

GAUTENG RAPID LAND RELEASE

HEKPOORT PORTION 321

URBAN DEVELOPMENT AND DESIGN FRAMEWORK



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<p>Hekpoort Portion 321 Rapid Land Release</p>			



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ABBREVIATIONS

BRT	Bus Rapid Transit
CBD	Central Business District
DRDLR	Department of Rural Development and Land Reform
EIA	Environmental Impact Assessment
EMF	Environmental Management Framework
FLISP	Finance Linked Individual Subsidy Programme
GSDF	Gauteng Spatial Development Framework
RDP	Reconstruction and Development Programme
SDF	Spatial Development Framework
WRDM	West Rand District Municipality

1 INTRODUCTION

1.1 BACKGROUND

Currently there is in excess of 1,2 million people on the waiting list for housing in Gauteng Province. In an attempt to address this challenge and to improve service delivery, the Gauteng Provincial Government launched the Gauteng Rapid Land Release Programme on 31 August 2018.

The land release plan is aimed at identifying strategically located land parcels that are currently not in use and prioritising the release of such land for development. State owned land (national, provincial or municipal owned) will be prioritized and assessed in terms of its ability to be allocated as part of the Rapid Land Release Programme. Released land will address housing, economic, social cohesion and agricultural needs of surrounding communities.

The range of housing typologies to be developed includes: multi-storey rental units, multi-storey Finance Linked Individual Subsidy Programme (FLISP) units, or free standing houses at own cost (non-subsidised/bonded). The properties may also be used for providing social services such as multi-purpose community centres, community halls, libraries, sports and recreation facilities and for economic activity such as business, industrial/commercial and urban agriculture.

In summary, the Gauteng Rapid Land Release Programme seeks to:

- Provide the means to support locally driven housing solutions;
- Contribute to the provision of additional housing supply in dealing with housing backlog in the Province;
- Facilitate the release and access to land for the purpose of:
 - Housing development;
 - Social and economic development;
 - Conservation of environment, and
 - Food security and agricultural production.
- Promote land release towards meeting localized housing need to people who want to build houses for themselves;
- Facilitate and promote access to rudimentary services as defined in the policy;
- Facilitate land access for provision of business opportunities and social amenities;
- Provide the mechanisms for identification of:
 - Land parcels that could be expropriated without compensation, and
 - Abandoned buildings which could be expropriated without compensation and could yield different types of housing opportunities.
- Provide for the release of land and land tenure to ensure individuals and communities are able to take advantage of the available housing opportunities;
- Provide communities with the ability to gain access to the necessary land to leverage township businesses, urban agriculture and sporting and recreational opportunities, and
- No land will be released without being fully serviced by the municipalities.

1.2 STUDY AREA AND STUDY OBJECTIVE

Portions 79, 91, 96, 321 and 322 of the farm Hekpoort No 504 JQ as depicted on **Figure 1**, have been identified as potential land for the Gauteng Rapid Land Release Programme. The site has undergone a Preliminary Feasibility Assessment which concluded that it is suitable to be developed as part of the Rapid Land Release Programme. Hence, the main objective is to compile an Urban Development Framework for Hekpoort Portion 321 which:

- Defines the regional context of the study area;
- Analyses the institutional, social, economic and built environment within and surrounding the site;
- Determines the key formgiving/structuring elements to be incorporated into the future development of the area;
- Defines the most suitable range of land uses to be developed on the site;
- Determines a land use budget for the site based on the amount of land available for development, and
- Formulates proposals for future land uses (composition and distribution) on the site and indicates how the site is to be incorporated into the surrounding urban fabric.

1.3 METHODOLOGY AND HIERARCHY OF PLANS

1.3.1 Methodology

Diagram 1 illustrates the process followed in the compilation of the Urban Development/Design Framework and how this feeds into the eventual Township Establishment process.

- The first step is to obtain aerial photography for the area and to compile the base map with contours, servitudes and cadastral information for the area.
- With the base map completed, the different technical workstreams commence with the geotechnical/dolomite investigation, environmental impact assessment, roads and stormwater assessment, water and sanitation and electricity availability assessment, and also an assessment of the Title Deed Status and Restrictions registered over the land parcel comprising the study area.
- From these technical investigations, the project team identifies the major structuring/formgiving elements which may impact on the nature, intensity and location of development in future.
- Based on the structuring elements identified, the development concept for the study area is then developed.
- The development yield for different land uses based on the development concept is next determined from a detailed land use budget.
- This information, combined with the detailed reports from the conveyancer, traffic engineers, environmentalists, and geotechnical engineers, inform the compilation of the Development Framework which can then be converted into a more detailed Design Framework for the area (if necessary).
- Following from this, and based on the specifications contained in the Urban Development/Design Framework, the project team compiles the detailed Layout Plan for the study area. At the same time the Environmental Impact Assessment (EIA), the Phase 1 Geotech and the Engineering Reports are compiled to serve as technical reports to support the Township Establishment Application.
- Once the draft layout plan is completed, it is circulated to the project team for technical inputs and subsequent amendments. Thereafter, the layout plan is submitted to the client (stakeholders) for their comments.

STUDY AREA

**PORTIONS 79, 91, 96, 321
AND 322 OF THE FARM
HEKPOORT NO 504 JQ**

Legend

- Study Area
- Cadastral
- Main Roads
- Secondary Roads
- Rivers

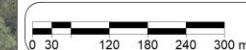
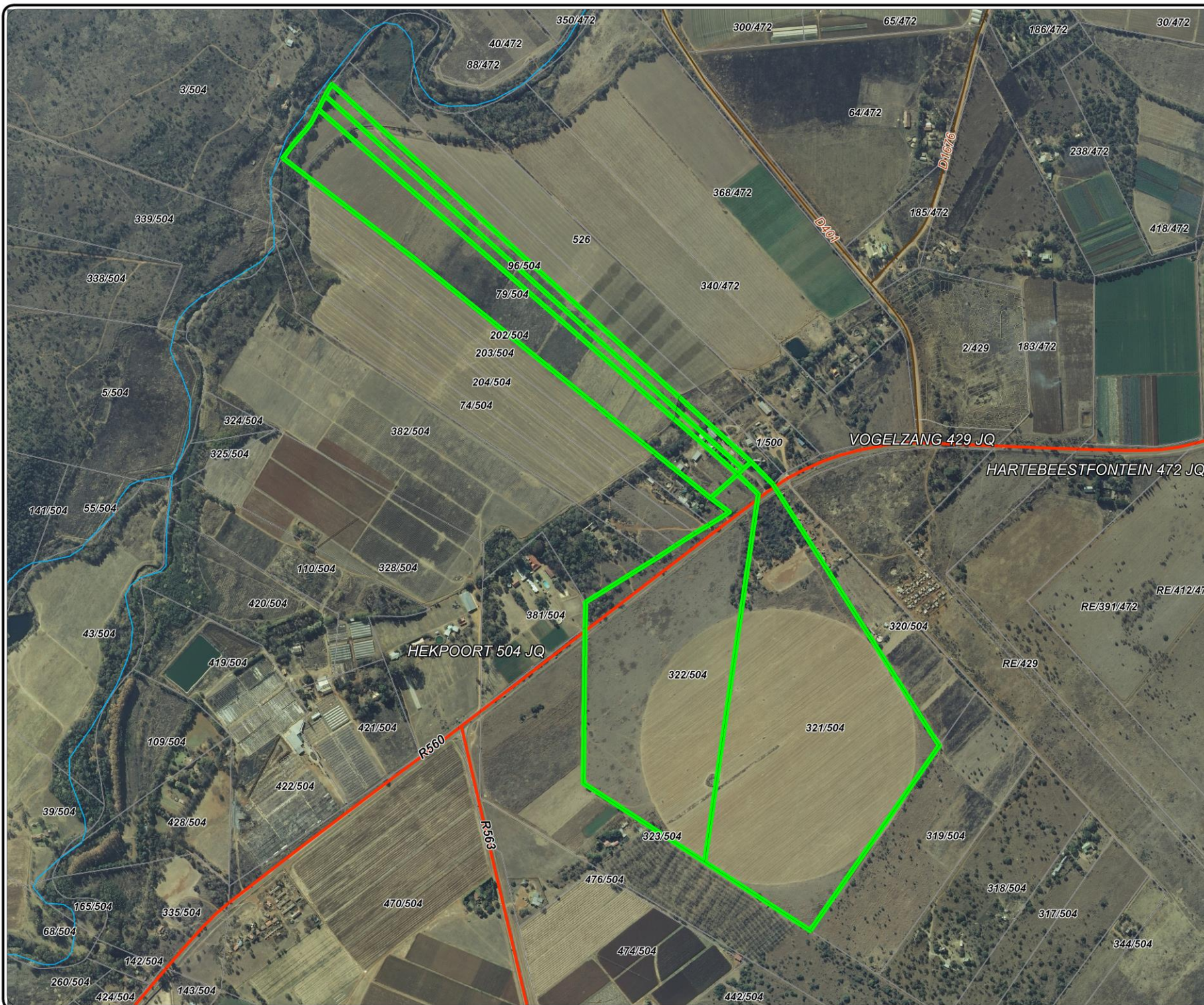
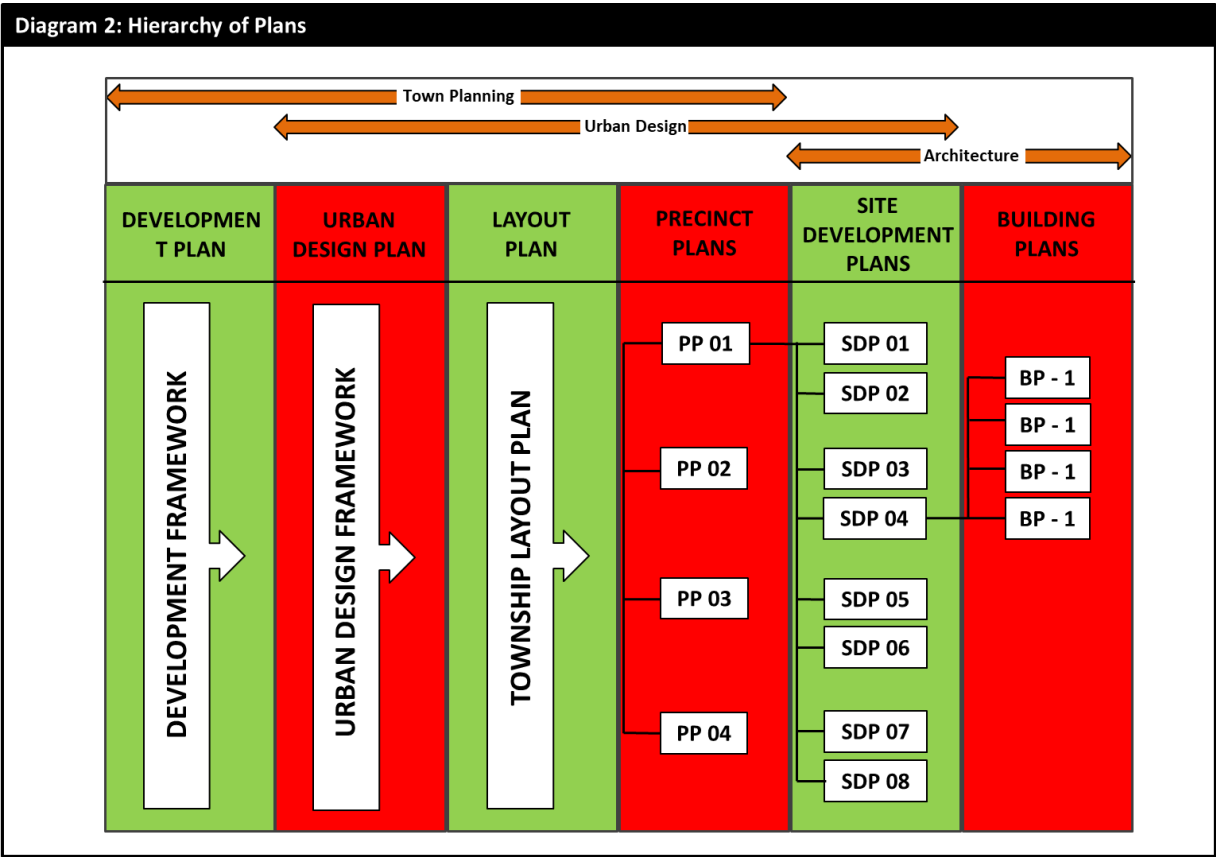
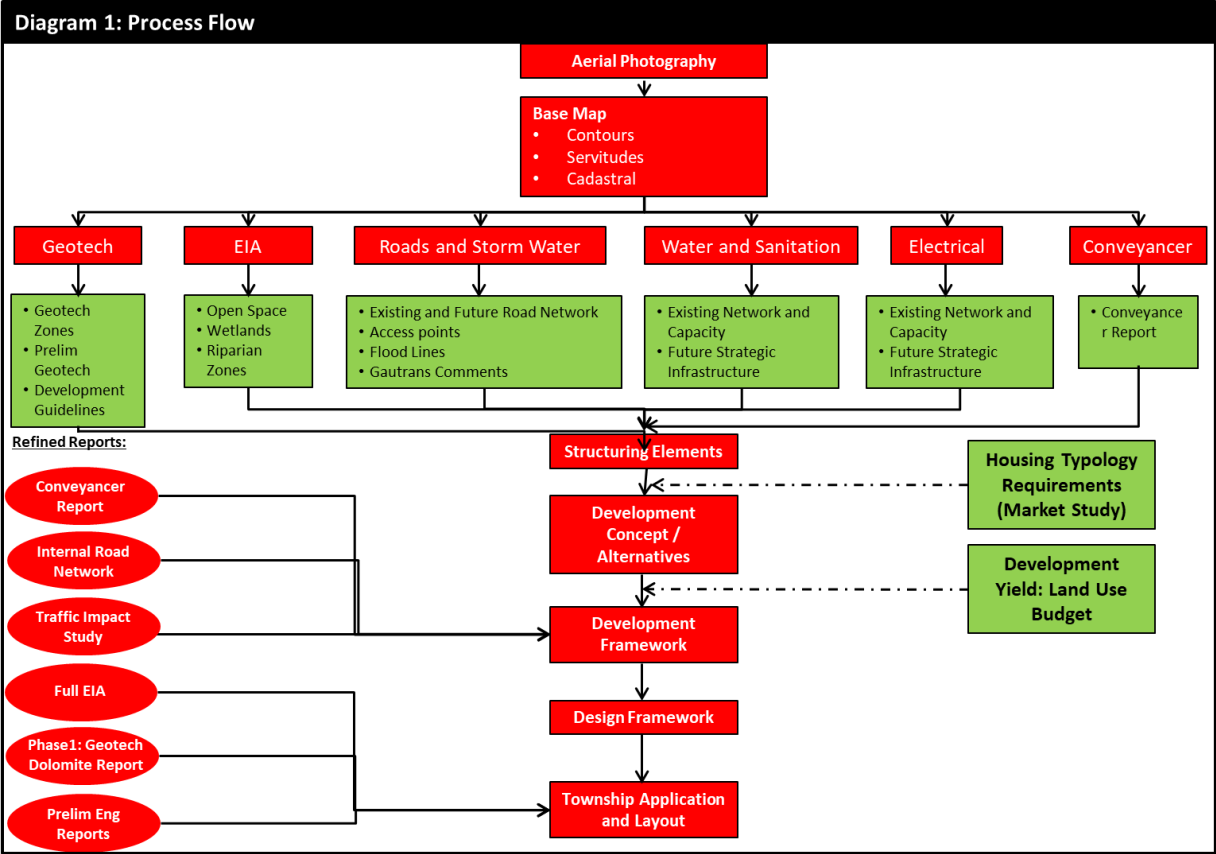


Figure 1



GAUTENG RAPID LAND RELEASE:
HEKPOORT PORTION 321



- Once all parties and stakeholders are satisfied with the layout plan, the Township Establishment Application is compiled whereafter it is submitted to the relevant local authority for consideration and approval.

1.3.2 Hierarchy of Plans

Diagram 2 illustrates the hierarchy of plans which the Urban Development and Design Framework forms part of. It also shows the interaction and scope of involvement of the town planning, urban design and architecture disciplines in the planning process.

At the Development Framework level the planning process needs to consider directives contained in the Provincial Spatial Development Framework, Municipal Spatial Development Framework and Spatial Development Frameworks of surrounding municipalities, as well as the Regional Development Frameworks/Precinct Plans relevant to the study area.

These directives inform the Spatial Development Framework which is the first deliverable from this process and which provides the basic spatial structure and associated land use allocation for the area.

The Spatial Development/Urban Design Framework directly inform the structure of the layout plan which is compiled for purposes of the township establishment process.

Once the township establishment process is completed, more detailed precinct plans can be compiled for specific precincts within the township.

Next to follow are site development plans for individual erven, accompanied by building plan drawings for the buildings to be erected on the site. These are compiled by the architect.

2 STUDY AREA STATUTORY FEATURES

2.1 LOCATION AND AUTHORIZED MUNICIPALITY

Figure 2 shows that the study area is located in the far north-western extents of Gauteng Province in the area of jurisdiction of the Mogale City Local Municipality and the West Rand District Municipality.

2.2 PROPERTY DESCRIPTION, ZONING AND OWNERSHIP

The study area is 74,37 ha in extent and is currently zoned as Agricultural. The land belongs to the Mogale City Local Municipality.

2.3 CURRENT LAND USE

There are no urban activities on the land and indications are that the southern part (Portions 321 and 322) was historically used for pivot irrigated crop farming (refer to Figure 1).

At present there are no intensive agricultural activities on the site.

PROVINCIAL CONTEXT

★ Study Area
(Portion 79, 91, 96, 321 and 322
of the Farm Hekpoort 504 JQ)

▭ Provincial / Municipal Boundaries

EXISTING LAND USES

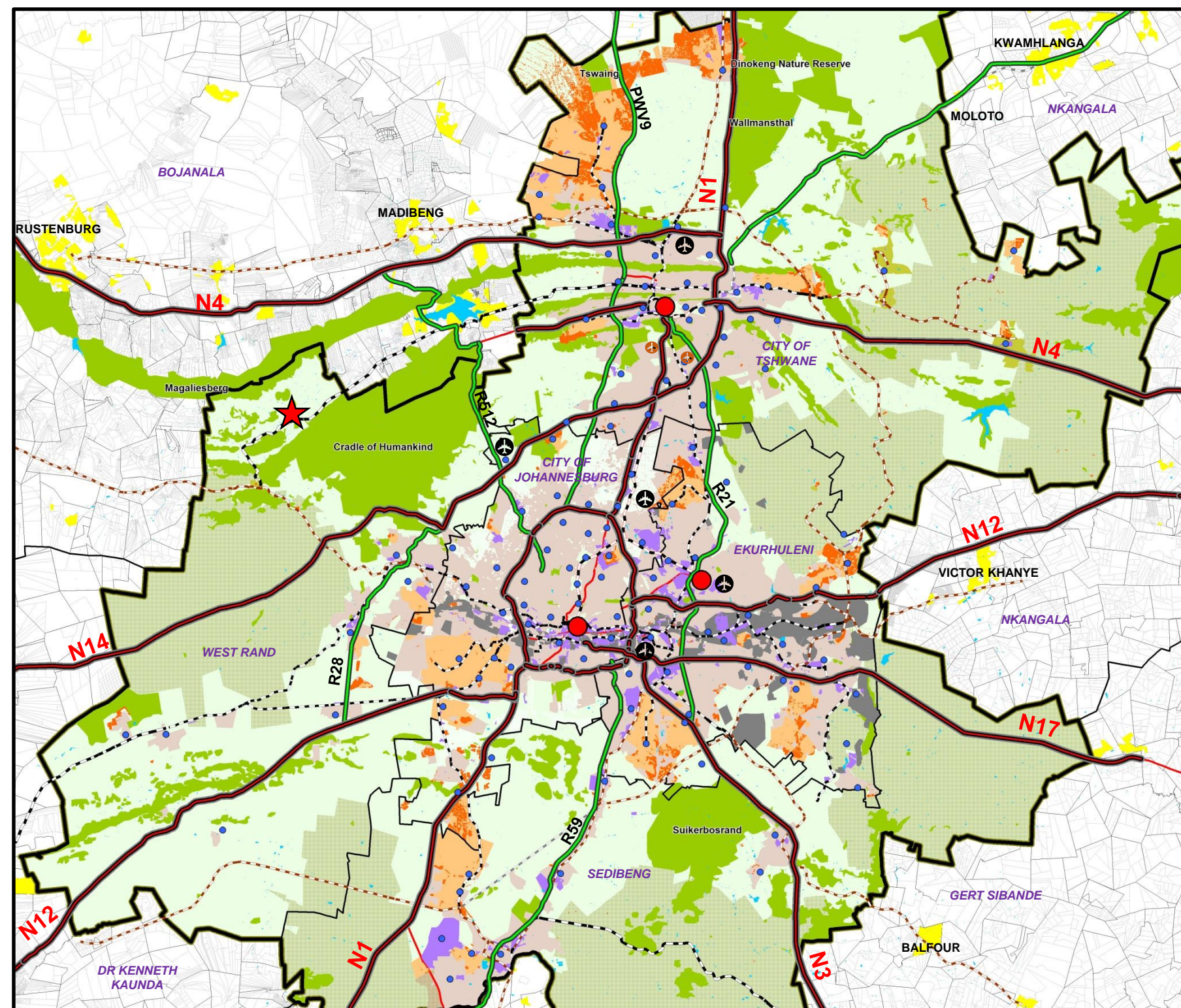
- ▭ Agricultural Hubs
- ▭ Protected Areas/Natural Systems
- ▭ Waterbodies
- ▭ Urban Footprint
- ▭ Low Income Residential Areas
- ▭ Informal Housing Areas
- ▭ Mining
- ▭ Industrial
- ▭ Towns

- Capital Core
- Business Nodes
- ✈ Commercial Airport
- ✈ Military Airport

- National Corridor
- Existing Freeways
- Provincial Corridors

- SA Railway
- Commuter Network
- Freight Ring Rail
- Future Development
- Gautrain Railwayline

Figure 2



3 REGIONAL DEVELOPMENT POLICY

3.1 GAUTENG SPATIAL DEVELOPMENT FRAMEWORK

The Gauteng Spatial Development Framework (SDF) envisages Gauteng in 2030 as an integrated, connected space that provides for the needs of all.

The GSDF 2030 builds on the concept of the GMP and aspires to establish a balanced, polycentric spatial network, with strong and resilient nodes enabling mutually beneficial exchanges of goods and services, and movement of people. To support the establishment of this polycentric form, **four spatial development strategies** are to be followed:

- Capitalising on proximity, by directing higher densities closer to economic nodes and public transport networks, and improving conditions in areas closer to economic opportunities, to ensure even greater benefits for the people and economy of these areas.
- Managing new settlement development, to prioritise infill development and densification, rather than expanding residential development outwards, so new settlements are functional and integrated units of the polycentric provincial network and based not only on the availability of land.
- Building an economic network, through a system of high-order nodes and activity corridors, developing economic clusters that benefit from synergies and unlock the advantages of agglomeration.
- Creating a viable and productive hinterland, by protecting valuable resources and high potential agricultural land from harmful development, and managing water resources fugally and effectively.

Ten high-priority provincial **spatial development proposals** are outlined, that should be followed through in terms of all development:

- Intensify nodes, public transport routes and stations, to optimise the benefits of nodes and public transport routes in polycentric networks.
- Strengthen, maintain and enhance nodes as identified by each municipality to ensure that development takes place within the nodes.
- Promote spatial integration and township regeneration through the use of land banking and government land assets, and support for urban hubs.
- Manage municipal urban growth by enforcing urban growth boundaries to reduce sprawl, manage infrastructure expenditure and ensure better socio-economic integration.
- Expand and integrate municipal bus rapid transit (BRT) networks to achieve greater connectivity between major nodes and settlements with low levels of economic activity.
- Enhance major road and rail networks, to ensure greater connectivity and a balanced provincial spatial network.
- Provide multi-pronged sustained support to outlying residential areas including human capital development, mobility support and local economic development programmes.

- **Strengthen and enhance agricultural production and agro-processing to optimise the use of high-value agricultural land in the province, create jobs, grow the economy and improve food security.**
- Actively manage and protect the environment and eco-systems, including rehabilitating degraded areas and exploring legislating a provincial green belt.
- Improve and optimise provincial tourism opportunities, through directing tourism-related activities to identified tourism areas, and creating strong links between tourism towns and surrounding eco-tourism opportunities.

To realise the specific provincial spatial, economic and social objectives, **two instruments** are proposed that will be used to coordinate government action, target public investment and crowd in private sector investment. These are:

- *spatial development coordination* (coordinating, aligning and harmonising infrastructure and social investment spending by provincial departments and municipalities in the province, and providing spatial certainty for national investments with the Gauteng City-Region); and
- *spatial targeting* (prioritising specific spatial areas or localities for investment and spending by both State and non-State actors in order to achieve spatial justice and economic efficiency).

What is clear from the Gauteng SDF (**Figures 3.1** and **3.2**) is that the study area does not form part of any of the Rural Enterprise Support Zones in Gauteng, hence it is not considered to be part of a high agricultural production area. The study area forms part of an area demarcated as a “High Rural Control Zone” in terms of the provincial Environmental Management Framework (EMF) and it is part of a Tourism priority area.

3.2 WEST RAND DISTRICT SPATIAL DEVELOPMENT FRAMEWORK

Figure 4 depicts the Spatial Development Framework of the West Rand District Municipality. In terms of this plan, Hekpoort is categorized as a Rural Node in the context of the District, surrounded by Protected Areas and “Extensive Agriculture” being the main land use around the Hekpoort Node.

Routes R560 and R563 also form part of the regional tourism route network of the District which functionally links the Cradle of Humankind, Magalies Mountains and Hartbeespoort Dam tourism destinations to one another.

3.3 MOGALE CITY SPATIAL DEVELOPMENT FRAMEWORK

The Mogale City Spatial Development Framework as depicted on **Figure 5** shows the Hekpoort node as a “Rural Town” with an Urban Edge and areas conceptually earmarked for “Urban” activity.

The strip of land to the south of Hekpoort is indicated as “Buffer Zone” up to the mountains and ridges further to the south, while areas to the north-west are indicated as “Rural Environment”. The areas to the north-east are shown as “Protected/ Nature Reserves”.

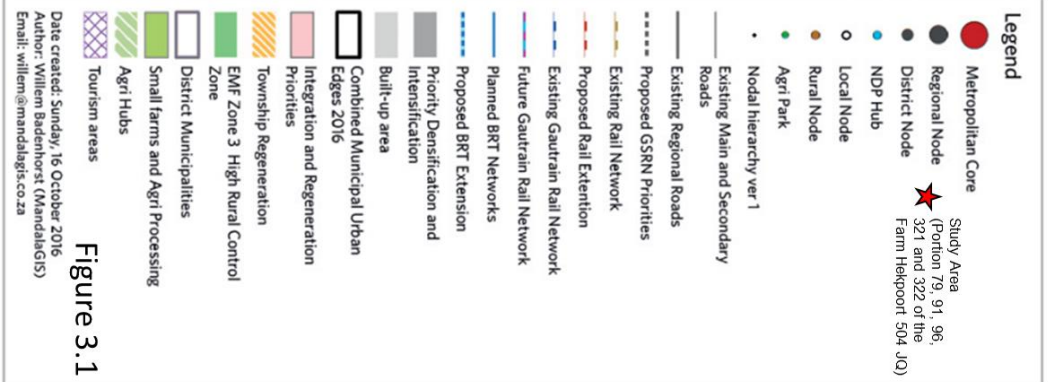
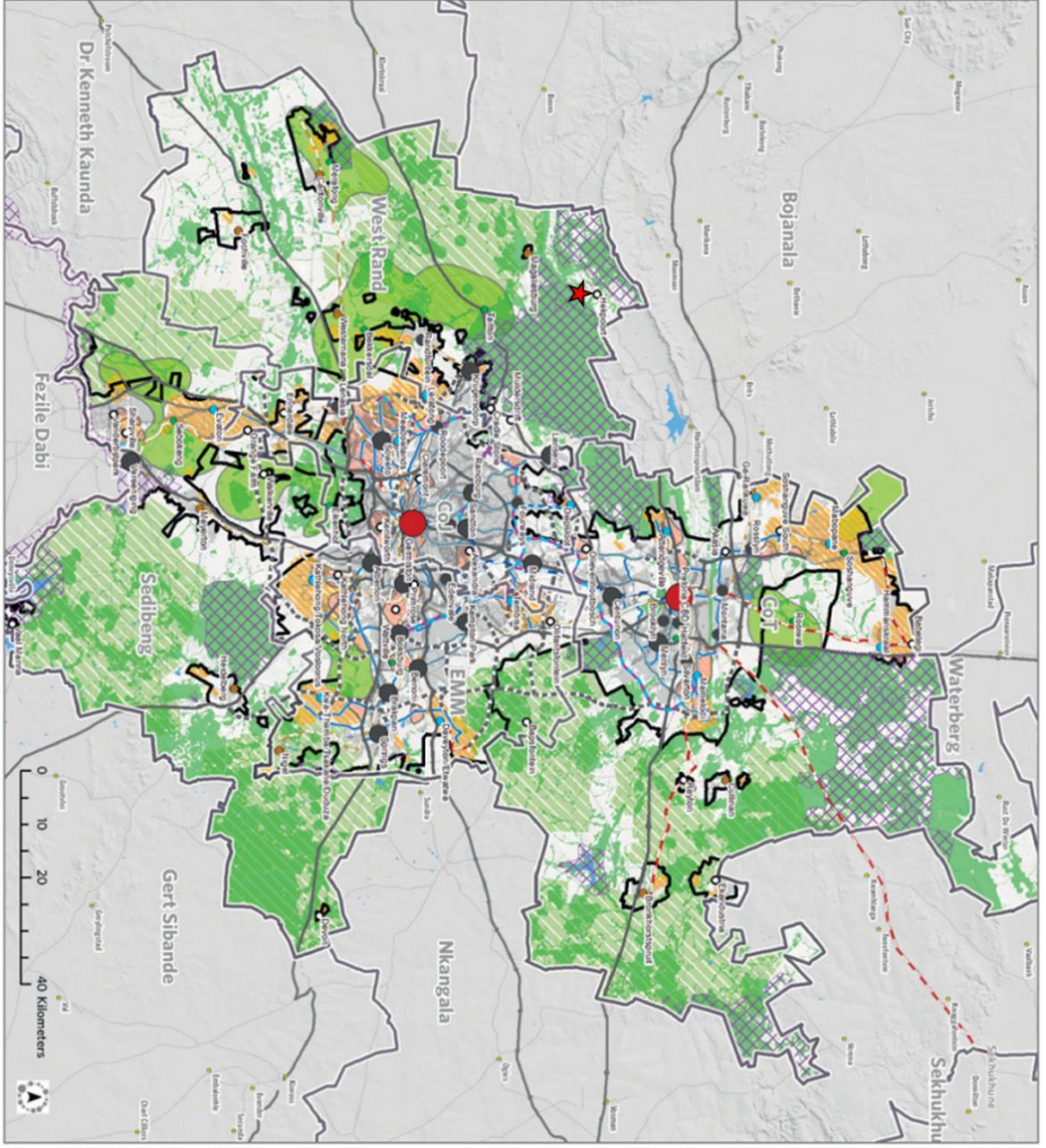


Figure 3.1

Gauteng SDF 2030: Spatial Development Framework and Provincial Area of Focus

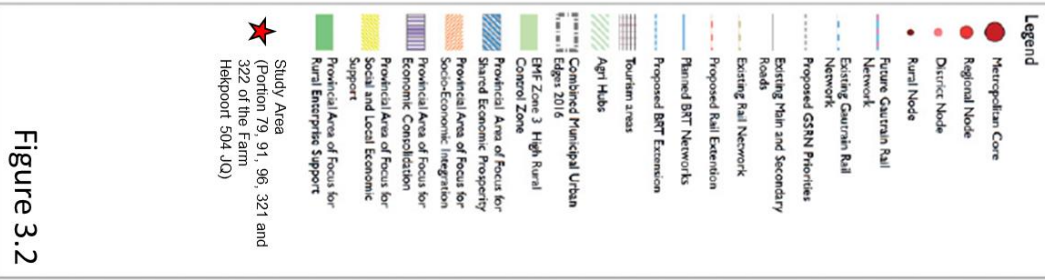
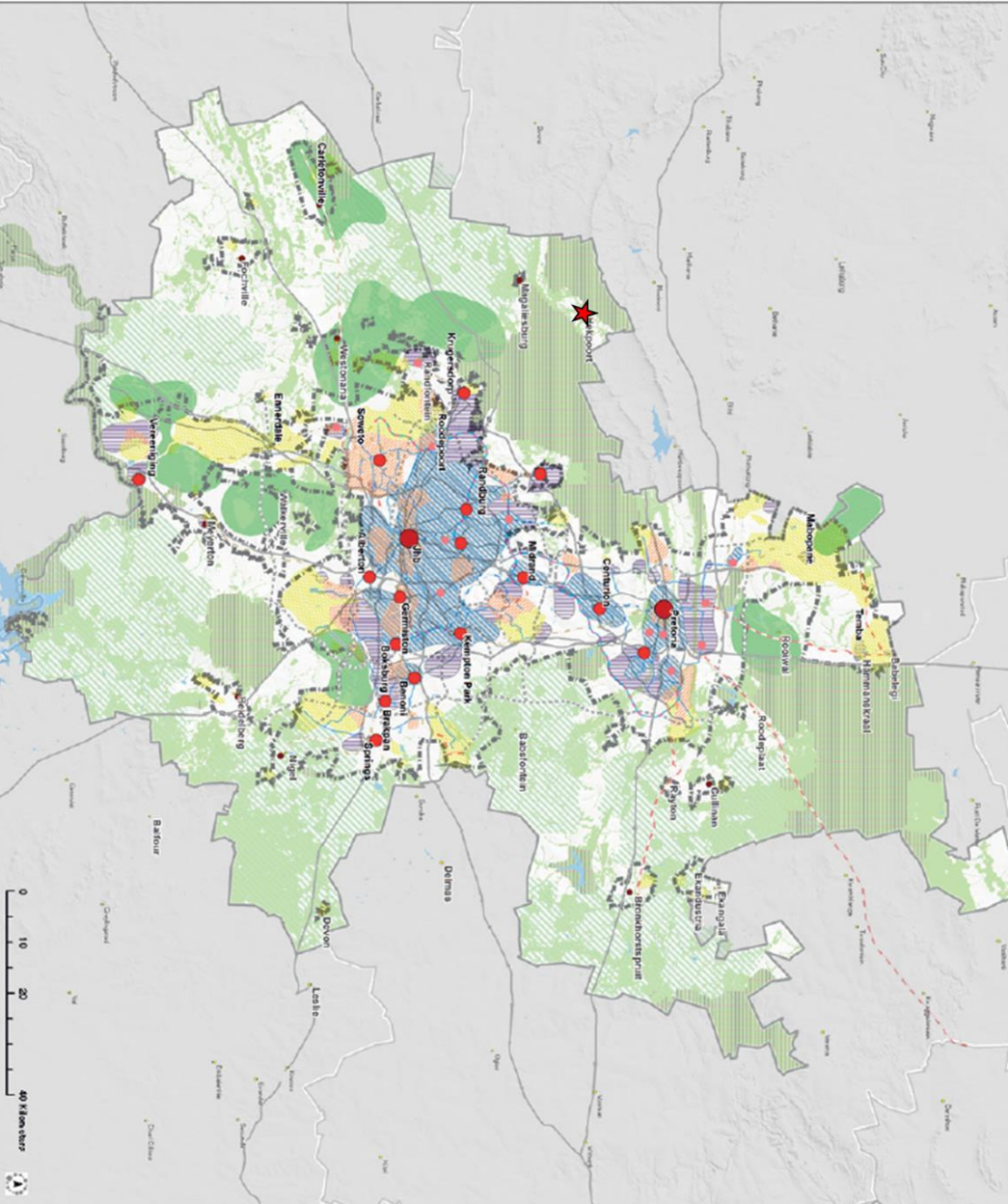


Figure 3.2

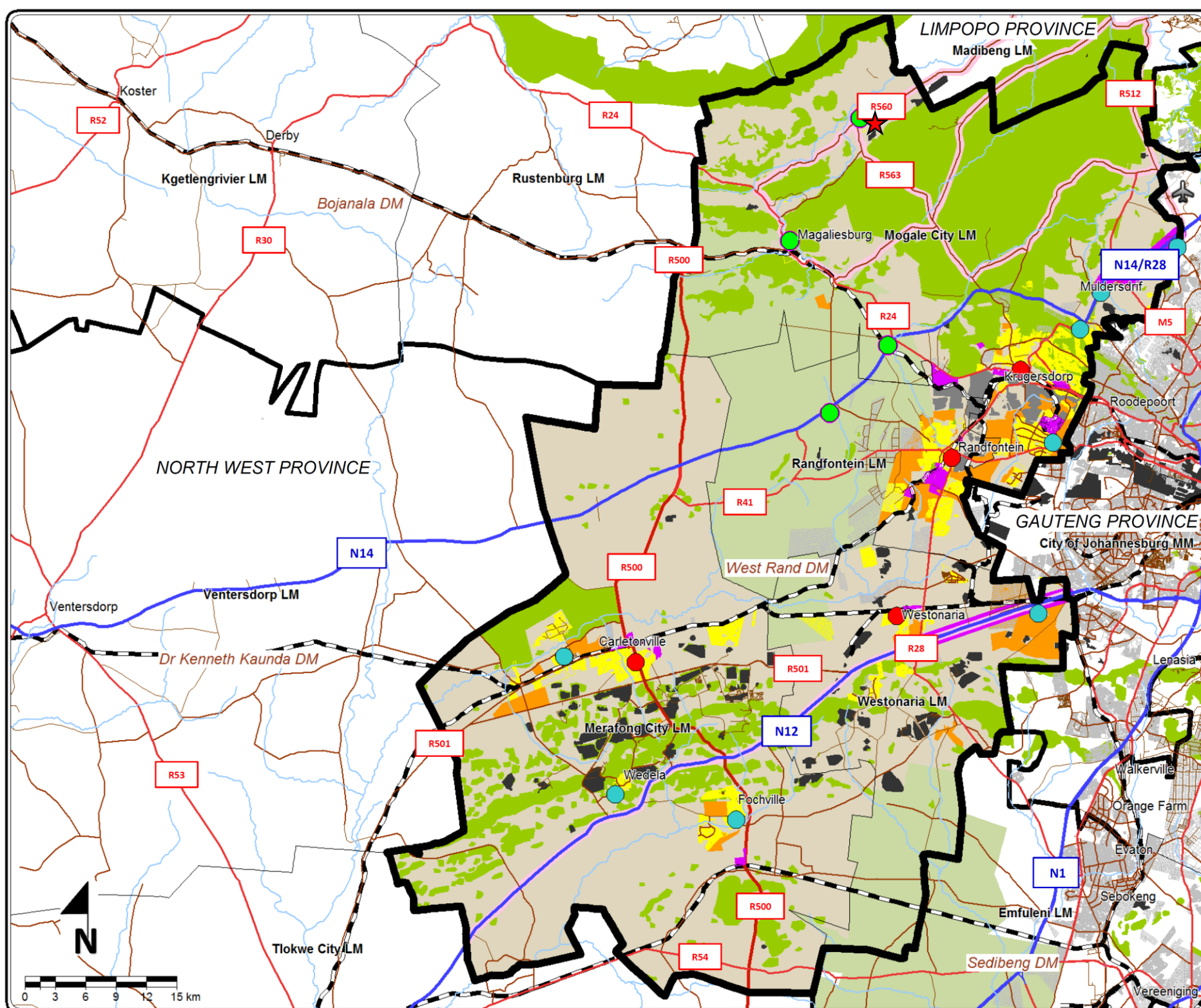
WEST RAND DISTRICT MUNICIPALITY

Spatial Development Framework

★ Study Area
(Portion 79, 91, 96, 321 and 322 of the Farm Hekpoort 504 JQ)

LEGEND

- District Municipality
- Local Municipality
- Urban Footprint
- Agricultural Holdings
- Protected Areas / Ridges
- Agricultural Hubs
- Extensive Agriculture
- Mining
- Mine Dump
- Rehabilitation Project
- Industrial
- Strategic Development Areas
- Rivers
- Primary Nodes
- Secondary Nodes
- Tertiary / Rural Nodes
- Highway
- Primary
- Secondary
- Rail
- Tourism Corridors



Mogale City SDF (2011)

Local Municipality of Madibeng

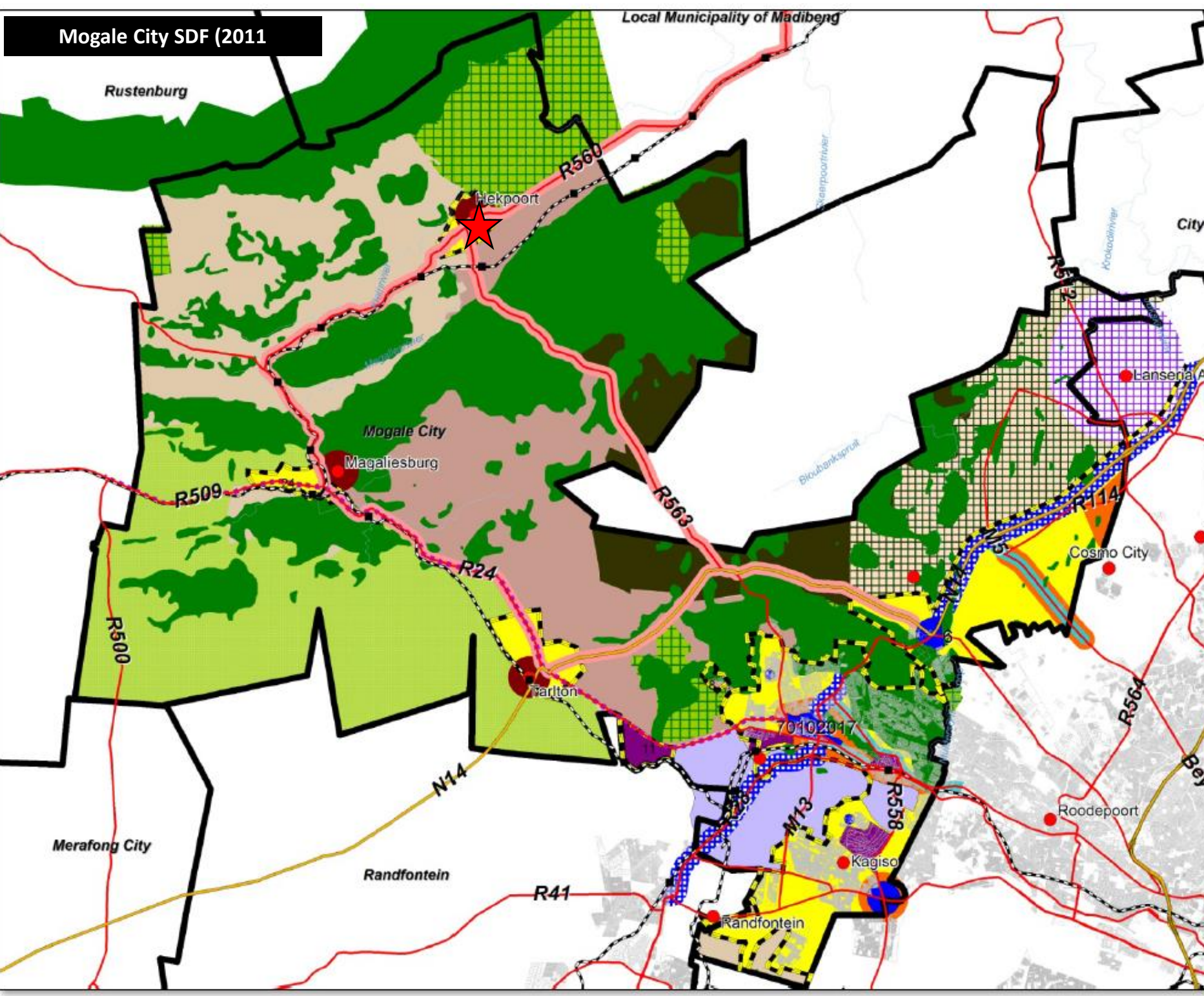
Legend

- Local Municipality
- Towns and Places
- SDF**
- Rural Environment
- Muldersdrift Rural Transition Zone
- Focused Agricultural Development
- Urban Edge
- Urban Areas SDF
- Mining Zone
- Densification Priority Zone
- Activity Spine
- N14 Development Corridor
- Nodal Activity Areas
- Lanseria Aerotropolis (To be Investigated)
- Industrial Areas
- CoH WHS only Mogale City
- CoH Buffer Zone SDF (To be Investigated)
- Protected/Nature Areas
- Mountains and Ridges
- Tourism Corridor
- Mogale City/Rustenburg Corridor (To be Investigated)
- Rural Towns
- Railway Line
- Station
- Regional Roads
- National Roads
- Perennial Rivers

Study Area (Portion 79, 91, 96, 321 and 322 of the Farm Hekpoort 504 JQ)

5

0 1 2 3 4 5 km



3.4 HEKPOORT PRECINCT PLAN

Figure 6 represents a Precinct Plan for the Hekpoort area from which the following directives have been identified:

- The main rural node is located to the west in the vicinity of the R560-R99 intersection.
- Four more Rural Settlements have been provided for at Plumari, Engelbrecht, Vogelzang and Hartbeesfontein respectively.
- The study area is represented by the yellow dot on Figure 6 at the intersection between route R560 and R563 (Vogelzang).
- The areas surrounding the four rural settlements are indicated as high intensity agriculture areas.

3.5 WEST RAND DISTRICT MUNICIPALITY (WRDM) HUMAN SETTLEMENT PLAN

The WRDM Human Settlement Plan indicated that there is an estimated 626 informal structures in the Hekpoort area; about 273 units in the former DMA area (Cradle of Humankind) and 549 units in the Magaliesburg area (refer to **Figure 7.1**).

The WRDM Human Settlement Plan furthermore indicated Portion 192 and the Remainder of Vogelzang as the priority area for future housing as illustrated on **Figure 7.2**.

The study area is located immediately to the west thereof as shown on Figure 7.2 with only a small slither of land in-between not being earmarked for any housing initiative to date.

4 SPATIAL ANALYSIS

4.1 EXISTING LAND USE AND SPATIAL STRUCTURE

Figure 8.1 is a Google image of the broader Hekpoort area. The following key features should be noted from this:

- The study area indicated in yellow and the Vogelzang area (red) to the east thereof which has been identified as a priority for housing development.
- The Magalies River running to the north (and the subsequent availability of water) played an important role in the historic development of the area and the current cadastral structure.
- As many as possible properties front onto the river resulting in the large number of narrow linear shaped farm portions.
- Route R560 to the south provides access to all these properties and effectively link the Hekpoort area to Hartbeespoort Dam to the east and route R24 (Magaliesburg to Rustenburg) to the west.
- Route R563 links to Krugersdorp further to the south.
- Several significant land uses have established along these two routes. This includes a police station, shop and pharmacy, as well as a few tourist destinations along route R563.
- Along route R560 there is a post office, Total filling station and retail center, primary school, two hardware / building material stores and several camping/ accommodation facilities located along a distance of more than two kilometres.
- The Hekpoort Precinct Plan indicated the area between the primary school and the DIY Depot as the "Rural Node", but it is evident that there is no distinct cluster of activities in the Hekpoort area.

WRDM HUMAN SETTLEMENT PLAN

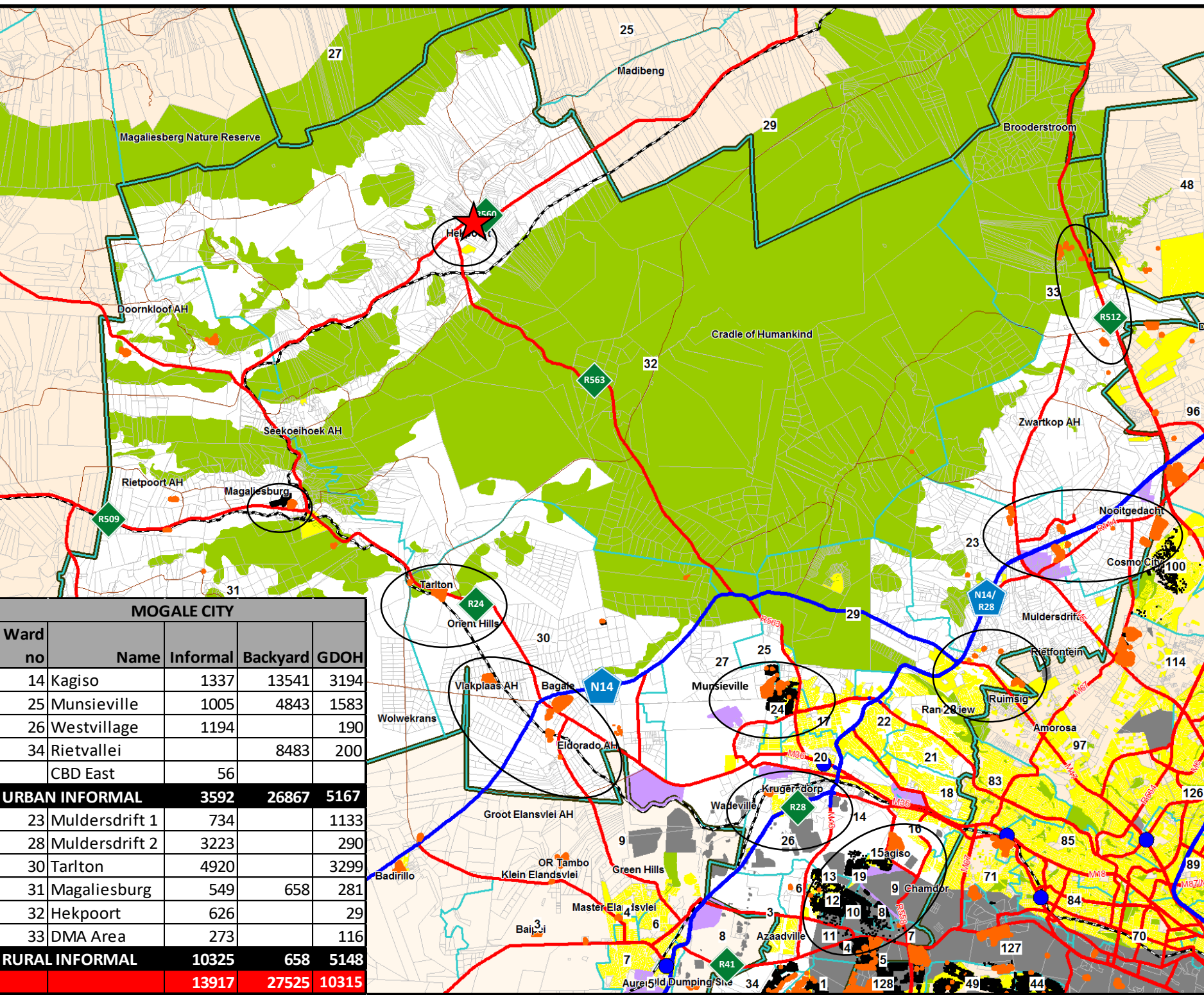
INFORMAL SETTLEMENTS

MOGALE CITY LOCAL MUNICIPALITY

Legend

-  Metro / District Municipalities
-  Municipal Boundaries
-  West Rand DM
-  Protected Areas / Natural System
-  Ridges
-  Mining Areas
-  Industrial Areas
-  Formal Settlements
-  Informal Settlements
-  Backyard Units
-  Main Business Nodes
-  Railway
-  National Roads
-  Main Roads
-  Secondary Roads
-  Study Area (Portion 79, 91, 96, 321 and 322 of the Farm Hekpoort 504 JQ)

Figure 7.1



MOGALE CITY				
Ward no	Name	Informal	Backyard	GDOH
14	Kagiso	1337	13541	3194
25	Munsieville	1005	4843	1583
26	Westvillage	1194		190
34	Rietvallei		8483	200
	CBD East	56		
URBAN INFORMAL		3592	26867	5167
23	Muldersdrift 1	734		1133
28	Muldersdrift 2	3223		290
30	Tarlton	4920		3299
31	Magaliesburg	549	658	281
32	Hekpoort	626		29
33	DMA Area	273		116
RURAL INFORMAL		10325	658	5148
		13917	27525	10315

HEKPOORT HUMAN SETTLEMENT PLAN

Ptn 192 Vogelzang
Ptn 265 Hekpoort
Ptn 38/198 Hartbeesfontein

- Legend**
- Farm Portion
 - Parent Farm
 - Rural Projects
-
- Study Area
(Portion 79, 91, 96, 321 and 322 of the Farm Hekpoort 504 JQ)

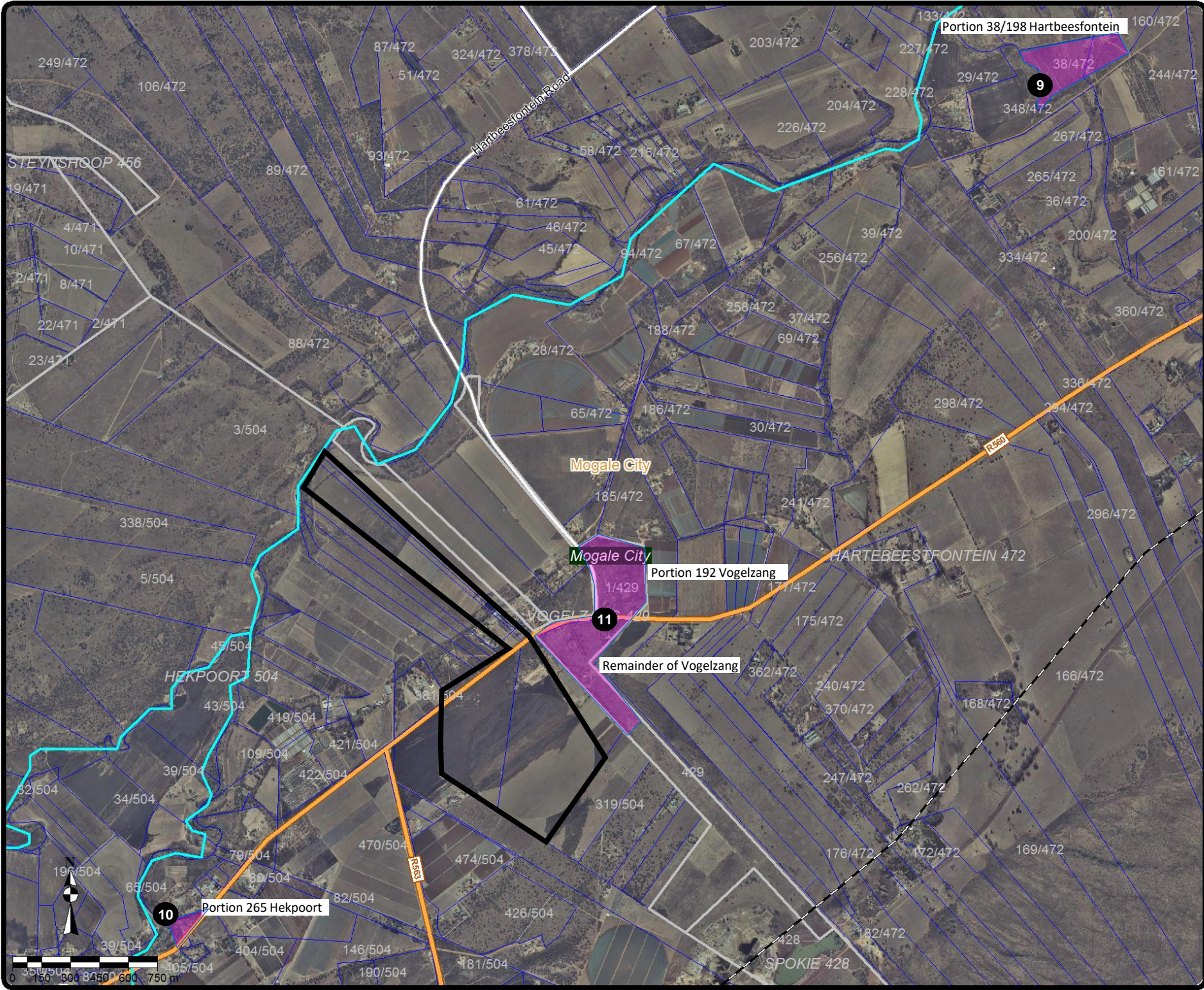


Figure 7.2

HEKPOORT LAND USE DISTRIBUTION

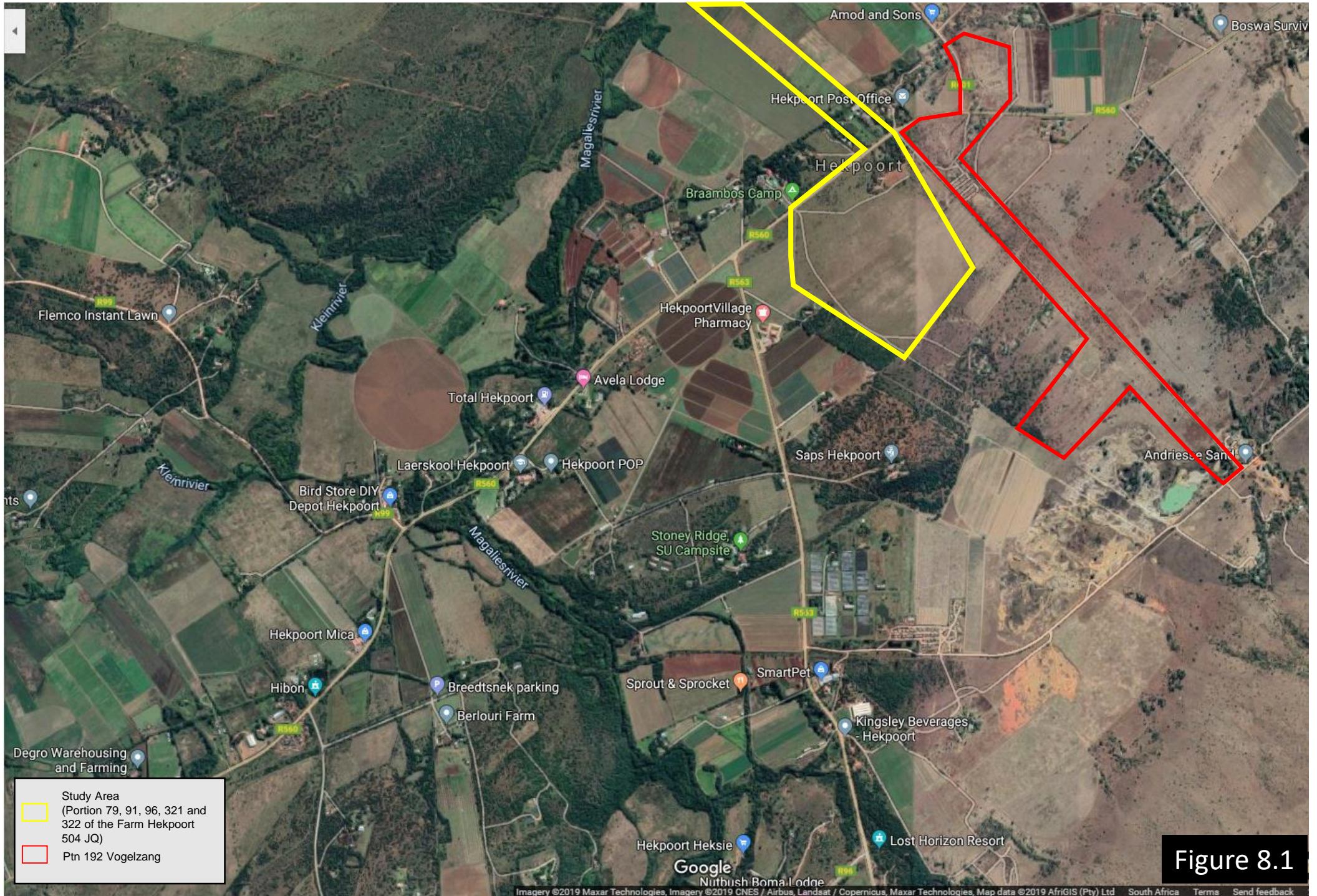


Figure 8.1

- Instead, land uses established sporadically at very low intensity along routes R560 and R563.
- **Figure 8.2** depicts in greater detail the cadastral structure and land uses around the study area which represents the eastern section of route R560.
- There are a number of prominent land uses in the area including the Total filling station and retail center⁽¹⁾, Avela Lodge Conference and Wedding venue⁽³⁾, the Village Center with a pharmacy⁽²⁾, the Braambos camping site⁽⁷⁾, the Hekpoort post office⁽⁴⁾ and the two informal settlements⁽⁶⁾ opposite to the south of route R560.
- At the intersection between route R560 and D401 on the farm Vogelzang is the new Dr Sefularo's Village⁽⁵⁾ township (layout only) comprising an estimated 206 residential erven and six park erven. This township emanates from the West Rand District Human Settlement Plan which earmarked Portion 192 of the farm Vogelzang for the establishment of a housing project.
- To the south thereof is the Dr Sefularo's Village Extension 1⁽⁸⁾ township (layout only) which comprises 324 residential erven; a few business and industrial erven along route R560; and a few erven earmarked for community facilities – including a school. The southern extents of this township comprise about 13 ha of land (8 plots) earmarked for agricultural use.
- The study area is located about 200 meters to the west thereof and, as illustrated on Figure 8.2, the study area spans across route R560 with Portions 79, 91 and 96 located to the north, and the larger portions 321 and 322 to the south of route R560.
- From Figure 1 in this report it is evident that portions 321 and 322 of the farm Hekpoort were historically used for intensive pivot irrigation, but it is not operational anymore as shown on Figure 8.1 which is a more recent Google image of the area.

4.2 KEY ISSUES

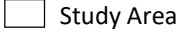
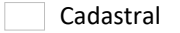
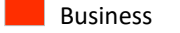
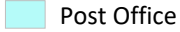
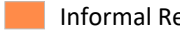
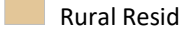
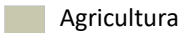
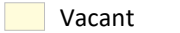

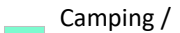


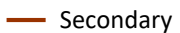
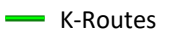

Figure 9 depicts the major structuring elements to be considered in the formulation of the Urban Development/Design Framework for the area, summarised below:

- The overall objective should be to create one functional activity node in the area which consolidates the existing and proposed future uses (numbers 1 to 12) in accordance with a spatial logic.
- If the development concept is an Agri-Village then the high potential agricultural land in the study area should be reserved for agricultural use.
- Hence, the large pivot irrigated area to the south (area 1) should as far as possible be retained for high intensity agricultural activity.
- Similarly, the northern portion of the study area (north of route R560) should be reserved for agricultural use (area 2).
- The remaining land to the south of route R560 (area 3) could then be used to accommodate the 600 residential units and the associated ancillary uses (utilising ±12 ha of land).
- Ideally, the proposed residential area should be consolidated/linked with the existing Dr Sefularo's Village Extension 1 to the east as shown in Figure 9 (number 4).
- Access to the property (number 5) can be provided midway between the existing two access points (number 6 and 7) along route R560.
- Economic activities should be consolidated along route R560 around intersections 5 and 7.

LAND USE

**PORTIONS 79, 91, 96, 321
AND 322 OF THE FARM
HEKPOORT NO 504 JQ**

Legend

-  Study Area
-  Cadastral
-  Business
-  Post Office
-  Informal Residential
-  Rural Residential
-  Agricultural
-  Vacant
-  Open Space
-  Camping / Accommodation
-  Main Roads
-  Secondary Roads
-  K-Routes
-  Servitudes
-  Rivers

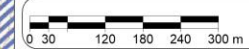
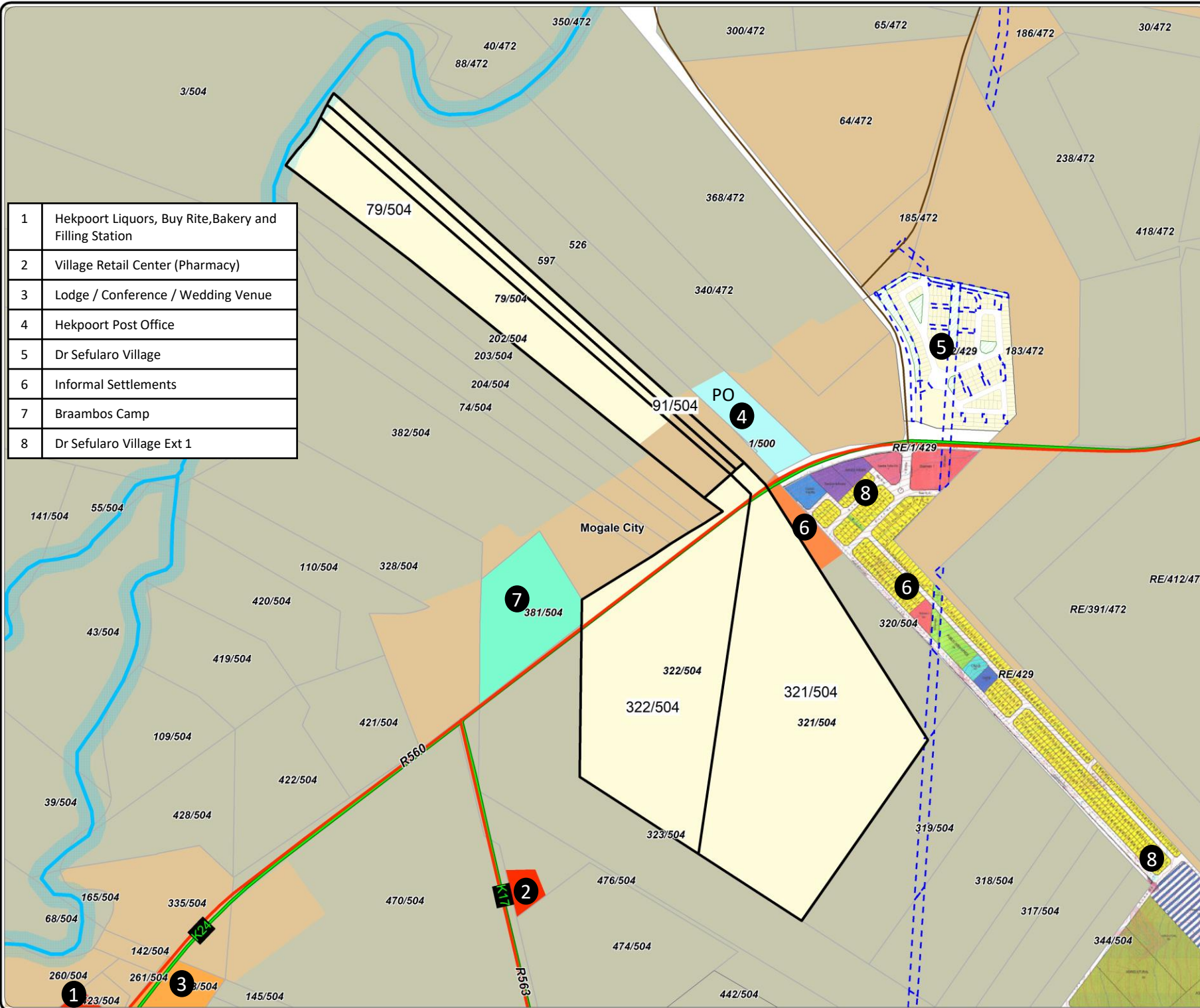




















Figure 8.2



1	Hekpoort Liquors, Buy Rite, Bakery and Filling Station
2	Village Retail Center (Pharmacy)
3	Lodge / Conference / Wedding Venue
4	Hekpoort Post Office
5	Dr Sefularo Village
6	Informal Settlements
7	Braambos Camp
8	Dr Sefularo Village Ext 1

STRUCTURING ELEMENTS

PORTIONS 79, 91, 96, 321 AND 322 OF THE FARM HEKPOORT NO 504 JQ

-  Study Area
-  Cadastral
-  Business
-  Post Office
-  Informal Residential
-  Rural Residential
-  Agricultural
-  Vacant
-  Open Space
-  Camping / Accommodation
-  Pivot Irrigation
-  Minor Collector
-  Local Roads
-  K-Routes
-  Servitudes
-  Rivers
-  32m River Buffer
-  Key Structuring Elements

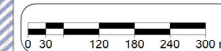
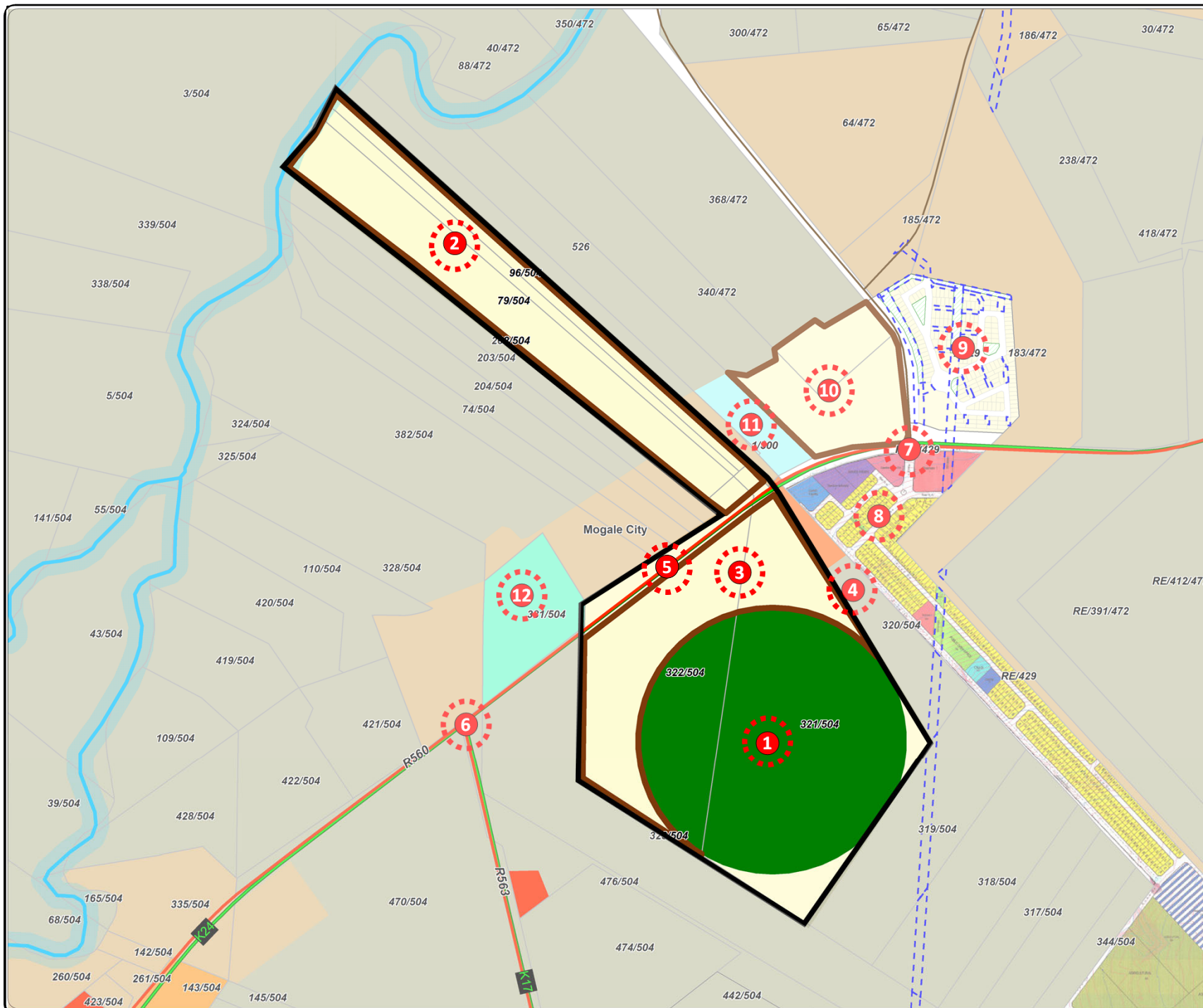


Figure 9



5 URBAN DEVELOPMENT AND DESIGN FRAMEWORK

5.1 URBAN DESIGN FRAMEWORK

- The directives provided for the study area is that it should be used to develop 600 residential units comprising 300 RDP units and 300 Social Housing/CRU rental units combined with business, commercial and agricultural activities.
- The Land Use Budget as shown in Table 1 below indicates that only about 7,7 hectares of land is required to accommodate the 600 residential units planned for the area. If the land required for local community facilities, retail/business and streets is added, it brings the total land required for the “housing project” to 11,7 ha.
- This leaves a surplus of 62,5 ha of land which can be used for agricultural purposes.

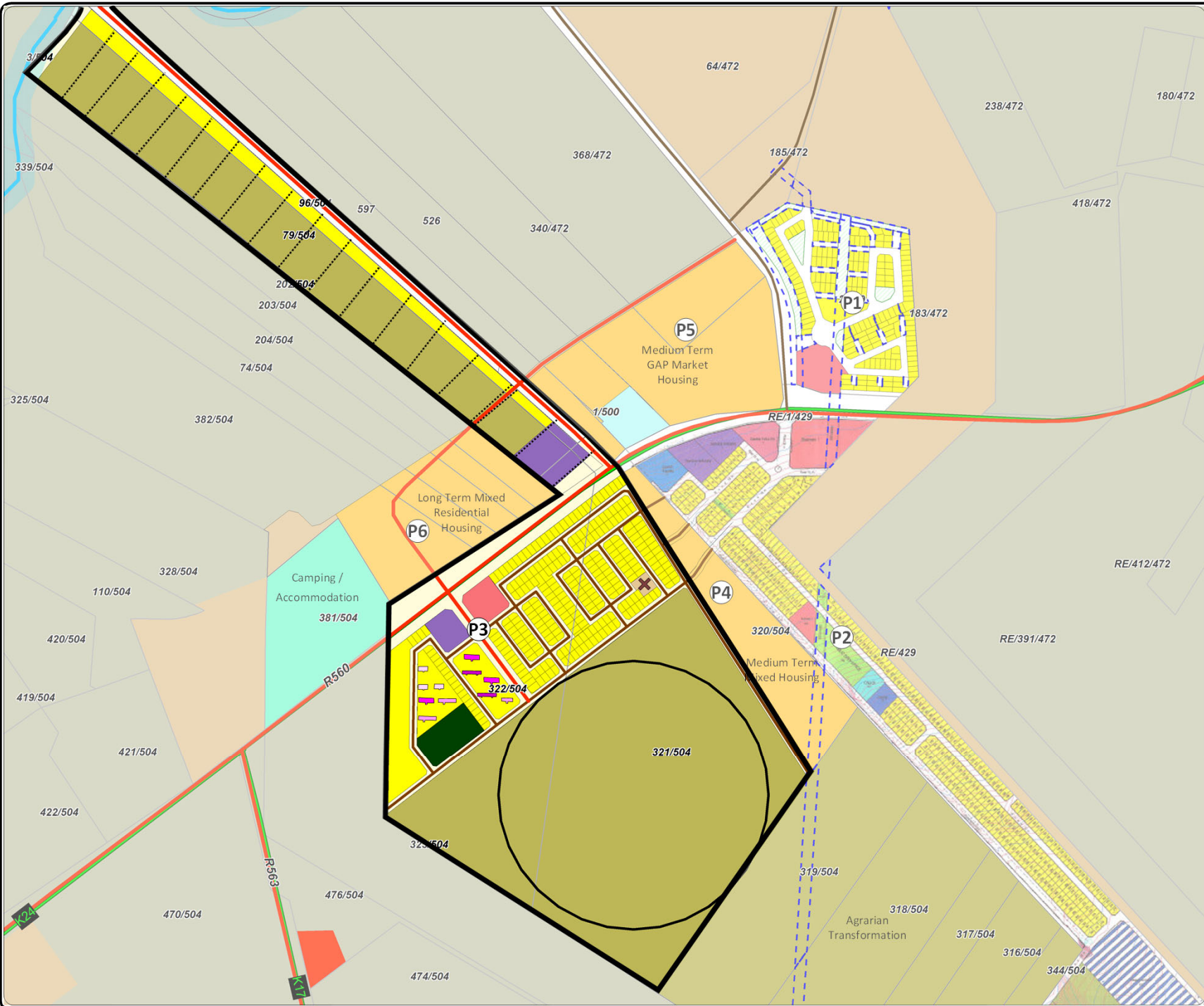
5.2 URBAN DESIGN FRAMEWORK

























Figure 10 represents the Urban Development and Design Framework for the Hekpoort precinct. It is briefly summarised as follow:

- The Hekpoort residential development (P3) should be consolidated adjacent to the south of route R560 and should be functionally integrated with the Dr Sefularo’s Village (P1) and Dr Sefularo’s Village Extension 1 (P2) to the east thereof.
- This implies that the triangular shaped Portion 320 of the farm Hekpoort No. 504 JQ (P4) needs to be acquired in future in order to create one consolidated urban fabric between the three areas noted above.
- It is recommended that the existing Dr Sefularo’s Village Extension 1 road network is extended westwards across Portion 320 to link into the road network for the proposed Hekpoort residential area as illustrated on Figure 10.
- The Hekpoort residential area will have one access onto route R560 at the point to the west indicated on Figure 10.
- The two properties fronting this intersection to the south are earmarked for business and light industrial (agri-processing) use respectively.
- Approximately 12 ha of land parallel to the south of route R560 is then earmarked for residential purposes. This includes 300 single residential RDP units in the eastern part and about 300 Social Housing units in the form of walk-up units to the west as depicted on Figure 10.
- A sports field is also provided adjacent to the south of the Social Housing while the historic graveyard to the east has been incorporated into the residential layout.
- The large pivot irrigated area to the south is retained for agricultural production.
- This agricultural precinct can be extended further southwards to link up with the 8 large plots which form part of Dr Sefularo’s Village Extension 1 to create one consolidated “Agrarian Transformation” precinct next to the residential areas, and which can be used for communal farming purposes.
- In this regard, it will be necessary to commence an initiative to obtain portions 317, 318, 319 and 344 of the farm Hekpoort 504 (in conjunction with Department of Rural Development and Land Reform).
- Similarly, it is recommended that the narrow strip of land to the north of route R560 be demarcated into approximately 15 one hectare leasehold units which will get access via one consolidated access road linking to route R560. These units can then be made available to small emerging farmers as part of the Department of Rural Development and Land Reform’s “one household, one

**DEVELOPMENT
AND DESIGN
FRAMEWORK**

**PORTIONS 79, 91, 96, 321
AND 322 OF THE FARM
HEKPOORT NO 504 JQ**



-  Study Area
-  Cadastral
-  Business
-  Agri Industry
-  Short Term Residential
-  Medium /Long Term Residential
-  Agrarian Transformation
-  Pivot Irrigation
-  Post Office
-  Rural Residential
-  Extensive Agriculture
-  Open Space
-  Minor Collector
-  Local Roads
-  K-Routes
-  Servitudes
-  Rivers
-  32m River Buffer
-  SH 1
-  SH 2
-  SH 3
-  SH 4
-  Phasing
-  Graveyard

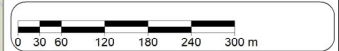


Figure 10

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HEKPOORT PORTION 321

hectare” programme. As illustrated on Figure 10 a homestead can be developed on each of these land parcels and provision has been made for agri-processing/ a fresh produce market where the access road to these plots links into route R560.

- The land adjacent to the east thereof currently holds a post office and it is recommended that the area (P5) between the post office and Dr Sefularo’s Village (about 9,4 ha) be earmarked for future bonded housing (including GAP market bonded housing) which will supplement the RDP and Social Housing typologies to be developed in Dr Sefularo’s Village and the Hekpoort Village.
- In the long term it is envisaged that the precinct to the west of the post office (P6) could also be developed as a mixed residential development area.

Table 1: Land Use Budget for Hekpoort

	Requirement			Development Controls			
	Number	ha	%	Height	Coverage	FAR	Unit size (m ²) Including common area
Number of Even	600	7.7	65%				
Single Residential (200m ² erven)	300	6.0					
Social Housing (@180du/ha)	300	1.7	22%	3	30%	0.9	50
Population	1,950						
Existing Residential Density (du/ha)	78						
Business	585	0.20	2%				
Small Crèche/ECD Development Centre	0.8	0.10	1%				
Worship Centre	0.7	0.10	1%				
Recreation (Sports and Parks)		1.2	11%				
TOTAL without streets		9.30	79%				
Streets		2.42	21%				
TOTAL		11.71	100%				
Gross Density	51						
Total Area of Farms (ha)		74.2165					
Available for other purposes (ha)		62.50					

Table 2 below provides a summary of the housing typologies to be developed in the Hekpoort Village in future. Essentially, it indicates that the site can accommodate approximately 11 blocks of Social Housing units representing about 302 apartments ranging between 25 m² and 45 m². The layout plan also makes provision for 300 x 50 m² RDP housing units.

Diagram 3 (overleaf) depicts an example of the mix of housing typologies envisaged for the study area.

Table 2: Hekpoort Housing Typologies Allocated

Description	# of Units	Unit Size (m ²)	Building Size (m ²)	Open Space	Parking	No of Blocks per Type	
Social Housing 4	20	35	700	70	650	3	60
Social Housing 3	24	45	1,080	108	780	2	48
Social Housing 3	24	25	600	60	780	1	24
Social Housing 2	30	35	1,050	105	975	3	90
Social Housing 1	40	25	1,000	100	1,300	2	80
					Sub Total	302	
RDP Single Dwelling	1	50	50	0	0	300	300

5.3 URBAN DESIGN GUIDELINES

Urban design deals primarily with the design and management of public space (i.e. the 'public environment', 'public realm' or 'public domain'), and the way public places are experienced and used. Public space includes the totality of spaces used freely on a day-to-day basis by the general public, such as streets, plazas, parks and public infrastructure. Some aspects of privately owned spaces, such as building facades or domestic gardens, also contribute to public space and are therefore also considered.

Below is a summary of the six basic principles of urban design which should be applied in the study area once the Site Development Plans are being compiled.

Table 3: Basic Principles of Urban Design

General Urban Design Principles	
Places of People	For places to be well-used and well-loved, they must be safe, comfortable, varied and attractive. They also need to be distinctive, and offer variety, choice and fun. Vibrant places offer opportunities for meeting people, playing in the street and watching the world go by.
Enrich the Existing	New development should enrich the qualities of existing urban places. This means encouraging a distinctive response that arises from and complements its setting. This applies at every scale – the region, the city, the town, the neighbourhood, and the street.
Make Connections	Places need to be easy to get to and be integrated physically and visually with their surroundings. This requires attention to how to get around by foot, bicycle, public transport and the car – and in that order.
Work with the Landscape	Places need to strike a balance between the natural and man-made environment and utilise each site's intrinsic resources – the climate, landform, landscape and ecology – to maximize energy conservation and amenity.
Mix Uses and Forms	Stimulating, enjoyable and convenient places meet a variety of demands from the widest possible range of users, amenities and social groups. They also weave together different building forms, uses, tenures and densities.
Design for Change	Development needs to be flexible enough to respond to future changes in use, lifestyle and demography. This means designing for energy and resource efficiency; creating flexibility in the use of property, public spaces and the service infrastructure and introducing new approaches to transportation, traffic management and parking.

Annexure A comprises some more detailed guidelines which should be considered when the Site Development Plan for Hekpoort is compiled.

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ANNEXURE A

URBAN DESIGN GUIDELINES

ANNEXURE A: URBAN DESIGN GUIDELINES

A. Pedestrian Pathways and Sidewalk Design

- The design of the sidewalk should create an urban character. The sidewalk area should feature amenities such as street trees with tree grates, planters, benches and removable façade furniture.
- Sidewalks and pathways should ensure the mobility of all users by accommodating the needs of people regardless of age or ability.
- Pedestrian routes need to offer direct convenience, but also safety and interest amongst other essential qualities. Quality land use interfaces are critical in delivering these.
- Sidewalks, pathways and crossings should be designed so that people can easily find a direct route to a destination and so that delays are minimized.

B. Activity Streets

- The streetscape of individual buildings should encourage a pedestrian friendly environment and walk-in traffic. Buildings should link up with one another to create a continuous pattern of street activities.
- Provide amenities that will encourage pedestrian activities along the street. These may include seating, public artwork and landscaping.
- Retail activities on/in the sidewalk shall not be considered as floor area and will not be calculated of parking provisions.
- The area shall be renowned for the provision of quality and visible public places and spaces. These contribute to character, place making, and facilitating social exchange.
- Streetscapes which contribute to main street quality and amenity, including active commercial ground floor street frontage.
- A speed managed environment which prioritises pedestrian movements, including the ability to safely cross the main street and access side streets.
- Buildings should be built up to the sidewalk to reinforce the definition and importance of the street.

C. Signage

Signs shall be compatible with the architecture of the building and its surroundings in terms of size, shape, colour, texture and lightning. Signs should be consistent with other parts of the building and not a disparate element of it.

- The sign should be appropriate to the type of activity to which it pertains.
- Signs should enhance the architectural features of the building.
- Signs shall not be permitted to cover architectural features.
- Signs shall be located in logical areas, which relate to the pattern of the façade.
- Size of signs shall be in proportion to the storefronts, buildings and neighbours.
- All signs shall be in accordance with the Municipality's bylaws and related policies as amended from time to time.

D. Architectural Standards

Architectural standards should be applied consistently throughout the development. Emphasis should be placed on creating an interesting visual impression, particularly from public rights-of-way and adjacent lands.

- The use of different textures, complementary colours, shadow lines, detailing, and contrasting shapes to create an appealing façade is strongly encouraged.
- The use of single colours and/or blank walls is discouraged.
- All proposed buildings or structures should be sensitive to the existing community character.

E. Social Spaces

- Social spaces, such as pedestrian plazas and landscaped areas, provide pedestrians with additional points of interest within a pedestrian scaled environment. When equipped with street furniture, they also offer an opportunity to rest and relax.
- Examples of social spaces can include parks, plaza, arcades, and porches. Pedestrian amenities such as lighting, special paving, planting, flower gardens, artwork and special recreational equipment.
- Create a pedestrian-friendly environment within mixed-use areas that draws neighbours, local residents, and tourists alike to the stores, restaurants, and offices of that district.
- Create pedestrian plazas, social nodes, activity nodes, bus pull-outs, and passenger drop-off points within the high intensity area.

F. Usable Amenities

- Landscape and hardscape features should not just be visually appealing, but also function as social space amenities to be used and enjoyed.
- Social spaces such as plazas, seating areas and activity areas should be located at building entries, along or near well-travelled pedestrian routes to encourage frequent and spontaneous use.
- Amenities should be functional, as well as visually appealing, with seating, tables, canopies and covering trellises.

G. Cooperative Design Approach

A cooperative, rather than defensive, design approach is encouraged when adjacent uses are compatible.

- For example, the space between a new project and an existing residential area should be attractive and functional, rather than minimal dead space composed of dense landscaping and/or high fences.
- As more properties engage in a cooperative design approach, areas will feel more like a neighbourhood or district, as opposed to a collection of individual projects, and will experience more efficient and effective pedestrian and vehicle circulation.
- Direct abutting properties can share recreational space by implementing a cooperative design. For instance – a small property may share the recreational space of the larger abutting development.

H. Build-To Lines

- Buildings should be built up to the sidewalk to reinforce the definition and importance of the street.
- It is recommended that buildings be designed with build-to lines, where the building mass/façade is built up to the setback line continuously, except for articulation such as doorways, recessed window bays, small plazas, driveways and small parking areas to the side of buildings.
- Where the façade is set back from the build-to line, low walls and hedges are encouraged to maintain the continuity of the streetscape.

I. Landscaping

- Landscaping of properties adjacent to public and communal urban spaces must contribute to the quality of those spaces and must complement their overall design.
- Indigenous plants must be used.
- Planting must provide focal points, character, screening, softening and shading.
- Paved areas must be minimized whereas planting areas must be maximized.
- Low-water consumption landscape practices are encouraged.
- Apply landscape elements to create a sense of entry and place.
- Create special landscape design that breaks the pattern and vocabulary of the perimeter plants. This creates a special identity and helps to establish a sense of arrival and distinctiveness.
- Every effort shall be made to locate proposed landscaping in consideration of the microclimate of the site and surrounding properties by manipulation use of sunlight, shade, and wind for increased energy efficiency of the development and for maximum comfort of the users of the site.

J. Parking Design and Development Standards

- Each building and land use, including a change or expansion of a building or land use, shall provide parking areas in compliance with the City of Johannesburg Land Use Scheme.
- **Parking space dimensions:** Demarcated parking spaces (minimum 2,5 m x 5 m) with a permanent dust-free surface together with the necessary manoeuvring space (7,5 m), shall be provided and maintained on the erf to the satisfaction of the Municipality.

K. Reduction of Parking Requirements

- **Shared onsite parking:** Where two or more uses on the same site have distinct and differing peak parking usage period, (e.g. theatre and a bank), a reduction in the required number of parking spaces may be allowed; Approval shall also require proof of a legal agreement between property owners guaranteeing that the required parking will be maintained exclusively for the use or activity served.
- **Parking can be relaxed** with consent by the Municipality if there is a clear indication that developments will comply with the design principles in terms of pedestrian accessibility, pedestrian-orientated activity at street level, a vertical mix of activity and support of public transport initiatives.

L. Movement of Bicycle, Pedestrian and Physically Challenged Persons

- While pedestrian- and bicycle- friendly facilities may be necessary for enticing people to choose non-motorized modes, they are not in themselves sufficient. Conversely, mixed land use might also encourage bicycle and pedestrian access, but without a convenient and safe non-motorized system it may do little to invite people out of their cars.
- A quality urban environment, i.e. safety, proximity, as well as architecture, urban design and landscaping will ultimately entice people into non-motorised transport.
- Construct continuous bicycle-friendly, pedestrian and facilities for physically challenged persons along all major streets and highways; these should be direct and interconnect with all other modes of transportation.
- Provide safe, secure and convenient facilities for bicycles, pedestrians physically challenged persons into and within all developments.
- Provide continuous facilities wherever possible, especially in congested areas.
- Design bikeway and walkway capacity to accommodate the anticipated use.
- Provide adequate signing of bikeways and paths.
- Provide bicycle parking in all developments.
- Provide for traffic calming measures at all intersections to facilitate the safe and convenient crossing of all roads in the area.

M. Directives for Spatial Restructuring

- All developments have to promote climate sustainability and comply with green building codes. Measures such as renewable energy, water harvesting, waste recycling and food gardens should be driving this redevelopment process.
- Developments will be holistically evaluated in that developments need to be economically viable, satisfy the needs of both the investor and user, be aesthetically appealing and enhance the locality which the development is situated.
- Develop different types of compatible land uses close together in appropriate locations, to shorten trips and facilitate alternative modes of transportation, such as walking, bicycling and public transportation.

N. Development Conditions Applicable to Developments in Specific Locations

- Street design has a significant effect on how people perceive and interact with their community. If streetscapes are safe and inviting to pedestrians, people are more likely to walk which can help reduce motorized traffic.
- Promote active land uses on ground floor which encourage pedestrian movement.
- All developments adjacent or opposite formal parks (public open spaces) shall be visually and functionally integrated with the open space area.
- Buildings opposite or adjacent to open spaces shall 'live' and function towards these open spaces. Back façades of buildings will not be allowed to face public open spaces.
- All buildings, where technically feasible, should be orientated within 15 degrees of true north.
- The implementation of water sensitive urban design (WSUD) principles shall be encouraged.
- Design surface drainage to slow down stormwater and facilitate recharging of the ground water.

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- By applying cooperative design – communal open space is being provided which contributes towards a sustainable development.
 - Family residential developments (two bedrooms and more) have to balance building coverage and landscaped recreational open space. Increased density has to be reflected in an increased open space provided.
-