

## A. EXECUTIVE SUMMARY

### A.1 Administration

#### Name of WSA

Name	Zululand District Municipality	
Address	Private Bag X76 ULUNDI 3838	Lot B400, Gagane Street ULUNDI 3838

#### Status of WSDP

The planned completion dates for the revision of the WSDP are as follows:

- WSDP Steering Committee approval – March 2011
- Expected EXCO approval – May 2011
- Expected Council approval – June 2011

#### WSDP drafting team

The contact persons within the municipality who are responsible for the functioning, planning and implementation of the WSDP are shown in Table A1.1 below:

**Table A1.1: Drafting team**

Name	Position	Tel Number	Email
Mr JH De Klerk	Municipal Manager	035 874 5500	<a href="mailto:mm@zululand.org.za">mm@zululand.org.za</a>
Mr B Mnguni	Deputy Director: WSA	035 874 5542	<a href="mailto:bmnguni@zululand.org.za">bmnguni@zululand.org.za</a>
Mr SK Khumalo	HOD: Technical Services	035 874 5500	<a href="mailto:skhumalo@zululand.org.za">skhumalo@zululand.org.za</a>
Mr S Landman	HOD: Planning	035 874 5617	<a href="mailto:slandman@zululand.org.za">slandman@zululand.org.za</a>

#### Process followed

ZDM annually prepares a revised WSDP in time for the approval of the annual municipal budget. Planning work related to various aspects of water services are being dealt with on a continuous basis through the year and the results of such work are then systematically fed into the WSDP.

The WSDP Steering Committee has been established and meets at least four times per year. The steering committee comprises of the ZDM management team, officials from the Local Municipalities, Councillors and consultants involved with the technical work. The aim is to have a first draft of each year's revision ready by end of February after which the following process is followed:

- WSDP and IDP Steering Committee approval (March 2011)
- Representative Forum approval (April 2011) – This forum comprises all Government Departments involved with the IDP process, all Councillors and role players from the private sector
- EXCO approval (May 2011)
- Advertise for public comment
- Council approval (June 2011)
- Submit to DWAF for approval

#### Public comments

The WSDP will be advertised during May 2011 for public comment.

#### Adoption record

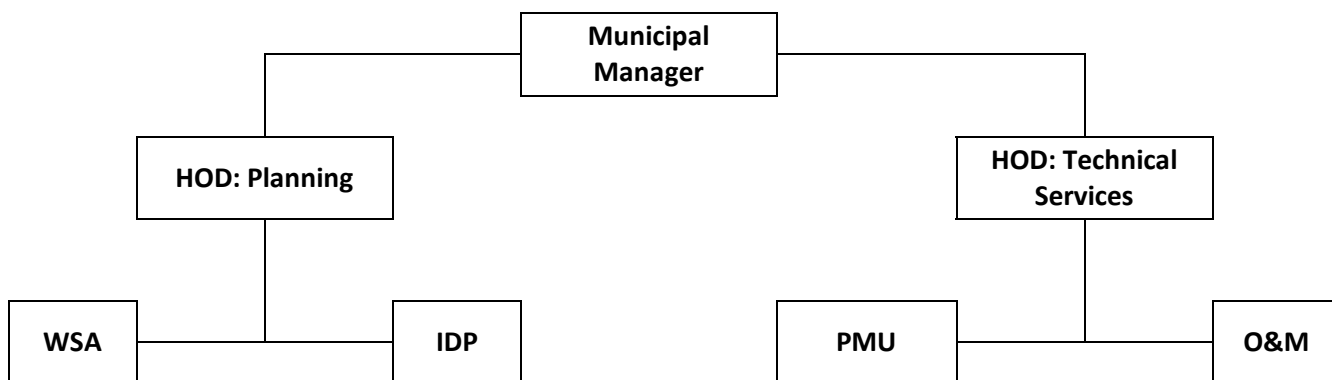
The 2010/11 revision of the WSDP has been approved by the ZDM Council during June 2010.

#### WSDP co-ordinators

The WSDP process is managed by the Deputy Director: Water Services Authority in association with the HOD: Planning & Community Development and the HOD: Technical Services and their staff.

#### PMU

The ZDM PMU has been established and is functioning very well. The PMU unit comprises of a Deputy Director, two technical officers, project administrator and secretary. The PMU manager reports to the HOD: Technical Services and is responsible for the implementation of all projects scheduled by the WSA. The WSA unit is situated in the Planning Department and reports to the HOD: Planning. The organograms below indicates the split in functions related to water services:



Functions:

- WSDP
- Planning of all scheduled projects up to tender stage & then hand over to PMU

Functions:

- Implementation of all scheduled projects up to completion and hand over to O&M

Water services level policy

ZDM has compiled a Water Services policy and this is available from the ZDM website at [www.zululand.org.za](http://www.zululand.org.za). The following levels of service for water and sanitation are available from the municipality:

Domestic Water Supply				
Service Level Number	Level of Service	Definition	Applicable Tariff Structure	Norms and Standards
DW1	Full pressure conventional house connection	Full pressure unrestricted individual erf/yard connection	Stepped block tariff	Design specifications
DW2	Yard tank (RDP standard)	Restricted (to 200l per day) individual erf connection with tank in yard	No charge	Design specifications
DW3	Communal street taps (RDP standards)	Unrestricted full pressure standpipe not further than 200m from dwellings (shared by a number of consumers)	No charge	Design specifications
DW4	Rudimentary	Formalised supply: <ul style="list-style-type: none"> <li>• Borehole equipped with hand pump</li> <li>• Protected spring</li> <li>• Communal standpipe further than 200m from dwellings</li> </ul>	No charge	Design specifications

Domestic Sanitation				
Service Level Number	Level of Service	Definition	Applicable Tariff Structure	Norms and Standards
DS1	Water borne	Unrestricted connection to municipal sewerage system	Water consumption based tariff structure included in water tariff	Design specifications
DS2	Conservancy tank	Localised temporary sewage storage facility	Rate per load disposed by municipality	Design specifications
DS3	Septic tanks	On-site disposal (self treatment)	No charge	Design specifications
DS4	Ventilated improved pit (VIP)	Dry pit with sufficient capacity on-site disposal based on set standards	No charge	Design specifications

## A.2 Backlogs

Tables A.2 (a) & (b) below indicate the status in ZDM with regards to water services backlogs in the district.

**Table A.2 (a): Access to water (households)**

LOCAL MUNICIPALITY	TOTALS	NONE OR INADEQUATE	RUDIMENTARY	COMMUNAL STANDPIPES	YARD CONNECTIONS
			<RDP	RDP	>RDP
AbaQulusi LM	20 350	0	0	0	20 350
eDumbe LM	6 162	0	0	0	6 162
Nongoma LM	957	0	0	0	957
Ulundi LM	6 980	0	0	0	6 980
uPhongolo LM	4 135	0	0	0	4 135
<b>Total (urban)</b>	<b>38 584</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>38 584</b>
AbaQulusi LM	15 719	6 371	2 703	264	6 381
eDumbe LM	8 849	2 158	1 003	1 104	4 584
Nongoma LM	33 099	11 933	9 936	8 636	2 594
Ulundi LM	28 329	5 658	7 464	7 579	7 628
uPhongolo LM	17 963	2 988	1565	1033	12 377
<b>Total (rural)</b>	<b>103 959</b>	<b>29 108</b>	<b>22 671</b>	<b>18 616</b>	<b>33 564</b>
<b>Total (households)</b>	<b>142 543</b>	<b>29 108</b>	<b>22 671</b>	<b>18 616</b>	<b>72 148</b>

**Table A.2 (b): Access to sanitation**

LOCAL MUNICIPALITY	TOTALS	NONE OR INADEQUATE	VIP	SEPTIC TANKS	WATERBORNE
			<RDP	RDP	>RDP
AbaQulusi LM	20 350	0	0	0	20 350
eDumbe LM	6 162	0	0	595	5 567
Nongoma LM	957	0	0	0	957
Ulundi LM	6 980	0	0	0	6 980
uPhongolo LM	4 135	0	0	0	4 135
<b>Total (urban)</b>	<b>38 584</b>	<b>0</b>	<b>0</b>	<b>595</b>	<b>37 989</b>
AbaQulusi LM	15 719	11 101	4 581	37	0
eDumbe LM	8 849	962	7 743	144	0
Nongoma LM	33 099	25 746	7 353	0	0
Ulundi LM	28 329	20 097	8 190	42	0
uPhongolo LM	17 963	5 953	11 684	326	0
<b>Total (rural)</b>	<b>103 959</b>	<b>63 859</b>	<b>39 551</b>	<b>549</b>	<b>0</b>
<b>Total (households)</b>	<b>142 543</b>	<b>63 859</b>	<b>39 551</b>	<b>1 144</b>	<b>37 989</b>

**Table A.2 (c): Percentage backlogs (water & sanitation)**

WATER	TOTAL HOUSEHOLDS	BACKLOGS	% BACKLOGS	% OF TOTAL BACKLOGS
AbaQulusi LM	36 069	9 074	25.2%	17.5%
eDumbe LM	15 011	3 161	21.1%	6.1%
Nongoma LM	34 056	21 869	64.2%	42.2%
Ulundi LM	35 309	13 122	37.2%	25.3%
uPhongolo LM	22 098	4 553	20.6%	8.8%
<b>Total (urban)</b>	<b>142 543</b>	<b>51 779</b>	<b>36.3%</b>	<b>100.0%</b>
SANITATION	TOTAL HOUSEHOLDS	BACKLOGS	% BACKLOGS	% OF TOTAL BACKLOGS
AbaQulusi LM	36 069	11 101	30.8%	17.4%
eDumbe LM	15 011	962	6.4%	1.5%
Nongoma LM	34 056	25 746	75.6%	40.3%
Ulundi LM	35 309	20 097	56.9%	31.5%
uPhongolo LM	22 098	5 953	26.9%	9.3%
<b>Total (rural)</b>	<b>142 543</b>	<b>63 859</b>	<b>44.8%</b>	<b>100.0%</b>

## A.3 Summary of content

The key information contained in the WSDP is listed below for ease of reference. More detail can be obtained by referring to the respective chapters in the document:

### Chapter 1: Socio Economic Profile

The current consumer profile of the district is indicated in Table A.3 (a) below:

**Table A.3 (a): Current consumer profile (units)**

LOCAL MUNICIPALITIES	DOMESTIC	INDUSTRIAL/ BUSINESS	FARM HOUSES	TOTAL
AbaQulusi	20 193	157	0	20 350
eDumbe	6 108	54	0	6 162
Nongoma	735	222	0	957
Ulundi	6 691	289	0	6 980
uPhongolo	3 903	232	0	4 135
<b>Total (urban)</b>	<b>37 630</b>	<b>954</b>	<b>0</b>	<b>38 584</b>
AbaQulusi	15 681	1	37	15 719
eDumbe	8 705	0	144	8 849
Nongoma	33 098	0	1	33 099
Ulundi	28 285	2	42	28 329
uPhongolo	17 637	0	326	17 963
<b>Total (rural)</b>	<b>103 406</b>	<b>3</b>	<b>550</b>	<b>103 959</b>
<b>Total</b>	<b>141 036</b>	<b>957</b>	<b>550</b>	<b>142 543</b>

## Chapter 2: Service Level Profile

The current levels of access to water services in the district are indicated below:

**Table A.3 (b): Residential consumers: access to water**

LOCAL MUNICIPALITY	TOTALS	NONE OR INADEQUATE	RUDIMENTARY	COMMUNAL STANDPIPES	YARD CONNECTIONS
			<RDP	RDP	>RDP
AbaQulusi LM	20 350	0	0	0	20 350
eDumbe LM	6 162	0	0	0	6 162
Nongoma LM	957	0	0	0	957
Ulundi LM	6 980	0	0	0	6 980
uPhongolo LM	4 135	0	0	0	4 135
<b>Total (urban)</b>	<b>38 584</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>38 584</b>
AbaQulusi LM	15 719	6 371	2 703	264	6 381
eDumbe LM	8 849	2 158	1 003	1 104	4 584
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uPhongolo LM	17 963	2 988	1565	1033	12 377
<b>Total (rural)</b>	<b>103 959</b>	<b>29 108</b>	<b>22 671</b>	<b>18 616</b>	<b>33 564</b>
<b>Total (households)</b>	<b>142 543</b>	<b>29 108</b>	<b>22 671</b>	<b>18 616</b>	<b>72 148</b>

**Table A.3 (c): Residential consumers: access to sanitation**

LOCAL MUNICIPALITY	TOTALS	NONE OR INADEQUATE	VIP	SEPTIC TANKS	WATERBORNE
			<RDP	RDP	>RDP
AbaQulusi LM	20 350	0	0	0	20 350
eDumbe LM	6 162	0	0	595	5 567
Nongoma LM	957	0	0	0	957
Ulundi LM	6 980	0	0	0	6 980
uPhongolo LM	4 135	0	0	0	4 135
<b>Total (urban)</b>	<b>38 584</b>	<b>0</b>	<b>0</b>	<b>595</b>	<b>37 989</b>
AbaQulusi LM	15 719	11 101	4 581	37	0
eDumbe LM	8 849	962	7 743	144	0
Nongoma LM	33 099	25 746	7 353	0	0
Ulundi LM	28 329	20 097	8 190	42	0
uPhongolo LM	17 963	5 953	11 684	326	0
<b>Total (rural)</b>	<b>103 959</b>	<b>63 859</b>	<b>39 551</b>	<b>549</b>	<b>0</b>
<b>Total (households)</b>	<b>142 543</b>	<b>63 859</b>	<b>39 551</b>	<b>1 144</b>	<b>37 989</b>

### Chapter 3: Water Resource Profile

The ZDM falls within the Mfolozi (W2), Mkuze (W3) and Pongola (W4) secondary catchments of the Usuthu/Mhlathuze Water Management Area (WMA)<sup>1</sup>. The aerial extent of the ZDM occupies approximately 22% of this WMA. . The total available water and requirements as at year 2000, based on a 98% assurance of supply within these sub-areas, is summarised in Table A.3 (d). It is evident that apart from the Pongola catchments, water from these sub-areas is currently over-utilised and a deficit is created. However, according to Basson and Rossouw<sup>2</sup>, this deficit is a result of the provision made for future implementation of the Reserve. The Reserve is a legislated requirement of the amount of water required to satisfy the ecological needs of a river system (provisionally estimated at 20%) as well as the basic human needs (that have been established as 25 litres per person per day).

**Table A.3 (d): Water balance - summary of the water available and required within Zululand District Municipality for the year 2000 (Million m<sup>3</sup> (kℓ) per annum).**

		Mfolozi	Mkuze	Pongola	Total	
Available water	Natural resource	surface water	36	15	616	667
		groundwater	5	12	8	25
	Usable return flow	Irrigation	5	6	21	32
		Urban	4	0	0	4
		Mining & bulk	1	0	0	1
	Total local yield*		51	33	645	729
	Transfers in		0	30	0	30
<b>Total available</b>		<b>51</b>	<b>63</b>	<b>645</b>	<b>759</b>	
Water requirements	Consumer groups	Irrigation	51	61	213	325
		Urban**	12	1	1	14
		Rural**	11	10	6	27
		Mining & bulk industrial***	4	0	1	5
		Afforestation****	2	6	34	42
	Total local requirements		80	78	255	413
Transfers out		18	0	30	48	
<b>Total used</b>		<b>98</b>	<b>78</b>	<b>285</b>	<b>461</b>	
<b>Balance</b>		<b>-47</b>	<b>-15</b>	<b>360</b>	<b>298</b>	

Source: Basson and Rossouw (2003).

\*Includes allowance for impacts of the ecological component of the Reserve, river losses, alien vegetation, rain-fed agriculture and urban run-off on yield.

\*\*Includes allowance for basic human needs component of the Reserve (25 ℓ/c/d).

\*\*\*Mining and bulk industrial water uses that are not part of the urban system.

\*\*\*\*Afforestation quantities refer to the impact on yield only.

<sup>1</sup> The Usuthu/Mhlathuze WMA is one of 19 areas defined across South Africa in terms of the National Water Act, 1998 (Act 36 of 1998). These WMAs have been defined to improve water resource management within South Africa. With time, each of the WMAs will establish a catchment management agency (CMA) for the regulation and control of water use in the WMA.

<sup>2</sup> Op cit 2 at 23.



## Chapter 4: Water Conservation/ Demand Management

ZDM has embarked on an extensive Unaccounted for Water programme (UAW), aimed at understanding the usage of water in the district and to provide guidance to future demand management and waterloss interventions. Specific interventions will be launched at individual schemes to address water losses through:

- Pressure management
- Leak repair programmes
- Meter repair & replacement programmes
- Internal plumbing leaks
- Consumer end-use demand management initiatives

The water demand strategy will focus on a number of ways to ensure the reduction of water demand by consumers, for example:

- Influencing the behaviour of consumers
  - School and public educational and awareness programmes aimed at promoting effective usage of water (brochures, advertising, newsletters, demonstrations, exhibits, informative billing, etc)
  - Water services tariff that promotes efficient water usage
  - Any other “win-win” initiatives that could influence consumers positively
- Specific targeted projects like;
  - Repair plumbing leaks inside properties
  - Installation of water flow control devices, etc.

## Chapter 5: Water Services Infrastructure Profile

ZDM has done extensive work on the development of a database that will serve as an asset register, but also to be used as the basis for the development of an asset management system and to capture asset related information electronically for ongoing use. The system has been named ‘MANZI’ and access can be gained on the ZDM website at [www.zululand.org.za](http://www.zululand.org.za) once the user has been issued with a username and password.

Table A.3 (e) below provides a brief overview of the schemes in the district that have been captured on the MANZI system and a summary of the infrastructure under consideration, as well as a rough estimate of the value of assets. These figures will be refined over time once the asset management system has been rolled out.

**Table A.3 (e): Summary of schemes in the district**

SUMMARY DATA	LOS	TOTAL
Number of Schemes	Above RDP - Urban	14
	Above RDP - Rural	45
	RDP	85
	Rudimentary	135
<b>TOTAL SCHEMES</b>		<b>279</b>

Table A.3 (f) below shows examples of infrastructure data that is currently available on the GIS system and MANZI. Although many gaps still exist in the infrastructure information ZDM is working on getting all information gaps systematically updated.

**Table A.3 (f): Summary of infrastructure components available on MANZI system**

GROUP	COMPONENTS	TOTAL
Pipelines	Bulk	905.6 km
	Reticulation	4,205.7 km
Installations	Bulk Metering Points	58
	Meters	548
	Hand pumps	18
	Pumps	118
	Pump Stations	72
	Valves	7 944
	Electrical Connections	85
	Abstractions / Sources	468
	JoJo Tanks	172
	Storage Reservoirs	644
	Treatment Plants/Packages	51
	Communal Standpipes	4 155
	Break-Pressure Tanks	169
	Yard Connections	21 198
Water Offices	35	
Replacement Value	Civil	R 176 869 818
	Mechanical	R 51 655 500
	Electrical	R 20 449 000
	Telemetry	R 1 090 000

## Chapter 6: Water Balance

A first order water balance is presented in Chapter 6 from available data at the time.

## Chapter 7: Water Services Institutional Arrangements

The ZDM Section 78 investigation process was completed in 2007 and the conclusion was that a single Water Services Provider for the entire district (internal department within ZDM) is the preferred water services provision arrangement for the future and that this be implemented progressively. Certain specialised functions were also listed that should rather be contracted out to private business, although still being part of the overall WSP structure. These are services that require skilled personnel that are expensive and difficult to source and that are more cost effective to contract in rather than source in-house, for example electrical/mechanical artisans, certain maintenance functions, etc. The detailed outcome of the Section 78 investigation process is captured in Chapter 7 herewith.

## **Chapter 8: Customer Services Profile**

The provision of high quality water services to consumers involves good water quality and the reliability of water services. This chapter covers interventions implemented or planned by ZDM to address the above mentioned issues. A customer care charter is being drafted that will be the “contract” with the consumer and will also list the consumer’s responsibilities in this regard. Work has been done on the drafting of a customer care strategy and the following key focus areas have been identified:

- To know your customers (complete customer database)
- To develop proper mechanisms for effective two way communication with customers
- To provide affordable, high quality services that are accessible to all
- To empower your consumers through education
- To develop a customer focused organisation
- To develop a customer charter and honour the agreement with the customer
- To accelerate the implementation of appropriate service provision structures

## **Chapter 9: Financial Profile**

This chapter deals with two financial issues related to water services infrastructure, namely:

- New capital projects
- Operations and maintenance (O&M) of existing infrastructure

The details are contained in Chapter 9 but can be summarised in Tables A.3 (g), (h) & (i) below:

**Table A.3 (g): Capital requirements: water**

<b>WATER</b>	<b>CAPITAL REQUIREMENTS</b>	<b>2011/12</b>	<b>2012/13</b>	<b>2013/14</b>	<b>2014/15</b>	<b>2015/2016</b>	<b>&gt;2015</b>
Regional bulk	R 1 678 153 890	R 152 723 894	R 187 568 283	R 132 923 056	R 205 808 112	R 92 639 942	R 906 490 603
Secondary bulk	R 1 264 661 100	R 48 539 366	R 56 784 557	R 110 904 824	R 44 400 348	R 161 239 378	R 842 792 627
Reticulation	R 149 007 580	R 12 193 740	R 13 355 600	R 13 880 560	R 7 499 980	R 3 829 120	R 98 248 580
<b>Total capital (new)</b>	<b>R 3 091 822 570</b>	<b>R 213 457 000</b>	<b>R 257 708 440</b>	<b>R 257 708 440</b>	<b>R 257 708 440</b>	<b>R 257 708 440</b>	<b>R 1 847 531 810</b>
Regional bulk	tbd	tbd	tbd	tbd	tbd	tbd	tbd
Secondary bulk	tbd	tbd	tbd	tbd	tbd	tbd	tbd
Reticulation	tbd	tbd	tbd	tbd	tbd	tbd	tbd
<b>Total capital (refurbishment)</b>	<b>tbd</b>	<b>tbd</b>	<b>tbd</b>	<b>tbd</b>	<b>tbd</b>	<b>tbd</b>	<b>tbd</b>
<b>Total capital</b>	<b>R 3 091 822 570</b>	<b>R 213 457 000</b>	<b>R 257 708 440</b>	<b>R 257 708 440</b>	<b>R 257 708 440</b>	<b>R 257 708 440</b>	<b>R 1 847 531 810</b>

**Table A.3 (h): Capital requirements: sanitation**

<b>SANITATION</b>	<b>CAPITAL REQUIREMENTS</b>	<b>2011/12</b>	<b>2012/13</b>	<b>2013/14</b>	<b>2014/15</b>	<b>2015/2016</b>	<b>&gt;2015</b>
Bulk infrastructure	R -	R -	R -	R -	R -	R -	R -
Reticulation	R -	R -	R -	R -	R -	R -	R -
VIP toilets	R 381 754 000	R 45 420 000	R 55 226 400	R 55 226 400	R 55 226 400	R 55 226 400	R 115 428 400
<b>Total capital (new)</b>	<b>R 381 754 000</b>	<b>R 45 420 000</b>	<b>R 55 226 400</b>	<b>R 55 226 400</b>	<b>R 55 226 400</b>	<b>R 55 226 400</b>	<b>R 115 428 400</b>
Bulk infrastructure	tbd	tbd	tbd	tbd	tbd	tbd	tbd
Reticulation	tbd	tbd	tbd	tbd	tbd	tbd	tbd
VIP toilets	tbd	tbd	tbd	tbd	tbd	tbd	tbd
<b>Total capital (refurbishment)</b>	<b>tbd</b>	<b>tbd</b>	<b>tbd</b>	<b>tbd</b>	<b>tbd</b>	<b>tbd</b>	<b>tbd</b>
<b>Total capital</b>	<b>R 381 754 000</b>	<b>R 45 420 000</b>	<b>R 55 226 400</b>	<b>R 55 226 400</b>	<b>R 55 226 400</b>	<b>R 55 226 400</b>	<b>R 115 428 400</b>

**Table A.3 (i): Sources of Capital Income: Water**

<b>WATER</b>	<b>FUNDING</b>	<b>2011/12</b>	<b>2012/13</b>	<b>2013/14</b>	<b>2014/15</b>	<b>2015/16</b>	<b>&gt;2016</b>
MIG	R 1 065 302 400	R 181 680 000	R 220 905 600	R 220 905 600	R 220 905 600	R 220 905 600	unknown
DWAF	R 134 000 000	R 61 300 000	R 72 700 000				unknown
Housing	R -						unknown
Other grant funding	R -						unknown
Loans	R -						unknown
<b>Confirmed funding</b>	<b>R 1 199 302 400</b>	<b>R 242 980 000</b>	<b>R 293 605 600</b>	<b>R 220 905 600</b>	<b>R 220 905 600</b>	<b>R 220 905 600</b>	
Capital requirements	R 3 124 046 225						
<b>Shortfall</b>	<b>R -1 924 743 825</b>						

**Table A.3 (j): Sources of Capital Income: Sanitation**

<b>SANITATION</b>	<b>FUNDING</b>	<b>2011/12</b>	<b>2012/13</b>	<b>2013/14</b>	<b>2014/15</b>	<b>2015/16</b>	<b>&gt;2016</b>
MIG	R 266 325 600	R 45 420 000	R 55 226 400	R 55 226 400	R 55 226 400	R 55 226 400	unknown
DWAF	R -						unknown
Housing	R -						unknown
Other grant funding	R -						unknown
Loans	R -						unknown
<b>Confirmed funding</b>	<b>R 266 325 600</b>	<b>R 45 420 000</b>	<b>R 55 226 400</b>	<b>R 55 226 400</b>	<b>R 55 226 400</b>	<b>R 55 226 400</b>	
Capital requirements	R 336 090 000						
<b>Shortfall</b>	<b>R -69 764 400</b>						

**Table A.3 (k): Operational costs and income**

<b>Operating costs and income</b>	<b>Total (5 years)</b>	<b>2011/12</b>	<b>2012/13</b>	<b>2013/14</b>	<b>2014/15</b>	<b>2015/16</b>
Operational costs	R 666 999 959	R 114 139 090	R 126 379 291	R 133 962 049	R 141 999 771	R 150 519 758
Personnel costs	R 444 666 639	R 76 092 727	R 84 252 861	R 89 308 032	R 94 666 514	R 100 346 505
<b>Total O&amp;M costs</b>	<b>R 1 111 666 598</b>	<b>R 190 231 817</b>	<b>R 210 632 152</b>	<b>R 223 270 081</b>	<b>R 236 666 286</b>	<b>R 250 866 263</b>
Equitable share	R 1 003 196 990	R 170 778 345	R 190 283 820	R 201 700 849	R 213 802 900	R 226 631 074
Income: sales	R 108 469 608	R 19 453 472	R 20 348 332	R 21 569 231	R 22 863 385	R 24 235 188
<b>Total income</b>	<b>R 1 111 666 598</b>	<b>R 190 231 817</b>	<b>R 210 632 152</b>	<b>R 223 270 081</b>	<b>R 236 666 286</b>	<b>R 250 866 263</b>

## Chapter 10: List of Projects

The ZDM water master plan comprises of ten back-to-back regional water schemes as listed in the table below. The detailed project list included under Chapter 10 herewith lists sub-projects or phases associated with each regional scheme according to the approved progressive roll-out of the scheme. Sanitation is being rolled out on the back of the water roll-out, except for areas where a water service has already been installed but no sanitation was installed at the time. The water and sanitation projects to be implemented over the next 5 years and beyond are listed in detail in Chapter 10 of the document.

### **A.4 Background to the area**

The ZDM is situated in northern KwaZulu-Natal (KZN). It covers an area of 14,808 km<sup>2</sup> and is divided into five local municipalities (LMs), namely eDumbe (KZ261), uPhongolo (KZ262), Abaqulusi (KZ263), Nongoma (KZ265), and Ulundi (KZ266) (Figure A4.1). The district is predominantly rural with commercial farmland interspersed by protected areas, towns, and dense to scattered rural settlements within traditional authority areas. The majority of these rural settlements are small, making service delivery to these remote areas extremely costly. The ZDM comprises 1,022 settlements divided into 15 urban areas, 64 dense settlements, 290 villages, 547 scattered settlements and 106 farm settlements.

Land use in the ZDM is linked primarily to tenure and the land with the highest agricultural potential is in private ownership and is mostly used for commercial farming or conservation, with low settlement densities. Private farmlands constitute a large portion of the ZDM's land area. The land use potential varies throughout the district, but are predominantly varieties of grassveld and thornveld. Agricultural activities are mainly forestry (eDumbe, Abaqulusi and around Babanango), sugar cane (uPhongolo), livestock (throughout the district), maize, soya beans, wheat, groundnuts, sorghum, vegetables and sub-tropical fruit. These commercial farms mostly have well developed infrastructure and farming systems. The difficulties they experience relate more to broader economic factors than spatial factors and linkages in the ZDM. In recent years, a number of cattle farms throughout the ZDM have been converted into game farms. These may be linked to tourism and conservation in the district.

In contrast, the non-arable land and land with severe limitations to agriculture, fall into the traditional authority areas and are densely settled. These Ingonyama Trust areas support settlement and subsistence agriculture (there is moderate to restricted agricultural potential), with the Traditional Authorities (TAs) for each LM being divided as follows:

- eDumbe LM: Dlamini TA and Mtetwa TA.
- uPhongolo LM: Masidla TA, Msibi TA, Ntshangase TA and Simelane TA.
- Abaqulusi LM: Hlahlindhlela TA and Kambi TA.
- Nongoma LM: Mandhlakazi TA, Matheni TA and Usuthu TA.
- Ulundi LM: Empetempithini TA, Mbata TA, Mpungose TA, Ndebele TA, Nobamba TA, Ximba TA and Zungu TA.

The area forms part of the Pongola, Mkuze and Mfolozi River Catchments of the Usuthu/Mhlathuze Water Management Area that extends from the high lying areas in the north and west to the Indian Ocean in the east. The northern and western edges of the ZDM are characterised by steep terrain. The Skurweberg and

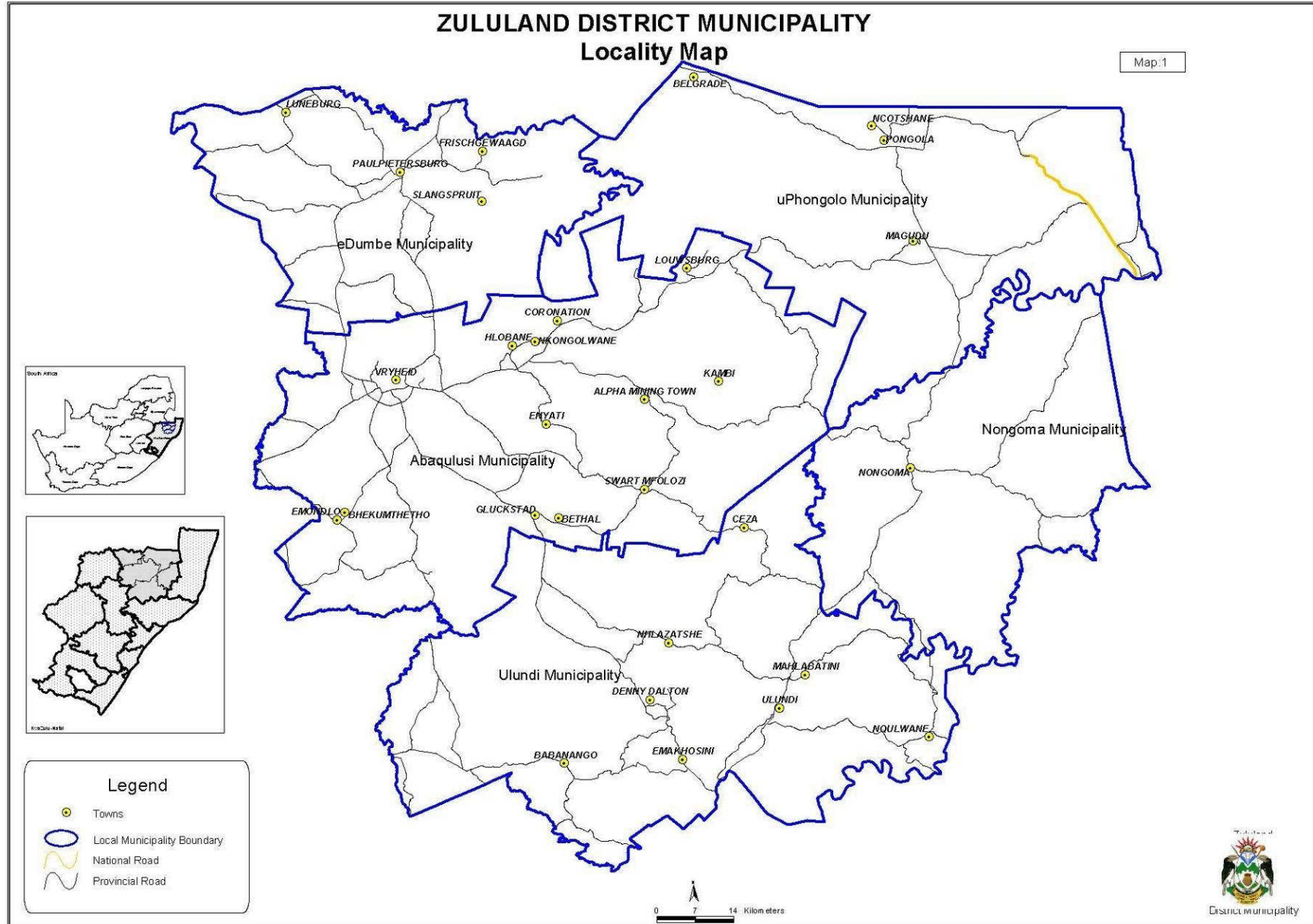
Elandsberg Mountains on the Western side of the ZDM are approximately 1,700 m above sea level. In the northeast there are the Lebombo Mountains. In general the topography slopes and gets less steep from west to east, as well as from north to south, consequently all the main rivers flow in this direction. There are some large relatively flat areas between 200 m and 300 m around the town of Pongola, as well as on the lower reaches of the Mfolozi River.

Climatic conditions vary significantly from the northern highlands to the eastern low-lying areas around the town of Pongola. Rainfall is strongly seasonal with more than 80% occurring as thunderstorms between October and March, with the peak months being December to February in the inland areas. Rainfall varies from over 1,000 mm in the north and west, dropping to below 600 mm in the central area around Pongola. The resultant Mean Annual Runoff (MAR) ranges from above 200 mm in the north and west, to below 100 mm in the central areas. Overall the Mean Annual Precipitation (MAP) is 840 mm, and the corresponding MAR 102 mm (12 % of MAP). Annual variability of rainfall is indicated by the historic coefficient of variation of the rainfall record, which ranges from (20 % to 25 %) in the west to greater than 35 % in the Pongola area. In accordance with the rainfall pattern the relative humidity is higher in summer than in winter. Potential mean annual gross evaporation ranges from 1400mm in the west to 1600 mm in the lowveld. The highest mean monthly evaporation is in December and the lowest mean monthly evaporation in June. One strategic dam, namely Pongolapoort/Jozini, has been developed. There is a vast amount of water in the area with both surface resources, as well as good ground water potential.

<b>Topography type</b>	<b>Percentage of total municipal area</b>
Mountainous	30%
Rolling	70%
Flat	0%
Coastal	0%



Figure A 4.1: Locality map of Zululand District Municipality.



## A.5 IDP and WSDP goals

The Integrated Development Plan (IDP) for the ZDM has the following vision and mission statement for the region:

<b>IDP vision and mission statement for the municipality</b>
<p><b>Vision</b></p> <p><i>“We, the people of Zululand are proud communities that are committed to the development of Zululand through hard work, integrity and a common purpose.”</i></p>
<p><b>Mission</b></p> <ul style="list-style-type: none"><li>• <b>To develop an affluent district by:</b><ul style="list-style-type: none"><li>○ <b>Optimal delivery of essential services</b></li><li>○ <b>Supporting sustainable local economic development</b></li><li>○ <b>Community participation in service delivery</b></li></ul></li></ul>

Part of the development objectives for Zululand is facilitating the delivery of basic services that include water services (i.e. water and sanitation provision), strengthening the local economy with particular emphasis on tourism, agriculture and small business sectors, and the sustainable use of land and the natural environment. The importance of the vision and objectives in terms of the WSDP is the development of Zululand through the provision of equitable and sustainable water services leading to an improvement in the quality of life. It therefore follows that planning in respect of water services must increase the current level of service throughout the region with an improvement experienced by all. Planning must therefore be sustainable in terms of water resources, material resources, contractor capacity, management capacity, as well as funding and maintenance cost.

The IDP has a number of key development strategies, namely:

- Delivery and coordination of basic services.
- Social issues of communities.
- Sustainability and environment.
- Economic development.
- Build capacity to lead and manage development in Zululand.

All these development strategies will ultimately link to the need and spatial requirement for water services provision. Spatial development within the ZDM is directly related to the provision and availability of water services, therefore development tends to follow sustainable planning in the WSDP and not force water services provision into areas that are currently not economically viable or sustainable to supply.

The priority issues within the IDP that do not relate directly, but that may impact on water services planning are highlighted as follows:

- Poverty relief pilot programme
- AIDS strategy
- Disaster management plan
- Land use management framework
- Environmental management plan
- Local economic development plan
- Tourism strategy
- Skills development for effective service delivery