



FINAL ALOE RIDGE PRECINCT PLAN

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Aloe Ridge Precinct Plan

1 INTRODUCTION

1.1 BACKGROUND AND STUDY AREA

The Spatial Planning and Land Use Management Act (Act 16 of 2013) provides for a hierarchy of spatial plans to be compiled by various spheres of government in South Africa. This includes a National Spatial Development Framework for the country as a whole, Provincial Spatial Development Frameworks for each of the nine provinces in South Africa, and Local Spatial Development Frameworks for any of the district and/ or local municipalities in the country.

The act also makes provision for a Regional Spatial Development Framework for functional areas which expand across the institutional boundaries of two or more municipalities.

In terms of the content of a Municipal Spatial Development Framework, section 21(l) of SPLUMA makes provision for the designation of areas for which more detailed local plans can be developed in any municipal area.

In line with the above legislative framework, the Midvaal Local Municipality currently has a Municipal Spatial Development Framework for its entire area of jurisdiction as well as a number of more detailed local precinct plans for dedicated areas within the municipal area. These include the Meyerton CBD, the Waterfal Node, the R59 Development Corridor, the De Deur Activity Node to the south-west, the Walkerville Node and Elandsfontein rural area in the north-western parts of the municipality as well as the Tedderfield Agricultural Holdings in the far north. All these plans have been approved by Council and functionally represent a list of Annexures to the Midvaal Municipal Spatial Development Framework.

With the above as background the community in and around the Aloe Ridge rural area requested a more detailed precinct plan to guide future development within this area. The area falls midway between the areas covered by the Walkerville, Elandsfontein and Tedderfield plans but none of these plans provided explicit guidelines for development in this area.

Subsequently, this document was compiled for the broader Aloe Ridge area which is demarcated conceptually on **Figure 1a**. A soft boundary approach was followed to rather look at a broader area than trying to demarcate the Aloe Ridge area along existing cadastral boundaries.

Figure 1b illustrates the cadastral structure of the study area from which it is evident that it comprises a number of parent farms including Elandsfontein 334, Harzenbergfontein 332, Muldersrus 330 and

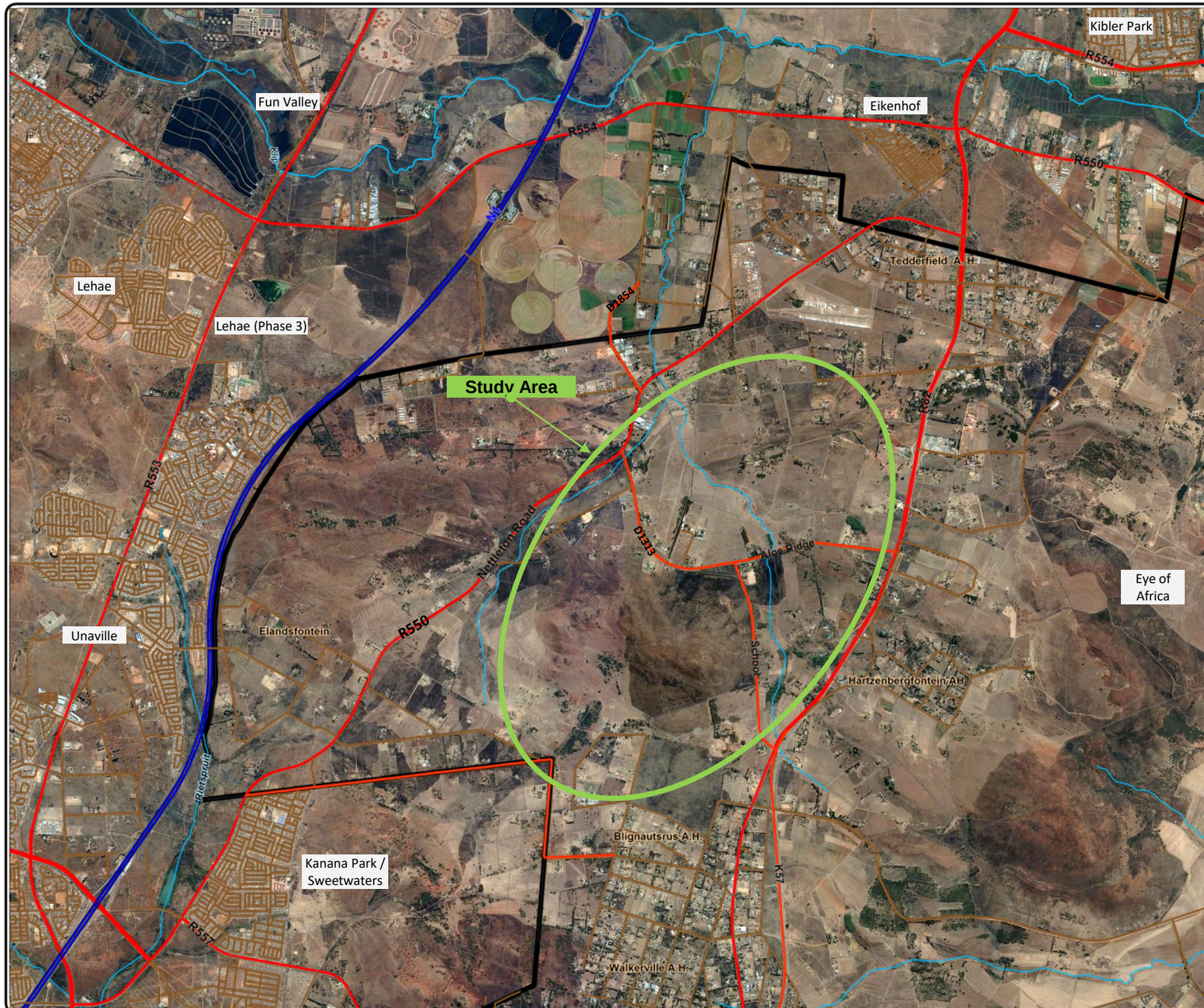
Study Area

Legend

- Major Roads
- Main Roads
- Secondary Roads



Figure 1a

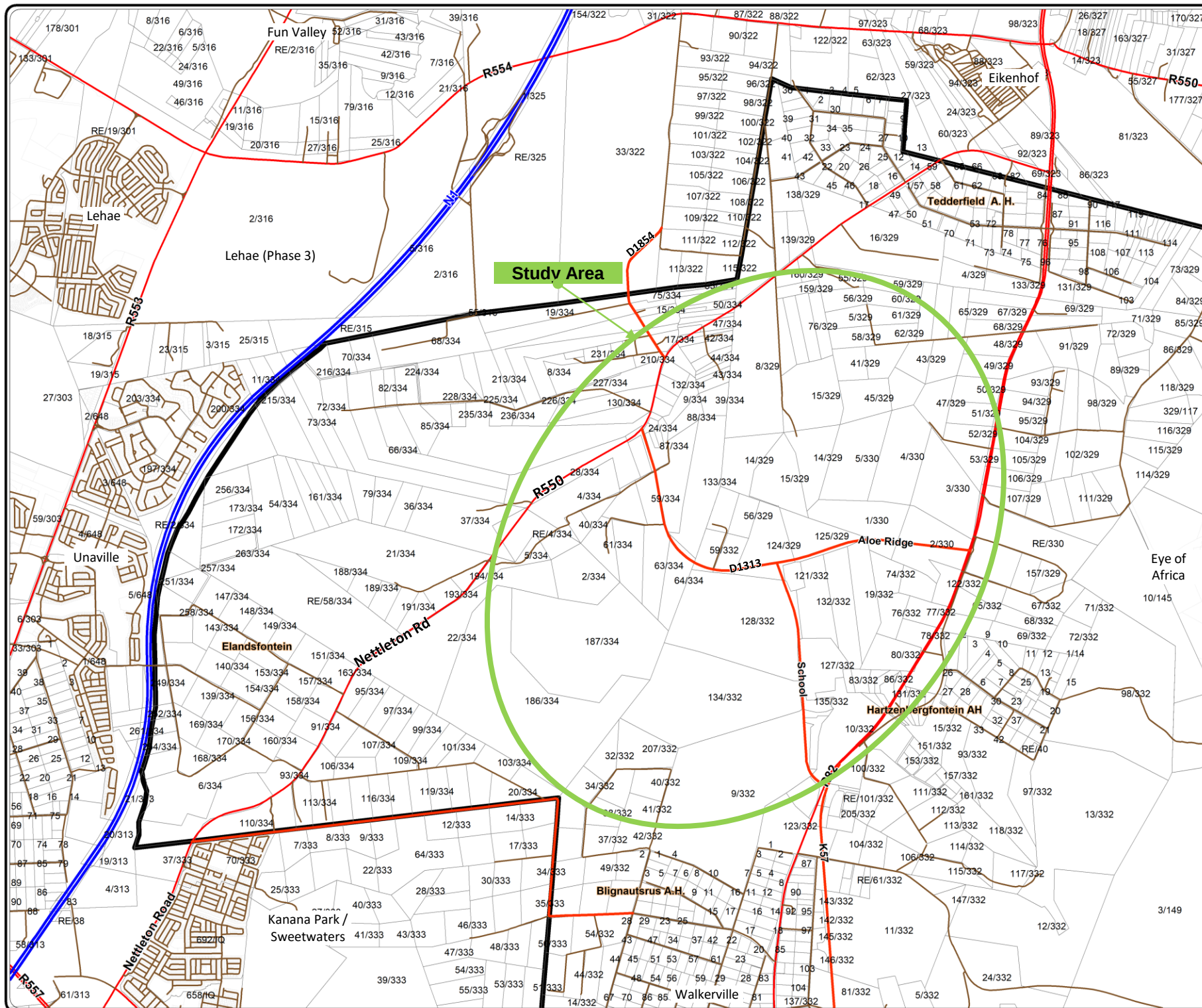




- Cadastral
- Major Roads
- Main Roads
- Secondary Roads



Figure 1b



Bronkhorstfontein 329 of which most part have been subdivided into a number of smaller farms.

1.2 STUDY OBJECTIVES

The objectives of this exercise are to compile a precinct plan for the Aloe Ridge functional area which:

- Critically assess current development trends and pressures impacting on the area, and
- Provide guidelines for the future spatial structure and land uses to be allowed in the precinct.

The focus will be on maximising the inherent potential of the area without negatively impacting on the tourism potential and rural character of the broader environment. Existing infrastructure like bulk services, movement network and community facilities also need to be considered in the assessment process.

The plan was compiled in close liaison with local stakeholders and the document was circulated for comments during the first week of December 2017. The final report will be completed once comments have been received on the first draft version.

2 SITUATIONAL OVERVIEW

2.1 REGIONAL CONTEXT

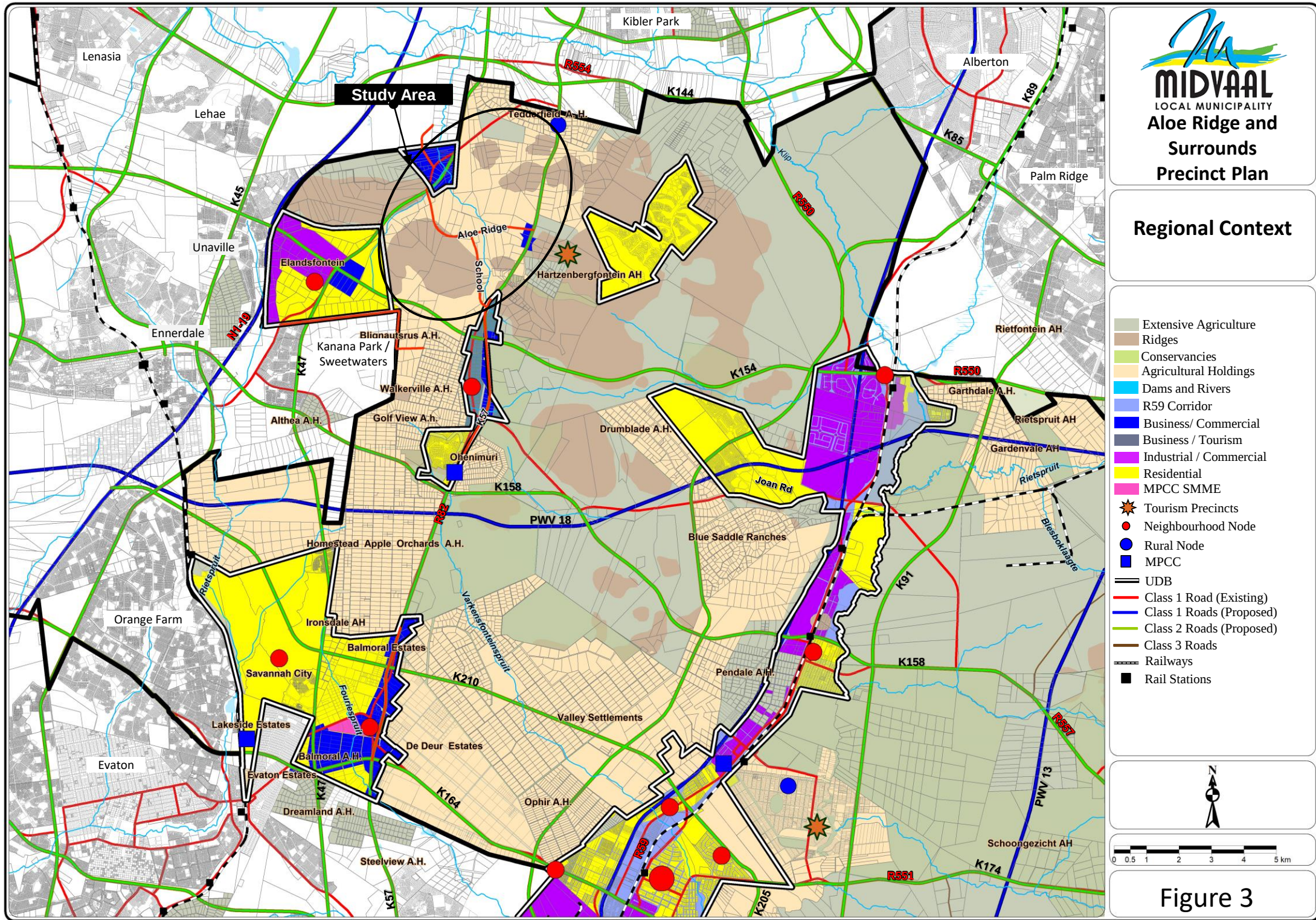
Figure 2 is the Midvaal Spatial Development Framework which provides the regional context for the study area. It shows that the study area is located at the far north-western extents of the Midvaal Local Municipality in an area bordering onto the municipal boundary of the City of Joburg.

Functionally this area forms part of the broader R82 development corridor which serves the western extents of the Midvaal municipality from north to south and which effectively links Greater Joburg and the Emfuleni Local Municipality.

Also evident from the Spatial Development Framework is the fact that the Aloe Ridge study area falls between four nodal areas which have been identified in the north-western extents of the municipality including The Grace/ Eye of Africa to the east, Tedderfield Agricultural Holdings to the north, the proposed future Elandsfontein Node to the west, and the Walkerville Node towards the south.

Figure 3 shows the study area and surrounds in greater detail.

Firstly, it is important to note the number of official townships located in the surrounding areas to the west, north and north-east of the study area in



the area of jurisdiction of the City of Joburg and Emfuleni. This includes the Evaton and Sebokeng urban complex to the south, as well as Orange Farm, Ennerdale, Unaville and Lehae to the west.

Adjacent to the north is the Klip River which drains from west to east past the area from where it turns southwards towards Waterfall and then running parallel to the R59 corridor towards the Vaal River. One of the tributaries of the Klip River drains through the study area from south to north.

Several areas indicated on Figure 3 have been the subject matter of precinct plans compiled over the past few years:

- The Tedderfield Agricultural Holdings plan was compiled in 2011 and is included in **Annexure A** of this document. It is classified as a rural node with provision for some economic activity for properties fronting onto route R82.
- The Elandsfontein Precinct Plan indicates the potential for a future large industrial area to be developed at the intersection between route K154/ K208 and the N1 freeway where an access interchange will be provided in future. Residential development will follow around the industrial area in future with a mixed use node comprising a number of business and/ or commercial activities also earmarked at the planned K154-Nettleton Road intersection.
- To the south the Walkerville area has also been declared a neighbourhood node with a range of commercial and business

activities to be allowed in this area in future – especially towards the newly constructed route K57.

It is also important to note that a box-shaped higher order K-route network will serve the area in future (indicated in green on Figure 3). It comprises K144 to the north, K154 to the south, K57 to the east, and K47 to the west.

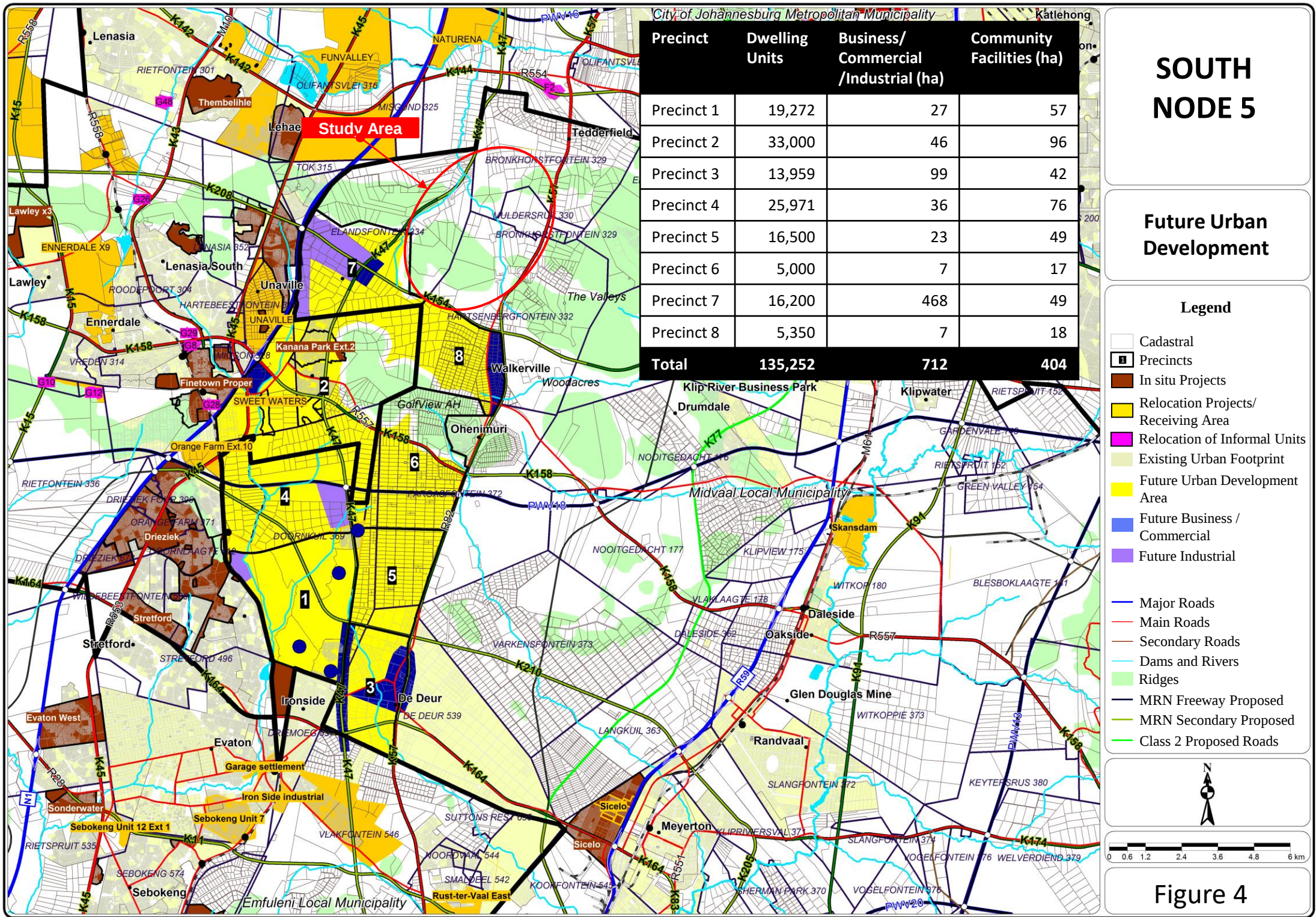
From the above regional overview it is evident that there is extensive development in the broader surrounding area which was considered to be exclusively rural some two decades ago.

Figure 4 provides a perspective of the existing and future urban development anticipated in and around this area over the next two to three decades.

It is estimated that the broader area (including parts of Midvaal and the City of Joburg) will eventually be able to accommodate approximately 135 252 houses and about 712 ha of industrial and commercial land uses.

It is inevitable that development pressure will continue to expand especially in the area to the west on both sides of route N1.

The study area is located in the central core just outside this belt of future economic activity and development pressure.



2.2 LOCAL CONTEXT

Figure 5 illustrates some of the most salient environmental and land use features of the study area which is summarised below.

2.2.1 ENVIRONMENT

The study area is surrounded by a number of ridges which form part of the Platberg ridge series covering the north-western extents of the Midvaal municipality. These are deemed to be important environmental features and in line with the Ridges Policy development is limited in these precincts with the main focus being on conserving these areas and using it to promote tourism.

There are no proclaimed nature reserves in the area but there is part of a conservancy bordering the study area to the south directly adjacent to the east of the Blignautsrus Agricultural Holdings/ Walkerville.

2.2.2 AGRICULTURE

There are three areas of high intensity agricultural activity in the surrounding areas (also refer to Figure 1a showing irrigated areas). The first is located adjacent to the north on the farm Misgund 322 towards the Klipriver in the area adjacent to the east of the N1 freeway. This area is used for extensive irrigation and crop farming.

The second area of relative high intensity agricultural activity falls to the north-east of Tedderfield and Eikenhof towards Kibler Park.

Directly to the north of Hartzenbergfontein Agricultural Holdings on the farm Muldersrus 330 there is also a small cluster of fairly intense crop farming underway.

A game farm and conservancy covering about 350 hectares of land also exists to the north of Aloe Ridge Drive, incorporating portions of Muldersrus, Hartzenbergfontein and Bronkhorstfontein.

Apart from the above there are no significant agricultural activities in any part of the study area and surrounds.

2.2.3 LAND USE AND TRANSPORT

The study area mostly comprises a number of small farms with homesteads (low density).

Business activity is mainly located on individual plots fronting onto route K57/ R82 which is the highest order road running through the study area.

To the west along Nettleton Road there is also a small concentration of business/ industrial/ commercial activity around the point of intersection between route R550 and D1854 (Aloe Ridge Road).

Land Use

-  Intensive Agriculture
-  Ridges
-  Open Space
-  Conservancies
-  Dams and Rivers
-  Agricultural Holdings
-  Residential
-  Business
-  Industrial / Commercial
-  Commercial
-  Educational/Institutional
-  Government
-  Airport
-  Main Roads
-  National Roads
-  Other Roads
-  Contours
-  Structures

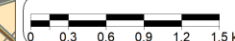
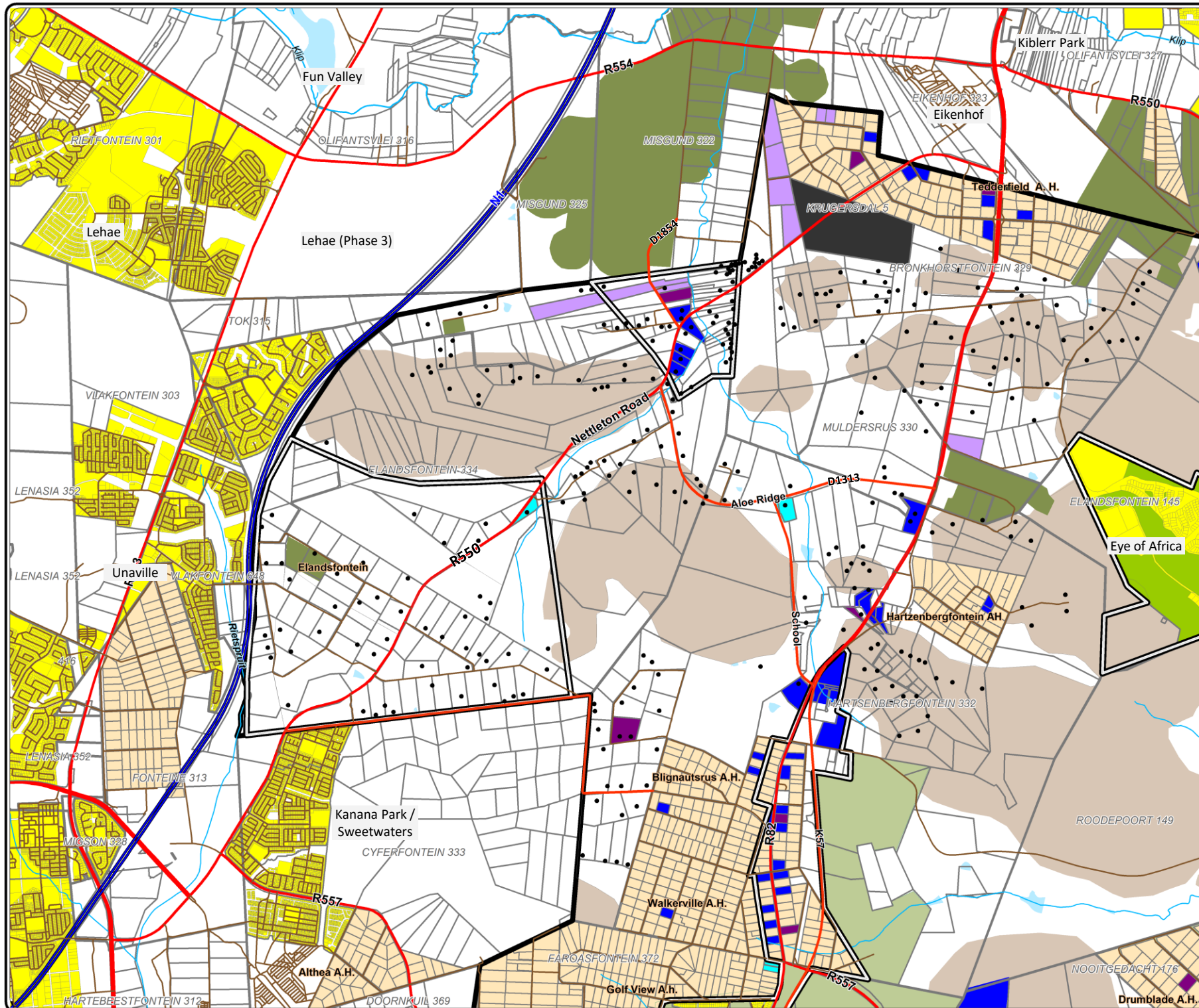


Figure 5



Internally the area is served by Aloe Road (D1854) which effectively links route R82 to Nettleton Road, and School Road which provides a link to Walkerville to the south.

In the Aloe Ridge area itself there is a primary school located at the intersection between Aloe Ridge and School Road in the central part of the precinct.

From a tourism point of view most of the facilities and services are located along route R82/ K57 with the Walkerville Precinct being a strong focus towards enhancing future tourism potential in the broader area.

The dominant land use in the surrounding area is rural residential with very limited agricultural use.

2.2.4 BULK ENGINEERING SERVICES

There is no bulk water or sanitation infrastructure available in the area, but there is a municipal waterline from Walkerville to Hartzenbergfontein and a second line along School Road towards the primary school.

Note that this network was designed to serve low intensity land uses associated with agricultural holdings and the system as it currently exists has very limited capacity to accommodate land use change, redevelopment and/ or densification. The study area does however have access to groundwater from boreholes, though it is unknown whether these sources have spare capacity and the extent thereof.

Council deems the installation of bio-chemical plants as the short-term solution towards addressing increased sanitation needs. However, the bio-chemical plant concept can only accommodate limited redevelopment and/ or commercialisation of the area.

Electricity is supplied by Eskom which holds the license for electricity supply in this region.

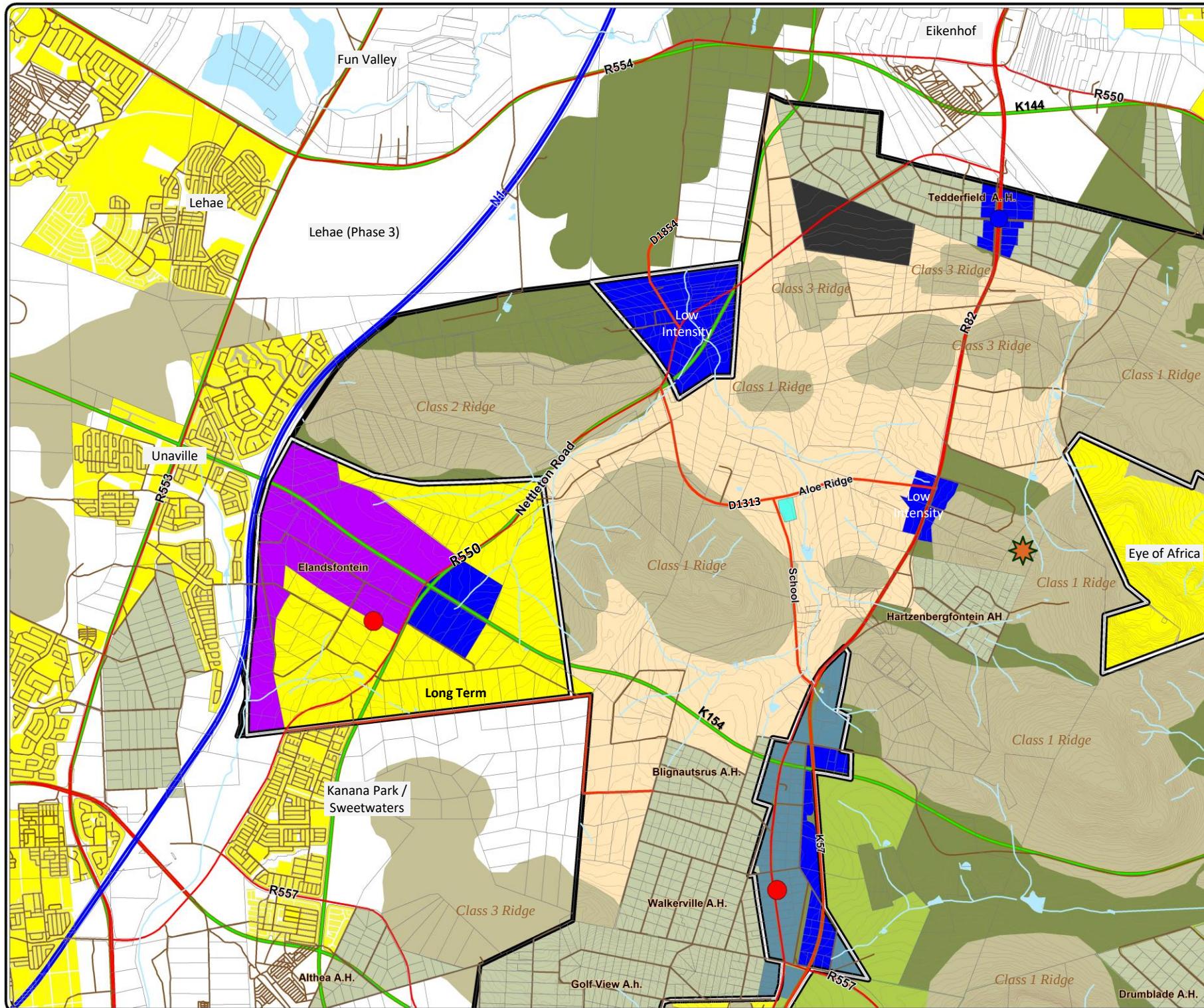
3 DEVELOPMENT PROPOSALS

3.1 PRECINCT PLAN

Figure 6 illustrates the proposed precinct plan for Aloe Ridge and surrounding areas.

- Firstly, the plan acknowledges the proposals from various precinct plans for, amongst others, the Elandsfontein future industrial park and mixed business/ social facilities area to the east; the low intensity mixed use node along the northern extents of Nettleton Road; the Tedderfield Agricultural Holdings with mixed business use along route R82, and Industrial, Commercial, Business and Hospitality/ Tourism uses in Walkerville.
- The ridges as well as the two main draining lines running through the area are incorporated as part of a regional open space system. All development within the ridge's footprint will be subject to the Ridges Guidelines as contained in **Annexure B** of this document.

Precinct Plan



- Agriculture
- Ridges (C-Plan 2011)
- Conservancies
- Dams and Rivers
- Agricultural Holdings
- Rural Residential
- Residential
- Business / Tourism
- Business / Commercial
- Industrial / Commercial
- Airport
- Educational
- Main Roads
- National Roads
- Other Roads
- K-Routes (Proposed)
- 5m Contours
- Tourism Precincts
- Neighbourhood Node
- Rural Node
- Urban Development Boundary

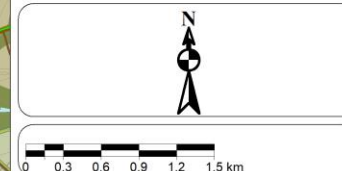


Figure 6

Aloe Ridge Precinct Plan

- Similarly, the surrounding high potential agricultural land (all land currently being intensively utilised for agricultural purposes), are earmarked to be retained for agriculture.
- The agricultural holdings are to retain the agricultural holdings function with very limited non-agricultural activity being allowed in these areas.
- All existing business activities within the broader area are acknowledged, and it is proposed that low intensity business use/ social facilities be allowed at limited scale around the intersection between R82 and route D1313 (Aloe road) - to serve basic local needs.
- All remaining land in and around the Aloe Ridge area is classified as “rural residential” which means a building on land located outside the urban development boundary and where the primary use of the land is not for “agricultural use” but for “residential purposes in a rural environment” in line with the provisions of the Midvaal Land Use Scheme (2017).

Hence, the primary use of the land is for low density rural residential purposes, with limited farming operations such as general crop farming and keeping of animals as secondary activity. This zone will not allow intensive farming operations, feed lots or other uses that could create offensive odours or large amounts of dust or insects.

- All residential development in the area will also be subject to the relevant guidelines contained in the Gauteng Ridge Policy (refer to Annexure B).

3.2 DEVELOPMENT GUIDELINES

In line with the Midvaal Land Use Scheme (2017) the development guidelines/ parameters for the rural residential function in the Aloe Ridge area are summarised as follow:

USE OF LAND AND BUILDINGS				
What land may be used for:				Land uses that are prohibited
Primary Uses	Written Consent	Consent Uses		
Dwelling House, Farm Stall, Street	Additional Dwelling Unit, Agricultural Use, Keeping of Animals	Crèche, Day Care Facility, Home Enterprise, Agricultural Employee Accommodation, Backpackers, Bed and Breakfast, Guest House, Place of Public Worship, Children's Home		Noxious Use and Risk Activity; Accommodation Establishment Any use not mentioned under primary, written consent or consent use
CONTROLS ON THE EXTENT OF THE DEVELOPMENT				
Density	Coverage	FAR	Height	Other
One dwelling unit per farm portion/ agricultural holding	10%	As approved by the municipality	2 Storeys	As may be approved by the municipality from time to time
CONTROLS REGARDING BUILDING LINES				PARKING AND LOADING REQUIREMENTS
Stand Size	Street Boundary	Rear	Side	Refer to Clause 15
	10m	5m	5m	
OTHER CONTROL REGULATIONS				
1.	This zone is only applicable to agricultural land and farm portions west of the R59 corridor in Midvaal Local Municipality.			
2.	The municipality may relax the provisions of building lines during the evaluation of the site development plan to the extent that it deems it fit in its opinion that such relaxation shall not harm the amenity of the neighbourhood and is deemed to result in a more desirable development of the property.			

4 WAY FORWARD

Once this plan has been approved by the local stakeholders of Aloe Ridge it will be submitted to the Midvaal Local Municipality for adoption/endorsement whereafter it will functionally become an official annexure (Precinct Plan) to the Midvaal Spatial Development Framework as contemplated in section 21(i) of the Spatial Planning and Land Use Management Act (Act 16 of 2013).

ANNEXURE A

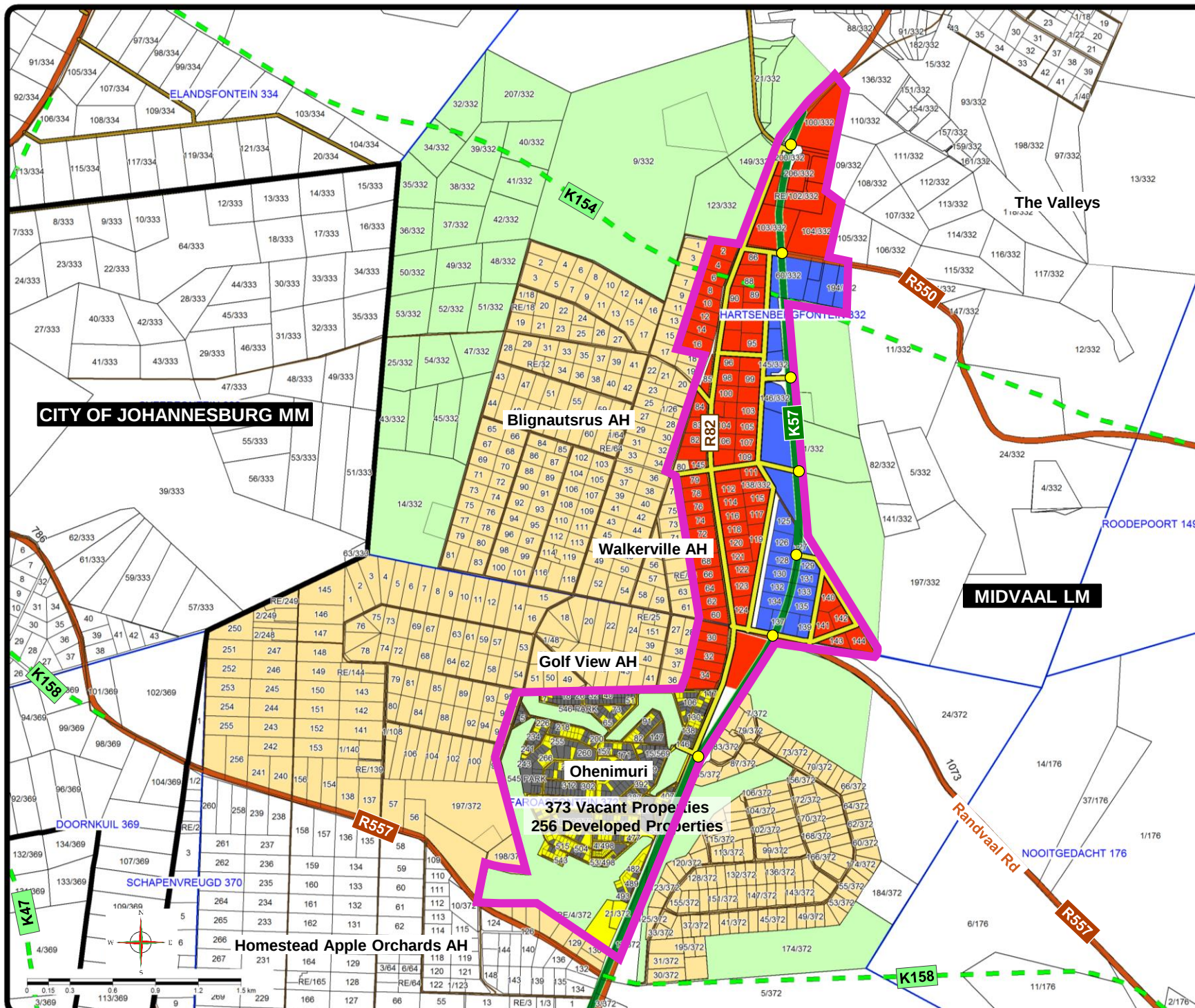
MIDVAAL LOCAL MUNICIPALITY

WALKERVILLE PRECINCT PLAN

DEVELOPMENT FRAMEWORK

Legend

- Urban Development Boundary
- Residential
- Agriculture / Regional Open Space
- Rural Residential
- Business and Hospitality / Tourism
- Business and Commercial
- Vacant Properties in Ohenimuri
- Existing K- Route
- Proposed K - Route
- Regional Road
- Secondary Road
- Local Road
- Activity Street Network
- Access Points

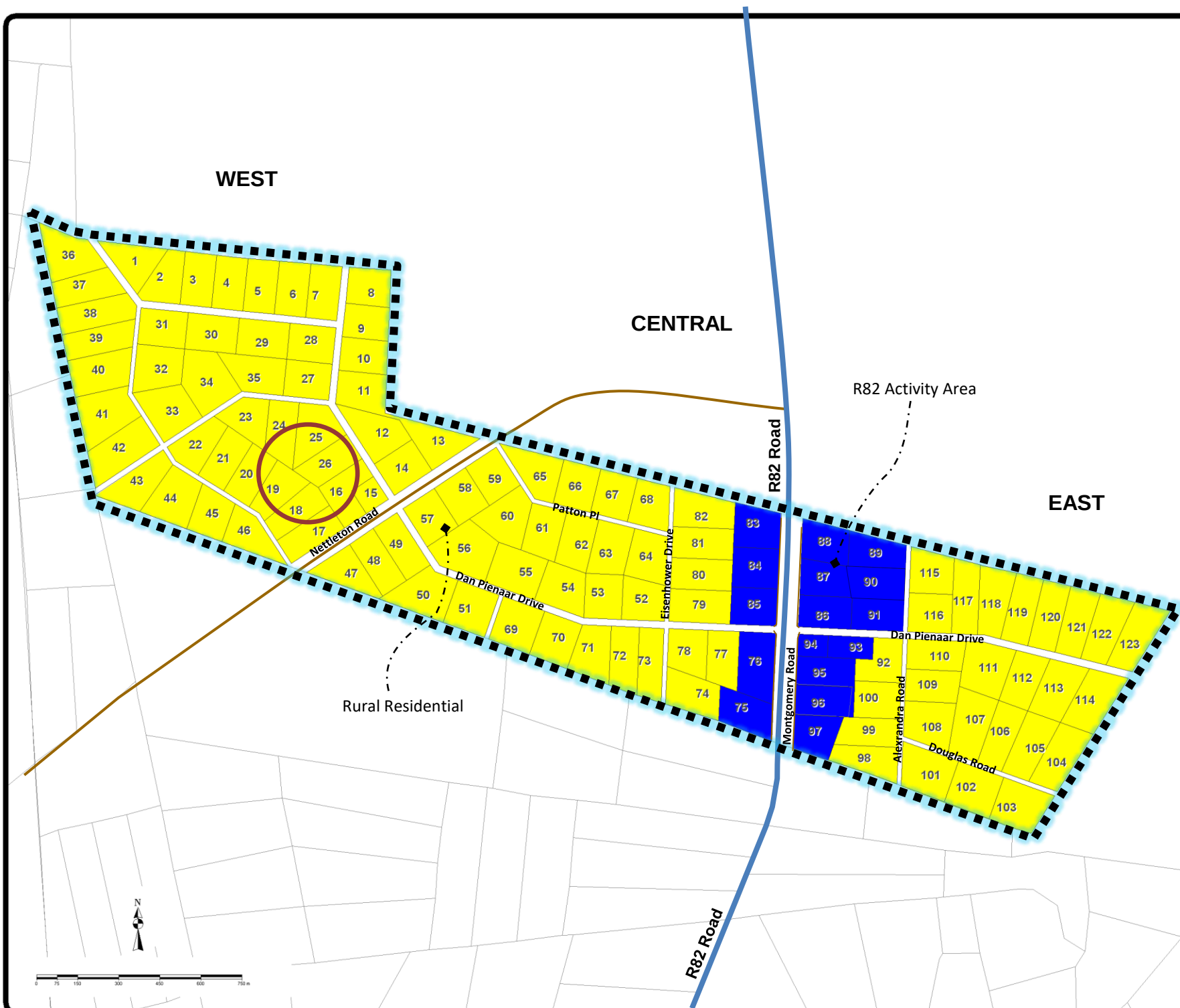


MIDVAAL LOCAL MUNICIPALITY

TEDDERFIELD A.H.PRECINCT PLAN

Precinct Plan

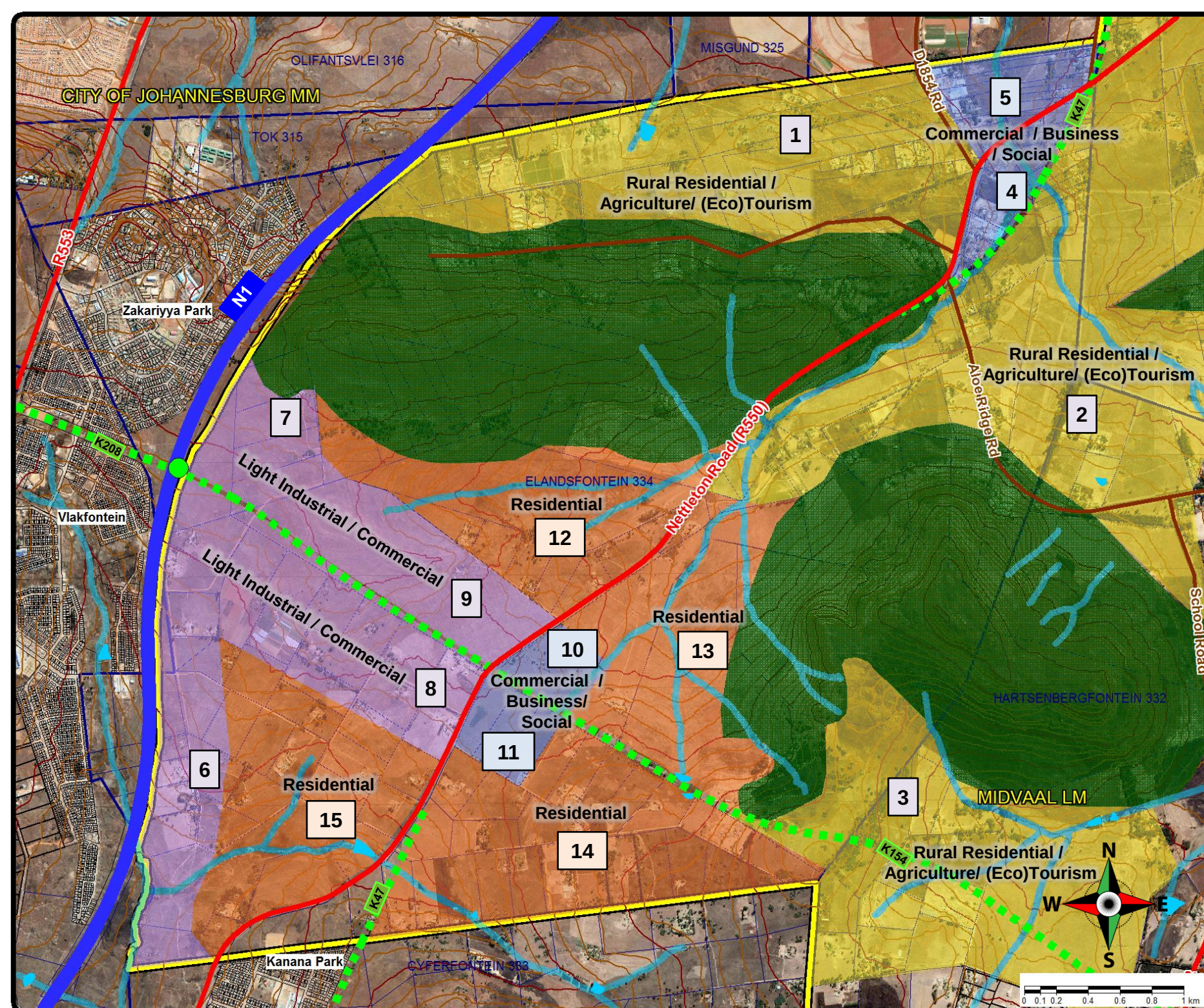
- Rural Residential
- R82 Activity Area
- Community Node



MIDVAAL LOCAL MUNICIPALITY

ELANDSFONTEIN PRECINCT PLAN

- Local Municipality
- 5m
- 20m
- Ridges
- Commercial / Retail & Social
- Rural Residential / Agriculture / (Eco-)Tourism
- Residential
- Light Industrial / Commercial
- Dams
- Rivers
- National Road
- Main Roads
- Tarred Roads
- Interchanges
- Proposed Secondary Roads



ANNEXURE B



DEPARTMENT OF AGRICULTURE, CONSERVATION,
ENVIRONMENT AND LAND AFFAIRS

**DIRECTORATE OF NATURE
CONSERVATION**

**DEPARTMENTAL POLICY
FINAL DRAFT
DEVELOPMENT GUIDELINES FOR RIDGES**

*COMPILED BY: MICHÈLE PFAB
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MARIANNE FORSTYH (INVERTEBRATES)
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19 APRIL 2001

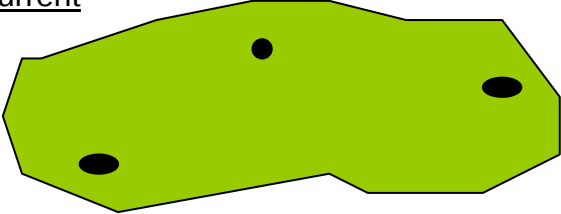
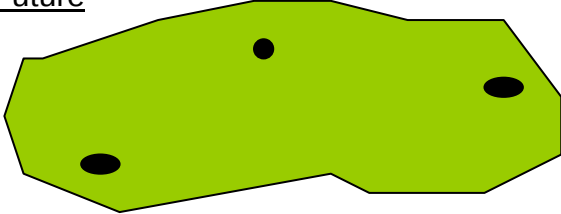
5. Departmental development policy for ridges in Gauteng

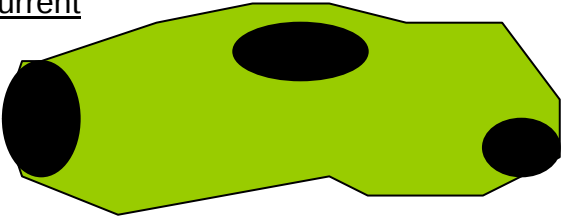
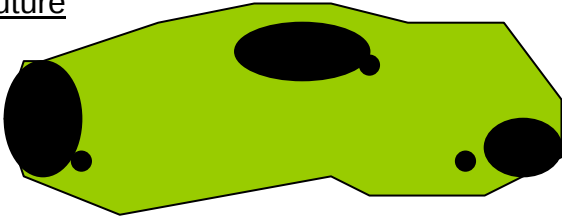
In the light of the motivations presented in section 3 of this document and due to the extremely limited distribution, rarity and threatened status of the ridges in Gauteng, it is imperative that the Department adopts a strict no-go or low impact development policy for these systems. However, this policy, by necessity, will have to be adapted according to the current transformed status of some of these ridges.

The policy guidelines outlined below are relevant to all ridges as defined in section 2 of this policy document and as spatially delineated in the GIS environmental management system of Environmental Assessment (Figure 5).

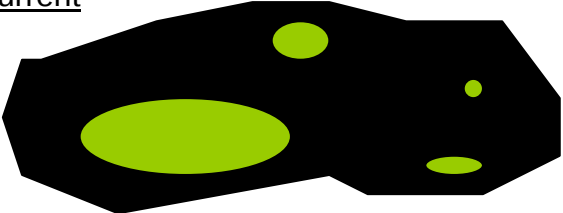
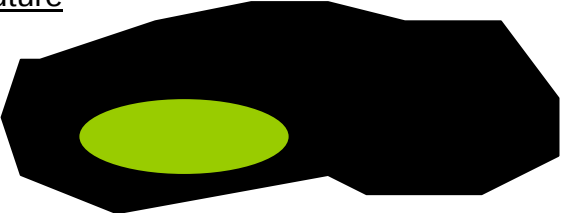
All ridges in Gauteng have been classified into four classes (Figure 5) based on the percentage of the ridge that has been transformed (mainly through urbanization) using the 1994 CSIR/ARC Landcover data. This forms the basis of the development guidelines that are detailed in the table below.

Please note that although rocky outcrops are not covered by the policy (since their small area coverage does not allow the classification of these features as ridges) they are regarded as sensitive areas characterized by high biodiversity and as such a no-go development policy should be applied. Implementation of this guideline is specifically needed at the local council level during the passing of building plans.

Ridge type	% of Gauteng ridges	Policy
Class 1 (0-5% transformed) includes Suikerbosrand & parts of Magaliesberg	47%	No further development allowed (including residential). Strict no-go policy. No further subdivisions will be allowed and consolidation of subdivisions will be encouraged. If developer should wish government to deviate from strict no-go policy, a full EIA (including public participation exercise) is required with full set of specialist reports including (but not limited to): • An ecological study, including both functional (ecological processes including connectivity function of ridge at a landscape level perspective) and compositional (biodiversity) aspects • A Red Data study for both fauna and flora • An invertebrate study • A hydrological / geohydrological study • A geotechnical study • A pollution study, including both air and water pollution • A social study, including cultural, historical and open space value aspects • A visual study • A study of service provision and access All specialist studies to examine cumulative impacts. A 200m buffer zone¹ of low impact development is required around class 1 ridges. Development proposals within the buffer zone should proceed at least to the mini EIA stage.
<u>Current</u> 		<u>Future</u> 
		■ Undeveloped/untransformed ■ Developed/transformed

Class 2 (5-35% transformed) includes parts of Magaliesberg, World Heritage site, Klipriviersberg, Bronberg, Skurweberg	40%	No further subdivisions will be allowed and consolidation of subdivisions will be encouraged. No-go development policy; low impact (e.g. tourism developments) will be considered requiring full EIA (including public participation exercise) with full set of specialist reports including (but not limited to): • An ecological study, including both functional (ecological processes including connectivity function of ridge at a landscape level perspective) and compositional (biodiversity) aspects • A Red Data study for both fauna and flora • An invertebrate study • A hydrological / geohydrological study • A geotechnical study • A pollution study, including both air and water pollution • A social study, including cultural, historical and open space value aspects • A visual study • A study of service provision and access All specialist studies to examine cumulative impacts. Ecological footprint² of low impact developments to cover no more than 5% of a property. All impacts for these developments must be sufficiently mitigated. A management plan to maintain the ecological integrity of remaining property is required and implementation is the responsibility of the developer. A 200m buffer zone¹ of low impact development is required around class 2 ridges. Development proposals within the buffer zone should proceed at least to the mini EIA stage. DACEL undertakes to conduct Strategic Environmental Assessments for these ridge systems.
Current  Future 		
 Undeveloped/untransformed  Developed/transformed		

Class 3 (35-65% transformed) includes Northcliff/ Roodepoort/ Krugersdorp ridge	8% Ridges in this class are to be designated as low impact development areas (A) and high impact development areas (B). DACEL will consider an entire ridge in this class under A until such time as the local council conducts and submits for approval a Strategic Environmental Assessment that designates B areas. Development to be contained within areas that are already transformed. (A) No further subdivisions will be allowed and consolidation of subdivisions will be encouraged. Low impact (e.g. tourism developments) will be considered requiring full EIA (including public participation exercise) with full set of specialist reports including (but not limited to): • An ecological study, including both functional (ecological processes including connectivity function of ridge at a landscape level perspective) and compositional (biodiversity) aspects • A Red Data study for both fauna and flora • An invertebrate study • A hydrological / geohydrological study • A geotechnical study • A pollution study, including both air and water pollution • A social study, including cultural, historical and open space value aspects • A visual study • A study of service provision and access All specialist studies to examine cumulative impacts. Ecological footprint² of low impact developments to cover no more than 5% of a property. All impacts for these developments must be sufficiently mitigated. A management plan to maintain the ecological integrity of remaining property is required and implementation is the responsibility of the developer. A 200m buffer zone¹ of low impact development is required around class 3(A) ridges. Development proposals within the buffer zone should proceed at least to the mini EIA stage. (B) Exempt from EIA process unless: (1) A Red Data species is recorded for the ridge – implementation of Red Data policy is required. (2) The open space³ is 4ha* or larger. EIA with all specialist reports (see A above) required. All policy guidelines as listed for A above are applicable. (3) Surrounding community / landowners object. A scoping report is then required with specialist reports identified in accordance with public objections but should at least include a social study, including cultural, historical and open space value aspects
Current	Future
Undeveloped/untransformed Developed/transformed	

Class 4 (65-100% transformed) includes Melville Koppies & Linksfield ridge	5%	Exempt from EIA process unless: (1) A Red Data species is recorded for the ridge – implementation of Red Data policy is required. (2) The open space³ is 4ha* or larger. At least a scoping report is required with the following specialist reports (but not limited to): • An ecological study, including both functional (ecological processes including connectivity function of ridge at a landscape level perspective) and compositional (biodiversity) aspects • A Red Data study for both fauna and flora • An invertebrate study • A geotechnical study • A social study, including cultural, historical and open space value aspects • A visual study Ecological footprint² of development to cover no more than 5% of a property. All impacts for these developments must be sufficiently mitigated. A management plan to maintain the ecological integrity of remaining property is required and implementation is the responsibility of the developer. No further subdivisions will be allowed and consolidation of subdivisions will be encouraged. (3) Surrounding community / landowners object. A scoping report is then required with specialist reports identified in accordance with public objections but should at least include a social study, including cultural, historical and open space value aspects
<u>Current</u> 		<u>Future</u> 
		■ Undeveloped/untransformed ■ Developed/transformed

¹See motivation and setting of buffer zones in Red Data plant policy.

²Ecological footprint shall include all areas directly impacted by development including all paved surfaces, gardens/landscaping, property access and service provision.

³Open space is entire area devoid of development and may include one or more individual properties/ subdivisions belonging to separate landowners.

*Based on information set out in table below.

LITERATURE / EXPERT	GUIDELINE INFORMATION
Cowling & Bond, 1991	The minimum reserve size needed to avoid species losses in the Agulhas Plain area is about 4-15ha.
Dawson, 1994	Core species are outnumbered by edge species in forest patches in Germany that are less than 2 to 5ha for carabid beetles and less than 10ha for “wandering spiders”
Wood <i>et al.</i> 1994	Studies in the Cape Metropolitan area have suggested that with intensive management, ecological processes necessary for species survival can be maintained in natural areas as small as 6ha.
Lombard <i>et al.</i> 1997	Preliminary data from a study area immediately north of the Agulhas Plain indicate that some 50 years after land clearance, plant species have not been lost from small (1-5ha) fragments of renoster shrubland within an agricultural matrix.
Benjamin Allen, Dept of Environment & Geographical Sciences, Manchester Metropolitan University	Studies into the conservation of Urban Ancient woodland fragments in the UK, suggest that an area as little as 4ha is sufficient to maintain the habitat in its natural state, especially where shape of the fragment reduces edge effects (e.g. circular areas).
Dr Jukka Jokimäki, University of Lapland, Finland	Urban parks of 10-35ha have been found to contain most of the bird species recorded in cities.
Christa Grobler, University of Pretoria	Plant species richness recorded in small open areas on ridges in Gauteng is average e.g. Beaulieu koppie (2ha), Lonehill koppies (6ha), Strubenkop (10ha) and Ruimsig (12ha) to high/good e.g. Northcliff ridge (10ha), Colbyn koppies (14ha) and Murrayfield koppie (9ha). High species richness was also recorded on Beaulieu koppie (2ha), however this koppie is in a rural setting and therefore not isolated by urbanization.

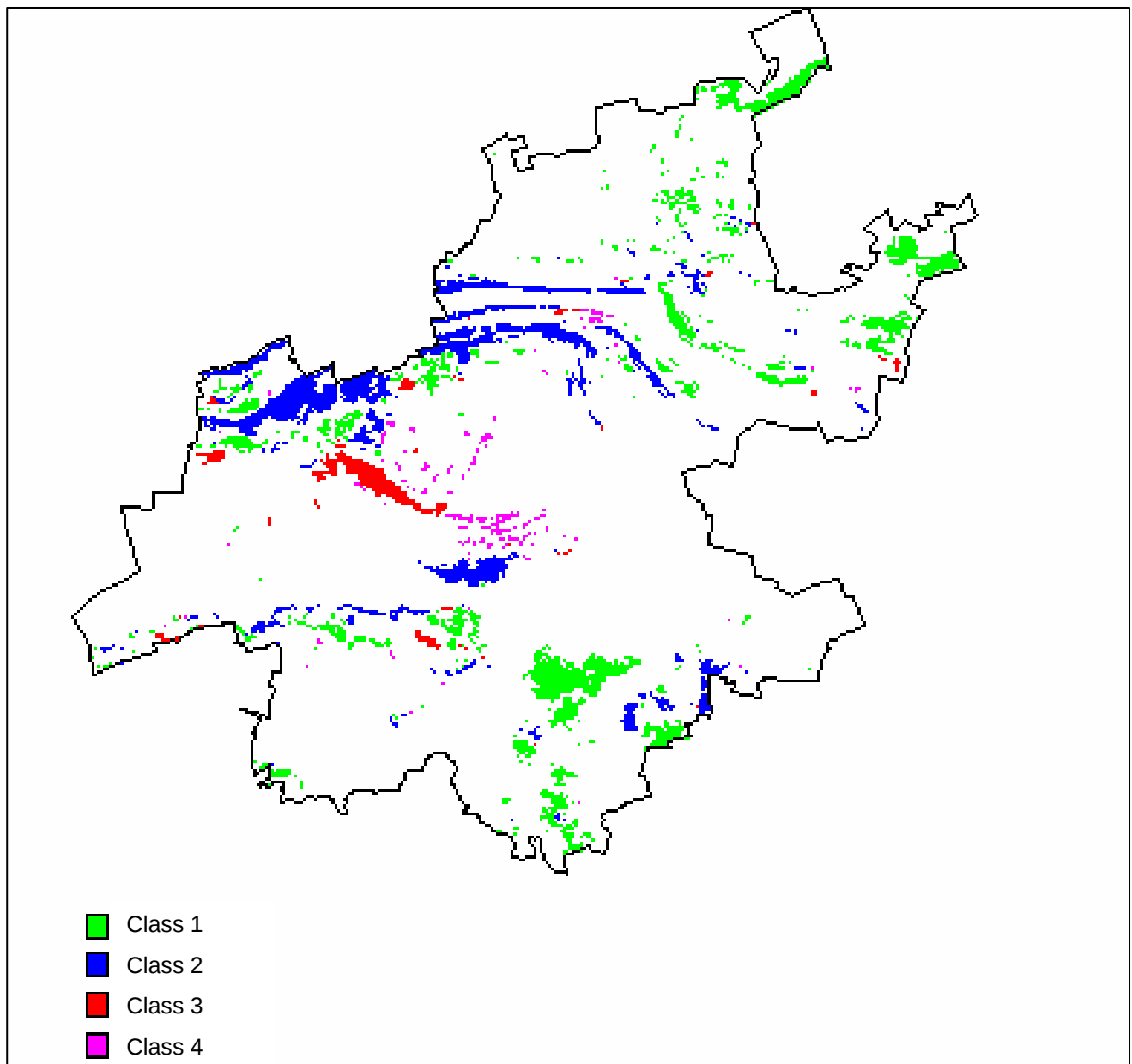


Figure 5. The ridges of Gauteng classified into four classes based on the percentage of the ridge that has been transformed (mainly through urbanization).