



Site Analysis



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LOCATION



Fig 13. The site relevant to Pretoria CBD

Prinshof 349JR/R/41 is the proposed location for the Water Wise facility. The site and its boundaries are indicated by the hatched gray area. All municipal services are available and connections to these services can be made with the minimum effort, upgrades and costs.

Total Area	8894.3 m²
Coverage	60%
Max. Height	19m
Floor Space Ratio	2
Max. Footprint	5336.58 m²



Fig 17. Figure ground of proposed site

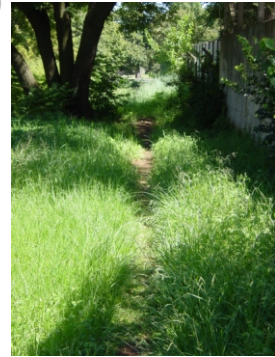


Fig 14. Pedestrian route along river



Fig 15. Pedestrian route along river



Fig 16. View of wall from Apies River

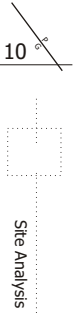


Fig 18. Northern view of site



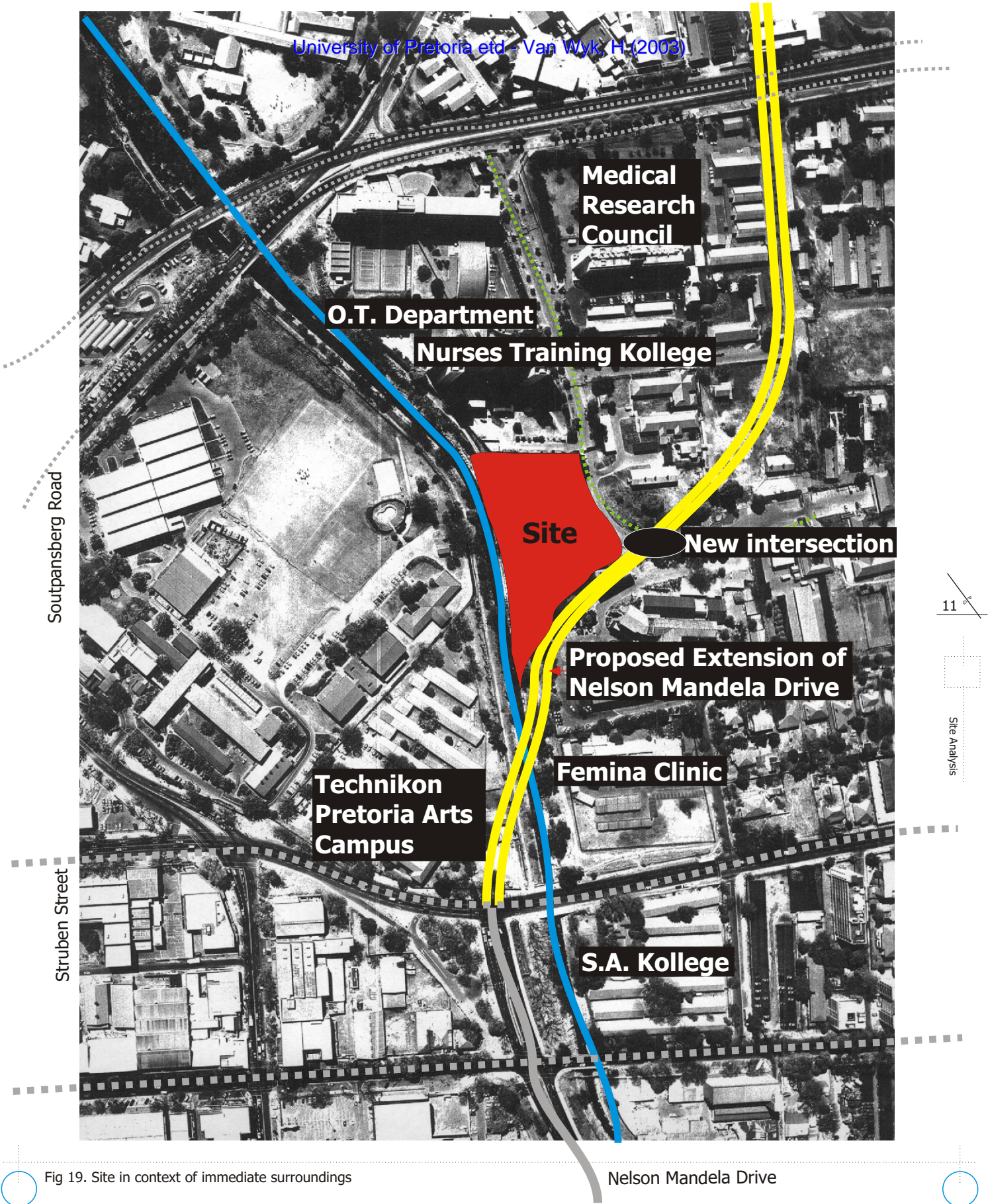


Fig 19. Site in context of immediate surroundings

Nelson Mandela Drive

WATER

C E L E B R A T I N G

THE

ENERGY

HOPE

JOY

LIFE-SUSTAINING



SHARING



LEISURE



HEALTH



SURVIVAL



LIFE-GIVING



HARVESTING

POWER



REJUVENATION



EMPOWERMENT



PRECIOUS



MAINTAINING



SUPPLY



GROWING

OF



STRENGTH



INGENUITY



SUSTENANCE



HOME-WORK



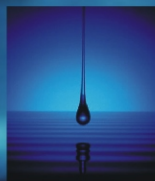
CARING



REBIRTH



NURTURING



INFORMATIVE



LEARNING

LIFE

12°

Site Analysis

Fig 20. Water : Celebrating the Power of Life

NEEDS

Through the ages, WATER has been seen as maybe the most important resource available to man.

In Africa, and more specifically South Africa, we have limited water resources.

This leads to the universal issue of resource management, to prevent the depletion of our water sources. Educating the community in the essential techniques and methods of working wisely with water is becoming more imperative as time passes.

The proposed centre will house the main water management body in South Africa, Rand Water and more specifically a Water Wise Centre to house the activities needed to achieve the goal of educating the community in resolving the above-mentioned problems.

Architecture today, has become more multi-functional. Buildings have started to act as living organisms.

With this in mind, the proposed building can not house only one function, i.e. Administration, but it should be an interactive, living organism which will serve the community in a linear learning process. This learning process will teach people how little water we have, how to gather additional water, and how to purify water for their own use, or to redistribute it for use in the bulk water network of Rand Water.

In the process of exploiting the potential of space occupancy in this building, the three phases of water, liquid, gas and solids will play an intricate philosophical part in the design process. Knit together with this, three other aspects of water:

- Dirty undrinkable water
- Cleaner water
- Drinkable water

will intertwine with the three phases of water to depict possible 3D structures, form, space qualities, building materials, and the sensorial experiences of feeling, hearing, smelling, seeing and touching water.

In the end, water, in its guises of ice and steam as well as its liquid state, tantalises in its potential as a building component or element and is a reminder of its undeniable presence in the life of each living being.



Fig 21. View from hole in wall to the Apies River



Fig 22. View of Apies River from Soutpansberg Road



Fig 23. View to Pretoria CBD from the site

Architecture, in response to these issues, should make a public investment. Public resources must be directed towards the greatest possible benefit. In order to ensure that this facility is sustainable, it should be an integrated facility that is inclusive and provides for a wide range of different aspects and issues relating to water.

A problem concerning urban sustainability arises from the nature of society and the way in which it is organised. In order to create a civil society, improvements in social equity, diversity, opportunities and 'quality of life' issues need to be addressed. Physical development cannot be dealt with in isolation from the dynamics of the prevailing political and economic environment. While political systems may come and go, human issues, raised as a result of the process of urban growth, will always remain.

The aim of the project is to create an urban educational environment that facilitates and enriches the daily activities of human life.



Fig 24. Atmosphere under shady trees alongside the Apies River



Fig 25. Panoramic view of site from the Apies River



14°

Site Analysis



SITE DESCRIPTION

The proposed site, Prinshof 349JR/R/41, is located adjacent to the Apies River and falls within the Hospital and Institutional precinct. The site can be described as one with immense potential. It is currently a vacant grassland next to the Apies River, with traces of active pedestrian routes along the length of the river. The site has a sharp incline of about 4 m on the eastern side of the river. The greater part of the site is generally flat. The site is bordered by the Apies River on the west side, Theodore Hove Street on the east, Soutpansberg Road on the north and the proposed new extension of Nelson Mandela Drive. A sense of enclosure is reinforced by the 11 storey Nurses Training College and the 5 storey apartment block on the south-eastern side. However, these buildings are of little architectural merit. The Apies River forms a natural enclosure on the western side.

At present the site is used for parking by the Occupational Therapy Department of the University of Pretoria. There is a crude wall between the site and the Apies River, as the area next to the River is regarded as unsafe. Presently it has restricted accessibility. Access to the site is given by Theodore Hove Street, which turns out of Soutpansberg Road. With the construction of the extended Nelson Mandela Drive, the new intersection created on the axis of Theodore Hove Street and Nelson Mandela Drive will enhance accessibility to the site.



Fig 26. Neighbouring building on northern side of the site



Fig 27. Neighbouring building on south-eastern side of the site



Fig 28. Road on eastern side of site



Fig 29. Southern view from the site

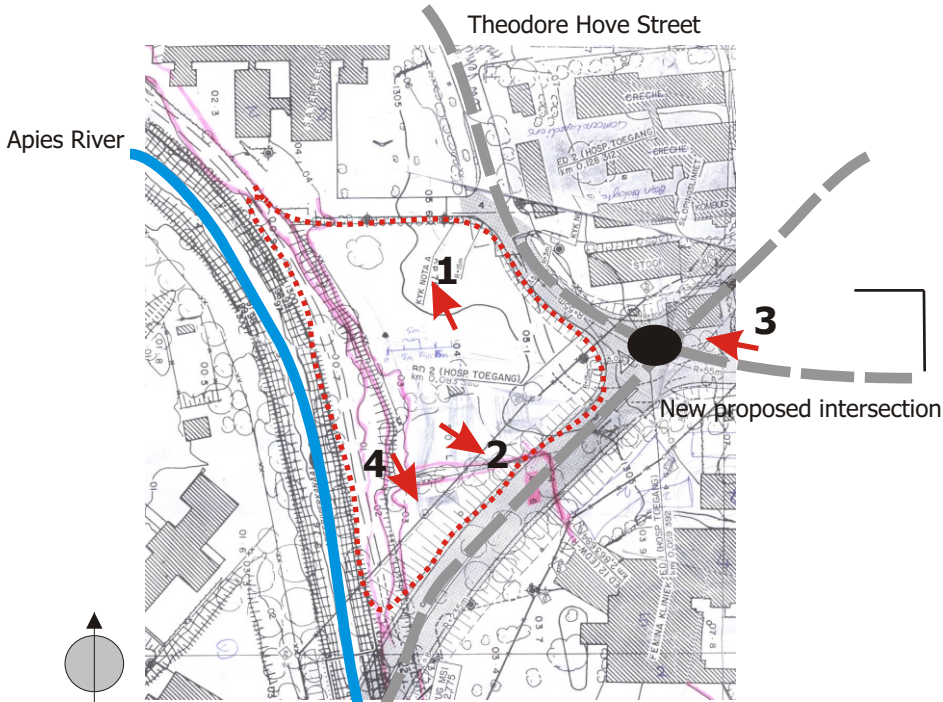


Fig 30. Key to site photos
[Overlay on Department of Public Works Drawing]

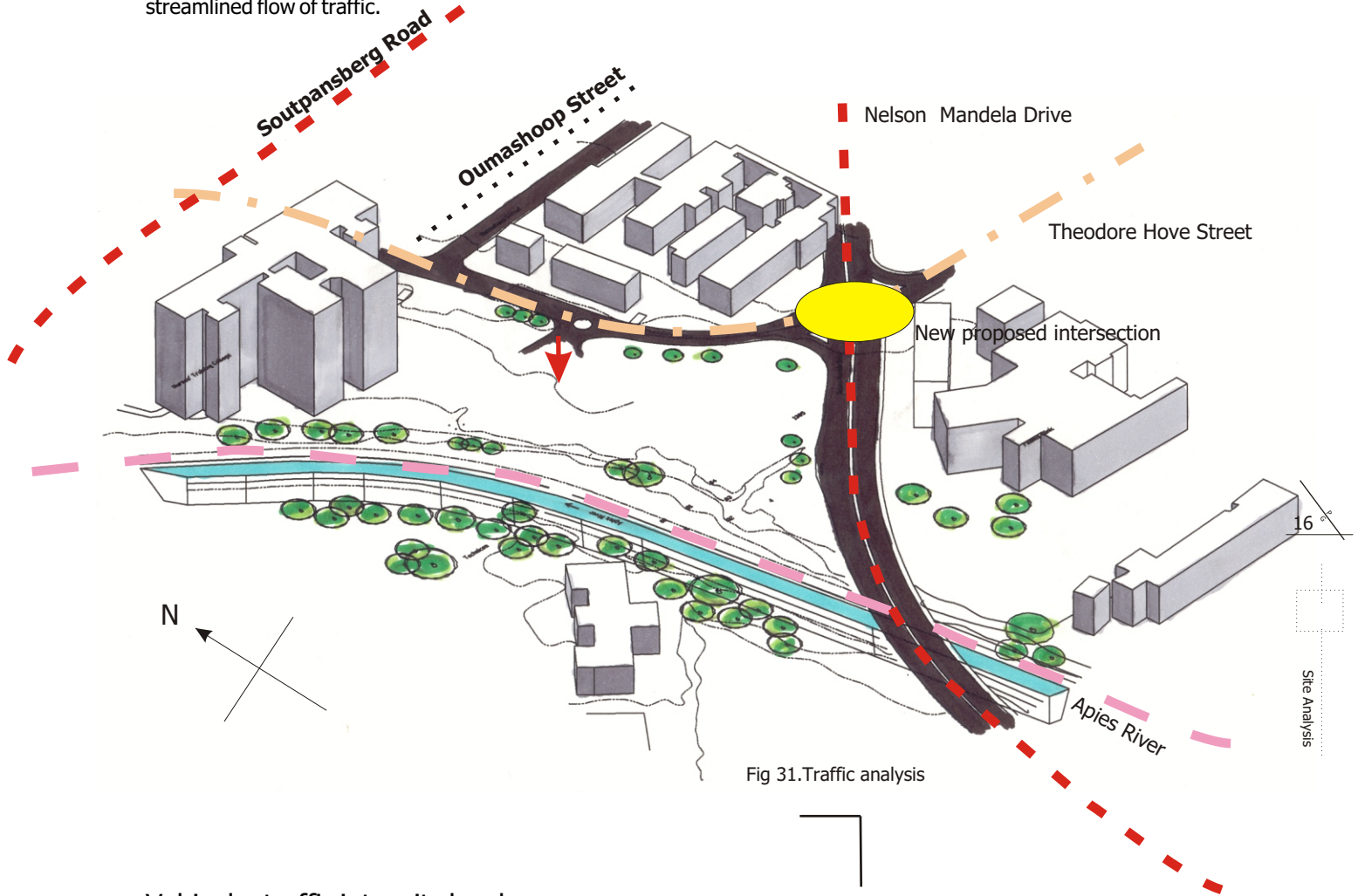


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Traffic

Traffic levels on Theodore Hove Street are currently of low intensity but with the proposed new intersection in place it will increase traffic flow dramatically. Therefore, the entrance to the proposed site is located in Theodore Hove Street. A second entrance to the site wouldn't be necessary, due to the fact that the new intersection would avoid congestion and aid the streamlined flow of traffic.



Vehicular traffic intensity levels:

- High intensity - - - - -
- Medium intensity - - - - -
- Low intensity - - - - -
- Very low intensity



Diagrammatic representation of site boundaries.

The existing building on the north boundary forms a hard edge. The far eastern section of the site is framed by the Pretoria Academic Maternity Hospital. The southern end of the site will be the facade seen by most people as they pass on the new proposed Nelson Mandela Drive. On the southern side of Nelson Mandela Drive the Femina Clinic with its 4-5 story building also has a view over the site.

All the buildings surrounding the site are of little architectural value and have a negative impact on the site. Development of the site could improve its contribution as a whole to the Hospital/Institutional Precinct, provided that the development is sensitive to its context and masks the building behind it.

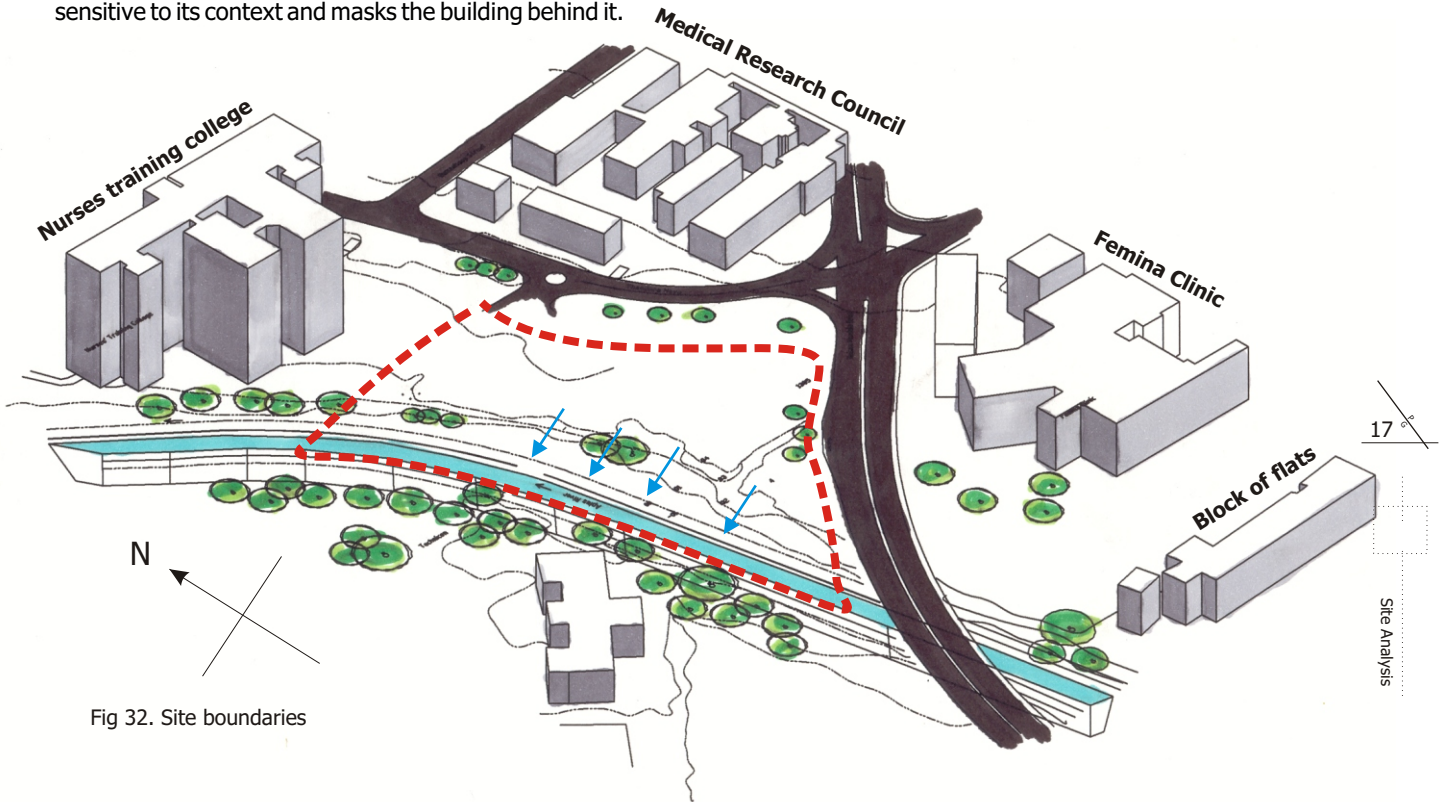




Fig 32. Site boundaries

 View from the pedestrian route down the Apies River

 View from the vehicular route in Nelson Mandela Drive

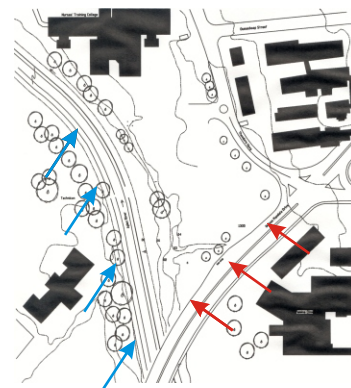


Fig 33. Views towards the site



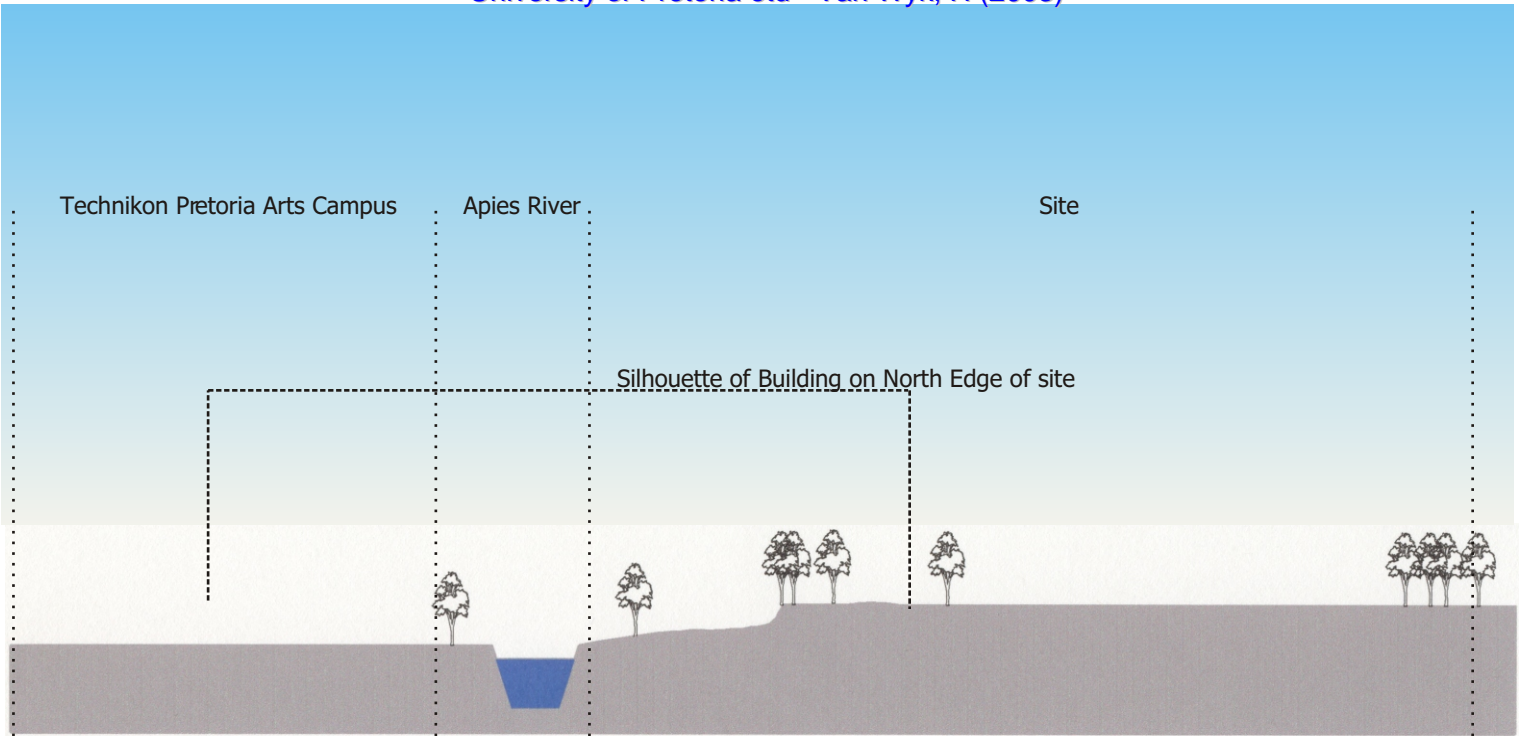


Fig. 34a East-west section of the site

18°

Site Analysis

The site is located on the edge of the Apies River and in the Hospital and Institutional Precinct. The site also falls within the Apies River Framework and calls for a sensitive approach with regard to development in this area. The above section clearly illustrates the presence of the building on the north edge of the site. There is a clearly visible edge that runs along the length of the Apies river that is articulated by the sudden rise in slope of about 4 metres and by the planted lane of trees.

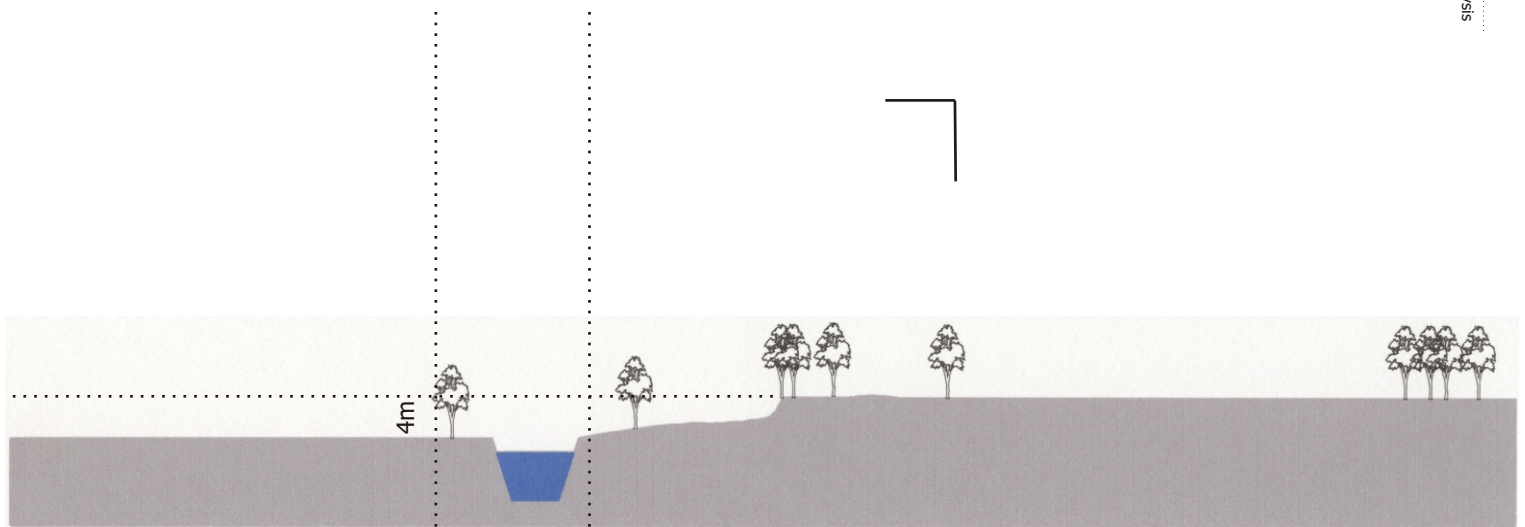


Fig. 34b East-west section of the site showing the change in level



TOPOGRAPHY

The topography of the site doesn't differ a lot from that of the surrounding sites. Apart from the sharp incline on the edge of the river the greater part of the site slopes very little from east to west. Drainage should follow this natural slope and access water should be disposed of down the Apies River.

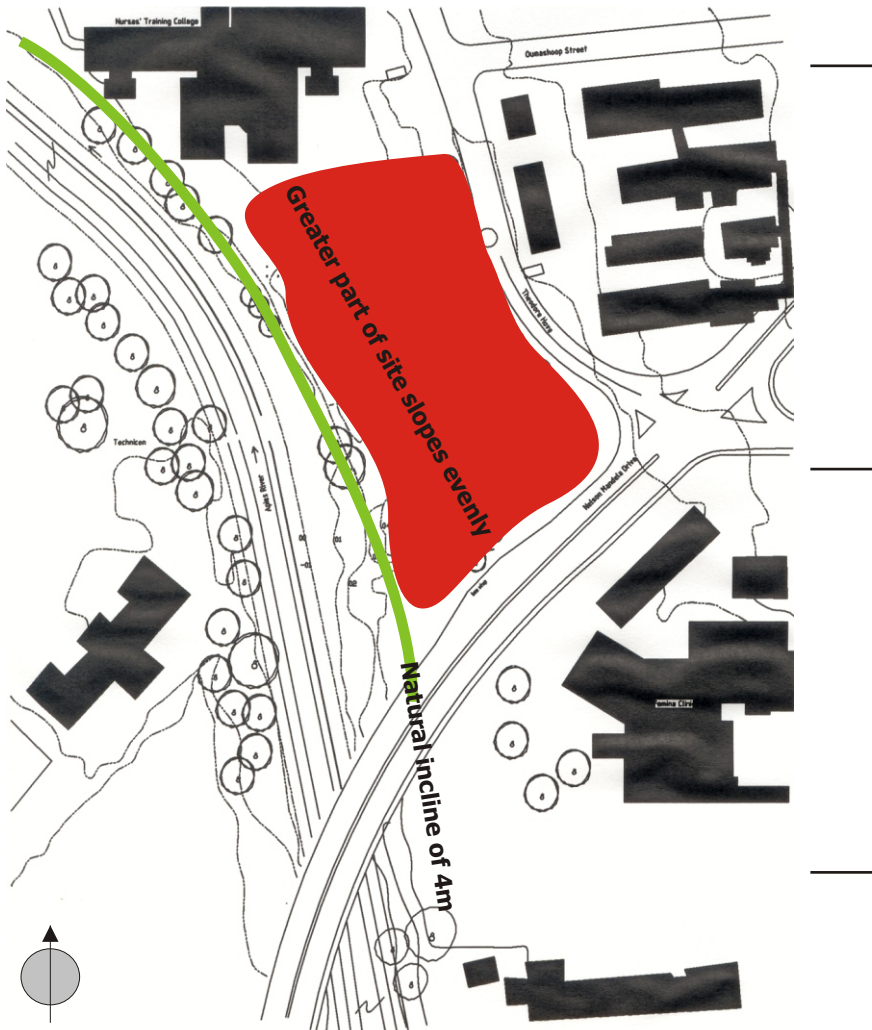


Fig 35. Site plan with contours (at 1m intervals)



Fig 36. Northern view of site showing greater part of site



VEGETATION

A number of plant species on the site act as space-defining elements. The combination of several *Acacia*, *Rhus* and *Celtis Africana* species articulates the transitional area between the site and the Apies River. Apart from the concrete wall on the western border of the site, the trees form a natural buffer between the public domain of the river and the more private domain of the site. From a practical point of view, they order the site, set the boundaries and have the potential of becoming generators with regard to design elements. The large tree specimens are mostly *Acacia* and *Quercus* species that could very well be incorporated into courtyards of the proposed development due to the relatively large shade areas they create.

For more detail on species, see section on vegetation in the appendix.

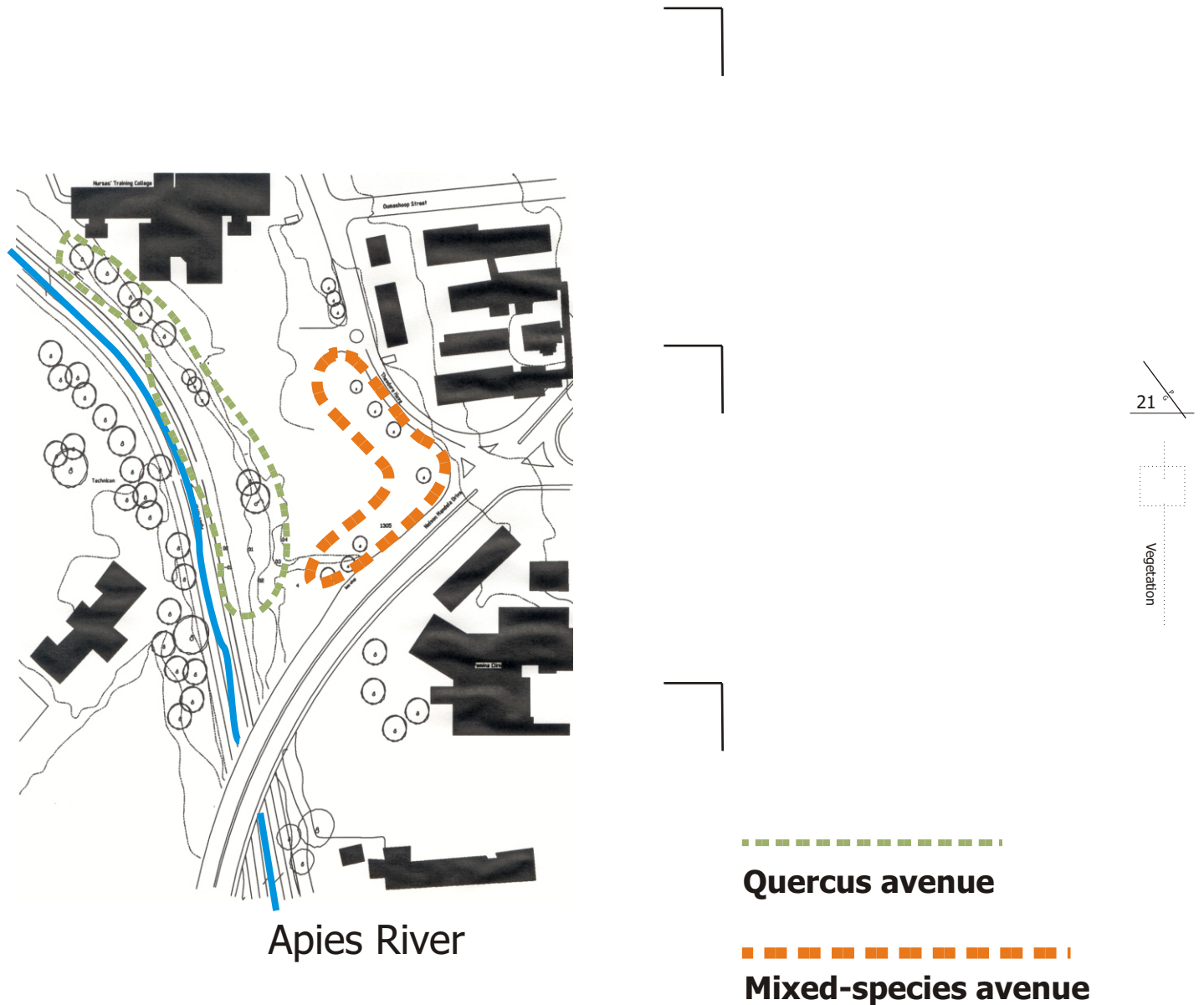


Fig 37. Position of plant species on site



INTERESTED AND AFFECTED PARTIES

Every person in this world should be interested in Water Wise methods of living. Certainly it is clear that everyone in South Africa using the same water resources are parties affected by this building. According to Rand Water and the Delta Environmental Centre in Johannesburg everyone should be made aware of ways to live Water Wise.

To achieve this they target our young people at various stages of their primary and secondary education. Mrs. Jenneville Koopman from the Department of Education informed the author that they try to promote water and water-based issues as many times as they can throughout the whole spectrum of school grades.

“We would like to make an impact on children’s lives at as many levels of their education as we can” said Avril Owens, the Educational Officer at the Delta Environmental Centre in Johannesburg. According to her, they desperately need a similar facility in the West and East Rand, as well as in Pretoria.

They only receive scholars from the Johannesburg area and surrounds, due to the fact that transport from places further away is just too expensive.

The following tables show the number of learners and educators that have attended a Water Wise Education Programme at either the Rand Water Nature Reserve, the Delta Environmental Centre or the purification plant in Vereeniging.

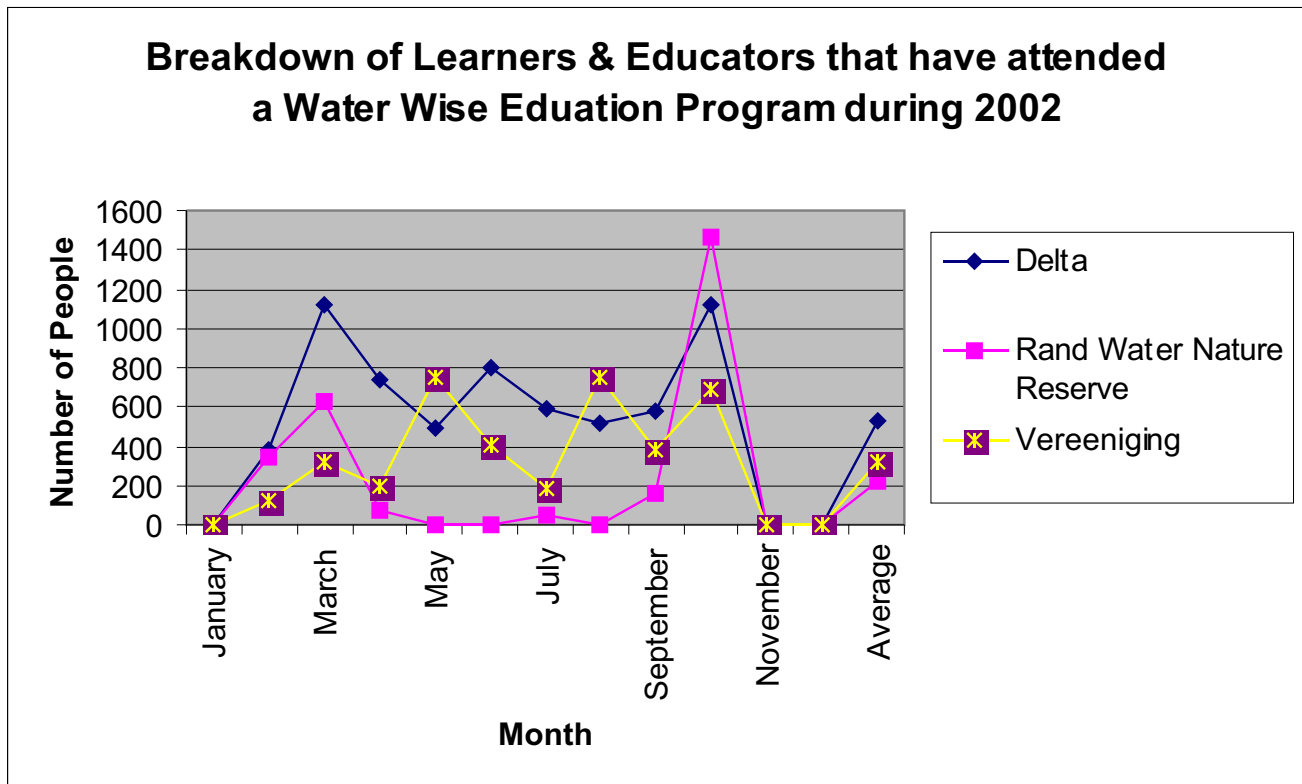


Fig 38. Based on data provided by Rand Water Nature Reserve

The following graphs show the amount of capital generated by two of the centres respectively. These costs can be seen as part of each centre's cost regeneration programme and shows the capital possibilities for similar centres or programmes.

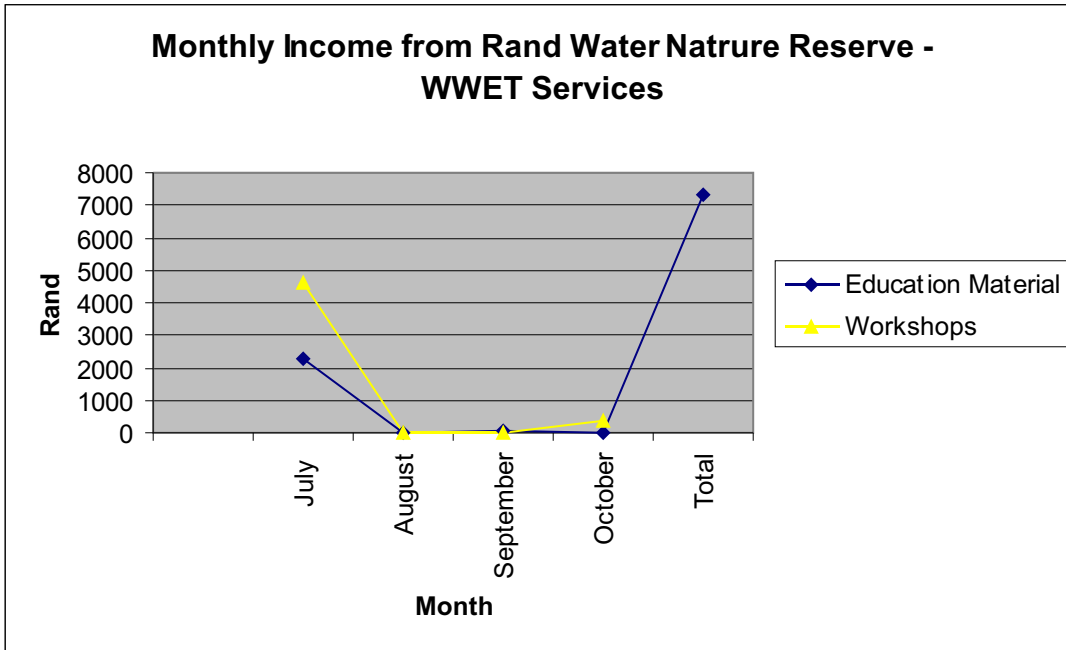


Fig 39a. Based on data provided by Rand Water Nature Reserve

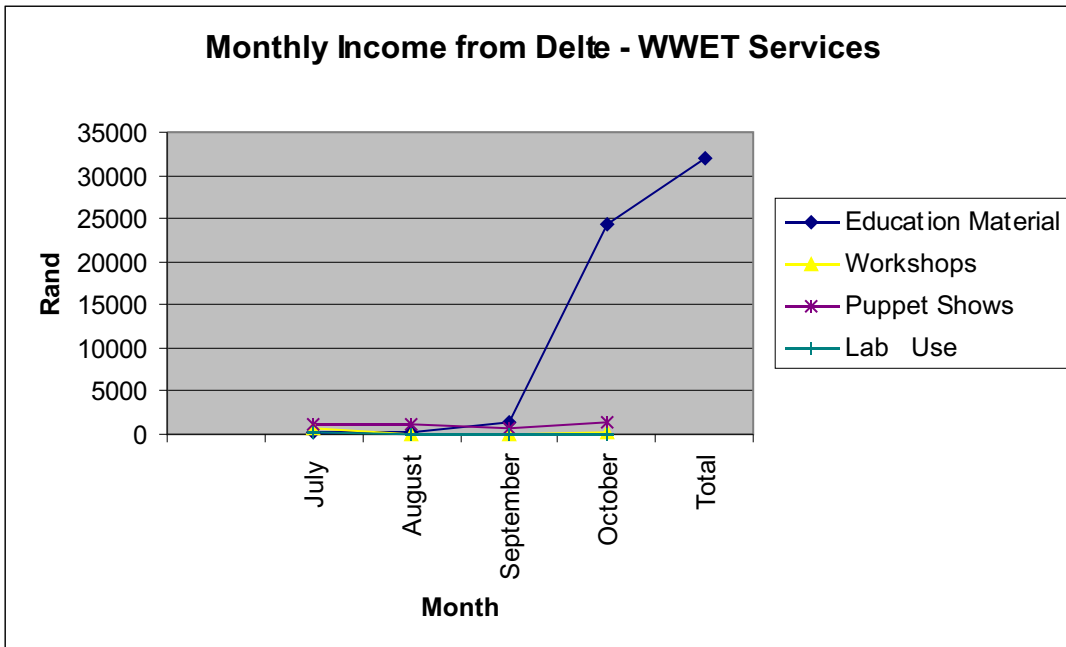


Fig 39b. Based on data provided by Rand Water Nature Reserve

POTENTIAL USERS OF THE WATER WISE CENTRE - PRETORIA

All residents in Pretoria should ideally be the users of this building, which will be used to guide communities in the process of becoming aware that we should start to live 'Water Wise'. This centre will be the educator of all, young and old. Due to the fact that the Department of Education prescribes a Water Wise programme or water based activities in different stages of a child's education, and due to the fact that very few schools have the facilities to teach these skills, the need for a Water Wise centre in Pretoria is increasing daily.

Gauteng is divided into twelve educational districts, as can be seen on the map below. Pretoria, or the Tswwane Metropolitan district, is divided into three sub-districts that are called: D1, D3, D4. D1 district enclose areas outside the Tswwane Metropolitan district for the sole reason that there are so few schools in these areas.

The map below shows the placement of the three districts in Pretoria and the location of the Water Wise Centre relative to each district.

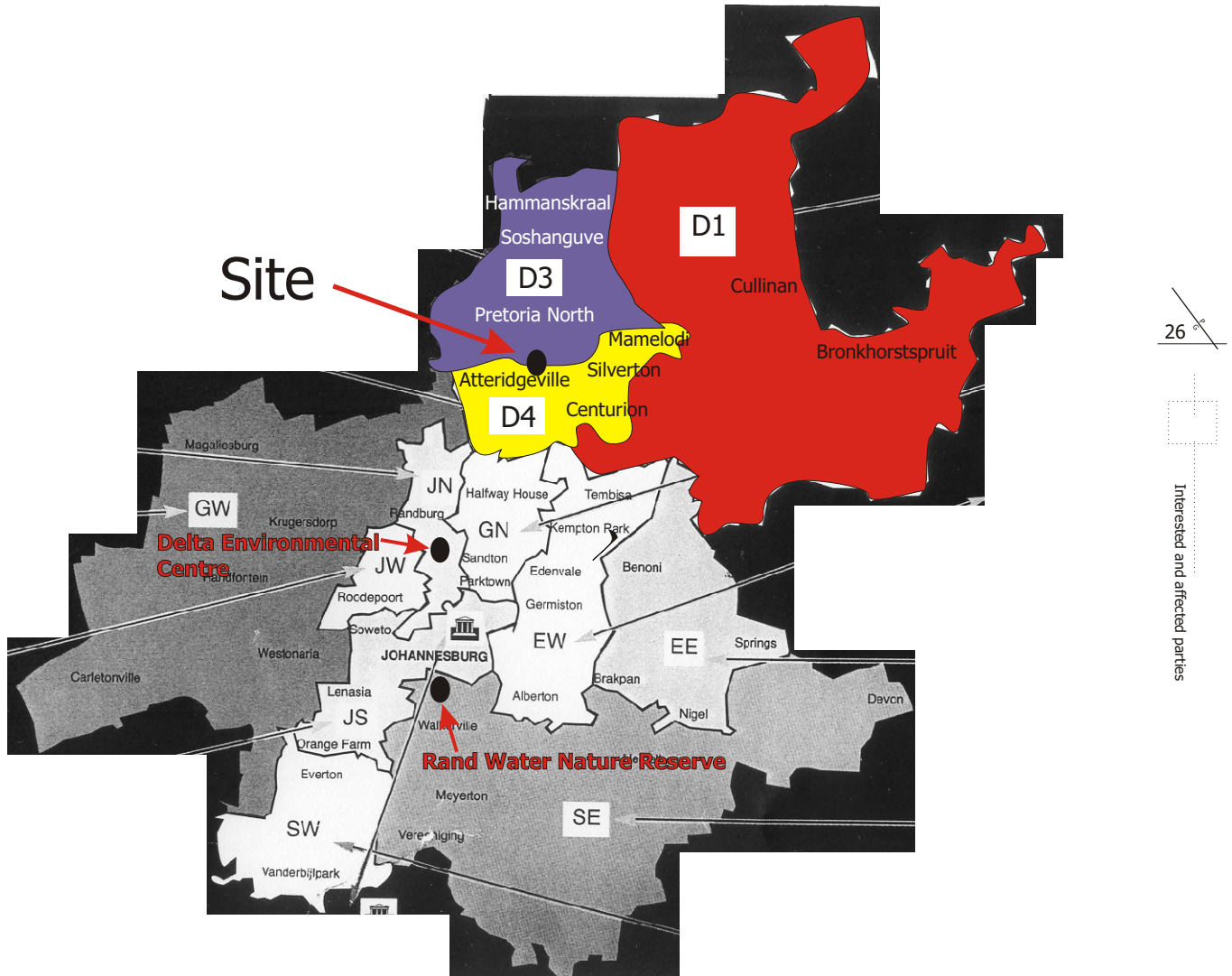


Fig 40. Different districts of the Department of Education

