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SETSOTO LOCAL MUNICIPALITY

WATER SERVICES DEVELOPMENT PLAN

2008/2009

"BASIC LEVEL" WATER SERVICES DEVELOPMENT PLAN PREPARED IN TERMS OF THE WATER SERVICES ACT (ACT 108 OF 1997) AND ALIGNED WITH THE MUNICIPALITY'S IDP PROCESS IN TERMS OF THE IDP GUIDELINES RELATING TO THE DEVELOPMENT FACILITATION ACT (ACT 67 OF 1995)

Commissioned by the



DEPARTMENT: WATER AFFAIRS AND FORESTRY
REPUBLIC OF SOUTH AFRICA

Prepared by the

**WATER SERVICES AUTHORITY WSDP STEERING COMMITTEE OF
SETSOTO LOCAL MUNICIPALITY**

and



in co-operation with



FAIRCHILD MC'MORRAN
Navigating change



NETGroup

MAY 2005

Index: Explanatory

Colour Code 1: Header and Footer link to Water Services Business Elements

Colour Code 2: Heading link to Key Activities

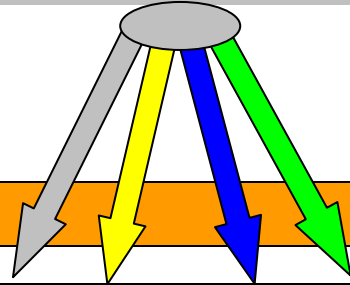
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Background and Admin

Water Services Business Elements

Key Activities

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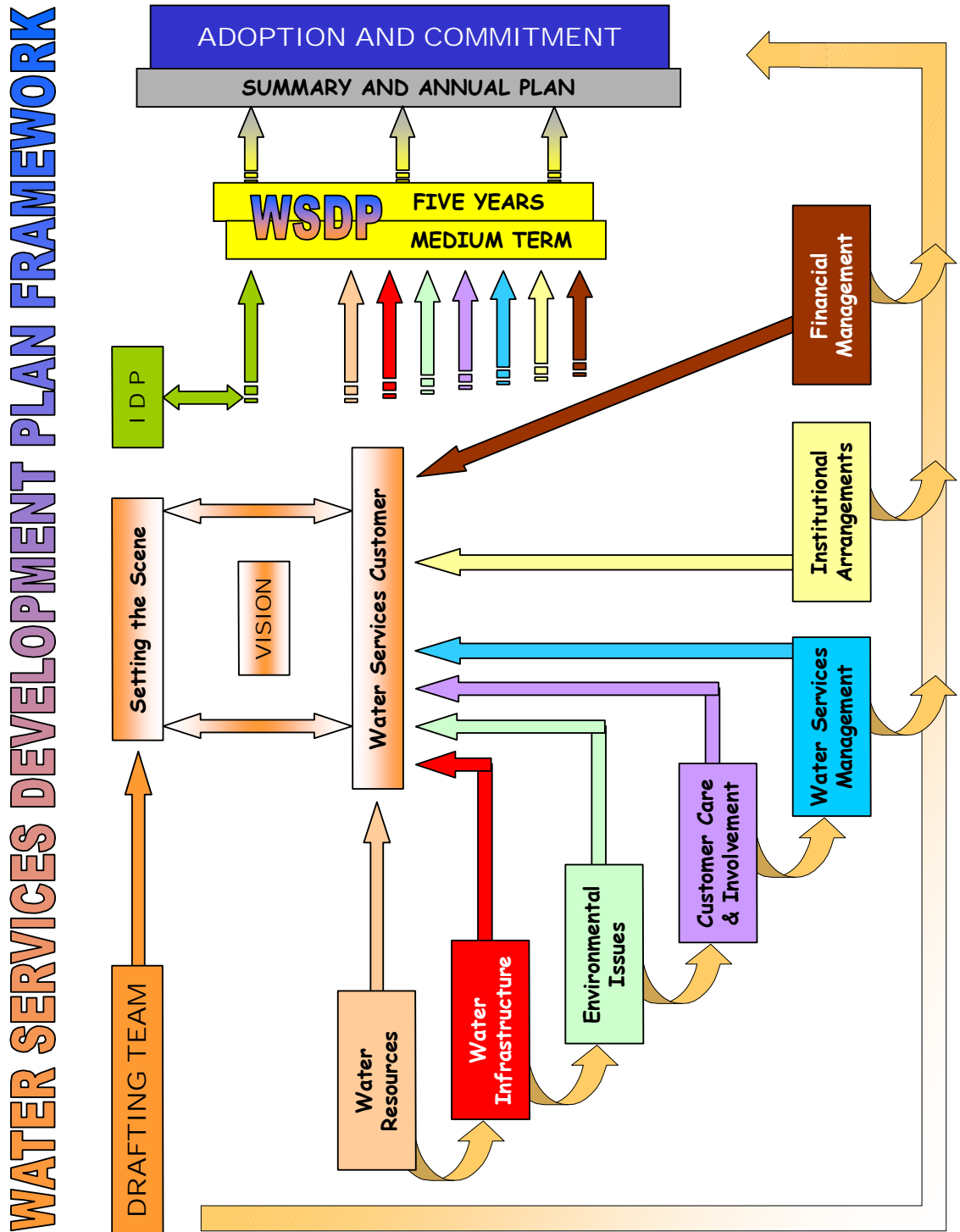
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A. Introduction: Strategic Perspective and Methodologies

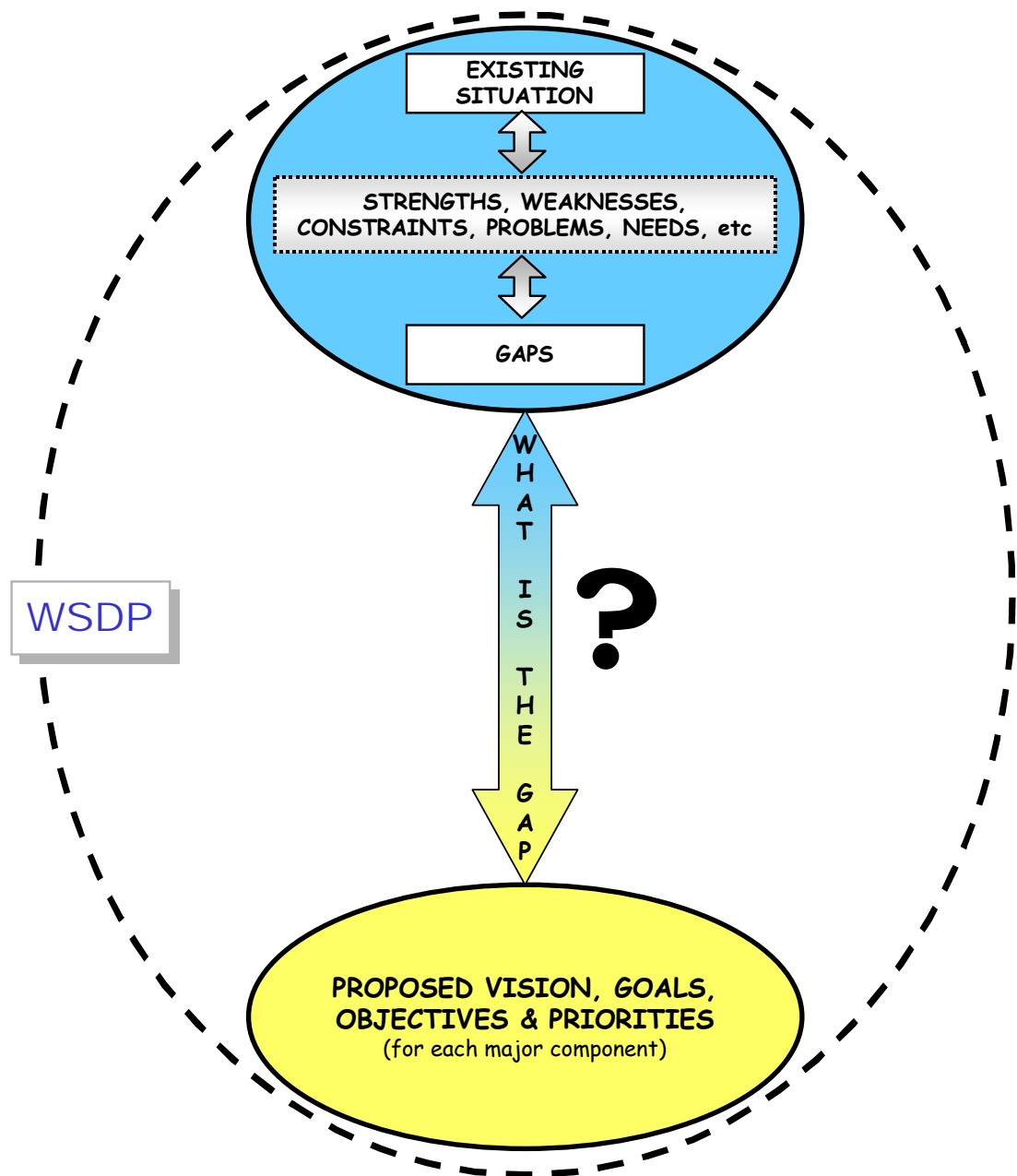
I)Roadmap of planning framework



A. Introduction: Strategic Perspective and Methodologies

II) Strategic Analysis

Key issues to address in each strategic analysis



What needs to be done to bridge the gap?

What are the different 'options' towards achieving the objectives/priorities?

What are the constraints in terms of options?

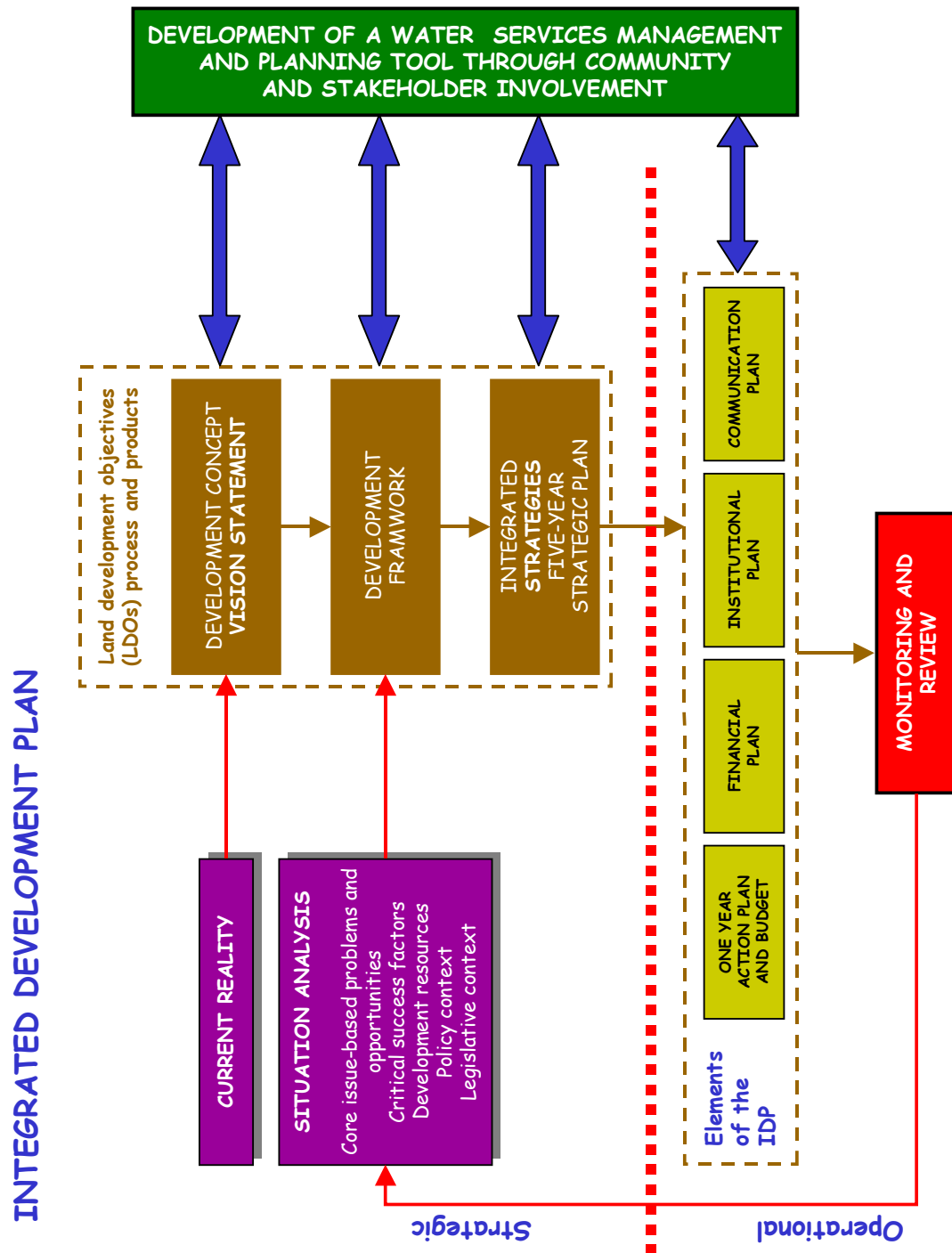
What is feasible within the existing constraints?

What assumptions are being made?

What needs to be flagged?

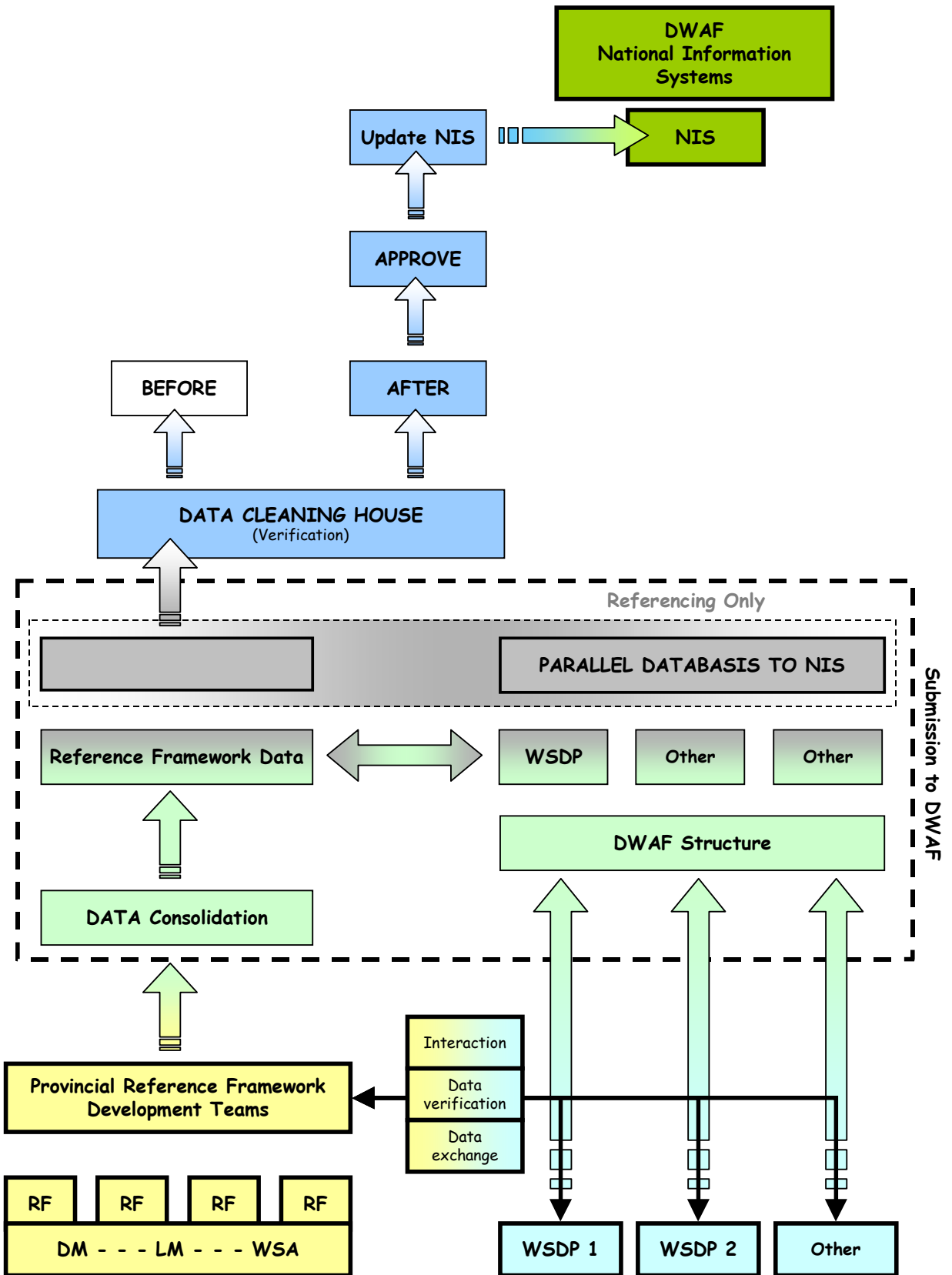
A. Introduction: Strategic Perspective and Methodologies

III) IDP Methodology



A. Introduction: Strategic Perspective and Methodologies

IV) Program interaction and data exchange



B. Administration

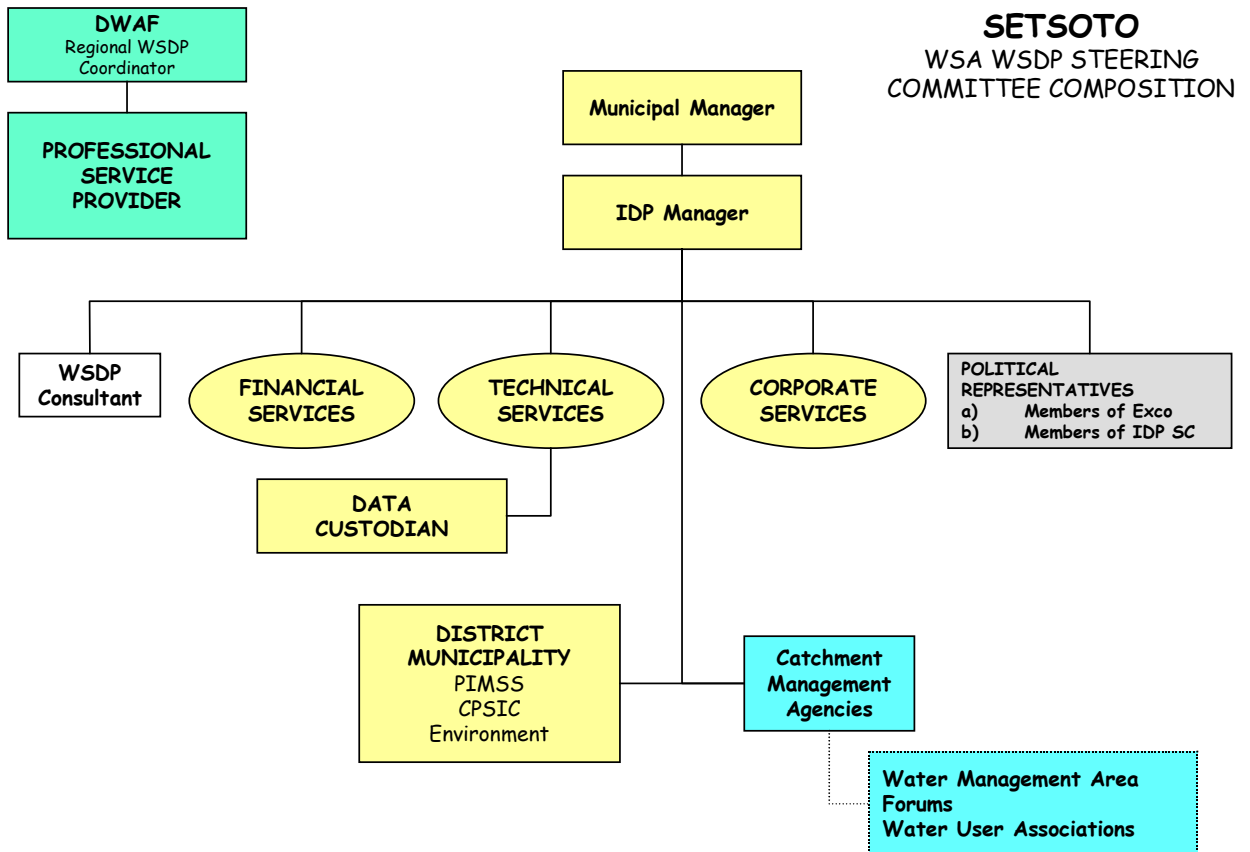
B1. SETSOTO LOCAL MUNICIPALITY

B2. Status of WSDP

Status	Reference date (Period applicable)	Date submitted
Interim (Basic Level WSDP)	2008 / 2009	27 November 2008

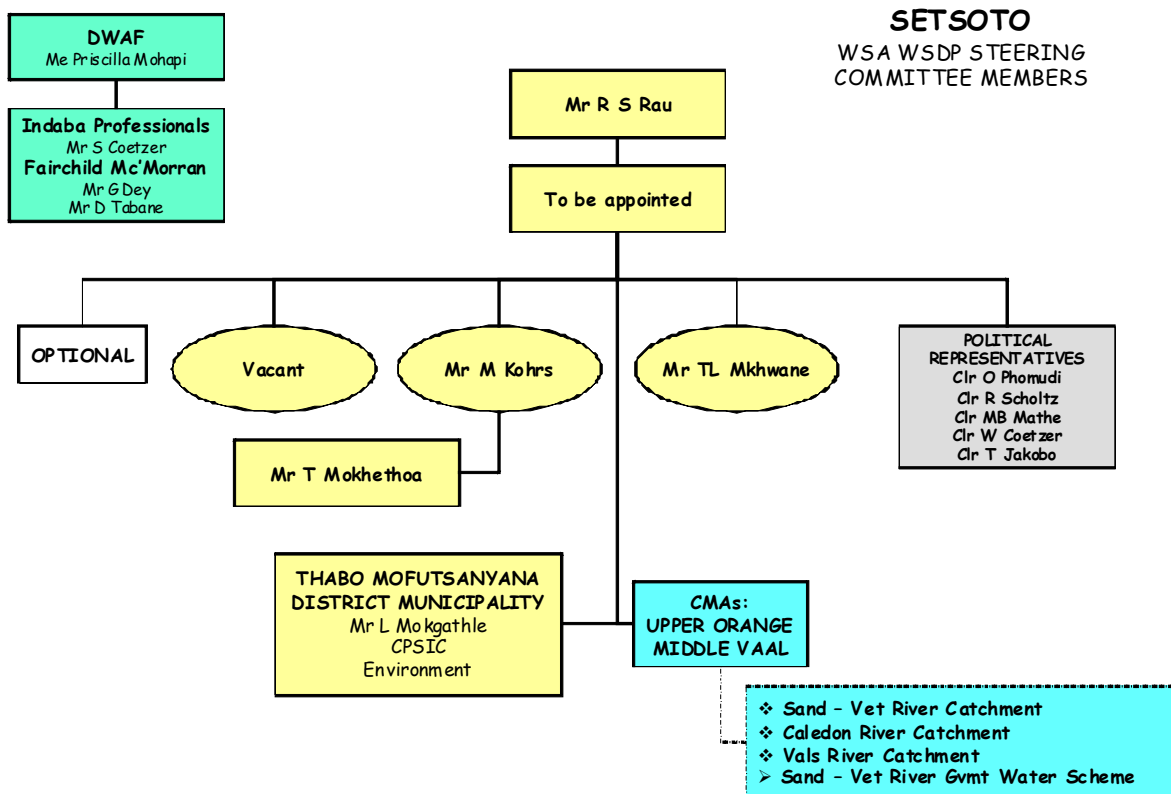
B3. WSDP Drafting Team

GOVERNANCE STRUCTURE



B. Administration

At the first steering committee meeting of the WSA of this Municipality, the following steering committee was adopted:



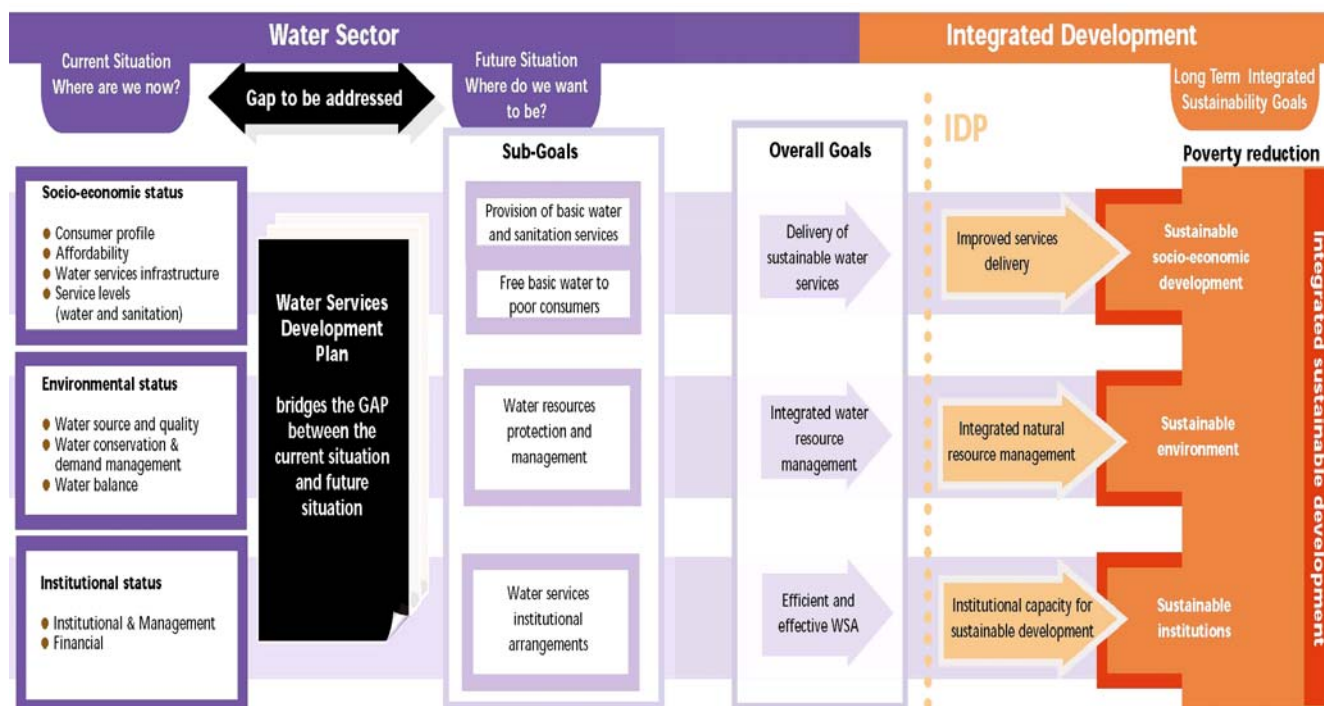
Institution Organisation Service Provider	WSA / SC Designation	Person	E-mail Address	(1) Office Number (2) Office Fax Number	Cell Number	
Setsoto Local Municipality	Municipal Manager	Mr R S Kau	rkau@setsoto.co.za	051 - 933 9300 051 - 933 3321	082 578 1977	
	Political Representatives					
	Members of EXCO and IDP Steering Committee		Clr M Lithebe	unknown	051 - 933 9300 051 - 933 3321	078 118 6721
			Clr E P Strydom	unknown	051 - 933 9300 051 - 933 3321	Unknown
			Clr T J Tsolo	unknown	051 - 933 9300 051 - 933 3321	Unknown
			Clr R S Lichakane	unknown	051 - 933 9300 051 - 933 3321	unknown
			Clr L E Oljohn	unknown	051 - 933 9300 051 - 933 3321	unknown
		Clr T D Zim	unknown	051 - 933 9300 051 - 933 3321	unknown	
	Administrative and Technical Representatives					
	Financial Services	Vacant		finance@setsoto.co.za	051 - 933 9300 051 - 933 3321	
Technical Services	Mr M Köhrs		technical@setsoto.co.za	051 - 933 9300 051 - 933 3321	082 452 1170	
Corporate Services	Mr T L Mkhwane		directorcorporate@setsoto.co.za	051 - 933 9300 051 - 933 3321	unknown	
IDP Manager	Mr. M S Makhele		strategy@setsoto.co.za	051 - 933 9300 051 - 933 3321	078 645 1586	

B. Administration

Institution Organisation Service Provider	WSA / SC Designation	Person	E-mail Address	(1) Office Number (2) Office Fax Number	Cell Number
	WSDP Consultant	n/a	n/a	n/a	n/a
	Data Custodian	Mr T Mokhethoa	mokhethoa@setsoto.co.za	051 - 933 9300 051 - 933 3321	082 836 3196
Thabo Mofutsanyane District Municipality	PIMSS	Mr L Mokgathe	belgium.tm@lg.fs.gov.za	058 - 713 4485 058 - 713 0940	083 626 8105
	CPSIC	To be indicated	To be indicated	To be indicated	To be indicated
	Environment	To be indicated	To be indicated	To be indicated	To be indicated
DWAF	Regional WSDP Co-ordinator	Me Priscilla Mohapi	MohapiP@dwaf.gov.za	051 - 430 3134 051 - 430 8146	082 805 8590
Professional Service Provider	Indaba Professionals	Mr S Coetzer	IHC@lmv.co.za	056 - 215 2260 056 - 212 3381	082 562 1457
	Fairchild McMorran	Mr G Dey	fmv@parys.co.za	056 - 817 6192 056 - 817 7352	082 896 5745
	Fairchild McMorran	Mr D Thibedi	fmv@parys.co.za	056 - 817 6192 056 - 817 7352	082 940 5404
Catchment Management Agencies	Upper Orange	To be indicated	To be indicated	To be indicated	To be indicated
	Middle Vaal	To be indicated	To be indicated	To be indicated	To be indicated
Water Management Area Forums	Sand-Vet River Catchment	To be indicated	To be indicated	To be indicated	To be indicated
	Caledon River Catchment	To be indicated	To be indicated	To be indicated	To be indicated
	Vals River Catchment	To be indicated	To be indicated	To be indicated	To be indicated
Water User Associations	Sand-Vet River Government Water Scheme	To be indicated	To be indicated	To be indicated	To be indicated

B4. Process followed

A detailed explanation of the process approach and methodology is reflected in the figure below. The WSDP Process followed, principally aimed to accurately explain the current situation of the entire water and sanitation business ("where are we now?"). The current situation/status quo includes delivery of services, the management and conservation of resources and institutional aspects and, importantly, gives an indication of the consumer profile, which will impact on payment for services and cost recovery.



B. Administration

A clear understanding of the current situation formed the baseline for the formulations of targets and strategies to address future service delivery. The current situation for this Local Municipality was portrayed in section F of this WSDP.

Once the current situation was understood, the next critical step was to determine what level of service development the Municipality deems to achieve within the next 5-year period ("where do we want to be?"). However, it was subsequently significant to take cognizance of imperative target dates set by the National Government namely by:

- 2003 - Free Basic Water implementation;
- 2005 - All schools : adequate and safe water supply and sanitation services;
- 2006 - Bucket Eradication addressed;
- 2007 - All clinics : adequate and safe water supply and sanitation services;
- 2008 - Basic Water Supply backlog addressed;
- 2008 - Transfer (DWAF Schemes); and
- 2010 - Basic Sanitation backlog addressed

Once the desired level of infrastructure provision was determined, the WSA was able to set future goals to achieve continuous sustainable service delivery. Future goals also attempted long-term resources management and protection of resources and the required institutional arrangements to ensure functioning of the Water Service Provider and ultimately the Water Services Authority. The above-described key events of the WSDP Process approach followed, confirmed the following sub goals of a WSDP:

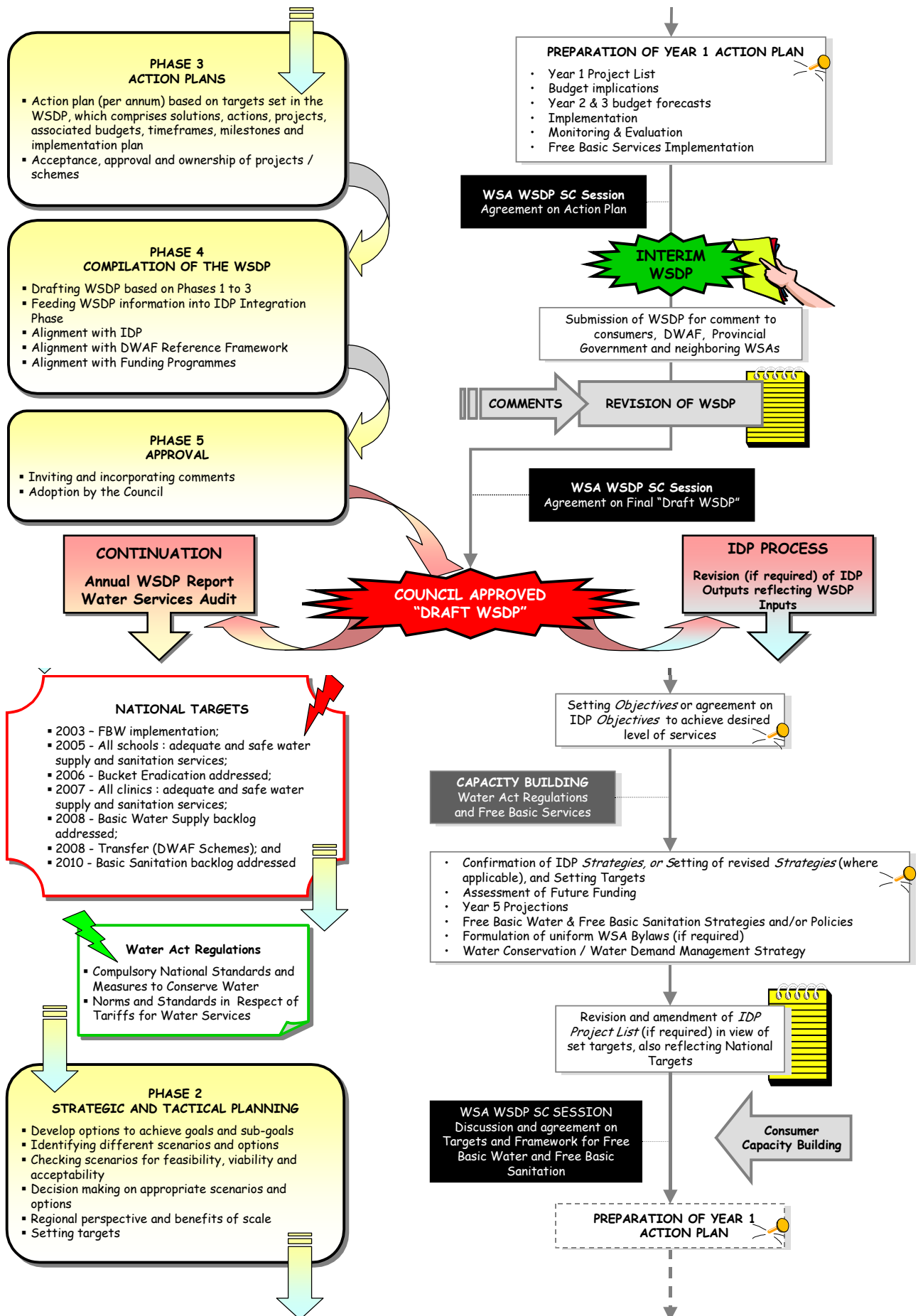
- Service delivery including Free Basic Water and Basic Household Sanitation.
- Water resources protection and management.
- Water Services Authority current and future institutional arrangements.

Prior to the commencement of the WSDP Process, certain initial measures had to be taken to ensure the legitimate continuation of the process. Establishment of the WSDP Drafting Team and agreement on the methodology were reached. Evidently at that stage, was to attempt capacity building with both officials who were involved in the process, and councilors who had to approve the WSDP.

□ WSDP METHODOLOGY AND IDP ALIGNMENT

As previously indicated, a detailed explanation of the methodology is provided in the following figure and need to be read with the ensuing section.

B. Administration



B. Administration

□ INITIAL MEASURES

As previously indicated, certain initial measures had to be taken prior to commencement of the WSDP Process and the subsequent data collection exercise (completion of the "Preparation Guide Tables"). Initial actions included:

- Establishment of a WSDP Drafting Team;
- A first capacity building session with the Drafting Team to agree on a specific methodology and measures for consumer consultation;
- Transfer of existing water and sanitation information into the "Preparation Guide Tables";
- Conducting a work session with officials regarding the completion of the "Preparation Guide Tables".

□ PHASE 1: ANALYSIS OF THE WATER SERVICES BUSINESS

The first step in the WSDP Process was to understand the *status quo* of the water service business in the region. It was critical to inform the strategical and tactical phase. There is specific information relevant to the WSDP such as water balance, source and quality, water conservation, demand management and water services infrastructure. From the analysis, a clear picture of the current situation (status quo), and a macro perspective of the population and economic growth rates, was achieved.

Alignment with the IDP process was achieved since the Analysis phase thereof was scrutinized and correct information was portrayed to the IDP manager to assure that the future IDP outputs would be based on the accurate status quo of the water service business. Where applicable, revision of the Analysis phase was proposed based on the more accurate information of the "Preparation Guide Tables".

□ PHASE 2: STRATEGIC AND TACTICAL PLANNING

The next phase of the WSDP Process was to develop options to achieve goals and sub-goals (objectives). In the context of the WSDP, this refers to the provision of efficient, affordable, economical and sustainable water services. By addressing the WSDP components, the WSA will be able to report on how effectively it is meeting these goals and sub-goals.

It needs to be recognized that, initially, there was not one solution emanating from the process. The process of preparing a WSDP is not a linear one (where planning starts with the technical aspects, proceeds to financial and then deals with the community and institutional aspects as an "add on"), but rather an interactive one. In fact, given the complexities of the process, several scenarios or options were generated. These options formed the basis for discussions with stakeholders. Only once the chosen scenario was decided upon, the targets were entered into the actual WSDP.

A comprehensive approach was followed to attempt the accurate setting of objectives and targets as explained in the previous figure. Backlogs were comprehensively assessed, including a variety of issues such as bulk and internal infrastructure provision, Free Basic Services, etc. At that stage IDP alignment was also achieved since water and sanitation based targets and strategies were evaluated. The IDP outputs were, however, not the only guideline to determine targets and the following documents also provided guidance to the strategical planning phase of the WSDP Process:

- Water Act regulations on tariffs and conservation of water;
- Nationally set targets;

B. Administration

- Provincial Sanitation Task Team (PSTT) guidelines for long-term sustainable development in the Free State Province
- Strategic Framework for Water Services (September 2003).

□ PHASE 3: ACTION PLANS

Once the current situation and targets were prepared for the next five years, a detailed action plan was drawn up for the following year. The reason for an annual project list is because it is often difficult to be one hundred percent certain in year 1 of the situation in year 5. Thus it is important to add the detail and make any modifications, if necessary, on an annual basis within the framework of the WSDP. It is suggested that the revised Action Plan will be submitted as part of the WSDP annual report. The prepared Action Plan for year 1 comprised the following:

- a project list,
- an associated budget,
- an implementation plan-timeframe based on the targets set in the WSDP.

IDP alignment was achieved during this phase since the IDP identified Projects were duly appraised to determine the feasibility of the various water and sanitation projects. Where applicable, the order and targets of projects were revised in order to ensure the feasibility thereof and to ensure that specific national targets and legislative requirements were met.

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□ PHASE 4: COMPILATION OF THE WSDP

Once the existing situation, future scenarios with targets and the projects had been identified, the WSDP was compiled. It needs to be noted that, throughout the phases of the WSDP, there was close co-ordination with the Municipality in terms of their water sector planning, which should ultimately be integrated into the District Municipality Water Services Sector Plan (WSSP) through joint strategic planning sessions between them.

A similar alignment with the IDP outputs occurred during this phase. All the projects of other funding agencies (i.e. MIG, DWAF, the DM, etc) and the IDP were evaluated and measured against the long-term water demand and -availability of the region. Certain revisions were evidently made and a more accurate project list (based on the action plan) was provided to the IDP manager. The latter, as previously explained, will be of extreme significance once the IDP's are revised.

□ PHASE 5: APPROVAL

During the Approval phase, the draft WSDP was made available for comment from various stakeholders. The following step was the adoption of the final "Draft WSDP" by Council. This phase was the end of the process of preparing the WSDP, however, the WSDP remains an active plan, which needs to be updated as and when required. During implementation of the WSDP, an ongoing process of monitoring will take place, with annual reporting on the implementation of the WSDP against the National Targets.

□ APPROVALS AND CONTINUANCE

Although the following section is not applicable to a Water Services Sector Plan (WSSP), it is deliberated in order to explain the entire methodological approach followed to ensure not only a council approved WSDP but also a council approved WSSP (as applicable in the case of Free State DMs). The ensuing section is subsequently evident in view of the fact that the various Local Municipality WSDPs will form the key building blocks for an ultimate District WSSP.

▪ SUBMISSION FOR COMMENT AND APPROVAL

According to the Water Services Act (Act 108 of 1997), the WSDP was submitted to the following institutions:

- the Minister of Water Affairs and Forestry
- the Minister of Provincial and Local Government
- the relevant Provincial Authority
- all neighbouring WSAs and WSPs.

▪ ANNUAL WSDP REPORT

The Water Services Act (Section 18) requires that a WSA must prepare a report on the implementation of its WSDP during each financial year. It was agreed with the Municipality that an Annual Report need to be prepared and provision need to be made in their water and sanitation project list and budget for funding to do so. The report will in future be circulated to:

- the Minister of Water Affairs and Forestry
- the Minister of Provincial and Local Government

B. Administration

- the relevant Provincial Authority
- all municipalities within the WSA area of jurisdiction

▪ FUTURE WATER SERVICES AUDIT

DWAF has published regulations in terms of Section 9 of the Water Services Act, which apply to all water services institutions including WSAs. The regulations require that a WSA must include a Water Services Audit in its annual report on the implementation of its WSDP. The Water Services Audit should be conducted after the end of each financial year. The main purpose of the Water Services Audit is to ensure that the objectives of the Water Services Act are being realized. This measurement of performance will only be possible from one year after completion of the WSDP. This was confirmed with the Municipality and provision will be made in the water and sanitation project list and budget for the following 3 financial years.

□ IDP REVISIONS AND THE WSDP PROCESS

▪ MUNICIPAL STRUCTURES ACT, 1998

Section 44(3)(c) of the Municipal Structures Act, 1998 outlines the significance of the IDP process but more specifically confirms the importance of the continuous "reviewing and evaluating of needs". The prepared WSDP will play an important role in this regard to, amongst other, accurately provide details regarding the water and sanitation needs of the involved community. Subsequently it will also provide project proposals to deal with existing backlogs.

The WSDP will thus provide significant information to the envisaged revision of the IDP process to ensure the accuracy of IDP outputs such as analysis, priority issues etc. Since IDP outputs were evaluated and reported on (revision), the WSDP outputs will be of noteworthy value during the revision cycle of the IDP process. Important contributions could be made during the revision, especially relating to the amendment of project lists and other IDP process outputs.

▪ MUNICIPAL SYSTEMS ACT, 2000

A number of stipulations of the Municipal Systems Act, 2000, confirm the significance of preparing a WSDP for the Water Services Authority (the Municipalities).

Section 6 (2)(e) for example indicates that a municipality should "give members of the local community full and accurate information about the level and standard of services of municipal services they are **"entitled to receive"**". The prepared WSDP, and more specifically the *consumer consultation and agreement* part thereof, is the ideal prospect to provide the Municipality with the information required to inform the local community.

Section 46 deals with the preparation of so called *annual reports* that should, amongst other, give an indication of the municipalities performance in terms of service delivery priorities. The WSDP will set the basis for service delivery in so far as water and sanitation is concerned and will directly support the Municipality in preparing their "Annual Report" regarding their service delivery performance. It follows naturally that the following and annual evaluation of the WSDP implementation and progress, i.e. the Water Services Audit and Annual Report, will extensively support the Municipality to meet the requirements of the Municipal Systems Act.

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Chapter 8 of the said act deals in more detail with the general duty of the municipality relating to municipal services. In this regard, Section 73(2)(e) further substantiates that municipal services should "regularly be reviewed with a view to upgrading, extension and improvement." The WSDP will again provide the support to the Municipality, since upgrading, extension and improvement of water and sanitation services will be dealt with for at least the next 5 years. It will also include certain national governmental targets such as Free Basic Water, Bucket Eradication and Free Basic Sanitation.

Section 77 (a) finally corroborates that municipalities, in either preparing or reviewing its IDP, should decide on the appropriate mechanisms to provide a certain level of services. The completed WSDP provide the opportunity not only to decide on an appropriate level of water and sanitation services, but also to assist the Municipality in reviewing their IDP in the next planning cycle.

□ CAPACITY BUILDING AND CONSUMER CONSULTATION

The WSDP Process clearly provided for enhancement of planning capacity on "Local Level" namely to ensure that "... capacity is built within the WSA to undertake water services development planning processes within a framework of informed decision-making." The guidelines for Water Service Authorities to prepare WSDPs (Version 5, September 2004) subsequently provide for a certain level of consumer consultation to ensure the gradual involvement of communities in the planning process but also to establish the new approach towards water and sanitation services planning on consumer level.

In view of the above, the aim of the capacity building was twofold and differed between the *official level* and the *consumer level* in the sense that:

- Enhancement of planning capacity was considered to be the main aim at official level. Naturally information sharing and capacity building regarding the WSDP Process and associated legislation were endeavoured.
- Greater understanding of the water business and determination of the specific needs of consumers was aimed for on consumer level.

In order to achieve capacity building and ensure that consumer consultation is adhered to, it was agreed that capacity building endeavoured on four prominent levels namely:

- Political Representatives;
- Officials (Technical and Financial)
- District Municipality PIMSS center (if required); and
- Consumers through IDP Representative Forums down to ward level

Capacity building on official level and political level mainly occurred during the Drafting Team sessions regarding, amongst other, the following issues:

- WSAs and WSPs;
- Free Basic Water and Free Basic Sanitation;
- Rural service delivery;
- Legislation and governmental requirements;
- WSDP preparation;
- National Water Resource Strategy;
- Water services planning; and

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- Scenario setting and action plans

Community consultation was agreed to occur primarily through the IDP Representative Forum. The latter being a legitimate structure comprising, amongst other, representation of civil society and community based organisations. Finally, community consultation should then be attempted on "Ward Level". The following issues should generally be deliberated:

- National Targets;
- Free Basic Services;
- Rural service delivery;
- Demographics;
- Tariffs;
- Bylaws;
- IDP Objectives and Strategies;
- General and basic information regarding legislation, governmental requirements;
- A "Needs Assessment" comprising of a consumer and stake holder level assessment;
- Water and sanitation services backlogs, associated backlogs and needs; and
- "Current Year" projects as well as future identified projects (i.e. next 3 financial years).

B5. Comments

Components	Interest group	Considerations	Comments
None to date			

B6. Adoption Record

Components	Action	Approval Reference	Date
None to date			

B7. WSDP Co-ordinator

Name	Designation	Role	Contact Address
Me Priscilla Mohapi	Regional WSDP Coordinator	Support & Coordination	MohapiP@dwaf.gov.za Tel: 051 - 405 9000 Fax: 051 - 448 1115 Cell: 082 - 805 8590

C. Executive Summary

C1. Essential Questions

C.1.1 Backlog

C.1.1.1 Estimated water and sanitation backlog (January 2005)

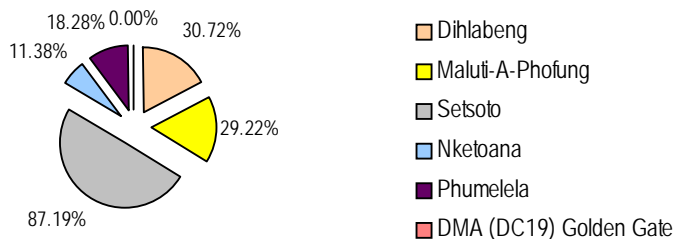
Municipality District Area	Water					Sanitation				
	Total # Households	Total Exiting Backlog	# of Households under current projects	Backlog to be addressed (2005 to 2008)	Need (%)	Total # Households	Total Exiting Backlog	# of Households under current projects	Backlog to be addressed (2005 to 2010)	Need (%)
Dihlabeng	32691	10042		10042	30.72%	32691	10190	3876	6314	19.31%
Maluti-A-Phofung	119200	36099	1269	34830	29.22%	119200	41365	732	40633	34.09%
Setsoto	32078	28426	458	27968	87.19%	32078	13453	4891	8562	26.69%
Nketoana	14783	1682		1682	11.38%	14783	6135	2139	3996	27.03%
Phumelela	16063	5564	2628	2936	18.28%	16063	13191	2668	10523	65.51%
DMA - Golden Gate	50					50				
THABO MOFUTSANYANA	214865	81813	4355	77458	36.05%	214865	84334	14306	70028	32.59%
FREE STATE PROVINCE	820325	145415	6687	138728	16.91%	820325	246203	58824	187379	22.84%

C.1.1.2 Estimated household growth towards Year 2010

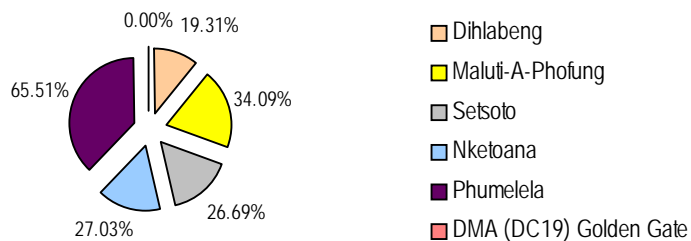
Municipality District Area	Number of Households (% Growth)						Total Growth (# HH)
	Current Year	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	
	Total # of Households	1,521%	1,485%	1,453%	1,424%	1,398%	
Dihlabeng	32691	387	384	381	379	377	1908
Maluti-A-Phofung	119200	1769	1754	1741	1731	1724	8719
Setsoto	32078	371	367	365	362	361	1826
Nketoana	14783	160	158	157	156	155	786
Phumelela	16063	184	182	181	180	179	906
DMA - Golden Gate	50	0	0	0	0	0	0
THABO MOFUTSANYANA	214865	2871	2845	2825	2808	2796	14145
FREE STATE PROVINCE	820325	11122	11022	10944	10878	10836	54802

C. Executive Summary

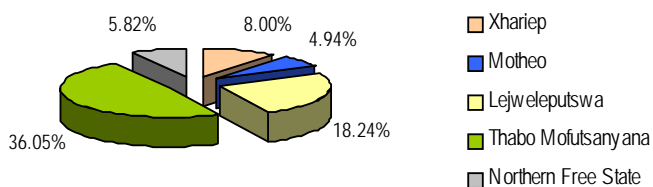
Thabo Mofutsanyana District Area
Need (%) / Water Services Authority
WATER



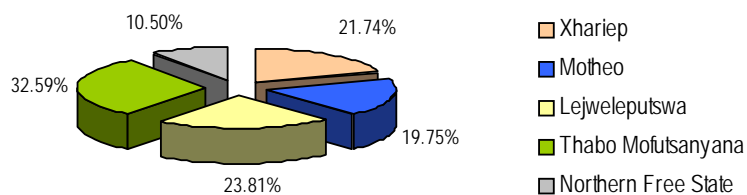
Thabo Mofutsanyana District Area
Need (%) / Water Services Authority
SANITATION



Free State Province
Need (%) / District Area
WATER



Free State Province
Need (%) / District Area
SANITATION



C. Executive Summary

C.1.2 Status of supply to higher levels of service

C.1.2.1 Water Provision (Urban)

Land Use	Higher Level of Service		RDP	Below RDP	Total
	Metered Connection	Unmetered Connection	Communal Standpipe	Services Required	
Ficksburg					
Residential	4130	70	5970		10170
Commercial	261				261
Industrial	20				20
Other	53				53
Subtotal	4464	70	5970		10504
Clocolan					
Residential	721	3938	22	391	5072
Commercial	152				152
Industrial	14				14
Other	12				12
Subtotal	899	3938	22	391	5250
Marquard					
Residential	695	3056	180		3931
Commercial	74	50			124
Industrial	3				3
Other	46				46
Subtotal	818	3106	180		4104
Senekal					
Residential	2589	1665	2098		6352
Commercial	203				203
Industrial	50				50
Other	25				25
Subtotal	2867	1665	2098		6630

C. Executive Summary

C.1.2.2 Sanitation Provision (Urban)

Land Use	Higher Level of Service			RDP	Below RDP		Total
	Waterborne	Small Bore (Inter-Mediate)	Wet Installation (Septic/Conservancy)	On Site Dry (VIP Or Equivalent)	Bucket	Services Required	
Ficksburg							
Residential	4130		50		5300	690	10170
Commercial	261						261
Industrial	20						20
Other	53						53
Subtotal	4464		50		5300	690	10504
Clocolan							
Residential	692		80		3600	700	5072
Commercial	152						152
Industrial	14						14
Other	12						12
Subtotal	870		80		3600	700	5250
Marquard							
Residential	409		89		3098	335	3931
Commercial	74		50				124
Industrial	3						3
Other	46						46
Subtotal	532		139		3098	335	4104
Senekal							
Residential	2824		150		3378		6352
Commercial	203						203
Industrial	50						50
Other	25						25
Subtotal	3102		150		3378		6630

C. Executive Summary

C.1.3 Cost of eradicating backlogs

C.1.3.1 Project Costing

The initial average costs were determined according to the "Cost Benchmarks for Local Authorities" issued by the Department of Water Affairs and Forestry (January 2000). The necessary escalation for the years 2001 and 2002 was applied to ensure more accurate costs. However, apart from certain estimated costs reflected in the latter, recent construction costs (past 5 years) of projects within the Free State Province were preferred and are therefore indicated in the following tables.

With regard to the first table below it is significant to mention, when calculating the cost of a required (also additional) "sewage treatment capacity" in a certain year, it should be done in accordance with the following example:

Requirement: 5 Mℓ per day in the financial year 2006/07
 Calculation: R 5 541 443-00 x 5
 Total Cost: R 27 707 215-00

C.1.3.1.1 Sewage Treatment Plant Construction Costs

Requirement [Mℓ/day]	Cost (R) Per Requirement - Increased @ 10% Per Annum Inclusive Of 15% Professional Fees					
	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
1	6,734,860	7,408,346	8,149,181	8,964,099	9,860,509	10,846,560
2	6,061,374	6,667,511	7,334,263	8,067,689	8,874,458	9,761,904
3	5,556,260	6,111,885	6,723,074	7,395,381	8,134,919	8,948,411
4	5,051,145	5,556,260	6,111,885	6,723,074	7,395,381	8,134,919
5	4,579,705	5,037,675	5,541,443	6,095,587	6,705,146	7,375,661
6	4,040,916	4,445,008	4,889,508	5,378,459	5,916,305	6,507,936
7	3,704,173	4,074,590	4,482,049	4,930,254	5,423,279	5,965,607
8	3,367,430	3,704,173	4,074,590	4,482,049	4,930,254	5,423,279
9	3,232,733	3,556,006	3,911,607	4,302,768	4,733,045	5,206,350
10	3,030,687	3,333,756	3,667,131	4,033,844	4,437,228	4,880,951
10 +	3,030,687	3,333,756	3,667,131	4,033,844	4,437,228	4,880,951

C.1.3.1.2 Internal Sanitation Provision Construction Costs

Description Of Construction Work	Cost (R) - Increased @ 10% Per Annum Inclusive Of 15% Professional Fees					
	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
"Dry on Site" (VIPs) sanitation systems	2994.75	3294.23	3623.65	3986.02	4384.62	4823.08
Waterborne sewer network inclusive of toiletstructures (also allowing for bulk infrastructure)	6348.87	6983.76	7682.14	8450.35	9295.39	10224.93
Needs investigations in rural areas in terms of sewerage, water and electricity requirements (per farm)	79.86	87.85	96.63	106.29	116.92	128.61
Provision of toilet structures and connections to already provided waterborne sewer networks	2835.03	3118.53	3430.39	3773.43	4150.77	4565.85

C. Executive Summary

Description Of Construction Work	Cost (R) - Increased @ 10% Per Annum Inclusive Of 15% Professional Fees					
	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
Replacement / connection of wet installations (i.e. suction tanks, septic tanks, etc) to / with a waterborne sewer network	4924.70	5417.17	5958.89	6554.78	7210.26	7931.29
Replacement of deteriorating (older) clay and asbestos waterborne sewer networks	4924.70	5417.17	5958.89	6554.78	7210.26	7931.29

C.1.3.1.3 Water Treatment Plant Construction Costs

Requirement [Ml/day]	Cost (R) Per Requirement (R) - Increased @ 10% Per Annum Inclusive Of 15% Professional Fees					
	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
0.25	1,614,262	1,775,688	1,953,257	2,148,583	2,363,441	2,599,785
0.5	3,177,547	3,495,302	3,844,832	4,229,315	4,652,247	5,117,472
0.75	4,690,940	5,160,034	5,676,037	6,243,641	6,868,005	7,554,806
1	4,768,281	5,245,109	5,769,620	6,346,582	6,981,240	7,679,364
2	7,450,439	8,195,483	9,015,031	9,916,534	10,908,187	11,999,006
3	10,430,614	11,473,676	12,621,043	13,883,147	15,271,462	16,798,608
4	13,410,790	14,751,869	16,227,056	17,849,762	19,634,738	21,598,212
5	15,645,922	17,210,514	18,931,565	20,824,722	22,907,194	25,197,913
6	17,881,053	19,669,159	21,636,074	23,799,681	26,179,649	28,797,614
7	20,116,185	22,127,803	24,340,584	26,774,642	29,452,106	32,397,317
8	22,351,317	24,586,448	27,045,093	29,749,602	32,724,562	35,997,018
9	23,841,404	26,225,545	28,848,099	31,732,909	34,906,200	38,396,820
10	25,331,492	27,864,641	30,651,106	33,716,217	37,087,839	40,796,623
11	26,076,536	28,684,190	31,552,609	34,707,870	38,178,657	41,996,523
12	26,821,580	29,503,738	32,454,112	35,699,523	39,269,475	43,196,423
13	26,821,580	29,503,738	32,454,112	35,699,523	39,269,475	43,196,423
14	28,311,668	31,142,834	34,257,118	37,682,830	41,451,113	45,596,224
15	29,801,756	32,781,931	36,060,124	39,666,136	43,632,750	47,996,025

C.1.3.1.4 Concrete Reservoir Construction Costs

Reservoir Capacity [M]	Cost (R) Per Unit - Increased @ 10% Per Annum Inclusive Of 15% Professional Fees					
	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
1	974,050	1,071,500	1,178,600	1,296,500	1,426,200	1,568,900
1.5	1,345,150	1,479,700	1,627,600	1,790,400	1,969,500	2,166,500
2	1,716,250	1,887,850	2,076,600	2,284,300	2,512,800	2,764,100
4	3,339,600	3,673,600	4,041,000	4,445,100	4,889,700	5,378,700
5	4,174,500	4,592,000	5,051,200	5,556,400	6,112,100	6,723,400
10	6,261,800	6,888,000	7,576,800	8,334,500	9,168,000	10,084,800
15	7,653,300	8,418,600	9,260,500	10,186,600	11,205,300	12,325,900

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C.1.3.1.5 Internal Water Provision Construction Costs

Description Of Construction Work	Cost (R) Per Erf (R) - Increased @ 10% Per Annum Inclusive Of 15% Professional Fees					
	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
The minimum required water network with communal taps and sufficient fire hydrants	2117.50	2329.25	2562.18	2818.40	3100.24	3410.26
Water network inclusive of meters and yard taps	2815.07	3096.57	3406.23	3746.85	4121.54	4533.69
Installation of watermeters	445.89	490.47	539.52	593.47	652.82	718.10
Provision of water to households in farmland areas	665.50	732.05	805.26	885.79	974.37	1071.81
Upgrade an existing communal supply network to individual metered yard taps	1874.29	2061.72	2267.89	2494.68	2744.15	3018.57
Replacement of older steel and asbestos water networks (excluding meters)	2369.18	2606.10	2866.71	3153.38	3468.72	3815.59

The financial impact of eradicating the above backlogs is the following:

C.1.3.2 Current backlog eradication : National Target (2008) : Water provision

Municipality District Area	Water			Sanitation			Total Cost (R)
	Backlog in # of Households	Unit Cost (R)	Cost (R) Backlog	Backlog in # of Households	Unit Cost (R)	Cost (R) Backlog	
Dihlabeng	10042	2,569.89	25,806,874.04	6314	4,022.19	25,396,127.72	51,203,001.76
Maluti-A-Phofung	34830	2,569.94	89,511,126.30	40633	4,022.28	163,437,327.04	252,948,453.34
Setsoto	27968	2,569.93	71,875,926.69	8562	4,022.04	34,436,701.56	106,312,628.25
Nketoana	1682	2,569.80	4,322,396.23	3996	4,021.52	16,069,987.68	20,392,383.91
Phumelela	2936	2,569.86	7,545,105.17	10523	4,022.17	42,325,271.84	49,870,377.01
DMA - Golden Gate	0			0			
THABO MOFUTSANYANA	77458		199,061,428.43	70028		281,665,415.84	480,726,844.27
FREE STATE PROVINCE	138728		356,518,378.07	144322		753,800,606.96	1,082,675,098.42

C.1.3.3 Addressing Household Growth : Water and Sanitation provision

Municipality District Area	Growth in # of Households	Water		Sanitation		Total Cost (R)
		Unit Cost (R)	Cost (R) Backlog	Unit Cost (R)	Cost (R) Backlog	
Dihlabeng	1908	2,840.55	5,419,766.25	4,017.35	7,665,094.37	13,084,860.62
Maluti-A-Phofung	8719	2,840.59	24,767,145.05	4,017.41	35,027,802.93	59,794,947.98
Setsoto	1826	2,840.40	5,186,578.55	4,017.14	7,335,300.50	12,521,879.05
Nketoana	786	2,839.98	2,232,220.98	4,016.54	3,156,996.76	5,389,217.74
Phumelela	906	2,840.52	2,573,508.90	4,017.30	3,639,675.16	6,213,184.06
DMA - Golden Gate	0					
THABO MOFUTSANYANA	14145		40,179,219.73		56,824,869.72	97,004,089.45
FREE STATE PROVINCE	54802		155,668,824.14		220,160,090.48	375,828,914.62

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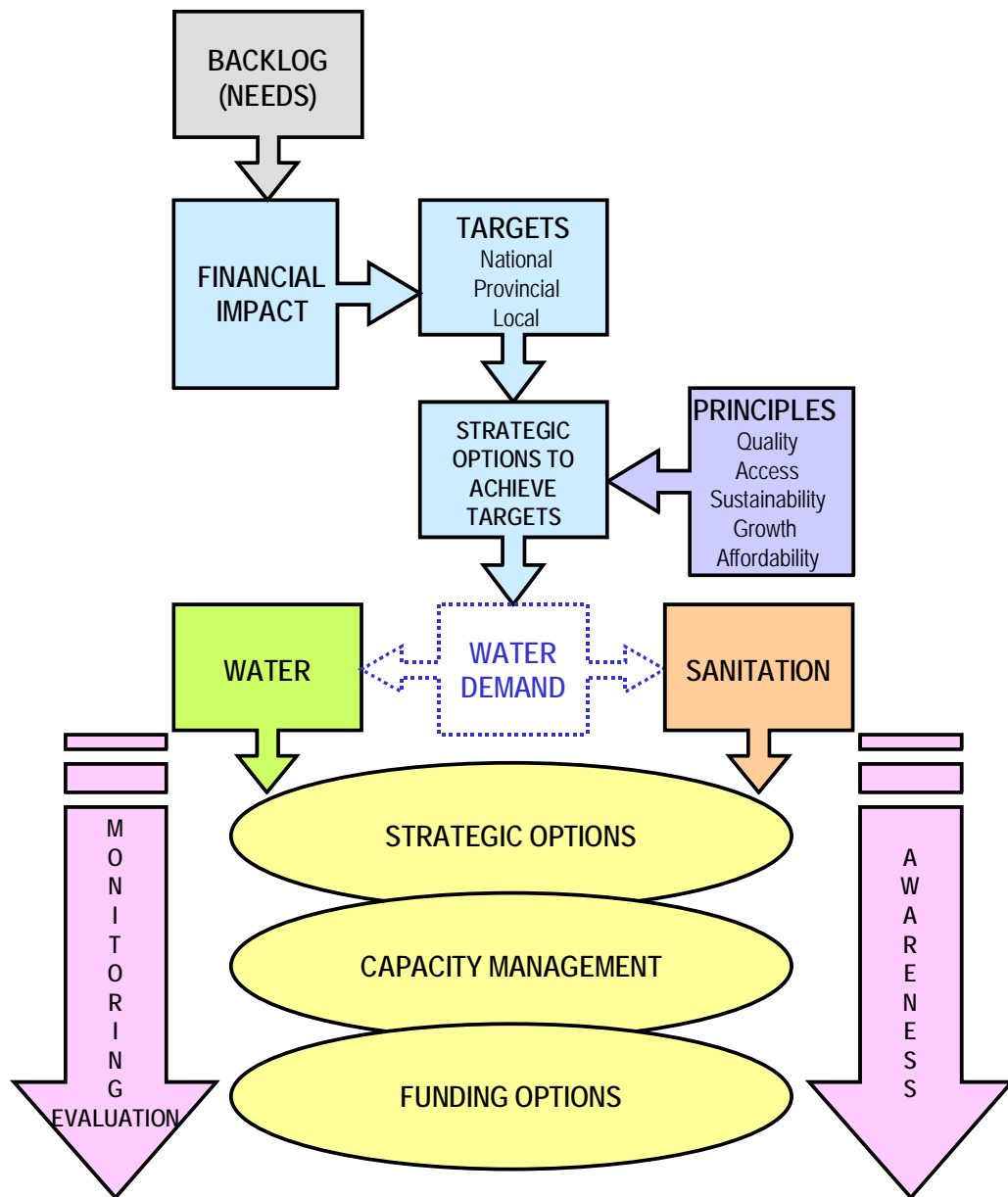
C.1.3.4 Addressing Bulk Provision : Water

Municipality District Area	Increase in Water demand (Ml/day)	Impact on Water Treatment Facilities	Impact on Water Storage Facilities	Total Cost (R)
		Cost (R)	Cost (R)	
Dihlabeng	0.75	6,300,504.60	2,305,130.00	8,605,634.60
Maluti-A-Phofung	6.75	27,118,562.00	9,905,608.00	37,024,170.00
Setsoto	4	18,012,327.40	7,289,092.00	25,301,419.40
Nketoana	0.5	4,267,833.60	1,308,340.00	5,576,173.60
Phumelela	0.75	6,300,504.60	2,305,130.00	8,605,634.60
DMA - Golden Gate	0			
THABO MOFUTSANYANA	12.75	61,999,732.20	23,113,300.00	85,113,032.20
FREE STATE PROVINCE	27.5	149,745,167.80	61,365,900.00	211,111,067.80

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C.1.4 Backlog eradication strategy

C.1.4.1 Conceptual Framework



C.1.4.2 Key Strategic Focus

Water Provision

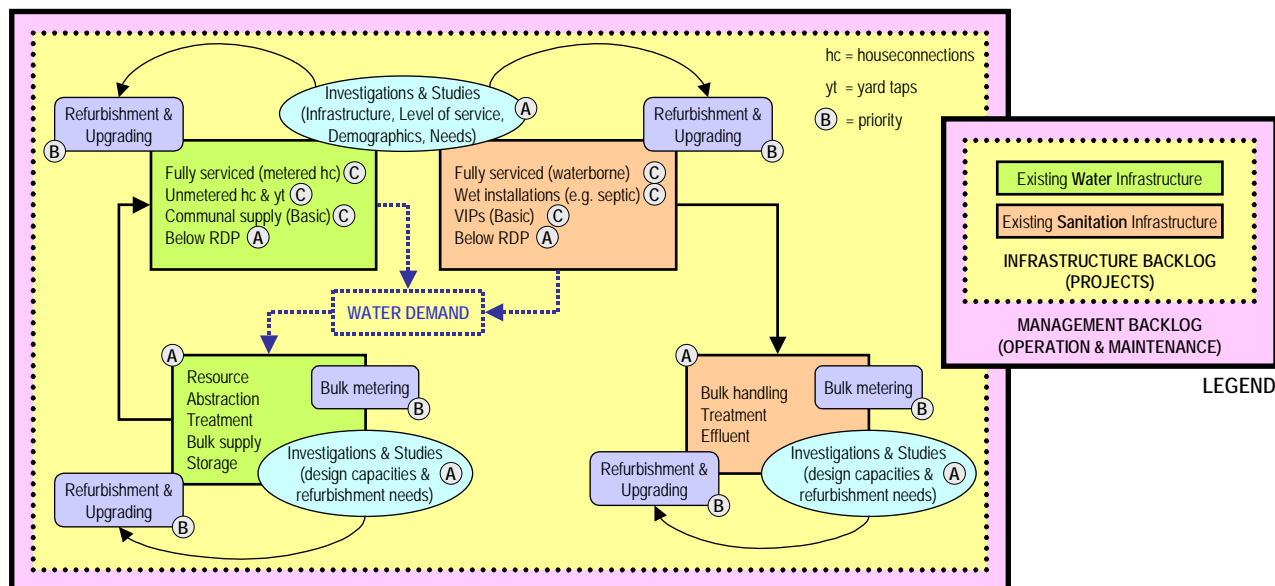
- Communal supply to all households (with services "below RDP standards") in all urban areas, villages, settlements and farmland.

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Sanitation Provision

- The provision of VIPs to all households in all urban areas, villages, settlements and farmland including the upgrading (also with VIPs) of all "below RDP standard" sanitation systems.

C.1.4.3 Prioritising of Projects (Model)



STRATEGIC APPROACH : WATER PROVISION

PRIORITY A (2005/2006 to 2007/2008)

- Communal supply to all households (with services "below RDP standards") in all urban areas, villages, settlements and farmland;
- Concurrently with the above-mentioned, conduct required investigations and studies regarding existing infrastructure, levels of service provided, demographics and community needs;
- Conduct required investigations and field studies regarding water resources, the design capacities of bulk services and refurbishment needs.

PRIORITY B (2005/2006 to 2009/2010)

- The refurbishment and upgrading of existing internal water networks (i.e. old steel and asbestos water networks) based on prior investigations and studies (Priority A2);
- The refurbishment and upgrading of bulk infrastructure (and installation of required bulk metering devices) based on prior investigations and field studies (Priority A3) to accommodate the water demand in terms of the existing and short to medium-term (next 10 years) planned developments.

PRIORITY C (2010/2011 onwards)

- The upgrading of communal supply in all urban areas, villages and settlements (excluding farmland) to metered yard taps at all stands;
- The provision of meters to all unmetered stands in urban areas, villages and settlements (excluding farmland);
- The provision of individual metered yard taps to all newly planned erven.

STRATEGIC APPROACH : SANITATION PROVISION

PRIORITY A (2005/2006 to 2009/2010)

- The provision of VIPs to all households in all urban areas, villages, settlements and farmland including the upgrading (also with VIPs) of all "below RDP standard" sanitation systems;
- Concurrently with the above-mentioned, conduct required investigations and studies regarding existing infrastructure, levels of service provided, demographics and community needs;
- Conduct required investigations and field studies regarding the design capacities of all bulk services and refurbishment needs;

PRIORITY B (2005/2006 to 2009/2010)

- The refurbishment and upgrading of existing internal sewer networks (that are failing and posing a health risk) based on prior investigations and studies (Priority A2);
- The refurbishment and upgrading of bulk infrastructure (and installation of required bulk metering devices) based on prior investigations and field studies (Priority A3) to accommodate the demand in terms of the existing and short to medium-term (next 10 years) planned developments.

PRIORITY C (2010/2011 onwards)

- The upgrading of all basic and wet sanitation systems in all urban areas, villages and settlements (excluding farmland) to full waterborne sewer systems in accordance with the availability and sustainability of water resources and natural environments;
- The provision of full waterborne sewer systems to all newly planned erven in accordance with the availability and sustainability of water resources and natural environments

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C.1.4.4 Other Core Components in the Prioritising of Projects

Water Provision

- Conduct required investigations and studies regarding existing infrastructure, levels of service provided, demographics, community needs, water resources, the design capacities of bulk services and refurbishment needs;
- The refurbishment and upgrading of existing internal water networks (i.e. old steel and asbestos water networks) based on prior investigations and studies;
- The refurbishment and upgrading of bulk infrastructure (and installation of required bulk metering devices) based on prior investigations and field studies to accommodate the water demand in terms of the existing and short to medium-term (next 10 years) planned developments.

Sanitation Provision

- Conduct required investigations and studies regarding existing infrastructure, levels of service provided, demographics, community needs, design capacities of all bulk services and refurbishment needs;
- The refurbishment and upgrading of existing internal sewer networks (that are failing and posing a health risk) based on prior investigations and studies;
- The refurbishment and upgrading of bulk infrastructure (and installation of required bulk metering devices) based on prior investigations and field studies to accommodate the demand in terms of the existing and short to medium-term (next 10 years) planned developments.

C.1.4.5 Implementation of the Eradication Strategy

It will be critical to ensure that the strategic options of the eradication strategy are implemented in order to meet the national targets. The implementation of the Backlog Eradication Strategy will depend on three main aspects, i.e.

- The availability of funding;
- The ability of municipalities to provide the minimum level of services; and
- Proper governance arrangements to facilitate the implementation and will require specific measures to monitor progress and to ensure that the targets are achieved.

This paragraph will deal with the governance aspects of the strategy and the following aspects are essential to ensure the implementation of the Eradication Strategy:

C.1.4.5.1 Awareness and Education

Implementation will depend to a large degree on the buy-in and support of the political role-players and the support of the affected communities. On-going education and awareness will therefore be essential as part of the implementation process and will require the following interventions:

- Political Stakeholder Awareness Raising Campaign: This initiative has been introduced to most of municipalities but has not gained momentum. This process needs to be accelerated and continued throughout the implementation process;
- Regular awareness campaign with ward committee members and members of the IDP representative structure with specific reference on the provision of basic services and the Eradication Strategy

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- Mobilization of the key Council decision makers to support the Eradication strategy vs. the provision of higher level. It will be essential to obtain their commitment towards the achievement of the national targets and understanding the funding philosophy of DWAF and the MIG programme towards the achievement of the Backlog Eradication.

C.1.4.5.2 Management and Institutional Arrangements

The management of the "water business" of WSAs will become of critical importance to ensure the effective implementation of the Eradication Strategy. The following institutional processes and arrangements are critical to support the implementation of the strategy:

- To ensure the completion of the WSDP as an effective planning tool for each and every municipality in the Province. It will also be essential that the Eradication strategy is properly articulated in the WSDP. The first step in this process is to ensure that all municipalities formulate their WSDP's according to the September 2004 guideline document. On completion these WSDP's needs to be reviewed and adjusted on an annual basis.
- To ensure the effective functioning of all the WSA Steering Committees in the Province to be able to use the WSDP as a planning tool and to manage the "water business" of all municipalities.
- To ensure the alignment of the WSDP with the IDP and MIG funding programme and that all aspects of the water business is covered in both the IDP and WSDP.
- To ensure that proper policies are formulated and implemented to regulate the key aspects on the provision of basic services including Free Basic Water and Sanitation Services.
- To ensure that the MIG programme are properly informed on the backlog needs of the municipality in order to provide the required level of funding. Furthermore to ensure that the annual capital budget of the municipality reflects the Eradication Strategy as articulated in the IDP and WSDP.

C.1.4.5.3 Monitoring and Evaluation

Apart from the above measures it will be essential to ensure that proper monitoring and evaluation measures are implemented to track the progress on the implementation of the Eradication Strategy. These measures need to incorporate the following:

- To submit regular progress reports to Council on current backlog levels and installations completed during the reporting period. This must be the responsibility of the accountable WSDP official within the municipality.
- To implement a reporting process whereby quarterly reports are submitted to the DWAF Provincial office on current levels and installations completed during the reporting period.
- To conduct quarterly inspections by the WSDP Support Team to verify backlogs and installations completed and to verify actual project spending with the project scope to record instances where funding for basic services has been utilized for providing higher level of services.
- To update the WSDP and Reference Framework documents on a quarterly basis to reflect the current realities.

If quarterly reports indicate a variance to the original Eradication Strategy it is suggested that the WSDP Provincial Support Team engages with the relevant municipalities to agree on corrective action and if relevant to monitor progress on a monthly basis till the original plan is achieved. In the case of chronic under achieving municipalities the WSDP Support Team should provide a report the DWAF Provincial Office that should investigate the reasons for non-achievement of the agreed targets and

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strategies and provide a report to the National Office to agree on corrective action and support mechanisms.

C.1.4.6 Timeframe

To achieve the national targets the following timetables are proposed.

C.1.4.6.1 Eradication - Current Backlog : Water Provision (National Target 2008)

Municipality District Area	2005/06			2006/07			2007/08		
	# HH	Balance	Cost (R)	# HH	Balance	Cost (R)	# HH	Balance	Cost (R)
Dihlabeng	3348	6694	7,798,329.00	3348	3346	8,578,178.64	3346	0	9,430,366.40
Maluti-A-Phofung	11610	23220	27,042,592.50	11610	11610	29,746,909.80	11610	0	32,721,624.00
Setsoto	9323	18645	21,715,597.75	9323	9322	23,887,204.14	9322	0	26,273,124.80
Nketoana	561	1121	1,306,709.25	561	560	1,437,382.98	560	0	1,578,304.00
Phumelela	979	1957	2,280,335.75	979	978	2,508,374.22	978	0	2,756,395.20
DMA - Golden Gate	0	0		0	0		0	0	
THABO MOFUTSANYANA	25821	51637	60,143,564.25	25821	25816	66,158,049.78	25816	0	72,759,814.40
FREE STATE PROVINCE	46249	92479	107,725,483.25	46249	46230	118,498,262.82	46230	0	130,294,632.00

C.1.4.6.2 Addressing Household Growth towards reaching National Targets : Water Provision

Municipality District Area	2005/06		2006/07		2007/08		2008/09		2009/10	
	# HH Growth	Cost (R)	# HH Growth	Cost (R)	# HH Growth	Cost (R)	# HH Growth	Cost (R)	# HH Growth	Cost (R)
Dihlabeng	387	901,419.75	384	983,877.12	381	1,073,810.40	379	1,174,990.96	377	1,285,668.02
Maluti-A-Phofung	1769	4,120,443.25	1754	4,494,063.72	1741	4,906,834.40	1731	5,366,515.44	1724	5,879,288.24
Setsoto	371	864,151.75	367	940,320.06	365	1,028,716.00	362	1,122,286.88	361	1,231,103.86
Nketoana	160	372,680.00	158	404,824.44	157	442,488.80	156	483,637.44	155	528,590.30
Phumelela	184	428,582.00	182	466,316.76	181	510,130.40	180	558,043.20	179	610,436.54
DMA (DC19) Golden Gate	0	-	0	-	0	-	0	-	0	-
THABO MOFUTSANYANA	2871	6,687,276.75	2845	7,289,402.10	2825	7,961,980.00	2808	8,705,473.92	2796	9,535,086.96
FREE STATE PROVINCE	11122	25,905,918.50	11022	28,240,347.96	10944	30,844,569.60	10878	33,724,410.72	10836	36,953,577.36

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C.1.4.6.3 Eradication - Current Backlog : Sanitation Provision (National Target 2010)

Municipality District Area	2005/06		2006/07		2007/08		2008/09		2009/10	
	# HH	Cost (R)	# HH	Cost (R)	# HH	Cost (R)	# HH	Cost (R)	# HH	Cost (R)
Dihlabeng	1263	4,160,612.49	1263	4,576,669.95	1263	5,034,343.26	1263	5,537,775.06	1262	6,086,726.96
Maluti-A-Phofung	8127	26,772,207.21	8127	29,449,403.55	8127	32,394,384.54	8127	35,633,806.74	8125	39,187,525.00
Setsotho	1713	5,643,015.99	1713	6,207,312.45	1713	6,828,052.26	1713	7,510,854.06	1710	8,247,466.80
Nketoana	800	2,635,384.00	800	2,898,920.00	800	3,188,816.00	800	3,507,696.00	796	3,839,171.68
Phumelela	2105	6,934,354.15	2105	7,627,783.25	2105	8,390,572.10	2105	9,229,625.10	2103	10,142,937.24
DMA - Golden Gate	0	-	0	-	0	-	0	-	0	-
THABO MOFUTSANYANA	14008	46,145,573.84	14008	50,760,089.20	14008	55,836,168.16	14008	61,419,756.96	13996	67,503,827.68
FREE STATE PROVINCE	37490	123,500,682.70	37490	135,850,638.50	37490	149,435,889.80	37490	164,379,403.80	37419	180,633,992.16

C.1.4.6.4 Addressing Household Growth towards reaching National Targets : Sanitation Provision

Municipality District Area	2005/06		2006/07		2007/08		2008/09		2009/10	
	# HH Growth	Cost (R)	# HH Growth	Cost (R)	# HH Growth	Cost (R)	# HH Growth	Cost (R)	# HH Growth	Cost (R)
Dihlabeng	387	1,274,867.01	384	1,391,481.60	381	1,518,673.62	379	1,661,770.98	377	1,818,301.16
Maluti-A-Phofung	1769	5,827,492.87	1754	6,355,882.10	1741	6,939,660.82	1731	7,589,777.22	1724	8,314,989.92
Setsotho	371	1,222,159.33	367	1,329,879.55	365	1,454,897.30	362	1,587,232.44	361	1,741,131.88
Nketoana	160	527,076.80	158	572,536.70	157	625,805.14	156	684,000.72	155	747,577.40
Phumelela	184	606,138.32	182	659,504.30	181	721,469.62	180	789,231.60	179	863,331.32
DMA (DC19) Golden Gate	0	-	0	-	0	-	0	-	0	-
THABO MOFUTSANYANA	2871	9,457,734.33	2845	10,309,284.25	2825	11,260,506.50	2808	12,312,012.96	2796	13,485,331.68
FREE STATE PROVINCE	11122	36,638,426.06	11022	39,939,870.30	10944	43,623,002.88	10878	47,695,896.36	10836	52,262,894.88

C.1.5 Effective Services

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C.1.6 Impacting Factors

C.1.6.1 Water Provision

Over the past few years, water provision to consumers received the much-needed attention in order to comply with the standards and tariffs of the Water Services Act (Act 108 of 1997) and accompanying water regulations. At present, 98,47% of all residential consumers within the Setsoto area of jurisdiction have access to water, either by means of a yard/house connection or by means of communal standpipes.

A large number of residential consumer units within the municipal boundary are not metered. The provision of Free Basic Water to consumers is therefore being delayed as a result of these unmetered sites. In most instances, water provision to residents by means of communal standpipes is also not metered. However, communal water supply does not pose a threat to exceeding the limit of Free Basic Water provision (i.e. 6kl per household per month). In fact, under normal circumstances it was found that the average water consumed by individual residential consumer units serviced by means of communal standpipes rarely exceeded the Free Basic Water limit of 6kl per consumer unit over the past years.

According to "*Regulations relating to compulsory national standards and measures to conserve water (April 2001)*", a Water Services Authority must, within two years after promulgation of these regulations, fit a suitable water volume measuring/controlling device to all consumer unit connections existing at the time of commencement of these regulations. Hence every consumer unit connection constructed after commencement of these regulations must be fitted with a suitable water volume measuring/controlling device. Therefore the target date for the provision of water volume measuring/controlling devices was set for the end of April 2003.

Apart from installing water volume measuring/controlling devices to unmetered sites, the provision of basic water supply services to all unserved sites will have preference. The prescribed minimum standard for basic water supply services according to the above-mentioned water regulation is 25 litres per person per day (or 6kl per household per month) at a minimum flow rate of not less than 10 litres per minute within 200 metres of the household. Once all the unserved sites are provided with the basic water supply services, the responsibility lies with the Council of the Local Municipality to decide whether the service of communal water supply will be upgraded to individual metered sites (i.e. a higher level of service ("HLoS"))

C.1.6.2 Sanitation Provision

The provision of certain sanitation systems to residents raises concern among the Councils of the various Local Municipalities. The provision of on site dry sanitation systems is encouraged by DWAF and some of the Local Municipalities, but residents demand full waterborne sanitation systems since most of the previous residential developments and extensions were provided with full waterborne sanitation systems. It is significant to point out that most residents cannot afford the service of full waterborne sanitation system and therefore it would not be feasible to provide consumers with such a service. Full waterborne sanitation systems will adversely affect the provision of Free Basic Water to consumers, since more water will be utilized for sanitation purposes and consumers will therefore have a considerable less amount of water available for household and drinking purposes.

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C.1.7 Status of all Water Infrastructure

C.1.8 Water Balance

With regard to the following tables it is significant to mention that inadequate actual water consumption information is available. This is mainly due to financial reporting systems and a vast number of water meters, which still need to be installed. To overcome this, a few parameters can be used as an interim measure to theoretically calculate the respective water demands and sewerage flows. These parameters are linked to the different levels of services currently provided as well as to proposed developments in the near future.

Service Level	Individual Household Water Requirement - Litres Per Capita Per Day					
	2002/2003	2003/2004	2004/2005	2005/2006	2006/2007	2007/2008
Expected % Population Growth		1.231	1.196	1.161	1.127	1.093
High Development (Complete House connections)	285	289	292	295	299	302
Medium Development (Yard Taps & Waterborne Toilet Connections)	145	147	149	150	152	154
Interim Basic Development (Yard Taps & VIPs)	75	76	77	78	79	79
Interim Low Development (Yard Taps & Buckets)	75	76	77	78	79	79
Low Basic Development (Communal Supply & VIPs)	50	51	51	52	52	53
Low Development (Communal Supply & Buckets)	50	51	51	52	52	53
High Water / No Sanitation (Yard Taps & No Sanitation Service)	75	76	77	78	79	79
RDP Water / No Sanitation (Communal Supply & No Sanitation Service)	50	51	51	52	52	53
No Water / Below RDP Sanitation (No Water Service & Buckets)						
No Water / Basic Sanitation (No Water Service & VIPs)						
None (No Water & No Sanitation Service)						

Service Level	Sewage Treatment : Residential Hydraulic Load Requirement - Litres Per Capita Per Day					
	2002/2003	2003/2004	2004/2005	2005/2006	2006/2007	2007/2008
Expected % Population Growth		1.231	1.196	1.161	1.127	1.093
High Development (Complete House connections)	170	172	174	176	178	180
Medium Development (Yard Taps & Waterborne Toilet Connections)	80	81	82	83	84	85
Interim Basic Development (Yard Taps & VIPs)						
Interim Low Development (Yard Taps & Buckets)	15	15	15	16	16	16
Low Basic Development (Communal Supply & VIPs)						
Low Development (Communal Supply & Buckets)	15	15	15	16	16	16
High Water / No Sanitation (Yard Taps & No Sanitation Service)						
RDP Water / No Sanitation (Communal Supply & No Sanitation Service)						
No Water / Below RDP Sanitation (No Water Service & Buckets)	15	15	15	16	16	16
No Water / Basic Sanitation (No Water Service & VIPs)						
None (No Water & No Sanitation Service)						

Service Level	Sewage Treatment : Residential Organic Load Requirement - (Chemical Oxygen Demand) Gram Per Capita Per Day

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	2002/2003	2003/2004	2004/2005	2005/2006	2006/2007	2007/2008
Expected % Population Growth		1.231	1.196	1.161	1.127	1.093
High Development (Complete House connections)	100	101	102	104	105	106
Medium Development (Yard Taps & Waterborne Toilet Connections)	70	71	72	73	73	74
Interim Basic Development (Yard Taps & VIPs)						
Interim Low Development (Yard Taps & Buckets)	50	51	51	52	52	53
Low Basic Development (Communal Supply & VIPs)						
Low Development (Communal Supply & Buckets)	50	51	51	52	52	53
High Water / No Sanitation (Yard Taps & No Sanitation Service)						
RDP Water / No Sanitation (Communal Supply & No Sanitation Service)						
No Water / Below RDP Sanitation (No Water Service & Buckets)	50	51	51	52	52	53
No Water / Basic Sanitation (No Water Service & VIPs)						
None (No Water & No Sanitation Service)						

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C2. Water Services Business Element Summary

C.2.1 Socio-Economic Profile

C.2.2 Service Level Profile

C.2.3 Water Resource Profile

C.2.4 Water Conservation and Demand Management

C.2.5 Water Services Infrastructure Profile

C.2.6 Water Balance

C.2.7 Water Services Institutional Arrangements

C.2.8 Customer Service Profile

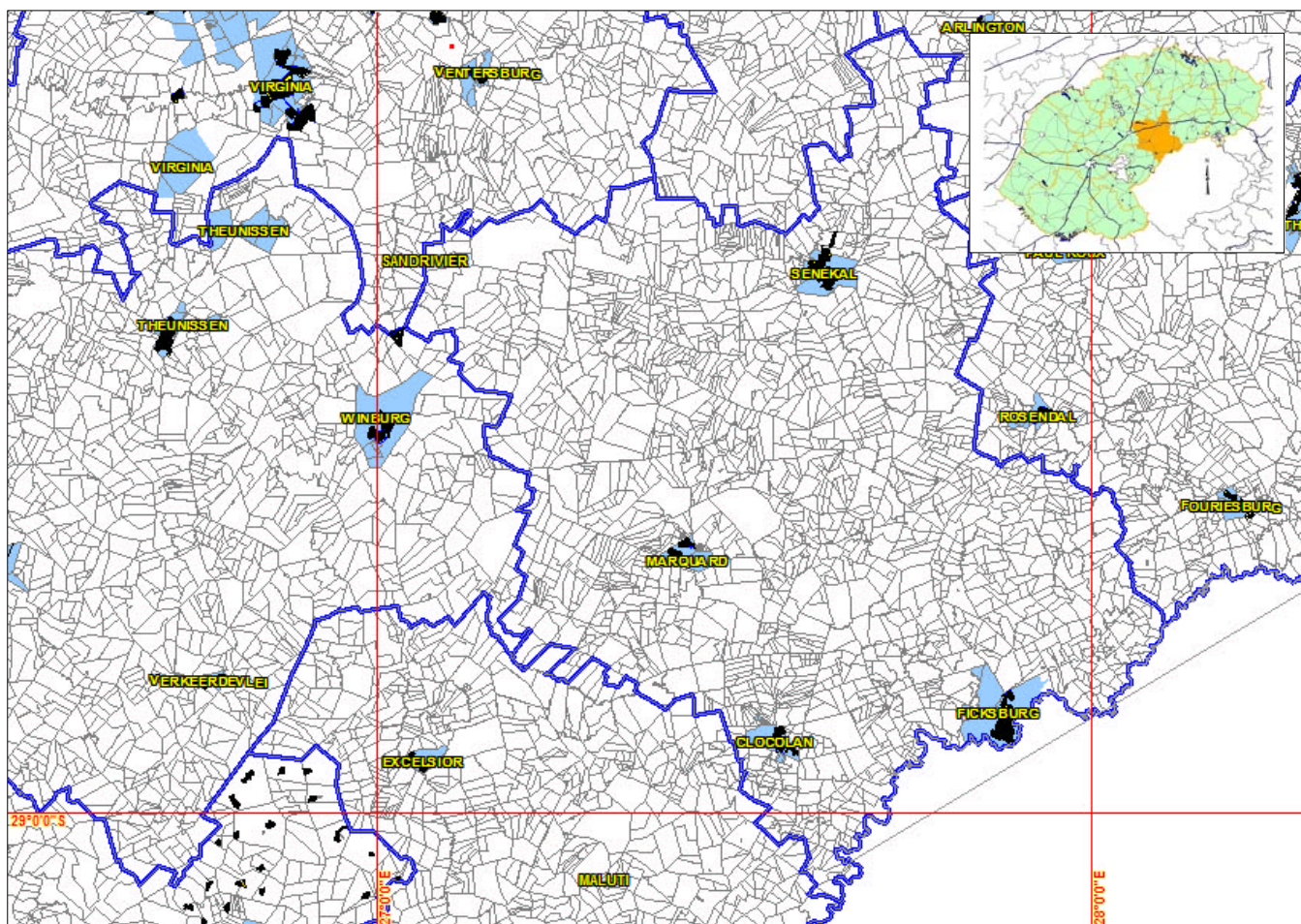
C.2.9 Financial Profile

C.2.10 List of Projects

C.2.11 Database Management

D. Background to the area

D.1 Location



A list of communities within the municipal boundary is indicated within the table below:

Community Name	NIS User ID	Settlement Type
Marquard	04C41A001	Urban - Formal Town
Moemaneng	04C41A002	Urban - Former Township
Senekal	04C42C001	Urban - Formal Town
Matwabeng	04C42C002	Urban - Former Township
Setsooto Rural	04C42C003	Farming (Farmland)
Ficksburg	04D22C001	Urban - Formal Town
Caledon Park	04D22C002	Urban - Former Township
Megheleng	04D22C003	Urban - Former Township
Clocolan	04D22G001	Urban - Formal Town
Hlohlowane	04D22G002	Urban - Former Township

The Setsoto Local Municipality was established in terms of Section 14 of the Local Government: Municipal Structures Act, Act No 117 of 1998) and was published in Provincial Gazette No 184 dated 28 September 2000. The new municipality is a category B municipality with a mayoral executive system as

D. Background to the area

contemplated in Section 3(b) of the Determination of Types of Municipality Act, 2000 (Act No 1 of 2000).

Setsoto is situated in the eastern Free State within the regional boundaries of the Thabo Mofutsanyane District Municipality. The local municipality area measures 5948.35km² in extent and comprises four urban areas namely Ficksburg, Senekal, Marquard and Clocolan, as well as their surrounding rural areas. The size of the population within the area of Setsoto is estimated at approximately 125 751 people. The figure is calculated on the basis of census 1996 incorporating annual growth based on the average annual growth rate for the Free State. From the population figures, it is evident that 40 % of the population lives in the rural areas of Setsoto and 60 % of the population in the urban areas.

D. Background to the area

D.2 Water Services Authority perspective

Description	Community	No. of each type	Size	Unit of Size	% of total municipal area	Indicate for any (Y/N)		
						Water resource impact	Water user	Waste water return
1. Residential settlements	Clocolan	5072	unknown	m ²	unknown	Y	Y	Y
	Ficksburg	10170	unknown	m ²	unknown	Y	Y	Y
	Marquard	3931	unknown	m ²	unknown	Y	Y	Y
	Senekal	6352	unknown	m ²	unknown	Y	Y	Y
2. Commercial areas	Clocolan	152	unknown	m ²	unknown	Y	Y	Y
	Ficksburg	261	unknown	m ²	unknown	Y	Y	Y
	Marquard	124	unknown	m ²	unknown	Y	Y	Y
	Senekal	203	unknown	m ²	unknown	Y	Y	Y
3. Police Stations (Urban)	Clocolan	1	unknown	m ²	unknown	Y	Y	Y
	Ficksburg	2	unknown	m ²	unknown	Y	Y	Y
	Marquard	1	unknown	m ²	unknown	Y	Y	Y
	Senekal	1	unknown	m ²	unknown	Y	Y	Y
4. Magisterial Offices	Clocolan	1	unknown	m ²	unknown	Y	Y	Y
	Ficksburg	1	unknown	m ²	unknown	Y	Y	Y
	Marquard	1	unknown	m ²	unknown	Y	Y	Y
	Senekal	1	unknown	m ²	unknown	Y	Y	Y
5. Schools (Urban)	Clocolan	13	unknown	m ²	unknown	Y	Y	Y
	Ficksburg	12	unknown	m ²	unknown	Y	Y	Y
	Marquard	8	unknown	m ²	unknown	Y	Y	Y
	Senekal	17	unknown	m ²	unknown	Y	Y	Y
6. Clinics	Clocolan	2	unknown	m ²	unknown	Y	Y	Y
	Ficksburg	4	unknown	m ²	unknown	Y	Y	Y
	Marquard	3	unknown	m ²	unknown	Y	Y	Y
	Senekal	3	unknown	m ²	unknown	Y	Y	Y
7. Hospitals	Clocolan	1	unknown	m ²	unknown	Y	Y	Y
	Ficksburg	1	unknown	m ²	unknown	Y	Y	Y
	Marquard	0	n/a	n/a	n/a	n/a	n/a	n/a
	Senekal	1	unknown	m ²	unknown	Y	Y	Y
8. Correctional Services Facilities	Clocolan	0	n/a	n/a	n/a	n/a	n/a	n/a
	Ficksburg	1	unknown	m ²	unknown	Y	Y	Y
	Marquard	0	n/a	n/a	n/a	n/a	n/a	n/a
	Senekal	1	unknown	m ²	unknown	Y	Y	Y
9. Industries	Clocolan	14	unknown	m ²	unknown	Y	Y	Y
	Ficksburg	20	unknown	m ²	unknown	Y	Y	Y
	Marquard	3	unknown	m ²	unknown	Y	Y	Y
	Senekal	50	unknown	m ²	unknown	Y	Y	Y
10. Mining	Clocolan	0	n/a	n/a	n/a	n/a	n/a	n/a
	Ficksburg	3	unknown	ha	unknown	Y	Y	N
	Marquard	0	n/a	n/a	n/a	n/a	n/a	n/a
	Senekal	0	n/a	n/a	n/a	n/a	n/a	n/a
11. Agriculture dryland	Clocolan	unknown	8000	ha	unknown	N	N	N

D. Background to the area

Description	Community	No. of each type	Size	Unit of Size	% of total municipal area	Indicate for any (Y/N)		
						Water resource impact	Water user	Waste water return
	Ficksburg	unknown	unknown	ha	unknown	N	N	N
	Marquard	unknown	475	ha	unknown	N	N	N
	Senekal	unknown	1400	ha	unknown	N	N	N
12. Agriculture irrigation	Clocolan	unknown	unknown	ha	unknown	Y	Y	N
	Ficksburg	unknown	unknown	ha	unknown	Y	Y	N
	Marquard	unknown	unknown	ha	unknown	Y	Y	N
	Senekal	unknown	21	ha	unknown	Y	Y	N
13. Agriculture Intensive livestock	Clocolan	unknown	unknown	ha	unknown	Y	Y	N
	Ficksburg	unknown	unknown	ha	unknown	Y	Y	N
	Marquard	unknown	unknown	ha	unknown	Y	Y	N
	Senekal	unknown	unknown	ha	unknown	Y	Y	N
14. Agriculture Extensive livestock	Clocolan	unknown	unknown	ha	unknown	Y	Y	N
	Ficksburg	unknown	unknown	ha	unknown	Y	Y	N
	Marquard	unknown	unknown	ha	unknown	Y	Y	N
	Senekal	unknown	unknown	ha	unknown	Y	Y	N
15. Resorts and tourism	Clocolan	0	n/a	n/a	n/a	n/a	n/a	n/a
	Ficksburg	2	unknown	m ²	unknown	Y	Y	Y
	Marquard	0	n/a	n/a	n/a	n/a	n/a	n/a
	Senekal	4	unknown	m ²	unknown	Y	Y	Y
16. Conservation areas	Clocolan	0	n/a	n/a	n/a	n/a	n/a	n/a
	Ficksburg	3	unknown	ha	unknown	N	N	N
	Marquard	1	unknown	ha	unknown	N	N	N
	Senekal	0	n/a	n/a	n/a	n/a	n/a	n/a
17. Churches	Clocolan	unknown	unknown	m ²	unknown	Y	Y	Y
	Ficksburg	unknown	unknown	m ²	unknown	Y	Y	Y
	Marquard	13	unknown	m ²	unknown	Y	Y	Y
	Senekal	unknown	unknown	m ²	unknown	Y	Y	Y
18. Crèches	Clocolan	unknown	unknown	m ²	unknown	Y	Y	Y
	Ficksburg	unknown	unknown	m ²	unknown	Y	Y	Y
	Marquard	unknown	unknown	m ²	unknown	Y	Y	Y
	Senekal	unknown	unknown	m ²	unknown	Y	Y	Y
19. HIV / AIDS Centres	Clocolan	0	n/a	n/a	n/a	n/a	n/a	n/a
	Ficksburg	1	unknown	m ²	unknown	Y	Y	Y
	Marquard	0	n/a	n/a	n/a	n/a	n/a	n/a
	Senekal	0	n/a	n/a	n/a	n/a	n/a	n/a
20. Libraries	Clocolan	1	unknown	m ²	unknown	Y	Y	Y
	Ficksburg	1	unknown	m ²	unknown	Y	Y	Y
	Marquard	1	unknown	m ²	unknown	Y	Y	Y
	Senekal	1	unknown	m ²	unknown	Y	Y	Y
21. Old age homes	Clocolan	1	unknown	m ²	unknown	Y	Y	Y
	Ficksburg	0	n/a	n/a	n/a	n/a	n/a	n/a
	Marquard	1	unknown	m ²	unknown	Y	Y	Y
	Senekal	1	unknown	m ²	unknown	Y	Y	Y
22. Orphanages	Clocolan	0	n/a	n/a	n/a	n/a	n/a	n/a

D. Background to the area

Description	Community	No. of each type	Size	Unit of Size	% of total municipal area	Indicate for any (Y/N)		
						Water resource impact	Water user	Waste water return
	Ficksburg	0	n/a	n/a	n/a	n/a	n/a	n/a
	Marquard	0	n/a	n/a	n/a	n/a	n/a	n/a
	Senekal	1	unknown	m ²	unknown	Y	Y	Y
23. Post Offices	Clocolan	1	unknown	m ²	unknown	Y	Y	Y
	Ficksburg	1	unknown	m ²	unknown	Y	Y	Y
	Marquard	1	unknown	m ²	unknown	Y	Y	Y
	Senekal	1	unknown	m ²	unknown	Y	Y	Y
24. Other (Not defined)	Clocolan	12	unknown	unknown	unknown	n/a	n/a	n/a
	Ficksburg	53	unknown	unknown	unknown	n/a	n/a	n/a
	Marquard	46	unknown	unknown	unknown	n/a	n/a	n/a
	Senekal	25	unknown	unknown	unknown	n/a	n/a	n/a
25. Military Bases	Clocolan	0	n/a	n/a	n/a	n/a	n/a	n/a
	Ficksburg	0	n/a	n/a	n/a	n/a	n/a	n/a
	Marquard	0	n/a	n/a	n/a	n/a	n/a	n/a
	Senekal	0	n/a	n/a	n/a	n/a	n/a	n/a
26. Military Commandos	Clocolan	0	n/a	n/a	n/a	n/a	n/a	n/a
	Ficksburg	1	unknown	m ²	unknown	Y	Y	Y
	Marquard	1	unknown	m ²	unknown	Y	Y	Y
	Senekal	1	unknown	m ²	unknown	Y	Y	Y
27. Abattoirs : Red meat	Clocolan	2	unknown	m ²	unknown	Y	Y	Y
	Ficksburg	1	unknown	m ²	unknown	Y	Y	Y
	Marquard	1	unknown	m ²	unknown	Y	Y	Y
	Senekal	1	unknown	m ²	unknown	Y	Y	Y
28. Abattoirs : Poultry	Clocolan	unknown	unknown	m ²	unknown	Y	Y	Y
	Ficksburg	unknown	unknown	m ²	unknown	Y	Y	Y
	Marquard	unknown	unknown	m ²	unknown	Y	Y	Y
	Senekal	unknown	unknown	m ²	unknown	Y	Y	Y
29. Academic : Universities	Clocolan	0	n/a	n/a	n/a	n/a	n/a	n/a
	Ficksburg	0	n/a	n/a	n/a	n/a	n/a	n/a
	Marquard	0	n/a	n/a	n/a	n/a	n/a	n/a
	Senekal	0	n/a	n/a	n/a	n/a	n/a	n/a
30. Academic : Technicons	Clocolan	0	n/a	n/a	n/a	n/a	n/a	n/a
	Ficksburg	0	n/a	n/a	n/a	n/a	n/a	n/a
	Marquard	0	n/a	n/a	n/a	n/a	n/a	n/a
	Senekal	0	n/a	n/a	n/a	n/a	n/a	n/a
31. Academic : Colleges	Clocolan	0	n/a	n/a	n/a	n/a	n/a	n/a
	Ficksburg	0	n/a	n/a	n/a	n/a	n/a	n/a
	Marquard	0	n/a	n/a	n/a	n/a	n/a	n/a
	Senekal	0	n/a	n/a	n/a	n/a	n/a	n/a
32. Government Offices (Other)	Clocolan	unknown	unknown	m ²	unknown	Y	Y	Y
	Ficksburg	unknown	unknown	m ²	unknown	Y	Y	Y
	Marquard	unknown	unknown	m ²	unknown	Y	Y	Y
	Senekal	unknown	unknown	m ²	unknown	Y	Y	Y
33. Government Offices	Clocolan	unknown	unknown	m ²	unknown	Y	Y	Y

D. Background to the area

Description	Community	No. of each type	Size	Unit of Size	% of total municipal area	Indicate for any (Y/N)		
						Water resource impact	Water user	Waste water return
(Municipal)	Ficksburg	unknown	unknown	m ²	unknown	Y	Y	Y
	Marquard	unknown	unknown	m ²	unknown	Y	Y	Y
	Senekal	unknown	unknown	m ²	unknown	Y	Y	Y
34. Fuelling Stations (Garages)	Clocolan	unknown	unknown	m ²	unknown	Y	Y	Y
	Ficksburg	unknown	unknown	m ²	unknown	Y	Y	Y
	Marquard	unknown	unknown	m ²	unknown	Y	Y	Y
35. Office Buildings	Senekal	unknown	unknown	m ²	unknown	Y	Y	Y
	Clocolan	unknown	unknown	m ²	unknown	Y	Y	Y
	Ficksburg	unknown	unknown	m ²	unknown	Y	Y	Y
36. Police Stations (Rural)	Senekal	0	n/a	n/a	n/a	n/a	n/a	n/a
	Ficksburg	1	unknown	m ²	unknown	N	Y	N
	Marquard	0	n/a	n/a	n/a	n/a	n/a	n/a
	Clocolan	0	n/a	n/a	n/a	n/a	n/a	n/a
37. Schools (Rural)	Senekal	unknown	unknown	m ²	unknown	N	Y	N
	Clocolan	unknown	unknown	m ²	unknown	N	Y	N
	Marquard	unknown	unknown	m ²	unknown	N	Y	N
	Ficksburg	unknown	unknown	m ²	unknown	N	Y	N
38. Golf Courses (Urban)	Senekal	1	unknown	ha	unknown	Y	Y	N
	Marquard	1	unknown	ha	unknown	Y	Y	N
	Ficksburg	1	unknown	ha	unknown	Y	Y	N
	Clocolan	1	unknown	ha	unknown	Y	Y	N
39. Golf Courses (Rural)	Senekal	0	n/a	n/a	n/a	n/a	n/a	n/a
	Marquard	0	n/a	n/a	n/a	n/a	n/a	n/a
	Ficksburg	0	n/a	n/a	n/a	n/a	n/a	n/a
	Clocolan	0	n/a	n/a	n/a	n/a	n/a	n/a

D. Background to the area

D.3 Physical Perspective

D.3.1 Topography

D.3.1.1 Topographical type

Topography type	Percentage of total municipal area
1. Mountainous	±15 - 20%
2. Rolling	±80 - 85%
3. Flat	0
4. Coastal	0

The topography of the area is diverse and features the following strong elements, namely:

- Mountainous areas
- River valleys and floodplains
- Sloping hills
- Grasslands

Natural resources in the area are limited to the vast sandstone formations that hold significant mining potential and abundant water for the Caledon River and Meulspruit, Laaispruit and Willem Pretorius dams. Setsoto is relatively mountainous especially along the eastern parts closer to Lesotho. Other natural resources include the fertile agricultural land, grass that can be used for thatching, natural herbs and a good climate.

D.3.1.2 Role and impact on Local Government and services

Information unknown

D.3.2 Climate

D.3.2.1 Annual rainfall, evaporation and temperature

The municipality experiences an average annual rainfall of between 601-751 mm, which is relatively high compared to the rest of the Free State. The highest rainfall is experienced in the Ficksburg area decreasing to the west (Marquard and Senekal). Temperatures vary between warm and mild in the summer and very cold in the winter. The average annual temperature is 14-16°C.

D.3.2.2 Role and impact on Local Government and services

Information unknown

D.3.3 Natural environment

D.3.3.1 Conservation

The open space system in Ficksburg/Meqheleng comprises mainly of isolated parks and recreational areas within the urban area. The urban area is however surrounded by a passive open space system which includes the area surrounding the Caledon River, the nature conservation area around the Meulspruit Dam and Mpharane Hill to the west of the town.

D. Background to the area

The existing open space system of the **Clocolan** area, which consists of both dams and the river, is well defined, but must be managed properly. It is an area that is worthwhile protecting and if properly developed it can be a great attribute to the town. The major ecological sensitive areas will be covered in this area.

The area on the banks of Laaispruit in the proximity of **Marquard** ought to be used mainly for recreational and conservation purposes. Although some of the bulk infrastructure has been provided in this area, development should be limited and the necessary precautions should be taken to ensure that the water are not polluted by the activities presently developed there.

Local parks in **Senekal** are in a fairly good condition but in **Matwabeng** areas as planned are poorly developed.

D.3.3.2 Riparian Land

Information unknown

D.3.3.3 Recreation and Tourism

Tourism is one of the fastest growing sectors not only in South Africa, but also in Setsoto. Many holiday farms and Bed and Breakfasts are found throughout Setsoto supported by various attractions focused on eco- and cultural-tourism. The need exists for a coordinated marketing effort for the area to optimise the potential of all existing events and attractions.

The annual cherry festival in Ficksburg is a well-known event in South Africa and is a great economic injection for the entire municipality. The needs to build onto these types of events and to make it more accessible for all racial groups exist.

The tourism potential of Setsoto has yet to be explored to its fullest. Many locations can be identified. For the most part it is focused on eco-tourism and tourism corridors can be identified as the industry has developed.

D.3.4 Main infrastructure development

D.3.4.1 Physical Profile (Urban and Rural)

D.3.4.1.1 Residential settlements

Settlement Type	Number of facilities	Role regarding services and specific water services	Adequate service (Yes / No)	Current activities	Impact on water services
Urban	26488		No	Domestic	unknown
Rural	9616		No	Domestic	unknown
Total	36104				

There are 1674 residential erven in **Ficksburg** that mainly consists of 4450m² erven which have been subdivided into smaller (1471m²) portions. Caledon Park was traditionally earmarked for the coloured population and consists of 236 erven. There are 8562 residential erven within Meqheleng of which approximately 300 erven in Mohlomville are still vacant. Approximately 300 families have settled informally between Meqheleng and Caledon Park. This area is in a process of township establishment.

D. Background to the area

There are approximately 4121 erven in Hlohlolwane and 629 erven in **Clocolan**. A need for approximately 2700 housing subsidies has been identified.

Marquard has a total of 3659 residential erven of which Marquard has 574 and Moemaneng has 3085. There are 180 unoccupied residential sites in Marquard and 650 in Moemaneng. The latter is a new extension that has been approved in March 1999. Future residential growth would occur in both Marquard and Moemaneng, with the greatest need for low-income housing.

Senekal/Matwabeng has approximately 6259 erven. In Senekal there is a current need for approximately 700 residential erven. Approximately 806 residential erven are still vacant at zone 4 (197) and Extension 5 (627). Informal squatters currently use the area of Thabeng south of old Matwabeng.

The need for formal housing is ever increasing, as the tables below will show. The population of all four urban units is growing rapidly predominantly because of farm workers moving to town in the hope of finding a new job closer to educational and health facilities. This results in uncontrolled land occupation. Residents from Lesotho that are coming into South Africa also make use of housing provided by the municipality illegally, which places more pressure on the council to deliver more houses.

Town / Area ¹	Number of Formal Houses	Informal Houses on		Backyard Dwellers (C)	Total Backlog (A) + (B) + (C)
		Formal Erven (A)	Unplanned (B)		
Ficksburg	1200	0	0	0	0
Megheleng	4500	4100	0	3400	7500
Clocolan	672	750	0	0	750
Hlohlolwane	1410	3999	60	50	4380
Senekal	800	0	0	0	0
Matwabeng	3863	1047	500	150	1697
Marquard	409	0	0	0	0
Moemaneng	1432	1666	0	0	1666
Total	14286	11562	560	3600	15993

The provision of housing in the rural area is currently a sensitive aspect that is complicated by the government's policy framework. The existing government housing subsidy scheme can only be implemented if a beneficiary receives ownership of a property or enjoys some form of security of tenure.

The above situation creates a lot of fear amongst farm owners and causes them to become negative. This situation has resulted in many farm owners providing their workers with housing units in urban areas, which in turn has resulted in large-scale depopulation of the rural area. In some areas, there is a dire need for housing and an increased delivery program needs to be developed to address the housing problems of the needy.

¹ Source: Setsoto RIDP, 2003/2004

D. Background to the area

FICKSBURG

- **High density**

The expansion of the high-density residential area in Meqheleng will take place to the south and southwestern direction, demarcated by the Caledon River in both directions. The upgrading of the informal settlement in Meqheleng located adjacent to the railway line between Meqheleng and Ficksburg was done to accommodate the existing need for high-density residential erven in Meqheleng. Existing open erven in Meqheleng will be utilized before the expansion of residential erven is done.

- **Medium density**

Large vacant erven located in Ficksburg town can be sub-divided into smaller medium density erven. A survey will, however, have to be conducted in order to locate the vacant erven and plan densification. An area between Ficksburg and Meqheleng has been identified as a medium density densification area with average erf sizes of approximately 600 m².

- **Low density**

Expansion of the existing low density residential area located in the north will take place further to the north and combined into a "Golf Course Development" and should the need be, extend further eastwards across road P75/1. Limited development of Snake Valley situated on the outskirts to the north should take place in the form of a private reserve.

- **Business / commercial**

Business expansion will take place to the south of the existing CBD of Ficksburg, up to Bloem Street. A main activity spine will be formed along Ester Street in Ficksburg to Patrick Lekota Street in Meqheleng. Two commercial nodes will be formed in the activity spine, on the corner of Lang Street & Bloem Street and the second node is located within Meqheleng, as mapped. Two additional commercial nodes will be formed at the border post and the road crossing between roads P75/1 and R26 respectively.

CLOCOLAN

- **Low density**

There is currently no need for the provision of additional low-density erven in Clocolan as there are still a number of undeveloped erven available.

- **Medium density**

Medium residential development in Clocolan and Hlohlolwane are currently non-existent, although there is a growing tendency towards such erven ranging between 500 m² - 700 m² in size. Only a small portion of "infill" land has been identified for such purposes to the north of Clocolan between secondary road SS7 and the Marquard road. Further medium density development will have to take place in Clocolan itself by subdividing existing erven. An area to the west of Clocolan has been identified as such a densification area. This approach will also ensure spatial integration between Hlohlolwane and Clocolan.

D. Background to the area

- **High density**

High-density expansion potential around Hlohlolwane is extremely limited and a special investigation will have to be conducted in order to identify suitable land. At present, small portions of land to the north and north west of the township have been identified for such purposes. Parts of this land are, however, in private ownership and will have to be purchased. Additional land to the west and southwest also exists, although restricted by the Mopedi River and the existing dumping sites. It is expected that development costs in these areas will be extremely high.

- **Open space system**

The existing natural open space system of the urban area is well defined and mainly comprises of areas surrounding existing rivers and dams. A relatively large area around the Mopedi Dam should be protected at all costs, but can be developed for more intensive recreation facilities.

- **Business Development**

The CBD of Clocolan serves as the only major business node in the area, but is not within walking distance for residents of Hlohlolwane. Although some informal businesses exist within Hlohlolwane, these are expensive and do not serve all the needs of residents. Consequently, a business node serving the needs of a wider proportion of the community is required although limited potential exists in terms of available land. As a result it was not possible to single out a specific location. A special investigation into this matter will also have to be conducted in order to identify a suitable location for a business node. For the interim, it seems appropriate, should there be a need, to allow business development in a westward direction from the CBD along the road link between Clocolan and Hlohlolwane in the form of a business corridor.

- **Industrial development**

Clocolan only has one industrial area situated to the west of town, but which is currently not fully occupied. As a large number of erven are still available, no expansion is envisaged within the next five years. A portion of land directly to the south of the industrial area has, however, been identified as a mixed land use area.

MARQUARD

Marquard and Moemaneng need to develop in support of each other. However, growth needs to be limited to areas less suitable for agricultural purposes. To ensure that the urban area is kept to these less suitable agricultural lands, an urban edge needs to be identified. The urban edge for Marquard and Moemaneng for 2020 has been identified along the boundaries of the former TLC in the south east and south west, whilst the urban edge has been extended into a western, northern and eastern direction to provide for future growth and development.

- **Central Business District (CBD)**

Future business development in Marquard should firstly be directed towards Moemaneng via the access road across Laaispruit. B1 which will act as future option for the extension of the current CBD and act as a future development corridor.

D. Background to the area

- **Residential developments**

High density development is proposed in the medium term in a southern and western direction from Moemaneng. Medium density development is proposed on the only available land for longer-term residential development across the Clocolan road and a medium density densification area has also been proposed to the west of Marquard between the town and the existing cemetery. Low-density development is proposed in a northern direction from Marquard onto a number of smallholdings.

- **Industrial**

The future extension of the industrial area is proposed in an eastern direction. The area earmarked as the existing industrial area should, however, be developed first.

SENEKAL

The central business district (CBD) of Senekal mainly centers around the N5 road and the road leading to Matwabeng but can be extended towards Boer Street and also towards the industrial area. Business development in Matwabeng should be directed towards erven planned for such purposes and the development of the neighbourhood centre as planned at the entrance of Matwabeng should get immediate attention. This area is highly accessible and could be developed as a major business node for Matwabeng. A business node aimed to serve the eastern parts of Matwabeng should also be planned during the development of new erven to the south and south east of the existing neighbourhood.

- **Low density**

There is currently no need for additional residential development at Senekal due to the availability of several vacant residential stands. Should the need arise, low-density residential expansion can take place in an eastern direction from Senekal towards the existing landing strip.

- **Medium density**

There seems to be an increasing need for medium density housing in Senekal that can be accommodated in two ways. Firstly, two rows of very large erven to the south of Senekal offer great opportunity to be subdivided into smaller erven. Consequently, this area has been earmarked as a medium density densification area. Should the abovementioned area become saturated, the second option would be to expand in a southwestern direction up to the existing power lines. Implementation of the abovementioned medium-density approach will not only ensure the optimal utilization of infrastructure, but will also lead to spatial integration.

- **High density**

The real housing need in the greater Senekal relates to high-density erven although restricted opportunities exist due to physical restrictions and high costs of development. The only area for expansion of this market is situated in the northwestern quadrant of Matwabeng on a piece of land that was previously used to empty nightsoil buckets. This area was not utilized for the past twelve years and should be suitable for residential expansion. Expansion over the longer term should take place further in a northern direction towards Senekal and further eastwards across road S665 to Ficksburg. There is also a view from the residents of Matwabeng that the area of Marantha towards the north of Senekal) should be developed as a residential township. The area of Marantha

D. Background to the area

has been vacated during the "apartheid" years and the residents have been relocated to the township of Matwabeng. The topography and soil conditions of this area are of such a nature that the development costs are expected to be high. Conditions are not favorable for urban development due to physical restrictions such as flood lines and existing brickworks. This area is approximately 27 ha and will have to be properly investigated before any development takes place.

- **Industrial**

The industrial area of Senekal can be extended towards the northeast should the need arise. Industrial erven can also be planned within Matwabeng between zone 4 and south of the proposed Provincial Road.

D.3.4.1.2 Commercial areas

Settlement Type	Number of facilities	Role regarding services and specific water services	Adequate service (Yes / No)	Current activities	Impact on water services
Urban	740	unknown	No	unknown	unknown
Rural	unknown	unknown	unknown	unknown	unknown
Total	unknown				

Ficksburg is classified as a regional town by Krige (1996) which provides services to the surrounding agricultural community, the Eastern Free State tourism industry and supports the existing trade relations with Lesotho. The following land uses occur within the CBD, namely:

- Retail and wholesale businesses.
- Professional and financial services
- Accommodation and entertainment
- Administrative offices
- Informal trade

Apart from the CBD a secondary business node has developed at the Border Post. Businesses that occur in this node include petrol filling stations, light industries and wholesale stores.

Due to the historical placement of non-white residential areas, the **Clocolan** CBD, which is the major business node, is generally not within walking distance for the community of Hlohlolwane. Some business activities exist in Hlohlolwane, but most of them are informal businesses. Future business development must focus in a more central location to Hlohlolwane and Clocolan, to be able to address the issue of providing residential and employment opportunities in close proximity to each other. Land is available for this purpose and the necessary planning and rezoning should be done to accommodate this proposal.

Marquard has a well-defined CBD along the major access streets serving Marquard and Moemaneng, as no formal CBD has developed in Moemaneng. There are 103 business sites in Marquard and 38 in Moemaneng. Moemaneng is only serviced by these businesses that have developed along the major collector streets. The truck stop on the Winburg - Clocolan Road has major potential for business agglomeration in future, while the access street that link Marquard with Moemaneng caters for business development along side it.

The central business district (CBD) of **Senekal** can be broadly defined between Hoog-, Water-, Kort- and Van der Walt Streets. The industrial area is located between Senekal and Matwabeng and quite

D. Background to the area

central towards both areas. The business component of Matwabeng is poorly developed and consists of local order businesses (corner shops) that are distributed throughout the residential area.

D.3.4.1.3 Police Stations

Settlement Type	Number of facilities	Role regarding services and specific water services	Adequate service (Yes / No)	Current activities	Impact on water services
Urban	8	unknown	Yes	unknown	unknown
Rural	0	n/a	n/a	n/a	n/a
Total	8				

There are 8 police stations and 1 mobile police station in Setsoto servicing the entire area. In rural areas the commandos and other community structures support the SAPS in fighting crime.

D.3.4.1.4 Magisterial Offices

Settlement Type	Number of facilities	Role regarding services and specific water services	Adequate service (Yes / No)	Current activities	Impact on water services
Urban	4	unknown	Yes	unknown	unknown
Rural	0	n/a	n/a	n/a	n/a
Total					

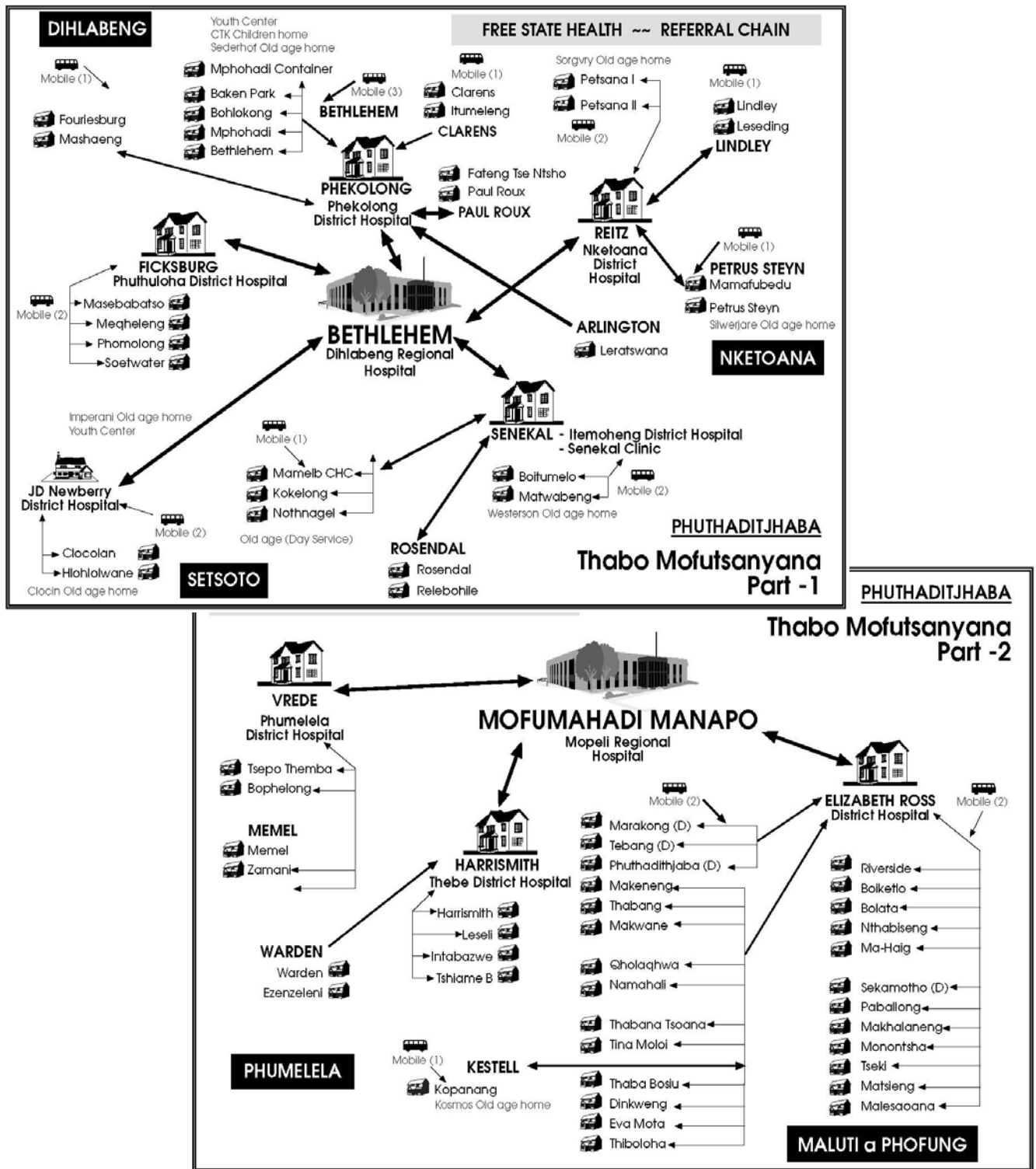
D.3.4.1.5 Schools

Settlement Type	Number of facilities	Role regarding services and specific water services	Adequate service (Yes / No)	Current activities	Impact on water services
Urban	53	unknown	No	unknown	unknown
Rural	133	unknown	No	unknown	unknown
Total	186				

D. Background to the area

D.3.4.1.6 Clinics

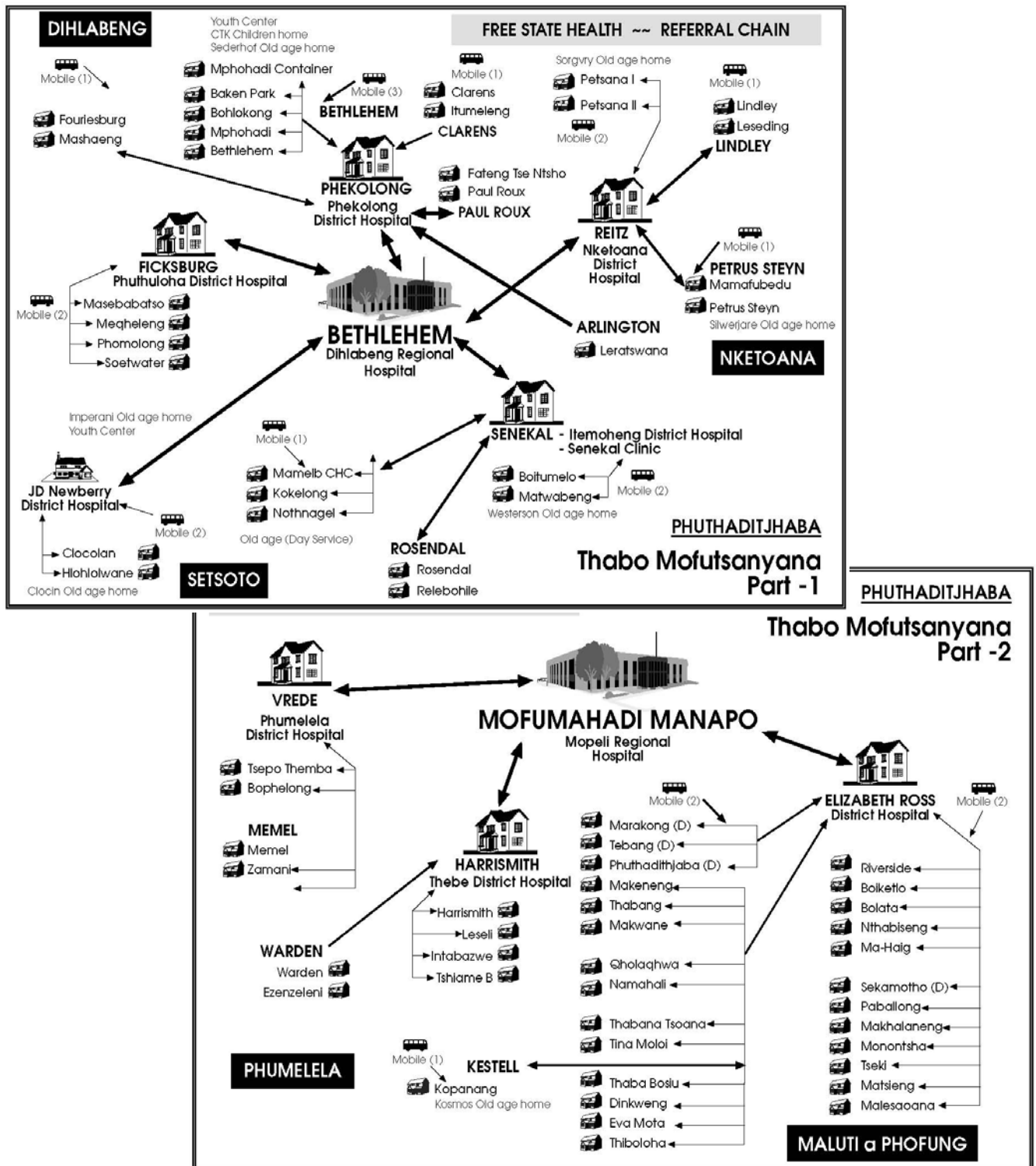
Settlement Type	Number of facilities	Role regarding services and specific water services	Adequate service (Yes / No)	Current activities	Impact on water services
Urban					
Rural					
Total					



D. Background to the area

D.3.4.1.7 Hospitals

Settlement Type	Number of facilities	Role regarding services and specific water services	Adequate service (Yes / No)	Current activities	Impact on water services
Urban	4	unknown	Yes	unknown	unknown
Rural	0	n/a	n/a	n/a	n/a
Total	4				



D. Background to the area

D.3.4.1.8 Prisons

Settlement Type	Number of facilities	Role regarding services and specific water services	Adequate service (Yes / No)	Current activities	Impact on water services
Urban	2	unknown	Yes	unknown	unknown
Rural	0	n/a	n/a	n/a	n/a
Total	2				

D.3.4.1.9 Industries

Settlement Type	Number of facilities	Role regarding services and specific water services	Adequate service (Yes / No)	Current activities	Impact on water services
Urban	87	unknown	Yes	unknown	unknown
Rural	unknown	unknown	unknown	unknown	unknown
Total	unknown				

The industrial area of **Ficksburg** is situated adjacent to and north east of the CBD. It is clear that the Ficksburg railway station and railway sidings formed the backbone of the industrial area. Prominent land uses within the industrial area include grain silos, food processing plants, a clothing factory, wholesale warehouses, panel beaters, etc. A secondary light industrial area is situated at the Van Soden Street (Terror Lekota Drive) entrance to Meqheleng.

Only one industrial area exists in **Clocolan**. Situated on the eastern side of town the location was determined to a large extent by the railway line, which can still be a large benefit to this area. Only 45 % of the existing sites are occupied. For future establishment of industries no spatial impact is predicted. The area is very accessible with vehicle and rail and only about 2km from the Hlohlolwane area.

The greater **Marquard** area does not have an industrial area like other towns. The area towards the silos and railway line has been developed with land uses that can be associated with industrial activities, like the auction kraal and silo. However, smaller light industries have developed along the major access road to Marquard as part of the business corridor. This trend will continue and should be encouraged, especially along the connector road with Moemaneng. Moemaneng has 2 light industries that have been developed.

The industrial area of **Senekal** is located between Senekal and Matwabeng and is quite central towards both areas. The industrial area could be extended towards Matwabeng and along Johan Du Plessis Street towards the Senekal/Bethlehem road but note should be taken of the restrictions of the refuse dump. It is also important to note at Matwabeng that light industrial erven could be established between zone 4 and the proposed provincial road as planned. This was a proposal in the 1989 Matwabeng Structure Plan. It was also found during the planning session with the Steering Committee that planning should be done to create the entities as needed for light industrial purposes.

D. Background to the area

D.3.4.1.10 Mining

Settlement Type	Number of facilities	Role regarding services and specific water services	Adequate service (Yes / No)	Current activities	Impact on water services
Urban	3	unknown	Yes	Sandstone, Gravel & Sand Mining	Low to None
Rural	0	n/a	n/a	n/a	n/a
Total	3				

In Ficksburg sandstone, gravel and sand is mined extensively. No other known mining activities are found within the municipal area.

D.3.4.1.11 Agriculture dry land (Commonage)

Settlement Type	Number of facilities	Role regarding services and specific water services	Adequate service (Yes / No)	Current activities	Impact on water services
Urban	28	unknown	unknown	unknown	unknown
Rural	unknown	unknown	unknown	unknown	unknown
Total	unknown				

Agriculture forms the backbone of the economy of Setsoto. A wide variety of farming types is found in Setsoto. Ficksburg is well known for its soft fruit, especially cherries. Marquard and Clocolan is very suitable for stock farming, while Senekal is more suitable for crops and mixed farming. The general perception is that more diversity is needed in the agricultural sector. Agro-processing should form a bigger part of the economy. Sparta Beef contributes greatly in this regard to the economy of Setsoto.

In Ficksburg a commonage is developed to the west of Meqheleng. The commonage at Clocolan is used for grazing by 150 farmers with 300 heads of cattle. More land is needed for grazing on a rotational basis to add on to the 155 hectares used at present. An area east of the road to Excelsior has been identified for this purpose.

In Marquard some of the townlands (commonages) have been developed with cultivated lands. These are mainly the areas around the show ground while the south-eastern commonages have been rented out for grazing purposes. However, no formal small scale farming development has taken place although some planning has been done for intensive horticulture. A need for small scale farming opportunities exists within the Moemaneng community and opportunities need to be created to assist this community with skills and training.

The former TLC of Senekal has purchased agricultural land for purposes of commonage farming south of the Sandsloot.

The rural area of Setsoto is mainly used for commercial farming practices. Different farming types are found throughout the municipality.

D. Background to the area

D.3.4.1.12 Agriculture irrigation

Settlement Type	Number of facilities	Role regarding services and specific water services	Adequate service (Yes / No)	Current activities	Impact on water services
Urban	1	unknown	unknown	unknown	unknown
Rural	unknown	unknown	unknown	unknown	unknown
Total	unknown				

D.3.4.1.13 Agriculture Intensive livestock

Settlement Type	Number of facilities	Role regarding services and specific water services	Adequate service (Yes / No)	Current activities	Impact on water services
Urban	0	n/a	n/a	n/a	n/a
Rural	unknown	unknown	unknown	unknown	unknown
Total	unknown				

D.3.4.1.14 Resorts and tourism

Settlement Type	Number of facilities	Role regarding services and specific water services	Adequate service (Yes / No)	Current activities	Impact on water services
Urban	6	unknown	Yes	unknown	unknown
Rural	unknown	unknown	unknown	unknown	unknown
Total	unknown				

D.3.4.1.15 Conservation areas

Settlement Type	Number of facilities	Role regarding services and specific water services	Adequate service (Yes / No)	Current activities	Impact on water services
Urban	4	unknown	unknown	unknown	unknown
Rural	unknown	unknown	unknown	unknown	unknown
Total	unknown				

D. Background to the area

D.4 Demographic Perspective

D.4.1 Human and Social Development profile

Information unknown

D.4.2 Health Status

Serious capacity problems exist with the health facilities in Setsoto. Some of the problems that are experienced are:

- Services provided at government controlled clinics are not up to standard;
- A lack of trust of medical personnel;
- Insufficient medical equipment and personnel; and
- A negative attitude towards government health workers
- The use of health resources by Lesotho residents HIV/Aids is placing an increasing burden on the economic and social resources of Setsoto. Limited care is being provided to sufferers of the disease but increasing pressure is put on these resources by the influx of residents of Lesotho seeking treatment. Although there is a high level of awareness regarding AIDS, it is important to expand these programmes to focus on other serious illnesses as well.

Although 24-hour services are provided at more clinics in the region, there is a need for more staff and also full-time doctors. There is a need for a clinic in Extension 5, Matwabeng.

Although permanent clinics are widely spread throughout the rural area, the location thereof is mainly limited to urban areas which makes transport to these clinics a serious problem. The rural area is mainly serviced by mobile clinics, but these are also not functioning well. Although this service functions in accordance with a planned programme of the Department of Health, the following problems are still being experienced:

- The service focuses mainly on contraceptives and family planning;
- Lack of medication
- Irregular visits as a result of:
- Financial constraints;
- Insufficient vehicles;
- Demotivated workers; and
- Health workers who are overloaded and also need to work in towns.

The rural area around Marquard is not served by a mobile clinic at present. In general there is a need for more mobile clinics or more regular visits. Apart from the above, a large portion of the rural community still prefers to make use of the services of traditional healers. Traditional healers, however, do not enjoy sufficient exposure and acknowledgement in the medical profession. Consequently, there is a great need for them to obtain a justifiable place in the medical sector.

D.4.3 Hospitals

Setsoto has 4 regional hospitals, one in each town. The rural areas are specifically in need of more mobile clinics, as some people have to travel more than 13km to reach a clinic. The poor conditions of the roads also contribute to this situation. Up to now all clinics have operated only from 7:00 to 14:00 making it less accessible for people employed during the day. There is a shortage of staff at clinics, which hampers the extension of operating hours. Doctors are also not available full time at clinics.

D. Background to the area

More people are infected with HIV/Aids and this places a lot of strain on the existing health resources and facilities. There is only one Aids Care center in Ficksburg. Ambulances are under the control of the Free State Provincial Government for the time being. The perception of the community is that emergency services are under capacitated in terms of human resources and equipment. The following table gives an overview of the current situation with regard to health facilities.

Health Facilities ²			
Town / Area	Clinics	Mobile Clinics	Community Care Centres
Ficksburg	1	1	1
Caledon Park	0	0	0
Megheleng	3	0	0
Senekal	1	3	0
Matwabeng	2	0	0
Clocolan	1	1	0
Hlohlolwane	1	0	0
Marquard	1	0	0
Moemaneng	2	0	0
Rural	0	0	0
Total	12	5	1

D.4.4 Clinics

Refer to Hospitals above

D.4.5 Community Health Centres (CHCs)

Refer to Hospitals above

D.4.6 Mobile Clinics

Refer to Hospitals above

D.4.7 Education and training

There is a great need for tertiary and special education facilities in Setsoto. In Megheleng there are only two facilities available for ABET education that could improve the adult literacy rate / level. The possibility of a satellite tertiary education campus in Ficksburg should be investigated due to the great need and its ideal location.

The lack of facilities, especially in the rural areas, where the illiteracy rate is high, should get attention. There are a number of primary farm schools in the rural areas, but not all are up to standard. The fact that roads in rural areas are not in good condition, also hinder the attendance of children and teachers. These areas have no secondary schools. This forces the children to attend schools elsewhere.

Schools in the rural area are not functioning well as a result of various problems that include, amongst others, the following:

- The distance to schools makes it difficult for pupils to attend school;
- There is a general shortage of teachers;

² Source: Setsoto RIDP, 2003/2004

D. Background to the area

- The curriculum of most schools only makes provision until *Grade 7*;
- Many teachers are not properly trained and some have a negative attitude towards the education system;
- Many management structures (school boards) do not function properly as the parents are not skilled.

The abovementioned problems cause a decrease in the number of pupils that force many schools to close. The standard of education results in many parents placing their children in urban schools which gives rise to the depopulation of the rural area and drastically affects the economy. In Hlohlolwane Extension 6 there is a need for a primary and secondary school as the existing schools cannot cope with the large number of school goers. Meqheleng also experiences problems in Zone 7 and in Boiketlong where there is land available for new schools. Meqheleng will need a preprimary, primary and secondary school. Parents should get more involved in schools. This will help in keeping the standard of education at a high level and also lead to better relations between parents and children.

Apart from the above, the literacy level of most residents is extremely low and also has a negative effect on the economy. Illiterate parents do not have the ability to assist their children with learning problems and are further limited in identifying economic opportunities that may exist. Consequently, it is very important to improve the literacy levels of adults in Setsoto.

Town / Area	Educational Facilities ³				
	Pre-Primary	Primary	Secondary	Tertiary	Special
Ficksburg	3	1	4	0	0
Caledon Park	2	2	0	0	0
Meqheleng	0	3	0	0	0
Senekal	2	1	1	0	0
Matwabeng	5	5	3	0	0
Clocolan	1	1	1	0	0
Hlohlolwane	5	3	2	0	0
Marquard	1	2	1	0	0
Moemaneng	1	2	1	0	0
Rural	0	132	1	0	0
Total	20	152	14	0	0

A primary school in Senekal is currently under construction and new schools are planned for by the Department of Education in Matwabeng, Moemaneng and Meqheleng. According to statistics from the Demarcation Board 18,2% of people over the age of 15 and 17,5% of children under the age of 15 are illiterate. ABET learning centers should be made more accessible for the community. There are no tertiary institutions in Setsoto.

Transport for rural children to schools is a major problem. Many children have to walk great distances to attend school. This has a negative impact on performance at school and also leads to children leaving school at an early age.

³ Source: Setsoto RIDP, 2003/2004

D. Background to the area

D.4.8 Safety and security

The absence of police in some areas such as Hlohlolwane creates problems for the local residents. The present socioeconomic situation in Setsoto contributes to criminal activities. The perception of the community is that there are not always enough policemen or vehicles available to maintain safety and security. Especially women suffer when female victims have to report serious crimes and only men are available to take statements. CPFs are not functioning to satisfaction. Better support should be given to CPFs in terms of training and information sharing. The lack of streetlights or high mast lights in some urban areas is conducive for criminal activities. Ficksburg has the highest crime rate in Setsoto due to its proximity to Lesotho. Border farms are constant targets of stock theft. Stock theft is the most eminent crime in Setsoto.

D.4.9 Unemployment

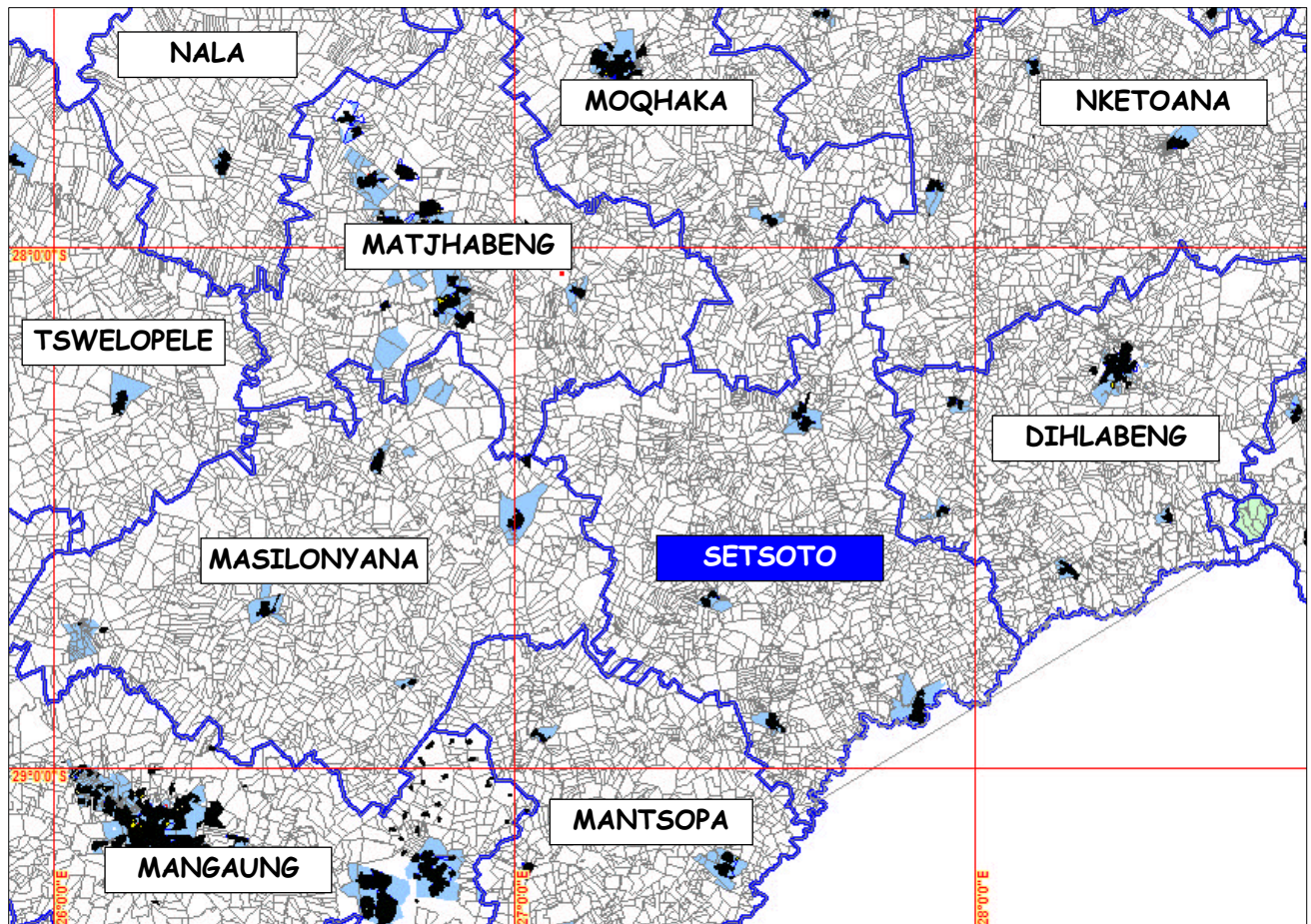
Setsoto has a high unemployment level that needs to be addressed as soon as possible. Without any income, services provided to communities cannot be paid for. There is a great need to attract investors to Setsoto to develop the area. Establishing and marketing tourist attractions and routes can exploit the tourism industry much more. The main focus should be to create sustainable job opportunities. In Ficksburg and Clocolan there are some industries functioning and the potential to expand on the existing industrial base should be further exploited. The existing industrial infrastructure can serve as the foundation for attracting new investors.

A large part of the income of the unemployed comes from small-scale farming. Many residents therefore have livestock that they need to keep in town. Commonage development should receive a high priority to eradicate the health risk associated with livestock in residential areas. Not only the provision of commonages, but also the management of commonages should receive urgent attention. Commercial farming should diversify by making use of agri-processing opportunities. Each administrative unit should strengthen the economy through local economic development. SMMEs should play an important role within LED.

D. Background to the area

D.5 Regional Perspective

D.5.1 Neighbouring authorities



D.5.2 Institutional structure

Information unknown

D.5.3 Social and economic perspective

Information unknown

D.5.4 Physical (e.g. Topography)

Information unknown

D. Background to the area

D.5.5 Demographics

Community	NIS User ID	Settlement Type	Population March 2005	Water Services below RDP (Population) March 2005	Sanitation Services below RDP (Population) March 2005	Total Households March 2005	Water Services below RDP (Households) March 2005	Sanitation Services below RDP (Households) March 2005
Setsoto Rural	04C42C003	Farming	36542	10597	34715	9616	2789	9135
Clocolan	04D22G001	Urban - Formal Town	1410		282	441		88
Ficksburg	04D22C001	Urban - Formal Town	8568		1371	2596		415
Marquard	04C41A001	Urban - Formal Town	1063		53	425		21
Senekal	04C42C001	Urban - Formal Town	3435		344	1073		107
Caledon Park	04D22C002	Urban - Former Township	1290		77	586		35
Hlohlolwane	04D22G002	Urban - Former Township	15757		3467	5083		1118
Matwabeng	04C42C002	Urban - Former Township	19821	4361	6343	4834	1062	1547
Meqheleng	04D22C003	Urban - Former Township	26714		6411	7633		1832
Moemaneng	04C41A002	Urban - Former Township	12448		4979	3036		1214

D.5.6 Co-operation and interdependence

Information unknown

D.5.7 Distance

Information unknown

D.5.8 Macro Strategic issues

Information unknown

D.5.9 Benefit of scale

Information unknown

E. IDP and WSDP goals and Integration

E1. IDP priority issues related to water services

E.1.1 Provincial Growth & development Strategy issues⁴

Based on the social and economic development challenges of the province, the Free State province has identified the following as primary development objectives:

- *Stimulate economic development;*
- *Develop and enhance infrastructure for economic growth and social development;*
- *Reduce poverty through human and social development;*
- *Ensure a safe and secure environment for all people of the province; and*
- *Promote effective and efficient governance and administration.*

To give effect to these developmental objectives, the Province has identified the 11 areas that need to be addressed by 2014:

Development Objectives and Targets

1. To achieve an annual economic growth rate at least equal to the national average economic growth rate;
2. To reduce unemployment from 38,9% to 20%;
3. To reduce the number of households living in poverty by 5% per annum;
4. To improve the functional literacy rate from 69,2% to 85%;
5. To reduce infant mortality for children under five years to 65 per 1000 life births;
6. To reduce the obstetrical maternal mortality rate from 65,5 to 20,06 per 100 000 women in the reproductive age group;
7. To stabilize the prevalence rate of HIV and AIDS and reverse the spread thereof;
8. To provide shelter for all the people of the province;
9. To provide free basic services to all households;
10. To reduce crime rate by at least 7% per annum; and
11. To provide adequate infrastructure for economic growth and development.

In order to achieve the above-mentioned targets, the following Key Priority Areas, Strategies and Programmes have been identified:

- (1) Economic Growth, Development and Employment;
- (2) Justice and Crime Prevention;
- (3) Social and Human Development; and
- (4) Efficient Governance and Administration

Water Services Impact	KPA	Strategy	Programme
Economic Growth, Development and Employment			
Yes	1.1	Strengthen the competitive advantage of the province	<ul style="list-style-type: none"> • Develop enabling strategies • Establish development zones and corridors

⁴ Free State Growth and Development Strategy, May 2005

E. IDP and WSDP goals and Integration

Water Services Impact	KPA	Strategy	Programme
Yes	1.2	Support the creation and expansion of SMME	<ul style="list-style-type: none"> Facilitate and improve access to funding sources and support for SMME development Support small scale farmers Support to beneficiaries of land redistribution and restitution programme Support farmers through CASP (Comprehensive Agriculture Support Programme) Provide non formal training to farmers in Agriculture Management Implement internship and learnership programmes for SMMEs Train SMMEs in business skills Enhance SMME support structures Support organized agriculture (NADU) Create local business support infrastructure Maintain central business support infrastructure including business data base Develop and improve institutional capacity for SMME support Implement Local Economic Development programme.
Yes	1.3	Add value to Free State products	<ul style="list-style-type: none"> Beneficiation of Agricultural products Beneficiation of petro-chemicals Beneficiation of mining products
Yes	1.4	Expand manufacturing industries in the province	<ul style="list-style-type: none"> Facilitate expansion of manufacturing
Yes	1.5	Optimise tourism opportunities	<ul style="list-style-type: none"> Improve tourism marketing and business support Develop tourism support structures Develop and increase tourism products Increase events and activity tourism Promote all forms of tourism
Yes	1.6	Optimize agriculture production	<ul style="list-style-type: none"> Diversify agricultural products Introduce high value crops
No	1.7	Develop and expand the transport and distribution industry	<ul style="list-style-type: none"> Secure Free State as a distribution hub
Yes	1.8	Facilitate land reform	<ul style="list-style-type: none"> Facilitate completion of land restitution programme Buy land and establish PDI farmers
Yes	1.9	Maximize economic potential of municipalities in the Free State	<ul style="list-style-type: none"> Develop and implement economic development in municipalities
No	1.10	Facilitate provision of a conducive environment to accelerate infrastructure development	<ul style="list-style-type: none"> Develop enabling policies, strategies and capacity Transform government's property ownership (Broad Based Black Economic Empowerment)
Yes	1.11	Avail land for infrastructure development	<ul style="list-style-type: none"> Support the macro planning and identify urban nodes Secure land tenure rights in the Free State
No	1.12	Ensure advanced enabling infrastructure network	<ul style="list-style-type: none"> Expand on-line learner technology Expand utilisation of ICT.
No	1.13	Improve the maintenance of government property	<ul style="list-style-type: none"> Ensure designated funding for maintenance Upgrade and maintain all buildings
Social and Human Development			
No	2.1	Enhance people's skills and self-reliance	<ul style="list-style-type: none"> Implement adult literacy and numeracy programmes Provide Adult Basic Education and Training (ABET) in accordance with the ABET act Implement skills development programmes Capacity-building of clients incorporated in service delivery Implement Learnership programmes
No	2.2	Improve access and quality of formal education	<ul style="list-style-type: none"> Implement Early Childhood Development programmes Address critical gaps in identified areas Implement General Education and Training Certificate (GETC) Implement Further Education and Training Certificate (FETC)

E. IDP and WSDP goals and Integration

Water Services Impact	KPA	Strategy	Programme
Yes	2.3	Address the backlog with regard to social infrastructure	<ul style="list-style-type: none"> • Provide Housing • Provide sanitation • Eradicate bucket system where there is access to water and infrastructure • Provide water • Provide electricity • Provide education infrastructure • Upgrade education infrastructure • Provide health infrastructure • Upgrade health infrastructure • Provide library infrastructure • Provide sport facilities • Provide multi purpose centres • Provide pay point facilities • Provide arts and culture centres • Provide other government accommodation/ buildings • Provide cemeteries • Provide solid waste disposal sites • Provide storm water drainage • Improve roads infrastructure (provincial./ municipality)
Yes	2.4	Improve safety-net and livelihood	<ul style="list-style-type: none"> • Increase to social grants • Provide emergency food security to needy families and individuals • Implement School Nutrition programme. • Provide transport for farm school learners • Provide accommodation for learners from non-viable farm schools
Yes	2.5	Accelerate community development support	<ul style="list-style-type: none"> • Increase access to commonage • Implement community development projects • Income Generation Projects for Youth, Women and Persons with Disabilities
No	2.6	Engage and promote participation in cultural activities	<ul style="list-style-type: none"> • Promote major cultural events • Provide museum and heritage services • Build capacity in visual and performing arts
No	2.7	Provide access to reading, learning, and information resources	<ul style="list-style-type: none"> • Provide library and information services • Provide special services
No	2.8	Engage and promote participation in recreational sport	<ul style="list-style-type: none"> • Facilitate mass participation in sport and recreation activities/events
No	2.9	Accelerate performance in sport	<ul style="list-style-type: none"> • Render sport science, exercise rehabilitation and sport development services
No	2.10	Provide special programmes for the survival, development, care and protection of the vulnerable	<ul style="list-style-type: none"> • Implement training programmes to support the care and protection of the vulnerable • Implement service programmes targeting vulnerable children, vulnerable women, vulnerable older and frail persons • Provide Early Childhood Development Services • Implement programmes targeting the unemployed and Out-of-School Youth • Promote social integration and empowerment of people with disabilities • Implement Special Programmes for the vulnerable in Government
No	2.11	Restore morals	<ul style="list-style-type: none"> • Implement moral regeneration programmes for the community • Implement moral regeneration programmes within government

E. IDP and WSDP goals and Integration

Water Services Impact	KPA	Strategy	Programme
Yes	2.12	Reduce the burden of disease	<ul style="list-style-type: none"> Implement and monitor comprehensive plan on care, treatment and management of HIV and AIDS HIV and Aids prevention and support programmes. Provide integrated service to people affected and infected by HIV & AIDS. Implement the national TB strategy. Improve the immunization coverage of children. Implement Provincial Health Promotion strategy. Implement Integrated Management of Childhood Illnesses strategy.
No	2.13	Improve access to and quality of health services	<ul style="list-style-type: none"> Expand Free Health Services Implement and monitor continuous quality improvement programme Improve access to health care for people in rural areas
Justice, Crime Prevention and Security			
No	3.1	Facilitate an improved and effective integrated criminal justice system	<ul style="list-style-type: none"> Coordination of an Integrated Criminal Justice System Victim Empowerment Service programmes for children in conflict with the law Reduce time to finalize cases in court Increase the number of successful prosecutions. Develop and implement integrated crime prevention programmes.
No	3.2	Ensure effective and efficient police service in the province	<ul style="list-style-type: none"> Effective visible police service Encourage community participation Promote accessibility to police services. Enhance Service Delivery and Transformation Maintain Rural Safety The combating of corruption in SAPS
No	3.3	Establish an effective disaster prevention and response capacity for disasters throughout the Province	<ul style="list-style-type: none"> The coordination of integrated disaster management services. Minimize the impact of disasters. Implement integrated disaster management strategy
No	3.4	Improve traffic policing and road incident management in the Province	<ul style="list-style-type: none"> Provide effective emergency communication Implement road traffic regulations effectively Implement effective emergency services
No	3.5	Implement Provincial Emergency Medical Services Plan	<ul style="list-style-type: none"> Provide medical rescue, pre- and inter hospital Emergency Medical Services
No	3.6	Ensure a safe and secure environment at all institutions	<ul style="list-style-type: none"> Implement safety programmes at all institutions
Effective and Efficient Governance and Administration			
Yes	4.1	Improve integrated development planning and implementation	<ul style="list-style-type: none"> Align and co-ordinate IDPs and FSGDS. Improve Cluster system across the two spheres of government in the province. Ensure effective implementation of Intergovernmental relations Coordinate strategic programmes (EPWP, ISRDP, Project Consolidate. Etc). Promote the involvement of Traditional Leadership. Maintain and consolidate constructive partnerships with all key provincial role players. Implement the National and Provincial Programme of Action. Implement Community Based Ward Planning through Ward Committees. Accelerate Community Development Workers' Programme.
No	4.2	Ensure effective communication with stakeholders and clients	<ul style="list-style-type: none"> Improve interaction between government and the people Implement One stop government services Implement e-Governance
No	4.3	Promote Black Economic Empowerment	<ul style="list-style-type: none"> Create opportunities for Broad Based Black Economic Empowerment for Woman, Youth and people with disabilities Review procurement system.

E. IDP and WSDP goals and Integration

Water Services Impact	KPA	Strategy	Programme
No	4.4	Ensure effective Human Resource Development and management	<ul style="list-style-type: none"> Coordinate integrated human resource development strategy Coordinate employment equity plan Coordinate retention strategy Coordinate employee assistance programme Coordinate bursaries and Learner Support Programme
No	4.5	Ensure improvement in Financial Management	<ul style="list-style-type: none"> Improve and coordinate revenue measures and mechanisms. Strengthen financial management capacity in departments. Strengthen financial management capacity in municipalities.
No	4.6	Promote integrity in government	<ul style="list-style-type: none"> Implement anti-corruption and fraud strategy Promote ethical behaviour (Code of Conduct) in government
No	4.7	Establish proper management information and records management systems	<ul style="list-style-type: none"> Improve record management services in Departments Secure information within Departments
Yes	4.8	Improve asset management	<ul style="list-style-type: none"> Improve control of assets and resources
No	4.9	Build government's capacity in critical areas	<ul style="list-style-type: none"> Improve financial management capacity Improve strategic planning training monitoring and evaluation capacity Develop information technology skills Enhance Batho Pele skills Provide capacity building programmes for all staff
Yes	4.10	Ensure a healthy environment through integrated environmental management	<ul style="list-style-type: none"> Implement integrated environmental management Coordinate integrated environmental management
No	4.11	Monitor, Evaluate and Review FSGDS	<ul style="list-style-type: none"> Implement FSGDS Monitoring and Evaluation systems

E. IDP and WSDP goals and Integration

Sector	Project Description / Initiative	Water Services Business Elements										
		1. Socio - Economic Profile	2. Service Level Profile	3. Water Resource Profile	4. Water Conservation / Demand Management	5. Water Services Infrastructure Profile	6. Water Balance	7. Water Services Institutional arrangement Profile	8. Customer Services Profile	9. Financial Profile	10. List of Projects	11. Database Management
		Page Numbers										
Agriculture												
Mining												
Manufacturing												
Electricity, Water												
Construction												
Trade												
Transport, Communication												
Finance												
Community Services												

E. IDP and WSDP goals and Integration

E2. Sustainable water services sub-goals

	Sub-goals
Provision of basic water services (includes free basic water)	
Provision of basic sanitation services	
Higher levels of water services	
Higher levels of sanitation services	

During an alignment analysis process (April 2004), 'gaps' were found between the IDP and the previously developed District Municipality WSDP as well as in relation to a number of critical issues ("burning issues" reported by the WSA). This "Alignment Analysis" was performed within all Local Municipalities within the Free State Province, with the end objective being:

- to ascertain whether the municipalities' IDP water & sanitation related Objectives, Strategies & Projects are aligned with their District Municipality WSDP;
- to request a comprehensive listing of their main critical issues regarding their water and sanitation backlogs within their area of jurisdiction; and
- to gather general information which representatives deemed of importance to mention within the IDP/WSDP Alignment - Analysis Report.

The following were noted:

SETSOTO IDP	CRITICAL ISSUES	SETSOTO FIRST LEVEL WSDP
WATER PROVISION		
Key Issues		
<ul style="list-style-type: none"> • Water Services Provision: Bulk and Network <ul style="list-style-type: none"> ➢ Bulk Infrastructure development ➢ Existing capacities ➢ Basic services and infrastructure ➢ Compliance with sustainable environment ➢ Service standards ➢ Imbalance in services 		
Internal Infrastructure		
Objective	The provision of a complete internal water network inclusive of yard taps and water meters require in the following areas:	Provision of metered potable water to unserved sites and new extensions :
<ul style="list-style-type: none"> • To ensure adequate and clean water to all residents at an affordable rate 	<ol style="list-style-type: none"> 1) Clocolan (Ext 6) 2) Senekal - 1450 sites 3) Marquard - 180 sites 4) Ficksburg - 5900 sites 	<ul style="list-style-type: none"> • Senekal - 609 sites
Strategies		Upgrading of communal water supply to metered individual yard connections:
<ul style="list-style-type: none"> • That every erf within the urban area is provided with a metered water connection • To gradually replace conventional water meters with pre-paid meters 		<ul style="list-style-type: none"> • Ficksburg - 5147 sites • Clocolan - 22 sites • Marquard - 180 sites • Senekal - 2098 sites
Projects	The provision of water meters to the following areas are required:	Provision of water volume measuring / controlling
<ul style="list-style-type: none"> • Sparta Regional Water Project 	<ol style="list-style-type: none"> 5) Clocolan - 3938 sites 6) Senekal - 3780 sites 	

E. IDP and WSDP goals and Integration

SETSOTO IDP	CRITICAL ISSUES	SETSOTO FIRST LEVEL WSDP
	7) Marquard - 2906 sites 8) Ficksburg - 2500 sites 9) The adequate provision of fire hydrants and valves needed in all towns of the area.	devices to individual unmetered sites: <ul style="list-style-type: none"> • Clocolan - 3938 sites • Marquard - 3056 sites • Senekal - 1665 sites
Bulk Connector Infrastructure		
Objective <ul style="list-style-type: none"> • To ensure adequate and clean water to all residents at an affordable rate Strategies <ul style="list-style-type: none"> • That every erf within the urban area is provided with a metered water connection Projects <ul style="list-style-type: none"> • Upgrading of bulk water supply in Meqheleng • Sparta Regional Water Project 	Ficksburg 10) Upgrading of distribution pipe lines 11) New pipeline from water treatment works to the townships Senekal 12) Replacement of pipelines from water treatment works to reservoir required Clocolan 13) Main supply pipeline from the Ficksburg water treatment works to the Clocolan water treatment works required.	Not Covered
Bulk Raw Water		
Objective <ul style="list-style-type: none"> • To ensure adequate and clean water to all residents at an affordable rate Strategies <ul style="list-style-type: none"> • Not Covered Projects <ul style="list-style-type: none"> • Upgrading of bulk water supply in Meqheleng • Sparta Regional Water Project 	Clocolan 14) Empty dams 15) Insufficient infrastructure 16) Upgrading needs to be implemented to meet the demand requirements Marquard 17) Empty dams 18) Insufficient infrastructure 19) Upgrading needs to be implemented to meet the demand requirements. Senekal 20) Envisaged that demand will far outweigh the supply in the near future	Not Covered
Bulk Reservoirs		
Objective <ul style="list-style-type: none"> • To ensure adequate and clean water to all residents at an affordable rate Strategies <ul style="list-style-type: none"> • Not Covered Projects <ul style="list-style-type: none"> • Upgrading of bulk water supply in Meqheleng • Sparta Regional Water Project 	Marquard 21) 4 Mℓ reservoir Clocolan 22) 4 Mℓ reservoir Senekal 23) Increase of storage capacity to 48 hours standby	Increase Water Storage Capacity to ensure storage of at least 48 hours: <ul style="list-style-type: none"> • Ficksburg - 20 Mℓ Reservoir • Senekal - 5.0 Mℓ Reservoir
Bulk Metering		
Objective <ul style="list-style-type: none"> • To ensure adequate and clean water to all residents at an affordable rate Strategies <ul style="list-style-type: none"> • Not Covered Projects <ul style="list-style-type: none"> • Upgrading of bulk water supply in Meqheleng • Sparta Regional Water Project 	Not Covered	Installation of bulk water meters at water treatment works and supply zones (at least 3 meters per town): <ul style="list-style-type: none"> • Ficksburg • Senekal • Clocolan • Marquard
Bulk Water Treatment Works		
Objective <ul style="list-style-type: none"> • To ensure adequate and clean water to all residents at an affordable rate 	Ficksburg 24) Storage capacity increase required at water treatment works sump.	Not Covered

E. IDP and WSDP goals and Integration

SETSOTO IDP	CRITICAL ISSUES	SETSOTO FIRST LEVEL WSDP
<p>Strategies</p> <ul style="list-style-type: none"> That every erf within the urban area is provided with a metered water connection <p>Projects</p> <ul style="list-style-type: none"> Water purification works in Clocolan 	<p>Upgrading of the water treatment works at:</p> <p>25) Senekal 26) Marquard</p>	
Water Quality		
<p>Objective</p> <ul style="list-style-type: none"> To ensure adequate and clean water to all residents at an affordable rate <p>Strategies</p> <ul style="list-style-type: none"> Not Covered <p>Projects</p> <ul style="list-style-type: none"> Not Covered 	None	Not Covered
Operation, Maintenance, Planning & Quality of Service		
<p>Objective</p> <ul style="list-style-type: none"> To ensure adequate and clean water to all residents at an affordable rate <p>Strategies</p> <ul style="list-style-type: none"> That every erf within the urban area is provided with a metered water connection <p>Projects</p> <ul style="list-style-type: none"> Maintenance of water networks 	<p>27) Urgent need for additional vehicles, equipment and the maintenance thereof</p>	Not Covered
SANITATION PROVISION		
<p>Key Issues</p> <ul style="list-style-type: none"> Sanitation Services Provision: Bulk and Network <ul style="list-style-type: none"> Bulk Infrastructure development Existing capacities Basic services and infrastructure Compliance with sustainable environment Service standards Imbalance in services 		
Internal Infrastructure		
<p>Objective</p> <ul style="list-style-type: none"> To ensure access to an acceptable sanitation system by each household that is affordable and complies with minimum standards <p>Strategies</p> <ul style="list-style-type: none"> To provide each household with an acceptable sanitation system in accordance with minimum RDP standards To investigate the provision of waterborne sewerage systems in all urban areas and to continue with a n implementation programme in accordance with the recommendations of such an investigation To continuously provide and maintain sewer networks and the bucket system in areas where poor sanitation conditions are evident <p>Projects</p> <ul style="list-style-type: none"> Acceptable sanitation systems 	<p>Provision of infrastructure inclusive of toiletstructures in all areas needs urgent attention (14 000 systems):</p> <p>28) Senekal - 1000 29) Clocolan - 3090 30) Marquard - 2337 31) Ficksburg - 5000</p>	<p>Upgrade night-soil removal sanitation system to a full waterborne sanitation system:</p> <ul style="list-style-type: none"> Ficksburg - 6107 sites Clocolan - 3509 sites Marquard - 2922 sites Senekal - 3258 sites <p>Provision of full waterborne sanitation system to unserved sites:</p> <ul style="list-style-type: none"> Ficksburg - 540 sites Marquard - 300 sites Senekal - 760 sites
Bulk Connector Infrastructure		
<p>Objective</p> <ul style="list-style-type: none"> To ensure access to an acceptable sanitation system by each household that is affordable and complies with minimum standards <p>Strategies</p> <ul style="list-style-type: none"> To provide each household with an acceptable sanitation system in accordance with minimum RDP standards To investigate the provision of waterborne sewerage systems in all urban areas and to continue with a n implementation programme 	<p>Senekal</p> <p>32) Two pumpstations and pipelines needs upgrading (in town)</p>	Not Covered

E. IDP and WSDP goals and Integration

SETSOTO IDP	CRITICAL ISSUES	SETSOTO FIRST LEVEL WSDP
<p>in accordance with the recommendations of such an investigation</p> <ul style="list-style-type: none"> To continuously provide and maintain sewer networks and the bucket system in areas where poor sanitation conditions are evident <p>Projects</p> <ul style="list-style-type: none"> Acceptable sanitation systems 		
Bulk Sewage Treatment works		
<p>Objective</p> <ul style="list-style-type: none"> To ensure access to an acceptable sanitation system by each household that is affordable and complies with minimum standards <p>Strategies</p> <ul style="list-style-type: none"> To provide each household with an acceptable sanitation system in accordance with minimum RDP standards To investigate the provision of waterborne sewerage systems in all urban areas and to continue with a n implementation programme in accordance with the recommendations of such an investigation To continuously provide and maintain sewer networks and the bucket system in areas where poor sanitation conditions are evident <p>Projects</p> <ul style="list-style-type: none"> Upgrading sanitation treatment works in Hlohlowane and Moemaneng 	<p>Ficksburg</p> <p>33) Extension an upgrading of the sewage treatment plant</p> <p>Upgrading of oxidation ponds to accommodate future demands in:</p> <p>34) Clocolan</p> <p>35) Marquard</p>	<p>Increase capacity of sewerage treatment works / oxidation pond system:</p> <ul style="list-style-type: none"> Ficksburg – sewage treatment works - additional 1.0 Mℓ capacity Marquard – oxidation pond system - additional 4.0 Mℓ capacity
Operation, Maintenance, Planning & Quality of Service		
<p>Objective</p> <ul style="list-style-type: none"> To ensure access to an acceptable sanitation system by each household that is affordable and complies with minimum standards <p>Strategies</p> <ul style="list-style-type: none"> To continuously provide and maintain sewer networks and the bucket system in areas where poor sanitation conditions are evident <p>Projects</p> <ul style="list-style-type: none"> Provision and maintenance of sewer networks 	<p>36) Urgent need for additional vehicles, equipment and the maintenance thereof</p>	Not Covered
POLLUTION		
<p>Objective</p> <ul style="list-style-type: none"> To ensure access to an acceptable sanitation system by each household that is affordable and complies with minimum standards <p>Strategies</p> <ul style="list-style-type: none"> Not Covered <p>Projects</p> <ul style="list-style-type: none"> Not Covered 	<p>37) Pollution caused by sewerage blockages occurs in all towns within the municipality</p> <p>Pollution caused by the use of bucket systems:</p> <p>38) Clocolan</p> <p>39) Marquard</p>	Not Covered
WATER & SANITATION PROVISION : INSTITUTIONS		
Schools, Clinics & Crèches		
<ul style="list-style-type: none"> Covered under internal infrastructure provision 	<p>Ficksburg</p> <p>40) Infrastructure needed for 1 school</p> <p>Infrastructure needed for all schools within townships of the following:</p> <p>41) Marquard</p> <p>42) Clocolan</p>	Not Covered
Police Stations & Prisons		
<ul style="list-style-type: none"> Covered under internal infrastructure provision 	None	Not Covered
Churches		

E. IDP and WSDP goals and Integration

SETSOTO IDP	CRITICAL ISSUES	SETSOTO FIRST LEVEL WSDP
<ul style="list-style-type: none"> Covered under internal infrastructure provision 	43) Infrastructure needed at all unserved churches within all areas	Not Covered
WATER & SANITATION PROVISION : RURAL		
<p>WATER</p> <p>Objective</p> <ul style="list-style-type: none"> To ensure adequate and clean water to all residents at an affordable rate <p>Strategies</p> <ul style="list-style-type: none"> To ensure that all residents in the rural area have access to clean and purified water in accordance with RDP standards <p>Projects</p> <ul style="list-style-type: none"> Not Covered <p>SANITATION</p> <p>Objective</p> <ul style="list-style-type: none"> To ensure access to an acceptable sanitation system by each household that is affordable and complies with minimum standards <p>Strategies</p> <ul style="list-style-type: none"> To provide each household with an acceptable sanitation system in accordance with minimum RDP standards <p>Projects</p> <ul style="list-style-type: none"> Acceptable sanitation systems 	44) An area of concern is the fact that no needs assessment has been done within the rural areas	Not Covered

E3. Integrated water resource management sub-goals

	Sub-goals
Water resource protection	
Water resource conservation	
Demand management	
Other (state)	

E. IDP and WSDP goals and Integration

E4. Efficient and effective water services institutional arrangements sub-goals

	Sub-goals
Water services authority (WSA) overall capacity	
Water services provider (WSP) institutional arrangements	

1. Socio-Economic Profile

1.1 Demographics

1.1.1 Situation Assessment (Demographics)

1.1.1.1 Current Consumer Profile

Water Provision ("Consumer Units")	Settlement Type															Total
	Urban			Dense			Village			Farmland			Scattered			
	HLoS	RDP	Below RDP	HLoS	RDP	Below RDP	HLoS	RDP	Below RDP	HLoS	RDP	Below RDP	HLoS	RDP	Below RDP	
Residential / Households	16864	8270	1062								6827	2789				35812
"Dry" Industrial	740															740
"Wet" Industrial	87															87
"Other"	136															136
Subtotals	17827	8270	1062								6827	2789				36775
Population	90506			n/a			n/a			36542			n/a			127048
Households	25707			n/a			n/a			9616			n/a			35323

Sanitation Provision (Consumer Units)	Settlement Type															Total
	Urban			Dense			Village			Farmland			Scattered			
	HLoS	RDP	Below RDP	HLoS	RDP	Below RDP	HLoS	RDP	Below RDP	HLoS	RDP	Below RDP	HLoS	RDP	Below RDP	
Residential / Households	8424		6377								481	9135				24417
"Dry" Industrial	740															740
"Wet" Industrial	87															87
"Other"	136															136
Subtotals	9387		6377								481	9135				25380
Population	90506			n/a			n/a			36542			n/a			127048
Households	25707			n/a			n/a			9616			n/a			35323

1.1.1.2 Poor household definition

"The subsidy for a household (occupants of a site) is classified as indigent, i.e. where verified total gross monthly income of all occupants over 18 years of age does not exceed R 1 000.00 per month, will qualify for a subsidy (the percentage of relief per service to be determined by Council)."

1. Socio-Economic Profile

1.1.1.3 Present population and projected population growth rates

According to the recent Setsoto IDP Review the size of the population within the area of Setsoto is estimated at approximately 125 751 people (see table below). The figure is calculated on the basis of census 1996 incorporating annual growth based on the average annual growth rate for the Free State. From the figures below it is evident that 40 % of the population lives in the rural areas of Setsoto and 60 % of the population in the urban areas.

Setsoto Population 5			
Urban	Rural	Total	Population Density (per km ²)
75 463	50 288	125 751	21.14

According to the latest estimates made regarding the demographic figures of this municipal area (Census 2001 - adjusted/projected⁶ towards March 2005) the total population and number of households are provided within the following table, categorised according to the different "Settlement Types" as outlined within the WSDP Preparation Guide, Version 5 of September 2004. Onwards where applicable, demographic figures are provided accordingly within the same context (unless specified otherwise) throughout this document.

Settlement Type	Total Households March 2005	Total Population	Effective Population Growth Rate (%/a)				
			2002/03	2003/04	2004/05	2005/06	2006/07
Urban	25707	90506	0.72 ⁷	0.72	0.72	0.72	0.72
Dense	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Village	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Farmland	9616	36542	0.72	0.72	0.72	0.72	0.72
Scattered	n/a	n/a	n/a	n/a	n/a	n/a	n/a
TOTAL	35323	127048	0.72	0.72	0.72	0.72	0.72

1.1.1.4 Demographic trends and migration patterns

Settlement Type	Permanent Resident Population	Peak Daily Labour Migration (-) Out / (+) In	Peak Long-Term Labour Migration (-) Out / (+) In	Permanent Population Changes (-) Out / (+) In	Holiday Population
Urban	90506	unknown	6824	unknown	unknown
Dense	n/a	n/a	n/a	n/a	n/a
Village	n/a	n/a	n/a	n/a	n/a
Farmland	36542	unknown	1227	unknown	unknown
Scattered	n/a	n/a	n/a	n/a	n/a
TOTAL	127048	unknown	8051	unknown	unknown

⁵ Source: Setsoto RIDP, 2003/2004

⁶ "DWAf - Lekgotla", January 2005

⁷ Growth Rate = 0,72% / annum - Free State Growth & Development Strategy, May 2005

1. Socio-Economic Profile

1.1.1.5 Age and gender Profile

Settlement Type	Youth Residents (< 18)	Aged Residents Over 65	Eligible Work Force (18-65)	Male	Female	Total Population
Urban	34829	4671	51012	41906	48602	90506
Dense	n/a	n/a	n/a	n/a	n/a	n/a
Village	n/a	n/a	n/a	n/a	n/a	n/a
Farmland	14062	1886	20596	16920	19623	36542
Scattered	n/a	n/a	n/a	n/a	n/a	n/a
TOTAL	48888	6556	71606	58825	68224	127048

1. Socio-Economic Profile

1.1.2 Future Trends And Goals (Demographics)

- 1.1.2.1 Consumer profile
- 1.1.2.2 Population and projected population growth rates
- 1.1.2.3 Demographic trends and migration patterns
- 1.1.2.4 Age and gender profile

1.1.3 Strategic Gap Analysis (Demographics)

1.1.4 Implementation Strategies (Demographics)

1. Socio-Economic Profile

1.2 Health

1.2.1 Situation Assessment (Health)

1.2.1.1 Health Profile

1.2.1.1.1 Facilities

Setsotho has 4 regional hospitals, one in each town. The rural areas are specifically in need of more mobile clinics, as some people have to travel more than 13km to reach a clinic. The poor conditions of the roads also contribute to this situation. Up to now all clinics have operated only from 7:00 to 14:00 making it less accessible for people employed during the day. There is a shortage of staff at clinics, which hampers the extension of operating hours. Doctors are also not available full time at clinics. More people are infected with HIV/AIDS and this places a lot of strain on the existing health resources and facilities. There is only one Aids Care centre in Ficksburg. Ambulances are under the control of the Free State Provincial Government for the time being. The perception of the community is that emergency services are under capacitated in terms of human resources and equipment. The following table gives an overview of the current situation with regard to health facilities.

1.2.1.1.2 Water Quantity

Information unknown

1.2.1.1.3 Water Related diseases, (probability potential affected population)

Number of notified cases and deaths from January to December 2003 and 2004										
Disease	2003 Alive	2004 Alive	2003 Asymptomatic	2004 Asymptomatic	2003 Died	2004 Died	2003 Rabies contact	2004 Rabies contact	2003 Total	2004 Total
Acute flaccid paralysis	1	1	0	0	0	0	0	0	1	1
Acute Rheumatic fever	1	0	0	0	0	0	0	0	1	0
Anthrax	0	33	0	0	0	0	0	0	0	33
Cholera	3	0	0	0	0	0	0	0	3	0
Congenital syphilis	1	0	0	0	0	0	0	0	1	0
Congo fever	1	0	0	0	0	0	0	0	1	0
Food poisoning	9	3	0	0	0	0	0	0	9	3
Haemophilus influenza B	1	0	0	0	0	0	0	0	1	0
Hepatitis A	21	37	0	0	1	0	0	0	22	37
Hepatitis B	9	40	0	0	2	1	0	0	11	41
Hepatitis Non-A, B	0	2	0	0	0	0	0	0	0	2
Leprosy	0	1	0	0	0	0	0	0	0	1
Malaria	26	47	0	0	0	1	0	0	26	48
Measles	8	4	0	0	0	0	0	0	8	4
Meningococcal INF	28	36	0	0	5	4	0	0	33	40

1. Socio-Economic Profile

Number of notified cases and deaths from January to December 2003 and 2004										
No disease	0	0	0	0	0	2	0	0	0	2
Pesticidal poisoning	73	180	2	0	1	2	0	0	76	182
Rabies	16	0	0	1	0	1	54	10	70	12
Rheumatic fever	0	8	0	0	0	0	0	0	0	8
TB Bones & Joints	41	39	0	1	0	0	0	0	41	40
TB Genito-urinary system	1	1	0	0	0	0	0	0	1	1
TB intestines	9	5	0	0	0	1	0	0	9	6
TB miliary	563	509	3	4	32	24	0	0	598	537
TB of meninges, CNS	128	204	0	0	20	18	0	0	148	222
TB other organs	498	389	2	3	16	12	0	0	516	404
TB respiratory	686	715	0	2	12	10	0	0	698	727
TB primary	951	964	6	7	7	9	0	0	964	980
TB pulmonary	14162	12888	24	101	655	435	0	0	14841	13424
Tetanus	2	4	1	0	0	0	0	0	3	4
Trachoma	2	1	0	0	0	0	0	0	2	1
Typhoid fever	1	1	0	0	0	0	0	0	1	1
TOTAL	17242	16112	38	119	751	520	54	10	18085	16761

1.2.1.1.4 Access to Sanitation

Information unknown

1.2.1.1.5 Lack of adequate sanitation and prevalence of waterborne diseases

Information unknown

1. Socio-Economic Profile

1.2.2 Future Trends And Goals (Health)

1.2.2.1 Health Profile

1.2.3 Strategic Gap Analysis (Health)

1.2.4 Implementation Strategies (Health)

1. Socio-Economic Profile

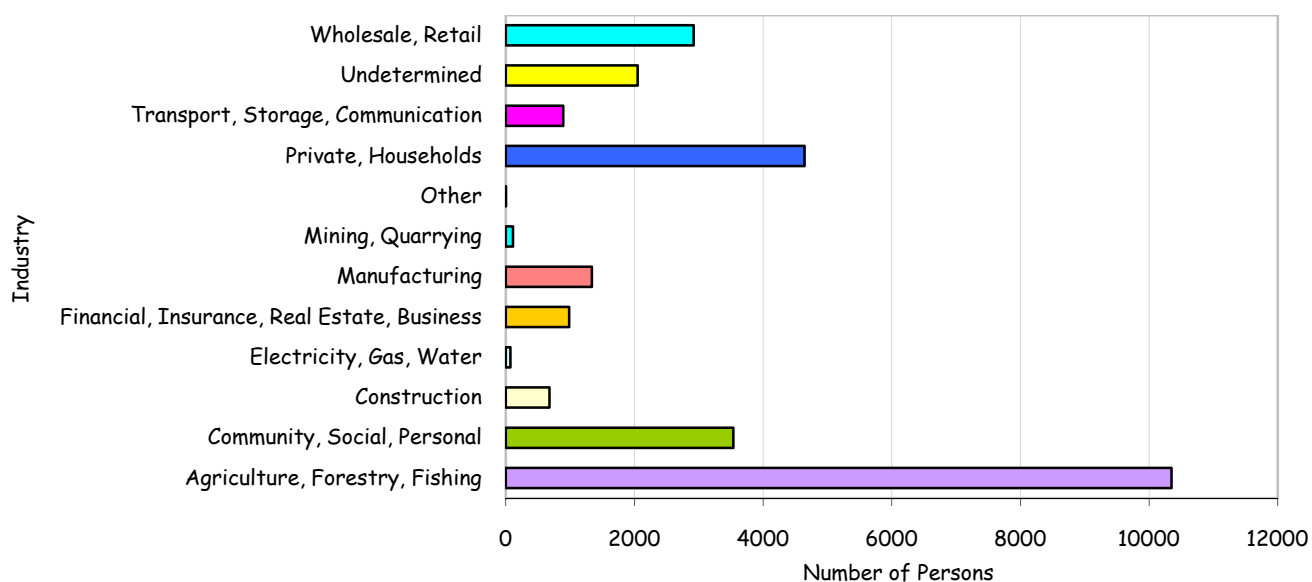
1.3 Employment and Income

1.3.1 Situation Assessment (Employment and Income)

1.3.1.1 Employment Profile

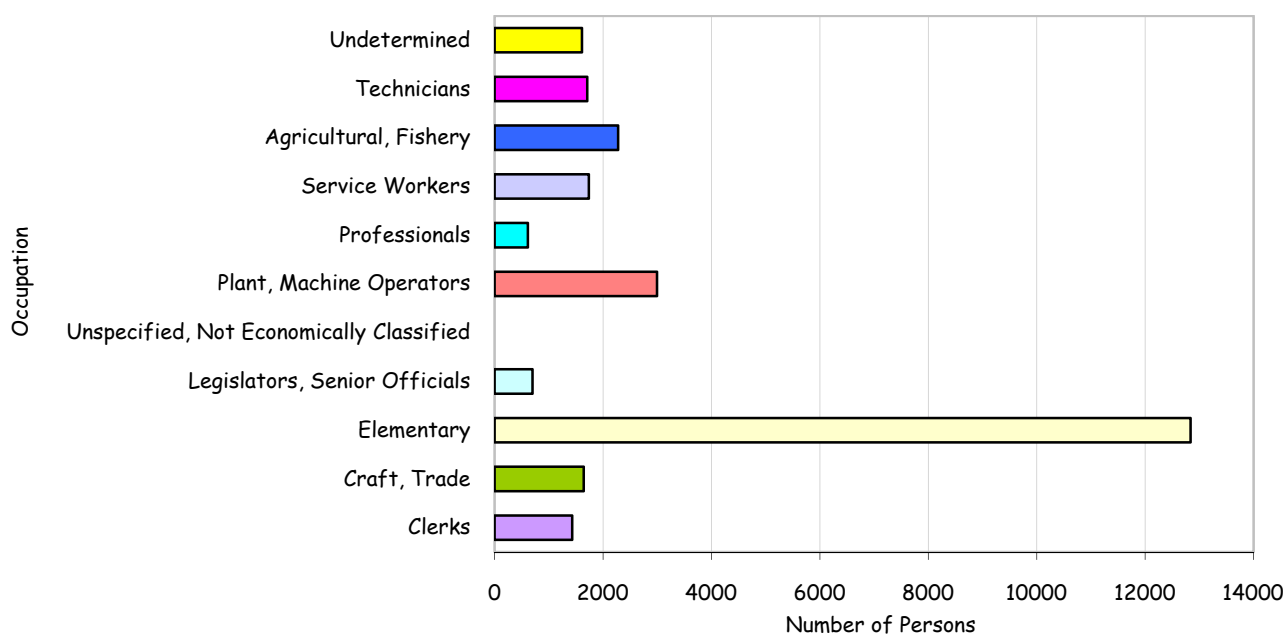
Settlement Type	Eligible Work Force (18-65)	Employed	Unemployed	Not Economically Active	Total Population
Urban	51012	19644	13724	23281	90506
Dense	n/a	n/a	n/a	n/a	n/a
Village	n/a	n/a	n/a	n/a	n/a
Farmland	20596	7931	5541	9400	36542
Scattered	n/a	n/a	n/a	n/a	n/a
TOTAL	71606	27574	19264	32680	127048

Settlement Type	Employment - Industry Type												
	Agriculture Forestry Fishing	Community Social Personal	Construction	Electricity Gas Water	Financial Insurance Real Estate Business	Manufacturing	Mining Quarrying	Other	Private Households	Transport Storage Communication	Undetermined	Wholesale Retail	
Urban	7372	2519	484	51	702	953	79	2	3308	635	1460	2080	
Dense	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
Village	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
Farmland	2976	1017	195	20	283	385	32	1	1335	257	589	840	
Scattered	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
TOTAL	10348	3536	679	71	985	1338	111	3	4643	892	2049	2920	



1. Socio-Economic Profile

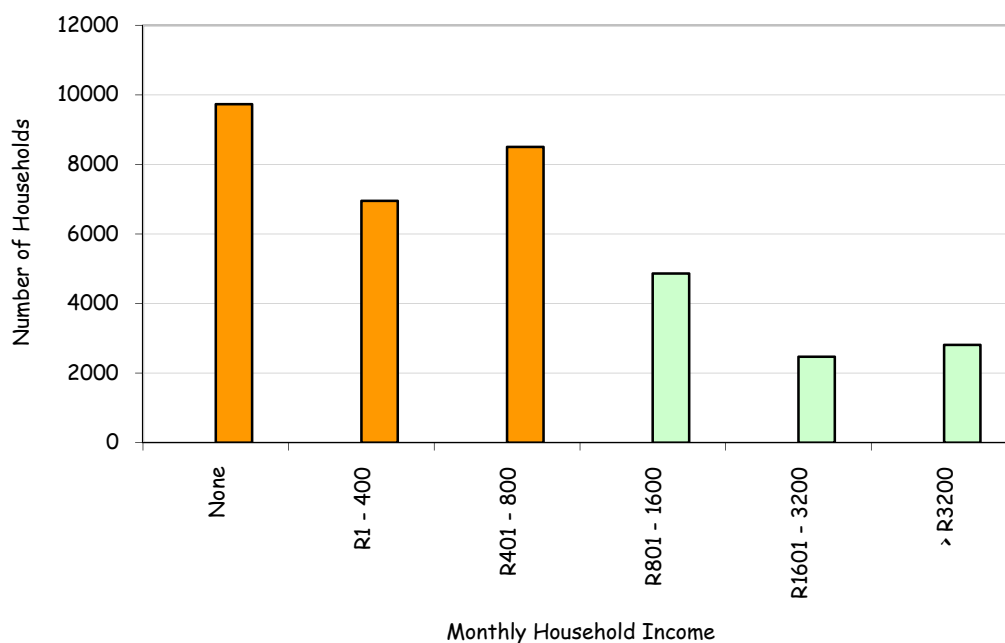
Settlement Type	Employment - Occupation Type										
	Clerks	Craft Trade	Elementary	Legislators Senior Officials	Unspecified Not Economically Classified	Plant Machine Operators	Professionals	Service Workers	Agricultural Fishery	Technicians	Undetermined
Urban	1022	1171	9146	500		2135	437	1240	1625	1219	1148
Dense	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Village	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Farmland	412	473	3693	202		862	177	501	656	492	464
Scattered	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
TOTAL	1434	1644	12839	702		2997	614	1741	2281	1711	1612



1.3.1.2 Household income

1. Socio-Economic Profile

Settlement Type	Monthly Household Income						Total Households March 2005	Affordability			
	None	R1 - 400	R401 - 800	R801 - 1600	R1601 - 3200	> R3200		Water		Sanitation	
								Typical Monthly Water Bill	Avg % of Monthly Income	Typical Monthly Water Bill	Avg % of Monthly Income
Urban	7080	5059	6187	3538	1798	2044	25707	unknown	unknown	unknown	unknown
Dense	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Village	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Farmland	2648	1893	2314	1323	672	766	9616	unknown	unknown	unknown	unknown
Scattered	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
TOTAL	9728	6952	8501	4861	2470	2810	35323	unknown	unknown	unknown	unknown



1. Socio-Economic Profile

1.3.2 Future Trends And Goals (Employment and Income)

1.3.2.1 Employment Profile

1.3.2.2 Household Income

1.3.3 Strategic Gap Analysis (Employment and Income)

1.3.4 Implementation Strategies (Employment and Income)

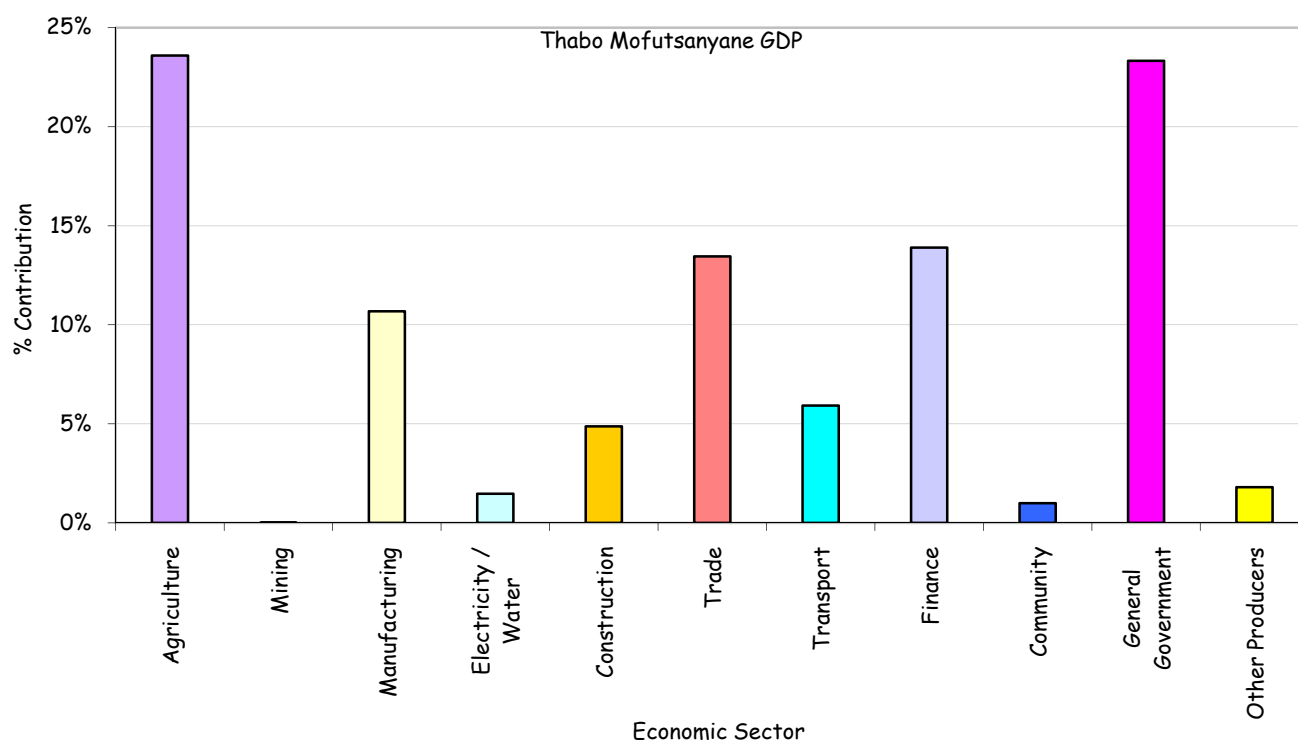
1. Socio-Economic Profile

1.4 Economics

1.4.1 Situation Assessment (Economics)

1.4.1.1 Economic sectors, GGP contribution and employment

Economic Sector ⁸	Thabo Mofutsanyane	% of Thabo Mofutsanyane	% of Free State Province
Agriculture	758,531.00	23.59%	26.74%
Mining	224.00	0.01%	0.01%
Manufacturing	343,364.00	10.68%	9.97%
Electricity / Water	47,267.00	1.47%	3.54%
Construction	156,511.00	4.87%	21.44%
Trade	432,393.00	13.45%	15.16%
Transport	190,265.00	5.92%	11.56%
Finance	446,807.00	13.90%	15.25%
Community	31,951.00	0.99%	11.33%
General Government	750,037.00	23.33%	22.30%
Other Producers	57,758.00	1.80%	11.18%
Total	3,215,108.00	100.00%	13.36%



The following comments, relevant to the above table and graph, should be made:

- In this district Agriculture (23,59%) and General Government (23,33%) contributes the largest share of GDP. The high percentage of government service should be understood against the background that Qwa-Qwa previously had its own homeland government.

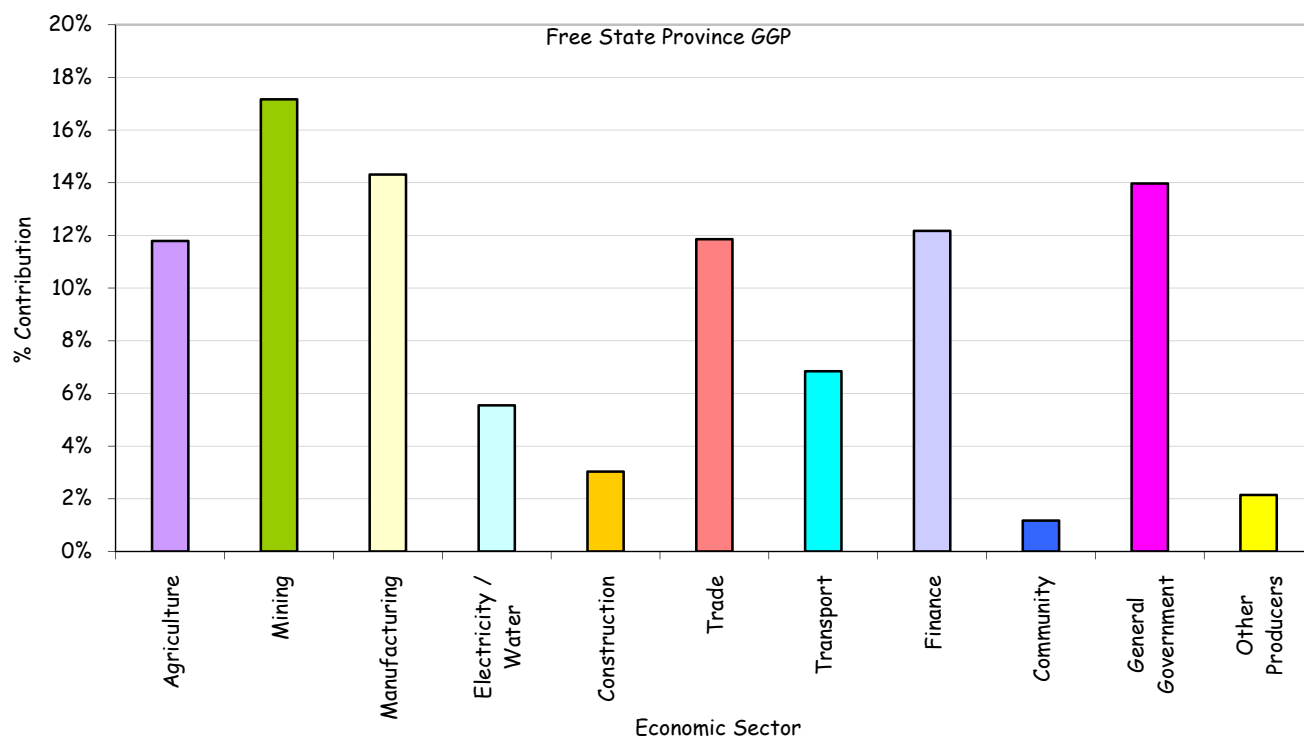
⁸ Source : Free State Development Plan, October 2001

1. Socio-Economic Profile

- Manufacturing contributes 10,68% of GDP in the district municipality. This is higher than in any other district municipality. However, after Xhariep district municipality, it is, in real terms, only the second highest contribution by a sector when district municipalities are compared.
- It should also be noted that the outflow of people from the former Qwa-Qwa has been quite dramatic during the last 10 years and that the area has one of the largest percentages of migrant workers. These two realities are probably indicative of low current and future economic growth.

Therefore, it is most unlikely that, despite some efforts by the current government, large-scale economic growth will take place in this area. The more probable scenario is a continuous outflow of people from the area in search of better economic opportunities.

Economic Sector ⁹	Free State	% of Free State Province
Agriculture	2,837,171.00	11.79%
Mining	4,131,246.25	17.16%
Manufacturing	3,444,360.15	14.31%
Electricity / Water	1,335,149.00	5.55%
Construction	729,950.05	3.03%
Trade	2,852,988.45	11.85%
Transport	1,646,121.00	6.84%
Finance	2,929,949.90	12.17%
Community	282,111.55	1.17%
General Government	3,362,911.35	13.97%
Other Producers	516,735.05	2.15%
Total	24,068,693.75	100.00%



⁹ Source : Free State Development Plan, October 2001

1. Socio-Economic Profile

According to the Free State Development Plan (2001) the Free State province has contributed R44.1 billion to the South African Gross Domestic Product in 1998. This amount was 5,4% of the total GDP for South Africa. Considering that the Free State has 6,4% of the population of South Africa it seems that, economically, the Free State performs under par when compared to the rest of the country. Furthermore, the 5,4% for 1998 represents a decline of 0,8% since 1994 when the province contributed 6,2% of the national GDP. However, despite this decline in terms of the national contribution to GDP, GDP in the Free State has increased with 11,2% between 1994 and 1998 (Free State Development Plan, 2001). For an outline of the contribution of different sectors of the economy to the GDP of the province refer to the following table.

The following trends are visible from the above table and graph:

- Mining (17,16%) and Manufacturing (14,31%) makes the biggest contribution to the Free State's GDP.
- Traditionally, Mining and Agriculture contributed the largest portion. However, Agriculture has been replaced by manufacturing in the mid 1990s. Although this shift does reflect an increase in the contribution of manufacturing, it should be related to the decline in the contribution of agriculture as well.
- Except for Mining, Manufacturing and Agriculture the other three sectors that contribute more than 10% of the Free State GDP are Trade (11,85%), Finance (12,17%) and General Government (13,97%).
- The smallest contributions come from Community (1,17), Other (2,15) and Construction (3,03).

The overall question is what the economic prospects for the Free State are. It seems that that the following conclusions might be drawn:

- It is unlikely that Agriculture will increase its contribution in the next five years.
- Although the gold price has increased steadily since the 11 September 2001 disaster in the USA and the fact that it might increase its contribution to the Free State GDP it is unlikely that the spin-offs of this improvement will lead to job creation and more mines opening in the Free State Goldfields.
- With this in mind it is unlikely that the Free State economy will grow due to major contributions from Agriculture and Mining. These two sectors are also extremely sensitive to global trends.
- Therefore, despite the goals set in the Free State development plan it is highly unlikely that the Free State's share of national GDP will increase in the next five years. The possibilities of a further decline are more likely.

1. Socio-Economic Profile

1.4.1.2 Economic trends

According to the Setsoto IDP the table below indicates the gross geographic product (GDP) contribution of the various towns within the Setsoto district. The 1993/1994 statistics are the most recent available figures for this municipality.

District ¹⁰	Agriculture	Mining	Manufacturing	Electricity / Water	Construction	Trade	Transport	Finance	Community	General Government	Other producers	Less imputations	TOTAL
Senekal	7 361	11 1	361 15	19 5	81 3	3109 1	442 6	1882 7	29 52	369 29	620 9	285 0	2101 87
Ficksburg	49 738	0	833 5	37 70	19 56	5967 6	130 44	8175 2	18 95	376 06	446 6	318 17	2304 21
Marquard	67 083	0	0	11 66	0	9941	251 8	9454	42 8	853 7	225 2	175 3	9962 6
Clocolan	34 032	0	0	10 41	0	1668 6	286 0	8906	12 99	157 98	234 9	207 5	8089 6
TOTAL	2244 65	11 1	444 50	79 29	27 69	1173 94	228 48	1189 39	65 74	988 70	152 76	384 95	6211 30
% of total	34.0	0.0	6.7	1.2	0.4	17.7	3.5	18.0	1.0	14.8	2.2	4.3	100%

Employment and Labour Force

According to the RIDP for Setsoto (2003/2004) it is estimated that approximately 48% of the labour force is unemployed.

Agricultural Development

Agriculture forms the backbone of the economy of Setsoto. A wide variety of farming types is found in Setsoto. Ficksburg is well known for its soft fruit, especially cherries. Marquard and Clocolan is very suitable for stock farming, while Senekal is more suitable for crops and mixed farming. The general perception is that more diversity is needed in the agricultural sector. Agro-processing should form a bigger part of the economy. Sparta Beef contributes greatly in this regard to the economy of Setsoto.

Tourism Development

Tourism is one of the fastest growing sectors not only in South Africa, but also in Setsoto. Many holiday farms and Bed and Breakfasts are found throughout Setsoto supported by various attractions focused on eco- and cultural-tourism. The need exists for a coordinated marketing effort for the area to optimise the potential of all existing events and attractions.

The annual cherry festival in Ficksburg is a well-known event in South Africa and is a great economic injection for the entire municipality. The needs to build onto these types of events and to make it more accessible for all racial groups exist.

¹⁰ Source: Setsoto RIDP, 2003/2004

1. Socio-Economic Profile

1.4.2 Future Trends And Goals (Economics)

- 1.4.2.1 Economic sectors, *GDP* contribution and employment
- 1.4.2.2 Economic trends

1.4.3 Strategic Gap Analysis (Economics)

1.4.4 Implementation Strategies (Economics)

2. Service Level Profile

2.1 Residential Consumer Units

2.1.1 Situation Assessment (Residential Consumer Units)

2.1.1.1 Residential Consumer Units for Water

Land Use	Higher Level of Service			RDP	Below RDP		Total
	Waterborne	Small Bore (Inter-Mediate)	Wet Installation (Septic/Conservancy)	On Site Dry (VIP Or Equivalent)	Bucket	Services Required	
Ficksburg							
Residential	4130		50		5300	690	10170
Commercial	261						261
Industrial	20						20
Other	53						53
Subtotal	4464		50		5300	690	10504
Clocolan							
Residential	692		80		3600	700	5072
Commercial	152						152
Industrial	14						14
Other	12						12
Subtotal	870		80		3600	700	5250
Marquard							
Residential	409		89		3098	335	3931
Commercial	74		50				124
Industrial	3						3
Other	46						46
Subtotal	532		139		3098	335	4104
Senekal							
Residential	2824		150		3378		6352
Commercial	203						203
Industrial	50						50
Other	25						25
Subtotal	3102		150		3378		6630

2. Service Level Profile

2.1.1.2 Residential Consumer Units for Sanitation

Land Use	Higher Level of Service			RDP	Below RDP		Total
	Waterborne	Small Bore (Inter-Mediate)	Wet Installation (Septic/Conservancy)	On Site Dry (VIP Or Equivalent)	Bucket	Services Required	
Ficksburg							
Residential	4130		50		5300	690	10170
Commercial	261						261
Industrial	20						20
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Other	46						46
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Senekal							
Residential	2824		150		3378		6352
Commercial	203						203
Industrial	50						50
Other	25						25
Subtotal	3102		150		3378		6630

2. Service Level Profile

2.1.2 Future Trends And Goals (Residential Consumer Units)

2.1.2.1 Residential Consumer Units for Water

2.1.2.2 Residential Consumer Units for Sanitation

2.1.3 Strategic Gap Analysis (Residential Consumer Units)

2.1.4 Implementation Strategies (Residential Consumer Units)

2. Service Level Profile

2.2 Public Institutions and 'dry' industries

2.2.1 Situation Assessment (Public Institutions and 'dry' industries)

2.2.1.1 Public Institutions and 'dry' industries

Public amenities consumer types	Type	No. of consumer units	No. of consumer units with access to:			
			None or inadequate	Communal supply	Controlled volume supply	Uncontrolled volume supply
Police stations	Urban					
	Rural					
Magistrate offices	Urban					
	Rural					
Businesses	Urban					
	Rural					
"Dry" industries	Urban					
	Rural					
Office buildings	Urban					
	Rural					
Garages	Urban					
	Rural					
Prisons	Urban					
	Rural					
Schools	Urban					
	Rural					
Hospitals	Urban					
	Rural					
Clinics	Urban					
	Rural					
Crèches	Urban					
	Rural					
Other (Specify)	Urban					
	Rural					
Total	Urban					
	Rural					

2. Service Level Profile

2.2.2 Future Trends And Goals (Public Institutions and 'dry' industries)

2.2.2.1 Public Institutions and 'dry' industries

2.2.3 Strategic Gap Analysis (Public Institutions and 'dry' industries)

2.2.4 Implementation Strategies (Public Institutions and 'dry' industries)

2. Service Level Profile

2.3 Wet Industries

2.3.1 Situation Assessment (Wet industries)

2.3.1.1 Wet Industries: Urban and Rural

List individual "wet" industries	Monthly water use (kl)	Pressure (kPa)	Water quality				Reliability (inadequate adequate, special treatment)	Billing system (none flat rate metered)
			Raw	Filtered	Chlorinated	Fully treated		
Clocolan Abattoir	unknown	unknown	-	-	-	Yes	Adequate	Metered
Mahomed's Abattoir (Clocolan)	unknown	unknown	-	-	-	Yes	Adequate	Metered
Oos-Vrystaat Abattoir (Ficksburg)	unknown	unknown	-	-	-	Yes	Adequate	Metered
Marquard Abattoir	unknown	unknown	-	-	-	Yes	Adequate	Metered
Senekal Abattoir	unknown	unknown	-	-	-	Yes	Adequate	Metered
Other	unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown
Total	unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown

2. Service Level Profile

2.3.2 Future Trends And Goals (Wet industries)

2.3.2.1 Wet Industries: Urban and Rural

2.3.3 Strategic Gap Analysis (Wet industries)

2.3.4 Implementation Strategies (Wet industries)

2. Service Level Profile

2.4 'Raw' Water Consumers

2.4.1 Situation Assessment ('Raw' Water Consumers)

2.4.1.1 'Raw' Water Consumers: Urban and Rural

"Raw" water consumer	Monthly water use (kl)	Pressure (kPa)	Water quality			Tariff (R/kl)	Reliability (inadequate adequate special treatment)	Billing system (none flat rate metered)
			Raw	Filtered	Other			
unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown
Total	unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown

2. Service Level Profile

2.4.2 Future Trends And Goals ('Raw' Water Consumers)

2.4.2.1 'Raw' Water Consumers: Urban and Rural

2.4.3 Strategic Gap Analysis ('Raw' Water Consumers)

2.4.4 Implementation Strategies ('Raw' Water Consumers)

2. Service Level Profile

2.5 Industrial Consumer Units

2.5.1 Situation Assessment (Industrial Consumer Units)

2.5.1.1 Industrial Consumer Units for Sanitation: Urban and Rural

Industry	Number of service units	Monthly waste water (kl)	Monthly sewage (kl)	Washing, leaches through storm water system (kl)	Total treated effluent (kl)	Total untreated effluent (kl)	Total return flow to river system (kl)
Clocolan Abattoir	1	unknown	unknown	unknown	unknown	unknown	unknown
Mahomed's Abattoir (Clocolan)	1	unknown	unknown	unknown	unknown	unknown	unknown
Oos-Vrystaat Abattoir (Ficksburg)	1	unknown	unknown	unknown	unknown	unknown	unknown
Marquard Abattoir	1	unknown	unknown	unknown	unknown	unknown	unknown
Senekal Abattoir	1	unknown	unknown	unknown	unknown	unknown	unknown
Other	unknown	unknown	unknown	unknown	unknown	unknown	unknown
Total	unknown	unknown	unknown	unknown	unknown	unknown	unknown

2. Service Level Profile

2.5.2 Future Trends And Goals (Industrial Consumer Units)

2.5.2.1 Industrial Consumer Units for Sanitation

2.5.3 Strategic Gap Analysis (Industrial Consumer Units)

2.5.4 Implementation Strategies (Industrial Consumer Units)

2. Service Level Profile

2.6 Industries and their permitted effluent releases

2.6.1 Situation Assessment (Industries and their permitted effluent releases)

2.6.1.1 Industries and their permitted effluent releases

Industry	Permitted volume (Mℓ/yr)	Permitted effluent quality (units)	Constituent 1		Constituent 2		Constituent 3	
			Name		Name		Name	
			Permitted volume	Concentration limit	Permitted volume	Concentration limit	Permitted volume	Concentration limit
Clocolan Abattoir	unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown
Mahomed's Abattoir (Clocolan)	unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown
Oos-Vrystaat Abattoir (Ficksburg)	unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown
Marquard Abattoir	unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown
Senekal Abattoir	unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown
Other	unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown
Total	unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown

2. Service Level Profile

2.6.2 Future Trends And Goals (Industries and their permitted effluent releases)

2.6.2.1 Industries and their permitted effluent releases

2.6.3 Strategic Gap Analysis (Industries and their permitted effluent releases)

2.6.4 Implementation Strategies (Industries and their permitted effluent releases)

3. Water Resource Profile

3.1 Water Source

3.1.1 Situation Assessment (Water Source)

3.1.1.1 Surface Water Source

BACKGROUND

The water resource profile of a Water Services Authority (WSA) forms an integral part of the WSDP, especially matters relating to water resource management and protection.

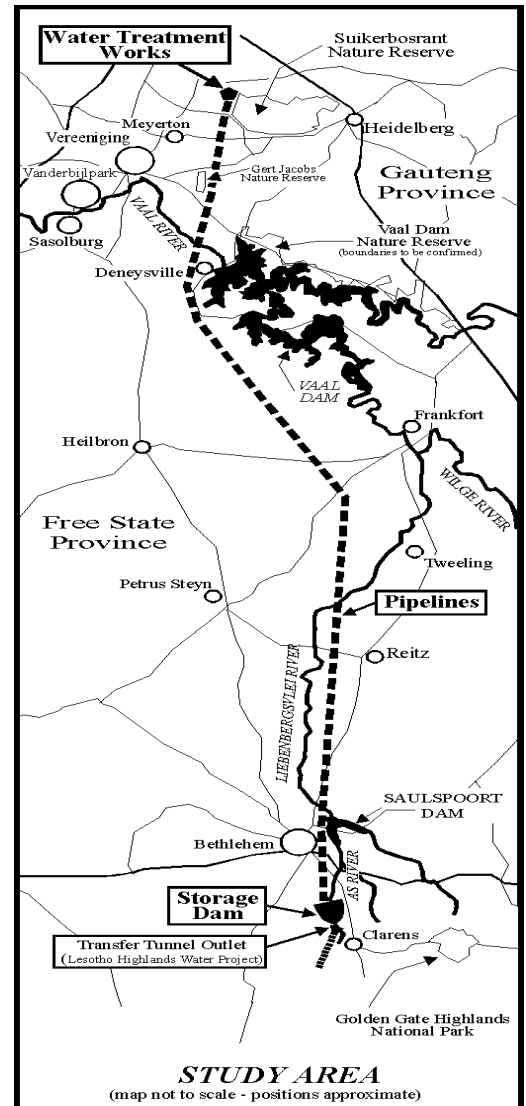
As stipulated in the permits of the various water sources, the total water demand of a WSA, as identified in the water balance, needs to be compared with the permitted abstraction and the return rights. However, some of the water sources (i.e. smaller dams, boreholes and aquifers) throughout the region are not registered with DWAF and therefore permits for these water sources have not been issued yet. This matter raises concern amongst the various towns and WSAs since the information regarding permitted abstraction and effluent returned, influence the outcome of the annual water balance (a legislative requirement) for WSAs.

The quality of the water taken from the source are, in most instances (95%), well within the SABS 241 (specifications for potable water) standards. At present, the water quality tests of all the towns are being done by the CSIR on a monthly basis. Towns that have their own water treatment works do PH-and NTS testing in house on a daily basis.

RAW WATER RESOURCES

The Lesotho Highlands Water Project delivers water to South Africa via a transfer tunnel with its outlet in the upper reaches of the Ash River, a small tributary of the Vaal River near Clarens in the Eastern Free State. The water is currently released directly into the Ash River, from where it flows via the Ash, Liebenbergsvlei and Wilge Rivers into the Vaal Dam. The Lesotho Highlands Water Project delivers water to South Africa via a transfer tunnel with its outlet in the upper reaches of the Ash River, a small tributary of the Vaal River near Clarens in the Eastern Free State. The water is currently released directly into the Ash River, from where it flows via the Ash, Liebenbergsvlei and Wilge Rivers into the Vaal Dam situated towards the northern side of the Free State Province and south of Gauteng.

The significance of the Lesotho Highlands Water Scheme is relevant especially regarding the raw water provision to Saulspoort Dam and the Liebenbergsvlei and Wilge Rivers which are the primary water sources of Bethlehem, Harrismith, Petrus Steyn and Reitz.



3. Water Resource Profile

Within a regional context it can be noted that the following raw water sources provide water to the respective town areas within the Thabo Mofutsanyane District Municipality's area of jurisdiction:

- Raw water is provided directly from the Moperi Dam to **Clocolan**.
- Raw water is abstracted from the Meulspruit and Caledon River to provide bulk water to **Ficksburg**.
- **Marquard** is currently provided with potable water abstracted from the Laaispruit.
- Raw water is abstracted from the old and new Cyferfontein Dams and De Put Dam to provide bulk water to **Senekal**.
- Bethlehem is provided with potable water abstracted from the Saulspoort Dam situated in the Ash River.
- Raw water is abstracted from the Klein Caledon River to provide bulk water to Clarens.
- Fouriesburg is provided with potable water abstracted from the Caledon River and Meiringskloof Dam.
- Paul Roux, Rosendal and Arlington are currently provided with potable water abstracted from various boreholes in the vicinity of the respective towns.
- Lindley is currently provided with potable water abstracted from the Vals River and will also be provided with bulk water from the Liebenbergsvlei River in future.
- The Liebenbergsvlei River also provides raw water to Petrus Steyn and Reitz.
- Harrismith is provided with water abstracted from the Wilge River.
- Sedibeng Water provides bulk treated water to Kestell and Phuthaditjhaba via a pipeline from the Fika Patso Dam in Qwa-Qwa.
- Memel is provided with potable water abstracted from the Klip River.
- Raw water is abstracted currently from the Vrede Dam and will in future also be abstracted from the Thembalihle Dam to provide bulk water to Vrede.
- Warden is provided with potable water abstracted from the Cornelis River.
- Boreholes predominantly provide water for household purposes in the **rural areas**. Water from the concerned rivers is used to a limited extent for irrigation purposes according to permits issued by the Department of Water Affairs.

Quaternary Catchment	Dam Name	Rivers	Nearest town	Latitude (D M S)	Longitude (D M S)	Type	Year	Height (m)	Capacity (m ³)	Dam Surface (km ²)
C42C	De Put Grond	Sand	Senekal	28 21 00	27 37 00	Earthfill Embankment	1974	7	950,000	0.13
C42C	De Put Keerwal	Sand	Senekal	28 21 00	27 37 00	Concrete Arch	1974	11	110,000	0.36
C42B	Middelpunt	Kaloem	Petrus Steyn	28 13 00	27 39 00	Earthfill Embankment	1991	9	650,000	0.28
C42B	Sterkfontein Grypdam	Sand	Senekal	28 13 00	27 39 00	Earthfill Embankment		11	1,000,000	unknown
C42B	Cyferfontein	Sand	Senekal	28 14 00	27 39 00	Concrete Gravity Dam	1960	7	1,065,000	0.5
C41A	Belmont Poort	Laai	Marquard	28 50 00	27 25 00	Earthfill Embankment	1915	19	131,000	0.01
C41A	Marquard	Laai	Marquard	28 40 00	27 25 00	Earthfill Embankment	1951	7	515,000	0.11
C41A	Marquard Off Channel	Laai	Marquard	28 41 00	27 26 00	Earthfill Embankment	1989	6	520,000	0.17
C41A	Monte Carlo	Laai	Marquard	28 50 00	27 28 00	Earthfill Embankment	1968	5	78,000	0.01
C41A	Rietfontein	Laai	Winburg	28 32 00	26 59 00	Concrete Arch	1958	9	200,000	unknown

3. Water Resource Profile

Quaternary Catchment	Dam Name	Rivers	Nearest town	Latitude (D M S)	Longitude (D M S)	Type	Year	Height (m)	Capacity (m ³)	Dam Surface (km ²)
C41B	Mushroom Valley	Sand	Winburg	28 44 00	27 10 00	Earthfill Embankment	1902	13	1,800,000	2
C41B	Orlando	unknown	Marquard	28 41 00	27 20 00	Earthfill Embankment	1983	6	250,000	0.2
C42E	Allemanskraal	Duplooysspruit, Rietspruit, Sand	Ventersburg	28 18 12	27 14 22	Gravity / Earthfill Combination	1960	38	180,000,000	26.51
C42E	Freegold Return Water	unknown	Welkom	28 01 00	26 49 00	Earthfill Embankment	1980	5	780,000	0.35
C42E	Urania	unknown	Marquard	28 29 00	27 24 00	Earthfill Embankment	1974	6	125,000	0.16
C42E	Wolwas	Laai	Winburg	28 33 00	27 22 00	Earthfill Embankment	1984	8	607,000	unknown
C60B	Arlington	Hamman	Arlington	28 01 00	27 53 00	Concrete Gravity Dam	1962	7	501,000	unknown
C60B	Grootkrans	Vals	Lindley	27 55 00	28 01 00	Earthfill Embankment	1984	12	110,000	0.04
C60B	Piekniekdraai	Vals	Lindley	27 53 00	27 56 00	Earthfill Embankment	1987	7	220,000	0.07
C60E	Kaffirfontein	unknown	Steynsrus	28 09 00	27 34 00	Earthfill Embankment	1970	5	180,000	unknown

Name	Source Type	Licensed abstraction	Current use	Additional requirements at year 5	Record: Prior				
					-Yr1	-Yr2	-Yr3	-Yr4	-Yr5
Caledon (Ficksburg)	River	unknown	unknown	unknown	2526	2676	unknown	unknown	unknown
Meulspruit (Ficksburg)	Dam	No permit	unknown	unknown	0	376	unknown	unknown	unknown
Cyferfontein - Old (Senekal)	Weir	549.762	unknown	unknown	unknown	unknown	unknown	unknown	unknown
Cyferfontein - New (Senekal)	Off channel storage dam	560.250	unknown	unknown	unknown	unknown	unknown	unknown	unknown
De Putt (Senekal)	Off channel storage dam	339.540	unknown	unknown	unknown	unknown	unknown	unknown	unknown
Laaispruit (Marquard)	Dam	unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown
Nuwe Hoop (Marquard)	Dam	unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown
Moperi (Clocolan)	Dam	unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown

3.1.1.2 Groundwater Sources - aquifer characteristics

Borehole/well number	Aquifer type (hard rock, sand or boulders)	Licensed abstraction	Use	Additional requirements at year 5	Record: Prior				
					-Yr1	-Yr2	-Yr3	-Yr4	-Yr5
unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown

3. Water Resource Profile

3.1.1.3 Groundwater Monitoring

Groundwater Monitoring		Yes	No
1.	Are groundwater levels regularly monitored?		X
2.	Is the groundwater monitoring data regularly processed and reported on by a qualified hydro geologist?		X
3.	Is groundwater quality monitored and reported on?	X	

3.1.1.4 External Sources (where the WSA purchase water from others)

External Source (WSP) Name	Area of supply	Contracted supply volume (Mℓ/year)	Current	Additional requirements at year 5	Record: Prior				
					-Yr1	-Yr2	-Yr3	-Yr4	-Yr5
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

3.1.1.5 Water returned to resources

Source name	Type	Permitted amount that can be returned (Mℓ/year)	Current	Additional requirements at year 5	Record: Prior				
					-Yr1	-Yr2	-Yr3	-Yr4	-Yr5
Caledon (Ficksburg)	River	unknown	unknown	unknown	868.603	891.678	unknown	unknown	unknown
Sand (Senekal)	River	unknown	unknown	unknown	unknown	434.802	unknown	unknown	unknown
Sandspruit (Senekal)	Stream	unknown	unknown	unknown	unknown	434.802	unknown	unknown	unknown
(Marquard)	unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown
(Clocolan)	unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown
Total	unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown

3. Water Resource Profile

3.1.2 Future Trends And Goals (Water Source)

- 3.1.2.1 Surface Water Source
- 3.1.2.2 Groundwater Sources - aquifer characteristics
- 3.1.2.3 Groundwater Monitoring
- 3.1.2.4 External Sources (Where the WSA purchases water from others)
- 3.1.2.5 Water returned to resources

3.1.3 Strategic Gap Analysis (Water Source)

3.1.4 Implementation Strategies (Water Source)

3. Water Resource Profile

3.2 Water Quality

3.2.1 Situation Assessment (Water Quality)

3.2.1.1 Quality of water taken from source: urban

Quality of water taken from source: urban		At source	At reservoir	At tap
1.	Is water quality measured? (yes/no)	Yes	Yes	Yes
2.	Do you monitor it yourself? (yes/no)	No	Yes	Yes
3.	If no, who does?	CSIR	CSIR	CSIR
4.	Monitoring intervals (daily, weekly, monthly, quarterly, bi-annually, annually)	Monthly	CSIR	CSIR
		Weekly	n/a	n/a
		Daily	WSA	WSA
5.	Are these results available in electronic format? (yes/no)	Yes	Yes	Yes
6.	% time (days) within SABS 241 standards per year	87.2%	87.2%	87.2%

Poor water quality in smaller towns and rural areas can primarily be attributed to a lack of regular assessment/management of water quality, including source water protection, water and wastewater treatment optimisation, supply reliability, and maintenance of drinking-water quality within the distribution network. An appropriate water quality management programme forms the basis for proactively addressing the situation in a structured and effective manner. The CSIR's monitoring and evaluation process has the following primary objectives:

- To ensure that water services meet the required standards, and provide effective emergency response where required.
- To audit the achievement and maintenance of adequate basic service coverage.
- To monitor, audit and regulate the performance of the water and wastewater systems.
- To achieve efficient and effective performance by providing feedback to all levels.
- To aid management in future planning, programming and decision-making

Combined results for December 2004 to May 2005

Overall		Sites are categorised as follows:
Acceptable (Blue/Green)	All parameters monitored satisfy required minimum standards/guidelines	All parameters monitored satisfy at least SABS 241-2001 Class I (Acceptable) Limits or other required minimum guidelines
Needs Attention (Yellow)	One or more parameters monitored do not satisfy required minimum standards/guidelines	One or more parameters monitored do not satisfy SABS 241-2001 Class I (Acceptable) Limits or other required minimum guidelines
Needs Urgent Intervention (Red)		One or more parameters monitored do not satisfy SABS 241-2001 Class II (Maximum Allowable) Limits

3. Water Resource Profile

Town	Acceptable	Requires Attention									Requires Intervention						
		Calcium	Chloride	Colour	Faecal Coliforms	Fluoride	Magnesium	Nitrates and Nitrites	pH	Total Coliforms	Turbidity	Faecal Coliforms	Fluoride	Magnesium	Nitrates and Nitrites	pH	Turbidity
Clocolan	88.2%										11.8%						
Ficksburg	100.0%																
Marquard	100.0%																
Senekal	69.2%										30.8%						
Setsooto	87.2%										12.8%						

3.2.1.2 Quality of water taken from source: rural

Quality of water taken from source: rural		At source	At reservoir	At tap
1.	Is water quality measured? (yes/no)	No	No	No
2.	Do you monitor it yourself? (yes/no)	No	No	No
3.	If no, who does?	None	None	None
4.	Monitoring intervals (daily, weekly, monthly, quarterly, bi-annually, annually)	At any given time	None	None
5.	Are these results available in electronic format? (yes/no)	No	No	No
6.	% time (days) within SABS 241 standards per year	Unknown	Unknown	Unknown

3.2.1.3 Reporting on quality of water taken from source: urban and rural

Reporting on quality of water taken from source: urban and rural	Yes/ No	Method of notification
1. If quality of water taken from source does not comply, are urban residents notified?	unknown	unknown
2. If quality of water taken from source does not comply, are rural residents notified?	unknown	unknown

3.2.1.4 Quality of water returned to the resource: urban

Quality of water returned to the resource: urban		In the return effluent	In the stormwater	In the river
1.	Is water quality measured? (yes/no)	Yes	No	Yes
2.	Do you monitor it yourself? (yes/no)	Yes	No	Yes
3.	If no, who does?	CSIR	None	CSIR
4.	Monitoring intervals (weekly, monthly, quarterly, bi-annually, annually)	Monthly	CSIR	None
		Weekly	n/a	n/a
		Daily	WSA	None
5.	Are these results available in electronic format?	Yes	No	Yes
6.	For wastewater treatment works discharges to water resource: % time within requirements of special or general standards (Regulation 991).	12.5%	n/a	12.5%

Combined Results for December 2004 to May 2005

3. Water Resource Profile

Overall		Sites are categorised as follows:
Acceptable (Green)	All parameters monitored satisfy least DWAF General Authorisation General Limits	All parameters monitored satisfy at least DWAF General Authorisation General Limits
Needs Attention (Yellow)	One or more parameters monitored do not satisfy DWAF General Authorisation General Limits	One or more parameters physico-chemical parameters (excluding faecal coliforms and COD) monitored do not satisfy DWAF General Authorisation General Limits
Needs Urgent Intervention (Red)		Faecal coliforms and/or COD do not satisfy DWAF General Authorisation General Limits

Town	Acceptable	Requires Attention					Requires Intervention	
		Ammonia	Free Chlorine Residual	Nitrates and Nitrites	Ortho-Phosphate	Suspended Solids	Chemical Oxygen Demand	Faecal Coliforms
Ficksburg		25.0%						30.0%
Senekal	25.0%	25.0%						50.0%
Setsoto	12.5%	25.0%						62.5%

3.2.1.5 Quality of water returned to the resource: rural

Quality of water returned to the resource: rural	In the return effluent	In the stormwater	In the river
1. Is water quality measured? (yes/no)	No	No	No
2. Do you monitor it yourself? (yes/no)	No	No	No
3. If no, who does?	None	None	None
4. Monitoring intervals (weekly, monthly, quarterly, bi-annually, annually) At any given time	None	None	None
5. Are these results available in electronic format?	No	No	No
6. For wastewater treatment works discharges to water resource: % time within requirements of special or general standards (Regulation 991).	N/a	N/a	N/a

3.2.1.6 Pollution contingency measures

Resource description	List potential source of pollution	Formal contingency measures (Yes / No)
Caledon River (Ficksburg)	Sewage outfall & Lesotho	No
Meulspruit Dam (Ficksburg)	Rural catchment area	No
Sand Spruit (Senekal)	Sewage pumpstation	Yes
Sand River (Senekal)	Sewage Treatment Works	Yes
Laai Spruit (Marquard)	Agricultural	No

3. Water Resource Profile

3.2.2 Future Trends And Goals (Water Quality)

- 3.2.2.1 Quality of water taken from source: urban
- 3.2.2.2 Quality of water taken from source: rural
- 3.2.2.3 Reporting on quality of water taken from source: urban and rural
- 3.2.2.4 Quality of water returned to the resource: urban
- 3.2.2.5 Quality of water returned to the resource: rural
- 3.2.2.6 Pollution contingency measures

3.2.3 Strategic Gap Analysis (Water Quality)

Key Issues

In general, water quality problems in the Free State can generally be attributed to the following challenges and shortcomings:

Legislative Non-Compliance

- Very few WSAs adhere to the drinking-water monitoring requirements set out in the Compulsory National Standards for the Quality of Potable Water.
- Many WSAs regularly fail to meet legislative requirements for discharge of waste water.
- Private sector non-compliance:
 - High strength industrial effluents (e.g. abattoirs) are not pre-treated prior to discharge to the municipal wastewater treatment plant
 - Chronic and repeat industrial effluent offenders ignore requests to be legally compliant.

Operational Inefficiency & Equipment Shortcomings

- Lack of adequate monitoring and associated instrumentation by WSAs
 - Analyses cannot be carried out due to inadequate instrumentation or laboratory facilities.
 - Instruments have not been serviced at regular intervals.
 - Instruments are not regularly or properly calibrated.
 - Defective electrodes requiring replacement.
 - No chemical standards available for instrument calibration.
 - Where instruments operate on batteries, none are available.
 - Analytical staff do not have the necessary training to carry out water quality analyses and to apply internal quality control systems.
 - Operators are not familiar with operation, routine maintenance/calibration of equipment. In some instances, the water treatment plant operators with very little/no experience in analytical techniques, are required to carry out analyses.
- Poor routine and pro-active maintenance
 - Major contributor to poor plant performances.
 - In some cases equipment has not been repaired or replaced for extended periods of time.
- A lack of proper dosing chemicals and/or dosing equipment
- Use of inappropriate and insufficient disinfectants

3. Water Resource Profile

Capacity Shortcomings

- Plant operators do not have the necessary skills to effectively operate and maintain water treatment plants
 - Plant operators have no formal training in basic water treatment principles and techniques.
 - In some cases plant operators are illiterate.
 - Plant operators often convey that due to poor work conditions they have low morale.
 - Plant operators feel that superiors are not concerned with problems experienced.
 - Lack of legislative awareness at management level

Environmental Factors

- Increasing water demand
 - Consideration must be given to introducing public awareness campaigns explaining the need to conserve water and/or introduction of water restrictions.
- Systems overload - resulting form increased production of domestic wastewater
- Worsening resource quality

Needs Analysis

Town	Immediate Needs	Short to Medium Term Needs	Long Term Needs
Clocolan (Drinking-Water)	<ul style="list-style-type: none"> • Turbidity meter • Operator training • Record books • Staff safety equipment • First aid kit 	<ul style="list-style-type: none"> • Jar test equipment 	
Clocolan (Wastewater)	<ul style="list-style-type: none"> • 2 pumps & motors @ pump station (raw sewage flows directly into stream) • Refurbish electrical installation • DO meter with electrode • Portable pH,/conductivity/TDS meter • pH maintenance and calibration equipment 		
Ficksburg (Drinking-Water)	<ul style="list-style-type: none"> • 2 x Raw water pumps & motors • Operator training • Gas mask • Test equipment -pH; chlorine; turbidity; record books • Staff safety equipment • First aid kit 		
Ficksburg (Wastewater)	<ul style="list-style-type: none"> • Remove blockage in settling tank • Repair/replace flow meter • DO meter with electrode • Portable pH,/conductivity/TDS meter • pH maintenance 	<ul style="list-style-type: none"> • Standby disinfection system • Floc standby pump • Chlorine stand-by pump 	
Senekal Water - Du Put	<ul style="list-style-type: none"> • Staff safety equipment • Repair floating draw-off system • Inlet & outlet flow meters • Operator training • Staff safety equipment • First aid kit 	<ul style="list-style-type: none"> • Floc standby pump • Chlorine stand-by pump 	

3. Water Resource Profile

Town	Immediate Needs	Short to Medium Term Needs	Long Term Needs
Senekal (Water) Cyferfontein - Old plant	<ul style="list-style-type: none"> • Replace 1 raw water pump • Inlet & outlet flow meters • Operator training • Staff safety equipment • First aid kit 	<ul style="list-style-type: none"> • Floc standby pump • Chlorine stand-by pump 	
Senekal (Water) Cyferfontein - New plant	<ul style="list-style-type: none"> • Inlet & outlet flow meters • Operator training • Staff safety equipment • First aid kit 		
Senekal (Wastewater)	<ul style="list-style-type: none"> • Install screens at inlet to aerated ponds & at inlet to pump stations • Replace 4 high speed aerators & motors • Install chlorination system 		<ul style="list-style-type: none"> • Increase plant capacity (organically overloaded)

3.2.4 Implementation Strategies (Water Quality)

4. Water Conservation / Demand Management (WC/WDM)

4.1 Water Resource Management Interventions

4.1.1 Situation Assessment (Water Resource Management Interventions)

4.1.1.1 Targets for reducing unaccounted for water and water inefficiencies (Ml/year: urban)

Targets for reducing unaccounted for water and water inefficiencies Ml/year): urban	Current	Estimate Year 5	Record: Prior				
			-Yr 1	-Yr 2	-Yr 3	-Yr 4	Yr 5
1. Reticulation leaks	0	unknown	0	0	0	0	0
2. Illegal connections	0	unknown	0	0	0	0	0
3. Unmetered connections	0	unknown	0	0	0	0	0
4. Internal plumbing leaks	0	unknown	0	0	0	0	0
5. Total UAW (should equal physical water losses for urban reported in the water balance section)	unknown	unknown	unknown	unknown	unknown	unknown	unknown

4.1.1.2 Targets for reducing unaccounted for water and water inefficiencies (Ml/year: rural)

Targets for reducing unaccounted for water and water inefficiencies (Ml/year): rural	Current	Estimate Year 5	Record: Prior				
			-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5
1. Reticulation leaks	0	unknown	0	0	0	0	0
2. Illegal connections	0	unknown	0	0	0	0	0
3. Unmetered connections	0	unknown	0	0	0	0	0
4. Internal plumbing leaks	0	unknown	0	0	0	0	0
5. Total UAW (should equal physical water losses for rural reported in the water balance section) Table 6.1.1.4	unknown	unknown	unknown	unknown	unknown	unknown	unknown

4.1.1.3 Reducing high pressures for residential consumers: urban

No. of consumer units with water supply pressure of.	Current	Estimate Year 5	Record: Prior				
			-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5
1. <30kPa (0.3Bar)	0	unknown	0	0	0	0	0
2. 30 - 50kPa	0	unknown	0	0	0	0	0
3. 50 - 300kPa	0	unknown	0	0	0	0	0
4. 300 - 600kPa	0	unknown	0	0	0	0	0
5. 600 - 900kPa	0	unknown	0	0	0	0	0
6. >900kPa (>9Bar)	0	unknown	0	0	0	0	0
TOTAL	unknown	unknown	unknown	unknown	unknown	unknown	unknown

4. Water Conservation / Demand Management (WC/WDM)

4.1.1.4 Reducing high pressures for residential consumers: rural

No. of consumer units with water supply pressure of:	Current	Estimate Year 5	Record: Prior				
			-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5
1. <30kPa (0.3Bar)	0	unknown	0	0	0	0	0
2. 30 - 50kPa	0	unknown	0	0	0	0	0
3. 50 - 300kPa	0	unknown	0	0	0	0	0
4. 300 - 600kPa	0	unknown	0	0	0	0	0
5. 600 - 900kPa	0	unknown	0	0	0	0	0
6. >900kPa (>9Bar)	0	unknown	0	0	0	0	0
TOTAL	unknown	unknown	unknown	unknown	unknown	unknown	unknown

4.1.1.5 Consumer/end-use demand management: public information and education programmes

Consumer/end-use demand management: public information and education programmes	Current	Estimate Year 5	Record: Prior				
			-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5
1. % schools targeted by education programmes	unknown	unknown	unknown	unknown	unknown	unknown	unknown
2. % consumers targeted by public information programmes	unknown	unknown	unknown	unknown	unknown	unknown	unknown

4.1.1.6 Leak and meter repair programmes: urban

Number of consumer units to be targeted by:	Current	Estimate Year 5	Record: Prior				
			-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5
1. Leak repair assistance programme	0	unknown	0	0	0	0	0
2. Retro-fitting of water efficient toilets	0	unknown	0	0	0	0	0
3. Meter repair programme	0	unknown	0	0	0	0	0

4.1.1.7 Leak and meter repair programmes: rural

Number of consumer units to be targeted by:	Current	Estimate Year 5	Record: Prior				
			-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5
1. Leak repair assistance programme	0	unknown	0	0	0	0	0
2. Retro-fitting of water efficient toilets	0	unknown	0	0	0	0	0
3. Meter repair programme	0	unknown	0	0	0	0	0

4.1.1.8 Working for Water Programme

Information unknown

4. Water Conservation / Demand Management (WC/WDM)

4.1.2 Future Trends And Goals (Water Resource Management Interventions)

- 4.1.2.1 Targets for reducing unaccounted for water and water inefficiencies (MI/year: urban)
- 4.1.2.2 Targets for reducing unaccounted for water and water inefficiencies (MI/year: rural)
- 4.1.2.3 Reducing high pressures for residential consumers: urban
- 4.1.2.4 Reducing high pressures for residential consumers: rural
- 4.1.2.5 Consumer/end-use demand management
- 4.1.2.6 Leak and meter repair programmes: urban
- 4.1.2.7 Leak and meter repair programmes: rural
- 4.1.2.8 Working for Water Programme

4.1.3 Strategic Gap Analysis (Water Resource Management Interventions)

4.1.4 Implementation Strategies (Water Resource Management Interventions)

The total water demand of a WSA, as identified in the water balance, needs to be compared with the permitted abstraction and the return rights, as stipulated in the permits of the various water sources. However, most of the water sources throughout the Setsoto district ($\pm 90\%$) are not registered with DWAF and therefore permits for these water sources have not been issued yet. This matter raises concern amongst the various towns and WSAs since the information regarding permitted abstraction and effluent returned influence the outcome of the annual water balance (a legislative requirement) for WSAs.

One of the key focuses of the WSDP is providing a Water Conservation/Water Demand Management Strategy for a District Municipality. Although the terms of reference for this WSDP stipulated that the focus will remain on service delivery (the second of three key focus areas of a WSDP). It will be helpful in future by providing a broad background in this regard.

Information gathered and reflected in the previous sections hereto, especially matters regarding water resources and also information provided later in this document, amongst others, metering, water balance, unaccounted for water and the proposed development scenario, are required when determining a Water Conservation/Water Demand Management Strategy for the region.

DEFINITION: WATER CONSERVATION

"The minimization of loss or waste, care and protection of water resources and the efficient and effective use of water."

DEFINITION: WATER DEMAND MANAGEMENT

"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."

4. Water Conservation / Demand Management (WC/WDM)

AIM OF A WC/WDM STRATEGY

The Water Services Sectoral strategy aims to develop model strategies to be implemented by various Water Services Institutions (WSI) and by others such as Water Boards and DWAF in support of such institutions. The end consumers that should be affected by this sectoral strategy are all consumers who receive water services from Water Services Authorities (WSA). These include commercial, industrial and domestic consumers. The strategy does not describe WC/WDM activities and functions for the end consumers but describes the WC/WDM activities and functions of the institutions in order to ensure the efficient distribution of water services and to ensure that they influence the behaviour of the end consumers. Specific activities and functions for large industrial and commercial consumers are described within the "Industrial, Mining and Power Generation" sectoral strategy.

PURPOSE OF A WC/WDM STRATEGY

The purpose of the water services WC/WDM sectoral strategy is as follows:

- Develop a model strategy that could be used as a guideline by a WSA
- Develop a model strategy that could be used as a guideline for Water Boards and other bulk water suppliers
- Develop a model strategy for DWAF and other national bodies
- Develop governance and regulatory functions in order to ensure the development and implementation of WC/WDM by all WSI
- Identify the roles of the various key role players in the water supply chain in the development and implementation of WC/WDM

The strategy is not developed only from a regulatory and governance perspective. The format of the proposed strategy represents model strategies that need to be customized and prioritised according to each institution's specific circumstance. The intention of this strategy is to promote the implementation of WC/WDM through a balanced approach combining support, incentives and regulations for all WSI. These model strategies will be supported with the development of a number of tools and guidelines that can be used to achieve the objectives and goals identified. The governance and regulatory elements of the strategy will be abstracted for inclusion in the National Water Resource Strategy and will be aligned with the proposed Water Services Act regulations and considerations for the National Water Act regulations.

SCOPE OF A WC/WDM STRATEGY

The strategy is limited to defining the roles and functions of WSAs, DWAF and Water Boards (including other bulk water suppliers) excluding the functions of Water Services Intermediaries. The functions of a Water Services Provider are part of the strategy for WSA and no distinction or allocation of responsibilities is made between the two types of institutions.

Although the strategy is aimed to influence all WSA, some of the functions prescribed in the strategy may not be feasible by small authorities. As a target it is recommended that WSA with an average water demand in excess of 20 Mℓ per day should use the proposed strategy. Authorities with water demand less than 20 Mℓ per day should strive to implement elements of the strategy where feasible.

4. Water Conservation / Demand Management (WC/WDM)

The strategy is developed from a review of the current constraints and opportunities and identifies objectives, goals and the activities to be implemented to achieve these.

WATER DEMAND MANAGEMENT

WDM should not be regarded as the objective but rather a strategy to meet a number of objectives. One reason why the full potential of WDM is often not recognized is because it is often perceived or understood in a limited context. It is common for people to equate WDM only to programs such as communications campaigns or tariff increases. WDM should equate to the development and implementation of strategies and measures associated to managing water usage.

The scope of WDM includes both distribution management and customer or end use Demand Management measures.

The following objectives have been identified in the model strategy for a WSA:

- Objective 1: Implement efficient distribution management measures.
- Objective 2: Implement efficient water effluent management measures.
- Objective 3: Ensure adequate information to support decision-making process.
- Objective 4: Promote the efficient use of water to consumers and customers.
- Objective 5: Adopt the ethos of partnerships and transparency.
- Objective 6: Adopt Integrated Resource Planning (IRP) principles.
- Objective 7: Ensure the implementation of WC/WDM best practices in new developments
- Objective 8: Contribute to the Catchment Management Strategy

In South Africa the role of WC/WDM as a strategic management paradigm for water institutions is a relative new concept. Financial management is currently been promoted as the predominant strategic management paradigm for WSI and the value and need for WDM is often ignored. It can be argued that WC/WDM is perhaps more significant as a predominant management strategy because it relates to the following key elements of water services:

- Managing purchase and consumption behaviour
- Managing the consumer
- Managing the environment
- Managing resources
- Managing the interaction with other institutions in the supply chain
- Managing the operational efficiency of water services

The Water Services WC/WDM sectoral strategy provide both a model strategy and identifies some of the key issues that should be considered in the development of governance and regulatory requirements of the water services industry in terms of WC/WDM. It has been comprehensive and inclusive of the various legislative requirements and perceived challenges of the Water Services Industry within the context that South Africa is a water scarce and water stressed country. The perceptions and understanding that a WC/WDM document is based on needs to be tested and it is therefore imperative that key stake holders comment and participate in the further development of this WC/WDM sectoral strategy.

4. Water Conservation / Demand Management (WC/WDM)

LEGAL REQUIREMENTS

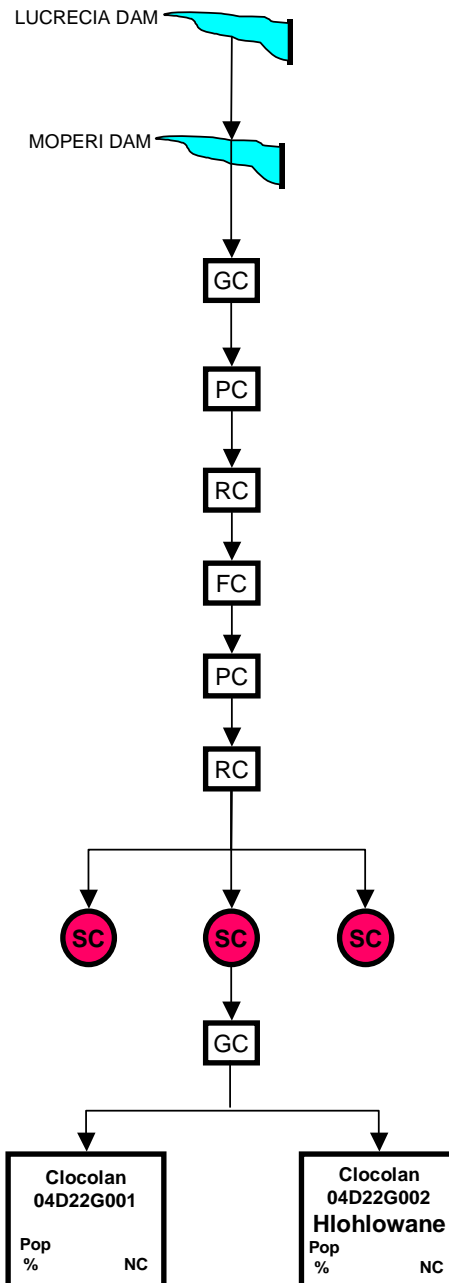
According to the National Water Audit (Section 2(h)(iii)), each WSA is required to prepare a Water Conservation and Water Demand Management (WC/WDM) strategy in order to achieve more efficient water utilisation. The regulations relating to compulsory national standards and measures to conserve water (Section 10(g)) also endorse the above-mentioned requirements. Sustainable, efficient and 100 percent affordable services to all consumers are the main objectives of this strategy. Information regarding the current situation within the district relating to unaccounted for water (UAW), reducing high pressures in reticulation networks and leak/meter repair programmes will now follow.

5. Water Services Infrastructure Profile

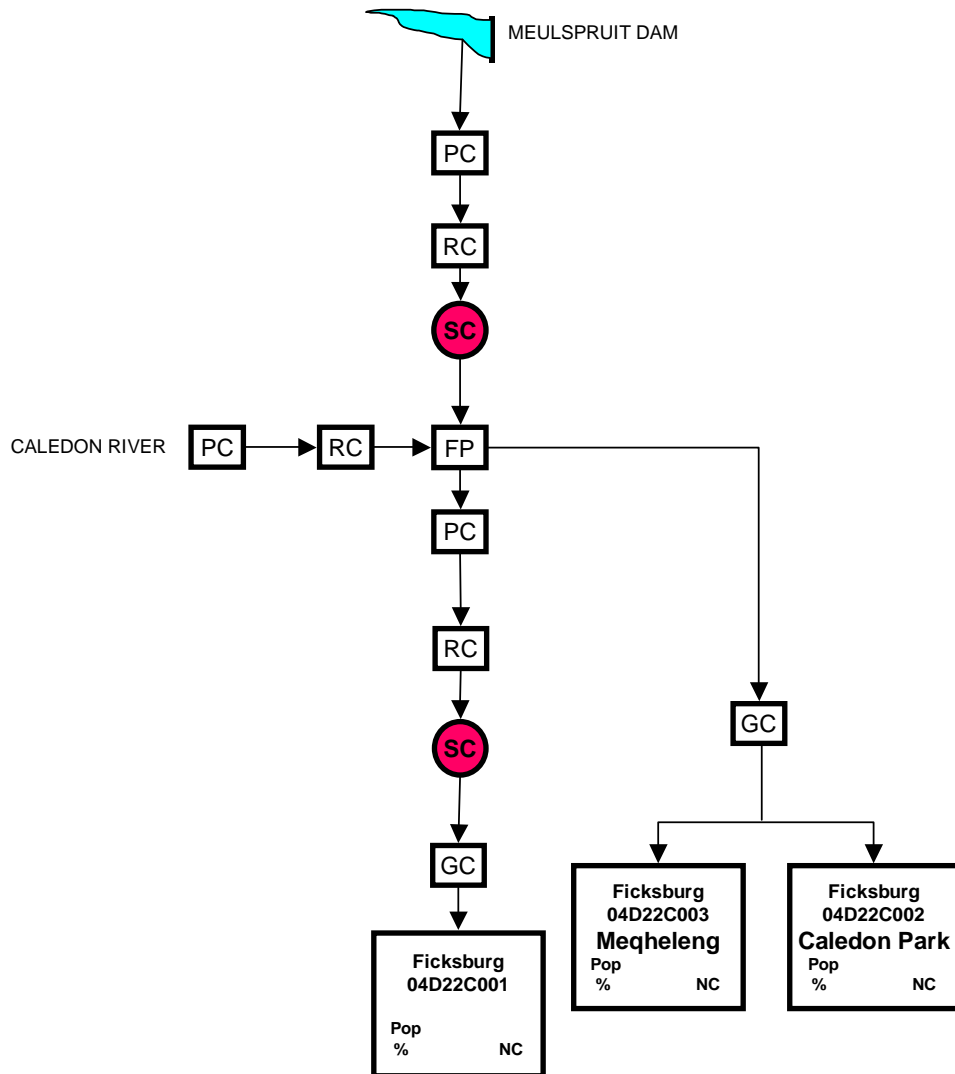
5.1 Water Services Infrastructure

5.1.1 Situation Assessment (Water Services Infrastructure)

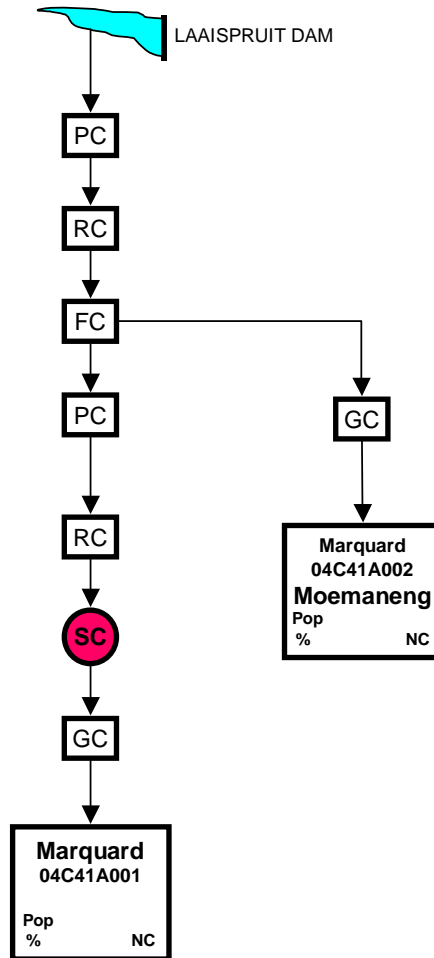
5.1.1.1 Existing infrastructure



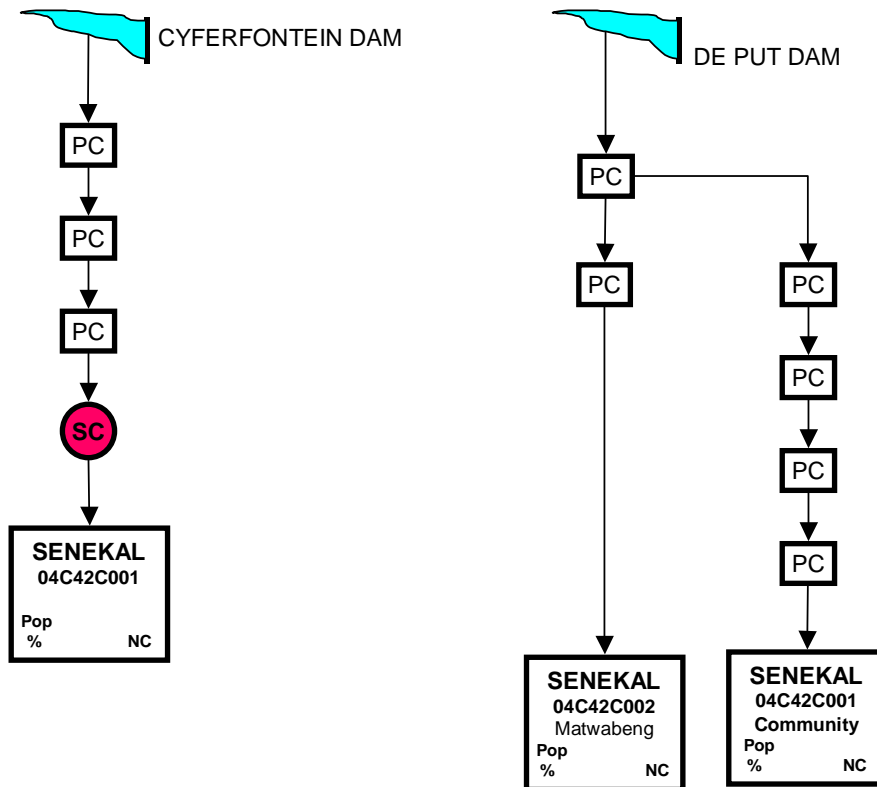
5. Water Services Infrastructure Profile



5. Water Services Infrastructure Profile



5. Water Services Infrastructure Profile



5. Water Services Infrastructure Profile

5.1.1.2 Brief functional description of existing main infrastructure components (urban and rural)

Component	Description of the main functional tasks	Responsibility
Water Provision		
Water resources	<ul style="list-style-type: none"> Surface water Groundwater 	<ul style="list-style-type: none"> Surface water - WSA Groundwater - n/a
Raw water abstraction	<ul style="list-style-type: none"> Surface water abstraction Groundwater abstraction 	<ul style="list-style-type: none"> Surface water - WSA (Calidon river) Groundwater - n/a
Water treatment	<ul style="list-style-type: none"> Water purification (i.e. surface water) Post treatment of groundwater 	<ul style="list-style-type: none"> Purification - WSA Post Treatment - n/a
Bulk supply	<ul style="list-style-type: none"> Bulk supply lines (Gravity and/or pumping mains) 	<ul style="list-style-type: none"> WSA
Storage	<ul style="list-style-type: none"> Reservoirs and Pressure Towers (if applicable) 	<ul style="list-style-type: none"> WSA
Water reticulation	<ul style="list-style-type: none"> Interval infrastructure Metering (Bulk & domestic) 	WSA
Sanitation Provision		
Sewer reticulation	<ul style="list-style-type: none"> Internal infrastructure 	WSA
Bulk collector infrastructure	<ul style="list-style-type: none"> Bulk collector infrastructure Pumpstations (if applicable) Bulk pumping mains (if applicable) 	WSA
Sewage treatment & effluent	<ul style="list-style-type: none"> Sewage treatment plants and/or Oxidation plants Effluent lines (Gravity and/or pumping mains - if applicable) 	WSA

Water provision

The existing water purification works in Ficksburg is working at almost full capacity and will need to be upgraded over the short to medium term.

The water purification works in Marquard is purifying water from the Laaispruit and the secondary dams. This facility has enough capacity although the raw water may in future deliver problems. Investigations have been lodged into a water pipeline that could service this area.

In Senekal raw water is extracted from the Cyferfontein dam in the Sand River and stored in the Cyferfontein off-channel storage dam. Water is also extracted from the Sandspruit and stored in De Put off-channel storage dam. The raw water storage dams, purification works, pumping plant and main supply pipelines, with a total capacity of 9 Ml/day is sufficient for the anticipated demand until the year 2005. Purified water is distributed via 3 service reservoirs, i.e. 2 x 2270 m³ and 5000m³. The storage capacity of the service reservoirs is sufficient for 36 to 48 hours' average daily demand of Senekal-Matwabeng at present.

The raw water supply of Clocolan and Ficksburg need to be increased to cope with the population growth. More households received connections and more standpipes were installed recently, thus putting more pressure on existing resources. For the near future one of the goals of the Local Municipality of Setsoto ought to be to ensure that every household has a metered water connection. This will have a severe impact on consumption, hence the need to increase the raw water supply.

5. Water Services Infrastructure Profile

In Marquard there is a need to investigate alternative storage options for raw water. The water purification at Clocolan and Ficksburg is turning at full capacity and a capacity increase needs to be addressed as soon as possible. Ficksburg reservoir also needs to be upgraded.

The internal network of Ficksburg and Senekal consists mostly of old pipelines that need to be attended to before problems occur that could have been avoided. Although there are a great number of individual household connections in Setsoto that are not metered, there are still some 1665 households in Senekal and 75 households in Marquard that have an unmetered water connection. These households pay a flat rate for water and may contribute to a loss in revenue to Council if more water is being used than what is paid for. It is thus in Council's interest to upgrade these connections with a proper meter. It is also impossible to provide the specified amount of free basic water to households that are not metered. One way to address the backlog of water provision is to install more standpipes. 8270 households in Setsoto make use of standpipes that are within the RDP standard. However, 3 815 households fetch water further than 200 m away. This system is cheaper to install but proves to be expensive in the long run, as no one takes responsibility for it and water is wasted because of a lack of ownership and the fact that people only pay a flat rate.

The rural areas are also of great concern. Limited information is available on the level of service on different farms and it is estimated that many of the farm workers walk more than 200 m to fetch water. This water is not always of a high quality. Farmers currently provide water to farms and farm workers households themselves but need to bring water closer to farm workers' households. The decline of the agricultural sector (individual farmers and landowners) places a burden on development and results in basic services not being provided. Since the subsidy scheme was made available, a considerable contribution has been made in terms of service delivery, although this scheme is no longer continuing as a result of the amalgamation process.

Sanitation provision

The existing works in Ficksburg is situated on the banks of the Caledon River and has a capacity of 4,6 Ml/day. Treatment process is based on the activated sludge method. Treated effluent is discharged into the Caledon River downstream of the Water Purification Works. The works is in a good working condition, and is maintained and operated effectively. The capacity of the works is also under pressure similar to the situation at the Water Purification Works. It was identified that an additional module will be required in the very near future. No funding is available, and a CMIP application to the value of R3600 000 was submitted to the CMIP Provincial Program Manager. The present status is that approval of funding is being awaited.

Megheleng currently has only one of these facilities, which accommodate buckets of approximately 5337 sites every 2 weeks. The municipality is in urgent need of another facility like this while the bucket system is still in place. The oxidation ponds in Marquard are situated to the west of the Senekal Road. The outfall works have enough capacity for their present and future needs. However, a water purification system needs to be investigated to improve bulk water supply to the town. This will assist those households to upgrade their bucket sewerage system to a waterborne system.

The existing sewage treatment works in Senekal is an activated sludge plant and has a capacity of 3000 m³/day and 1280kg COD/day. At present the plant is operating at ± 60 % of its capacity.

The bulk sewer network of Clocolan and Marquard needs to be upgraded as both have reached their full capacity. The number of people depending on these networks has increased dramatically over the past

5. Water Services Infrastructure Profile

few years. Bucket systems are of great concern as well as the location and operational methods of the wash bays. The council wants to address the bucket system urgently as it is below RDP standards.

Rural areas received subsidies from the former TRCs to buy VIP structures for farm workers. It is now the responsibility of the local municipality to provide farm workers with a sewerage system. Unfortunately the exact need is unknown.

5.1.1.3 Existing groundwater infrastructure

General information	BH1 >>>
Component name	Boreholes
Component ID	-
Scheme name	All towns
Institutional status	
Current owner	Setsoto
Current operator	Setsoto
Future owner / WSA (If applicable)	Setsoto
Future operator / WSP (If applicable)	Setsoto
Asset assessment	
Date constructed	unknown
Expected total lifespan	unknown
Estimated replacement value	unknown
Annual operating cost	unknown
Annual maintenance cost	unknown
Type & capacity	
Depth	unknown
Delivery capacity (m ³ /day)	unknown
Power source (solar, electricity, engine, hand, other - please state)	unknown
Type of superstructure (concrete, brick, structural steel, other - please state)	unknown
How much capacity is still available for development? (%)	unknown
Operation	
How often is groundwater quality tested? (Daily, weekly, monthly, annual, never)	unknown
How often is groundwater depth measured (Daily, weekly, monthly, annual, never)	unknown
Is borehole yield monitored? (Yes/No)	unknown
Is abstraction recorded? (Yes/No)	unknown
Is the abstraction registered with DWAF? (Yes/No)	unknown
Previous vandalism or theft (Security problem) (Yes/No)	unknown
Functionality	
Describe the physical condition (in operation/poor/good)	unknown
How well is the infrastructure maintained? (none, infrequent, demand, planned)	unknown
Are spare parts readily available? (Yes/No)	unknown
Number of breakages / failures per year	unknown
What needs to be refurbished? (cost)	unknown
What needs to be replaced? (cost)	unknown

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5.1.1.4 Existing surface water infrastructure

General information	SW1	SW2	SW3	SW4
Component name	Caledon	Meulspruit	Cyferfontein (Old)	Cyferfontein (New)
Component ID	-	-	-	-
Scheme name	Ficksburg	Ficksburg	Senekal	Senekal
Institutional status				
Current owner	Setsoto	Setsoto	Setsoto	Setsoto
Current operator	Setsoto	Setsoto	Setsoto	Setsoto
Future owner / WSA (If applicable)	Setsoto	Setsoto	Setsoto	Setsoto
Future operator / WSP (If applicable)	Setsoto	Setsoto	Setsoto	Setsoto
Asset assessment				
Date constructed	unknown	1974	unknown	unknown
Expected total lifespan	unknown	unknown	unknown	unknown
Estimated replacement value	unknown	R 4 000 000	unknown	unknown
Annual operating cost	unknown	unknown	R 910 000	unknown
Annual maintenance cost	unknown	unknown	unknown	unknown
Type & capacity				
Catchment area (km ²)	unknown	unknown	unknown	unknown
Full supply storage capacity (m ³)	unknown	unknown	unknown	unknown
Type of structure (dam, river, rim of river, abstraction)	River	Dam	Dam	Dam
Spillway capacity (m ³ /sec)	unknown	unknown	unknown	unknown
Total annual assured yield (m ³ /annum)	unknown	unknown	unknown	unknown
Can the dam capacity be increased? (Yes/No)	Yes	unknown	unknown	unknown
How much capacity is still available for development? (%)	unknown	unknown	unknown	unknown
Operation				
Dam safety registration (Yes/No)	Yes	unknown	unknown	Yes
% Allocation for domestic consumption	100%	unknown	100%	100%
% Of domestic allocation used	100%	unknown	n/a	n/a
Is the abstraction registered with DWAF? (Yes/No)	Yes	unknown	Yes	Yes
When was the last dam safety inspection? (Date)	unknown	unknown	unknown	2001
When was the last water restriction? (Date)	unknown	unknown	1992 - 93	1992 - 93
How many water restrictions were there in the last 5 years?	None	unknown	None	None
Functionality				
How well is the infrastructure maintained? (none, infrequent, demand, planned)	Good	unknown	Demand	Demand
Are spare parts readily available? (Yes/No)	No	unknown	Yes	Yes
Number of breakages / failures per year	2	unknown	unknown	unknown
Describe the physical condition (in operation, poor, good)	Good	unknown	Good	Good
What needs to be refurbished ? (cost)	unknown	unknown	unknown	unknown
What needs to be replaced ? (cost)	unknown	unknown	unknown	unknown

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General information	SW5	SW6	SW7	SW8
Component name	De Put	Laaispruit	Nuwe Hoop	Moperi
Component ID	-	-	-	-
Scheme name	Senekal	Marquard	Marquard	Clocolan
Institutional status				
Current owner	Setsoto	Setsoto	Setsoto	Setsoto
Current operator	Setsoto	Setsoto	Setsoto	Setsoto
Future owner / WSA (If applicable)	Setsoto	Setsoto	Setsoto	Setsoto
Future operator / WSP (If applicable)	Setsoto	Setsoto	Setsoto	Setsoto
Asset assessment				
Date constructed	unknown	1950	1989	1985
Expected total lifespan	unknown	± 10 years	unknown	unknown
Estimated replacement value	unknown	10 000 000	6 000 000	unknown
Annual operating cost	unknown	unknown	unknown	unknown
Annual maintenance cost	unknown	unknown	unknown	unknown
Type & capacity				
Catchment area (km ²)	unknown	unknown	unknown	unknown
Full supply storage capacity (m ³)	unknown	510 000 000	520 000 000	1 000 000
Type of structure (dam, river, rim of river, abstraction)	Dam	River	Dam	Dam
Spillway capacity (m ³ /sec)	unknown	unknown	unknown	unknown
Total annual assured yield (m ³ /annum)	unknown	unknown	unknown	unknown
Can the dam capacity be increased? (Yes/No)	unknown	unknown	unknown	Yes
How much capacity is still available for development? (%)	unknown	unknown	unknown	Yes
Operation				
Dam safety registration (Yes/No)	unknown	unknown	unknown	No
% Allocation for domestic consumption	100%	unknown	unknown	100%
% Of domestic allocation used	n/a	unknown	unknown	100%
Is the abstraction registered with DWAF? (Yes/No)	Yes	unknown	unknown	unknown
When was the last dam safety inspection? (Date)		unknown	unknown	± 1999
When was the last water restriction? (Date)	1992 - 93	1993	1993	unknown
How many water restrictions were there in the last 5 years?	none	unknown	unknown	1
Functionality				
How well is the infrastructure maintained? (none, infrequent, demand, planned)	Demand	unknown	unknown	Demand
Are spare parts readily available? (Yes/No)	No	unknown	unknown	Yes
Number of breakages / failures per year	unknown	unknown	unknown	unknown
Describe the physical condition (in operation, poor, good)	Good	Poor	Good	Good
What needs to be refurbished ? (cost)	unknown	unknown	unknown	unknown
What needs to be replaced ? (cost)	Pumps	River	unknown	unknown

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5.1.1.5 Existing water treatment works infrastructure

General information	WTW1	WTW2	WTW3	WTW4
Component name	Ficksburg WTW	Cyferfontein (Old) WTW	Cyferfontein (New) WTW	De Putt WTW
Component ID	-	-	-	-
Scheme name	Ficksburg	Senekal	Senekal	Senekal
Institutional status				
Current owner	Setsoto	Setsoto	Setsoto	Setsoto
Current operator	Setsoto	Setsoto	Setsoto	Setsoto
Future owner / WSA (If applicable)	Setsoto	Setsoto	Setsoto	Setsoto
Future operator / WSP (If applicable)	Setsoto	Setsoto	Setsoto	Setsoto
Asset assessment				
Date constructed	Upgraded 1994	unknown	1993	unknown
Expected total lifespan	unknown	unknown	unknown	unknown
Estimated replacement value	12 000 000	unknown	unknown	unknown
Annual operating cost	unknown	1 690 593	1 690 593	unknown
Annual maintenance cost	unknown	1 690 593	1 690 593	unknown
Type & capacity				
Type of plant (description)	Conventional	Conventional	Conventional	Conventional
Water source (purchased, ground, surface)	Surface	Surface	Surface	Surface
Physical water quality: Turbidity	unknown	unknown	unknown	unknown
Chemical causing quality problem (>10 mg/l)	unknown	unknown	unknown	unknown
Chemical causing quality problem (>10 mg/l)	unknown	unknown	unknown	unknown
Chemical causing quality problem (>10 mg/l)	unknown	unknown	unknown	unknown
Chemical causing quality problem (>10 mg/l)	unknown	unknown	unknown	unknown
Design Capacity (Mℓ)	15.6	7.56	3.79	3.29
How much capacity is still available for development? (%)	unknown	0%	0%	0%
Operation				
Total volume of water treated per year (Mℓ)	2200	549	560	339
Operating hours per day	17	16	16	16
How often is water quality monitored? (daily, weekly, monthly, annual, never)	Daily / Monthly	Daily	Daily	Daily
What laboratory is used?	WSA / CSIR	unknown	unknown	unknown
% Of the time that water is chlorinated	100%	100	100	100
% Of water lost through process (eg. Waste water)	10%	unknown	unknown	unknown
Functionality				
Describe the physical condition (in operation, poor, good)	Good	Good	Good	Good
How well is the infrastructure maintained? (none, infrequent, demand, planned)	Demand	Planned	Planned	unknown
Are spare parts readily available? (Yes/No)	No	Yes	Yes	Yes
Number of breakages / failures per year	unknown	1	1	1
What needs to be refurbished? (cost)	unknown	unknown	unknown	unknown
What needs to be replaced? (cost)	Pumps	unknown	unknown	unknown

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General information	WTW5	WTW6
Component name	Marquard WTW	Clocolan WTW
Component ID	-	-
Scheme name	Marquard	Clocolan
Institutional status		
Current owner	Setso	Setso
Current operator	Setso	Setso
Future owner / WSA (If applicable)	Setso	Setso
Future operator / WSP (If applicable)	Setso	Setso
Asset assessment		
Date constructed	unknown	unknown
Expected total lifespan	± 10 years	unknown
Estimated replacement value	unknown	unknown
Annual operating cost	unknown	unknown
Annual maintenance cost	25 000	unknown
Type & capacity		
Type of plant (description)	Conventional	Conventional
Water source (purchased, ground, surface)	Surface	Surface
Physical water quality: Turbidity	unknown	unknown
Chemical causing quality problem (>10 mg/l)	unknown	unknown
Chemical causing quality problem (>10 mg/l)	unknown	unknown
Chemical causing quality problem (>10 mg/l)	unknown	unknown
Chemical causing quality problem (>10 mg/l)	unknown	unknown
Design Capacity (Mℓ)	3.16	5.952
How much capacity is still available for development? (%)	No	unknown
Operation		
Total volume of water treated per year (Mℓ)	unknown	unknown
Operating hours per day	16	unknown
How often is water quality monitored? (daily, weekly, monthly, annual, never)	Weekly / Monthly	Weekly / Monthly
What laboratory is used?	CSIR	unknown
% Of the time that water is chlorinated	16%	unknown
% Of water lost through process (eg. Waste water)	5%	unknown
Functionality		
Describe the physical condition (in operation, poor, good)	Good	unknown
How well is the infrastructure maintained? (none, infrequent, demand, planned)	Demand	unknown
Are spare parts readily available? (Yes/No)	Yes	unknown
Number of breakages / failures per year	± 3	unknown
What needs to be refurbished? (cost)	unknown	unknown
What needs to be replaced? (cost)	unknown	unknown

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5.1.1.6 Existing sewage treatment works infrastructure

General information	STW1	STW2	STW2	STW4
Component name	Caledon River	Clocolan STW	Marquard STW	Senekal STW
Component ID	-	-	-	-
Scheme name	Ficksburg	Clocolan	Marquard	Senekal
Institutional status				
Current owner	Setsoto	Setsoto	Setsoto	Setsoto
Current operator	Setsoto	Setsoto	Setsoto	Setsoto
Future owner / WSA (If applicable)	Setsoto	Setsoto	Setsoto	Setsoto
Future operator / WSP (If applicable)	Setsoto	Setsoto	Setsoto	Setsoto
Asset assessment				
Date constructed	unknown	unknown	unknown	unknown
Expected total lifespan	unknown	unknown	unknown	unknown
Estimated replacement value	unknown	unknown	unknown	unknown
Annual operating cost	unknown	unknown	unknown	unknown
Annual maintenance cost	unknown	unknown	unknown	unknown
Type (process) & capacity				
Type of plant (i.e. Activated sludge / Bio-filter / Oxidation Ponds)	Activated sludge	Oxidation ponds	Oxidation ponds	Activated sludge
Design Capacity - Hydraulic Load (MI/day)	5.4	unknown	0.170	3
How much capacity is still available for development? (%)	unknown	unknown	unknown	unknown
Design Capacity - Organic Load (COD kg/day)	unknown	unknown	650	unknown
How much capacity is still available for development? (%)	unknown	unknown	unknown	unknown
Inlet meter (type)	unknown	unknown	unknown	unknown
Operation				
Total volume of water received and treated per year (MI)	unknown	unknown	unknown	unknown
Operating hours per day	24	24	24	24
Discharge into (description of source)	unknown	unknown	unknown	unknown
Discharge volume (MI/annum)	unknown	unknown	unknown	unknown
Volume of effluent recycled (MI/annum)	unknown	unknown	unknown	unknown
Applications of recycled effluent (i.e. irrigation, mining, etc)	unknown	unknown	unknown	unknown
Effluent control (by whom)	Setsoto	Setsoto	Setsoto	Setsoto
Permitted effluent (MI/annum)	unknown	unknown	unknown	unknown
Solid waste disposal (m ³ /annum)	unknown	unknown	unknown	unknown
Sludge produced (m ³ /annum)	unknown	unknown	unknown	unknown
How often is water quality monitored? (daily, weekly, monthly, annual, never)	unknown	unknown	unknown	unknown
What laboratory is used?	CSIR	CSIR	CSIR	CSIR
% Of the time that effluent is chlorinated	unknown	unknown	unknown	unknown
Functionality				
Describe the physical condition (in operation, poor, good)	In operation	In operation	In operation	In operation
How well is the infrastructure maintained? (none, infrequent, demand, planned)	Demand	Demand	Demand	Demand
Are spare parts readily available? (Yes/No)	Yes	Yes	Yes	Yes
Number of breakages / failures per year	unknown	unknown	unknown	unknown
What needs to be refurbished? (cost)	unknown	unknown	unknown	unknown
What needs to be replaced? (cost)	unknown	Fencing	unknown	unknown

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5.1.1.7 Existing pump stations infrastructure

General information	PS1	PS2	PS3	PS4
Component name	Caledon	Meulspruit	Ficksburg	Cyferfontein (Old)
Component ID	-	-	-	-
Scheme name	Ficksburg	Ficksburg	Ficksburg	Senekal
Institutional status				
Current owner	Setsoto	Setsoto	Setsoto	Setsoto
Current operator	Setsoto	Setsoto	Setsoto	Setsoto
Future owner / WSA (If applicable)	Setsoto	Setsoto	Setsoto	Setsoto
Future operator / WSP (If applicable)	Setsoto	Setsoto	Setsoto	Setsoto
Asset assessment				
Date constructed	Constructed - unknown Upgraded - 1994	Constructed - unknown Upgraded - 1994	Constructed - unknown Upgraded - 1994	unknown
Expected total lifespan	10 years	10 years		unknown
Estimated replacement value	3 000 000	2 000 000	3 000 000	unknown
Annual operating cost	unknown	unknown	unknown	unknown
Annual maintenance cost	unknown	unknown	unknown	unknown
Type & capacity				
Type (water or sewage)	Raw water	Raw water	Treated water	Raw water
Number of pumps	3	5	3	unknown
Pumping head (m)	109	unknown	unknown	unknown
Discharge rate (Mℓ/day)	27	33	10	unknown
Pump station Kilowatt		750	unknown	unknown
Motor speed	1480	unknown	unknown	unknown
Type of power supply (solar, electricity, engine, other - please state)	Electricity	Electricity	Electricity	Electricity
Type of superstructure (concrete, brick, structural steel, other - please state)	Brick	Brick	Brick	Brick
How much capacity is still available for development? (%)	unknown	0	unknown	unknown
Operation				
Operating hours per day	18	± 6	18	unknown
Are there any standby pumps available? (Yes/No)	Yes	Yes	Yes	No
Functionality				
Describe the physical condition (in operation, poor, good)	Good	Good	Good	In operation
How well is the infrastructure maintained? (none, infrequent, demand, planned)	Demand	Demand	Demand	Demand
Are spare parts readily available? (Yes/No)	No	No	No	unknown
Number of breakages / failures per year	2	2	2	unknown
What needs to be refurbished? (cost)	Pumps	unknown	unknown	unknown
What needs to be replaced? (cost)	150 000	unknown	unknown	unknown

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General information	PS5	PS6	PS7	PS8
Component name	Cyferfontein (New)	De Putt	WTW	Reservoir
Component ID	-	-	-	-
Scheme name	Senekal	Senekal	Marquard	unknown
Institutional status				
Current owner	Setsoto	Setsoto	Setsoto	Setsoto
Current operator	Setsoto	Setsoto	Setsoto	Setsoto
Future owner / WSA (If applicable)	Setsoto	Setsoto	Setsoto	Setsoto
Future operator / WSP (If applicable)	Setsoto	Setsoto	Setsoto	Setsoto
Asset assessment				
Date constructed	unknown	unknown	unknown	unknown
Expected total lifespan	unknown	unknown	20	20
Estimated replacement value	unknown	unknown	unknown	unknown
Annual operating cost	unknown	unknown	unknown	unknown
Annual maintenance cost	unknown	unknown	unknown	unknown
Type & capacity				
Type (water or sewage)	Raw water	Raw water	Water	Water
Number of pumps	unknown	unknown	4	2
Pumping head (m)	unknown	unknown	unknown	unknown
Discharge rate (Mℓ/day)	unknown	unknown	unknown	unknown
Pump station Kilowatt	unknown	unknown	unknown	unknown
Motor speed	unknown	unknown	unknown	unknown
Type of power supply (solar, electricity, engine, other - please state)	Electricity	Electricity	Electricity	Electricity
Type of superstructure (concrete, brick, structural steel, other - please state)	Brick	Brick	Concrete	Concrete
How much capacity is still available for development? (%)	unknown	unknown	unknown	unknown
Operation				
Operating hours per day	unknown	unknown	16	5
Are there any standby pumps available? (Yes/No)	No	No	Yes	Yes
Functionality				
Describe the physical condition (in operation, poor, good)	In operation	In operation	Good	Good
How well is the infrastructure maintained? (none, infrequent, demand, planned)	Demand	Demand	Demand	Demand
Are spare parts readily available? (Yes/No)	Yes	Yes	Yes	Yes
Number of breakages / failures per year	unknown	unknown	1	1
What needs to be refurbished? (cost)	unknown	unknown	unknown	Valves
What needs to be replaced? (cost)	unknown	unknown	unknown	unknown

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5.1.1.8 Existing bulk pipeline infrastructure

General information	Zone 1	Zone 2	Zone 3	Zone 4
Component name	Caledon River	Meulspruit Dam	Potable Supply	Cyferfontein (Old)
Component ID	-	-	-	-
Scheme name	Ficksburg	Ficksburg	Ficksburg	Senekal
Institutional status				
Current owner	Setsoto	Setsoto	Setsoto	Setsoto
Current operator	Setsoto	Setsoto	Setsoto	Setsoto
Future owner / WSA (If applicable)	Setsoto	Setsoto	Setsoto	Setsoto
Future operator / WSP (If applicable)	Setsoto	Setsoto	Setsoto	Setsoto
Asset assessment				
Date constructed	Constructed - unknown Upgraded - 1994	Constructed - unknown Upgraded - 1994	Constructed - unknown Upgraded - 1994	unknown
Expected total lifespan	10 years	10 years	10 years	unknown
Estimated replacement value	800 000	3 000 000	3 000 000	unknown
Annual operating cost	unknown	unknown	unknown	unknown
Annual maintenance cost	unknown	unknown	unknown	unknown
Type & capacity				
Type (water or sewage)	Water	Water	Water	Water
Pipe material (Most common)	AC	AC	AC	unknown
Avg. Diameter (mm)	unknown	unknown	unknown	unknown
Avg. Pipe Class	unknown	unknown	unknown	unknown
Avg. Discharge rate (m ³ /sec)	unknown	unknown	unknown	unknown
Total Length above ground (m)	1000	1000	unknown	unknown
Total Length below ground (m)	unknown	7000	unknown	unknown
Total Length of river crossings (m)	unknown	500	unknown	unknown
Total Length of road crossings (m)	unknown	1000	unknown	unknown
How much capacity is still available for development? (%)	unknown	unknown	unknown	unknown
Operation				
Is there any leakage control? (Pressure regulation) (Yes/No)	Yes (Air Valves)	Yes (Air Valves)	Yes (Air Valves)	unknown
How many illegal connections to date?	unknown	unknown	unknown	unknown
Have illegal connections be formalised? (Yes/No)	No	No	No	unknown
Have servitudes been registered? (Yes/No)	unknown	unknown	unknown	unknown
Functionality				
Describe the physical condition (unusable, poor, good)	Good	Good	Poor / Good	unknown
How well is the infrastructure maintained? (none, infrequent, demand, planned)	Demand	Demand	Demand	Demand
Are spare parts readily available? (Yes/No)	Yes	Yes	Yes	Yes
Number of breakages / failures per year	1	1	2	unknown
What needs to be refurbished? (cost)	unknown	unknown	unknown	unknown
What needs to be replaced? (cost)	unknown	unknown	unknown	unknown

5. Water Services Infrastructure Profile

General information	Zone 5	Zone 6	Zone 7	Zone 8
Component name	Cyferfontein (New)	De Putt	WTW	Clocolan
Component ID	-	-	-	-
Scheme name	Senekal	Senekal	Marquard	Clocolan
Institutional status				
Current owner	Setsoto	Setsoto	Setsoto	Setsoto
Current operator	Setsoto	Setsoto	Setsoto	Setsoto
Future owner / WSA (If applicable)	Setsoto	Setsoto	Setsoto	Setsoto
Future operator / WSP (If applicable)	Setsoto	Setsoto	Setsoto	Setsoto
Asset assessment				
Date constructed	unknown	unknown	unknown	unknown
Expected total lifespan	unknown	unknown	20 years	unknown
Estimated replacement value	unknown	unknown	1 000 000	unknown
Annual operating cost	unknown	unknown	unknown	unknown
Annual maintenance cost	unknown	unknown	unknown	unknown
Type & capacity				
Type (water or sewage)	Water	Water	Water	Water
Pipe material (Most common)	unknown	unknown	PVC & AC	unknown
Avg. Diameter (mm)	unknown	unknown	200	unknown
Avg. Pipe Class	unknown	unknown	unknown	unknown
Avg. Discharge rate (m ³ /sec)	unknown	unknown	unknown	unknown
Total Length above ground (m)	unknown	unknown	unknown	unknown
Total Length below ground (m)	unknown	unknown	1800	unknown
Total Length of river crossings (m)	unknown	unknown	unknown	unknown
Total Length of road crossings (m)	unknown	unknown	10	unknown
How much capacity is still available for development? (%)	unknown	unknown	unknown	unknown
Operation				
Is there any leakage control? (Pressure regulation) (Yes/No)	unknown	unknown	No	unknown
How many illegal connections to date?	unknown	unknown	unknown	unknown
Have illegal connections be formalised? (Yes/No)	unknown	unknown	unknown	unknown
Have servitudes been registered? (Yes/No)	unknown	unknown	unknown	unknown
Functionality				
Describe the physical condition (unusable, poor, good)	unknown	unknown	Good	unknown
How well is the infrastructure maintained? (none, infrequent, demand, planned)	Demand	Demand	Demand	Demand
Are spare parts readily available? (Yes/No)	Yes	Yes	Yes	Yes
Number of breakages / failures per year	unknown	unknown	1	unknown
What needs to be refurbished? (cost)	unknown	unknown	unknown	unknown
What needs to be replaced? (cost)	unknown	unknown	unknown	unknown

5. Water Services Infrastructure Profile

5.1.1.9 Existing reservoir infrastructure

General information	RES 1	RES 2	RES 3	RES 4
Component name	Reservoir #1 (Mpharane Hill)	Reservoir #2 (Mpharane Hill)	Reservoir #3 (Meqheleng)	Reservoir #4 (Meqheleng)
Component ID	-	-	-	-
Scheme name	Ficksburg	Ficksburg	Ficksburg	Ficksburg
Institutional status				
Current owner	Setsoto	Setsoto	Setsoto	Setsoto
Current operator	Setsoto	Setsoto	Setsoto	Setsoto
Future owner / WSA (If applicable)	Setsoto	Setsoto	Setsoto	Setsoto
Future operator / WSP (If applicable)	Setsoto	Setsoto	Setsoto	Setsoto
Asset assessment				
Date constructed	Constructed unknown Upgraded - 1994	1994	2003	unknown
Expected total lifespan	30	unknown	unknown	unknown
Estimated replacement value	4 000 000	unknown	unknown	unknown
Annual operating cost	unknown	unknown	unknown	unknown
Annual maintenance cost	unknown	unknown	unknown	unknown
Type & capacity				
Is the reservoir elevated or on ground level?	Ground level	Ground level	Ground level	Ground level
Type of material (concrete, brick, steel, other - please state)	Concrete	Steel	Steel	Concrete
Reservoir capacity (Mℓ)	4	2.6	1.0	1.0
Is it a bulk or reticulation reservoir?	Bulk	Bulk	Bulk	Bulk
How much capacity is still available for development? (%)	unknown	unknown	unknown	unknown
Operation				
What is the storage factor (x daily use)	unknown	unknown	unknown	unknown
Functionality				
Describe the physical condition (unusable, poor, good)	Good	Good	Good	Good
How well is the infrastructure maintained? (none, infrequent, demand, planned)	Demand	Demand	Demand	Demand
Are spare parts readily available? (Yes/No)	Yes	Yes	Yes	Yes
Number of breakages / failures per year	unknown	unknown	unknown	unknown
What needs to be refurbished? (cost)	unknown	unknown	unknown	unknown
What needs to be replaced? (cost)	unknown	unknown	unknown	unknown

5. Water Services Infrastructure Profile

General information	RES 5	RES 6	RES 7	RES 8
Component name	Reservoir #1	Reservoir #2	Reservoir #3	Reservoir #1
Component ID	-	-	-	-
Scheme name	Senekal	Senekal	Senekal	Marquard
Institutional status				
Current owner	Setsoto	Setsoto	Setsoto	Setsoto
Current operator	Setsoto	Setsoto	Setsoto	Setsoto
Future owner / WSA (If applicable)	Setsoto	Setsoto	Setsoto	Setsoto
Future operator / WSP (If applicable)	Setsoto	Setsoto	Setsoto	Setsoto
Asset assessment				
Date constructed	unknown	unknown	unknown	unknown
Expected total lifespan	unknown	unknown	unknown	unknown
Estimated replacement value	unknown	unknown	unknown	unknown
Annual operating cost	unknown	unknown	unknown	unknown
Annual maintenance cost	unknown	unknown	unknown	unknown
Type & capacity				
Is the reservoir elevated or on ground level?	Ground level	Ground level	Ground level	Ground level
Type of material (concrete, brick, steel, other - please state)	Concrete	Concrete	Concrete	Concrete
Reservoir capacity (Mℓ)	2.5	2.5	5	0.455
Is it a bulk or reticulation reservoir?	Bulk	Bulk	Bulk	Reticulation
How much capacity is still available for development? (%)	unknown	unknown	unknown	unknown
Operation				
What is the storage factor (x daily use)	unknown	unknown	unknown	unknown
Functionality				
Describe the physical condition (unusable, poor, good)	Good	Good	Good	Good
How well is the infrastructure maintained? (none, infrequent, demand, planned)	Demand	Demand	Demand	Demand
Are spare parts readily available? (Yes/No)	Yes	Yes	Yes	Yes
Number of breakages / failures per year	unknown	unknown	unknown	unknown
What needs to be refurbished? (cost)	unknown	unknown	unknown	unknown
What needs to be replaced? (cost)	unknown	unknown	unknown	unknown

5. Water Services Infrastructure Profile

General information	RES 9	RES 10	RES 11	RES 12
Component name	Reservoir #2	Reservoir #3	Pressure Tower	unknown
Component ID	-	-	-	-
Scheme name	Marquard	Marquard	Clocolan	Clocolan
Institutional status				
Current owner	Setsoto	Setsoto	Setsoto	Setsoto
Current operator	Setsoto	Setsoto	Setsoto	Setsoto
Future owner / WSA (If applicable)	Setsoto	Setsoto	Setsoto	Setsoto
Future operator / WSP (If applicable)	Setsoto	Setsoto	Setsoto	Setsoto
Asset assessment				
Date constructed	unknown	unknown	unknown	unknown
Expected total lifespan	unknown	unknown	unknown	unknown
Estimated replacement value	unknown	unknown	unknown	unknown
Annual operating cost	unknown	unknown	unknown	unknown
Annual maintenance cost	unknown	unknown	unknown	unknown
Type & capacity				
Is the reservoir elevated or on ground level?	Ground level	Ground level	Elevated	unknown
Type of material (concrete, brick, steel, other - please state)	Concrete	Concrete	Concrete	unknown
Reservoir capacity (Mℓ)	0.91	1.2	0.260	5.74 (details unknown)
Is it a bulk or reticulation reservoir?	Reticulation	Bulk	Reticulation	unknown
How much capacity is still available for development? (%)	unknown	unknown	unknown	unknown
Operation				
What is the storage factor (x daily use)	unknown	unknown	unknown	unknown
Functionality				
Describe the physical condition (unusable, poor, good)	Good	Good	Good	unknown
How well is the infrastructure maintained? (none, infrequent, demand, planned)	Demand	Demand	Demand	unknown
Are spare parts readily available? (Yes/No)	Yes	Yes	Yes	unknown
Number of breakages / failures per year	unknown	unknown	unknown	unknown
What needs to be refurbished? (cost)	unknown	unknown	unknown	unknown
What needs to be replaced? (cost)	unknown	unknown	unknown	unknown

5. Water Services Infrastructure Profile

5.1.1.10 Existing reticulation infrastructure (by supply zone)

General information	Zone 1 >>>
Component name	All urban areas
Component ID	-
Scheme name	Ficksburg / Senekal / Clocolan / Marquard
Institutional status	
Current owner	Setsoto
Current operator	Setsoto
Future owner / WSA (If applicable)	Setsoto
Future operator / WSP (If applicable)	Setsoto
Asset assessment	
Date constructed	unknown
Expected total lifespan	unknown
Estimated replacement value	unknown
Annual operating cost	unknown
Annual maintenance cost	unknown
Type & capacity	
Household density (dwelling/km ²)	unknown
Population served	See demographics
Housing layout (Formal or informal)	Formal and Informal
Level of service: Access (none or inadequate, RDP, higher level)	None - High
Level of service: Consumption (none or inadequate, RDP, higher level)	High
How much capacity is still available for development? (%)	unknown
Operation	
Billing system (Yes/No)	Yes
Tariff (Block definition)	0 - 6 kℓ; 6 - 10 kℓ; 10 - 20 kℓ; 20 - 30 kℓ; > 30 kℓ
Number of illegal connections to date	unknown
Number of illegal connections formalised	unknown
Number of vandalisms at service points or network controls	unknown
Functionality & condition	
Describe the physical condition (unusable, poor, good)	Varies
How well is the infrastructure maintained? (none, infrequent, demand, planned)	Demand
Are spare parts readily available? (Yes/No)	Yes
Number of breakages / failures per year	unknown
What needs to be refurbished? (cost)	unknown
What needs to be replaced? (cost)	unknown

5. Water Services Infrastructure Profile

5.1.1.11 Schemes to be transferred: water

Description	Name	Settlement type	Transferring from	Transferring to	Proposed date for transfer
n/a	n/a	n/a	n/a	n/a	n/a

5.1.1.12 Schemes to be transferred: sanitation

Description	Name	Settlement type	Transferring from	Transferring to	Proposed date for transfer
n/a	n/a	n/a	n/a	n/a	n/a

5.1.1.13 Schemes to be rehabilitated

Scheme name	Component name	Refurbishment needs	Feasibility checked (Y/N)	Scheduled date	Estimated cost
n/a	n/a	n/a	n/a	n/a	n/a

5. Water Services Infrastructure Profile

5.1.2 Future Trends And Goals (Water Services Infrastructure)

- 5.1.2.1 New Infrastructure to be built
- 5.1.2.2 Future internal and connector infrastructure
- 5.1.2.3 Future bulk water supply infrastructure
- 5.1.2.4 Future bulk sanitation infrastructure

5.1.3 Strategic Gap Analysis (Water Services Infrastructure)

5.1.4 Implementation Strategies (Water Services Infrastructure)

6. Water Balance

6.1 Water Balance

6.1.1 Situation Assessment (Water Balance)

6.1.1.1 Amount of bulk water abstracted (Ml/year)

Source	Source name	Current	Estimate Year 5	Record: Prior				
				-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5
Surface Water	Caledon River (Ficksburg)	unknown	unknown	2526	2676	unknown	unknown	unknown
Surface Water	Meulspruit Dam (Ficksburg)	unknown	unknown	unknown	367	unknown	unknown	unknown
Surface Water	Cyferfontein (Old) - Weir (Senekal)	unknown	unknown	unknown	unknown	unknown	unknown	unknown
Surface Water	Cyferfontein (New) - off channel storage dam (Senekal)	unknown	unknown	unknown	unknown	unknown	unknown	unknown
Surface Water	De Putt off channel storage dam (Senekal)	unknown	unknown	unknown	unknown	unknown	unknown	unknown
Surface Water	Laaispruit Dam (Marquard)	unknown	unknown	290.6	30	unknown	unknown	unknown
Surface Water	Nuwe Hoop Dam (Marquard)	unknown	unknown	unknown	unknown	unknown	unknown	unknown
Surface Water	Moperi Dam (Clocolan)	unknown	unknown	unknown	unknown	unknown	unknown	unknown
TOTAL		unknown	unknown	unknown	unknown	unknown	unknown	unknown

6.1.1.2 Amount of bulk water purchased from others (Ml/year)

Source	Purchased from	Contracted supply volume	Current	Estimate Year 5	Record: Prior				
					-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
TOTAL		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

6.1.1.3 Water supplied to consumers (Ml/year) - urban

Water supplied to consumers (Ml/year) - urban		Current	Estimate Year 5	Record: Prior				
				-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5
1.	Residential communal water supply	unknown	unknown	unknown	unknown	unknown	unknown	unknown
2.	Residential controlled volume supply	unknown	unknown	unknown	unknown	unknown	unknown	unknown
3.	Residential uncontrolled volume supply	unknown	unknown	unknown	unknown	unknown	unknown	unknown
4.	Industrial supply- Wet	unknown	unknown	unknown	unknown	unknown	unknown	unknown
5.	Industrial supply- Dry	unknown	unknown	unknown	unknown	unknown	unknown	unknown
6.	Commercial supply	unknown	unknown	unknown	unknown	unknown	unknown	unknown
7.	Other supply (including water supplied to other water services institutions)	unknown	unknown	unknown	unknown	unknown	unknown	unknown
8.	Sub-total (treated water supplied) (sum 1 to 7)	unknown	unknown	unknown	unknown	unknown	unknown	unknown
9.	Raw water (i.e. supplied untreated)	unknown	unknown	unknown	unknown	unknown	unknown	unknown

6. Water Balance

Water supplied to consumers (Mℓ/year) - urban	Current	Estimate Year 5	Record: Prior					
			-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5	
10. Recycled (from treated effluent) (must be reported as a negative figure)	unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown
11. Total water supplied (8 + 9 + 10)	unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown
12. Physical water losses (bulk water supplied minus 11)	unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown

6.1.1.4 Water supplied to consumers (Ml/year) - rural

Water supplied to consumers (Mℓ/year) - rural	Current	Estimate Year 5	Record: Prior					
			-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5	
1. Residential communal water supply	0	unknown	0	0	0	0	0	0
2. Residential controlled volume supply	0	unknown	0	0	0	0	0	0
3. Residential uncontrolled volume supply	0	unknown	0	0	0	0	0	0
4. Industrial supply- Wet	0	unknown	0	0	0	0	0	0
5. Industrial supply- Dry	0	unknown	0	0	0	0	0	0
6. Commercial supply	0	unknown	0	0	0	0	0	0
7. Other supply (including water supplied to other water services institutions)	0	unknown	0	0	0	0	0	0
8. Sub-total (treated water supplied) (sum 1 to 7)	0	unknown	0	0	0	0	0	0
9. Raw water (i.e. supplied untreated)	0	unknown	0	0	0	0	0	0
10. Recycled (from treated effluent) (must be reported as a negative figure)	0	unknown	0	0	0	0	0	0
11. Total water supplied (8 + 9 + 10)	0	unknown	0	0	0	0	0	0
12. Physical water losses (bulk water supplied minus 11)	0	unknown	0	0	0	0	0	0

6.1.1.5 Total physical water losses (Ml/year)

Total physical water losses (Mℓ/year)	Current	Estimate Year 5	Record: Prior					
			-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5	
1. Total physical water losses: Urban	unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown
2. Total physical water losses: Rural	unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown
3. Total physical water losses	unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown

6. Water Balance

6.1.1.6 Total influent received at treatment works

Source	Resource Name	Works Name		Current	Estimate Year 5	Record: Prior				
						-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5
Domestic	Clocolan	Clocolan Oxidation Ponds	Total	unknown	unknown	unknown	unknown	unknown	unknown	unknown
			% Ind.	unknown	unknown	unknown	unknown	unknown	unknown	unknown
Domestic	Ficksburg	Ficksburg STW	Total	unknown	unknown	unknown	unknown	unknown	unknown	unknown
			% Ind.	unknown	unknown	unknown	unknown	unknown	unknown	unknown
Domestic	Marquard	Marquard Oxidation Ponds	Total	unknown	unknown	unknown	unknown	unknown	unknown	unknown
			% Ind.	unknown	unknown	unknown	unknown	unknown	unknown	unknown
Domestic	Senekal	Senekal STW	Total	unknown	unknown	unknown	unknown	unknown	unknown	unknown
			% Ind.	unknown	unknown	unknown	unknown	unknown	unknown	unknown
Domestic	Senekal	Senekal Oxidation Ponds	Total	unknown	unknown	unknown	unknown	unknown	unknown	unknown
			% Ind.	unknown	unknown	unknown	unknown	unknown	unknown	unknown
Total				unknown	unknown	unknown	unknown	unknown	unknown	unknown
% Industrial				unknown	unknown	unknown	unknown	unknown	unknown	unknown

6. Water Balance

6.1.2 Future Trends And Goals (Water Balance)

- 6.1.2.1 Amount of bulk water to be abstracted
- 6.1.2.2 Amount of bulk water to be purchased from other
- 6.1.2.3 Water to be supplied to consumers -urban
- 6.1.2.4 Water to be supplied to consumers -rural
- 6.1.2.5 Total physical water losses
- 6.1.2.6 Total influent received at treatment works

6.1.3 Strategic Gap Analysis (Water Balance)

6.1.4 Implementation Strategies (Water Balance)

7. Water Services Institutional Arrangements Profile

7.1 Water Services Institutional Arrangements

7.1.1 Situation Assessment (Water Services Institutional Arrangements)

Organisational capacity

Setsoto Local Municipality has sufficient capacity to fulfil the role and responsibilities of a Water Services Authority (WSA). This Municipality comprise, amongst other, of well organised administrative, planning, technical and financial departments conveying high levels of competency. The accompanying table outlines the major functions and outputs of Setsoto Local Municipality. Efforts to put required systems in place must be intensified.

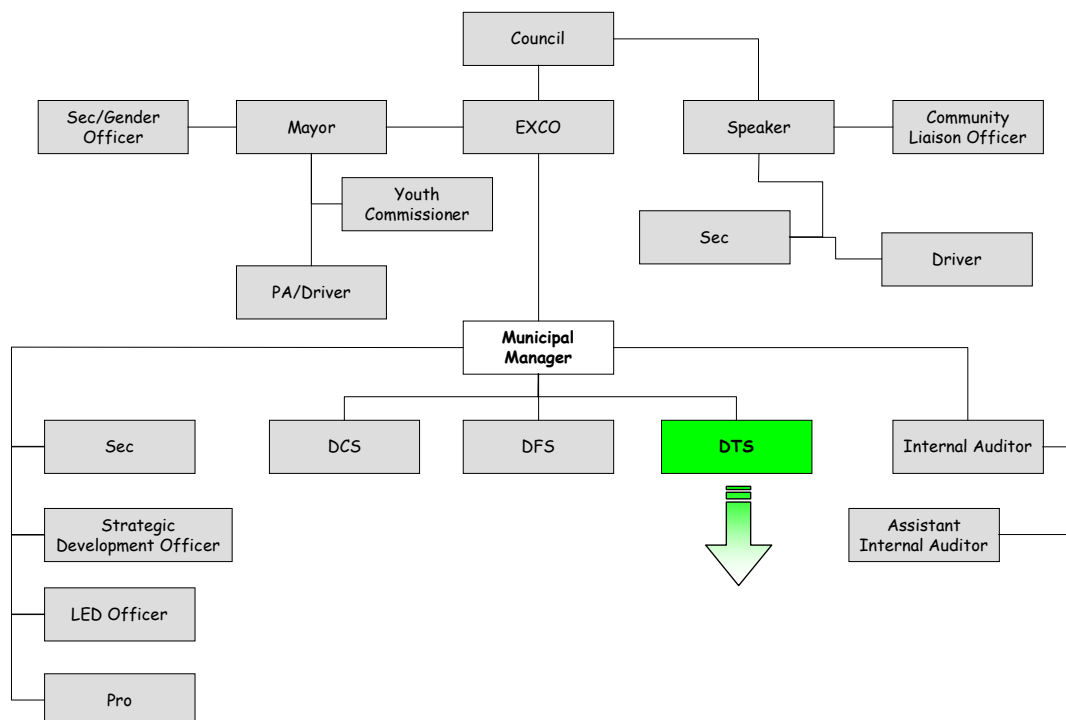
Water and sanitation resources

There are sufficient water and sanitation resources in Setsoto and enough manpower to deliver efficient services. It is not clear if there are capacity gaps on needs in this municipality. There is a need to integrate the operation in the four towns since the information acquired comes form different sources and not a central point.

Policies, systems and procedures

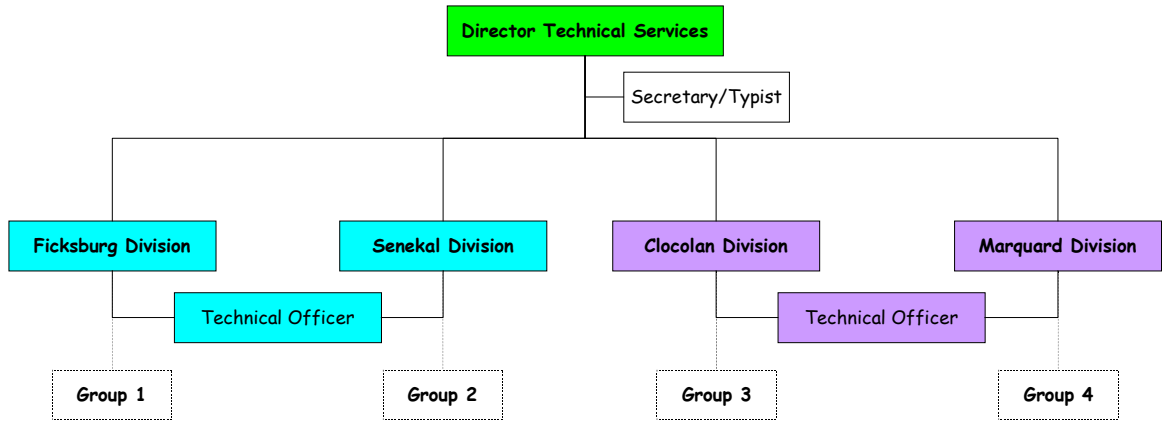
It is significant to point out that the Water Services Bylaws that are currently in place are outdated and need to be revised and amended. No Water Conservation and Demand Management Strategy is in place since the WSDP of Setsoto Local Municipality mainly focused on service delivery and backlog eradication. Performance management and monitoring systems are also not in place and it is not clear when these systems will be in place.

ORGANISATIONAL GROUPING : TOP STRUCTURE



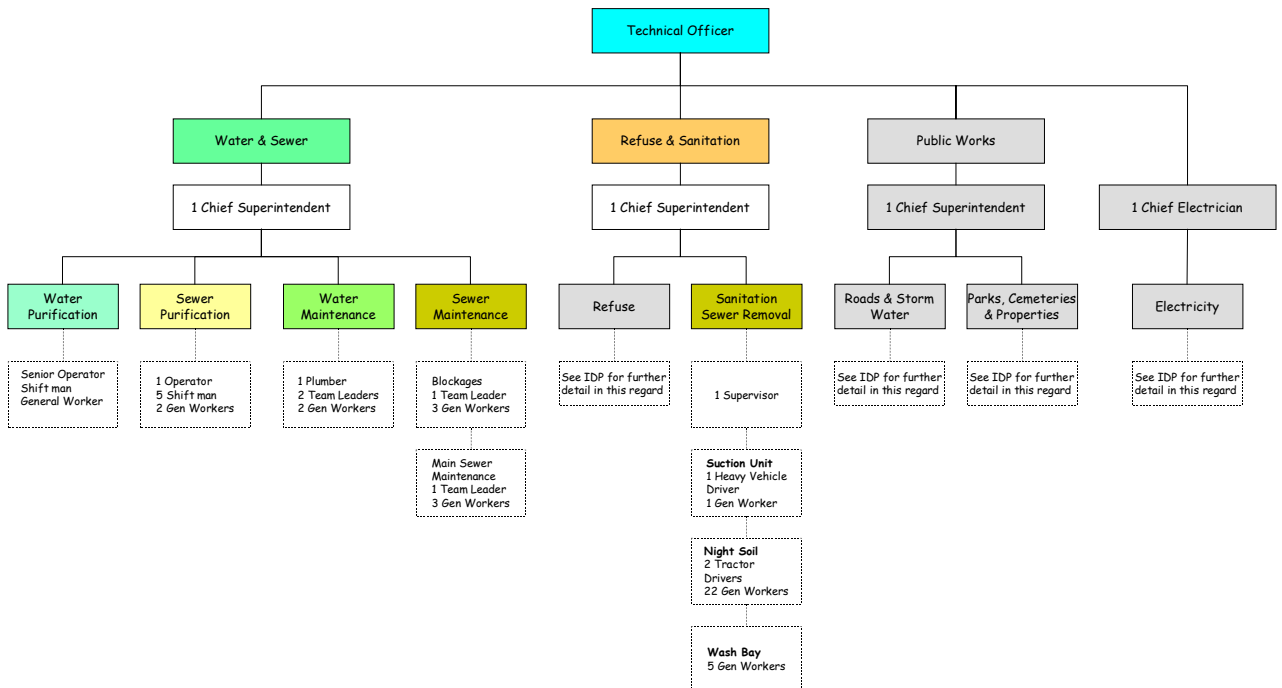
7. Water Services Institutional Arrangements Profile

DEPARTMENT : TECHNICAL SERVICES



Group 1

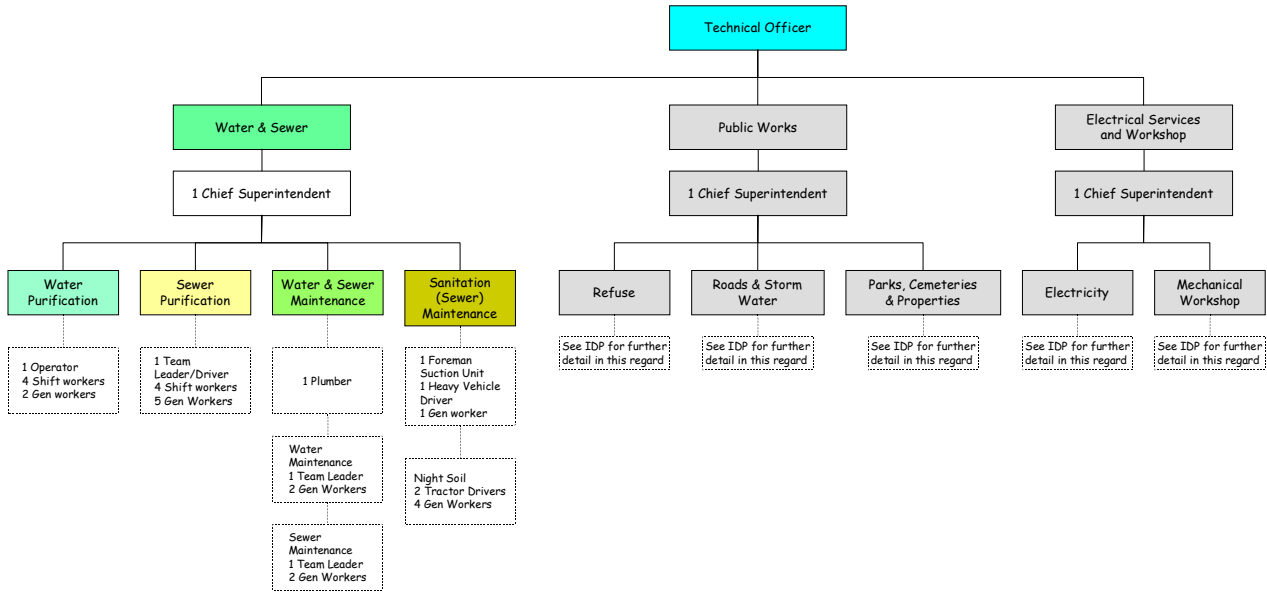
DEPARTMENT TECHNICAL SERVICES : FICKSBURG DIVISION



7. Water Services Institutional Arrangements Profile

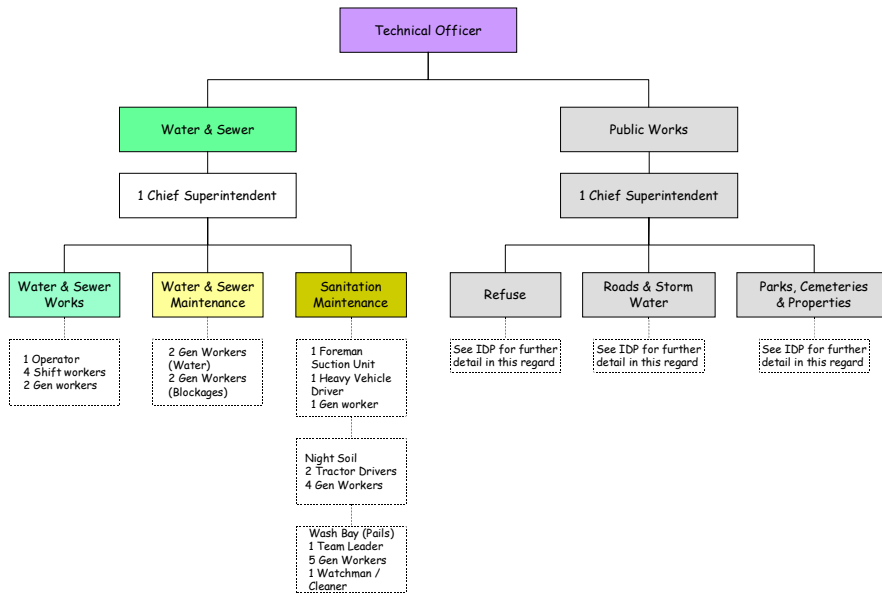
Group 2

DEPARTMENT TECHNICAL SERVICES : SENEKAL DIVISION



Group 3

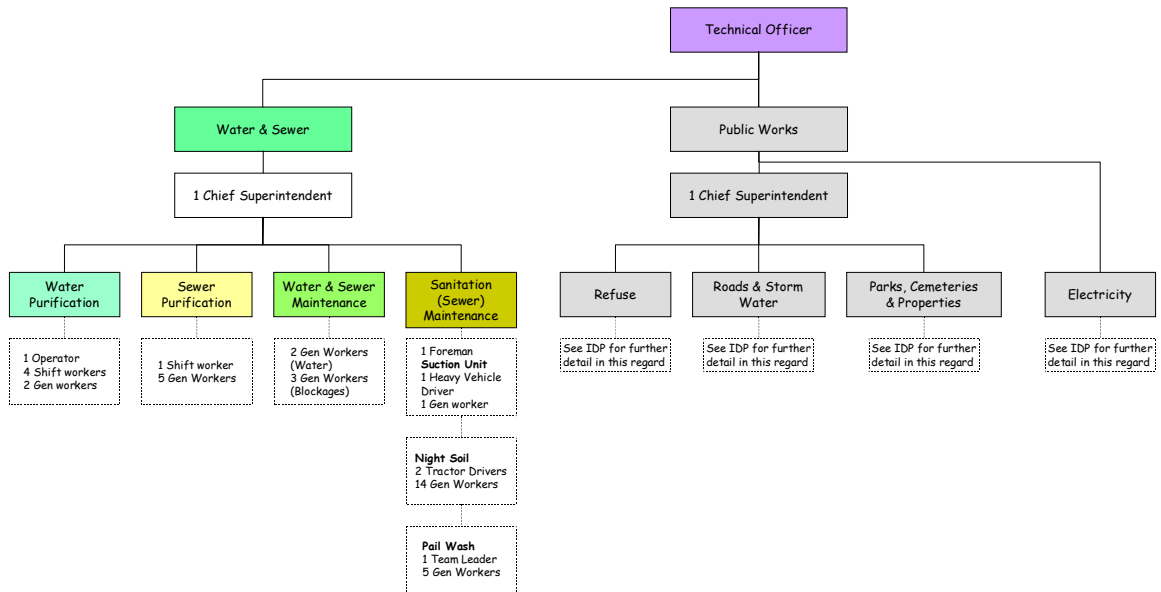
DEPARTMENT TECHNICAL SERVICES : MARQUARD UNIT



7. Water Services Institutional Arrangements Profile

Group 4

DEPARTMENT TECHNICAL SERVICES : CLOCOLAN UNIT



7. Water Services Institutional Arrangements Profile

7.1.1.1 WSA functions and outputs

WSA functions / outputs	In place? (yes / no)	N/A	If no, when will it be in place	Support required (yes / no)
Policy development				
Indigent policy	Yes			
Free basic water policy (including equitable share)	Yes			
Procurement policy	Yes			
Regulation and tariffs				
Water services bylaws with conditions as required by the Water Services Act	Yes			
Mechanisms to ensure compliance with bylaws	Yes			
Tariff structure	Yes			
Tariffs promulgated	Yes			
Infrastructure development (projects)				
Mechanisms to undertake project feasibility studies	Yes			
Criteria for prioritising projects	Yes			
Mechanisms to assess and approve project business plans	Yes			
Mechanisms for selecting, contracting, managing and monitoring implementing agencies	Yes			
Mechanisms to monitor project implementation	Yes			
Water conservation and Demand management				
Water conservation and Demand management strategy	No		Unknown	
Performance management and monitoring				
Performance management system	No		Unknown	
Water service monitoring and evaluation (M&E) system	No		Unknown	
WSDP				
WSDP information system	No		Unknown	
Mechanisms for stakeholder participation	Yes			
Mechanisms to monitor and report on WSDP implementation	Yes			
WSP institutional arrangements				
Criteria to select appropriate WSPs	No		Unknown	
Mechanisms to contract, manage and monitor WSPs	No		Unknown	
Mechanisms to approve WSP business plans	Yes			
WSA overall capacity				
Sufficient staff and systems to fulfil all WSA functions	Yes			
Other (state)				

7.1.1.2 WSA capacity development

WSA priorities for capacity development	Capacity needs assessment conducted (yes/no)	Formal skills training required (Yes/no)	Proposed timeframe for capacity development	Estimated cost
unknown	unknown	unknown	unknown	unknown

No sufficient information was provided regarding training/capacity development. It is not clear if there are training needs targeted for the future. There seems to be no programme in place for capacity development in Setsoto.

7. Water Services Institutional Arrangements Profile

7.1.1.3 Bylaws affecting water services

ID	Bylaw name	Short description	Criteria	Effect on water services
unknown	unknown	unknown	unknown	unknown

7.1.1.4 Water Services providers (retail water) - current year

Contract Area	Settlement type (urban / rural)	Name of water services provider (WSP)	Type of WSP	Signed contract (yes/no)	Type of contract	% Consumers served by the WSP
Clocolan	Urban	Setsoto	Local Municipality	n/a	Service	100
Ficksburg	Urban	Setsoto	Local Municipality	n/a	Service	100
Marquard	Urban	Setsoto	Local Municipality	n/a	Service	100
Senekal	Urban	Setsoto	Local Municipality	n/a	Service	100
Area with no WSP	Settlement type (urban / rural)	Reason why no WSP				% Consumers with no WSP
unknown	unknown	unknown				unknown

7.1.1.5 Water services providers (sanitation) - current year

Contract Area	Settlement type (urban / rural)	Name of water services provider (WSP)	Type of WSP	Signed contract (yes/no)	Type of contract	% Consumers served by the WSP
Clocolan	Urban	Setsoto	Local Municipality	n/a	Service	100
Ficksburg	Urban	Setsoto	Local Municipality	n/a	Service	100
Marquard	Urban	Setsoto	Local Municipality	n/a	Service	100
Senekal	Urban	Setsoto	Local Municipality	n/a	Service	100
Area with no WSP	Settlement type (urban / rural)	Reason why no WSP				% Consumers with no WSP
unknown	unknown	unknown				unknown

7.1.1.6 Water services providers (bulk water) - current

Contract area	Settlement type (urban / rural)	Name of bulk WSP	Type of bulk WSP	Signed contract (yes/no)	Type of contract	% Consumers served by the bulk WSP
Clocolan	Urban	Setsoto	Local Municipality	n/a	Service	100
Ficksburg	Urban	Setsoto	Local Municipality	n/a	Service	100
Marquard	Urban	Setsoto	Local Municipality	n/a	Service	100
Senekal	Urban	Setsoto	Local Municipality	n/a	Service	100
Percentage consumers who require bulk water services but with no bulk WSP						unknown
Percentage consumers who do not require a bulk WSP						unknown

7. Water Services Institutional Arrangements Profile

7.1.1.7 Water services provider (bulk sanitation) - current

Contract area:	Settlement type (urban / rural)	Name of bulk sanitation WSP	Type of bulk sanitation WSP	Signed contract (yes/no)	Type of contract	% Consumers served by the bulk sanitation WSP
Clocolan	Urban	Setsoto	Local Municipality	n/a	Service	100
Ficksburg	Urban	Setsoto	Local Municipality	n/a	Service	100
Marquard	Urban	Setsoto	Local Municipality	n/a	Service	100
Senekal	Urban	Setsoto	Local Municipality	n/a	Service	100
Percentage consumers who require bulk sanitation services but with no bulk sanitation WSP						
Percentage consumers who do not require a bulk sanitation WSP						

7.1.1.8 Support services agents (water) - current

Contract area:	Settlement type (urban / rural)	Name of SSA	Type of SSA	Type of support services	Signed contract (yes/no)	% Consumers served by WSP with SSA
Setsoto	Urban & Rural	n/a	n/a	n/a	n/a	0
Total percentage consumers with SSA						0
Areas which require a SSA but with no SSA	Settlement type (urban / rural)	Reason why no SSA				% Consumers with no SSA
Setsoto	Urban & Rural	unknown				100
Total percentage consumers where a SSA is required but with no SSA						unknown

7.1.1.9 Sanitation promotion agent - current

Contract area:	Settlement type (urban / rural)	Name of SPA	Type of SPA	Type of support services	Signed contract (yes/no)	% Consumers served by WSP with SPA
Setsoto	Urban & Rural	n/a	n/a	n/a	n/a	0
Total percentage consumers with SPA						0
Areas which require a SPA but with no SPA	Settlement type (urban / rural)	Reason why no SPA				% Consumers with no SPA
Setsoto	Urban & Rural	unknown				100
Total percentage consumers where a SPA is required but with no SPA						unknown

7.1.1.10 Support service contracts - current

WSP functions for which the municipality has service contracts:	Duration of contract
n/a	n/a

7. Water Services Institutional Arrangements Profile

7.1.1.11 WSP staffing levels: water

WSP staffing levels: water	Number of employees					
	Executive and senior management	Middle management	Clerical	Supervisory or artisan	General worker	Total
1. Finance and administration	unknown	unknown	unknown	unknown	unknown	unknown
2. Projects and planning	unknown	unknown	unknown	unknown	unknown	unknown
3. Operations	unknown	unknown	unknown	unknown	unknown	unknown
4. Bulk service	unknown	unknown	unknown	unknown	unknown	unknown
5. Distribution services	unknown	unknown	unknown	unknown	unknown	unknown
6. Customer services	unknown	unknown	unknown	unknown	unknown	unknown
7. Total	unknown	unknown	unknown	unknown	unknown	unknown
8. Projection of total in five years time	unknown	unknown	unknown	unknown	unknown	unknown

7.1.1.12 WSP Staffing levels: sanitation

WSP Staffing levels: sanitation	Number of employees					
	Executive and senior management	Middle management	Clerical	Supervisory or artisan	General worker	Total
1. Finance and administration	unknown	unknown	unknown	unknown	unknown	unknown
2. Projects and planning	unknown	unknown	unknown	unknown	unknown	unknown
3. Operations	unknown	unknown	unknown	unknown	unknown	unknown
4. Bulk service	unknown	unknown	unknown	unknown	unknown	unknown
5. Distribution services	unknown	unknown	unknown	unknown	unknown	unknown
6. Customer services	unknown	unknown	unknown	unknown	unknown	unknown
7. Total	unknown	unknown	unknown	unknown	unknown	unknown
8. Projection of total in five years time	unknown	unknown	unknown	unknown	unknown	unknown

7.1.1.13 WSP training programme

Training programmes	Person days						
	Prior 1	Current	Year 1	Year 2	Year 3	Year 4	Year 5
unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown
Total person days	unknown	unknown	unknown	unknown	unknown	unknown	unknown
Non-accredited training	Prior 1	Current	Year 1	Year 2	Year 3	Year 4	Year 5
unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown
Total person days	unknown	unknown	unknown	unknown	unknown	unknown	

7. Water Services Institutional Arrangements Profile

7.1.2 Future Trends And Goals (Water Services Institutional Arrangements)

7.1.2.1 Water Services providers (retail water) - year 5

Contract Area	Settlement type (urban / rural)	Name of water services provider (WSP)	Type of WSP	Signed contract (yes/no)	Type of contract	% Consumers served by the WSP
Clocolan	Urban	Setsoto	Local Municipality	n/a	Service	100
Ficksburg	Urban	Setsoto	Local Municipality	n/a	Service	100
Marquard	Urban	Setsoto	Local Municipality	n/a	Service	100
Senekal	Urban	Setsoto	Local Municipality	n/a	Service	100
Area with no WSP	Settlement type (urban / rural)	Reason why no WSP				% Consumers with no WSP
unknown	unknown	unknown				unknown

7.1.2.2 Water Services providers (sanitation) - year 5

Contract Area	Settlement type (urban / rural)	Name of water services provider (WSP)	Type of WSP	Signed contract (yes/no)	Type of contract	% Consumers served by the WSP
Clocolan	Urban	Setsoto	Local Municipality	n/a	Service	100
Ficksburg	Urban	Setsoto	Local Municipality	n/a	Service	100
Marquard	Urban	Setsoto	Local Municipality	n/a	Service	100
Senekal	Urban	Setsoto	Local Municipality	n/a	Service	100
Area with no WSP	Settlement type (urban / rural)	Reason why no WSP				% Consumers with no WSP
unknown	unknown	unknown				unknown

7.1.2.3 Water services provider (bulk water) - year 5

Contract area	Settlement type (urban / rural)	Name of bulk WSP	Type of bulk WSP	Signed contract (yes/no)	Type of contract	% Consumers served by the bulk WSP
Clocolan	Urban	Setsoto	Local Municipality	n/a	Service	100
Ficksburg	Urban	Setsoto	Local Municipality	n/a	Service	100
Marquard	Urban	Setsoto	Local Municipality	n/a	Service	100
Senekal	Urban	Setsoto	Local Municipality	n/a	Service	100
Percentage consumers who require bulk water services but with no bulk WSP						unknown
Percentage consumers who do not require a bulk WSP						unknown

7.1.2.4 Water services provider (bulk sanitation) - year 5

Contract area:	Settlement type (urban / rural)	Name of bulk sanitation WSP	Type of bulk sanitation WSP	Signed contract (yes/no)	Type of contract	% Consumers served by the bulk sanitation WSP
Clocolan	Urban	Setsoto	Local Municipality	n/a	Service	100
Ficksburg	Urban	Setsoto	Local Municipality	n/a	Service	100
Marquard	Urban	Setsoto	Local Municipality	n/a	Service	100
Senekal	Urban	Setsoto	Local Municipality	n/a	Service	100
Percentage consumers who require bulk sanitation services but with no bulk sanitation WSP						
Percentage consumers who do not require a bulk sanitation WSP						

7. Water Services Institutional Arrangements Profile

7.1.2.5 Support services agents (water) - year 5

Contract area:	Settlement type (urban / rural)	Name of SSA	Type of SSA	Type of support services	Signed contract (yes/no)	% Consumers served by WSP with SSA
Setsoto	Urban & Rural	n/a	n/a	n/a	n/a	0
Total percentage consumers with SSA						0
Areas which require a SSA but with no SSA	Settlement type (urban / rural)	Reason why no SSA				% Consumers with no SSA
Setsoto	Urban & Rural	unknown				100
Total percentage consumers where a SSA is required but with no SSA						unknown

7.1.2.6 Sanitation promotion agent - year 5

Contract area:	Settlement type (urban / rural)	Name of SPA	Type of SPA	Type of support services	Signed contract (yes/no)	% Consumers served by WSP with SPA
Setsoto	Urban & Rural	n/a	n/a	n/a	n/a	0
Total percentage consumers with SPA						0
Areas which require a SPA but with no SPA	Settlement type (urban / rural)	Reason why no SPA				% Consumers with no SPA
Setsoto	Urban & Rural	unknown				100
Total percentage consumers where a SPA is required but with no SPA						unknown

7.1.3 Strategic Gap Analysis (Water Services Institutional Arrangements)

7.1.4 Implementation Strategies (Water Services Institutional Arrangements)

8. Customer Services Profile

8.1 Customer Services

8.1.1 Situation Assessment (Customer Services)

Systems & Procedures

The municipality has no formal/computerised complaints recording system. The customer service officer developed her own register. All queries on electricity, water and sewer are captured in the register and referred to the relevant section to be attended to.

Responding to complaints

The municipality receives the consumer complaints through letters, phone calls or by coming in to the office. Complaints are referred to the relevant section to be attended to within 24 hours.

Statistics

There are no proper classification on statistics for water and sewer and no feedback given to the customer service office after he complaints are attended to.

8.1.1.1 Quality of service for water: urban

Quality of service for water: urban	Current	Record Prior				
		-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5
1. Total no. of consumers	26488	unknown	unknown	unknown	unknown	unknown
2. No. of consumers experiencing greater than 7 days interruption in supply per year	0	unknown	unknown	unknown	unknown	unknown
3. No. of consumers receiving flow rate of less than 10 litres per minute	0	unknown	unknown	unknown	unknown	unknown
4. Water quality: no chlorination	0	unknown	unknown	unknown	unknown	unknown
5. Water quality: chlorinated	0	unknown	unknown	unknown	unknown	unknown
6. Water quality: full treatment	26488	unknown	unknown	unknown	unknown	unknown

8.1.1.2 Quality of service for water: rural

Quality of service for water: rural	Current	Record: Prior				
		-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5
1. Total no. of consumers	9616	unknown	unknown	unknown	unknown	unknown
2. No. of consumers experiencing greater than 7 days interruption in supply per year	unknown	unknown	unknown	unknown	unknown	unknown
3. No. of consumers receiving flow rate of less than 10 litres per minute	unknown	unknown	unknown	unknown	unknown	unknown
4. Water quality: no chlorination	9616	unknown	unknown	unknown	unknown	unknown
5. Water quality: chlorinated	0	unknown	unknown	unknown	unknown	unknown
6. Water quality: full treatment	0	unknown	unknown	unknown	unknown	unknown

8. Customer Services Profile

No information is available in the municipality on the quality of water in the rural areas. The Local Municipality does not currently provide services in rural areas. The function of resolving water and sanitation related problems in rural areas are not clear between the local and district municipalities.

8.1.1.3 Attending to complaints for water: urban

Attending to complaints for water: urban	Current	Record: Prior				
		-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5
1. Total number of consumer units	26488	unknown	20 985	19 378	unknown	unknown
2. No. complaints of quality of service per year divided by total number of consumer units	0.146	unknown	unknown	unknown	unknown	unknown
3. Number of queries received within the year	unknown	unknown	unknown	unknown	unknown	unknown
4. % queries responded to within 24 hours	unknown	unknown	100 %	100 %	unknown	unknown
5. Number of major or visible leaks reported within the year	1080	unknown	± 60	± 60	unknown	unknown
6. % major or visible leaks repaired within 48 hours after being reported.	75%	unknown	95%	95%	unknown	unknown

No percentages of queries responded to within 24 hours could be indicated in this instances. The municipality operates with 4 separate units. Records are not kept in a central place. All towns experience both sewer blockages and water leaks as a major problem. Officials have indicated that this is due to too old infrastructure to cope with the growing demand.

8.1.1.4 Attending to complaints for water: rural

Attending to complaints for water: rural	Current	Record: Prior				
		-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5
1. Total number of consumer units	9616	unknown	unknown	unknown	unknown	unknown
2. No. complaints of quality of service per year divided by total number of consumer units	unknown	unknown	unknown	unknown	unknown	unknown
3. Number of queries received within the year	unknown	unknown	unknown	unknown	unknown	unknown
4. % Queries responded to within 24 hours	unknown	unknown	unknown	unknown	unknown	unknown
5. Number of major or visible leaks reported within the year	unknown	unknown	unknown	unknown	unknown	unknown
6. % Major or visible leaks repaired within 48 hours after being reported.	unknown	unknown	unknown	unknown	unknown	unknown

8. Customer Services Profile

8.1.1.5 Attending to complaints for sanitation: urban

Discharge to treatment works	Current	Record: Prior				
		-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5
1. Number of queries/ complaints received within the year	48	unknown	80	80	unknown	unknown
2. % queries responded to within 24 hours	100%	unknown	100 %	100 %	unknown	unknown
3. Number of blockages reported within the year	760	unknown	400	755	unknown	unknown
4. % blockages repaired within 48 hours after being reported	100%	unknown	100 %	100 %	unknown	unknown
5. Number of complaints per year divided by total number of consumer units	0.124	unknown	0.08	0.086	unknown	unknown
Pit/tank pumping						
6. Number of pits/ tanks	203	unknown	201	269	unknown	unknown
7. Number of calls received within the year for emptying	Weekly service	unknown	2860	2500	unknown	unknown
8. Number of calls received within the year for emergency maintenance to pits/ tanks	0	unknown	unknown	unknown	unknown	unknown

8.1.1.6 Attending to complaints for sanitation: rural

Discharge to treatment works	Current	Record: Prior				
		-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5
1. Number of queries/ complaints received within the year	unknown	unknown	unknown	unknown	unknown	unknown
2. % Queries responded to within 24 hours	unknown	unknown	unknown	unknown	unknown	unknown
3. Number of blockages reported within the year	unknown	unknown	unknown	unknown	unknown	unknown
4. % Blockages repaired within 48 hours after being reported	unknown	unknown	unknown	unknown	unknown	unknown
5. Number of Complaints per year divided by total number of consumer units	unknown	unknown	unknown	unknown	unknown	unknown
Pit/tank pumping						
6. Number of pits/ tanks	unknown	unknown	unknown	unknown	unknown	unknown
7. % Queries responded to within 24 hours	unknown	unknown	unknown	unknown	unknown	unknown
8. % Pits/tanks pumped within 48 hours of being reported	unknown	unknown	unknown	unknown	unknown	unknown

8.1.1.7 Education for basic water services

Number of Consumer units to be targeted by:	Current	Record: Prior				
		-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5
1. Sanitation promotion and health and hygiene awareness	unknown	unknown	unknown	unknown	unknown	unknown
2. Water education (including water conservation)	unknown	unknown	unknown	unknown	unknown	unknown

8.1.1.8 Pollution awareness

Pollution awareness		Yes	No
1. Does the WSA have a pollution awareness programme?			X
2. If no, when will such a programme be in place?		unknown	

8. Customer Services Profile

8.1.2 Future Trends And Goals (Customer Services)

- 8.1.2.1 Quality of services for water: urban
- 8.1.2.2 Quality of services for water: rural
- 8.1.2.3 Attending to complaints for water: urban
- 8.1.2.4 Attending to complaints for water: rural
- 8.1.2.5 Attending to complaints for sanitation: urban
- 8.1.2.6 Attending to complaints for sanitation: rural
- 8.1.2.7 Education for basic water services
- 8.1.2.8 Pollution awareness

8.1.3 Strategic Gap Analysis (Customer Services)

8.1.4 Implementation Strategies (Customer Services)

9. Financial Profile

9.1 Financial Profile

9.1.1 Situation Assessment (Financial Profile)

9.1.1.1 Capital expenditure: water

	Current	Record Prior				
		-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5
1 Internal infrastructure						
1.1 Urban	unknown	24 321 000	unknown	unknown	unknown	unknown
1.2 Rural	unknown	unknown	unknown	unknown	unknown	unknown
2 Connector infrastructure		unknown				
2.1 Urban	unknown	unknown	unknown	unknown	unknown	unknown
2.2 Rural	unknown	unknown	unknown	unknown	unknown	unknown
3 Bulk infrastructure		unknown				
3.1 Urban	3 074 000	unknown	2 475 000	unknown	unknown	unknown
3.2 Rural	unknown	unknown	unknown	unknown	unknown	unknown
4 Other - no detail specified		unknown				
4.1 Urban	unknown	unknown	unknown	unknown	unknown	unknown
4.2 Rural	unknown	unknown	unknown	unknown	unknown	unknown
5 Total (1+2+3+4)						
5.1 Urban	3 074 000	24 321 000	2 475 000	unknown	unknown	unknown
5.2 Rural	unknown	unknown	unknown	unknown	unknown	unknown
6 Cost per connection (item 5 divided by number of new connections being provided)						
6.1 Urban	unknown	unknown	unknown	unknown	unknown	unknown
6.2 Rural	unknown	unknown	unknown	unknown	unknown	unknown

9.1.1.2 Capital expenditure: sanitation

	Current	Record Prior				
		-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5
1 Internal infrastructure						
1.1 Urban	unknown	unknown	unknown	unknown	unknown	unknown
1.2 Rural	unknown	unknown	unknown	unknown	unknown	unknown
2 Connector infrastructure						
2.1 Urban	9 380 000	3 843 000	1 250 000	unknown	unknown	unknown
2.2 Rural	unknown	unknown	unknown	unknown	unknown	unknown
3 Bulk infrastructure						
3.1 Urban	unknown	unknown	unknown	unknown	unknown	unknown
3.2 Rural	unknown	unknown	unknown	unknown	unknown	unknown
4 Other - no detail specified						
4.1 Urban	unknown	unknown	unknown	unknown	unknown	unknown
4.2 Rural	unknown	unknown	unknown	unknown	unknown	unknown
5 Total (1+2+3+4)						
5.1 Urban	9 380 000	3 843 000	1 250 000	unknown	unknown	unknown
5.2 Rural	unknown	unknown	unknown	unknown	unknown	unknown
6 Cost per connection (item 5 divided by number of new connections being provided)						
6.1 Urban	unknown	unknown	unknown	unknown	unknown	unknown
6.2 Rural	unknown	unknown	unknown	unknown	unknown	unknown

9. Financial Profile

9.1.1.3 Sources of capital income: water

Sources of capital income: water	Current	Record: Prior				
		-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5
Subsidies						
1. Housing	unknown	unknown	unknown	unknown	unknown	unknown
2. CMIP	unknown	unknown	unknown	unknown	unknown	unknown
3. CWSS (from DWAF)	3 074 000	24 321 000	2 475 000	unknown	unknown	unknown
4. Sub-total: subsidies	3 074 000	24 321 000	2 475 000	unknown	unknown	unknown
Other income						
5. Other ad hoc grants which may become available	unknown	unknown	unknown	unknown	unknown	unknown
6. Consumer payments	unknown	unknown	unknown	unknown	unknown	unknown
7. Expenditure from current income	unknown	unknown	unknown	unknown	unknown	unknown
8. Sub-total (5 + 6 + 7):	3 074 000	24 321 000	2 475 000	unknown	unknown	unknown
Loans						
9. Capital development fund	unknown	unknown	unknown	unknown	unknown	unknown
10. External	unknown	unknown	unknown	unknown	unknown	unknown
11. Sub-total: loans	unknown	unknown	unknown	unknown	unknown	unknown
12. Total (4 + 8 + 11)	unknown	unknown	unknown	unknown	unknown	unknown

9.1.1.4 Sources of capital income: sanitation

Sources of capital income: sanitation	Current	Record: Prior				
		-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5
Subsidies						
1. Housing	unknown	unknown	unknown	unknown	unknown	unknown
2. CMIP	unknown	unknown	unknown	unknown	unknown	unknown
3. CWSS (from DWAF)	9 380 000	3 843 000	1 250 000	unknown	unknown	unknown
4. Sub-total: subsidies	9 380 000	3 843 000	1 250 000	unknown	unknown	unknown
Other income						
5. Other ad hoc grants which may become available	unknown	unknown	unknown	unknown	unknown	unknown
6. Consumer payments	unknown	unknown	unknown	unknown	unknown	unknown
7. Expenditure from current income	unknown	unknown	unknown	unknown	unknown	unknown
8. Sub-total (5 + 6 + 7):	unknown	unknown	unknown	unknown	unknown	unknown
Loans						
9. Capital development fund	unknown	unknown	unknown	unknown	unknown	unknown
10. External	unknown	unknown	unknown	unknown	unknown	unknown
11. Sub-total: loans	unknown	unknown	unknown	unknown	unknown	unknown
12. Total (4 + 8 + 11)	9 380 000	3 843 000	1 250 000	unknown	unknown	unknown

9. Financial Profile

9.1.1.5 Operating costs: water

Operating costs: water	Current	Record: Prior				
		-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5
1. Purchase of bulk water	0	0	0	unknown	unknown	unknown
2. Production costs (raw water if from own sources)	0	0	0	unknown	unknown	unknown
3. Production costs (treatment system)	2 000 000	1 261 000	995 000	unknown	unknown	unknown
4. Operating costs (including overheads, salaries and wages, maintenance and depreciation)	3 382 756	4 026 000	3 175 000	unknown	unknown	unknown
5. Finance charges	2 300 000	1 451 000	1 451 000	unknown	unknown	unknown
6. Other	5 200 000	3 280 000	2 280 000	unknown	unknown	unknown
7. Total costs (1 + 2 + 3 + 4 + 5 + 6)	15 882 756	10 019 000	7 901 000	unknown	unknown	unknown
8. Operating costs per consumer unit	550	346	273	unknown	unknown	unknown

9.1.1.6 Operating costs: sanitation

	Current	Record: Prior				
		-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5
1. Treatment costs	unknown	unknown	unknown	unknown	unknown	unknown
2. Operating costs (including overheads, salaries and wages, monitoring, maintenance and depreciation)	20 543 000	17 101 000	11 043 000	unknown	unknown	unknown
3. Finance charges	1 467 000	1 467 000	1 467 000	unknown	unknown	unknown
4. Other	unknown	unknown	unknown	unknown	unknown	unknown
5. Total costs (1 + 2 + 3 + 4)	22 010 000	16 568 000	12 510 000	unknown	unknown	unknown
6. Operating costs per consumer unit	unknown	unknown	unknown	unknown	unknown	unknown

9.1.1.7 Operating income: subsidies

	Current	Record: Prior				
		-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5
1. Equitable share allocation	38 578 000	20 564 000	unknown	unknown	unknown	unknown
2. % Equitable Share allocated to basic water supply	unknown	unknown	unknown	unknown	unknown	unknown
3. % Equitable Share allocated to basic sanitation provided	unknown	unknown	unknown	unknown	unknown	unknown
4. % Of other subsidies allocated to basic water supply	unknown	unknown	unknown	unknown	unknown	unknown
5. % Of other subsidies allocated to basic sanitation provision	unknown	unknown	unknown	unknown	unknown	unknown

9.1.1.8 Operating income: tariffs

Although the services payment levels vary considerably between the different units, a very low payment level is experienced throughout the municipal area. This places huge pressure on the local municipality to meet its financial commitments and virtually ensures that the municipality does not have the financial means to further stimulate development.

9. Financial Profile

Arrears in payment amounts to approximately R40 million at present and despite an incentive scheme introduced by the municipality recently, a very small amount was collected. These low rates of payment can be ascribed, amongst other, to the following aspects:

- Affordability rates and high levels of unemployment
- Intimidation by local communities due to poor service delivery
- Imbalances in the standard of services
- Inaccurate records of indigent families in respect of receiving the indigent subsidy
- Lack of capacity (skilled personnel) in respect of debt Collection

Apart from the above, it is feared that the current low payment rates/levels will decrease even further in future when the rural areas also become liable for payment for services and property taxes. This is in light of the remote nature of rural areas and the fact that the local municipality might find it difficult to render services effectively in the rural areas.

In light of the above, it is important to implement mechanisms to ensure higher levels of payment which should include the following

- Training of officials in respect of debt collection
- Creating awareness amongst residents of the importance for paying for services and to create a sense of willingness
- Install pre-paid water and electricity metering systems as far as possible.

WATER

Description	Tariff Inc VAT
Domestic use	
- Fully connected with meter	39.90
- Site with communal tap	34.20
- Site with tap without meter	39.90
Other	
Business	51.30
Small holdings	51.30
Government & Provincial	131.10
Sport Clubs	102.60
Unit prices	
0-6	-
6.1-10	1.77
10.1-20	2.11
20.30	2.34
30.1 >	2.57
Municipal use & Sport clubs	1.82

9. Financial Profile

SANITATION

Description	Tariff Inc VAT
Bucket and VIP system	30.78
Domestic	39.90
Septic Tank	39.90
Septic Tank - Indigents only	-
Businesses	58.14
Provincial administration	136.80
- Hospitals	399.00
- Jails	456.00
Availability	22.80

9.1.1.9 Fixed charges: residential (per month) for water

	Current	Record: Prior				
		-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5
1. Communal water supply	34.20	30.00	16.00	unknown	unknown	unknown
2. Controlled volume supply	n/a	n/a	n/a	n/a	n/a	n/a
3. Uncontrolled volume supply	39.90	35.00	25.00	unknown	unknown	unknown

9.1.1.10 Fixed charges: residential (per month) for sanitation

	Current	Record: Prior				
		-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5
1. Consumer installations: VIP or equivalent	30.78	37.00	unknown	unknown	unknown	unknown
2. Consumer installations: Wet (septic tanks etc.)	39.90	35.00	unknown	unknown	unknown	unknown
3. Discharge to water treatment works (intermediate or full waterborne)	39.90	35.00	unknown	unknown	unknown	unknown

9.1.1.11 Volume charges or other charge mechanisms: residential sanitation

	Current	Record: Prior				
		-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5
1. Consumer installations: VIP or equivalent	n/a	n/a	n/a	n/a	n/a	n/a
2. Consumer installations: Wet (septic tanks etc.)	n/a	n/a	n/a	n/a	n/a	n/a
3. Discharge to water treatment works (intermediate or full waterborne)	n/a	n/a	n/a	n/a	n/a	n/a
4. Night-soil removal (Buckets)	30.78	unknown	unknown	unknown	unknown	unknown
5. Septic tanks - Indigents only	0.00	unknown	unknown	unknown	unknown	unknown

9. Financial Profile

9.1.1.12 Block tariffs: residential (R/kl) for water

Service Level	Block	Block definition	Current	Record: Prior				
				-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5
Communal Water Supply	1(a) Free Basic Water	n/a	n/a	n/a	n/a	unknown	unknown	unknown
	1(b) Not Free Basic Water *	n/a	n/a	n/a	n/a	unknown	unknown	unknown
Controlled Volume Supply	1(a) Free Basic Water	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	1(b) Not Free Basic Water*	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Uncontrolled Volume Supply	1(a) Free Basic Water	0 to 6 kℓ	Free	Free	Free	unknown	unknown	unknown
	1(b) Not Free Basic Water *	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	2	6 to 10 kℓ	1.77	1.50	1.20	unknown	unknown	unknown
	3	10 to 20 kℓ	2.11	1.80	1.35	unknown	unknown	unknown
	4	20 to 30 kℓ	2.34	2.00	1.45	unknown	unknown	unknown
	5	>30 kℓ	2.57	2.20	1.60	unknown	unknown	Unknown

9.1.1.13 Subsidy targeting approach for free basic water

Subsidy targeting approach	Percentage of households targeted
1. Rising block tariff	100
2. Service level targeting	n/a
3. Credits to water account	n/a
4. Other	n/a

The Minister of Water Affairs and Forestry has earmarked 1 July 2001 as the implementation date for the provision of Free Basic Water (FBW) by Local Government structures. The Setsoto Local Municipality have already adopted the policy and implemented Free Basic Water. Initially the Local Municipalities only provided Free Basic Water to the indigents, but their policies were amended for the 2002/2003 financial year in order that all consumers receive their first six kilolitres free of charge.

To provide Free Basic Water to consumers, Local Municipalities need to subsidize the six kilolitres of water that is provided free of charge. This subsidization can be achieved through various methods with the end result in some instances resulting in a double subsidy in the hands of the consumer.

For example :

- a) Where the portion of the equitable share allocated for the provision of water is paid over to the water account and basic water is provided free of charge, or, where the equitable share is paid to the registered indigent and such a person pays for water, a single subsidy is applied.
- b) Where the equitable share is paid to the registered indigent and such a person have access to basic water at no charge, a double subsidy is applied.

The implementation of a Free Basic Water policy heavily impacts on the tariff structure of a Local Municipality. Universal tariff structures (i.e. all towns within Local Municipalities have identical tariff structures) are preferred since it simplifies the calculations of the new rates and charges when the Free Basic Water policy is adopted. At present all Local Municipalities apply universal tariff structures to all towns within its boundary.

9. Financial Profile

Status Quo - Free Basic Water Implementation

FBW Implemented (%)			Indigent Policy		Subsidy Scheme		Tariff Structure				
100%	0%	Indigents Only	Applied	To be finalized	Single Either Consumption Cross-Subsidy or Equitable Share	Double Both Consumption Cross-Subsidy and Equitable Share	Basic Charge	Single Consumption Tariff	Rising Block Tariff	Uniform All towns in LM pay same charges	Non- Uniform Towns in LM pay different charges
✓			✓		✓			✓	✓	✓	

POLICY FRAMEWORK

INTRODUCTION

In reinforcement of Government's strategy to alleviate poverty in South Africa and as acceptance of the ultimate responsibility for delivering Free Basic Water, this document is prepared on behalf of Setsoto Local Municipality to serve as their proposed framework for the implementation of Free Basic Water.

BACKGROUND

Legislative Environment

The implementation of Free Basic Water is essentially guided by the following legislation and promulgated norms and standards:

- Constitution of the Republic of South Africa (Act No.108 of 1996)

The constitution says in Section 152 that one of the objectives of Local Government is "to ensure the provision of services in a sustainable manner".

- Water Services Act (Act No.108 of 1997)

Section 10(1) determines that: "The Minister may, with the concurrence of the Minister of Finance, from time to time prescribe norms and standards in respect of tariffs for water services".

- Municipal Systems Act (Act Number 32 of 2000)

Section 74 states that: "A municipal council must adopt and implement a tariff policy on the levying of fees for municipal services provided by the municipality itself or by way of service delivery agreements, and which complies with any other applicable legislation".

Section 75 states that: "A municipal council must adopt by-laws to give effect to the implementation and enforcement of its tariff policy".

- Norms and Standards in Respect of Tariffs for Water Services in terms of Section 10(1) of the Water Services Act (Act No.108 of 1997) to take effect 1 July 2003

9. Financial Profile

These norms and standards are all applicable with the most prominent issue being addressed in Section 6 which states that :

"6(1) A tariff set by a water services institution for the supply of water through a water services work or consumer installation designed to provide an uncontrolled volume of water to a household must include a volume based charge that -

- a) supports the viability and sustainability of water supply services to the poor;*
- b) discourages wasteful or inefficient water use; and*
- c) takes into account the incremental cost that would be incurred to increase the capacity of the water supply infrastructure to meet an incremental growth in demand.*

6(2) The requirements of sub-regulation (1) are deemed to have been met where the tariff is set as a volume based charge that provides for a rising block tariff structure, which includes -

- a) three or more tariff blocks with the tariff increasing for higher consumption blocks;*
- b) a consumption level for each block defined as a volume consumed by a household during any 30 day period;*
- c) a first tariff block or lowest tariff block with a maximum consumption volume of six kilolitres and which is set at the lowest amount, including a zero amount, required to ensure the viability and sustainability of water supply services; and*
- d) a tariff for the last block or highest consumption block set at an amount that would discourage high water use and that reflects the incremental cost that would be incurred to increase the capacity of the water supply infrastructure to meet an incremental growth in demand".*

- Regulations Relating to Compulsory National Standards and Measures to conserve water in terms of Section 9(1) and 73(1)j of the Water Services Act (Act 108 of 1997)

Section 3 defines the minimum standard for water supply services as :

*"(a) the provision of appropriate education in respect of effective water use; and
(b) a minimum quantity of potable water of 25 litres per person per day or 6 kilolitres per household per month -*

- (i) at a minimum flow rate of not less than 10 litres per minute;*
- (ii) within 200 meters of a household; and*
- (iii) with an effectiveness such that no consumer is without a supply for more than seven full days in any year."*

9. Financial Profile

FREE BASIC WATER APPROACHES

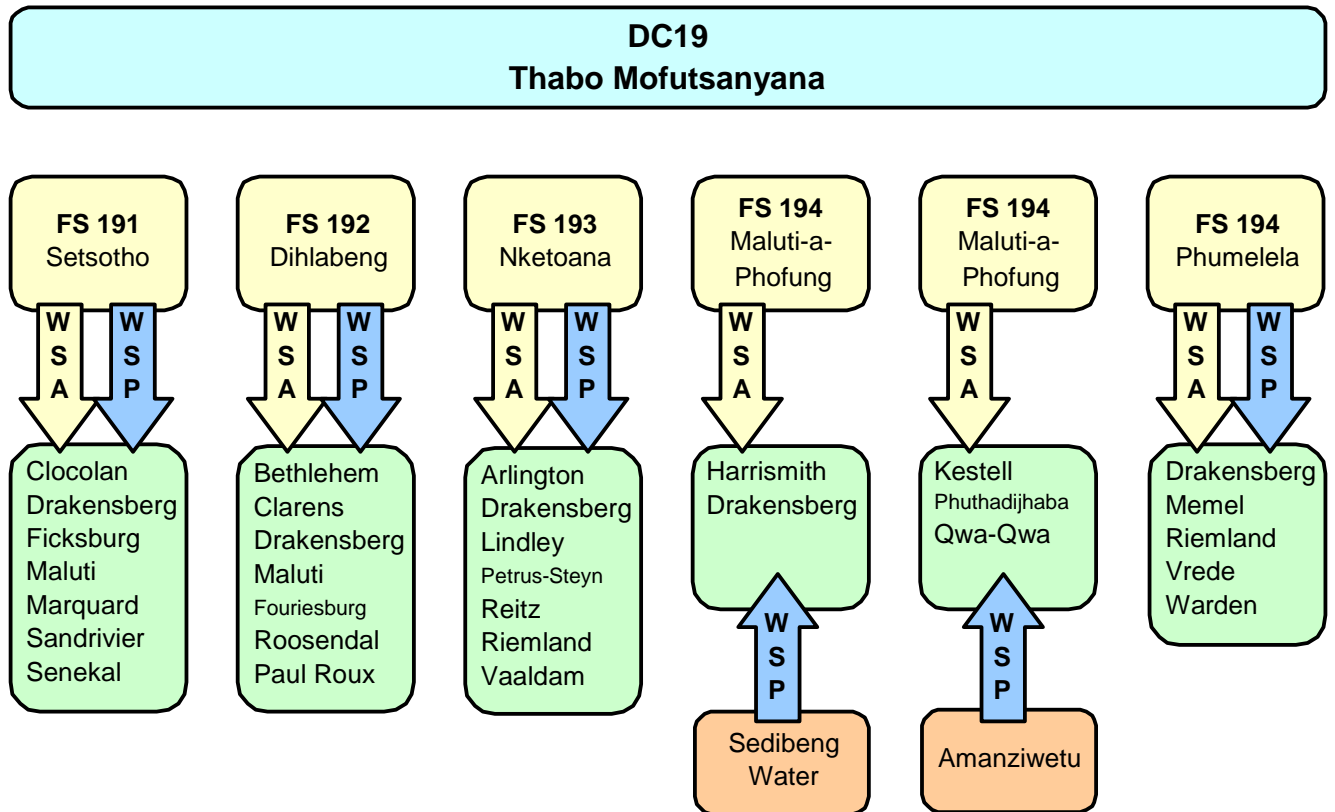
The Free Basic Water Implementation Strategy Document, Version 2.1 (May 2002) lists three options for Free Basic Water Supply followed by the Methods of Selection:

Free Basic Water Supply Options			
	Option 1 Rising block tariffs	Option 2 Targeted credits	Option 3 Service level targeting
Description	<ul style="list-style-type: none"> Rising block tariff is applied to all residential consumers, with the first block typically set from 0 to 6 kl with a zero tariff. No fixed monthly charge applicable to those using below poverty relief consumption limit. 	<ul style="list-style-type: none"> Each consumer who is selected for poverty relief gets a credit on their water account, which would typically be sufficient to cover the charge for the poverty relief amount (often 6kl per month) free. 	<ul style="list-style-type: none"> Those service levels that provide a restricted flow, (below the poverty relief consumption level) are provided at no charge. Those with higher service levels pay the normal tariffs, except for poor consumers who historically have high service levels.
Targeting Method	<ul style="list-style-type: none"> No targeting (first 6kl free to all). However, targeted fixed monthly charge may be necessary for holiday areas. 	<ul style="list-style-type: none"> Requires a system for identifying those who require poverty relief. Typically this is based on a benchmark poverty indicator (household income level of R800 per month, or household expenditure). 	<ul style="list-style-type: none"> Targeting takes place through selection of service level by the consumer) or authority in some cases).
Applicability	<ul style="list-style-type: none"> Mainly A, B1, B2 larger urban municipalities. Not suited to situations where there are a high proportion of holiday homes unless it is supplemented with a targeted fixed monthly charge. 	<ul style="list-style-type: none"> Can be used in A large municipalities but more typical for B1 to B3 middle to small sized, largely urban municipalities. Requires a billing system to be in place for all consumers. 	<ul style="list-style-type: none"> Best suited to B4 municipalities, which are largely rural in character, particularly for first order strategy.

Method of Selection			
	Option 1 Rising block tariffs	Option 2 Targeted credits	Option 3 Service level targeting
Advantages	<ul style="list-style-type: none"> Consistent with current approach to use rising block tariffs. Does not require targeting. The 'free basic water to all' message can be applied but is misleading - larger consumers typically pay more. 	<ul style="list-style-type: none"> Suited to situations where there are fewer larger consumers. Relatively simple to apply from an accounting point of view. Easy to integrate with other services where a 'free basic service' policy is being applied. 	<ul style="list-style-type: none"> Suited to municipalities with lower capacity and large proportion of poorer consumers. Typically does not require a metering and billing system for restricted flow service levels.
Disadvantages	<ul style="list-style-type: none"> Only applicable where there is a relatively high proportion of larger consumers. Requires an effective metering, billing and credit control system. 	<ul style="list-style-type: none"> Requires a system to select those who are to benefit from poverty relief measures. Requires an effective metering, billing and credit control system. 	<ul style="list-style-type: none"> Targeting may be poor if there is a large proportion of households using restricted flow services. Will only work if metering, billing and credit control system for unrestricted flow service levels is effective.
Residential frequency distribution requirements	<ul style="list-style-type: none"> Typically requires 30% of residential consumers purchasing more than 20kl/month. 	<ul style="list-style-type: none"> Only dependent on frequency distribution if poverty relief is to be partly or wholly funded from water account. 	<ul style="list-style-type: none"> Not relevant unless poverty relief is to be funded from income raised from consumers with metered connections (which is seldom possible).
Impact of non-residential consumption	<ul style="list-style-type: none"> Typically requires more than 20% of water sales to be to non-residential consumers. 	<ul style="list-style-type: none"> Only relevant if poverty relief is to be funded from non-residential consumers. 	<ul style="list-style-type: none"> Generally there are only a small proportion of non-residential consumers and it is not possible to fund poverty relief from income raised from them.

9. Financial Profile

EXISTING INSTITUTIONAL FRAMEWORK

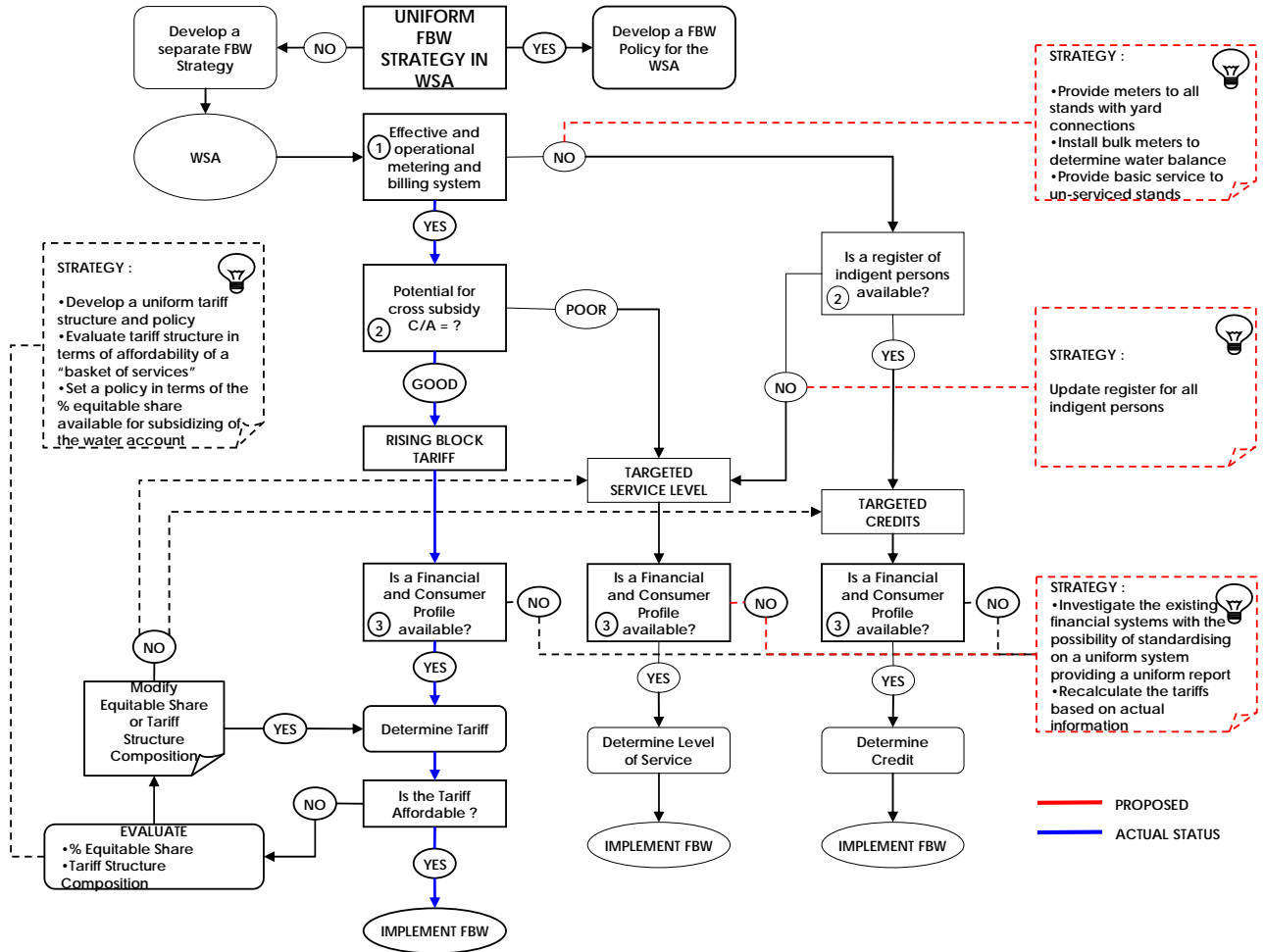


Free Basic Water Implementation		
Community	Current Status of FBW Implementation	Method of Implementation
Ficksburg	Implemented	Rising block, 0-6 kℓ Free
Clocolan	Implemented	Rising block, 0-6 kℓ Free
Marquard	Implemented	Rising block, 0-6 kℓ Free
Senekal	Implemented	Rising block, 0-6 kℓ Free

9. Financial Profile

Free Basic Water implementation Strategy

Setsotho Local Municipality is implementing Free Basic Water by means of the "Rising Tariff Block". In order to ensure that the tariffs being applied are the most economical to the consumers a number of strategy decisions needs to be confirmed and implemented by the Local Municipality as indicated in the Strategy Blocks on the adjacent flow chart.



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The table below summarizes the strategy decisions, which needs to be taken by the respective Local Municipalities in order to implement Free Basic water in the most effective way.

Free Basic Water - Strategy Decisions Required

Strategy nature	Setsoto
Metering & billing	<ul style="list-style-type: none"> Provide meters to all stands which have yard connections Install bulk meters to determine water balance. Implement billing system.
Financial & Consumer profile	<ul style="list-style-type: none"> Investigate the financial systems presently being used by the different communities, with the possibility of standardising on a uniform system, providing a uniform report. Investigate possibility of targeted credits or rising block tariff.
Cost evaluation	<ul style="list-style-type: none"> Determine actual cost of providing Targeted Service Level and compare against actual cost of providing FBW through Rising Block Tariff.
Tariff structure & subsidization	<ul style="list-style-type: none"> Develop uniform tariff structure and policy for all communities. Evaluate tariff structure in terms of affordability of a "basket of services" Set a policy in terms of the % equitable share available for subsidizing the water account

9.1.1.14 Fixed charges and block tariffs: industrial for water

	Block definition	Current	Record: Prior				
			-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5
1. Fixed monthly charge	Surcharge	51.30	45.00	30.00	unknown	unknown	unknown
2. Volume charge	0 to 6 kℓ	Free	Free	Free	unknown	unknown	unknown
a)	6 to 10 kℓ	1.77	1.50	1.20	unknown	unknown	unknown
b)	10 to 20 kℓ	2.11	1.80	1.35	unknown	unknown	unknown
c)	20 to 30 kℓ	2.34	2.00	1.45	unknown	unknown	unknown
d)	>30 kℓ	2.57	2.20	1.60	unknown	unknown	Unknown

9.1.1.15 Fixed charges and block tariffs: industrial for wastewater

	Block definition	Current	Record: Prior				
			-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5
1. Fixed monthly charge	Surcharge	58.14	51.00	unknown	unknown	unknown	unknown
2. Volume charge	unknown	unknown	unknown	unknown	unknown	unknown	unknown
a)	unknown	unknown	unknown	unknown	unknown	unknown	unknown
b)	unknown	unknown	unknown	unknown	unknown	unknown	unknown

9.1.1.16 Fixed charges and block tariffs: commercial for water

	Block definition	Current	Record: Prior				
			-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5
1. Fixed monthly charge	Surcharge	51.30	45.00	30.00	unknown	unknown	unknown
2. Volume charge	0 to 6 kℓ	Free	Free	Free	unknown	unknown	unknown
a)	6 to 10 kℓ	1.77	1.50	1.20	unknown	unknown	unknown
b)	10 to 20 kℓ	2.11	1.80	1.35	unknown	unknown	unknown
c)	20 to 30 kℓ	2.34	2.00	1.45	unknown	unknown	unknown
d)	>30 kℓ	2.57	2.20	1.60	unknown	unknown	Unknown

9. Financial Profile

9.1.1.17 Fixed charges and block tariffs: commercial for wastewater

	Block definition	Current	Record: Prior				
			-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5
1. Fixed monthly charge	Surcharge	58.14	51.00	unknown	unknown	unknown	unknown
2. Volume charge	unknown	unknown	unknown	unknown	unknown	unknown	unknown
a)	unknown	unknown	unknown	unknown	unknown	unknown	unknown
b)	unknown	unknown	unknown	unknown	unknown	unknown	unknown

9.1.1.18 Fixed charges and block tariffs: other for water

	Block definition	Current	Record: Prior				
			-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5
1. Fixed monthly charge	Small Holdings	51.30	unknown	unknown	unknown	unknown	unknown
2. Fixed monthly charge	Government	131.10	unknown	unknown	unknown	unknown	unknown
3. Fixed monthly charge	Sport clubs	102.60	unknown	unknown	unknown	unknown	unknown
4. Volume charge	0 to 6 kℓ	Free	Free	Free	unknown	unknown	unknown
a) Other than Sport clubs & Municipal	6 to 10 kℓ	1.77	1.50	1.20	unknown	unknown	unknown
b) Other than Sport clubs & Municipal	10 to 20 kℓ	2.11	1.80	1.35	unknown	unknown	unknown
c) Other than Sport clubs & Municipal	20 to 30 kℓ	2.34	2.00	1.45	unknown	unknown	unknown
d) Other than Sport clubs & Municipal	>30 kℓ	2.57	2.20	1.60	unknown	unknown	Unknown
e) Sport clubs	> 0 kℓ	1.82	unknown	unknown	unknown	unknown	unknown
f) Municipal	> 0 kℓ	1.82	unknown	unknown	unknown	unknown	unknown

9.1.1.19 Fixed charges and block tariffs: other for sanitation

	Block definition	Current	Record: Prior				
			-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5
1. Fixed monthly charge	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2. Volume charge	n/a	n/a	n/a	n/a	n/a	n/a	n/a
a)	n/a	n/a	n/a	n/a	n/a	n/a	n/a
b)	n/a	n/a	n/a	n/a	n/a	n/a	n/a
c)	n/a	n/a	n/a	n/a	n/a	n/a	n/a

9.1.1.20 Total income (and non-payment) and expenditure: water

	Current	Record: Prior				
		-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5
1. Total income (billed income and subsidies)	13 528 000	10 608 000	9 595 000	unknown	unknown	unknown
2. Actual income received	13 528 000	10 608 000	9 595 000	unknown	unknown	unknown
3. % Non-payment	unknown	unknown	unknown	unknown	unknown	unknown
4. Non-payment by residential consumers	unknown	unknown	unknown	unknown	unknown	unknown
5. Non-payment by commercial consumers	unknown	unknown	unknown	unknown	unknown	unknown
6. Non-payment by industrial consumers	unknown	unknown	unknown	unknown	unknown	unknown

9. Financial Profile

	Current	Record: Prior				
		-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5
7. Non-payment by other consumers	unknown	unknown	unknown	unknown	unknown	unknown
8. Total non-payment (4+5+6+7)	unknown	unknown	unknown	unknown	unknown	unknown
9. Operating expenditure	unknown	unknown	unknown	unknown	unknown	unknown
10. Capital expenditure	unknown	unknown	unknown	unknown	unknown	unknown
11. Total expenditure (9+10)	13 190 000	10 680 000	790 000	unknown	unknown	unknown
12. Equitable share allocated to water supply	unknown	unknown	unknown	unknown	unknown	unknown
13. Surplus (deficit) (2 minus 11)	338 000	588 000	1 694 000	unknown	unknown	unknown

9.1.1.21 Total income (and non-payment) and expenditure: sanitation

	Current	Record: Prior				
		-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5
1. Total income (billed income and subsidies)	unknown	unknown	unknown	unknown	unknown	unknown
2. Actual income	8 882 000	10 808 000	8 823 000	unknown	unknown	unknown
3. % Non-payment	unknown	unknown	unknown	unknown	unknown	unknown
4. Non-payment by residential consumer	unknown	unknown	unknown	unknown	unknown	unknown
5. Non-payment by commercial consumers	unknown	unknown	unknown	unknown	unknown	unknown
6. Non-payment by industrial consumers	unknown	unknown	unknown	unknown	unknown	unknown
7. Non-payment by other consumers	unknown	unknown	unknown	unknown	unknown	unknown
8. Total non-payment (4+5+6+7)	unknown	unknown	unknown	unknown	unknown	unknown
9. Operating expenditure	unknown	unknown	unknown	unknown	unknown	unknown
10. Capital expenditure	unknown	unknown	unknown	unknown	unknown	unknown
11. Total expenditure (9+10)	8 448 000	9 797 000	7 876 000	unknown	unknown	unknown
12. Surplus (deficit) (2 minus 11)	433 000	1 010 000	947 000	unknown	unknown	unknown

9.1.1.22 Sales arrangements

Information unknown

9. Financial Profile

9.1.1.23 Metering and billing: urban

	Current	Record: Prior				
		-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5
Communal supply						
% Communal standpipes metered	0	unknown	unknown	unknown	unknown	unknown
% Communal standpipes metered (prepaid)	0	unknown	unknown	unknown	unknown	unknown
Controlled volume supply						
% Consumers billed monthly	n/a	n/a	n/a	n/a	n/a	n/a
Uncontrolled volume supply						
% Consumers billed monthly	90.3%	87.6%	87.2%	unknown	unknown	unknown
% Consumers meters read monthly	unknown	unknown	unknown	unknown	unknown	unknown
% Consumers consumption estimated	unknown	unknown	unknown	unknown	unknown	unknown
Pay points						
Number of Billed consumer units/pay point	unknown	unknown	unknown	unknown	unknown	unknown
Number of Prepaid consumer units/outlet	unknown	unknown	unknown	unknown	unknown	unknown
General						
Number of new meters installations	unknown	unknown	unknown	unknown	unknown	unknown
% Meters tested	unknown	unknown	unknown	unknown	unknown	unknown
% Meters replaced	unknown	unknown	unknown	unknown	unknown	unknown

9.1.1.24 Metering and billing: rural dense

	Current	Record: Prior				
		-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5
Communal supply						
1. % Communal standpipes metered	n/a	n/a	n/a	n/a	n/a	n/a
2. % Communal standpipes metered (prepaid)	n/a	n/a	n/a	n/a	n/a	n/a
Controlled volume supply						
3. % Consumers billed monthly	n/a	n/a	n/a	n/a	n/a	n/a
Uncontrolled volume supply						
4. % Consumers billed monthly	n/a	n/a	n/a	n/a	n/a	n/a
5. % Consumers meters read monthly	n/a	n/a	n/a	n/a	n/a	n/a
6. % Consumers consumption estimated	n/a	n/a	n/a	n/a	n/a	n/a
Pay points						
7. Number of Billed consumer units/pay point	n/a	n/a	n/a	n/a	n/a	n/a
8. Number of Prepaid consumer units/outlet	n/a	n/a	n/a	n/a	n/a	n/a
General						
9. Number of new meters installations	n/a	n/a	n/a	n/a	n/a	n/a
10. % Meters tested	n/a	n/a	n/a	n/a	n/a	n/a
11. % Meters replaced	n/a	n/a	n/a	n/a	n/a	n/a

9. Financial Profile

9.1.1.25 Metering and billing: rural villages

	Current	Record: Prior				
		-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5
Communal supply						
1. % Communal standpipes metered	n/a	n/a	n/a	n/a	n/a	n/a
2. % Communal standpipes metered (prepaid)	n/a	n/a	n/a	n/a	n/a	n/a
Controlled volume supply						
3. % Consumers billed monthly	n/a	n/a	n/a	n/a	n/a	n/a
Uncontrolled volume supply						
4. % Consumers billed monthly	n/a	n/a	n/a	n/a	n/a	n/a
5. % Consumers meters read monthly	n/a	n/a	n/a	n/a	n/a	n/a
6. % Consumers consumption estimated	n/a	n/a	n/a	n/a	n/a	n/a
Pay points						
7. Number of Billed consumer units/pay point	n/a	n/a	n/a	n/a	n/a	n/a
8. Number of Prepaid consumer units/outlet	n/a	n/a	n/a	n/a	n/a	n/a
General						
9. Number of new meters installations	n/a	n/a	n/a	n/a	n/a	n/a
10. % Meters tested	n/a	n/a	n/a	n/a	n/a	n/a
11. % Meters replaced	n/a	n/a	n/a	n/a	n/a	n/a

9.1.1.26 Metering and billing: rural scattered

	Current	Record: Prior				
		-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5
Communal supply						
1. % Communal standpipes metered	n/a	n/a	n/a	n/a	n/a	n/a
2. % Communal standpipes metered (prepaid)	n/a	n/a	n/a	n/a	n/a	n/a
Controlled volume supply						
3. % Consumers billed monthly	n/a	n/a	n/a	n/a	n/a	n/a
Uncontrolled volume supply						
4. % Consumers billed monthly	n/a	n/a	n/a	n/a	n/a	n/a
5. % Consumers meters read monthly	n/a	n/a	n/a	n/a	n/a	n/a
6. % Consumers consumption estimated	n/a	n/a	n/a	n/a	n/a	n/a
Pay points						
7. Number of Billed consumer units/pay point	n/a	n/a	n/a	n/a	n/a	n/a
8. Number of Prepaid consumer units/outlet	n/a	n/a	n/a	n/a	n/a	n/a
General						
9. Number of new meters installations	n/a	n/a	n/a	n/a	n/a	n/a
10. % Meters tested	n/a	n/a	n/a	n/a	n/a	n/a
11. % Meters replaced	n/a	n/a	n/a	n/a	n/a	n/a

9. Financial Profile

9.1.1.27 Metering and billing: rural farmland

	Current	Record: Prior				
		-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5
Communal supply						
1. % Communal standpipes metered	n/a	n/a	n/a	n/a	n/a	n/a
2. % Communal standpipes metered (prepaid)	n/a	n/a	n/a	n/a	n/a	n/a
Controlled volume supply						
3. % Consumers billed monthly	n/a	n/a	n/a	n/a	n/a	n/a
Uncontrolled volume supply						
4. % Consumers billed monthly	n/a	n/a	n/a	n/a	n/a	n/a
5. % Consumers meters read monthly	n/a	n/a	n/a	n/a	n/a	n/a
6. % Consumers consumption estimated	n/a	n/a	n/a	n/a	n/a	n/a
Pay points						
7. Number of Billed consumer units/pay point	n/a	n/a	n/a	n/a	n/a	n/a
8. Number of Prepaid consumer units/outlet	n/a	n/a	n/a	n/a	n/a	n/a
General						
9. Number of new meters installations	n/a	n/a	n/a	n/a	n/a	n/a
10. % Meters tested	n/a	n/a	n/a	n/a	n/a	n/a
11. % Meters replaced	n/a	n/a	n/a	n/a	n/a	n/a

9. Financial Profile

9.1.2 Future Trends And Goals (Financial Profile)

- 9.1.2.1 Capital expenditure: water
- 9.1.2.2 Capital expenditure: sanitation
- 9.1.2.3 Sources of capital income: water
- 9.1.2.4 Sources of capital income: sanitation
- 9.1.2.5 Operating costs: water
- 9.1.2.6 Operating costs: sanitation
- 9.1.2.7 Operating income: subsidies
- 9.1.2.8 Operating income: tariffs
- 9.1.2.9 Fixed charges: residential for water
- 9.1.2.10 Fixed charges: residential for sanitation
- 9.1.2.11 Volume charges or other charge mechanisms
- 9.1.2.12 Block tariffs: residential for water
- 9.1.2.13 Subsidy targeting approach for free basic water
- 9.1.2.14 Fixed charges and block tariffs: industrial for water
- 9.1.2.15 Fixed charges and block tariffs: industrial for wastewater
- 9.1.2.16 Fixed charges and block tariffs: commercial for water
- 9.1.2.17 Fixed charges and block tariffs: commercial for wastewater
- 9.1.2.18 Fixed charges and block tariffs: other for water
- 9.1.2.19 Fixed charges and block tariffs: other for sanitation
- 9.1.2.20 Total income and expenditure: water
- 9.1.2.21 Total income and expenditure: sanitation
- 9.1.2.22 Sales arrangements
- 9.1.2.23 Metering and billing: urban
- 9.1.2.24 Metering and billing: rural dense
- 9.1.2.25 Metering and billing: rural villages
- 9.1.2.26 Metering and billing: rural scattered
- 9.1.2.27 Metering and billing: rural farmland

9.1.3 Strategic Gap Analysis (Financial Profile)

9.1.4 Implementation Strategies (Financial)

10. List of Projects

10.1 Projects

10.1.1 Situation Assessment (Projects)

10.1.1.1 Annual water and sanitation project list

Project name	Settlement type	Water/ sanitation	Project type (e.g. bulk, reticulation, etc.)	Amount	Funding source	Year
Refer to project list indicated below						

Project Code	Project Name	Primary Type	2004 / 2005			2005 / 2006		
			Budget	Approved	Expended	Funder Type	Budget	Approved
FS012	Ficksburg Water Retic	W	3,958,308	26,000				
FS095	Senekal WS	WS	1,134,274	708,000				
FS097	VIP's for Hlohlolwane	S	5,520,000	595,000	595,000			
FS098	VIP's for Meqheleng	S	10,257,000	969,000	969,000			
FS101	VIP's for Moemaneng	S	5,283,000	576,000	291,041.76			
FS104	Matwabeng VIP's	S	6,283,500	485,000				
MIG_BE	Setsoto Bucket Eradication	S		5,000,000	5,000,000	BE	5,000,000	5,000,000
MIPFS217/57	Sparta / Setsoto: Regional Development Scheme (260)	W		1,976,969.10	1,976,969.10	CMIP	34,656,000	29,804,160
MIPFS217/65	Hlohlolwane: Installation of water meters (01)	W		1,109,708.60	1,109,708.60	CMIP	1,487,968	1,305,235
MIPFS217/66	Marquard: 4Ml Concrete Reservoir and water mains (02)	W		1,241,980.06	1,241,980.06	CMIP	3,306,000	2,900,000
MIPFS217/69	Matwabeng: Supply and installation of water meters (03)	W		1,252,898.90	1,252,898.90	CMIP	1,696,131	1,487,835
MIPFS217/72	Senekal: Water reticulation (06)	W		354,976.21	354,976.21	CMIP	1,368,000	1,200,000
MIPFS217/73	Meqheleng: Supply and installation of water meters (07)	W		1,611,614.26	1,611,614.26	CMIP	2,355,391	2,066,133
MIPFS217/74	Marquard: Installation of water meters (08)	W		945,128	945,128	CMIP	1,288,072	1,129,888

10. List of Projects

The following list is an indication of the IDP / MIG / DWAF / DM WSDP projects alignment within the WSA. Integration of this project listing is required in order to establish a uniform project list applicable to this WSA:

WATER PROVISION

IDP (REVIEW) PROJECTS (2004 / 2005)			MIG (CMIP / DWAF) - REFERENCE FRAMEWORK (CMIP / DWAF) PROJECTS (2003 / 2004 / 2005)				WSDP PROJECTS (2002 / 2003 / 2004)		
Main Project Description	Sub Project Description	Total Project Cost	Description	Funding	Total Project Cost	Budget	Main Project Description	Sub Project Description	Total Project Cost
Upgrading of bulk water supply in Meqheleng		9,340,000							
Water purification works in Clocolan		4,900,000							
Sparta Regional Water Project		32,400,000	MIPFS217/57 - Sparta / Setsoto: Regional Development Scheme	CMIP (2004/2005)	34,656,000	29,804,160			
Maintenance of water networks		5,080,230							
Metered water connections		50,867,070	FS012: Ficksburg water reticulation	DWAF (2003/2004)	3,958,308	26,000	Ficksburg : Upgrading of communal water supply to metered individual yard connections	5147 erven	4,374,950
							Clocolan : Upgrading of communal water supply to metered individual yard connections	22 erven	18,700
							Marquard : Upgrading of communal water supply to metered individual yard connections	180 erven	153,000
							Senekal : Upgrading of communal water supply to metered individual yard connections	2098 erven	1,783,300
Water reticulation in Matwabeng - Senekal		1,750,000	MIPFS217/72 - Senekal: Water reticulation	CMIP (2004/2005)	1,368,000	1,200,000	Senekal : Provision of metered potable water to unserviced sites and new extensions	609 erven	1,288,035

10. List of Projects

IDP (REVIEW) PROJECTS (2004 / 2005)			MIG (CMIP / DWAF) - REFERENCE FRAMEWORK (CMIP / DWAF) PROJECTS (2003 / 2004 / 2005)				WSDP PROJECTS (2002 / 2003 / 2004)		
Main Project Description	Sub Project Description	Total Project Cost	Description	Funding	Total Project Cost	Budget	Main Project Description	Sub Project Description	Total Project Cost
			MIPFS217/7 3 - Meqheleng: Supply and installation of water meters	CMIP (2004/2005)	2,355,391	2,066,133			
			MIPFS217/6 5 - Hlohlolwane: Installation of water meters	CMIP (2004/2005)	1,487,968	1,305,235	Clocolan : Installation of water meters (unmetered sites)	3938 meters	1,319,230
			MIPFS217/7 4 - Marquard: Installation of water meters	CMIP (2004/2005)	1,288,072	1,129,888	Marquard : Installation of water meters (unmetered sites)	3056 meters	1,023,760
			MIPFS217/6 9 - Matwabeng: Supply and installation of water meters	CMIP (2004/2005)	1,696,131	1,487,835	Senekal : Installation of water meters (unmetered sites)	1665 meters	557,775
							Setsooto urban area : Installation of bulk water meters at water treatment works and supply zones (at least 3 meters per town)		200,000
							Ficksburg : Increase storage capacity (i.e new reservoir)	20 Mℓ reservoir	10,000,000
							Senekal : Increase storage capacity (i.e new reservoir)	5 Mℓ reservoir	3,000,000
			MIPFS217/6 6 - Marquard: 4Ml Concrete Reservoir and water mains	CMIP (2004/2005)	3,306,000	2,900,000			
			FS095: Senekal WS	DWAF (2004/2005)	1,134,274	708,000			

10. List of Projects

SANITATION PROVISION

IDP (REVIEW) PROJECTS (2004 / 2005)			MIG (CMIP / DWAF) - REFERENCE FRAMEWORK (CMIP / DWAF) PROJECTS (2003 / 2004 / 2005)				WSDP PROJECTS (2002 / 2003 / 2004)		
Main Project Description	Sub Project Description	Total Project Cost	Description	Funding	Total Project Cost	Budget	Main Project Description	Sub Project Description	Total Project Cost
Acceptable sanitation systems		146,522,400							
Provision and maintenance of sewer networks - Ficksburg/Megheleng		3,657,060					Ficksburg : Upgrading of night-soil removal sanitation systems to a full waterborne sewer system	6107 erven	29,130,390
							Ficksburg : Provision of a full waterborne sewer system to currently unserviced areas	540 erven	2,575,800
Provision and maintenance of sewer networks - Clocolan/Hlohlowane		1,221,020					Clocolan : Upgrading of night-soil removal sanitation systems to a full waterborne sewer system	3509 erven	16,737,930
Provision and maintenance of sewer networks - Marquard/Moemaneng		1,831,530					Marquard : Upgrading of night-soil removal sanitation systems to a full waterborne sewer system	2922 erven	13,937,940
							Marquard : Provision of a full waterborne sewer system to currently unserviced areas	300 erven	1,431,000
Provision and maintenance of sewer networks - Senekal/Matwabeng		3,968,315					Senekal : Upgrading of night-soil removal sanitation systems to a full waterborne sewer system	3258 erven	15,540,660
							Senekal : Provision of a full waterborne sewer system to currently unserviced areas	760 erven	3,625,000
			FS097 - Hlohlowane VIPs 2003/2004	DAWF	976,842	595,000			

10. List of Projects

IDP (REVIEW) PROJECTS (2004 / 2005)			MIG (CMIP / DWAF) - REFERENCE FRAMEWORK (CMIP / DWAF) PROJECTS (2003 / 2004 / 2005)				WSDP PROJECTS (2002 / 2003 / 2004)		
Main Project Description	Sub Project Description	Total Project Cost	Description	Funding	Total Project Cost	Budget	Main Project Description	Sub Project Description	Total Project Cost
			FS098 - Megheleng VIPs 2003/2004	DWAF	1,837,448	969,000			
			FS101 - Moemaneng VIPs 2003/2004	DWAF	976,842	576,000			
			FS104 - Matwabeng VIPs 2003/2004	DWAF	976,842	485,000			
			FS104 - Matwabeng VIPs 2005/2006	DWAF	976,842	388,000			
							Ficksburg : Upgrading of sewage treatment works by providing additional treatment capacity	1 Mℓ/day	3,500,000
Upgrading sanitation treatment works	Hlohlwane (Clocolan) Moemaneng (Marquard)	2,363,000	MIPFS217/5 9 - Marquard Upgrading of oxidation ponds at sewerage treatment works	CMIP	2,188,652	1,919,870	Marquard : Upgrading of the existing oxidation pond system by providing additional treatment capacity	4 Mℓ/day	2,250,000
			MIPFS217/6 3 - Senekal : Upgrading of outfall sewer (rising main)	CMIP	1,999,803	1,754,213			

10. List of Projects

10.1.1.2 WSA sustainability project list

Project name	Settlement type	Water/ sanitation	Key issues to be addressed	Amount	Funding source	Year
Retrofit projects						
Area projects (where post 1994 schemes are grouped with pre-1994 schemes)						
Rehabilitation projects						
Other sustainability projects (state)						
WSA capacity development	Key issues to be addressed			Amount	Funding source	Year

10. List of Projects

10.1.2 Future Trends And Goals (Projects)

10.1.2.1 Annual water and sanitation project list

10.1.2.2 WSA sustainability project list

10.1.3 Strategic Gap Analysis (Projects)

10.1.4 Implementation Strategies (Projects)

11. Database Management

11.1 Database Management

11.1.1 Situation Assessment (Database Management)

11.1.1.1

11.1.1.2

11. Database Management

11.1.2 Future Trends And Goals (Database Management)

11.1.2.1

11.1.2.2

11.1.3 Strategic Gap Analysis (Database Management)

11.1.4 Implementation Strategies (Database Management)

11.1.4.1 Establishment of a geographical information system (GIS)

This Municipality (preferably as part of a district wide initiative) should ultimately aim to establish a new-based integrated Municipal Geographic Information System. This system can comprise of two significant components namely, a Geographical Information System (*a tool to view information of the area*), followed by an Integrated Munic, primarily a management tool.

A GIS is probably the best technology currently available for land planning, visual resource identification, modeling flash flood, wildfire behaviours, transportation issues, site location, crime, societal, and other analysis. Land use problems and conflicts can be modeled to develop a preferred solution to the problem. Almost any resource issue can be described as discrete point data, a linear feature, polygons with variable values, or as ranges of data in contour form. A huge benefit of a GIS is the ability to combine data from different sources. For example: Data from a GPS can be combined with data from the electricity department to show the electricity consumption per area.

The Integrated Municipality (IM) family of municipal information applications consists of a range of different products designed to specifically assist the respective different government and municipal departments in the management of their area of jurisdiction and also for the management of the Integrated Development Planning (IDP) process. Through extensive research and analysis of the duties and functions of government and local government a range of products were developed to offer comprehensive, database driven geospatial solutions tailored specifically to the growing needs of municipalities. Local government successfully uses this range of municipal information applications, known as the Integrated Munic (IM). The IM applications (web enabled) are in some cases an extension of GIS technology and include the applications with their respective sub applications.

The comprehensive solution would be to establish the District Municipality's GIS and Management Information System (IM). It would advisable to complete a NEEDS ANALYSIS as an initial measure. A process of prototyping would be the best way of evaluating and testing the available technology in a real world situation. The use of a NEEDS ANALYSIS is very common for this type of Technology Implementation. Furthermore, would the latter also be of an utmost importance due to the complexity of the software and user procedures involved and because it represents a significant change in a firm/institution/company's way of doing business. It is a means to establish and refine the new system with a production database before committing significant financial and human resources to a full-scale conversion. As such, its purpose is to reduce risks and safeguard your firm/institution/company's assets against inferior solutions.

11. Database Management

In order to achieve the key goal of establishing a central database (*Virtual Information Centre - VIC*) with required tools, the project can consist of four general phases, two in each section. It is also required to determine the highest tempo of implementation at a manageable level of risk, both to the District Municipality and to other role-players (Local Municipalities).

The two sections ought to be will the following:

SECTION 1: *GIS*

Finalising of the central database containing all relevant spatial and descriptive data.

SECTION 2: *VIC*

Development of a set of technical information tools to be used for key tasks in the value chain of the directorates involved, and with the necessary web enabled infrastructure required for sharing and maintaining the common database.

11.1.4.2 Benefits of the Integrated Munic

In order to maximise the benefits of the system, the following directorates within the District and the various Local Municipalities should be involved in defining the needs of the system, and will stand to benefit from it:

- Land development
- Township establishment
- Works Depots
- Consumer Services
- Data Management, focusing on infrastructure resource management
- Support Services

11. Database Management

