

GAUTENG RAPID LAND RELEASE

ENNERDALE EXTENSION 9

URBAN DEVELOPMENT AND DESIGN FRAMEWORK



Plan Associates

OCTOBER
2019



Ennerdale Extension 9 Urban Development Framework Rapid Land Release			

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ABBREVIATIONS

BRT	Bus Rapid Transit
EIA	Environmental Impact Assessment
FLISP	Finance Linked Individual Subsidy Programme
GCR	Gauteng City Region
GSDF	Gauteng Spatial Development Framework
POS	Public Open Space
RDP	Reconstruction and Development Programme
RSDF	Region Spatial Development Framework
SDF	Spatial Development Framework

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

Erf 5445 and 5446 of Ennerdale Extension 9, 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 Ennerdale Extension 9 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.

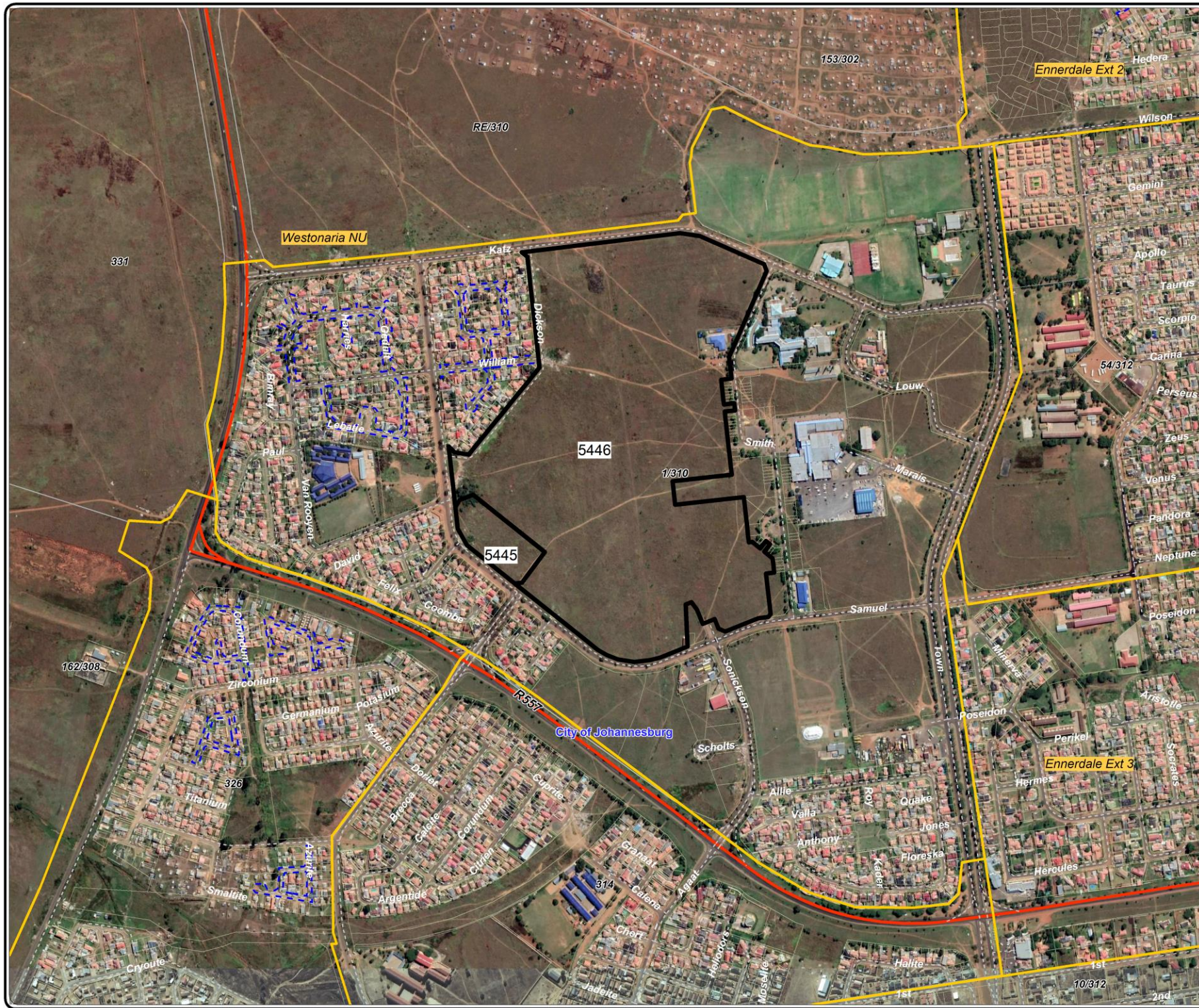
- The first step is to obtain aerial photography for the area and to compile the base map with contours, servitudes and cadastral information for the area.
- With the base map completed, the different technical workstreams commence with the geotechnical/dolomite investigation, environmental impact assessment, 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

**ERF 5445 AND 5446
ENNERDALE EXT. 9**

Legend

-  Study Area (35 ha)
-  Cadastral
-  Suburbs
-  Main Roads
-  Local Roads
-  Servitudes



0 30 60 120 180 240 300 m


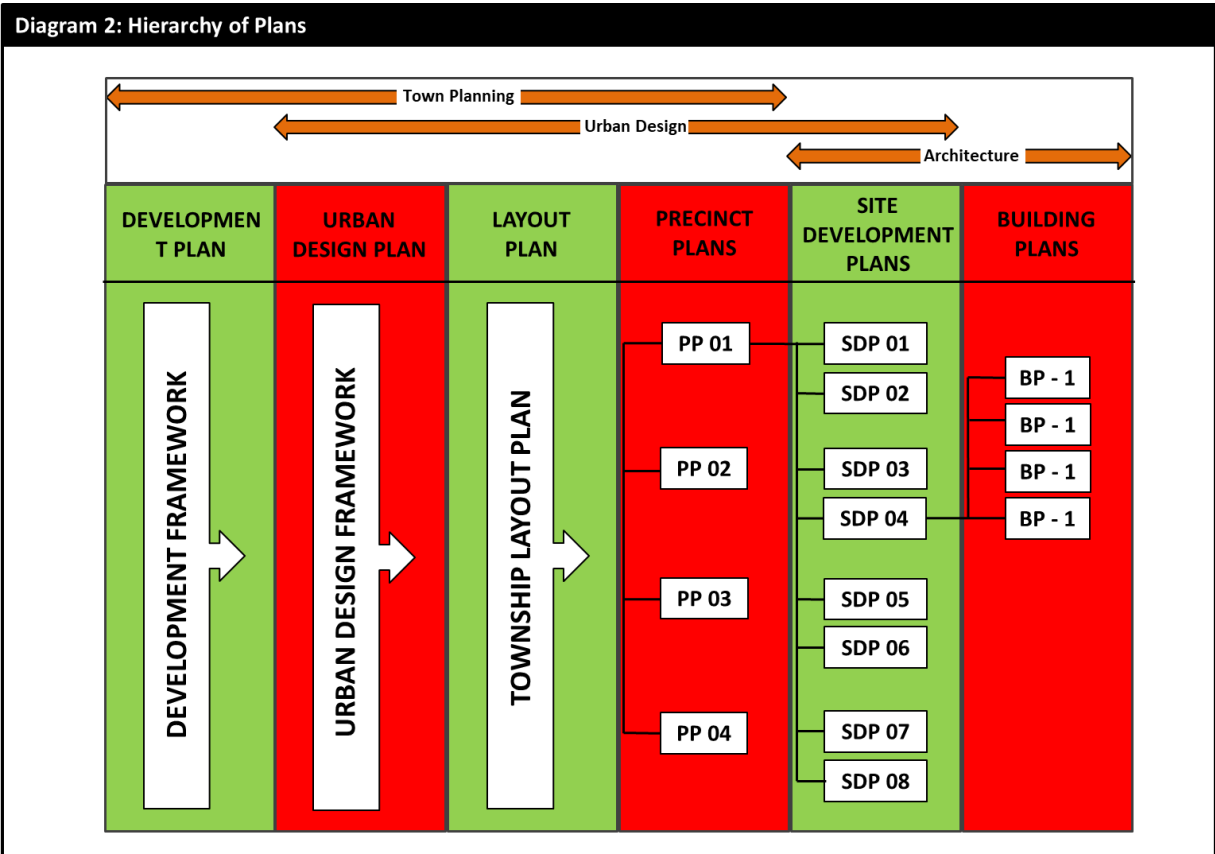
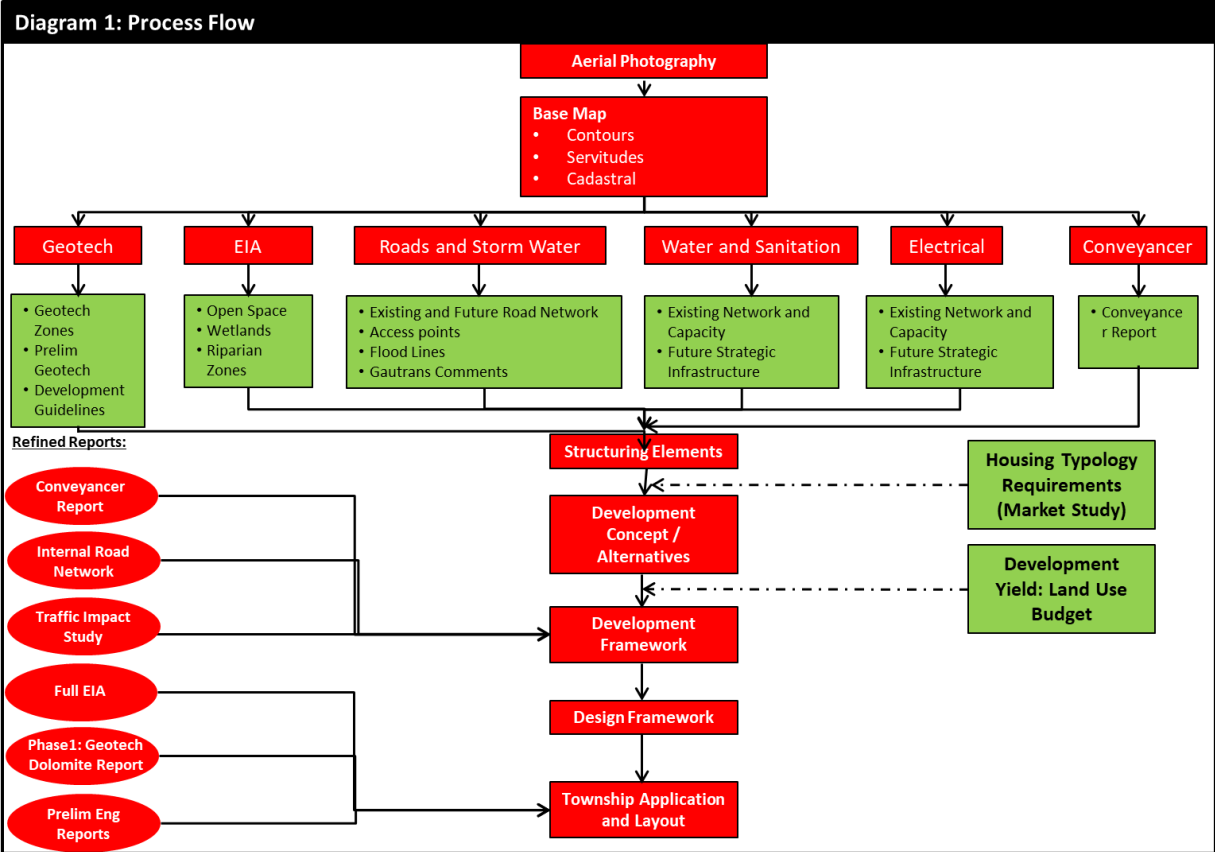


Figure 1

GAUTENG RAPID LAND RELEASE:
ENNERDALE EXTENSION 9 URBAN DEVELOPMENT FRAMEWORK



- 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 southern extents of the area of jurisdiction of the City of Johannesburg and forms part of the larger Lawley-Ennerdale-Finertown urban complex which mostly comprise low income residential areas.

2.2 PROPERTY DESCRIPTION, ZONING AND OWNERSHIP

- The study area represents erven 5445 and 5446 in the Ennerdale X9 township as depicted on Figure 1.
- It covers an area of approximately 35,22 ha of land and is zoned for “Special Uses” as approved by the Administrator.
- Both erven belong to the City of Johannesburg Metropolitan Municipality.

2.3 CURRENT LAND USE

- Erf 5445 is vacant. The bulk of Erf 5446 is also vacant except for a clinic which exists on part of the north-eastern section thereof.

PROVINCIAL CONTEXT

★ Study Area
(Erf 5445 and 5446
Ennerdale Ext. 9)

▭ Provincial / Municipal Boundaries

EXISTING LAND USES

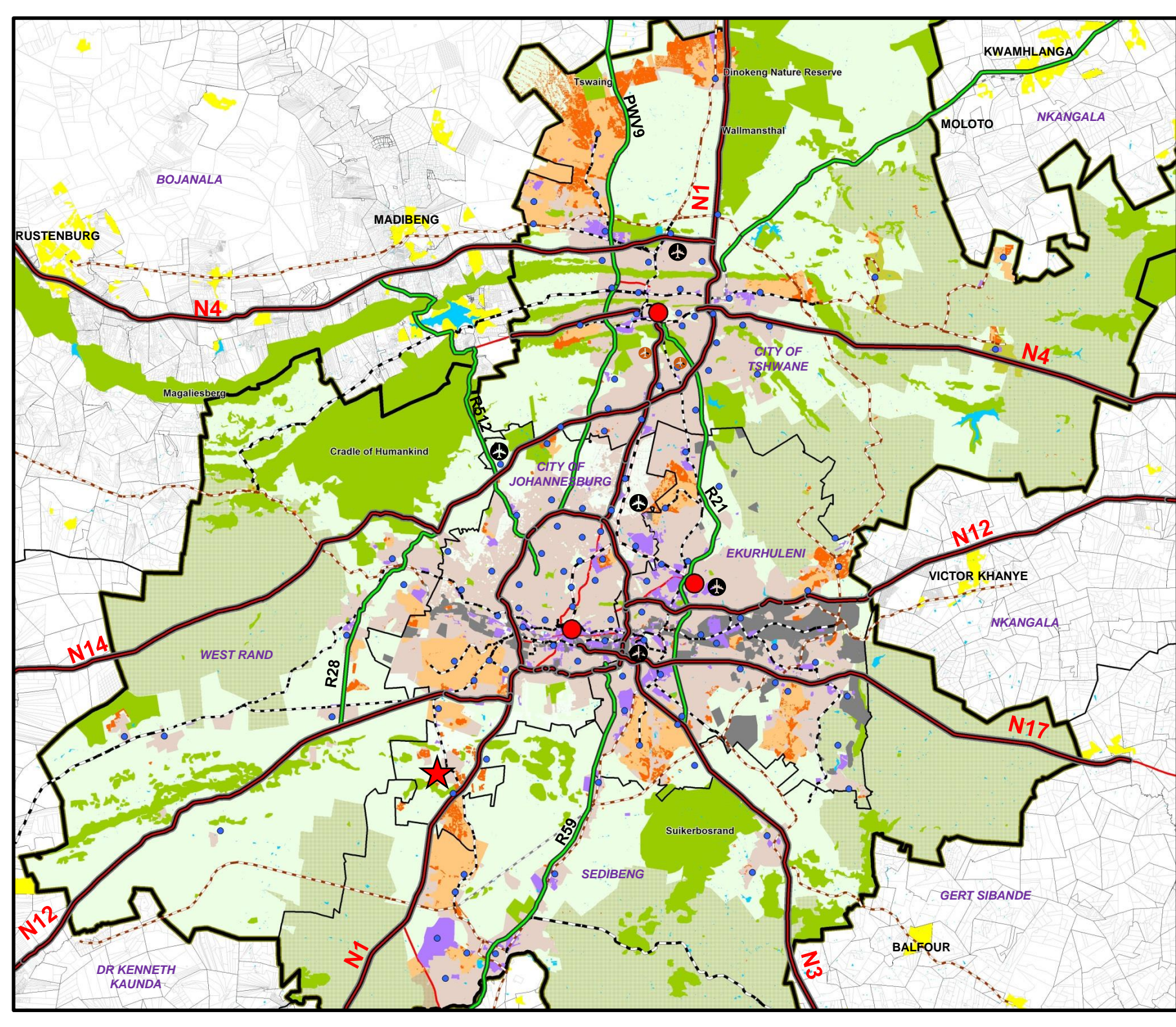
- ▭ Agricultural Hubs
- ▭ Protected Areas/Natural Systems
- ▭ Waterbodies
- ▭ Urban Footprint
- ▭ Low Income Residential Areas
- ▭ Informal Housing Areas
- ▭ Mining
- ▭ Industrial
- ▭ Towns

- 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).

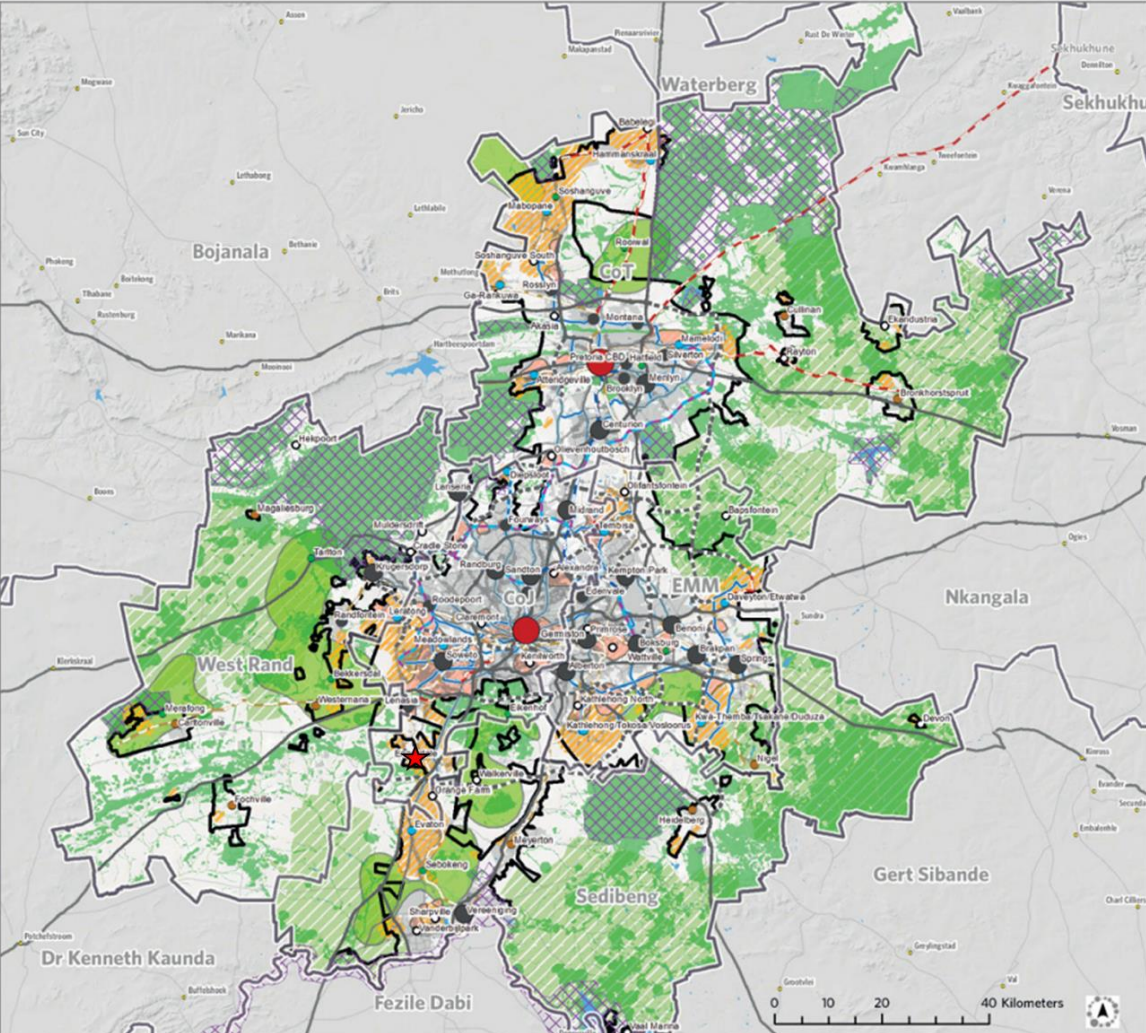
What is clear from the Gauteng SDF (**Figures 3.1** and **3.2**) is that the study area does not form part of the core development area in Gauteng and will thus have to focus on **integration and linkages** to strengthen its position in the GCR. The study area forms part of an area demarcated as a priority zone for “Township Regeneration” and “Focus for Social and Local Economic Support”. Hence, it is a high priority in terms of spatial and infrastructure interventions with the focus being on the integration and upgrading of former townships to achieve socio-economic integration.

3.2 CITY OF JOHANNESBURG METROPOLITAN SPATIAL DEVELOPMENT FRAMEWORK

The SDF for Johannesburg 2040 is a city wide spatial policy document premised on spatial transformation, defined through the principles of equity, justice, resilience, sustainability and urban efficiency which it seeks to translate into a development policy.

The spatial vision of the SDF 2040 is a compact polycentric city. The Inner City represents the strong urban core linked by efficient public transport to dense, mixed use (residential and commercial) sub-centres, and situated within a protected and integrated natural environment as graphically illustrated on **Diagram 3** below.

Gauteng SDF 2030: Spatial Development Framework



Legend

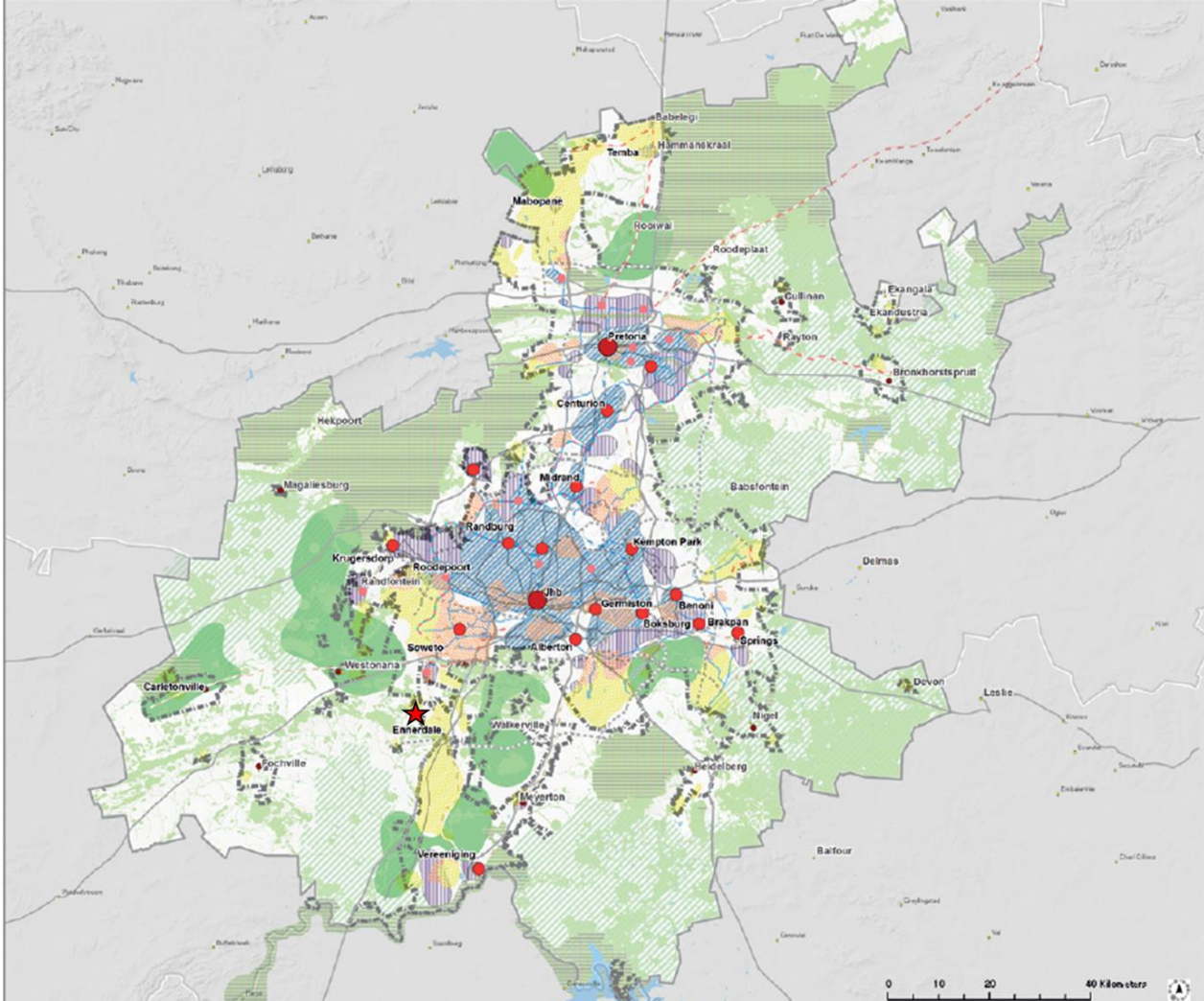
- Metropolitan Core
- Regional Node
- District Node
- NDP Hub
- Local Node
- Rural Node
- Agri Park
- Nodal hierarchy ver 1
- Existing Main and Secondary Roads
- Existing Regional Roads
- Proposed GSRN Priorities
- Existing Rail Network
- Proposed Rail Extension
- Existing Gautrain Rail Network
- Future Gautrain Rail Network
- Planned BRT Networks
- Proposed BRT Extension
- Priority Density and Intensification
- Built-up area
- Combined Municipal Urban Edges 2016
- Integration and Regeneration Priorities
- Township Regeneration
- EMF Zone 3 High Rural Control Zone
- District Municipalities
- Small farms and Agri Processing
- Agri Hubs
- Tourism areas

★ Study Area (Erf 5445 and 5446 Ennerdale Ext. 9)

Figure 3.1

Date created: Sunday, 16 October 2016
 Author: Willem Badenhorst (MandalaGIS)
 Email: willem@mandalagis.co.za

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

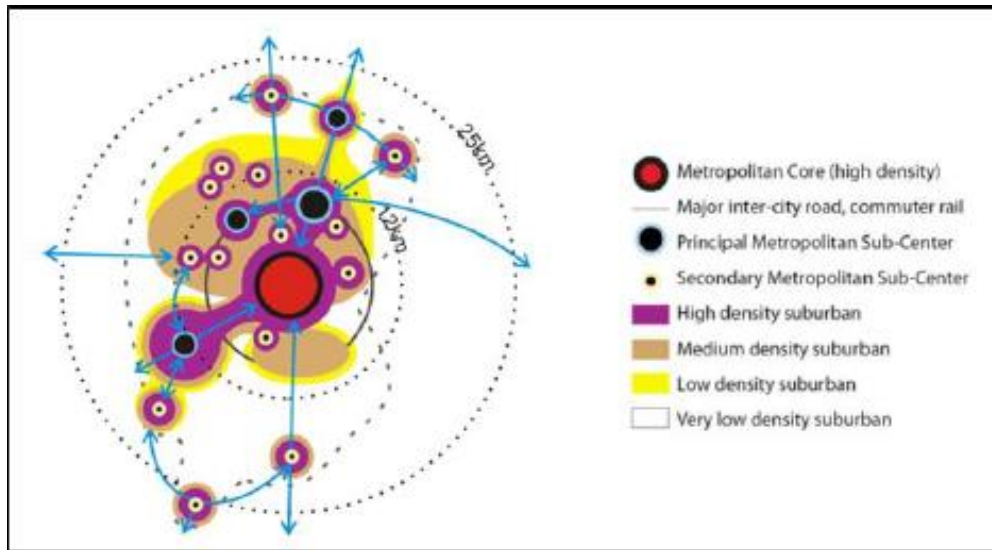


Legend

- Metropolitan Core
- Regional Node
- District Node
- Rural Node
- Future Gautrain Rail Network
- Existing Gautrain Rail Network
- Proposed GSRN Priorities
- Existing Main and Secondary Roads
- Existing Rail Network
- Proposed Rail Extension
- Planned BRT Networks
- Proposed BRT Extension
- Tourism areas
- Agri Hubs
- Combined Municipal Urban Edges 2016
- EMF Zone 3 High Rural Control Zone
- Provincial Area of Focus for Shared Economic Prosperity
- Provincial Area of Focus for Socio-Economic Integration
- Provincial Area of Focus for Economic Consolidation
- Provincial Area of Focus for Social and Local Economic Support
- Provincial Area of Focus for Rural Enterprise Support
- Study Area (Erf 5445 and 5446 Ennerdale Ext. 9)

Figure 3.2

Diagram 3: Johannesburg Future City Model: Compact Polycentric Urban Form



At the heart of this future compact polycentric Johannesburg lies a strong metropolitan core, the CBD or Inner City which should offer high quality, sustainable services; support vibrant economic activity; and provide a welcoming place for all residents, commuters, workers, traders, investors and tourists.

The MSDF (**Figure 4**) indicates that the study area forms part of the southern “Deprivation Areas” with the Ennerdale business node (which is located adjacent to the east of the study area) being one of only three designated “Urban Nodal Areas” in the southern extents of the City.

3.3 CITY OF JOHANNESBURG: REGION G SPATIAL DEVELOPMENT FRAMEWORK

Region G, as indicated on **Figure 5**, is one of seven administrative regions that make up the City of Johannesburg, commonly known as the Deep South. The following represents some of the most salient features of this area:

- The area has some of the oldest informal settlements in Johannesburg, with very high densities, limited and very poor services.
- The larger component of the region was previously used as a reception area or a dormitory residential area. It consists of displaced and marginalised areas with high levels of poverty, unemployment, and a high number of informal settlements and large portions of vacant land with agricultural potential.
- The northern part consists of formalized and developed townships such as Lenasia, Eldorado Park, Kliptown, etc., while the south comprises predominantly informal settlements such as Orange Farm, Stretford and Drieziek.
- The City of Johannesburg has identified Region G as one of the priority areas that need urgent interventions and has started to implement capital projects to improve the livelihoods of the community and address service delivery backlogs some years ago.
- Region G holds a limited number of economic activity nodes of which the Lenasia, Ennerdale and Stretford nodes are the largest.

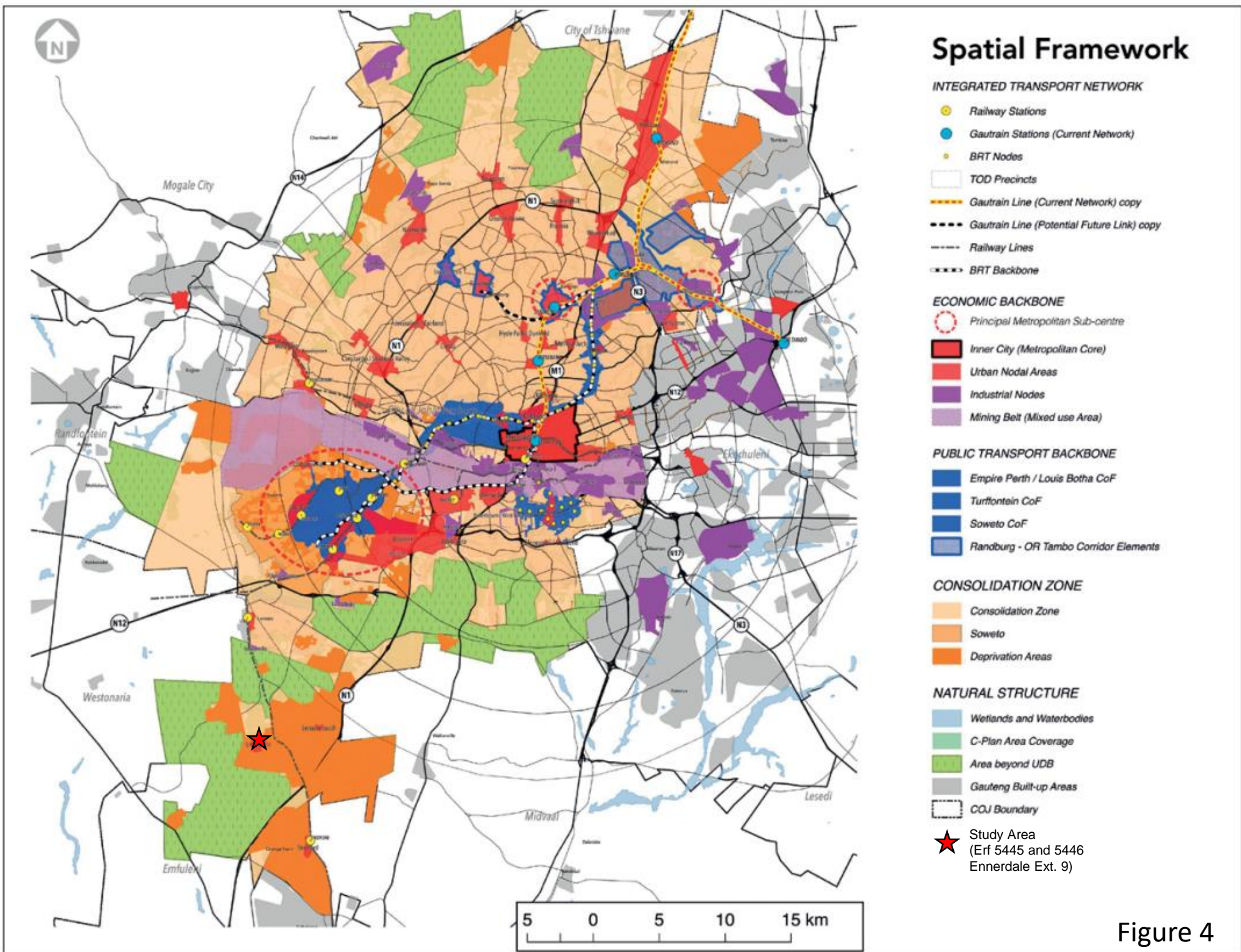
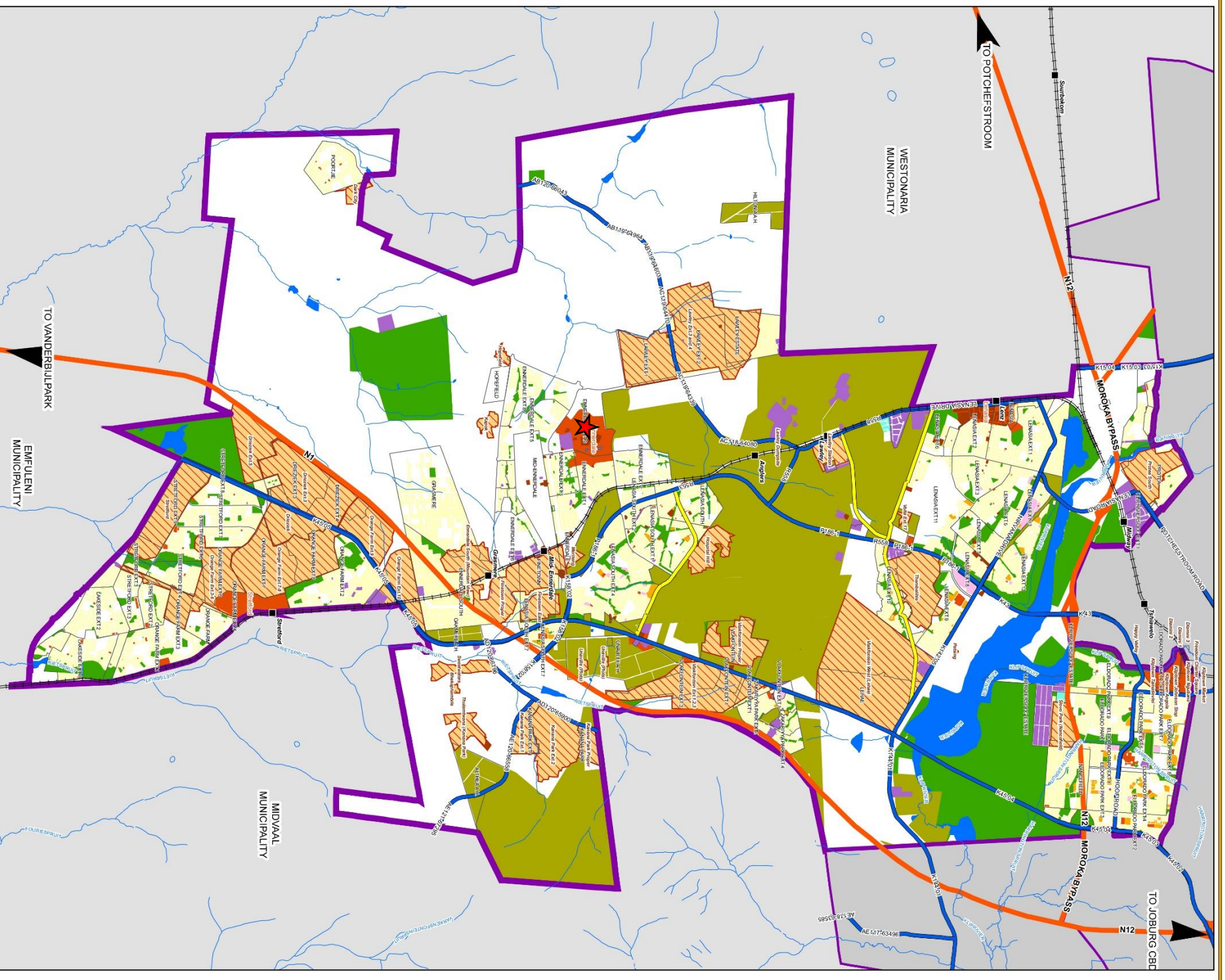


Figure 4

Figure 5: City of Johannesburg Spatial Development Framework



Legend

- Regional Boundary
- Township Boundary
- Urban Freeway
- Mobility Road
- Mobility Spine
- Railway Stations
- Railway Lines
- Rivers
- Dredcolutions, RG
- Industrial / Commercial
- Business / Retail
- Node

- Internal Settlement
- Low Density Residential
- High Density Residential
- Commercial
- Industrial
- Institutional
- Open Space / Park
- Agricultural
- Waterbodies/Wetlands
- Open Space / Park
- Mining Quarry

Study Area
★ (E1 f546 and E46
 Emendale, Ek. 9)

City of Johannesburg
CORPORATE GEOINFORMATICS

Figure 5

Telephone: +27 11 407-8005
 Email: Cginfo@cityofjohburg.org.za

Workspace: projects\RS\DM\A\520\RegionG\BroadandUse.mxd
 Date: 02 March 2010
 Time: 10:05:00
 Source: City of Johannesburg
 Projection: Transverse Mercator (L.O.29)
 Datum: Hartbeespoort 1994 (WGS84 Ellipsoid)



Region G
BROAD LAND USES (Plan No. 2)

- The study area forms part of the Ennerdale node as depicted in greater detail on **Figure 6**. The Ennerdale node is earmarked for municipal facilities, as well as retail and service businesses. Large parts of this node are not developed, with a need to attract investments.
- Even though several industrial zones exist in the Region, none of these areas represent large scale industries and associated investment. The focus in these industrial areas is mainly on manufacturing, motor mechanics, furniture and brick manufacturing.
- The informal business sector is the dominant economic sector in the region, and a source of income to the majority of people in the region. There is a need to formalize and improve management of this sector.
- The Region G RSDF states that the development of underutilized land should be prioritized and encouraged in the area; and that greater variety and mix of land use activities; retail, offices, entertainment, financial, wholesale and residential should be promoted.
- The region has excellent road networks, consisting of freeways, provincial roads and local roads. There are generally strong north-south linkages, linking the region to the Johannesburg CBD and surrounding areas. The region has various proposed strategic public transport routes that will improve the north-south and east-west linkages in future as reflected on **Figure 6**.

4 SPATIAL ANALYSIS

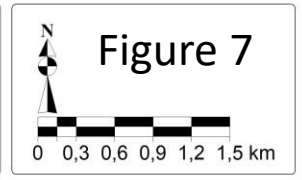
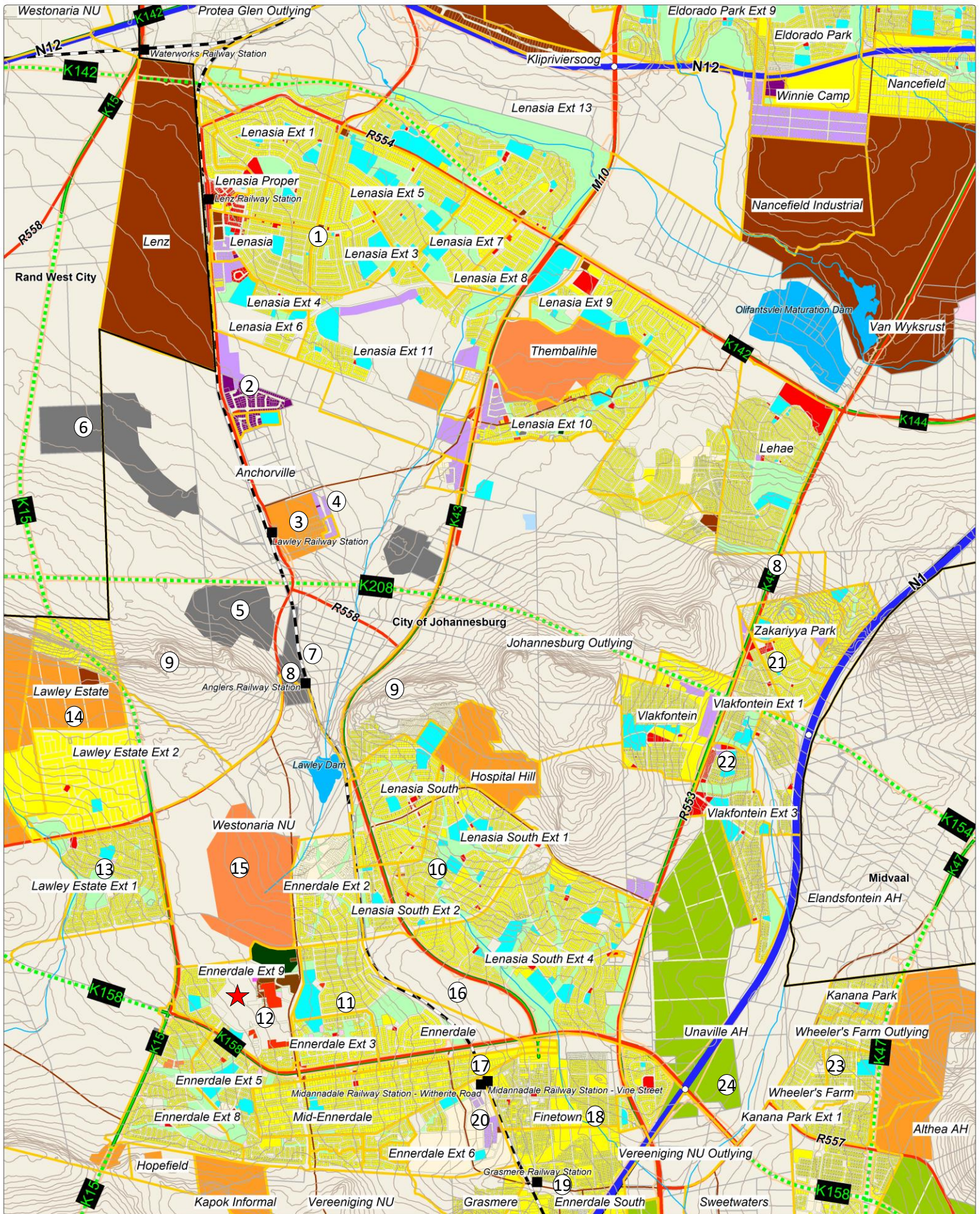
4.1 LOCAL CONTEXT

The major spatial features to be taken into consideration in terms of the local context of Ennerdale X9 as depicted on **Figure 7** are summarized as follow:

4.1.1 Major Land Uses

- Towards the north is the Lenasia Township⁽¹⁾ with the Lenasia CBD linking into the Lenasia railway station.
- The Anchorville industrial area⁽²⁾ is located at the southern end of Lenasia along Lenasia Road and the railway line.
- One kilometre to the south is the Lawley railway station with the Lawley informal settlement⁽³⁾ and Anchorville X3 industrial area⁽⁴⁾ located to the east thereof, and the Corobrick plant⁽⁵⁾ and associated quarries to the west.
- According to latest geotechnical reports and current planning initiatives the Syferfontein area⁽⁶⁾ to the north-west of Lawley station (in Rand West municipal area), as well as the strip of land between Lawley and Lenasia, are developable, and will in all probability be developed in years to come.
- The area to the south of Lawley station up to Anglers station⁽⁷⁾ is vacant, but there is a refuse disposal site (Pikitup)⁽⁸⁾ located immediately adjacent to the west of the railway station which will constrain development in the area.
- Another important feature in this area is the ridge⁽⁹⁾ which separates the Lenasia precinct to the north from the Lenasia South-Ennerdale precinct towards the south.
- Immediately to the south of the ridge and east of the railway line is the Lenasia South Township⁽¹⁰⁾ with the Ennerdale extensions⁽¹¹⁾ being located to the west of the railway line. The Ennerdale District Node⁽¹²⁾ which includes Erf 5445 and 5446 (the study area) is also located in this area.
- Lawley X1⁽¹³⁾ and the informal extensions thereof⁽¹⁴⁾ are located to the north-west of Ennerdale, and a large informal settlement⁽¹⁵⁾ between Lenasia South, Ennerdale and Lawley X1, and a smaller vacant portion of land⁽¹⁶⁾ further towards the south between Ennerdale and Lenasia South.

Regional Context



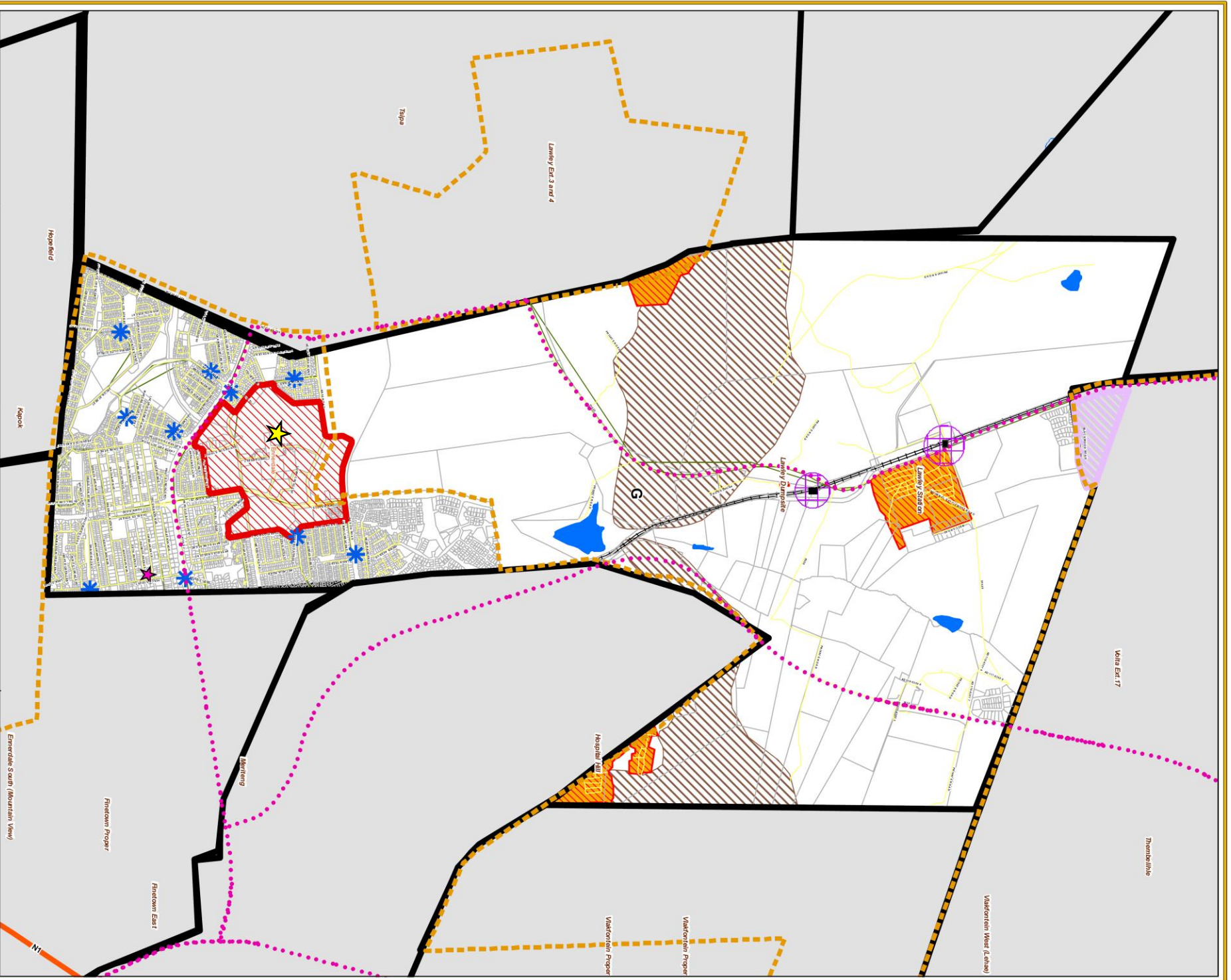


Figure 6

City of Johannesburg
CORPORATE GEO-INFORMATICS

Workshop on joburg SDF (MPS2010) Region G Sub Area 5 and
 Geoplotter - 2010 February 2010
 Source - City of Johannesburg
 Projection: Transverse Mercator (U.T.M. Zone 29)
 Datum: Transverse Mercator (WGS84 - Ellipsoid)

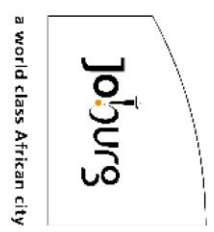
Telephone: +27 11 407-8056
 Email: - Gisproj@cityofjohannesburg.org.za



Legend

	Proposed Boundary		Neighbourhood Node
	Subarea 4, Boundaries		Study Area in Emerald Ext 9
	Study Area		Board, Metropolitan Nodes
	Street Boundary		Strategic Economic Nodes
	Major Open Space		Metropolitan Nodes
	Major Road		RT1 Stations
	Proposed/Professional Nodes		Proposed RT Stations
	Urban Development Boundary		Proposed Urban Movement Nodes (bus & rail)
	Proposed RTN		Station (Rail)
	Urban Nodes		Station Stations
	Urban Nodes		Stages
	Urban Nodes		Stages
	Urban Nodes		Stages

Region G
SUB AREA 5



- The Ennerdale railway station⁽¹⁷⁾ serves Ennerdale towards the west and the informal area of Finetown⁽¹⁸⁾ towards the east.
- The Grasmere station⁽¹⁹⁾ is also surrounded by informal towns (Ennerdale South) while the area immediately to the west of the railway line between the Ennerdale and Grasmere railway stations comprises a small industrial area⁽²⁰⁾ surrounded by several large pockets of vacant land.
- The N1 freeway borders the area to the east, while the surrounding areas comprise informal/formal settlements around Zakariya Park⁽²¹⁾, Vlakfontein⁽²²⁾, Kanana Park⁽²³⁾, and Orange Farm.
- The City updated its list of informal settlements in the CoJ Sustainable Human Settlement Plan (2012). According to this document there is a total of 41 informal settlements in Region G with 83,776 shacks counted. **Figure 8** shows that the entire area to the north of the study area has been earmarked as a future residential receiving area to accommodate part of the housing demand in the area.

4.1.2 Environmental Features

- The most significant environmental features in the area include the main drainage system and associated floodlines, as well as the ridges comprising steep gradients in the area, and which cannot accommodate development.
- Dolomite is also a major environmental concern in the area between Lenasia and Lenasia South.

4.1.3 Movement Network

- The western section of the study area around Ennerdale and Lawley is served by route 1520 (Lenasia Drive) which links it to Lenasia in the north while the central part is served by route R557, which provides a link to the N1 freeway.
- Towards the east, the N1 freeway⁽²⁴⁾ takes national traffic through the area while the Golden Highway (Route R553) serves as the main regional collector road linking Johannesburg in the north to Emfuleni in the south.
- In the northern (Lenasia) precinct, route 1520 runs parallel to the railway line while route K43/K219-1 runs parallel to the railway line in the Lenasia South area.

4.1.4 Public Transport

- The three main public transport routes extend from the Ennerdale station northwards. These include Lenasia Drive (R558) which links Lenasia to Lawley and Ennerdale; route K43 which links Lenasia South to Lenasia in the central part of the study area; and the Golden Highway (K45) to the east which is a longer distance route. These three north-south BRT routes link into the east-west running route K158.
- Large volumes of people are travelling daily to and from the region (e.g. for employment, education and other services).
- Minibus Taxi services is the dominant public transport mode in the region.
- The passenger rail network forms the backbone to the north-south linkage, linking the region to Johannesburg CBD and Emfuleni Municipality to the south, and it can transport a large number of passengers.

SUSTAINABLE HUMAN SETTLEMENT PLAN

MIGRATION / FORMALISATION PLAN

REGION G:

★ Erf 5445 and 5446
Ennerdale Ext. 9

Township
Upgrading
In Situ

Relocation of
Informal Units from

Receiving Area /
Township

↗ Alternative Location

○ BRT / Rail station TOD

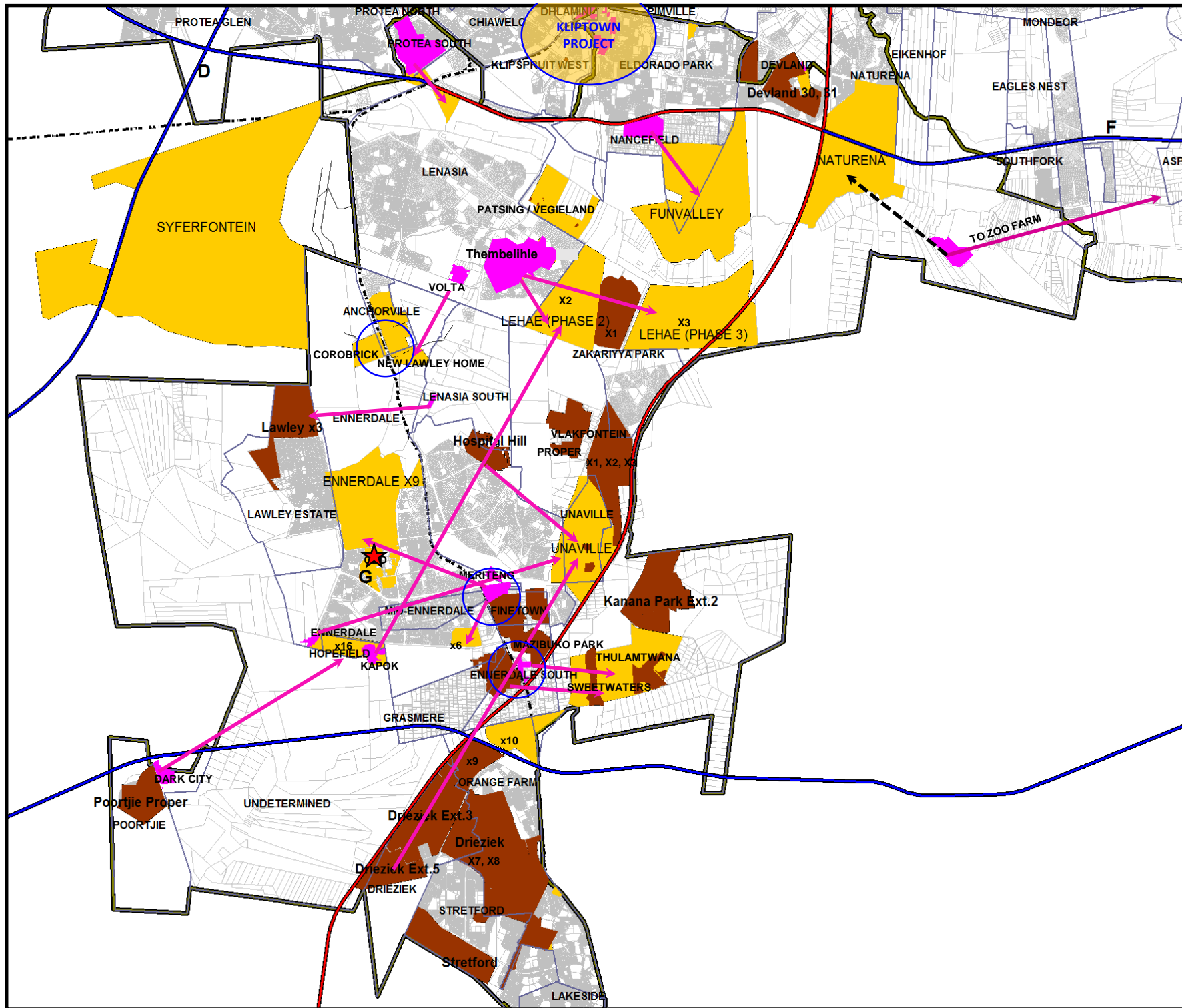


Figure 8

- Mid-Ennerdale and Grasmere are the busiest stations with about 4,500 commuters utilizing the stations during weekday peak hours. However, the Anglers ($\pm 1,500$) and Lawley stations ($\pm 2,500$) also carry high volumes of people.
- The railway stations in the region provide an important opportunity for structuring development in the region. The stations can act as catalysts for development and as significant inter-modal facilities.

4.2 SITE SPECIFIC FEATURES

Figure 9 illustrates the township layout and prominent land uses in the areas surrounding the study area. (Also refer to Figure 1 which is an aerial photograph of the same area). The following features should be noted:

4.2.1 Movement Network

- The study area is bordered by Katz Road to the north; Dickson Street to the north-west; Samuel Road to the south-west and south; and Smith Street along its eastern boundary.
- Smith Street forms part of an activity street providing access and parking to the Metropolitan Life shopping center and a number of business erven which are still vacant at present.
- This local road network is linked to a higher order network comprising Town Road to the east; Walter Road to the west; and route R557 to the south (which links up with the Golden Highway (R553) and the N1 freeway further to the east.
- There is also a significant road reserve (22 meters wide) running through the central part of the study area which is intended to accommodate the northwards extension of Sonickson Road in future.
- Parallel to the west thereof is a 40 meter wide electrical servitude traversing the site.

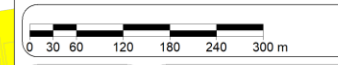
4.2.2 Land Use

- Several residential townships are located around the study area with Ennerdale X8 and X5 to the south; Ennerdale Proper, X2 and X3 to the east; and a residential component of Ennerdale X9 to the west.
- The Ennerdale Clinic⁽¹⁾ is located on a small portion of Erf 5446 to the north-east and it gets its access from Smith Street.
- Adjacent to the east is CoJ municipal office and library⁽²⁾ and the Ennerdale police station⁽³⁾ and community center⁽⁴⁾.
- The Metropolitan Life Shopping Center⁽⁵⁾ borders the municipal offices and library to the south.
- Further to the south are a number of small service industries/businesses^(6 and 7) which include a liquor store, filling station, scrap yard, wall covering company and transport company. (The RSDF earmarked the block to the south of Samuel Road for light industrial/commercial purposes).
- Several small businesses⁽⁹⁾ occur in the north-eastern quadrant of the intersection between Town Road and route R557, while a SPAR supermarket⁽¹⁰⁾ is located opposite to the south thereof.
- Further to the west is an informal taxi rank⁽¹¹⁾ along Samuel Road and a second taxi rank (informal) to the south thereof at the R557-Agaat Road intersection.

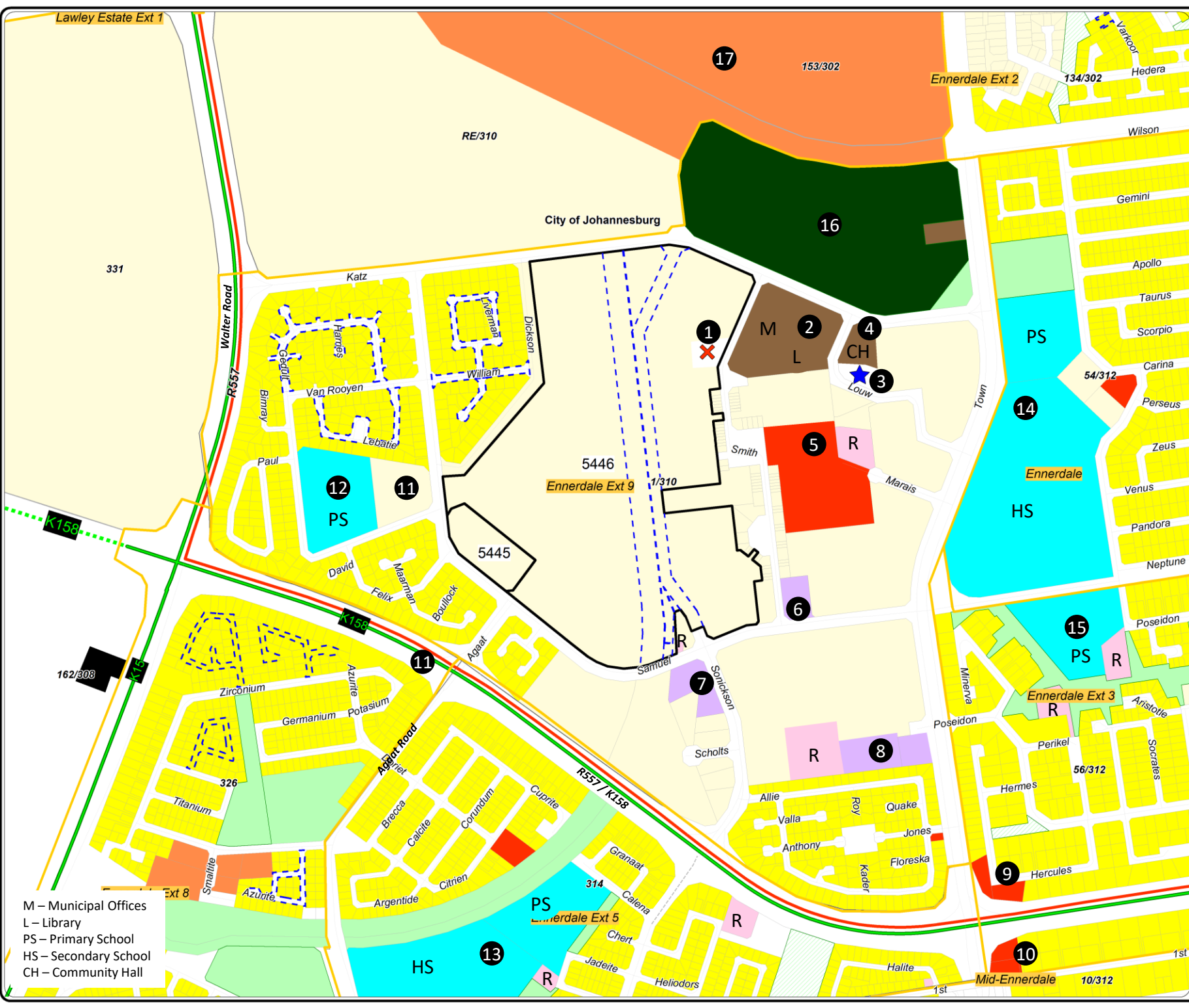
LAND USE AND TRANSPORT NETWORK

**ERF 5445 AND 5446
ENNERDALE EXT. 9**

- Legend**
- Study Area
 - Business
 - Service Industry
 - Educational
 - ✕ Clinic
 - Religion
 - Municipal
 - ★ Police
 - Residential
 - Rural Residential
 - Informal Residential
 - Open Space
 - Sports and Recreation
 - Sub-Station
 - Main Roads
 - Local Roads
 - Existing K-Routes
 - Proposed K-Routes
 - Servitudes



 **Figure 9**



M – Municipal Offices
L – Library
PS – Primary School
HS – Secondary School
CH – Community Hall

- Several schools also exist in the surrounding area, including Daleview Primary⁽¹²⁾, Spektrum Primary and Ennerdale Secondary⁽¹³⁾, Odin Park Primary and Fred Norman Secondary⁽¹⁴⁾ and the Poseidon Road Primary School⁽¹⁵⁾.
- The Ennerdale Sports Complex⁽¹⁶⁾ is located to the north of the municipal offices along Katz Road.
- The Lawley informal settlement is located further to the north⁽¹⁷⁾.

4.3 KEY STRUCTURING ELEMENTS

Following from the above assessment of existing land use and road infrastructure in and around the study area, the following structuring elements which should inform the development framework for the area, have been identified (also refer to **Figure 10**):

- The comprehensive range of community facilities clustered to the north-east of the study area. This precinct already comprises a clinic, library, community hall, police station, municipal office, church and sports and recreation complex, and there is opportunity to add more facilities to the existing footprint with the vacant erven to the east thereof up to Town Road (*number 1*).
- The emerging footprint of business and light industrial/commercial activities adjacent to the east of the study area with the Metropolitan Life Shopping Center being the major anchor in this regard (*number 2*).
- The Smith Street activity street along the eastern boundary of Erf 5446 which provides access to a number of small business stands to be developed in future (*number 3*).
- Potential linkages to the surrounding road network via:
 - Sonickson Road to the south, and a potential northward extension thereof from Katz Street towards Lawley (*number 4*);
 - Agaat Street to the south-west (*number 5*), and
 - Van Rooyen Crescent and William Street to the west (*number 6 and 7*).
- Potential expansion areas to the south along route R557 (*number 8*) and to the north along Katz Road (*number 9*).
- The 40 meter wide servitude running from north to south through the central part of the study area (*number 10*).

The implications of the structuring elements identified above are as follow:

- A very limited amount of land on Erf 5446 and 5445 need to be set aside for community facilities as the precinct adjacent to the north-east represent a comprehensive range of such facilities.
- Hence, the focus on these two erven should rather be sufficient provision of hard and soft Public Open Space (POS), as well as lower order educational facilities like crèches and primary schools to support the future residential use.
- Economic activity is also sufficiently dealt with in the Ennerdale Business Node adjacent to the east where large tracts of well-located land are still available for business and/or service industries. Hence, very little provision needs to be made for economic activity on the two erven.
- The bulk of the two areas can be utilized for 2, 3 and 4 storey residential walk-up units which will optimize the residential yield on these.

STRUCTURING ELEMENTS

ERF 5445 AND 5446 ENNERDALE EXT. 9

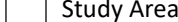











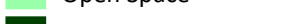
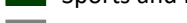
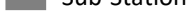
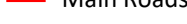
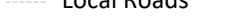
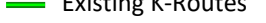


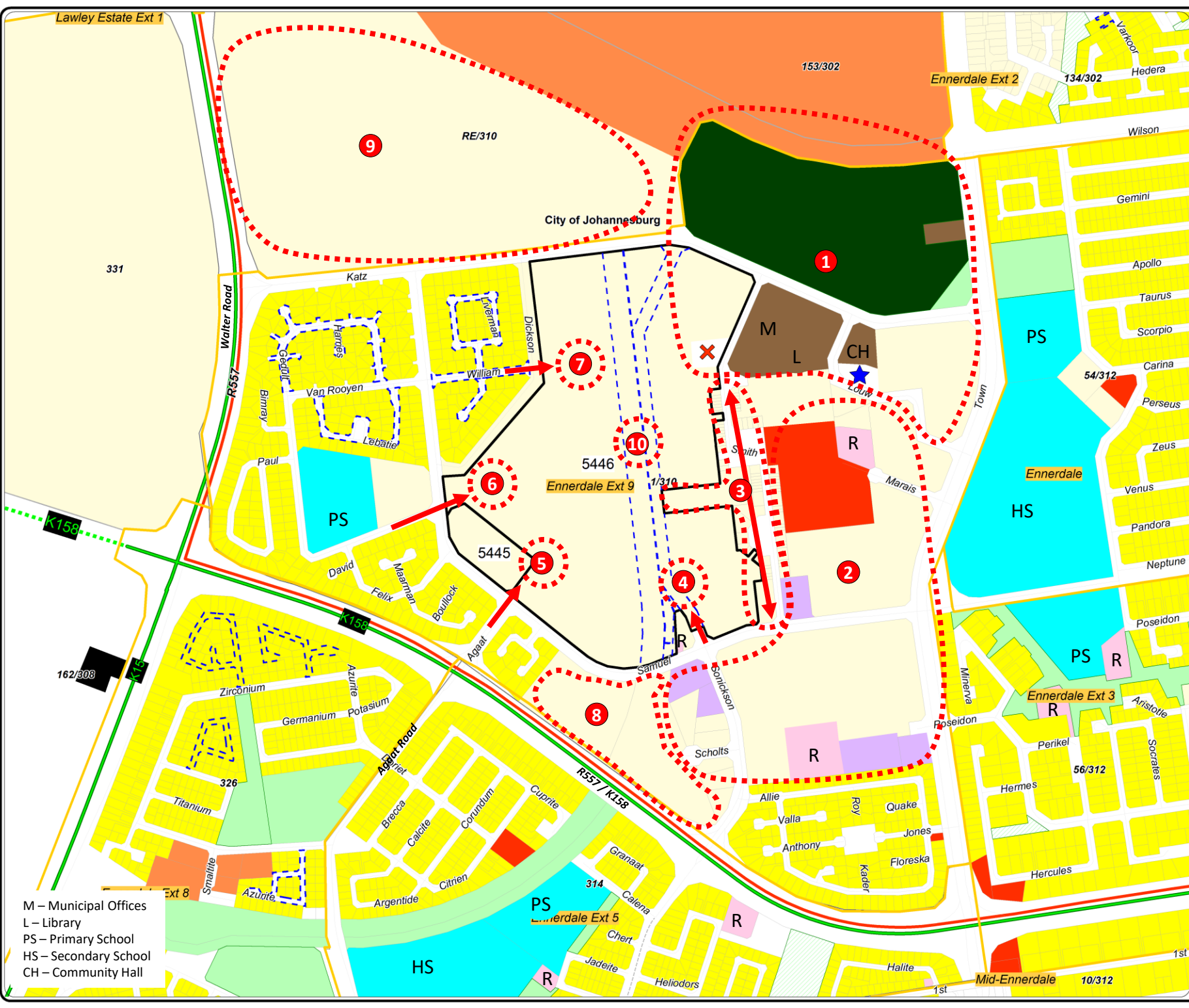
-  Study Area
-  Business
-  Service Industry
-  Educational
-  Clinic
-  Religion
-  Municipal
-  Police
-  Residential
-  Rural Residential
-  Informal Residential
-  Open Space
-  Sports and Recreation
-  Sub-Station
-  Main Roads
-  Local Roads
-  Existing K-Routes
-  Proposed K-Routes
-  Servitudes
-  Key Structuring Elements



Figure 10



M – Municipal Offices
L – Library
PS – Primary School
HS – Secondary School
CH – Community Hall

- This would in turn add to the “critical mass” required to stimulate economic development in the business/industrial areas adjacent and will contribute towards the optimal utilization of the existing community facilities in the precinct adjacent.
- A pedestrian movement network needs to be put in place to facilitate movement between the residential areas, the community facility precinct and the business area with specific focus on functional linkages to the Smith Street Activity Spine which represents the interface between these areas.
- The nature of the 40 meter wide servitude in the area may have a significant impact on the layout plan – especially if it is a rail servitude which will limit pedestrian and vehicular crossings.

5 URBAN DEVELOPMENT AND DESIGN FRAMEWORK

5.1 DEVELOPMENT DIRECTIVES

The key directives for the future development of the site emanating from the Feasibility Study are confirmed as follows:

- Desired number of dwelling units to be established: 3,000
- Dwelling Typologies to be catered for:
 - 60% RDP and 40% Social Housing
 - Multi-Storey Walk Ups
 - Mixed Use Development to be promoted where applicable

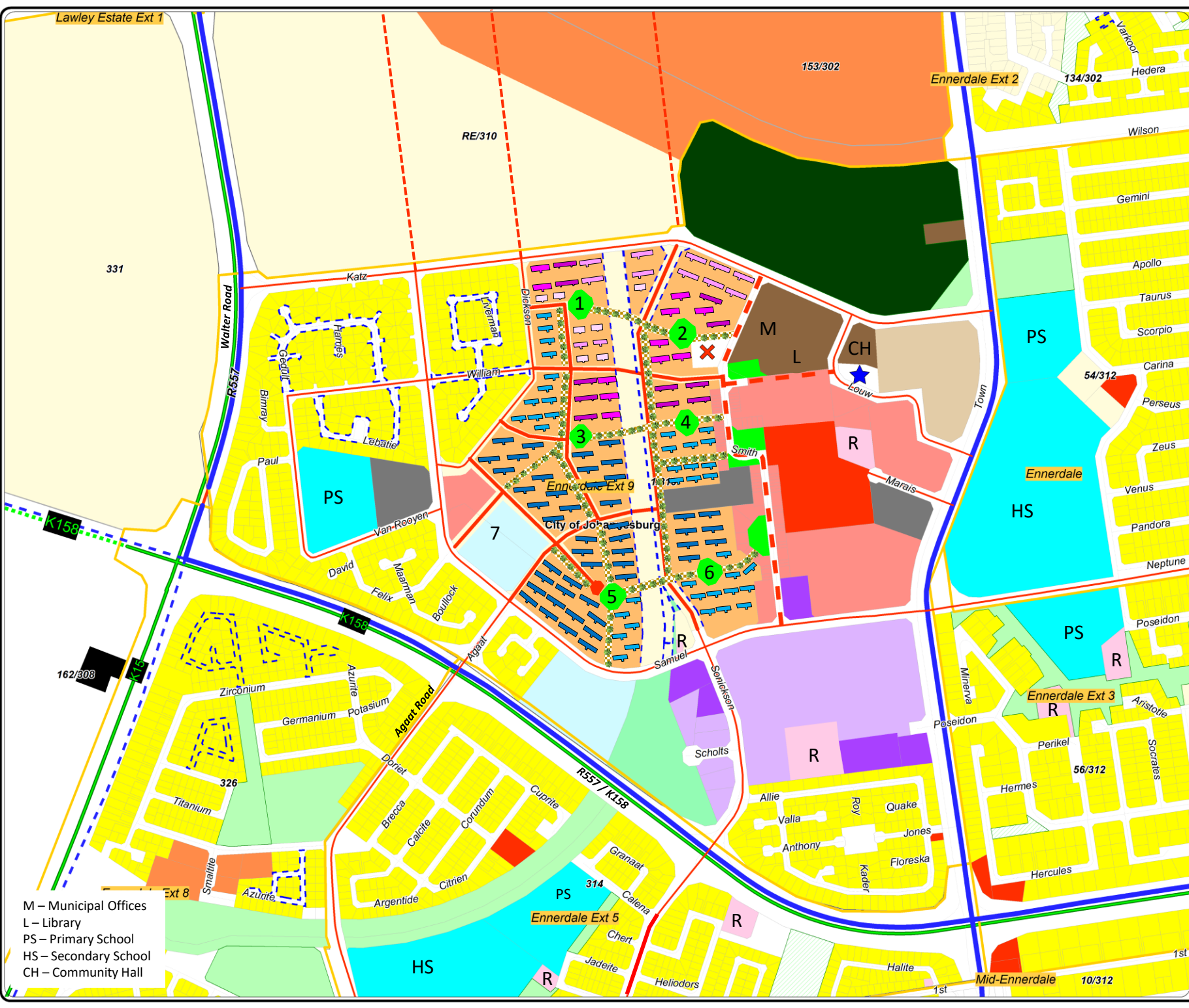
5.2 URBAN DESIGN FRAMEWORK

Figure 11 depicts the proposed Design Framework for the study area while **Table 1** represents the Land Use Budget for the Design Framework. The proposals are briefly summarized as follow:

- Sonickson Road should be extended northwards to link up with Katz Road and to form the primary north-south route serving the study area.
- Agaat Road should be extended to the north-east to link up with Sonickson Road and the large erf adjacent to the east.
- William Street needs to be extended eastwards to provide a link to Smith Street.
- A link road needs to be provided between Agaat Road and Dickson Street.
- The above configuration defines a number of functional precincts of which precincts 1 to 6 are earmarked for residential development and precinct 7 for education and business purposes.
- Each of these precincts will have its own internal layout comprising blocks of three and four storey walk-up buildings with a central Public Open Space area as graphically illustrated on Figure 11.
- A pedestrian movement network should link these blocks to one another and specifically also to the Smith Street activity spine further to the east.
- Small, medium and micro business enterprises should be established on the range of small erven located along the Smith Street Activity Street.
- Future “big box” business uses should also expand from the shopping center southwards towards Samuel Road and eastwards towards Town Road (which is a higher order route linking towards Lenasia to the north).

URBAN DESIGN FRAMEWORK

ERF 5445 AND 5446 ENNERDALE EXT. 9



- Business
- Proposed Business
- Service Industry
- Proposed Service Industry
- Education
- Proposed Education
- R Religion
- X Clinic
- Police Station
- Sub Station
- Municipal
- Proposed Community Facility
- Open Space
- Proposed Public Open Space
- Residential
- Proposed Housing Development
- Sports and Recreation
- Vacant
- Informal Residential
- Proposed Public Transport Facility
- Major Collector Road
- Minor Collector Road
- Activity Spine
- Servitudes
- K-Route
- Proposed K-Route
- Proposed Pedestrian Movement Network
- SH 1
- SH 4
- RDP 1
- RDP 2

M – Municipal Offices
L – Library
PS – Primary School
HS – Secondary School
CH – Community Hall

0 30 60 120 180 240 300 m




Figure 11

- The land parcels to the south of Samuel Road and east and west of Sonickson Road are earmarked for future light industrial and commercial uses (service industries).
- It is recommended that a taxi facility be established to the east of the Metropolitan Life Shopping Center along Town Road; on the large erf to the west of Smith Street Activity Spine where Agaat Street intersects with Sonickson Road; and at the western end of the study area at the Van Rooyen Street-Samuel Road intersection.
- Table 1 shows that an estimated 16,7 ha of land would be required to accommodate the envisaged 3,000 residential units in the study area at an average density of about 180 units/ha.
- This can be achieved through the construction of 3 storey facilities (average) with 30% coverage; 0.9 FAR and 50 m² average unit size.
- The estimated population will be around 8,640 people.
- This community would be able to sustain an estimated 5,184 m² of business floor space which will mostly be accommodated in the Ennerdale Business Node to the east.
- It is envisaged that a small retail facility focusing on basic convenience goods and services could be established on the ground floor of one of the residential blocks in each of the functional residential areas defined.
- Similarly, the four proposed crèches (or six for convenience and safety purposes) could be allocated to each of the functional residential areas.
- Recreational facilities will be provided on the centrally located public open space in each of the functional residential areas. This could comprise hard and soft public open space.
- Provision is made for the one required primary school on erf 5445 while the additional secondary school required can be accommodated outside the study on the two erven south of Samuel Road which are already earmarked (zoned) for education purposes.
- All the other community facilities can be efficiently incorporated into the larger community facility precinct to the north-east of the study area.

GAUTENG RAPID LAND RELEASE:
ENNERDALE EXTENSION 9 URBAN DEVELOPMENT FRAMEWORK

Table 1: Land Use Budget for Erven 5445, 5446 Ennerdale Ext 9

	Requirement			Development Controls			
	number	ha	%	Height	Coverage	FAR	Unit size (m ²) Including common area
Number of Even	3,000	16.7	45%				
Social Housing (@200du/ha)	1,200	6.7	40%	3	30%	0.9	50
RDP Housing (@200du/ha)	1,800	10.0	60%	3	30%	0.9	50
Population	8,640	-					
Existing Residential Density (du/ha)	180	-					
Business	5,184	1.7	5%				
Small Crèche/ECD Development Centre	4	0.4	1%				
Primary (including Grade R)	1	2.5	7%		2ha/fac		
Secondary	1	2.1	6%		3ha/fac		
Primary Health Clinic	0	0.18	0%				
Worship Centre	3	0.4	1%				
Post Office/ICT Access Point	1	0.04	0%				
Recreation (Sports and Parks)	-	5.5	15%				
TOTAL without streets		29.52	79%				
Streets		7.67	21%				
TOTAL		37.19	100%				
Gross Density	81						
Measured area		35.2587					
Difference		(1.94)					

Table 2 below provides a summary of the various housing typologies to be provided in the study area. The footprints of these blocks of housing are spatially depicted on Figure 11 with **Diagrams 4** and **5** comprising photographs of some of the typologies envisaged for the area.

Diagram 4: Typical Housing Typologies to be applied



Diagram 5: Typical Housing Typologies to be applied



Table 2: Ennerdale 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	10	20
Social Housing 3	24	45	1,080	108	780	10	24
Social Housing 3	24	25	600	60	780		
Social Housing 2	30	35	1,050	105	975	11	30
Social Housing 1	40	25	1,000	100	1,300	11	40
					Sub Total	1,210	
RDP 1	22	40	880	88	715	47	22
RDP 2	16	40	640	64	520	48	16
					Sub Total	1,802	
GAP Housing	24	45	1,080	108	900	0	1,440
					Sub Total	1,440	
					GRAND TOTAL	3,012	

- From Table 2 it is evident that the following housing typologies and quantities will be developed on the site:
 - SH4: 10 Blocks consisting of 20 x 35 m² social housing units
 - SH3: 10 Blocks consisting of 24 x 45 m² social housing units
 - SH2: 11 Blocks consisting of 30 x 35 m² social housing units
 - SH1: 11 Blocks consisting of 40 x 25 m² social housing units
 - The above translates to 42 blocks of Social Housing comprising a total of 1,210 units
 - RDP1: 47 Blocks consisting of 22 x 40 m² RDP units
 - RDP2: 48 Blocks consisting of 16 x 40 m² RDP units
 - The above translates to 95 blocks of RDP units comprising a total of 1,802 units

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 individual Site Development Plans are 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 layout plan for Ennerdale is compiled.

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.