

1.5.1 Location

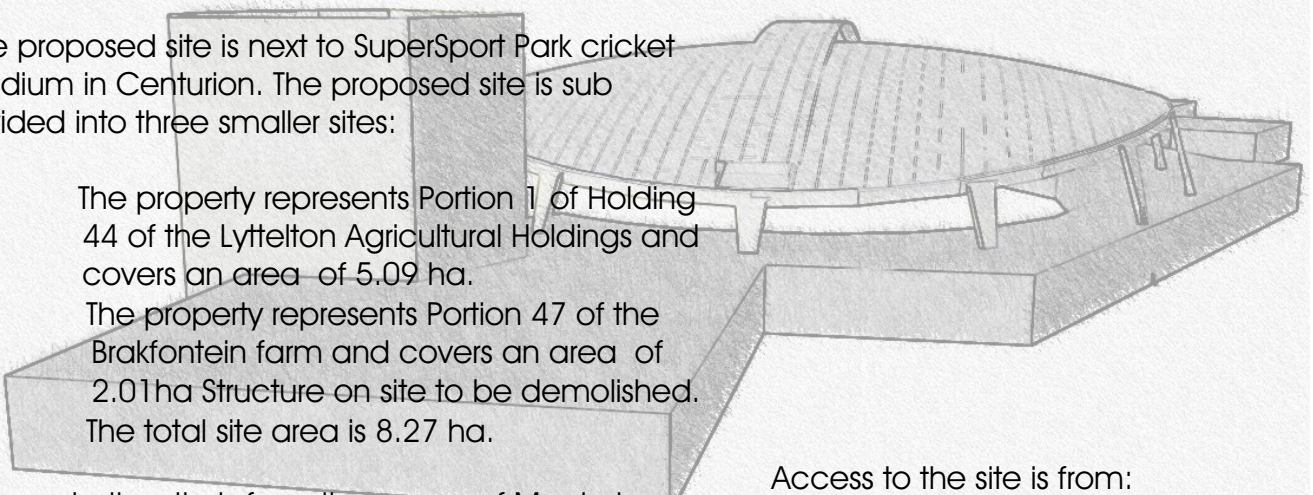
The proposed site is next to SuperSport Park cricket stadium in Centurion. The proposed site is sub divided into three smaller sites:


The property represents Portion 1 of Holding 44 of the Lyttelton Agricultural Holdings and covers an area of 5.09 ha.

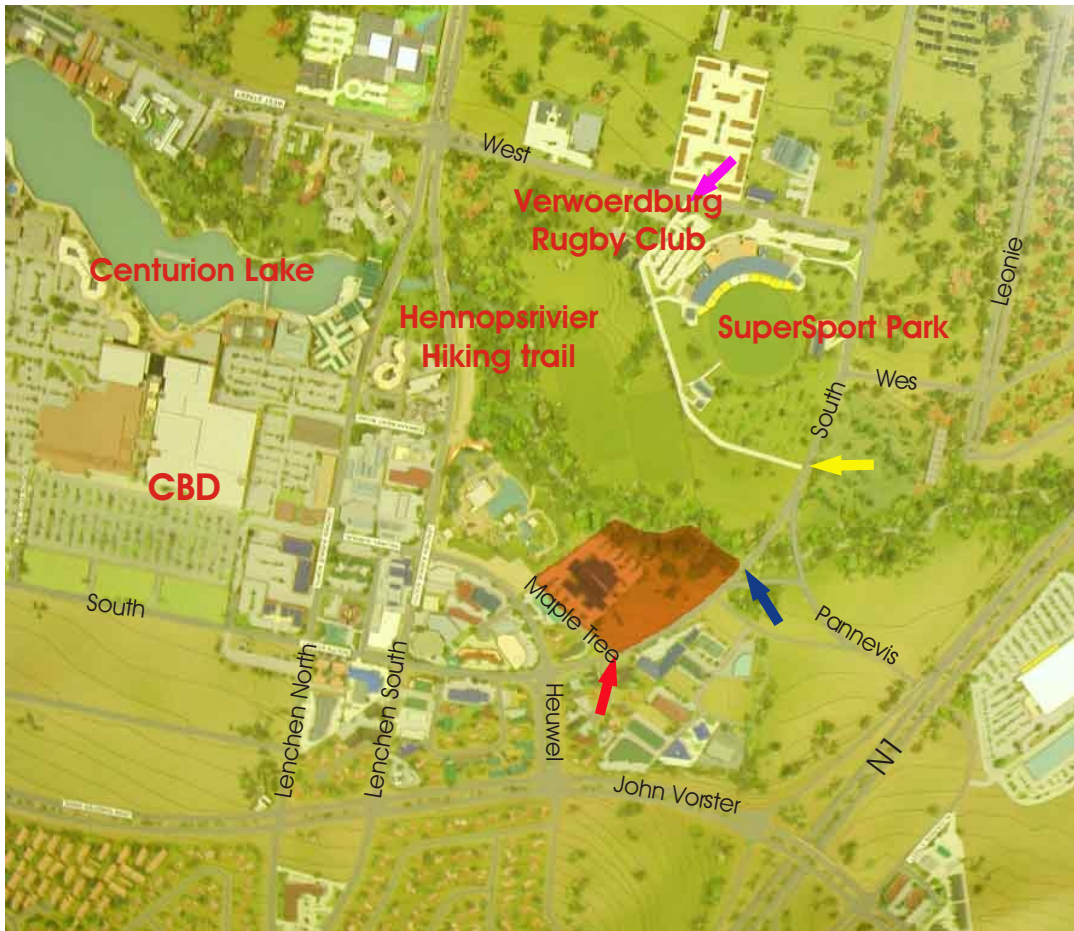
The property represents Portion 47 of the Brakfontein farm and covers an area of 2.01 ha Structure on site to be demolished.

The total site area is 8.27 ha.

Access to the site is from the corner of Maple tree and South Street, South Street in the east and West Avenue in the North.

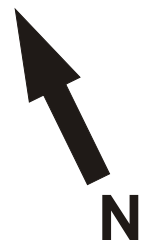


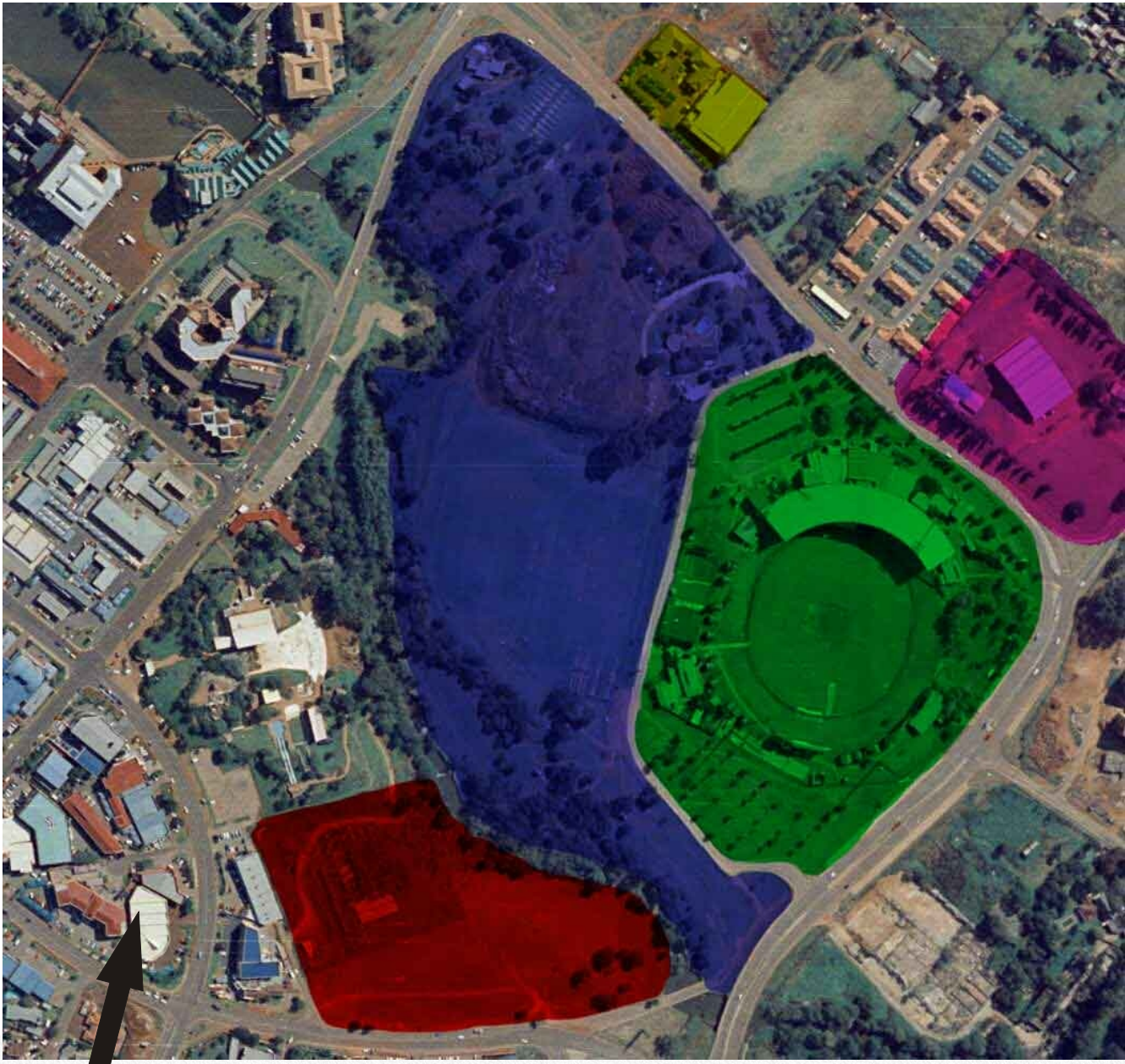
- Access to the site is from:
-  Corner of Maple tree and South Street
 -  At South Street and Pannevis weg T-junction
 -  South Street
 -  West Avenue in the North.



Site location map

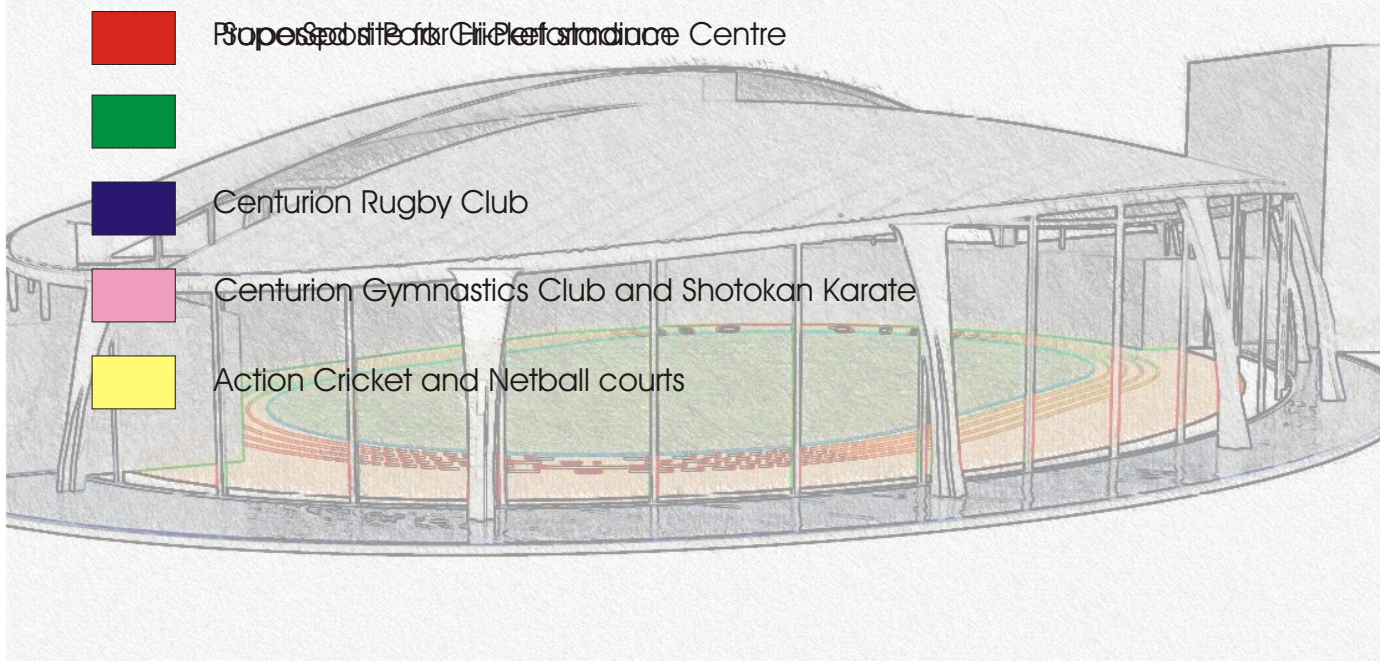
Fig.22





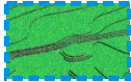
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Aerial photo of SuperSport Park Fig.23





The property represents Portion 1 of Holding 44 of the Lyttelton Agricultural Holdings and covers an area 5.09 ha.



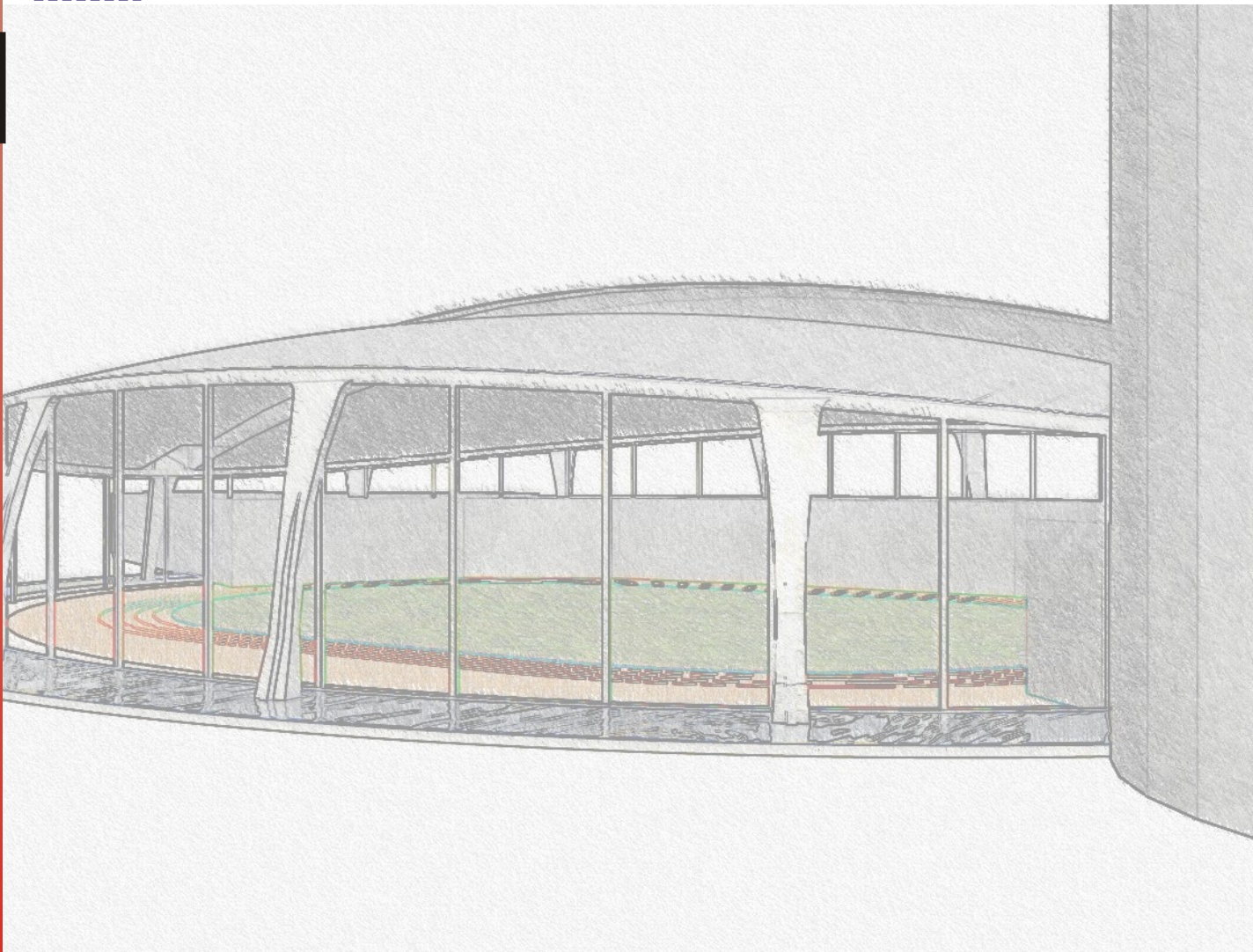
The property represents Portion 47 of the Brakfontein farm and covers an area 2.01 ha. Structure on site has no aesthetic or historical value and will be

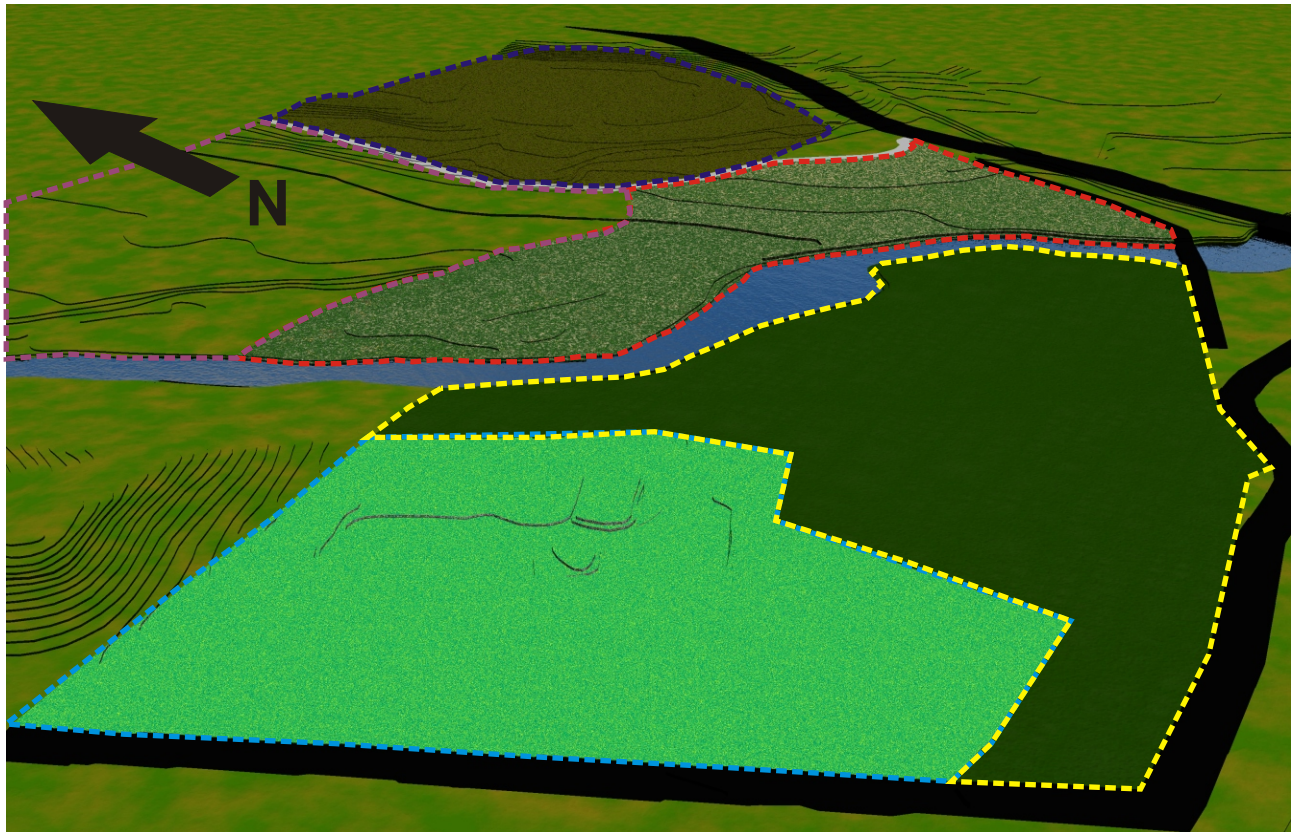


Centurion Rugby Club. The property represents a part of Portion 168 of the Lyttelton farm. No 381-JR covers an area of 24.83 ha.



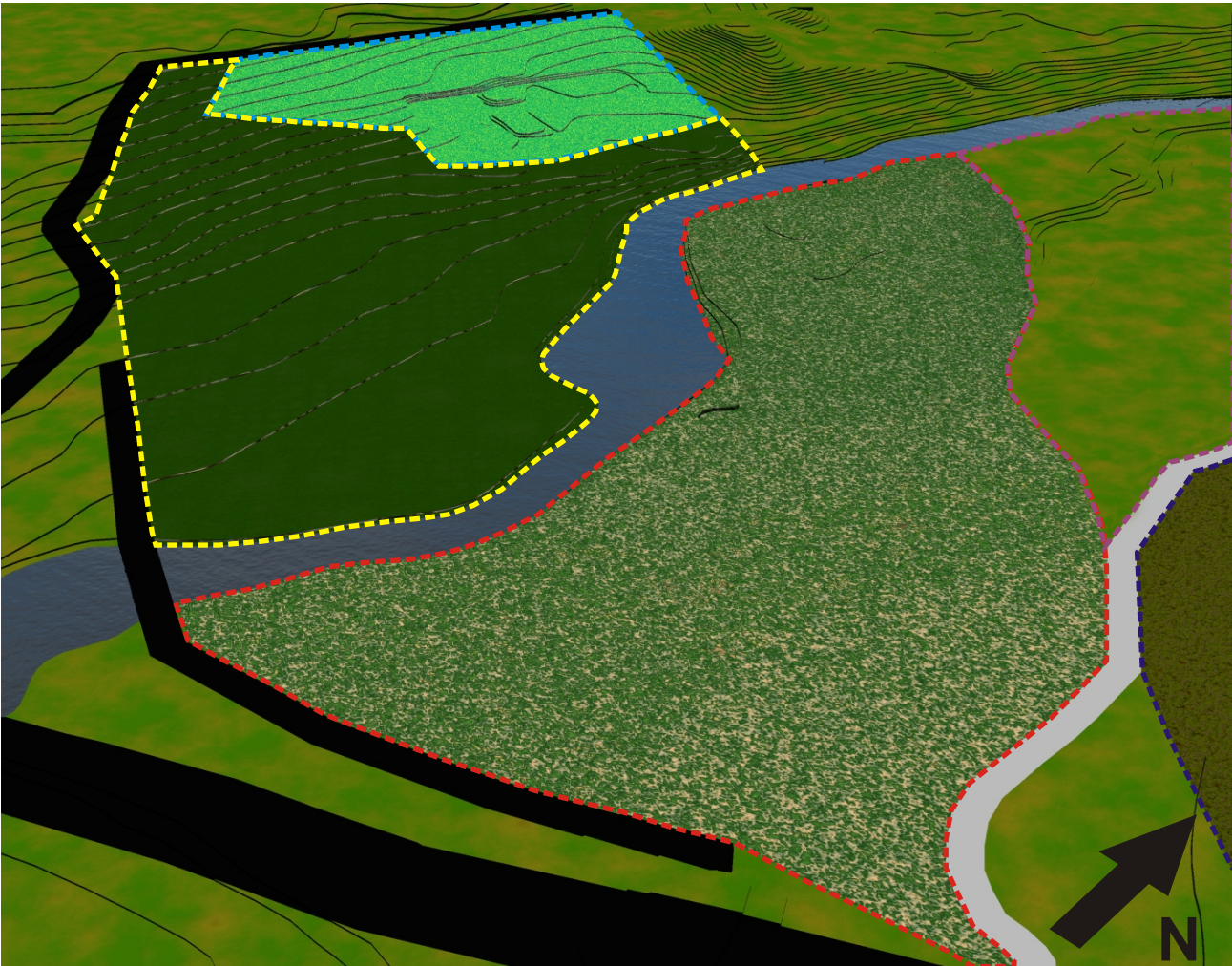
SuperSport Park. The property represents Portion 169 of the Lyttelton farm NO 381-JR and covers an area of 7.57 ha.





Bryce Rendering of Site

Fig.24

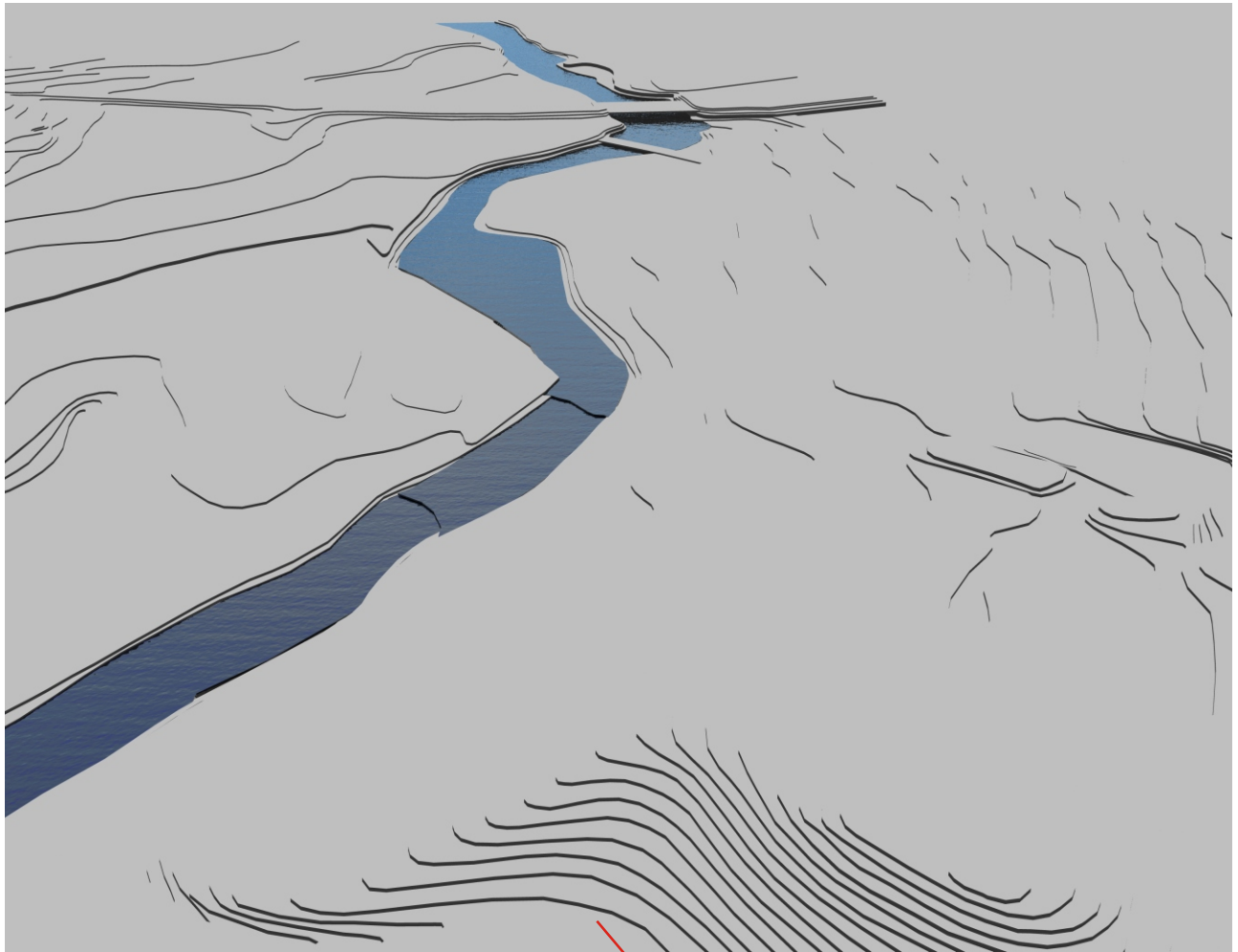


Bryce Rendering of Site

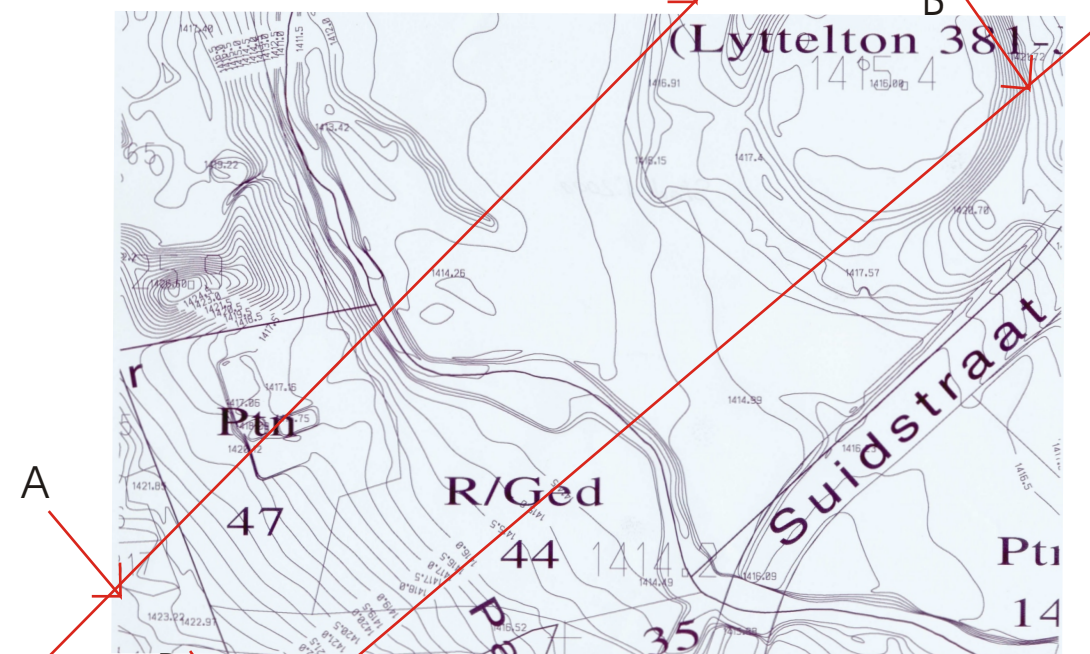
Fig.25

1.5.2 Topography

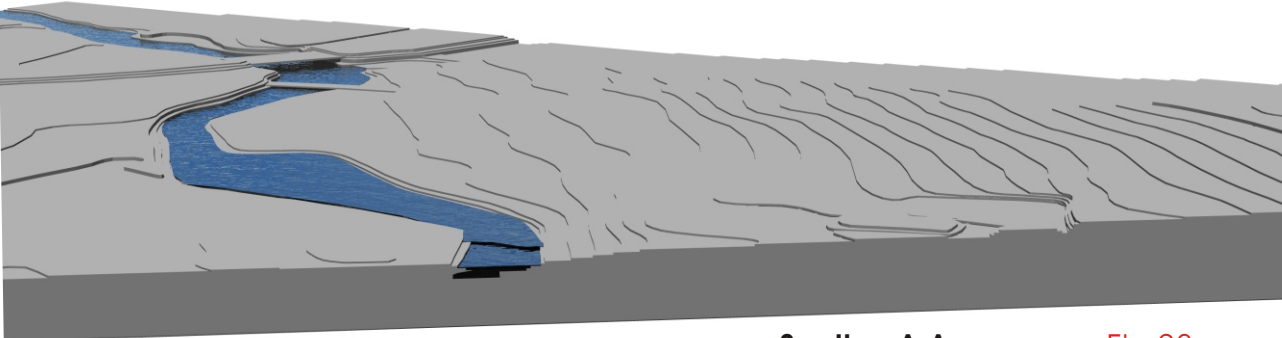
The proposed site has a mild slope towards the Hennops river, but only about 6,5° in the South side of the Hennops river and 2° in the North.



A Bryce Rendering of Contour Fig.26

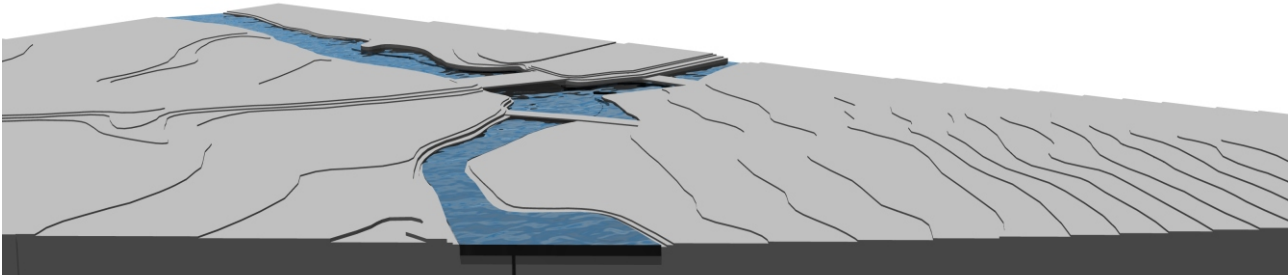


Contour plan of Fig.27



Section A-A

Fig 28

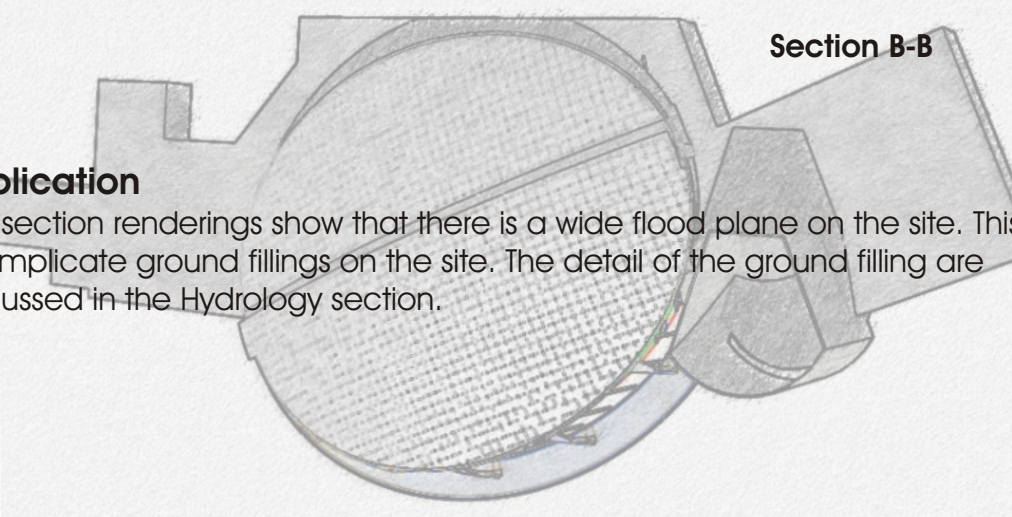


Section B-B

Fig 29

Implication

The section renderings show that there is a wide flood plane on the site. This will implicate ground fillings on the site. The detail of the ground filling are discussed in the Hydrology section.



1.5.3 Geology

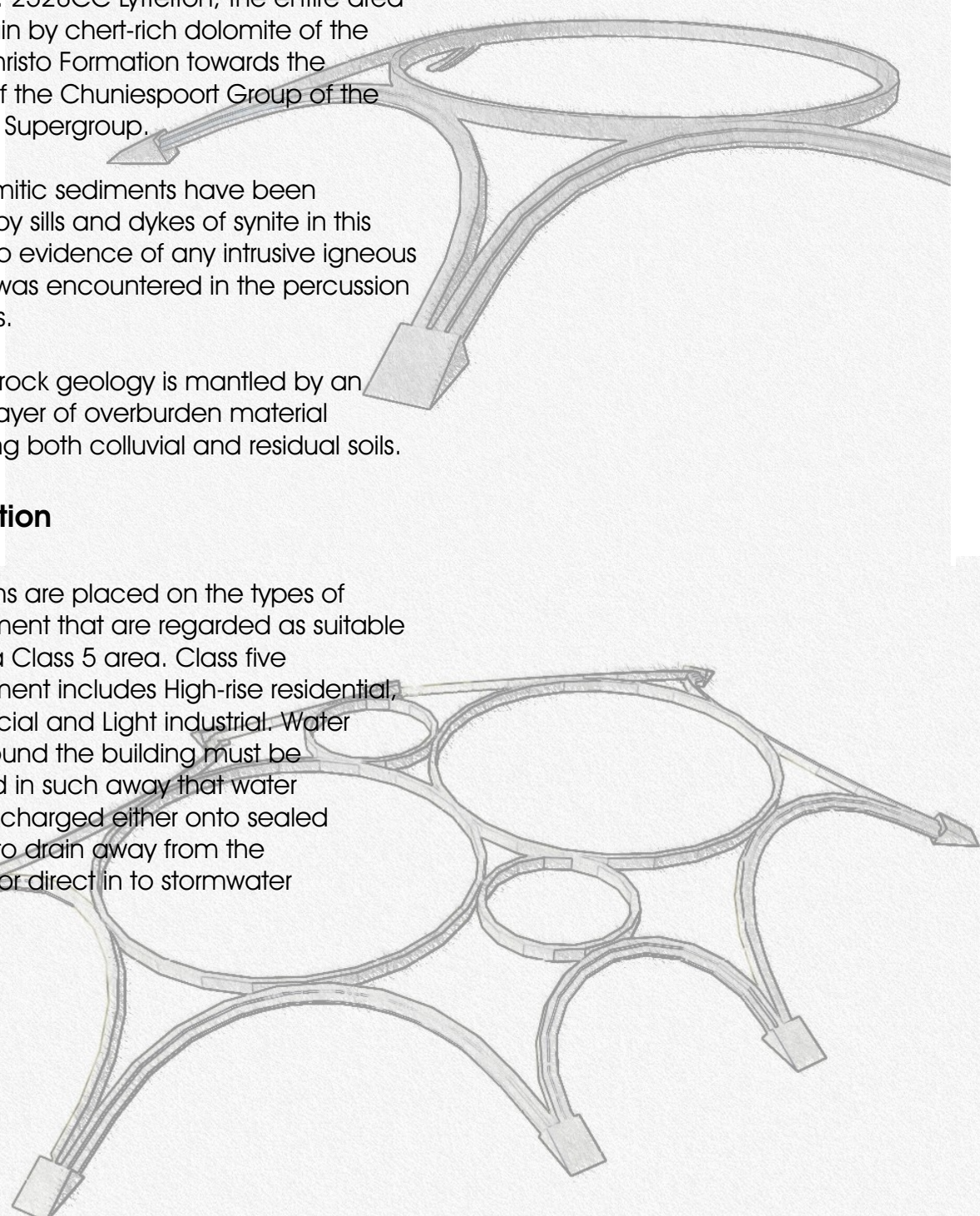
According to the 1:50000 Geological Series, Sheet No. 2528CC Lyttelton, the entire area is underlain by chert-rich dolomite of the Monte Christo Formation towards the bottom of the Chuniespoort Group of the Transvaal Supergroup.

The dolomitic sediments have been intruded by sills and dykes of synite in this region. No evidence of any intrusive igneous material was encountered in the percussion boreholes.

The hard rock geology is mantled by an irregular layer of overburden material comprising both colluvial and residual soils.

Implication

Restrictions are placed on the types of development that are regarded as suitable within in a Class 5 area. Class five development includes High-rise residential, Commercial and Light industrial. Water runoff around the building must be controlled in such way that water will be discharged either onto sealed surfaces to drain away from the Structure or direct in to stormwater pipes.



1.5.4 Hydrology



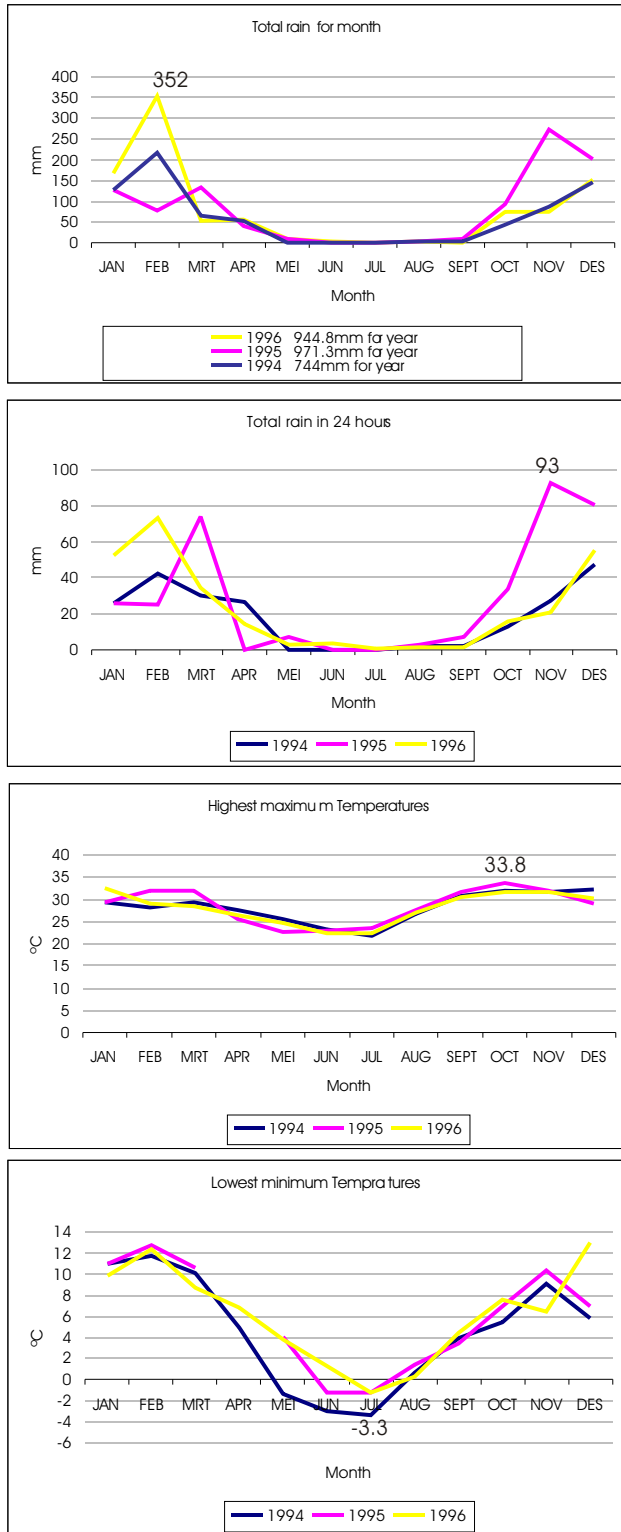
----- 50 year flood line

Flood line plan Fig.30

———— Retaining wall for ground filling

According to Engineering specifications the site could be filled up to the proposed retaining wall without any negative impact on the stream flow. Wooden decks will be used on the remaining area where there are no ground fillings recommended. This makes it possible to get the deck area close to the river. On the Northern side of the Hennops River there is a 2m Fall from the 50-year flood line to the river. The type of development that is being proposed on the Northern side of the Hennops River will be constructed on pillars so no ground filling will be required. The reason for this kind of construction is that it will minimise the impact the construction might have on the environment. This will also maximise the development potential.

1.5.5 Climate



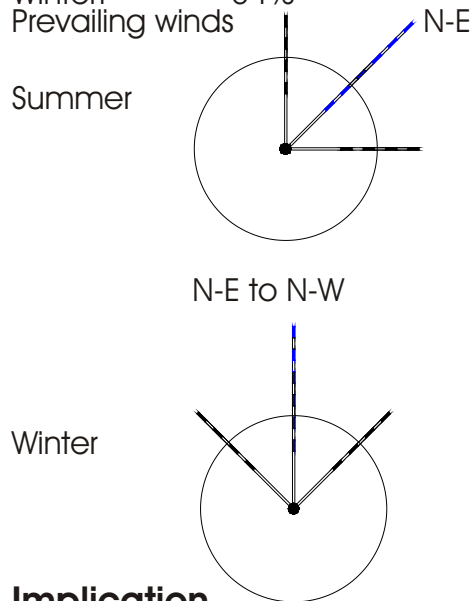
Climate figures

Fig 31

Summers are warm to hot, with fairly dry air, relieved by thunder storms generated from thermal air movement. Hail is not uncommon. Winter days are pleasantly sunny with clear cold to very cold nights.

Percentage daylight hours:

Summer: 61%
 Autumn/Spring: 68%
 Winter: 84%



Implication

The total rain per month will indicate the total rain catchment for the roof and size of water storage tanks. The total rain in 24 hours will determine the roof structure and gutter sizes. The temperature charts will determine the methods that must be used to accomplish the most comfortable temperatures inside the building. The percentage daylight hours will determine the amount of solar energy that can be converted into electricity with solar panels. Prevailing winds indicates where window openings must be situated for the best natural ventilation

Sun Angles

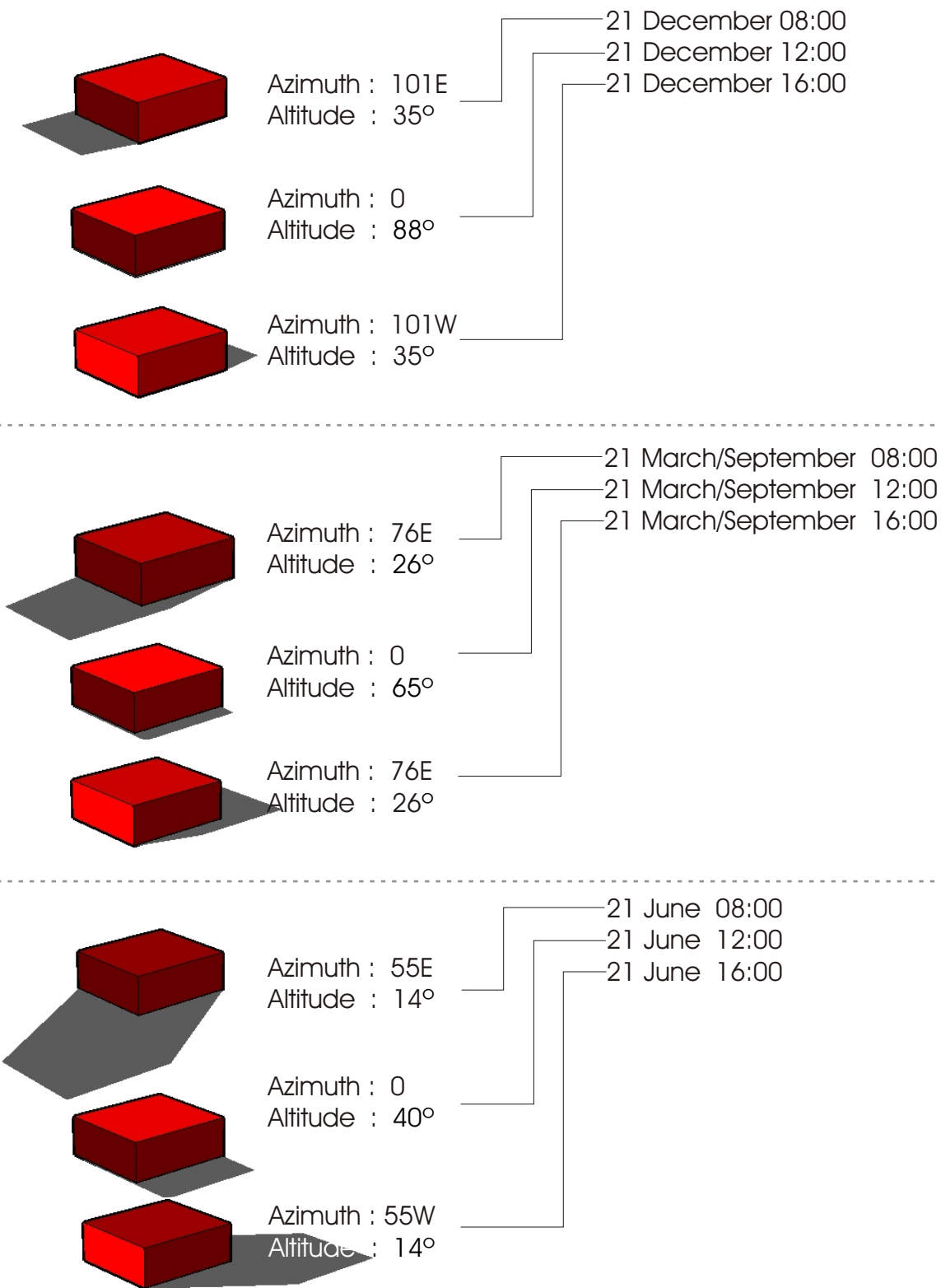


Fig.32

Implication

The sun angles will determine the transparency for the facade and the type of solar control that is needed to control the sun at all times. The sun angles in the west and east are very low and vertical louvres will be used. On the northern facade the horizontal louvres will be adjustable to allow maximum sun in the winter and to block the sun in the summer.

1.5.6 Vegetation



Arial photograph of site

Fig.33

