6. CONCEPTUAL DEVELOPMENT FRAMEWORK

6.1 SPATIAL VISION AND APPLICATION OF PRINCIPLES

This section sets out the Vision for the SDF.

6.1.1 SPATIAL VISION AND CORE IDEAS

The Vision for the Municipality is as follows:

"A unified, viable and progressive municipality."

Given the analysis and the above vision, the following spatial vision is proposed:

"To develop Setsoto into a place of beauty that recognizes its setting comprising of historical, cultural and natural scenic assets that continue to give rise to its tourism appeal while developing its industries around the diversity of agricultural produce to result in a unified and sustainable Municipality."

The implications of the above vision are as follows:

- The tourism opportunities should be protected and enhanced. These opportunities include:
  - Eastern Free State mountain scenery;
  - Historic urban settlements with Victorian sandstone architecture
  - baSuto (south Sotho) regional culture spilling over from 'the mountain kingdom in the sky'.

- Agricultural opportunities that should be supported and protected:
  - Mixed farming, mainly cattle,
  - Some maize and wheat;
  - Cherries around Ficksburg.

- Spatial planning must ensure that the municipality's resources, mainly arable land, are not unnecessary damaged for their use by another sector, for example, future urban development should not take good agricultural land out of production;

- Urban settlement's should present a high quality image and appearance so that they are attractive to visitors and residents alike;

- Water demand must be carefully managed so that urban, agricultural and mining needs can all be met.

6.2 MACRO-CONCEPTUAL FRAMEWORK

6.2.1 NATURAL SYSTEMS SYNTHESIS

- The natural system analysis in the Status Quo report, influenced by aspects of the Municipality such as the topography, vegetation and hydrology gave rise to the conclusion that Municipality comprises two broad bio-regions, see Figure 6.2.1.1:
    - To the west the 'Moetlamogale Uplands' include two settlements, Senekal and Marquard. The countryside is undulating with mainly stock farming and crops, including pastures.
    - To the east, 'Witteberg mountains' – hilly mountainous country with dramatic sandstone cliffs and views over the Caledon river and the Maluti mountains in Lesotho.
    - The land use includes mixed farming with a pattern of pastures and some maize and wheat farming interspersed with patches of Vaal-Vet Sandy Grassland classified as Endangered by SANBI.
    - Cherry farming is famous around Ficksburg and is the basis of the oldest festival in the country.
    - The watershed that drains the rivers either into the Sand River in the northern areas or the Caledon River in the southern areas.
- Figure 6.2.1.1 shows, spatially, the natural system elements that should be protected in the future development of the Municipality. These elements set the "spatial no-go areas" scene for the SDF. These elements include:
    - Land currently under agricultural cultivation throughout the municipality;
    - South facing slopes which are important climate change refuge areas for to mitigate the impact of climate change for both plant and animal life;
    - Steep slopes – generally around Ficksburg and in the southern areas of the Municipality;
    - Endangered Vegetation mainly Mesic Highveld Grassland that can be termed Critical Biodiversity Areas; and
    - Rivers, lakes, dams, pans and or vleis.
    - The Willem Pretorius Nature Reserve around the Allemanskraal dam.

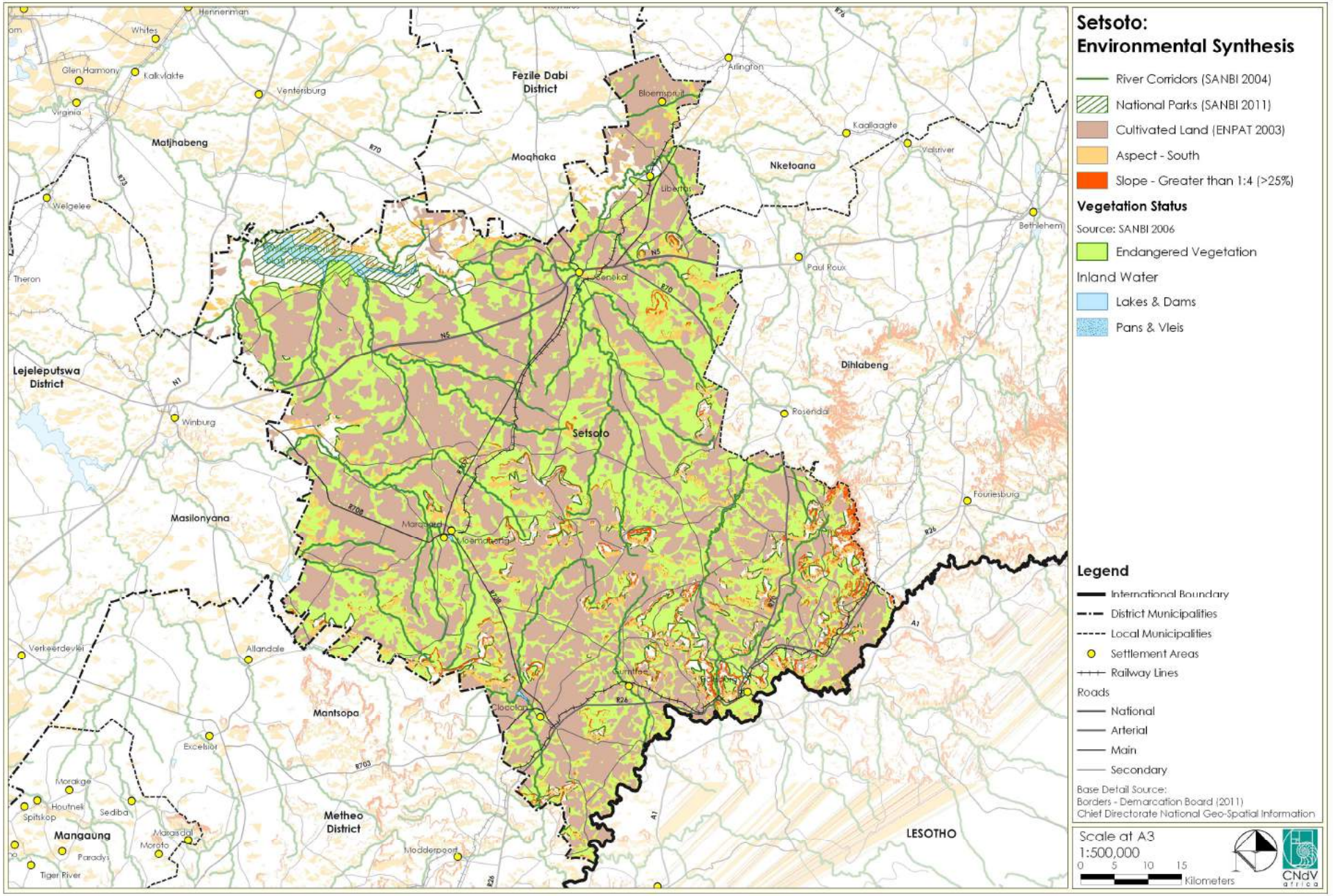


Figure 6.2.1.1 Setsoto Municipality: Natural Systems Synthesis

6.2.2 SOCIO-ECONOMIC AND BUILT ENVIRONMENT SYNTHESIS

- Central Statistical Services figure suggest the population has decreased from 109 000 to 102 000 between 2001 and 2007 and DWAF's figures and the 2011 Census suggest it had increased to 113 000 by 2011. The main reason for this growth is given as due to Ficksburg's proximity to Lesotho.
- Certainly, there are substantial industrial estates across the border in Maputsoe with little other development rather than low density residential. This suggests that a number of service providers and economic linkages to support these factories are across the border in Ficksburg.
- The settlements are Ficksburg, Senekal, Clocolan and Marquard and serve as the population concentration areas of the Municipality.
- There is an adequate distribution of physical health and education facilities in the towns. It appears, from the size of the population that Senekal has more health facilities than what is needed. The same applies to all the settlements in regard to educational facilities. However, and notwithstanding the above, it appears, given the distance to the health facilities that more facilities are needed at Motwabeg, Hlohlolwane and Meqheleng, primary schools are needed at Motwabeng, Marquard and Meqheleng and secondary schools are needed at Matwabeng, Meqheleng and Hlohlolwane. (It should be noted that the population figures should be confirmed with the most recent census to confirm this requirement.)
- Issues in regard to the above facilities relate more to the quality and nature of services rendered and the far distances some of the members of the community have to walk to get access to these due to the extremely spread out nature of the settlements.
- Alternatively, local transport opportunities for example cycling should be promoted to enable people to travel further, more efficiently and with minimum cost.
- Access to schools in rural areas remains a challenge.
- A major issue is the uneven distribution of individual waste water treatment in the urban settlements with significant portions of Hlohlowane (Clocalan), Moemaneng (Marquard) and particularly Meqheleng (Ficksburg). This needs to be addressed because the stark differences in access to provision of this service have been one of the contributors to service delivery protests.
- Providing this service in these areas is likely to be a significant financial and engineering challenge and this opportunity should be taken to explore other strategies to service provision. For example, Bill Gates has recently funded a waterless system with similar usage characteristics, see text box.
- Improvement in access to other urban services particularly roads and storm water management, is also required.
- Improvement of skills and training is required in both the agriculture and tourism sectors.
- Tourism is also important in the scenic mountains around Ficksburg.

BILL GATES INVESTS MILLIONS IN WATERLESS TOILETS TECH

Started by Afrika 2011 , Aug 15 2012 01:02 PM

Microsoft co-founder Bill Gates has challenged scientists to develop waterless toilets for the 2.5 billion people around the world without access to modern sanitation. The billionaire philanthropist has announced $3.4m (£2.2m) in new funding for its "Reinvent the Toilet Challenge", with\$100,000 (£64,000) going to the **California Institute of Technology** for its work on a sun-powered system that recycles water and breaks down human waste into storable energy.

About 1.5 million children under five-years-old die every year - mostly in sub-Saharan Africa and south Asia - because of sanitation problems. But Mr Gates said modern flushable toilets were not the answer as they need a complex sewer system and use too much water.

"The flush toilets we use in the wealthy world are irrelevant, impractical and impossible for 40% of the global population," he said in a statement. "Beyond a question of human dignity, this lack of access also endangers people's lives, creates an economic and a health burden for poor communities, and hurts the environment." To solve the problem, his **charitable foundation** handed grants to eight universities around the world to develop a toilet that operates without running water, electricity or a septic system. It was also to be designed to not discharge pollutants, preferably capture energy or other resources, and operate at a cost of just five cents a day.

Some of the prototypes have gone on display in the open courtyard of the foundation's Seattle headquarters this week. They include the one produced by the California Institute of Technology (Caltech), which has an electrochemical reactor to transform the waste into a hydrogen gas The hydrogen gas produced in the Caltech design can be stored in hydrogen fuel cells to provide a back-up energy source for night operation or use in low-sunlight conditions. Mr Gates also handed out a prize to **Loughborough University** for a toilet that transforms waste into biological charcoal, minerals, and clean water.

Another project on display was from the **London School of Hygiene and Tropical Medicine**. It sends black soldier fly larvae into latrines and even home toilets to process waste, resulting in high quality, environmentally friendly animal feed. The fly larvae project is already being tested in Cape Town, South Africa, and the inventors are working on a kit to sell to entrepreneurs. They have had inquiries from Haiti, Sudan, Kenya and Ghana about adopting the approach. The foundation, which Gates co-chairs with his father and wife, Melinda, is the world's biggest private philanthropic organisation with an endowment worth more than \$33bn. It is spending about \$80m a year on water, sanitation and hygiene issues.

-SKY NEWS

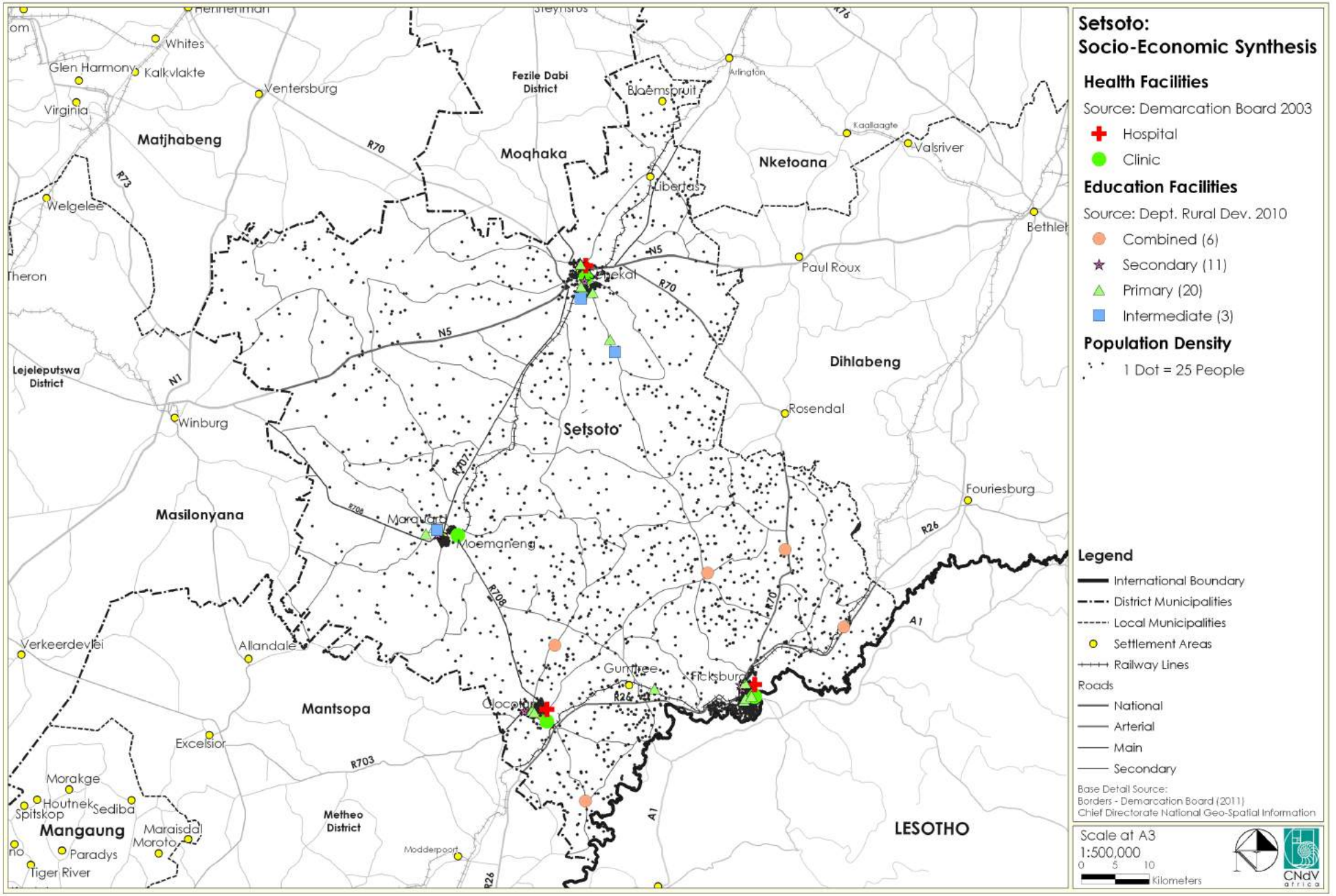
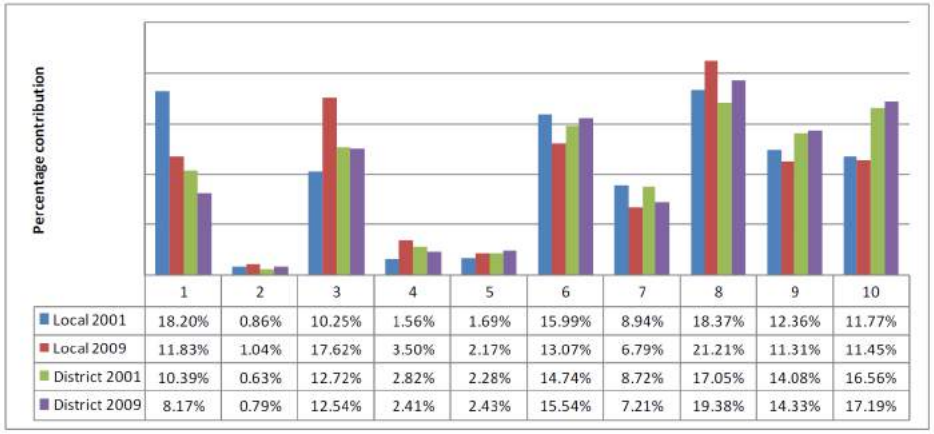


Figure 6.2.1 Setsoto Municipality: Socio-economic Synthesis

6.2.3 SECTOR GVA CONTRIBUTIONS

- Setsoto agricultural GVA contributions appear to be declining while manufacturing and tertiary economic sectors are increasing;
- This suggests that more value add is occurring to agricultural products and that tourism and financial services are on the increase.



	1	2	3	4	5	6	7	8	9	10
Local 2001	18.20%	0.86%	10.25%	1.56%	1.69%	15.99%	8.94%	18.37%	12.36%	11.77%
Local 2009	11.83%	1.04%	17.62%	3.50%	2.17%	13.07%	6.79%	21.21%	11.31%	11.45%
District 2001	10.39%	0.63%	12.72%	2.82%	2.28%	14.74%	8.72%	17.05%	14.08%	16.56%
District 2009	8.17%	0.79%	12.54%	2.41%	2.43%	15.54%	7.21%	19.38%	14.33%	17.19%

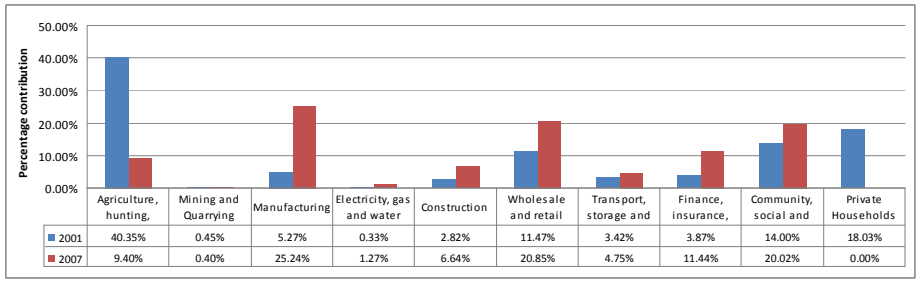
Graph 6.2.3.1 **Sector contributions to GVA for the Setsoto municipal area in 2001 and 2009** (Source: Adapted from data provided by Quantec Research, 2010)

Legend:

1 Agriculture, hunting, forestry and fishing
2 Mining and Quarrying
3 Manufacturing
4 Electricity, gas and water supply
5 Construction
6 Wholesale and retail
7 Transport, storage and communication
8 Finance, insurance, real estate and business services
9 Community, social and personal services
10 Government Services

6.2.4 SECTOR EMPLOYMENT CONTRIBUTIONS

- The increase in employment in the other sectors mirror their growth in GVA;
- The apparent extent of the large drop in agricultural employment requires further investigation.



	Agriculture, hunting,	Mining and Quarrying	Manufacturing	Electricity, gas and water	Construction	Wholesale and retail	Transport, storage and	Finance, insurance,	Community, social and	Private Households
2001	40.35%	0.45%	5.27%	0.33%	2.82%	11.47%	3.42%	3.87%	14.00%	18.03%
2007	9.40%	0.40%	25.24%	1.27%	6.64%	20.85%	4.75%	11.44%	20.02%	0.00%

Graph 6.2.4.1 **Sector contribution to Employment** (MPBS, 2012)

The above shows that the following sectors should be supported as they are important for either their contribution to the economy (GVA) or to creating jobs:

- Finance, Insurance, real estate and business (21,21% of GVA);
- Manufacturing (17,65% of GVA);
- Wholesale and Retail trade (13,07% of GVA); and
- Agriculture, hunting, forestry and fishing (11,83% of GVA)
- Manufacturing (25,2% of the jobs);
- Wholesale and retail 20,85% of the jobs); and
- Community, social and personal services (20,02% of the jobs).

The following sectors, that are showing the best growth, should also be supported:

- Manufacturing and wholesale and retail (from an employment perspective); and
- Manufacturing from a contribution to GVA perspective.

Agriculture, hunting, forestry and fishing reflected a substantial drop in the relative number of jobs it provided between 2001 and 2007, i.e. from 40,35% to 9,40% of all those persons that were employed.

The unemployment rate is 11.10% (MPBS, 2011)

6.2.5 BROAD SPATIAL CONCEPT

Figure 6.2.5.1 shows the broad Conceptual Spatial Development Framework for the Municipality.

The following are the main structuring elements:

- A system of bio-physical corridors and Endangered vegetation in the form of the Mesic Highveld Grassland which highlight strategic elements of the municipality – long term resources that need to be conserved as well as which could contribute to the municipality's economy and employment, especially tourism;

- A major road and transport corridor system that carries the main traffic flows and therefore business opportunities through the municipality. The main route is the N5 National Road that connects Winburg along the northern parts of the Municipality with Senekal. Along the eastern side of the Municipality the R26 performs a similar function and connects Ficksburg with Fouriesburg.

- Ficksburg as one of the main border posts to Lesotho.

- The watershed that drains the rivers either into the Sand River in the northern areas or the Caledon River in the southern areas.

The above three main structuring elements provide a framework in which other important land-uses are located. These land uses and precincts that include:

- The Willem Pretorius Nature Conservation and the Extensive Agriculture that is practiced around it;

- The creation of two distinctive bio-regions, namely 'Moetlamogale Uplands' and the 'Witteberg mountains;'

- The four main settlements, namely Senekal, Ficksburg, Clocolan and Marquard;

- Intensive maize and wheat farming throughout the Municipality; and

- A number of tourist destinations scattered throughout the municipality.

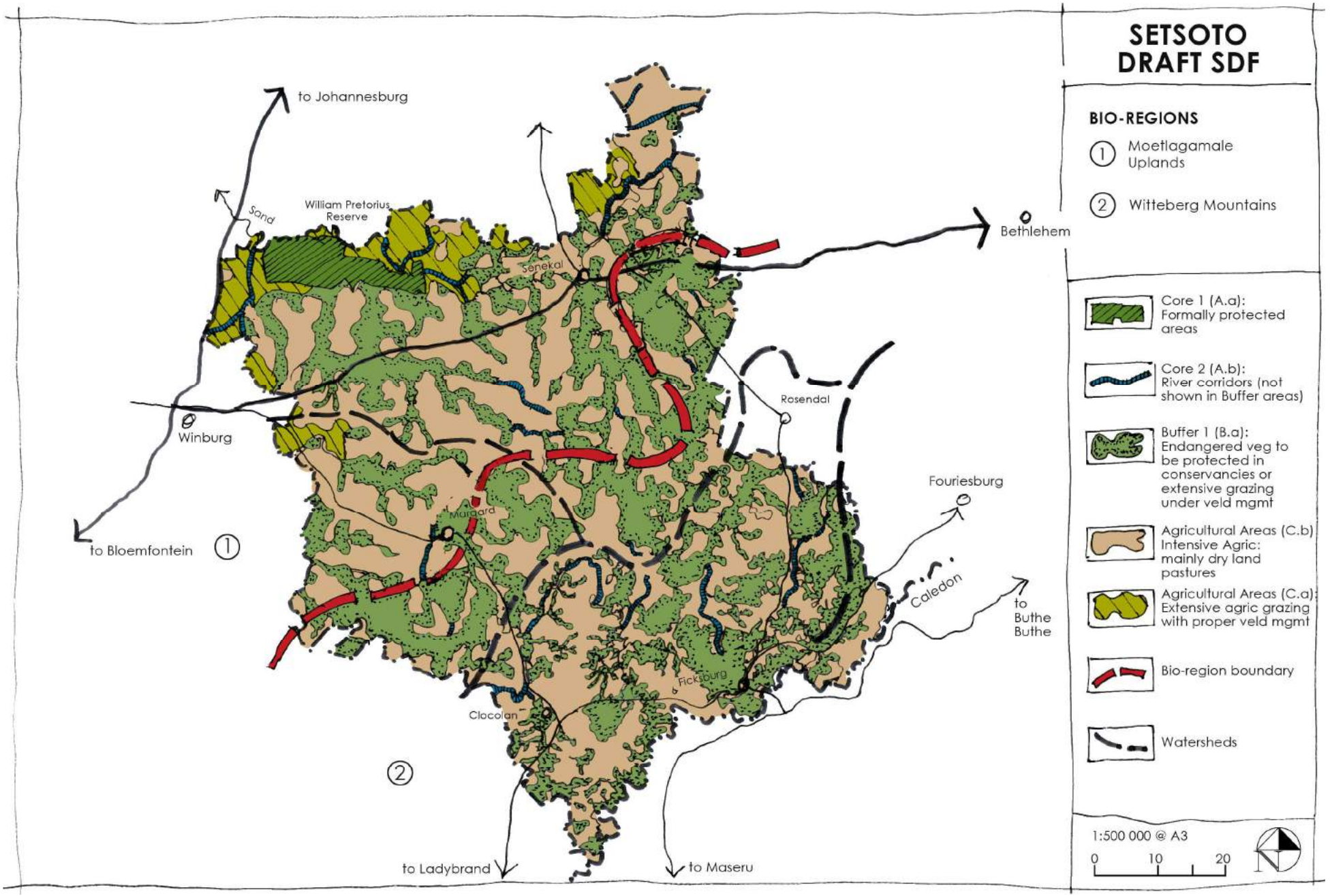


Figure 6.2.5.1 Setsoto Municipality: Initial Conceptual SDF proposal

6.3 MUNICIPAL SPATIAL DEVELOPMENT FRAMEWORK

Figure 6.3.1.1 indicates the spatial development framework for the municipality as a whole.

It comprises the following elements:

- Bio-regions;
- Spatial Planning Categories (SPCs);
- Settlements and Rural Service Centres; and,
- Settlement Hierarchy;
- Major Infrastructure Projects;
- Major Tourism Projects;
- Settlement level guidelines.

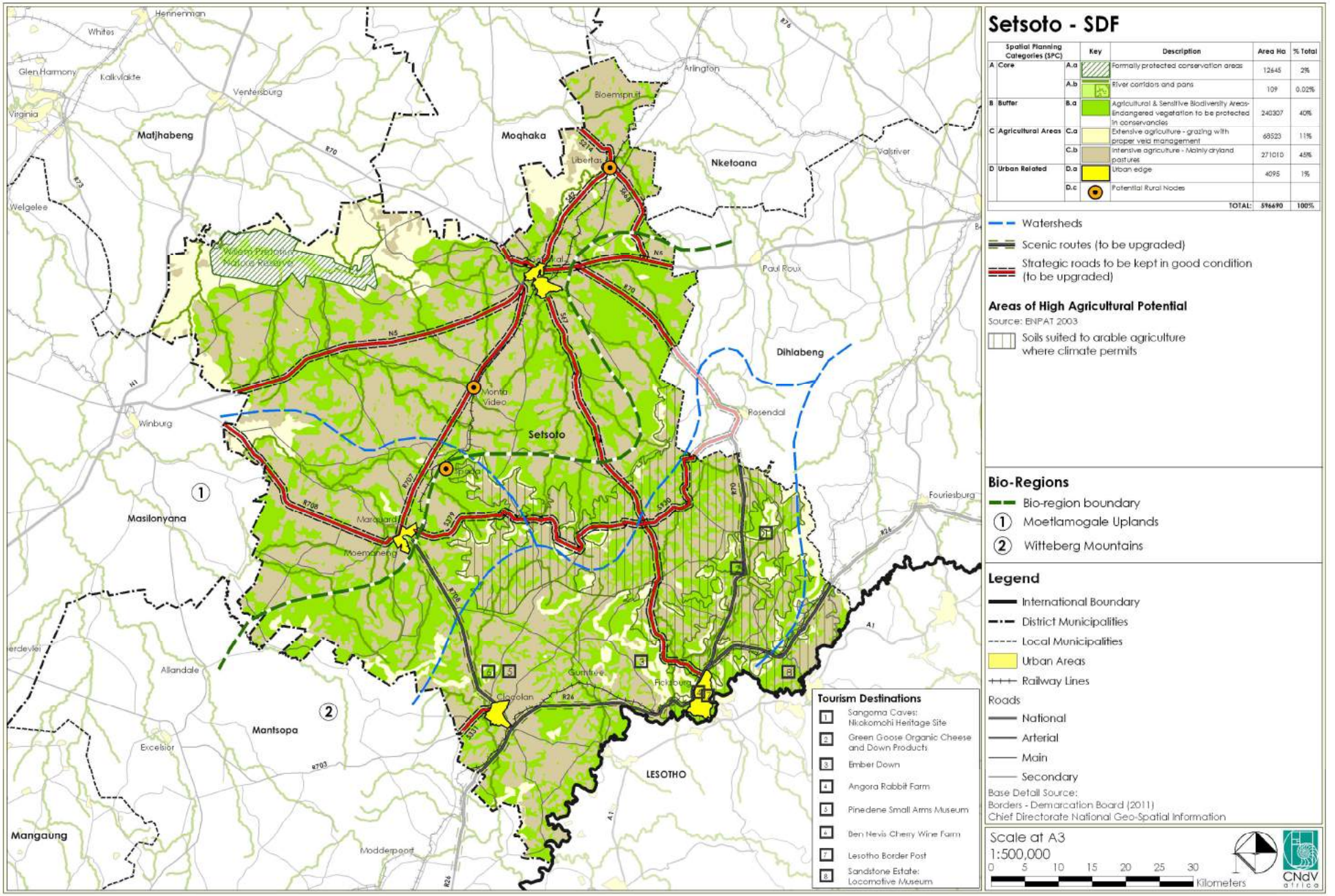


Figure 6.3.1.1 Setsoto Draft Municipal Spatial Development Framework

6.3.1 BIO-REGIONS

The Status Quo report Analysis and Synthesis identified two bio-regions that can be distinguished in terms of the natural environment and economy as shown in Table 6.3.1.1.

They are shown on Figure 6.3.1.2. The two bio- regions are:

- Moetlagamale Uplands; and
- Witteberg Mountains

Table 6.3.1.1 below shows the characteristics of the two bio-regions.

	Moetlagamale Uplands	Witteberg Mountains
Altitude (m)	1200 – 1 800	1 400 - 2 000
Population distribution	Senekal (27 000) Marquard (14 000) Rural (± 7000)	Ficksburg (40 000) Clocolan (18 000) Rural (± 7 500)
Agriculture GVA cont. in mun. R329 m Emp ± 11 500	Poorer soils for arable agriculture Senekal district is the largest centre for agriculture followed by Marquard Senekal and Marquard are the main maize producing areas Cattle farming on pastures is by far the predominant product followed by maize. The Sparta feed lot in Marquard slaughters 200 000 head p.a.	Better soils for arable agriculture with some land suitable for forestry on steeper slopes Cattle farming on pastures is by far the predominant product followed by maize. Irrigation farming occurs along the Caledon river near Ficksburg and Clocolan
Tertiary GVA cont. R1.6bn Emp	Less tourism and more agriculture orientated	Tourism orientated, some border services, agriculture finance and government
Renewable energy potential	Solar – high medium	Solar - low
Hydrology	Draining west to the Sand and the Allemanskraal dam and onto the Orange River	Water shed through centre of bio-region draining east to the Caledon River and west to the Sand and the Orange
Landscape character	Undulating plains becoming more hilly towards the east as they rise into the Witteberg foothills	Distinctive and characterful Witteberg mountains with profusion of distinctive sandstone cliffs and dramatic valleys opening to the Caledon river and the Maluti Mountains in Lesotho to the east. (Union buildings stone was quarried here)

Table 6.3.1.1 Sub-regions and characteristics

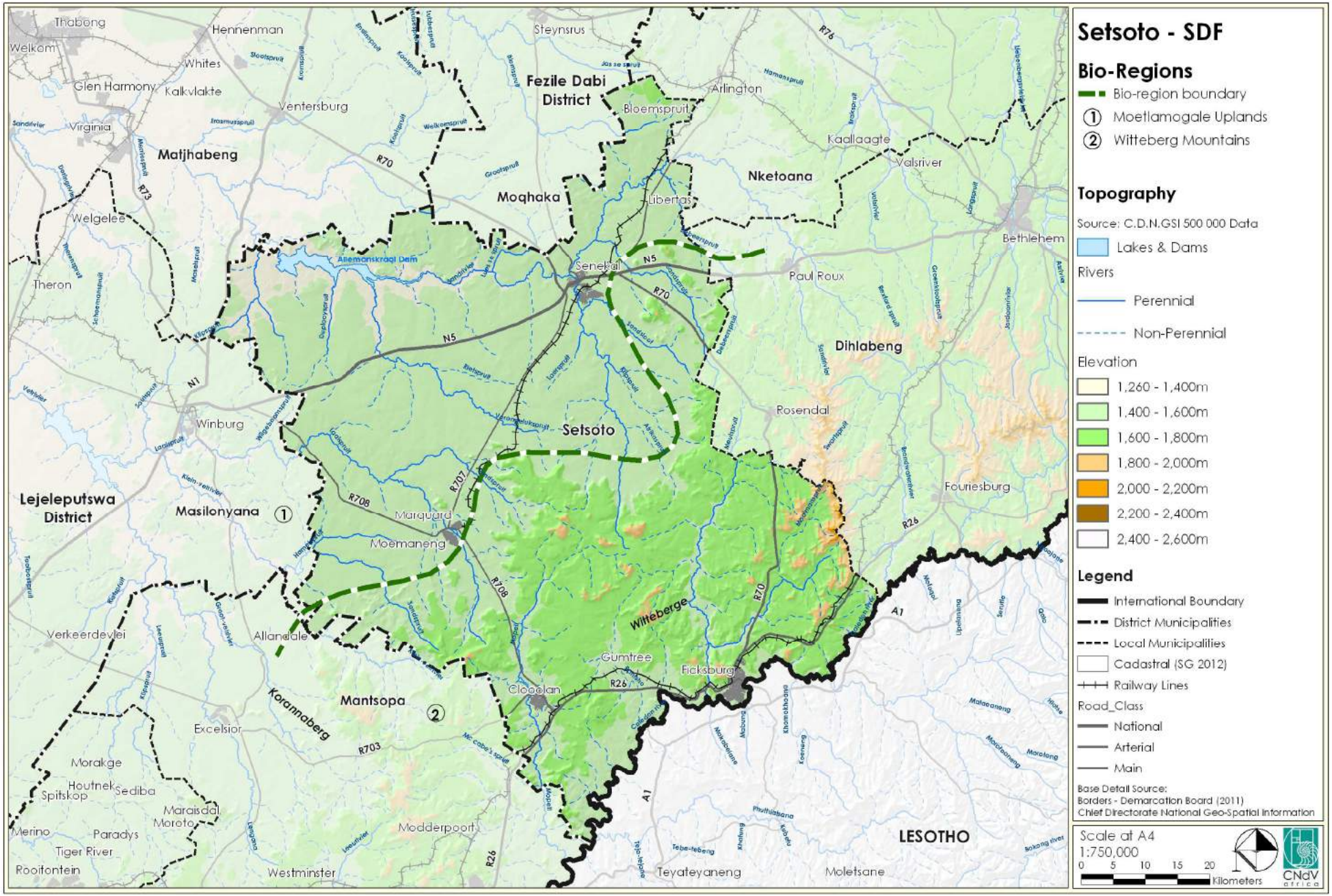


Figure 6.3.1.2 Setsoto Bio-regions

6.3.1.1 Moetlamogale Uplands

MU1 Enforce the CORE 1 designation as a prime conservation area. This classification is the proposed designation of the Willem Pretorius Nature Reserve that includes the Allemanskraal dam along the north-western boundary of the Municipality. No urban development or consumptive activities should be permitted in this area.

MU2 Enforce CORE 2 River and Wetland corridors along the Sand River and its tributaries which include the Sandspruit, Verongelukspruit, Klipspruit and the Sandsloot. Prohibit urban development including all buildings and plowing within a minimum 32 metres of the banks unless an ecological set-back line or a 1:50 year floodline has been determined by the appropriate specialists.

MU3 Implement a multi-pronged water management strategy for water conservation, demand management, recycling and re-use which includes rainwater harvesting and the introduction of efficient and sustainable plumbing technologies in each building.

MU4 Promote the establishment of conservancies with tourism opportunities to protect significant remaining fragments of Mesic Highveld Grassland.

MU5 Promote proper veld management using rotational grazing methods, e.g. Savory or Acocks to improve bio-diversity and stock carrying capacity (www.savoryinstitute.com);

MU6 Discourage the conversion of agricultural land to urban uses.

MU7 Ensure that the main routes connecting the silos are at all times well serviced and tarred to support the movement of agricultural produce and people.

MU8 Implement urban design and landscaping upgrades of settlements' main streets and CBDs.

6.3.1.2 Witteberg Mountains

WM1 **Enforce CORE 2 River and Wetland corridors along the Caledon River and its tributaries that include the Meulspruit, Mooimanspruit, and the Mopeli River. Prohibit urban development including all buildings and plowing within a minimum 32 metres of the banks unless an ecological set-back line or a 1:50 year floodline has been determined by the appropriate specialists.**

WM2 **Implement a multi-pronged water management strategy for water conservation, demand management, recycling and re-use which includes rainwater harvesting and the introduction of efficient and sustainable plumbing technologies in each building.**

WM3 **Promote the establishment of conservancies with tourism opportunities to protect significant remaining fragments of Mesic Highveld Grassland.**

WM4 **Discourage the conversion of agricultural land to urban uses. Note especially, and not exclusively, the soils of high and intermediate suitability for arable agriculture in the southern and south-eastern areas of the Municipality.**

WM5 **Ensure that the main routes especially those connecting the silos and the R26 are at all times well serviced and tarred to support the movement of agricultural produce and people.**

WM6 **Implement urban design and landscaping upgrades of settlements' main streets and CBDs.**

6.3.2 SPATIAL PLANNING CATEGORIES FOR LAND USE MANAGEMENT

The Spatial Planning Categories provide the basis for managing rural land uses. The general conditions guiding what activities may occur within each category are generally in accordance with those set out Figure 6.3.1.1.

6.3.2.1 Core 1 (A.a): Formally Protected Areas (Statutory Conservation Areas)

Core SPCs, comprising formally protected natural areas, include the Willem Pretorius Nature Reserve and the nature reserve around the Meulspruit dam above Ficksburg. This covers 2% of the municipal area.

6.3.3.2 Core 2 (A.b): Ecological/ River Corridors and Wetlands (0,02%)

A key aspect of the municipality's sustainability is the protection of its river systems and water bodies many of which are in a critically Endangered state as identified by SANBI. For this reason the municipality needs to limit bank side and development in the high catchments to the greatest extent possible.

In order to protect water quality careful management is required, including the alignment of a no ploughing or urban development set back line.

In the absence of a 1: 50 year floodline, a minimum 32m setback line is required from the banks of all river and water bodies unless otherwise delineated by hydraulic engineers (flood lines) and or ecological set back lines (fresh water ecologists)

The Allemanskraal dam, providing the reservoir for the Sand River irrigation scheme west of the municipality, is protected within the Willem Pretorius nature reserve. The Meulspruit dam, supplying Ficksburg's water is also protected by a nature reserve.

6.3.3.3 Buffer Areas (B): Agriculture and Sensitive Biodiversity Areas / Critical Biodiversity Areas (CBAs) outside of Core 1 Areas (40%)

These are areas where there is Endangered Vegetation, commonly called Sensitive Biodiversity Areas. In these areas the agriculture should be practice sensitively, not to negatively impact on the Sensitive Biodiversity Areas.

The Mesic Highveld grassland, which occupies most of the municipality and which largely coincides with the Intensive Agricultural areas used for maize, wheat and pastures, has been identified as Endangered by SANBI.

However, although fragmented at the municipal level but generally structured along river valleys this land comprises about 40% of the municipality or about 240 000 hectares.

Where this land is not under the plough or pastures it should be either:

- Encouraged to become a private conservancy or game farm of which there are already a number in the area; or
- Used for extensive agriculture (grazing) under strict veld management and rotational grazing methods that will improve bio-diversity as well as carrying capacity, see SPC Buffer 2 below.

Formally protecting these sensitive areas will require massive resources so it is intended that land owners be encouraged to protect them via stewardship agreements or private conservancies in return for rates rebates and the appropriate use of land for eco-tourism and other income generating ventures. Funds for alien vegetation removal which also have benefits in terms of improving water quality and quantity can also be mobilised.

When a property is proclaimed as a conservancy or stewardship area those portions to be used purely for conservation purposes should be proclaimed Core 1 (A.a) SPC and those portions containing accommodation or buildings should be classified as Agriculture 1 (Extensive Agriculture or C.a).

6.3.3.4 Agriculture Areas

Agriculture 1 (C.a): Extensive Agriculture (11%)

There are some parts of the low lying Sand river flood plan whose vegetation is not endangered vegetation but where responsible grazing management can create a double benefit in improving stock carrying capacity as well as improving biodiversity. These areas can also be used for game farming, tourism and hunting.

Agriculture 2 (C.b): Intensive Agriculture (45%)

Agriculture is currently the biggest employer in the district (approx. 11500 direct jobs), the largest contributor to the economy, and an important contributor to exports from the municipality.

This SPC comprises 271 500 hectares (45% of the municipality), with only 761 hectares under irrigation, mainly along the Caledon river. It should be protected to the greatest extent possible.

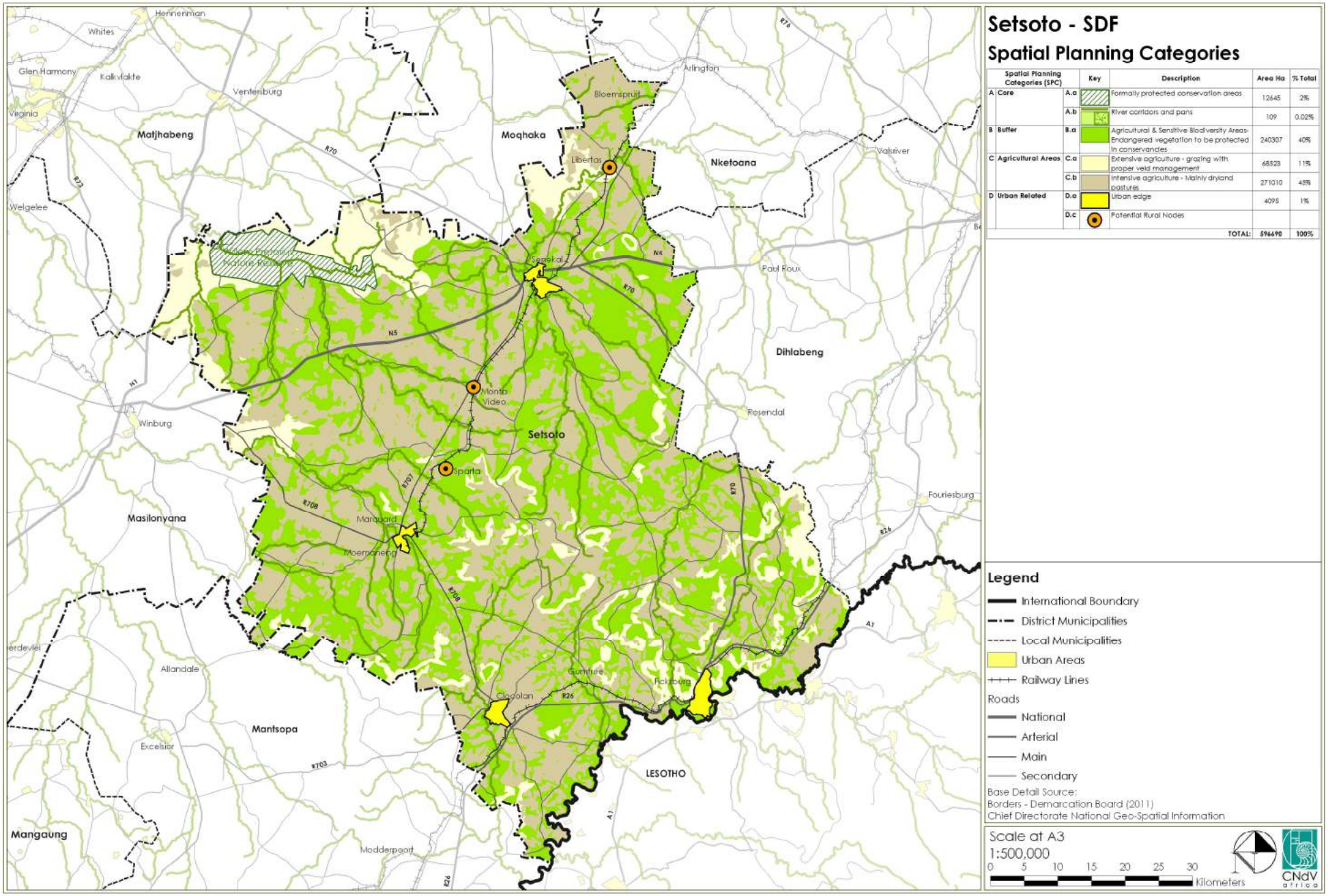


Figure 6.3.2.1 Spatial Planning Categories

SPC	Description	Policies	Responsibility
Core 1 (A.a)	Formally protected conservation areas	A.a.1 Formally protected areas to enjoy the highest levels of protection. A.a.2 Where possible and appropriate these areas should be extended by donation and acquisition. A.a.3 Only non-consumptive and extractive activities are permitted e.g. recreational, tourism, traditional ceremonies, research and educational A.a.4 Management plans should be drawn up for the protection areas.	Municipality, Dept of Nature Conservation
Core 2 (A.b)	River corridors and wetlands	A.b.1 River corridors and wetlands, including ephemeral pans, must be protected from urban, agricultural and mining activities to a distance of at least 32 metres from their banks unless closer setback lines have been determine, e.g. 1:50 year floodline by a geohydrologist and freshwater ecologist. A.b.2 Only agricultural practices should be permitted between this setback line and the 1:100 floodline. A.b.3 Any activity within the 1:50 year or 1:100 year floodline requires a permit form DWAF A.b.4 Mining and other activities that may cause permanent damage in wetlands should be discouraged.	Municipality, DWAF, Dept of Agriculture, SANBI
Buffer (B.a)	Controlled Agriculture in Endangered Vegetation	B.a.1 This is to permit existing agriculture such as stock and game farming that does not exceed carrying capacity in sensitive biodiversity areas (eg. CBAs). B.a.2 Conservation of Critical Biodiversity Areas and Endangered vegetation shall be encouraged through the promotion of conservancies and stewardship projects with limited eco-tourism development rights and/or donations to formal conservation agencies. B.a.3 When proclaimed those portions of a property to be used only for conservation and low impact (no buildings) tourism purposes shall be proclaimed as Core 1 SPCs with the balance remaining Buffer 1. B.a.4 Any development applications should show the sustainable desirability of the proposal and only ecologically sensitive developments should be permitted. B.a.5 Any new developments or changes should be subject to an EIA.	Dept. of Agriculture DWAF Dept of Nature Conservation Dept of Tourism SANBI DRDLR
Agriculture (C.a.)	Extensive agriculture / grazing and pasture farming	C.a.1 Rotational grazing and other veld management best practices shall be promoted so as to improve biodiversity and stocking rates. C.a.2 High potential agricultural land should be excluded from non-agricultural development. C.a.3 Any non-agricultural development permitted should be subject to appropriate environmental off-sets.	Municipality Dept of Agric
Agriculture (C.b.)	Irrigation and dry land crop farming	C.b.1 All existing and potential land suitable for intensive agriculture shall be protected from conversion to other uses including conservation. C.b.2 Agriculture water demand management must be practiced and intensive agriculture water supplies shall be protected and not diverted to other uses. C.b.3 Any non-agricultural development permitted should be subject to appropriate environmental off-sets.	Municipality Dept of Agric
Urban Related (D.a.)	All land used for urban purposes in towns, villages and hamlets.	See settlement level proposals. D.a.1 Urban development shall be promoted within urban settlements according to the settlement planning principles to promote integration and restructuring. D.a.2 As a general rule non-agricultural development should not be permitted outside of Urban Edges except for bona fide holiday/ tourism accommodation and agri-industry development, agri-settlements, and social facilities and infrastructure necessary for rural development shall be subject to appropriate conditions. D.a.3 Compaction of urban settlements and the development of all infill areas with due regard to heritage and environmental constraints should be appropriately exhausted before Urban Edges are extended. D.a.4 The proposed Urban Edges should be aligned to protect natural and agricultural resources and to promote more compact settlements	Municipality COGHSTA
Rural Nodes (D.c)	Potential Rural Nodes	D.c.1 Any new rural node should only be initiated after the completion of a detailed feasibility study covering, inter alia, social, agricultural, infrastructural and economic cost benefit analyses. D.c.2 New rural nodes/ agri-villages should only be developed to facilitate farmworker accommodation. D.c.3 Initially, depending on the density of the population, only off-grid services should be provided for low threshold rural nodes. D.c.4 Periodic Markets should be developed to provide needed government services to low threshold rural nodes.	Municipality DRDLR, COGHSTA Dept. of Agriculture

Table 6.3.2.1 Spatial Planning Categories

This land will also be an important resource in terms of food security in the long term, although Setsoto is fortunate in that, unlike many other municipalities, it has an abundance of this resource relative to its population.

The proposals of the SDF and that of the future Agricultural Master Plan should be aligned. In this regard the Agricultural Master Plan should incorporate the strategic spatial vision and associated policies and principles for the Municipality. Any future revision and / or updating of the SDF should incorporate the proposals of the future Agricultural Master Plan.

6.3.3.5 Urban Areas (D.a)

This includes the areas that are or will be used for urban related activities. All these areas should be included in a defined Urban Edge. Four urban areas are located in the Municipality. These urban areas include: Ficksburg, Clocolan, Marquard and Senekal.

6.3.3.6 Potential Rural Nodes (D.c)

This includes areas that have been identified for potential rural nodes. A formal cost-benefits analysis and impact study must be completed before these areas are developed as rural nodes. This analysis should include the lifespan costs / impacts of potential peripheral / rural developments to fully understand the impact of remote developments.

6.3.3 THE ECONOMY

Setsoto's economy rests on the twin pillars of tourism and agriculture and the necessary support sectors for these economic drivers such as manufacturing. At one level the municipality's relative isolation from large main centres means that there will be more demand for higher order services than would be the case if a large metropolitan area were nearby.

To improve and consolidate these roles the following needs to occur:

First, as mentioned previously the SPCs that protect agricultural resources must be strongly managed. This is likely to require an integrated approach from municipal officials and the Department of Agriculture

Secondly, roads must be upgraded, particularly those that link the border settlement corridor to the inland areas from Marquard and Rosendal.

As mentioned earlier, although far away from the municipality the road between Wepener and Smithfield should be tarred so as to provide another direct link onto the R26 corridor through Ficksburg and Clocolan;

Thirdly, the settlements need to be well managed with respect to crime, grime and urban quality. The appearance of heritage buildings and other building fronting onto important roads must be improved and promoted. These measures will help to ensure that the towns are as appealing as possible to visitors, potential new permanent residents and locals.

6.3.4 MAJOR INFRASTRUCTURE PROJECTS

These include the following:

- A raw water storage facility at Rosendal to feed the Meulspruit dam above Ficksburg. (This represents another reason why this settlement should be incorporated into Setsoto so that municipal infrastructure is under a single jurisdiction.)

- Development of boreholes at Matwabeng.

- Bucket systems still need to be eliminated in Ficksburg, Clocolan and Marquard.

- WWTWs still need to be completed in :

    - Senekal,
    - Ficksburg; and
    - Clocolan.

- Road upgrading to facilitate the movement of people and produce between:
    - Upgrade road between Clocolan and Marquard
    - Upgrade road between Rosendal and Ficksburg
    - Upgrade road between Rosendal and Senekal
    - R70 - Senekal to Ficksburg (71km)
    - R70 - Senekal to Odendalsrus (106km)
    - R707 - Senekal to Marquard (43km)
    - R708 - Windburg to Clocolan (75km)
    - R26 - Ficksburg to Lesotho (5km)

- Upgrading of various roads in the settlements: Ficksburg, Senekal, Marquad and Clocolan.

- Installation of street lighting at:
    - Moemaneng;
    - Matwabeng;
    - Meqheleng; and
    - Hlohlolwane.

- Given the availability of funds and in an attempt to solely make schools more accessible, i.e. within walking distance, facilities could be required at:
    - Primary Schools: Motwabeng, Marquad and Meqheleng; and
    - Secondary Schools: Matwabeng, Meqheleng and Hlohlolwane.

- Given the availability of funds and in an attempt to solely make health facilities more accessible, i.e. within walking distance, facilities could be required at :
    - Motwabeg;
    - Hlohlolwane; and
    - Meqheleng.

The alignment of the water pipeline between Rosendal dam and Senekal has not been determined yet. This project is still in its planning stages. The municipality would need to give input in regard to the most appropriate alignment to ensure the maximum spinoffs for the residents in the community.

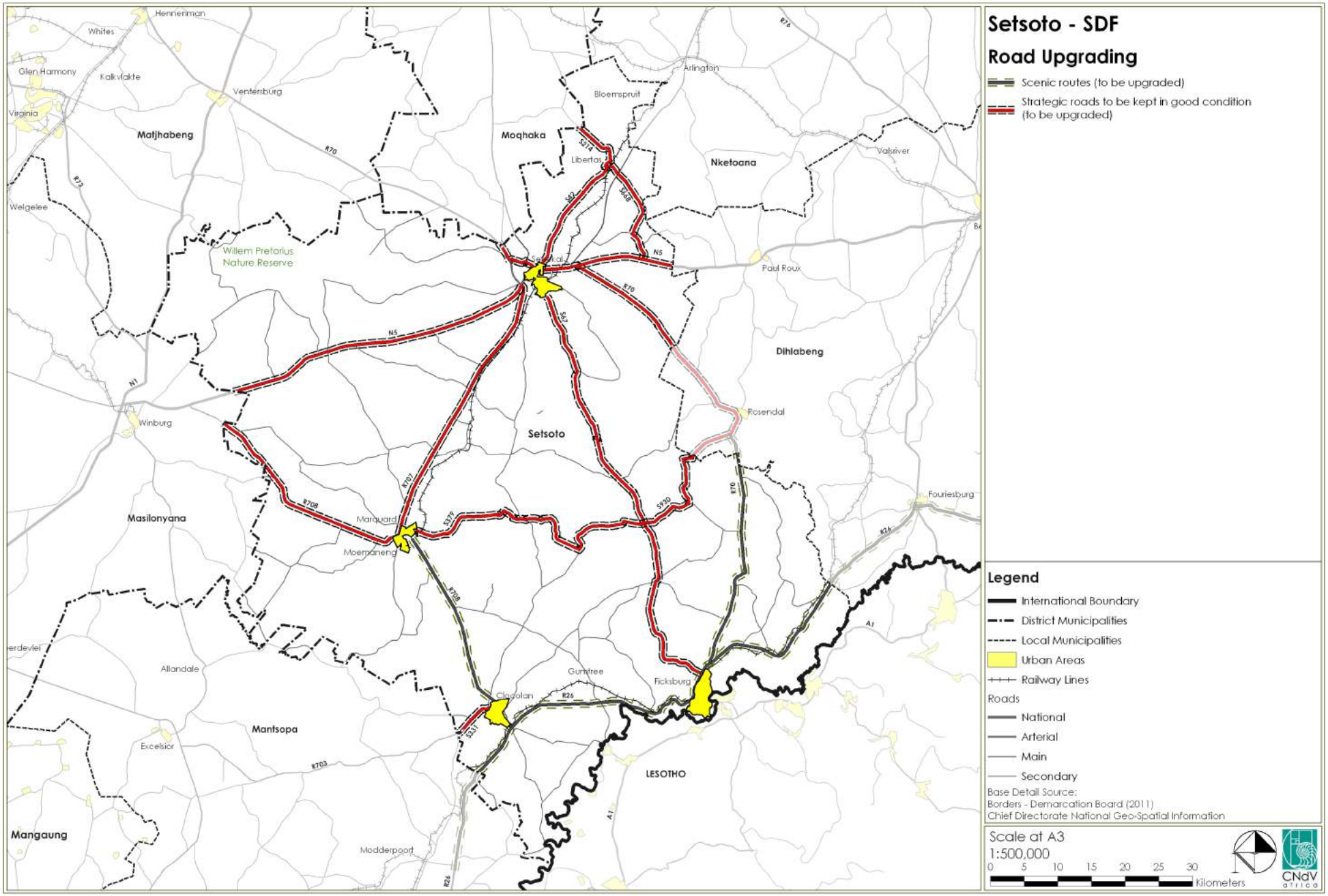


Figure 6.3.4.1 Major Transport Routes Requiring/Planned for upgrading

6.3.5 MAJOR TOURISM DESTINATIONS

The following main tourism destinations with major related attractions are identified, see Figure 6.3.5.1

- Sangoma caves;
- Green Goose Organic Cheese and Down Products
- Ember Downs
- Angora Rabbit Farm
- Pinedene Small Arms Museum
- Ben Nevis Cherry Wine Farm
- Lesotho Border Post; and
- Sandstone Estate: Locomotive Museum
- A number of game, guest and hunting farms are prevalent in the municipality.

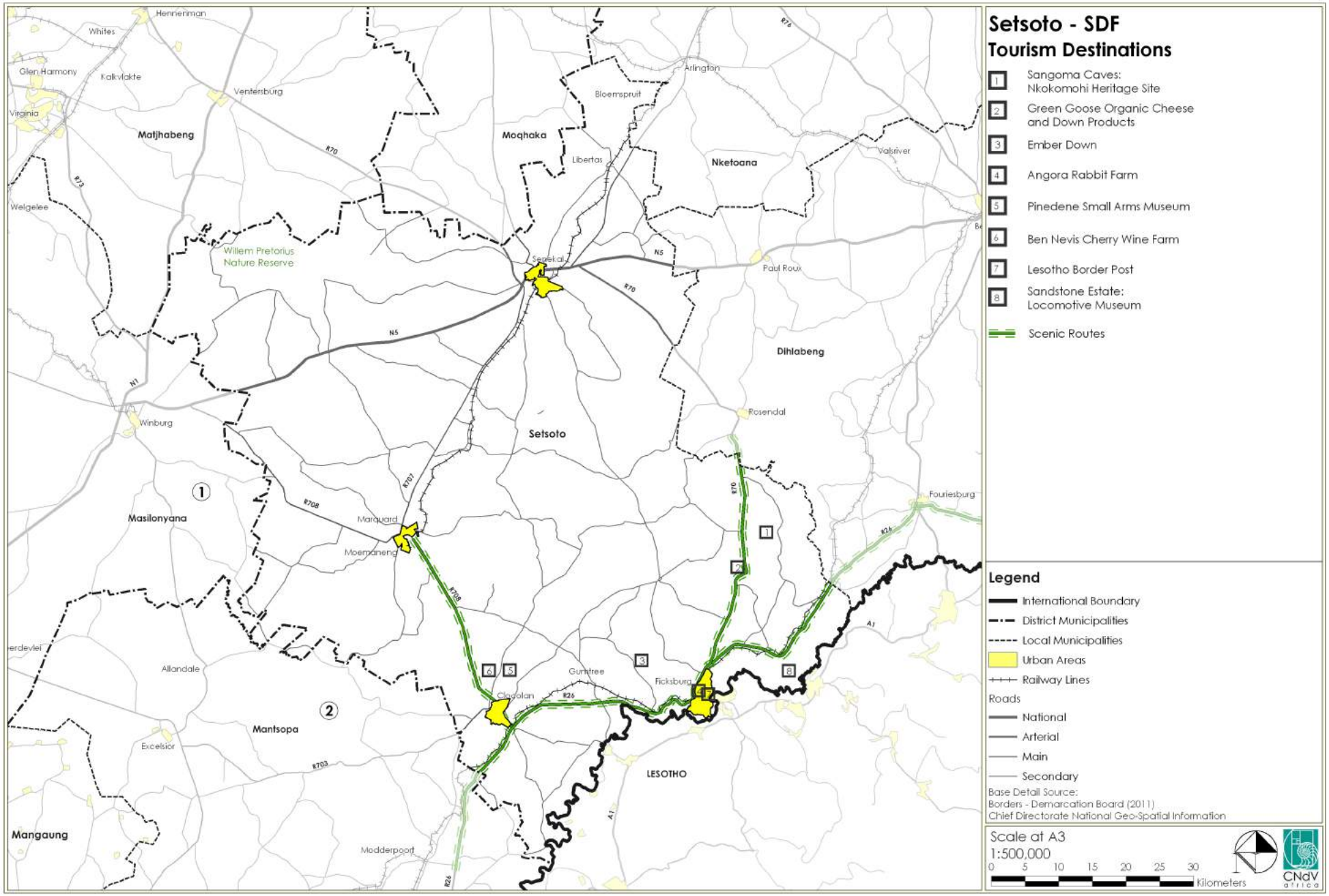


Figure 6.3.5.1 Approximate Location of Major Tourist Destinations

6.3.6 LAND REFORM

- **Land to be acquired or reserved for land reform activities or for proactive acquisition**

    - All land can be viewed as a target for proactive acquisition as there are many options for participation as well as different market sectors that the land could be used for. For example:
    - Large commercial farms – farm equity share arrangements;
    - Commonage extensions – outright purchase and inclusion into existing practices – note, only Ficksburg has significant commonage;
    - Land can be used for tourism, conservation and agricultural purpose often overlapping. Riemvasmaak and Leliefontein in the Northern Cape Province are examples where extensive and intensive farming as well as tourism activities occur on the same properties

- **All land in rural areas outside the Urban Edges of settlements should be subject to the Land Reform Program target, not just "agricultural" land.**

    Reasons
    It is difficult to precisely identify bona fide agricultural land. For example:
    - Is land defined agricultural so defined if farming is the sole, or majority source of income?
    - Is hobby farming considered agricultural or not?
    - What is the situation if a large piece of agricultural land is converted to a private nature reserve and used for conservation and tourism. Is it no longer agricultural and therefore exempt from land reform? Would this be equitable to those land owners still farming as a primary economic activity?

    Clearly, the definition of agriculture is problematic and too widely open to interpretation, nor is it considered still relevant in today's mixed rural economy which includes hobby farming, tourism and conservation, as well as bona fide agriculture. The rural economy is much more diverse than it was when black people were excluded from the land during the late 19th and early 20th centuries.

    It is suggested that the real issue was not so much dispossession of the land but the removal from the economic opportunities that its ownership and access represented.

    Therefore, it is suggested that the prime issue is restoring and enabling access to the rural economy in whatever form it now finds itself. Land ownerships' role as a means to achieving that goal.

For these reasons it is proposed that land reform should apply to ALL rural land outside of urban settlements.

6.4 URBAN RELATED DEVELOPMENT

6.4.1 SETTLEMENT GUIDELINES

6.4.1.1 Corridors and Linkages

The municipality's population is too sparse and the settlements too far apart to warrant a municipal level system of this nature. These elements will rather be used at the settlement scale to promote restructuring of the towns

Proposing a linked framework of nodes and corridors across the municipality is problematic because of the separation caused by the Witteberg Mountains and the link between Senekal and Ficksburg passes outside the municipality through the adjacent Dihlabeng local municipality.

Therefore, it is proposed that these elements are applied at the level of the settlements only.
Senekal is on the N1/N5 route between Bloemfontein and Natal that cuts through the north western quadrant of the municipality.

Ficksburg and Clocolan are on the R26 regional route which operates more as a scenic tourism corridor along the western Lesotho border between Harrismith on the N5 and Rouxville on the N6 to East London. If the R701 between Wepener and Smithfield was upgraded there would be a direct scenic tarred road route all the way from the N1 at the Gariep dam to Harrismith on the N3 to Durban that could offer an alternative to traffic passing along the N2 between Cape Town and Durban. This traffic would travel through Clocolan and Ficksburg.

The regional road system is in poor repair on some sections particularly the road between Marquard and Clocolan, and Rosendal (outside of the municipality) and Ficksburg.

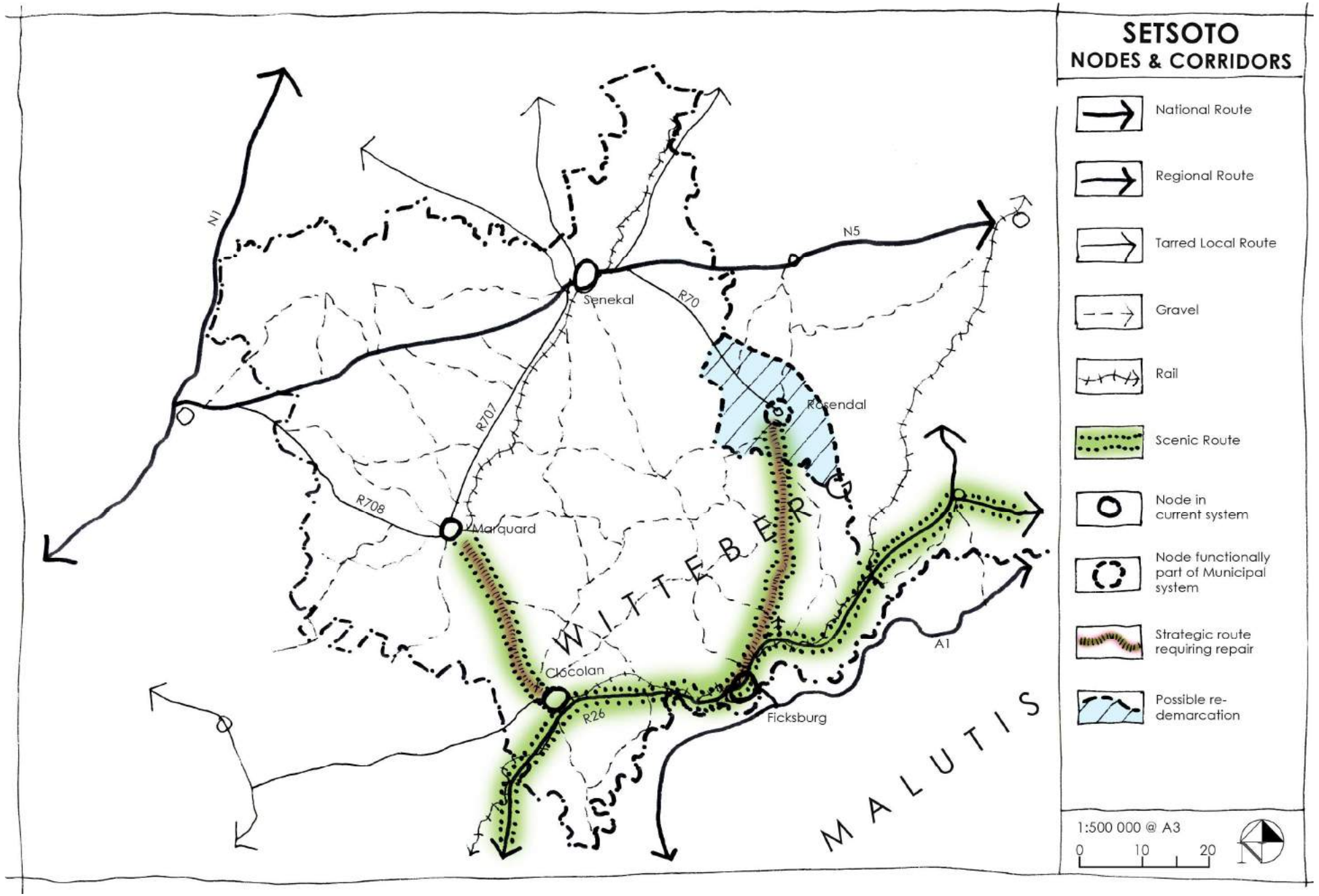


Figure 6.4.1.1 Setsoto Draft Municipal Spatial Development Framework: Nodes and Corridors

An Intensification Corridor is intended to promote a mutually supportive increase in residential (mixed income) and economic (mixed use) activity straddling the major routes of a settlement to:

- Contribute to its environmental quality by increasing levels of human activity, and provide opportunities for new and contemporary development while at the same time respecting and conserving a settlement's heritage, even if only for its tourist appeal;
- Increase its economic and employment opportunities within convenient access of residents
- Make efficient use of expensive existing infrastructure, roads, pipe and cape networks; and
- Increase contributions to the Municipal revenues through increased rates and service consumption charges.

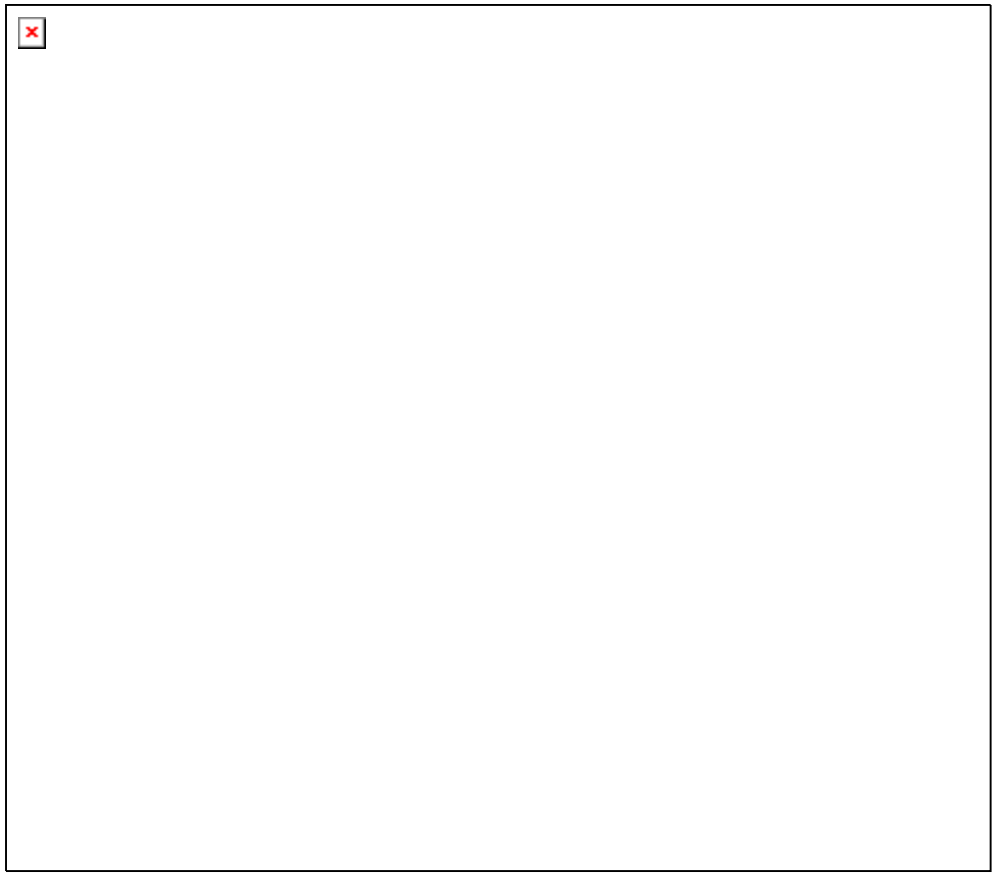
When promoting an Intensification Corridor it will be necessary to bear in mind the possible need to address ceilings in transport and civil service capacities.

The following are important ingredients for the Intensification Corridors:

- Higher density and greater height closer to spine road of Intensification Corridor;
- Provide development control clarity;
- High quality urban environment;
- High quality pedestrian environment;
- Maximise economic opportunities by allowing for markets and other opportunities to provide access to small and informal businesses from well located space;
- Redevelopment to higher densities; and
- Subdivisions to provide higher densities.

Principles:

- **Sensitive infill and redevelopment of major arterial axis in clearly defined precincts;**
- **Corridors to concentrate activities and support its speedy initiation especially in more rural areas, should be delineated to include one erf on either side of the identified street, otherwise called the spine of the corridor;**
- **Sensitivity towards existing heritage buildings;**
- **Enhancing the street experience through landscaping and guiding the architecture of new developments;**
- **Encourage a multiple level of entry into the economic market and enhance job creation, the intensification corridors should be limited to residential, office and retail uses and only compatible light industrial uses, e.g. non-nuisance manufacturing or craft activities that may require a retail outlet on the same premises.**
- **Define a single uniting structure of nodes and linkages between town and township; and,**
- **Encourage supporting densification pattern and infrastructure provision.**



Before Development

After Development

Figure 6.4.1.2 Intensification Corridors

6.4.1.2 Nodes

This will be shown at town level.

Three levels of hierarchy of urban nodes containing business and community facilities shall be clustered together as far as possible to provide satisfactory access and clustering of activities:

- Tertiary: technikons, hospitals, courts, multi-purpose centres, regional or metropolitan transport interchanges, museums, art galleries, indoor sports complexes, regional shopping centres;

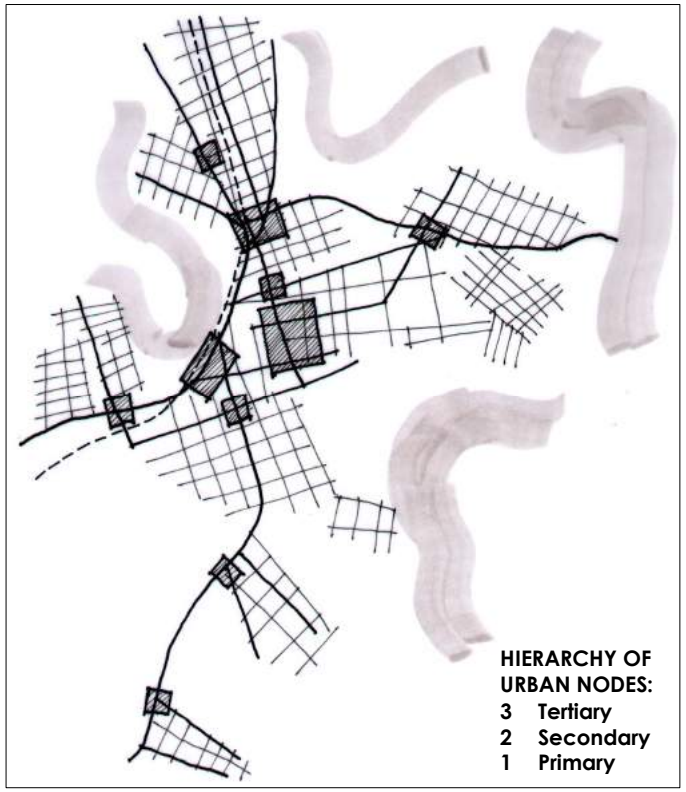
- Secondary: high schools, day care centres, hospitals, libraries, sports and community halls, sportsfields; and

- Primary: primary schools, crèches, clinics, bus and mini-bus taxi stops

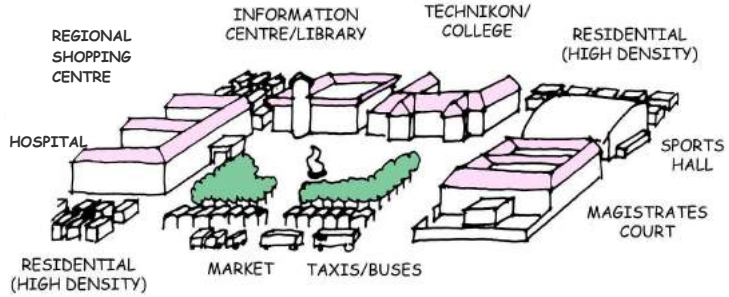
- Nodes should be managed to concentrate the business therein and where growth is required, the node should be encouraged to grow along the corridor towards each other. This is to manage and prioritise in a strategic manner, the implementation of needed infrastructure and to provide the greatest opportunity of success of these business.

Principles

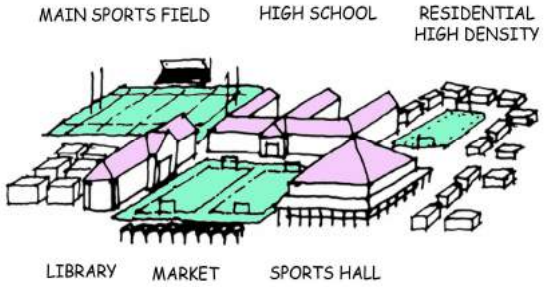
- ***Implement projects on a focused, strategic and hierarchical basis with the largest investments for higher order facilities that will be enjoyed by the greatest number of people.***



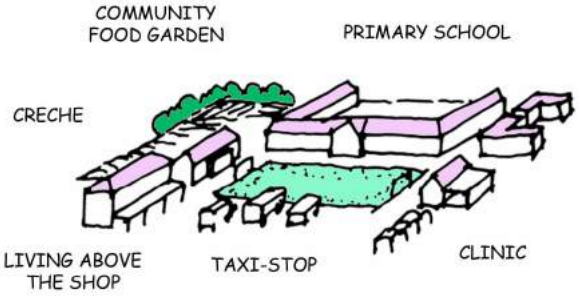
Clustering Civic, Commercial and Residential Activities



Tertiary Cluster of Facilities



Secondary Cluster of Facilities



Primary Cluster of Facilities

Figure 6.4.1.3 Sub-Centre Nodes

6.4.1.3 Land Use Integration and interface

The intensification areas are seen as the prime instruments for promoting integration between the towns and townships of the urban settlements.

Principles:

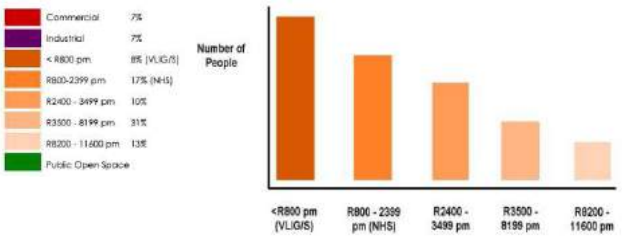
- **Locate activities (residential, transport, work, recreation, etc.) so that at least 50% of them are in walking distance**
- **Sensitively locate the income groups within the 1km radius : e.g. very low not right next to the very high income**
- **Locate most frequented activities in the most central / accessible localities, e.g. industrial and commercial.**
- **As a general rule Human Settlement schemes should not be targeted at a single income group exclusively, usually subsidy or Site and Service, but should always include at least a GAP housing and top structure subsidy component even if only comprising 10% or 20% of the units.**
- **The arrangement of the housing for the various income groups should be according to the principle of the socio-economic gradient with the higher end of the market closest to the main thoroughfare.**
- **Use all well located vacant land, i.e. within 1 to 2kms of urban centres; and,**
- **Locate all future residential areas within walking distance of urban centres where space permits.**
- **locate all future subsidy housing within walking distance of nodal centre where space permits;**

Interface principles:

- **The change between different schemes must happen along the midblock and not across the street;**
- **Residents must be given freehold tenure, i.e. title deeds immediately so that shack upgrading will commence as soon as possible; and**
- **The more formal the units the closer they should be to the main public thoroughfare or adjacent upmarket housing.**

•

Well-located BNG housing project in Langebaan surrounded by up-market housing



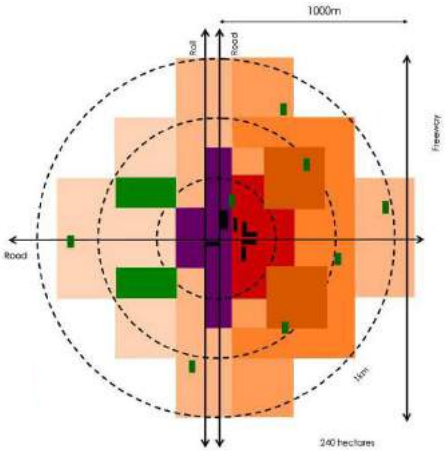


Figure 6.4.1.4 Socio-economic integration and Interface Treatment

6.4.1.4 Urban Edge

These should be reviewed to ensure that:

- Sufficient protection is given to land requiring protection, inter alia, the agricultural land currently under cultivation.

- That compaction rather than expansion of urban settlements is encouraged to promote non-motorised transport modes where appropriate.

- There should be little need for motorized transport for most trips in the settlements but due to their layout the following distances are experienced:
  - Ficksburg – Meqheleng (2 – 4kms)
  - Senekal – Matwabeng (2 – 4kms)
  - Marquard – Moemaneng (1.5 – 2 kms)
  - Clocolan – Hlohlowane (1 – 2.5kms)

  Note: convenient walking distance <1kms
  Note: convenient walking distance <1kms

- Furthermore, it should be noted that all of the low income settlements are located in one side or "slice" of the settlement only and their extensions all move outwards along this axis.

- Urban Edges which provide sufficient land for the development of the needs of the area for about 20 years, given the current growth rate, is proposed around the exiting urban footprint.

- It is proposed that these urban edge only be realigned based on actual need and once all the existing under or unutilized vacant land has been developed.

6.4.1.5 Infill, Densification and the Suburbs

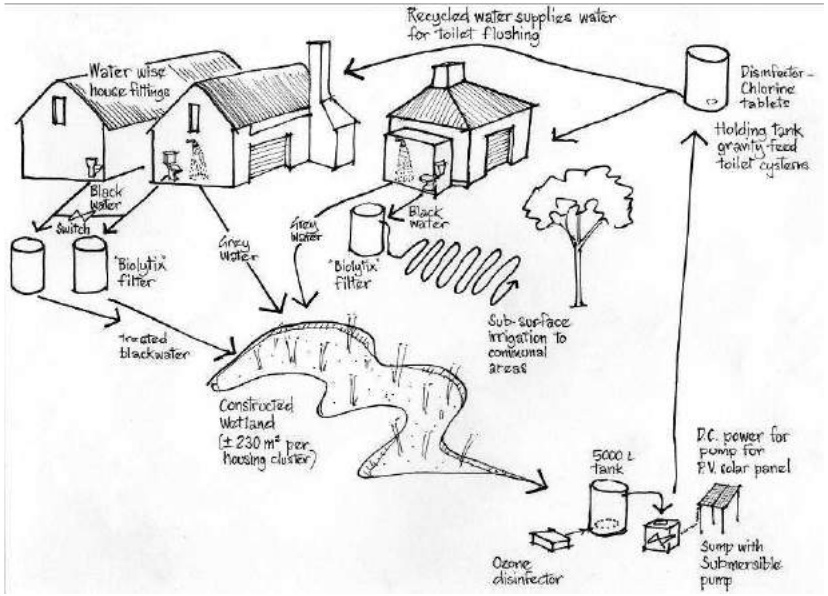
It is clear that significant infill and densification is required in order to restructure Setsoto's settlements. Fortunately, Senekal, Marquard and Clocolan already have well located vacant land to contribute to this. Ficksburg presents a greater challenge partly due to its topography.

Guidelines for the settlements will be given.

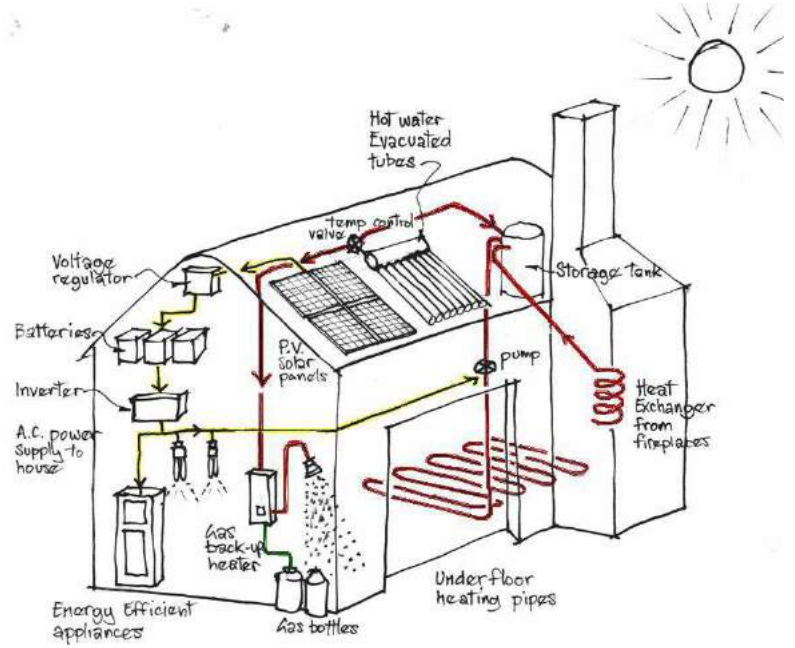
6.4.1.6 *Infrastructure*

The following principles shall apply:

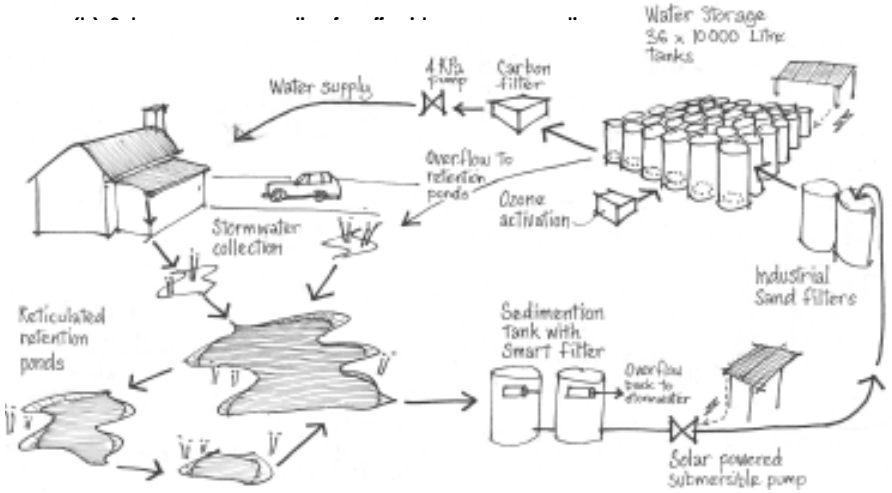
- Ensure a base level of services only is available for all residents in the Municipality including those households qualifying for indigent grants;
- Where possible implement GAP housing schemes as part of subsidy projects so as to help cross-subsidise required infrastructure projects;
- For low density settlements, where the high cost of conventional grid services are prohibited and not preferred and to promote sustainable use of natural resources reduce dependency on conventional grid services, the following are proposed:
  - Promote the use of solar hot water projects so as to reduce operating costs;
  - Promote use of solar of water heaters, PV panels, grey-water recycling, waste separation at source, and passive building design to as to minimize energy, solid waste and water demand, see Figures (a) and (b);
  - Encourage rainwater harvesting and grey water (water from hand basins and kitchen sinks) recycling, see Figure (c).



(a) Sanitation system based on sustainable principles



(b) Solar energy generation for off-grid energy generation



(c) Rainwater harvesting for sustainable use of water

Figure 6.4.1.6 Off-Grid Infrastructure Options

6.5 URBAN DESIGN GUIDELINES

UD1 Create open space systems that integrate the elements of a settlement to contribute to a meaningful urban structure. This can be done by:

- Providing connectivity between open spaces;
- Establishing linkages between open spaces;
- Aligning the open space system with public buildings; and
- Ensuring an improved quality of linkages through the continuation of special activities or functions along major routes.

UD2 Link symbolic elements (statues) or public facilities (library, clinic, etc.) to open spaces in relation to their importance and character.

UD3 Ensure the definition of the public spaces through the effective design of an interface between public and private domains.

UD4 Create visual recognition and surveillance along open spaces and public routes. This can be achieved through:

- Locating buildings around open spaces and streets so that sufficient enclosure is created;
- The appropriate height of buildings; and
- Locating the highest buildings to the southern side of the open space, with lower buildings or trees on the northern side.

UD5 Markets should be permitted at highly accessible locations in terms of the movement network and urban structure to ensure the greatest viability possible. These locations could be modal interchanges and intersections.

UD6 As a general rule the erection of shopping centres on the periphery of settlements should be discouraged. This should only be permitted if the intention is to initiate a new urban node at the specific location and the proposed shopping centre development is in line with the growth direction of the settlement.

UD7 Accommodate a variety of users in and uses along the streets by doing the following:

- Concentrate intensive activities along major vehicular and public-transport routes;
- Locate majority of public buildings and increase densities along these routes; and
- Locate the buildings close to the street to increase pedestrian activity, a sense of enclosure and surveillance.

UD8 Create appropriate road cross-section widths that can provide for vehicle traffic, parking, pedestrian movement, cycling and landscaping.

UD9 Urban block length should promote access (penetration) and encourage economic activity by orientating the short side of blocks to major streets wherever possible.

UD19 Space buildings from each other to provide adequate solar access to buildings. In this regard the roof pitch of buildings should be orientated so that roof solar panels have a maximum continuous direct access to the sun.

UD11 Any proposals for the redevelopment of existing buildings should consider their heritage value, elements of the vernacular architecture and, where possible, retain these important elements. Similarly, the historical characteristics of existing buildings should be considered to draw from them elements that could be integrated into the design and construction of new buildings close by.

UD12 The use of local materials should be encouraged in the construction of any new buildings.

UD13 Encourage appropriate water-wise landscaping.

UD14 Ensure that the main streets of the urban areas are appropriately landscaped to encourage a pleasant gateway treatment into the settlements.

6.6 PRINCIPLES FOR FACILITIES PLANNING

The following is a guideline, based on a settlement population, should be used for the location of various social amenities and services. The population for the settlements of the Municipality range from between 13 000 (Marquard) to 40 000 (Ficksburg). The information in the following section is sourced from (CSIR, 2012)

The following principles for the planning of facilities are applicable:

6.6.1 Community Health Care Clinic

Population threshold range	60 000 - 140 000 people
Access distance	90% of population served within 5 km*
Site size	1.5 ha minimum

*(*National Department of Health target)*

6.6.1.1 *Description*

Open 24 hours a day, 7 days a week, offering a broad range of primary health care services including observation beds, accident and emergency services, midwifery services, but not surgery under general anaesthesia.

6.6.1.2 *Minimum Requirements*

Space for an ARV Clinic has been included. Ratio of one Community Health Centre to eight Primary Health Clinics preferred.

6.6.2 Primary Health Care Clinic

POPULATION THRESHOLD RANGE	optimal 40 000 people (range 5 000 - 70 000 people, largely for those not privately insured)
ACCESS DISTANCE	90% of population served within 5 km*
SITE SIZE	0.5 ha (range 0.2 ha - 1.0 ha)

*(*National Department of Health target)*

Note: *Mobile and Satellite Clinics may be used when the demand is too low or too dispersed for a permanently stationed facility that operates for more than 32 hours per week.*

6.6.2.1 *Description*

An appropriately equipped permanent facility (government or private) at which a range of primary health care services are provided for at least 8 hours per day and 4 days per week.

Mobile and satellite clinics may supplement these static clinics in areas where the threshold is less than 5 000 people as a temporary measure but their space/land requirements are more flexible and are thus not dealt with here.

6.6.2.2 Public Clinic Prototypes

CLINIC TYPE	MINIMUM SITE SIZE (HA)	CATCHMENT POPULATION
Small to medium-sized clinic	0.2	5 000 – 20 000
Large clinic (with or without maternity)	0.5	30 000 – 50 000
Extra large clinic (with or without maternity)	1.0	60 000 – 70 000

(National Department of Health 2007)

6.6.2.3 *Threshold Issues*

Primary health clinics cater largely for the uninsured population (those without medical aid membership or health insurance), thus the socio-economic class of an area and its disease profile will impact on usage rates and demand. Those in the high income bracket or those who have medical insurance mainly make use of private doctors who deliver a similar service to that of a clinic.

In metro areas with high development densities mega-clinics serving a catchment area of 100 000 or more people may be required or may be suitable.

Sharing and clustering — recommended A primary health clinic may be clustered with:

- *a library;*
- *a primary school;*
- *a secondary school;*
- *tertiary education/trade schools;*
- *a community hall;*
- *an indoor sports hall;*
- *neighbourhood and district parks;*
- *urban agriculture;*
- *L1 hospital.*

6.6.3 Fire Station

POPULATION THRESHOLD RANGE	100 000 people (indicative only, overriding factor is reach and density)*
ACCESS DISTANCE	8 - 23 minutes response times. Response times and area risk classifications are major considerations for location of fire station (see details overleaf)
SITE SIZE	0.3 ha suburban station 1.2 ha regional headquarters

**In low-density areas the provision of fire-fighting equipment and personnel is often different to that of high density areas, for instance bakkie pumps and part-time volunteers rather than fixed fire stations may be provided, and the particular circumstances in a specific low-density area would determine service provision rather than fixed standards.*

6.6.3.1 Description

Structure or area for storing fire-fighting apparatus (vehicles and other equipment), and where fire-fighters are stationed. May include limited dormitory facilities and work areas such as meeting rooms, workshop, practical training areas, gymnasiums, etc.

6.6.3.2 Location Factors

Good access to major transport routes – without local traffic congestion to allow for rapid response, i.e. outside the core development area but still nearby. Requires proximity to utilities (power, water, waste reticulation, etc.). Possible co-location with other similar services.

6.6.3.3 Site Requirements

To be situated on flat land as far as possible or on land that requires minimal reconstructive work, e.g. backfilling, levelling.

Facility Sharing and Clustering – recommended. A fire station may be clustered with:

- *a cemetery;*
- *an L1 hospital;*
- *a police station.*

6.6.4 Police Station

POPULATION THRESHOLD	60 000 - 100 000 people
ACCESS DISTANCE	8 km urban/metro; 15 km peri-urban; 24 km rural and settlement type E; settlement types F, G and H subject to SAPS work study and requirements of the area
SITE SIZE	0.1 ha - 1 ha

6.6.4.1 Description

A building which accommodates police officers and other members of staff of SAPS or the Metro police. Often contains offices, temporary holding cells and interview rooms and may provide living quarters for personnel on-site.

6.6.4.2 Threshold Issues

To improve visible policing and response times, the provision of one station per 30 000 people is considered desirable by city planners. Current averages are approximately in line with 1:60 000 as proposed by Behrens and Watson (1996) and others.

6.6.4.3 Location Factors

Good access to community being served. Where areas are beyond 24 km a SAPS Contact Point may be established.

6.6.4.4 Density and Development Context

Threshold may be reduced in areas of high crime.

Facility Sharing and Clustering – Recommended a police station may be clustered with:

- *a cemetery;*
- *a fire station.*

6.6.5 Library

POPULATION THRESHOLD RANGES	Local: 5 000 - 70 000 people; Regional: 200 000 people; Regional (Reference): 450 000
ACCESS DISTANCE	Local: 8 km - 10 km; Regional:15 km; Regional (Reference): 50 km
SITE SIZE – EXAMPLES	0.05 ha (minimum 0.03 ha) Varies depending on facilities provided and if stand-alone building

6.6.5.1 Description

Public Libraries provide resources and services in a variety of media to meet the needs of the general public for education, information and personal development. They generally house fiction and non-fiction books for lending and reference purposes as well as having facilities such as study areas, meeting rooms, and may provide the public with access to computers and the internet.

Mobile libraries and container libraries may be used in areas of dispersed demand or to supplement existing services when required. Their space/land requirements are more flexible and are thus not dealt with here. Also, school libraries may be used as outreach points.

6.6.5.2 Threshold Issues

It is preferable that not more than 70 000 people should be served by a local-type library. Large regional libraries may have thresholds as high as 450 000 people and there would possibly be one or two per metro.

LIBRARY THRESHOLDS	SITE SIZE EXAMPLES
20 000	0.05 ha
40 000	0.1 ha
60 000	0.2 ha
100 000*	0.56 ha

**Libraries of a higher-order such as those housing large reference collections have a threshold of about 100 000 persons and would require 0.56 ha*

(UNESCO - Department Arts and Culture).

6.6.6 Thusong Centre

Population threshold	1 per Local Municipality (see below for other service centres)
Access distance	15 km; maximum 25 km
Site size	Varies depending on range of services offered and facilities provided (see overleaf for site size examples); Thusong – minimum floor area of 0.06 ha translates into site area of approximately 0.16 ha - 0.2 ha (PPDC 2008).

6.6.6.1 Description

Thusong Centres provide information and services to communities in an integrated way. They form a hub within communities at which a multitude of government services and other community services can be accessed. Key anchor services include departments of Home Affairs, of Labour and of Social Development and specifically SASSA Service Offices.

6.6.6.2 Threshold Issues and Service Hierarchy

Policy regarding Thusongs is currently under review. Expected that a range of centres will be defined for different types of settlements ranging from cities to small towns. Basic access times and service offerings are expected to remain the same. Largely anticipated that a range of staff capacities and building sizes will emerge. Should be linked to different access distances based on how remote the locations are.

6.6.6.3 Location Factors

Each centre is unique (depending on community needs) and may be located either in a single building or as part of a cluster of buildings. If facilities cannot be provided on one site they should be within a 1 km radius of each other.

It is recommended that pension and other welfare pay points are not provided in stand-alone facilities but are clustered within centres such as these and/or use existing public facilities such as post offices for security purposes. In less-densely populated, low density areas mobile pay points may need to be provided in accessible locations. It is of benefit to users if several services are provided on the same day at the stopping points of these mobile services.

6.7 SETTLEMENT HIERARCHY AND STRUCTURE

The settlement pattern in the municipality accords with Christaller's Central Place Theory where there are a number of services centres equidistant apart save for the influence of topography and greater or less land productivity.

The four settlements in the municipality form part of a larger settlement system across the eastern Free State with the main towns and villages between 30 and 40 kms apart.

The Witteberg mountains break up the linkages of this network and Ficksburg is only directly linked to Senekal via Rosendal in the neighbouring municipality. This link, plus the fact that topographically Rosendal is in a valley that links directly to Ficksburg, suggests that the boundary between Setsoto and Dihlabeng should be amended to incorporate this town and the linking route into Setsoto.

The size of the settlements also increases, or not, depending on their location on the regional route network. Thus, Senekal, on the main route between Natal and the Free State is larger than Marquard. Ficksburg, at a main border post with Lesotho and with greater tourism potential, is larger than Clocolan.

6.8 POTENTIAL RURAL NODES AND PERIODIC RURAL MARKETS

This approach could be applied at settlements with low threshold populations such as potential rural nodes at silo complexes to ensure that the necessary services can be provided, see Figure 6.8.1.

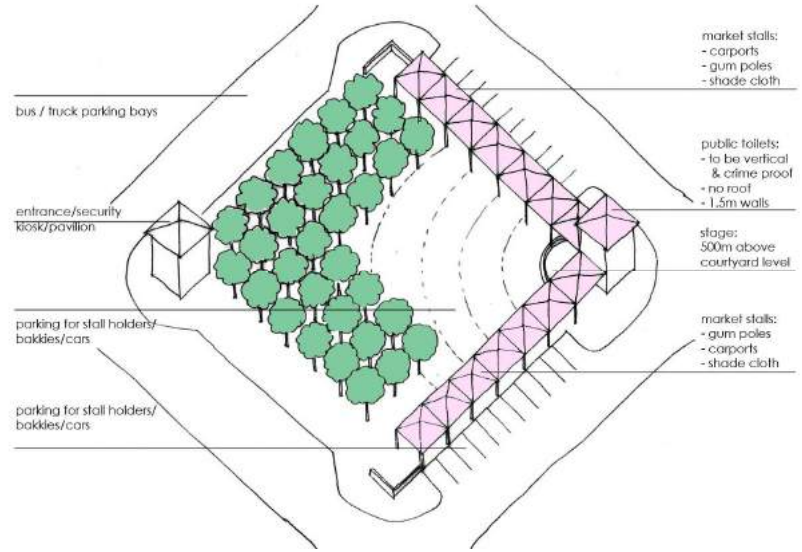
Where such facilities do not exist, periodic service centres shall be established for co-ordinated use by a wide variety of government, non-government and private organisations.

These periodic service centres should be located at points of highest access according to the same principles.

The services of various government departments and private sector organisations shall be co-ordinated into a mobile caravan of dedicated buses and vans which travels from periodic service centre to periodic service centre stopping for morning or afternoon sessions as appropriate.

Local arts and crafts people and business people should be encouraged to trade in the stop-over periods of the mobile service caravans at the periodic service centre.

It is proposed that the nodes be investigated and if it proves to be warranted, it be selected so that its location makes it suitable for it to be developed / upgraded, over time, into a formal urban settlement.



Periodic service concept

Periodic service activities

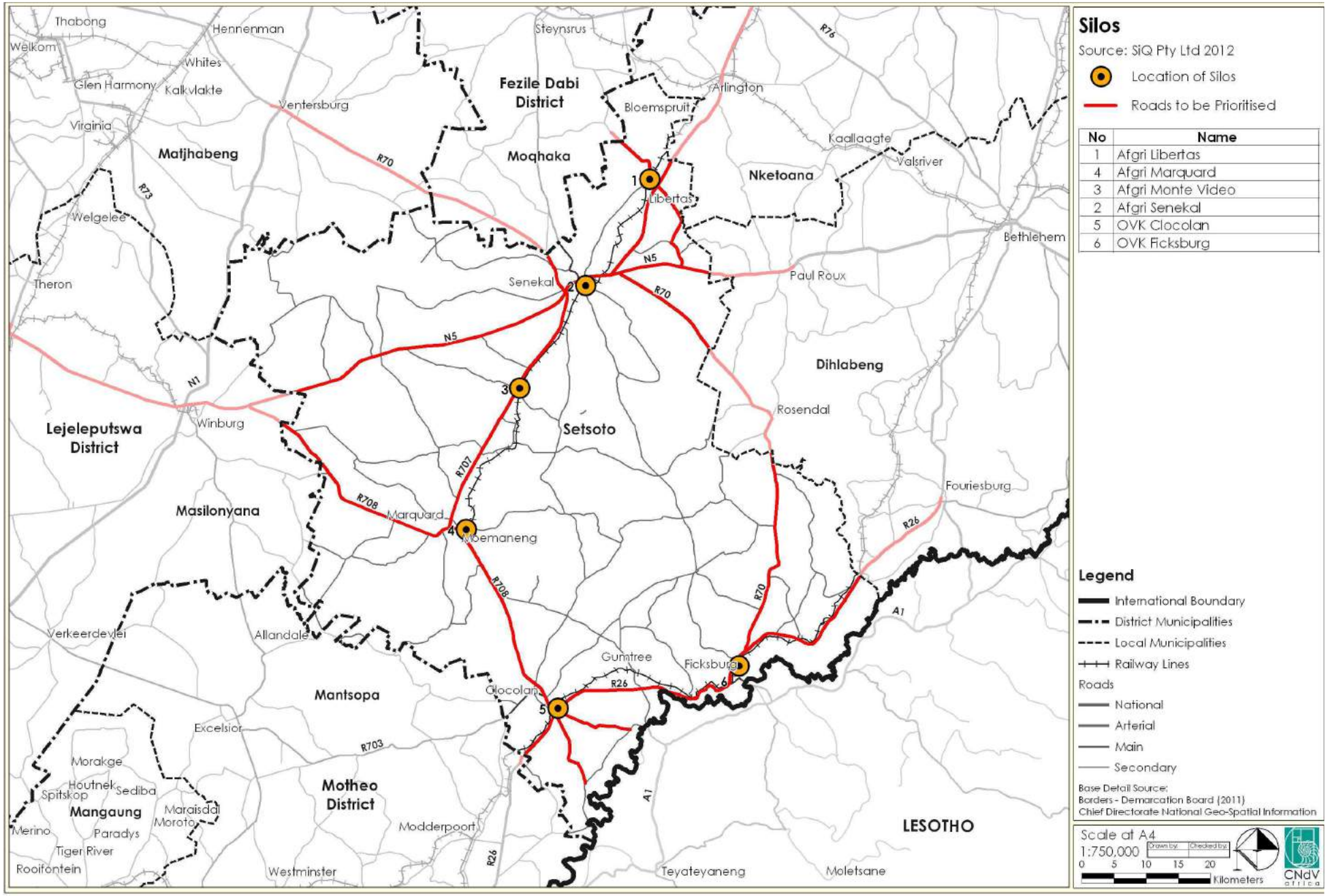


Figure 6.8.1 Silos – Potential Rural Nodes

6.9 FICKSBURG (± 40 000)

6.9.1 SPATIAL ANALYSIS, see Figure 6.9.1.1

Sub-regional location

- Strategically located at the Caledon River bridge between central Lesotho and South Africa;
- The Maputsoe industrial areas are located immediately across the river;
- On the R26 scenic route corridor parallel to the Lesotho border between Harrismith and Ladybrand;
- Tarring the road between Smithfield and Wepener to the south would create a continuous all weather scenic link road between the N1 at Colesberg and to Harrismith and Natal. Greater volumes of traffic through Clocolan and Ficksburg could then be expected. The R26 could be promoted similar to Route 62 in the Western Cape or Route 66 in the USA.
- There is also a rail line to Fouriesburg to the north on which it is proposed to start a private tourism rail service.

Layout pattern

- Ficksburg is laid out in a narrow northwards pointing wedge enclosed by sandstone mountain cliffs to the west and mountains and the Caledon River to the east.
- The town opens to the south on undulating hills on which Meqheleng is built as a low density residential suburb whose outermost extensions are between 3 and 4 kms from the CBD;
- The southern portions of Meqheleng lack water borne sewerage;
- The CBD of Ficksburg includes a number of large scale commercial buildings clustered to the north around Voortrekker, McCabe and Bloem streets;
- The urban quality of the town is being undermined by the appearance of some of the more recent buildings;
- It is interesting to note many examples of housing upgrades in Meqheleng that include local sandstone elements in their elevations indicating what a powerful impact this sense of place has on all residents;
- A secondary, rather disorderly node, has developed around the customs and immigration post at the Caledon River bridge.
- There is an approved commercial estate to the north of the town which has seen little development.
- There are a number of approved General Plan areas along the southern perimeter of Meqheleng which are also undeveloped.
- Although the immediate reasons for the lack of development on these extreme peripheries of the town may be due to the economic recession and shortages of development capital for the private and private sector, it would seem that future development should be aimed more at consolidating rather than extending the urban edge.

Challenges and potential

- Between Ficksburg and Meqheleng there is some vacant land which serves to separate the two areas but which could be developed to promote convenience and integration;
- Although the present entrances to Meqheleng lack definition the alignment of the existing road links are well located to promote the integration of the settlement into the larger road network and urban areas if appropriate development is guided here.
- Market gardening is evident along the banks of the Caledon River which could provide the basis for a vibrant food garden market network in the area.
- The geometrics of entrance roads to Ficksburg requires redesign to ensure that the safety of the road users.

House in Meqheleng: sandstone used in local architecture

Poor urban quality: residential road in Meqheleng

Example of vacant land in Ficksburg

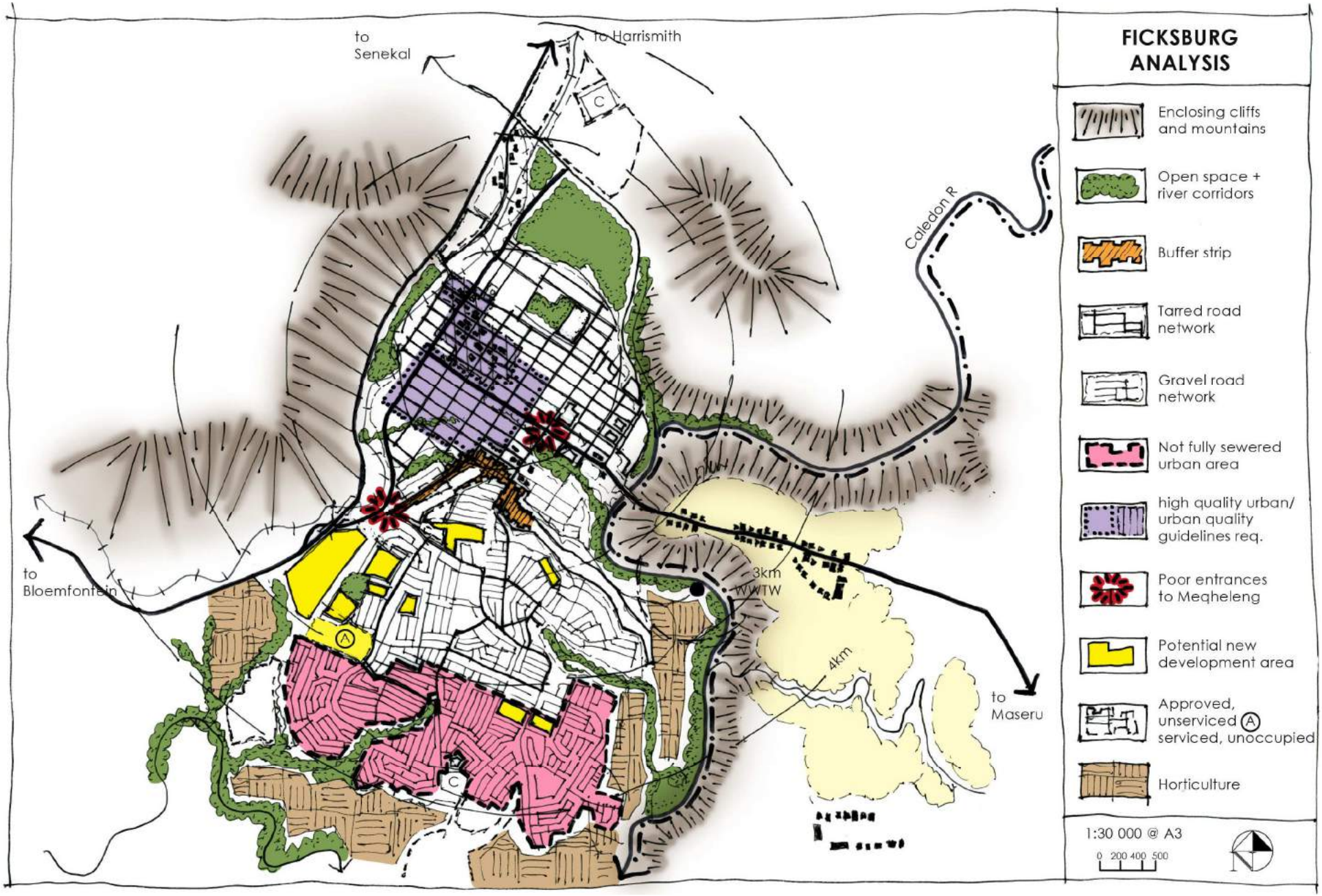


Figure 6.9.1.1 Ficksburg: Analysis

6.9.2 FICKSBURG: DRAFT SPATIAL DEVELOPMENT FRAMEWORK, see Figure 6.9.2.3

6.9.2.1 Core landscape areas

Notes:

- **The surrounding and internal river and watercourses systems and the golf course, and market gardening along fringes of Caledon river.**
- **Care must be taken regarding the landscaping and development of the gateway precincts on approach to the town.**

6.9.2.2 Urban Development

Notes:

a. New Development Areas

- **All new development should be directed to well-located sites that reinforce the proposed integration system of nodes and corridors;**
- **Development should not be encouraged on peripheral sites even if general plans have been approved.**
- **The need to develop peripheral sites should be held over until the next SDF review**

b. Addressing service delivery backlogs

- **Innovative approaches to waste water treatment including non-conventional green solutions, paving and storm water management using labour based methods where appropriate should be used in the relevant areas requiring upgrading**

6.9.2.3 Heritage Areas

Notes

- **The historic core of Ficksburg should be declared a heritage area and guidelines that promote landscape and building quality on old and new buildings should be promoted/enforced in this area**

6.9.2.4 Urban Restructuring

Notes

- **A system of nodes and corridors including:**
  - **McCabe street from the western gateway to the golf course bypass;**
  - **Hill road linking McCabe street to the golf course bypass**
  - **Voortrekker road including its extension through to the golf course bypass;**
  - **Bloem street from McCabe street to the Caledon River bridge;**
  - **The extension of van Soelen road into Meqheleng and;**
  - **The linking of McCabe street through Meqheleng along "Meqheleng high street";**

  is proposed to provide a continuous network of intensification corridors that integrate Ficksburg and Meqheleng as a single, continuous urban system
- **Nodes of different scales should be encouraged to form at strategic intersections ranging from new buildings to conversions and upgrades of existing buildings.**
- **The whole system of nodes and corridors should be properly treed and landscaped to promote pedestrians, cycling and animal traction.**
- **Nodes 1, 2 and 3 are proposed access nodes. Nodes 4 to 9 are proposed mixed use commercial nodes.**

Landscaping to be replicated on other side of the road

Building guidelines required to protect urban environment

Example of an informal market at a node

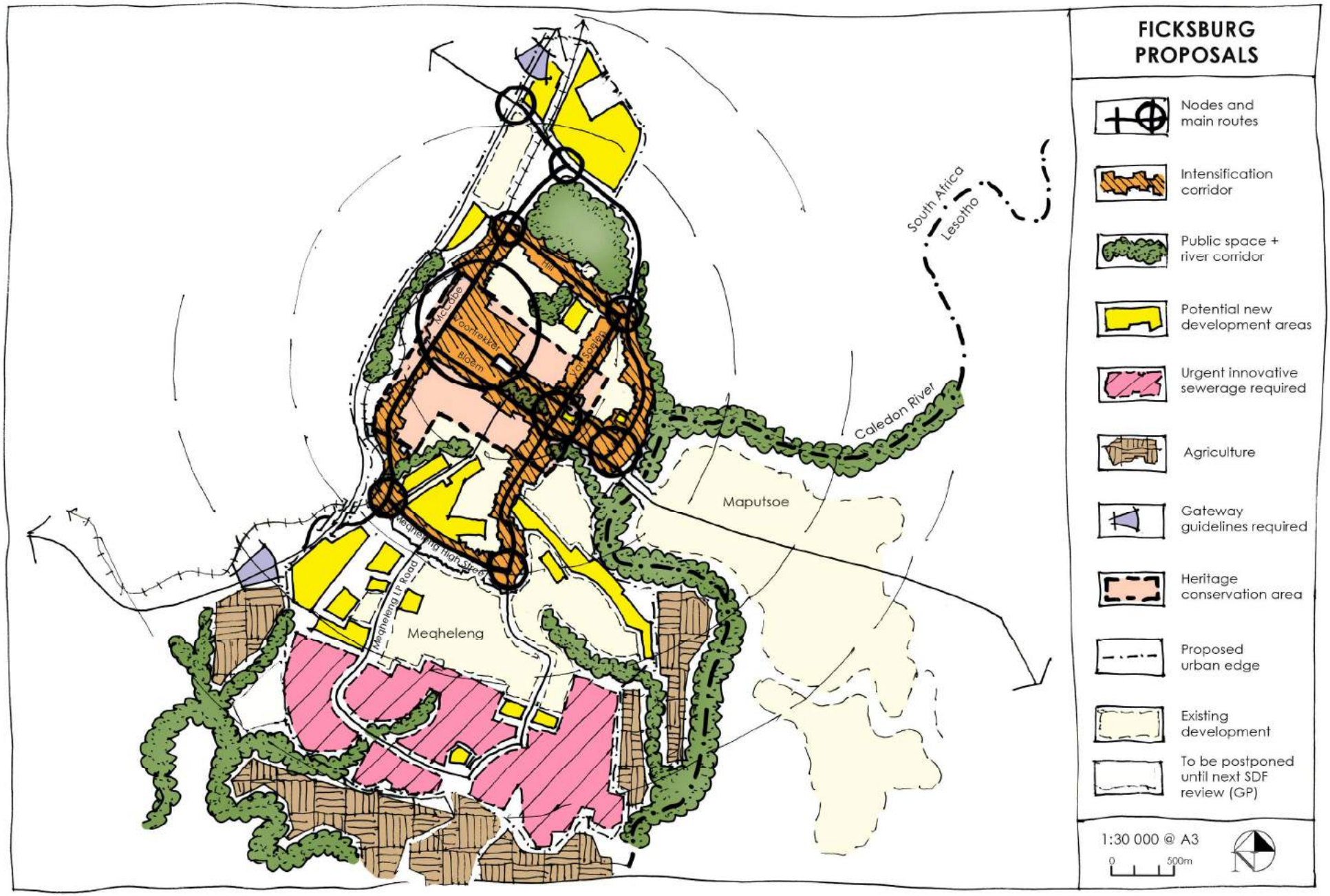


Figure 6.9.2.1 Ficksburg: Initial Draft SDF

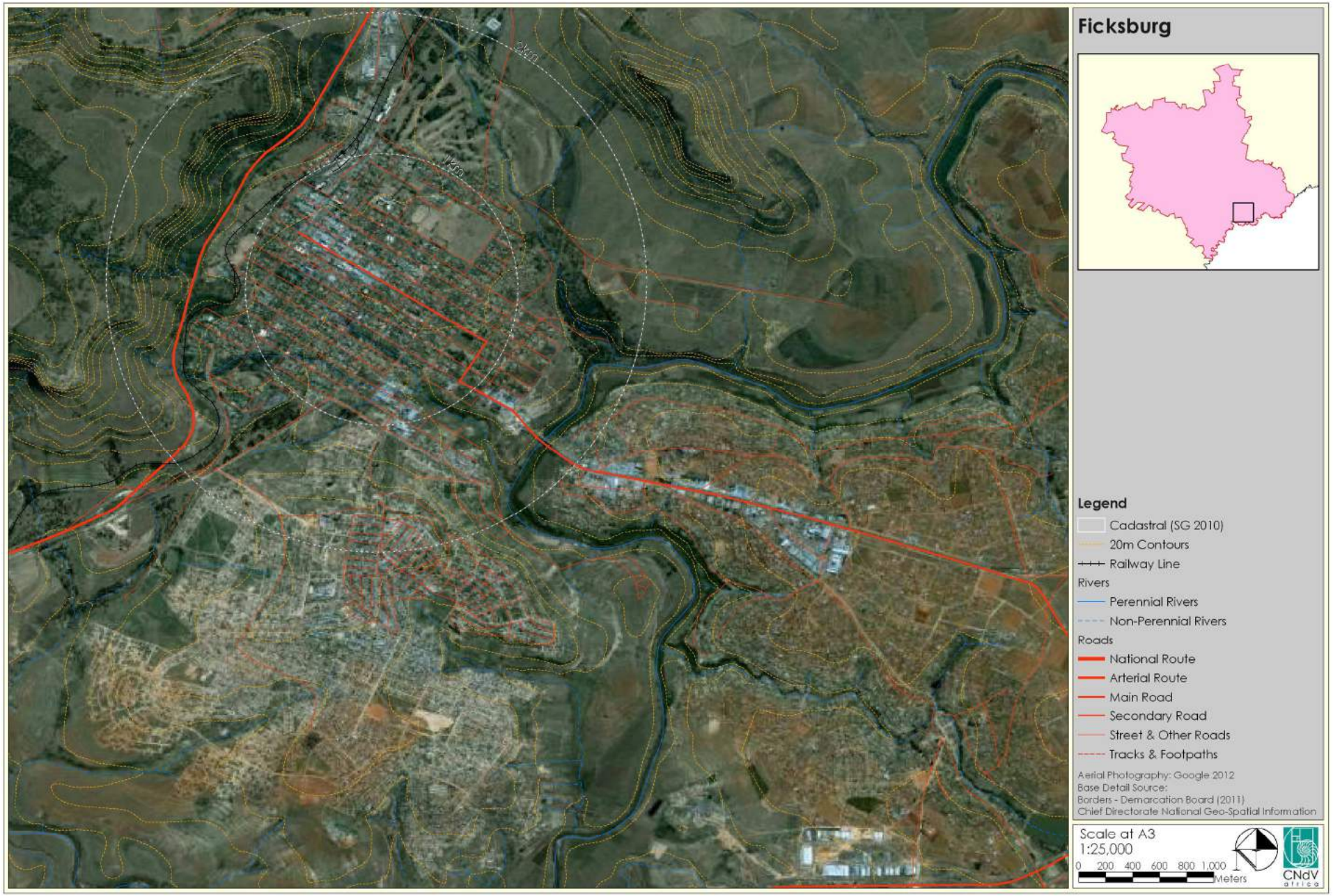


Figure 6.9.2.2 Ficksburg: Aerial photograph

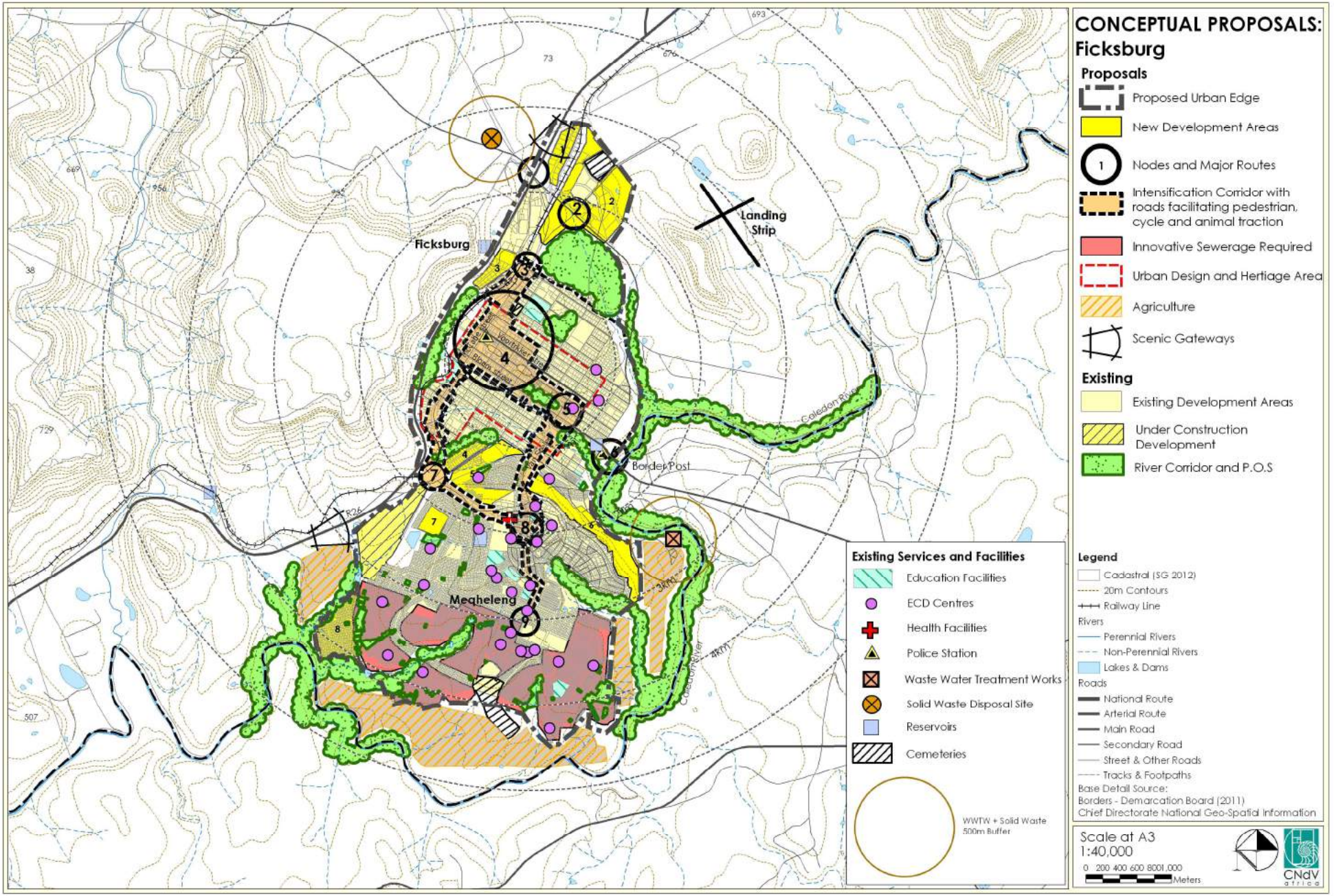


Figure 6.9.2.3 Ficksburg: Draft SDF

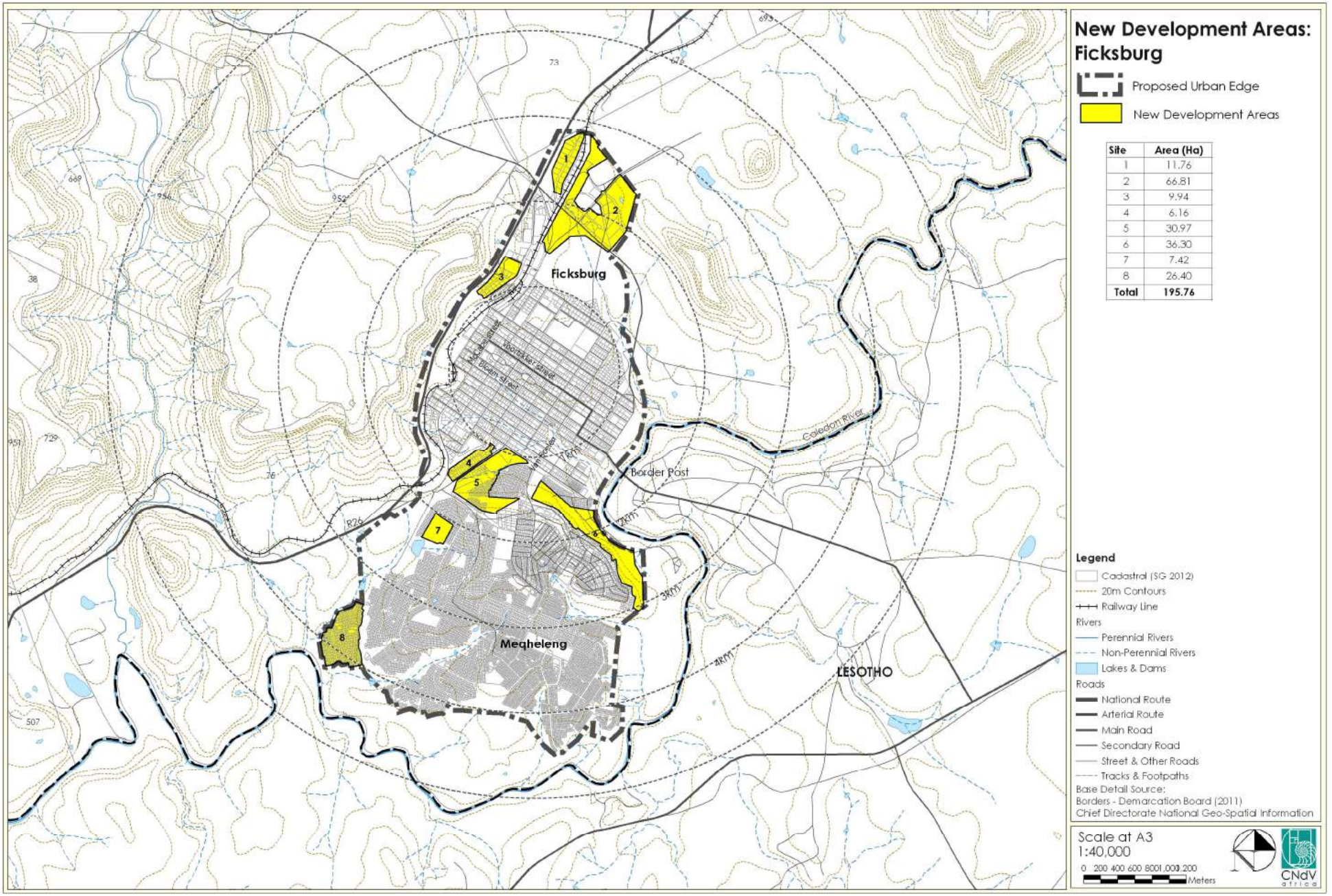


Figure 6.9.2.4 Ficksburg: New Development Areas

No	Area (ha)	Description	Ownership	Zoning	Possible Use	Comment	Priority
1	11,76ha	• Northern Site	Await inflo	Await inflo	• Industrial	• Development framework/ precinct plan required • Existing industrial area • Encourage development of the vacant industrial erven • Redesign existing layout Services required	3
2	66,81ha	• Industrial Area	Await inflo	Await inflo	• Industrial and residential along the golf course	• Development framework/ precinct plan required • Existing industrial area • Encourage development of the vacant industrial erven • Redesign existing layout • Services required	2
3	9,94ha	• West of Railway line	Await inflo	Await inflo	• Industrial	• Development framework/ precinct plan required • Existing industrial area • Encourage development of the vacant industrial erven • Redesign existing layout • Services available	2
4	6,16ha	• West of R26	Await inflo	Await inflo	High Income, GAP and Subsidy Housing	• Development framework/ precinct plan required • Encourage the redesign of the layouts to accommodate mixed income housing • Privately owned? • Redesign existing layout • Services available	1
5	30,97ha	• East of R26	Await inflo	Await inflo	• High Income, GAP and Subsidy Housing	• Development framework/ precinct plan required • Encourage the redesign of the layouts to accommodate mixed income housing • Privately owned? • Redesign existing layout • Services available	1
6	36,30ha	• Eastern Site	Await inflo	Await inflo	• High Income and GAP Housing	• Development framework/ precinct plan required • Encourage the redesign of the layouts to accommodate mixed income housing • Services would be required • Define appropriate setback from river floodline	2
7	7,42ha	• Southern Site	Await inflo	Await inflo	• Subsidy Housing	• Development framework/ precinct plan required • Services would be required	1
8	26.4ha	• Western extension of Meqheleng	Await inflo	Await inflo	• Subsidy housing	• Require services • Promote sprawl • Impacts on agriculture	3
TOTAL	**196.06**						

Table 6.9.2.1 Ficksburg New Development Areas

6.10 CLOCOLAN (± 18 000)

6.10.1 SPATIAL ANALYSIS, see Figure 6.10.1.1

Sub-regional location

- At junction of direct link, R708, between N1 at Winburg via Marquard and R26, Lesotho border scenic route;
- There is a gravel road to a minor Lesotho border post at Peka bridge;
- The R703 to Excelsior intersects with the R708 at Clocolan.
- The R708 between Marquard and Clocolan is currently in an extremely poor state of repair and this creates a considerable drag on the potential tourist and business traffic that could be using this road.

Layout pattern

- Clocolan comprises two very different components. The eastern component has a "voortrekker rydorp" plan with large blocks.
- Water was gravity led along the long streets to individual properties;
- Hlohlowane comprises a curvilinear street layout informed by motor car design principles although motor vehicle usage has always been very low;
- Although it appears that Hlohlowane abuts Clocolan there are a number of undeveloped blocks between the two which create a 200 metre wide buffer strip.
- There is no direct formal access to Hlohlowane off the R708. This is taken off either the R703 or Andries Pretorius street

Urban quality

- Clocolan is in danger of losing its quaint village urban quality that is appealing to tourists particularly along 1st street where there are new or insensitively renovated buildings or urban decay is setting in;
- The very powerful international branding of the service station at the entrance to the town is in danger of over powering the eastern Free State village sense of place;
- Hlohlowane comprises mainly various houses arising from government subsidy schemes over time plus new and renovated houses to a variety of styles. In places buildings acknowledge the local sandstone;
- The main roads in Clocolan and the key access routes in Hlohlowane are tar with the remainder all gravel.

Challenges and potential

- There is still time to turn around the urban decay that is starting to set into Clocalan's main street;
- Care must be taken that the strategic piece of land that could serve to both integrate Hlohlowane and Clocolan as well as expose potential SMME activities to passing trade along the R708 is sensitively developed to take full advantage of the opportunity to positively present the settlement. Development should not turn its back on this road. Rather a service road should be built so that development can face onto the R708 although not take direct access off it.

Appropriate landscaping next to Shell garage

Sandstone buildings in Clocolan

Need for urban renewal and urban design and landscaping guidelines

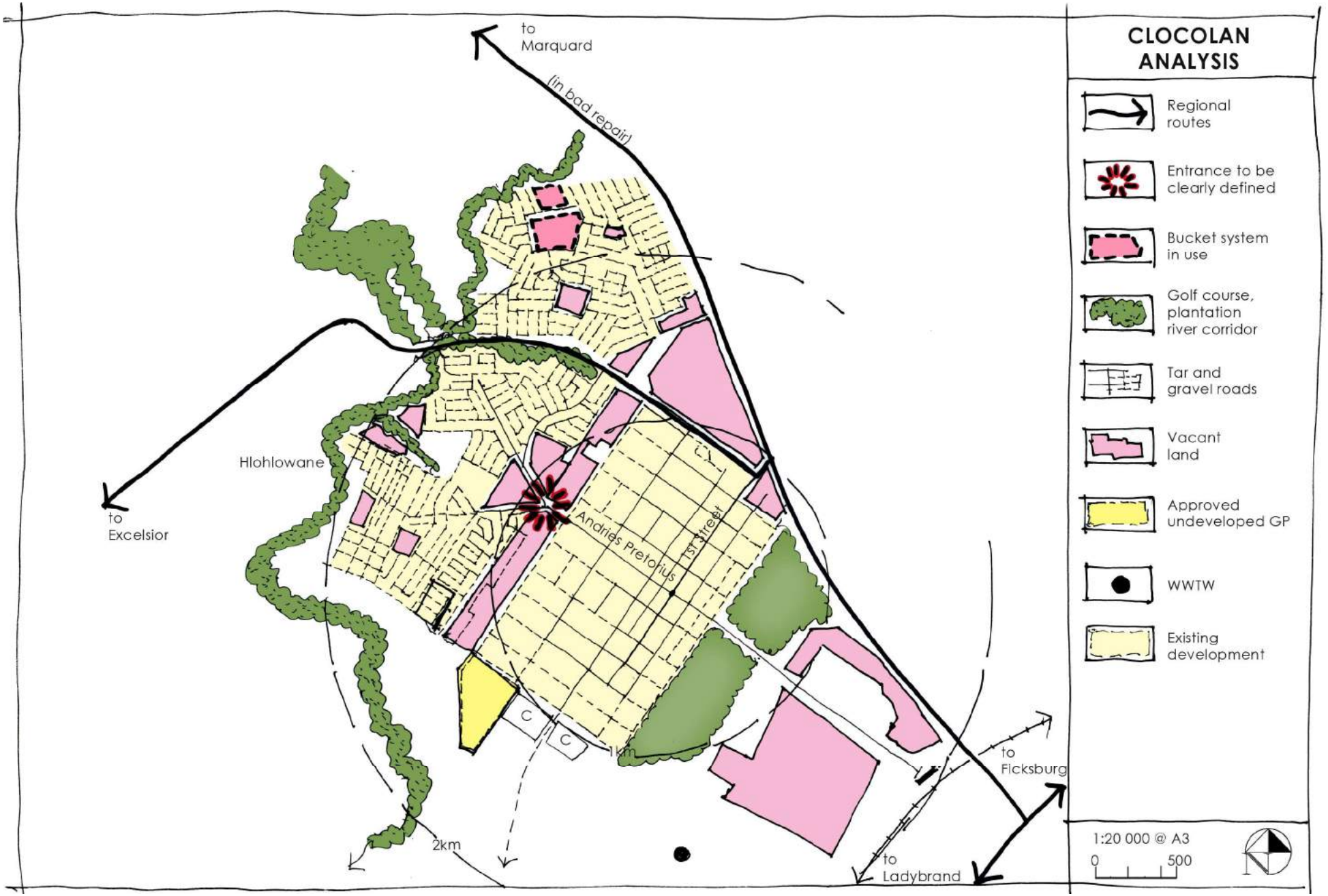


Figure 6.10.1.1 Clocolan: Analysis

6.10.2 CLOCOLAN: DRAFT SPATIAL DEVELOPMENT FRAMEWORK, see Figure 6.10.2.3

6.10.2.1 Core landscape areas

Notes: draft policies

- **The surrounding river and watercourses systems and the golf course and abutting plantation/arboretum;**
- **Care must be taken regarding the landscaping and development of the gateway precincts on approach to the town;**
- **Market gardening should be promoted on the commonage as an incubator phase in land reform programs;**

6.10.2.2 Urban Development

Notes:

- **All future housing projects, including BNG and GAP housing, should be located on vacant land that promotes the integration of the settlement;**
- **Mixed income projects should include mixed uses and should be laid out according to the principle of the Socio-economic Gradient so that property values are supported to the greatest extent possible;**
- **Development should not be encouraged on peripheral sites even if general plans have been approved.**
- **The need to develop peripheral sites on the edge of the settlement should be held over until the next SDF review.**
- **Innovative approaches to waste water treatment including non-conventional green solutions, paving and storm water management using labour based methods where appropriate should be used in the relevant areas requiring upgrading**

6.10.2.3 Urban Restructuring

Notes

- **A system of nodes and intensification corridors including:**
  - **Ist street to Andries Pretorius street**
  - **Andries Pretorius street to Hlohlowane high street with a new access point onto the R708;**
  - **A single sided service road parallel to the R708 between the Hlohlowane intersection and the 1st street intersection;**

  is proposed to provide a continuous network of intensification corridors that integrate Clocolan and Hlohlowane as a single, continuous urban system;
- **Nodes of different scales should be encouraged to form at strategic intersections ranging from new buildings to conversions and upgrades of existing buildings;**
- **The whole system of nodes and corridors should be properly treed and landscaped to promote pedestrians, cycling and animal traction.**
- **Nodes 1 and 2 are access nodes which could develop into commercial mixed use nodes when Proposed Development Area II is developed. Nodes 3 and 4 are proposed commercial nodes.**

Significant buildings requiring heritage guidance

Mixture of architectural styles

Art deco styled building in town

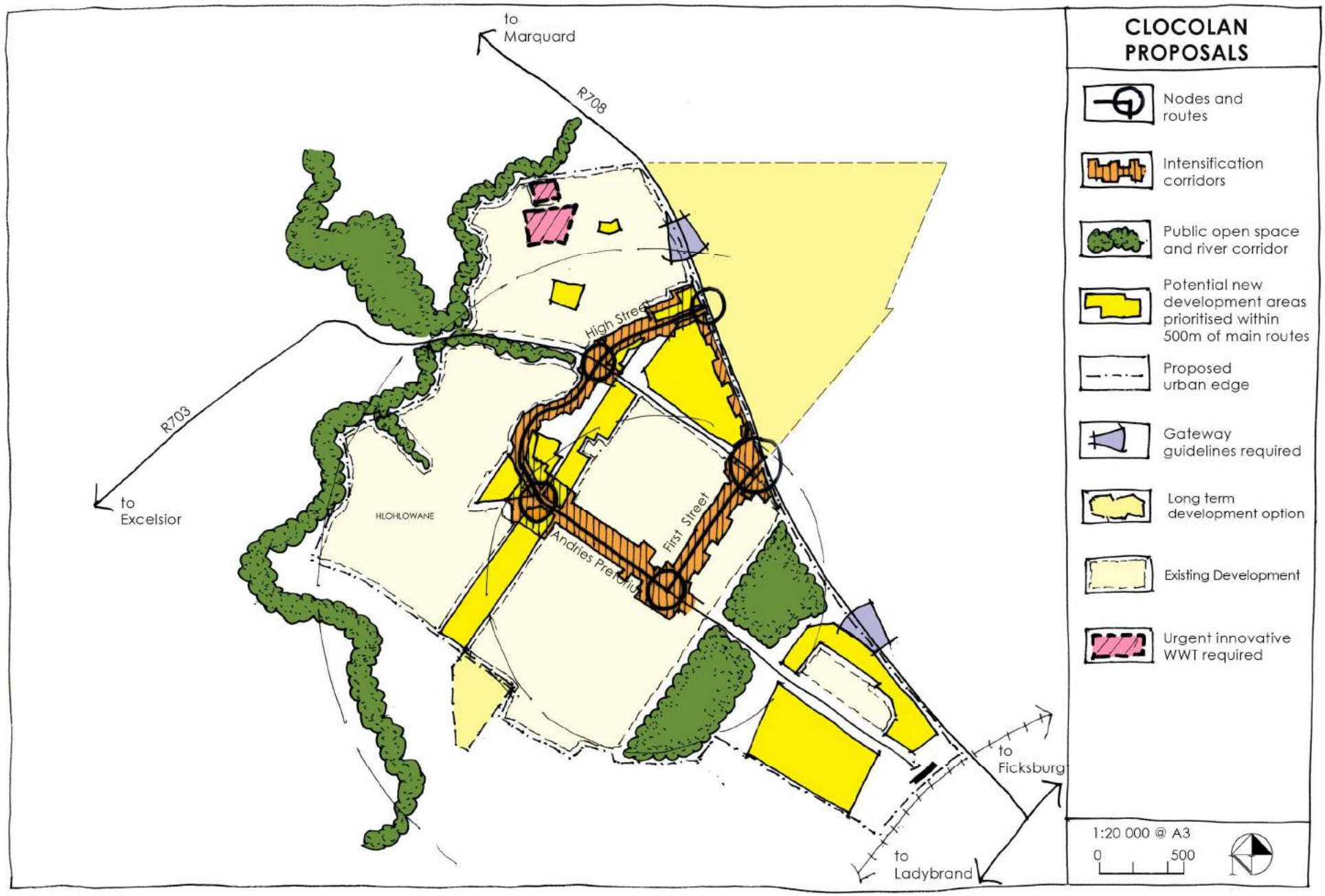


Figure 6.10.2.1 Clocolan: Initial Draft SDF

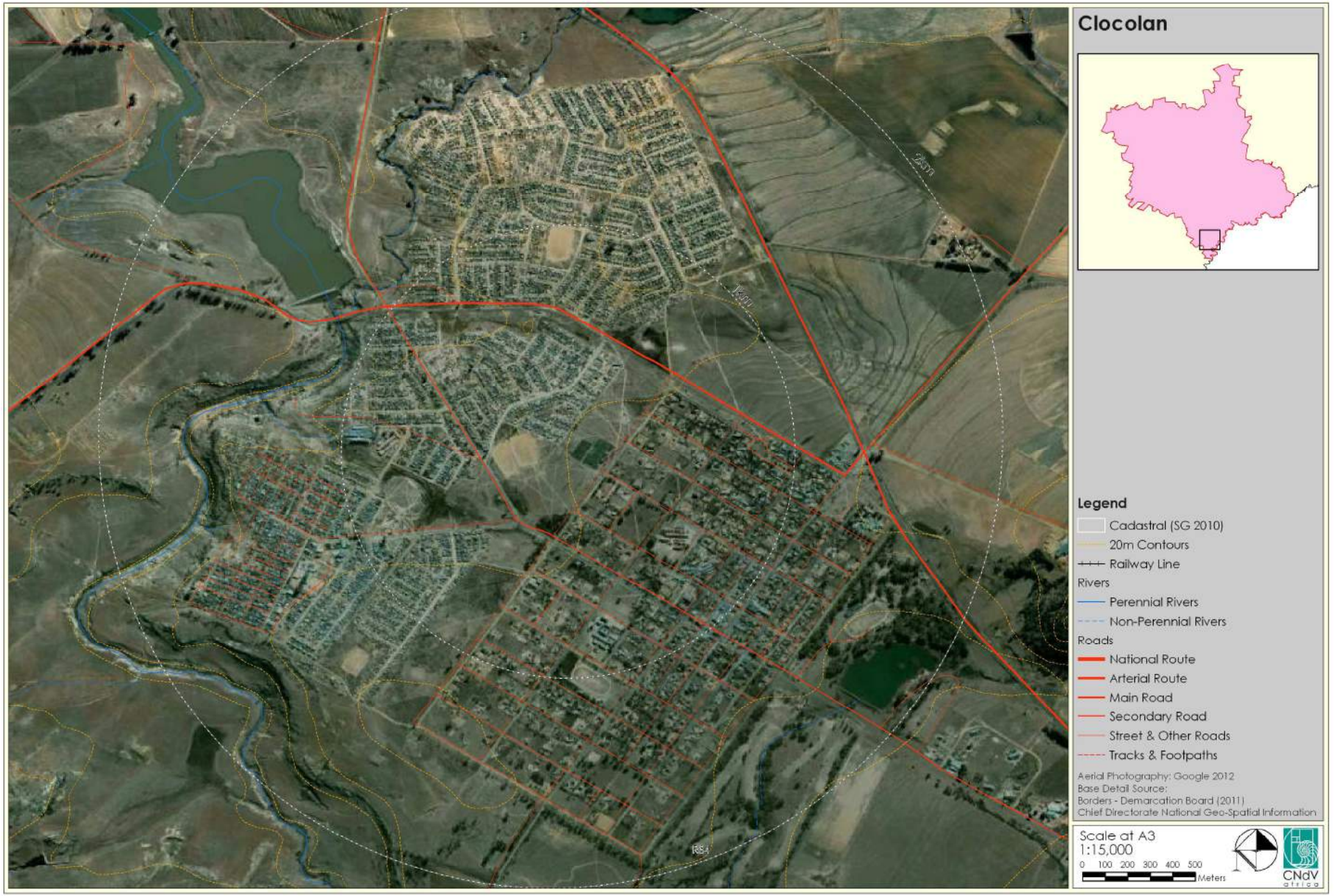


Figure 6.10.2.2 Clocolan: Aerial photograph

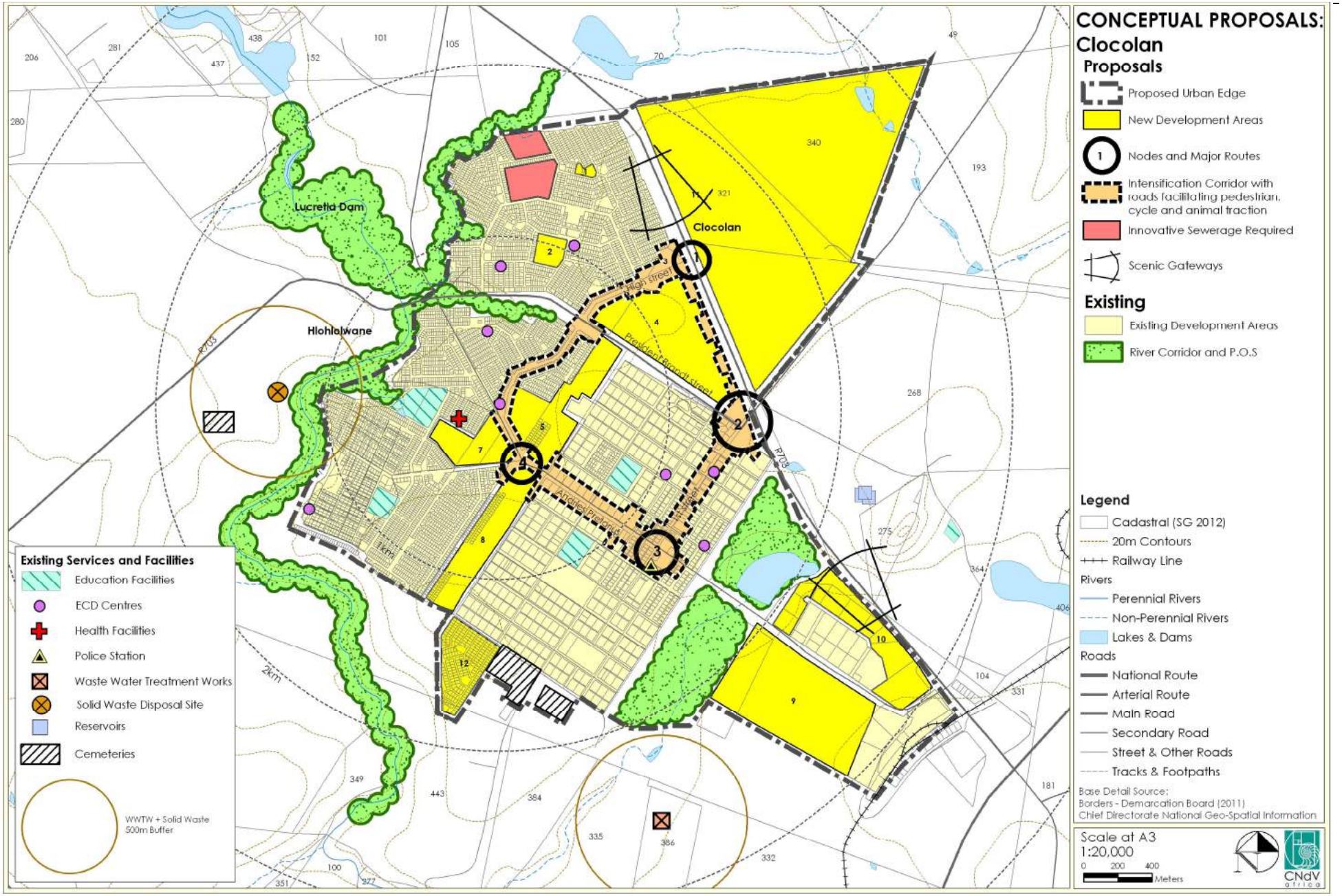


Figure 6.10.2.3 Clocolan: Draft SDF

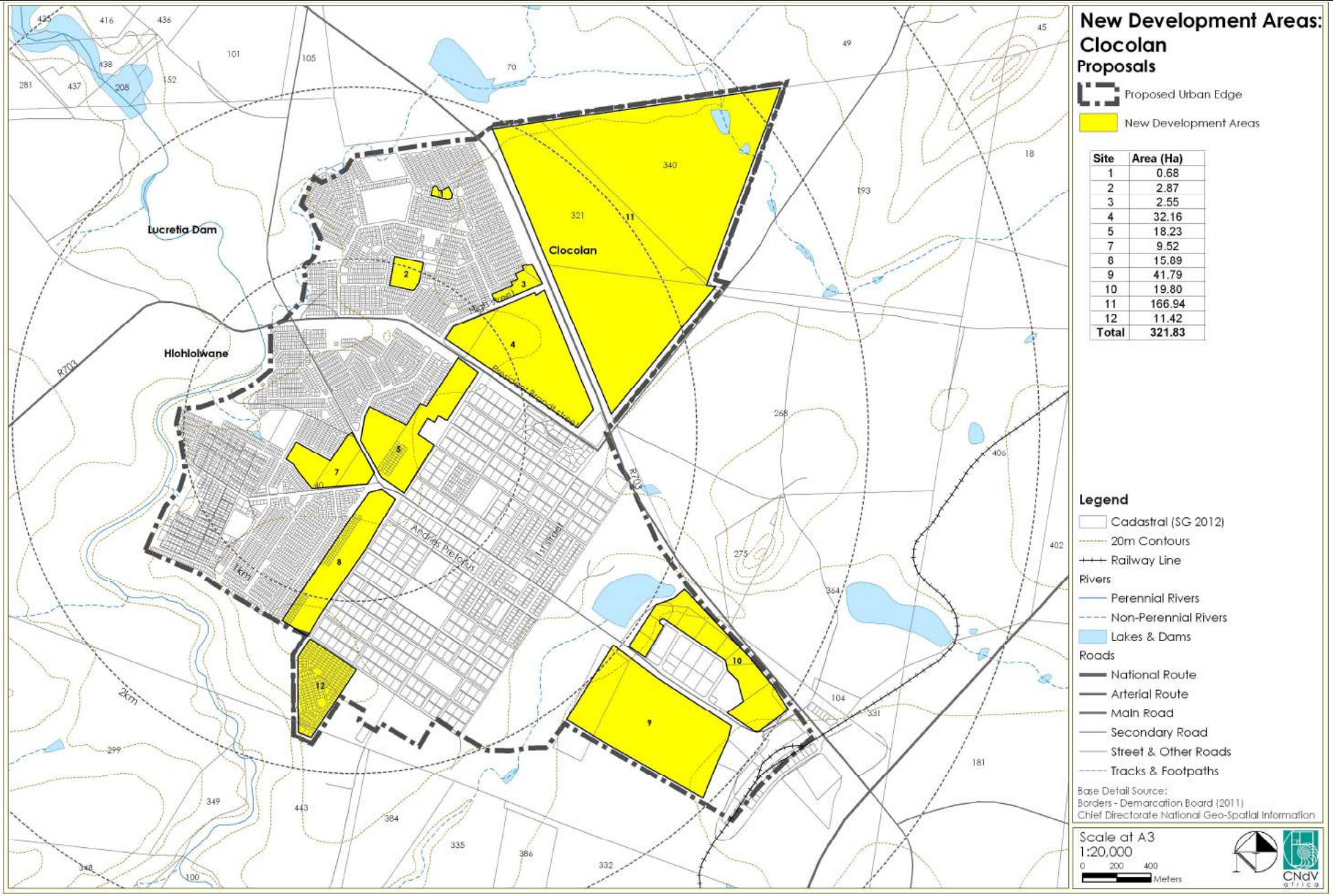


Figure 6.10.2.4 Clocolan: New Development Areas

No	Area (ha)	Description	Ownership	Zoning	Possible Use	Comment	Priority
1	068ha	• Hlolhlolwane North	• Await info	• Await info	• Community Facility/ Open Space	• Need to keep open space/ public use • Services available	2
2	2,87ha	• Hlolhlolwane South	• Await info	• Await info	• Community Facilities (Churches, open space and crèches, subsidy residential	• Investigate establishing a community facility node here • Services available	2
3	2,55ha	• R708 Site	• Await info	• Await info	• Commercial in corridor • Subsidy and Gap Housing • Community facilities	• Prepare a Development Framework/ Precinct Plan along with Site 4 • Higher density in corridor • Gateway Site • Services available	1
4	32,16ha	• President Brand Road	• Await info	• Await info	• Commercial in corridor • Subsidy, Gap and Higher Income Housing • Community facilities	• Prepare a Development Framework/ Precinct Plan along with Site 3 • Higher density in corridor • Gateway site • Priority site • Services required	1
5	18,23ha	• Second Street North	• Await info	• Await info	• Commercial in corridor • Subsidy and Gap Housing • Community facilities	• Prepare a Development Framework/ Precinct Plan along with Sites 7 and 8 • Higher density in corridor • Services required (in close proximity to existing services).	1
7	9,52ha	• Hlolhlolwane Central	• Await info	• Await info	• Commercial in corridor • Subsidy and Gap Housing • Community facilities	• Prepare a Development Framework/ Precinct Plan along with Sites 5 and 8 • Higher density in corridor • Services required	1
8	15,89ha	• Second Street South	• Await info	• Await info	• Commercial in corridor • Subsidy and Gap Housing • Community facilities	• Prepare a Development Framework/ Precinct Plan along with Sites 5 and 7 • Higher Density in corridor • Services required	1
9	41,79ha	• Industrial North	• Await info	• Await info	• High income, Gap and Subsidy residential	• Development framework/ precinct plan required • Integrated scheme • Higher density along Andries Pretorius Street (Potential future corridor) • Lower Priority site • Services required	3
10	19,80ha	• Industrial South	• Await info	• Await info	• Subsidy and Gap Housing	• Prepare a Development Framework/ Precinct Plan along with Sites 5 and 7 • Higher density along main route • Lower Priority Site • Services required	3
11	166.94ha	• Farm 321 and 324	• Await info	• Await info	• Mixed use and mixed income facilities and public open space	• Integration site • Investigate longer term development option (after sites 1-9 have been developed)	4
12	11.42ha	• Southern extension	• Await info	• Await info	• Medium to high income	• Promote sprawl • Services required	4
TOTAL	**321.83ha**						

Table 6.10.2.1 Clocolan New Development Areas

6.11 MARQUARD (± 14 000)

6.11.1 SPATIAL ANALYSIS, see Figure 6.11.1.1

Sub-regional location

- In the centre of the Moetlagamale Uplands towards the west at the junction of the R708 from Clocolan to Winburg and the N1, and the R707 to Senekal and the N5 to Harrismith

Layout pattern

- Marquard and Moemaneng are cut in two and by-passed by the R708 to Winburg and Clocolan and R707 to Senekal;
- The R707 in particular passes 700 metres to the north of the town making it very easy to avoid visiting;
- The only formal access to Moemaneng is through Marquard via an underpass under the R708. This makes it difficult to get to;
- There is a direct informal access from the R708 but it is probably too close to the bridge to be formalized;
- Marquard is laid out as a Voortrekker rydorp with long streets along which water could be led;
- Moemaneng is generally laid out on a curvilinear car friendly street pattern notwithstanding low levels of car ownership and usage
- Owing to the topography and presence of a major wetland and river Marquard and Moemaneng are particularly remote from each other and there is very little awareness of the one settlement from the other, particularly for visitors;
- There are some well-located pieces of vacant land between the two sub-settlements as well as some land to the west. "at the back" of Moemaneng.
- There is some crop farming and food gardening abutting the urban areas of the town and there is a golf course on Marquard's eastern boundary

Urban quality

- Much of the centre of Marquard still has some architectural and heritage quality although this is in danger of being significantly eroded through insensitive renovations and new buildings;
- There are large undeveloped erven in the west of the town;
- Moemaneng has a general universal appearance of a South African low income township and most of its roads are gravel;
- There is an extension to the west which has water but not sewers

Challenges and potential

- A new entrance should be taken off the R708 as close to the river as permitted;
- Flood lines should be determined to identify an appropriate development set back from the river and then development proposed up to this line where appropriate.

Historic sandstone church building

Vacant land between Moemaneng and Marquard (Moemaneng in the distance)

Gravel roads in Moemaneng

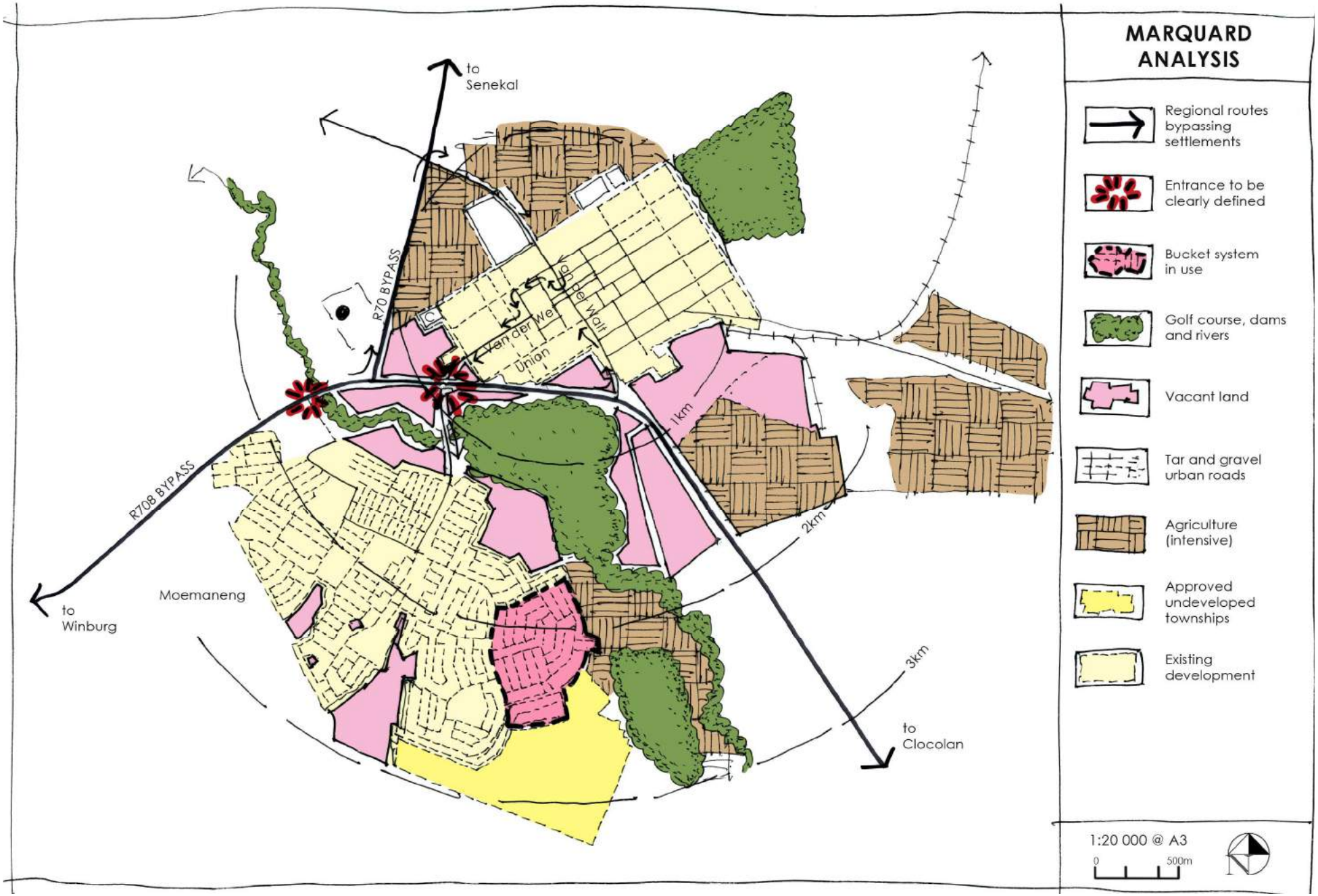


Figure 6.11.1.1 Marquard: Analysis

6.11.2 MARQUARD: DRAFT SPATIAL DEVELOPMENT FRAMEWORK, see Figure 6.11.2.3

6.11.2.1 Core landscape areas

Notes: draft policies

- **The surrounding river and watercourses systems and the golf course;**
- **Care must be taken regarding the landscaping and development of the gateway precincts on approach to the town.**
- **Market gardening should be promoted on the commonage as part of and incubator phase in the land reform program.**

6.11.2.2 Urban Development

Notes: draft policies

- **All future housing projects including BNG and GAP housing should be located on vacant land that promotes the integration of the settlement;**
- **Mixed income projects should include mixed uses and should be laid out according to the principle of the Socio-economic Gradient so that property values are supported to the greatest extent possible;**
- **Development should not be encouraged on peripheral sites even if general plans have been approved.**
- **The need to develop peripheral sites should be held over until the next SDF review.**
- **Innovative approaches to waste water treatment including non-conventional green solutions, paving and storm water management using labour based methods where appropriate should be used in the relevant areas requiring upgrading.**

6.11.2.3 Urban Restructuring

Notes

A system of nodes and intensification corridors including:

- **Van der Watt street linking from the R707 to the R708**
- **Union street around the church and under the R708 underpass along Union street Extension into Moemaneng;**
- **Moemaneng "high street" linking from the intersection with Union street Extension to a new formal access point on the R708 to Winburg ;**

is proposed to provide a continuous network of intensification corridors that integrate Marquard and Moemaneng as a single, continuous urban system;

- **Nodes of different scales should be encouraged to form at strategic intersections ranging from new buildings to conversions and upgrades of existing buildings;**
- **The whole system of nodes and corridors should be properly treed and landscaped to promote pedestrians, cycling and animal traction.**
- **Nodes 1 and 3 are proposed commercial nodes. Node 2 is a proposed access node in the short term (to be developed as long term commercial node once New Development Areas 7 and 8 have been developed.)**

Townhall in Marquard

Mills at the gateway into town

Potential for markets (Moemaneng)

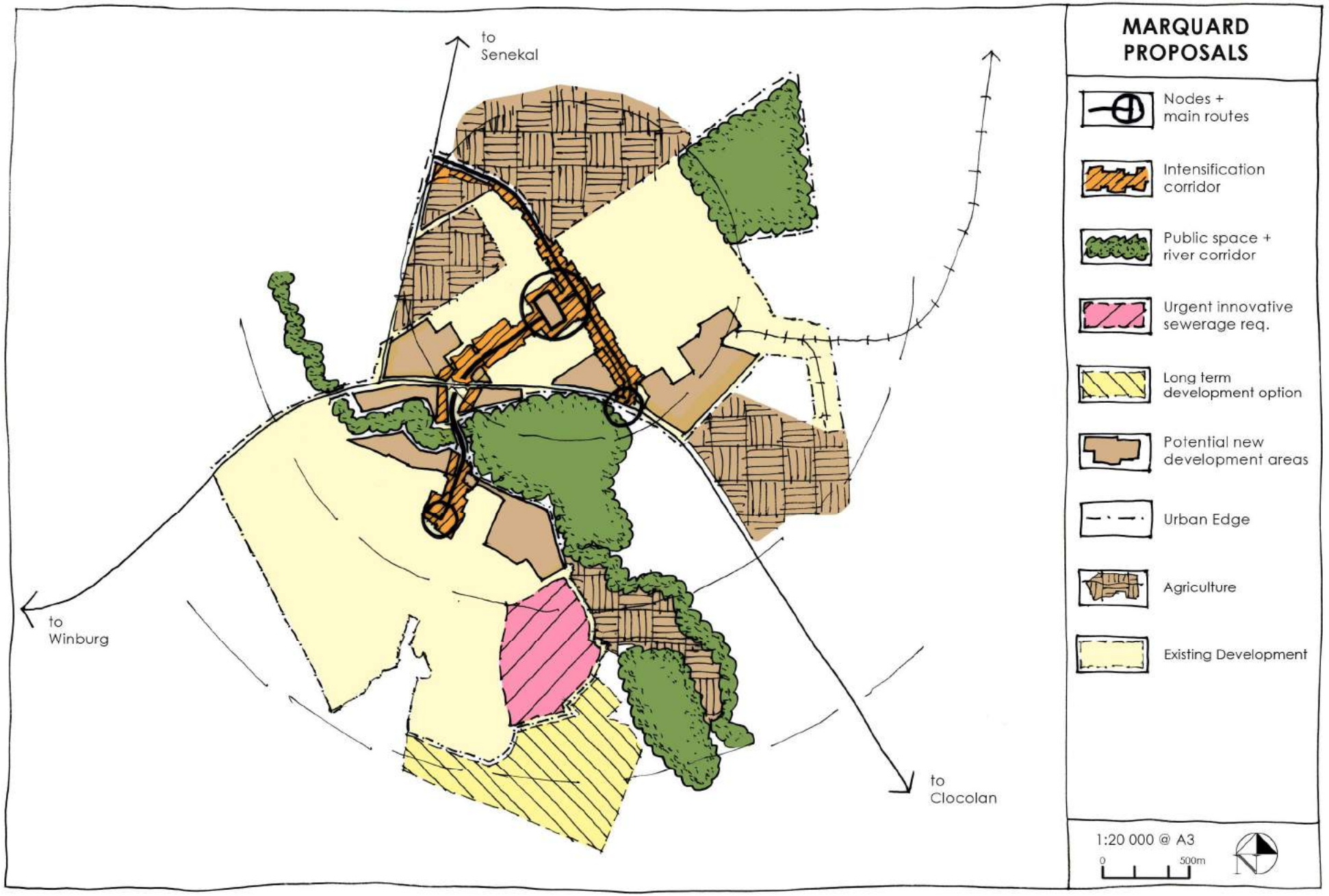


Figure 6.11.2.1 Marquard: Initial Draft SDF

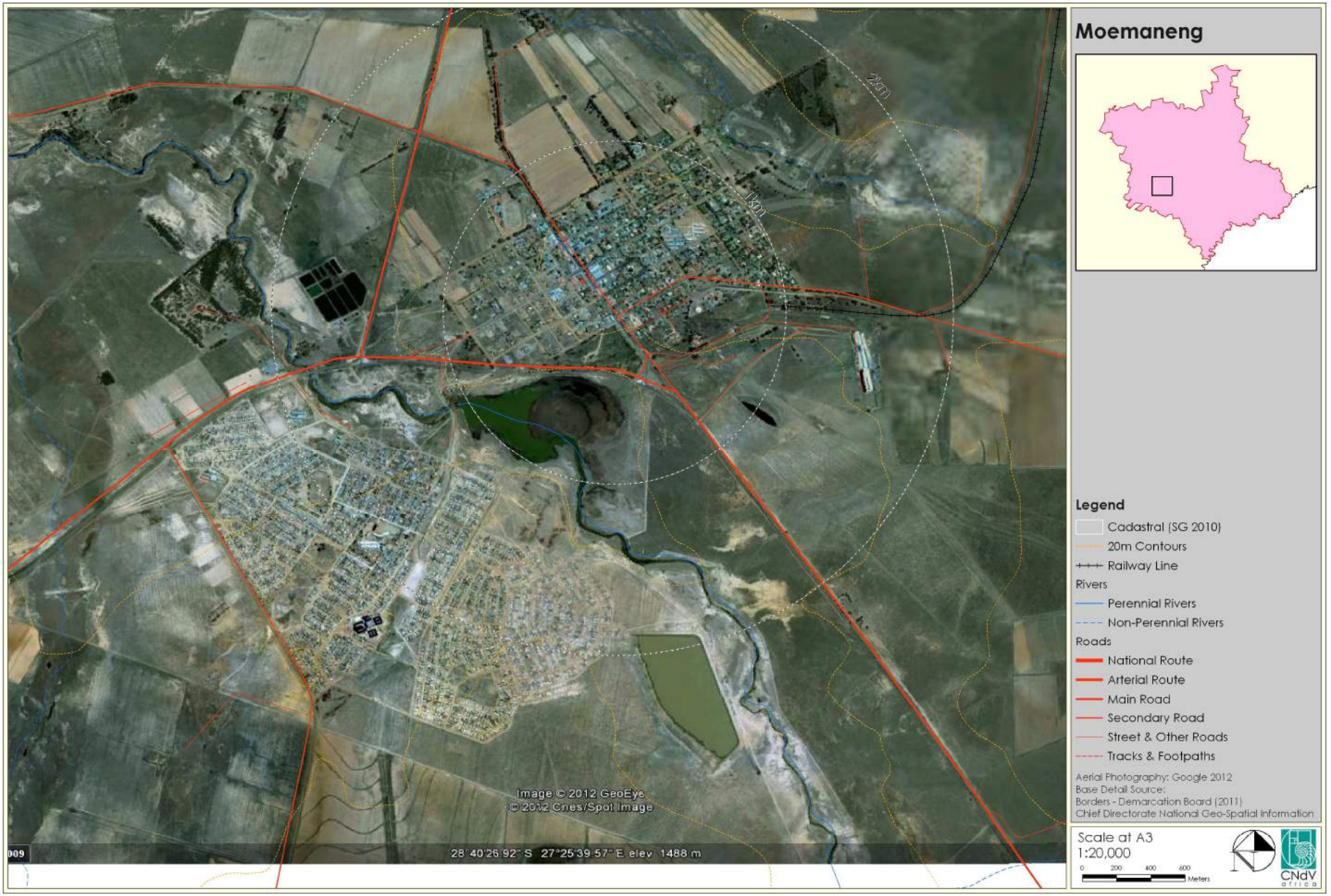


Figure 6.11.2.2 Marquard: Aerial photograph

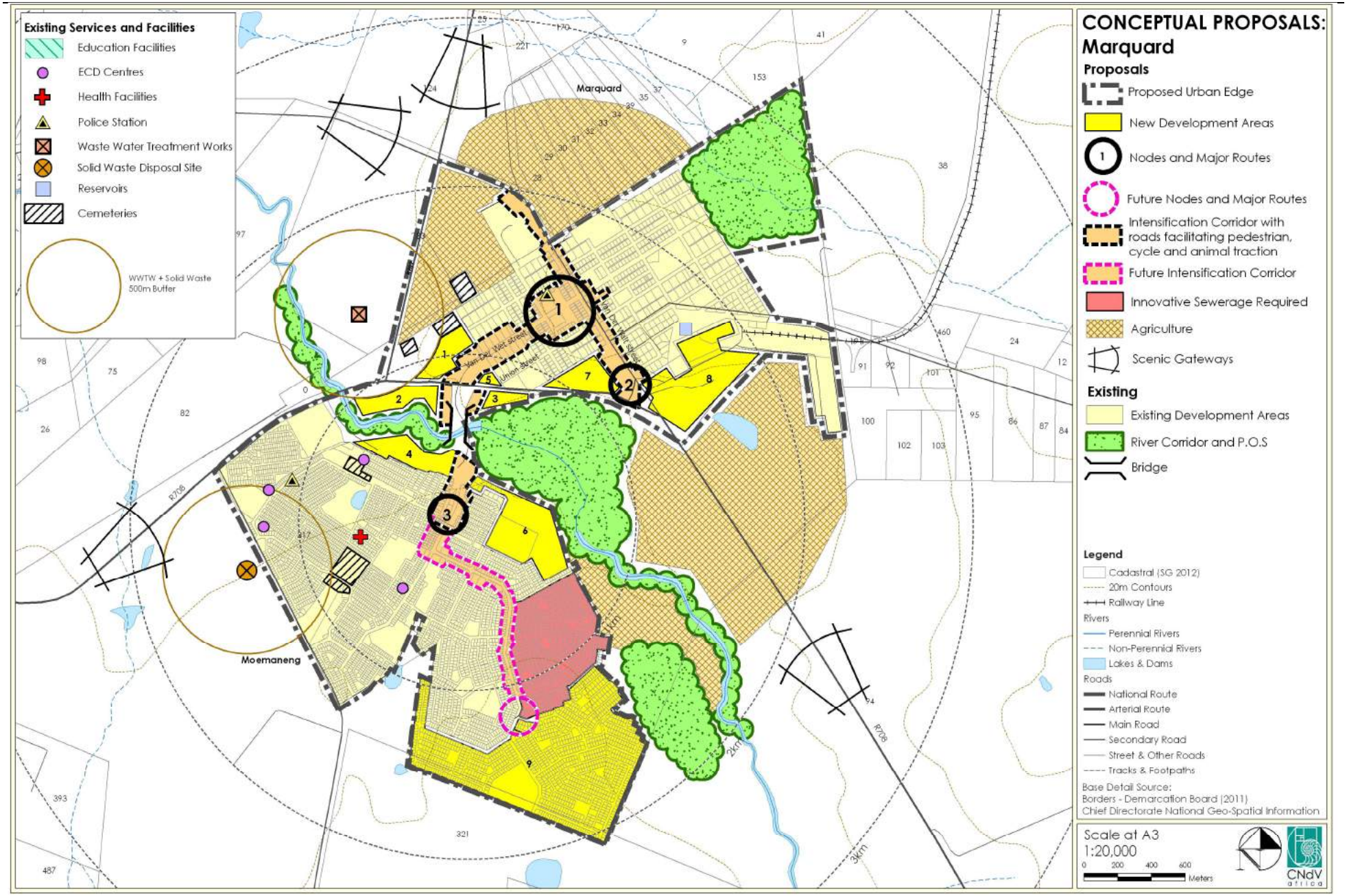


Figure 6.11.2.3 Marquard: Draft SDF

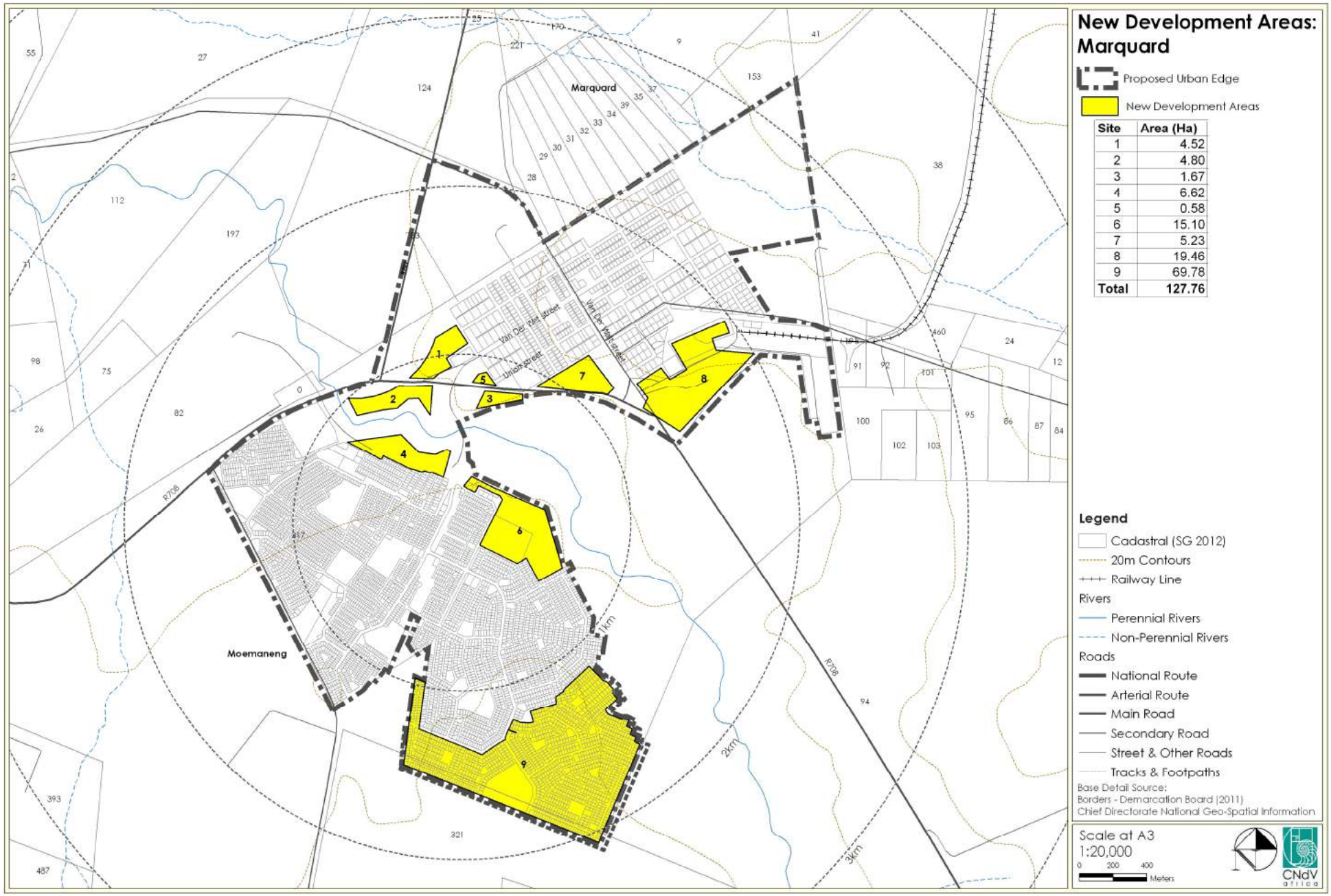


Figure 6.11.2.4 Marquard: New Development Areas

No	Erf	Area (ha)	Description	Ownership	Zoning	Possible Use	Comment	Priority
1		8,95ha	• R707 and 708 Intersection (N)	• Await info	• Await info	• Gap and Higher income housing	• Define appropriate setback from river floodline • Integration site • Development framework/ precinct plan required • Higher density along the corridor • Services required	1
2		6,04ha	• R707 and 708 Intersection (S)	• Await info	• Await info	• Gap and Subsidy housing	• Define appropriate setback from river floodline • Integration site • Development framework/ precinct plan required • Higher density along the corridor • Services required	1
3		0,58ha	• Union and R708 Streets Intersection (S)	• Await info	• Await info	• Higher income housing	• Define appropriate setback from river floodline • Integration site • Higher density along the corridor • Services required	1
4		6,62ha	• Union Street West	• Await info	• Await info	• Gap and Subsidy housing	• Define appropriate setback from river floodline • Integration site • Development framework/ precinct plan required • Higher density along the corridor • Services required	1
5		1,67ha	• Union and R708 Streets Intersection (N)	• Await info	• Await info	• Higher Income housing	• Define appropriate setback from river floodline • Integration site • Higher density along the corridor • New services required, existing services in vicinity	1
6		15,10ha	• Union Street East	• Await info	• Await info	• Gap and Subsidy housing	• Define appropriate setback from river floodline • Integration site • Development framework/ precinct plan required • Services required	1
7		5,23ha	• Van der Watt and Froneman Intersection	• Await info	• Await info	• Integrated housing (High, GAP and subsidy) • Commercial at the node and along the corridor	• Development framework/ precinct plan required along with Site 8 • Gateway site requires an urban design framework • Higher density along the corridor and at node • Design around existing buildings • Define appropriate setback from river floodline • Integration site • Services required	2
8		19,46ha	• Off Eksteen and Along Voortrekker Road	• Await info	• Await info	• Integrated housing (High, GAP and subsidy) • Commercial at the node and along the corridor	• Development framework/ precinct plan required along with Site 8 • Gateway site requires an urban design framework • Higher density along the corridor and at node • Design around existing buildings • Development framework/ precinct plan required • Services required	2
9		69.78ha	• South section of Moemaneng	• Await info	• Await info	• Subsidy facilities and public open space	• Services required • Contributes to sprawl	3
TOTAL		**139.02ha**						

Table 6.11.2.1 Marquad New Development Areas

6.12 SENEKAL (± 27 000)

6.12.1 SPATIAL ANALYSIS, see Figure 6.12.1.1

Sub-regional location

- Senekal is located in the north of the Moetlamogale Uplands on the N5 national route between the N1 at Winburg and the N3 to Durban via Bethlehem and Harrismith;
- It is linked to Ficksburg around the Witteberg via Rosendal located in the neighbouring municipality

Layout pattern

- Senekal comprises three components:
  - An historic core sandwiched between the ridge overlooking the town and the river;
  - A newer extension still laid out like a "nagmal dorp" capable of further subdivision on the western approach to the town along the N5; and,
  - Matwabeng, a large sprawling low density township hidden away behind the ridge on the way to the railway station structured along a single road, 'Matwabeng high street'
- Matwabeng sprawls almost 4kms from the CBD along this long straight road.
- It is further broken up into 3 main extensions with large tracts of undeveloped land in between;
- The most recent township extension, approved but not developed, requires a 5km commute for their residents, almost 2 kilometres just to get to "Matwabeng high street" and another 3 km to the CBD. This is equal to a 1.5 hour walk in one direction for those unable to afford private or even public transport

Urban quality

- The historic core still possesses some architectural quality and heritage value which could have tourism potential if maintained and upgraded;
- Other parts of Senekal, although of low density, have a high level of tree planting and vegetation;
- Matwabeng's urban quality can best be described as a series of isolated township extensions separated from each other and the rest of the town by large tracts of vacant land strung out along empty looking wide road reserves almost devoid of any tree planting
-

Challenges and potential

- Unlike other townships in Setsoto Matwabeng is extremely isolated from a higher order road network, even a bypass, and so efforts at improving its exposure and business thresholds will have to aim at strengthening its current links and urban quality with the CBD;
- This implies that it must be properly signposted and directed from inside an upgraded CBD that provides way finding from the N5 in the centre of town;
- A CBD design guideline and upgrade program must urgently be put in place to ensure that the town restores its urban quality.

Landscaped parts of town

Commercial uses in centre of town

Main road in Senekal (need for landscaping)

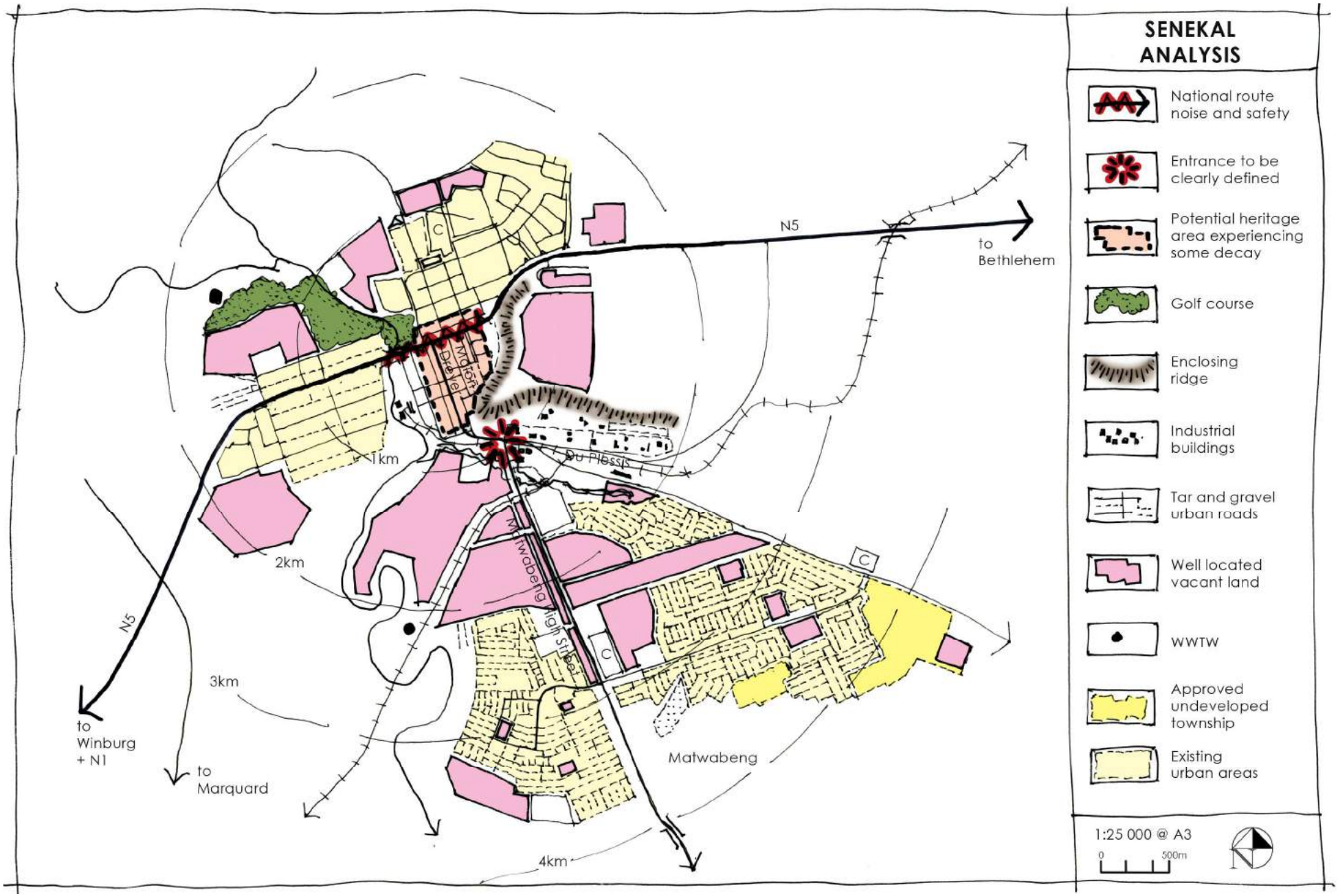


Figure 6.12.1.1 Senekal: Analysis

6.12.2 SENEKAL: DRAFT SPATIAL DEVELOPMENT FRAMEWORK, see Figure 6.12.2.3

6.12.2.1 Core landscape areas

Notes: draft policies

- **The ridge above the town, surrounding river and watercourses systems and the golf course;**
- **Care must be taken regarding the landscaping and development of the gateway precincts on approach to the town.**
- **Market gardening should be promoted on the commonage as part of and incubator phase in the land reform program**

6.12.2.2 Urban Development

Notes: draft policies

- **All future housing projects including BNG and GAP housing should be located on vacant land that promotes the integration of the settlement;**
- **Mixed income projects should include mixed uses and should be laid out according to the principle of the Socio-economic Gradient so that property values are supported to the greatest extent possible;**
- **Development should not be encouraged on peripheral sites even if general plans have been approved.**
- **The need to develop peripheral sites should be held over until the next SDF review.**

6.12.2.3 Heritage Areas

Notes

- **Senekal CBD should be declared a heritage area and guidelines produced to assist with upgrading of existing buildings and new build**

6.12.2.4 Urban Restructuring

Notes

- **A system of nodes and an intensification corridor starting at Malan/Dreyer street intersection with the N5, at which Matwaneng should be boldly signposted, continuing south along Dreyer street and du Plessis to the intersection with "Matwabeng High street" to the intersection approximately 2kms south providing access to the sub-settlements on either side. This is to proposed to provide a continuous network of nodes along an intensification corridor that integrates Senekal and Matwabeng into a single, continuous urban system;**
- **Nodes of different scales ranging from new buildings to conversions and upgrades of existing buildings should be encouraged to form at strategic intersections approximately 1 km apart along "Matwabeng high street"**
- **The whole system of nodes and corridors should be properly treed and landscaped to promote pedestrians, cycling and animal traction.**
- **All proposed nodes to develop into commercial nodes.**

Prominently located (gateways) and older buildings in town

Need for urban design guidelines

Older (historic) buildings in town

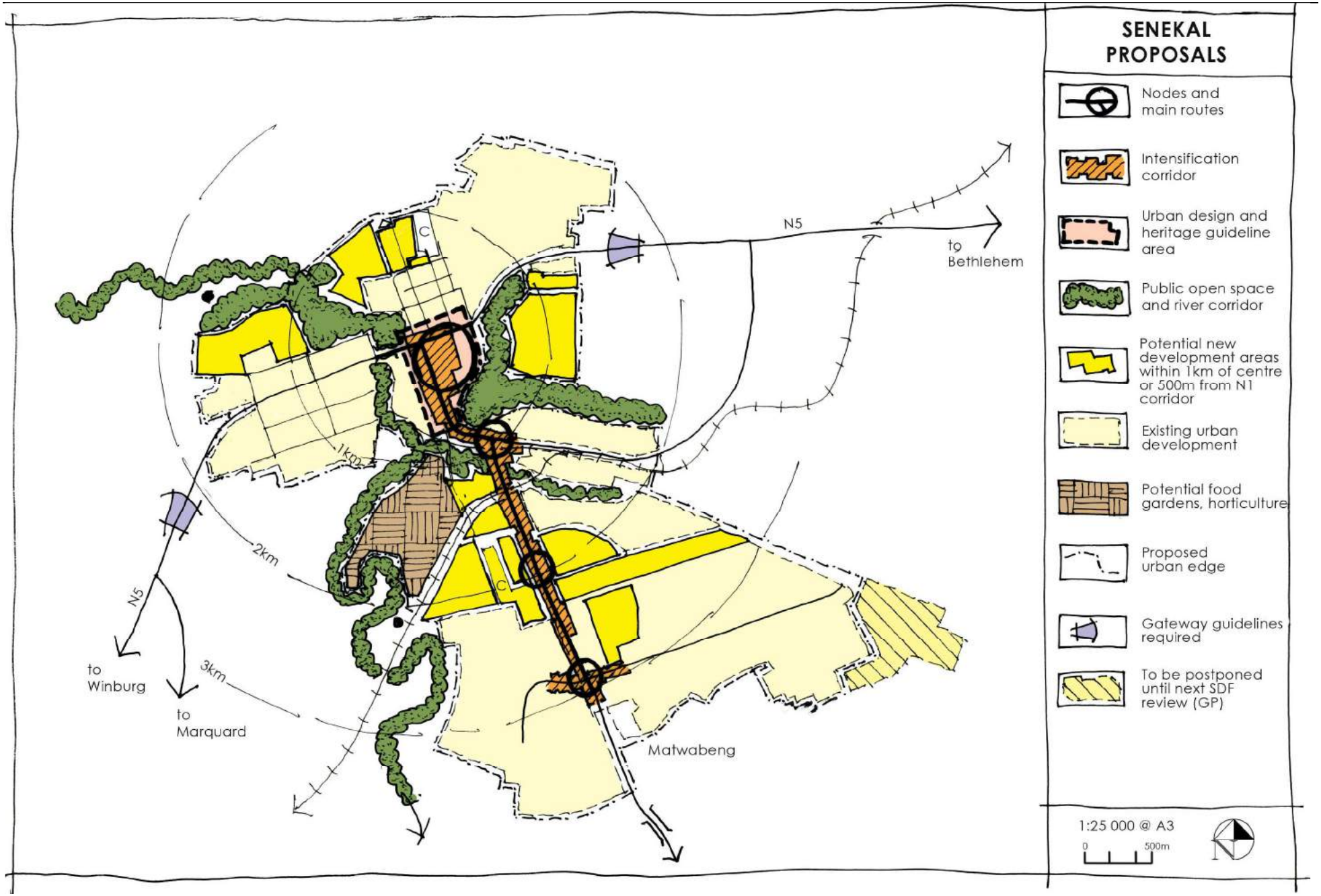


Figure 6.12.2.1 Senekal: Initial Draft SDF

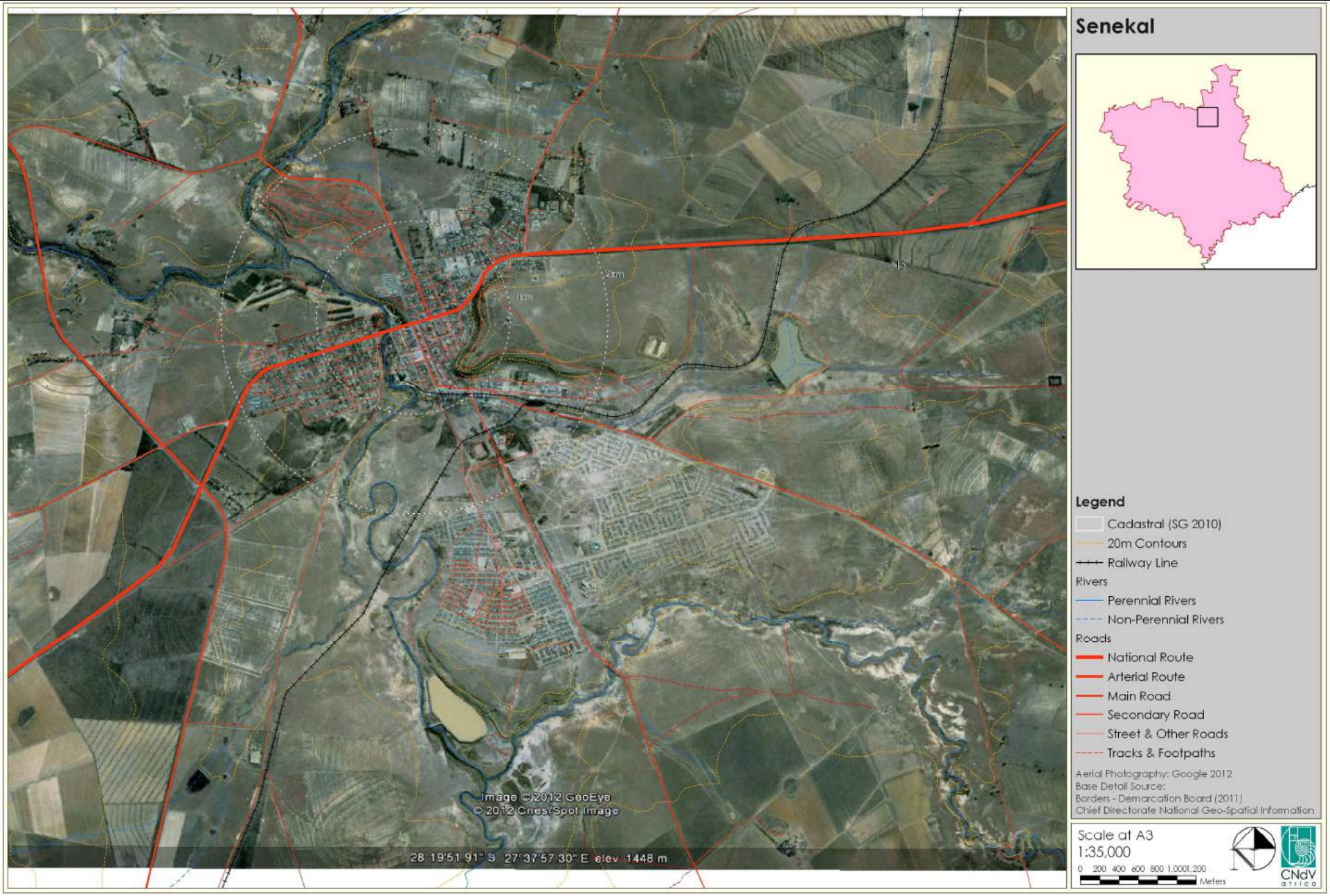


Figure 6.12.2.2 Senekal: Aerial photograph

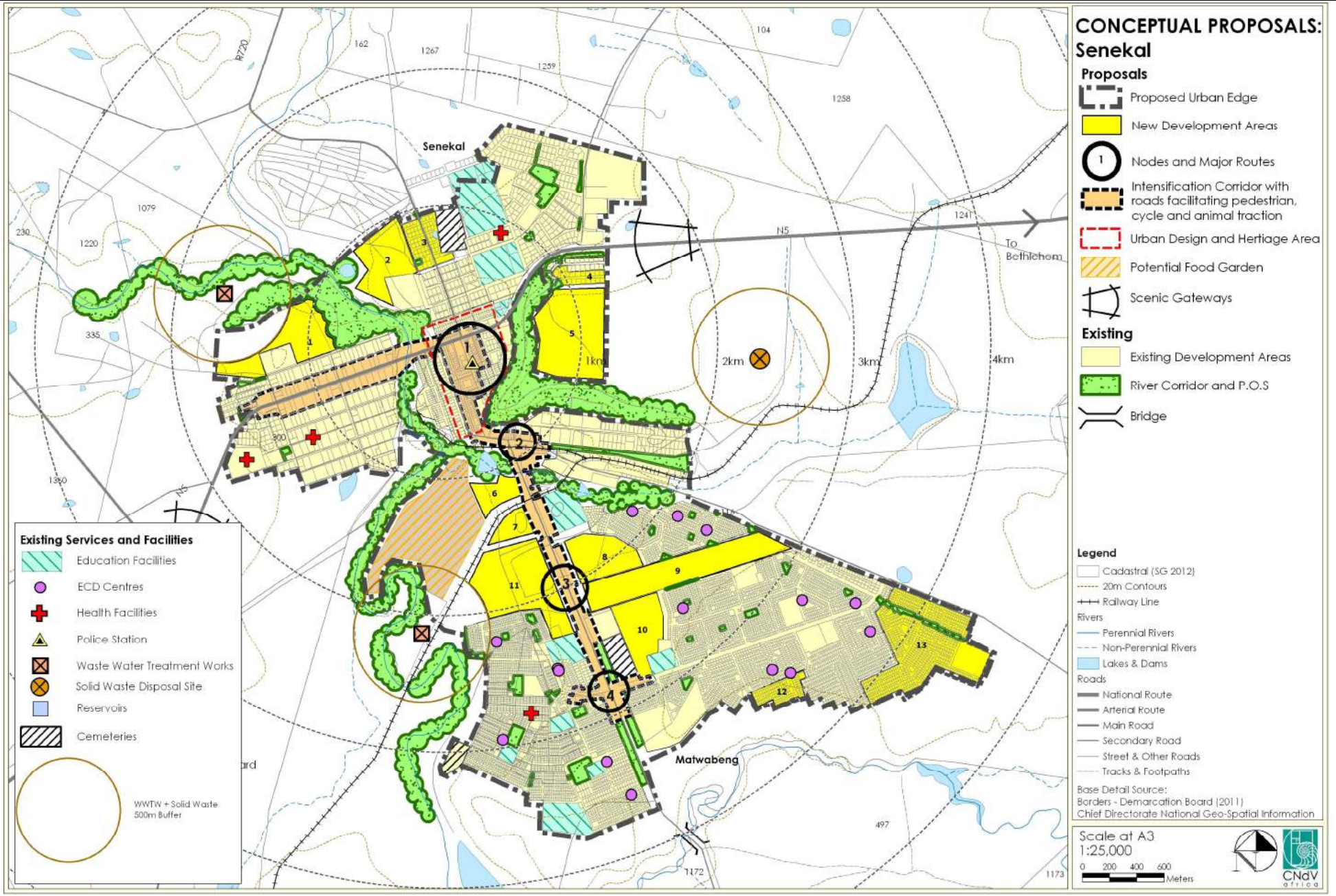


Figure 6.12.2.3 Senekal Draft SDF

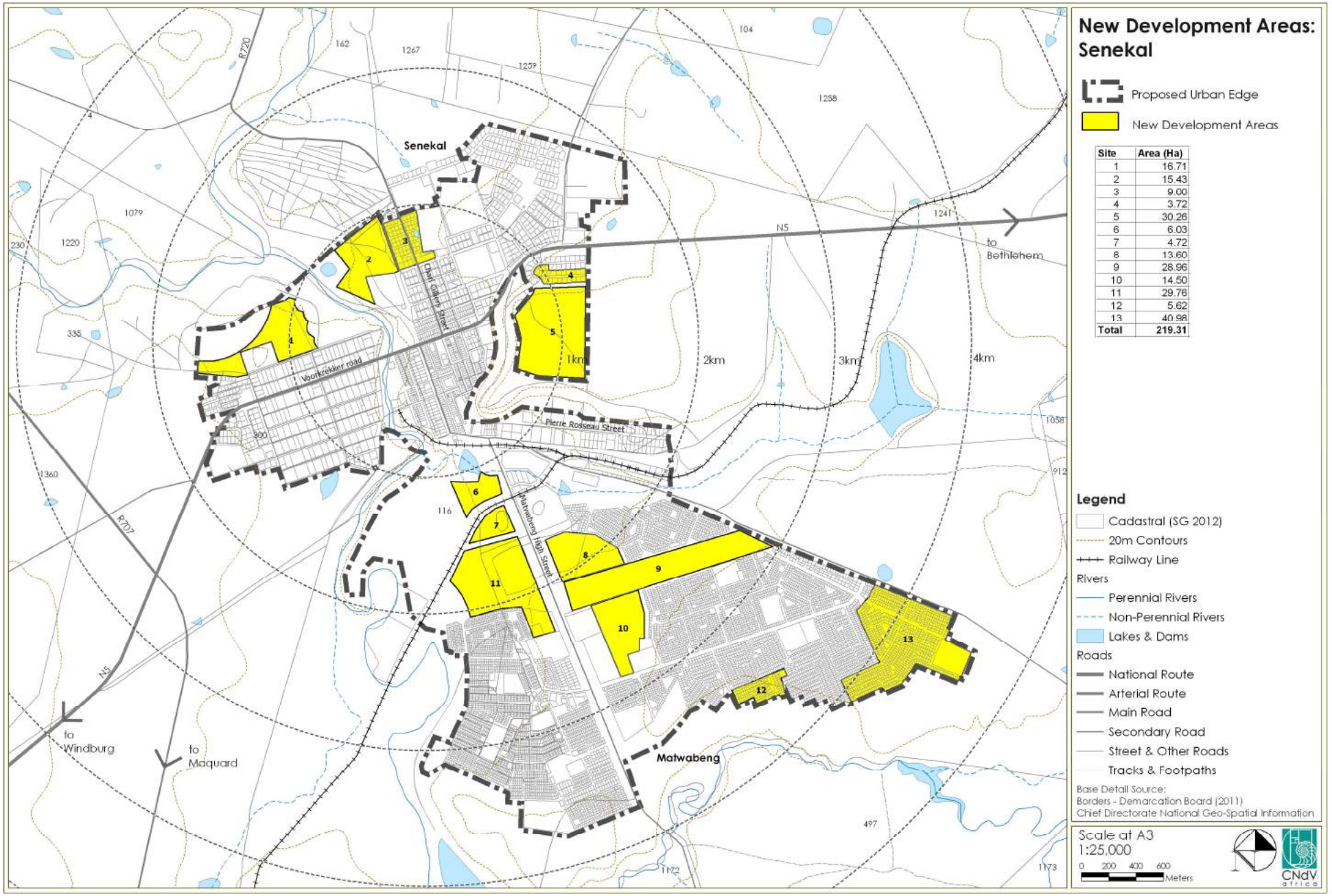


Figure 6.12.2.4 Senekal: New Development Areas

No	Area (ha)	Description	Ownership	Zoning	Possible Use	Comment	Priority
1	27,13ha	• North of Bell Street	• Awaiting info	• Awaiting info	• High income and GAP housing	• Development framework/ precinct plan required • Define appropriate setback from river floodline • Services required	2
2	15,43ha	• West of Lange Street	• Awaiting info	• Awaiting info	• Higher income, GAP and subsidy housing	• Development framework/ precinct plan required • Gateway site requires an urban design framework • Define appropriate setback from river floodline • Services required	2
3	9,00ha	• East and west of Charl Cilliers Street	• Awaiting info	• Awaiting info	• High income and Gap housing • Commercial in corridor	• Development framework/ precinct plan required • Gateway site requires an urban design framework • Redesign existing layout • Privately owned land? • Services available	3
4	3,72ha	• South of Ryk Becker Street	• Awaiting info	• Awaiting info	• High income and / or Gap housing	• Redesign existing layout • Privately owned land? • Define appropriate setback from river floodline • Services available	3
5	30,26ha	• Eastern Senekal	• Awaiting info	• Awaiting info	• Higher income and GAP and subsidy housing	• Development framework/ precinct plan required • Confirm impact of the slope • Define appropriate setback from river floodline • Services required	3
6	6,03ha	• West of Matwabeng High Street (north of railway)	• Awaiting info	• Awaiting info	• Gap and subsidy housing • Commercial in the corridor	• Development framework/ precinct plan required • Higher density along the corridor • Define appropriate setback from river floodline • Services required	1
7	4,72ha	• West of Matwabeng High Street (south of railway)	• Awaiting info	• Awaiting info	• Gap and subsidy housing • Commercial in the corridor	• Higher density along the corridor • Design around sportsfields • Services required	1
8	13,60ha	• East of Matwabeng High Street	• Awaiting info	• Awaiting info	• Gap and subsidy housing • Commercial in the corridor	• Development framework/ precinct plan required • Higher density along the corridor and at node • Services required	1
9	28,96ha	• East of Matwabeng High Street	• Awaiting info	• Awaiting info	• Gap and subsidy housing • Commercial in the corridor	• Development framework/ precinct plan required • Higher density along the corridor and at node • Services required	1
10	14,50ha	• East of Matwabeng High Street	• Awaiting info	• Awaiting info	• Gap and subsidy housing	• Development framework/ precinct plan required • Investigate possibility of additional access road off Pierre Rosseau Street • Services required	1
11	34,92ha	• West of Matwabeng High Street (east of railway)	• Awaiting info	• Awaiting info	• Gap and subsidy housing • Commercial in the corridor	• Development framework/ precinct plan required • Higher density along the corridor and at node • Services required	1
12	5.62ha	• Matwabeng south	• Awaiting info	• Awaiting info	• Medium to high income	• Promote sprawl • Services required	4
13	40.98ha	• Matwabeng east	• Awaiting info	• Awaiting info	• Medium to high income	• Promote sprawl • Services required	4
TOTAL	**234.88ha**						

Table 6.12.2.1 Senekal New Development Areas

6.13 GENERAL PROJECTS

The following additional projects are proposed to facilitate the effective implementation of the SDF:

6.13.1 Determine the 1:50 year and 1:100 year floodlines along all perennial and non-perennial water courses, pans and dams to protect the natural environment and safeguard lives and property from any natural damage that may occur as a result of storms and associated floods.

6.13.2 Prepare and implement urban design and landscape guidelines for all settlements or at least the main streets of all settlements and its associated gateways.

6.13.3 Prepare a Municipal wide rural development strategy that would investigate ways to stimulate the rural economy, central to which should be the feasibility of the development of potential rural nodes and rural periodic markets

6.13.4 Prepare detailed precinct plans / development frameworks for:

- all proposed urban nodes. These nodes could accommodate facilities such as schools, clinics, libraries, police stations, business, etc. based on the locational principles discussed under section 6.6 above;
- all new development areas bigger than 5ha; and
- any future rural nodes

6.13.4 Investigate the feasibility of establishing local and regional conservancies and the preparation of detailed management plans for the conservation and tourism use of the area.

6.13.5 Prepare a regional tourism strategy to capitalise on the tourism potential of the Municipality. To ensure its chances of success, this strategy should be completed and implemented in conjunction with at least the abutting municipalities.

6.13.6 Investigate the initiation of at least one land reform project per annum in the Municipality.

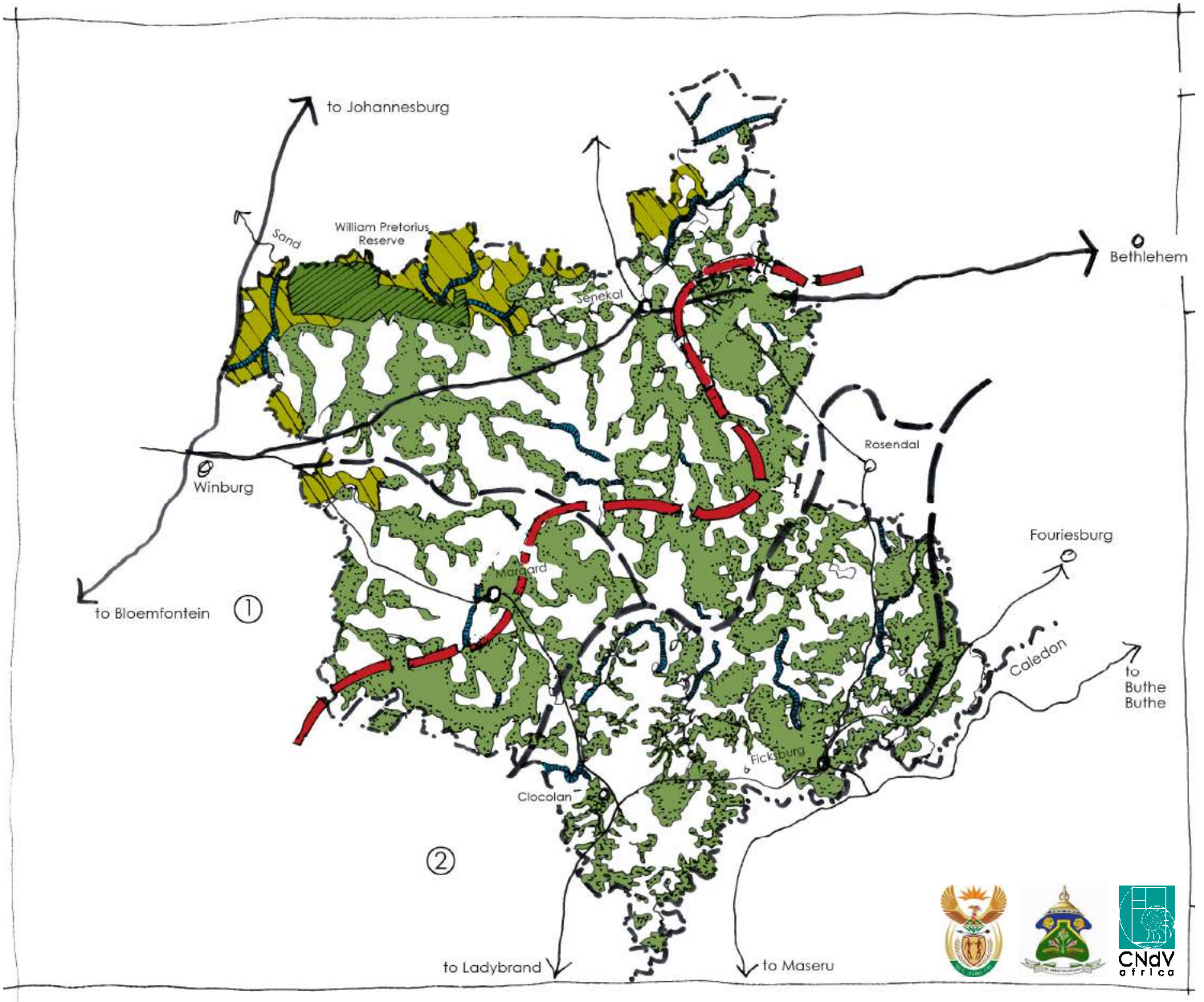
6.13.7 Prepare an open space utilisation and densification framework for each settlement. This framework should identify the areas that should retain its use as public open space and areas that could be made available for infill development. In addition, the densification component of the framework should identify the areas that could be densified through infill, redevelopment or subdivision mechanisms to help achieve viable urban densities.

6.13.8 Prepare a policy to manage street traders in the municipality. This should help to protect the CBD's from crime and grime.

6.13.9 Prepare a renewable technology strategy to help reduce the impact of climate change and to the municipality as a whole, i.e. including all its households and individuals, into an environmental sustainability lifestyle.

6.13.10 Prepare a Scenic Route Study to identify and specially designate certain routes that have scenic value and to specifically manage visual impacts along the designated Scenic Routes.

6.13.11 a possible adjustment of the municipal boundary should be considered to include Rosendal. Rosendal is functionally part of the Setsoto Municipality and residents rely on towns in Setsoto for basic facilities.



SETSOTO LOCAL MUNICIPAL SPATIAL DEVELOPMENT FRAMEWORK

CONCEPTUAL SDF

10 December 2012

SETSOTO LOCAL MUNICIPAL

SPATIAL DEVELOPMENT FRAMEWORK

CONCEPTUAL SDF REPORT

prepared for

SETSOTO LOCAL MUNICIPALITY
PO Box 116 Ficksburg 9730
Tel: 051 933-9300 Fax: 051 933-3321

and

DEPARTMENT OF RURAL DEVELOPMENT & LAND REFORM
Private Bag x 833 PRETORIA, 0001
Tel: 012 312-8369 Fax: 012 321-2974

by

CNdV Africa Planning and Design CC
environmental planning, landscape architecture, urban design
17 New Church Street, Cape Town, 8001
Tel: (021) 424-5022 Fax: (021) 424-6837
Email: planning@cndv.co.za

10 December 2012

CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF GRAPHS

6. CONCEPTUAL DEVELOPMENT FRAMEWORK

6.1 SPATIAL VISION AND APPLICATION OF PRINCIPLES

This section sets out the Vision for the SDF.

6.1.1 SPATIAL VISION AND CORE IDEAS

The Vision for the Municipality is as follows:

"A unified, viable and progressive municipality."

Given the analysis and the above vision, the following spatial vision is proposed:

"To develop Setsoto into a place of beauty that recognizes its setting comprising of historical, cultural and natural scenic assets that continue to give rise to its tourism appeal while developing its industries around the diversity of agricultural produce to result in a unified and sustainable Municipality."

The implications of the above vision are as follows:

- The tourism opportunities should be protected and enhanced. These opportunities include:
  - Eastern Free State mountain scenery;
  - Historic urban settlements with Victorian sandstone architecture
  - baSuto (south Sotho) regional culture spilling over from 'the mountain kingdom in the sky'.

- Agricultural opportunities that should be supported and protected:
  - Mixed farming, mainly cattle,
  - Some maize and wheat;
  - Cherries around Ficksburg.

- Spatial planning must ensure that the municipality's resources, mainly arable land, are not unnecessary damaged for their use by another sector, for example, future urban development should not take good agricultural land out of production;

- Urban settlement's should present a high quality image and appearance so that they are attractive to visitors and residents alike;

- Water demand must be carefully managed so that urban, agricultural and mining needs can all be met.

6.2 MACRO-CONCEPTUAL FRAMEWORK

6.2.1 NATURAL SYSTEMS SYNTHESIS

- The natural system analysis in the Status Quo report, influenced by aspects of the Municipality such as the topography, vegetation and hydrology gave rise to the conclusion that Municipality comprises two broad bio-regions, see Figure 6.2.1.1:
    - To the west the 'Moetlamogale Uplands' include two settlements, Senekal and Marquard. The countryside is undulating with mainly stock farming and crops, including pastures.
    - To the east, 'Witteberg mountains' – hilly mountainous country with dramatic sandstone cliffs and views over the Caledon river and the Maluti mountains in Lesotho.
    - The land use includes mixed farming with a pattern of pastures and some maize and wheat farming interspersed with patches of Vaal-Vet Sandy Grassland classified as Endangered by SANBI.
    - Cherry farming is famous around Ficksburg and is the basis of the oldest festival in the country.
    - The watershed that drains the rivers either into the Sand River in the northern areas or the Caledon River in the southern areas.
- Figure 6.2.1.1 shows, spatially, the natural system elements that should be protected in the future development of the Municipality. These elements set the "spatial no-go areas" scene for the SDF. These elements include:
    - Land currently under agricultural cultivation throughout the municipality;
    - South facing slopes which are important climate change refuge areas for to mitigate the impact of climate change for both plant and animal life;
    - Steep slopes – generally around Ficksburg and in the southern areas of the Municipality;
    - Endangered Vegetation mainly Mesic Highveld Grassland that can be termed Critical Biodiversity Areas; and
    - Rivers, lakes, dams, pans and or vleis.
    - The Willem Pretorius Nature Reserve around the Allemanskraal dam.

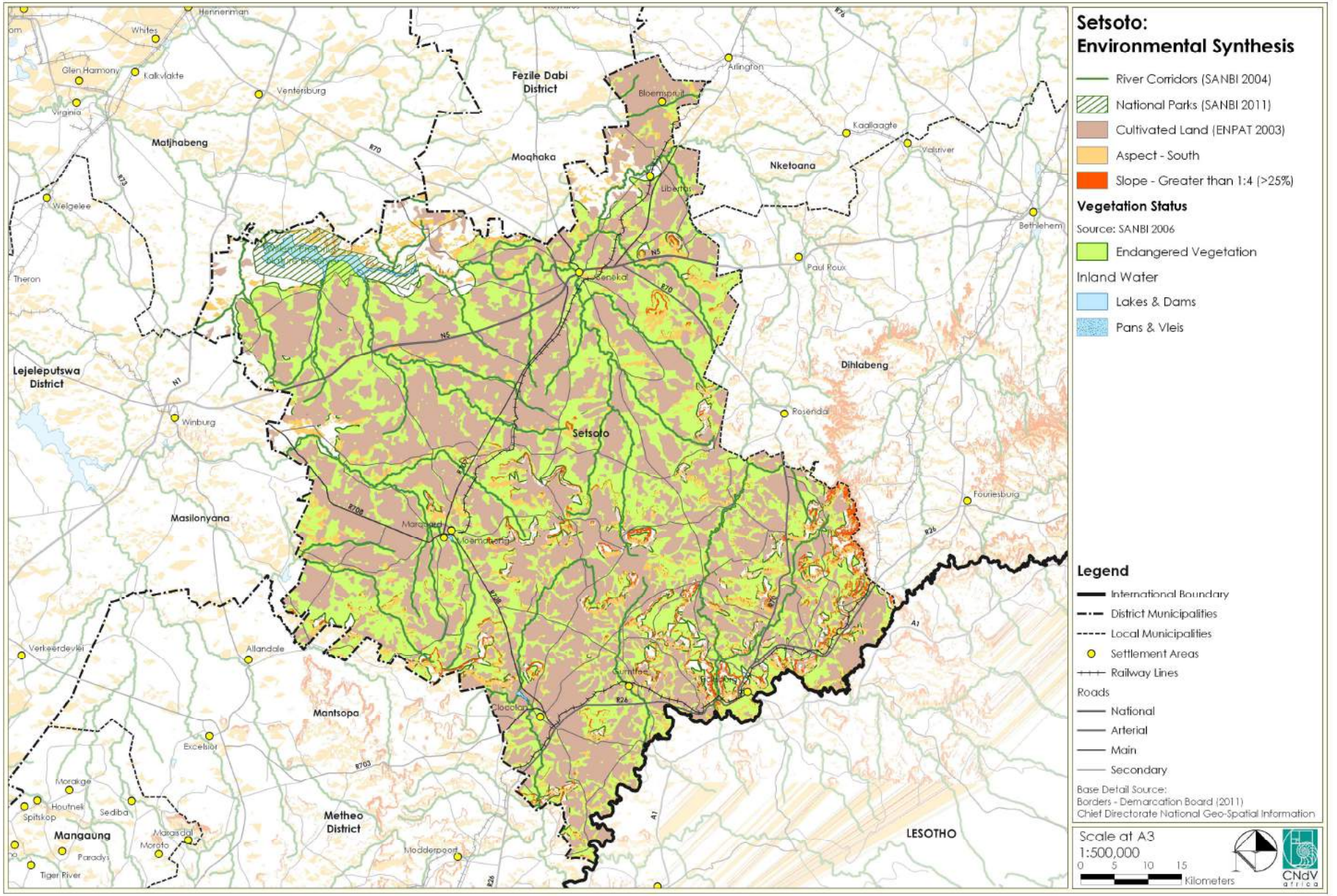


Figure 6.2.1.1 Setsoto Municipality: Natural Systems Synthesis

6.2.2 SOCIO-ECONOMIC AND BUILT ENVIRONMENT SYNTHESIS

- Central Statistical Services figure suggest the population has decreased from 109 000 to 102 000 between 2001 and 2007 and DWAF's figures and the 2011 Census suggest it had increased to 113 000 by 2011. The main reason for this growth is given as due to Ficksburg's proximity to Lesotho.
- Certainly, there are substantial industrial estates across the border in Maputsoe with little other development rather than low density residential. This suggests that a number of service providers and economic linkages to support these factories are across the border in Ficksburg.
- The settlements are Ficksburg, Senekal, Clocolan and Marquard and serve as the population concentration areas of the Municipality.
- There is an adequate distribution of physical health and education facilities in the towns. It appears, from the size of the population that Senekal has more health facilities than what is needed. The same applies to all the settlements in regard to educational facilities. However, and notwithstanding the above, it appears, given the distance to the health facilities that more facilities are needed at Motwabeg, Hlohlolwane and Meqheleng, primary schools are needed at Motwabeng, Marquard and Meqheleng and secondary schools are needed at Matwabeng, Meqheleng and Hlohlolwane. (It should be noted that the population figures should be confirmed with the most recent census to confirm this requirement.)
- Issues in regard to the above facilities relate more to the quality and nature of services rendered and the far distances some of the members of the community have to walk to get access to these due to the extremely spread out nature of the settlements.
- Alternatively, local transport opportunities for example cycling should be promoted to enable people to travel further, more efficiently and with minimum cost.
- Access to schools in rural areas remains a challenge.
- A major issue is the uneven distribution of individual waste water treatment in the urban settlements with significant portions of Hlohlowane (Clocalan), Moemaneng (Marquard) and particularly Meqheleng (Ficksburg). This needs to be addressed because the stark differences in access to provision of this service have been one of the contributors to service delivery protests.
- Providing this service in these areas is likely to be a significant financial and engineering challenge and this opportunity should be taken to explore other strategies to service provision. For example, Bill Gates has recently funded a waterless system with similar usage characteristics, see text box.
- Improvement in access to other urban services particularly roads and storm water management, is also required.
- Improvement of skills and training is required in both the agriculture and tourism sectors.
- Tourism is also important in the scenic mountains around Ficksburg.

BILL GATES INVESTS MILLIONS IN WATERLESS TOILETS TECH

Started by Afrika 2011 , Aug 15 2012 01:02 PM

Microsoft co-founder Bill Gates has challenged scientists to develop waterless toilets for the 2.5 billion people around the world without access to modern sanitation. The billionaire philanthropist has announced $3.4m (£2.2m) in new funding for its "Reinvent the Toilet Challenge", with\$100,000 (£64,000) going to the **California Institute of Technology** for its work on a sun-powered system that recycles water and breaks down human waste into storable energy.

About 1.5 million children under five-years-old die every year - mostly in sub-Saharan Africa and south Asia - because of sanitation problems. But Mr Gates said modern flushable toilets were not the answer as they need a complex sewer system and use too much water.

"The flush toilets we use in the wealthy world are irrelevant, impractical and impossible for 40% of the global population," he said in a statement. "Beyond a question of human dignity, this lack of access also endangers people's lives, creates an economic and a health burden for poor communities, and hurts the environment." To solve the problem, his **charitable foundation** handed grants to eight universities around the world to develop a toilet that operates without running water, electricity or a septic system. It was also to be designed to not discharge pollutants, preferably capture energy or other resources, and operate at a cost of just five cents a day.

Some of the prototypes have gone on display in the open courtyard of the foundation's Seattle headquarters this week. They include the one produced by the California Institute of Technology (Caltech), which has an electrochemical reactor to transform the waste into a hydrogen gas The hydrogen gas produced in the Caltech design can be stored in hydrogen fuel cells to provide a back-up energy source for night operation or use in low-sunlight conditions. Mr Gates also handed out a prize to **Loughborough University** for a toilet that transforms waste into biological charcoal, minerals, and clean water.

Another project on display was from the **London School of Hygiene and Tropical Medicine**. It sends black soldier fly larvae into latrines and even home toilets to process waste, resulting in high quality, environmentally friendly animal feed. The fly larvae project is already being tested in Cape Town, South Africa, and the inventors are working on a kit to sell to entrepreneurs. They have had inquiries from Haiti, Sudan, Kenya and Ghana about adopting the approach. The foundation, which Gates co-chairs with his father and wife, Melinda, is the world's biggest private philanthropic organisation with an endowment worth more than \$33bn. It is spending about \$80m a year on water, sanitation and hygiene issues.

-SKY NEWS

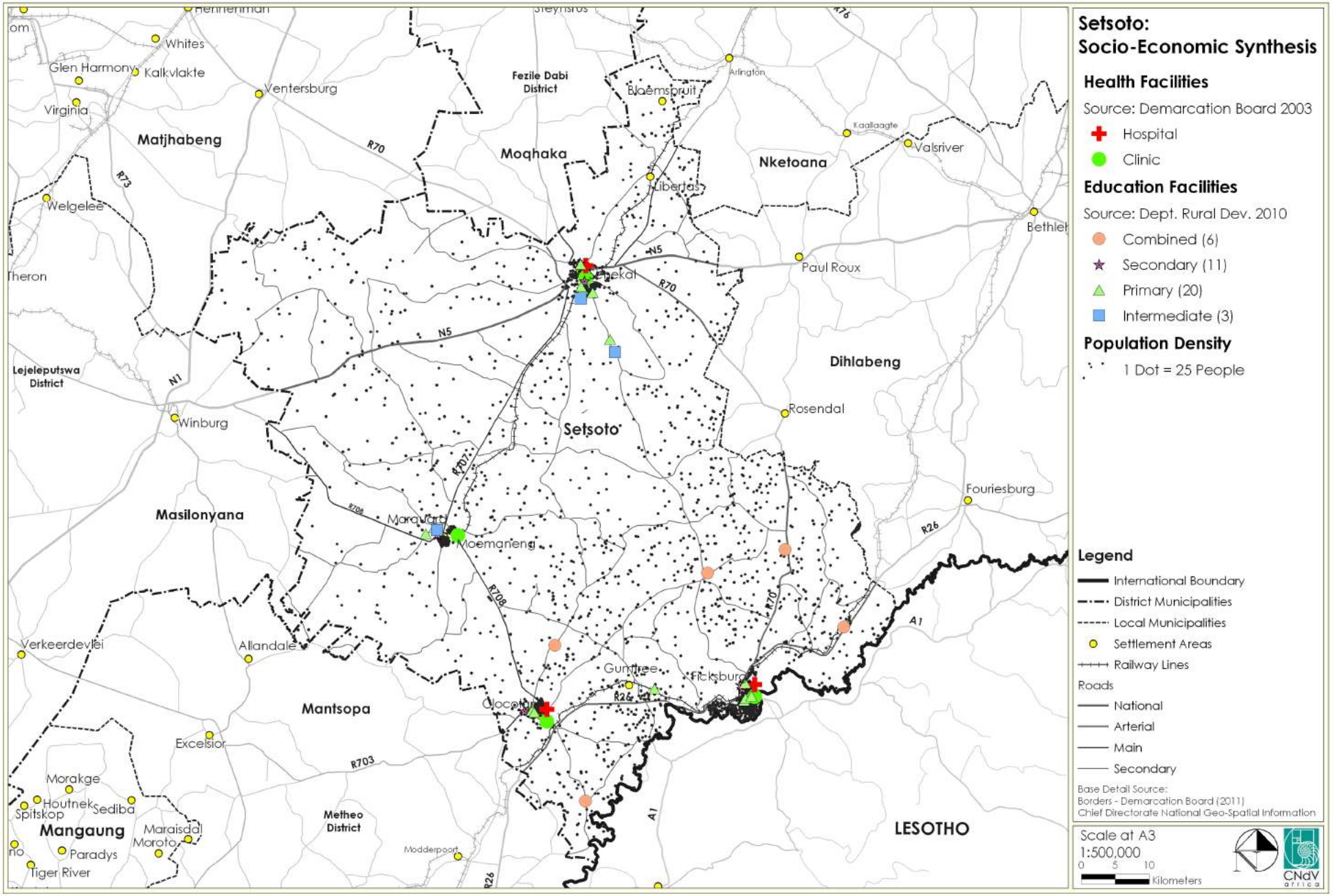
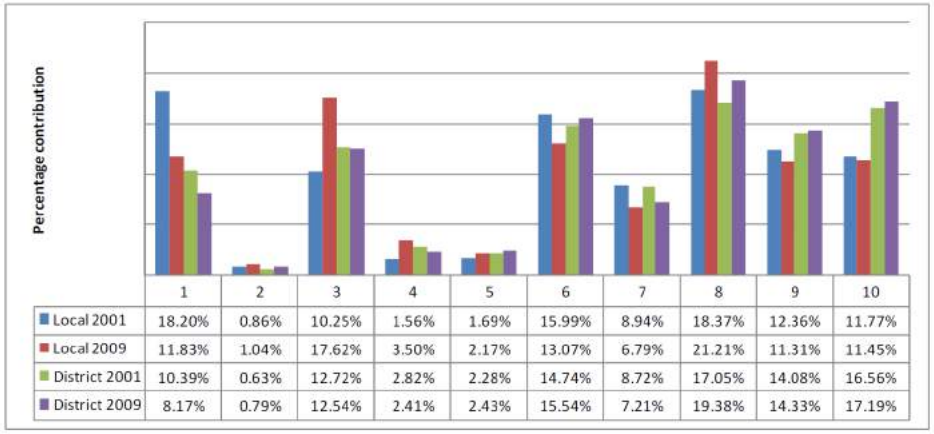


Figure 6.2.1 Setsoto Municipality: Socio-economic Synthesis

6.2.3 SECTOR GVA CONTRIBUTIONS

- Setsoto agricultural GVA contributions appear to be declining while manufacturing and tertiary economic sectors are increasing;
- This suggests that more value add is occurring to agricultural products and that tourism and financial services are on the increase.



	1	2	3	4	5	6	7	8	9	10
Local 2001	18.20%	0.86%	10.25%	1.56%	1.69%	15.99%	8.94%	18.37%	12.36%	11.77%
Local 2009	11.83%	1.04%	17.62%	3.50%	2.17%	13.07%	6.79%	21.21%	11.31%	11.45%
District 2001	10.39%	0.63%	12.72%	2.82%	2.28%	14.74%	8.72%	17.05%	14.08%	16.56%
District 2009	8.17%	0.79%	12.54%	2.41%	2.43%	15.54%	7.21%	19.38%	14.33%	17.19%

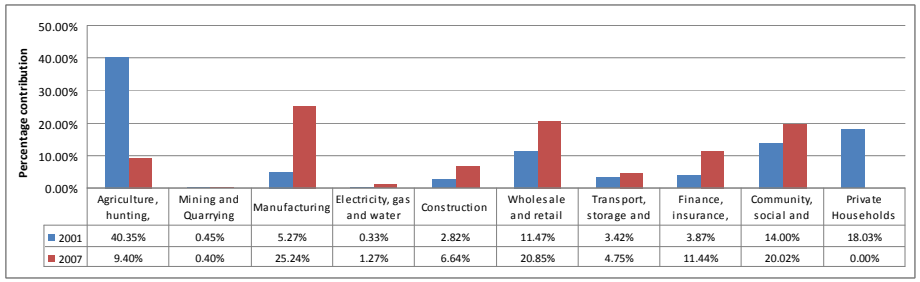
Graph 6.2.3.1 **Sector contributions to GVA for the Setsoto municipal area in 2001 and 2009** (Source: Adapted from data provided by Quantec Research, 2010)

Legend:

1 Agriculture, hunting, forestry and fishing
2 Mining and Quarrying
3 Manufacturing
4 Electricity, gas and water supply
5 Construction
6 Wholesale and retail
7 Transport, storage and communication
8 Finance, insurance, real estate and business services
9 Community, social and personal services
10 Government Services

6.2.4 SECTOR EMPLOYMENT CONTRIBUTIONS

- The increase in employment in the other sectors mirror their growth in GVA;
- The apparent extent of the large drop in agricultural employment requires further investigation.



	Agriculture, hunting,	Mining and Quarrying	Manufacturing	Electricity, gas and water	Construction	Wholesale and retail	Transport, storage and	Finance, insurance,	Community, social and	Private Households
2001	40.35%	0.45%	5.27%	0.33%	2.82%	11.47%	3.42%	3.87%	14.00%	18.03%
2007	9.40%	0.40%	25.24%	1.27%	6.64%	20.85%	4.75%	11.44%	20.02%	0.00%

Graph 6.2.4.1 **Sector contribution to Employment** (MPBS, 2012)

The above shows that the following sectors should be supported as they are important for either their contribution to the economy (GVA) or to creating jobs:

- Finance, Insurance, real estate and business (21,21% of GVA);
- Manufacturing (17,65% of GVA);
- Wholesale and Retail trade (13,07% of GVA); and
- Agriculture, hunting, forestry and fishing (11,83% of GVA)
- Manufacturing (25,2% of the jobs);
- Wholesale and retail 20,85% of the jobs); and
- Community, social and personal services (20,02% of the jobs).

The following sectors, that are showing the best growth, should also be supported:

- Manufacturing and wholesale and retail (from an employment perspective); and
- Manufacturing from a contribution to GVA perspective.

Agriculture, hunting, forestry and fishing reflected a substantial drop in the relative number of jobs it provided between 2001 and 2007, i.e. from 40,35% to 9,40% of all those persons that were employed.

The unemployment rate is 11.10% (MPBS, 2011)

6.2.5 BROAD SPATIAL CONCEPT

Figure 6.2.5.1 shows the broad Conceptual Spatial Development Framework for the Municipality.

The following are the main structuring elements:

- A system of bio-physical corridors and Endangered vegetation in the form of the Mesic Highveld Grassland which highlight strategic elements of the municipality – long term resources that need to be conserved as well as which could contribute to the municipality's economy and employment, especially tourism;

- A major road and transport corridor system that carries the main traffic flows and therefore business opportunities through the municipality. The main route is the N5 National Road that connects Winburg along the northern parts of the Municipality with Senekal. Along the eastern side of the Municipality the R26 performs a similar function and connects Ficksburg with Fouriesburg.

- Ficksburg as one of the main border posts to Lesotho.

- The watershed that drains the rivers either into the Sand River in the northern areas or the Caledon River in the southern areas.

The above three main structuring elements provide a framework in which other important land-uses are located. These land uses and precincts that include:

- The Willem Pretorius Nature Conservation and the Extensive Agriculture that is practiced around it;

- The creation of two distinctive bio-regions, namely 'Moetlamogale Uplands' and the 'Witteberg mountains;'

- The four main settlements, namely Senekal, Ficksburg, Clocolan and Marquard;

- Intensive maize and wheat farming throughout the Municipality; and

- A number of tourist destinations scattered throughout the municipality.

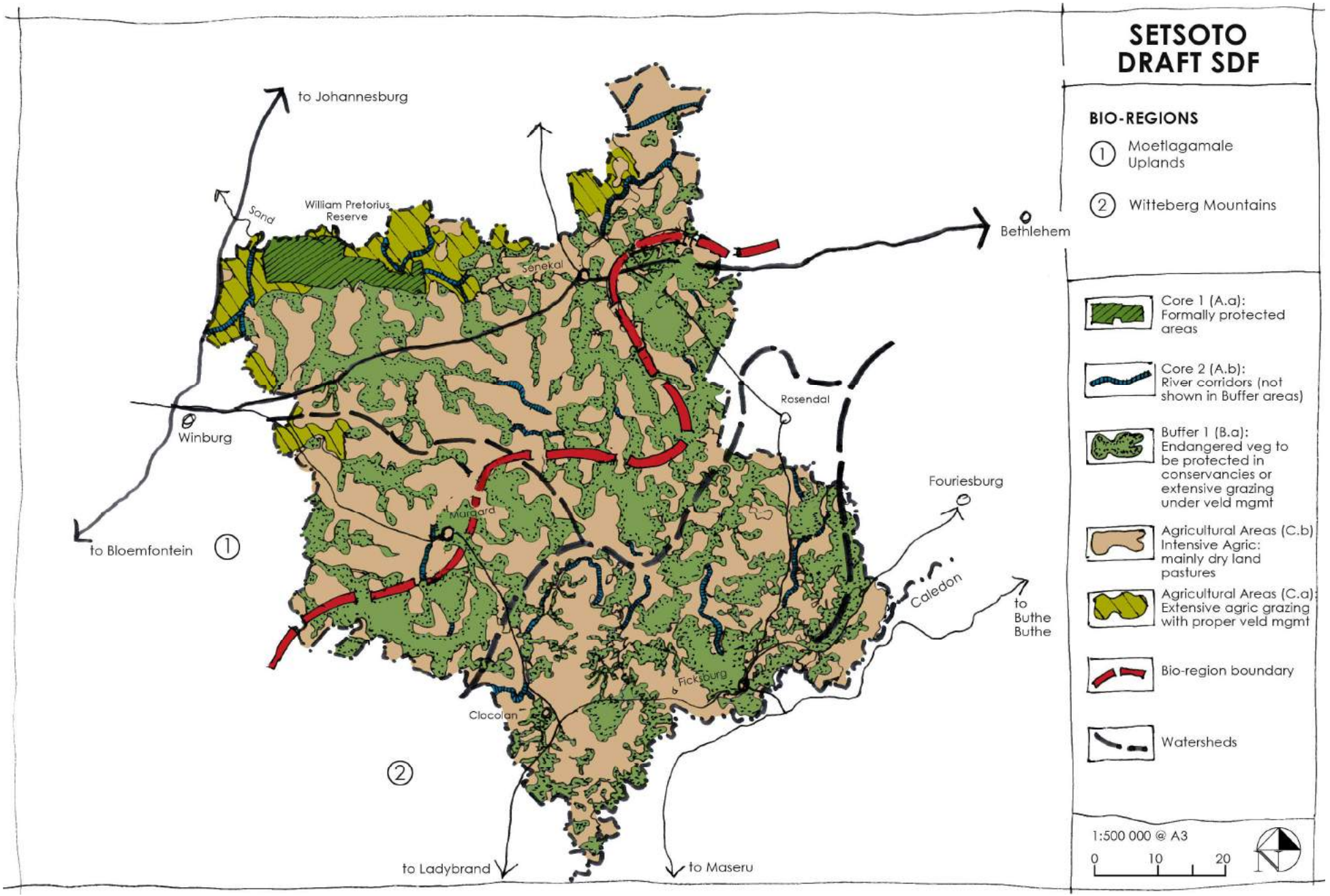


Figure 6.2.5.1 Setsoto Municipality: Initial Conceptual SDF proposal

6.3 MUNICIPAL SPATIAL DEVELOPMENT FRAMEWORK

Figure 6.3.1.1 indicates the spatial development framework for the municipality as a whole.

It comprises the following elements:

- Bio-regions;
- Spatial Planning Categories (SPCs);
- Settlements and Rural Service Centres; and,
- Settlement Hierarchy;
- Major Infrastructure Projects;
- Major Tourism Projects;
- Settlement level guidelines.

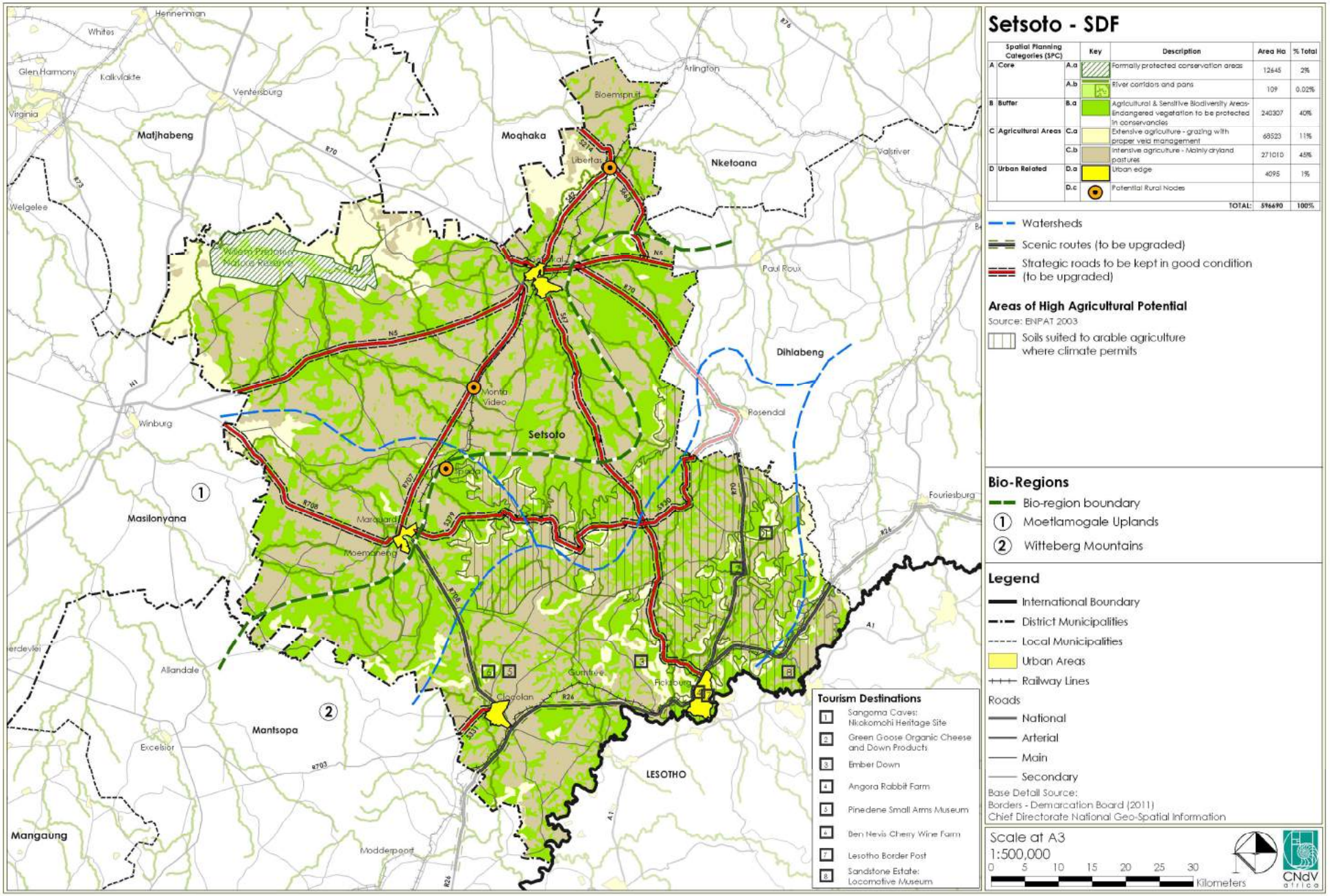


Figure 6.3.1.1 Setsoto Draft Municipal Spatial Development Framework

6.3.1 BIO-REGIONS

The Status Quo report Analysis and Synthesis identified two bio-regions that can be distinguished in terms of the natural environment and economy as shown in Table 6.3.1.1.

They are shown on Figure 6.3.1.2. The two bio- regions are:

- Moetlagamale Uplands; and
- Witteberg Mountains

Table 6.3.1.1 below shows the characteristics of the two bio-regions.

	Moetlagamale Uplands	Witteberg Mountains
Altitude (m)	1200 – 1 800	1 400 - 2 000
Population distribution	Senekal (27 000) Marquard (14 000) Rural (± 7000)	Ficksburg (40 000) Clocolan (18 000) Rural (± 7 500)
Agriculture GVA cont. in mun. R329 m Emp ± 11 500	Poorer soils for arable agriculture Senekal district is the largest centre for agriculture followed by Marquard Senekal and Marquard are the main maize producing areas Cattle farming on pastures is by far the predominant product followed by maize. The Sparta feed lot in Marquard slaughters 200 000 head p.a.	Better soils for arable agriculture with some land suitable for forestry on steeper slopes Cattle farming on pastures is by far the predominant product followed by maize. Irrigation farming occurs along the Caledon river near Ficksburg and Clocolan
Tertiary GVA cont. R1.6bn Emp	Less tourism and more agriculture orientated	Tourism orientated, some border services, agriculture finance and government
Renewable energy potential	Solar – high medium	Solar - low
Hydrology	Draining west to the Sand and the Allemanskraal dam and onto the Orange River	Water shed through centre of bio-region draining east to the Caledon River and west to the Sand and the Orange
Landscape character	Undulating plains becoming more hilly towards the east as they rise into the Witteberg foothills	Distinctive and characterful Witteberg mountains with profusion of distinctive sandstone cliffs and dramatic valleys opening to the Caledon river and the Maluti Mountains in Lesotho to the east. (Union buildings stone was quarried here)

Table 6.3.1.1 Sub-regions and characteristics

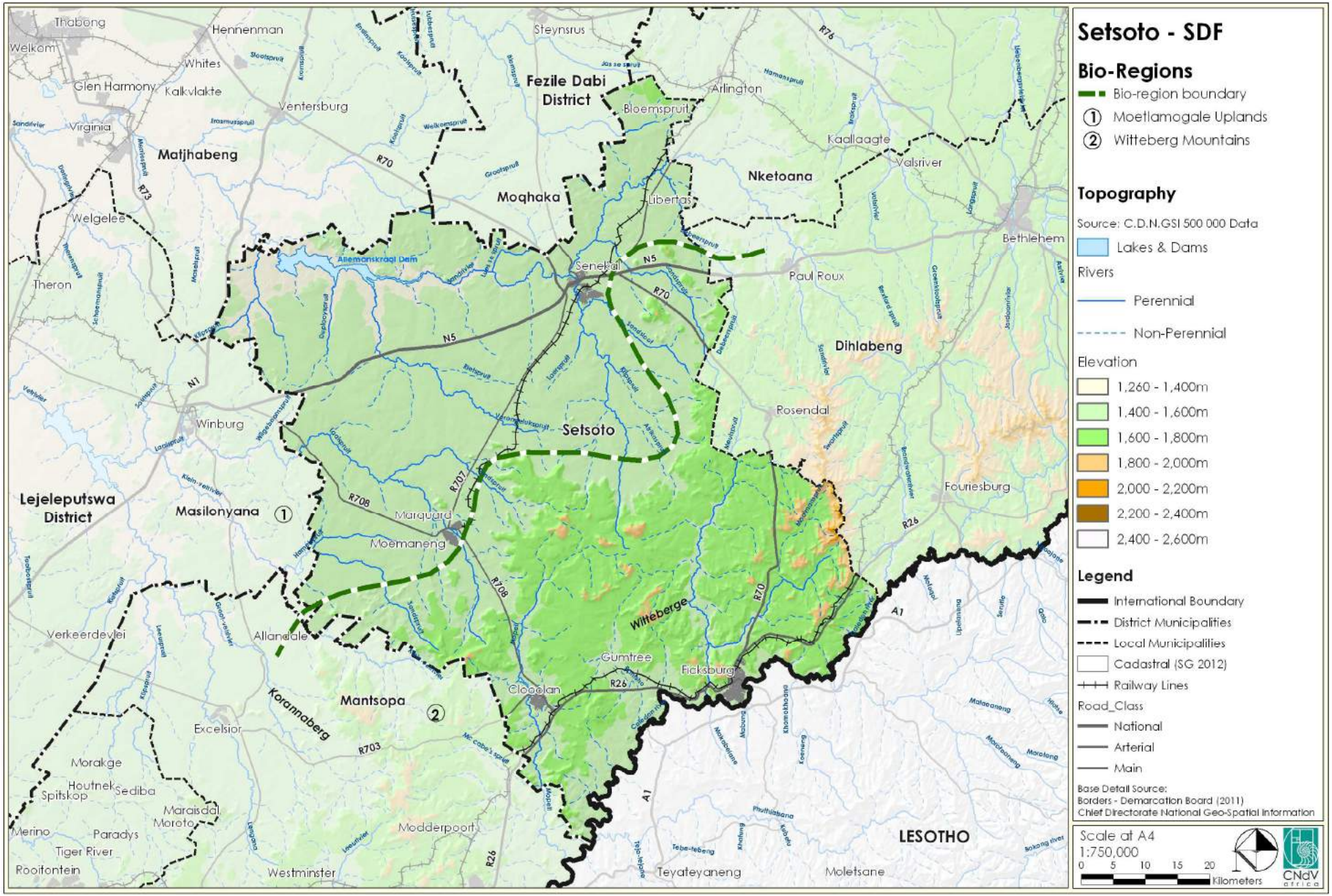


Figure 6.3.1.2 Setsoto Bio-regions

6.3.1.1 Moetlamogale Uplands

MU1 **Enforce the CORE 1 designation as a prime conservation area. This classification is the proposed designation of the Willem Pretorius Nature Reserve that includes the Allemanskraal dam along the north-western boundary of the Municipality. No urban development or consumptive activities should be permitted in this area.**

MU2 **Enforce CORE 2 River and Wetland corridors along the Sand River and its tributaries which include the Sandspruit, Verongelukspruit, Klipspruit and the Sandsloot. Prohibit urban development including all buildings and plowing within a minimum 32 metres of the banks unless an ecological set-back line or a 1:50 year floodline has been determined by the appropriate specialists.**

MU3 **Implement a multi-pronged water management strategy for water conservation, demand management, recycling and re-use which includes rainwater harvesting and the introduction of efficient and sustainable plumbing technologies in each building.**

MU4 **Promote the establishment of conservancies with tourism opportunities to protect significant remaining fragments of Mesic Highveld Grassland.**

MU5 **Promote proper veld management using rotational grazing methods, e.g. Savory or Acocks to improve bio-diversity and stock carrying capacity (www.savoryinstitute.com);**

MU6 **Discourage the conversion of agricultural land to urban uses.**

MU7 **Ensure that the main routes connecting the silos are at all times well serviced and tarred to support the movement of agricultural produce and people.**

MU8 **Implement urban design and landscaping upgrades of settlements' main streets and CBDs.**

6.3.1.2 Witteberg Mountains

WM1 **Enforce CORE 2 River and Wetland corridors along the Caledon River and its tributaries that include the Meulspruit, Mooimanspruit, and the Mopeli River. Prohibit urban development including all buildings and plowing within a minimum 32 metres of the banks unless an ecological set-back line or a 1:50 year floodline has been determined by the appropriate specialists.**

WM2 **Implement a multi-pronged water management strategy for water conservation, demand management, recycling and re-use which includes rainwater harvesting and the introduction of efficient and sustainable plumbing technologies in each building.**

WM3 **Promote the establishment of conservancies with tourism opportunities to protect significant remaining fragments of Mesic Highveld Grassland.**

WM4 **Discourage the conversion of agricultural land to urban uses. Note especially, and not exclusively, the soils of high and intermediate suitability for arable agriculture in the southern and south-eastern areas of the Municipality.**

WM5 **Ensure that the main routes especially those connecting the silos and the R26 are at all times well serviced and tarred to support the movement of agricultural produce and people.**

WM6 **Implement urban design and landscaping upgrades of settlements' main streets and CBDs.**

6.3.2 SPATIAL PLANNING CATEGORIES FOR LAND USE MANAGEMENT

The Spatial Planning Categories provide the basis for managing rural land uses. The general conditions guiding what activities may occur within each category are generally in accordance with those set out Figure 6.3.1.1.

6.3.2.1 Core 1 (A.a): Formally Protected Areas (Statutory Conservation Areas)

Core SPCs, comprising formally protected natural areas, include the Willem Pretorius Nature Reserve and the nature reserve around the Meulspruit dam above Ficksburg. This covers 2% of the municipal area.

6.3.3.2 Core 2 (A.b): Ecological/ River Corridors and Wetlands (0,02%)

A key aspect of the municipality's sustainability is the protection of its river systems and water bodies many of which are in a critically Endangered state as identified by SANBI. For this reason the municipality needs to limit bank side and development in the high catchments to the greatest extent possible.

In order to protect water quality careful management is required, including the alignment of a no ploughing or urban development set back line.

In the absence of a 1: 50 year floodline, a minimum 32m setback line is required from the banks of all river and water bodies unless otherwise delineated by hydraulic engineers (flood lines) and or ecological set back lines (fresh water ecologists)

The Allemanskraal dam, providing the reservoir for the Sand River irrigation scheme west of the municipality, is protected within the Willem Pretorius nature reserve. The Meulspruit dam, supplying Ficksburg's water is also protected by a nature reserve.

6.3.3.3 Buffer Areas (B): Agriculture and Sensitive Biodiversity Areas / Critical Biodiversity Areas (CBAs) outside of Core 1 Areas (40%)

These are areas where there is Endangered Vegetation, commonly called Sensitive Biodiversity Areas. In these areas the agriculture should be practice sensitively, not to negatively impact on the Sensitive Biodiversity Areas.

The Mesic Highveld grassland, which occupies most of the municipality and which largely coincides with the Intensive Agricultural areas used for maize, wheat and pastures, has been identified as Endangered by SANBI.

However, although fragmented at the municipal level but generally structured along river valleys this land comprises about 40% of the municipality or about 240 000 hectares.

Where this land is not under the plough or pastures it should be either:

- Encouraged to become a private conservancy or game farm of which there are already a number in the area; or
- Used for extensive agriculture (grazing) under strict veld management and rotational grazing methods that will improve bio-diversity as well as carrying capacity, see SPC Buffer 2 below.

Formally protecting these sensitive areas will require massive resources so it is intended that land owners be encouraged to protect them via stewardship agreements or private conservancies in return for rates rebates and the appropriate use of land for eco-tourism and other income generating ventures. Funds for alien vegetation removal which also have benefits in terms of improving water quality and quantity can also be mobilised.

When a property is proclaimed as a conservancy or stewardship area those portions to be used purely for conservation purposes should be proclaimed Core 1 (A.a) SPC and those portions containing accommodation or buildings should be classified as Agriculture 1 (Extensive Agriculture or C.a).

6.3.3.4 Agriculture Areas

Agriculture 1 (C.a): Extensive Agriculture (11%)

There are some parts of the low lying Sand river flood plan whose vegetation is not endangered vegetation but where responsible grazing management can create a double benefit in improving stock carrying capacity as well as improving biodiversity. These areas can also be used for game farming, tourism and hunting.

Agriculture 2 (C.b): Intensive Agriculture (45%)

Agriculture is currently the biggest employer in the district (approx. 11500 direct jobs), the largest contributor to the economy, and an important contributor to exports from the municipality.

This SPC comprises 271 500 hectares (45% of the municipality), with only 761 hectares under irrigation, mainly along the Caledon river. It should be protected to the greatest extent possible.

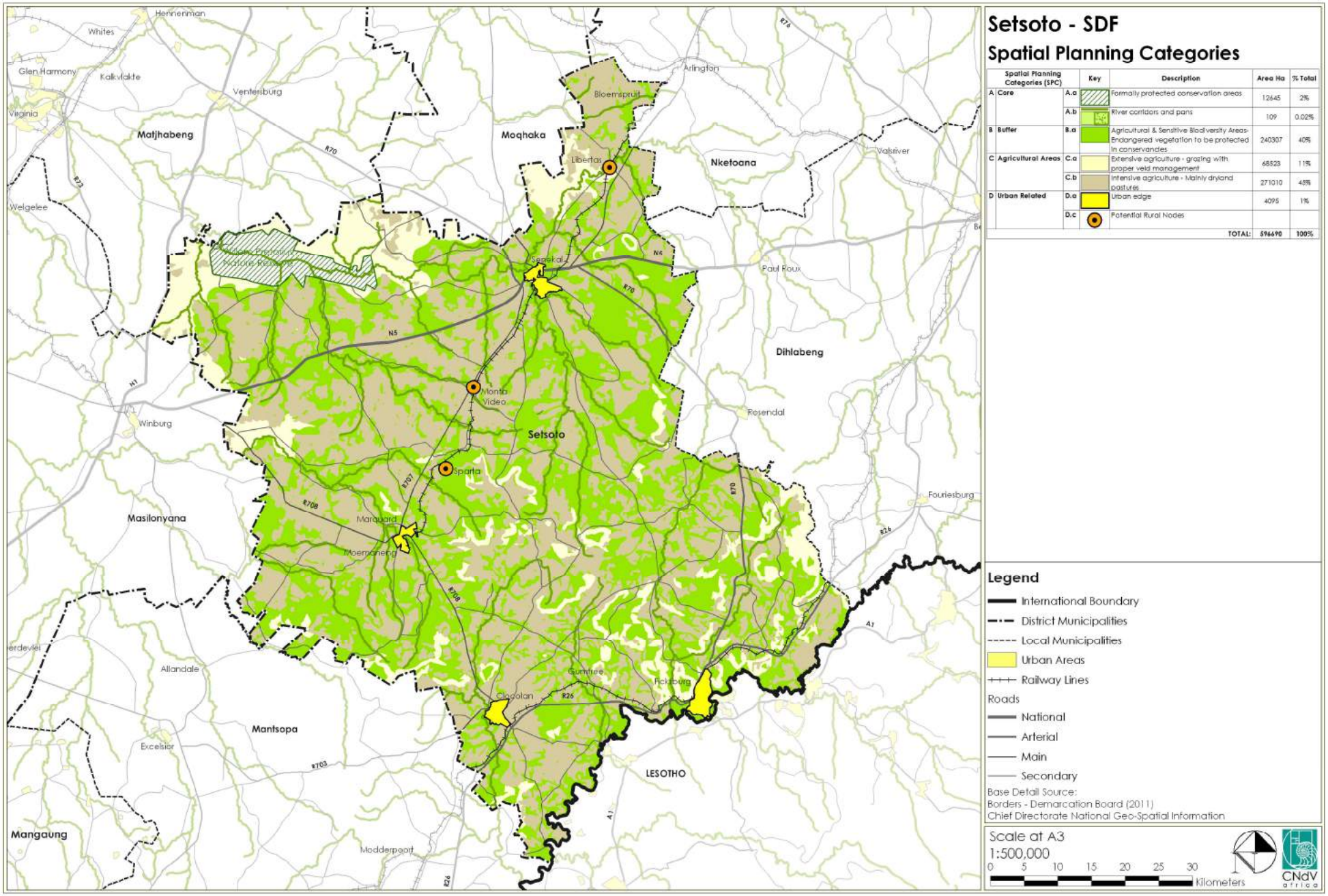


Figure 6.3.2.1 Spatial Planning Categories

SPC	Description	Policies	Responsibility
Core 1 (A.a)	Formally protected conservation areas	A.a.1 Formally protected areas to enjoy the highest levels of protection. A.a.2 Where possible and appropriate these areas should be extended by donation and acquisition. A.a.3 Only non-consumptive and extractive activities are permitted e.g. recreational, tourism, traditional ceremonies, research and educational A.a.4 Management plans should be drawn up for the protection areas.	Municipality, Dept of Nature Conservation
Core 2 (A.b)	River corridors and wetlands	A.b.1 River corridors and wetlands, including ephemeral pans, must be protected from urban, agricultural and mining activities to a distance of at least 32 metres from their banks unless closer setback lines have been determine, e.g. 1:50 year floodline by a geohydrologist and freshwater ecologist. A.b.2 Only agricultural practices should be permitted between this setback line and the 1:100 floodline. A.b.3 Any activity within the 1:50 year or 1:100 year floodline requires a permit form DWAF A.b.4 Mining and other activities that may cause permanent damage in wetlands should be discouraged.	Municipality, DWAF, Dept of Agriculture, SANBI
Buffer (B.a)	Controlled Agriculture in Endangered Vegetation	B.a.1 This is to permit existing agriculture such as stock and game farming that does not exceed carrying capacity in sensitive biodiversity areas (eg. CBAs). B.a.2 Conservation of Critical Biodiversity Areas and Endangered vegetation shall be encouraged through the promotion of conservancies and stewardship projects with limited eco-tourism development rights and/or donations to formal conservation agencies. B.a.3 When proclaimed those portions of a property to be used only for conservation and low impact (no buildings) tourism purposes shall be proclaimed as Core 1 SPCs with the balance remaining Buffer 1. B.a.4 Any development applications should show the sustainable desirability of the proposal and only ecologically sensitive developments should be permitted. B.a.5 Any new developments or changes should be subject to an EIA.	Dept. of Agriculture DWAF Dept of Nature Conservation Dept of Tourism SANBI DRDLR
Agriculture (C.a.)	Extensive agriculture / grazing and pasture farming	C.a.1 Rotational grazing and other veld management best practices shall be promoted so as to improve biodiversity and stocking rates. C.a.2 High potential agricultural land should be excluded from non-agricultural development. C.a.3 Any non-agricultural development permitted should be subject to appropriate environmental off-sets.	Municipality Dept of Agric
Agriculture (C.b.)	Irrigation and dry land crop farming	C.b.1 All existing and potential land suitable for intensive agriculture shall be protected from conversion to other uses including conservation. C.b.2 Agriculture water demand management must be practiced and intensive agriculture water supplies shall be protected and not diverted to other uses. C.b.3 Any non-agricultural development permitted should be subject to appropriate environmental off-sets.	Municipality Dept of Agric
Urban Related (D.a.)	All land used for urban purposes in towns, villages and hamlets.	See settlement level proposals. D.a.1 Urban development shall be promoted within urban settlements according to the settlement planning principles to promote integration and restructuring. D.a.2 As a general rule non-agricultural development should not be permitted outside of Urban Edges except for bona fide holiday/ tourism accommodation and agri-industry development, agri-settlements, and social facilities and infrastructure necessary for rural development shall be subject to appropriate conditions. D.a.3 Compaction of urban settlements and the development of all infill areas with due regard to heritage and environmental constraints should be appropriately exhausted before Urban Edges are extended. D.a.4 The proposed Urban Edges should be aligned to protect natural and agricultural resources and to promote more compact settlements	Municipality COGHSTA
Rural Nodes (D.c)	Potential Rural Nodes	D.c.1 Any new rural node should only be initiated after the completion of a detailed feasibility study covering, inter alia, social, agricultural, infrastructural and economic cost benefit analyses. D.c.2 New rural nodes/ agri-villages should only be developed to facilitate farmworker accommodation. D.c.3 Initially, depending on the density of the population, only off-grid services should be provided for low threshold rural nodes. D.c.4 Periodic Markets should be developed to provide needed government services to low threshold rural nodes.	Municipality DRDLR, COGHSTA Dept. of Agriculture

Table 6.3.2.1 Spatial Planning Categories

This land will also be an important resource in terms of food security in the long term, although Setsoto is fortunate in that, unlike many other municipalities, it has an abundance of this resource relative to its population.

The proposals of the SDF and that of the future Agricultural Master Plan should be aligned. In this regard the Agricultural Master Plan should incorporate the strategic spatial vision and associated policies and principles for the Municipality. Any future revision and / or updating of the SDF should incorporate the proposals of the future Agricultural Master Plan.

6.3.3.5 Urban Areas (D.a)

This includes the areas that are or will be used for urban related activities. All these areas should be included in a defined Urban Edge. Four urban areas are located in the Municipality. These urban areas include: Ficksburg, Clocolan, Marquard and Senekal.

6.3.3.6 Potential Rural Nodes (D.c)

This includes areas that have been identified for potential rural nodes. A formal cost-benefits analysis and impact study must be completed before these areas are developed as rural nodes. This analysis should include the lifespan costs / impacts of potential peripheral / rural developments to fully understand the impact of remote developments.

6.3.3 THE ECONOMY

Setsoto's economy rests on the twin pillars of tourism and agriculture and the necessary support sectors for these economic drivers such as manufacturing. At one level the municipality's relative isolation from large main centres means that there will be more demand for higher order services than would be the case if a large metropolitan area were nearby.

To improve and consolidate these roles the following needs to occur:

First, as mentioned previously the SPCs that protect agricultural resources must be strongly managed. This is likely to require an integrated approach from municipal officials and the Department of Agriculture

Secondly, roads must be upgraded, particularly those that link the border settlement corridor to the inland areas from Marquard and Rosendal.

As mentioned earlier, although far away from the municipality the road between Wepener and Smithfield should be tarred so as to provide another direct link onto the R26 corridor through Ficksburg and Clocolan;

Thirdly, the settlements need to be well managed with respect to crime, grime and urban quality. The appearance of heritage buildings and other building fronting onto important roads must be improved and promoted. These measures will help to ensure that the towns are as appealing as possible to visitors, potential new permanent residents and locals.

6.3.4 MAJOR INFRASTRUCTURE PROJECTS

These include the following:

- A raw water storage facility at Rosendal to feed the Meulspruit dam above Ficksburg. (This represents another reason why this settlement should be incorporated into Setsoto so that municipal infrastructure is under a single jurisdiction.)

- Development of boreholes at Matwabeng.

- Bucket systems still need to be eliminated in Ficksburg, Clocolan and Marquard.

- WWTWs still need to be completed in :

    - Senekal,
    - Ficksburg; and
    - Clocolan.

- Road upgrading to facilitate the movement of people and produce between:
    - Upgrade road between Clocolan and Marquard
    - Upgrade road between Rosendal and Ficksburg
    - Upgrade road between Rosendal and Senekal
    - R70 - Senekal to Ficksburg (71km)
    - R70 - Senekal to Odendalsrus (106km)
    - R707 - Senekal to Marquard (43km)
    - R708 - Windburg to Clocolan (75km)
    - R26 - Ficksburg to Lesotho (5km)

- Upgrading of various roads in the settlements: Ficksburg, Senekal, Marquad and Clocolan.

- Installation of street lighting at:
    - Moemaneng;
    - Matwabeng;
    - Meqheleng; and
    - Hlohlolwane.

- Given the availability of funds and in an attempt to solely make schools more accessible, i.e. within walking distance, facilities could be required at:
    - Primary Schools: Motwabeng, Marquad and Meqheleng; and
    - Secondary Schools: Matwabeng, Meqheleng and Hlohlolwane.

- Given the availability of funds and in an attempt to solely make health facilities more accessible, i.e. within walking distance, facilities could be required at :
    - Motwabeg;
    - Hlohlolwane; and
    - Meqheleng.

The alignment of the water pipeline between Rosendal dam and Senekal has not been determined yet. This project is still in its planning stages. The municipality would need to give input in regard to the most appropriate alignment to ensure the maximum spinoffs for the residents in the community.

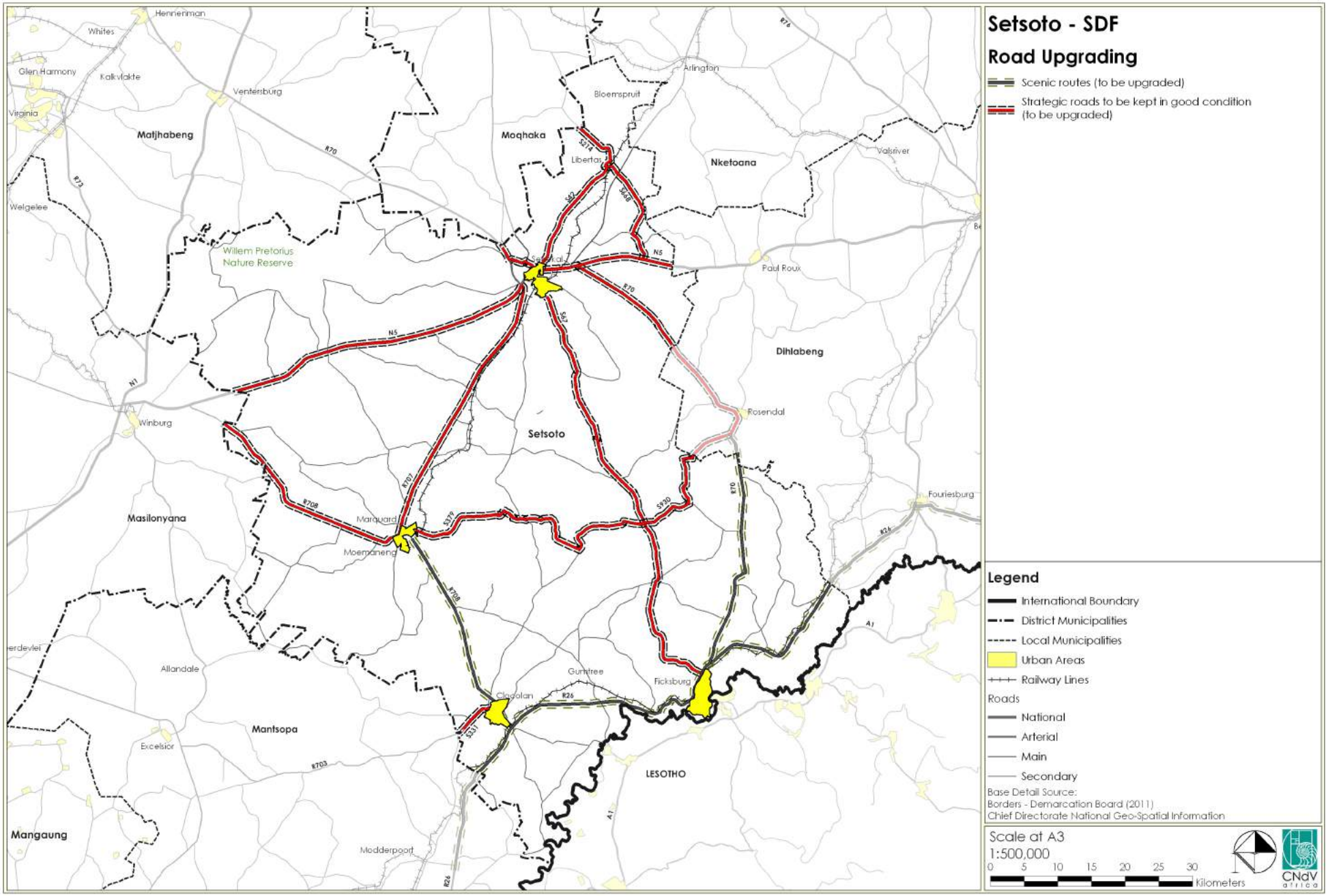


Figure 6.3.4.1 Major Transport Routes Requiring/Planned for upgrading

6.3.5 MAJOR TOURISM DESTINATIONS

The following main tourism destinations with major related attractions are identified, see Figure 6.3.5.1

- Sangoma caves;
- Green Goose Organic Cheese and Down Products
- Ember Downs
- Angora Rabbit Farm
- Pinedene Small Arms Museum
- Ben Nevis Cherry Wine Farm
- Lesotho Border Post; and
- Sandstone Estate: Locomotive Museum
- A number of game, guest and hunting farms are prevalent in the municipality.

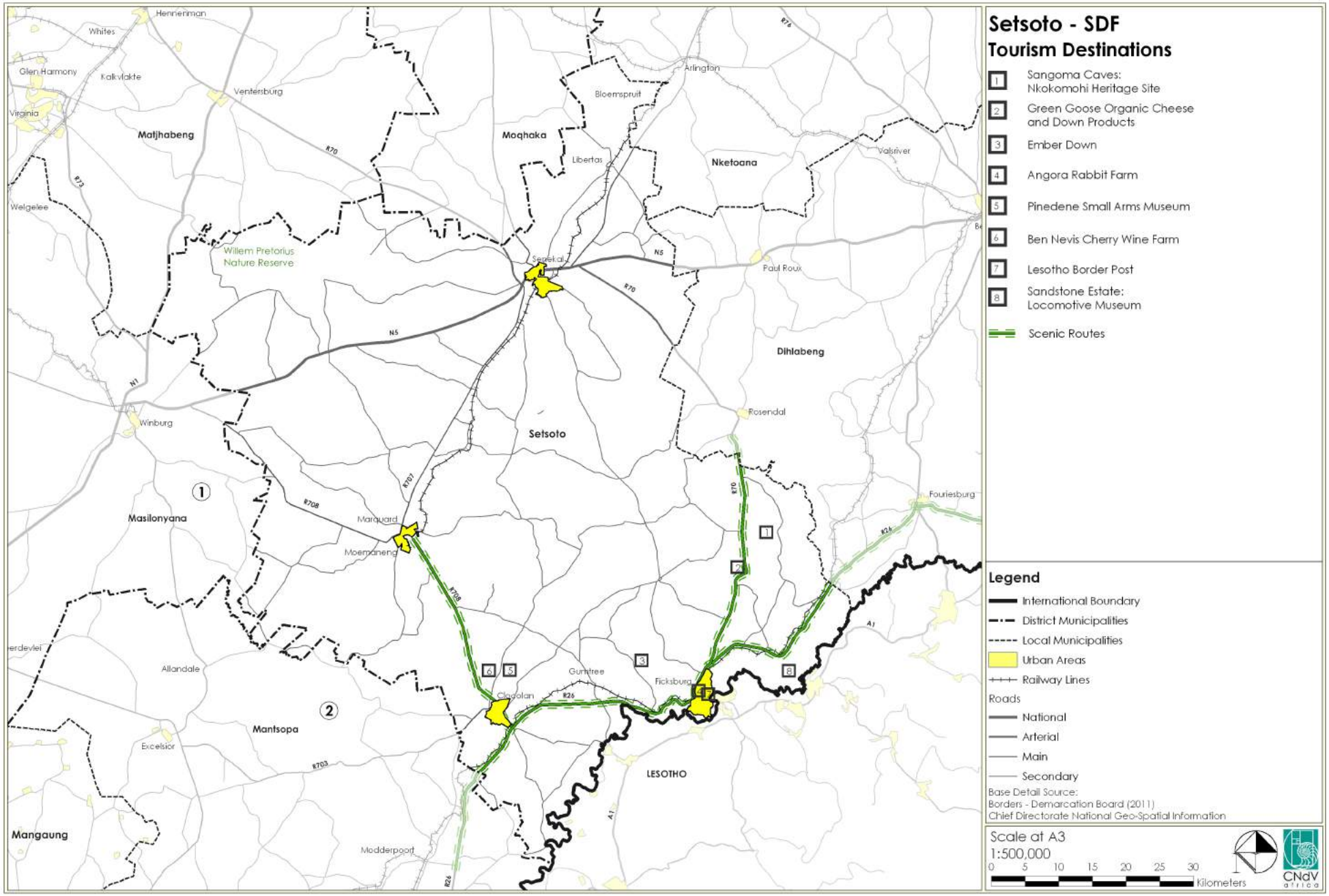


Figure 6.3.5.1 Approximate Location of Major Tourist Destinations

6.3.6 LAND REFORM

- **Land to be acquired or reserved for land reform activities or for proactive acquisition**

    - All land can be viewed as a target for proactive acquisition as there are many options for participation as well as different market sectors that the land could be used for. For example:
    - Large commercial farms – farm equity share arrangements;
    - Commonage extensions – outright purchase and inclusion into existing practices – note, only Ficksburg has significant commonage;
    - Land can be used for tourism, conservation and agricultural purpose often overlapping. Riemvasmaak and Leliefontein in the Northern Cape Province are examples where extensive and intensive farming as well as tourism activities occur on the same properties

- **All land in rural areas outside the Urban Edges of settlements should be subject to the Land Reform Program target, not just "agricultural" land.**

    Reasons
    It is difficult to precisely identify bona fide agricultural land. For example:
    - Is land defined agricultural so defined if farming is the sole, or majority source of income?
    - Is hobby farming considered agricultural or not?
    - What is the situation if a large piece of agricultural land is converted to a private nature reserve and used for conservation and tourism. Is it no longer agricultural and therefore exempt from land reform? Would this be equitable to those land owners still farming as a primary economic activity?

    Clearly, the definition of agriculture is problematic and too widely open to interpretation, nor is it considered still relevant in today's mixed rural economy which includes hobby farming, tourism and conservation, as well as bona fide agriculture. The rural economy is much more diverse than it was when black people were excluded from the land during the late 19th and early 20th centuries.

    It is suggested that the real issue was not so much dispossession of the land but the removal from the economic opportunities that its ownership and access represented.

    Therefore, it is suggested that the prime issue is restoring and enabling access to the rural economy in whatever form it now finds itself. Land ownerships' role as a means to achieving that goal.

For these reasons it is proposed that land reform should apply to ALL rural land outside of urban settlements.

6.4 URBAN RELATED DEVELOPMENT

6.4.1 SETTLEMENT GUIDELINES

6.4.1.1 Corridors and Linkages

The municipality's population is too sparse and the settlements too far apart to warrant a municipal level system of this nature. These elements will rather be used at the settlement scale to promote restructuring of the towns

Proposing a linked framework of nodes and corridors across the municipality is problematic because of the separation caused by the Witteberg Mountains and the link between Senekal and Ficksburg passes outside the municipality through the adjacent Dihlabeng local municipality.

Therefore, it is proposed that these elements are applied at the level of the settlements only.
Senekal is on the N1/N5 route between Bloemfontein and Natal that cuts through the north western quadrant of the municipality.

Ficksburg and Clocolan are on the R26 regional route which operates more as a scenic tourism corridor along the western Lesotho border between Harrismith on the N5 and Rouxville on the N6 to East London. If the R701 between Wepener and Smithfield was upgraded there would be a direct scenic tarred road route all the way from the N1 at the Gariep dam to Harrismith on the N3 to Durban that could offer an alternative to traffic passing along the N2 between Cape Town and Durban. This traffic would travel through Clocolan and Ficksburg.

The regional road system is in poor repair on some sections particularly the road between Marquard and Clocolan, and Rosendal (outside of the municipality) and Ficksburg.

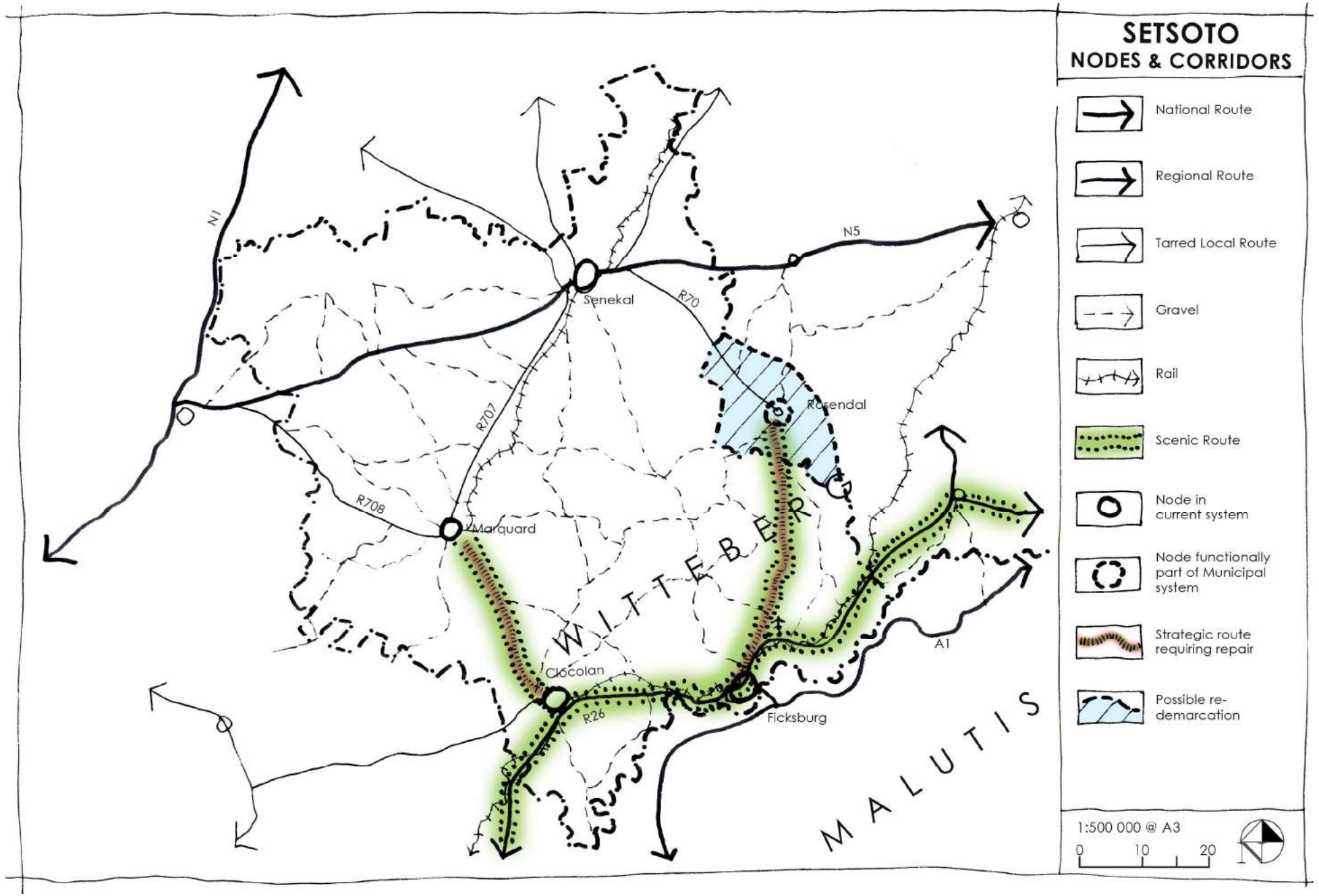


Figure 6.4.1.1 Setsoto Draft Municipal Spatial Development Framework: Nodes and Corridors

An Intensification Corridor is intended to promote a mutually supportive increase in residential (mixed income) and economic (mixed use) activity straddling the major routes of a settlement to:

- Contribute to its environmental quality by increasing levels of human activity, and provide opportunities for new and contemporary development while at the same time respecting and conserving a settlement's heritage, even if only for its tourist appeal;
- Increase its economic and employment opportunities within convenient access of residents
- Make efficient use of expensive existing infrastructure, roads, pipe and cape networks; and
- Increase contributions to the Municipal revenues through increased rates and service consumption charges.

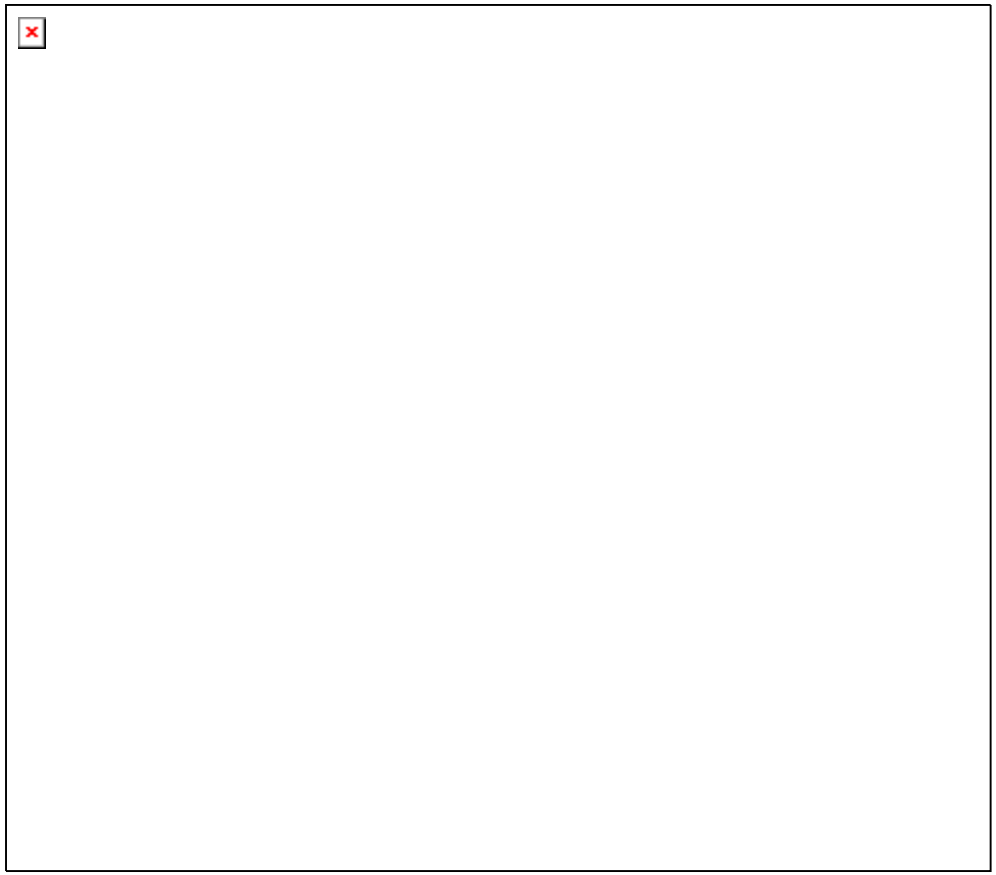
When promoting an Intensification Corridor it will be necessary to bear in mind the possible need to address ceilings in transport and civil service capacities.

The following are important ingredients for the Intensification Corridors:

- Higher density and greater height closer to spine road of Intensification Corridor;
- Provide development control clarity;
- High quality urban environment;
- High quality pedestrian environment;
- Maximise economic opportunities by allowing for markets and other opportunities to provide access to small and informal businesses from well located space;
- Redevelopment to higher densities; and
- Subdivisions to provide higher densities.

Principles:

- **Sensitive infill and redevelopment of major arterial axis in clearly defined precincts;**
- **Corridors to concentrate activities and support its speedy initiation especially in more rural areas, should be delineated to include one erf on either side of the identified street, otherwise called the spine of the corridor;**
- **Sensitivity towards existing heritage buildings;**
- **Enhancing the street experience through landscaping and guiding the architecture of new developments;**
- **Encourage a multiple level of entry into the economic market and enhance job creation, the intensification corridors should be limited to residential, office and retail uses and only compatible light industrial uses, e.g. non-nuisance manufacturing or craft activities that may require a retail outlet on the same premises.**
- **Define a single uniting structure of nodes and linkages between town and township; and,**
- **Encourage supporting densification pattern and infrastructure provision.**



Before Development

After Development

Figure 6.4.1.2 Intensification Corridors

6.4.1.2 Nodes

This will be shown at town level.

Three levels of hierarchy of urban nodes containing business and community facilities shall be clustered together as far as possible to provide satisfactory access and clustering of activities:

- Tertiary: technikons, hospitals, courts, multi-purpose centres, regional or metropolitan transport interchanges, museums, art galleries, indoor sports complexes, regional shopping centres;

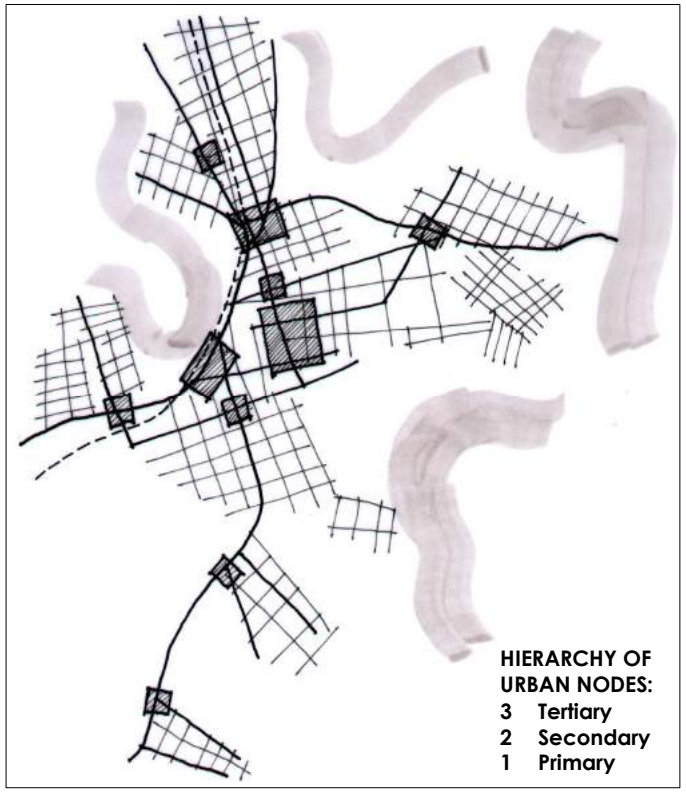
- Secondary: high schools, day care centres, hospitals, libraries, sports and community halls, sportsfields; and

- Primary: primary schools, crèches, clinics, bus and mini-bus taxi stops

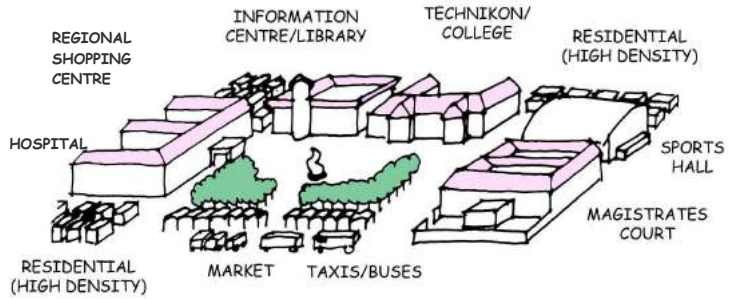
- Nodes should be managed to concentrate the business therein and where growth is required, the node should be encouraged to grow along the corridor towards each other. This is to manage and prioritise in a strategic manner, the implementation of needed infrastructure and to provide the greatest opportunity of success of these business.

Principles

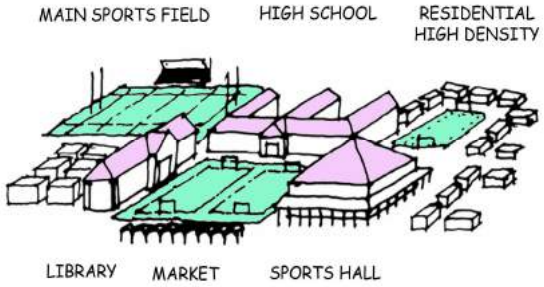
- ***Implement projects on a focused, strategic and hierarchical basis with the largest investments for higher order facilities that will be enjoyed by the greatest number of people.***



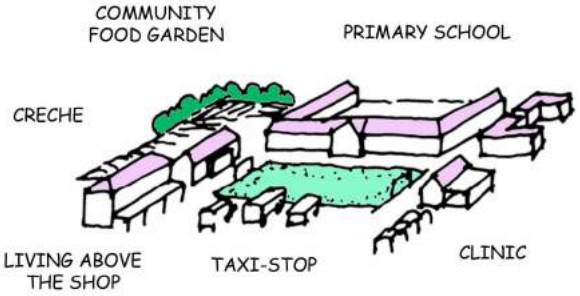
Clustering Civic, Commercial and Residential Activities



Tertiary Cluster of Facilities



Secondary Cluster of Facilities



Primary Cluster of Facilities

Figure 6.4.1.3 Sub-Centre Nodes

6.4.1.3 Land Use Integration and interface

The intensification areas are seen as the prime instruments for promoting integration between the towns and townships of the urban settlements.

Principles:

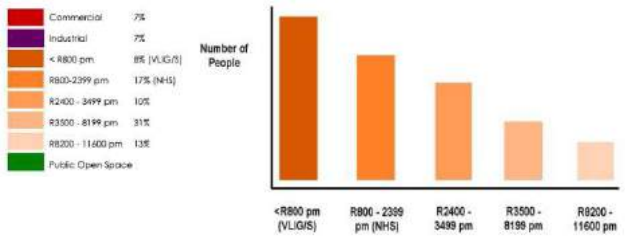
- **Locate activities (residential, transport, work, recreation, etc.) so that at least 50% of them are in walking distance**
- **Sensitively locate the income groups within the 1km radius : e.g. very low not right next to the very high income**
- **Locate most frequented activities in the most central / accessible localities, e.g. industrial and commercial.**
- **As a general rule Human Settlement schemes should not be targeted at a single income group exclusively, usually subsidy or Site and Service, but should always include at least a GAP housing and top structure subsidy component even if only comprising 10% or 20% of the units.**
- **The arrangement of the housing for the various income groups should be according to the principle of the socio-economic gradient with the higher end of the market closest to the main thoroughfare.**
- **Use all well located vacant land, i.e. within 1 to 2kms of urban centres; and,**
- **Locate all future residential areas within walking distance of urban centres where space permits.**
- **locate all future subsidy housing within walking distance of nodal centre where space permits;**

Interface principles:

- **The change between different schemes must happen along the midblock and not across the street;**
- **Residents must be given freehold tenure, i.e. title deeds immediately so that shack upgrading will commence as soon as possible; and**
- **The more formal the units the closer they should be to the main public thoroughfare or adjacent upmarket housing.**

•

Well-located BNG housing project in Langebaan surrounded by up-market housing



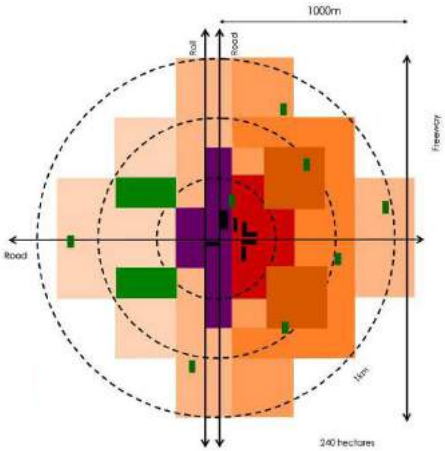


Figure 6.4.1.4 Socio-economic integration and Interface Treatment

6.4.1.4 Urban Edge

These should be reviewed to ensure that:

- Sufficient protection is given to land requiring protection, inter alia, the agricultural land currently under cultivation.

- That compaction rather than expansion of urban settlements is encouraged to promote non-motorised transport modes where appropriate.

- There should be little need for motorized transport for most trips in the settlements but due to their layout the following distances are experienced:
  - Ficksburg – Meqheleng (2 – 4kms)
  - Senekal – Matwabeng (2 – 4kms)
  - Marquard – Moemaneng (1.5 – 2 kms)
  - Clocolan – Hlohlowane (1 – 2.5kms)

  Note: convenient walking distance <1kms
  Note: convenient walking distance <1kms

- Furthermore, it should be noted that all of the low income settlements are located in one side or "slice" of the settlement only and their extensions all move outwards along this axis.

- Urban Edges which provide sufficient land for the development of the needs of the area for about 20 years, given the current growth rate, is proposed around the exiting urban footprint.

- It is proposed that these urban edge only be realigned based on actual need and once all the existing under or unutilized vacant land has been developed.

6.4.1.5 Infill, Densification and the Suburbs

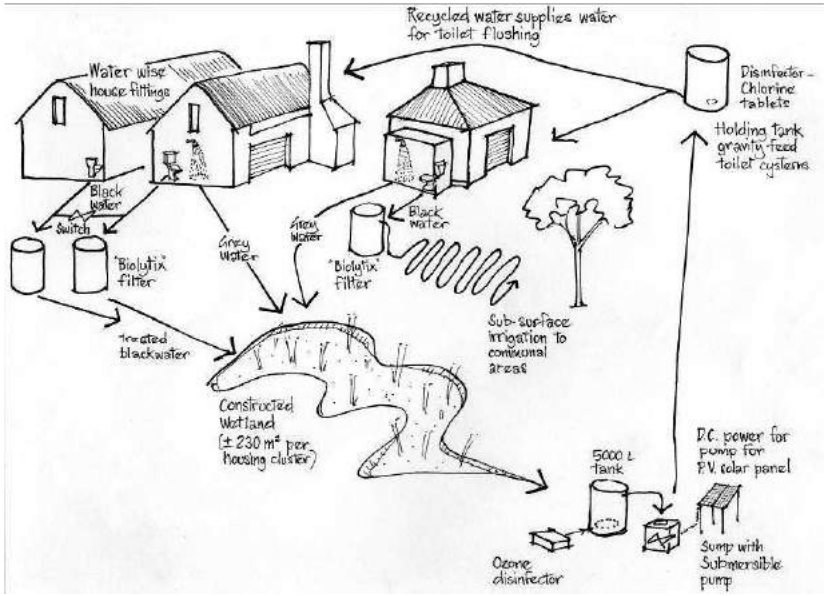
It is clear that significant infill and densification is required in order to restructure Setsoto's settlements. Fortunately, Senekal, Marquard and Clocolan already have well located vacant land to contribute to this. Ficksburg presents a greater challenge partly due to its topography.

Guidelines for the settlements will be given.

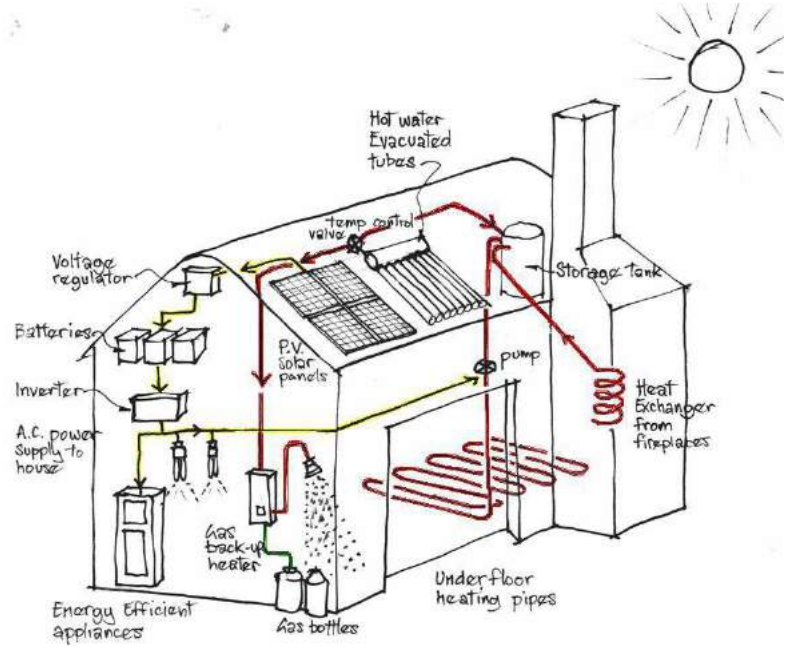
6.4.1.6 *Infrastructure*

The following principles shall apply:

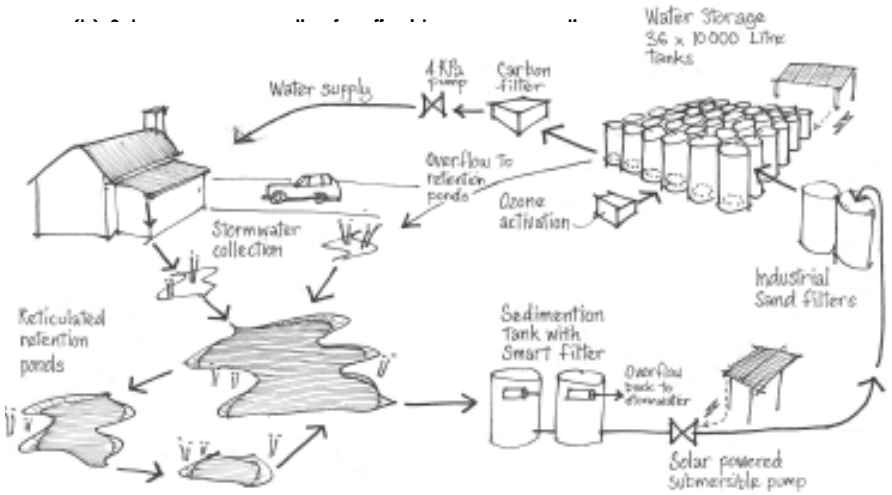
- Ensure a base level of services only is available for all residents in the Municipality including those households qualifying for indigent grants;
- Where possible implement GAP housing schemes as part of subsidy projects so as to help cross-subsidise required infrastructure projects;
- For low density settlements, where the high cost of conventional grid services are prohibited and not preferred and to promote sustainable use of natural resources reduce dependency on conventional grid services, the following are proposed:
  - Promote the use of solar hot water projects so as to reduce operating costs;
  - Promote use of solar of water heaters, PV panels, grey-water recycling, waste separation at source, and passive building design to as to minimize energy, solid waste and water demand, see Figures (a) and (b);
  - Encourage rainwater harvesting and grey water (water from hand basins and kitchen sinks) recycling, see Figure (c).



(a) Sanitation system based on sustainable principles



(b) Solar energy generation for off-grid energy generation



(c) Rainwater harvesting for sustainable use of water

Figure 6.4.1.6 Off-Grid Infrastructure Options

6.5 URBAN DESIGN GUIDELINES

UD1 Create open space systems that integrate the elements of a settlement to contribute to a meaningful urban structure. This can be done by:

- Providing connectivity between open spaces;
- Establishing linkages between open spaces;
- Aligning the open space system with public buildings; and
- Ensuring an improved quality of linkages through the continuation of special activities or functions along major routes.

UD2 Link symbolic elements (statues) or public facilities (library, clinic, etc.) to open spaces in relation to their importance and character.

UD3 Ensure the definition of the public spaces through the effective design of an interface between public and private domains.

UD4 Create visual recognition and surveillance along open spaces and public routes. This can be achieved through:

- Locating buildings around open spaces and streets so that sufficient enclosure is created;
- The appropriate height of buildings; and
- Locating the highest buildings to the southern side of the open space, with lower buildings or trees on the northern side.

UD5 Markets should be permitted at highly accessible locations in terms of the movement network and urban structure to ensure the greatest viability possible. These locations could be modal interchanges and intersections.

UD6 As a general rule the erection of shopping centres on the periphery of settlements should be discouraged. This should only be permitted if the intention is to initiate a new urban node at the specific location and the proposed shopping centre development is in line with the growth direction of the settlement.

UD7 Accommodate a variety of users in and uses along the streets by doing the following:

- Concentrate intensive activities along major vehicular and public-transport routes;
- Locate majority of public buildings and increase densities along these routes; and
- Locate the buildings close to the street to increase pedestrian activity, a sense of enclosure and surveillance.

UD8 Create appropriate road cross-section widths that can provide for vehicle traffic, parking, pedestrian movement, cycling and landscaping.

UD9 Urban block length should promote access (penetration) and encourage economic activity by orientating the short side of blocks to major streets wherever possible.

UD19 Space buildings from each other to provide adequate solar access to buildings. In this regard the roof pitch of buildings should be orientated so that roof solar panels have a maximum continuous direct access to the sun.

UD11 Any proposals for the redevelopment of existing buildings should consider their heritage value, elements of the vernacular architecture and, where possible, retain these important elements. Similarly, the historical characteristics of existing buildings should be considered to draw from them elements that could be integrated into the design and construction of new buildings close by.

UD12 The use of local materials should be encouraged in the construction of any new buildings.

UD13 Encourage appropriate water-wise landscaping.

UD14 Ensure that the main streets of the urban areas are appropriately landscaped to encourage a pleasant gateway treatment into the settlements.

6.6 PRINCIPLES FOR FACILITIES PLANNING

The following is a guideline, based on a settlement population, should be used for the location of various social amenities and services. The population for the settlements of the Municipality range from between 13 000 (Marquard) to 40 000 (Ficksburg). The information in the following section is sourced from (CSIR, 2012)

The following principles for the planning of facilities are applicable:

6.6.1 Community Health Care Clinic

Population threshold range	60 000 - 140 000 people
Access distance	90% of population served within 5 km*
Site size	1.5 ha minimum

*(*National Department of Health target)*

6.6.1.1 *Description*

Open 24 hours a day, 7 days a week, offering a broad range of primary health care services including observation beds, accident and emergency services, midwifery services, but not surgery under general anaesthesia.

6.6.1.2 *Minimum Requirements*

Space for an ARV Clinic has been included. Ratio of one Community Health Centre to eight Primary Health Clinics preferred.

6.6.2 Primary Health Care Clinic

POPULATION THRESHOLD RANGE	optimal 40 000 people (range 5 000 - 70 000 people, largely for those not privately insured)
ACCESS DISTANCE	90% of population served within 5 km*
SITE SIZE	0.5 ha (range 0.2 ha - 1.0 ha)

*(*National Department of Health target)*

Note: *Mobile and Satellite Clinics may be used when the demand is too low or too dispersed for a permanently stationed facility that operates for more than 32 hours per week.*

6.6.2.1 *Description*

An appropriately equipped permanent facility (government or private) at which a range of primary health care services are provided for at least 8 hours per day and 4 days per week.

Mobile and satellite clinics may supplement these static clinics in areas where the threshold is less than 5 000 people as a temporary measure but their space/land requirements are more flexible and are thus not dealt with here.

6.6.2.2 Public Clinic Prototypes

CLINIC TYPE	MINIMUM SITE SIZE (HA)	CATCHMENT POPULATION
Small to medium-sized clinic	0.2	5 000 – 20 000
Large clinic (with or without maternity)	0.5	30 000 – 50 000
Extra large clinic (with or without maternity)	1.0	60 000 – 70 000

(National Department of Health 2007)

6.6.2.3 *Threshold Issues*

Primary health clinics cater largely for the uninsured population (those without medical aid membership or health insurance), thus the socio-economic class of an area and its disease profile will impact on usage rates and demand. Those in the high income bracket or those who have medical insurance mainly make use of private doctors who deliver a similar service to that of a clinic.

In metro areas with high development densities mega-clinics serving a catchment area of 100 000 or more people may be required or may be suitable.

Sharing and clustering — recommended A primary health clinic may be clustered with:

- *a library;*
- *a primary school;*
- *a secondary school;*
- *tertiary education/trade schools;*
- *a community hall;*
- *an indoor sports hall;*
- *neighbourhood and district parks;*
- *urban agriculture;*
- *L1 hospital.*

6.6.3 Fire Station

POPULATION THRESHOLD RANGE	100 000 people (indicative only, overriding factor is reach and density)*
ACCESS DISTANCE	8 - 23 minutes response times. Response times and area risk classifications are major considerations for location of fire station (see details overleaf)
SITE SIZE	0.3 ha suburban station 1.2 ha regional headquarters

**In low-density areas the provision of fire-fighting equipment and personnel is often different to that of high density areas, for instance bakkie pumps and part-time volunteers rather than fixed fire stations may be provided, and the particular circumstances in a specific low-density area would determine service provision rather than fixed standards.*

6.6.3.1 Description

Structure or area for storing fire-fighting apparatus (vehicles and other equipment), and where fire-fighters are stationed. May include limited dormitory facilities and work areas such as meeting rooms, workshop, practical training areas, gymnasiums, etc.

6.6.3.2 Location Factors

Good access to major transport routes – without local traffic congestion to allow for rapid response, i.e. outside the core development area but still nearby. Requires proximity to utilities (power, water, waste reticulation, etc.). Possible co-location with other similar services.

6.6.3.3 Site Requirements

To be situated on flat land as far as possible or on land that requires minimal reconstructive work, e.g. backfilling, levelling.

Facility Sharing and Clustering – recommended. A fire station may be clustered with:

- *a cemetery;*
- *an L1 hospital;*
- *a police station.*

6.6.4 Police Station

POPULATION THRESHOLD	60 000 - 100 000 people
ACCESS DISTANCE	8 km urban/metro; 15 km peri-urban; 24 km rural and settlement type E; settlement types F, G and H subject to SAPS work study and requirements of the area
SITE SIZE	0.1 ha - 1 ha

6.6.4.1 Description

A building which accommodates police officers and other members of staff of SAPS or the Metro police. Often contains offices, temporary holding cells and interview rooms and may provide living quarters for personnel on-site.

6.6.4.2 Threshold Issues

To improve visible policing and response times, the provision of one station per 30 000 people is considered desirable by city planners. Current averages are approximately in line with 1:60 000 as proposed by Behrens and Watson (1996) and others.

6.6.4.3 Location Factors

Good access to community being served. Where areas are beyond 24 km a SAPS Contact Point may be established.

6.6.4.4 Density and Development Context

Threshold may be reduced in areas of high crime.

Facility Sharing and Clustering – Recommended a police station may be clustered with:

- *a cemetery;*
- *a fire station.*

6.6.5 Library

POPULATION THRESHOLD RANGES	Local: 5 000 - 70 000 people; Regional: 200 000 people; Regional (Reference): 450 000
ACCESS DISTANCE	Local: 8 km - 10 km; Regional:15 km; Regional (Reference): 50 km
SITE SIZE – EXAMPLES	0.05 ha (minimum 0.03 ha) Varies depending on facilities provided and if stand-alone building

6.6.5.1 Description

Public Libraries provide resources and services in a variety of media to meet the needs of the general public for education, information and personal development. They generally house fiction and non-fiction books for lending and reference purposes as well as having facilities such as study areas, meeting rooms, and may provide the public with access to computers and the internet.

Mobile libraries and container libraries may be used in areas of dispersed demand or to supplement existing services when required. Their space/land requirements are more flexible and are thus not dealt with here. Also, school libraries may be used as outreach points.

6.6.5.2 Threshold Issues

It is preferable that not more than 70 000 people should be served by a local-type library. Large regional libraries may have thresholds as high as 450 000 people and there would possibly be one or two per metro.

LIBRARY THRESHOLDS	SITE SIZE EXAMPLES
20 000	0.05 ha
40 000	0.1 ha
60 000	0.2 ha
100 000*	0.56 ha

**Libraries of a higher-order such as those housing large reference collections have a threshold of about 100 000 persons and would require 0.56 ha*

(UNESCO - Department Arts and Culture).

6.6.6 Thusong Centre

Population threshold	1 per Local Municipality (see below for other service centres)
Access distance	15 km; maximum 25 km
Site size	Varies depending on range of services offered and facilities provided (see overleaf for site size examples); Thusong – minimum floor area of 0.06 ha translates into site area of approximately 0.16 ha - 0.2 ha (PPDC 2008).

6.6.6.1 Description

Thusong Centres provide information and services to communities in an integrated way. They form a hub within communities at which a multitude of government services and other community services can be accessed. Key anchor services include departments of Home Affairs, of Labour and of Social Development and specifically SASSA Service Offices.

6.6.6.2 Threshold Issues and Service Hierarchy

Policy regarding Thusongs is currently under review. Expected that a range of centres will be defined for different types of settlements ranging from cities to small towns. Basic access times and service offerings are expected to remain the same. Largely anticipated that a range of staff capacities and building sizes will emerge. Should be linked to different access distances based on how remote the locations are.

6.6.6.3 Location Factors

Each centre is unique (depending on community needs) and may be located either in a single building or as part of a cluster of buildings. If facilities cannot be provided on one site they should be within a 1 km radius of each other.

It is recommended that pension and other welfare pay points are not provided in stand-alone facilities but are clustered within centres such as these and/or use existing public facilities such as post offices for security purposes. In less-densely populated, low density areas mobile pay points may need to be provided in accessible locations. It is of benefit to users if several services are provided on the same day at the stopping points of these mobile services.

6.7 SETTLEMENT HIERARCHY AND STRUCTURE

The settlement pattern in the municipality accords with Christaller's Central Place Theory where there are a number of services centres equidistant apart save for the influence of topography and greater or less land productivity.

The four settlements in the municipality form part of a larger settlement system across the eastern Free State with the main towns and villages between 30 and 40 kms apart.

The Witteberg mountains break up the linkages of this network and Ficksburg is only directly linked to Senekal via Rosendal in the neighbouring municipality. This link, plus the fact that topographically Rosendal is in a valley that links directly to Ficksburg, suggests that the boundary between Setsoto and Dihlabeng should be amended to incorporate this town and the linking route into Setsoto.

The size of the settlements also increases, or not, depending on their location on the regional route network. Thus, Senekal, on the main route between Natal and the Free State is larger than Marquard. Ficksburg, at a main border post with Lesotho and with greater tourism potential, is larger than Clocolan.

6.8 POTENTIAL RURAL NODES AND PERIODIC RURAL MARKETS

This approach could be applied at settlements with low threshold populations such as potential rural nodes at silo complexes to ensure that the necessary services can be provided, see Figure 6.8.1.

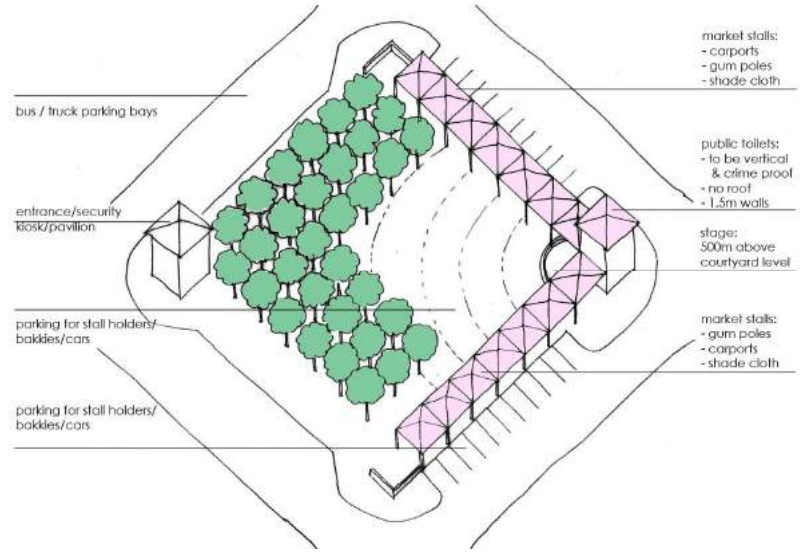
Where such facilities do not exist, periodic service centres shall be established for co-ordinated use by a wide variety of government, non-government and private organisations.

These periodic service centres should be located at points of highest access according to the same principles.

The services of various government departments and private sector organisations shall be co-ordinated into a mobile caravan of dedicated buses and vans which travels from periodic service centre to periodic service centre stopping for morning or afternoon sessions as appropriate.

Local arts and crafts people and business people should be encouraged to trade in the stop-over periods of the mobile service caravans at the periodic service centre.

It is proposed that the nodes be investigated and if it proves to be warranted, it be selected so that its location makes it suitable for it to be developed / upgraded, over time, into a formal urban settlement.



Periodic service concept

Periodic service activities

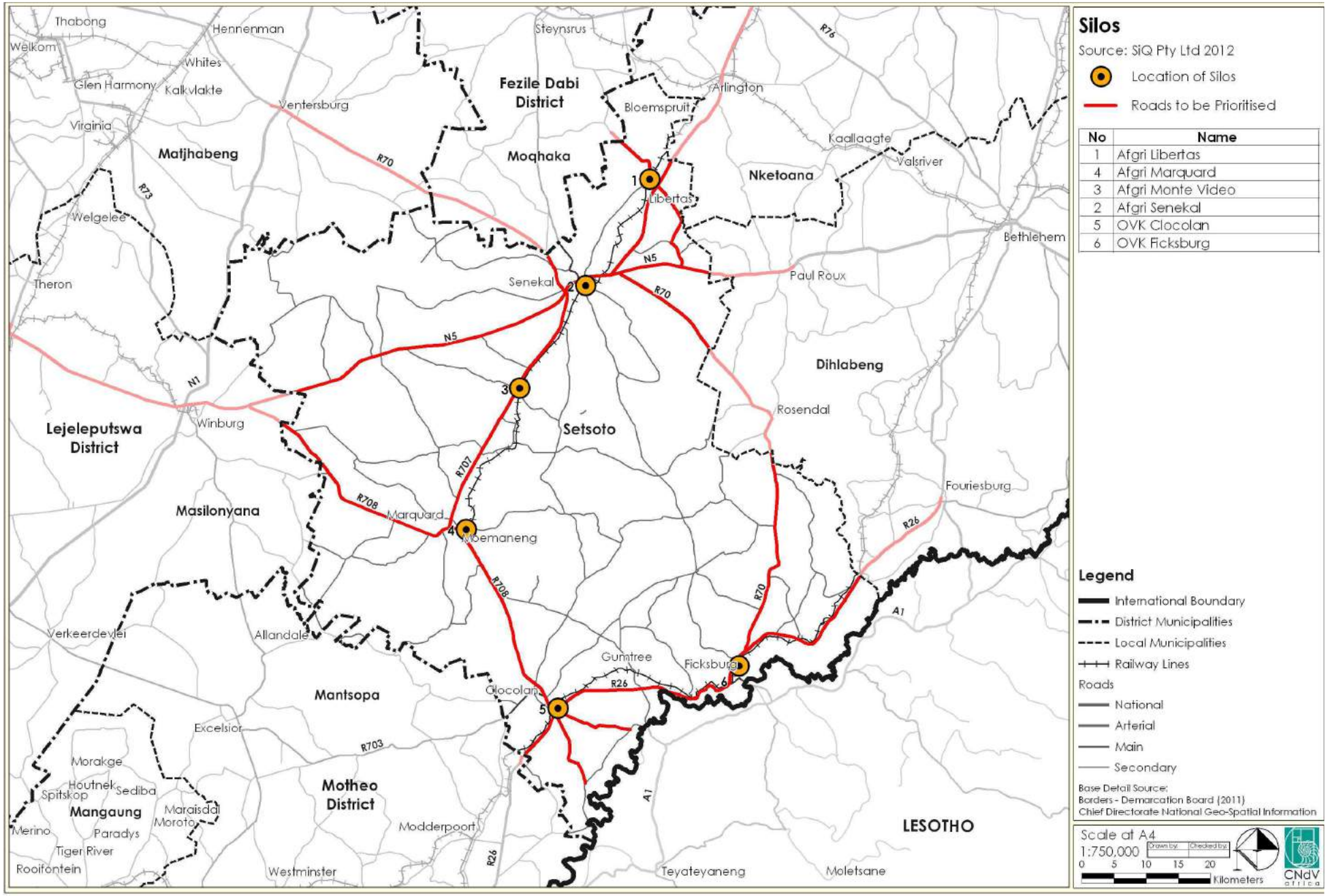


Figure 6.8.1 Silos – Potential Rural Nodes

6.9 FICKSBURG (± 40 000)

6.9.1 SPATIAL ANALYSIS, see Figure 6.9.1.1

Sub-regional location

- Strategically located at the Caledon River bridge between central Lesotho and South Africa;
- The Maputsoe industrial areas are located immediately across the river;
- On the R26 scenic route corridor parallel to the Lesotho border between Harrismith and Ladybrand;
- Tarring the road between Smithfield and Wepener to the south would create a continuous all weather scenic link road between the N1 at Colesberg and to Harrismith and Natal. Greater volumes of traffic through Clocolan and Ficksburg could then be expected. The R26 could be promoted similar to Route 62 in the Western Cape or Route 66 in the USA.
- There is also a rail line to Fouriesburg to the north on which it is proposed to start a private tourism rail service.

Layout pattern

- Ficksburg is laid out in a narrow northwards pointing wedge enclosed by sandstone mountain cliffs to the west and mountains and the Caledon River to the east.
- The town opens to the south on undulating hills on which Meqheleng is built as a low density residential suburb whose outermost extensions are between 3 and 4 kms from the CBD;
- The southern portions of Meqheleng lack water borne sewerage;
- The CBD of Ficksburg includes a number of large scale commercial buildings clustered to the north around Voortrekker, McCabe and Bloem streets;
- The urban quality of the town is being undermined by the appearance of some of the more recent buildings;
- It is interesting to note many examples of housing upgrades in Meqheleng that include local sandstone elements in their elevations indicating what a powerful impact this sense of place has on all residents;
- A secondary, rather disorderly node, has developed around the customs and immigration post at the Caledon River bridge.
- There is an approved commercial estate to the north of the town which has seen little development.
- There are a number of approved General Plan areas along the southern perimeter of Meqheleng which are also undeveloped.
- Although the immediate reasons for the lack of development on these extreme peripheries of the town may be due to the economic recession and shortages of development capital for the private and private sector, it would seem that future development should be aimed more at consolidating rather than extending the urban edge.

Challenges and potential

- Between Ficksburg and Meqheleng there is some vacant land which serves to separate the two areas but which could be developed to promote convenience and integration;
- Although the present entrances to Meqheleng lack definition the alignment of the existing road links are well located to promote the integration of the settlement into the larger road network and urban areas if appropriate development is guided here.
- Market gardening is evident along the banks of the Caledon River which could provide the basis for a vibrant food garden market network in the area.
- The geometrics of entrance roads to Ficksburg requires redesign to ensure that the safety of the road users.

House in Meqheleng: sandstone used in local architecture

Poor urban quality: residential road in Meqheleng

Example of vacant land in Ficksburg

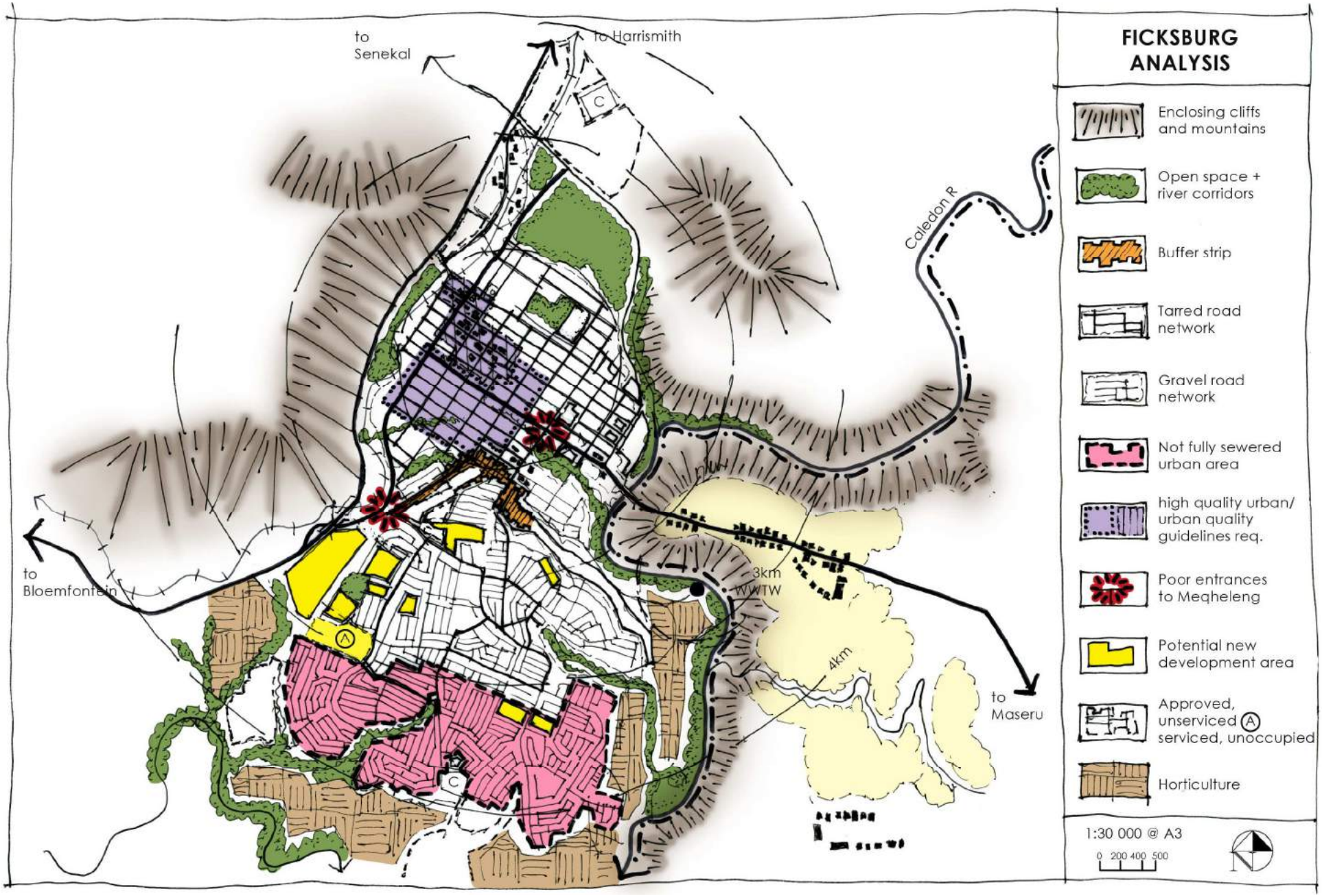


Figure 6.9.1.1 Ficksburg: Analysis

6.9.2 FICKSBURG: DRAFT SPATIAL DEVELOPMENT FRAMEWORK, see Figure 6.9.2.3

6.9.2.1 Core landscape areas

Notes:

- **The surrounding and internal river and watercourses systems and the golf course, and market gardening along fringes of Caledon river.**
- **Care must be taken regarding the landscaping and development of the gateway precincts on approach to the town.**

6.9.2.2 Urban Development

Notes:

a. New Development Areas

- **All new development should be directed to well-located sites that reinforce the proposed integration system of nodes and corridors;**
- **Development should not be encouraged on peripheral sites even if general plans have been approved.**
- **The need to develop peripheral sites should be held over until the next SDF review**

b. Addressing service delivery backlogs

- **Innovative approaches to waste water treatment including non-conventional green solutions, paving and storm water management using labour based methods where appropriate should be used in the relevant areas requiring upgrading**

6.9.2.3 Heritage Areas

Notes

- **The historic core of Ficksburg should be declared a heritage area and guidelines that promote landscape and building quality on old and new buildings should be promoted/enforced in this area**

6.9.2.4 Urban Restructuring

Notes

- **A system of nodes and corridors including:**
  - **McCabe street from the western gateway to the golf course bypass;**
  - **Hill road linking McCabe street to the golf course bypass**
  - **Voortrekker road including its extension through to the golf course bypass;**
  - **Bloem street from McCabe street to the Caledon River bridge;**
  - **The extension of van Soelen road into Meqheleng and;**
  - **The linking of McCabe street through Meqheleng along "Meqheleng high street";**

  is proposed to provide a continuous network of intensification corridors that integrate Ficksburg and Meqheleng as a single, continuous urban system
- **Nodes of different scales should be encouraged to form at strategic intersections ranging from new buildings to conversions and upgrades of existing buildings.**
- **The whole system of nodes and corridors should be properly treed and landscaped to promote pedestrians, cycling and animal traction.**
- **Nodes 1, 2 and 3 are proposed access nodes. Nodes 4 to 9 are proposed mixed use commercial nodes.**

Landscaping to be replicated on other side of the road

Building guidelines required to protect urban environment

Example of an informal market at a node

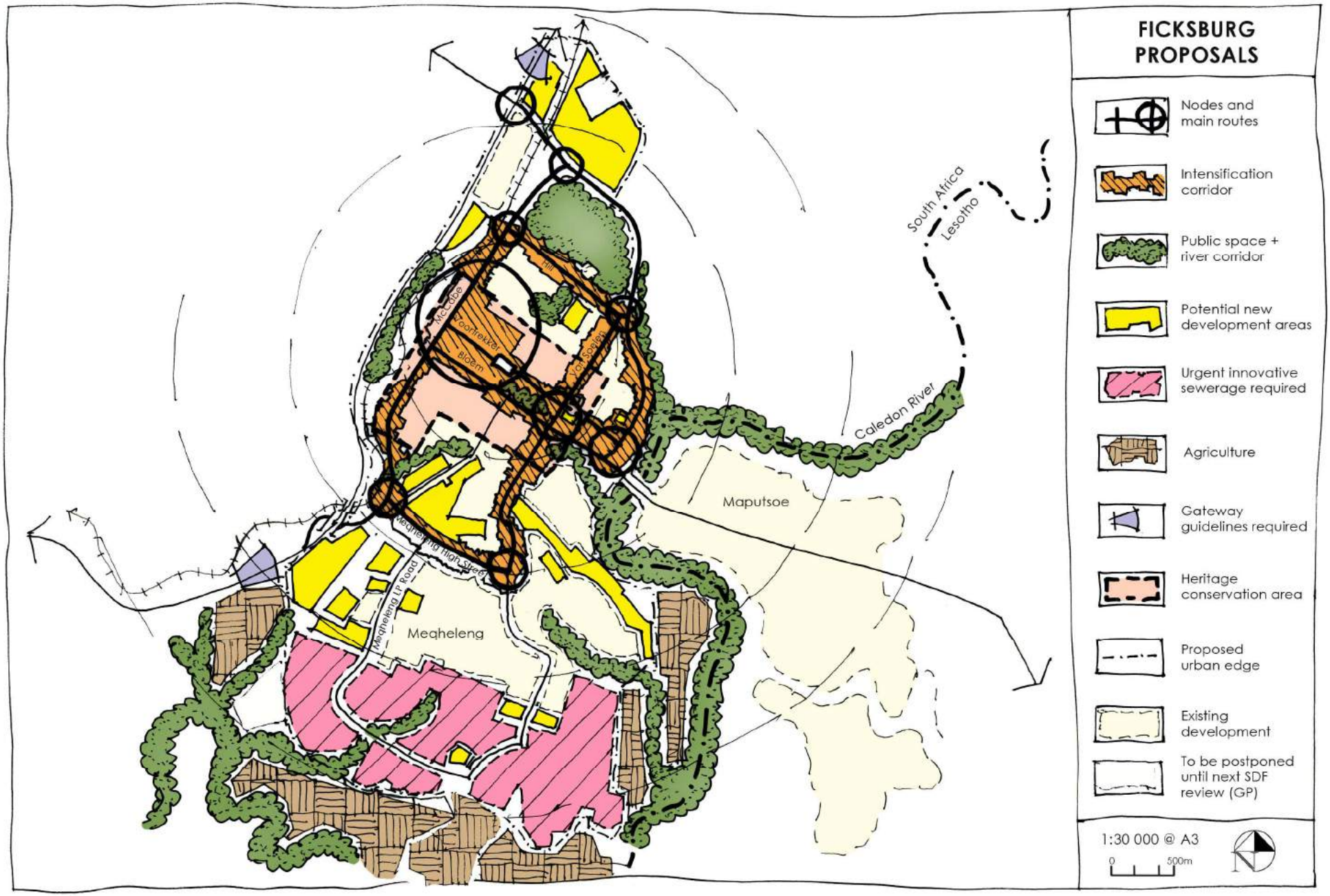


Figure 6.9.2.1 Ficksburg: Initial Draft SDF

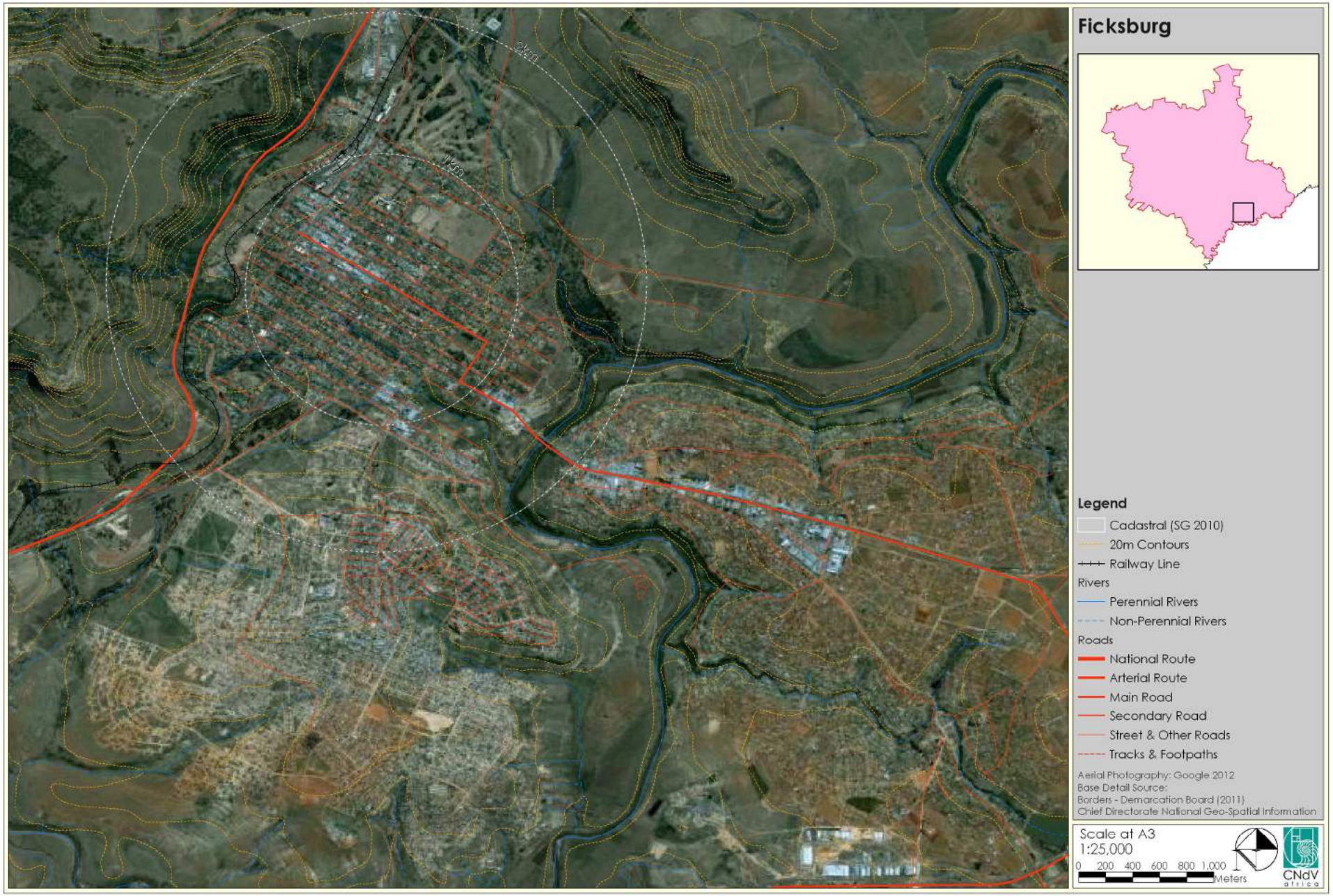


Figure 6.9.2.2 Ficksburg: Aerial photograph

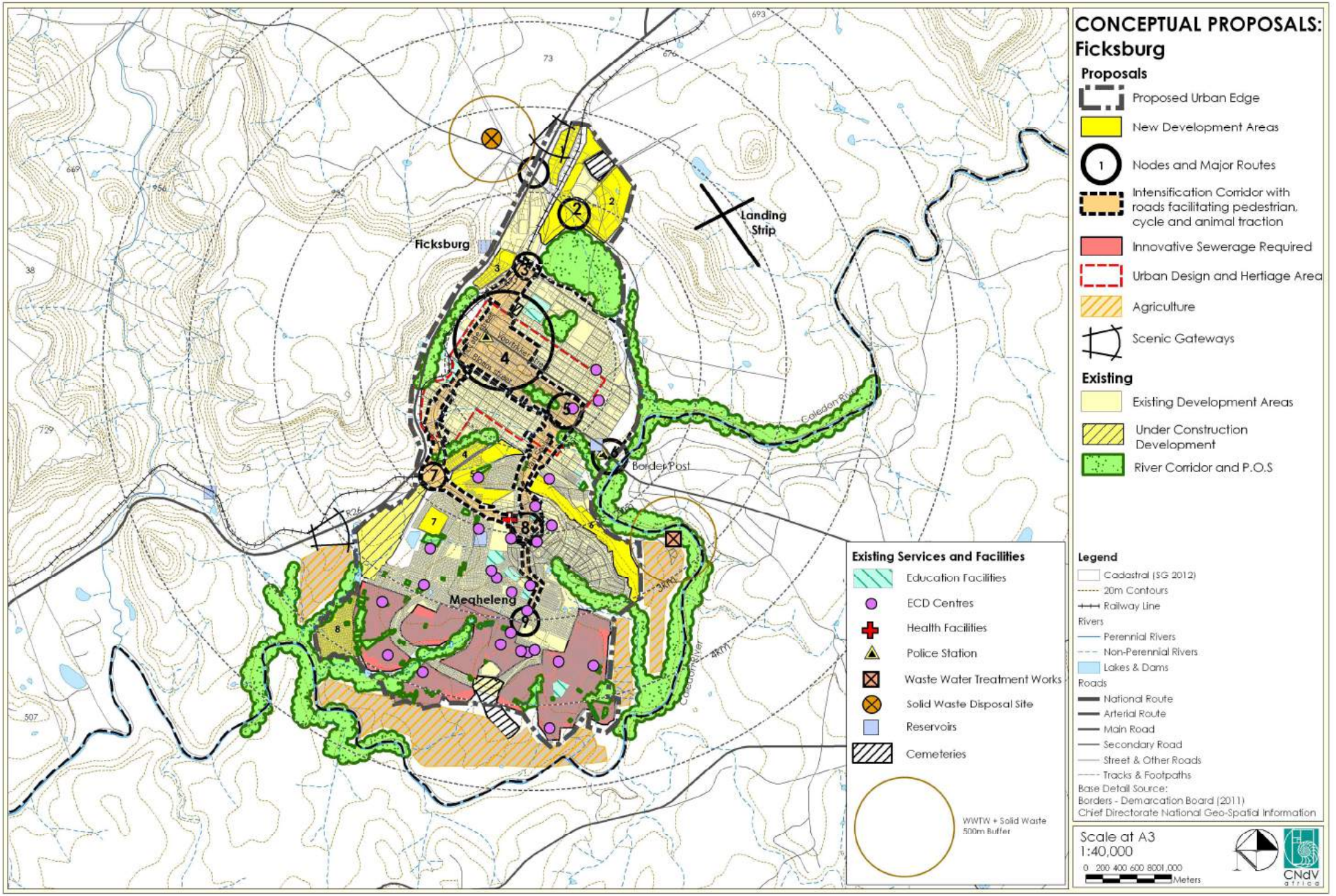


Figure 6.9.2.3 Ficksburg: Draft SDF

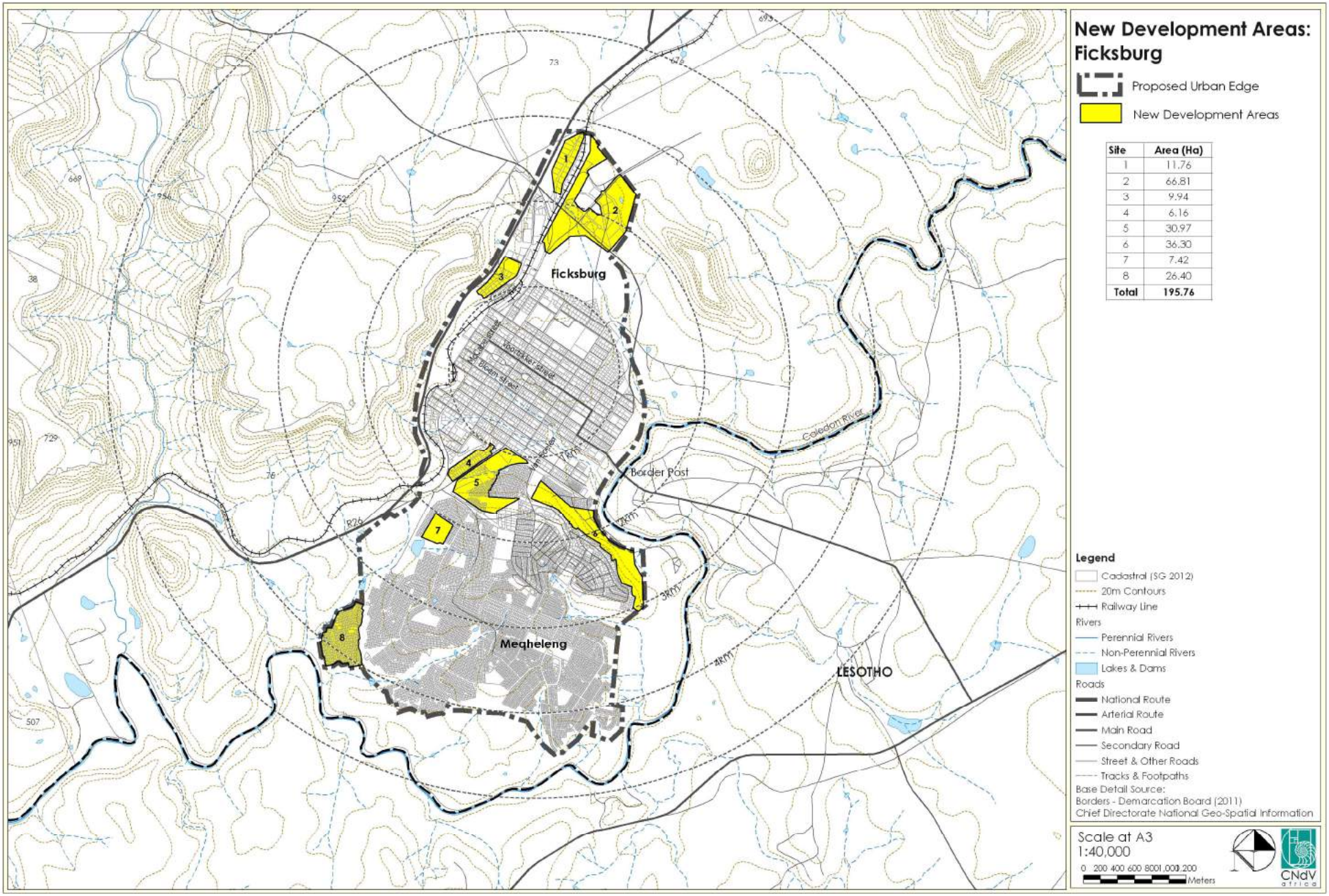


Figure 6.9.2.4 Ficksburg: New Development Areas

No	Area (ha)	Description	Ownership	Zoning	Possible Use	Comment	Priority
1	11,76ha	• Northern Site	Await inflo	Await inflo	• Industrial	• Development framework/ precinct plan required • Existing industrial area • Encourage development of the vacant industrial erven • Redesign existing layout Services required	3
2	66,81ha	• Industrial Area	Await inflo	Await inflo	• Industrial and residential along the golf course	• Development framework/ precinct plan required • Existing industrial area • Encourage development of the vacant industrial erven • Redesign existing layout • Services required	2
3	9,94ha	• West of Railway line	Await inflo	Await inflo	• Industrial	• Development framework/ precinct plan required • Existing industrial area • Encourage development of the vacant industrial erven • Redesign existing layout • Services available	2
4	6,16ha	• West of R26	Await inflo	Await inflo	High Income, GAP and Subsidy Housing	• Development framework/ precinct plan required • Encourage the redesign of the layouts to accommodate mixed income housing • Privately owned? • Redesign existing layout • Services available	1
5	30,97ha	• East of R26	Await inflo	Await inflo	• High Income, GAP and Subsidy Housing	• Development framework/ precinct plan required • Encourage the redesign of the layouts to accommodate mixed income housing • Privately owned? • Redesign existing layout • Services available	1
6	36,30ha	• Eastern Site	Await inflo	Await inflo	• High Income and GAP Housing	• Development framework/ precinct plan required • Encourage the redesign of the layouts to accommodate mixed income housing • Services would be required • Define appropriate setback from river floodline	2
7	7,42ha	• Southern Site	Await inflo	Await inflo	• Subsidy Housing	• Development framework/ precinct plan required • Services would be required	1
8	26.4ha	• Western extension of Meqheleng	Await inflo	Await inflo	• Subsidy housing	• Require services • Promote sprawl • Impacts on agriculture	3
TOTAL	**196.06**						

Table 6.9.2.1 Ficksburg New Development Areas

6.10 CLOCOLAN (± 18 000)

6.10.1 SPATIAL ANALYSIS, see Figure 6.10.1.1

Sub-regional location

- At junction of direct link, R708, between N1 at Winburg via Marquard and R26, Lesotho border scenic route;
- There is a gravel road to a minor Lesotho border post at Peka bridge;
- The R703 to Excelsior intersects with the R708 at Clocolan.
- The R708 between Marquard and Clocolan is currently in an extremely poor state of repair and this creates a considerable drag on the potential tourist and business traffic that could be using this road.

Layout pattern

- Clocolan comprises two very different components. The eastern component has a "voortrekker rydorp" plan with large blocks.
- Water was gravity led along the long streets to individual properties;
- Hlohlowane comprises a curvilinear street layout informed by motor car design principles although motor vehicle usage has always been very low;
- Although it appears that Hlohlowane abuts Clocolan there are a number of undeveloped blocks between the two which create a 200 metre wide buffer strip.
- There is no direct formal access to Hlohlowane off the R708. This is taken off either the R703 or Andries Pretorius street

Urban quality

- Clocolan is in danger of losing its quaint village urban quality that is appealing to tourists particularly along 1st street where there are new or insensitively renovated buildings or urban decay is setting in;
- The very powerful international branding of the service station at the entrance to the town is in danger of over powering the eastern Free State village sense of place;
- Hlohlowane comprises mainly various houses arising from government subsidy schemes over time plus new and renovated houses to a variety of styles. In places buildings acknowledge the local sandstone;
- The main roads in Clocolan and the key access routes in Hlohlowane are tar with the remainder all gravel.

Challenges and potential

- There is still time to turn around the urban decay that is starting to set into Clocalan's main street;
- Care must be taken that the strategic piece of land that could serve to both integrate Hlohlowane and Clocolan as well as expose potential SMME activities to passing trade along the R708 is sensitively developed to take full advantage of the opportunity to positively present the settlement. Development should not turn its back on this road. Rather a service road should be built so that development can face onto the R708 although not take direct access off it.

Appropriate landscaping next to Shell garage

Sandstone buildings in Clocolan

Need for urban renewal and urban design and landscaping guidelines

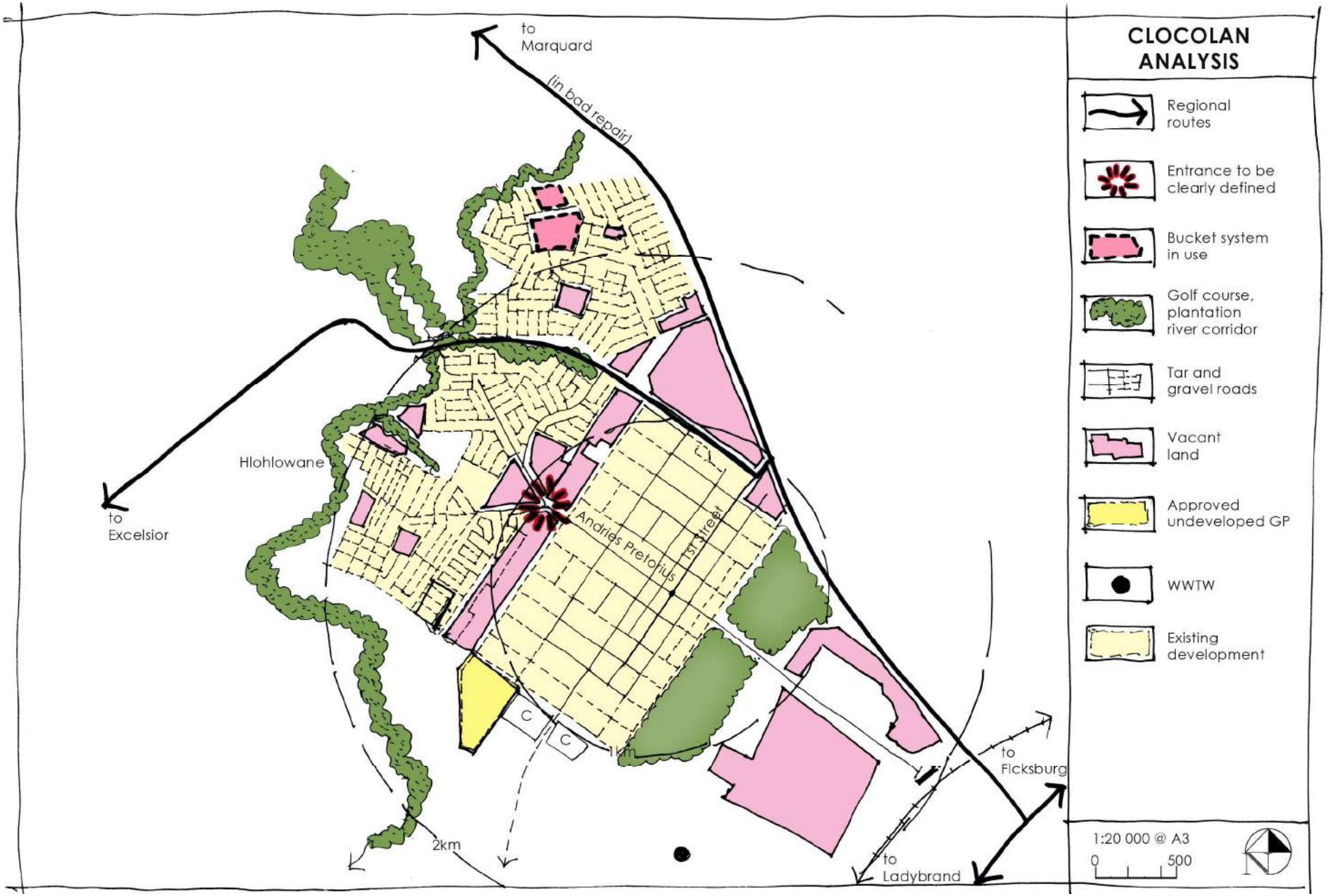


Figure 6.10.1.1 Clocolan: Analysis

6.10.2 CLOCOLAN: DRAFT SPATIAL DEVELOPMENT FRAMEWORK, see Figure 6.10.2.3

6.10.2.1 Core landscape areas

Notes: draft policies

- **The surrounding river and watercourses systems and the golf course and abutting plantation/arboretum;**
- **Care must be taken regarding the landscaping and development of the gateway precincts on approach to the town;**
- **Market gardening should be promoted on the commonage as an incubator phase in land reform programs;**

6.10.2.2 Urban Development

Notes:

- **All future housing projects, including BNG and GAP housing, should be located on vacant land that promotes the integration of the settlement;**
- **Mixed income projects should include mixed uses and should be laid out according to the principle of the Socio-economic Gradient so that property values are supported to the greatest extent possible;**
- **Development should not be encouraged on peripheral sites even if general plans have been approved.**
- **The need to develop peripheral sites on the edge of the settlement should be held over until the next SDF review.**
- **Innovative approaches to waste water treatment including non-conventional green solutions, paving and storm water management using labour based methods where appropriate should be used in the relevant areas requiring upgrading**

6.10.2.3 Urban Restructuring

Notes

- **A system of nodes and intensification corridors including:**
  - **Ist street to Andries Pretorius street**
  - **Andries Pretorius street to Hlohlowane high street with a new access point onto the R708;**
  - **A single sided service road parallel to the R708 between the Hlohlowane intersection and the 1st street intersection;**

  is proposed to provide a continuous network of intensification corridors that integrate Clocolan and Hlohlowane as a single, continuous urban system;
- **Nodes of different scales should be encouraged to form at strategic intersections ranging from new buildings to conversions and upgrades of existing buildings;**
- **The whole system of nodes and corridors should be properly treed and landscaped to promote pedestrians, cycling and animal traction.**
- **Nodes 1 and 2 are access nodes which could develop into commercial mixed use nodes when Proposed Development Area II is developed. Nodes 3 and 4 are proposed commercial nodes.**

Significant buildings requiring heritage guidance

Mixture of architectural styles

Art deco styled building in town

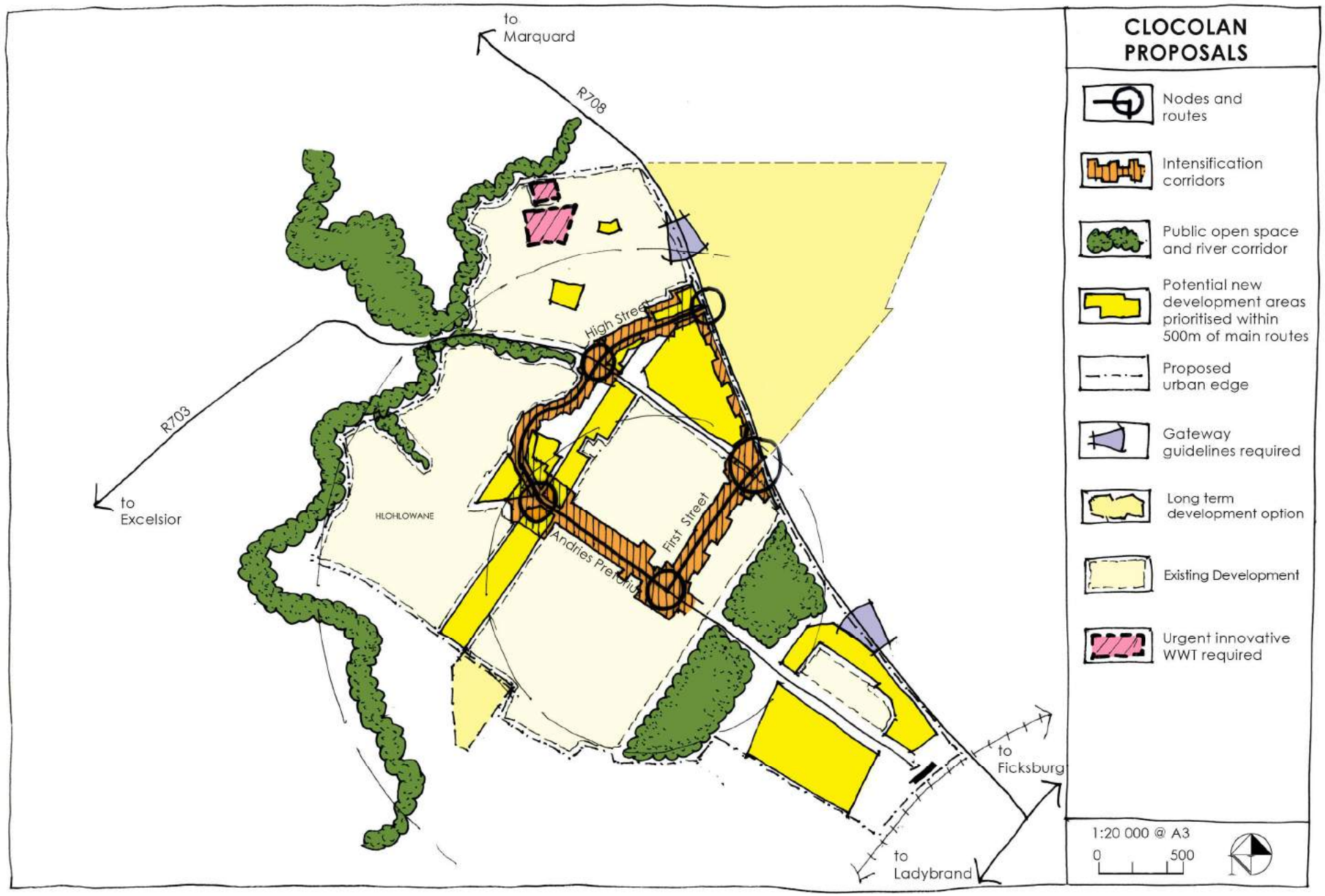


Figure 6.10.2.1 Clocolan: Initial Draft SDF

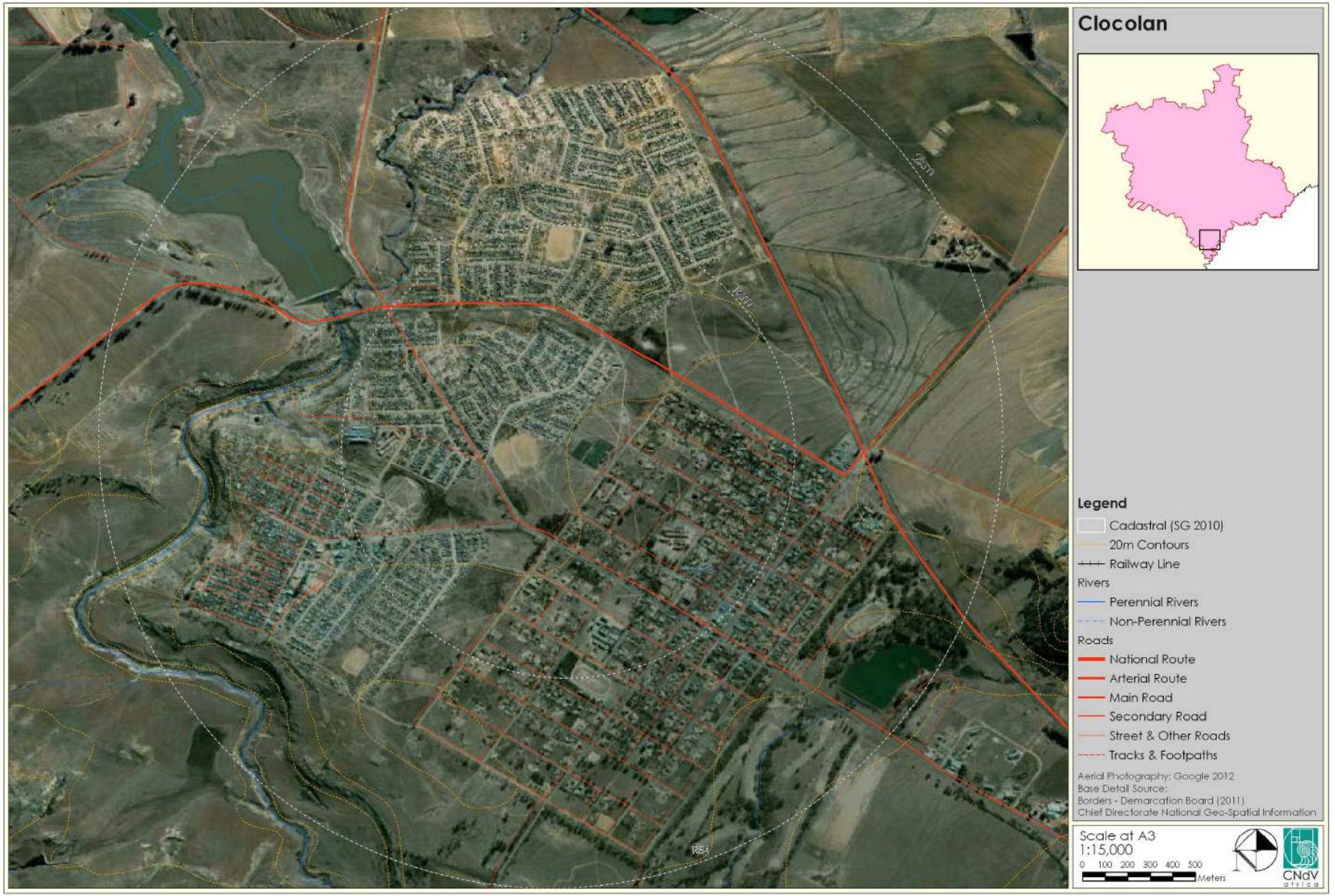


Figure 6.10.2.2 Clocolan: Aerial photograph

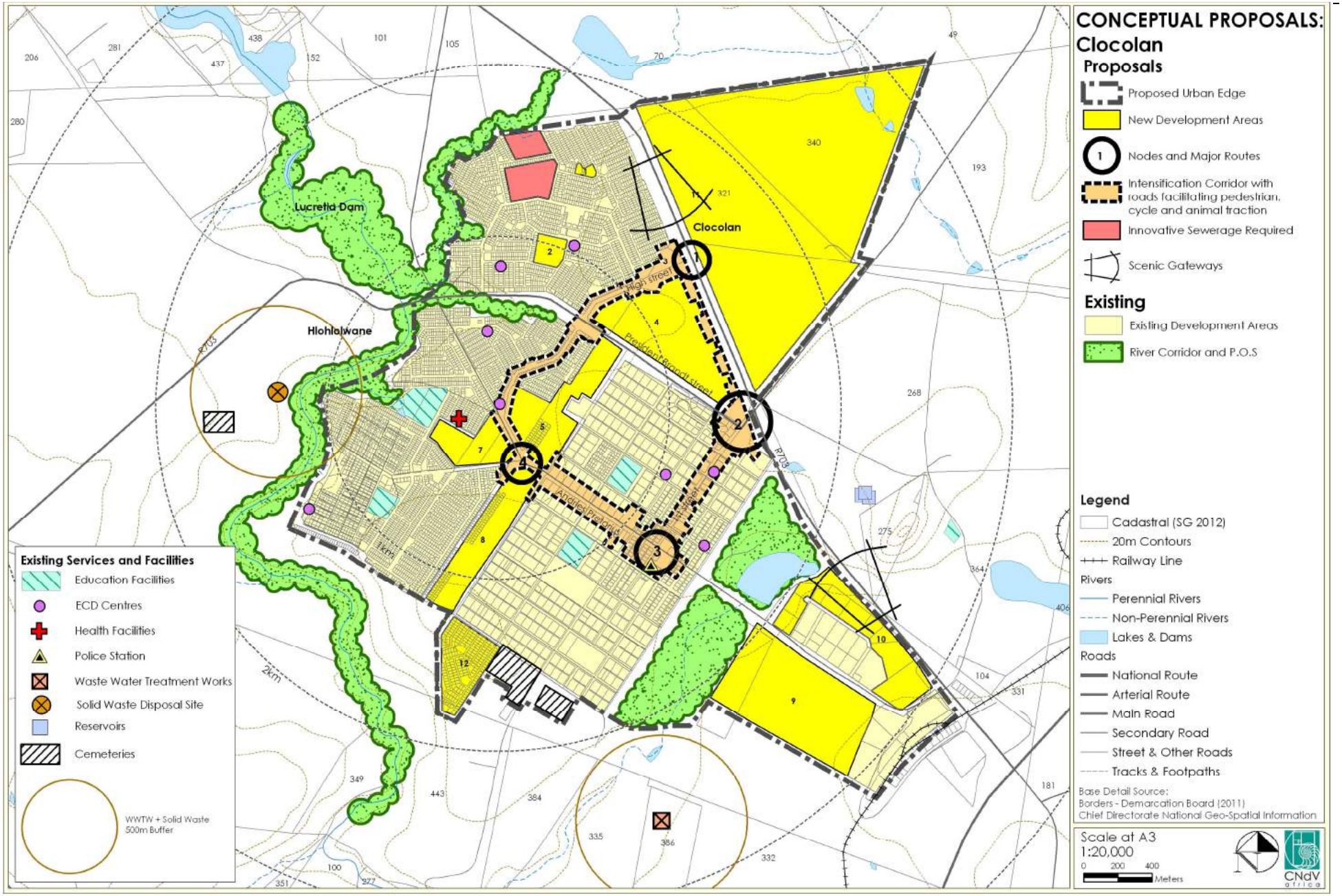


Figure 6.10.2.3 Clocolan: Draft SDF

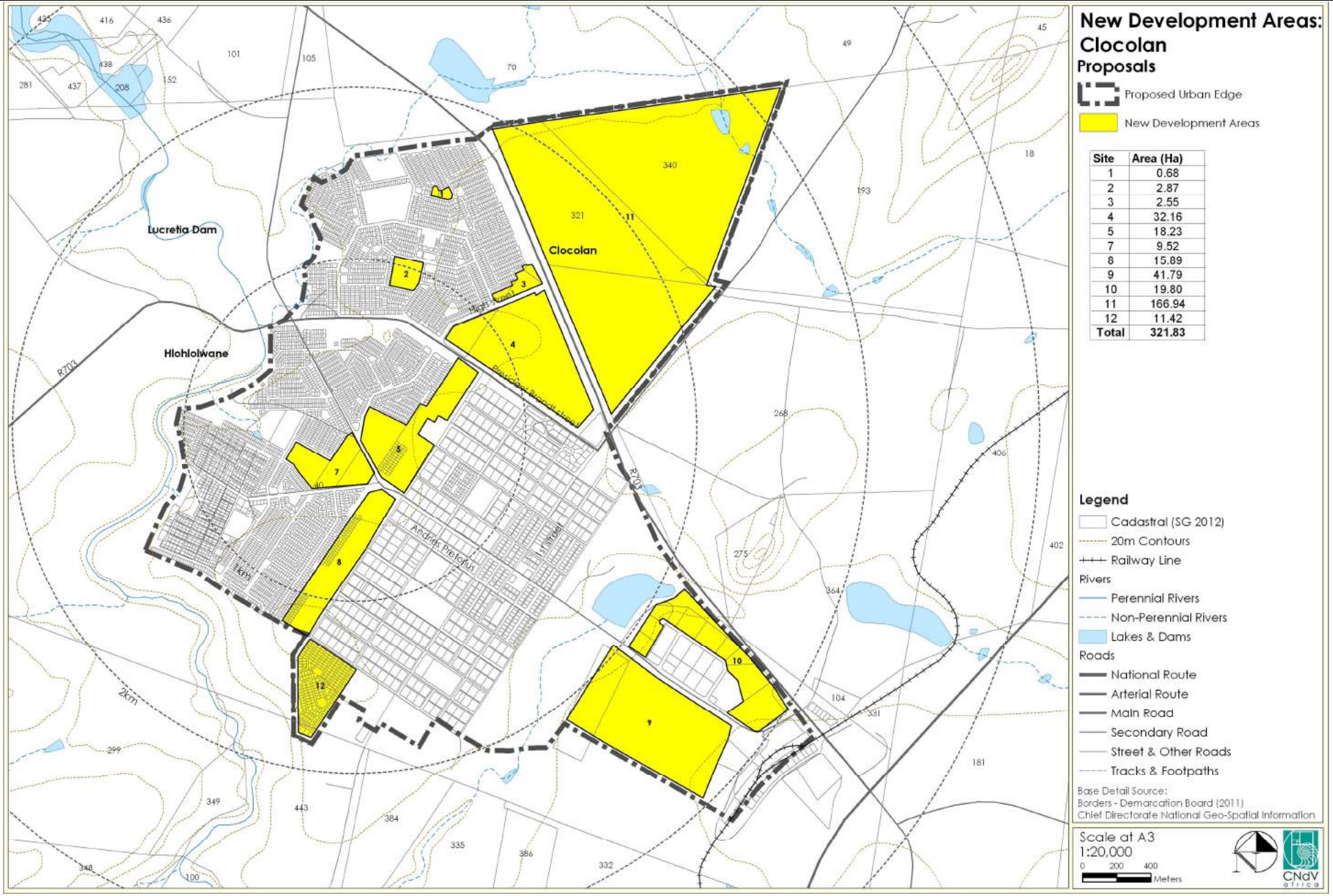


Figure 6.10.2.4 Clocolan: New Development Areas

No	Area (ha)	Description	Ownership	Zoning	Possible Use	Comment	Priority
1	068ha	• Hlolhlolwane North	• Await info	• Await info	• Community Facility/ Open Space	• Need to keep open space/ public use • Services available	2
2	2,87ha	• Hlolhlolwane South	• Await info	• Await info	• Community Facilities (Churches, open space and crèches, subsidy residential	• Investigate establishing a community facility node here • Services available	2
3	2,55ha	• R708 Site	• Await info	• Await info	• Commercial in corridor • Subsidy and Gap Housing • Community facilities	• Prepare a Development Framework/ Precinct Plan along with Site 4 • Higher density in corridor • Gateway Site • Services available	1
4	32,16ha	• President Brand Road	• Await info	• Await info	• Commercial in corridor • Subsidy, Gap and Higher Income Housing • Community facilities	• Prepare a Development Framework/ Precinct Plan along with Site 3 • Higher density in corridor • Gateway site • Priority site • Services required	1
5	18,23ha	• Second Street North	• Await info	• Await info	• Commercial in corridor • Subsidy and Gap Housing • Community facilities	• Prepare a Development Framework/ Precinct Plan along with Sites 7 and 8 • Higher density in corridor • Services required (in close proximity to existing services).	1
7	9,52ha	• Hlolhlolwane Central	• Await info	• Await info	• Commercial in corridor • Subsidy and Gap Housing • Community facilities	• Prepare a Development Framework/ Precinct Plan along with Sites 5 and 8 • Higher density in corridor • Services required	1
8	15,89ha	• Second Street South	• Await info	• Await info	• Commercial in corridor • Subsidy and Gap Housing • Community facilities	• Prepare a Development Framework/ Precinct Plan along with Sites 5 and 7 • Higher Density in corridor • Services required	1
9	41,79ha	• Industrial North	• Await info	• Await info	• High income, Gap and Subsidy residential	• Development framework/ precinct plan required • Integrated scheme • Higher density along Andries Pretorius Street (Potential future corridor) • Lower Priority site • Services required	3
10	19,80ha	• Industrial South	• Await info	• Await info	• Subsidy and Gap Housing	• Prepare a Development Framework/ Precinct Plan along with Sites 5 and 7 • Higher density along main route • Lower Priority Site • Services required	3
11	166.94ha	• Farm 321 and 324	• Await info	• Await info	• Mixed use and mixed income facilities and public open space	• Integration site • Investigate longer term development option (after sites 1-9 have been developed)	4
12	11.42ha	• Southern extension	• Await info	• Await info	• Medium to high income	• Promote sprawl • Services required	4
TOTAL	**321.83ha**						

Table 6.10.2.1 Clocolan New Development Areas

6.11 MARQUARD (± 14 000)

6.11.1 SPATIAL ANALYSIS, see Figure 6.11.1.1

Sub-regional location

- In the centre of the Moetlagamale Uplands towards the west at the junction of the R708 from Clocolan to Winburg and the N1, and the R707 to Senekal and the N5 to Harrismith

Layout pattern

- Marquard and Moemaneng are cut in two and by-passed by the R708 to Winburg and Clocolan and R707 to Senekal;
- The R707 in particular passes 700 metres to the north of the town making it very easy to avoid visiting;
- The only formal access to Moemaneng is through Marquard via an underpass under the R708. This makes it difficult to get to;
- There is a direct informal access from the R708 but it is probably too close to the bridge to be formalized;
- Marquard is laid out as a Voortrekker rydorp with long streets along which water could be led;
- Moemaneng is generally laid out on a curvilinear car friendly street pattern notwithstanding low levels of car ownership and usage
- Owing to the topography and presence of a major wetland and river Marquard and Moemaneng are particularly remote from each other and there is very little awareness of the one settlement from the other, particularly for visitors;
- There are some well-located pieces of vacant land between the two sub-settlements as well as some land to the west. "at the back" of Moemaneng.
- There is some crop farming and food gardening abutting the urban areas of the town and there is a golf course on Marquard's eastern boundary

Urban quality

- Much of the centre of Marquard still has some architectural and heritage quality although this is in danger of being significantly eroded through insensitive renovations and new buildings;
- There are large undeveloped erven in the west of the town;
- Moemaneng has a general universal appearance of a South African low income township and most of its roads are gravel;
- There is an extension to the west which has water but not sewers

Challenges and potential

- A new entrance should be taken off the R708 as close to the river as permitted;
- Flood lines should be determined to identify an appropriate development set back from the river and then development proposed up to this line where appropriate.

Historic sandstone church building

Vacant land between Moemaneng and Marquard (Moemaneng in the distance)

Gravel roads in Moemaneng

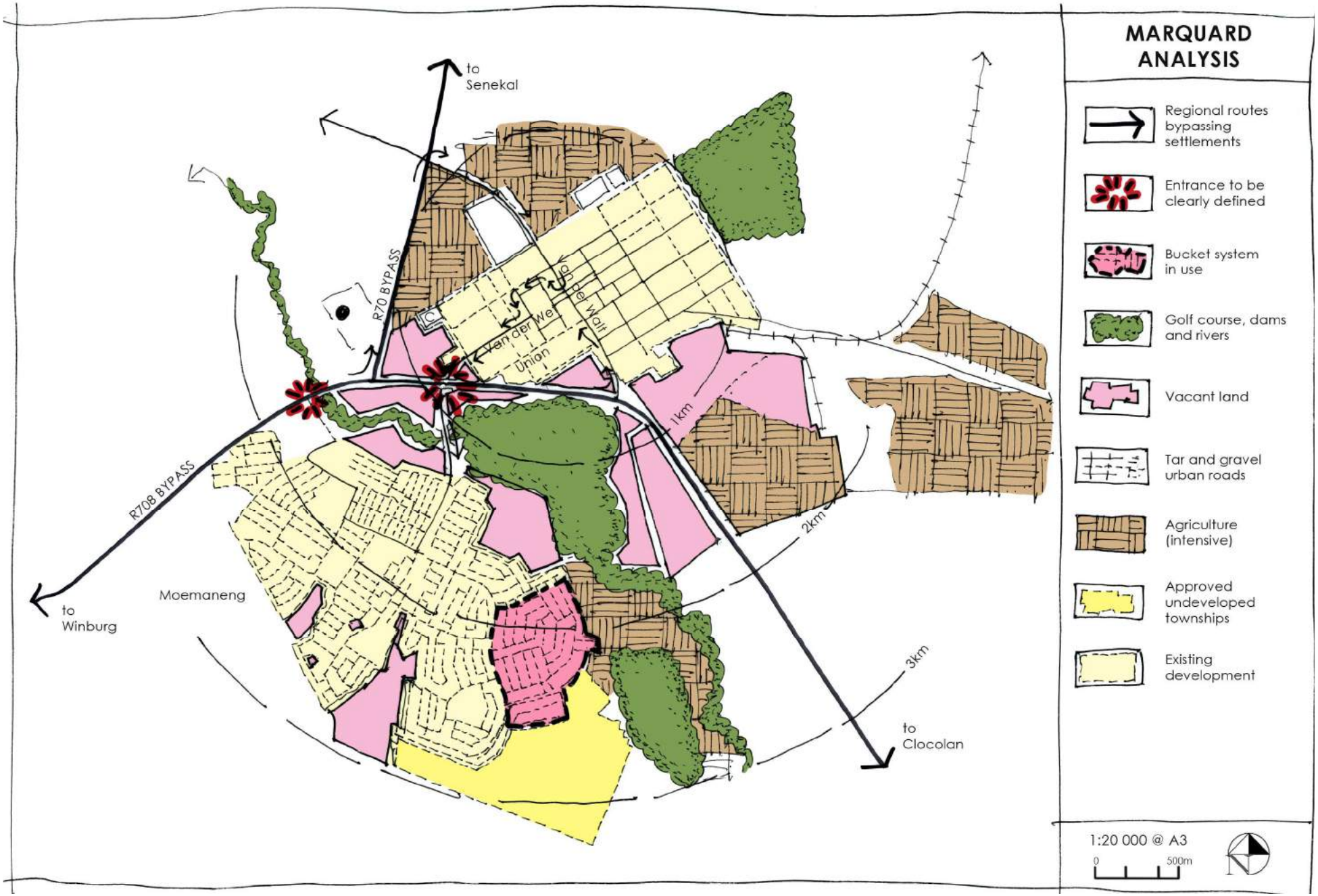


Figure 6.11.1.1 Marquard: Analysis

6.11.2 MARQUARD: DRAFT SPATIAL DEVELOPMENT FRAMEWORK, see Figure 6.11.2.3

6.11.2.1 Core landscape areas

Notes: draft policies

- **The surrounding river and watercourses systems and the golf course;**
- **Care must be taken regarding the landscaping and development of the gateway precincts on approach to the town.**
- **Market gardening should be promoted on the commonage as part of and incubator phase in the land reform program.**

6.11.2.2 Urban Development

Notes: draft policies

- **All future housing projects including BNG and GAP housing should be located on vacant land that promotes the integration of the settlement;**
- **Mixed income projects should include mixed uses and should be laid out according to the principle of the Socio-economic Gradient so that property values are supported to the greatest extent possible;**
- **Development should not be encouraged on peripheral sites even if general plans have been approved.**
- **The need to develop peripheral sites should be held over until the next SDF review.**
- **Innovative approaches to waste water treatment including non-conventional green solutions, paving and storm water management using labour based methods where appropriate should be used in the relevant areas requiring upgrading.**

6.11.2.3 Urban Restructuring

Notes

A system of nodes and intensification corridors including:

- **Van der Watt street linking from the R707 to the R708**
- **Union street around the church and under the R708 underpass along Union street Extension into Moemaneng;**
- **Moemaneng "high street" linking from the intersection with Union street Extension to a new formal access point on the R708 to Winburg ;**

is proposed to provide a continuous network of intensification corridors that integrate Marquard and Moemaneng as a single, continuous urban system;

- **Nodes of different scales should be encouraged to form at strategic intersections ranging from new buildings to conversions and upgrades of existing buildings;**
- **The whole system of nodes and corridors should be properly treed and landscaped to promote pedestrians, cycling and animal traction.**
- **Nodes 1 and 3 are proposed commercial nodes. Node 2 is a proposed access node in the short term (to be developed as long term commercial node once New Development Areas 7 and 8 have been developed.)**

Townhall in Marquard

Mills at the gateway into town

Potential for markets (Moemaneng)

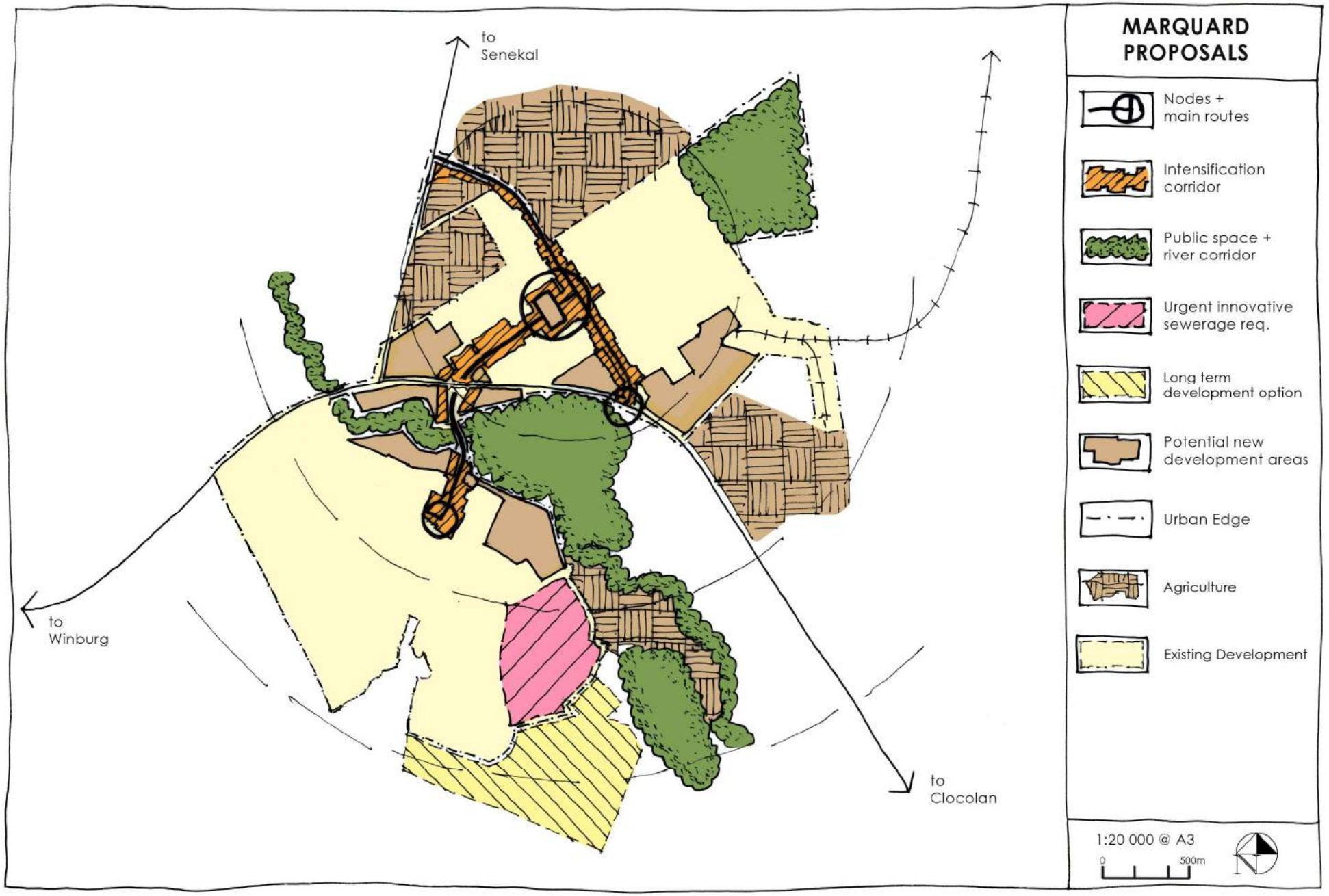


Figure 6.11.2.1 Marquard: Initial Draft SDF

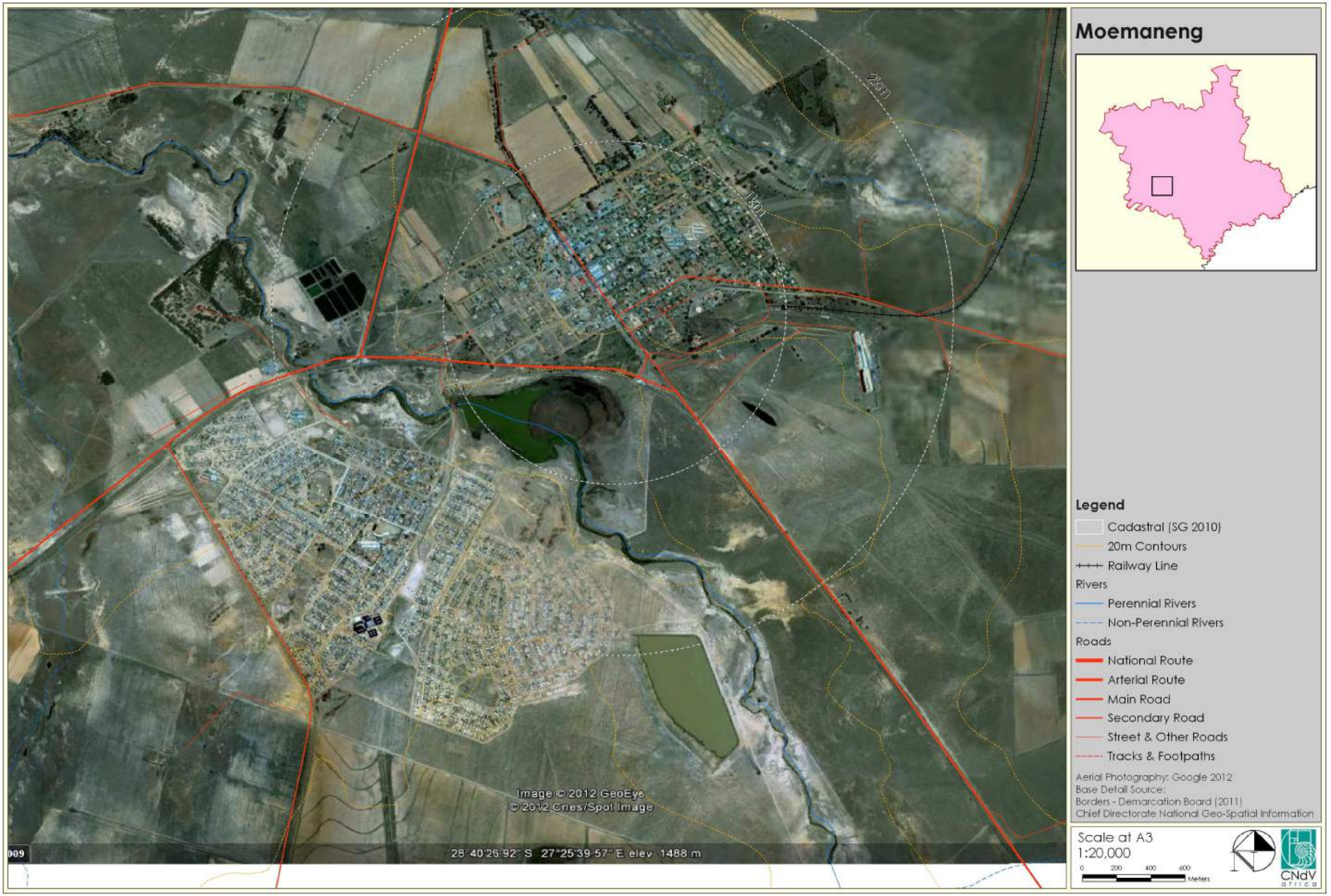


Figure 6.11.2.2 Marquard: Aerial photograph

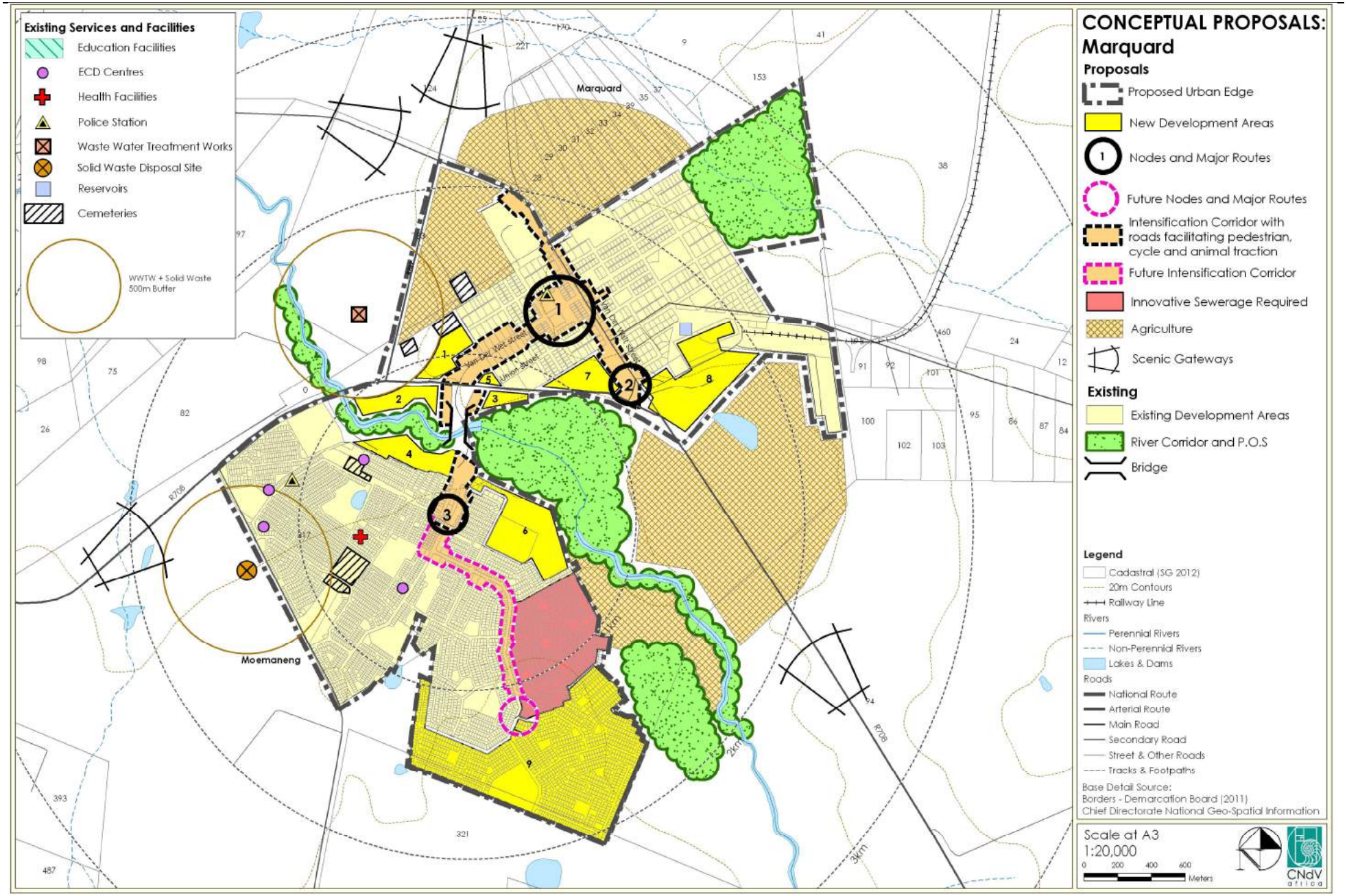


Figure 6.11.2.3 Marquard: Draft SDF

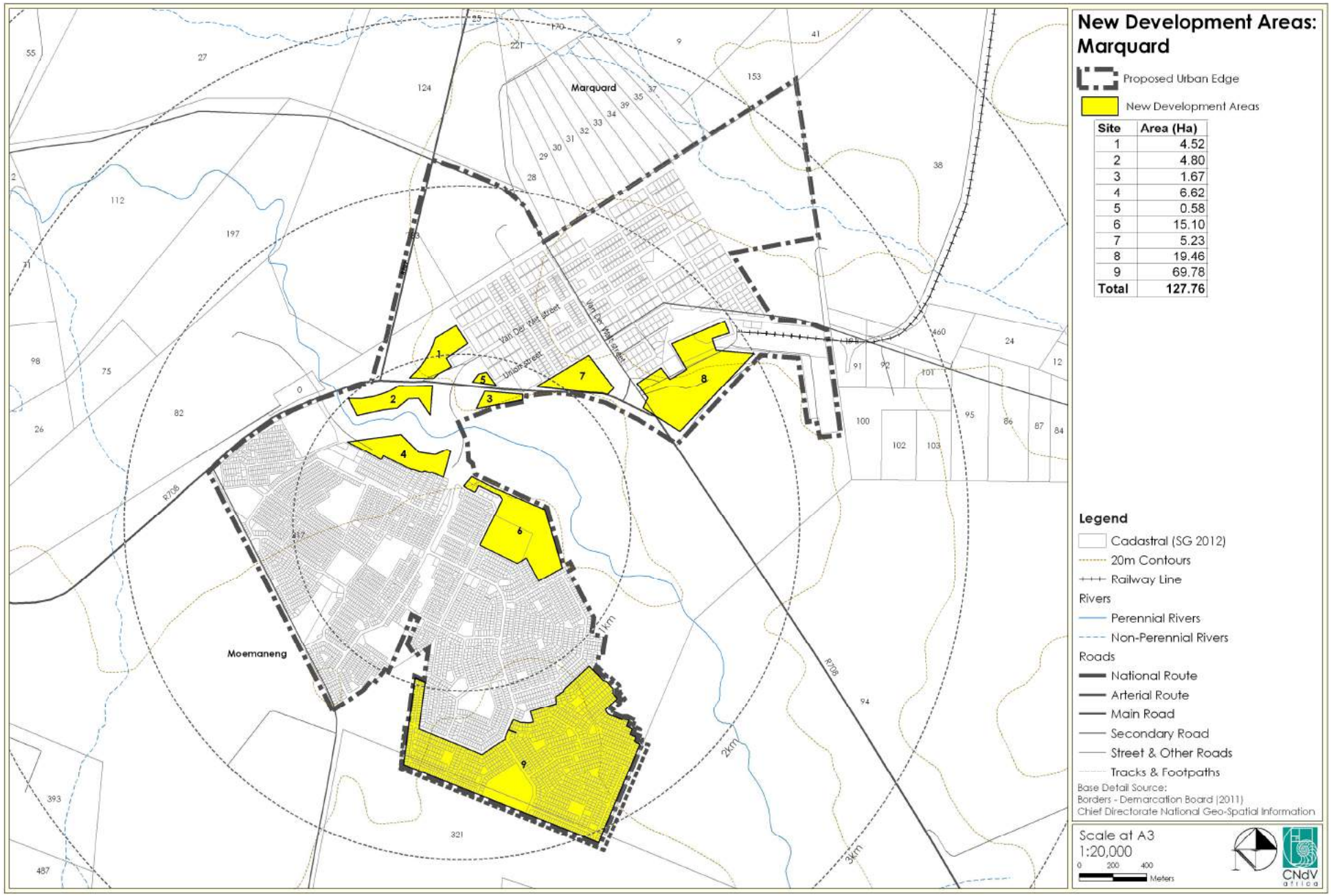


Figure 6.11.2.4 Marquard: New Development Areas

No	Erf	Area (ha)	Description	Ownership	Zoning	Possible Use	Comment	Priority
1		8,95ha	• R707 and 708 Intersection (N)	• Await info	• Await info	• Gap and Higher income housing	• Define appropriate setback from river floodline • Integration site • Development framework/ precinct plan required • Higher density along the corridor • Services required	1
2		6,04ha	• R707 and 708 Intersection (S)	• Await info	• Await info	• Gap and Subsidy housing	• Define appropriate setback from river floodline • Integration site • Development framework/ precinct plan required • Higher density along the corridor • Services required	1
3		0,58ha	• Union and R708 Streets Intersection (S)	• Await info	• Await info	• Higher income housing	• Define appropriate setback from river floodline • Integration site • Higher density along the corridor • Services required	1
4		6,62ha	• Union Street West	• Await info	• Await info	• Gap and Subsidy housing	• Define appropriate setback from river floodline • Integration site • Development framework/ precinct plan required • Higher density along the corridor • Services required	1
5		1,67ha	• Union and R708 Streets Intersection (N)	• Await info	• Await info	• Higher Income housing	• Define appropriate setback from river floodline • Integration site • Higher density along the corridor • New services required, existing services in vicinity	1
6		15,10ha	• Union Street East	• Await info	• Await info	• Gap and Subsidy housing	• Define appropriate setback from river floodline • Integration site • Development framework/ precinct plan required • Services required	1
7		5,23ha	• Van der Watt and Froneman Intersection	• Await info	• Await info	• Integrated housing (High, GAP and subsidy) • Commercial at the node and along the corridor	• Development framework/ precinct plan required along with Site 8 • Gateway site requires an urban design framework • Higher density along the corridor and at node • Design around existing buildings • Define appropriate setback from river floodline • Integration site • Services required	2
8		19,46ha	• Off Eksteen and Along Voortrekker Road	• Await info	• Await info	• Integrated housing (High, GAP and subsidy) • Commercial at the node and along the corridor	• Development framework/ precinct plan required along with Site 8 • Gateway site requires an urban design framework • Higher density along the corridor and at node • Design around existing buildings • Development framework/ precinct plan required • Services required	2
9		69.78ha	• South section of Moemaneng	• Await info	• Await info	• Subsidy facilities and public open space	• Services required • Contributes to sprawl	3
TOTAL		**139.02ha**						

Table 6.11.2.1 Marquad New Development Areas

6.12 SENEKAL (± 27 000)

6.12.1 SPATIAL ANALYSIS, see Figure 6.12.1.1

Sub-regional location

- Senekal is located in the north of the Moetlamogale Uplands on the N5 national route between the N1 at Winburg and the N3 to Durban via Bethlehem and Harrismith;
- It is linked to Ficksburg around the Witteberg via Rosendal located in the neighbouring municipality

Layout pattern

- Senekal comprises three components:
  - An historic core sandwiched between the ridge overlooking the town and the river;
  - A newer extension still laid out like a "nagmal dorp" capable of further subdivision on the western approach to the town along the N5; and,
  - Matwabeng, a large sprawling low density township hidden away behind the ridge on the way to the railway station structured along a single road, 'Matwabeng high street'
- Matwabeng sprawls almost 4kms from the CBD along this long straight road.
- It is further broken up into 3 main extensions with large tracts of undeveloped land in between;
- The most recent township extension, approved but not developed, requires a 5km commute for their residents, almost 2 kilometres just to get to "Matwabeng high street" and another 3 km to the CBD. This is equal to a 1.5 hour walk in one direction for those unable to afford private or even public transport

Urban quality

- The historic core still possesses some architectural quality and heritage value which could have tourism potential if maintained and upgraded;
- Other parts of Senekal, although of low density, have a high level of tree planting and vegetation;
- Matwabeng's urban quality can best be described as a series of isolated township extensions separated from each other and the rest of the town by large tracts of vacant land strung out along empty looking wide road reserves almost devoid of any tree planting
-

Challenges and potential

- Unlike other townships in Setsoto Matwabeng is extremely isolated from a higher order road network, even a bypass, and so efforts at improving its exposure and business thresholds will have to aim at strengthening its current links and urban quality with the CBD;
- This implies that it must be properly signposted and directed from inside an upgraded CBD that provides way finding from the N5 in the centre of town;
- A CBD design guideline and upgrade program must urgently be put in place to ensure that the town restores its urban quality.

Landscaped parts of town

Commercial uses in centre of town

Main road in Senekal (need for landscaping)

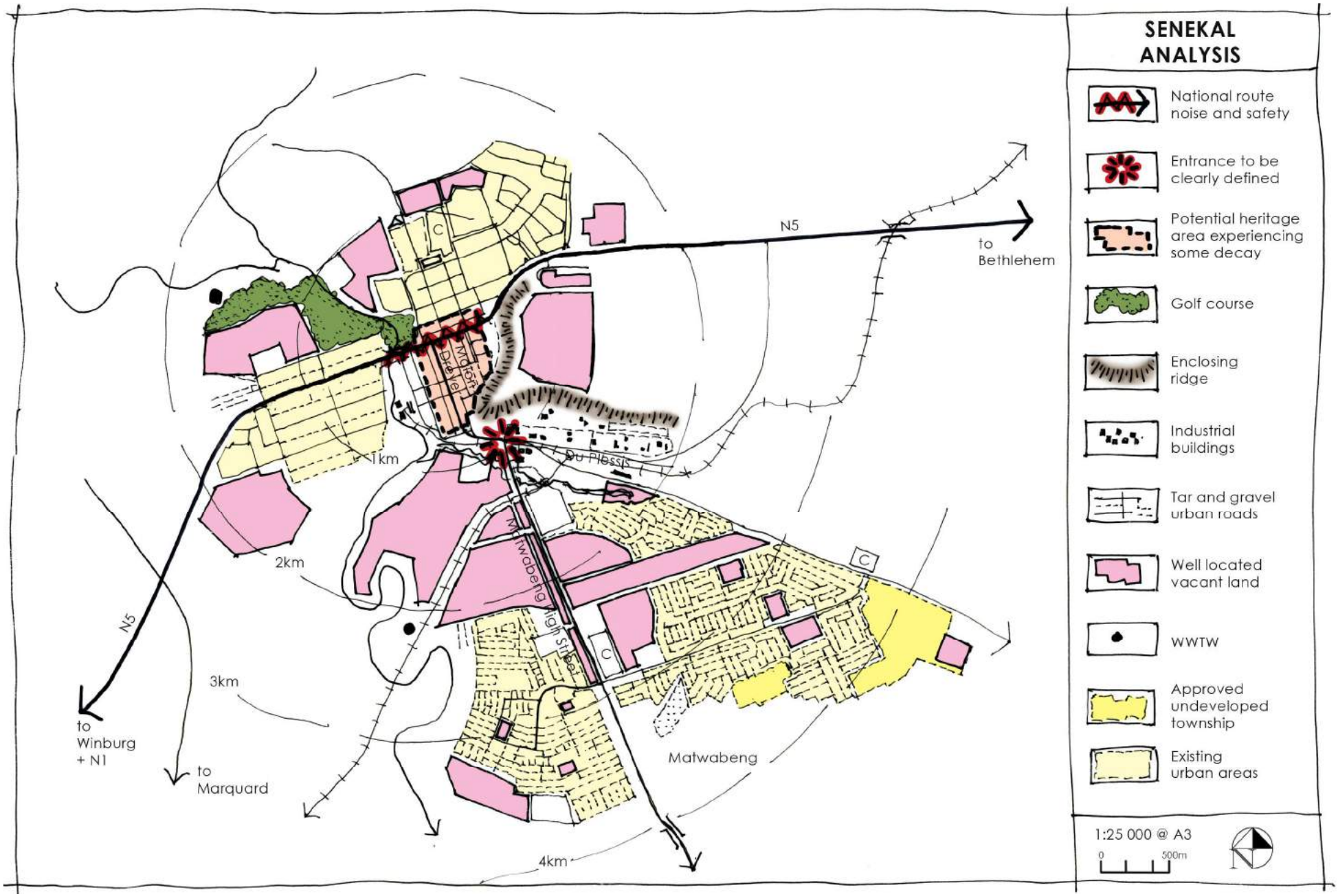


Figure 6.12.1.1 Senekal: Analysis

6.12.2 SENEKAL: DRAFT SPATIAL DEVELOPMENT FRAMEWORK, see Figure 6.12.2.3

6.12.2.1 Core landscape areas

Notes: draft policies

- **The ridge above the town, surrounding river and watercourses systems and the golf course;**
- **Care must be taken regarding the landscaping and development of the gateway precincts on approach to the town.**
- **Market gardening should be promoted on the commonage as part of and incubator phase in the land reform program**

6.12.2.2 Urban Development

Notes: draft policies

- **All future housing projects including BNG and GAP housing should be located on vacant land that promotes the integration of the settlement;**
- **Mixed income projects should include mixed uses and should be laid out according to the principle of the Socio-economic Gradient so that property values are supported to the greatest extent possible;**
- **Development should not be encouraged on peripheral sites even if general plans have been approved.**
- **The need to develop peripheral sites should be held over until the next SDF review.**

6.12.2.3 Heritage Areas

Notes

- **Senekal CBD should be declared a heritage area and guidelines produced to assist with upgrading of existing buildings and new build**

6.12.2.4 Urban Restructuring

Notes

- **A system of nodes and an intensification corridor starting at Malan/Dreyer street intersection with the N5, at which Matwaneng should be boldly signposted, continuing south along Dreyer street and du Plessis to the intersection with "Matwabeng High street" to the intersection approximately 2kms south providing access to the sub-settlements on either side. This is to proposed to provide a continuous network of nodes along an intensification corridor that integrates Senekal and Matwabeng into a single, continuous urban system;**
- **Nodes of different scales ranging from new buildings to conversions and upgrades of existing buildings should be encouraged to form at strategic intersections approximately 1 km apart along "Matwabeng high street"**
- **The whole system of nodes and corridors should be properly treed and landscaped to promote pedestrians, cycling and animal traction.**
- **All proposed nodes to develop into commercial nodes.**

Prominently located (gateways) and older buildings in town

Need for urban design guidelines

Older (historic) buildings in town

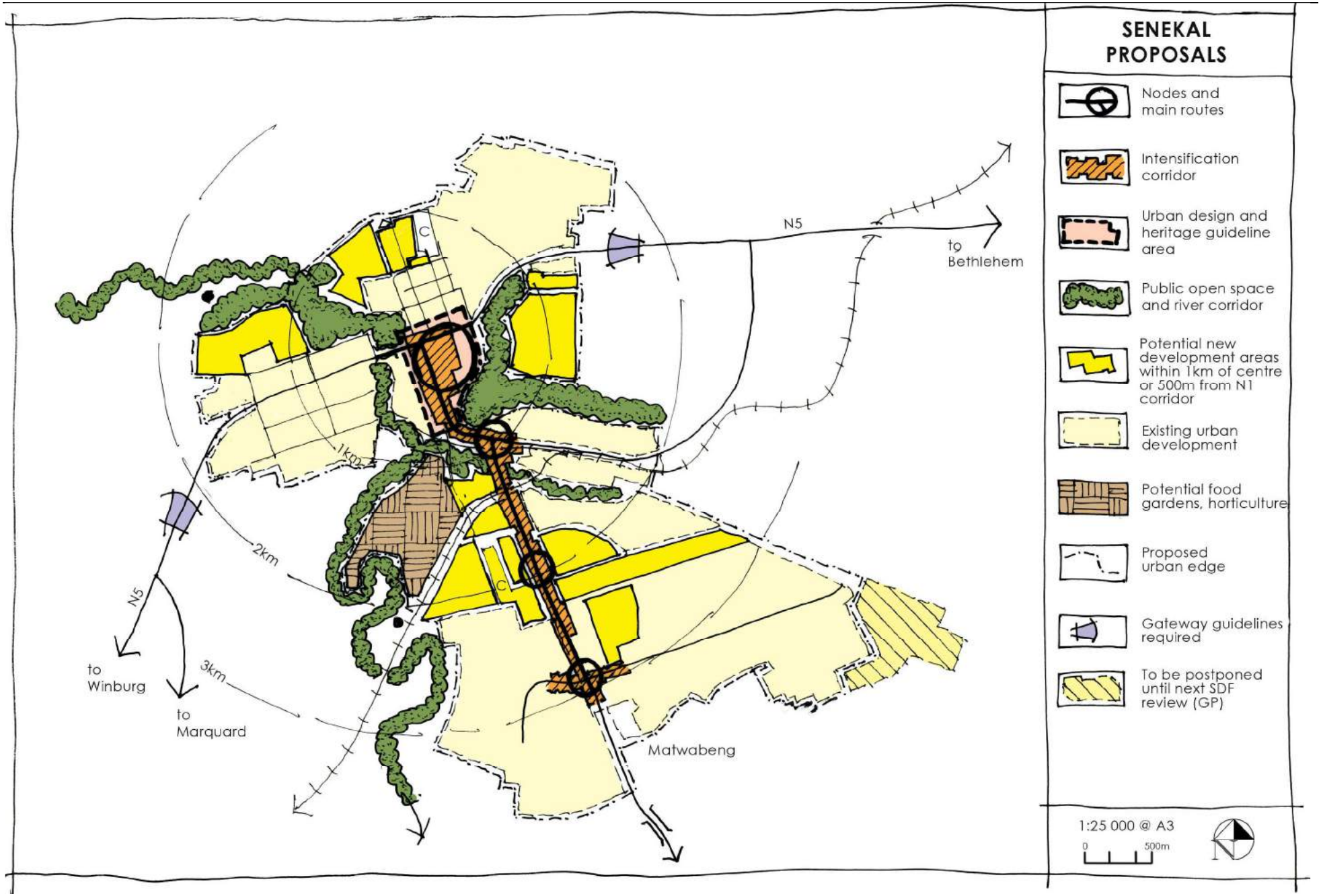


Figure 6.12.2.1 Senekal: Initial Draft SDF

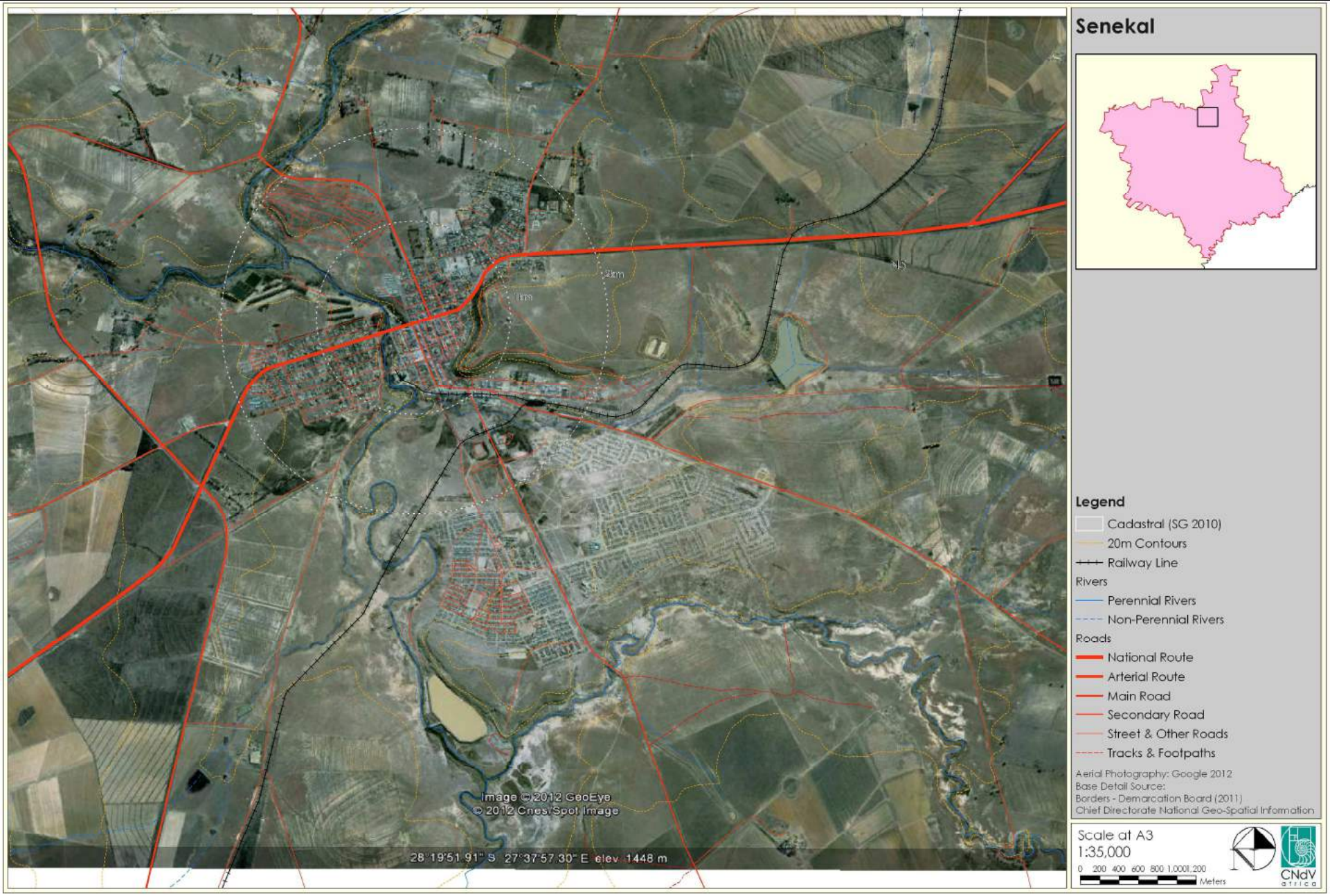


Figure 6.12.2.2 Senekal: Aerial photograph

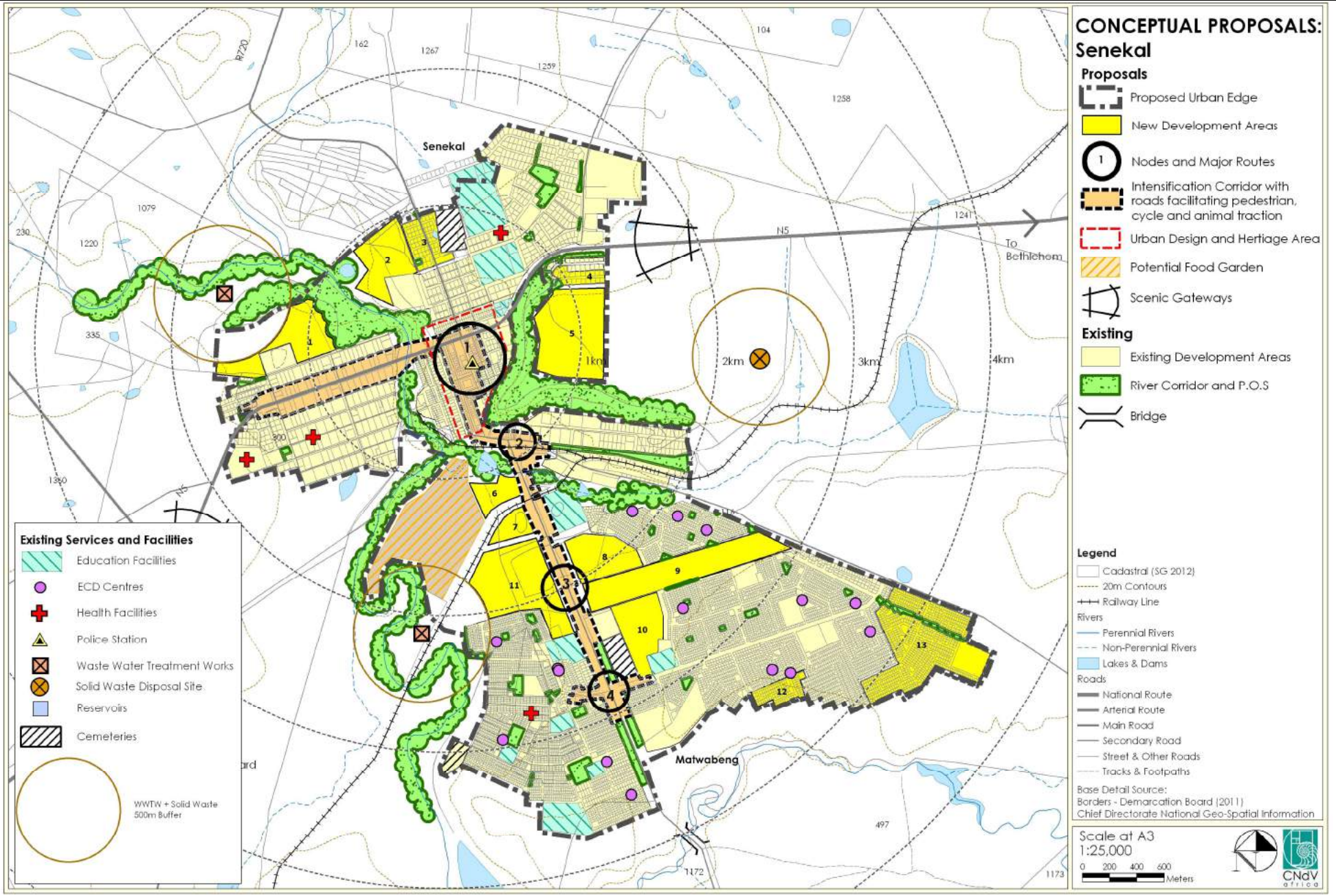


Figure 6.12.2.3 Senekal Draft SDF

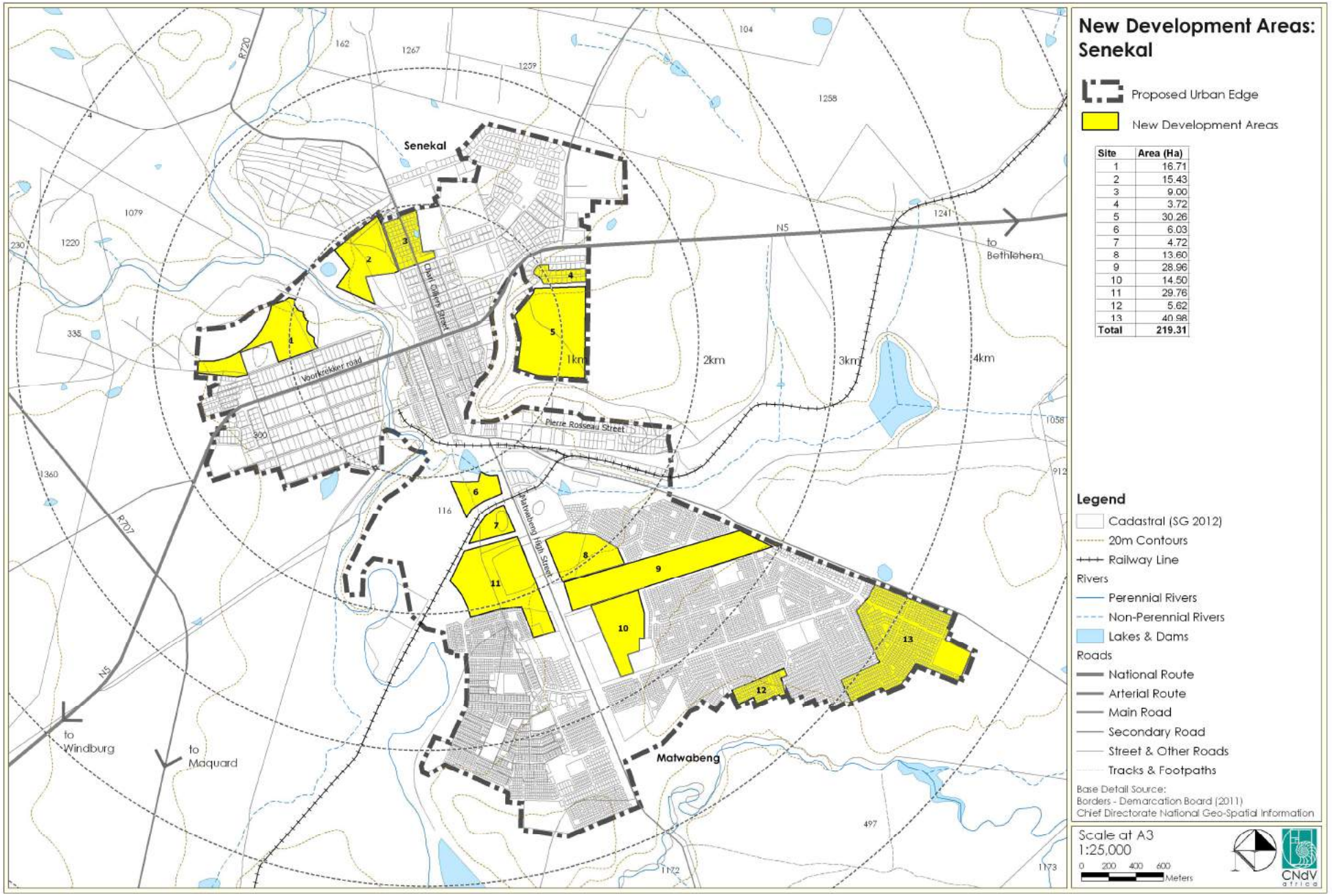


Figure 6.12.2.4 Senekal: New Development Areas

No	Area (ha)	Description	Ownership	Zoning	Possible Use	Comment	Priority
1	27,13ha	• North of Bell Street	• Awaiting info	• Awaiting info	• High income and GAP housing	• Development framework/ precinct plan required • Define appropriate setback from river floodline • Services required	2
2	15,43ha	• West of Lange Street	• Awaiting info	• Awaiting info	• Higher income, GAP and subsidy housing	• Development framework/ precinct plan required • Gateway site requires an urban design framework • Define appropriate setback from river floodline • Services required	2
3	9,00ha	• East and west of Charl Cilliers Street	• Awaiting info	• Awaiting info	• High income and Gap housing • Commercial in corridor	• Development framework/ precinct plan required • Gateway site requires an urban design framework • Redesign existing layout • Privately owned land? • Services available	3
4	3,72ha	• South of Ryk Becker Street	• Awaiting info	• Awaiting info	• High income and / or Gap housing	• Redesign existing layout • Privately owned land? • Define appropriate setback from river floodline • Services available	3
5	30,26ha	• Eastern Senekal	• Awaiting info	• Awaiting info	• Higher income and GAP and subsidy housing	• Development framework/ precinct plan required • Confirm impact of the slope • Define appropriate setback from river floodline • Services required	3
6	6,03ha	• West of Matwabeng High Street (north of railway)	• Awaiting info	• Awaiting info	• Gap and subsidy housing • Commercial in the corridor	• Development framework/ precinct plan required • Higher density along the corridor • Define appropriate setback from river floodline • Services required	1
7	4,72ha	• West of Matwabeng High Street (south of railway)	• Awaiting info	• Awaiting info	• Gap and subsidy housing • Commercial in the corridor	• Higher density along the corridor • Design around sportsfields • Services required	1
8	13,60ha	• East of Matwabeng High Street	• Awaiting info	• Awaiting info	• Gap and subsidy housing • Commercial in the corridor	• Development framework/ precinct plan required • Higher density along the corridor and at node • Services required	1
9	28,96ha	• East of Matwabeng High Street	• Awaiting info	• Awaiting info	• Gap and subsidy housing • Commercial in the corridor	• Development framework/ precinct plan required • Higher density along the corridor and at node • Services required	1
10	14,50ha	• East of Matwabeng High Street	• Awaiting info	• Awaiting info	• Gap and subsidy housing	• Development framework/ precinct plan required • Investigate possibility of additional access road off Pierre Rosseau Street • Services required	1
11	34,92ha	• West of Matwabeng High Street (east of railway)	• Awaiting info	• Awaiting info	• Gap and subsidy housing • Commercial in the corridor	• Development framework/ precinct plan required • Higher density along the corridor and at node • Services required	1
12	5.62ha	• Matwabeng south	• Awaiting info	• Awaiting info	• Medium to high income	• Promote sprawl • Services required	4
13	40.98ha	• Matwabeng east	• Awaiting info	• Awaiting info	• Medium to high income	• Promote sprawl • Services required	4
TOTAL	**234.88ha**						

Table 6.12.2.1 Senekal New Development Areas

6.13 GENERAL PROJECTS

The following additional projects are proposed to facilitate the effective implementation of the SDF:

6.13.1 Determine the 1:50 year and 1:100 year floodlines along all perennial and non-perennial water courses, pans and dams to protect the natural environment and safeguard lives and property from any natural damage that may occur as a result of storms and associated floods.

6.13.2 Prepare and implement urban design and landscape guidelines for all settlements or at least the main streets of all settlements and its associated gateways.

6.13.3 Prepare a Municipal wide rural development strategy that would investigate ways to stimulate the rural economy, central to which should be the feasibility of the development of potential rural nodes and rural periodic markets

6.13.4 Prepare detailed precinct plans / development frameworks for:

- all proposed urban nodes. These nodes could accommodate facilities such as schools, clinics, libraries, police stations, business, etc. based on the locational principles discussed under section 6.6 above;
- all new development areas bigger than 5ha; and
- any future rural nodes

6.13.4 Investigate the feasibility of establishing local and regional conservancies and the preparation of detailed management plans for the conservation and tourism use of the area.

6.13.5 Prepare a regional tourism strategy to capitalise on the tourism potential of the Municipality. To ensure its chances of success, this strategy should be completed and implemented in conjunction with at least the abutting municipalities.

6.13.6 Investigate the initiation of at least one land reform project per annum in the Municipality.

6.13.7 Prepare an open space utilisation and densification framework for each settlement. This framework should identify the areas that should retain its use as public open space and areas that could be made available for infill development. In addition, the densification component of the framework should identify the areas that could be densified through infill, redevelopment or subdivision mechanisms to help achieve viable urban densities.

6.13.8 Prepare a policy to manage street traders in the municipality. This should help to protect the CBD's from crime and grime.

6.13.9 Prepare a renewable technology strategy to help reduce the impact of climate change and to the municipality as a whole, i.e. including all its households and individuals, into an environmental sustainability lifestyle.

6.13.10 Prepare a Scenic Route Study to identify and specially designate certain routes that have scenic value and to specifically manage visual impacts along the designated Scenic Routes.

6.13.11 a possible adjustment of the municipal boundary should be considered to include Rosendal. Rosendal is functionally part of the Setsoto Municipality and residents rely on towns in Setsoto for basic facilities.

7. IMPLEMENTATION FRAMEWORK

7.1 IMPLEMENTATION

7.1.1 SDF POLICY/ PROJECT LIST

The following table of projects is compiled from the various projects from the SDF proposals:

Proposal		Project / Policy Description	Approx. Budget	Timeframe	In IDP	Implementation Agent
SDF 1	Urban Design and Landscaping Frameworks	Prepare detailed urban design and landscaping frameworks for settlements	R 400,000	24 Months	No	Setsoto Municipality and Consultants
SDF 2	Tourism Plan	Investigate adventure, eco- and agri- tourism opportunities	R 400,000	12 Months	No	Setsoto Municipality, Department of Economic Development and Tourism (DEDaT) and Consultants
SDF 3	Enlarged Conservation Areas	Investigate the completion of critical biodiversity corridors	R 200,000	12 months	No	Department of Environment
SDF 4	Scenic Routes Study	Prepare a scenic routes study identifying areas to be protected and principles and guidelines for appropriate developments.	R 200,000	12 months	No	Setsoto Municipality, Department of Environment; DEDaT and Consultants
SDF 5	Mining Rehabilitation	Prepare a set of standard rehabilitation measures for mined areas.	R 200,000	12 months	No	Setsoto Municipality, Department of Environment, Consultants
SDF 6	Renewable Technologies Strategy	Prepare a municipal renewable technology strategy focusing on implementation options for water management and energy generation in projects and developments.	R 250,000		No	Sstsoto Municipality, Department of Environment, DEDaT and Consultants
SDF 7	Borehole Development	Develop boreholes in Matwabeng	To be confirmed		No	Setsoto Municipality
SDF 8	Eradicate bucket system	Eliminate the bucket system in Ficksburg	To be confirmed		No	Setsoto Municipality
SDF 9	Eradicate bucket system	Eliminate the bucket system in Clocolan	To be confirmed		No	Setsoto Municipality
SDF 10	Eradicate bucket system	Eliminate the bucket system in Marquard	To be confirmed		No	Setsoto Municipality
SDF 11	Complete WWTW	Complete WWTW in Ficksburg	To be confirmed		No	Setsoto Municipality
SDF 12	Complete WWTW	Complete WWTW in Clocolan	To be confirmed		No	Setsoto Municipality
SDF 13	Road upgrading	Upgrade road between Clocolan and Marquard	To be confirmed		No	Department of Police, Roads and Transport
SDF 14	Road upgrading	Upgrade road between Rosendal and Ficksburg	To be confirmed		No	Department of Police, Roads and Transport
SDF 15	Road upgrading	Upgrade road between Rosendal and Senekal	To be confirmed		No	Department of Police, Roads and Transport
SDF 16	Road upgrading	Upgrade the N5 between Senekal and Winburg	R 100,000,000		No	Department of Police, Roads and Transport
SDF 17	Road upgrading	Upgrade the S42 north of Senekal	R 40,000,000		No	Department of Police, Roads and Transport
SDF 18	Road upgrading	Upgrade the S214 west of Libertas	R 20,000,000		No	Department of Police, Roads and Transport

Proposal		Project / Policy Description	Approx. Budget	Timeframe	In IDP	Implementation Agent
SDF 19	Road upgrading	Upgrade the S668 wouth of Libertas towards the N5	R 30,000,000		No	Department of Police, Roads and Transport
SDF 20	Road upgrading	Upgrade the N5 between Senekal and Paul Roux	R 40,000,000		No	Department of Police, Roads and Transport
SDF 21	High mast lighting	Install high mast lighting in Moemaneng	To be confirmed		No	Department of Police, Roads and Transport
SDF 22	Road upgrading	Upgrade the S379 and S930 between Marquard and Rosendal	R 80,000,000		No	Department of Police, Roads and Transport
SDF 23	Road upgrading	Upgrade the R703 between Clocolan and Excelsior	R 20,000,000		No	Department of Police, Roads and Transport
SDF 24	Road upgrading	Upgrade the R26 between Ficksburg and Fouriesburg	R 70,000,000		No	Department of Police, Roads and Transport
SDF 25	Road upgrading	Upgrade the R26 between Ficksburg and Ladybrand	R 80,000,000		No	Department of Police, Roads and Transport
SDF 26	Road upgrading	R70 - Senekal to Ficksburg (71km)	R 402,000,000		No	Department of Police, Roads and Transport
SDF 27	Road upgrading	R70 - Senekal to Odendalsrus (106km)	R 394,000,000		No	Department of Police, Roads and Transport
SDF 28	Road upgrading	R707 - Senekal to Marquard (43km)	R 301,000,000		No	Department of Police, Roads and Transport
SDF 29	Road upgrading	R708 - Windburg to Clocolan (75km)	R 518,000,000		No	Department of Police, Roads and Transport
SDF 30	Road upgrading	R26 - Ficksburg to Lesotho (5km)	R 22,500,000		No	Department of Police, Roads and Transport
SDF 31	High mast lighting	Install high mast lighting in Moemaneng	To be confirmed		No	Setsoto Municipality
SDF 32	High mast lighting	Install high mast lighting in Matwabeng	To be confirmed		No	Setsoto Municipality
SDF 33	High mast lighting	Install high mast lighting in Meqheleng	To be confirmed		No	Setsoto Municipality
SDF 34	High mast lighting	Install high mast lighting in Hlohlolwane	To be confirmed		No	Setsoto Municipality
SDF 35	Provide school	Primary and secondary school in Matwabeng	To be confirmed		No	Department of Education
SDF 36	Provide school	Primary school in Marquard	To be confirmed		No	Department of Education
SDF 37	Provide school	Primary and secondary school in Meqheleng	To be confirmed		No	Department of Education
SDF 38	Provide school	Secondary school in Hlohlolwane	To be confirmed		No	Department of Education
SDF 39	Provide health facilities	Provide health facilities in Matwabeng	To be confirmed		No	Department of Health
SDF 40	Provide health facilities	Provide health facilities in Hlohlolwane	To be confirmed		No	Department of Health
SDF 41	Provide health facilities	Provide health facilities in Meqheleng	To be confirmed		No	Department of Health

Proposal		Project / Policy Description	Approx. Budget	Timeframe	In IDP	Implementation Agent
SDF 42	Floodlines	Determine Floodlines throughout the municipality	R 300,000		No	Setsoto Municipality
SDF 43	Detailed Public Open Space and Densification Policy	Prepare policy for the management of public open spaces and densification in the municipality	R 200,000		No	Setsoto Municipality
SDF 44	Street trader policy	Prepare a policy to address and manage street trading throughout the municipality	R 100,000		No	Setsoto Municipality
SDF 45	Rural Development Strategy	Prepare a municipal wide strategy to stimulate the growth of the rural economy	R 200,000		No	Setsoto Municipality
SDF 46	Detailed precinct plans/Development Frameworks	Prepare policies for all proposed urban nodes, NAMPO/Mirage rural node, rural nodes and new development areas greater than 5ha	To be confirmed		No	Setsoto Municipality
SDF 47	Feasibility study: Local and Regional Conservancies	Determine the feasibility of preparing conservancies and possibly detailed management plans for conservancies and tourism areas.	To be confirmed		No	Setsoto Municipality
SDF 48	Initiate land reform	Initiate at least one land reform project in the municipality	To be confirmed		No	Setsoto Municipality

7.1.2 MUNICIPAL IDP POLICY/ PROJECT LIST

The following table of projects is extracted from the approved IDP for 2011 to 2012:

No.	Policy /Projects Name/ Ref	Project / Policy Description	Cost Estimate (Rs)	Implementing Agent
IDP 1	Upgrade capacity of Meulspruit Dam	Raise wall of Meulspruit Dam	R 31 200 000	Setsoto Municipality
IDP 2	Upgrade raw water supply: Marquard	Construct pipeline	R 3 000 000	Setsoto Municipality
IDP 3	Upgrade WTW Marquard	Increase capacity of WTW at Marquard	R 10 200 000	Setsoto Municipality
IDP 4	Upgrade WWTW Senekal	Increase capacity of WWTW at Senekal	R 3 000 000	Setsoto Municipality
IDP 5	Upgrade oxidation pond at Marquard/Moemaneng	Increase capacity of WWTW at Marquard/Moemaneng	R 12 000 000	Setsoto Municipality
IDP 6	Upgrade bulk water supply: Ficksburg/Meqheleng	Construct additional reservoirs	R 52 631 578	Setsoto Municipality
IDP 7	Upgrade roads in Ficksburg		R 5 200 000	Setsoto Municipality
IDP 8	Upgrade roads in Clocolan	Tar streets in Clocolan	R 5 200 000	Setsoto Municipality
IDP 9	Upgrade roads in Marquard	Tar streets in Marquard	R 5 200 000	Setsoto Municipality
IDP 10	Upgrade roads in Senekal	Tar streets in Senekal	R 5 200 000	Setsoto Municipality

7.1.3 MUNICIPAL POLICY / PROJECT PRIORITISATION

The following projects are the top projects based on the rating performed. See Section 7.1.

Project Priority No.	Proposal No.	Policy /Projects Name/ Ref	Project / Policy Description	Cost Est. (Rs)	Finance Source	Rating Matrix													
						Alignment			Sustainability					Project Implementation					Total
						NSDP	FS-PSDF	District SDF	Improves Employment	Improves Economic Empowerment	Improves Economic Diversification	Improves Empowerment	Positive Environmental Impact	Critical Path for other projects	Cost of Impl.	Ease of Impl.	Improves Access to Infrastructure	Improves Settlement Restructuring	
1	SDF 45	Rural Development Strategy	Prepare a municipal wide strategy to stimulate the growth of the rural economy	R 200,000	Setsoto Municipality	3	3	3	4	4	4	4	2	3	5	4	4	3	**46**
2	SDF 44	Street trader policy	Prepare a policy to address and manage street trading throughout the municipality	R 100,000	Setsoto Municipality	3	3	3	5	5	4	4	2	2	5	4	1	1	**40**
3	SDF 46	Detailed precinct plans/Development Frameworks	Prepare policies for all proposed urban nodes, NAMPO/Mirage rural node, rural nodes and new development areas greater than 5ha	To be confirmed	Setsoto Municipality	4	4	4	3	2	2	4	2	3		3	4	5	**40**
4	SDF 11	Complete WWTW	Complete WWTW in Ficksburg	To be confirmed	Setsoto Municipality	5	5	5	1	3	2	3	2	4		3	4	2	**39**
5	SDF 3	Enlarged Conservation Areas	Investigate the completion of critical biodiversity corridors	R 200,000	Department of Environment	3	4	4	1	3	5	3	5	2	5	3	1	1	**38**
6	SDF 2	Tourism Plan	Investigate adventure, eco- and agri- tourism opportunities	R 400,000	Setsoto Municipality, Department of Economic Development and Tourism (DEDaT) and Consultants	3	3	4	1	4	5	3	4	2	5	3	3	3	**37**
7	SDF 6	Renewable Technologies Strategy	Prepare a municipal renewable technology strategy focusing on implementation options for water management and energy generation in projects and developments.	R 250,000	Sstsoto Municipality, Department of Environment, DEDaT and Consultants	3	4	4	1	3	5	3	4	2	5	3	1	1	**37**
8	SDF 12	Complete WWTW	Complete WWTW in Clocolan	To be confirmed	Setsoto Municipality	4	4	4	1	3	2	3	2	4		3	4	2	**36**
9	SDF 30	Road upgrading	R26 - Ficksburg to Lesotho (5km)	R 22,500,000	Department of Police, Roads and Transport	3	4	4	2	2	2	2	1	4	2	3	4	2	**35**
10	SDF 48	Initiate land reform	Initiate at least one land reform project in the municipality	To be confirmed	Nala Municipality	3	4	3	3	3	3	4	2	2		3	4	1	**35**

Project Priority No.	Proposal No.	Policy /Projects Name/ Ref	Project / Policy Description	Cost Est. (Rs)	Finance Source	Rating Matrix													
						Alignment			Sustainability					Project Implementation					Total
						NSDP	FS-PSDF	District SDF	Improves Employment	Improves Economic Empowerment	Improves Economic Diversification	Improves Empowerment	Positive Environmental Impact	Critical Path for other projects	Cost of Impl.	Ease of Impl.	Improves Access to Infrastructure	Improves Settlement Restructuring	
11	SDF 5	Mining Rehabilitation	Prepare a set of standard rehabilitation measures for mined areas.	R 200,000	Setsoto Municipality, Department of Environment, Consultants	4	4	4	1	3	1	3	4	2	5	3	1	1	**34**
12	IDP 1	Upgrade capacity of Meulspruit Dam	Raise wall of Meulspruit Dam	R 31,200,000	Setsoto Municipality	4	4	4	3	3	1	2	1	4	1	2	4	1	**34**
13	IDP 4	Upgrade WWTW Senekal	Increase capacity of WWTW at Senekal	R 3,000,000	Setsoto Municipality	3	3	3	2	3	1	2	3	4	2	3	4	1	**34**
14	IDP 6	Upgrade bulk water supply: Ficksburg/Meqheleng	Construct additional reservoirs	R 52,631,578	Setsoto Municipality	4	3	3	2	3	2	2	3	4	1	2	4	1	**34**
15	SDF 8	Eradicate bucket system	Eliminate the bucket system in Ficksburg	To be confirmed	Setsoto Municipality	5	5	5	1	1	1	2	3	2		3	4	1	**33**
16	SDF 26	Road upgrading	R70 - Senekal to Ficksburg (71km)	R 402,000,000	Department of Police, Roads and Transport	3	4	4	2	2	2	2	1	4	1	2	4	2	**33**
17	SDF 27	Road upgrading	R70 - Senekal to Odendalsrus (106km)	R 394,000,000	Department of Police, Roads and Transport	3	4	4	2	2	2	2	1	4	1	2	4	2	**33**
18	SDF 28	Road upgrading	R707 - Senekal to Marquard (43km)	R 301,000,000	Department of Police, Roads and Transport	3	4	4	2	2	2	2	1	4	1	2	4	2	**33**
19	SDF 29	Road upgrading	R708 - Windburg to Clocolan (75km)	R 518,000,000	Department of Police, Roads and Transport	3	4	4	2	2	2	2	1	4	1	2	4	2	**33**
20	SDF 37	Provide school	Primary and secondary school in Meqheleng	To be confirmed	Department of Education	4	3	3	3	3	2	4	1	2		3	2	3	**33**
21	SDF 39	Provide health facilities	Provide health facilities in Matwabeng	To be confirmed	Department of Health	3	3	4	3	3	2	4	1	2		3	2	3	**33**
22	SDF 41	Provide health facilities	Provide health facilities in Meqheleng	To be confirmed	Department of Health	4	3	3	3	3	2	4	1	2		3	2	3	**33**
23	IDP 3	Upgrade WTW Marquard	Increase capacity of WTW at Marquard	R 10,200,000	Setsoto Municipality	2	3	3	2	3	1	2	3	4	2	3	4	1	**33**
24	IDP 7	Upgrade roads in Ficksburg	Tar streets in Ficksburg	R 5,200,000	Setsoto Municipality	4	3	3	2	3	1	2	1	3	2	4	3	2	**33**
25	SDF 35	Provide school	Primary and secondary school in Matwabeng	To be confirmed	Department of Education	3	3	3	3	3	2	4	1	2		3	2	3	**32**
26	SDF 43	Detailed Public Open Space and Densification Policy	Prepare policy for the management of public open spaces and densification in the municipality	R 200,000	Setsoto Municipality	4	4	4	1	1	2	2	3	2	5	4	2	4	**32**
27	IDP 5	Upgrade oxidation pond at Marquard/Moemaneng	Increase capacity of WWTW at Marquard/Moemaneng	R 12,000,000	Setsoto Municipality	2	3	3	2	3	1	2	3	4	1	3	4	1	**32**
28	IDP 8	Upgrade roads in Clocolan	Tar streets in Clocolan	R 5,200,000	Setsoto Municipality	3	3	3	2	3	1	2	1	3	2	4	3	2	**32**
29	IDP 10	Upgrade roads in Senekal	Tar streets in Senekal	R 5,200,000	Setsoto Municipality	3	3	3	2	3	1	2	1	3	2	4	3	2	**32**
30	SDF 1	Urban Design and Landscaping Frameworks	Prepare detailed urban design and landscaping frameworks for settlements	R 400,000	Setsoto Municipality and Consultants	3	3	4	1	1	3	3	4	2	3	4	1	4	**31**
31	SDF 16	Road upgrading	Upgrade the N5 between Senekal and Winburg	R 100,000,000	Department of Police, Roads and Transport	3	3	3	2	2	2	2	1	4	1	2	4	2	**31**
32	SDF 17	Road upgrading	Upgrade the S42 north of Senekal	R 40,000,000	Department of Police, Roads and Transport	3	3	3	2	2	2	2	1	4	1	2	4	2	**31**
33	SDF 18	Road upgrading	Upgrade the S214 west of Libertas	R 20,000,000	Department of Police, Roads and Transport	3	3	3	2	2	2	2	1	4	1	2	4	2	**31**

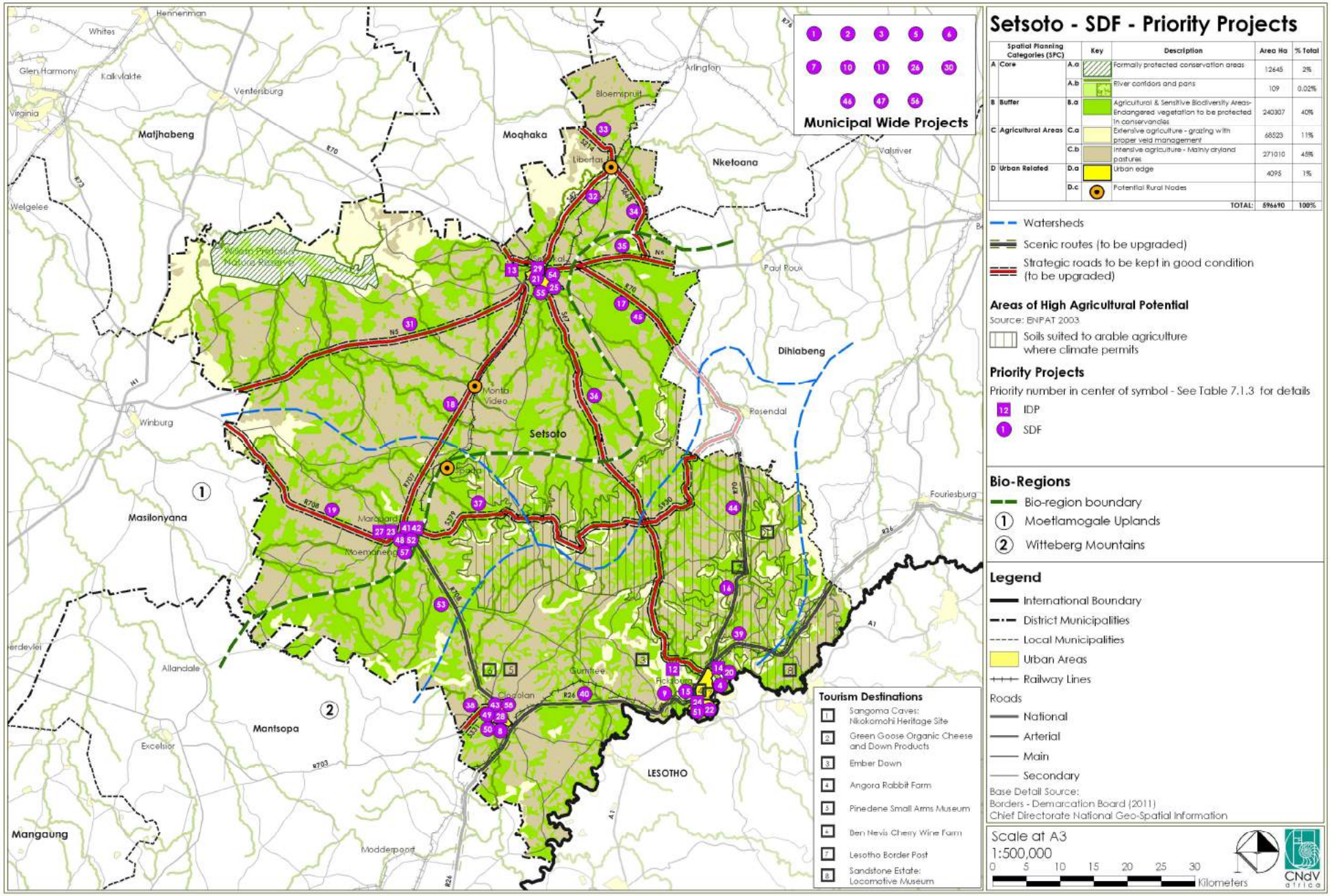


Figure 7.1.3 Setsoto Local Municipality: Priority Projects

Project Priority No.	Proposal No.	Policy /Projects Name/ Ref	Project / Policy Description	Cost Est. (Rs)	Finance Source	Rating Matrix													
						Alignment			Sustainability					Project Implementation					
						NSDP	FS-PSDF	District SDF	Improves Employment	Improves Economic Empowerment	Improves Economic Diversification	Improves Empowerment	Positive Environmental Impact	Critical Path for other projects	Cost of Impl.	Ease of Impl.	Improves Access to Infrastructure	Improves Settlement Restructuring	Total
34	SDF 19	Road upgrading	Upgrade the S668 South of Libertas towards the N5	R 30,000,000	Department of Police, Roads and Transport	3	3	3	2	2	2	2	1	4	1	2	4	2	**31**
35	SDF 20	Road upgrading	Upgrade the N5 between Senekal and Paul Roux	R 40,000,000	Department of Police, Roads and Transport	3	3	3	2	2	2	2	1	4	1	2	4	2	**31**
36	SDF 21	Road upgrading	Upgrade the S67 between Senekal and Ficksburg	R 130,000,000	Department of Police, Roads and Transport	3	3	3	2	2	2	2	1	4	1	2	4	2	**31**
37	SDF 22	Road upgrading	Upgrade the S379 and S930 between Marquard and Rosendal	R 80,000,000	Department of Police, Roads and Transport	3	3	3	2	2	2	2	1	4	1	2	4	2	**31**
38	SDF 23	Road upgrading	Upgrade the R703 between Clocolan and Excelsior	R 20,000,000	Department of Police, Roads and Transport	3	3	3	2	2	2	2	1	4	1	2	4	2	**31**
39	SDF 24	Road upgrading	Upgrade the R26 between Ficksburg and Fouriesburg	R 70,000,000	Department of Police, Roads and Transport	3	3	3	2	2	2	2	1	4	1	2	4	2	**31**
40	SDF 25	Road upgrading	Upgrade the R26 between Ficksburg and Ladybrand	R 80,000,000	Department of Police, Roads and Transport	3	3	3	2	2	2	2	1	4	1	2	4	2	**31**
41	IDP 2	Upgrade raw water supply: Marquard	Construct pipeline	R 3,000,000	Setsoto Municipality	2	3	3	2	3	1	2	1	4	2	3	4	1	**31**
42	IDP 9	Upgrade roads in Marquard	Tar streets in Marquard	R 5,200,000	Setsoto Municipality	2	3	3	2	3	1	2	1	3	2	4	3	2	**31**
43	SDF 9	Eradicate bucket system	Eliminate the bucket system in Clocolan	To be confirmed	Setsoto Municipality	4	4	4	1	1	1	2	3	2		3	4	1	**30**
44	SDF 14	Road upgrading	Upgrade road between Rosendal and Ficksburg	To be confirmed	Department of Police, Roads and Transport	3	3	3	2	2	2	2	1	4		2	4	2	**30**
45	SDF 15	Road upgrading	Upgrade road between Rosendal and Senekal	To be confirmed	Department of Police, Roads and Transport	3	3	3	2	2	2	2	1	4		2	4	2	**30**
46	SDF 42	Floodlines	Determine Floodlines throughout the municipality	R 300,000	Setsoto Municipality	3	3	3	1	1	1	1	5	3	5	4	2	4	**30**
47	SDF 47	Feasibility study: Local and Regional Conservancies	Determine the feasibility of preparing conservancies and possibly detailed management plans for conservancies and tourism areas.	To be confirmed	Setsoto Municipality	3	3	3	2	2	2	2	4	2		5	1	1	**30**
48	SDF 36	Provide school	Primary school in Marquard	To be confirmed	Department of Education	2	2	2	3	3	2	4	1	2		3	2	3	**29**
49	SDF 38	Provide school	Secondary school in Hlohlolwane	To be confirmed	Department of Education	2	2	2	3	3	2	4	1	2		3	2	3	**29**
50	SDF 40	Provide health facilities	Provide health facilities in Hlohlolwane	To be confirmed	Department of Health	2	2	2	3	3	2	4	1	2		3	2	3	**29**
51	SDF 33	High mast lighting	Install high mast lighting in Meqheleng	To be confirmed	Setsoto Municipality	4	4	4	2	2	1	2	1	2		3	2	1	**28**
52	SDF 10	Eradicate bucket system	Eliminate the bucket system in Marquard	To be confirmed	Setsoto Municipality	3	3	3	1	1	1	2	3	2		3	4	1	**27**
53	SDF 13	Road upgrading	Upgrade road between Clocolan and Marquard	To be confirmed	Department of Police, Roads and Transport	3	3	3	1	2	2	2	1	3		2	3	1	**26**
54	SDF 7	Borehole Development	Develop boreholes in Matwabeng	To be confirmed	Setsoto Municipality	3	3	3	1	1	1	1	2	2		3	3	2	**25**
55	SDF 32	High mast lighting	Install high mast lighting in Matwabeng	To be confirmed	Setsoto Municipality	3	3	3	2	2	1	2	1	2		3	2	1	**25**
56	SDF 4	Scenic Routes Study	Prepare a scenic routes study	R 200,000	Setsoto Municipality,	2	2	2	2	2	1	1	3	1	4	4	2	1	**24**

Project Priority No.	Proposal No.	Policy /Projects Name/ Ref	Project / Policy Description	Cost Est. (Rs)	Finance Source	Rating Matrix													
						Alignment			Sustainability					Project Implementation					Total
						NSDP	FS-PSDF	District SDF	Improves Employment	Improves Economic Empowerment	Improves Economic Diversification	Improves Empowerment	Positive Environmental Impact	Critical Path for other projects	Cost of Impl.	Ease of Impl.	Improves Access to Infrastructure	Improves Settlement Restructuring	
			identifying areas to be protected and principles and guidelines for appropriate developments.		Department of Environment; DEDaT and Consultants														
57	SDF 31	High mast lighting	Install high mast lighting in Moemaneng	To be confirmed	Setsoto Municipality	2	2	2	2	2	1	2	1	2		3	2	1	**22**
58	SDF 34	High mast lighting	Install high mast lighting in Hlohlolwane	To be confirmed	Setsoto Municipality	2	2	2	2	2	1	2	1	2		3	2	1	**22**

7.1.4 FICKSBURG IMPLEMENTATION PROJECTS

Project Priority No.	Proposal No.	Policy /Projects Name/ Ref	Project / Policy Description	Cost Est. (Rs)	Finance Source	Rating Matrix														
						Alignment			Sustainability					Project Implementation						Total
						NSDP	FS-PSDF	District SDF	Improves Employment	Improves Economic Empowerment	Improves Economic Diversification	Improves Empowerment	Positive Environmental Impact	Critical Path for other projects	Cost of Impl.	Ease of Impl.	Improves Access to Infrastructure	Improves Settlement Restructuring	
4	SDF 11	Complete WWTW	Complete WWTW in Ficksburg	To be confirmed	Setsoto Municipality	5	5	5	1	3	2	3	2	4		3	4	2	**39**
14	IDP 6	Upgrade bulk water supply: Ficksburg/Meqheleng	Construct additional reservoirs	R 52,631,578	Setsoto Municipality	4	3	3	2	3	2	2	3	4	1	2	4	1	**34**
15	SDF 8	Eradicate bucket system	Eliminate the bucket system in Ficksburg	To be confirmed	Setsoto Municipality	5	5	5	1	1	1	2	3	2		3	4	1	**33**
22	SDF 41	Provide health facilities	Provide health facilities in Meqheleng	To be confirmed	Department of Health	4	3	3	3	3	2	4	1	2		3	2	3	**33**
24	IDP 7	Upgrade roads in Ficksburg	Tar streets in Ficksburg	R 5,200,000	Setsoto Municipality	4	3	3	2	3	1	2	1	3	2	4	3	2	**33**
51	SDF 33	High mast lighting	Install high mast lighting in Meqheleng	To be confirmed	Setsoto Municipality	4	4	4	2	2	1	2	1	2		3	2	1	**28**
20	SDF 37	Provide school	Primary and secondary school in Meqheleng	To be confirmed	Department of Education	4	3	3	3	3	2	4	1	2		3	2	3	**33**

Table 7.1.4 Ficksburg: Priority Projects

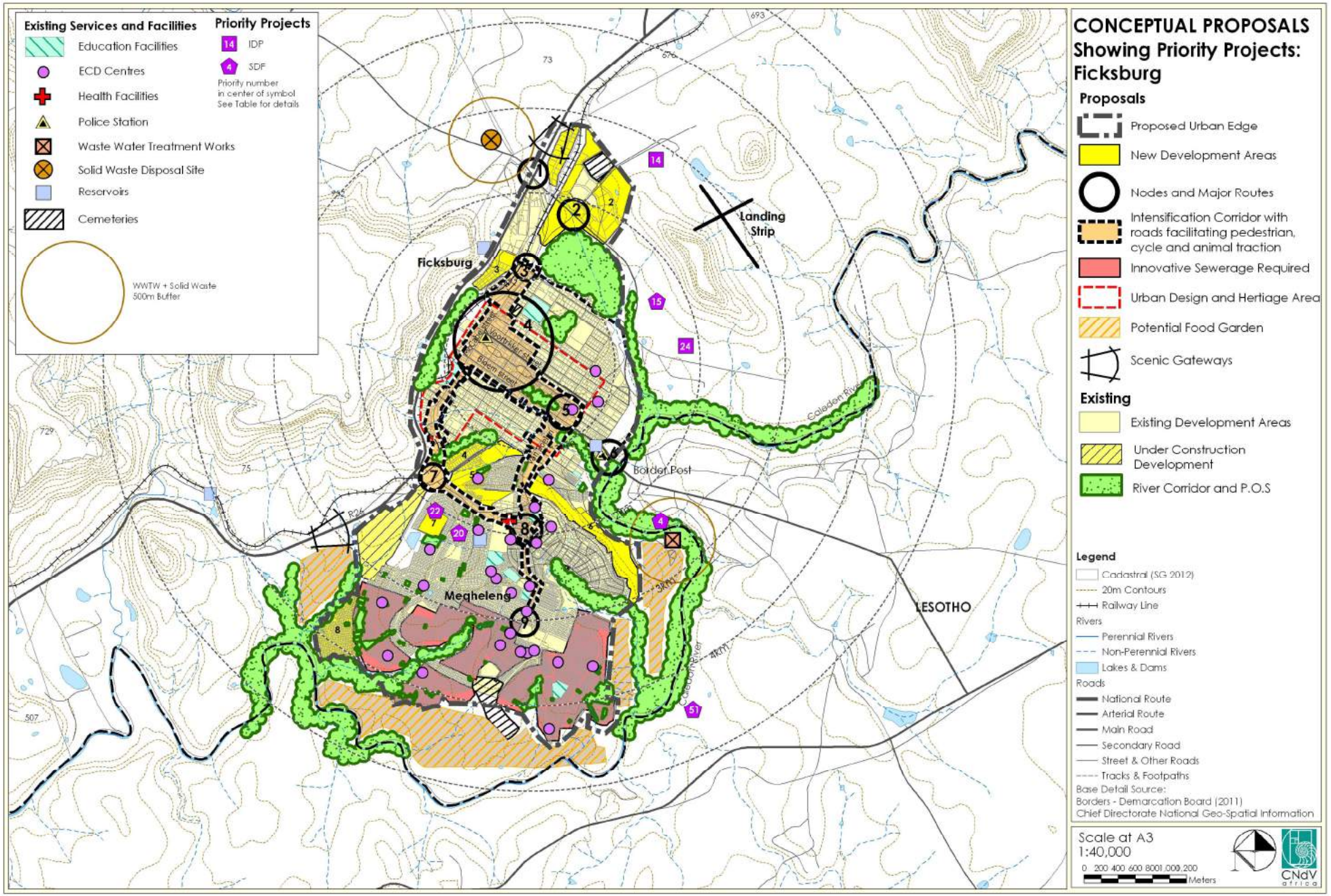


Figure 7.1.4 Ficksburg: Priority Projects

7.1.5 CLOCLAN IMPLEMENTATION PROJECTS

Project Priority No.	Proposal No.	Policy /Projects Name/ Ref	Project / Policy Description	Cost Est. (Rs)	Finance Source	Rating Matrix														
						Alignment			Sustainability					Project Implementation						
						NSDP	FS-PSDF	District SDF	Improves Employment	Improves Economic Empowerment	Improves Economic Diversification	Improves Empowerment	Positive Environmental Impact	Critical Path for other projects	Cost of Impl.	Ease of Impl.	Improves Access to Infrastructure	Improves Settlement Restructuring	Total
8	SDF 12	Complete WWTW	Complete WWTW in Clocolan	To be confirmed	Setsoto Municipality	4	4	4	1	3	2	3	2	4		3	4	2	**36**
28	IDP 8	Upgrade roads in Clocolan	Tar streets in Clocolan	R 5,200,000	Setsoto Municipality	3	3	3	2	3	1	2	1	3	2	4	3	2	**32**
49	SDF 38	Provide school	Secondary school in Hlohlolwane	To be confirmed	Department of Education	2	2	2	3	3	2	4	1	2		3	2	3	**29**
50	SDF 40	Provide health facilities	Provide health facilities in Hlohlolwane	To be confirmed	Department of Health	2	2	2	3	3	2	4	1	2		3	2	3	**29**
58	SDF 34	High mast lighting	Install high mast lighting in Hlohlolwane	To be confirmed	Setsoto Municipality	2	2	2	2	2	1	2	1	2		3	2	1	**22**
43	SDF 9	Eradicate bucket system	Eliminate the bucket system in Clocolan	To be confirmed	Setsoto Municipality	4	4	4	1	1	1	2	3	2		3	4	1	**30**

Table 7.1.5 Clocolan: Priority Projects

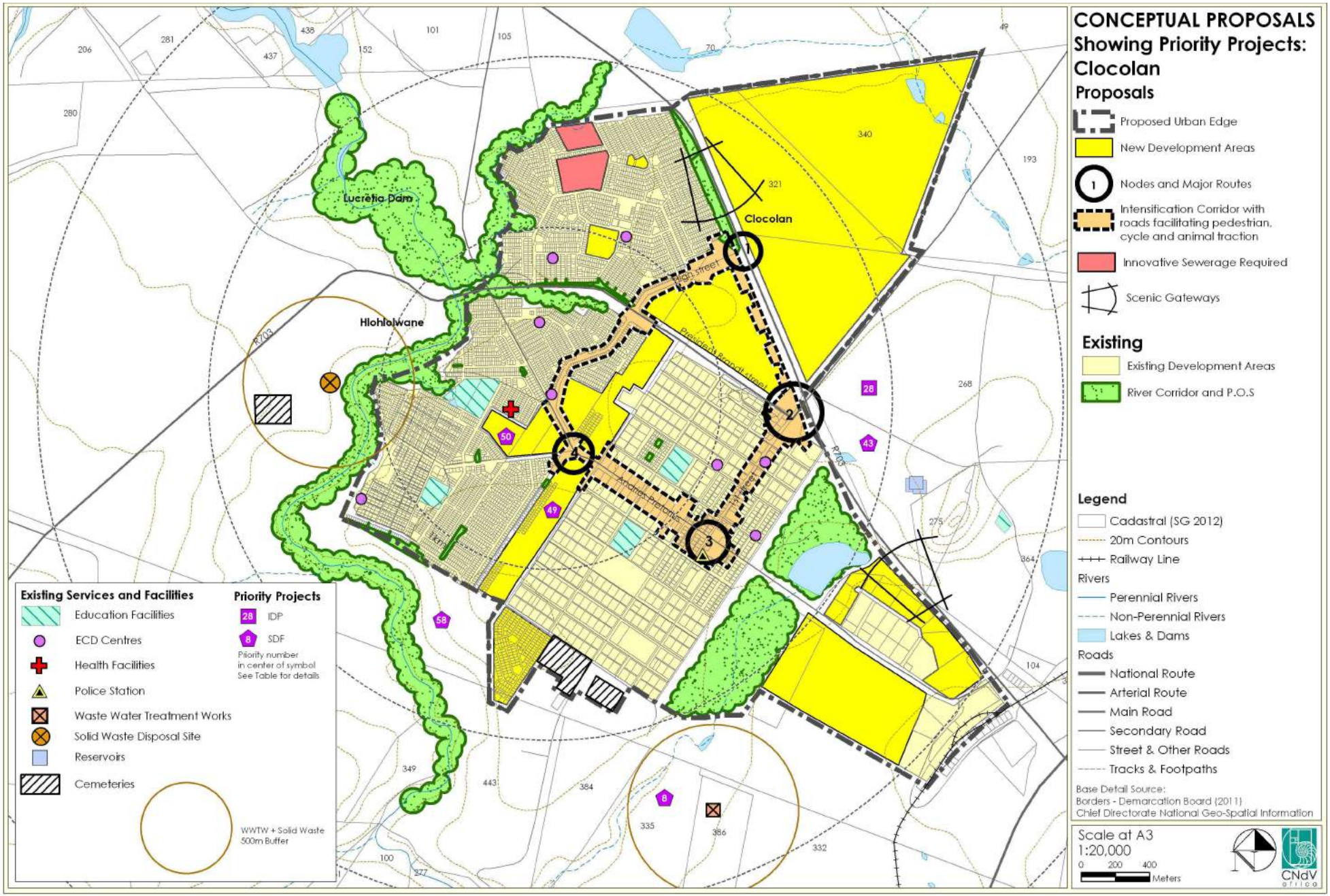


Figure 7.1.5 Clocolan: Priority Projects

7.1.6 MARQUARD IMPLEMENTATION PROJECTS

Project Priority No.	Proposal No.	Policy /Projects Name/ Ref	Project / Policy Description	Cost Est. (Rs)	Finance Source	Rating Matrix													
						Alignment			Sustainability					Project Implementation					Total
						NSDP	FS-PSDF	District SDF	Improves Employment	Improves Economic Empowerment	Improves Economic Diversification	Improves Empowerment	Positive Environmental Impact	Critical Path for other projects	Cost of Impl.	Ease of Impl.	Improves Access to Infrastructure	Improves Settlement Restructuring	
23	IDP 3	Upgrade WTW Marquard	Increase capacity of WTW at Marquard	R 10,200,000	Setsoto Municipality	2	3	3	2	3	1	2	3	4	2	3	4	1	**33**
27	IDP 5	Upgrade oxidation pond at Marquard/ Moemaneng	Increase capacity of WWTW at Marquard/Moemaneng	R 12,000,000	Setsoto Municipality	2	3	3	2	3	1	2	3	4	1	3	4	1	**32**
41	IDP 2	Upgrade raw water supply: Marquard	Construct pipeline	R 3,000,000	Setsoto Municipality	2	3	3	2	3	1	2	1	4	2	3	4	1	**31**
42	IDP 9	Upgrade roads in Marquard	Tar streets in Marquard	R 5,200,000	Setsoto Municipality	2	3	3	2	3	1	2	1	3	2	4	3	2	**31**
48	SDF 36	Provide school	Primary school in Marquard	To be confirmed	Department of Education	2	2	2	3	3	2	4	1	2		3	2	3	**29**
52	SDF 10	Eradicate bucket system	Eliminate the bucket system in Marquard	To be confirmed	Setsoto Municipality	3	3	3	1	1	1	2	3	2		3	4	1	**27**
57	SDF 31	High mast lighting	Install high mast lighting in Moemaneng	To be confirmed	Setsoto Municipality	2	2	2	2	2	1	2	1	2		3	2	1	**22**

Table 7.1.6 Marquard: Priority Projects

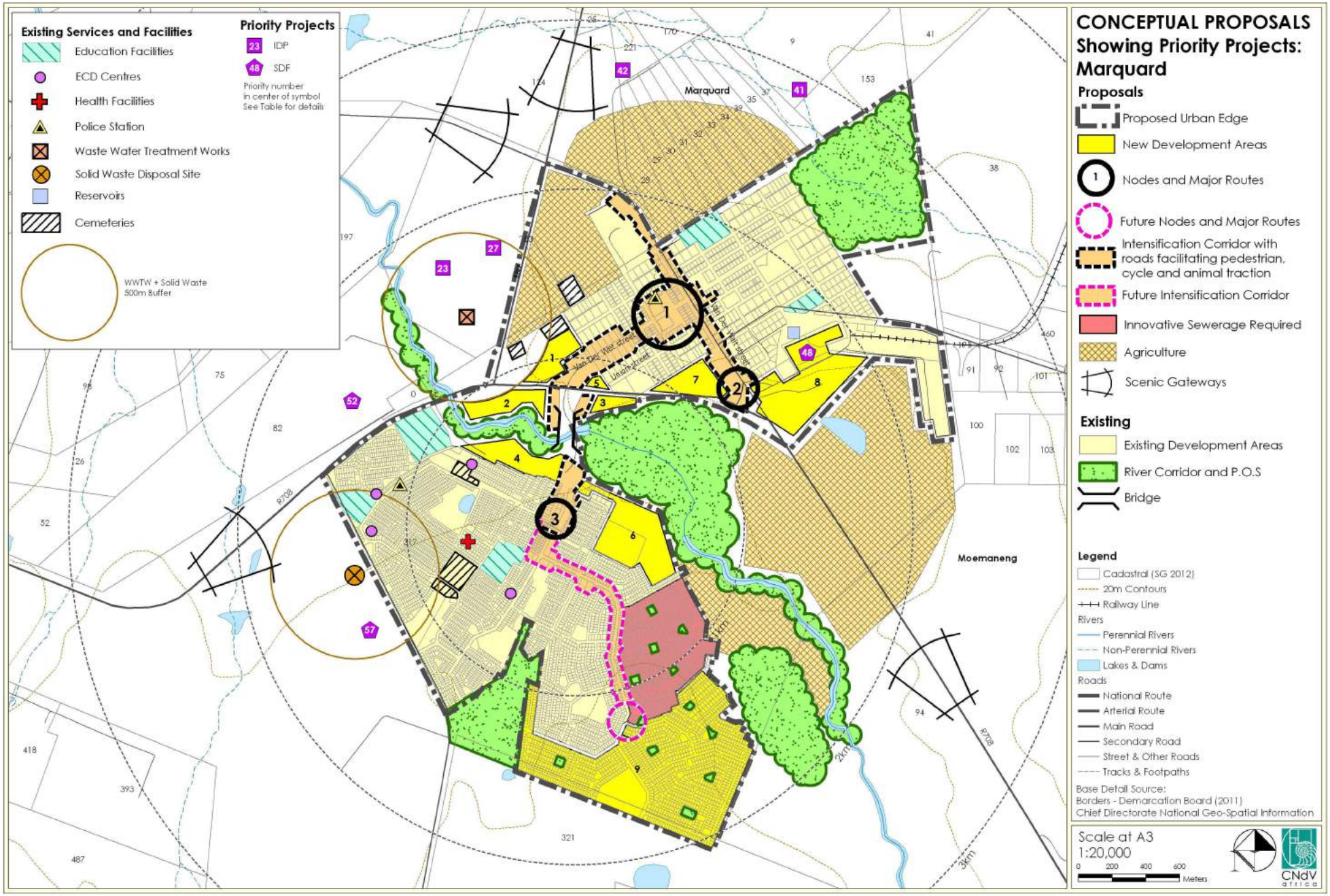


Figure 7.1.6 Marquard: Priority Projects

7.1.7 SENEKAL IMPLEMENTATION PROJECTS:

Project Priority No.	Proposal No.	Policy /Projects Name/ Ref	Project / Policy Description	Cost Est. (Rs)	Finance Source	Rating Matrix														
						Alignment			Sustainability					Project Implementation						
						NSDP	FS-PSDF	District SDF	Improves Employment	Improves Economic Empowerment	Improves Economic Diversification	Improves Empowerment	Positive Environmental Impact	Critical Path for other projects	Cost of Impl.	Ease of Impl.	Improves Access to Infrastructure	Improves Settlement Restructuring	Total
13	IDP 4	Upgrade WWTW Senekal	Increase capacity of WWTW at Senekal	R 3,000,000	Setsoto Municipality	3	3	3	2	3	1	2	3	4	2	3	4	1	**34**
25	SDF 35	Provide school	Primary and secondary school in Matwabeng	To be confirmed	Department of Education	3	3	3	3	3	2	4	1	2		3	2	3	**32**
29	IDP 10	Upgrade roads in Senekal	Tar streets in Senekal	R 5,200,000	Setsoto Municipality	3	3	3	2	3	1	2	1	3	2	4	3	2	**32**
54	SDF 7	Borehole Development	Develop boreholes in Matwabeng	To be confirmed	Setsoto Municipality	3	3	3	1	1	1	1	2	2		3	3	2	**25**
55	SDF 32	High mast lighting	Install high mast lighting in Matwabeng	To be confirmed	Setsoto Municipality	3	3	3	2	2	1	2	1	2		3	2	1	**25**
50	SDF 40	Provide health facilities	Provide health facilities in Hlohlolwane	To be confirmed	Department of Health	2	2	2	3	3	2	4	1	2		3	2	3	**29**

Table 7.1.7 Senekal: Priority Projects

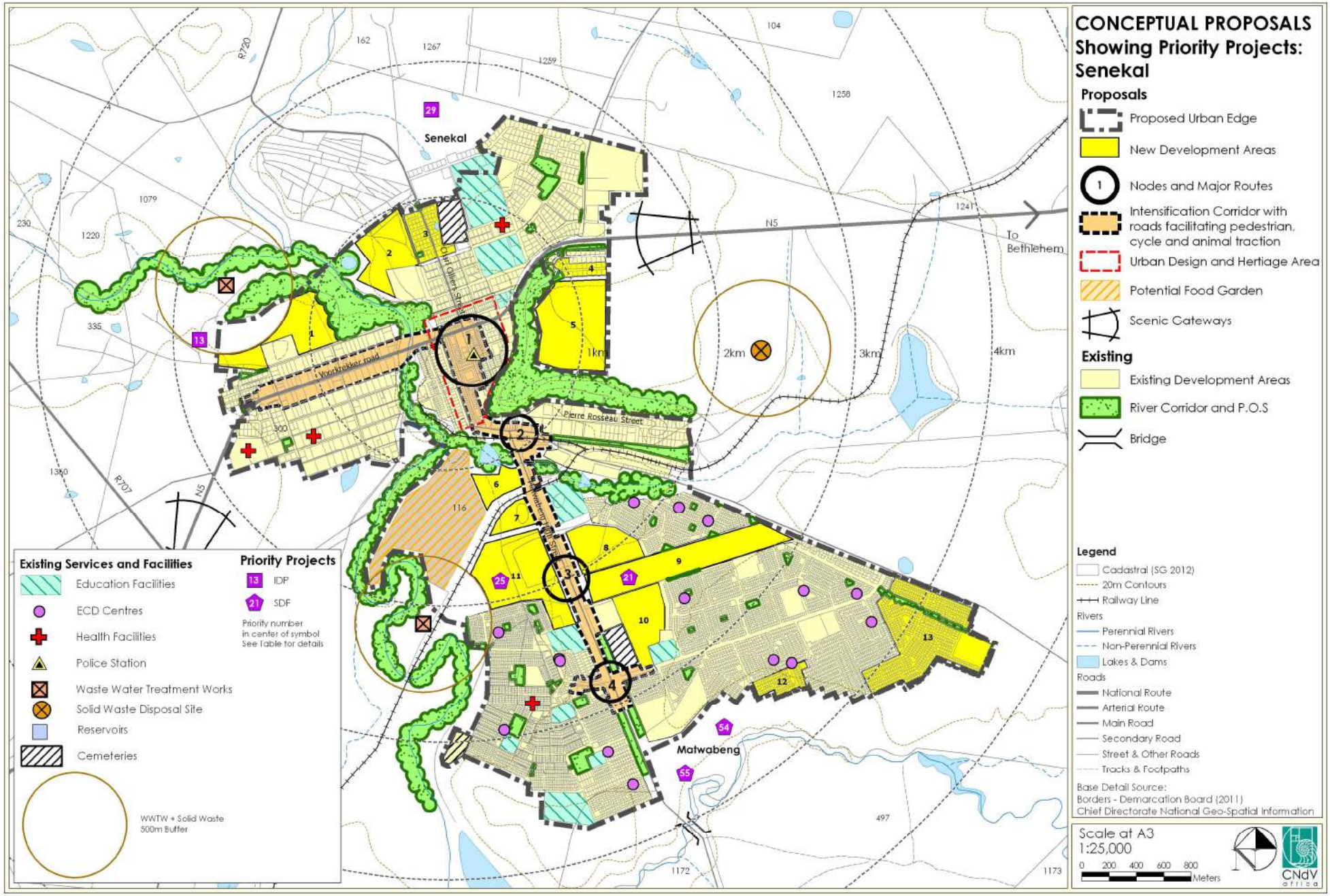


Figure 7.1.7. Senekal: Priority Projects

7.2 MONITORING AND REVISION FRAMEWORK

Phase 7 of reviewing the SDF, Monitoring and Evaluation, will only occur after the SDF is approved. It should occur as follows:

7.2.1 REVIEW PROGRESS IN IDP

The annual review of the IDP should include a review of progress on the policy amendments and project implementation of the SDF according to the priority listings and expenditure programs of the various sector departments' budgets.

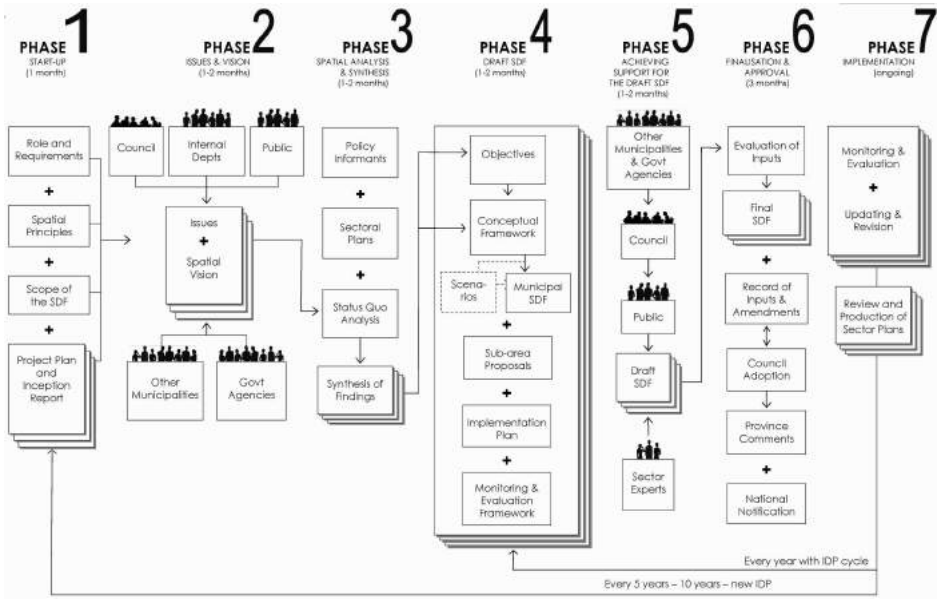


Figure 7.2.1 **Phases in the process of completing and SDF** (source: CNdV, 2010)

Figure 7.2.1 above shows that after the completion of the SDF in Phase 6, the SDF will be implemented through the various sectoral plans during Phase 7, see Figure 7.2.2. During this phase the implementation of the SDF should be monitored on at least a 2 month basis by the IDP's annual reporting on the progress of the various implementation/ sectoral plans. This review should also comment on the SDF. This is shown in Figure 7.2.1.

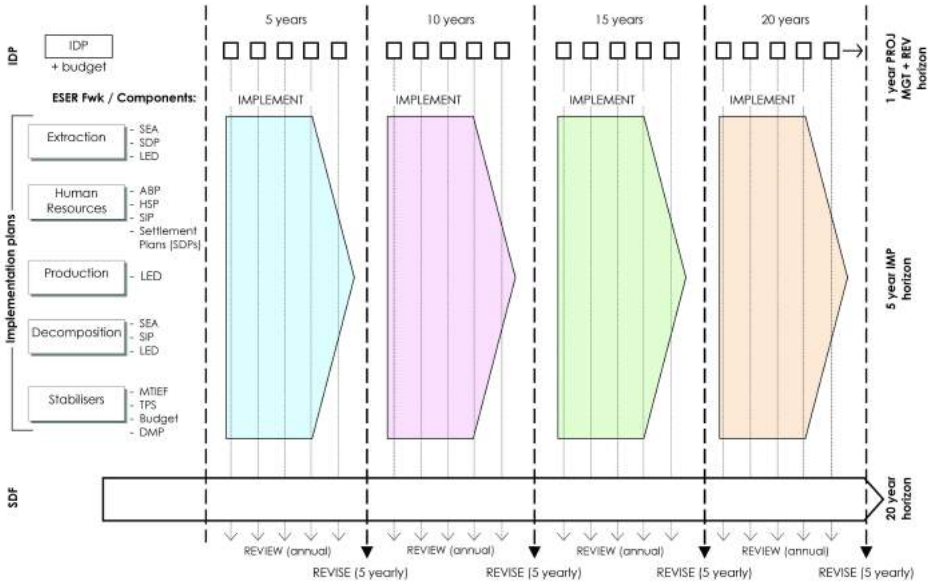


Figure 7.2.2 **Proposed Relationship between IDPs, Implementation Plans, including HSPs and SDFs** (source: CNdV, 2010)

Figure 7.2.2 further shows that the SDF is the common spatial base on which all the implementation plans should be executed.

Figure 7.2.2 also shows that the SDF should be revised and updated at least every each 5 years in parallel with the IDP and Implementation Plans. Ideally, the Sector Implementation Plans and the IDP should start and end on the same 5 year cycle.

Although the SDF is reviewed every year in the IDP and is revised every 5 years it needs to take a longer term view. The SDF should take a 20 to 30 year perspective on the growth direction of a municipality and settlements. It will be the only plan in the municipality taking such a long term view.

7.2.2 PROJECTS/ POLICIES TO BE REPORTED IN THE IDP

The following table of projects is an example of a monitoring / progress report through which the projects can be monitored. This table should be completed indicating each policy or project and reported in each year's IDP.

Project / Policy		Progress	Quality	Econ	Eng	B…	Comments						
							Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
SDF 12	Complete WWTW												
SDF 3	Enlarged Conservation Areas												
SDF 2	Tourism Plan												
SDF 6	Renewable Technologies Strategy												
IDP 1	Upgrade capacity of Meulspruit Dam												
IDP 6	Upgrade bulk water supply: Ficksburg/Meqheleng												
IDP 5	Upgrade oxidation pond at Marquard/Moemaneng												
SDF 1	Urban Design and Landscaping Frameworks												
SDF 9	Eliminate the bucket system in Clocolan												
SDF 33	Determine Floodlines throughout the municipality												
SDF 4	Scenic Routes Study												
SDF 30	Provide health facilities in Matwabeng												
SDF 13	Complete WWTW												
SDF 35	Street trader policy												
SDF 5	Mining Rehabilitation												
SDF 34	Detailed Public Open Space and Densification Policy												

Table 7.2.2 Projects Evaluation and Report Framework

7.3 CONFIGURE SECTOR PLANS

The sector plans should contain the SDF plans for the municipality and two urban centres as their primary spatial informant.

They should take the SDF proposals into account as follows (see facing page as well):

MUNICIPAL SDF	WASTE MANAGEMENT (DWA)	WATER SERVICES (DWA)	HOUSING SECTOR (Human Settlements)	SERVICES AND INFRASTRUCTURE
SPCs				
Core: • Wetlands • Rivers systems	• N/A	• Ensure protection of ecological corridors around wetlands and rivers	• N/A	• Minimize disturbance of protected areas by infrastructure crossings and alignments and efficient quality.
Buffer: (Extensive Agriculture)	• N/A	• N/A	• N/A	• N/A
Intensive agriculture: **1.** Irrigation Scheme	• N/A	• Encourage water demand management and enhanced irrigation efficiencies • Monitor water quality • Promote bio-farming and other techniques to reduce nutrient loads in hydrological systems • Supply water rights for land reform projects	• N/A	• Ensure balance between water supply infrastructure for agriculture and urban development
2. Dryland and Borehole Crop Farming	• N/A	• Monitor borehole abstraction water and ground water levels and recharge rates	• N/A	• N/A
3. Commonage	• N/A	• Provide irrigation for small scale crop farming on commonage	• No residential accommodation to be provided on commonage	• Supply irrigation infrastructure to crop farming on commonage
Urban development:				

Table 7.3.1 SDF Relationship with Sector Plans

PUBLIC TRANSPORT AND NMT (Dept of Transport)	ENVIRONMENTAL MANAGEMENT (Dept of Environment) Dept of Agriculture	LAND REFORM (Dept Rural Development & Land Reform)	DISASTER MANAGEMENT
• N/A	• Ensure protection of ecological corridors around wetlands and rivers	• N/A	• N/A
• N/A	• Promote veld rehabilitation and rotational grazing to enhance bio-diversity	• Ensure livestock farming does not damage bio-diversity through poor grazing methods	• Ensure adequate fire protection and burn management
• N/A	• Monitor water quality • Promote bio-farming • Ensure water	• Ensure water rights for land reform projects	• N/A
• N/A	• Monitor borehole abstraction water and ground water levels and recharge rates • Provide extension services to emerging farmers	• N/A	• N/A
• N/A	• Promote bio-farming on commonage • Provide extension services to emerging farmers	• Promote bio-farming on commonage • Draw up commonage development plan	• N/A

PROPOSALS	WASTE MANAGEMENT (DWA)	WATER SERVICES (DWA)	HOUSING SECTOR (Human Settlements)	SERVICES AND INFRASTRUCTURE
• Intensification Areas	• Ensure sufficient supply • Transfer stations to be accessibly located in corridors	• Ensure sufficient supply	• Promote higher density mixed use housing within the intensification area boundaries	• Ensure sufficient infrastructure to support higher levels of development
• General	• Promote waste separation at source throughout urban settlements	• Promote rainwater harvesting and grey water recycling	• N/A	• N/A
• Residential	• Promote waste separation at source throughout urban settlements	• Ensure access to basic water and sanitation • Allow for communal service centres to address heath issues for non-qualifiers	• All projects to include range of housing, laid out according to socio-economic gradient	• Provide minimum basic services to proposed new housing areas
• Industrial	• Industrial and toxic waste to be properly managed and disposed of	• N/A	• N/A	• Ensure infrastructure in serviced but undeveloped residential areas properly maintained
• Community facilities	• N/A	• N/A	• Include proposals for necessary community facilities into Human Settlement Plans (HSP)	• N/A
• Recreational areas	• N/A	• N/A	• Include proposals for recreational areas into HSP • Housing layouts to face onto recreational areas and not turn their back	• N/A
• Ecological corridors	• Landfill sites can be located in ecological corridors providing they • are managed to best practice standards	• N/A	• Include proposals for recreational areas into HSP • Housing layouts to face onto recreational areas and not turn their back	• Where possible services and infrastructure alignments should not disrupt river channels and wetlands

Table 7.3 SDF Relationship with Sector Plans cont.

PUBLIC TRANSPORT AND NMT (Dept of Transport)	ENVIRONMENTAL MANAGEMENT (Dept of Environment) Dept of Agriculture	LAND REFORM (Dept Rural Development & Land Reform)	DISASTER MANAGEMENT
Provide road network to • commonage farms and promote • animal traction, cycling and • walking Main routes / spines through • development corridors to be • designed with cycle lanes and • pedestrian footways Should be declared public • transport routes (with embayments etc.)	• Promote indigenous or fruit trees for use in the landscaping of development corridors	• N/A	• N/A
Urban settlements should be • designed to minimize the need to • travel and avoid costs of public • transport	• Promote integrated stormwater design including the use of permeable paving and swales in urban development areas	• N/A	• Ensure residential development not located below 1:50 floodlines
Ensure high densities of urban • development coincide with main • non-motorised routes	• Promote off-grid sustainable technologies and passive building design	• N/A	• Ensure adequate fire protection: • Building setbacks • Electrical compliance • Careful use of combustible materials
Ensure industrial areas provided with • cycle and pedestrian routes	• Industrial and toxic waste to property managed and disposed of	• N/A	• N/A
Community facilities should be • located on public transport and • NMT routes to promote • convenience and security	• N/A	• N/A	• N/A
Non-motorised transport networks • should pass through recreational • areas	• N/A	• N/A	• N/A
Non-motorised transport networks • should pass through ecological • corridor areas	• Ensure continuity between connected rural and urban ecological corridor areas • Provide highest level of protection in ecological corridor areas	• N/A	• N/A