

31st March 2015
Our reference: 1245/15 ES

Tholoana Sustainable Development and Environmental Consultants
PO Box 1549
HONEYDEW
2040

ATTENTION: **Ms Motshabi Molope**

Dear Sir/Madam

**INITIAL ECOLOGICAL ASSESSMENT: PROPOSED RESIDENTIAL ESTATE - MUNSIEVILLE, MOGALE CITY
(KRUGERSDORP)**

Eco Assessments was approached by Tholoana Consulting to ascertain the ecological features & sensitivities of a site located north of the Munsieville township in Mogale City, Western Gauteng, to assess the ecological status and sensitivity of the site.

The project entails the establishment of a residential estate on an area that extends approximately 25 hectares.

LOCATION

Munsieville is located northwest of the city of Krugersdorp. The site lies in proximity to the Protea Ridge to the north, Dan Pienaarville and Rant en Dal to the east, a cemetery to the east, and suburbs of Munsieville to the west and south (Figure 1).

The R563 (Van Riebeeck Road) lies on the eastern border of the site and links Mogale City with The Cradle of Humankind World Heritage Site, as well as towns like Hekpoort and Magaliesburg.

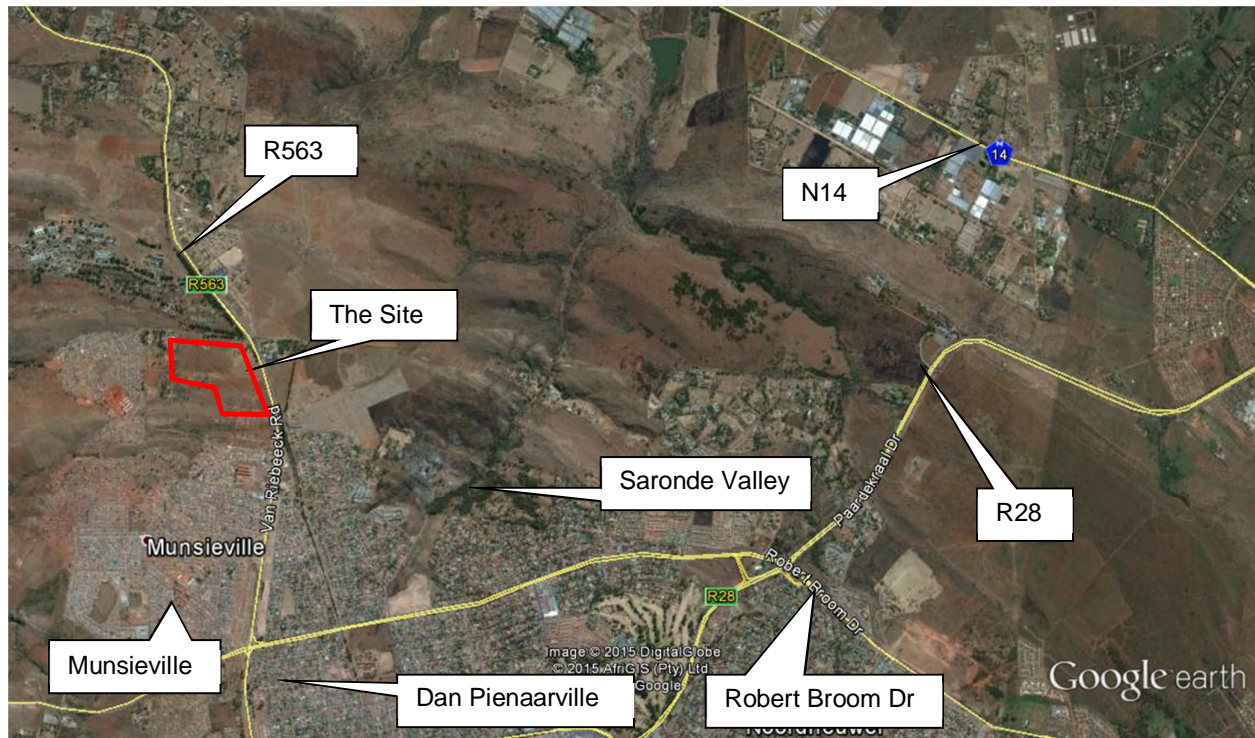


Figure 1 Aerial locality map

NATURAL FEATURES AND LAND USE

The site comprises an agricultural holding with associated grasslands and fields. One residential house is present on the site (Yellow – Figure 2) as well as an area where a house has been demolished. The latter is located on the corner of Van Riebeeck Road and Helena Street. At the demolished house site, a variety of exotic species are presently growing including *Arundo donax* (Spanish reed), *Pennisetum clandestinum* (kikuyu), *Bidens formosa* (Cosmos) and *Cereus peruvianus* (Queen of the night).

The grassland area consisted of disturbed grassland meaning that several indigenous species are still present but that some species may have increased or some species such as forbs have decreased due to the factor that disturbed the vegetation. In this case, the grazing of the site over long periods, may have disturbed the natural grassland structure.

Area A was dominated by the grass species *Digitaria eriantha* and *Andropogon shirensis*, and Area B by *Eragrostis chloromelas* (Figure 2). These species have good grazing potential. Other grasses observed included *Melinis repens* and *Schizachyrium sanguineum* as well as forbs such as *Babiana hypogea*, *Dichapetalum cymosum* and *Cleome maculata*. Area A and B was found to support a moderate to low species richness. The southern portion of Area B was found to be significantly impacted upon by dumping and dumping was also observed on the southern border of Area A and in Area D outside the site.

A natural feature occurring on site worth mentioning is a line of rocky outcrops located along Helena Street (Area C – Figure 2). Species on these outcrops resembled the original natural vegetation typical of quartzite ridges and included the trees *Englerophytum magalismontanum* (Stamvrug), *Diospyros lycioides* (Blue bush), *Searsia pyroides* (Taaibos) and the uncommon *Rothmannia capensis* (Wild Gardenia). Forbs and grasses included *Wahlenbergia caledonica*, *Senecio venosus*, *Brachiaria serrata* and *Aristida transvaalensis*.

A low lying hill (E) is located south of the site where fifty (50%) percent of the natural vegetation along the eastern part of the hill has been transformed

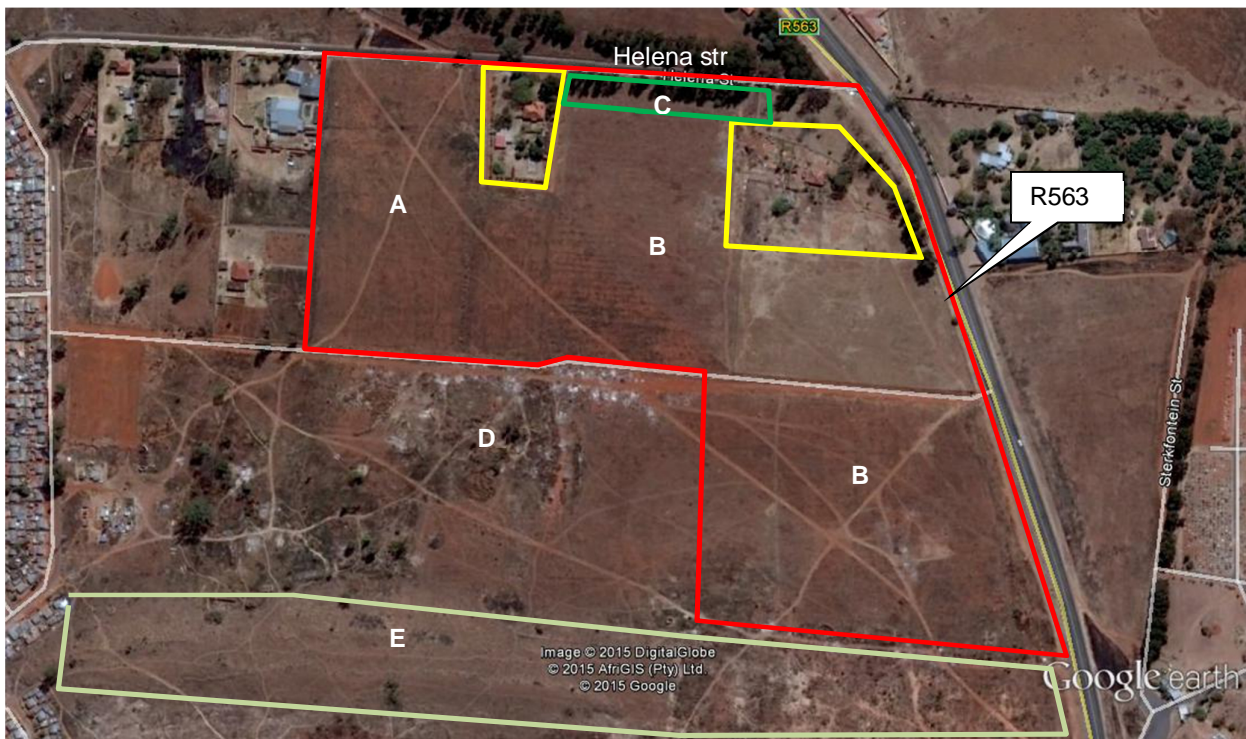


Figure 2 Aerial site map

VEGETATION TYPES

The site is located on the border of two main vegetation types namely the Gold Reef Mountain Bushveld (SVcb9) – which includes the ridge vegetation to the east, and the Soweto Highveld Grassland (Gm8). The status of the former vegetation type is Least Threatened due to protection in the Magaliesberg Nature Area. The latter vegetation type is Endangered as only small patches are statutorily conserved.

FAUNA AND FLORA

Several databases were assessed as part of a desktop assessment in order to assess if any sensitive ecological features could be affected by the proposed development.

Flora

No scarce flora has been recorded on the site or within the vicinity of the site according to GDARD (Gauteng Department of Agriculture and Rural Development) records. GDARD however indicates that one sensitive species has been recorded within a 5 km radius of the site and a further ten (10) species were recorded in the 1 in 50 000 grid of the site.

The site inspection indicated that there is a low likelihood of scarce species occurring. Even the rocky outcrop areas have been altered and specifically the herbaceous layer where scarcer species would be more likely to occur.

Fauna

The site is located adjacent to open rural areas and it can therefore be expected that larger wild animals may frequent the site occasionally. Pedestrian and vehicle movement observed during the site assessment may however limit such visits to the site, and it is subsequently not considered to be an optimal site for faunal activity.

No sensitive fauna (including large mammals, small mammals, birds or reptiles) is further likely to occur on site due to limited habitat diversity and place for shelter.

GAUTENG INFORMATION DATA SYSTEM (GIDS) VERSION 3 (2011)

This database highlights the occurrence of sensitive features such as ridges, natural vegetation, rivers, caves, wetlands and other natural elements on the site (Figure 3).

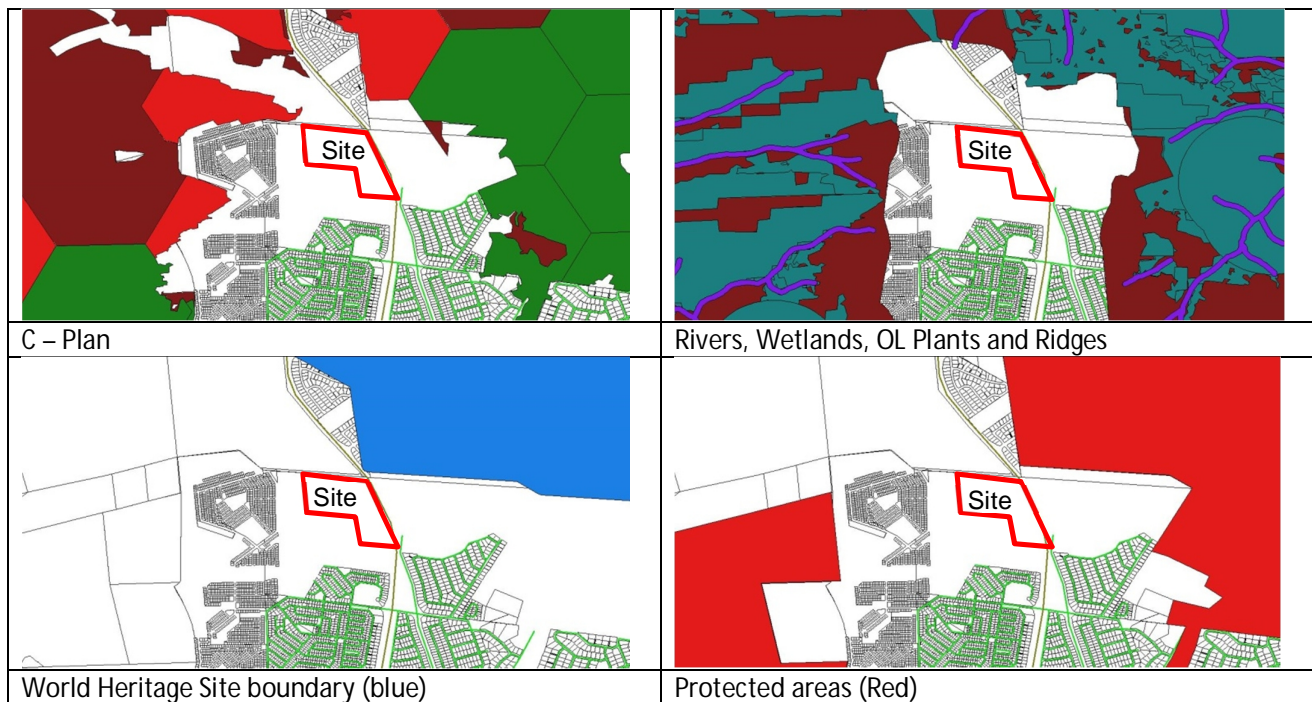


Figure 3 GIDS maps

From the above, it can be seen that the site is not affected by any sensitive feature listed in the GIDS. The site is however in close proximity to the Cradle of Humankind World Heritage Site (Figure 4).

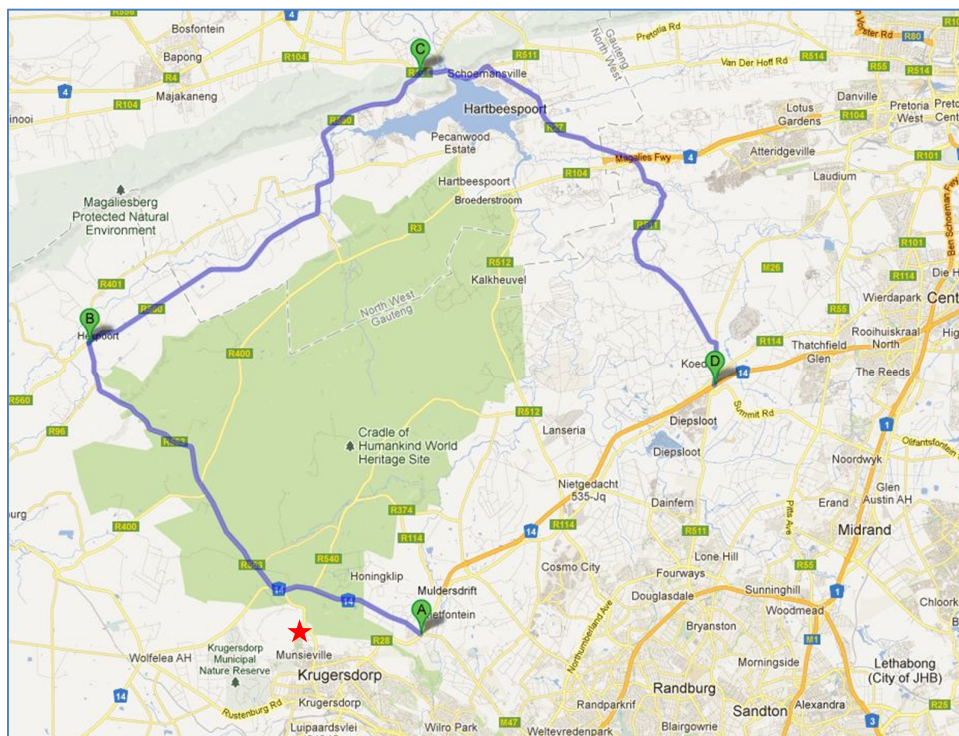


Figure 4 The Site in relation to the Cradle of Humankind World Heritage Site

SENSITIVITY TABLE

Sensitivity class	Presence on site Y/N	Sensitivity High/Medium/Low	class
Primary grassland/vegetation	N	Low	
Red listed flora	N	Low	
Red listed fauna	N	Medium	
Ridge	N	Low	
Cave	N	Low	
Wetland	N	Low	
River/Stream	N	Low	
River stream crossing –access road to site	N	Low	
Ecological function (other)	Unknown	Unknown	

In summary, the vegetation on site has a moderate to low status and ecological sensitivity. It is unlikely that Red listed flora will occur on the site. No ridges, caves, wetland or streams occur on the site. This information is based on a screening level assessment to highlight red flags, and therefore the detailed ecological function of the site and all species possibly occurring is not described in this report.

PHOTOS

	
Rocky outcrops along northern border of site	Demolition of a house in northeastern corner of site
	
Grassland in area B	Dumping in sections of the site



Grassland in area A



Pine trees cut down with rocky outcrops behind



Natural vegetation on rocky outcrops (disturbance in herbaceous layer)



Babiana hypogea (bobbajaanuitjie)

DISCUSSION AND CONCLUSION

The proposed development site was scanned for possible ecological sensitivities during March 2015.

The habitat was found to support tracks of disturbed grassland with a Moderate to Low conservation value. The habitat consisted of natural species although it seems as if the grassland may have previously been overgrazed. The species richness recorded on site was found to be moderate to low. Subsequently the probability of red data species occurring on site is considered to be low.

Common faunal species may occur on site. The site is however not considered optimal for any sensitive faunal species due to the high concentration of people living close by and subsequent pedestrian and vehicle traffic across and adjacent to the site. Dumping is a problem on site and this adds to making the site unsuitable for faunal species.

A small rocky outcrop area occurs along Helena Road. This habitat supports more natural species, and may warrant some preservation. Depending on the nature and density of the proposed development, the rocky outcrop could be considered to form part of an open space environment.

The site is located close to the south western corner of the World Heritage Site with culturally and ecologically important features. Where possible, the development on site can take note or incorporate the principles and goals of this important area.

RECOMMENDATIONS

- No further ecological studies are required.
- A scan of the site for medicinal plants should be done before site development and if such plants are found, they should be removed to an alternative but suitable habitat.
- If possible, the rocky outcrops on the northern boundary of the site should be incorporated into an open space system.



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