3.21).
- The areas with disturbed vegetation can be rehabilitated or used for agricultural purposes (Fig. 3.21).
- The topography provides excellent views to the city and the mountain. Lookout points can enhance these views (Fig. 3.13).
- The relatively steep slope provides the opportunity for interesting terracing at areas where a flatter surface is needed (Fig. 3.13).
- Water from roofs and other surfaces can be captured and stored for domestic use or irrigation. Safety should be a consideration when designing water systems.
- Retention ponds can also be visually stimulating but should be fenced off for safety reasons.
- Water storage tanks can act as an orientation mechanism in the landscape.
- Pedestrian movement and its links to public transport nodes need to be significantly improved in and around the campus (Fig. 3.27-29).
- For safety reasons vegetation and structures in the landscape should not obstruct views on the site.
- Some of the unnecessary roads can become pedestrian routes.