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LAINGSBURG MUNICIPALITY

Water Services Development Plan (WSDP) – IDP Water Sector Input Report

For IDP incorporation as directed by the Water Services Act (Act 108 of 1997)

FY 2015/2016

LAINGSBURG MUNICIPALITY

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Version Control:

Status	Description	Date	Reference
Version 1	Draft 2015/2016 WSDP Documents: • WSDP-IDP Water Sector Input Report • Module 1: Overview • Module 2: Detailed Information • Module 3: Future Plans and Strategies	March 2015	Draft WSDP documents were issued to the DWS
Approval	Final 2015/2016 WSDP Documents: • WSDP-IDP Water Sector Input Report • Module 1: Overview • Module 2: Detailed Information • Module 3: Future Plans and Strategies	Will be submitted with the new IDP	Council Resolution for approval will be forwarded by the Mun. to the DWS.

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PROJECT 270930-008 - LAINGSBURG MUNICIPALITY'S WSDP FOR 2015/2016

REV	DESCRIPTION	ORIG	REVIEW	WORLEY-PARSONS APPROVAL	DATE	CLIENT APPROVAL	DATE
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LAINGSBURG MUNICIPALITY

WSDP – IDP WATER SECTOR INPUT REPORT (EXECUTIVE SUMMARY)

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ABBREVIATIONS AND DEFINITIONS

ACIP	Accelerated Community Infrastructure Programme
ADWF	Average Dry Weather Flow
AMP	Asset Management Plan
BDS	Blue Drop System
CBD	Central Business District
CES	Community Engineering Services
CIP	Comprehensive Infrastructure Plan
COD	Chemical Oxygen Demand
CRC	Current Replacement Cost
DOC	Dissolved Organic Carbon
DRC	Depreciated Replacement Cost
DWQ	Drinking Water Quality
DWS	Department of Water and Sanitation
ECD	Early Childhood Development
EPWP	Expanded Public Works Programme
FDA	Future Development Area
FET	Further Education and Training
GAMAP	General Accepted Municipal Accounting Practices
GDIP	Green Drop Improvement Plan
GDP	Gross Domestic Product
GDS	Green Drop System
GEOSS	Geohydrological and Spatial Solutions
HIV	Human Immunodeficiency Virus
IAMP	Infrastructure Asset Management Plan
IDP	Integrated Development Plan
ILI	Infrastructure Leakage Index
IMP	Incident Management Protocol
IMQS	Infrastructure Management Query System
LASBA	Laingsburg Small Business Association
LED	Local Economic Development
m	Metre
MIG	Municipal Infrastructure Grant
Ml	Mega Litre
Ml/a	Mega Litre per Annum
Mm^3/a	Million Cubic Metre per Annum
MNF	Minimum night flow
MTEF	Medium Term Expenditure Framework

ABBREVIATIONS AND DEFINITIONS / Continue

NRW	Non-Revenue Water
NWRS	National Water Resource Strategy
PACA	Participatory Appraisal Competitive Advantage
PAT	Progress Assessment Tool
PDD	Peak Daily Demand
RDP	Reconstruction and Development Programme
RPMS	Regulatory Performance Management System
RSA	Republic of South Africa
RUL	Remaining Useful Life
SANS	South African National Standard
SDBIP	Service Delivery Budget Implementation Plan
SDF	Spatial Development Framework
SFWS	Strategic Framework for Water Services
UARL	Unavoidable Annual Real Losses
VAT	Value Added Tax
WDM	Water Demand Management
WMA	Water Management Area
WSA	Water Services Authority
WSDP	Water Services Development Plan
WSP	Water Services Provider
WTW	Water Treatment Works
WWTW	Waste Water Treatment Works

KEY TERMS	INTERPRETATION
Basic Water Supply Facility	The infrastructure necessary to supply 25 litres of potable water per person per day supplied within 200 metres of a household and with a minimum flow of 10 litres per minute (in the case of communal water points) or 6 000 litres of potable water supplied per formal connection per month (in the case of yard or house connections).
Basic Water Supply Service	The provision of a basic water supply facility, the sustainable operation of the facility (available for at least 350 days per year and not interrupted for more than 48 consecutive hours per incident) and the communication of good water-use, hygiene and related practices.
Basic Sanitation Facility	The infrastructure necessary to provide a sanitation facility which is safe, reliable, private, protected from the weather and ventilated, keeps smells to the minimum, is easy to keep clean, minimises the risk of the spread of sanitation-related diseases by facilitating the appropriate control of disease carrying flies and pests, and enables safe and appropriate treatment and/or removal of human waste and wastewater in an environmentally sound manner.
Basic Sanitation Service	The provision of a basic sanitation facility which is easily accessible to a household, the sustainable operation of the facility, including the safe removal of human waste and wastewater from the premises where this is appropriate and necessary, and the communication of good sanitation, hygiene and related practices.
CRC	The cost of replacing the service potential of an existing asset, by reference to some measure of capacity, with an appropriate modern equivalent asset. GAMAP defines CRC as the cost the entity would incur to acquire the asset on the reporting date.
DRC	The replacement cost of an existing asset after deducting an allowance for wear or consumption to reflect the remaining economic life of the existing asset.
IDP	A municipal plan as defined in the Municipal Systems Act.
MIG	A conditional grant from national government to support investment in basic municipal infrastructure.
RUL	The time remaining over which an asset is expected to be used.
Strategic Framework for Water Services	The Strategic Framework provides a comprehensive summary of policy with respect to the water services sector in South Africa and sets out a strategic framework for its implementation over the next ten years.
WSA	A WSA is any municipality that has the executive authority to provide water services within its area of jurisdiction in terms of the Municipal Structures Act 118 of 1998 or the ministerial authorisations made in terms of this Act. There can only be one water services authority in any specific area. Water services authority area boundaries cannot overlap. Water services authorities are metropolitan municipalities, district municipalities and authorised local municipalities.
WSDP	A plan for water and sanitation services in terms of the Water Services Act.

KEY TERMS

TERM	INTERPRETATION
WSP	A Water services provider is • Any person who has a contract with a water services authority or another water services provider to sell water to, and/or accept wastewater for the purpose of treatment from, that authority or provider (bulk water services provider); and / or • Any person who has a contract with a water services authority to assume operational responsibility for providing water services to one or more consumers (end users) within a specific geographic area (retail water services provider); or • A water services authority which provides either or both of the above services itself
WC	The minimisation of loss or waste, the care and protection of water resources and the efficient and effective use of water.
WDM	The adaptation and implementation of a strategy by a water institution or consumer to influence the water demand and usage of water in order to meet any of the following objectives: economic efficiency, social development, social equity, environmental protection, sustainability of water supply and services, and political acceptability.

WSDP – IDP Water Sector Input Report (Executive Summary)

Introduction

Every WSA has a duty to all customers or potential customers in its area of jurisdiction to progressively ensure efficient, affordable, economical and sustainable access to water services that promote sustainable livelihoods and economic development.

Sections 12 and 13 of the Water Services Act (Act No 108 of 1997) place a duty on WSAs to prepare and maintain a WSDP, as part of the process of preparing an IDP. The DWS has developed a new set of WSDP guidelines to assist WSAs with the WSDP process and to provide a framework for the capturing of the data. The business elements included in the guidelines and addressed in detail in the three Modules of Laingsburg Municipality's WSDP are as follows:

- Administration
- Demographics Profile
- Service Levels Profile
- Socio Economic Background Profile
- Water Services Infrastructure Profile
- Operation and Maintenance Profile
- Associated Services Profile
- Water Resources Profile
- Conservation and Demand Management Profile
- Financial Profile
- Institutional Arrangements Profile
- Social and Customer Service Requirements Profile
- Needs Development Plan

The 2015/2016 WSDP of Laingsburg Municipality consists of the following documents.

- WSDP-IDP Water Sector Input Report (For Council approval and Public Participation Process)
- Module1: Overview and assessment of the status of information and strategies on a WSA level.
- Module 2: Detailed information: Enabling factors compliancy supportive information.
- Module 3: Future plans and strategic supportive information.

The primary instrument of planning in the water services sector is the WSDP. The following principles apply to the WSDP:

- All WSAs must develop a WSDP.
- A new plan must be developed every five years and the plan should be updated as necessary and appropriate in the interim years.
- The WSDP must be integrated with the IDP of the municipality, as required in terms of the Municipal Systems Act.
- The WSDP must integrate water supply planning with sanitation planning.

- The WSDP must integrate technical planning with social, institutional, financial and environmental planning. The planning of capital expenditures must also be integrated with the associated operation and maintenance requirements and expenditures.

- The WSDP must be informed by the business plans developed by water services providers and with the plans of any regional water services providers, as relevant.

- The plan must take into account the impact of HIV/Aids on future water demand.

- The WSDP must integrate with the catchment management strategy.

- The planning process must take into account the views of all important stakeholders, including communities, through a consultative and participatory process. Every effort must be made to ensure the adequate and meaningful participation of women in consultation forums.

- The draft plan must be made available for public and stakeholder comment and all comments made must be considered when preparing the final plan.

- The contents of the WSDP must be communicated to all important stakeholders, including the DWS.

- A WSA must report annually and in a public way on progress in implementing the plan.

The purpose of this report is to provide relevant and summarised WSDP inputs for incorporation into Laingsburg Municipality's IDP process and is structured as follows:

Section A: Status Quo Overview: Provides a summarised overview of the water services status quo in terms of the water services functional business elements as aligned to the WSDP framework.

Section B: State of Water Services Planning: Presents the status of- and references the water services planning within Laingsburg Municipality.

Section C: Water Services Existing Needs Perspective: Gives an overview of Laingsburg Municipality's assessment and interpretation of its water services, with specific focus on problem definition statements.

Section D: Water Services Objectives and Strategies: Outlines the 5-year water services objectives and strategies as developed through the WSDP process for incorporation in terms of the IDP and aligned to the water services functional business elements.

Section E: Water Services MTEF Projects: The agreed water services projects for the medium-term expenditure framework and inclusive of funding sources.

Section F: WSDP Projects: Presents the projects identified during the WSDP process in order to meet the water services strategies of Laingsburg Municipality, as aligned to the outflow from the situation analysis per water services business element.

SECTION A: STATUS QUO OVERVIEW

Business Element 1: Administration

Section 14 of the Water Services Act requires that the WSA must take reasonable steps to bring its draft WSDP to the notice of a number of different stakeholders so that they have the opportunity to comment on it. Section 15 of the Act requires that the WSA must supply a copy of the WSDP to the Minister of Water and Sanitation, Minister of Provincial and Local Government, the relevant Province and all the neighbouring WSAs.

The 2015/2016 WSDP will be distributed to the public as part of the IDP public participation process. The draft WSDP will also be distributed to all the neighbouring WSAs for their comments. All relevant comments received on the draft WSDP will be included in the final WSDP.

Business Element 2: Demographics

Laingsburg Municipality falls within the newly established Breede-Gouritz Water Management Area (WMA). Laingsburg Municipality is the only WSA within the Laingsburg Municipality's Management Area and act also as the Water Services Provider (WSP). Its responsibility as WSA also extends to the rural areas within its boundary. Laingsburg Municipality's Management Area includes the following towns and rural areas:

- Laingsburg;
- Matjiesfontein;
- Vleiland
- The rural farm areas, e.g. Baviaans, Hillandale, Koringplaas, Koup, Pieter Meintjies, Rouxpos and Seweweekspoort.

From a Water Services perspective, the most significant challenges are the augmentation of the existing water sources, ensuring adequate refurbishment and replacement of existing water and sewerage infrastructure, the installation of new bulk water and sewerage infrastructure to accommodate new housing developments and to ensure the provision of basic services to households located on private farms. Strategies and action plans will need to be developed and implemented, in collaboration with farm owners, in order for the Municipality to fulfil its legal obligations and responsibilities as WSA to ensure that all households are provided with at least basic services.

Physical Perspective:

Global Warming:

In terms of adapting for climate change, water systems will need to be more robust and new / alternative sources of supply may need to be found. Increased skills will be required from water managers and long-term water projections are required. Although an overall decrease in rainfall is generally not forecasted, increased variability in the climate and frequency of extreme events, as well as increased temperature and wind could have an impact on water sources, particularly surface waters.

It is necessary for WSAs to develop climate response strategies and include these in their WSDPs, implement WC/WDM and reduce levels of NRW. Water-related climate change adaptation and mitigation planning should be incorporated into all WSDPs and IDPs. The implementation of WC/WDM is a critical element of adapting to climate change. This must be implemented by all water sector institutions and water users, and should include the optimisation of dam and groundwater operation, as well as the reduction of physical water losses and the introduction of water-efficient appliances, processes and crops.

It is therefore advisable for Laingsburg Municipality that a conservative approach be followed regarding the management of water sources. It is proposed that the following approach be adopted to mitigate and adapt to the impacts of climate change:

- All resources, especially surface water resources, need to be re-evaluated, especially where demand is close to the safe one in twenty year yields. It is therefore important to establish assurance of supply levels of all water sources;

- increase assurance of supply of the water resources by ensuring that there is at least 10% additional capacity (headroom), when considering the maximum 24 hour demand on the peak month of the year;

- do not undertake new developments unless a proper investigation of the implication on water sources and sustainability in the long term has been undertaken;

- vigorously implement WDM measures, especially in terms of the following:
  - increased water efficiency
  - frequent monitoring of the water supply system, from the sources to the consumers; and
  - regular and adequate system maintenance and repairs.

- Diversify water resources, e.g. surface water, groundwater and wastewater re-use.

Floods:

One of the climate change threats in some parts of the Western Cape is the likelihood of floods with greater intensity and longer term impacts. There is likely to be increases in the severity and unpredictability of weather patterns. Flooding and storms are predicted which could have devastating effects on agricultural production.

Laingsburg experienced severe flood damage again in 2014 after three rivers burst their banks due to heavy rain. The town's water and sewerage infrastructure was severely damaged. The direct damage to the Municipality's infrastructure was estimated at R20 million. It was some of the worst flooding in the Karoo town since 1981. The recent flood in Laingsburg again highlights the importance of ensuring that all bulk water and sewerage infrastructure are properly protected against possible flooding.

Natural Environment:

The Karoo is considered a wonder of the scientific world and is therefore of immense national and international conservation importance. The region is integral to the work of scientists, botanists, archaeologists, geologists, palaeontologists and ecologists from all over the world. This is mainly due to the fact that the Karoo is an ancient, fossil-rich land with the largest variety of succulents found anywhere on earth.

Demographic Perspective:

Laingsburg: The primary economic base for Laingsburg town is the agricultural sector. The town serves the daily needs of the surrounding farming and residential community. With the exception of the towns identity as a flood survivor, few other attractions, economic incentives or opportunities currently exist. Furthermore, there are limited human resources present to develop the town.

Laingsburg plays an essential role as a service centre for the region by providing basic services to the surrounding farming community. Due to economies of scale and critical threshold necessary to make businesses sustainable, the region only provides its community with a limited choice of opportunities. The town itself is therefore by-passed in favour of larger towns for greater variety or for higher order services. A limited number of commercial enterprises have established themselves in the town with little to no private investment ensuing.

The local economy has been affected by the decline in available employment opportunities and natural increase in its population growth rate. The Laingsburg region has further been identified as one of the towns in the Western Cape with a low development potential and a high human need.

Matjiesfontein: Tourism is the town's economic base, where visitors and travellers visit the town for its history and unique Victorian sense of place. This causes an inflow of new money to the area. Considering its sense of place, Matjiesfontein has been granted heritage status. Major development in the area is rejected in order to retain the areas character. An additional 95 low-income households was recently constructed by the Municipality.

Regional Perspective:

The Central Karoo District economy grew at a faster rate than the population which has led to an increase in per capita income in the region. This indicates higher average standards of living of the inhabitants of the region. The Central Karoo District had the highest unemployment and youth unemployment rates in 2001, but this has decreased significantly by 2011. The decrease can be attributed to higher levels of education and work opportunities in the Central Karoo District.

The Central Karoo District has the lowest literacy rates in the Province, with Prince Albert recording the lowest literacy rate of 69.9%. Skills development as well as low skilled labour intensive initiatives will be necessary to stimulate employment in the region, due to the general trend towards employing skilled and highly skilled labour. Although the proportion of households that are living in poverty in the Central Karoo dropped slightly between 2001 and 2010, poverty levels are still relatively high and need to be addressed.

Even though the Central Karoo District has shown some improvement over the years with regard to its socio-economic environment there is still room for improvement with regards to poverty reduction and skills development. The Central Karoo faces a number of risks in terms of adverse climatic conditions which could impact on the sustainable development of the area. The region should therefore consider the impact of climate change on its planning and budgeting processes.

The table below gives an overview of Laingsburg Municipality's population, households and water services levels.

Table A.1: Water services overview

Settlement Type	2011*		2013/14		Water category										Sanitation category									
	Households	Population	Households	Population	Adequate: Formal	Adequate: Informal	Adequate: Sahred Services	Water resources needs only	O&M needs only	Infrastructure needs only	Infrastructure & O&M needs	Infrastructure, O&M & Resource need	No Services: Informal	No Services: Formal	Adequate: Formal	Adequate: Informal	Adequate: Sahred Services	Water resources needs only	O&M needs only	Infrastructure needs only	Infrastructure & O&M needs	Infrastructure, O&M & Resource need	No Services: Informal	No Services: Formal
URBAN																								
Metropolitan Area					Adequate			Below RDP					None		Adequate			Below RDP					None	
	0	0	0	0																				
Sub-Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Formal Town					Adequate			Below RDP					None		Adequate			Below RDP					None	
Laingsburg	1,512	5,667	1,567	5,873	✓		✓								✓		✓							
Matjiesfontein	95	422	97	429	✓										✓									
Sub-Total	**1,607**	**6,089**	**1,664**	**6,302**	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Townships					Adequate			Below RDP					None		Adequate			Below RDP					None	
	0	0	0	0																				
Sub-Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Informal Settlements					Adequate			Below RDP					None		Adequate			Below RDP					None	
	0	0	0	0																				
Sub-Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Working towns & service centres					Adequate			Below RDP					None		Adequate			Below RDP					None	
	0	0	0	0																				
Sub-Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Sub-Total: (Urban)	**1,607**	**6,089**	**1,664**	**6,302**	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
RURAL																								
Rural / Farming					Adequate			Below RDP					None		Adequate			Below RDP					None	
Laingsburg Rural	804	2,200	812	2,222	✓		✓	✓		✓				✓	✓		✓		✓	✓				✓
Sub-Total	**804**	**2,200**	**812**	**2,222**	**1**	**0**	**1**	**1**	**0**	**1**	**0**	**0**	**0**	**1**	**1**	**0**	**1**	**0**	**1**	**1**	**0**	**0**	**0**	**1**
Informal Settlements					Adequate			Below RDP					None		Adequate			Below RDP					None	
	0	0	0	0																				
Sub-Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Sub-Total (Rural)	**804**	**2,200**	**812**	**2,222**	**1**	**0**	**1**	**1**	**0**	**1**	**0**	**0**	**0**	**1**	**1**	**0**	**1**	**0**	**1**	**1**	**0**	**0**	**0**	**1**
TOTAL	**2,411**	**8,289**	**2,476**	**8,524**	**3**	**0**	**2**	**1**	**0**	**1**	**0**	**0**	**0**	**1**	**3**	**0**	**2**	**0**	**1**	**1**	**0**	**0**	**0**	**1**

The Growth Potential Study (GPS3), November 2013, of the Western Cape Government determined the growth potential and socio-economic needs of settlements in the Western Cape using quantitative data (e.g. factors relating to socio-economic, economic, physical-environmental, infrastructure and institutional aspects).

The table below gives an overview of the growth potential of Laingsburg and Matjiesfontein, as included in the Growth Potential Study.

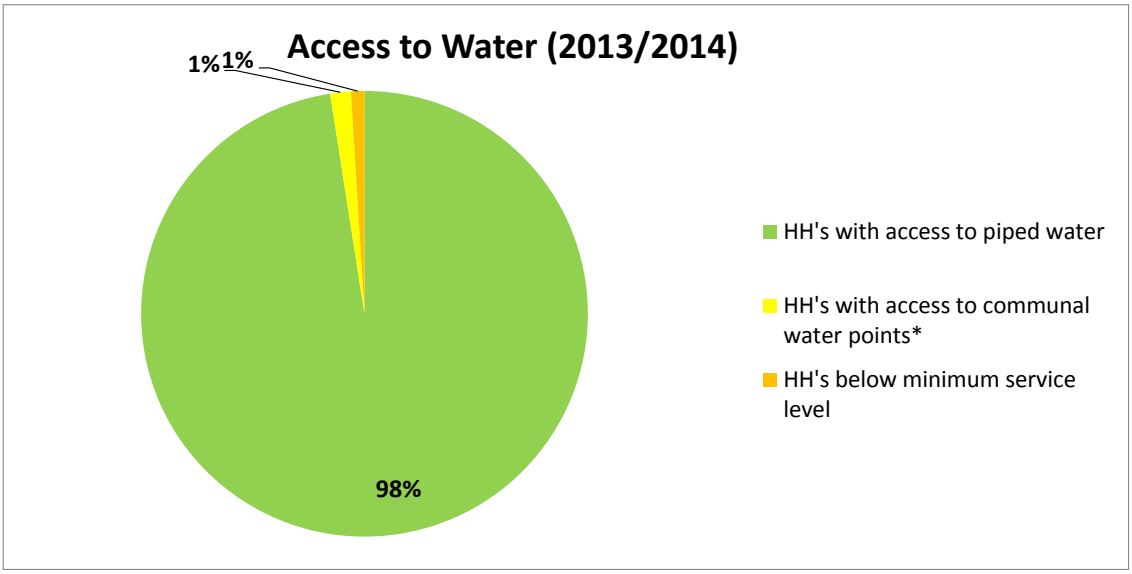
Table A.2: Growth potential rating for Laingsburg and Matjiesfontein (Growth Potential Study)		
Indicator / Index (Classification)	**Laingsburg (Out of 100)**	**Matjiesfontein (Out of 100)**
Human Capital Index	45 (Medium)	32 (Low)
Economic Index	17 (Low)	16 (Low)
Physical-Natural Index	43 (Low)	26 (Very Low)
Infrastructure Index	65 (Medium)	47 (Low)
Institutional Index	44 (Medium)	40 (Low)
Growth Potential Index	39 (Low)	22 (Very Low)

Business Element 3: Service Levels

The table and graph below give an overview of the water service delivery access profile in Laingsburg Municipality's Management Area.

Table A.3: Residential water services delivery access profile: Water							
Census Category	**Description**	**Year 0**		**Year -1**		**Year -2**	
		FY2013/14		**FY2012/13**		**FY2011/12**	
		Nr	**%**	**Nr**	**%**	**Nr**	**%**
	WATER (ABOVE MIN LEVEL)						
Piped (tap) water inside dwelling/institution	House connections	1,714	69%	1,691	69%	1,669	69%
Piped (tap) water inside yard	Yard connections	701	28%	692	28%	682	28%
Piped (tap) water on community stand: distance less than 200m from dwelling/institution	Standpipe connection < 200 m	37	1%	37	1%	36	1%
	Sub-Total: Minimum Serivce Level and Above	**2,452**	**99%**	**2,419**	**99%**	**2,387**	**99%**
	WATER (BELOW MIN LEVEL)						
Piped (tap) water on community stand: distance between 200m and 500m from dwelling/institution	Standpipe connection: > 200 m < 500 m	12	0%	12	0%	12	0%
Piped (tap) water on community stand: distance between 500m and 1000m (1km) from dwelling /institution	Standpipe connection: > 500 m < 1 000 m	0	0%	0	0%	0	0%
Piped (tap) water on community stand: distance greater than 1000m (1km) from dwelling/institution	Standpipe connection: > 1 000 m	0	0%	0	0%	0	0%
No access to piped (tap) water	No services	12	0%	12	0%	12	0%
	Sub-Total: Below Minimum Service Level	**24**	**1%**	**24**	**1%**	**24**	**1%**
	Total number of households	**2,476**	**100%**	**2,443**	**100%**	**2,411**	**100%**

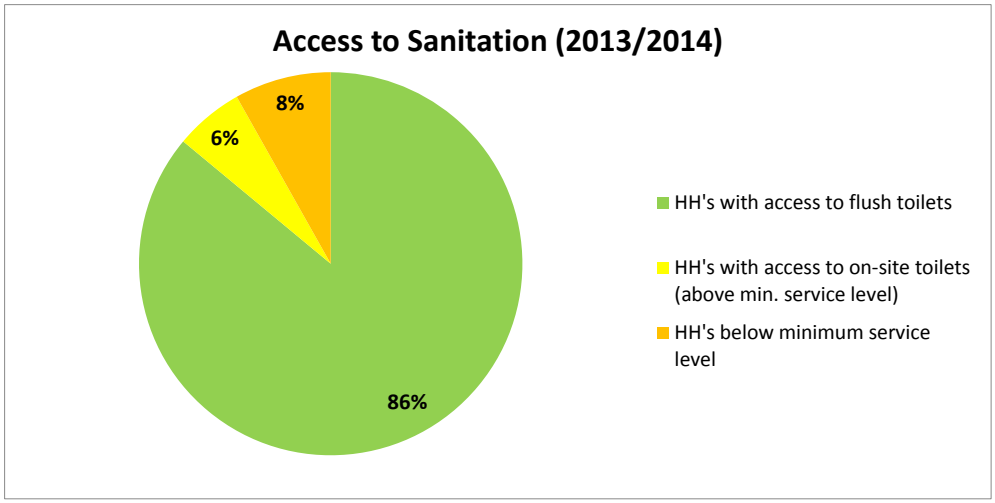
All the households in the urban areas of Laingsburg Municipality's Management Area are provided with water connection points inside the erven and there are no informal areas with shared services.



The table and graph below give an overview of the water sanitation delivery access profile in Laingsburg Municipality's Management Area.

Table A.4: Residential water services delivery access profile: Sanitation

Census Category	Description	Year 0 FY2013/14		Year -1 FY2012/13		Year -2 FY2011/12	
		Nr	%	Nr	%	Nr	%
	SANITATION (ABOVE MIN LEVEL)						
Flush toilet (connected to sewerage system)	Waterborne	1,627	66%	1,603	66%	1,580	66%
	Waterborne: Low Flush	0	0%	0	0%	0	0%
Flush toilet (with septic tank)	Septic tanks / Conservancy	503	20%	496	20%	489	20%
Chemical toilet	Non-waterborne (above min. service level)	23	1%	23	1%	22	1%
Pit toilet with ventilation (VIP)		121	5%	119	5%	118	5%
Other		0	0%	0	0%	0	0%
	Sub-Total: Minimum Serivce Level and Above	**2,274**	**92%**	**2,241**	**92%**	**2,209**	**92%**
	SANITATION (BELOW MIN LEVEL)						
Pit toilet without ventilation	Pit toilet	80	3%	80	3%	80	3%
Bucket toilet	Bucket toilet	9	0%	9	0%	9	0%
Other toilet provision (below min. service level	Other	10	0%	10	0%	10	0%
No toilet provisions	No services	103	4%	103	4%	103	4%
	Sub-Total: Below Minimum Service Level	**202**	**8%**	**202**	**8%**	**202**	**8%**
	Total number of households	**2,476**	**100%**	**2,443**	**100%**	**2,411**	**100%**



Laingsburg Municipality completed a detail survey of the service levels on the farms in their Management Area during 2009/2010. 313 Households on 126 farms were surveyed and information was gathered on the employment profile, availability of transport, electricity services, waste management, water services and sanitation services.

The survey indicated that there are none of the surveyed households on the farms in Laingsburg Municipality's Rural Management Area with no water services. There are however 4 households where the accessibility of the water is further than 200m. There are also 10 households where the water is not always available 24 hours a day 7 days a week.

There are 23 households where the water is stored in open reservoirs or tanks. Animals and birds can contaminate the water in these reservoirs with their droppings. If animals drown in these reservoirs there will also be a higher level of harmful micro-organisms present in the water. Possible risks include illness from ingestion of harmful micro-organisms.

There are also 303 households where no disinfection takes place. The risk of illness from ingestion harmful micro-organisms will depend on the quality of the source of water used. It is however important for the land owners to know the quality of their potable water and whether it complies with the Microbiological Safety Requirements and Physical, Organoleptic and Chemical Requirements of SANS 241.

There are still 76 households with Pit Latrines below acceptable standard. There are also 4 households that still make use of a bucket system and 43 households with no sanitation facility. There are also 9 households where the sanitation facility is not maintained / not in a working order and at 17 households the sanitation facility is further than 50m.

The table below give an overview of the annual number of consumer units for Laingsburg and Matjiesfontein, as taken from the financial system.

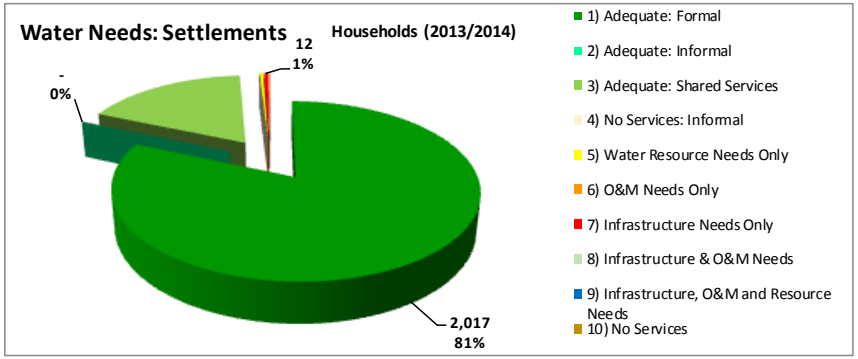
Table A.5: Number of consumer units for the last three financial years, as taken from the financial system

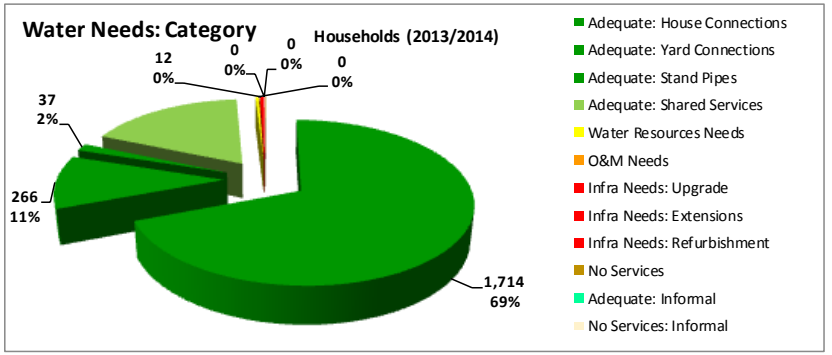
Distribution System	Domestic	Business	Industry	Municipal	Govern-ment	Institu-tions	Church	Officials	Council-lors	Total
2011/2012										
Laingsburg	1 162	19	1	2	5	1	9	35	1	1 235
Matjiesfontein	9	0	0	0	0	0	0	0	0	9
2012/2013										
Laingsburg	1 154	24	1	2	9	1	9	31	1	1 232
Matjiesfontein	12	0	0	0	0	0	0	0	0	12
2013/2014										
Laingsburg	1 147	38	1	2	12	3	9	33	1	1 247
Matjiesfontein	82	0	0	0	0	0	0	0	0	82

Note: Added the 71 new connections provided in Matjiesfontein during the last financial year

Table A.6(a): Residential water services delivery adequacy profile (Water)

Water Categorisation	Number of settlements	FORMAL																				INFORMAL			
		Adequate								Water Resource needs		O & M Needs		Infrastructure Needs						No services		Adequate		No services	
		House Connections		Yard Connections		Stand Pipes		Shared Services						Upgrades		Extensions		Refurbishment							
		HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%
1	6	1,714	100%	266	100%	37	100%																		
2	0																								
3	4							435	100%																
4	0																								
5	1									10	100%														
6	0																								
7	1															12	100%								
8	0																								
9	0																								
10	1																			2	100%				
Total Household Interventions required		1,714		266		37		435		10		0		0		12		0		2		0		0	

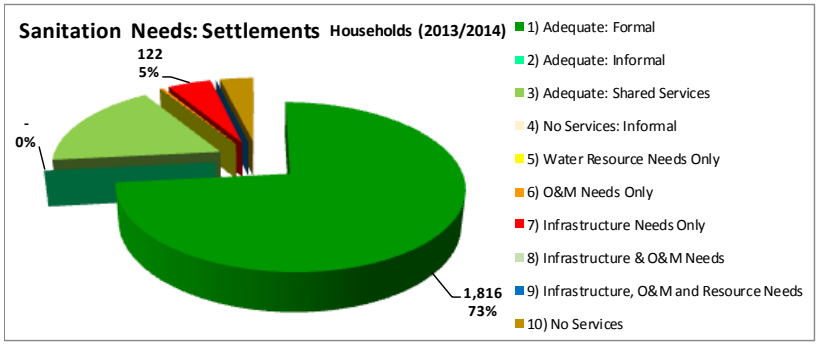


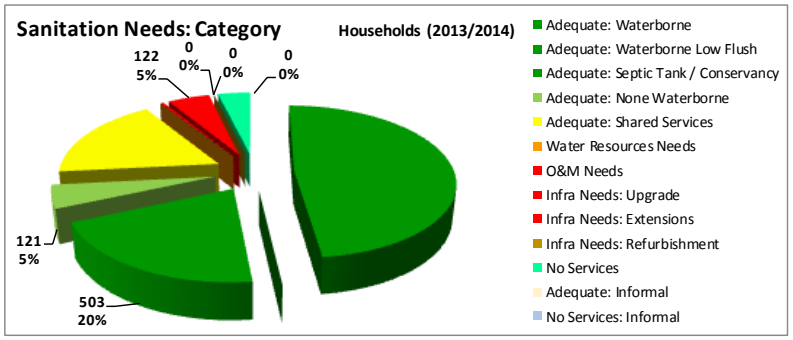


1	Adequate	3	Adequate: Shared services	5	Water Resources Needs **Only**	7	Infrastructure Needs **Only**	9	Infrastructure, O&M & Resource Needs
2	Adequate: Informal	4	No Services: Informal	6	O & M Needs **Only**	8	Infrastructure& O&M needs	10	No Services

Table A.6b: Residential water services delivery adequacy profile (Sanitation)

Water Categorisation	Number of settlements	FORMAL																				INFORMAL			
		Adequate										Water Resource needs		O & M Needs		Infrastructure Needs						No services		Adequate		No services	
		Waterborne		Waterborne Low flush		Septic Tank/ Conservancy		None Waterborne		Shared Services						Upgrades		Extensions		Refurbishment							
		HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%
1	6	1,192	100%			503	100%	121	100%																		
2	0																										
3	1									435	100%																
4	0																										
5	0																										
6	1													9	100%												
7	1															122	100%										
8	0																										
9	0																										
10	1																					94	100%				
Total Household Interventions required		1,192		0		503		121		435		0		9		122		0		0		94		0		0	





1	Adequate	3	Adequate: Shared services	5	Water Resources Needs **Only**	7	Infrastructure Needs **Only**	9	Infrastructure, O&M & Resource Needs
2	Adequate: Informal	4	No Services: Informal	6	O & M Needs **Only**	8	Infrastructure& O&M needs	10	No Services

Business Element 4: Socio Economic

The 2001 Census recorded the population in Laingsburg Municipality's Management Area at 6 681 persons (1 927 Households) and the 2011 Census recorded the population at 8 289 persons (2 411 Households). The population of Laingsburg Municipality is currently estimated at approximately 8 524 persons (2 476 Households) for 2013/2014. The estimated current population and the population growth rates for Laingsburg Municipality are summarised in the table below.

Table A.7: Projected present population and population growth rates

Distribution System	Census 2001			Census 2011			2001 - 2011	2013/2014		Number of Residential Consumer Units (Finance)
	P	H	P / H	P	H	P / H	Growth %/a	Population	Number of Households (Permanent)	
Laingsburg	4 389	1 136	3.86	5 667	1 512	3.75	2.59%	5 873	1 567	1 147
Matjiesfontein	385	91	4.23	422	95	4.44	0.92%	429	97	82
Farms	1 907	700	2.72	2 200	804	2.74	1.44%	2 222	812	-
TOTALS	**6 681**	**1 927**	**3.47**	**8 289**	**2 411**	**3.44**	**2.18%**	**8 524**	**2 476**	**1 229**

Note: Abbreviations P – Persons, H – Households and P/H - Person / Household

The female population in Laingsburg and Matjiesfontein is more than the male population, except on the farms where the male population is 55.18% and the female population 44.82%. The population increases at the young ages, from 0 to 9 years, as well as in the working age population between 15 and 49 years for the Central Karoo District and will have particular implications for the provision of facilities and services related to children and child care, whereas the growth in the labour force will also have a direct impact on a greater need for employment opportunities.

The child dependency ratio for the Central Karoo District, based on the 2011 Census data, is 48.2% and the aged dependency ratio for the same period is 9.7%. Adding these two ratios together, the total dependency ratio for the Central Karoo District amounts to 57.9% in 2011, which is more than half of the population. This highlights the extent of support that the Central Karoo District Region needs to take into consideration when planning service delivery. For the province as a whole, the total dependency ratio is slightly lower, at 44.9%.

According to observations from the Municipal Economic Review and Outlook (2014) labour demand for unskilled and semi-skilled workers has declined by an annual average rate of 1.4% from 2000 – 2013. Skills development initiatives are thus required within the District to meet labour demands.

Laingsburg Municipality's highest GDP growth of 6.10% was experienced in 2008, while the lowest growth of -0.78% was in 2009. Laingsburg Municipality's 2013/2014 Performance Report list the following performance highlights with regard to the implementation of the LED Strategy.

Table A.8: Performance highlights with regard to the implementation of the LED Strategy

Highlights	Description
Implemented a Participatory Appraisal Competitive Advantage (PACA) exercise	Participatory Appraisal Competitive Advantage was done in the municipal areas to inform the new LED Strategy.
Established a Business Chamber	Laingsburg's First functional Business Chamber was established.
Established a Small Business Association	Laingsburg Small Business Association (LASBA) was established to assist small businesses within the municipal area.
Best Practice Presentation at Karoo Development Foundation	Laingsburg Municipality presented a Best Practice in Laingsburg at the Karoo Development Foundation in Phillipstown.
Held the Ultra Karoo Marathon	A successful event was held in September 2013 which enabled economic growth in the municipal area.
Held Mayoral Golf Day	A successful event was held which led to an economic injection in the economy and funds were raised for the Municipal Bursary fund.
Held monthly Farm Markets	Monthly farm markets were held to grow the local economy.
Empowered Small Contractors	Small contractors were used within the municipality to assist them to increase their Construction Industry Development Board (CIDB) grading.

Business Element 5: Water Services Infrastructure

Laingsburg Municipality is responsible for the operation and maintenance of all the water and sewerage infrastructure summarised in the table below.

Table A.9: Brief functional description of existing main infrastructure components	
Component	**Description of the main functional tasks**
Sources: Zoutkloof Fountain, Zoutkloof Pit, Buffels River Old and New Pit, Boreholes	Bulk water abstraction
Bulk Pipelines (16.390 km)	Bulk water supply from source to town
Water Reticulation (25.745 km)	Distribution of potable water to consumers
Water Pump Stations (1)	Ensure adequate pressure and supply to specific areas
Reservoirs (6)	Balancing peak demands and providing some emergency storage
Disinfection Facility (1)	Ensure adequate disinfection of raw water
Sewer Reticulation (24.086 km)	Collecting sewerage
Sewer Pump Stations (3)	Pumping sewerage to WWTWs
WWTWs (Oxidation Dam System and Package Plant)	Treat effluent to standards as specified in Authorisations for WWTWs

Water Infrastructure: The current and depreciated replacement cost of the water infrastructure of Laingsburg Municipality, as included in the Asset Register, is summarised in the table below:

Table A.10: Current and depreciated replacement cost of the water infrastructure			
Asset Type	**CRC**	**DRC**	**% DRC/CRC**
Boreholes & wells	R1 870 049	R1 437 542	76.9%
Bulk mains	R9 198 843	R7 364 509	80.1%
Dams & weirs	R769 295	R648 863	84.3%
Distribution	R10 489 742	R4 348 722	41.5%
Pump Stations	R230 591	R93 389	40.5%
Reservoirs	R4 277 237	R2 564 048	59.9%
Total	**R26 835 757**	**R16 457 073**	**61.3%**

The above table means that 38.7% of the value of the water infrastructure has been consumed.

The following table gives an overview of the remaining useful life and the age distribution by facility type for the water infrastructure (CRC):

Table A.11: Overview of the remaining useful life and age distribution by facility type for the water infrastructure (CRC)					
Asset Type	**0 – 5 yrs**	**6 – 10 yrs**	**11 – 15 yrs**	**16 – 20 yrs**	**> 20 yrs**
RUL					
Boreholes & wells	R198 494	R49 117	R69 692	R270 230	R1 282 516
Bulk mains	R64 837	R649 459	R0	R0	R8 484 547
Dams & weirs	R0	R85 340	R81 650	R0	R602 305
Distribution	R2 374 913	R5 785	R0	R0	R8 109 044
Pump Stations	R63 434	R14 874	R143 517	R0	R8 766
Reservoirs	R224 327	R528 283	R175 788	R1 138 816	R2 210 023
Total	**R2 926 005**	**R1 332 858**	**R470 647**	**R1 409 046**	**R20 697 201**
Age distribution by Facility Type					
Boreholes & wells	R73 918	R959 925	R528 950	R173 552	R133 704
Bulk mains	R14 983	R1 331 325	R0	R7 165 307	R687 228
Dams & weirs	R0	R510 890	R0	R258 405	R0
Distribution	R421 253	R148 514	R1 530 900	R7 555 562	R833 513
Pump Stations	R0	R0	R230 591	R0	R0
Reservoirs	R155 413	R1 241 509	R0	R1 093 011	R1 787 304
Total	**R665 567**	**R4 192 163**	**R2 290 441**	**R16 245 837**	**R3 441 749**

The average water asset renewal needs over the next 10 years is R0.426 million per year and the reinvestment required is R2.926 million in the first 5 years and R1.333 million in the second 5 year period.

Sewerage Infrastructure: The current and depreciated replacement cost of the sewerage infrastructure of Laingsburg Municipality is summarised in the table below:

Table A.12: Current and depreciated replacement cost of the sewerage infrastructure

Asset Type	CRC	DRC	% DRC/CRC
Laingsburg WWTW	R14 697 603	R2 283 039	15.5%
Pump Stations	R4 801 738	R3 405 951	70.9%
Matjiesfontein Package Plant	R2 254 303	R2 254 303	100.0%
Total	**R21 753 644**	**R7 943 293**	**36.5%**

The sewer drainage network for Laingsburg and Matjiesfontein are not yet included in the Asset Register and need to be included. The above table means that 63.5% of the value of the sewerage infrastructure has been consumed.

The following table gives an overview of the remaining useful life and the age distribution by facility type for the sewerage infrastructure (CRC):

Table A.13: Overview of the remaining useful life and age distribution by facility type for the sewerage infrastructure (CRC)

Asset Type	0 – 5 yrs	6 – 10 yrs	11 – 15 yrs	16 – 20 yrs	> 20 yrs
RUL					
Laingsburg WWTW	R12 292 916	R19 880	R1 627 291	R710 329	R47 187
Pump Stations	R1 271 908	R177 495	R9 947	R374 125	R2 968 263
Matjiesfontein Package Plant	R0	R0	R0	R0	R2 254 303
Total	**R13 564 824**	**R197 375**	**R1 637 238**	**R1 084 454**	**R5 269 753**
Age distribution by Facility Type					
Laingsburg WWTW	R1 527 876	R0	R0	R57 575	R13 112 152
Pump Stations	R2 958 392	R0	R0	R487 260	R1 356 087
Matjiesfontein Package Plant	R2 254 303	R0	R0	R0	R0
Total	**R6 740 571**	**R0**	**R0**	**R544 835**	**R14 468 239**

The asset renewal needs for the sewerage infrastructure assets over the next 10 years is R1.376 million per year. The reinvestment required is R13.565 million in the first 5 years and R0.197 million in the second 5 year period. The age of 66.5% of the sewerage infrastructure assets is greater than 20 years.

Business Element 6: Operation and Maintenance

Water Safety Plans for Laingsburg and Matjiesfontein are not yet in place. A Consultant was recently appointed to assist the Municipality with the drafting of their Water Safety Plan. An Incident Response Management Protocol and Emergency Response Plans also need to be put in place.

The Municipality's Water Quality Operational Sampling Programme include the sampling of the pH and Free Chlorine Levels at all the Municipality's reservoirs daily with a handheld unit. Compliance sampling is done by an accredited external laboratory. The water quality compliance sample results are loaded onto the BDS, which indicate the compliance performance for the month for each of the distribution systems, with specific indication of samples that does not comply.

The Municipality still needs to draft their W_2RAP for the two WWTWs. The W_2RAP is an all-inclusive risk analysis tool by which risks associated with the management of collection, treatment and disposal of wastewater, are identified and rated (quantified). The identified risks can then be managed according to its potential impacts on the receiving environment / community / resource. An Incident Response Management protocol still needs to be drafted as part of Laingsburg Municipality W_2RAP. The purpose of an Incident Response Management protocol is to indicate the reactive procedures that will be followed when an incident occurs (Normally when a malfunction of the treatment processes occur due to power failures, faulty equipment, adverse weather conditions or human error).

Operational Sampling Programmes for the Laingsburg and Matjiesfontein WWTW are not yet implemented by Laingsburg Municipality. The following compliance samples are taken on a monthly basis at the Laingsburg WWTW.

- Total Bacteria, Coliforms, E.Coli, EC, Dissolved Iron, Dissolved Manganese, Nitrate, pH, Turbidity, COD and DOC.

The monthly compliance sample results of the final effluent sampled at the Laingsburg WWTW are loaded onto the GDS, which indicate the compliance performance for the month for the Laingsburg WWTW, which specific indication of samples that does not comply.

The DWS launched the blue and green drop certification, with regard to drinking water quality and wastewater quality management, at the Municipal Indaba during September 2008. Blue drop status is awarded to those towns that comply with 95% criteria on drinking water quality management. The Blue Drop Certification programme is in its six year of existence and promises to be the catalyst for sustainable improvement of South African drinking water quality management in its entirety. The blue drop performance of Laingsburg Municipality is summarised as follows in the DWS's 2012 Blue Drop Report:

Table A.14: Blue Drop Performance of Laingsburg Municipality (DWS's 2012 Blue Drop Report)

Municipal Blue Drop Score	**71.16%**

Regulatory Impression: Low microbiological compliance levels prevent Laingsburg Local Municipality to record predicted improvements in the 2012 Blue Drop cycle in line with the continuous trend of the past three years. There is however enough proof indicating that officials implemented various regulatory requirements which further increases the confidence in the municipality's commitment to manage risks according to the principles of the water safety planning process. In addition to this the municipality's preparation for the Blue Drop audit and the accommodative nature of the responsible officials were very well received by the inspectors.

The number of failures recorded is reason for concern and requires urgent optimisation of the disinfection processes to ensure overall improvement of the water quality. It is reported that the current intermittent HTH dosing practice will be abandoned in favour of the more efficient gas chlorination from January 2012. At the drafting of this report the positive impact of the change of disinfection is not yet to be noted. This situation required urgent attention.

The inclusion of chemical monitoring, which was noted in the 2011 report as a shortcoming, is certainly a positive finding. The municipality is thus encouraged to continue with the same commitment levels towards the goal of excellence.

Site Inspection (Laingsburg 67%, Matjiesfontein 61%): The inspectors found the environment surrounding the boreholes and reservoirs to be well kept. Furthermore the following was recorded:

- No evidence of operational monitoring equipment was found, thus not instilling the confidence that the municipality is equipped to regularly monitor disinfection efficiency (free chlorine levels)
- There is concern about one borehole within the town of Laingsburg as well as those in Matjiesfontein which are not secured. The water safety planning process should address these shortcomings as well.

Performance Area	Laingsburg	Matjiesfontein
Water Safety Planning	**80**	**80**
Treatment Process Management	**90**	**100**
DWQ Compliance	**45**	**45**
Management, Accountability	**69**	**58**
Asset Management	**75**	**59**
Bonus Scores	4.70	5.12
Penalties	0	0
Blue Drop Score (2012)	**73.34%**	**71.02%**
Blue Drop Score (2011)	83.69%	64.78%
Blue Drop Score (2010)	63.13%	64.63%
System Design Capacity (Ml/d)	0.500	No Information
Operational Capacity (% ito Design)	99	No Information
Population Served	6 500	500
Average daily consumption (l/p/d)	153.85	0.00
Microbiological Compliance (%)	**77.3%**	**63.6%**
Chemical Compliance (%)	**99.9%**	**99.9%**

The 2013 Blue Drop Risk Profile Progress Report of the DWS is further the product of a "gap" year, whereby progress is reported in terms of the improvement or decline in the risk position of the particular distribution system and WTW, compared to the previous year's risks profile. This tool to collect, assess and report the risk profile is called the Blue Drop Progress Assessment Tool (PAT). The PAT progress assessment period was done on compliance data, information and actions during January 2012 – December 2012, which represents the year immediately following the 2012 Blue Drop assessment period. The results for Laingsburg Municipality were summarised as follows in DWS's 2013 Blue Drop Risk Profile Progress Report.

Table A.15: DWS's 2013 Blue Drop Risk Profile Progress Report results for Laingsburg Municipality

Municipal Blue Drop Risk Rating	**54.79%**

Regulatory Impression: It should be noted that the Laingsburg Municipality failed to return a 2013 Municipal Information Sheet, which had an impact on the assessment of both systems.

Although both systems improved on the Blue Drop Risk Ratings calculated for 2012, the system of Matjiesfontein attained the highest risk rating at 59.00%.

The Department acknowledges the efforts by the Laingsburg Municipality in comply with the draft Regulation 17 requirements and encourage the municipality to continue to ensure effective Process Control and Supervision within both systems.

It was reported within the 2012 report that the current intermittent HTH dosing practice will be abandoned in favour of the more efficient gas chlorination from January 2012. However the Microbiological Quality Compliance of both systems is still of major concern for the Department as no improvement has been observed. More so is the Laingsburg system which indicated a notable decrease in Microbiological Water Quality Compliance from 77.3% to 42.1%. The Matjiesfontein system indicated an increase in Microbiological Quality Compliance from 63.6% to 75.0% which is still far below the requirements of SANS241 (South African national Standard for Drinking Water).

The Department encourages the Laingsburg Municipality to ensure that Water Safety Planning implementation is indeed taking place and that measures are being put in place to mitigate the high risk of contamination within its systems. The Department is encouraged, however, to see that Full SANS241 within both systems was conducted with 2012.

Assessment Area	**Laingsburg**		**Matjiesfontein**	
Process Control RR	67.44%		64.71%	
Drinking Water Quality RR	40.74%		40.74%	
Risk Management RR	39.13%		34.78%	
Microbiological Quality	42.10%		75.00%	
Chemical Quality	>99.99%		>99.99%	
Blue Drop Risk Rating 2013	**50.59%**		**59.00%**	
Blue Drop Risk Rating 2012 (+ Progress Indicator)	90.51%	IMPROVE	83.79%	IMPROVE
Upgrades Capital Expenditure (Rm)	R 0		R 0	

The DWS also completed their Third Order Assessment of Municipal Waste Water Treatment Plants, DWS's Green Drop Report for 2013, which provides a scientific and verifiable status of municipal waste water treatment. Green drop status is awarded to those WSAs that comply with 90% criteria on key selected indicators on waste water quality management. The green drop performance of Laingsburg Municipality is summarised as follows in the DWS's 2013 Green Drop Report.

Table A.16: Green Drop Performance of the Municipality (DWS's 2013 Green Drop Report)

Average Green Drop Score	**36.90%**

Regulatory Impression: The performance of the Laingsburg Local Municipality was disappointing and does not conform to the requirements of the Green Drop programme. The decline in score by almost 20% since 2011 is reason for concern to the Regulator. The lack of a technical manager / engineer, compounded by the unpreparedness of the team, resulted in sub-standard presentation of evidence which made it difficult for the inspector to score the performance of the wastewater system at the audit. The Regulator takes cognisance of the particular difficulties facing the municipality with respect to management and leadership, and trust that the appointment of a Technical Manager will result in an improved performance going forward. The monitoring of effluent and the capturing of all data on the GDS is a positive step. Unfortunately, this is not sufficient to counter the lack of evidence against the majority of remainder criteria, and Laingsburg remains at the lower performers in the Western Cape.

Green Drop findings:

1. The system does not have registered or sufficiently qualified Process Controllers, technical management, mechanical-electrical maintenance staff in place.
2. No GDIP or W_2RAP processes are in place to guide priorities and motivate for resources.
3. With the exception of microbiological-, the final effluent does not comply with standards, despite the ample capacity of the system.
4. Process audit, system analysis and planning are lacking.
5. Bylaws are not in place nor enforced.

Table A.16: Green Drop Performance of the Municipality (DWS's 2013 Green Drop Report)	
6. Financial ring-fencing not in place to determine unit cost of treatment process.	
GREEN DROP REPORT CARD	
Key Performance Area	**Laingsburg**
Process Control and Maintenance Skills	**19**
Monitoring Programme	**50**
Submission of Results	**100**
Effluent Quality Compliance	**53**
Risk Management	**5**
Local Regulation	**0**
Treatment Capacity	**16**
Asset Management	**12**
Bonus Scores	**6.30**
Penalties	**3.00**
Green Drop Score (2013)	**36.90%**
Green Drop Score (2011)	**56.30%**
Green Drop Score (2009)	**77.0%**
System Design Capacity (Ml/d)	**1.700**
Capacity Utilisation (% ADWF ito Design Capacity)	**31.76%**
Resource Discharged into	**Irrigation to land**
Microbiological Compliance	**100.00%**
Chemical Compliance	**27.08%**
Physical Compliance	**36.11%**
Overall Compliance	**39.58%**
Wastewater Risk Rating (2012)	**70.60%**
Wastewater Risk Rating (2013)	**58.82%**

Business Element 7: Associated Services

All the schools, clinics and the one hospital in Laingsburg Municipality's Management Area are supplied with a higher level of water and sanitation service.

Business Element 8: Conservation and Demand Management

Laingsburg Municipality was assisted, as part of the 2012/2013 Water Services Audit Process, with the development of detail water balance models for Laingsburg and Matjiesfontein. All bulk water meter readings are recorded in the models and it will assist the Municipality to monitor their water usage and NRW for Laingsburg and Matjiesfontein more actively in the future.

The Municipality also completed a detail Water Meter Audit of all their bulk and consumer water meters during 2009/2010. The Municipality continued over the last three years to address the shortcomings identified as part of the detail Water Meter Audit process. Two hundred and fifty eight (258) pre-paid water meters were also replaced during the 2012/2013 financial year.

Laingsburg Municipality is currently busy with a "War against Leaks" project at their indigent households, which was started on the 20th of January 2014. 33 Youths of the community was trained over a six week period to repair household leaks in Laingsburg and Matjiesfontein. The training was completed on the 28th of February 2014 and the inspection of the properties in Laingsburg and Matjiesfontein for leaks started on the 3rd of March 2014. The repair work started on the 14th of May 2014 and leaks were already repaired at 685 of the 710 households.

Laingsburg Municipality haven't yet focussed on the installation of any water efficient devices, due to the limited financial and personnel resources. It is however obvious that there are significant water saving opportunities in the retro-fitting of plumbing fittings. In order to reduce the water demand and the percentage NRW in the future it is important for the Municipality to raise awareness regarding conservation products and the installation of these products. The added benefit of such measures is that it may also significantly reduce the hydraulic loading in the wastewater system.

The schools in Laingsburg Municipality's Management Area are not yet targeted with awareness around water education programmes and water conservation. Laingsburg Municipality realises the importance of good communication with the public and involving community members on a regular basis. The Municipality however currently does not have a community awareness programme in place relating to WC/WDM.

The main water demand management interventions undertaken by Laingsburg Municipality over the last years were as follows:

- Water Master Plans are in place for Laingsburg and Matjiesfontein.
- Water Balance models were developed for Laingsburg and Matjiesfontein and all the bulk water meter readings are recorded in the models.
- Municipality completed a detail water meter audit and continue with the replacement of old or faulty water meters and pre-paid water meters.

The average annual bulk water demand growth over the period 2003/2004 to 2012/2013 was 4.14%. The total water requirement for Laingsburg Municipality for 2013/2014 was however 27.2% less than the total water requirement for 2012/2013. There was also a drop in the total bulk water requirement during 2010/2011, due to the drought situation in the area.

The Long Term WC/WDM Strategy of Laingsburg Municipality (June 2011) indicated the following priority areas and estimated potential savings achievable through the implementation of various WC/WDM measures in Laingsburg Municipality's Management Area.

Table A.17: The estimated potential water savings achievable through the implementation of the WC/WDM Strategy

WDM Measure	Laingsburg		Matjiesfontein		Total	
	kl/d	Percentage	kl/d	Percentage	kl/d	Percentage
Efficient water use	200	11%	0	1%	200	11%
Water loss management	334	19%	11	36%	345	19%
Pressure management	177	10%	0	0%	177	10%
Large users: Schools	6	0%	0	0%	6	0%
Re-use of wastewater	0	0%	0	0%	0	0%
Total water sales	608 kl/d		1 kl/d		609 kl/d	
Total bulk supply	1 750 kl/d		30 kl/d		1 780 kl/d	
Total estimated savings	717	41%	11	37%	729	41%

Note: The percentage in the above table refer to the percentage of the total bulk water supply per year as included in the Strategy.

Laingsburg Municipality is committed to implement the newly developed WC/WDM Strategy in order to reduce the percentage of NRW for Laingsburg and Matjiesfontein. There are no WC/WDM projects included in Laingsburg Municipality's approved 2014/2015 Capital Budget. Some of the current WDM activities implemented by Laingsburg Municipality, for example the replacement of meters, repairing burst pipes, etc. are funded through the Municipality's O&M budget. The only funding support available to Municipalities for WC/WDM initiatives from National and Provincial Government is through the ACIP. The funding is however very limited for the Western Cape and Laingsburg Municipality did not receive any funding for the 2014/2015 financial year. Laingsburg Municipality's budgets are very limited to fund specific WDM initiatives from their own budgets.

The table below gives a summary of the NRW of Laingsburg and Matjiesfontein.

Table A.18: NRW for the various distribution systems

Distribution System	Unit	13/14	Record : Prior (Ml/a)				
			12/13	11/12	10/11	09/10	08/09
Laingsburg	Volume	309.005	460.267	424.766			205.304 (1)
	Percentage	51.6%	54.9%	55.0%			43.8% (1)
	ILI	**11.65**	**18.67**				
Matjiesfontein	Volume	25.891	21.290 (2)				
	Percentage	93.1%	95.3% (2)				
TOTAL	**Volume**	**334.896**	**481.557**				
	Percentage	**53.39%**	**55.91%**				

Notes: (1) The 2008/2009 value for Laingsburg is only for a nine month period.
(2) The 2012/2013 value for Matjiesfontein is estimated from six months measured data.
(3) Infrastructure Leakage Index (ILI) for Developed Countries = **1 – 2 Excellent (Category A)**, **2 – 4 Good (Category B)**, **4 – 8 Poor (Category C)** and > **8 – Very Bad (Category D)**

Category A = No specific intervention required.

Category B = No urgent action required although should be monitored carefully.

Category C = Requires attention

Category D = Requires immediate water loss reduction interventions (Laingsburg)

The Infrastructure Leakage Index (ILI) is the most recent and preferred performance indicator for comparing leakage from one system to another. It is a non-dimensional index representing the ratio of the current real leakage and the "Unavoidable Annual Real Losses" (UARL). A high ILI value indicates poor performance with large potential for improvement while a small ILI value indicates a well-managed system with less scope for improvement. Attaining and ILI = 1 is a theoretical limit which is the minimum water loss in an operational water reticulation system. A value of less than 1 should not occur since this implies that the actual leakage is less than the theoretical minimum level of leakage.

Business Element 9: Water Resources

The current water sources supplying the town of Laingsburg with bulk water are as follows:

- Zoutkloof Sources: Zoutkloof Fountain, Zoutkloof SAR Borehole and the Zoutkloof Pit in the Wilgenhout River;
- Dr van Heerden van Riebeeck Road Borehole (Old Town Borehole, direct supply to Goldnerville network); and
- Buffels River Old Pit No.1 (Direct supply into network) and Buffels River New Pit No.2 (Supply New Town reservoir).

During winter the yield from the Zoutkloof Fountain is adequate to meet the water requirement of Laingsburg. During summer months, however, the bulk of the town's water supply is supplied from the Zoutkloof Fountain and the Zoutkloof SAR Borehole, with an occasional supply from the Zoutkloof Pit situated approximately 250m downstream of the fountain. The Zoutkloof automatically supplies water when the Zoutkloof Fountain is not able to supply the required water demand. The water supplied by the Zoutkloof Fountain is captured in a covered lined canal in the bed of the Wilgenhout River. The Dr van Heerden borehole is located on the eastern bank of the Buffels River and is used during peak demand to supplement the Zoutkloof sources. The two Buffels River Pits are also used regularly.

Laingsburg Municipality appointed GEOSS in 2008 to perform a drilling and pump testing investigation in Zoutkloof with the main aim to supplement the existing water supply to Laingsburg. Four boreholes were drilled of which two were not pump tested as the yields of these boreholes did not justify further interest. The remaining two boreholes, LB bh 3 and LB bh 4, were deemed acceptable to contribute to the Laingsburg water supply. However, currently boreholes LB bh 3 and LB bh 4 are not yet used to supply water to the town of Laingsburg as the Municipality must still install the required pumps and pipework.

The water sources supplying water to Matjiesfontein are two boreholes owned and operated by Matjiesfontein Village (Pty) Ltd (Hotel) and five boreholes owned by Laingsburg Municipality, of which two were drilled and commissioned during 2005 as well as three boreholes drilled during 2008. The two boreholes, namely PKE 1 and PKE 2, drilled during 2005 have primarily been used for the irrigation of the sports field, but the declining yields resulted in Borehole PKE2 not being utilised anymore. Borehole PKE 1 also struggled to keep with the demand of filling the reservoir. Boreholes PKE 1 and PKE 2 are currently not operational, as the municipality removed both pumps. Three new boreholes, namely MF bh2, MF bh4 and MF bh5 were drilled during 2008. Current supply to Matjiesfontein is from the Matjiesfontein Village (Hotel) boreholes and the municipal borehole MF bh4.

The graph and table below gives a summary of the annual bulk water supply to Laingsburg and Matjiesfontein for the various financial years.

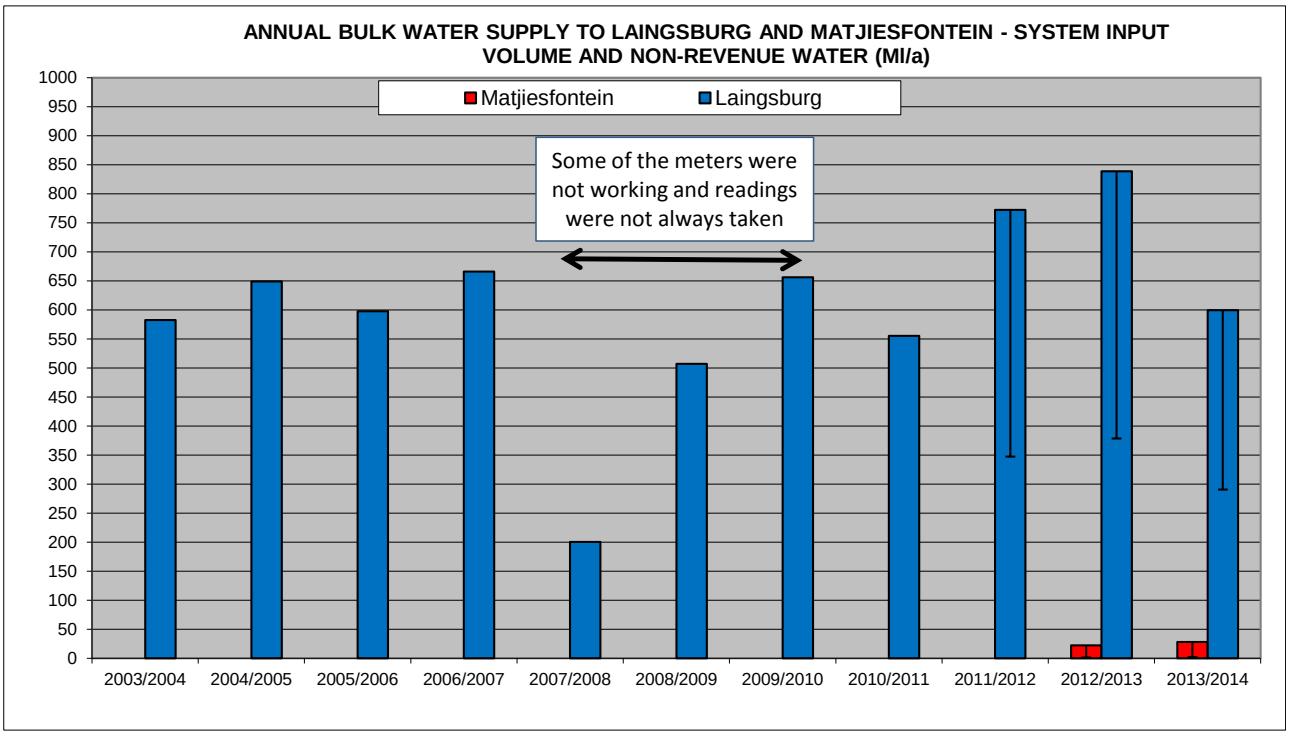


Table A.19: Treated Water supplied to Laingsburg and Matjiesfontein

Distribution System	Source type	Safe Yields (Mℓ/year)	Current Use 13/14	Record : Prior (Ml/a)				
				12/13	11/12	10/11	09/10	08/09
Laingsburg	Zoutkloof	420.480	406.550	415.000	762.162	539.678		
	Buffels River	204.984	192.288	367.710				
	Dr Van Heerden Borehole	31.536	0.572	56.250	9.957	15.739	41.218	66.532
	LB bh3 & LB bh4	78.840	-	-	-	-	-	-
Matjiesfontein	Boreholes	115.121	27.817	22.340				

Water Quality: The Municipality monitor the pH and Free Chlorine Levels at all their reservoirs daily. The Water Quality Compliance Sampling Programme is actively implemented in order to promptly identify water quality failures and to react accordingly. The water quality results are loaded onto DWS's BDS via the internet. Once entered the data is automatically compared to SANS241. This real-time system allows for immediate intervention to rectify any problems.

Up to present it was not necessary to take any steps to inform the consumers of any health risk regarding the potable water supplied by Laingsburg Municipality. Safety Management Procedures however still need to be developed to inform the Municipality's consumers about any potential health risks regarding the water quality, should it become necessary.

The Microbiological and Chemical Compliance for the last twelve months for the Laingsburg and Matjiesfontein systems, as included in DWS's 2012 Blue Drop Report, were as follows:

Table A.20: Percentage Microbiological and Chemical water quality compliance

Compliance	Laingsburg	Matjiesfontein
Microbiological Compliance	77.3%	63.6%
Chemical Compliance	99.9%	99.9%

Effluent Quality: No operational samples are taken by Laingsburg Municipality at the Laingsburg and Matjiesfontein WWTWs. The current compliance samples taken on a monthly basis at the Laingsburg WWTW are as follows.

- Total Bacteria, Coliforms, E.Coli, EC, Dissolved Iron, Dissolved Manganese, Nitrate, pH, Turbidity, COD and DOC.

The recommended monthly compliance sampling programme for the two WWTWs are as follows:

- Raw Sewerage: pH, Settleable Solids, EC, Ammonia and COD
- Final Effluent: pH, Settleable Solids, Faecal Coliforms, Sodium Absorption Ratio, EC and COD.

The effluent quality compliance sample results are loaded onto DWS's Green Drop System (GDS) via the internet. The overall percentage compliance of the final effluent samples taken over the period July 2013 to June 2014 at the Laingsburg WWTW are summarised in the table below (Measured against irrigation standards).

Table A.21: Percentage Chemical, Physical and Microbiological compliance of the samples taken at the Laingsburg WWTW

Determinand	Category	Compliance %	Irrigation Limits
Coliforms	Microbiological	63.6%	< 100 000 for irrigation up to 0.5 Ml/d
COD	Chemical	27.3%	400 Irrigation up to 0.5 Ml/d
pH	Physical	72.7%	6 - 9 for irrigation up to 0.5 Ml/d
Conductivity		100.0%	200 Irrigation up to 0.5 Ml/d

Industrial Consumers: The only wet industry in Laingsburg Municipality's Management Area is the Laingsburg abattoir. The Municipality's tariff structure for the discharge of effluent by industrial consumers does not make provision for nutrient loads and volume to be taken into account. There is no limit on the permitted volume of effluent that can be discharged into the sewer system, but the concentration limits for the various parameters are included in the Municipality's Water Supply By-laws (Acceptance of industrial effluent for discharge into the sewage disposal system). The By-law includes the following sections w.r.t. the discharge of industrial effluent:

- Application for disposal of industrial effluent;
- Unauthorised discharge of industrial effluent;
- Quality standards for disposal of industrial effluent;
- Conditions for disposal of industrial effluent;
- Withdrawal of written permission for disposal of industrial effluent;
- Measurement of quantity of industrial effluent discharged
- Quality Standards – Acceptance of industrial effluent for discharge into the sewage disposal system

Business Element 10: Financial

Capital Budget: The total capital requirement for the 2014/2015 financial year amounts to R11.979 million. The capital budget is funded by means of grants from National government in the amount of R11.281 million and own funding in the amount of R0.698 million.

Operational Budget: The table below gives a summary of the total operating costs and income for water and sanitation services for the various years:

Table A.22: Summary of Operational Budget for water and sanitation services for the last four years					
Expenditure / Income	**Financial Year**				
	13/14	**12/13**	**11/12**	**10/11**	**9/10**
Water Services					
Expenditure	R3 223 357-68	R2 203 718-84	R1 481 931-20	R5 014 776-73	
Income	-R679 609-42	-R916 773-09	-R1 493 363-97	-R1 404 725-76	
Surplus / Deficit	**R2 543 748-26**	**R1 286 945-75**	**-R11 432-77**	**R3 610 050-97**	
Sanitation Services					
Expenditure	R2 056 310-57	R1 736 474-12	R2 480 567-93	R966 123-61	
Income	-R1 755 598-63	-R1 633 416-51	-R1 532 433-00	-R1 251 240-71	
Surplus / Deficit	**R300 711-94**	**R103 057-61**	**R948 134-93**	**-R285 117-10**	

Tariff and Charges: Laingsburg Municipality's current (2013/2014) water and sewer tariffs are based on the following:

- A five (5) block step rising tariff structure with the first 6 kl/month being free for all consumers.
- A five (5) block step rising tariff structure for drought periods is also in place.
- The tariff structure includes a fixed monthly availability fee for all consumers.
- There is a fixed sewerage charge per month for all residential consumers. Various other fixed monthly sewerage charges are applicable for the "commercial" and "other" consumers.
- Tank removals are charged per load, with different costs for Laingsburg, Matjiesfontein and the rural areas. The fixed charge per load removal is also different for week days and weekends.

Laingsburg Municipality currently provides the first six (6) kilolitres of water free to all their consumers. Laingsburg Municipality's tariffs support the viability and sustainability of water supply services to the poor through cross-subsidies (where feasible). Free basic water and sanitation services are linked to Laingsburg Municipality's Indigent Policy and all indigent households therefore receive free basic water and sanitation services, which is funded from the equitable share.

Installing meters and implementing an adequate billing system is central to managing services effectively and building a relationship of understanding and trust between the provider and consumer. Laingsburg Municipality's overall debtor's payment percentages, as included in their 2013/2014 Performance Report, were 95.3% in 2012/13 and 94.4% in 2013/2014.

Business Element 11: Water Services Institutional Arrangements

Laingsburg Municipality is the WSA for the entire Municipal Management Area and no external bulk Water Services Providers are used. An Indigent Policy and Tariff Policy and Credit Control and Debt Collection By-laws and Water Services By-laws are in place.

The IDP is the Municipality's single most strategic document that drives and directs all implementation and related processes. The Municipality's budget is developed based on the priorities, programmes and projects of the IDP, after which a Service Delivery Budget Implementation Plan (SDBIP) is developed, to ensure that the organisation actually delivers on the IDP targets.

The SDBIP is the process plan and performance indicator / evaluation for the execution of the budget. The SDBIP is being used as a management, implementation and monitoring tool that assists and guide the Executive Mayor, Councillors, Municipal Manager, Senior Managers and the community. The plan serves as an input to the performance agreements of the Municipal Manager and Directors. It also forms the basis for the monthly, quarterly, mid-year and the annual assessment report and performance assessments of the Municipal Manager and Directors.

At a technical, operations and management level, municipal staff is continuously exposed to training opportunities, skills development and capacity building in an effort to create a more efficient overall service to the users. Submissions were also made to the DWS for the classification and registration of the Process Controllers and Supervisors at the various plants. A skills audit is conducted during each year which leads to various training programmes in order to wipe out skills shortages and to provide employees with the necessary capacity. A Workplace Skills Plan for 2014/2015 is in place. A total amount of R0.520 million was allocated to the Workplace Skills Plan for 2013/2014 and 92% of the total amount was spent in the 2013/2014 financial year. The allocation in the previous financial year (2012/2013) was R0.629 million and 97% of that amount was spent.

Laingsburg Municipality have limited personnel and operational budget capacity to ensure adequate rehabilitation and maintenance of their existing infrastructure. Most of the maintenance work carried out is re-active, due to the limited financial resources available to the Municipality.

Business Element 12: Social and Customer Service Requirements

A comprehensive Customer Services and Complaints system is not yet in place at Laingsburg Municipality. The current system consists of a Logbook system, where the complaint is recorded and given through to the correct person to address it. The system however cannot give performance information on the time it took to address or respond to the complaint / query. All the complaints are recorded in the monthly report to Council, but a system is not yet in place where the complaints are recorded electronically according to the different type of complaints. It is therefore not currently possible to get a good overview of the different type of monthly complaints received and addressed by the Municipality.

Laingsburg Municipality works towards addressing all public complaints within 24 hours on week days and within 72 hours on weekends. Burst pipes and “no water” complaints are however repaired and fixed within 12 hours, with standby teams over weekends. Sewer blockages are repaired within 48 hours. This is an estimated indication of the repair times and it need to be verified in the future through Laingsburg Municipality’s data base for complaints.

SECTION B: STATE OF WATER SERVICES PLANNING

This WSDP is for the 2015/2016 financial year and Laingsburg Municipality is committed to update their WSDP for the interim years and to compile a new WSDP every five years, as required by legislation. The 2015/2016 WSDP was done according to DWS’s 2012 WSDP guidelines.

Laingsburg Municipality also compiled annual Water Services Audit Reports for the 2012/2013 and 2013/2014 financial years. The Water Services Audit Report gives an overview of the implementation of the Municipality’s previous year’s WSDP and can be seen as an annexure to Laingsburg Municipality’s Annual Report.

Laingsburg Municipality’s Water and Sewer Master Plan process entails the establishment of computer models for the water systems and the sewer systems in Laingsburg Municipality, the linking of these models to the stand and water meter databases of the treasury financial system, evaluation and master planning of the networks and the posting of all the information to IMQS. The Water and Sewer Master Plans lists the analyses and findings of the study on Laingsburg Municipality’s water distribution and sewer drainage systems.

The latest Water and Sewer Master Plans, which were available for inclusion in Laingsburg Municipality’s WSDP, are as follows:

- Water Master Plan, Laingsburg Municipality, February 2007, CES
- Sewer Master Plan, Laingsburg Municipality, February 2007, CES

The other Water Services Planning studies completed over the last number of years are as follows:

- Water Meter Audit and the Development of a Meter Maintenance and Management Strategy, 2 June 2010, KV3 Engineers.
- Rural Service Level Survey, Laingsburg Municipality, 2 June 2010, KV3 Engineers.

- Long-Term Water Conservation and Water Demand Management Strategy, Final Draft, June 2011.

SECTION C: WATER SERVICES EXISTING NEEDS PERSPECTIVE

The existing needs perspective as presented below was developed through a systematic and comprehensive review of the water services function in terms of the WSDP Guide Framework. The output from this process is presented below and includes compliance assessment in terms of:

- Quality: Assessment current status against compliancy requirements.
- Quantity: An indication of the representation of the total area to address the issue.
- Future plan assessment: Degree in which future demand has been established.
- Strategy assessment: Whether a Strategy is in place to address the need.

The water services situation analysis prompted the development of problem statements which formed the input for the development of the water services objectives and strategies which follows in Section D.

Business Element 1: Administration

Table C.1 : Business Element 1: Administration (Topic 1)						
Overview of Topic	**Status Quo and Knowledge Interpretation Statistics**					
This topic provides knowledge on the status of the WSA's 5-year WSDP as well as with the contact particulars of the key role-players which have contributed to the development of the WSDP.	**Item**	**Quality (%)** assessment of current status against compliancy requirements	**Quantity (%)** an indication of the representation of the total area to address the issue	**Future Plan Assessment**	**Strategy Assessment**	
	n/a	n/a	n/a	n/a	n/a	
	TOTAL for Topic	**n/a**	**n/a**	**n/a**	**n/a**	
Problem Definition Statements						
Nr	**Statements - Short Comings**		**Possible Improvement / Project**			
1	Key issues raised in the WSDP need to be taken to the IDP		WSDP IDP Water Sector Input Report needs to be included in the IDP.			

The Municipality consults with the Municipal Ward Committees, the IDP Representative Forum and the IDP Steering Committee during the IDP compilation process. Provision is made for consultation with vulnerable groups through the Ward Committee system. The groups represented on the Ward Committees as per the Ward Committee policy, includes the Youth, Sport, Women, Disability and Age, Business, Agriculture, Rate Payer Association, Labour, Culture and Religion. The Elderly, Youth and Disability organisations as well as four members per ward committee are also represented on the IDP Representative Forum.

The Vision and Mission statements of Laingsburg Municipality, as included in their 2013/2014 Review IDP for implementation in 2014/2015, are as follows:

Vision Statement:

"A desirable place to live, invest and visit, where all people enjoy a sustainable quality of life."

Mission Statement:

"To create a people centred and economically viable municipality where all have equal access to:

- basic social services
- educational and skills enhancement programmes
- entrepreneurial and job opportunities as well as

Enjoy a clean, sustainable environment embedded in safety and security, which is governed by a participative, professional, transparent and accountable administration"

Business Element 2: Demographics

Table C.2 : Business Element 2: Demographics (Topic 2)					
Overview of Topic	**Status Quo and Knowledge Interpretation Statistics**				
This topic provides an overview of demographics of the WSA as sourced from the National Geo-Referenced Database, aligned to Census figures as well as the number of public amenities and private facilities within the jurisdictional area of the WSA.	**Item**	**Quality (%)** assessment of current status against compliancy requirements	**Quantity (%)** an indication of the representation of the total area to address the issue	**Future Plan Assessment**	**Strategy Assessment**
	Farming	80.00	80.00	n/a	n/a
	Rural	80.00	80.00	n/a	n/a
	Urban	80.00	80.00	n/a	n/a
	Public Amenities Consumer types	72.00	72.00	n/a	n/a
	TOTAL for Topic	**78.00**	**78.00**	**n/a**	**n/a**
Problem Definition Statements					
Nr	**Statements - Short Comings**	**Possible Improvement / Project**			
-	-	-			

The municipal SDF was approved and the framework will be used to develop Laingsburg Municipality's Management Area strategically on the long term. The SDF for Laingsburg, Matjiesfontein and Vleiland is as follows:

Table C.3: SDF for Laingsburg, Matjiesfontein and Vleiland	
Laingsburg	
Public open space	• Establish a 30m ecological buffer around all river corridors. • Do not permit any urban development below the 1:50 year floodline or in this ecological buffer. • There should be no ploughing and careful management of livestock grazing and water points in this zone.
Urban restructuring	The focal point intersections and gateways should receive special treatment to enhance the quality of the urban environment around them. These intersections, that need to be enhanced, include: • Intersection of N1 Freeway to Bergsig (South of N1); • Intersection of Voortrekker Road to Moordenaars Karoo; • Intersection of Voortrekker Road at Shell garage; • Voortrekker and Humphrey Roads intersection (road to Seweweekspoort); and • Voortrekker Road / N1 Freeway and Hugo Street intersection (entrance to Goldnerville) These gateway areas and the above-mentioned focal point intersections should be appropriately landscaped and the design of buildings around them should be managed to a common design theme to create high quality environments.
Road improvements	• Rehabilitate the old Matjiesfontein road as a scenic route to encourage visitors and tourists and to promote the integration of business between Bergsig and the town; and between Laingsburg and Matjiesfontein. • Promote the old Matjiesfontein Road as a secondary activity street by encouraging small business along it: the renovation of building frontages (to acceptable urban design guidelines); and through improved pavement treatment and landscaping. • Promote Voortrekker Road as the primary activity street and maximize the exposure of buildings and activities to passing traffic. Ensure a high quality environment that is guided by urban design guidelines and supported by landscaping. • Upgrade the identified bridges, and the following intersections to the truck stop; Humphrey and Voortrekker Roads; and the Moordenaars Karoo.
Focal points and gateways	• Prepare urban design frameworks for the N1 Freeway through Laingsburg and for the gateway precincts. • Waste water treatment work • CBD • Improve signage in the centre of town. • Observe the required 400m buffer from the waste water treatment works, west of Bergsig. Do not permit any residential development in this buffer zone. • Promote the CBD as the heart of Laingsburg. This will require increasing the attractiveness of the area to tourist traffic, paying special attention to the removal of the New Jersey barriers, and providing sufficient and attractive signage, landscaping, urban design/building management, etc.
Urban edge	Urban Edge is aligned to limit further outward expansion, except for the proposed future eastward expansion area.

Table C.3: SDF for Laingsburg, Matjiesfontein and Vleiland	
Urban expansion	Seven areas were identified as future development areas. These areas are shown in the municipal SDF. These areas amount to a total of 69,61ha. This is to encourage the infill and integration of the town before permitting the outward expansion of the town.
Heritage area	Confirm the delineation of the heritage area in the centre of town with Heritage Western Cape. • Market Garden/ eco-agricultural / Retirement village • Investigate the potential of the established township south of Laingsburg to be a market garden/ eco-agricultural/ retirement village. This area is suitability located along the river for this purpose. • Investigate the viability of making the abovementioned proposed development independent.
Matjiesfontein	
Public open space	• Establish a 30m ecological buffer around all river corridors • Do not permit any urban development below the 1:50 year floodline or in this ecological buffer. • There should be no ploughing and careful management of livestock grazing and watering points in this zone.
Urban restructuring	• Improve the signage and the sense of gateway at the intersection off the N1 Freeway towards Matjiesfontein. • The gateway areas along the N1 Freeway signal the entrance into the town – a different environment. These gateway areas and the abovementioned focal point intersections should be appropriately landscaped and the design of buildings around them should be managed to a common design theme to create high quality environments. • Plan trees to screen off the noise from the N1 Freeway and to create an improved visual perspective of Matjiesfontein.
Road improvements	Close the existing level crossing over the railway bridge to improve road safety. This is due to the increase number of accidents at level crossings. • Upgrade the existing single culvert under the railway line to a double culvert to encourage vehicular movement. Increase the height, if necessary. This is to permit a stronger integration between the two components of the town, support Logan Road and provide a safer access solution to the southern components. • Strengthen the High Street as the main access route into Matjiesfontein. • Improve the landscaping and enhance the “outspan feeling” of the High Street Focus Area. Possibly retain the gravel feel. • Create a scenic link road between Matjiesfontein and Laingsburg.
Urban edge	• Limit and future urban growth within the proposed urban edge. • Urban expansion • SDF identified for future expansion areas. • Promote the development of an Area of approximately 4,3ha, for a retirement village • Promote the development of an Area of approximately 2,2ha, for additional NBG housing opportunities, if required. • Investigate the development of an Area of approximately 17ha for market gardening and / or residential development.
Vleiland	
Public open space	• Establish a 30m ecological buffer around all river corridors. • Do not permit any urban development below the 1:50 year floodline or in this ecological buffer. • There should be no ploughing and careful management of livestock grazing and watering points in this zone.
Urban restructuring	• Encourage the development of a tourist facility at the intersection of the R353 to Calitzdorp and the Road to Rouxpos. • The abovementioned area serves as a gateway area and signals the entrance to the proposed “new town” area. This area should be appropriately landscaped and trees planted to an acceptable theme.
Urban edge	Limit and future urban growth within the proposed urban edge
Urban expansion	Develop a new town/ Agri- village at the location identified. This location is preferred for two reasons. It is closer to existing community facilities: school, church, crèche, sports complex and community hall than the existing Vleiland community. Second, because all the land at the existing Vleiland location are privately owned, hampering BNG projects. The land for the proposed agro-village is owned by the Municipality. • Confirm the area identified in the proposed urban edge suffices for the anticipated need in the area. At this stage approximately 30 households are envisaged at 100m² per plot. This configuration may change depending on the confirmed demand. • A future expansion area (7.92 ha) is indicated but should only be developed if there is a need, i.e. the already indicated plots have been taken up. Market Gardening/ Agriculture • In the interim, develop the future potential expansion area for market gardening. • The area north of the proposed residential area is allocated for stock farming.

The table below gives an overview of the "Social Development" projects that will be implemented during the next three financial years.

Table C.4: Social development projects to be implemented by Laingsburg Municipality

Strategy	Baseline	Project Output	Main Activities	Budgets		
				14/15	15/16	16/17
Moral Regeneration	Low morals of the people	Restored values of the people	Disability day, World Aids day, Youth day, Woman's day, Children's day, Cancer day, Mandela day, Elderly days, Sports development and Marathon	R88 300	R92 700	R97 600
Crime Prevention	High drug related crimes	Educated community, Rehabilitated abuses & aftercare programme is in place	Crime Prevention Programmes	R15 500	R16 400	R17 100
Early childhood development	Donald duck not financial stable	ECD is fully operational	Provide support and financial aid	R22 000	R23 200	R24 500
Promotion of functional literacy	Low skills level and lack of funding for tertiary studies	Employable workforce and 10 students enrolled in Tertiary Institutions	Student bursary, Community training and Skills Development	R330 000	R331 600	R333 300
Elderly support	Huis Malan Jacobs not financially stable	Old Age home is fully operational	Provide support, Provide Financial Aid	R21 100	R22 200	R23 400
EPWP	High crime levels	Safer residential areas	Advertisement, recruitment, induction and training	R70 000	R70 000	R70 000

Business Element 3: Service Levels

Table C.5 : Business Element 3: Service Levels (Topic 3)

Overview of Topic	Status Quo and Knowledge Interpretation Statistics				
Topic 3 information is presented in terms of the Department of Water and Sanitations' service level classification which considers the adequacy of services in establishing the service level profile. The profile is presented in terms of settlements, population and households.	**Item**	**Quality (%)** assessment of current status against compliancy requirements	**Quantity (%)** an indication of the representation of the total area to address the issue	**Future Plan Assessment**	**Strategy Assessment**
	Water - Below: No Services (Formal)	40.00	80.00	40.00	20.00
	Water - Below: Infra. Needs	40.00	80.00	40.00	20.00
	Water - Below: O&M Needs	80.00	80.00	80.00	80.00
	Water - Below No Services (Informal)	80.00	80.00	80.00	80.00
	Sanitation – Below: No Services (Formal)	40.00	80.00	40.00	20.00
	Sanitation – Below: Infra. Needs	40.00	80.00	40.00	20.00
	Sanitation – Below: O&M Needs	40.00	80.00	40.00	20.00
	Sanitation – Below: No Services (Informal)	80.00	80.00	80.00	80.00
	Residential, Public Institutions and Industries Amenities	79.00	80.00	79.00	78.00
	TOTAL for Topic	**57.67**	**80.00**	**57.67**	**46.44**

Problem Definition Statements		
Nr	**Statements - Short Comings**	**Possible Improvement / Project**
1	Ensure that all households on the farms in the rural areas with existing services below RDP standard are provided with at least basic water and sanitation services.	Assist private landowners as far as possible with the provision of basic water and sanitation services to all the households in the Municipality's Management Area with existing service levels below RDP standard.
2	Water and Sanitation Service Level Policy is not yet in place.	Develop a Water and Sanitation Service Level Policy.

As a priority it is the responsibility of Laingsburg Municipality to make sure that adequate and appropriate investments are made to ensure the progressive realisation of the right of all people in its area of jurisdiction to receive at least a basic level of water and sanitation services. Whilst the provision of basic water services is the most important and immediate priority, WSAs are expected to provide intermediate and higher levels of services (for example, water on-site) wherever it is practical and provided it is financially viable and sustainable to do so.

Water and Sanitation Service Level Policies for Laingsburg Municipality are not yet in place, but the service levels to be provided by the Municipality to the consumers in their Management Area are however partly addressed in the Water Services By-laws. All water and sanitation services provided by Laingsburg Municipality to consumers within the Municipal Management Area are linked to the Municipality's Tariff Policy and Rates Policy and poor households are incorporated through Laingsburg Municipality's Indigent Policy.

A major challenge for Laingsburg Municipality is to provide water and sanitation services in a suitable manner to the large number of households in the lowest income groups. Laingsburg Municipality works towards providing all households in the towns with a water connection inside the house and connecting all households to a waterborne sanitation system.

All the formal households in the urban areas of Laingsburg Municipality's Management Area are provided with water connections inside the property (Higher level of service). Communal standpipes and ablution facilities will be provided in the informal areas, as a temporary emergency service, when it becomes necessary. Laingsburg Municipality takes note of the fact that communal standpipes represent probably the weakest part of a network's water supply services. Standpipes are often constructed in ways that cannot withstand excessive use (and abuse) and often neglected in terms of operation and maintenance adversely affecting the health of its already vulnerable and poor users. Communal standpipes are also used by poor households who normally don't pay for water.

Laingsburg Municipality is committed to support the private landowners as far as possible with regard to addressing the basic water services backlog that might still exist on the farms in the rural areas. Laingsburg Municipality is however faced with various challenges with regard to the provision of services on private owned land in a financial sustainable manner (enabling the ongoing operation of services and adequate maintenance and rehabilitation of the assets), which include the following:

Free basic water policy:

- The provision of the infrastructure (facilities) necessary to provide access to water to all households in a sustainable and economically viable manner.

- The development of subsidy mechanisms which benefit those who most need it.

Free basic sanitation policy:

- Provision of the most viable sanitation facility to the poor household.

- Health and hygiene promotion must be provided in a co-ordinated manner and must be properly managed and adequately funded if free basic sanitation is to become a reality. This requires close collaboration between the EHPs of the Central Karoo District Municipality responsible for environmental health and Laingsburg Municipality

- Subsidising the operating and maintenance costs. If the basic service is to be provided free to the poor then Laingsburg Municipality must ensure that the costs of providing the service are covered by the local government equitable share and / or through cross-subsidies within Laingsburg Municipality's Management Area.

The ownership of water services assets may be in the hands of the person owning the land where an "on-site" water or sanitation facility is provided to a household. There is no legal impediment to the use of government grants to fund infrastructure for a poor household on private land not owned by that household, provided that the intermediary (the private land owner) makes a financial contribution (This is because the intermediary becomes the owner of the infrastructure once it is installed). Government is looking at specific policies with regard to the appropriate level of contribution.

The clinics and hospital in Laingsburg Municipality's Management Area have adequate and safe water supply and sanitation services. All the schools in Laingsburg Municipality's Management Area also have adequate and safe water supply and sanitation services. It is important for the schools in Laingsburg Municipality's Management Area to focus on Water Demand Management activities and for Laingsburg Municipality to support the schools with a WDM programme.

Business Element 4: Socio Economic

Table C.6 : Business Element 4: Socio-Economic (Topic 4)					
Overview of Topic	**Status Quo and Knowledge Interpretation Statistics**				
The socio-economic information contained in the WSDP provides a broad overview of the socio-economic status of the municipality in terms of population growth rates, age and gender profile, employment profile, migration patterns, household income and economics. The topic also contains a quick reference to water services affordability by expressing the typical monthly water bill in terms of average monthly income in the municipal area.	**Item**	**Quality (%)** assessment of current status against compliancy requirements	**Quantity (%)** an indication of the representation of the total area to address the issue	**Future Plan Assessment**	**Strategy Assessment**
	General	80.00	80.00	n/a	n/a
	Age and gender profile	80.00	80.00	n/a	n/a
	Employment profile	64.00	44.00	n/a	n/a
	Demographic trends and migration patterns	64.00	60.00	n/a	n/a
	Household income	80.00	78.00	n/a	n/a
	Economics	20.00	20.00	n/a	n/a
	TOTAL for Topic	**64.67**	**60.33**	**n/a**	**n/a**

Problem Definition Statements		
Nr	**Statements - Short Comings**	**Possible Improvement / Project**
1	Conservative approach is followed regarding the management of water sources, due to the possible impact of climate change.	All resources, especially surface water resources, need to be re-evaluated, especially where demand is close to the safe one in twenty year yields. Establish assurance of supply levels of all water sources.
2	Proposals identified in the SDF need to be implemented.	Implement proposed SDF projects, as included in the SDF.
3	Unlock further economic development opportunities.	Implement LED Strategy

The relatively young population indicates a sizable labour force. Initiatives to empower and develop skills in the labour force would be vital in improving the economy of the Municipality and reducing unemployment figures. The future housing development in Goldnerville is the Municipality's main development focus to provide bulk infrastructure for housing that will be built in the 2015/2016 financial year.

A critical aspect of infrastructure development is the obligation and commitment to create jobs. Direct job creation takes place through the development, operation and management of water infrastructure, with indirect job creation that flows from the associated water supplies to economic activities such as mining, manufacturing, power generation and agriculture.

Investment in infrastructure development could create employment for local workers and provide skills development and work experience at a number of levels, from the highly technical jobs to manual labour, particularly where labour-intensive construction methods are used. The operation and management of water infrastructure also offers opportunities for job creation.

Laingsburg Municipality is conscious of the challenges of poverty in the area and strives to contribute towards the alleviation thereof by means of e.g. the Indigent Policy, Local Labour Promotion Projects, LED projects and use of Supply Chain Management Policy as an instrument to enforce the maximum use of local labour.

It is therefore important for Laingsburg Municipality to continue to focus on labour intensive construction methods (EPWP projects) when implementing new projects. This process involves attacking poverty through job creation in the delivery of sustainable services. The Guidelines for the Implementation of Labour Intensive Infrastructure Projects under the Expanded Public Works Programme is available to assist Municipalities.

The lack of employment opportunities consequently leads to the migration of especially the youth to the big cities. The nature of the migration to the cities is not expected to have any significant benefits or spin-offs for the area itself.

Low household income in poverty areas is aggravated by poor quality of basic services, long walking distances to health and welfare facilities and long distances to the main employment opportunities. In recognition of the urgency to address poverty in the area Laingsburg Municipality adopted various measures of assistance to indigents such as the subsidising of free basic services and the provision of housing. Participation from other spheres of government and NGOs are also encouraged in order to meet with the demand.

Laingsburg Municipality needs to collaborate with the private sector and local non-profit organizations to provide needed skills at all levels, commission a skills audit and gap assessment and a skills development exercise focusing on specific priorities. The projects should focus on socio-economic upliftment, as part of Laingsburg Municipality's strategy to bring about poverty alleviation through job creation whilst enhancing the prospects of reducing outstanding municipal consumer debt.

Laingsburg Municipality's free basic services and Indigent Policy caters for a proportion of the population not being able to afford water and sanitation services. The proportion of the population who cannot afford water and sanitation is also examined each year during the budgeting and tariff setting process and tariffs are adjusted accordingly. Households that cannot afford to pay can register as Indigent on the Municipality's Indigent Register.

Certain initiatives from Laingsburg Municipality aim to create job opportunities by means of:

- Labour intensive public work programmes;
- Procurement Policy in which preference is given to local contractors and contractors who employ local labour.

Labour Intensive methods must be used as far as possible for the following water services activities:

- Bulk and internal water reticulation networks
- Bulk and internal sewer drainage networks.
- Provision of basic services on the farms.

Investing in infrastructure creates an enabling environment for economic growth and is an important precondition for sustainable growth. Failure to adequately budget for the rehabilitation and maintenance of the existing infrastructure poses a serious threat to the local economy. The deterioration of the existing networks and rapid development, which is not always matched by growing capital expenditure, further exacerbates the situation. Adequate rehabilitation and maintenance of the existing infrastructure is critical in order to ensure the medium to long term sustainability of the existing infrastructure.

The Agriculture Sector shows a slow growth pattern, but it is still a very important sector contributing to the GDP of Laingsburg Municipality and still employs the biggest portion of the employment. The Municipality are currently exploring new ventures to assist this sector to add value to the raw products that leaves the area.

The table below list the various issues and strategic areas for intervention, as identified in the LED Strategy.

Table C.7: Strategic areas for intervention, as identified in the LED Strategy

Objectives	Strategies
Diversifying the economy: To develop the agricultural sector in such a way that: • Current agricultural practices are maintained and further enhanced as this forms the backbone of the local economy. • Value adding practices in the form of agri-processing are initiated and become sustainable. • Agri-processing industries involve the large number of economically active unemployed females in the sub-region. • Synergies are created between the service industry and the agricultural sector, whereby tourists are attracted to local products and utilize other services.	• Sustain existing agricultural practices. • Promoting agri-processing industries. • Provide for Urban Agriculture and Small Scale Farming • Identify and support agri-tourism practices. • Alternative Energies • Agri Tourism
Transport and service sector: To develop a sustainable transport and related services sector in the municipality in a way that: • Supports and is aligned with the five strategic issues identified in the Central Karoo District's Integrated Transport Plan. • Distinguishes between the two types of travelers that are passing through the Central Karoo and Cape Town towards Johannesburg: private vehicle owners and truck drivers. • Promotes the image of Laingsburg as an ideal stop-over for travelers seeking good services. • Focuses on projects within the municipality that can spread the benefits equitably. • Creates links with the agriculture sector.	• Align with regional transport plan. • Cater for the needs of long distance private travellers. • Capture the trucks market. • Facilitate creative alliances with the local agriculture and tourism sector. • Becoming the best Karoo Town. • Tarring of gravel roads. • Wi-Fi Free Town • Public Transportation
Human resources development: • To ensure that children have access to high quality early childhood development programmes. • To ensure that all learners and job seekers have equal access to quality education and training. • To ensure that learners have safe access to learning facilities. • To empower residents of Laingsburg to acquire skills that will enable them to access and acquire favourable city jobs.	• Ensure access to early childhood and school development programmes. • Worker Skills Development and Training Programme. • Further Education and Training (FET) College. • School for Children with Learning Disabilities.
Integrated human settlement: To establish a pattern of development that: • Improves land use integration to enhance the access of poorer communities to economic and social services. • Creates and ensures that housing becomes assets to the poor.	• Improve connectivity between townships and more established parts of the town. • Enhance the asset value of low-income housing. • Gap Housing • Spatial Planning and Land Use Management Act / Land Use Planning

The table below gives an overview of the "Local Economic Development" projects that will be implemented during the next three financial years.

Table C.8: Local Economic development projects to be implemented by Laingsburg Municipality

Strategy	Baseline	Project Output	Main Activities	Budgets		
				14/15	15/16	16/17
Laingsburg Tourism Dev.	Visitors drive through Laingsburg without stopping	Laingsburg a Tourism Destination and more visitors stay over.	Cultural Events Marketing Community Tourism	R225 000	R237 280	R250 800
Marketing and Investing	Lack of Cultural Events	More people visit area and invest in Local Markets	Farm Markets Mayoral Golf Day Ultra Marathon	R1 000 R60 000 R200 000	R1 000 R60 000 R200 000	R1 000 R60 000 R200 000
Promotion of SMMEs	Lack of funds available to new entrepreneurs	Four new Businesses and unemployment decreased	Advertising Screening and Shortlisting Council Approval	R30 000	R31 600	R33 300

Business Element 5: Water Services Infrastructure

Table C.9 : Business Element 5: Water Services Infrastructure Management (Topic 5)					
Overview of Topic	**Status Quo and Knowledge Interpretation Statistics**				
Topic 5.1 provides an overview of the extent-, functionality- and asset status of the municipality's water services infrastructure. It also provides an overview of the municipality's compliance in terms of legislation- and regulations concerning asset management, disaster management, water quality management, water resource licensing, etc. It should be emphasized that the topic does not provide the detail per infrastructure element, but provides an overview per each	**Item**	**Quality (%)** assessment of current status against compliancy requirements	**Quantity (%)** an indication of the representation of the total area to address the issue	**Future Plan Assessment**	**Strategy Assessment**
	General Information	52.00	52.00	48.00	48.00
	Operation	64.00	68.00	64.00	64.00
	Monitoring and sample failure	47.00	52.00	41.00	41.00
	Functionality	40.00	40.00	40.00	40.00
	Institutional status	80.00	80.00	80.00	80.00
	Asset assessment spectrum	40.00	40.00	40.00	40.00
	Type and capacity	67.00	77.00	60.00	60.00
	TOTAL for Topic	**55.71**	**58.43**	**53.29**	**53.29**

Problem Definition Statements		
Nr	**Statements - Short Comings**	**Possible Improvement / Project**
1	Groundwater monitoring programme needs to be implemented for both Laingsburg and Matjiesfontein.	Keep record of static water levels. Keep record of daily rainfall. Keep record of abstraction volumes. Data to be processed, analysed and reported on by an experienced hydrogeologist, at least annually.
2	Potable water of Matjiesfontein needs to be disinfected, prior to distribution to the consumers.	Provide disinfection facility for Matjiesfontein.
3	Existing operational and compliance water quality sampling programmes need to be improved.	The proposed Operational and Compliance Water Quality Sampling Programmes (Section 6.3.3 of Module 3) need to be implemented.
4	Existing operational and compliance sampling programmes for the WWTWs need to be improved, as well as the record keeping of data.	The proposed Operational and Compliance Wastewater Quality Sampling Programmes (Section 6.4.2 of Module 3 and O&M Manuals) need to be implemented. Records need to be kept of all data as indicated in the O&M Manuals.
5	Priority should be given to rehabilitating existing infrastructure as this generally makes best use of financial resources and can achieve an increased in (operational) services level coverage's most rapidly.	The preparation of maintenance plans and the allocation of sufficient funding for maintenance are required to prevent the development of a large condition backlog.
6	Ensure that an appropriate maintenance and rehabilitation plan (IAMP) is developed and implemented.	Develop an Infrastructure Asset Management Plan (IAMP) from the updated Asset Register. This plan must be based on the principle of preventative maintenance in order to ensure that, as far as this is practical, damage to assets is prevented before it occurs.
7	Records need to be kept of the number of breakages / failures per infrastructure type in order to assist the Municipality with their refurbishment and maintenance planning.	Keep record of all breakages / failures per infrastructure type.
8	Ensure that all the assets, as listed under the various tables in this chapter, are included in the Asset Register.	Update the Asset Register to include all the assets.
9	Ensure an accurate Asset Register.	The existing assets need to be inspected by a qualified technical person in order to determine the accurate CRC, DRC and RUL of all the existing assets. Each asset can also be categorised according to its importance and the risk if it fail (Significant, High, Moderate and Low)
10	Develop an Asset Management Plan. This plan must be based on the principle of preventative maintenance in order to ensure that, as far as this is practical, damage to assets is prevented before it occurs.	Develop an Asset Management Plan, which will ensure that assets are rehabilitated and / or replaced before the end of their economic life and the necessary capital funds are allocated for this purpose.
11	The Water and Sewer Master Plans were last updated in February 2007.	Update the Water and Sewer Master Plans.

The future recommended upgrades for the internal water and sewer networks, the future bulk water infrastructure and the future bulk sewerage infrastructure are summarised in Tables C.10a, C.10b and C.10c below.

Table C.10a: Future internal and connector infrastructure as included in the Master Plans

Town / System	Item	Short description	Feasibility checked (Y/N)	Scheduled date	Estimated 2014 Cost (VAT Incl.)
Laingsburg	LLW1	New 375m x 200mm dia main from new reservoir	Yes	When FDA L5-L8 develops	R367 034
	LLW 2	New 1 605m x 160mm dia network	Yes	For FDA L5-L8	R1 193 769
	LLW 3.1	New 50m x 160mm dia supply pipe	Yes	Required for re-zoning	R38 157
	LLW 3.2	New 690m x 110mm dia supply pipe	Yes	When FDA L5–L8 develops	R352 498
	LLW 3.3	New 115m x 110mm dia supply pipe	Yes	When FDA L5-L8 develops	R110 837
	LLW 3.4	New 25m x 75mm dia supply pipe	Yes	Required for re-zoning	R43 608
	LLW 4	New 2 035m x 160mm dia system reinforcement	Yes	When FDA L11-L12 develops	R2 463 852
	LLW M1	Telemetry and bulk water meters	Yes	As soon as possible	R254 380
	LLS1	New 1 065m x 160mm dia collector main	Yes	When FDA L5-L8 develops	R839 454
	LLS2	New 876m x 160mm dia collector main	Yes	For FDA Uitspan	R679 558
	LLS3	New 1 586m x 160mm dia rising main	Yes	For FDA Uitspan	R1 227 351
	LLS 5	Upgrade existing telemetry system	Yes	As soon as possible	R127 190
Matjiesfontein	LMW 1	New 700m x 110mm dia supply pipe	Yes	Required to reinforce the network	R683 192

Table C.10b: Future bulk water infrastructure as included in the Master Plans

Town	Item	Short description	Feasibility checked (Y/N)	Scheduled date	Estimated 2014 Cost (VAT Incl.)
Laingsburg	LLW B1	New 16 l/s at 52m PS	Yes	When FDA L5-L8 develops	R844 905
	LLW B2	New 575m x 160mm dia bulk supply pipeline	Yes	When FDA L5-L8 develops	R428 812
	MIG	New header tank and PS for Goldnerville	Yes	2015/2016	R1 716 325
	MIG	New 2.000 Ml reservoir	Yes	When FDA L5-L8 develops	R5 004 100
Matjiesfontein	MIG	New 0.250 Ml reservoir	Yes	2015/2016	R1 165 600

Table C.10c: Future bulk sewerage infrastructure

Town	Item	Short description	Feasibility checked (Y/N)	Scheduled date	Estimated 2014 Cost (VAT Incl.)
Laingsburg	MIG	New bulk sewer for Goldnerville	Yes	2014/2015	R1 221 155
	LLS 4	New 16 l/s PS	Yes	For Uitspan drainage area	R774 042
	Budget	Disinfection facility for WWTW	Yes	2014/2015	R25 000
Matjiesfontein	-	-	-	-	-

Groundwater Infrastructure (Boreholes):

It is critical for Laingsburg Municipality to monitor on a monthly basis (at least) the static water level (i.e. the level prior to commencement of pumping for the day) in each of their production and monitoring boreholes. The daily rainfall for the area should also be recorded. This monitoring data should be processed, analysed and reported on by an experienced hydrogeologist in order to ascertain whether the resource is being sustainably utilised or whether groundwater mining is taking place. It is important for Laingsburg Municipality to focus on aquifer protection, groundwater monitoring and wellfield management, in order to meet the town's future water requirements.

Water Treatment Works:

The water is currently only disinfected in Laingsburg at the New Town Reservoir, prior to distribution to the end users. The water in Matjiesfontein is not yet disinfected. The DWS's 2013 Blue Drop Progress Report highlighted that the microbiological quality compliance of both systems is still of major concern for the DWS, as no improvement was observed. The Laingsburg system indicated a decrease in microbiological water quality compliance from 77.3% to 42.1%. The Matjiesfontein system indicated an increase in microbiological quality compliance from 63.6% to 75.0%, which is still far below the requirements of SANS:241. The microbiological quality compliance for 2013/2014 for Laingsburg was 79.8% and for Matjiesfontein 100.0%.

It is recommended that the water of Matjiesfontein is disinfected prior to distribution to the consumers, in order to ensure that microbiological compliance, according to SANS:241, is achieved and maintained in the future.

All potable water supplied to the consumers in Laingsburg also needs to be adequately disinfected prior to distribution to the consumers. The recommended Operational and Compliance Water Quality Sampling Programmes, as included in the WSDP (Section 6 of Module3), need to be implemented.

Reservoirs:

The condition of most of the reservoirs in Laingsburg is good and the reservoirs are well maintained. The Municipality plan to replace the Matjiesfontein steel reservoir with a new 0.250 Ml concrete reservoir in 2015/2016. The current total storage capacity for Laingsburg is insufficient, with a total storage capacity of 21 hours of the PDD. The storage capacity for Matjiesfontein will be adequate, with the construction of the new 0.250 Ml reservoir. The future required reservoirs and the current storage factors, based on 1 x PDD (24 hours storage capacity), are as follows:

Table C.11: Future reservoir storage capacities required

Town	Existing Storage Factor	Recommendations included in the Water Master Plan	Estimated 2014 Cost (Vat Incl.)
Laingsburg	0.91	New 1.5 Ml reservoir (LLW B3 Water Master Plan). MIG Technical Report was prepared for the construction of a new 2 Ml reservoir	R5 004 100
Matjiesfontein	2.00 (New 0.25Ml reservoir)	MIG Technical Report for the construction of a new 0.250 Ml concrete reservoir	R1 165 600

Water Pump Stations and Water Reticulation Infrastructure:

The operational staff indicated the following two operational problems within the reticulation system, at the time when the Water Master Plan was compiled.

- Low pressures in the higher Goldnerville area, Laingsburg.
- Pipe breaks in the fragile Matjiesfontein network.

The existing Laingsburg and Matjiesfontein water distribution systems have insufficient capacity to supply the future water requirements for the fully occupied scenario and the additional future development areas. The proposed changes to the existing distribution zones are as follows:

- The new Goldnerville reservoir initiates the new Goldnerville upper reservoir zone that serves the new developments in that area.
- The higher Goldnerville residential area will be served from the new Goldnerville upper reservoir.
- A new Matjiesfontein distribution pipeline is required to reinforce water supply within the Matjiesfontein water network.

The Water Master Plan (February 2007) indicated that it will be necessary for the following water reticulation infrastructure and pump stations, based on the most likely land-use development scenario:

Table C.12: Proposed future water reticulation networks and pump stations

Distribution System	Recommendations included in the Water Master Plan	Estimated 2014 Cost (Vat Incl.)
Laingsburg	New 375m x 200mm dia main from new reservoir when FDA L5-L8 develops (LLW 1)	R367 034
	New 1 605m x 160mm dia network for FDA L5-L8 (LLW 2)	R1 193 769
	New 50m x 160mm dia supply pipe, required for re-zoning (LLW 3.1)	R38 157
	New 690m x 110mm dia supply pipe when FDA L5–L8 develops (LLW 3.2)	R352 498
	New 115m x 110mm dia supply pipe when FDA L5–L8 develops (LLW 3.3)	R110 837
	New 25m x 75mm dia supply pipe, required for re-zoning (LLW 3.4)	R43 608
	New 2 035m x 160mm dia system reinforcement when FDA L11-L12 develops (LLW 4)	R2 463 852
	New 575m x 160mm dia bulk supply pipeline when FDA L5-L8 develops (LLW B2)	R428 812
	New 16 l/s at 52m PS when FDA L5-L8 develops (LLW B1)	R844 905
	Telemetry and bulk water meters (LLW M1)	R254 380
	New header tank and PS for Goldnerville (MIG application)	R1 716 325
Matjiesfontein	New 700m x 110mm dia supply pipe, required to reinforce the network (LMW 1)	R683 192

Sewer Pump Stations and Sewer Drainage Infrastructure:

The operational staff indicated that there are no operational problems within the sewer drainage systems, when the Sewer Master Plan was compiled. Recommendations included in the Sewer Master Plan were as follows:

- A new collector pipeline in Goldnerville area when FDA's L5-L8 develops.
- A collector pipeline in the Uitspan area.
- A new Uitspan pump station and rising main.

The Sewer Master Plan (February 2007) indicated that it will be necessary for the following sewerage drainage infrastructure and pump stations, based on the most likely land-use development scenario:

Table C.13: Proposed future sewerage drainage infrastructure and pump stations

Distribution System	Recommendations included in the Water Master Plan	Estimated 2014 Cost (Vat Incl.)
Laingsburg	New 1 065m x 160mm dia collector main when FDA L5-L8 develops (LLS1)	R839 454
	New 876m x 160mm dia collector main for FDA Uitspan (LLS2)	R679 558
	New 1 586m x 160mm dia rising main for FDA Uitspan (LLS3)	R1 277 351
	New 16 l/s PS for Uitspan drainage area (LLS4)	R774 042
	New bulk sewer pipeline for the Goldnerville area (MIG application)	R1 221 155
	Upgrade existing telemetry system (LLS5)	R127 190
Matjiesfontein	-	-

The telemetry system whereby the pump stations are closely monitored should be upgraded and utilized to its full potential in order to assist with the operation and management of the systems.

Waste Water Treatment Works:

Laingsburg WWTW: The oxidation ponds were recently rehabilitated and are in a good condition. The rehabilitation included the cleaning and lining of all the ponds. The existing hydraulic and organic capacities of the WWTW are adequate to meet the future treatment requirements of Laingsburg and no further upgrading work are expected in the nearby future. The Municipality however needs to ensure that the required maintenance work is carried out. The required operational and compliance monitoring and record keeping also needs to be done. The approved 2015/2015 Capital Budget includes an amount of R25 000 for a disinfection facility at the WWTW.

Matjiesfontein WWTW: The Ampac 70 Package Plant is a new plant, which was only put into operation during 2013/2014. The existing hydraulic and organic design capacities of the plant are adequate to meet the future treatment requirements. The Municipality however needs to ensure that the following maintenance work is always carried out:

- Daily maintenance, weekly maintenance, monthly maintenance and intermittent maintenance as indicated in the O&M Manual (Section 4.1 to 4.4);
- Irrigation pumps time settings;
- Desludging;
- Completion of all maintenance tasks in the O&M Manual;
- Logging of daily attendance;
- Maintain logbook of flow meter readings;
- Sampling, testing and reporting of inflow and outflow monthly; and
- Maintain incident register of quality deviation/s and remedial action.

Asset Management Assessment:

It is important for Laingsburg Municipality to differentiate between budget allocated towards the operation and maintenance of the water infrastructure and budget for the replacement of infrastructure. A budget of approximately 2% of the total asset value per annum should be allocated towards the replacement of existing infrastructure. In the case of operations and maintenance of the system, a budget of approximately 1% to 2% of the value of the system is typically required to ensure that the system remains in good condition.

The Municipality further needs to develop an AMP from their Asset Register. The objective of an AMP is to support the achievement of the strategic goals of the Municipality and facilitate prudent technical and financial decision-making. It is also a vehicle for improved internal communication and to demonstrate to external stakeholders the Municipality's ability to effectively manage its existing infrastructure as well as the new infrastructure to be developed over the next 20 years.

Priority should be given to rehabilitating existing infrastructure as this generally makes best use of financial resources and can achieve an increased in (operational) services level coverage's most rapidly. The preparation of maintenance plans and the allocation of sufficient funding for maintenance are required to prevent the development of a large condition backlog.

It is essential for Laingsburg Municipality to protect their assets by ensuring that an appropriate maintenance and rehabilitation plan (AMP) is developed and implemented. This plan must be based on the principle of preventative maintenance in order to ensure that, as far as this is practical, damage to assets is prevented before it occurs. Laingsburg Municipality must ensure that the maintenance and rehabilitation plan is part of the WSDP and that the plan is implemented. Assets must be rehabilitated and / or replaced before the end of their economic life and the necessary capital funds must be allocated for this purpose. The potential renewal projects for water and sewerage infrastructure need to be identified from the Asset Register. All assets with a condition grading "Poor" and "Very Poor" need to be prioritised. The condition of the existing infrastructure is not yet adequately assessed in the existing Asset Register.

Business Element 6: Operation and Maintenance

Table C.14 : Business Element 6: Operation and Maintenance (Topic 6)					
Overview of Topic	**Status Quo and Knowledge Interpretation Statistics**				
This topic provides an overview of the sufficiency of resources and processes in place to effectively operate and maintain the water services. It reflects whether the municipality has an Operation and Maintenance Plan in place. The topic also illustrates whether the WSA has implemented good practice as directed in the Blue- and Green Drop certification processes	**Item**	**Quality (%)** assessment of current status against compliancy requirements	**Quantity (%)** an indication of the representation of the total area to address the issue	**Future Plan Assessment**	**Strategy Assessment**
	Operation & Maintenance Plan	40.00	40.00	n/a	n/a
	Resources	58.00	58.00	55.00	55.00
	Information	53.00	53.00	53.00	53.00
	Activity Control & Management	40.00	40.00	40.00	40.00
	Water Supply & Quality	71.00	71.00	71.00	71.00
	Waste Water Supply & Quality	37.00	37.00	37.00	37.00
	TOTAL for Topic	**49.83**	**49.83**	**51.20**	**51.20**

Problem Definition Statements		
Nr	**Statements - Short Comings**	**Possible Improvement / Project**
1	A Water Safety Plan is not yet in place.	Develop a Water Safety Plan for both water distribution systems. The Water Safety Plan needs to include an Improvement/Upgrade Plan and an Incident Management Protocol.
2	A W2RAP for the WWTWs and drainage systems is not yet in place.	Develop a W2RAP for both WWTWs and drainage systems. The W2RAP needs to include an Improvement / Upgrade Plan, to reduce the CRRs of the WWTW, and an Incident Management Protocol.
3	It is important for Laingsburg Municipality to classify all treatment works and operators along the lines of the regulations by establishing a programme for certification of works, operators, technicians and managers. The process will include reviewing the skills needed and aligning resources to these needs as well as reviewing total staff numbers necessary to meet all the objectives in the National Water Act.	Establish a mentoring role for operators ensuring an adequately trained and classified workforce with dedicated training programmes for supervisors and operators. Establish budgets to address the shortfall of skilled staff, rethink methods to retain qualified personnel and plan for succession and clear career paths for experienced staff. With such a program a source of specific resources of skilled operators, technicians and managers will be established.
4	The Occupational Health and Safety Act contain provisions directing employers to maintain a safe workplace and to minimize the exposure of employees and the public to workplace hazards. It is therefore important for Laingsburg Municipality to compile a Legal Compliance Audit of their disinfection facilities (chlorine audit) and WWTWs, which will provide the management of Laingsburg Municipality with the necessary information to establish whether the Municipality is in compliance with the legislation or not.	Compile an Occupational Health and Safety Audit at all the disinfection facilities and WWTWs.
5	It is important to note that all operational manuals of treatment unit processes should contain operational limits, monitoring programmes, verification procedures and pre-determined corrective actions. Corrective actions identified for each control measure need to be adhered to as soon as critical limits have been exceeded. The corrective actions are an important component of the management aspects of the Water Safety Plan and W2RAP and should be effective in restoring performance to acceptable levels when critical limits are exceeded.	Develop operational limits, monitoring programmes, verification procedures and pre-determined corrective actions for all disinfection facilities and WWTW treatment processes.
6	Mechanisms need to be put in place in order to ensure that all incidents and emergencies are documented and reported.	Develop the necessary mechanisms to ensure that all incidents and emergencies are documented and reported. The Municipality should learn as much as possible from the incident or emergency to improve preparedness and planning for future incidents. Review of the incident or emergency may indicate necessary amendments to existing protocols.

A Water Safety Plan still needs to be drafted for Laingsburg and Matjiesfontein. A detailed risk assessment needs to be executed as part of the process. This step of the Water Safety Plan establishes the risk that the water quality standard will not be met as well as the consequences if the standard is not complied with. A list of potential hazards and hazardous events need to be compiled and worked through with the Water Safety Plan Team. The impact of each of the hazards or hazardous events needs to be characterised by assessing the severity of the likely health outcome and the probability of occurrence.

An Improvement / Upgrade Plan needs to be compiled for all the existing significant risks, where the existing controls were not effective or absent. Each identified improvement needs to be linked to one of the Water Safety Plan Team members to take responsibility for implementation together with an appropriate time frame for implementation of these controls. The Supporting Programmes also need to be looked at. Supporting Programmes are activities that ensure the operating environment, equipment used and the people themselves do not become an additional source of potential hazards to the drinking water supply.

An Incident Management Protocol (IMP) and Emergency Response Plan also need to be compiled. The Incident Management Protocol should clearly specify the responsibilities for co-ordinating measures to be taken, a communication plan to inform / alert users of supply and plans for providing / distributing emergency supplies of water.

It is important for Laingsburg Municipality to classify all treatment works and operators along the lines of the regulations by establishing a programme for certification of works, operators, technicians and managers. The process will include reviewing the skills needed and aligning resources to these needs as well as reviewing total staff numbers necessary to meet all the objectives in the National Water Act.

It is important for Laingsburg Municipality to establish a mentoring role for operators ensuring an adequately trained and classified workforce with dedicated training programmes for supervisors and operators. Budgets need to be established to address the shortfall of skilled staff, rethink methods to retain qualified personnel and plan for succession and clear career paths for experienced staff. With such a program a source of specific resources of skilled operators, technicians and managers will be established.

The Occupational Health and Safety Act contain provisions directing employers to maintain a safe workplace and to minimize the exposure of employees and the public to workplace hazards. It is therefore important for Laingsburg Municipality to compile a Legal Compliance Audit of their disinfection facilities (chlorine audit) and WWTW, which will provide the management of Laingsburg Municipality with the necessary information to establish whether the Municipality is in compliance with the legislation or not.

The Municipality's existing Water Quality Operational Sampling Programme includes the sampling of the pH and Free Chlorine Levels at all the Municipality's reservoirs daily. Laingsburg Municipality further needs to conduct operational monitoring of process indicators according to the minimum requirement specified in SANS 241:2011 for characterising raw water quality, on-going levels of operational efficiency in a water treatment system and acceptable final water quality to the point of delivery. It is important for Laingsburg Municipality to compile and implement an Operational Monitoring Programme, which include all the following:

- Daily sampling of Conductivity, pH and Turbidity of all raw water sources used.
- Daily sampling of Conductivity, pH, Turbidity and Free Chlorine of final water for Laingsburg and Matjiesfontein.
- Weekly sampling of E.Coli and Heterotrophic plate count of final water for Laingsburg and Matjiesfontein
- Sampling of pH, Turbidity, Free Chlorine, E.Coli and Heterotrophic plate count fortnightly in the distribution systems of Laingsburg and Matjiesfontein.

It is further recommended that Laingsburg Municipality's Monthly Water Quality Compliance Sampling Programme includes the following sampling sites and monthly determinands to be monitored.

Table C.15: Recommended Monthly Water Quality Compliance Sampling Programme	
Recommended Sample Sites	**Determinands to be sampled monthly**
Main Reservoir Laingsburg	pH, Conductivity, Turbidity, Free Chlorine, Nitrate, Nitrite, Fluoride, Sulphate, Ammonia, Chloride, Sodium, Zinc, Iron, Aluminium, Manganese, E.Coli / Total Coliform, Total plat Count
Goldnerville Reservoir	
Bergsig Tap	
School Reservoir	
Matjiesfontein Tap	
Matjiesfontein Reservoir (Once constructed)	

The number of monthly microbiological compliance samples taken in Laingsburg is adequate, but one additional sample needs to be taken in Matjiesfontein.

The additional monitoring required by Laingsburg Municipality for determinands identified during the risk assessment exceeding the 2014 DWS Blue Drop numerical limits are as follows (Water quality samples taken over the period July 2013 to June 2014).

Table C.16: Additional monitoring required by Laingsburg Municipality for determinands identified during the risk assessment exceeding the 2014 DWS Blue Drop numerical limits (July 2013 – June 2014)			
Performance Indicator	**Performance Indicator categorised as unacceptable Yes / No (Categorisation according to Table 4 of SANS 241-2:2011)**	**% Sample Compliance according to 2014 DWS Limits**	**Frequency of Additional Monitoring due to failure**
Laingsburg			
Acute Health – 1 Microbiological	Yes (Unacceptable)	79.5%	Weekly
Acute Health – 1 Chemical	No (Excellent)	100.0%	-
Chronic Health	Yes (Unacceptable)	66.7%	Monthly
Aesthetic	No (Excellent)	94.6%	-
Risk assessment defined Health (Acute or Chronic)	Yes (Unacceptable)	75.9%	Monthly
Operational Efficiency	Yes (Unacceptable)	77.7%	Weekly
Matjiesfontein			
Acute Health – 1 Microbiological	No (Excellent)	100.0%	-
Acute Health – 1 Chemical	No (Excellent)	100.0%	-
Chronic Health	Yes (Unacceptable)	63.9%	Monthly
Aesthetic	No (Excellent)	95.8%	-
Risk assessment defined Health (Acute or Chronic)	Yes (Unacceptable)	78.3%	Monthly
Operational Efficiency	Yes (Unacceptable)	86.1%	Weekly

The table below gives an overview of the five categories under which the risks posed by micro-organism, physical or aesthetic property or chemical substance of potable water is normally classified:

Table C.17: Five categories under which the risks posed by micro-organism, physical or aesthetic property or chemical substance of potable water is normally classified	
Category	**Risk**
Acute Health - 1	Routinely quantifiable determinand that poses an immediate unacceptable health risk if consumed with water at concentration values exceeding the numerical limits specified in SANS 241.
Acute Health - 2	Determinand that is presently not easily quantifiable and lacks information pertaining to viability and human infectivity which, however, does pose immediate unacceptable health risks if consumed with water at concentration values exceeding the numerical limits specified in SANS 241.
Aesthetic	Determinand that taints water with respect to taste, odour and colour and that does not pose an unacceptable health risk if present at concentration values exceeding the numerical limits specified in SANS 241.
Chronic Health	Determinand that poses an unacceptable health risk if ingested over an extended period if present at concentration values exceeding the numerical limits specified in SANS 241.
Operational	Determinand that is essential for assessing the efficient operation of treatment systems and risks from infrastructure

It is also important to note that all operational manuals of treatment unit processes such as chemical dosing, coagulation sedimentation, filtration, disinfection etc. should contain operational limits, monitoring programmes, verification procedures and pre-determined corrective actions. Corrective actions identified for each control measure need to be adhered to as soon as critical limits have been exceeded. The corrective actions are an important component of the management aspects of the Water Safety Plan and should be effective in restoring performance to acceptable levels when critical limits are exceeded.

Laingsburg Municipality is committed to work with the DWS and the other role-players in order to improve on their 2012 Blue Drop Score for Laingsburg and Matjiesfontein. It is important that the following measures are put in place in order to improve the Municipality's Blue Drop Performance.

- Water Safety Plan and Incident Management Protocol need to be drafted and implemented. Preventative actions and control measures identified as part of the Water Safety Plan need to be implemented in order to address the potential risks identified through the Water Safety Plan process.
- Operational Monitoring Programme needs to be compiled and implemented.
- Chlorine Audits need to be done of all the disinfection plants.
- O&M Manuals need to be drafted for all the disinfection plants and pump stations.

Laingsburg Municipality is also committed to manage and operate their sewage pump stations effectively to prevent any possible spillages and to ensure that the WWTWs are managed and operated to comply with the permitted standards.

An Operational Sampling Programme for the WWTW is not yet implemented by the Municipality. Compliance samples are however taken of the final effluent at the Laingsburg WWTW on a monthly basis. It is recommended that the pH, Settleable Solids, EC of the raw sewage be sampled once a day at both plants. The Compliance Sampling Programme should include the monitoring of the pH, Conductivity, Faecal Coliforms, Sodium Absorption Ratio and COD of the final effluent once per month. Samples need to be taken at both the Laingsburg- and Matjiesfontein WWTW.

Laingsburg Municipality should implement an Operational Sampling Programme for their WWTWs and should continue and improve the level and frequency of compliance sampling and reporting on wastewater quality.

The knowledge, skills, motivation and commitment of staff involved in the management of waste water quality are the most important factors that determine the ability of Laingsburg Municipality to comply with the quality of treated effluent discharge from the WWTWs. Training of all staff involved in sanitation services on matters related to treatment processes and quality monitoring and control is essential because their actions (or failure to act) will have a major impact on the environment.

An Incident Response Management Protocol still needs to be drafted as part of Laingsburg Municipality W_2RAP. The purpose of the Incident Response Management Protocol is to plan for failures at the WWTWs and subsequent methods to address such failures.

A set of Compliance Alert Levels for the final effluent discharged from the WWTWs, corresponding to the irrigation standards at present, should also be put in place and managed by the Municipality. The current limits to irrigate up to 0.5 Ml/d of wastewater are as follows (As taken from Notice 169 of 2013, Revision of GA in terms of Section 39 of the National Water Act, 1998 {Act No.36 of 1998}).

- EC does not exceed 200 mS/m;
- pH is not less than 6 or more than 9 pH units;
- COD does not exceed 400 mg/l after removal of algae;
- Faecal Coliforms do not exceed 100 000 per 100ml; and
- Sodium Adsorption Ratio does not exceed 5 for biodegradable industrial wastewater.

Laingsburg Municipality is committed to work with the DWS and the other role-players in order to improve on their 2013 Green Drop Score for the various WWTWs and to get the Municipality ready for the next round of assessments. The Municipality will also compile a W_2RAP for their two WWTWs, in order to reduce the CRRs of the WWTWs. The following will also further assist in the process of reducing the CRRs of the WWTWs.

- Forward planning and upgrading / refurbishment of treatment plants to ensure adequate capacity for the flows received;
- Operate and maintain the WWTWs within design- and equipment specifications;
- Have trained, qualified and registered staff in place;
- Get mentoring / coaching contracts in place where there is a great demand for adequately skilled process controllers and supervision;
- Monitoring of flow to- and from the plants;
- Sampling and monitoring of effluent quality;
- Appropriate authorisation in accordance with the National Water Act (36 of 1998); and / or
- Where plant is overloaded, introduce innovative methods to ensure enhancement of effluent quality.

Business Element 7: Associated Services

Table C.18 : Business Element 7: Associated Services (Topic 7)					
Overview of Topic	**Status Quo and Knowledge Interpretation Statistics**				
This topic has been established to ensure adequate focus on the water services levels and needs of educational and health facilities. The water services planner will use this information to establish short-term solutions and to prioritize water services infrastructure projects to educational- and health facilities.	**Item**	**Quality (%)** assessment of current status against compliancy requirements	**Quantity (%)** an indication of the representation of the total area to address the issue	**Future Plan Assessment**	**Strategy Assessment**
	Water services – Education	80.00	80.00	80.00	80.00
	Water services - Hospitals	80.00	80.00	80.00	80.00
	Water services – Health Centers	80.00	80.00	80.00	80.00
	Water services - Clinics	80.00	80.00	80.00	80.00
	Sanitation - Education	80.00	80.00	80.00	80.00
	Sanitation - Hospitals	80.00	80.00	80.00	80.00
	Sanitation – Health Centers	80.00	80.00	80.00	80.00
	Sanitation - Clinics	80.00	80.00	80.00	80.00
	TOTAL for Topic	**80.00**	**80.00**	**80.00**	**80.00**
Problem Definition Statements					
Nr	**Statements - Short Comings**	**Possible Improvement / Project**			
-	-	-			

Laingsburg Municipality will strive to continue to ensure that the minimum required SANS241:2011 water quality standards are met through the implementation of an Operational and Compliance Monitoring Programme. The monitoring of provision of basic minimum services to farm dwellers however remains a challenge, in view of the limited funding and human resources.

The establishment and functioning of effective health systems and health care services is critical for not only the upliftment of communities but more so for the sustainability of communities. Health services are rendered throughout the area by a network of clinics. The environmental health function is currently with the Central Karoo District Municipality.

The Municipal Health Services of the Central Karoo District Municipality also report monthly to the Department of Environmental Health on water quality. The quality of life of the people within a Municipality is influenced by the available health care. Various things influence the health conditions of people in any region, for example access to clean water, good sanitation, proper nutrition and adequate housing.

It is important that a co-operative relationship exist between the Central Karoo District Municipality and Laingsburg Municipality with regard to environmental health issues and that a proper communication system exists between the District Municipality and Laingsburg Municipality to report on health issues.

The most vulnerable groups within a Municipality are normally the persons living in informal areas with shared services, but fortunately Laingsburg Municipality haven't got any informal areas.

Most of the backlogs that existed on the farms, with regard to basic water and sanitation services, were eradicated by Laingsburg Municipality over the last few years. The supply of basic sanitation services on the farms needs to be linked to the provision of health and hygiene education. Improved health requires behaviour change, which cannot be achieved with a single health education talk given by an outside expert. Behaviour change requires sustained monitoring and promotion within the community. This is the key function of the community health workers employed on sanitation projects.

Business Element 8: Conservation and Demand Management

Table C.19: Business Element 8: Conservation and Demand Management (Topic 8.1)					
Overview of Topic	**Status Quo and Knowledge Interpretation Statistics**				
The topic provides an overview of the activities pursued by the WSA in the past financial year towards water conservation and demand management. It also contains an overview of the water sources of the WSA.	**Item**	**Quality (%)** assessment of current status against compliancy requirements	**Quantity (%)** an indication of the representation of the total area to address the issue	**Future Plan Assessment**	**Strategy Assessment**
	Reducing unaccounted water and water inefficiencies	40.00	40.00	47.00	47.00
	Reducing high pressures for residential consumers	80.00	80.00	80.00	80.00
	Leak and meter repair programmes	40.00	40.00	33.00	33.00
	Consumer/end-use demand management	20.00	20.00	30.00	30.00
	TOTAL for Topic	**45.00**	**45.00**	**47.50**	**47.50**

Problem Definition Statements		
Nr	**Statements - Short Comings**	**Possible Improvement / Project**
1	Information on the number of leaks reported and repaired and the time it took to repair these leaks was not made available.	A system needs to be put in place to record all leaks electronically, in order to get a good overview of the number of monthly leaks repaired by the Municipality and the time it took to repair these leaks.
2	Reduce the high percentage of NRW and Water Losses for both Laingsburg and Matjiesfontein.	Monitor the MNFs for specific zones, in order to identify the areas for specific WDM activities (Pressure Management, Repair of Leaks, etc.). The existing zone meters in Laingsburg further need to be linked to the financial data, in order to accurately determine the percentage of NRW for the specific zones.
3	It is important for Laingsburg Municipality to continue with the implementation of their Leakage Management Programme (Measure the volume of water that is lost, Identify and quantify losses, Conduct operational and network audits, Improve performance: network upgrade, design actions plans and sustain performance with good staffing / organization structures).	Actively implement the existing WDM Strategy measures and the planned future measures. Ensure that adequate funding is allocated under their Capital and Operational budgets towards the implementation of the WC/WDM initiatives. To implement these measures Laingsburg Municipality also needs to continue with the installation of zone meters in unmeasured zones in the various distribution systems and link these to the financial data, in order to accurately determine the percentage of NRW for the specific zones.
4	The WDM Strategy of Laingsburg Municipality and the comprehensive list of WDM activities included in the WSDP needs to be used by Laingsburg Municipality to prioritise those activities that can be implemented within the available funding and personnel resources of the Municipality.	Prioritise from the list of WDM activities those activities that can be implemented with the available budget and personnel and the activities which will have the biggest impact.
5	Leak detection should be conducted by means of a specialized leak detection company in areas of high MNF. The activity can be performed after the MNFs were calculated and the specific areas with high MNFs were determined.	Continue with the calculation of MNFs for the different zones and implement leak detection or pressure reduction for areas with high MNFs.
6	Lack of water saving devices installed in the municipal buildings.	Ensure all municipal buildings are provided with water saving devices (specific water efficient toilets). The Municipality also needs to focus on raising awareness regarding conservation projects and the installation of these products in order to reduce the overall water demand and the high percentage of NRW.
7	Ensure all erven are metered and old or faulty meters are replaced.	Implement a meter repair and replacement programme. The monthly consumption of all consumers should be checked to immediately identify a problem meter (where a reading suddenly becomes very high) and have it inspected. This will ensure that faulty or leaking meters are replaced as soon as possible and thus resulting in less water wastage and a greater income for the Municipality.
8	Laingsburg Municipality needs to investigate all leaks at domestic properties in poor areas with consumption above 15 kl / month.	Continue with the implementation of the leaks repair assistance programme in poor areas ("War on Leaks").
9	Continue with the implementation of an extensive schools WDM programme, which might also include annual competitions between schools (say with a prize for the lowest consumption, the lowest per capita consumption and for the best WDM-strategy poster design, etc.). Schools should be encouraged to make WDM programmes part of a long term project, where learners should be actively involved. A schools WDM programme should receive a high priority.	Continue to support schools with WDM initiatives (Especially during Water Week)

Table C.20: Business Element 8: Conservation and Demand Management - Water Balance (Topic 8.2 & 8.3)					
Overview of Topic	**Status Quo and Knowledge Interpretation Statistics**				
The topic provides an overview of the activities pursued by the WSA in the past financial year towards water conservation and demand management. It also contains an overview of the water sources of the WSA.	**Item**	**Quality (%)** assessment of current status against compliancy requirements	**Quantity (%)** an indication of the representation of the total area to address the issue	**Future Plan Assessment**	**Strategy Assessment**
	Surface water purchased	n/a	n/a	n/a	n/a
	Surface water abstraction	40.00	40.00	40.00	40.00
	Ground water abstraction	40.00	40.00	40.00	40.00
	Raw water supplied	n/a	n/a	n/a	n/a
	Total Influent	30.00	30.00	50.00	50.00
	Total treated TW	60.00	60.00	60.00	60.00
	Potable water to other Neighbours	n/a	n/a	n/a	n/a
	Purchased Treated water	n/a	n/a	n/a	n/a
	Ground water not treated	50.00	50.00	50.00	50.00
	Authorised consumption	60.00	60.00	60.00	60.00
	Total losses	20.00	60.00	60.00	60.00
	Billed unmetered	n/a	n/a	n/a	n/a
	Apparent losses	40.00	60.00	60.00	60.00
	Waste water treatment works	60.00	60.00	60.00	60.00
	Recycled	60.00	60.00	60.00	60.00
	TOTAL for Topic	**46.00**	**52.00**	**54.00**	**54.00**

Problem Definition Statements		
Nr	**Statements - Short Comings**	**Possible Improvement / Project**
1	Bulk meter readings for each of the individual bulk water meters were not made available.	Ensure that all bulk water meters and zone meters are read at least once on a monthly basis.
2	Flow records for the Matjiesfontein WWTW and the volume of effluent re-used for irrigation purposes at the two WWTWs were not made available.	Ensure that incoming flows at the two WWTWs are recorded daily, as well as the volume of final effluent re-used for irrigation purposes (Flow meters are in place).

Laingsburg Municipality has responded to the need to address water losses within their jurisdiction by developing a WC/WDM Strategy and will implement the newly developed WC/WDM measures in order to reduce the percentage of NRW and the water losses and improve the water use efficiency within the various distribution systems as follows:

Table C.21: Commitment to reduce NRW and water inefficiencies			
Distribution System	**2013/2014 (%/a)**	**2018 (%/a)**	**2038 (%/a)**
Laingsburg	51.6%	35	20
Matjiesfontein	93.1%	35	20

Laingsburg Municipality needs to monitor the MNFs for specific zones, in order to identify the areas for the specific WDM activities (Pressure Management, Repair of leaks, etc.). The process will also assist the Municipality to identify the reason for the very high NRW. The existing zone meters in Laingsburg need to be link to the financial data, in order to accurately determine the percentage of NRW for the specific zones.

Leak detection should be conducted by means of a specialized leak detection company in areas of high MNF. The activity can be performed after the MNFs were calculated and the specific areas with high MNFs were determined.

Laingsburg Municipality is committed to continue to monitor the abstraction from all their sources and to meter all water used by consumers within Laingsburg and Matjiesfontein. The Municipality needs to continue with the reading of all internal bulk zone meters.

Laingsburg Municipality identified pressure management as one of the possible initiatives to reduce the current high percentage of NRW in Laingsburg. The table below provides a summary of the potential water saving through pressure management in Laingsburg Municipality's Management Area, as identified in the WC/WDM Strategy.

Table C.22: Potential Water Saving through Pressure Management

Town	Potential Saving	
	(kℓ/d)	%
Laingsburg	177	10%
Matjiesfontein	0	0%
TOTAL	**177**	**10%**

The Water Master Plans must be consulted in conjunction with the WC/WDM Strategy to identify areas where pressure reduction can be implemented.

Laingsburg Municipality needs to investigate all leaks at domestic properties in poor areas with consumption above 15 kl / month. Mechanisms for ensuring the customer repairs new water leaks, maintains an affordable consumption and does not build up arrears need to be addressed in the early stages of such a project, in order to ensure a sustainable solution (ongoing water and cost savings) is achieved. The consumptions of the repaired properties need to be monitored so that rapid action can be taken should leaks re-occur. Further efforts should be made to ensure that those who qualify as "Indigent" on an income basis will also qualify on a water consumption basis.

Laingsburg Municipality needs to focus on the installation of water saving devices (specific water efficient toilets) in all their municipal buildings. The Municipality also needs to focus on raising awareness regarding conservation projects and the installation of these products in order to reduce the water demand and their percentage of NRW.

The monthly consumption of all consumers should be checked to immediately identify a problem meter (where a reading suddenly becomes very high) and have it inspected. This will ensure that faulty or leaking meters are replaced as soon as possible and thus resulting in less water wastage and a greater income for the Municipality. Volume controllers can also be installed in areas where people cannot afford to pay for water. This ensures less water being wasted in the event of a leak or a tap left running.

An extensive schools programme, which might also include annual competitions between schools (say with a prize for the lowest consumption, the lowest per capita consumption and for the best WDM-strategy poster design, etc.) needs to be implemented. Water saving by schools often forms the basis of WDM programmes elsewhere, because it also involves learners who experience implementation of WDM measures first hand. Schools should be encouraged to make WDM programmes part of a long term project, where learners should be actively involved.

Education and awareness-raising campaigns are important mechanisms to bring the need for WC/WDM to the public and to trigger committed public actions and response. Social awareness is one of the key pillars of WC/WDM and is essential for the balanced and sustained use of South Africa's water resources. Engagement with the public and stakeholders through media and other mediums will highlight important principles of the efficient use of water, to ensure that relevant information is shared and the public is educated and that the profile of WC/WDM is heightened to achieve buy-in, involvement and accountability from citizens.

Laingsburg Municipality needs to align their current WDM activities with the activities included in the Long-Term WC/WDM Strategy and needs to allocate adequate funding towards the implementation of these activities. All external funding that could be utilised by Laingsburg Municipality for this purpose should be sourced.

The current water information database is adequate from a water services management perspective for such a small Municipality. Laingsburg Municipality is committed to keep record of all bulk meter readings, flows at WWTWs and to update the water balance models on a monthly basis in order to determine locations of wastage and to enable Laingsburg Municipality to actively implement the Long-Term WC/WDM Strategy in order to reduce their current high NRW percentages. The water balance will not directly lead to the reduction

of the demand, but is an imperative management tool that will inform the implementation of demand side management initiatives.

Business Element 9: Water Resources

Table C.23: Business Element 9: Water Resources (Topic 9)					
Overview of Topic	**Status Quo and Knowledge Interpretation Statistics**				
The volumes and sources of raw water supply to the WSA are presented in this topic, which also presents the status of the WSA's abstraction licenses and future needs. An overview of the WSA's monitoring programme for its raw water sources is presented. The topic also outlines the degree of industrial and 'raw' water use and effluent discharge within the WSA.	**Item**	**Quality (%)** assessment of current status against compliancy requirements	**Quantity (%)** an indication of the representation of the total area to address the issue	**Future Plan Assessment**	**Strategy Assessment**
	Sources and Volumes	40.00	40.00	n/a	n/a
	Monitoring	36.00	38.00	46.00	46.00
	Water Quality	60.00	62.00	64.00	64.00
	Wet Industries	60.00	20.00	60.00	60.00
	Raw Water consumers	80.00	80.00	80.00	80.00
	Industrial Consumer Units	40.00	20.00	0.00	0.00
	Permitted effluent releases	20.00	0.00	0.00	0.00
	TOTAL for Topic	**48.00**	**37.14**	**41.67**	**41.67**

Problem Definition Statements		
Nr	**Statements - Short Comings**	**Possible Improvement / Project**
1	Groundwater monitoring programme to be implemented.	Implement recommendations made by GEOSS with regard to the Laingsburg and Matjiesfontein boreholes (Topic 9 of Module 3).
2	Not all the boreholes are registered with the DWS.	Ensure that all existing and new boreholes are registered with the DWS and that the necessary authorisations for abstraction are obtained.
3	No Service Level Agreement between Laingsburg Municipality and the Matjiesfontein Village (Hotel) for the provision of bulk water to Matjiesfontein.	Compile a Service Level Agreement between Laingsburg Municipality and the Matjiesfontein Village for the provision of bulk water to Matjiesfontein.
4	Ensure that raw water quality of production boreholes are monitored regularly.	Water quality samples must be collected on a six-monthly basis at each of the production boreholes or whenever a pump is removed for servicing and maintenance. A full macro-chemical analysis must be carried out on these samples at an accredited laboratory.
5	Lack of source abstraction volumes per individual source.	Ensure all bulk water meters at each individual sources are read on at least a monthly basis and that the data is stored electronically.
6	Industrial Effluent: Quality and quantity of effluent discharged from the Laingsburg abattoir is not yet monitored	Industrial Effluent: Ensure the monthly monitoring of the quality of effluent discharged by the abattoir, as well as the volume.

Metering of all water requirements is one of the most significant steps in order to properly plan and manage water sources. Without metering no management is possible. Laingsburg Municipality needs to ensure that all the existing bulk water meters are read on a monthly basis at least.

The uncertainty in projected water-related climate change impacts is one of the biggest challenges facing water managers. The managers must understand how this uncertainty influences the management decisions to be made and that decisions must be appropriate to a possible range of scenarios. A critical tool in this regard is adaptive management, in which water resource systems are carefully monitored and management actions are tailored and revised in relation to the measured changes on the ground. One cannot predict climate change impacts with any certainty, and the recognition of this uncertainty must be built into all climate change response strategies.

Detail future water requirement projection models were developed for the Laingsburg and Matjiesfontein distribution systems. These models include the future projections up to 2038 and were calibrated by using historic consumption data and bulk abstraction data. The percentage of non-revenue water was determined for each of the distribution systems and the growth in future water requirements was based on agreed population and growth figures.

The projected future water requirements and the yield surplus or shortfalls are indicated in the table below for each of the systems.

Table C.24: Projected future water requirements and yields surplus (+) / shortfall (-) based on WSDP model

Distribution System	Model	PROJECTED FUTURE WATER REQUIREMENTS (Ml/a)				
		2018	2023	2028	2033	2038
Laingsburg	1.5% Annual Growth	717.483	772.933	832.668	897.020	966.346
	2.5% Annual Growth	753.530	852.551	964.583	1 091.337	1 234.747
	WSDP Model	**700.536**	**711.608**	**725.366**	**741.729**	**760.655**
	Yield surplus (+) / shortfall (-)	**35.304**	**24.232**	**10.474**	**-5.889**	**-24.815**
Matjiesfontein	1.5% Annual Growth	29.967	32.283	34.778	37.465	40.361
	2.5% Annual Growth	31.472	35.608	40.287	45.581	51.571
	WSDP Model	**22.493**	**22.101**	**21.773**	**21.502**	**21.281**
	Yield surplus (+) / shortfall (-)	**92.628**	**93.020**	**93.348**	**93.619**	**93.840**

The table below gives an overview of the years in which the annual water requirement is likely to exceed the safe yields.

Table C.25: Years in which the annual water requirement will exceed the sustainable yield from the various resources

Distribution System	Total sustainable Yield (x 10^6 m^3/a)	Annual Growth on 2013/2014 Requirement (1.5%)	Annual Growth on 2013/2014 Requirement (2.5%)	WSDP Projection Model
Laingsburg	0.735	2019	2017r	2030
Matjiesfontein	0.115	> 2037	> 2037	> 2037

The following recommendations were made by GEOSS with regard to the Laingsburg and Matjiesfontein water sources:

Laingsburg:

- Boreholes LB bh3 and LB bh 4 have to be equipped and included in the water supply scheme to ensure adequate water for the town of Laingsburg (The great advantage of both these boreholes is that they are both within 30m of the existing Zoutkloof municipal pipeline); and
- Water level loggers and flow meters need to be installed at all the water sources. These loggers should be equipped with telemetry and assessed on a monthly basis, together with flow meter readings and rainfall data.

Matjiesfontein:

- Production boreholes should be pumped gently with minimal drawdown due to the high iron and manganese content of the water;
- The water delivery rates be reduced to ensure that the boreholes pump for only 20 hours per day with hours rest, but still abstracting the same recommended daily volume;
- Water level and water flow rates be monitored closely using data loggers; and
- Water quality needs to be sampled on a monthly basis.

A groundwater management programme is not yet implemented by Laingsburg Municipality. The table below gives an overview of the recommended yields for the various Laingsburg sources, as based on the results of the GEOSS study and the CIP.

Table C.26: Summary of the recommended yields of Laingsburg water sources

Source Description	Depth (m)	Recom. Yield (l/s)	Recom. Supply (kl/d)	Recom. Operation (hrs/d)	General information and recommendations
Dr van Heerden Borehole	± 50	2	86.4	12	• Flow meter must be installed. • Water level data logger has been installed. • This borehole is over utilised and the mun. must therefore install a lower yielding pump.
Buffels River Old Pit No.1	3.9	15	432	8	• Flow meter must be installed. • GEOSS installed water level data loggers during November 2010.
Buffels River New Pit No.2	3	6	129.6	6	• Flow meter must be installed. • GEOSS installed water level data loggers during November 2010.
LB bh 3	122	2	86.4	12	• Not yet connected to pipeline. • Monitoring of borehole very important.
LB bh 4	121	3	129.6	12	• Not yet connected to pipeline. • Monitoring of borehole very important.
Zoutkloof Pit	4.7	6	172.8	8	• Water level data logger has been installed. • It is recommended that pit be pumped for 8 hours with a recovery period of 16 hours.
Zoutkloof SAR Borehole	59.5	8	460.8	16	• Water level data logger has been installed. • The mun. must reduce the current rate at which the pump is turned on and off. • It is recommended that the borehole be pumped for 16 hours with a recovery period of 8 hours.
Zoutkloof Fountain	N/A	6 (1)	518.4 (1)	24 (1)	• Water levels are dropping. • It is recommended that a weir and a water level data logger be installed. • The abstraction from the Zoutkloof Fountain is currently not known and therefore it is recommended that a flow meter be installed.
Total	**-**	**-**	**1 497.6**	**-**	

Note: (1) The supply from the Zoutkloof Fountain was not taken into account, because the fountain and pit never supply water at the same time.

The table below gives an overview of the recommended yields for the Matjiesfontein boreholes, as based on the results of the GEOSS study (2010).

Table C.27: Summary of the recommended yields of Matjiesfontein water sources

Source Description	Depth (m)	Recom. Yield (l/s)	Recom. Supply (kl/d)	Recom. Operation (hrs/d)	General information and recommendations
Borehole PKE 1	200	0.5	21.6	12	• Not in use. • It is recommended that this borehole be used as the main supply borehole. • Water must be treated. • Water level cannot be measured due to kink in observation pipe.
Borehole PKE 2	200	1.1	47.5	12	• Not in use. • It is recommended that this borehole be used as a standby supply borehole. • Water must be treated.
Borehole MF bh 2	151	1.5	64.8	12	• Not in use, must still be equipped.
Borehole MF bh 4	181	2.9	125.3	12	• Only municipal borehole in use. • Supply water to the existing steel reservoir.

Table C.27: Summary of the recommended yields of Matjiesfontein water sources					
Source Description	**Depth (m)**	**Recom. Yield (l/s)**	**Recom. Supply (kl/d)**	**Recom. Operation (hrs/d)**	**General information and recommendations**
Borehole MF bh 5	151	1.3	56.2	12	• Not in use, must still be equipped. • It must only be used as standby borehole for MF bh 4.
Total	**-**	**-**	**315.4**	**-**	

All the production and observation boreholes need to be dipped manually once a month. A telemetry system can also be installed to ensure that the levels of the production boreholes are monitored ongoing. The water level data of the production and observation boreholes will enable Laingsburg Municipality to identify the development of "red flag" situations timeously and to take preventative action.

Water Quality: Water quality samples must be collected on a six-monthly basis at each of the production boreholes or whenever a pump is removed for servicing and maintenance. A full macro-chemical analysis must be carried out on these samples at an accredited laboratory.

Laingsburg Municipality needs to keep on monitoring the abstraction of all their production boreholes and the sustainable yields of the various boreholes need to be monitored closely by Laingsburg Municipality, in order to prevent any over abstraction of aquifers and to ensure that the aquifers are managed in a sustainable manner. Data loggers need to be installed at all the production boreholes.

To safeguard the boreholes against over-abstraction, low level cut-off switches can be installed. The monitoring data must be analysed by a geohydrologist on an annual basis in order to assess the effects of abstraction and recharge on the boreholes and aquifer. All production boreholes must be fitted with a sampling tap and flow volume meter for monitoring purposes.

Groundwater monitoring must continue on at least a monthly basis. Monthly monitoring of water levels, water chemistry and abstraction must be conducted by the Municipal staff. Laingsburg Municipality needs to ensure that all electronic data (i.e. data loggers) are downloaded once quarterly by a geohydrologist. Monitoring data must be annually reviewed by a geohydrologist.

The above will increase the understanding of the aquifer response to abstraction and the possible interconnections between surface water sources and the aquifers. Furthermore, the monitoring programme serves to detect the impact of natural changes in the hydrological cycle on ecosystems and other water users.

Effluent Quality: Laingsburg Municipality needs to implement an Operational sampling programme for their WWTWs. The Municipality will continue with the implementation of their Compliance sampling programme. The target towards which Laingsburg Municipality needs to work is at least 90% compliance against critical criteria as included in the license / GA / permit of the various WWTWs. The Municipality's W_2RAP and detail WWTW Process Audits should include recommendations to improve the overall wastewater quality compliance percentages for the Laingsburg and Matjiesfontein WWTWs. The purpose of the W_2RAP is to reduce the CRRs of the WWTWs and to improve the quality of the effluent discharged from the various WWTWs.

Industrial Consumers: No pre-treatment of effluent takes place at the Laingsburg abattoir before the effluent is discharged into Laingsburg Municipality's sewer system. The quality and quantity of effluent discharged from the Laingsburg abattoir is not yet monitored.

Laingsburg Municipality is committed to ensure that all persons apply for the discharge of industrial effluent into the sewer system when it becomes necessary. Laingsburg Municipality is committed to monitor the quality of effluent discharged from the abattoir, in order to determine whether the quality comply with the required standards and criteria.

The following gaps with regard to industrial consumers and their discharge of effluent into Laingsburg Municipality's sewer system were identified:

- The volume and quality of the effluent discharged by the abattoir into the sewer system needs to be metered and monitored.
- All persons to formally apply for the discharge of industrial effluent into the sewer system.
- Laingsburg Municipality's by-law, with regard to the discharge of industrial effluent into the sewer system, needs to be implemented.
- Regular sampling of the quality of industrial effluent discharged into the sewer system is necessary.
- Any returns from the industries direct to the Water Resource System needs to be metered.

Laingsburg Municipality is committed to ensure that all persons apply for the discharge of industrial effluent into the sewer system, to monitor the quality of industrial effluent and to ensure that the industrial consumers comply with the by-law, with regard to the discharge of industrial effluent into the sewer system.

Currently there are no industrial consumers, other than the abattoir, in Laingsburg Municipality's Management Area. It will however be necessary for the Municipality to adopt an approach whereby the various parameters at all the industrial consumers are monitored, as well as volumetric monitoring at the larger users, should industrial consumers establish in Laingsburg. Adaptation of procedures must be undertaken in accordance with any changes to the wastewater discharge criteria set by DWS. It will also be necessary to consider limits above which volumetric monitoring will be necessary at new industries and smaller industries, where expansion is likely to take place.

All new industrial consumers will need to apply for discharge permits and they must supply and maintain a flow meter measuring the volume of water that is discharged into Laingsburg Municipality's sewer system. It is also recommended that the accounts generated by the Municipality include for each cycle a summary of the COD and flow results to enable industries to keep a record and look at ways of improving where possible.

Business Element 10: Financial

Table C.28: Business Element 10: Financial Profile (Topic 10)					
Overview of Topic	**Status Quo and Knowledge Interpretation Statistics**				
The financial profile is aligned with the Water Services Standard Chart of Accounts [SCOA] which addresses the expenditure, revenue & capex for the water services function.	**Item**	**Quality (%)** assessment of current status against compliancy requirements	**Quantity (%)** an indication of the representation of the total area to address the issue	**Future Plan Assessment**	**Strategy Assessment**
	Capital Expenditure	60.00	60.00	60.00	60.00
	Operation and Maintenance Budget	20.00	80.00	40.00	40.00
	Tariff & Charges	48.00	74.00	58.00	58.00
	Free Basic Services	58.00	70.00	63.00	63.00
	Metering, Billing, Income and Sales	65.00	70.00	57.00	57.00
	TOTAL for Topic	**50.20**	**70.80**	**55.60**	**55.60**

Problem Definition Statements		
Nr	**Statements - Short Comings**	**Possible Improvement / Project**
1	Develop IAMPs for all water and sewerage infrastructure, which will indicate the real replacement values, the service life of the assets and the funds required to provide for adequate asset replacement.	Develop an IAMP
2	Limited capital funding to implement new water and sewerage capital projects.	Identify all possible sources of external funding over the next three years to assist Laingsburg Municipality to address the bulk infrastructure backlogs that exist in Laingsburg and Matjiesfontein.
3	Limited operational and capital funding.	The Credit Control and Debt Collection measures need to be implemented actively in order to minimize the percentage of non-payment of municipality services.
4	The operational expenditure for both water and sanitation services were more than the income for the last two financial years and from the future operational budget it is expected that this trend will continue.	A financial sustainability strategy is necessary, which needs to include the implementation of an aggressive revenue management framework for ongoing revenue enhancement.
5	Laingsburg Municipality's current five (5) block step tariff structure, where the first six (6) kl of water is granted free of charge to all residential consumers, does not discourage the wasteful or inefficient use of water, because the tariff for the second block is fixed for 7 kl to 100 kl.	A Tariff Study needs to be done to determine how the tariffs can be revised in order to improve the Municipality's financial situation and to discourage the wasteful or inefficient use of water.
6	Investigate the possibility of linking the sewerage tariffs to the volume of water use. Volumetric usage, whereby charges are determined according to water usage with maximum ceilings and charged accordingly.	Investigate the financial impact of linking the sewerage tariffs to the water usage.
7	It is important for Laingsburg Municipality to enforce their indigent qualification criteria rigorously in order to ensure that those who do not qualify are removed from the allocation list. The Municipality needs to determine whether the current Indigent Policy is not too generous and creates a situation where too many citizens in Laingsburg Municipality's Management Area are making no monetary contribution toward the cost of delivering services to the community.	Investigate the possibility of requesting the indigent households to register at least once a year to get onto Laingsburg Municipality's Indigent Register.

Capital Budget: The water supply systems in most of the Municipalities are under increasing threat of widespread failure, due to inadequate rehabilitation and maintenance of the networks. This also the case in Laingsburg Municipality's Management Area with 38.7% of the water infrastructure and 63.5% of the sewerage infrastructure which has been consumed. This is placing considerable strain on Laingsburg Municipality's maintenance operations. The real solution is for the Municipality to commitment towards a substantial and sustained programme of capital renewal works (Rehabilitation and Maintenance of existing infrastructure).

The replacement value of the water infrastructure that is expected to come to the end of its useful life over the next 20 years is around R6.139 million (an average of R0.307 million per year) and for sewerage infrastructure the value is R16.484 million (an average of R0.824 million per year). The renewals burden is set to continue to increase sharply over the next 15 years, as is currently the case. Water and sewerage infrastructure assets with a total current replacement value of about R4.259 million and R13.762 million will be reaching the end of their useful life over the next 10 years and will need to be replaced, rehabilitated or reconstructed.

It is important for the Council to commit to a capital renewal programme and to increase the budgets allocated towards the maintenance and rehabilitation of the existing infrastructure. The extent to which each type of water and sewerage infrastructure asset has been consumed was previously summarised. The Municipality's dedicated renewal programmes need to target the "poor" and "very poor" assets. If this is not done, there is a risk that the ongoing deterioration will escalate to uncontrolled proportions, with considerable impact on consumers, the economy of the area and the image of Laingsburg Municipality.

The recommendations for Laingsburg Municipality, with regard to their Capital Funding, are as follows:

- To focus strongly on revenue collection, in order to improve the Municipality's own funding sources, because most of the funds for the current water and sanitation capital projects come from MIG. The Municipality also needs to actively implement their Credit Control and Debt Collection measures in order to minimize the percentage of non-payment of municipal services.

- To identify all possible sources of external funding over the next three years to assist Laingsburg Municipality to address the bulk infrastructure backlogs that exist in Laingsburg, as indicated in the above table.

- Develop IAMPs for all water and sewerage infrastructure, which will indicate the real replacement values, the service life of the assets and the funds required to provide for adequate asset replacement. The renewals burden is set to increase sharply over the next 20 years and it is therefore important for Laingsburg Municipality to commit to a substantial and sustained programme of capital renewal works.

- To carefully balance cost and affordability of the future capital budgets.

Operational Budget: Maintenance activities have been increasingly focused on reactive maintenance as a result of the progressive deterioration and failure of old infrastructure. Consequently, there has been dilution of preventative maintenance of other infrastructure.

An Integrated Maintenance Plan is necessary that optimises maintenance activities, appropriate to its specific needs and the local environment, and identifies the systems and resources required to support this. A regime of planned preventative maintenance should be established for all infrastructure assets classified as critical and important in the Asset Register. Consideration should be given to the establishment of a maintenance management system to enable Laingsburg Municipality to better manage its risks, and more effectively plan and prioritise the wave of renewals that are going to be required over the next 20 years.

It is important to note that the maintenance budget requirements are going to increase substantially over the next twenty years in real terms, in line with the envisaged pace of development, and the upgrading of the existing infrastructure that's taking place. It is estimated that the budget requirements will double over this period.

The recommendations for Laingsburg Municipality, with regard to their Operational Budgets, are as follows:

- Develop an IAMP, which will indicate the real replacement values and service lives of the assets and the funds required to provide for adequate operation and maintenance of the infrastructure. Current gaps include unrealistically low depreciation charges, which have to be rectified and ring-fenced into an asset replacement fund, as well as additional budget requirements above inflation for infrastructure development.

- The new depreciation charges will have to form part of the operating budget and subsequent tariffs, linked to a ring-fenced asset replacement fund.

- The operational expenditure for both water and sanitation services were more than the income for the last two financial years and from the future operational budget it is expected that this trend will continue. It is therefore critical for Laingsburg Municipality to increase their revenue from their water and sanitation services in order to ensure that a surplus is generated from these services. A financial sustainability strategy is necessary, which needs to include the implementation of an aggressive revenue management framework for ongoing revenue enhancement.

- A tariff study for Laingsburg Municipality is also necessary in order to determine how the tariffs for water and sanitation services can be revised in order to improve the Municipality's financial situation.

- Water services operational surpluses have to be allocated to essential water services requirements in the future.

- Laingsburg Municipality needs to ensure that the Credit Control and Debt Collection By-laws are strictly enforced. The appointment of a Debt Collection Agency, as was recently done, will assist the Municipality to improve their debt recovery.

Tariff and Charges: Laingsburg Municipality's current five (5) block step tariff structure, where the first six (6) kl of water is granted free of charge to all residential consumers, does not discourage the wasteful or inefficient use of water, because the tariff for the second block is fixed for 7 kl to 100 kl. The water tariffs should further be cost reflective and Laingsburg Municipality needs to ensure that the water supplied to consumers complies with all applicable standards. The water tariff structure must therefore ensure that:

- Water tariffs are fully cost-reflective, including the cost of maintenance and renewal of purification plants, water networks and the cost associated with reticulation expansion;

- Water tariffs are structured to protect basic levels of service and ensure the provision of free water to the poorest of the poor (indigent); and

- Water tariffs are designed to encourage efficient and sustainable consumption.

Laingsburg Municipality's current tariff structure is not complying with two of the above statements and it is therefore critical that a tariff study be done to determine how the tariffs can be revised in order to improve the Municipality's financial situation and to discourage the wasteful or inefficient use of water.

The table below gives some comments on the specific blocks, with regard to Laingsburg Municipality's 2014/2015 block step tariff structure for water services.

Table C.29: Comments on the Municipality's block step tariff structure

Block (kl/month)	12/13	13/14	14/15	Comments
0 - 6	R0-00	R0-00	R0-00	Free Basic Water
7 - 15		R2-62	R2-85	Low volume use
16 - 30	R2-40			Typical use volume, including garden irrigation
31 - 60				Above average use, including garden irrigation
61 - 100				Wasteful use and/or severe garden irrigation
> 100			R4-35	Significant waste and/or unnecessary garden irrigation

Wasteful or inefficient use of water is discouraged through increased tariffs. It is suggested that Laingsburg Municipality revise their water tariffs, in order to comply with the following:

- A rising block tariff structure that discourage wasteful or inefficient use of water under residential consumers.

- Keep number of blocks in the tariff to a minimum. One block to address free basic water (the first step) and another to address the "cut-off" volume where consumers are discouraged to use water above this monthly volume (highest block) are required. In addition another three blocks could be used to distinguish between low users, typical use and high water use.

- The volumetric steps should be kept the same for all the areas within Laingsburg Municipality's Management Area.

- The cost of water in the maximum step should severely discourage use in this category. The volumetric use for the highest category could be 60 kl/month, above which residential water use could be considered to be wasteful or unnecessary. Garden use requiring in excess of this volume should be reduced in accordance with xeriscape practices.

Laingsburg Municipality's existing tariff system can also be further adjusted to uniquely describe the Municipal use with a distinction between use types (e.g. parks, sports, fire fighting, etc.), which will result in an even more conservation oriented and holistically designed system.

Laingsburg Municipality can also investigate the possibility of linking their sewerage tariffs to the water usage (Volumetric sewerage tariffs).

It is important for Laingsburg Municipality to re-evaluate the tariffs they charge for their water and sanitation services in order to put the Municipality in a better financial position to address the bulk infrastructure backlogs and to ensure the adequate rehabilitation and maintenance of all existing water and sewerage infrastructure within Laingsburg and Matjiesfontein.

The Municipality needs to enforce their indigent qualification criteria rigorously in order to ensure that those who do not qualify are removed from the allocation list. The Municipality needs to determine whether the current Indigent Policy is not too generous and creates a situation where too many citizens in Laingsburg Municipality's Management Area are making no monetary contribution toward the cost of delivering services to the community.

Laingsburg Municipality needs to monitor the quality of effluent discharged by the abattoir into the Municipality's sewer system. By-laws, with regard to the discharge of industrial effluent into the sewer system are in place and all industrial consumers need to formally apply for the discharge of industrial effluent into the sewer system.

Regular sampling of the quality of industrial effluent discharged into the sewer system needs to take place and all industrial consumers need to be charged accordingly

Business Element 11: Water Services Institutional Arrangements

Table C.30: Business Element 11: Water Services Institutional Arrangements (Topic 11)					
Overview of Topic	**Status Quo and Knowledge Interpretation Statistics**				
The institutional arrangements profiles presents an overview of the WSA's compliance with respect to water services regulations and policy and as aligned also with the Regulatory Performance Monitoring System. It also provides an overview of the water services provider arrangements which are in place, including the WSA's perception of the sufficiency of WSP staffing levels.	**Item**	**Quality (%)** assessment of current status against compliancy requirements	**Quantity (%)** an indication of the representation of the total area to address the issue	**Future Plan Assessment**	**Strategy Assessment**
	Policy development	68.00	68.00	68.00	68.00
	Regulation and tariffs	60.00	60.00	60.00	60.00
	Infrastructure development (projects)	56.00	60.00	56.00	56.00
	Performance management and monitoring	40.00	40.00	40.00	40.00
	WSDP	67.00	67.00	67.00	67.00
	Bulk and Retail functions	60.00	80.00	60.00	60.00
	TOTAL for Topic	**58.50**	**62.50**	**58.50**	**58.50**

Problem Definition Statements		
Nr	**Statements - Short Comings**	**Possible Improvement / Project**
1	Not all Policies and By-laws are in place.	Develop a schedule of all policies and bylaws, which needs to indicate an annual rotation plan for the reviewing of all policies and by-laws. This process will assist the Municipality to be developmental and innovative in doing business.
2	Lack of mechanisms to effectively monitor the compliance of consumers with regard to the various by-laws.	Put mechanisms in place to properly regulate and monitor the compliance of consumers with regard to the various by-laws.
3	All critical vacant water and sanitation positions as indicated on the approved Organogram needs to be filled as soon as possible. Laingsburg Municipality needs to review the skills needed for the sustainable management of the water reticulation networks and sewer drainage networks and the skills needed at each of the WWTWs in Laingsburg and Matjiesfontein and need to align resources to these needs as well as reviewing the total staff numbers necessary to meet all the objectives in the National Water Act.	Aligning the career paths to the occupational categories will assist the personnel to understand levels within and across teams. Simplification of job titles to conform to respective occupational categories will assist in developing compatible and comparable career paths within the different Departments. Occupational categories will provide differentiation between levels. This approach will allow for more specific job designations in organograms with explicit career path connotations.
4	Continue with the mentoring role for operational personnel ensuring an adequately trained and classified workforce with dedicated training programmes for supervisors and operational personnel. Budgets need to be established to address the shortfall of skilled personnel, rethink methods to retain qualified personnel and plan for succession and clear career paths for experienced staff.	Ensure all required water and sanitation training is included in the Municipality's Workplace Skills Plan. Establish budgets to address the shortfall of skilled personnel, rethink methods to retain qualified personnel and plan for clear career paths.
5	Laingsburg Municipality can also actively focus on in-house training, which requires the identification of trainers (from senior operators / officers / professional ranks) for the development and facilitation of courses which relate to specific organizational knowledge and systems requirements.	Laingsburg Municipality's internal reports such as the Water Safety Plan, Wastewater Risk Abatement Plan, Operation and Maintenance Manuals and this WSDP have the necessary information on which the in-house courses can be based. This will assist Laingsburg Municipality's Human Resource Department in general and the skills development facilitator in particular to develop and implement effective workplace skills plans relevant to Human Capacity Development requirements.

Most of the required policies are in place and implemented to the Municipality's best ability with the limited number of personnel available to the Municipality. It is important for Laingsburg Municipality to develop a schedule of all policies and bylaws, which needs to indicate an annual rotation plan for the reviewing of all policies and by-laws. This process will assist the Municipality to be developmental and innovative in doing business. The necessary mechanisms need to be put in place to effectively monitor the compliance of consumers with regard to the Water Supply, Sanitation Services and Industrial Effluent By-laws

Laingsburg Municipality is committed to develop a new WSDP every five years and to update the WSDP as necessary and appropriate in the interim years. The Municipality will also report annually and in a public way on progress in implementing the plan (Water Services Audit), as part of Laingsburg Municipality's Annual Report. Water Services Audit Reports were already previously compiled for the 2012/2013 and 2013/2014 financial years.

It is important for Laingsburg Municipality to report annually on the KPIs as listed in the SFWS and also included in DWS's Water Services Regulation Strategy and required by DWS's RPMS. The RPMS is one of the programmes under DWS's Directorate Water Services Regulation. The DWS is changing the manner in which they regulate WSAs by becoming more proactive in their processes. A new risk- and incentive based process is followed, which focus on the four strategic areas of financially viable business, Customer Satisfaction, Effective Institution and Technical Efficiency.

The Occupational Health and Safety Act contain provisions directing employers to maintain a safe workplace and to minimise the exposure of employees and the public to workplace hazards. It is important for Laingsburg Municipality to compile a Legal Compliance Audit of their WTWs and WWTWs, which will provide the management of Laingsburg Municipality with the necessary information to establish whether the Municipality is in compliance with the legislation or not.

Laingsburg Municipality needs to focus strongly on the rehabilitation and the maintenance of the existing infrastructure, augmentation of their existing water sources, meeting potable water quality standards and all planning for new services should be guided by the Water and Sewer Master Plans.

Laingsburg Municipality will continue with their mentoring role for operational personnel ensuring an adequately trained and classified workforce with dedicated training programmes for supervisors and operational personnel. Budgets need to be established to address the shortfall of skilled personnel, rethink methods to retain qualified personnel and plan for succession and clear career paths for experienced staff. With such a program a source of specific resources of skilled operational personnel, technicians and managers will be established.

There must always be a written agreement between the WSA and the Bulk Water Services Provider that meets all the necessary requirements as laid out in Section 19(5) of the Water Services Act (Act No.108 of 1997) and the Municipal Systems Act (No.32 of 2000). A Service Level Agreement needs to be put in place with Matjiesfontein Village (Pty) Ltd (Hotel), with regard to future bulk water supply to the consumers in Matjiesfontein.

All critical vacant water positions as indicated on the approved Organogram needs to be filled as soon as possible. Laingsburg Municipality needs to review the skills needed for the sustainable management of the water reticulation networks in Laingsburg and Matjiesfontein and at each of the WWTWs, according to the classification of the WWTWs, and need to align resources to these needs as well as reviewing the total staff numbers necessary to meet all the objectives in the National Water Act.

Aligning the career paths to the occupational categories will assist the personnel to understand levels within and across teams. Simplification of job titles to conform to respective occupational categories will assist in developing compatible and comparable career paths within the different Departments. Occupational categories will provide differentiation between levels. This approach will allow for more specific job designations in organograms with explicit career path connotations.

The training of Laingsburg Municipality's personnel involved in the management of water and sanitation services is the most important factor that determines the ability of Laingsburg Municipality to deliver safe and reliable water and to treat the effluent at the WWTWs to an acceptable standard. Training of all staff involved in water supply and sanitation services on matters related to treatment processes and quality monitoring and control is essential because their actions (or failure to act) will have a major impact on the well-being of the communities and the environment.

Laingsburg Municipality can also actively focus on in-house training, which requires the identification of trainers (from senior operators / officers / professional ranks) for the development and facilitation of courses which relate to specific organizational knowledge and systems requirements. Laingsburg Municipality's internal reports such as the Water Safety Plan, Wastewater Risk Abatement Plan, Operation and Maintenance Manuals and this WSDP have the necessary information on which the in-house courses can be based. This will assist Laingsburg Municipality's Human Resource Department in general and the skills development facilitator in particular to develop and implement effective workplace skills plans relevant to Human Capacity Development requirements.

Business Element 12: Social and Customer Service Requirements

Table C.31: Business Element 12: Customer Service Requirements (Topic 12)					
Overview of Topic	**Status Quo and Knowledge Interpretation Statistics**				
This topic provides an overview of the quality of the water services provision function when considered from a customer perspective including the summary of the WSA's responsiveness to customer complaints and queries.	**Item**	**Quality (%)** assessment of current status against compliancy requirements	**Quantity (%)** an indication of the representation of the total area to address the issue	**Future Plan Assessment**	**Strategy Assessment**
	Resources available to perform this function	60.00	60.00	47.00	47.00
	Attending to complaints for water	49.00	37.00	51.00	51.00
	Attending to complaints for Sanitation: Discharge to treatment works	43.00	31.00	49.00	49.00
	Attending to complaints for Sanitation: Pit/ tank pumping	44.00	28.00	48.00	48.00
	TOTAL for Topic	**49.00**	**39.00**	**48.75**	**48.75**

Problem Definition Statements		
Nr	**Statements - Short Comings**	**Possible Improvement / Project**
1	The present Customer Services Complaints system operated by Laingsburg Municipality for complaints and public queries is a logbook system (complaints are not yet electronically captured) and does not have performance and response time information feed-back in place.	Electronic Customer Complaints System needs to be put in place in order to measure future performance in the water and sanitation service.
2	All critical water and sanitation stats need to be kept up to date and monitored on a monthly basis (Number of complaints; pipe breakages; sewer blockages; meters tested, replaced and repaired; septic tanks pumped, etc.)	Ensure all water and sanitation stats are kept up to date and included in the Monthly Reports.

Access to safe drinking water is essential to health and is human right. Safe drinking water that complies with the SANS:241 Drinking Water specifications do not pose a significant risk to health over a lifetime of consumption, including different sensitivities that may occur between life stages. Laingsburg Municipality is therefore committed to ensure that their water quality always complies with national safety standards.

Laingsburg Municipality's Water Safety Plan needs to include an Improvement / Upgrade Plan. The purpose of the Improvement / Upgrade Plan is to address the existing significant risks where the existing controls were not effective or absent. Barriers that can be implemented by Laingsburg Municipality against contamination and deteriorating water quality include the following:

- Participate in Catchment management and water source protection initiatives.
- Protection at points of abstraction such as river intakes and boreholes (Abstraction Management).
- Correct operation and maintenance of disinfection facilities.
- Protection and maintenance of the distribution system. This includes ensuring an adequate disinfectant residual at all times, rapid response to pipe bursts and other leaks, regular cleaning of reservoirs, keeping all delivery points tidy and clean, etc.

Three other important barriers that can be implemented by Laingsburg Municipality against poor quality drinking water that are a prerequisite to those listed above are as follows:

- A well informed Council and municipal managers that understand the extreme importance of and are committed to providing adequate resources for continuous professional operation and maintenance of the water supply system.
- Competent managers and supervisors in the technical department who are responsible for water supply services lead by example and are passionate about monitoring and safeguarding drinking water quality.

- Well informed community members and other consumers of water supply services that have respect for water as a precious resource.

The present system operated by Laingsburg Municipality for complaints and public queries is a logbook system (complaints are not yet electronically captured) and does not have performance and response time information feed-back in place. This shortcoming needs to be addressed in order to measure future performance in the water and sanitations service. Laingsburg Municipality is however committed to respond within 24 hours to all queries and to repair all water leaks within 12 hours and sewer blockages within 48 hours after being reported.

Laingsburg Municipality's implementation strategies with regard to customer services are to get a monitoring system in place to measure the customer service satisfaction and to keep record of all the necessary customer services information and to link the customer services KPIs to their Performance Management System, in order to ensure that the following goals are met:

- To monitor the number of consumers experiencing greater than 7 day interruptions in water supply per year and also the number of consumers receiving a flow-rate of less than 10 litres per minute.

- To ensure that private landowners provide at least basic water services to those households on the farms in the rural areas with current water service levels below RDP standard (quantity, quality and sustainability).

- To keep record of the number of water queries received and to monitor the number of complaints with regard to water quality and the number of major or visible leaks. To respond within 24 hours to all queries and to repair all water leaks within 12 hours after being reported.

- To ensure that private landowners provide at least basic sanitation services to those households with current sanitation service levels below RDP standard (Health and hygiene education / awareness to be part of the process).

- To keep record of the number of sanitation queries/complaints received per year, the number of blockages, number of calls received for pit/tank emptying and the number of calls received for emergency maintenance to pits/tanks. To respond within 24 hours to all sanitation complaints and to repair all sanitation blockages on the networks within 48 hours. To respond within 48 hours to all requests for pit/tank emptying.

- To evaluate the health and hygiene awareness and water education programmes and to incorporate these programmes in their future planning. To ensure that health and hygiene awareness is part of the process of providing VIPs on the farms, for those households with current sanitation facilities below RDP standard.

SECTION D: WATER SERVICES OBJECTIVES AND STRATEGIES

The recommended objectives, strategies and projects for each of the WSDP Business Elements were also discussed under Section C "Water Services Existing Needs Perspective" of this WSDP-IDP Water Sector Input Report and are therefore not repeated under this Section D.

The water services objectives and strategies presented below are however a summary of the KPIs developed from the water services situational analysis as summarised under Section C "Water Services Existing Needs Perspective" and as taken from the Municipality's approved SDBIP and presents the 5-year Water Services Objectives and Strategies as established in the WSA's WSDP.

Table D.1: WSDP FY2015/16: Water Services Objectives and Strategies

Nr	Objective / Strategy	Key Performance Indicator	Baseline (FY2014/15 status quo)	WSDP Year 1 FY2015/16 Target	WSDP Year 2 FY2016/17 Target	WSDP Year 3 FY2017/18 Target	WSDP Year 4 FY2018/19 Target	WSDP Year 5 FY2019/20 Target
WSDP Topic 1: Administration								
	Ensure integrated development and implementation of water services plans							
1.1 (New)	Compile Annual WSDP performance- and Water services Audit Report	▪ Compile Annual WSDP Performance- and Water Services Audit Report ▪ Take Annual WSDP Performance- and Water Services Audit Report to Council for approval	▪ Compile Annual WSDP Performance- and Water Services Audit Report ▪ Take Annual WSDP Performance- and Water Services Audit Report to Council for approval	▪ Compile Annual WSDP Performance- and Water Services Audit Report ▪ Take Annual WSDP Performance- and Water Services Audit Report to Council for approval	▪ Compile Annual WSDP Performance- and Water Services Audit Report ▪ Take Annual WSDP Performance- and Water Services Audit Report to Council for approval	▪ Compile Annual WSDP Performance- and Water Services Audit Report ▪ Take Annual WSDP Performance- and Water Services Audit Report to Council for approval	▪ Compile Annual WSDP Performance- and Water Services Audit Report ▪ Take Annual WSDP Performance- and Water Services Audit Report to Council for approval	▪ Compile Annual WSDP Performance- and Water Services Audit Report ▪ Take Annual WSDP Performance- and Water Services Audit Report to Council for approval
1.2 (New)	Ellicit ownership of the WSDP	▪ Update WSDP every three years	▪ Compile 2015/2016 updated WSDP. ▪ Advertise for public comment. ▪ Take WSDP to Council for approval (WSDP-IDP Water Sector Input Report)	-	-	▪ Compile 2018/2019 updated WSDP. ▪ Advertise for public comment. ▪ Take WSDP to Council for approval (WSDP-IDP Water Sector Input Report)	-	-
WSDP Topic 2: Demographics								
2.1	Create an environment conducive for economic development	Implement IDP approved greening and cleaning initiatives	3 Initiatives implemented	3 Initiatives implemented	3 Initiatives implemented	3 Initiatives implemented	3 Initiatives implemented	3 Initiatives implemented
2.2 (New)	Create an environment conducive for economic development	Implement proposed SDF projects.	Targets to be set by other Department					
2.3 (New)	Create an environment conducive for economic development	Implement LED Strategy.	Targets to be set by other Department					
WSDP Topic 3: Service levels								
3.1	Provision of infrastructure to deliver improved services to all residents and business	Number of formal residential properties connected to the municpal waste water sanitation / sewerage network for sewerage services, irrespective of the number of water closets	1206 Residential properties billed for sewerage	1206 Residential properties billed for sewerage	1206 Residential properties billed for sewerage	1206 Residential properties billed for sewerage	1206 Residential properties billed for sewerage	1206 Residential properties billed for sewerage
3.2	Provision of infrastructure to deliver improved services to all residents and business	Number of formal residential properties that receive piped water that is connected to the municipal water infrastructure network	1206 residential properties billed for water or have prepaid meters	1206 residential properties billed for water or have prepaid meters	1206 residential properties billed for water or have prepaid meters	1206 residential properties billed for water or have prepaid meters	1206 residential properties billed for water or have prepaid meters	1206 residential properties billed for water or have prepaid meters
3.3	Improve the standards of living of all people in Laingsburg	Provide 6kl free basic water per indigent household per month ito the equitable share requirements.	430 Households receiving free basic water	430 Households receiving free basic water	430 Households receiving free basic water	430 Households receiving free basic water	430 Households receiving free basic water	430 Households receiving free basic water
3.4	Improve the standards of living of all people in Laingsburg	Provide free basic sanitation to indigent households ito the equitable share requirements	440 Households receiving free basic sanitation	440 Households receiving free basic sanitation	440 Households receiving free basic sanitation	440 Households receiving free basic sanitation	440 Households receiving free basic sanitation	440 Households receiving free basic sanitation

Table D.1: WSDP FY2015/16: Water Services Objectives and Strategies								
Nr	Objective / Strategy	Key Performance Indicator	Baseline (FY2014/15 status quo)	WSDP Year 1 FY2015/16 Target	WSDP Year 2 FY2016/17 Target	WSDP Year 3 FY2017/18 Target	WSDP Year 4 FY2018/19 Target	WSDP Year 5 FY2019/20 Target
3.5 (New)	Ensure all households on farms are provided with at least basic water services	Support all applications received for basic water services on farms (Subject to availability of financial resources and sustainability of type of service)	-	100% of applications received are supported (Subject to availability of funding and sustainability of type of service)	100% of applications received are supported (Subject to availability of funding and sustainability of type of service)	100% of applications received are supported (Subject to availability of funding and sustainability of type of service)	100% of applications received are supported (Subject to availability of funding and sustainability of type of service)	100% of applications received are supported (Subject to availability of funding and sustainability of type of service)
3.6 (New)	Ensure all households on farms are provided with at least basic sanitation services	Support all applications received for basic sanitation services on farms (Subject to availability of financial resources and sustainability of type of service)	-	100% of applications received are supported (Subject to availability of funding and sustainability of type of service)	100% of applications received are supported (Subject to availability of funding and sustainability of type of service)	100% of applications received are supported (Subject to availability of funding and sustainability of type of service)	100% of applications received are supported (Subject to availability of funding and sustainability of type of service)	100% of applications received are supported (Subject to availability of funding and sustainability of type of service)
WSDP Topic 4: Socio economic								
4.1	Create an environment conducive for economic development	Support SMMEs by means of entrepreneurs' business plans approved.	4 Business plans approved	4 Business plans approved	4 Business plans approved	4 Business plans approved	4 Business plans approved	4 Business plans approved
4.2	Create an environment conducive for economic development	Host events as identified in the IDP in support of promotion of LED within the Municipal area	2 Events hosted	2 Events hosted	2 Events hosted	2 Events hosted	2 Events hosted	2 Events hosted
4.3	Create an environment conducive for economic development	Provide financial assistance via bursary schemes to accepted tertiary student candidates	10 Candidates assisted via bursary schemes	10 Candidates assisted via bursary schemes	10 Candidates assisted via bursary schemes	10 Candidates assisted via bursary schemes	10 Candidates assisted via bursary schemes	10 Candidates assisted via bursary schemes
4.4	Create an environment conducive for economic development	Create job opportunities (man-days)	1000 job opportunities created (man-days)	1000 job opportunities created (man-days)	1000 job opportunities created (man-days)	1000 job opportunities created (man-days)	1000 job opportunities created (man-days)	1000 job opportunities created (man-days)
WSDP Topic 5: Water Services Infrastructure								
5.1 (New)	Provision of infrastructure to deliver improved services to all residents and business	Groundwater monitoring programme implemented for both Laingsburg and Matjiesfontein	-	Keep record of water levels, daily rainfall, abstraction volumes and data to be processed, analysed and reported at least annually by hydrogeologist.	Keep record of water levels, daily rainfall, abstraction volumes and data to be processed, analysed and reported at least annually by hydrogeologist.	Keep record of water levels, daily rainfall, abstraction volumes and data to be processed, analysed and reported at least annually by hydrogeologist.	Keep record of water levels, daily rainfall, abstraction volumes and data to be processed, analysed and reported at least annually by hydrogeologist.	Keep record of water levels, daily rainfall, abstraction volumes and data to be processed, analysed and reported at least annually by hydrogeologist.
5.2 (New)	Provision of infrastructure to deliver improved services to all residents and business	% Of water distributed to consumers which is disinfected, prior to distribution to the consumers	-	95% of water supplied to consumers disinfected	100% of water supplied to consumers disinfected	100% of water supplied to consumers disinfected	100% of water supplied to consumers disinfected	100% of water supplied to consumers disinfected
5.3 (New)	Provision of infrastructure to deliver improved services to all residents and business	Implement proposed operational and compliance Water Quality Sampling Programmes	-	80% of recommended determinands sampled	85% of recommended determinands sampled	90% of recommended determinands sampled	95% of recommended determinands sampled	100% of recommended determinands sampled
5.4 (New)	Provision of infrastructure to deliver improved services to all residents and business	Implement proposed operational and compliance Effluent Sampling Programmes for the WWTWs	-	80% of recommended determinands sampled	85% of recommended determinands sampled	90% of recommended determinands sampled	95% of recommended determinands sampled	100% of recommended determinands sampled

Table D.1: WSDP FY2015/16: Water Services Objectives and Strategies								
Nr	Objective / Strategy	Key Performance Indicator	Baseline (FY2014/15 status quo)	WSDP Year 1 FY2015/16 Target	WSDP Year 2 FY2016/17 Target	WSDP Year 3 FY2017/18 Target	WSDP Year 4 FY2018/19 Target	WSDP Year 5 FY2019/20 Target
5.5 (New)	Provision of infrastructure to deliver improved services to all residents and business	Ensure adequate storage capacity for both Laingsburg and Matjiesfontein (At least 48hrs AADD)	-	Storage capacity above 48hrs AADD for both Laingsburg and Matjiesfontein	Storage capacity above 48hrs AADD for both Laingsburg and Matjiesfontein	Storage capacity above 48hrs AADD for both Laingsburg and Matjiesfontein	Storage capacity above 48hrs AADD for both Laingsburg and Matjiesfontein	Storage capacity above 48hrs AADD for both Laingsburg and Matjiesfontein
5.6 (New)	Provision of infrastructure to deliver improved services to all residents and business	Ensure all water and sewerage infrastructure assets are included in the Asset Register	-	Annual reporting to the Financial Department on water and sewerage assets not yet included in the Asset Register.	Annual reporting to the Financial Department on water and sewerage assets not yet included in the Asset Register.	Annual reporting to the Financial Department on water and sewerage assets not yet included in the Asset Register.	Annual reporting to the Financial Department on water and sewerage assets not yet included in the Asset Register.	Annual reporting to the Financial Department on water and sewerage assets not yet included in the Asset Register.
5.7 (New)	Provision of infrastructure to deliver improved services to all residents and business	Ensure a budget of at least 2% of the total value of the water and sewerage assets is allocated towards the replacement of existing infrastructure per annum.	-	A budget of 2% or more of the value of the water and sewerage assets is allocated towards the replacement of existing infrastructure.	A budget of 2% or more of the value of the water and sewerage assets is allocated towards the replacement of existing infrastructure.	A budget of 2% or more of the value of the water and sewerage assets is allocated towards the replacement of existing infrastructure.	A budget of 2% or more of the value of the water and sewerage assets is allocated towards the replacement of existing infrastructure.	A budget of 2% or more of the value of the water and sewerage assets is allocated towards the replacement of existing infrastructure.
5.8 (New)	Provision of infrastructure to deliver improved services to all residents and business	Ensure a budget of at least 1% of the total value of the water and sewerage assets is allocated towards the annual O&M of the systems.	-	A budget of 1% or more of the value of the water and sewerage assets is allocated towards the O&M of the systems.	A budget of 1% or more of the value of the water and sewerage assets is allocated towards the O&M of the systems.	A budget of 1% or more of the value of the water and sewerage assets is allocated towards the O&M of the systems.	A budget of 1% or more of the value of the water and sewerage assets is allocated towards the O&M of the systems.	A budget of 1% or more of the value of the water and sewerage assets is allocated towards the O&M of the systems.
WSDP Topic 6: Operation and Maintenance								
6.1	Provision of infrastructure to deliver improved services to all residents and business	Maintain the quality of waste water discharge	91% Waste water quality compliance	91% Waste water quality compliance	91% Waste water quality compliance	91% Waste water quality compliance	91% Waste water quality compliance	91% Waste water quality compliance
6.2	Provision of infrastructure to deliver improved services to all residents and business	Maintain the water quality as per SANS241 criteria	87% Water quality compliance	90% Water quality compliance	92% Water quality compliance	93% Water quality compliance	94% Water quality compliance	95% Water quality compliance
6.3 (New)	Provision of infrastructure to deliver improved services to all residents and business	Achieve Green Drop Status	-	50% Overall Green Drop Score	Green Drop Risk Rating of less than 50%	65% Overall Green Drop Score	Green Drop Risk Rating of less than 40%	80% Overall Green Drop Score
6.4 (New)	Provision of infrastructure to deliver improved services to all residents and business	Achieve Blue Drop Status	-	Blue Drop Risk Rating of less than 50%	75% Overall Blue Drop Score	Blue Drop Risk Rating of less than 45%	80% Overall Blue Drop Score	Blue Drop Risk Rating of less than 40%
6.5 (New)	Provision of infrastructure to deliver improved services to all residents and business	Ensure all forms (checks) as included in the newly developed O&M Manuals of the WWTWs are implemented by the Process Controllers.	-	60% Compliance	70% Compliance	80% Compliance	90% Compliance	90% Compliance
6.6 (New)	Provision of infrastructure to deliver improved services to all residents and business	% of recommendations, as included in the Improvement / Upgrade Plan of the Water Safety Plan, which the Municipality is currently busy developing, implemented.	-	At least 30% of the proposed recommendations from the Water Safety Plan implemented.	At least 40% of the proposed recommendations from the Water Safety Plan implemented.	At least 50% of the proposed recommendations from the Water Safety Plan implemented.	At least 60% of the proposed recommendations from the Water Safety Plan implemented.	At least 70% of the proposed recommendations from the Water Safety Plan implemented.
6.7 (New)	Provision of infrastructure to deliver improved services to all residents and business	% of recommendations, as included in the Improvement / Upgrade Plan of the W_2RAP, which the Municipality is currently busy developing, implemented.	-	At least 30% of the proposed recommendations from the Wastewater Risk Abatement Plan implemented.	At least 40% of the proposed recommendations from the Wastewater Risk Abatement Plan implemented.	At least 50% of the proposed recommendations from the Wastewater Risk Abatement Plan implemented.	At least 60% of the proposed recommendations from the Wastewater Risk Abatement Plan implemented.	At least 70% of the proposed recommendations from the Wastewater Risk Abatement Plan implemented.

Table D.1: WSDP FY2015/16: Water Services Objectives and Strategies								
Nr	Objective / Strategy	Key Performance Indicator	Baseline (FY2014/15 status quo)	WSDP Year 1 FY2015/16 Target	WSDP Year 2 FY2016/17 Target	WSDP Year 3 FY2017/18 Target	WSDP Year 4 FY2018/19 Target	WSDP Year 5 FY2019/20 Target
WSDP Topic 7: Associated services								
WSDP Topic 8.1: Conservation and Demand management - Water Resource Management								
8.1.1	Provision of infrastructure to deliver improved services to all residents and business	Limit the % water unaccounted for to less than 40%.	Limit unaccounted for water to less than 40%	Limit unaccounted for water to less than 40%	Limit unaccounted for water to less than 35%	Limit unaccounted for water to less than 35%	Limit unaccounted for water to less than 30%	Limit unaccounted for water to less than 30%
8.1.2 (New)	Provision of infrastructure to deliver improved services to all residents and business	Implement projects as included in the newly developed WC/WDM Strategy	-	At least two of the recommended projects to reduce the high NRW implemented annually	At least two of the recommended projects to reduce the high NRW implemented annually	At least two of the recommended projects to reduce the high NRW implemented annually	At least two of the recommended projects to reduce the high NRW implemented annually	At least two of the recommended projects to reduce the high NRW implemented annually
8.1.3 (New)	Provision of infrastructure to deliver improved services to all residents and business	Monitor Night Flows for the various zones, at least once every three years.	-	-	Monitor Minimum Night Flows for all the zones	-	-	Monitor Minimum Night Flows for all the zones
WSDP Topic 8.2 & 8.3: Conservation and Demand management - Water Balance								
8.2.1 (New)	Provision of infrastructure to deliver improved services to all residents and business	Ensure bulk water meters at all sources, reservoirs and zones are read on at least a monthly basis	-	100% Compliance	100% Compliance	100% Compliance	100% Compliance	100% Compliance
8.2.2 (New)	Provision of infrastructure to deliver improved services to all residents and business	Ensure incoming flow and final flow at Laingsburg and Matjiesfontein WWTWs are read on at least a monthly basis	-	100% Compliance	100% Compliance	100% Compliance	100% Compliance	100% Compliance
WSDP Topic 9: Water Resources								
9.1 (New)	Establish assurance of supply of all water sources for Laingsburg and Matjiesfontein	Ensure yields and allocations are adequate to meet at least the projected five year water requirements for both Laingsburg and Matjiesfontein	-	100% Adequate supply to meet water requirements for both Laingsburg and Matjiesfontein	100% Adequate supply to meet water requirements for both Laingsburg and Matjiesfontein	100% Adequate supply to meet water requirements for both Laingsburg and Matjiesfontein	100% Adequate supply to meet water requirements for both Laingsburg and Matjiesfontein	100% Adequate supply to meet water requirements for both Laingsburg and Matjiesfontein
9.2 (New)	All water sources are authorised	% of Abstraction from sources registered and authorised by the DWS.	-	70% Compliance	80% Compliance	90% Compliance	95% Compliance	100% Compliance
9.3 (New)	Provision of infrastructure to deliver improved services to all residents and business	Service Level Agreement with Matjiesfontein Village (Hotel) in place for the provision of bulk water to Matjiesfontein	-	-	Service Level Agreement in place.	Service Level Agreement in place.	Service Level Agreement in place.	Service Level Agreement in place.
9.4 (New)	Provision of infrastructure to deliver improved services to all residents and business	Raw water quality monitoring of all production boreholes and other surface water sources on at least a six-monthly basis	-	60% Compliance	70% Compliance	80% Compliance	90% Compliance	100% Compliance
WSDP Topic 10: Financial profile								
10.1	Provision of infrastructure to deliver improved services to all residents and business	70% of the approved maintenance budget spent	70% of the approved maintenance budget spent	70% of the approved maintenance budget spent	75% of the approved maintenance budget spent	80% of the approved maintenance budget spent	85% of the approved maintenance budget spent	90% of the approved maintenance budget spent
10.2	To achieve financial viability in order to render affordable services to residents	Achieve a debtors payment percentage of 60%	60% Debtors payment percentage achieved	60% Debtors payment percentage achieved	62% Debtors payment percentage achieved	64% Debtors payment percentage achieved	66% Debtors payment percentage achieved	68% Debtors payment percentage achieved

Table D.1: WSDP FY2015/16: Water Services Objectives and Strategies

Nr	Objective / Strategy	Key Performance Indicator	Baseline (FY2014/15 status quo)	WSDP Year 1 FY2015/16 Target	WSDP Year 2 FY2016/17 Target	WSDP Year 3 FY2017/18 Target	WSDP Year 4 FY2018/19 Target	WSDP Year 5 FY2019/20 Target
10.3	Provision of infrastructure to deliver improved services to all residents and business	70% of approved capital budget spent	70% of the approved capital budget spent	70% of the approved capital budget spent	75% of the approved capital budget spent	80% of the approved capital budget spent	85% of the approved capital budget spent	90% of the approved capital budget spent
10.4	To achieve financial viability in order to render affordable services to residents	Financial viability measured ito the municipality's ability to meet it's service debt obligations	Target number of 1.1	Target number of 1.1	Target number of 1.1	Target number of 1.1	Target number of 1.1	Target number of 1.1
10.5	To achieve financial viability in order to render affordable services to residents	Financial viability measured ito the outstanding service debtors	Target of 28%	Target of 28%	Target of 28%	Target of 28%	Target of 28%	Target of 28%
10.6	To achieve financial viability in order to render affordable services to residents	Financial viability measured ito the available cash to cover fixed operating expenditure	Target number of 4.5	Target number of 4.5	Target number of 4.5	Target number of 4.5	Target number of 4.5	Target number of 4.5
WSDP Topic 11: Institutional Arrangements profile								
11.1	To create an institution with skilled employees to provide a professional service to its clientele guided by municipal values	Limit vacancy rate to less than 10% of budgeted posts	Vacancy rate of less than 10%	Vacancy rate of less than 10%	Vacancy rate of less than 10%	Vacancy rate of less than 10%	Vacancy rate of less than 10%	Vacancy rate of less than 10%
11.2	To create an institution with skilled employees to provide a professional service to its clientele guided by municipal values	1% of the operating budget spent on training as per approved skills development plan	1% of Operating budget spent on training	1% of Operating budget spent on training	1% of Operating budget spent on training	1% of Operating budget spent on training	1% of Operating budget spent on training	1% of Operating budget spent on training
11.3	To achieve financial viability in order to render affordable services to residents	Achieve an unqualified audit opinion	Unqualified audit opinion achieved	Unqualified audit opinion achieved	Unqualified audit opinion achieved	Unqualified audit opinion achieved	Unqualified audit opinion achieved	Unqualified audit opinion achieved
11.4 (New)	Ensure adequate Process Controllers at the WWTWs	% Compliance w.r.t the number of existing Process Controllers at the plants and the required number of Process Controllers (Draft Reg 17 requirements)	-	60% compliance w.r.t. the number of Process Controllers per shift at both plants.	70% compliance w.r.t. the number of Process Controllers per shift at both plants.	80% compliance w.r.t. the number of Process Controllers per shift at both plants.	90% compliance w.r.t. the number of Process Controllers per shift at both plants.	100% compliance w.r.t. the number of Process Controllers per shift at both plants.
WSDP Topic 12: Customer service requirements								
12.1 (New)	Provision of infrastructure to deliver improved services to all residents and business	Ensure all customer services complaints are logged electronically, which include the time it took to address the complaint	-	-	Electronic Customer Services Complaints System in place, which include performance and response time information.	Electronic Customer Services Complaints System in place, which include performance and response time information.	Electronic Customer Services Complaints System in place, which include performance and response time information.	Electronic Customer Services Complaints System in place, which include performance and response time information.
12.2 (New)	Provision of infrastructure to deliver improved services to all residents and business	Ensure all critical water and sanitation stats are kept up to date and monitored on a monthly basis (Number of complaints, pipe breakages, sewer blockages, meters tested, replaced and repaired, septic tanks pumped, etc.)	-	Stats recorded and reported on a monthly basis to Council	Stats recorded and reported on a monthly basis to Council	Stats recorded and reported on a monthly basis to Council	Stats recorded and reported on a monthly basis to Council	Stats recorded and reported on a monthly basis to Council

SECTION E: WATER SERVICES MTEF PROJECTS

The Water Services Medium-Term Expenditure Framework (MTEF) projects are presented below and outline the water services projects which are funded for implementation within the next three years. Table E.2a provides the projects identified for implementation in FY2014/15, Table E.2b provides the projects identified for implementation in FY 2015/16 and Table E.2c provides the projects identified for implementation in FY2016/17. The table below gives an overview of the water services projects, as included in the MTEF.

Table E.1: Summary of MTEF Projects

Project Main Category	FY2014/15		FY2015/16		FY2016/17		MTEF Total	
	Nr	Value (R'000)	Nr	Value (R'000)	Nr	Value (R'000)	**Nr**	**Value (R'000)**
Water Projects	2	R2,882	0	R0	0	R0	**2**	**R2,882**
Sanitation Projects	3	R1,316	1	R70	1	R70	**3**	**R1,456**
Combined Water & Sanitation Projects	**5**	**R4,198**	**1**	**R70**	**1**	**R70**	**5**	**R4,338**

Table E.2a: Water Services MTEF Projects - FY2014/15 (1st year MTEF period)

Nr	Project Reference Number	Project Name	Description	Project Driver	Main Category "W" or "S"	Sub Category	Component type	Project Budget / Funding Sources										MTEF Project Source
								Prev spent FY2013/14	FY2014/15 Budget	Own	MIG	RBIG	ACIP	DR	MWIG	Other	Total Cost	
1. Infrastructure Projects								**R0**	**R4,128**								**R4,128**	
1.1		New bulk sewer pipeline Goldnerville	Drainage Network	Higher	Sanitation	Internal Sanitation	Waterborne Sanitation	R0	**R1,221**		R1,221						**R1,221**	MIG Technical Report
1.2		Disinfection facility for WWTW	WWTW	Higher	Sanitation	Sanitation Bulk	WWTW	R0	**R25**		R25						**R25**	MIG Technical Report
1.3		New bulk water supply for Goldnerville	Water Reticulation	Higher	Water	Reticulation	Reticulation	R0	**R1,716**		R1,716						**R1,716**	MIG Technical Report
1.4		New 0.250Ml reservoir	Storage	Higher	Water	Internal Bulk	Reservoir	R0	**R1,166**		**R1,166**						**R1,166**	MIG Technical Report
2. Source Development Projects								**R0**	**R0**								**R0**	
																	R0	
3. Demand Management projects								**R0**	**R0**								**R0**	
																	R0	
4. O&M Commitments								**R0**	**R70**								**R70**	
Operations																	**R0**	
4		Sewer Pump	Other	O&M	Sanitation	Reticulation	Operations	R0	**R70**	R70							**R70**	O&M
Maintenance																	**R0**	
																	R0	
5. Institutional								**R0**	**R0**								**R0**	
																	R0	
6. Water Services Programmes								**R0**	**R0**								**R0**	
Awareness Programs																	**R0**	
																	R0	
WASH Programs																	**R0**	
																	R0	
		Total						**R0**	**R4,198**								**R4,198**	

Table E.2b: Water Services MTEF Projects - FY2015/16 (2nd year MTEF period)

Nr	Project Reference Number	Project Name	Description	Project Driver	Main Category "W" or "S"	Sub Category	Component type	Project Budget / Funding Sources										MTEF Project Source
								Prev spent FY2013/14	FY2015/16 Budget	Own	MIG	RBIG	ACIP	DR	MWIG	Other	Total Cost	
1. Infrastructure Projects								**R0**	**R0**								**R0**	
																	R0	
																	R0	
2. Source Development Projects								**R0**	**R0**								**R0**	
																	R0	
3. Demand Management projects								**R0**	**R0**								**R0**	
																	R0	
4. O&M Commitments								**R0**	**R70**								**R70**	
Operations																	**R0**	
4		Sewer Pump	Other	O&M	Sanitation	Reticulation	Operations	R0	**R70**	R70							**R70**	O&M
Maintenance																	**R0**	
																	R0	
5. Institutional								**R0**	**R0**								**R0**	
																	R0	
6. Water Services Programmes								**R0**	**R0**								**R0**	
Awareness Programs																	**R0**	
																	R0	
WASH Programs																	**R0**	
																	R0	
		Total						**R0**	**R70**								**R70**	

Table E.2c: Water Services MTEF Projects - FY2016/17 (3rd year MTEF period)

Nr	Project Reference Number	Project Name	Description	Project Driver	Main Category "W" or "S"	Sub Category	Component type	Project Budget / Funding Sources										MTEF Project Source
								Prev spent FY2013/14	FY2016/17 Budget	Own	MIG	RBIG	ACIP	DR	MWIG	Other	Total Cost	
1. Infrastructure Projects								**R0**	**R0**								**R0**	
																	R0	
																	R0	
2. Source Development Projects								**R0**	**R0**								**R0**	
																	R0	
3. Demand Management projects								**R0**	**R0**								**R0**	
																	R0	
4. O&M Commitments								**R0**	**R70**								**R70**	
Operations																	**R0**	
4		Sewer Pump	Other	O&M	Sanitation	Reticulation	Operations	R0	**R70**	R70							**R70**	O&M
Maintenance																	**R0**	
																	R0	
5. Institutional								**R0**	**R0**								**R0**	
																	R0	
6. Water Services Programmes								**R0**	**R0**								**R0**	
Awareness Programs																	**R0**	
																	R0	
WASH Programs																	**R0**	
																	R0	
		Total						**R0**	**R70**								**R70**	

SECTION F: WSDP PROJECTS

The identification of projects necessary to ensure the provision of adequate levels of water and sanitation services is based primarily on the findings of the Water and Sewer Master Plans, in consultation with the Municipality's town planning consultants. Master Planning is typically based on a forward planning horizon of 20 years, but is usually updated every three to five years, taking into account improved water demand estimates and subsequent infrastructure developments which may have taken place. The existing Water and Sewer Master Plans of Laingsburg Municipality were last updated during February 2007. The recommended projects from these Master Plans were incorporated into the WSDP.

The Master Plans represent the ideal infrastructure development required to meet projected water demands over the next few years, while realistic capital investment in infrastructure projects is determined by budget availability. As a result, prioritization of projects is necessary to identify what can be done within the available and projected budget constraints. The prioritization of projects is done through the IDP and annual budget planning process. Recommended infrastructure projects for implementation in the future will be based on the following plans and processes:

- Water and Sewer Master Plans and Water and Waste Water Treatment Works Master Plans.
- Infrastructure replacement needs (Asset Register)
- Budget proposals
- Asset Management Plans

Laingsburg Municipality's key capital infrastructure projects for the next three years are as follows:

- Construction of a new concrete reservoir for Matjiesfontein.
- Water and Sewer Reticulation networks for the new housing development in Goldnerville.

The new NWRS 2 list the following steps to raise the water profile in development planning:

- Water must be placed at the centre of integrated planning and decision-making, with a specific aim to respond to and support the achievement of national development and sector goals.
- Current budgets need to adequately provide for water, which might mean they have to be doubled to cater for the present needs.
- Current financial values need to appreciate water as a scarce resource and should thus reflect the real value of water. This requires a new value system across all sectors and stakeholders.
- Water efficiency and curbing water losses should be high on the agenda of each individual and institution in the country.
- Water management must be formally embedded in the sector businesses with associated accountability.

The DWS will insist in the future that all water infrastructure which they fund is value engineered against the life-cycle cost with a specific emphasis on energy costs. Evidence will be required that the technical design is appropriate for the nature of the resource and that operation and maintenance of the assets is reasonably within the capability of the responsible institution. New water resources infrastructure will also not be developed or authorized unless effective WC/WDM interventions have been put in place in the affected area.

Laingsburg Municipality's implementation strategies, with regard to new water and sewerage infrastructure, are as follows:

- Take the recommended projects, as identified through the Water and Sewer Master Plans and the WSDP, into account during the planning and prioritization process for new infrastructure. Prioritize from the desired list, those items which can be implemented from available funding in the particular financial year.

- Undertake revised master planning at least every three to five years and to use the Master Plans to list the desired infrastructure development requirements and reflect these in the IDP.

- Assign a high priority to the implementation of the approved WDM Strategy in order to postpone additional capital investment for as long as possible, both from the water availability perspective as well as from the treatment of increased effluent volumes. The costs of physical water loss, the capital requirements for new water resources infrastructure, and the constraints of poor water availability on water dependent economic growth means that WC/WDM is a critical management priority for stretching the financial resources of the Municipality. WC/WDM is almost always a more cost-effective solution than the implementation of new infrastructure, and no new infrastructure should be developed until unauthorized water has been reduced to manageable volumes.

- To adopt appropriate technology solutions for the water and sewerage infrastructure challenges. Techniques such as value engineering should also be adopted to ensure that investments in infrastructure and other solutions are cost effective over the full life-cycle and designed to be fit for purpose.

- To ensure adequate funding for the full lifecycle cost of the new water and sewerage infrastructure, which will include funds for the operations and maintenance of the infrastructure and regular refurbishment.

- Balance land-use and development planning (SDFs) in accordance with the availability of water and the capacity of WTWs and WWTWs that are in place or that will be implemented.

The current needs projects are estimated at R9.837 million of which 44% are funded, as included in the MTEF project list. It should however be emphasised that additional funding will be required to address the full achievement of the water services strategies as outlined in Section D, but that the extent of such additional funding can only be determined, once initial investigations and activities have been concluded.

Table F.1: WSDP FY2015/16: LIST OF CONCEPTUAL PROJECTS

Nr	Situation Assessment (Problem Definition)	Solution description as defined by topic situation assessment (Strategy)	Conceptual project	Is there an existing project addressing this problem?	Existing Projects Information			Does this current listed project address the problem totally?	Approved by Council, in project database and part of 5 year IDP cycle projects?	Project listed in 3yr MTEF - cycle?
					Project Number	Project Title	Project Cost R'000			
CURRENT NEEDS										
Water Services Development Planning										
1.1	Water Services Audit Report not always drafted annually	Compile annual WSDP Performance and Water Services Audit Report	WSDP	Yes	WSDP	Compile annual WSDP Performance and Water Services Audit Report	R150	Yes	No	No
1.2	Regular updating of WSDP	Update WSDP every three years	WSDP	Yes	WSDP	Regular updating of WSDP	R250	Yes	No	No
Business Element 2: Demographics (Topic 2)										
	Done by other Department									
Business Element 3: Service Levels (Topic 3)										
3.1	Some households on the farms without basic water services.	Ensure all households on the farms are provided with at least basic water services.	WSDP	No	WSDP	Provide basic water services on the farms.	R144	Yes	No	No
3.2	Some households on the farms without basic sanitation services.	Ensure all households on the farms are provided with at least basic sanitation services.	WSDP	No	WSDP	Provide basic sanitation services on the farms.	R1,350	Yes	No	No
Business Element 4: Socio-Economic Background (Topic 4)										
	Done by other Department									
Business Element 5: Water Services Infrastructure Management (Topic 5)										
5.1	Potable water of Matjiesfontein needs to be disinfected	Provide disinfection facility for Matjiesfontein	WSDP	No	WSDP	Disinfection Facility	R150	Yes	No	No
5.2	The Water and Sewer Master Plans were last updated in February 2007.	Ensure up to date Water and Sewer Master Plans	WSDP	No	WSDP	Update the Water and Sewer Master Plans	R400	Yes	No	No
5.3	Inadequate bulk water supply capacity for new housing development	Provision of infrastructure to deliver improved services to all residents and business	MTEF Project	Yes	MIG	New bulk water supply for Goldnerville	R1,716	Yes	Yes	Yes
5.4	Inadequate reservoir storage capacity for Matjiesfontein.	Provision of infrastructure to deliver improved services to all residents and business	MTEF Project	Yes	MIG	New 0.250Ml reservoir for Matjiesfontein	R1,166	Yes	Yes	Yes
5.5	Inadequate bulk sewer capacity for new housing development	Provision of infrastructure to deliver improved services to all residents and business	MTEF Project	Yes	MIG	New bulk sewer for Goldnerville	R1,221	Yes	Yes	Yes
5.6	Sewer pumps need to be refurbished	Provision of infrastructure to deliver improved services to all residents and business	MTEF Project	Yes	MTEF	Sewer Pump	R210	Yes	Yes	Yes
5.7	Disinfection facility required at Laingsburg WWTW	Provision of infrastructure to deliver improved services to all residents and business	MTEF Project	Yes	MTEF	Disinfection facility for Laingsburg WWTW	R25	Yes	Yes	Yes
Business Element 6: Operation and Maintenance (Topic 6)										
6.1	Water Safety Plan not yet in place	Finalise and implement Water Safety Plan	WSDP	Yes	WSDP	Compile Water Safety Plan	R75	Yes	No	No
6.2	W_2RAP not yet in place	Finalise and implement W_2RAP	WSDP	Yes	WSDP	Compile W_2RAP	R75	Yes	No	No
6.3	WWTW Process Audits are not done annually	Ensure annual WWTW Process Audits are carried out.	WSDP	Yes	WSDP	Annual WWTW Process Audits	R75	Yes	No	No
Business Element 7: Associated Services (Topic 7)										
	None									

Table F.1: WSDP FY2015/16: LIST OF CONCEPTUAL PROJECTS

Nr	Situation Assessment (Problem Definition)	Solution description as defined by topic situation assessment (Strategy)	Conceptual project	Is there an existing project addressing this problem?	Existing Projects Information			Does this current listed project address the problem totally?	Approved by Council, in project database and part of 5 year IDP cycle projects?	Project listed in 3yr MTEF - cycle?
					Project Number	Project Title	Project Cost R'000			
CURRENT NEEDS										
Business Element 8: Conservation and Demand Management - Water Resource (Topic 8.1)										
8.1.1	Very high NRW, which needs to be addressed	Implementation of WC/WDM Strategy	WSDP	Partly	WSDP	Implementation of WC/WDM measures	R1,200	Partly	No	No
8.1.2	Very high NRW, which needs to be addressed	Implementation of WC/WDM Strategy (Monitoring MNFs)	WSDP	No	WSDP	Monitoring of MNFs	R200	Yes	No	No
8.1.3	Very high NRW, which needs to be addressed	Implementation of WC/WDM Strategy (Leak Detection)	WSDP	No	WSDP	Leak detection in areas with high MNFs	R300	Yes	No	No
8.1.4	Some meters are old and faulty	Implementation of Meter Maintenance and Management Strategy (Meter Replacements)	WSDP	Partly	WSDP	Implement a meter repair and replacement programme.	R300	Yes	No	No
8.1.5	Lack of community awareness on WDM	Implementation of WC/WDM Strategy (Community awareness on WDM)	WSDP	No	WSDP	Raise community awareness on WDM	R25	Yes	No	No
8.1.6	Lack of school education on WDM	Implementation of WC/WDM Strategy (Schools education on WDM)	WSDP	No	WSDP	School education on WDM	R15	Yes	No	No
8.1.7	Leakage at public buildings and some households	Implementation of WC/WDM Strategy (War on Leaks Project)	WSDP	Partly	WSDP	War on Leaks Project	R100	Yes	No	No
Business Element 8: Conservation and Demand Management - Water Balance (Topic 8.2 & 8.3)										
	Done with internal O&M Budget									
Business Element 9: Water Resources (Topic 9)										
9.1	Groundwater monitoring programme needs to be implemented for both Laingsburg and Matjiesfontein	Implement groundwater monitoring programme.	WSDP	No	WSDP	Implement groundwater monitoring programme	R100	Yes	No	No
9.2	Not all sources are authorised and registered with the DWS.	Ensure all sources are authorised.	WSDP	No	WSDP	Obtain authorisations for abstraction from all sources	R80	Yes	No	No
9.3	Raw water from some of the sources are not adequately monitored	Ensure adequate raw water quality monitoring of all sources.	WSDP	No	WSDP	Raw water quality monitoring of all production boreholes and other surface water sources on at least a six-monthly basis	R80	Yes	No	No
Business Element 10: Financial Profile (Topic 10)										
	Done by other Department									
Business Element 11: Water Services Institutional Arrangements (Topic 11)										
11.1	SLA for Matjiesfontein is not in place.	Ensure bulk water supply to Matjiesfontein from the Matjiesfontein Village (Hotel) is managed through a SLA.	WSDP	No	WSDP	Service Level Agreement with Matjiesfontein Village (Hotel) in place for the provision of bulk water to Matjiesfontein	R30	Yes	No	No
Business Element 12: Social and Customer Service Requirements (Topic 12)										
12.1	Logbook system not adequate to monitor complaints (No performance and response time information).	Ensure proper customer services complaints control	WSDP	Partly	WSDP	Electronic Customer Services and Complaints System	R400	Yes	No	No
TOTAL: CURRENT NEEDS							**R9,837**			
	Funded						R4,338			
	% funded						44%			

Table F.1: WSDP FY2015/16: LIST OF CONCEPTUAL PROJECTS

Nr	Situation Assessment (Problem Definition)	Solution description as defined by topic situation assessment (Strategy)	Conceptual project	Is there an existing project addressing this problem?	Existing Projects Information			Does this current listed project address the problem totally?	Approved by Council, in project database and part of 5 year IDP cycle projects?	Project listed in 3yr MTEF - cycle?
					Project Number	Project Title	Project Cost R'000			
FUTURE NEEDS										
Infrastructure										
F1	Inadequate capacity of existing internal water reticulation network	Ensure adequate internal water reticulation capacity	Water Master Plan	No	Various	Upgrade existing water reticulation network of Laingsburg	R7,698	Yes	No	No
F2	Inadequate capacity of existing internal water reticulation network	Ensure adequate internal water reticulation capacity	Water Master Plan	No	Various	Upgrade existing water reticulation network of Matjiesfontein	R683	Yes	No	No
F3	Microbiological water quality compliance not always 100%	Ensure water quality complies with SANS241:2011 water requirements	WSDP	No	WSDP	New chlorination system for Laingsburg	R350	Yes	No	No
F4	Inadequate raw water storage capacity	Ensure adequate raw water storage capacity	WSDP	No	WSDP	New raw water storage reservoir for Laingsburg	R5,004	Yes	No	No
F5	Inadequate potable water storage capacity	Ensure adequate potable water storage capacity	WSDP	No	WSDP	New 2Ml storage reservoir for Laingsburg	R5,004	Yes	No	No
F6	Bulk supply pipeline needs to be replaced.	Ensure adequate bulk water supply capacity	WSDP	No	WSDP	Replace existing 12km bulk supply pipeline	R11,500	Yes	No	No
F7	Water quality compliance not always meeting SANS241:2011 water requirements.	Ensure water quality complies with SANS241:2011 water requirements	WSDP	No	WSDP	New 1.75Ml/day WTW for Laingsburg, to adequately treat water	R13,500	Yes	No	No
F8	Existing reservoirs need some refurbishment.	Ensure adequate rehabilitation and maintenance of existing infrastructure.	WSDP	No	WSDP	Rehabilitation of existing reservoirs in Laingsburg	R2,029	Yes	No	No
F9	Inadequate capacity of existing internal water reticulation network	Ensure adequate internal water reticulation capacity	Water Master Plan	No	WSDP	Increase existing bulk pipeline capacity in Laingsburg (Ou Dorp)	R1,949	Yes	No	No
F10	Inadequate capacity of existing internal water reticulation network	Ensure adequate supply and pressure to future areas	Water Master Plan	No	WSDP	New 16l/s water PS when future areas are developed.	R845	Yes	No	No
F11	Inadequate capacity of existing internal water reticulation network	Ensure adequate internal water reticulation capacity	Water Master Plan	No	WSDP	New 575m x 160mm dia bulk pipeline	R429	Yes	No	No
F12	Inadequate capacity of existing sewer pump stations	Ensure adequate sewer pump capacity	Sewer Master Plan	No	WSDP	New sewer PS for Uitspan drainage area	R774	Yes	No	No
Resources										
F13	Yields of existing sources are inadequate to meet future water requirements	Ensure yields from sources are adequate to meet future water requirements	WSDP	No	WSDP	Develop additional 0.45Ml/day water resources	R4,000	Yes	No	No
F14	Yields of existing sources are inadequate to meet future water requirements	Ensure yields from sources are adequate to meet future water requirements	WSDP	No	WSDP	Connect newly drilled boreholes to network	R1,000	Yes	No	No
TOTAL: FUTURE NEEDS							**R54,765**			