



cogta

Department:  
Co-operative Governance and Traditional Affairs  
PROVINCE OF KWAZULU-NATAL



water affairs

Department:  
Water Affairs  
REPUBLIC OF SOUTH AFRICA



# Harry Gwala District Municipality

## Development of Universal Access Plan for Water & Sanitation in KwaZulu-Natal

# Final

## September 2014



cogta

Department:  
Co-operative Governance and Traditional Affairs  
PROVINCE OF KWAZULU-NATAL

### PREPARED FOR:

Co-operative Governance and Traditional Affairs

Contact Person: Mr Muzi Ngwane

Email: [muziwesipho.ngwane@misa.gov.za](mailto:muziwesipho.ngwane@misa.gov.za)

Contact No : 033 355 6568



Solutions For The Built Environment

### PREPARED BY:

LDM/SMEC South Africa (Pty) Ltd

Contact Person: Mr J.Rajcoomar

Email: [jashmer.rajcoomar@smec.com](mailto:jashmer.rajcoomar@smec.com)

Contact No: 031 277 6600



*Solutions For The Built Environment*

# LDM REPORT

## Final Universal Access Plan

<b>Report Title:</b>	Harry Gwala District Municipality - Final Universal Access Plan
<b>Client:</b>	Co-operative Governance and Traditional Affairs
<b>Implementing Agent</b>	Umgeni Water
<b>Project Name:</b>	Development of Universal Access Plan for Water & Sanitation in Kwazulu-Natal
<b>Report Number:</b>	DM0043_ 002_ Final
<b>Revision Number</b>	01

### Revision History:

Date	Report Status	Written by	Reviewed by	Issued to	
				Name	Institution
2014-05-20	Draft for Comment	J. Rajcoomar	N Vawda	Mark Summerton	Umgeni Water
2014-08-18	Final for Comment	J. Rajcoomar	N Vawda	Mark Summerton	Umgeni Water
2014-10-02	Final	J. Rajcoomar	N Vawda	Mark Summerton / Muziwesipho Ngwane	Umgeni Water / CoTGA

Approved by:

Signed \_\_\_\_\_

Date \_\_\_\_\_

## LIST OF ABBREVIATIONS

CoGTA	Department of Cooperative Governance and Traditional Affairs
KZN	KwaZulu Natal
UAP	Universal Access Plan
DWA	Department of Water Affairs
UW	Umgenezi
DM	District Municipality
LM	Local Municipality
HGDM	Harry Gwala District Municipality
WSDP	Water Services Development Plan
WSA	Water Service Authorities
IA	Implementing Agent
IIWSP	Interim/Intermediate Water Supply Programme
IDP	Integrated Development Plan
MIG	Municipal Infrastructure Grant
SDF	Spatial Development Framework
RDP	Reconstruction and Development Programme
WTW	Water Treatment Works
WWTW	Waste Water Treatment Works
GIS	Geographic Information System
LOS	Level of Service
VIP	Ventilated Improved Pit Latrine

## TABLE OF CONTENTS

		<b>Page No</b>
<b>1</b>	<b>EXECUTIVE SUMMARY.....</b>	<b>6</b>
<b>2</b>	<b>INTRODUCTION.....</b>	<b>12</b>
<b>3</b>	<b>MAIN DELIVERABLES.....</b>	<b>13</b>
<b>4</b>	<b>HARRY GWALA DISTRICT MUNICIPALITY.....</b>	<b>14</b>
<b>4.1</b>	Demographic Trends and Settlement Growth.....	14
<b>5</b>	<b>WATER AND SANITATION STATUS QUO.....</b>	<b>15</b>
<b>5.1</b>	Bulk Water Infrastructure.....	16
<b>5.2</b>	Access to Water.....	16
<b>5.3</b>	Current Water Supply Status.....	17
<b>6</b>	<b>CONTINUOUS WATER SUPPLY FOOTPRINTS.....</b>	<b>19</b>
<b>6.1</b>	Capturing of Draft Water Supply & Sanitation Footprints.....	19
<b>6.2</b>	Water & Sanitation Attribute Data.....	20
<b>6.3</b>	Engagement Meeting to Verify GIS Information.....	20
<b>7</b>	<b>EXISTING WATER SCHEMES.....</b>	<b>22</b>
<b>8</b>	<b>RECONCILIATION OF EXISTING &amp; PROPOSED WATER SUPPLY.....</b>	<b>24</b>
<b>8.1</b>	Water Backlogs.....	24
<b>8.2</b>	Sanitation Backlogs.....	26
<b>8.3</b>	Level of Service.....	29
<b>8.4</b>	Regional Proposed schemes by Harry Gwala District Municipality.....	29
<b>9</b>	<b>PLANNED AND PROPOSED WATER &amp; SANITATION SCHEMES.....</b>	<b>34</b>
<b>9.1</b>	Conceptual Design Approach.....	34
<b>9.2</b>	Assumptions.....	36
	<b>9.2.1</b> Water.....	36
	<b>9.2.2</b> Sanitation.....	37
<b>9.3</b>	Infrastructure Water & Sanitation Costs.....	37
	<b>9.3.1</b> Water Costs.....	38
	<b>9.3.2</b> Sanitation Costs.....	39
<b>9.4</b>	Five Year Budget Plan for Water and Sanitation.....	40
<b>10</b>	<b>RECOMMENDATIONS.....</b>	<b>73</b>
<b>11</b>	<b>CONCLUSION.....</b>	<b>75</b>

## LIST OF TABLES, FIGURES AND MAPS

Table 1: Local Municipality with Population Distribution .....	15
Table 2: Access to Water .....	17
Table 3: Number of Existing Water Schemes .....	23
Table 4 : Existing Water Sources of Existing Schemes .....	23
Table 5: Census 2011 Water Services Backlogs.....	25
Table 6: Water Service Backlogs Captured at Engagement with DM .....	26
Table 7: Census 2011 Sanitation Backlogs .....	27
Table 8: Sanitation Backlogs Captured at Engagement with DM.....	27
Table 9: Sanitation Backlogs to be completed by Services Providers.....	28
Table 10: Harry Gwala District Level of Service .....	29
Table 11: Demand based on Household Income.....	37
Table 12: Water Infrastructural Costs.....	39
Table 13: Sanitation Infrastructural Costs.....	39
Table 14: Five Year Budget Plan for Water & Sanitation .....	41
Table 15: Proposed Alternate Schemes .....	43
Figure 1: Harry Gwala District Municipality Locality Map .....	14
Figure 2 : Current Water Supply Status.....	18
Figure 3 : Current Water Supply Status Percentage Breakdown .....	18
Figure 4: Water & Sanitation Attributes Data.....	21
Figure 5 : Water Scheme Options .....	22
Figure 6: Sanitation Scheme Options.....	22
Figure 7: Photo of VIP Units Constructed.....	28
Figure 8: WTW to Reservoirs Scheme .....	35
Figure 9: Borehole to Reservoir Scheme.....	35
Figure 10: Borehole with Hand Pumps Scheme .....	36
Figure 11: Water and Sanitation 5 Year Budget Plan .....	42
Map 1: HGDM Water Supply	
Map 2: HGDM Dwelling Distribution	
Map 3: HGDM Water Connection Types	
Map 4: HGDM Water Backlogs	
Map 5: HGDM Proposed Regional Schemes	
Map 6: HGDM Water Resources	
Map 7: HGDM Sanitation Supply	
Map 8: HGDM Sanitation Types	

- Map 9: HGDM Sanitation Backlogs
- Map 10: HGDM Household Income Categories
- Map 11: Ingwe Water Supply
- Map 12: Ingwe Proposed Alternate Schemes
- Map 13: Ingwe Sanitation Supply
- Map 14: Greater Kokstad Water Supply
- Map 15: Greater Kokstad Sanitation Supply
- Map 16: Kwa Sani Water Supply
- Map 17: Kwa Sani Proposed Alternate Schemes
- Map 18: Kwa Sani Sanitation Supply
- Map 19: Ubuhlebezwe Water Supply
- Map 20: Ubuhlebezwe Proposed Alternate Schemes
- Map 21: Ubuhlebezwe Sanitation Supply
- Map 22: Umzimkhulu Water Supply
- Map 23: Umzimkhulu Proposed Alternate Schemes
- Map 24: Umzimkhulu Sanitation Supply

#### **LIST OF ANNEXURES**

- Annexure A: Harry Gwala District Municipality DWA Priority Actions Plans
- Annexure B: Water Supply & Sanitation Footprints
- Annexure C: Attributes Data/Tables
- Annexure D: Harry Gwala District Municipality Water & Sanitation Project List

## 1 EXECUTIVE SUMMARY

KwaZulu-Natal (KZN) Department of Cooperative Governance and Traditional Affairs (CoGTA) strategic priorities 2013/14 Programme 3 (Development Planning), the Department is mandated to prepare a Universal Access Plan (UAP) with a specific focus on citizen's access to water, sanitation as contained in the MEC's 2013/14 Vote 11 Budget Speech of the 30th May 2013.

In order to prepare a UAP, an all-inclusive conceptual water service plan was required for the ten (10) District Municipalities (DM's) of KZN (excluding the eThekweni Metropolitan Municipality) and also for the three Water Utilities in KZN, namely; Umgeni Water, Umhlatuze Water and Uthukela Water. The UAP for electricity has been undertaken by Eskom and does not form part of this report and findings.

All District Municipalities have set clear objectives to ensure that all citizens have access to basic levels of service which include:

- Upgrading or refurbishment of existing water services treatment works;
- Upgrading or refurbishment of existing water services schemes;
- Operate and maintain existing schemes and treatment works in a sustainable manner;
- Complete existing water services projects;
- Remove water services backlogs by implementing new projects.

The scope of this assignment was to determine the backlogs to access to basic water and sanitation needs within each district municipalities and thus provide an overall cost within each district municipality.

As part of this Universal Access Plan (UAP) assignment to determine the backlogs in water and sanitation; all documentation such as Water Services Development Plan (WSDP), Integrated Development Plan (IDP) and Water Service Master Plan (WSMP) had to be reviewed as these are strategic planning instruments which guides and informs all planning, budgeting, management and decisions making in the District Municipality. The Water Services Development Plan is also intended to address the sector planning needs of each of the five Local Municipalities namely Ingwe, Kwa Sani, Greater Kokstad, Ubuhlebezwe and Umzimkhulu.

In order to identify the backlogs, draft water supply footprints were digitised forming water supply polygons by using existing water infrastructure available from Umgeni Water and the District Municipality. These water supply polygons were then used at the engagement meeting at Harry Gwala. The water and sanitation attributes were confirmed and updated by the

operational and maintenance staff of Harry Gwala, and water and sanitation backlogs identified. Also, captured at the engagement meeting were the existing water schemes and associated water and sanitation infrastructure.

Geographic Information System (GIS) analysis was used to capture all infrastructural attributes and the 2011 Eskom household points used to determine the backlogs numbers per water supply polygon. Statistics SA census data was used to calculate the average growth rate per annum between 2001/ 2011. The percentage growth was then applied to the 2011 to 2014 household's counts to determine the current estimated household counts. The Department of Human Settlement income was also used to determine the required consumptions and capacity requirements. Majority of the backlogs identified fall in the category of informal with no formal connection which equates to max per capita consumption of 70 l/c/d. This was the applied to the water supply polygons and the required consumptions identified in order to determine the conceptual bulk schemes.

To address these short term water and sanitation backlogs, conceptual water supply schemes were developed and costed according to the infrastructure rates given by Umgeni Water and SMEC South Africa's current water and sanitation projects undertaken. A total of 103 conceptual bulk schemes have been identified to address the water and sanitation backlogs ranging from schemes with small water treatment plants to bulk lines, reservoirs to reticulation and stand pipe connections to boreholes with tanks and hand-pumps. The selections of these conceptual schemes incorporated different factors such as income levels with consumption requirements, local topography, and number of households affected, spacing of the polygons without access to water, and the adjacent polygons with access to water.

This UAP encompassed the identification of gaps/backlogs in water and sanitation service delivery, and the provision of conceptual plans focusing on regional and bulk schemes with the associated cost estimates for the supply of these services. In areas where regional and bulk schemes aren't viable or where an interim water supply is needed, an alternative local scheme has been identified for prioritisation.

The Harry Gwala District Municipality (HGDM) has a total population of just under ½ million people (461 419) which is the lowest population per District Municipality in the province and represents 4.8 percent of the total population of KwaZulu Natal.



The total water backlogs identified from the Census data for the Harry Gwala District Municipality is 51 895 households which equates to 46% of the total households in the District and the total backlogs identified from the engagements with the Harry Gwala District Municipality using the Eskom household points are 28 281 households, which is 27.25% of the total households.

**Table 6: Water Service Backlogs Captured at Engagement with DM**

Municipality	2011 Eskom Household Dwellings	Growth Rate %	Factor	2014 Escalated ESKOM Household Dwellings	Water Backlogs Households	Percentage of Water Backlog
Greater Kokstad LM	13438	1.55	1.0155	13639	8	0.06%
Ingwe LM	21530	-0.67	1	21530	5454	25.33%
KwaSani LM	3813	0.85	1.0085	3841	462	12.03%
Ubuhlebezwe LM	21466	-0.03	1	21466	6495	30.26%
Umzimkhulu LM	43169	0.34	1.0034	43300	15862	36.63%
Harry Gwala DM	<b>103416</b>	-	-	<b>103776</b>	<b>28281</b>	<b>27.25%</b>

The backlogs for sanitation in the Harry Gwala District Municipality from Census data reflects a total of 66 099 households which equates to approximately 59% of the total households in the District and a total number of 21 370 households were indicated as having backlogs from the engagement meetings which equates to approximately 21% of the total households in the Harry Gwala.

**Table 8: Sanitation Backlogs Captured at Engagement with DM**

Municipality	Water Borne	VIP	Partial VIP	Pit and Septic Tanks	Septic Tanks	None	Total Households	Percentage Backlogs
Greater Kokstad LM	9497	4142	0	0	0	0	13639	0.00%
Ingwe LM	542	18110	0	2644	234	0	21530	13.37%
KwaSani LM	682	2715	0	0	444	0	3841	11.56%
Ubuhlebezwe LM	2275	12103	5643	1339	106	0	21466	33.02%
Umzimkhulu LM	1420	30920	0	10311	0	649	43300	25.31%
<b>Total</b>	<b>14416</b>	<b>67990</b>	<b>5643</b>	<b>14294</b>	<b>784</b>	<b>649</b>	<b>103776</b>	<b>20.59%</b>
	<b>82406</b>		<b>21370</b>					
	<b>79%</b>		<b>21%</b>					
	<b>Access</b>		<b>Backlog</b>					

Of the 5 Local Municipalities within the Harry Gwala District Municipality, the sanitation backlogs have already been eradicated in the Greater Kokstad LM and KwaSani LM and the Harry Gwala District Municipality is working with service providers to eradicate backlogs in the remaining 3 local municipalities, namely; Ingwe, Umzimkhulu and Ubuhlebezwe. Table 9 below indicates the remaining backlogs in sanitation which equates to 21 576 backlogs to be eradicated from all three 93) consultants latest progress reports.

**Table 9: Sanitation Backlogs to be completed by Services Providers**

Municipality	Total Backlogs	Backlogs Completed	Backlogs to Complete	Percentage Backlogs
Greater Kokstad LM	13438	13438	0	0%
KwaSani LM	3813	3813	0	0%
Umzimkhulu LM	25612	14294	11318	28%
uBuhlebezwe LM	12979	7932	5047	24%
Ingwe LM	15714	10503	5211	20%
<b>Totals</b>	<b>71556</b>	<b>49980</b>	<b>21576</b>	<b>18%</b>

Conceptual schemes have been proposed and costed accordingly in order to determine the total amount of funding needed to eradicate the water backlogs. The total cost for the 103 proposed schemes is approximately R1.16 billion. The total cost to eradicate the current sanitation backlogs was based on data from the service providers and it is approximately R141 million.

Water cost estimates are based on a straight line over the next five years without any infrastructural expenditure in this current financial year besides planning and or feasibility study fees. The estimated feasibility study fees are based on 5% of the estimated construction cost. The total cumulative cost for water and sanitation over the 5 years is approximately R1.42 Billion which includes an annual escalation of 10%. The figure below indicates the total cumulative cost projection over the next 5 years for eradicating these backlogs.

The projects listed in the Integrated Development Plan and those set out by the Department of Water Affairs which are shown in Annexure A and D are regional bulk schemes which are long term solutions to address backlogs and improve current water and sanitation infrastructure. These projects have are funded through the Municipal Infrastructure Grant and Municipal Water

Infrastructure Grant which we have not considered when proposing conceptual alternate schemes to eradicate current backlogs. There could be overlapping of the proposed conceptual schemes to the regional bulk schemes and thus overlapping of infrastructure costs. The main reason that infrastructure cost could be overlapped is due to our mandate to develop conceptual schemes to eradicate the backlogs identified at the engagement meeting with the district municipalities. The staff could not identify the boundaries of the regional bulk schemes nor provide information on start and completion dates.

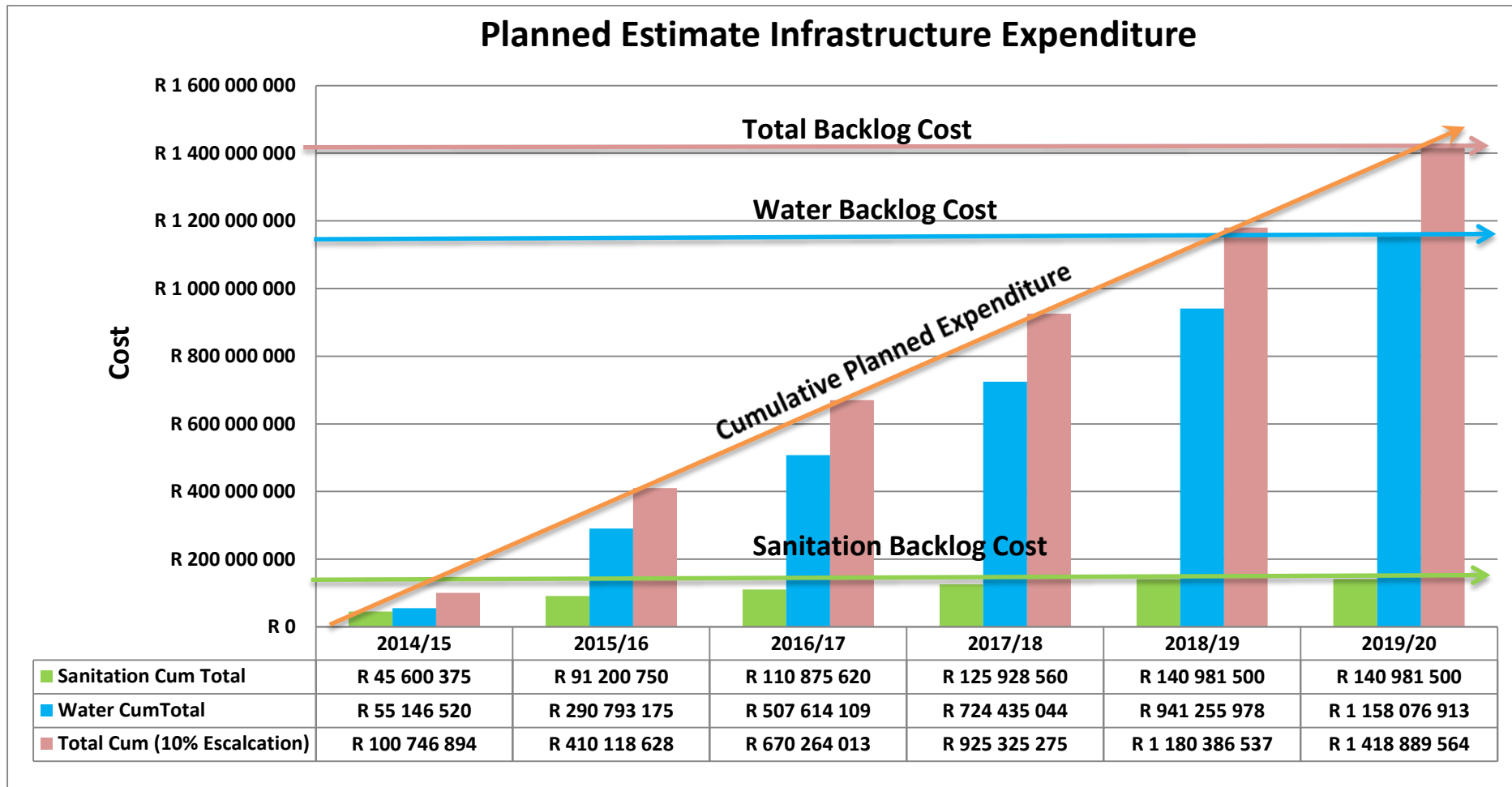


Figure 11: Water and Sanitation 5 Year Budget Plan

## 2 INTRODUCTION

In terms of the 'Department of Cooperative Governance and Traditional Affairs' (CoGTA's) strategic priorities 2013/14 Programme 3 (Development Planning), the Department has been mandated to prepare a Universal Access Plan (UAP) with a specific focus on access to water and sanitation.

Whilst a significant number of municipalities in KwaZulu-Natal are close to achieving universal access regarding key municipal infrastructure services such as water, sanitation and electricity; a need was identified, to formulate a plan to allow for the remaining backlogs to be quantified and the approximate costs of remedying these situations, established.

As a result, CoGTA's 'Municipal Infrastructure Development Business Unit' was directed to undertake the collection of all basic infrastructure backlog data; the verification of this data and the compilation of a Universal Access Plan document with a geo-database and an implementation programme, indicating the relevant milestones and associated infrastructure costs.

CoGTA thus enlisted Umgeni Water (UW), with the assistance of the 'Department of Water Affairs' (DWA), to act as the Implementing Agent (IA) for this project. This was aligned with the DWA's mandate to provide potable water to the people of South Africa; as well as the development of bulk Infrastructure Master Plans (IMP's) by water utilities such as Umgeni Water, uThukela Water, Umhlathuze Water and the like.

In terms of Section 1 of the Water Services Act, 1997, the District Municipalities are the mandated Water Service Authorities (WSA's) that are required to develop 'Integrated Development Plans' (IDP's) and 'Water Services Development Plans' (WSDP's). In addition to these water supply plans, there are currently several other supporting programmes which include the DWA's 'Total Water Services Business Master Planning Process'; the 'All Town Study/Reconciliation Studies', the 'Prioritisation of Water Services to 24 District Municipalities', the 'Interim/Intermediate Water Supply Programme' (IIWSP) and the 'Municipal Infrastructure Grant' (MIG). Despite these many plans, it was still recognised by CoGTA that the water planning process to date, has not entirely fulfilled the water planning requirements of the province, as well as originally envisaged. Hence, on the 6<sup>th</sup> September 2013, Umgeni Water was requested by CoGTA to manage the water supply planning programme in KwaZulu-Natal and from this was born the design of the Universal Access Plan (UAP).

LDM was appointed by The Municipal Infrastructure Development Business Unit of CoGTA, to develop these Universal Access Plans, for Water & Sanitation, within five of the ten Districts, namely, iLembe, Harry Gwala, Umzinyathi, Uthungulu and Umgungundlovu. The process of developing these plans included the collection of infrastructure backlog data; the capture of water supply footprints and their verification; and confirmations of the existing bulk, reticulation networks and proposed new schemes; for each of the five awarded districts. Also crucial, was the identification and mapping of 'gaps" of settled or residential areas that are without access to an acceptable level of water and sanitation services; and also the provision of conceptual plans focusing on regional and bulk schemes for the provision of these services. In areas where regional and bulk schemes are currently not feasible or where an interim water supply is needed, a local scheme was opted be used.

### 3 MAIN DELIVERABLES

In order to develop these Universal Access Plans, specific to each District Municipality, the following guidelines have been set by Umgeni Water:

- Assessment of water planning status quo;
- Identification of existing water supply schemes;
- Identification of already proposed future water supply options;
- Development of continuous water supply footprint areas covering the entire province, showing demographics, as well as current and required levels of service;
- Planned supply schemes (at a conceptual level) that can be constructed to supply all areas;
- Reconciliation of existing and proposed water supply and demand options;
- Provision of an updated geo-database including meta data of all relevant information; and finally the,
- Compilation of a UAP report for each DM.

## 4 HARRY GWALA DISTRICT MUNICIPALITY

The Harry Gwala District Municipality (HGDM) which was previously referred to as the Sisonke District Municipality and is located to the South West of the KwaZulu-Natal Province and borders on Lesotho and the Eastern Cape Province. Furthermore, this district is surrounded by the Umgungundlovu DM to the North East; and Ugu DM to the South East. The Alfred Nzo and OR Tambo DM's within the Eastern Cape Province are situated to the West and South West respectively. Harry Gwala consists of five Local Municipalities, namely Greater Kokstad, Ingwe, Kwa Sani, Ubuhlebezwe, and Umzimkhulu.

Figure 1 below shows the orientation of these local municipalities within the Harry Gwala District Municipality.

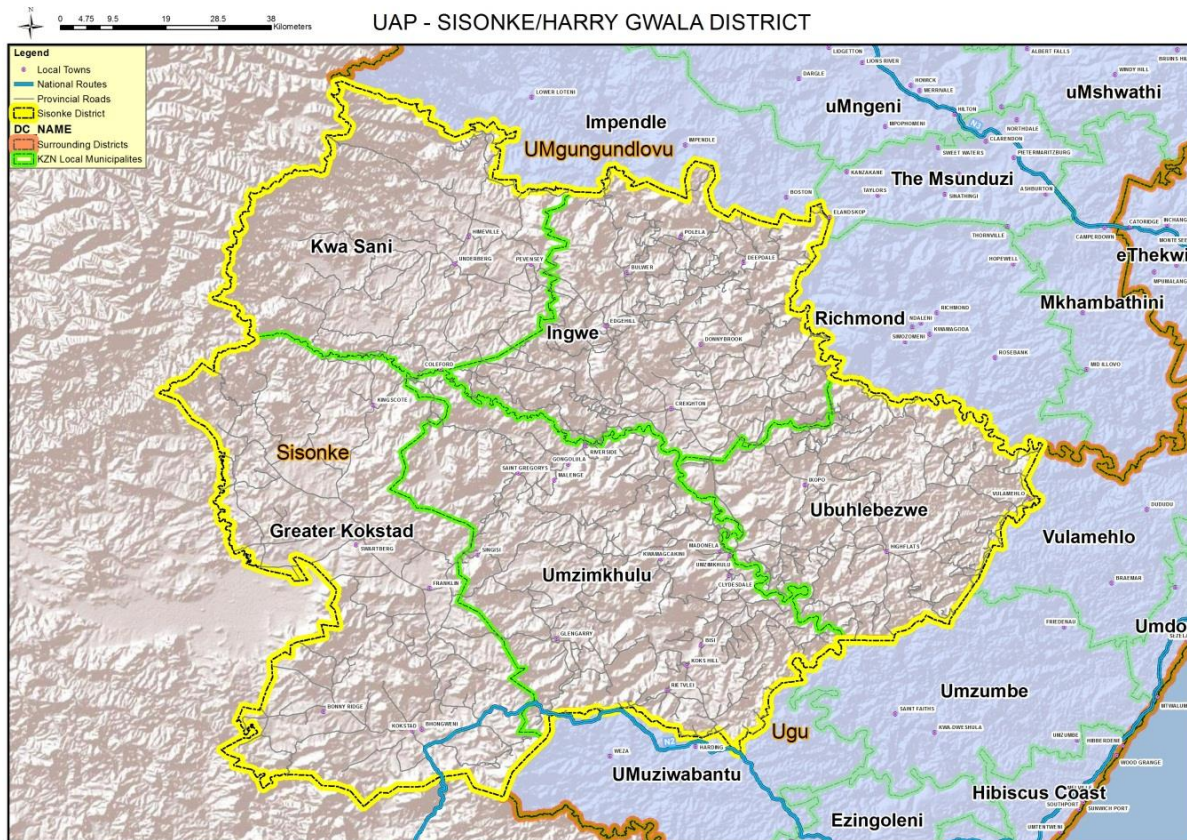


Figure 1: Harry Gwala District Municipality Locality Map

### 4.1 Demographic Trends and Settlement Growth

As per the Census 2011 data of Statistic SA, the current population for Harry Gwala District Municipality is over four hundred and sixty thousand (461 419). The split per Local municipality

is indicated in Table 1 below. The Harry Gwala District Municipality population represents 4.8 percent to the total provincial population and it has the lowest population per DM in the KZN. The population is predominantly rural and sparsely spread throughout an area of 10 547 square kilometres. For an illustration of the dwellings within the Harry Gwala District Municipality refer to Map 2 in Annexure B.

**Table 1: Local Municipality with Population Distribution**

Municipality	KZN Code	Population Size
Greater Kokstad LM	KZN433	65 981
Ingwe LM	KZN431	100 548
KwaSani LM	KZN432	12 898
Ubuhlebezwe LM	KZN434	101 691
Umzimkhulu LM	KZN435	180 302
<b>Harry Gwala DM</b>		<b>461 420</b>

Source: Stats SA 2011

## 5 WATER AND SANITATION STATUS QUO

In terms of Section 1 of the Water Services Act, 1997, the Harry Gwala District Municipality is the Water Services Authority (WSA) for the entire district comprising of each of the 5 Local Municipalities.

The Water Services Authority's core function of the Harry Gwala District Municipality is carried out and shared among the following three departments that form the back-bone of the water service delivery.

- Water Services Department

The Water Services Department is responsible for the planning and designing of the new projects and it also carries the responsibilities of operations and maintenance of all water and sanitation projects and water schemes. The department also carries the responsibilities of regulation and support to water function.

- Infrastructure Project Management Unit (PMU).

The planned and designed projects proceed to the Infrastructure Unit (PMU) for implementation.



- Finance Department

Harry Gwala District Municipality has not yet ring-fenced the water service function as a “stand alone” business unit, hence all the financial matters pertaining to water infrastructure are being handled centrally by the Harry Gwala District Municipality’s Finance Department. .

## 5.1 Bulk Water Infrastructure

In order to efficiently plan the delivery of water, via bulk water infrastructure; a Water Services Development Plan has been developed to assist the individual Local Municipalities to align their projects, as set out by the Water Services Authority, i.e. Harry Gwala District Municipality; to that of the Integrated Development Plan (IDP) and its strategy to providing water and sanitation services to the entire District. Refer to Annexure A and D for a list of projects and their descriptions as per DWA’s Priority Action Plans (2013) and the IDP respectively. The IDP for the Harry Gwala District Municipality was last updated in 2010 and an appropriate consultant should be appointed to review it.

Umgeni Water has provided the LDM consortium, also comprising of SMEC South Africa (LDM/SMEC) with the GIS data of some of their already captured water supply footprints and current water infrastructure; as well as DWA data such as the All Town Study. LDM/SMEC also obtained all IDP’s and SDF’s per District Municipality, in order to determine what infrastructural plans are in place within the Harry Gwala District Municipality. All of this existing information was used as the basis in which to verify and enhance the data captured during the engagement meetings. These sessions played a pivotal role in acquiring the knowledge of local technical specialists within the District and Local Municipalities, in a collective bid to determining reasonably accurate backlogs.

## 5.2 Access to Water

Table 2 below gives an indication of the various types of ‘water connections’ within the Harry Gwala District Municipality. The following information was captured at the engagement meetings held in March, and April with Harry Gwala District Municipality. Approximately 60% of the households in Harry Gwala District Municipality are supplied by standpipes less than 200m walking distance in the rural settlement areas and approximately 16% of households have household connections, and mainly constitute those houses located near the major towns within the District

Refer to Map 3: HGDM Water Connection Types in Annexure B for an illustration of the water accessibility across the Harry Gwala District Municipality.

**Table 2: Access to Water**

Access to Water	Above RDP Standards			Below RDP Standards					Total
	Household Connections	Yard taps	Communal Standpipes <200m	Hand pumps	Jojo Tanks and Hand Pumps	Borehole Hand Pumps	None	Other / unknown	
Greater Kokstad	9522	0	4090	0	27	0	0	0	13639
Ingwe	1509	362	12884	0	0	0	6775	0	21530
Kwa Sani	1126	0	677	0	0	2038	0	0	3841
Ubuhlebezwe	1687	0	14242	1365	602	118	3308	144	21466
Umzimkhulu	2291	0	30363	0	534	0	10112	0	43300
Total	<b>16135</b>	<b>362</b>	<b>62256</b>	<b>1365</b>	<b>1163</b>	<b>2156</b>	<b>20195</b>	<b>144</b>	<b>103776</b>
	<b>15.55%</b>	<b>0.35%</b>	<b>59.99%</b>	<b>1.32%</b>	<b>1.12%</b>	<b>2.08%</b>	<b>19.46%</b>	<b>0.14%</b>	<b>100%</b>
	76%			24%					100%

### 5.3 Current Water Supply Status

The current water supply status offers an indication of water provision/delivery to households; as well as if they fall within municipal jurisdiction or within privately owned sectors, primarily farm lands. This is depicted in Figures 2 and 3.

This information is as a result of the engagement meetings that were held at Harry Gwala District Municipality, and indicates that approximately 76% of all households in the District have access to water at a minimum RDP standard, while 15% of households do not have access to drinking water or have water supplied at standards that are below that of the RDP minimum standard, and finally 9% fall within privately-owned properties.

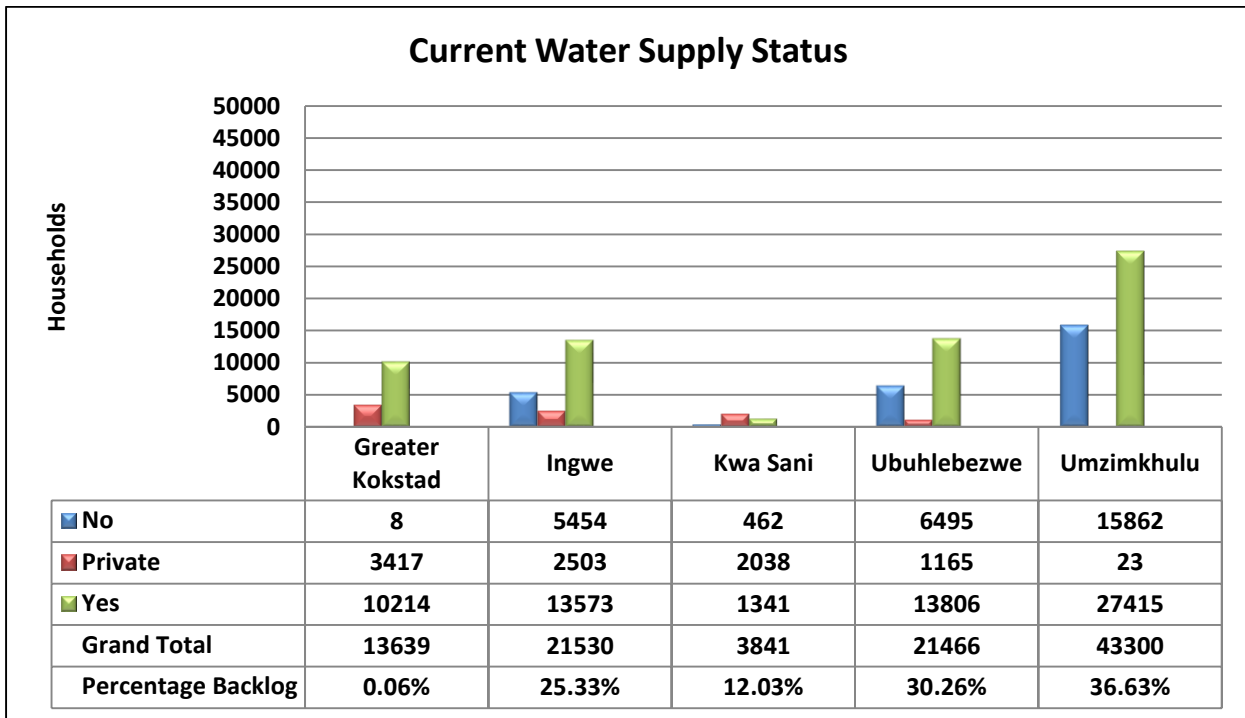


Figure 2 : Current Water Supply Status

In Figure 2 above, No refers to households below RDP standards which constitute a backlog, while Yes refers to households that have access to water above that of RDP Standards.

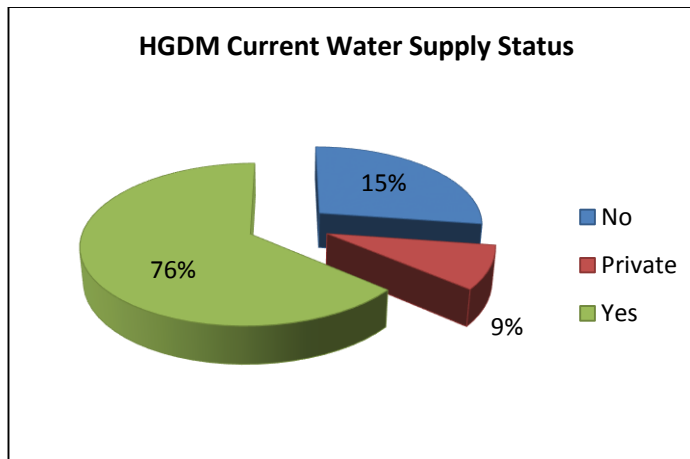


Figure 3 : Current Water Supply Status Percentage Breakdown

Refer to Map 1: HGDM Water Supply in Annexure B for a depiction of the water supply in the District.

## 6 CONTINUOUS WATER SUPPLY FOOTPRINTS

One of the main deliverables of this project was to develop a continuous water supply footprint that describes the current and future supply capacity for the DM. These footprints comprise of polygons that define autonomous supply zones that are either currently supplied or have the potential to be supplied with water from a particular water source.

### 6.1 Capturing of Draft Water Supply & Sanitation Footprints

Infrastructure data such as bulk infrastructure and reticulation networks obtained from Umgeni Water was initially used to capture and digitise these water supply footprints as polygons on GIS. Where no reticulation was present, then the assumption was made that households located within these polygons do not have basic services. Having drawn up the footprint polygons, the water supply or lack thereof was then confirmed with the DM at the Delphi engagement meetings and all polygons and associated attribute data was updated accordingly.

The water supply polygons that were confirmed as having sustainable drinking water have been updated, with their attributes in Annexure C.

The polygons representing footprint areas that do not have sustainable drinking water have been grouped, and conceptual schemes have been proposed. These conceptual schemes may consist of borehole schemes, small bulk schemes with package plants, pump stations, bulk lines and reservoirs with reticulation; and in more remote and sparsely populated areas spring protection and water harvesting schemes have been proposed.

Households identified with no current water supply, but were situated close to towns that have bulk infrastructure, have been incorporated into these existing bulk scheme. If these current bulk schemes have inadequate capacity to supply the no-supply households, then an upgrade or expansion to the existing water treatment works, as well as new reservoirs, was proposed. Refer to Maps 11, 14, 16, 19, and 22 in Annexure B for the illustration of water supply footprints in each of the LMs.

The establishment of footprints for sanitation provision was undertaken in a similar way to that of water supply and areas where mapped accordingly. Sanitation infrastructure included both ventilated improved pit latrines (VIP's) and waterborne sewerage systems.

Refer to Maps 13, 15, 18, 21, and 24 in Annexure B for the illustration of sanitation supply in each of the LMs.

## 6.2 Water & Sanitation Attribute Data

Figure 4 below illustrates the Delphi/Engagement data capture processes that have been applied in order to obtain the necessary data required for the Water Footprint Areas. These attributes or required information, have been extracted from the Umgeni Water terms of reference and is a means of providing value to the GIS data that is being captured. This data will also be handed back to the DMs for their own use. Attribute data for the infrastructure was captured as it was provided to us by the staff during the engagement meetings. In the event that municipal operational staff could not provide us with the necessary information; assumptions had to be made on their part, so as to allow for reasonably complete data collection. All collected data was supported by a 'confidence level indicator', which in such cases, was selected as 'low'. The reverse of 'high', being allocated to those attributes of which the staff were sure of. The collected/confirmed attribute data for the infrastructure was then collectively applied to the captured water supply footprint with additional information regarding the current supply. The data obtained within the Delphi sessions was then used to compile the UAP for the Harry Gwala District Municipality. It was therefore essential that all data captured was accurate and reliable.

A detailed description of the attribute fields listed in Figure 4 below is indicated in Annexure C. This represents the level of attribute data which was collected at the engagement meetings with the Districts Municipalities, wherein which these attributes were confirmed.

## 6.3 Engagement Meeting to Verify GIS Information

The process followed in capturing water schemes was such that the supply source was firstly identified. This source then led either directly to reservoirs or to a water treatment facility prior to a reservoir, and in some cases pump stations were used to get the water to the reservoirs. Bulk water pipelines were identified for the movement of water from the supply source through to the reservoirs. From the reservoirs water would reticulate to households or to communal standpipes. All of this information was captured in the GIS.

This process of verifying all GIS data with Harry Gwala District Municipality was completed at the end of April 2014. The data collected at the Delphi/Engagement meeting was processed and the attributes updated on the Geo-Database for Harry Gwala District Municipality. The data has confirmed backlogs and areas that require interventions with regards to water and sanitation upgrades, existing schemes, proposed new schemes and the cost thereof.

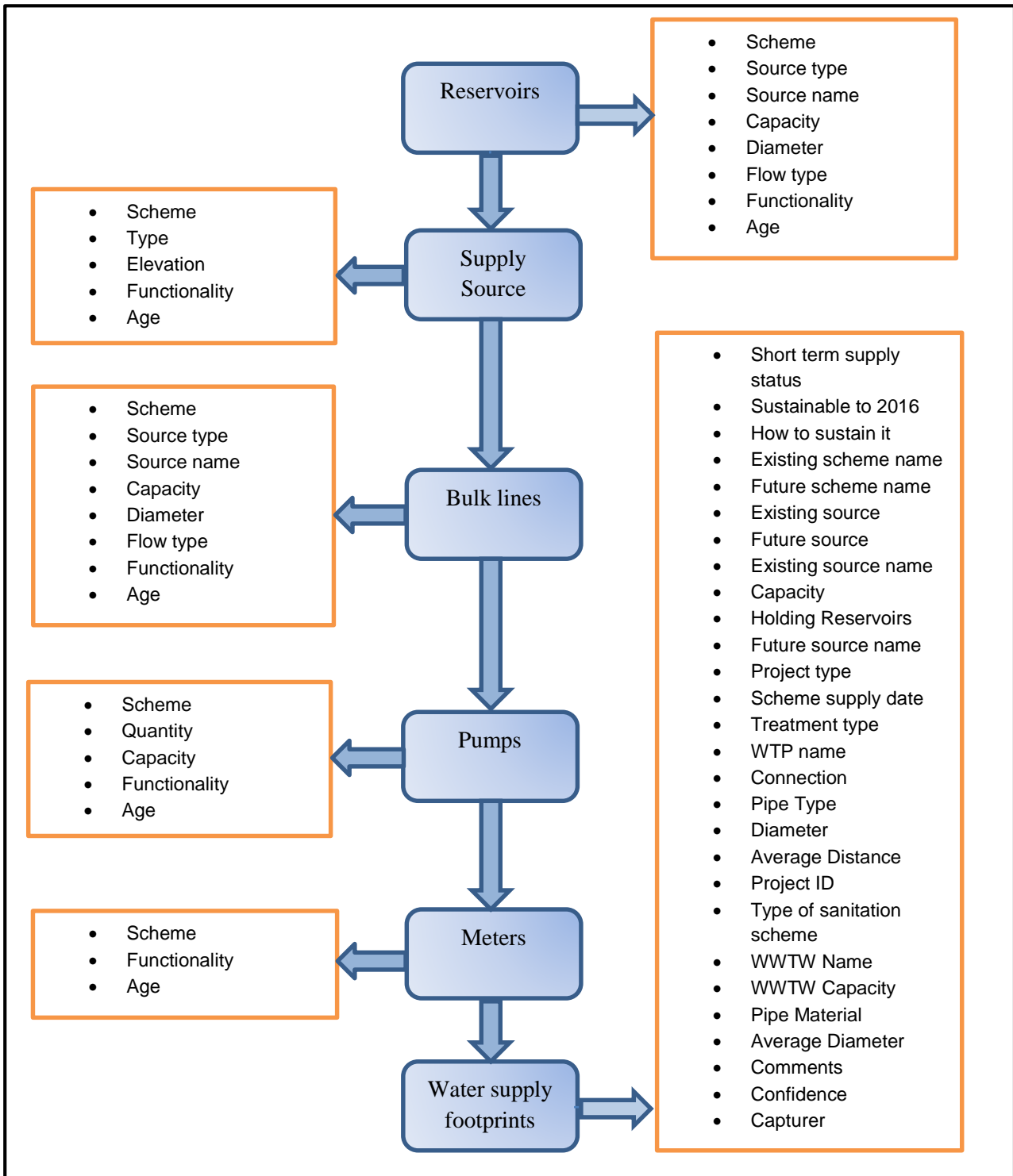


Figure 4: Water & Sanitation Attributes Data

## 7 EXISTING WATER SCHEMES

The identification of the existing water and sanitation schemes have been confirmed via the Harry Gwala District Municipality during the engagement meetings. The process involved identifying areas which have access to piped water either from known sources such as water treatment works, reservoirs, boreholes or springs; to household connections or standpipes.

LDM/SMEC South Africa have engaged with the various LM's and departments to determine the accuracy of the GIS water supply footprints and confirmed all attribute data as per Figure 5, 6 and Annexure C. The data has been updated in the Geo-Database and will form part of the deliverable to CoGTA.

### Water Scheme Options

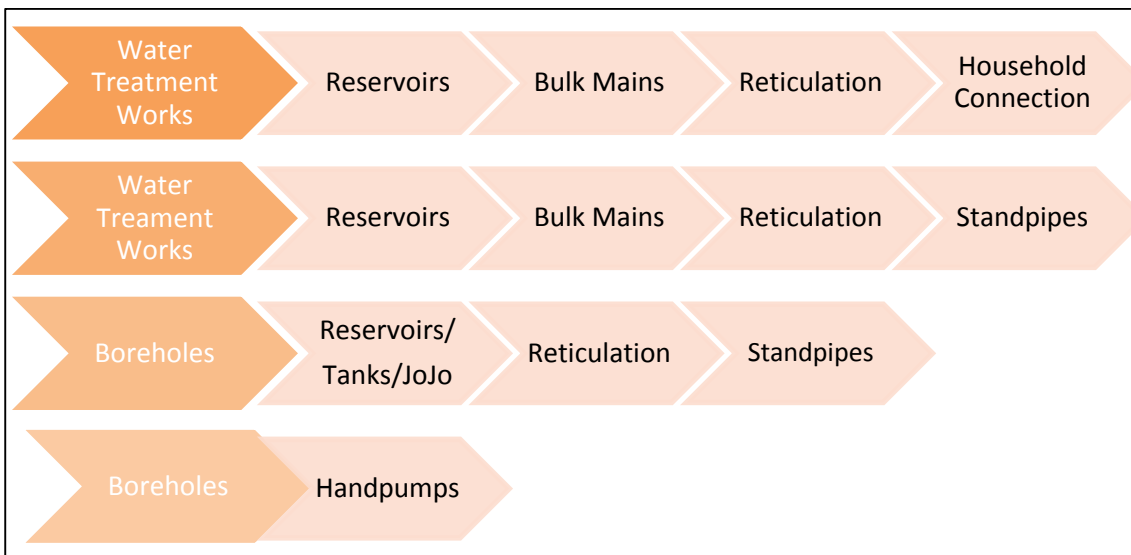


Figure 5 : Water Scheme Options

### Sanitation Scheme Options

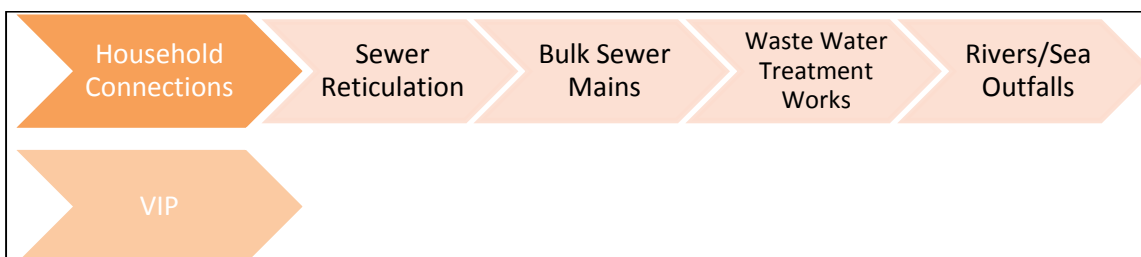


Figure 6: Sanitation Scheme Options

In total 269 schemes have been captured in the Harry Gwala District Municipality. These schemes range from bulk schemes with water treatment facilities to rudimentary schemes with boreholes and springs feeding reservoirs. Table 3 below indicates the number of existing schemes in each LM for the Harry Gwala District Municipality. The Kwa Sani and Greater Kokstad LMs consisted mainly of privately owned farming areas; hence the low number of water schemes present in these LM's. Umzimkhulu LM is the largest LM in the Harry Gwala District Municipality and it was indicated to have 121 different water schemes present.

**Table 3: Number of Existing Water Schemes**

	Greater Kokstad	Ingwe	Kwa Sani	Ubuhlebezwe	Umzimkhulu	Total
Existing Schemes	6	74	6	62	121	269

Each of the water schemes captured has either one or multiple sources feeding that particular scheme. The attributes captured during the engagement meetings for the water supply footprints in terms of the existing sources have been listed in Table 4 below. The majority of the footprints get water from either boreholes, or reservoirs. There are 157 captured footprints that have no water sources and we have proposed alternate schemes for these areas.

**Table 4 : Existing Water Sources of Existing Schemes**

Existing Sources	Number
Local Water Scheme	40
Reservoir/Tanks	135
River	17
Borehole	154
Borehole and Spring	80
Borehole and Water Tankers	9
Spring	42
Water Tanker	31
Weir	1
Unsure	23
None	157
<b>Total</b>	<b>689</b>



## 8 RECONCILIATION OF EXISTING & PROPOSED WATER SUPPLY

On completion of the engagement meetings with the Harry Gwala District Municipality, the data has been processed and existing water and sanitation schemes identified. This has assisted in indicating those areas where there is a backlog on services or where local/bulk schemes are required. In order to meet full Universal Access, we have proposed schemes to eradicate the backlogs. This is in the form of conceptual design schemes. These proposed schemes are provided in the Geo-Database.

In terms of water resources, Harry Gwala has two major rivers and a number of dams that are used as a source of water for the District Municipality. These rivers are the Mkomazi and Mzimkulu Rivers and the dams are the Ixopo Dam, Comrie Dam, Crystal Springs Dam, Elandskuil Dam, Hopewell Dam, Minay's Dam, Mingay's Dam, Poortjie Dam, Roy Aldus Dam, and Vaughan's Dam. Some of these dams are used for irrigation purposes. There are also a number of smaller rivers that flow within the District that is a means of water to rural communities. Refer to Map 6 for an illustration of the water resources in the Harry Gwala District Municipality.

The Harry Gwala District Municipality is facing severe water scarcity as there is a lack of sustainable water resources in terms of current boreholes and springs. The Bulwer Dam is currently under planning and will serve as a sustainable source of water, but this dam will not cater for the entire district. As such, a feasibility study should be done to determine potential dam sites via the assessment of the two major rivers.

### 8.1 Water Backlogs

Water and sanitation backlogs may be defined as households (excluding farms) without access to safe water & sanitation services. In the case of water, safe access is deemed to include communal standpipes, yard standpipes and household connections. Households without access to these minimum services therefore constitute a backlog.

With regards to sanitation, safe access is deemed to include VIP's and chemical toilets. Households with levels of service below the minimum level i.e. unimproved pit latrines / rudimentary pit toilets and no sanitation at all, therefore constitute sanitation backlogs. Refer to Maps 4 and 9 in Annexure B for the illustration of the water and sanitation backlogs respectively.

Table 5 indicates the backlogs in terms of households for each LM and for the DM that have been identified from the 2011 Census data. From here we can see that the three main LMs with backlogs all above 50% are Ingwe, Ubuhlebezwe, and Umzimkhulu. This is also due to the reason that Kwa Sani and Greater Kokstad is mainly farm lands. The total backlogs identified from the Census data for the Harry Gwala District Municipality is 51895 households which equates to 46% of the DM.

Table 6 indicates the backlogs that have been captured from the engagement meetings with Harry Gwala District Municipality. There is a significant difference in the percentage of backlogs in each local municipality from the Census 2011 information. This could be that water backlogs in these local municipalities have been eradicated. It is also noteworthy that there is a difference of approximately 8500 in the total number of households in Harry Gwala District Municipality from Census 2011 data. We have used the ESKOM household data as the correct number of households in Harry Gwala District Municipality. It is still noticeable that the three LMs with the greatest backlogs is still Ingwe, Ubuhlebezwe, and Umzimkhulu. The total backlogs identified from the engagements with the Harry Gwala District Municipality using the Eskom household points are 28281 households, which is 27% of the DM.

The discrepancy in the household points of approximately 8500 between the Census and Eskom data is due to the reason that the Eskom household points are based on 2006 to 2010 data and is not current. We have also only used points that fall within and around the polygons that was captured. Some Eskom household points fall spatially onto rocks and boulders and have thus not been considered. These polygons were also captured using imagery dated 2010 and there is a possibility that these images may be dated prior to 2010.

**Table 5: Census 2011 Water Services Backlogs**

Municipality	2011 Census Number of Households	Water Served Households	Water Backlogs Households	Percentage of Water Backlogs
Greater Kokstad LM	19140	17664	1476	7.71%
Ingwe LM	23072	11115	11957	51.82%
KwaSani LM	3673	2978	695	18.92%
Ubuhlebezwe LM	23487	11020	12467	53.08%
Umzimkhulu LM	42909	17609	25300	58.96%
<b>Harry Gwala DM</b>	<b>112281</b>	<b>60386</b>	<b>51895</b>	<b>46.22%</b>

The Eskom household data that was received was based on 2011 data and has been factored to reflect as 2014 household counts. Where LM's had a negative growth rate, the value of households in 2011 was used as the 2014 value. The growth rate has been obtained from Stats SA and can be seen in Table 6 below.

**Table 6: Water Service Backlogs Captured at Engagement with DM**

Municipality	2011 Eskom Household Dwellings	Growth Rate %	Factor	2014 Escalated ESKOM Household Dwellings	Water Backlogs Households	Percentage of Water Backlog
Greater Kokstad LM	13438	1.55	1.0155	13639	8	0.06%
Ingwe LM	21530	-0.67	1	21530	5454	25.33%
KwaSani LM	3813	0.85	1.0085	3841	462	12.03%
Ubuhlebezwe LM	21466	-0.03	1	21466	6495	30.26%
Umzimkhulu LM	43169	0.34	1.0034	43300	15862	36.63%
<b>Harry Gwala DM</b>	<b>103416</b>	<b>-</b>	<b>-</b>	<b>103776</b>	<b>28281</b>	<b>27.25%</b>

## 8.2 Sanitation Backlogs

The municipality is working to eradicate sanitation backlogs in the remaining 3 local municipalities i.e. Ingwe, Umzimkhulu and UBuhlebezwe. Harry Gwala District Municipality have appointed a service provider in Ingwe LM (LMS Services) to implement and eradicate the sanitation backlogs. This project started in May 2008 and the main purpose of the sanitation project is to address the backlogs in the provision of basic sanitation facilities to various rural households in Ingwe. To date 10 503 backlogs have been eradicated from the 15 714 backlogs identified.

Harry Gwala District Municipality appointed Lakani Projects in May 2008 to eradicate the backlogs in sanitation in Umzimkhulu LM. To date 11 318 backlogs have been eradicated from the 25 612 backlogs identified. Harry Gwala District Municipality also appointed Actus Integrated Management to eradicate the backlogs in uBuhlebezwe LM. To date 7772 have been eradicated from the 12 979 identified in 2008. Figure 7 below indicates a typical VIP unit that is currently being installed to eradicate backlogs.

Table 7 below indicates the backlogs in terms of households for sanitation captured in the 2011 Census with a total of 112 281 households recorded. There is a high percentage of backlogs for sanitation in the Harry Gwala District Municipality with a total of 66099 households which equates to approximately 59%.

Table 8 below indicates the backlogs for sanitation that was captured at the engagement meetings. A total number of 21370 households were indicated as having sanitation below that of RDP standards, and thus being a backlog. This equates to approximately 21% of the Harry Gwala District Municipality. Refer to Maps 7 and 8 in Annexure B for the illustration of the sanitation supply and the sanitation types for Harry Gwala District Municipality respectively.

**Table 7: Census 2011 Sanitation Backlogs**

Municipality	Households	Sanitation Served	Backlogs	Percentage Backlogs
Greater Kokstad LM	19140	13341	5799	30.30%
Ingwe LM	23072	8858	14214	61.61%
KwaSani LM	3673	1617	2056	55.98%
Ubuhlebezwe LM	23487	11028	12459	53.05%
Umzimkhulu LM	42909	11338	31571	73.58%
<b>Harry Gwala DM</b>	<b>112281</b>	<b>46182</b>	<b>66099</b>	<b>58.87%</b>

**Table 8: Sanitation Backlogs Captured at Engagement with DM**

Municipality	Water Borne	VIP	Partial VIP	Pit and Septic Tanks	Septic Tanks	None	Total Households	Percentage Backlogs
Greater Kokstad LM	9497	4142	0	0	0	0	13639	0.00%
Ingwe LM	542	18110	0	2644	234	0	21530	13.37%
KwaSani LM	682	2715	0	0	444	0	3841	11.56%
Ubuhlebezwe LM	2275	12103	5643	1339	106	0	21466	33.02%
Umzimkhulu LM	1420	30920	0	10311	0	649	43300	25.31%
<b>Total</b>	<b>14416</b>	<b>67990</b>	<b>5643</b>	<b>14294</b>	<b>784</b>	<b>649</b>	<b>103776</b>	<b>20.59%</b>
	<b>82406</b>		<b>21370</b>					
	<b>79%</b>		<b>21%</b>					
	<b>Access</b>		<b>Backlog</b>					

Table 9 below indicates the summary of backlogs in Harry Gwala District Municipality in which service providers are busy eradicating. The total backlogs indicated in Table 9 refer to the initial

total number of households that had a sanitation backlog when the project started in 2008. Comparison can be made between the total households initially having backlogs which were 71556 to that of the Census 2011 data which reflected 66099. Another comparison would be the current backlogs to complete as per the service provider’s data of 21576 to the backlogs captured during the engagement meetings of 21370.

**Table 9: Sanitation Backlogs to be completed by Services Providers**

LM Name	Total Backlogs	Backlogs Completed	Backlogs to Complete	Percentage Backlogs
Greater Kokstad	13438	13438	0	0%
KwaSani	3813	3813	0	0%
Umzimkhulu	25612	14294	11318	28%
uBuhlebezwe	12979	7932	5047	24%
Ingwe	15714	10503	5211	20%
<b>Totals</b>	<b>71556</b>	<b>49980</b>	<b>21576</b>	<b>18%</b>



**Figure 7: Photo of VIP Units Constructed**

### 8.3 Level of Service

The municipality provides various levels of service (LOS) to cater for the varying and unique needs to the different communities, within the confines of sustainability. Each level of service is unique to the various conditions relating to the use and upgrade and has different implications for the municipality in terms of capital and operational costs. The LOS addresses the basic standards and supports the concept of progressive improvement of LOS. In addition to these levels of service, the municipality also provides a rudimentary service, referred to as safe access, as an interim measure in areas that cannot be guaranteed with sustainable water resources.

Table 10: Harry Gwala District Level of Service

Water Level of Service	Comments
LOS 1 - Communal Water Point	Basic LOS, consists of communal water points <ul style="list-style-type: none"> <li>• Reticulated standpipes</li> <li>• Stationary water tank</li> <li>• &lt; than 200m from households</li> </ul>
LOS 2 - Yard Standpipe on each property	Metered or unmetered
LOS 3 - Metered Pressurised water connection on each property	Metered and connected to private plumbing
Sanitation Level of Service	Comments
LOS 1 - VIP on every informal property	<ul style="list-style-type: none"> <li>• Preferred option Rural and informal settlements</li> <li>• Ventilated Improved Pit (VIP) latrine located on each site.</li> </ul>
LOS 2 - Septic & Conservancy Tanks	<ul style="list-style-type: none"> <li>• Not serviced by sewer reticulation and treatment system</li> <li>• Typically be provided too many formal housing developments.</li> </ul>
LOS 3 - Water Borne Sewage on each serviced site	<ul style="list-style-type: none"> <li>• Conventional waterborne municipal sewage network with individual sewer connections to each erf.</li> </ul>

### 8.4 Regional Proposed schemes by Harry Gwala District Municipality

There are twelve Regional bulk supply scheme options proposed by Harry Gwala District Municipality. These schemes extend over the entire DM and will cover the existing schemes. These regional bulk schemes are a long term solutions to providing water to households in the

Harry Gwala District Municipality. One cannot rely on these schemes to eradicate the current backlogs as these are large schemes which require a large amount of funding and there is currently no planned start or completion dates for these schemes. Some investigations should be done by UW in order to tie in to our proposed alternate schemes which aims to eradicate backlogs as a short term solution, so that infrastructure would not have to be duplicated in the future when the regional bulk schemes get constructed. The regional bulk schemes descriptions are as follows as specified in the Harry Gwala District Municipality Master Plan (June 2012, Version 2):

### **Scheme 1**

Raw water is abstracted from the Umzimkulu River within the Mgodì / Mhlabashane Project footprint and treated close to the river. Water is pumped in two lifts from the Water Treatment Works to the command reservoir at Mgodì / Mhlabashane (Res 1). The Mgodì / Mhlabashane Project are supplied under gravity from this reservoir. Potable water is further pumped from Res 1 to the Mgodì / Skeyi reservoir (Res 2). The Mgodì / Skeyi Project are also supplied under gravity from Res 2.

The Town of Highflats as well as the Hlokozi, Erith Trust Farm and Ebhayi schemes (existing schemes) is supplied under gravity from Res 2. A gravity booster pump will be installed on the line supplying Hlokozi and Highflats. This scheme has a potential of being expanded in the long term to incorporate Scheme 4.

### **Scheme 2: Option A**

Raw water is abstracted from the Polela River and is treated close to the source. Potable water is pumped in an easterly direction along main road R617 to a service reservoir. From this service reservoir the town of Bulwer as well as the Project C and D can be supplied under gravity.

A second rising main tee's of the pipe line between the service reservoir and Bulwer in a southerly direction towards a reservoir at the highpoint of the Gala Project and potable water is pumped up to this reservoir. From the bulk reservoir at Gala, potable water is conveyed in three directions as follows:

- In a westerly direction, Tarrs Valley, Mahehle, Ncakubana and Creighton are supplied under gravity',
- In a southerly direction, supply is extended to Donnybrook, Sandanezwe, Mnyweni, Masameni, Eskhesheni, Ufafa, Mariathal, Ixopo and to Project G, and

- In a westerly direction, potable water is pumped to the bulk reservoir in Project F and the Qadi Scheme (existing scheme) is supplied under gravity from the reservoir at Project F.

### **Scheme 2: Option B**

Scheme 2 Option B looks at constructing a dam along the Luhane River at the intersection of the R612 and R617 roads. The areas supplied are essentially the same as Scheme 2 Option A. Raw water is abstracted from the Dam and is treated on the dam site. Potable water is pumped in a westerly direction along main road R617 to a service reservoir near Afriston Railway Siding. From this reservoir the pipework provided is identical to Scheme 2 Option A.

### **Scheme 3**

Scheme 3 looks at supplying some southern-end portions of Scheme 2 from a different source. Raw water is abstracted from the Umzimkulu River within the Mahehle Project footprint and treated close to the river. Potable water is pumped in two lifts from the Water Treatment Works. The first lift pumps potable water to the existing Mahehle bulk reservoir from where the Mahehle / Ncakabane Project footprint is supplied. The second lift pumps potable water to a service reservoir along main road R612. From this service reservoir the Ufafa Scheme, Masameni Scheme (existing scheme), Eskhesheni Scheme (existing scheme), communities surrounding the Mariathal Mission and the Town of Ixopo can be supplied under gravity.

### **Scheme 4**

Raw water is abstracted from the Mkomazi River within Project A's footprint and treated close to the river. Potable water is pumped from the Water Treatment Works to a reservoir at a highpoint in Project A (Res 1). Project A is reticulated from Res1 under gravity. Potable water is gravitated from Res 1 in a southerly direction towards a reservoir supplying the eastern parts of the Project B (Res 2). Potable water is also pumped in a westerly direction to a service reservoir at a highpoint. From this service reservoir potable water is gravitated to a second reservoir (Res 3) supplying the western parts of Project B. The Springvale scheme (existing scheme) can also be supplied under gravity from the service reservoir

### **Scheme 5**

This scheme essentially entails the sourcing of potable water from the existing water treatment works at Ixopo to the Hopewell and Carrisbrooke Schemes. Potable water is pumped to the



existing reservoir at Hopewell and a service reservoir along main road R56 in a southerly direction. The Carrisbrooke scheme is supplied under gravity from the service reservoir.

### **Scheme 6**

Raw water is abstracted from the Ngwangwane River within the Project M footprint and treated close to the river. Potable water is pumped from the Water Treatment Works to a command reservoir at the highpoint within Project H. From this reservoir Projects J, K, L and M can be supplied.

### **Scheme 7**

Scheme 7 looks at increasing the supply area of Scheme 1 to incorporate the supply area of Scheme 4. Raw water is abstracted from the Umzimkulu River within the Mgodi / Mhlabashane Project foot print and treated close to the river. Water is pumped in two lifts from the Water Treatment Works to the command reservoir at Mgodi / Mhlabashane (Res 1). The Mgodi / Mhlabashane Project is supplied under gravity from this reservoir. Potable water is also pumped from Res 1 to the Mgodi / Skeyi reservoir (Res 2). The Mgodi / Skeyi Project is also supplied under gravity from Res 2.

The Town of Highflats as well as the Hlokozi, Erith Trust Farm (existing scheme), Ebhayi (existing scheme), Springvale (existing scheme) and Projects A and B are supplied under gravity from Res 2. A gravity booster pump will be installed on the line supplying Hlokozi, Highflats, Springvale and Projects A and B.

### **Scheme 8**

Raw water is abstracted from the Mkomazi River and treated close by alongside a district road where it crosses the river. Water is pumped to a service reservoir on a high point overlooking the Mqatsheni Project footprint on the Southern side of the Mkomazi Valley.

### **Scheme 9**

Raw water is abstracted from the Umzimkhulu River and treated close to the river alongside the R56 near the town of Umzimkhulu. Potable Water is pumped from the Water Treatment Works to a service reservoir alongside the R56 as well to the existing reservoirs at Nokweja (including Bovini and Emazabekweni) and Carrisbrooke.

Potable water is gravitated from the service reservoir towards Ixopo and the R612. Potable water is pumped towards Hopewell off this pipeline. The town of Ixopo is also linked to the gravity pipeline.

From the intersection of R 56 and R 612 potable water is conveyed in two directions as follows:-

- In a southerly direction along R612 toward Highflats. At Highflats the bulk gravity main splits into two directions. In an easterly direction, the Springvale, Project A and Project B footprints are supplied under gravity. In a westerly direction the Hlokozi, Mgodli/Skeyi, Erith Trust, Ebhayi and Mgodli/Mhlabashane project footprints are supplied under gravity.
- In an easterly direction, potable water pumped to the Ufafa, Mariathal, Masameni and Eskhesheni project footprints.

### **Scheme 10**

Raw water is abstracted from the Ngwagwana River (elevation = 1528m) within Coleford Nature Reserve and is treated close to the river. Water is pumped from the water treatment works to a command reservoir (elevation = 1857m) close to the Project N footprint. From this command reservoir thirty one project footprints are supplied under gravity.

### **Scheme 11**

Raw water is abstracted from the Umzimkhulu River (elevation = 803m) and is treated close to the river. Water is pumped from the water treatment works to two command reservoirs (elevation = 1045m and 1418m respectively). Command reservoir no1 and no2 are located close to the Project AE and AF footprints respectively. From both of these command reservoirs twenty three project footprints are supplied under gravity.

### **Scheme 12**

Raw water is abstracted from the Ibisi River (elevation = 720m) and is treated close to the river. Water is pumped from the water treatment works to a command reservoir (elevation = 1102m) close to the Project N footprint. From this command reservoir twenty two project footprints are supplied under gravity.

Refer to Annexure B, Map 5: HGDM Proposed Regional Schemes, for the map depicting the extent of the twelve above mentioned bulk regional schemes.

The twelve regional schemes supply all of the areas where we have proposed alternate schemes except two small areas that are fed by UAP24, and UAP50. Both of these areas are indicated to get water from boreholes with hand pumps due to the size and location of them.

## 9 PLANNED AND PROPOSED WATER & SANITATION SCHEMES

### 9.1 Conceptual Design Approach

Various engagements meetings were held with Harry Gwala District Municipality to identify existing schemes and backlogs with regards to water and sanitation needs. At these meetings operational staff determined the accuracy of GIS data and assisted with updating the water and sanitation attribute data. This information was then processed and backlogs identified.

Using the Eskom household data, we were able to identify the total number of households in a specific area that had backlogs. We then used the Census income categories as listed in Table 11 to determine the demand for the area. Based on the number of households, and the density of these areas, a conceptual proposed scheme was put into place. Where areas were highly dense and there was a river nearby, water was to be extracted from the river and a small package plant was proposed for the treatment of water. Where no rivers are present boreholes have been proposed. The surrounding areas with water supply were analysed to identify how water was obtained, and a similar approach was proposed. Using the topography of the area, high points were identified for placement of reservoirs and for the routing of the bulk lines. Areas that had a minimal number of households, and that was sparsely located, had boreholes with hand pumps proposed for them. It should also be noted that a feasibility study for the positioning of boreholes would need to be undertaken as their positions are subject to change.

An illustrative example of the proposed schemes that can be found in the geo-data base can be seen in figures 8, 9, and 10 below. Figure 8 represents a scheme where water is obtained from a river and is pumped up to a WTW, and then it is pumped to 4 reservoirs which will reticulate to standpipes. A typical rudimentary scheme where water is pumped from a borehole to reservoirs and then gravitates to standpipes can be seen in figure 9. Figure 10 illustrates an area where households are isolated in an area away from densely populated areas. This area has been provided with an alternate supply scheme of boreholes with hand pumps as it is not feasible to construct a reservoir and supply them with stand pipes.

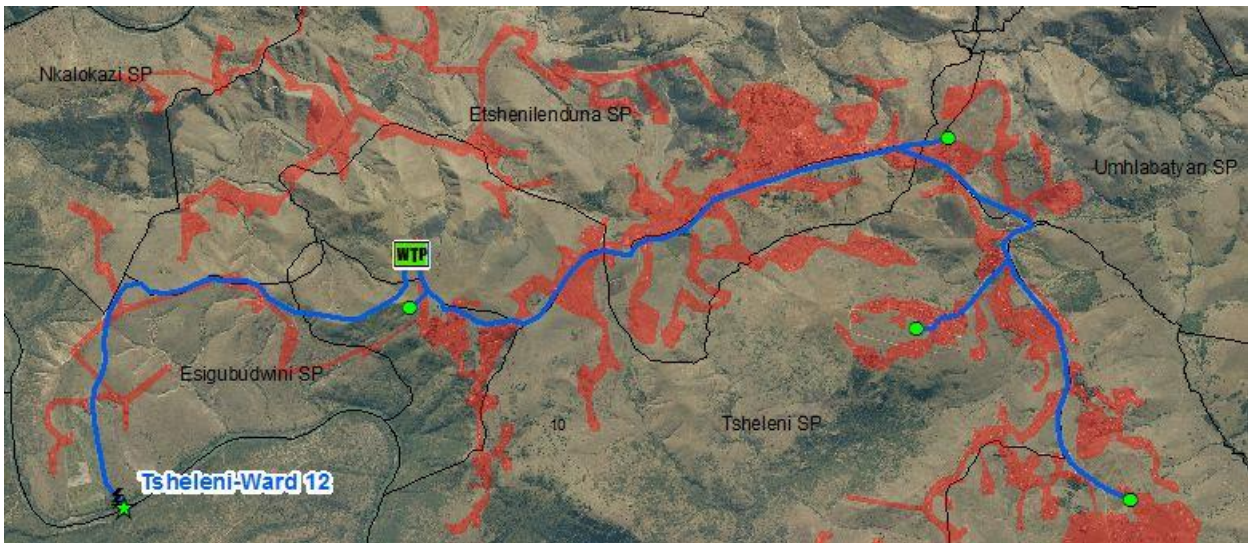


Figure 8: WTW to Reservoirs Scheme

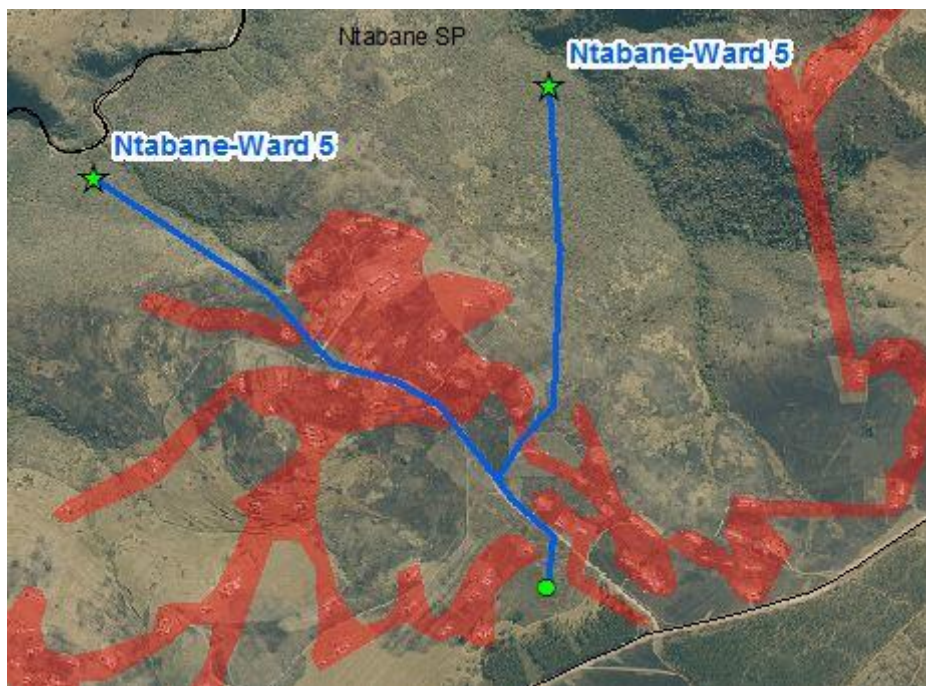


Figure 9: Borehole to Reservoir Scheme

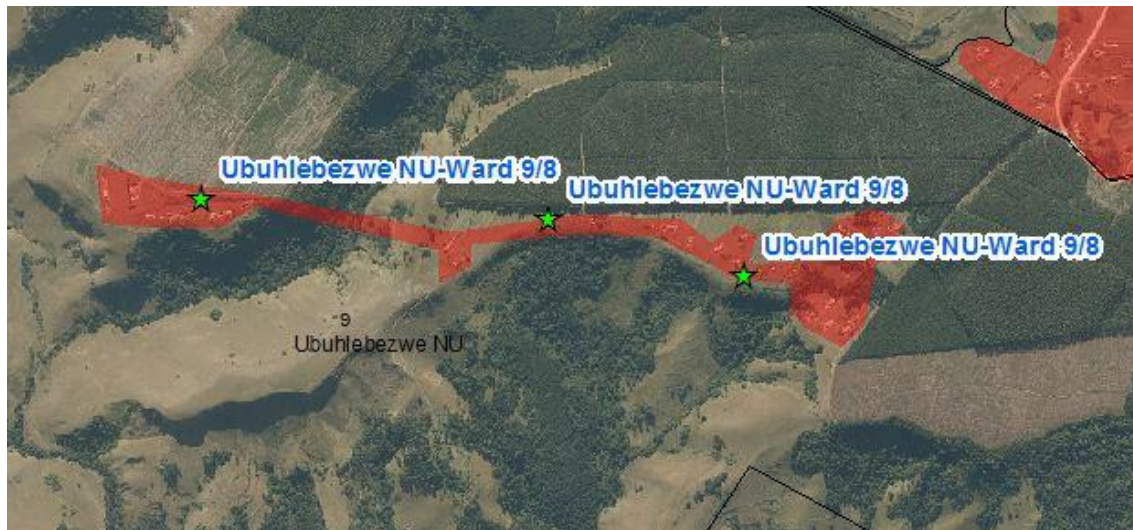


Figure 10: Borehole with Hand Pumps Scheme

## 9.2 Assumptions

In order to provide cost the water and sanitation backlogs, certain assumptions had to be made and are these are as follows:

### 9.2.1 Water

- 6 people per household;
- Reservoirs have a minimum storage capacity of 48 hrs;
- All reservoir pipework included in the cost of reservoir;
- All SCADA and electrical included in cost of reservoir;
- Reservoirs are concrete;
- All existing boreholes are functional;
- New borehole depths range from 100m to 200m;
- Water quality is good;
- Assume that yield and water quality testing are included in the cost of the borehole;
- Diameter of boreholes 150mm – 200mm with steel casting;
- All electrical pumps associated with the boreholes are included in the cost;
- All schemes have some form of power supply;
- Existing schemes have the potential to be upgraded;
- Reticulation costs are estimated at 40% of the overall bulk infrastructure costs;
- Reticulation pipes range from 25mm to 75mm dia. HDPE;
- No house connections are costed in proposed schemes;
- All end connections are standpipe connections not exceeding 200m;

- Where areas are extremely rural and scattered, then boreholes with hand pumps are proposed;
- All bulk pipelines range from 75mm to 250mm uPVC;
- Positions/location of reservoirs, boreholes, pump stations/booster pump stations, water treatment works/package plants and bulk lines are subject to change after a full pre-feasibility study has been undertaken.

### 9.2.2 Sanitation

- All sanitation backlogs are based on Ventilated Improved Pit (VIP).

### 9.3 Infrastructure Water & Sanitation Costs

The water demand was determined based on the household annual income. Table 11 below indicates the daily demand per capita required for the different categories of household income. The income values used was obtained from Stats SA Census 2011 data. The data reflects income at a Sub Place level and due to this, additional verification was done on the households without water as some of them fall in high income areas such as category 1 and 2. These categories were manually updated by looking at the surrounding Sub Place income categories and by spatial imagery depicting the type of dwelling. Refer to Maps 12, 17, 20, and 23 in Annexure B for the illustration of the proposed alternate schemes in each of the LMs and to Map 10 for an illustration of the Household Income Categories.

**Table 11: Demand based on Household Income**

Category	Description of consumer category	Household Annual Income range	Per capita cons (l/c/d)		
			Min	Ave.	Max.
1	Very High Income; villas, large detached house, large luxury flats	>R1 228 000	320	410	500
2	Upper middle income: detached houses, large flats	R153 601 –R 1 228 000	240	295	350
3	Average Middle Income: 2 - 3 bedroom houses or flats with 1 or 2 WC, kitchen, and one bathroom, shower	R38 401 – R153 600	180	228	275
4	Low middle Income: Small houses or flats with WC, one kitchen, one bathroom	R9 601– R38 400	120	170	220
5	Low income: flatlets, bedsits with kitchen & bathroom, informal household	R1- R9600	60	100	140
6	No income & informal supplies with yard connections	R-	60	80	100

Category	Description of consumer category	Household Annual Income range	Per capita cons (l/c/d)		
			Min	Ave.	Max.
7	Informal with no formal connection	R-	30	50	70
8	Informal below 25 l/c/d	R-	0	12	25

### 9.3.1 Water Costs

Table 12 indicates the estimated water infrastructural costs for the short term interventions in each LM for the Harry Gwala District Municipality. The rates used to compile these costs were obtained from the Umgeni Water terms of reference, as well as from rates used internally on other projects. A detailed list for the costing of infrastructure is provided in the geodatabase that is provided in conjunction with this report. The total cost to eradicate backlogs in Harry Gwala District Municipality for the 103 proposed alternate schemes is approximately R1.103 Billion. A summarised list of the infrastructure in each proposed scheme and the cost associated to it is listed in Table 15. It must be noted that Greater Kokstad has no water intervention/ backlogs due to the majority of the area is privately owned (Farm Lands). KwaSani LM has a small area that requires interventions but again majority of the area is privately owned (Farm Lands). The other three LM's require short term interventions.

The projects listed in the Integrated Development Plan and those set out by DWA which are shown in Annexure A and D are regional bulk schemes which are long term solutions to address backlogs and improve current water and sanitation infrastructure. These projects have are funded through the Municipal Infrastructure Grant and Municipal Water Infrastructure Grant which we have not considered when proposing conceptual alternate schemes to eradicate current backlogs. There could be overlapping of the proposed conceptual schemes to the regional bulk schemes and thus overlapping of infrastructure costs. The main reason that infrastructure cost could be overlapped is due to our mandate to develop conceptual schemes to eradicate the backlogs identified at the engagement meeting with the district municipalities. The staff could not identify the boundaries of the regional bulk schemes nor provide information on start and completion dates.

Table 12: Water Infrastructural Costs

Local Municipality	Total
Ingwe LM	R 319 485 417
KwaSani LM	R 18 825 721
Ubhlebezwe	R 385 397 799
Umzimkhulu LM	R 379 221 456
<b>Total</b>	<b>R 1 102 930 393</b>

### 9.3.2 Sanitation Costs

Table 13 indicates the estimated sanitation infrastructural costs for Ventilated Improved Pits. These costs have been derived from the service provider's monthly reports which indicate the rate per VIP. The total number of households that have backlogs was also extracted from these reports and used to calculate the cost to eradicate sanitation backlogs. The total cost to eradicate backlogs in Harry Gwala District Municipality is approximately R141 Million. The backlogs in the Greater Kokstad and Kwa Sani LMs have to date already been eradicated, hence there is no cost associated with these LMs.

Table 13: Sanitation Infrastructural Costs

LM Name	Rate/VIP	Remaining Expenditure
Greater Kokstad	R -	R -
KwaSani	R -	R -
Umzimkhulu	R 6 650	R 75 264 700
uBuhlebezwe	R 6 000	R 30 282 000
Ingwe	R 6 800	R 35 434 800
<b>Totals</b>	<b>R -</b>	<b>R 140 981 500</b>



## 9.4 Five Year Budget Plan for Water and Sanitation

Table 14 indicates the estimated short term budget expenditure. This estimate is based on the current sanitation projects currently being undertaken. The estimated expenditure per year for the next five (5) years is based on the average expenditure over the last 5 years from the three service providers that are currently undertaking and eradicating the backlogs in the three (3) LM's.

Water cost estimates are based on a straight line over the next five years without any infrastructural expenditure in this current financial year besides planning and or feasibility study fees. The estimated feasibility study fees are based on 5% of the estimated construction cost. The total cost with the study fees for the proposed water schemes is approximately R1.16 Billion. Escalation is estimated at 10% per year.

It must be noted that the identified short term schemes could be completed within 5 years if feasibility studies are undertaken in this financial year subject to Harry Gwala District Municipality having the funds to undertake these studies. The total cumulative cost for water and sanitation over the 5 years is approximately R1.42 Billion which includes 10% escalation. This is to eradicate water backlogs by means of the 103 proposed schemes, and to eradicate sanitation backlogs accordingly. This projection over 5 years is subject to change if necessary. An illustration of the cumulative costing for the five years can be seen in figure 11 below.

**Table 14: Five Year Budget Plan for Water & Sanitation**

Local Municipality	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
Greater Kokstad (Water)	R -	R -	R -	R -	R -	R -
Greater Kokstad (Sanitation)	R -	R -	R -	R -	R -	R -
Ingwe (Water)	R 15 974 271	R 63 897 083	R 63 897 083	R 63 897 083	R 63 897 083	R 63 897 083
Ingwe (Sanitation)	R 15 406 435	R 15 406 435	R 4 621 930	R -	R -	R -
KwaSani (Water)	R 941 286	R 18 825 721	R -	R -	R -	R -
KwaSani (Sanitation)	R -	R -	R -	R -	R -	R -
uBuhlebezwe (Water)	R 19 269 890	R 77 079 560	R 77 079 560	R 77 079 560	R 77 079 560	R 77 079 560
uBuhlebezwe (Sanitation)	R 15 141 000	R 15 141 000	R -	R -	R -	R -
Umzimkhulu (Water)	R 18 961 073	R 41 468 239	R 41 468 239	R 41 468 239	R 41 468 239	R 41 468 239
Umzimkhulu (Sanitation)	R 15 052 940	R 15 052 940	R 15 052 940	R 15 052 940	R 15 052 940	R -
<b>Totals</b>	<b>R 100 746 894</b>	<b>R 281 247 030</b>	<b>R 236 495 805</b>	<b>R 231 873 874</b>	<b>R 231 873 874</b>	<b>R 216 820 934</b>
<b>Escalation (10%)</b>	<b>R -</b>	<b>R 309 371 733</b>	<b>R 260 145 385</b>	<b>R 255 061 262</b>	<b>R 255 061 262</b>	<b>R 238 503 028</b>
<b>Cumulative Total</b>	<b>R 100 746 894</b>	<b>R 410 118 628</b>	<b>R 670 264 013</b>	<b>R 925 325 275</b>	<b>R 1 180 386 537</b>	<b>R 1 418 889 564</b>

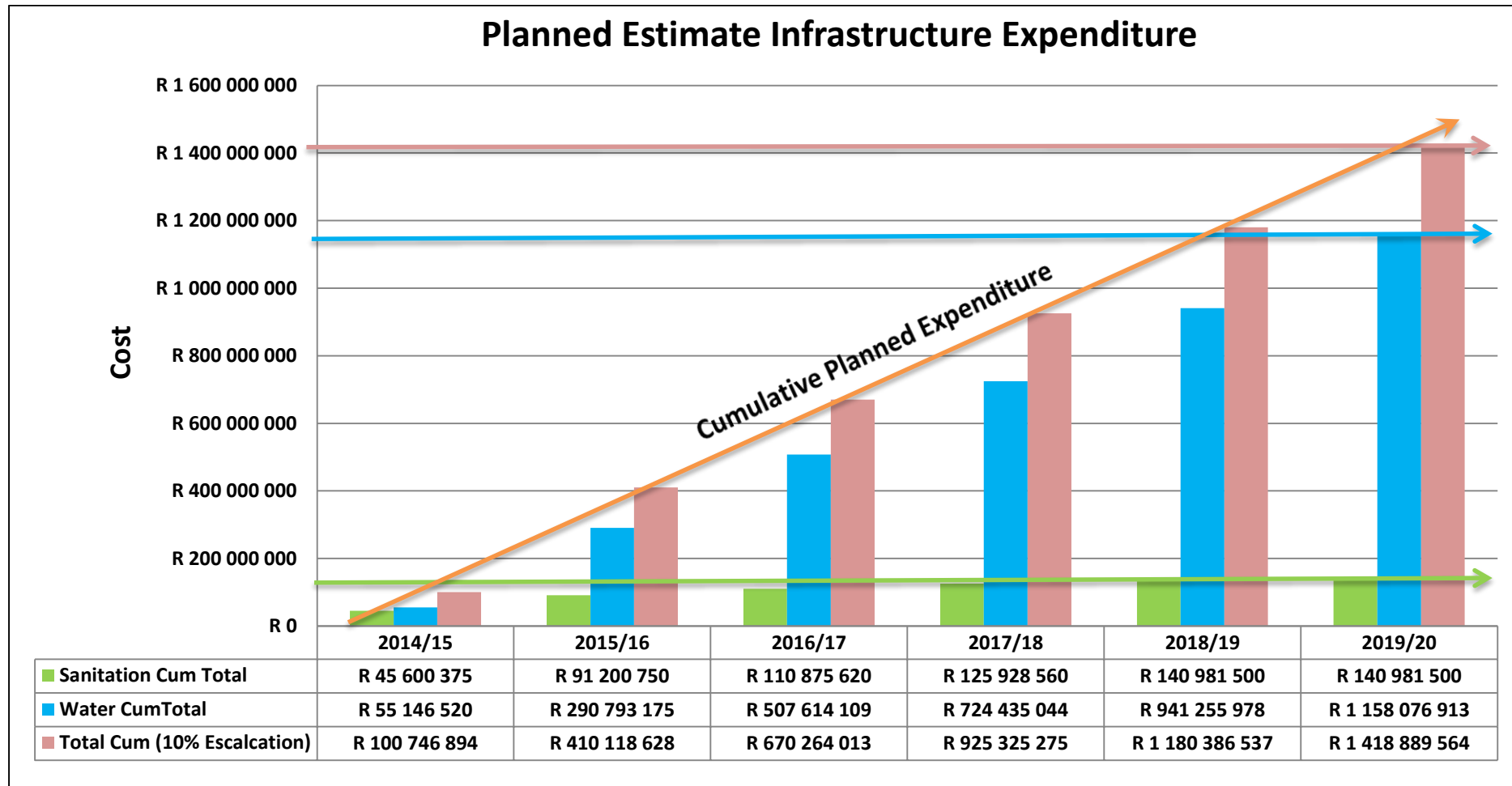


Figure 11: Water and Sanitation 5 Year Budget Plan

Table 15: Proposed Alternate Schemes

Scheme Name	Type	Name	Local Municipality	Infrastructure Cost	Total Cost
Mqatsheni-Ward 1/1	Borehole	Borehole 01 UAP1	KwaSani LM	R 300 000	
Mqatsheni-Ward 1/1	Borehole	Borehole 02 UAP1	KwaSani LM	R 300 000	
Mqatsheni-Ward 1/1	Borehole	Borehole 03 UAP1	KwaSani LM	R 300 000	
Mqatsheni-Ward 1/1	Reservoir	Res UAP1	KwaSani LM	R 1 717 897	
Mqatsheni-Ward 1/1	Bulk Line	Boreholes UAP1	KwaSani LM	R 268 637	
Mqatsheni-Ward 1/1	Bulk Line	Boreholes UAP1	KwaSani LM	R 321 819	
Mqatsheni-Ward 1/1	Bulk Line	Boreholes UAP1	KwaSani LM	R 399 487	
Mqatsheni-Ward 1/1	Reticulation	RET_UAP1	KwaSani LM	R 1 443 136	
<b>Mqatsheni-Ward 1/1</b>	<b>Total</b>				<b>R 5 050 976</b>
Emnywaneni-Ward 6	Borehole	Borehole 01 UAP10	Ingwe LM	R 300 000	
Emnywaneni-Ward 6	Borehole	Borehole 01 UAP10	Ingwe LM	R 300 000	
Emnywaneni-Ward 6	Borehole	Borehole 01 UAP10	Ingwe LM	R 300 000	
Emnywaneni-Ward 6	Reservoir	Res UAP10	Ingwe LM	R 1 120 431	
Emnywaneni-Ward 6	Bulk Line	Boreholes UAP10	Ingwe LM	R 369 837	
Emnywaneni-Ward 6	Bulk Line	Boreholes UAP10	Ingwe LM	R 149 927	
Emnywaneni-Ward 6	Bulk Line	Boreholes UAP10	Ingwe LM	R 428 667	
Emnywaneni-Ward 6	Reticulation	RET_UAP10	Ingwe LM	R 1 187 545	
<b>Emnywaneni-Ward 6</b>	<b>Total</b>				<b>R 4 156 407</b>
Sawoti-Ward 6	Borehole	Borehole 01 UAP11	Ingwe LM	R 270 000	
Sawoti-Ward 6	Borehole	Borehole 02 UAP11	Ingwe LM	R 270 000	
Sawoti-Ward 6	Borehole	Borehole 03 UAP11	Ingwe LM	R 270 000	
<b>Sawoti-Ward 6</b>	<b>Total</b>				<b>R 810 000</b>
Eziphahleni-Ward 8	Borehole	Borehole 01 UAP12	Ingwe LM	R 270 000	

Development of UAP for Water & Sanitation in Kwazulu-Natal



Scheme Name	Type	Name	Local Municipality	Infrastructure Cost	Total Cost
Eziphahleni-Ward 8	Borehole	Borehole 02 UAP12	Ingwe LM	R 270 000	
Eziphahleni-Ward 8	Borehole	Borehole 03 UAP12	Ingwe LM	R 270 000	
Eziphahleni-Ward 8	Borehole	Borehole 04 UAP12	Ingwe LM	R 270 000	
Eziphahleni-Ward 8	Borehole	Borehole 05 UAP12	Ingwe LM	R 270 000	
Eziphahleni-Ward 8	Borehole	Borehole 06 UAP12	Ingwe LM	R 270 000	
Eziphahleni-Ward 8	Borehole	Borehole 07 UAP12	Ingwe LM	R 270 000	
Eziphahleni-Ward 8	Borehole	Borehole 08 UAP12	Ingwe LM	R 270 000	
<b>Eziphahleni-Ward 8</b>	<b>Total</b>				<b>R 2 160 000</b>
Mahoho-Ward 8	Borehole	Borehole 01 UAP13	Ingwe LM	R 270 000	
Mahoho-Ward 8	Borehole	Borehole 02 UAP13	Ingwe LM	R 270 000	
Mahoho-Ward 8	Borehole	Borehole 03 UAP13	Ingwe LM	R 270 000	
Mahoho-Ward 8	Borehole	Borehole 04 UAP13	Ingwe LM	R 270 000	
Mahoho-Ward 8	Borehole	Borehole 05 UAP13	Ingwe LM	R 270 000	
Mahoho-Ward 8	Borehole	Borehole 06 UAP13	Ingwe LM	R 270 000	
<b>Mahoho-Ward 8</b>	<b>Total</b>				<b>R 1 620 000</b>
KwaMnyamana-Ward 8/1	Borehole	Borehole 01 UAP14	Ingwe LM	R 270 000	
KwaMnyamana-Ward 8/1	Borehole	Borehole 02 UAP14	Ingwe LM	R 270 000	
KwaMnyamana-Ward 8/1	Borehole	Borehole 03 UAP14	Ingwe LM	R 270 000	
KwaMnyamana-Ward 8/1	Borehole	Borehole 04 UAP14	Ingwe LM	R 270 000	
<b>KwaMnyamana-Ward 8/1</b>	<b>Total</b>				<b>R 1 080 000</b>
KwaMnyamana-Ward 8/2	Borehole	Borehole 01 UAP15	Ingwe LM	R 270 000	
KwaMnyamana-Ward 8/2	Borehole	Borehole 02 UAP15	Ingwe LM	R 270 000	
KwaMnyamana-Ward 8/2	Borehole	Borehole 03 UAP15	Ingwe LM	R 270 000	
KwaMnyamana-Ward 8/2	Borehole	Borehole 05 UAP15	Ingwe LM	R 270 000	

Development of UAP for Water & Sanitation in Kwazulu-Natal



Scheme Name	Type	Name	Local Municipality	Infrastructure Cost	Total Cost
KwaMnyamana-Ward 8/2	Borehole	Borehole 04 UAP15	Ingwe LM	R 270 000	
KwaMnyamana-Ward 8/2	Borehole	Borehole 06 UAP15	Ingwe LM	R 270 000	
KwaMnyamana-Ward 8/2	Borehole	Borehole 07 UAP15	Ingwe LM	R 270 000	
KwaMnyamana-Ward 8/2	Borehole	Borehole 08 UAP15	Ingwe LM	R 270 000	
KwaMnyamana-Ward 8/2	Borehole	Borehole 01 UAP15	Ingwe LM	R 270 000	
KwaMnyamana-Ward 8/2	Borehole	Borehole 02 UAP15	Ingwe LM	R 270 000	
<b>KwaMnyamana-Ward 8/2</b>	<b>Total</b>				<b>R 2 700 000</b>
Macabazini-Ward 10	Borehole	Borehole 02 UAP16	Ingwe LM	R 270 000	
Macabazini-Ward 10	Borehole	Borehole 01 UAP16	Ingwe LM	R 270 000	
Macabazini-Ward 10	Borehole	Borehole 03 UAP16	Ingwe LM	R 270 000	
Macabazini-Ward 10	Borehole	Borehole 05 UAP16	Ingwe LM	R 270 000	
Macabazini-Ward 10	Borehole	Borehole 04 UAP16	Ingwe LM	R 270 000	
Macabazini-Ward 10	Borehole	Borehole 06 UAP16	Ingwe LM	R 270 000	
Macabazini-Ward 10	Borehole	Borehole 07 UAP16	Ingwe LM	R 270 000	
Macabazini-Ward 10	Borehole	Borehole 08 UAP16	Ingwe LM	R 270 000	
Macabazini-Ward 10	Borehole	Borehole 09 UAP16	Ingwe LM	R 270 000	
Macabazini-Ward 10	Borehole	Borehole 10 UAP16	Ingwe LM	R 270 000	
Macabazini-Ward 10	Borehole	Borehole 11 UAP16	Ingwe LM	R 270 000	
<b>Macabazini-Ward 10</b>	<b>Total</b>				<b>R 2 970 000</b>
Ingwe NU-Ward 7/1	Borehole	Borehole 01 UAP17	Ingwe LM	R 270 000	
Ingwe NU-Ward 7/1	Borehole	Borehole 02 UAP17	Ingwe LM	R 270 000	
Ingwe NU-Ward 7/1	Borehole	Borehole 03 UAP17	Ingwe LM	R 270 000	
Ingwe NU-Ward 7/1	Borehole	Borehole 04 UAP17	Ingwe LM	R 270 000	
<b>Ingwe NU-Ward 7/1</b>	<b>Total</b>				<b>R 1 080 000</b>

Development of UAP for Water & Sanitation in Kwazulu-Natal

Scheme Name	Type	Name	Local Municipality	Infrastructure Cost	Total Cost
Nkumba-Ward 10	Borehole	Borehole 01 UAP18	Ingwe LM	R 270 000	
Nkumba-Ward 10	Borehole	Borehole 02 UAP18	Ingwe LM	R 270 000	
Nkumba-Ward 10	Borehole	Borehole 03 UAP18	Ingwe LM	R 270 000	
Nkumba-Ward 10	Borehole	Borehole 04 UAP18	Ingwe LM	R 270 000	
Nkumba-Ward 10	Borehole	Borehole 05 UAP18	Ingwe LM	R 270 000	
Nkumba-Ward 10	Borehole	Borehole 06 UAP18	Ingwe LM	R 270 000	
Nkumba-Ward 10	Borehole	Borehole 07 UAP18	Ingwe LM	R 270 000	
Nkumba-Ward 10	Borehole	Borehole 09 UAP18	Ingwe LM	R 270 000	
Nkumba-Ward 10	Borehole	Borehole 08 UAP18	Ingwe LM	R 270 000	
Nkumba-Ward 10	Borehole	Borehole 10 UAP18	Ingwe LM	R 270 000	
Nkumba-Ward 10	Borehole	Borehole 11 UAP18	Ingwe LM	R 270 000	
<b>Nkumba-Ward 10</b>	<b>Total</b>				<b>R 2 970 000</b>
Mqondekweni-Ward 3	Borehole	Borehole 01 UAP19	Ingwe LM	R 300 000	
Mqondekweni-Ward 3	Borehole	Borehole 02 UAP19	Ingwe LM	R 300 000	
Mqondekweni-Ward 3	Reservoir	Res UAP19	Ingwe LM	R 1 419 164	
Mqondekweni-Ward 3	Bulk Line	Boreholes 02 UAP19	Ingwe LM	R 200 521	
Mqondekweni-Ward 3	Bulk Line	Boreholes 01 UAP19	Ingwe LM	R 685 120	
Mqondekweni-Ward 3	Reticulation	RET_UAP19	Ingwe LM	R 1 161 922	
<b>Mqondekweni-Ward 3</b>	<b>Total</b>				<b>R 4 066 728</b>
Mqatsheni-Ward 1/2	Borehole	Borehole 01 UAP2	KwaSani LM	R 300 000	
Mqatsheni-Ward 1/2	Borehole	Borehole 02 UAP2	KwaSani LM	R 300 000	
Mqatsheni-Ward 1/2	Borehole	Borehole 03 UAP2	KwaSani LM	R 300 000	
Mqatsheni-Ward 1/2	Borehole	Borehole 04 UAP2	KwaSani LM	R 300 000	
Mqatsheni-Ward 1/2	Reservoir	Res UAP2	KwaSani LM	R 1 717 897	

Development of UAP for Water & Sanitation in Kwazulu-Natal



Scheme Name	Type	Name	Local Municipality	Infrastructure Cost	Total Cost
Mqatsheni-Ward 1/2	Bulk Line	Boreholes UAP2	KwaSani LM	R 344 858	
Mqatsheni-Ward 1/2	Bulk Line	Boreholes UAP2	KwaSani LM	R 788 376	
Mqatsheni-Ward 1/2	Bulk Line	Boreholes UAP2	KwaSani LM	R 602 643	
Mqatsheni-Ward 1/2	Bulk Line	Boreholes UAP2	KwaSani LM	R 1 059 403	
Mqatsheni-Ward 1/2	Reticulation	RET_UAP2	KwaSani LM	R 2 285 271	
<b>Mqatsheni-Ward 1/2</b>	<b>Total</b>				<b>R 7 998 449</b>
Gala-Ward 3	Borehole	Borehole 01 UAP20	Ingwe LM	R 300 000	
Gala-Ward 3	Borehole	Borehole 02 UAP20	Ingwe LM	R 300 000	
Gala-Ward 3	Bulk Line	Boreholes 1 UAP20	Ingwe LM	R 452 701	
Gala-Ward 3	Bulk Line	Boreholes 2 UAP20	Ingwe LM	R 442 479	
Gala-Ward 3	Reservoir	Res 01 UAP20	Ingwe LM	R 656 852	
Gala-Ward 3	Reticulation	RET_UAP20	Ingwe LM	R 860 812	
<b>Gala-Ward 3</b>	<b>Total</b>				<b>R 3 012 843</b>
Makhuzeni-Ward 11	Borehole	Borehole 01 UAP21	Ingwe LM	R 270 000	
Makhuzeni-Ward 11	Borehole	Borehole 03 UAP21	Ingwe LM	R 270 000	
Makhuzeni-Ward 11	Borehole	Borehole 02 UAP21	Ingwe LM	R 270 000	
Makhuzeni-Ward 11	Borehole	Borehole 04 UAP21	Ingwe LM	R 270 000	
Makhuzeni-Ward 11	Borehole	Borehole 05 UAP21	Ingwe LM	R 270 000	
<b>Makhuzeni-Ward 11</b>	<b>Total</b>				<b>R 1 350 000</b>
Tarsvally-Ward 11	Reservoir	Tarsvaly-Res UAP22	Ingwe LM	R 1 717 897	
<b>Tarsvally-Ward 11</b>	<b>Total</b>				<b>R 1 717 897</b>
Ingwe NU-Ward 7/2	Borehole	Borehole 01 UAP23	Ingwe LM	R 270 000	
Ingwe NU-Ward 7/2	Borehole	Borehole 02 UAP23	Ingwe LM	R 270 000	
Ingwe NU-Ward 7/2	Borehole	Borehole 03 UAP23	Ingwe LM	R 270 000	



Development of UAP for Water & Sanitation in Kwazulu-Natal



Scheme Name	Type	Name	Local Municipality	Infrastructure Cost	Total Cost
<b>Ingwe NU-Ward 7/2</b>	<b>Total</b>				<b>R 810 000</b>
Ingwe NU-Ward 7/3	Borehole	Borehole 01 UAP24	Ingwe LM	R 270 000	
Ingwe NU-Ward 7/3	Borehole	Borehole 02 UAP24	Ingwe LM	R 270 000	
Ingwe NU-Ward 7/3	Borehole	Borehole 03 UAP24	Ingwe LM	R 270 000	
Ingwe NU-Ward 7/3	Borehole	Borehole 04 UAP24	Ingwe LM	R 270 000	
Ingwe NU-Ward 7/3	Borehole	Borehole 05 UAP24	Ingwe LM	R 270 000	
<b>Ingwe NU-Ward 7/3</b>	<b>Total</b>				<b>R 1 350 000</b>
Elukhashini-Ward 1	Borehole	Borehole 01 UAP25	Umzimkhulu LM	R 300 000	
Elukhashini-Ward 1	Borehole	Borehole 02 UAP25	Umzimkhulu LM	R 300 000	
Elukhashini-Ward 1	Reservoir	Res UAP25	Umzimkhulu LM	R 1 717 897	
Elukhashini-Ward 1	Bulk Line	Borehole 1 UAP 25	Umzimkhulu LM	R 1 058 140	
Elukhashini-Ward 1	Bulk Line	Borehole 2 UAP 25	Umzimkhulu LM	R 1 679 629	
Elukhashini-Ward 1	Reticulation	RET_UAP25	Umzimkhulu LM	R 2 022 266	
<b>Elukhashini-Ward 1</b>	<b>Total</b>				<b>R 7 077 932</b>
Thenti-Ward 2	Borehole	Borehole 02 UAP26	Umzimkhulu LM	R 270 000	
Thenti-Ward 2	Borehole	Borehole 01 UAP26	Umzimkhulu LM	R 270 000	
<b>Thenti-Ward 2</b>	<b>Total</b>				<b>R 540 000</b>
Matshetsha-Ward 3	Borehole	Borehole 01 UAP27	Umzimkhulu LM	R 270 000	
<b>Matshetsha-Ward 3</b>	<b>Total</b>				<b>R 270 000</b>
Marambeni-Ward 4	Borehole	Borehole 01 UAP28	Umzimkhulu LM	R 270 000	
Marambeni-Ward 4	Borehole	Borehole 02 UAP28	Umzimkhulu LM	R 270 000	
Marambeni-Ward 4	Borehole	Borehole 03 UAP28	Umzimkhulu LM	R 270 000	
<b>Marambeni-Ward 4</b>	<b>Total</b>				<b>R 810 000</b>
KwaDluni-Ward 4	Borehole	Borehole 01 UAP29	Umzimkhulu LM	R 270 000	

Development of UAP for Water & Sanitation in Kwazulu-Natal



Scheme Name	Type	Name	Local Municipality	Infrastructure Cost	Total Cost
KwaDluni-Ward 4	Borehole	Borehole 02 UAP29	Umzimkhulu LM	R 270 000	
KwaDluni-Ward 4	Borehole	Borehole 03 UAP29	Umzimkhulu LM	R 270 000	
KwaDluni-Ward 4	Borehole	Borehole 04 UAP29	Umzimkhulu LM	R 270 000	
<b>KwaDluni-Ward 4</b>	<b>Total</b>				<b>R 1 080 000</b>
Mqatsheni-Ward 1/3	Borehole	Borehole 01 UAP3	KwaSani LM	R 300 000	
Mqatsheni-Ward 1/3	Borehole	Borehole 02 UAP3	KwaSani LM	R 300 000	
Mqatsheni-Ward 1/3	Borehole	Borehole 03 UAP3	KwaSani LM	R 300 000	
Mqatsheni-Ward 1/3	Reservoir	Res UAP3	KwaSani LM	R 1 717 897	
Mqatsheni-Ward 1/3	Bulk Line	Boreholes UAP3	KwaSani LM	R 695 008	
Mqatsheni-Ward 1/3	Bulk Line	Boreholes UAP3	KwaSani LM	R 277 812	
Mqatsheni-Ward 1/3	Bulk Line	Boreholes UAP3	KwaSani LM	R 535 209	
Mqatsheni-Ward 1/3	Reticulation	RET_UAP3	KwaSani LM	R 1 650 370	
<b>Mqatsheni-Ward 1/3</b>	<b>Total</b>				<b>R 5 776 296</b>
Malenge-Ward 4	Borehole	Borehole 01 UAP30	Umzimkhulu LM	R 300 000	
Malenge-Ward 4	Borehole	Borehole 02 UAP30	Umzimkhulu LM	R 300 000	
Malenge-Ward 4	Borehole	Borehole 03 UAP30	Umzimkhulu LM	R 300 000	
Malenge-Ward 4	Borehole	Borehole 04 UAP30	Umzimkhulu LM	R 300 000	
Malenge-Ward 4	Reservoir	Res 01 UAP30	Umzimkhulu LM	R 567 752	
Malenge-Ward 4	Reservoir	Res 01 UAP30	Umzimkhulu LM	R 567 752	
Malenge-Ward 4	Bulk Line	Borehole 01 UAP 30	Umzimkhulu LM	R 157 558	
Malenge-Ward 4	Bulk Line	Borehole 02 UAP 30	Umzimkhulu LM	R 589 496	
Malenge-Ward 4	Bulk Line	Borehole 03 UAP 30	Umzimkhulu LM	R 493 254	
Malenge-Ward 4	Bulk Line	Borehole 04 UAP 30	Umzimkhulu LM	R 566 330	
Malenge-Ward 4	Reticulation	RET_UAP30	Umzimkhulu LM	R 1 656 857	

Development of UAP for Water & Sanitation in Kwazulu-Natal



Scheme Name	Type	Name	Local Municipality	Infrastructure Cost	Total Cost
<b>Malenge-Ward 4</b>	<b>Total</b>				<b>R 5 798 999</b>
Singisi-Ward 8	Spring	Spring 01 UAP31	Umzimkhulu LM	R 300 000	
Singisi-Ward 8	Reservoir	Tank UAP31	Umzimkhulu LM	R 1 419 164	
Singisi-Ward 8	Bulk Line	Spring UAP31	Umzimkhulu LM	R 304 381	
Singisi-Ward 8	Reticulation	RET_UAP31	Umzimkhulu LM	R 809 418	
<b>Singisi-Ward 8</b>	<b>Total</b>				<b>R 2 832 964</b>
Dressini-Ward 8	Borehole	Borehole 01 UAP32	Umzimkhulu LM	R 300 000	
Dressini-Ward 8	Borehole	Borehole 02 UAP32	Umzimkhulu LM	R 300 000	
Dressini-Ward 8	Reservoir	Res UAP32	Umzimkhulu LM	R 2 197 636	
Dressini-Ward 8	Bulk Line	Borehole 01 UAP32	Umzimkhulu LM	R 386 253	
Dressini-Ward 8	Bulk Line	Borehole 02 UAP32	Umzimkhulu LM	R 703 282	
Dressini-Ward 8	Reticulation	RET_UAP32	Umzimkhulu LM	R 1 554 869	
<b>Dressini-Ward 8</b>	<b>Total</b>				<b>R 5 442 040</b>
Driefontein-Ward 8/1	Borehole	Borehole 01 UAP33	Umzimkhulu LM	R 270 000	
Driefontein-Ward 8/1	Borehole	Borehole 02 UAP33	Umzimkhulu LM	R 270 000	
Driefontein-Ward 8/1	Borehole	Borehole 03 UAP33	Umzimkhulu LM	R 270 000	
Driefontein-Ward 8/1	Borehole	Borehole 04 UAP33	Umzimkhulu LM	R 270 000	
Driefontein-Ward 8/1	Borehole	Borehole 05 UAP33	Umzimkhulu LM	R 270 000	
Driefontein-Ward 8/1	Borehole	Borehole 06 UAP33	Umzimkhulu LM	R 270 000	
<b>Driefontein-Ward 8/1</b>	<b>Total</b>				<b>R 1 620 000</b>
Lukalweni-Ward 5	Borehole	Borehole 01 UAP34	Umzimkhulu LM	R 270 000	
Lukalweni-Ward 5	Borehole	Borehole 02 UAP34	Umzimkhulu LM	R 270 000	
Lukalweni-Ward 5	Borehole	Borehole 03 UAP34	Umzimkhulu LM	R 270 000	
<b>Lukalweni-Ward 5</b>	<b>Total</b>				<b>R 810 000</b>

Development of UAP for Water & Sanitation in Kwazulu-Natal



Scheme Name	Type	Name	Local Municipality	Infrastructure Cost	Total Cost
Nkomeni-Ward 5	Borehole	Borehole 01 UAP35	Umzimkhulu LM	R 300 000	
Nkomeni-Ward 5	Borehole	Borehole 02 UAP35	Umzimkhulu LM	R 300 000	
Nkomeni-Ward 5	Reservoir	Res 01 UAP35	Umzimkhulu LM	R 1 120 431	
Nkomeni-Ward 5	Reservoir	Res 02 UAP35	Umzimkhulu LM	R 1 120 431	
Nkomeni-Ward 5	Bulk Line	Res 01 UAP35	Umzimkhulu LM	R 381 653	
Nkomeni-Ward 5	Bulk Line	Borehole 01 UAP35	Umzimkhulu LM	R 490 416	
Nkomeni-Ward 5	Bulk Line	Borehole 02 UAP35	Umzimkhulu LM	R 160 729	
Nkomeni-Ward 5	Reticulation	RET_UAP35	Umzimkhulu LM	R 1 549 465	
<b>Nkomeni-Ward 5</b>	<b>Total</b>				<b>R 5 423 127</b>
Esibovini-Ward 6	Borehole	Borehole UAP36	Umzimkhulu LM	R 300 000	
<b>Esibovini-Ward 6</b>	<b>Total</b>				<b>R 300 000</b>
Thonjeni-Ward 5	Borehole	Borehole UAP37	Umzimkhulu LM	R 270 000	
<b>Thonjeni-Ward 5</b>	<b>Total</b>				<b>R 270 000</b>
Siriya-Ward 5	Borehole	Borehole 01 UAP38	Umzimkhulu LM	R 270 000	
Siriya-Ward 5	Borehole	Borehole 02 UAP38	Umzimkhulu LM	R 270 000	
Siriya-Ward 5	Borehole	Borehole 03 UAP38	Umzimkhulu LM	R 270 000	
<b>Siriya-Ward 5</b>	<b>Total</b>				<b>R 810 000</b>
Magangxosini-Ward 5	Borehole	Borehole 02 UAP39	Umzimkhulu LM	R 300 000	
Magangxosini-Ward 5	Borehole	Borehole 01 UAP39	Umzimkhulu LM	R 300 000	
Magangxosini-Ward 5	Reservoir	Res UAP39	Umzimkhulu LM	R 1 120 431	
Magangxosini-Ward 5	Bulk Line	Borehole 01 UAP 39	Umzimkhulu LM	R 480 516	
Magangxosini-Ward 5	Bulk Line	Borehole 02 UAP 39	Umzimkhulu LM	R 651 625	
Magangxosini-Ward 5	Reticulation	RET_UAP39	Umzimkhulu LM	R 1 141 029	
<b>Magangxosini-Ward 5</b>	<b>Total</b>				<b>R 3 993 602</b>

Development of UAP for Water & Sanitation in Kwazulu-Natal



Scheme Name	Type	Name	Local Municipality	Infrastructure Cost	Total Cost
Mashayilanga-Ward 1	Reservoir	Res 01 UAP4	Ingwe LM	R 2 677 374	
Mashayilanga-Ward 1	Reservoir	Res 02 UAP4	Ingwe LM	R 2 677 374	
Mashayilanga-Ward 1	Reservoir	Res 03 UAP4	Ingwe LM	R 2 677 374	
Mashayilanga-Ward 1	Reservoir	Res 04 UAP4	Ingwe LM	R 2 677 374	
Mashayilanga-Ward 1	Reservoir	Res 05 UAP4	Ingwe LM	R 2 677 374	
Mashayilanga-Ward 1	Bulk Line	WTW_UAP4	Ingwe LM	R 12 045 911	
Mashayilanga-Ward 1	Bulk Line	WTW_UAP4	Ingwe LM	R 916 411	
Mashayilanga-Ward 1	Bulk Line	WTW_UAP4	Ingwe LM	R 185 445	
Mashayilanga-Ward 1	Bulk Line	WTW_UAP4	Ingwe LM	R 114 893	
Mashayilanga-Ward 1	Bulk Line	WTW_UAP4	Ingwe LM	R 1 210 432	
Mashayilanga-Ward 1	Pumpstation	Pump01_WTW_UAP4	Ingwe LM	R 6 121 395	
Mashayilanga-Ward 1	Pumpstation	Pump02_WTW_UAP4	Ingwe LM	R 6 121 395	
Mashayilanga-Ward 1	Small Package Plant	Small Package Plant	Ingwe LM	R 105 000 000	
Mashayilanga-Ward 1	Reticulation	RET_UAP4	Ingwe LM	R 58 041 101	
<b>Mashayilanga-Ward 1</b>	<b>Total</b>				<b>R 203 143 854</b>
Germiston-Ward 5	Borehole	Borehole 01 UAP40	Umzimkhulu LM	R 300 000	
Germiston-Ward 5	Borehole	Borehole 02 UAP40	Umzimkhulu LM	R 300 000	
Germiston-Ward 5	Borehole	Borehole 03 UAP40	Umzimkhulu LM	R 300 000	
Germiston-Ward 5	Borehole	Borehole 04 UAP40	Umzimkhulu LM	R 300 000	
Germiston-Ward 5	Borehole	Borehole 05 UAP40	Umzimkhulu LM	R 300 000	
Germiston-Ward 5	Reservoir	Res UAP40	Umzimkhulu LM	R 1 419 164	
Germiston-Ward 5	Bulk Line	Boreholes UAP40	Umzimkhulu LM	R 873 051	
Germiston-Ward 5	Bulk Line	Boreholes UAP40	Umzimkhulu LM	R 671 192	
Germiston-Ward 5	Bulk Line	Boreholes UAP40	Umzimkhulu LM	R 380 351	

Development of UAP for Water & Sanitation in Kwazulu-Natal



Scheme Name	Type	Name	Local Municipality	Infrastructure Cost	Total Cost
Germiston-Ward 5	Bulk Line	Boreholes UAP40	Umzimkhulu LM	R 23 729	
Germiston-Ward 5	Reticulation	RET_UAP40	Umzimkhulu LM	R 1 946 995	
<b>Germiston-Ward 5</b>	<b>Total</b>				<b>R 6 814 481</b>
KwaMakhanya-Ward 5	Borehole	Borehole 01 UAP41	Umzimkhulu LM	R 270 000	
KwaMakhanya-Ward 5	Borehole	Borehole 02 UAP41	Umzimkhulu LM	R 270 000	
KwaMakhanya-Ward 5	Borehole	Borehole 03 UAP41	Umzimkhulu LM	R 270 000	
KwaMakhanya-Ward 5	Borehole	Borehole 04 UAP41	Umzimkhulu LM	R 270 000	
KwaMakhanya-Ward 5	Borehole	Borehole 05 UAP41	Umzimkhulu LM	R 270 000	
<b>KwaMakhanya-Ward 5</b>	<b>Total</b>				<b>R 1 350 000</b>
Nyaka-Ward 5	Borehole	Borehole UAP42	Umzimkhulu LM	R 270 000	
<b>Nyaka-Ward 5</b>	<b>Total</b>				<b>R 270 000</b>
Marwaqa-Ward 19	Borehole	Borehole 01 UAP43	Umzimkhulu LM	R 300 000	
Marwaqa-Ward 19	Borehole	Borehole 02 UAP43	Umzimkhulu LM	R 300 000	
Marwaqa-Ward 19	Borehole	Borehole 03 UAP43	Umzimkhulu LM	R 300 000	
Marwaqa-Ward 19	Borehole	Borehole 04 UAP43	Umzimkhulu LM	R 300 000	
Marwaqa-Ward 19	Borehole	Borehole 05 UAP43	Umzimkhulu LM	R 300 000	
Marwaqa-Ward 19	Reservoir	Res UAP43	Umzimkhulu LM	R 1 717 897	
Marwaqa-Ward 19	Bulk Line	Borehole 02 UAP43	Umzimkhulu LM	R 403 304	
Marwaqa-Ward 19	Bulk Line	Borehole 01 UAP43	Umzimkhulu LM	R 344 226	
Marwaqa-Ward 19	Bulk Line	Borehole 03 UAP43	Umzimkhulu LM	R 600 791	
Marwaqa-Ward 19	Bulk Line	Borehole 04 UAP43	Umzimkhulu LM	R 851 283	
Marwaqa-Ward 19	Bulk Line	Borehole 05 UAP43	Umzimkhulu LM	R 600 160	
Marwaqa-Ward 19	Reticulation	RET_UAP43	Umzimkhulu LM	R 2 407 064	
<b>Marwaqa-Ward 19</b>	<b>Total</b>				<b>R 8 424 725</b>

Development of UAP for Water & Sanitation in Kwazulu-Natal



Scheme Name	Type	Name	Local Municipality	Infrastructure Cost	Total Cost
Zadungeni-Ward 7	Borehole	Borehole 05 UAP44	Umzimkhulu LM	R 270 000	
Zadungeni-Ward 7	Borehole	Borehole 04 UAP44	Umzimkhulu LM	R 270 000	
Zadungeni-Ward 7	Borehole	Borehole 03 UAP44	Umzimkhulu LM	R 270 000	
Zadungeni-Ward 7	Borehole	Borehole 02 UAP44	Umzimkhulu LM	R 270 000	
Zadungeni-Ward 7	Borehole	Borehole 01 UAP44	Umzimkhulu LM	R 270 000	
<b>Zadungeni-Ward 7</b>	<b>Total</b>				<b>R 1 350 000</b>
Nyanisweni-Ward 7	Borehole	Borehole 01 UAP45	Umzimkhulu LM	R 270 000	
Nyanisweni-Ward 7	Borehole	Borehole 02 UAP45	Umzimkhulu LM	R 270 000	
Nyanisweni-Ward 7	Borehole	Borehole 03 UAP45	Umzimkhulu LM	R 270 000	
Nyanisweni-Ward 7	Borehole	Borehole 04 UAP45	Umzimkhulu LM	R 270 000	
Nyanisweni-Ward 7	Borehole	Borehole 05 UAP45	Umzimkhulu LM	R 270 000	
<b>Nyanisweni-Ward 7</b>	<b>Total</b>				<b>R 1 350 000</b>
Mountain Home-Ward 19	Borehole	Borehole 02 UAP46	Umzimkhulu LM	R 300 000	
Mountain Home-Ward 19	Borehole	Borehole 01 UAP46	Umzimkhulu LM	R 300 000	
Mountain Home-Ward 19	Borehole	Borehole 03 UAP46	Umzimkhulu LM	R 300 000	
Mountain Home-Ward 19	Borehole	Borehole 04 UAP46	Umzimkhulu LM	R 300 000	
Mountain Home-Ward 19	Borehole	Borehole 05 UAP46	Umzimkhulu LM	R 300 000	
Mountain Home-Ward 19	Reservoir	Res UAP46	Umzimkhulu LM	R 2 197 636	
Mountain Home-Ward 19	Bulk Line	Boreholes 02 UAP46	Umzimkhulu LM	R 873 481	
Mountain Home-Ward 19	Bulk Line	Boreholes 05 UAP46	Umzimkhulu LM	R 515 124	
Mountain Home-Ward 19	Bulk Line	Boreholes 03 UAP46	Umzimkhulu LM	R 292 275	
Mountain Home-Ward 19	Bulk Line	Boreholes 04 UAP46	Umzimkhulu LM	R 776 424	
Mountain Home-Ward 19	Bulk Line	Boreholes 01 UAP46	Umzimkhulu LM	R 977 812	
Mountain Home-Ward 19	Reticulation	RET_UAP46	Umzimkhulu LM	R 2 853 101	

Development of UAP for Water & Sanitation in Kwazulu-Natal



Scheme Name	Type	Name	Local Municipality	Infrastructure Cost	Total Cost
<b>Mountain Home-Ward 19</b>	<b>Total</b>				<b>R 9 985 852</b>
Magcakini-Ward 6	Borehole	Borehole 01 UAP47	Umzimkhulu LM	R 270 000	
Magcakini-Ward 6	Borehole	Borehole 02 UAP47	Umzimkhulu LM	R 270 000	
Magcakini-Ward 6	Borehole	Borehole 03 UAP47	Umzimkhulu LM	R 270 000	
Magcakini-Ward 6	Borehole	Borehole 04 UAP47	Umzimkhulu LM	R 270 000	
<b>Magcakini-Ward 6</b>	<b>Total</b>				<b>R 1 080 000</b>
Nomeva-Ward 6	Borehole	Borehole 01 UAP48	Umzimkhulu LM	R 270 000	
Nomeva-Ward 6	Borehole	Borehole 02 UAP48	Umzimkhulu LM	R 270 000	
Nomeva-Ward 6	Borehole	Borehole 03 UAP48	Umzimkhulu LM	R 270 000	
<b>Nomeva-Ward 6</b>	<b>Total</b>				<b>R 810 000</b>
Maromeni-Ward 8	Reservoir	Package Plant Res UAP49	Umzimkhulu LM	R 6 799 761	
Maromeni-Ward 8	Reservoir	Holding Res UAP 49	Umzimkhulu LM	R 6 799 761	
Maromeni-Ward 8	Reservoir	Res 1 UAP49	Umzimkhulu LM	R 3 089 419	
Maromeni-Ward 8	Reservoir	Res 2 UAP49	Umzimkhulu LM	R 3 089 419	
Maromeni-Ward 8	Reservoir	Res 3 UAP49	Umzimkhulu LM	R 3 089 419	
Maromeni-Ward 8	Small Package Plant	Small Package Plant	Umzimkhulu LM	R 35 000 000	
Maromeni-Ward 8	Bulk Line	Small Package Plant	Umzimkhulu LM	R 8 649 902	
Maromeni-Ward 8	Bulk Line	Small Package Plant	Umzimkhulu LM	R 1 106 508	
Maromeni-Ward 8	Bulk Line	Holding Res UAP 49	Umzimkhulu LM	R 2 986 973	
Maromeni-Ward 8	Bulk Line	Holding Res UAP 49	Umzimkhulu LM	R 171 562	
Maromeni-Ward 8	Bulk Line	Holding Res UAP 49	Umzimkhulu LM	R 350 087	
Maromeni-Ward 8	Bulk Line	Holding Res UAP 49	Umzimkhulu LM	R 2 607 335	
Maromeni-Ward 8	Bulk Line	Holding Res UAP 49	Umzimkhulu LM	R 1 168 045	
Maromeni-Ward 8	Pumpstation	Pump01_WTW_UAP49	Umzimkhulu LM	R 11 330 545	



Development of UAP for Water & Sanitation in Kwazulu-Natal



Scheme Name	Type	Name	Local Municipality	Infrastructure Cost	Total Cost
Maromeni-Ward 8	Pumpstation	Pump02_WTW_UAP49	Umzimkhulu LM	R 6 121 395	
Maromeni-Ward 8	Pumpstation	Pump03_WTW_UAP49	Umzimkhulu LM	R 6 121 395	
Maromeni-Ward 8	Pumpstation	Pump04_WTW_UAP49	Umzimkhulu LM	R 11 330 545	
Maromeni-Ward 8	Package Plant	Package Plant UAP49	Umzimkhulu LM	R 300 000	
Maromeni-Ward 8	Reticulation	RET_UAP49	Umzimkhulu LM	R 44 044 829	
<b>Maromeni-Ward 8</b>	<b>Total</b>				<b>R 154 156 902</b>
Ingwe NU-Ward 2	Reservoir	Res 02 UAP5	Ingwe LM	R 1 717 897	
Ingwe NU-Ward 2	Reservoir	Res 01 UAP5	Ingwe LM	R 1 717 897	
Ingwe NU-Ward 2	Reservoir	Res 03 UAP5	Ingwe LM	R 1 717 897	
Ingwe NU-Ward 2	Bulk Line	WTW_UAP5	Ingwe LM	R 7 884 168	
Ingwe NU-Ward 2	Bulk Line	WTW_UAP5	Ingwe LM	R 322 373	
Ingwe NU-Ward 2	Bulk Line	WTW_UAP5	Ingwe LM	R 248 417	
Ingwe NU-Ward 2	Pumpstation	Pump01_WTW_UAP5	Ingwe LM	R 2 862 453	
Ingwe NU-Ward 2	Pumpstation	Pump02_WTW_UAP5	Ingwe LM	R 2 862 453	
Ingwe NU-Ward 2	Small Package Plant	Small Package Plant	Ingwe LM	R 28 000 000	
Ingwe NU-Ward 2	Reticulation	RET_UAP5	Ingwe LM	R 18 933 422	
<b>Ingwe NU-Ward 2</b>	<b>Total</b>				<b>R 66 266 978</b>
Pholanyoni-Ward 8	Borehole	Borehole 01 UAP50	Umzimkhulu LM	R 270 000	
Pholanyoni-Ward 8	Borehole	Borehole 02 UAP50	Umzimkhulu LM	R 270 000	
Pholanyoni-Ward 8	Borehole	Borehole 03 UAP50	Umzimkhulu LM	R 270 000	
Manqorholweni-Ward 10	Borehole	Borehole 01 UAP51	Umzimkhulu LM	R 270 000	
<b>Pholanyoni-Ward 8</b>	<b>Total</b>				<b>R 1 080 000</b>
Manqorholweni-Ward 10	Borehole	Borehole 02 UAP51	Umzimkhulu LM	R 270 000	
Manqorholweni-Ward 10	Borehole	Borehole 03 UAP51	Umzimkhulu LM	R 270 000	

Development of UAP for Water & Sanitation in Kwazulu-Natal



Scheme Name	Type	Name	Local Municipality	Infrastructure Cost	Total Cost
Manqorholweni-Ward 10	Borehole	Borehole 04 UAP51	Umzimkhulu LM	R 270 000	
<b>Manqorholweni-Ward 10</b>	<b>Total</b>				<b>R 810 000</b>
Novukela-Ward 18	Borehole	Borehole 01 UAP52	Umzimkhulu LM	R 270 000	
Novukela-Ward 18	Borehole	Borehole 02 UAP52	Umzimkhulu LM	R 270 000	
Novukela-Ward 18	Borehole	Borehole 03 UAP52	Umzimkhulu LM	R 270 000	
Novukela-Ward 18	Borehole	Borehole 04 UAP52	Umzimkhulu LM	R 270 000	
Novukela-Ward 18	Borehole	Borehole 06 UAP52	Umzimkhulu LM	R 270 000	
Novukela-Ward 18	Borehole	Borehole 05 UAP52	Umzimkhulu LM	R 270 000	
Novukela-Ward 18	Borehole	Borehole 07 UAP52	Umzimkhulu LM	R 270 000	
Novukela-Ward 18	Borehole	Borehole 08 UAP52	Umzimkhulu LM	R 270 000	
Novukela-Ward 18	Borehole	Borehole 09 UAP52	Umzimkhulu LM	R 270 000	
Novukela-Ward 18	Borehole	Borehole 11 UAP52	Umzimkhulu LM	R 270 000	
Novukela-Ward 18	Borehole	Borehole 12 UAP52	Umzimkhulu LM	R 270 000	
<b>Novukela-Ward 18</b>	<b>Total</b>				<b>R 2 970 000</b>
Nkampini-Ward 18	Borehole	Borehole 01 UAP53	Umzimkhulu LM	R 270 000	
Nkampini-Ward 18	Borehole	Borehole 02 UAP53	Umzimkhulu LM	R 270 000	
Nkampini-Ward 18	Borehole	Borehole 03 UAP53	Umzimkhulu LM	R 270 000	
<b>Nkampini-Ward 18</b>	<b>Total</b>				<b>R 810 000</b>
Kromdraai-Ward 10	Borehole	Borehole 01 UAP54	Umzimkhulu LM	R 270 000	
Kromdraai-Ward 10	Borehole	Borehole 02 UAP54	Umzimkhulu LM	R 270 000	
Kromdraai-Ward 10	Borehole	Borehole 03 UAP54	Umzimkhulu LM	R 270 000	
Kromdraai-Ward 10	Borehole	Borehole 04 UAP54	Umzimkhulu LM	R 270 000	
Kromdraai-Ward 10	Borehole	Borehole 05 UAP54	Umzimkhulu LM	R 270 000	
Kromdraai-Ward 10	Borehole	Borehole 06 UAP54	Umzimkhulu LM	R 270 000	

Development of UAP for Water & Sanitation in Kwazulu-Natal



Scheme Name	Type	Name	Local Municipality	Infrastructure Cost	Total Cost
Kromdraai-Ward 10	Borehole	Borehole 07 UAP54	Umzimkhulu LM	R 270 000	
Kromdraai-Ward 10	Borehole	Borehole 08 UAP54	Umzimkhulu LM	R 270 000	
Kromdraai-Ward 10	Borehole	Borehole 09 UAP54	Umzimkhulu LM	R 270 000	
<b>Kromdraai-Ward 10</b>	<b>Total</b>				<b>R 2 430 000</b>
Mqhokweni-Ward 18	Borehole	Borehole 01 UAP55	Umzimkhulu LM	R 300 000	
Mqhokweni-Ward 18	Borehole	Borehole 03 UAP55	Umzimkhulu LM	R 300 000	
Mqhokweni-Ward 18	Borehole	Borehole 02 UAP55	Umzimkhulu LM	R 300 000	
Mqhokweni-Ward 18	Reservoir	Res UAP55	Umzimkhulu LM	R 656 852	
Mqhokweni-Ward 18	Bulk Line	Borehole 01 UAP55	Umzimkhulu LM	R 235 331	
Mqhokweni-Ward 18	Bulk Line	Borehole 02 UAP55	Umzimkhulu LM	R 97 455	
Mqhokweni-Ward 18	Bulk Line	Borehole 03 UAP55	Umzimkhulu LM	R 304 860	
Mqhokweni-Ward 18	Reticulation	RET_UAP55	Umzimkhulu LM	R 877 799	
<b>Mqhokweni-Ward 18</b>	<b>Total</b>				<b>R 3 072 296</b>
Driefontein-Ward 8/2	Borehole	Borehole 02 UAP56	Umzimkhulu LM	R 300 000	
Driefontein-Ward 8/2	Borehole	Borehole 03 UAP56	Umzimkhulu LM	R 300 000	
Driefontein-Ward 8/2	Borehole	Borehole 01 UAP56	Umzimkhulu LM	R 300 000	
Driefontein-Ward 8/2	Reservoir	Res UAP56	Umzimkhulu LM	R 1 419 164	
Driefontein-Ward 8/2	Bulk Line	Boreholes 01 UAP56	Umzimkhulu LM	R 510 224	
Driefontein-Ward 8/2	Bulk Line	Boreholes 03 UAP56	Umzimkhulu LM	R 201 568	
Driefontein-Ward 8/2	Bulk Line	Boreholes 02 UAP56	Umzimkhulu LM	R 156 457	
Driefontein-Ward 8/2	Reticulation	RET_UAP56	Umzimkhulu LM	R 1 274 965	
<b>Driefontein-Ward 8/2</b>	<b>Total</b>				<b>R 4 462 378</b>
Mthwana-Ward 18	Borehole	Borehole 01 UAP57	Umzimkhulu LM	R 300 000	
Mthwana-Ward 18	Borehole	Borehole 02 UAP57	Umzimkhulu LM	R 300 000	

Development of UAP for Water & Sanitation in Kwazulu-Natal

Scheme Name	Type	Name	Local Municipality	Infrastructure Cost	Total Cost
Mthwana-Ward 18	Borehole	Borehole 03 UAP57	Umzimkhulu LM	R 270 000	
Mthwana-Ward 18	Reservoir	Res UAP57	Umzimkhulu LM	R 2 197 636	
Mthwana-Ward 18	Bulk Line	Borehole 01 UAP56	Umzimkhulu LM	R 233 895	
Mthwana-Ward 18	Bulk Line	Borehole 02 UAP56	Umzimkhulu LM	R 389 862	
Mthwana-Ward 18	Reticulation	RET_UAP57	Umzimkhulu LM	R 1 476 557	
<b>Mthwana-Ward 18</b>	<b>Total</b>				<b>R 5 167 950</b>
Magikala-Ward 18	Borehole	Borehole 01 UAP58	Umzimkhulu LM	R 300 000	
Magikala-Ward 18	Borehole	Borehole 02 UAP58	Umzimkhulu LM	R 300 000	
Magikala-Ward 18	Borehole	Borehole 03 UAP58	Umzimkhulu LM	R 300 000	
Magikala-Ward 18	Borehole	Borehole 04 UAP58	Umzimkhulu LM	R 300 000	
Magikala-Ward 18	Reservoir	Res 01 UAP58	Umzimkhulu LM	R 1 120 431	
Magikala-Ward 18	Reservoir	Res 02 UAP58	Umzimkhulu LM	R 1 120 431	
Magikala-Ward 18	Bulk Line	Borehole 04 UAP58	Umzimkhulu LM	R 365 804	
Magikala-Ward 18	Bulk Line	Borehole 03 UAP58	Umzimkhulu LM	R 293 472	
Magikala-Ward 18	Bulk Line	Borehole 02 UAP58	Umzimkhulu LM	R 323 417	
Magikala-Ward 18	Bulk Line	Borehole 01 UAP58	Umzimkhulu LM	R 391 677	
Magikala-Ward 18	Reticulation	RET_UAP58	Umzimkhulu LM	R 1 926 093	
<b>Magikala-Ward 18</b>	<b>Total</b>				<b>R 6 741 326</b>
Manyanya-Ward 12	Borehole	Borehole 01 UAP59	Umzimkhulu LM	R 270 000	
Manyanya-Ward 12	Borehole	Borehole 01 UAP59	Umzimkhulu LM	R 270 000	
<b>Manyanya-Ward 12</b>	<b>Total</b>				<b>R 540 000</b>
Luwambeni-Ward 5/1	Borehole	Borehole 02 UAP6	Ingwe LM	R 300 000	
Luwambeni-Ward 5/1	Borehole	Borehole 01 UAP6	Ingwe LM	R 300 000	
Luwambeni-Ward 5/1	Reservoir	Res UAP6	Ingwe LM	R 1 120 431	

Development of UAP for Water & Sanitation in Kwazulu-Natal



Scheme Name	Type	Name	Local Municipality	Infrastructure Cost	Total Cost
Luwambeni-Ward 5/1	Bulk Line	Boreholes UAP6	Ingwe LM	R 333 512	
Luwambeni-Ward 5/1	Bulk Line	Boreholes UAP6	Ingwe LM	R 193 957	
Luwambeni-Ward 5/1	Reticulation	RET_UAP6	Ingwe LM	R 899 160	
<b>Luwambeni-Ward 5/1</b>	<b>Total</b>				<b>R 3 147 061</b>
Matyeni-Ward 13	Borehole	Matyeni Borehole - UAP60	Umzimkhulu LM	R 300 000	
<b>Matyeni-Ward 13</b>	<b>Total</b>				<b>R 300 000</b>
Umzimkhulu NU-Ward 18	Borehole	Machunwini WTW Weir-UAP61	Umzimkhulu LM	R 300 000	
<b>Umzimkhulu NU-Ward 18</b>	<b>Total</b>				<b>R 300 000</b>
Cancele-Ward 9	Borehole	Borehole 01 UAP62	Umzimkhulu LM	R 300 000	
Cancele-Ward 9	Borehole	Borehole 02 UAP62	Umzimkhulu LM	R 300 000	
Cancele-Ward 9	Borehole	Borehole 03 UAP62	Umzimkhulu LM	R 300 000	
Cancele-Ward 9	Borehole	Borehole 04 UAP62	Umzimkhulu LM	R 300 000	
Cancele-Ward 9	Borehole	Borehole 05 UAP62	Umzimkhulu LM	R 300 000	
Cancele-Ward 9	Borehole	Borehole 06 UAP62	Umzimkhulu LM	R 300 000	
Cancele-Ward 9	Borehole	Borehole 07 UAP62	Umzimkhulu LM	R 300 000	
Cancele-Ward 9	Reservoir	Res 01 UAP62	Umzimkhulu LM	R 2 197 636	
Cancele-Ward 9	Reservoir	Res 02 UAP62	Umzimkhulu LM	R 2 197 636	
Cancele-Ward 9	Reservoir	Res 03 UAP62	Umzimkhulu LM	R 2 197 636	
Cancele-Ward 9	Bulk Line	Borehole 01 UAP62	Umzimkhulu LM	R 874 671	
Cancele-Ward 9	Bulk Line	Borehole 02 UAP62	Umzimkhulu LM	R 410 179	
Cancele-Ward 9	Bulk Line	Borehole 03 UAP62	Umzimkhulu LM	R 305 587	
Cancele-Ward 9	Bulk Line	Borehole 04 UAP62	Umzimkhulu LM	R 730 217	
Cancele-Ward 9	Bulk Line	Borehole 05 UAP62	Umzimkhulu LM	R 868 920	
Cancele-Ward 9	Bulk Line	Borehole 06 UAP62	Umzimkhulu LM	R 258 406	

Development of UAP for Water & Sanitation in Kwazulu-Natal



Scheme Name	Type	Name	Local Municipality	Infrastructure Cost	Total Cost
Cancele-Ward 9	Bulk Line	Borehole 07 UAP62	Umzimkhulu LM	R 699 109	
Cancele-Ward 9	Bulk Line	Res 01 UAP62	Umzimkhulu LM	R 1 571 689	
Cancele-Ward 9	Bulk Line	Res 02 UAP62	Umzimkhulu LM	R 65 359	
Cancele-Ward 9	Reticulation	RET_UAP62	Umzimkhulu LM	R 5 790 818	
<b>Cancele-Ward 9</b>	<b>Total</b>				<b>R 20 267 865</b>
Bizweni-Ward 19	Borehole	Borehole 01 UAP63	Umzimkhulu LM	R 300 000	
Bizweni-Ward 19	Borehole	Borehole 02 UAP63	Umzimkhulu LM	R 300 000	
Bizweni-Ward 19	Borehole	Borehole 03 UAP63	Umzimkhulu LM	R 300 000	
Bizweni-Ward 19	Reservoir	Existing Reservoir 01 UAP63	Umzimkhulu LM	R 824 662	
Bizweni-Ward 19	Reservoir	Existing Reservoir 02 UAP63	Umzimkhulu LM	R 824 662	
Bizweni-Ward 19	Bulk Line	Borehole 03 UAP63	Umzimkhulu LM	R 1 404 821	
Bizweni-Ward 19	Bulk Line	Borehole 02 UAP63	Umzimkhulu LM	R 840 041	
Bizweni-Ward 19	Bulk Line	Borehole 01 UAP63	Umzimkhulu LM	R 455 782	
Bizweni-Ward 19	Reticulation	RET_UAP63	Umzimkhulu LM	R 2 099 987	
<b>Bizweni-Ward 19</b>	<b>Total</b>				<b>R 7 349 955</b>
Blema-Ward 20	Borehole	Borehole 01 UAP64	Umzimkhulu LM	R 270 000	
Blema-Ward 20	Borehole	Borehole 02 UAP64	Umzimkhulu LM	R 270 000	
Blema-Ward 20	Borehole	Borehole 03 UAP64	Umzimkhulu LM	R 270 000	
Blema-Ward 20	Borehole	Borehole 04 UAP64	Umzimkhulu LM	R 270 000	
<b>Blema-Ward 20</b>	<b>Total</b>				<b>R 1 080 000</b>
Strangerest-Ward 17	Borehole	Borehole 01 UAP65	Umzimkhulu LM	R 300 000	
Strangerest-Ward 17	Borehole	Borehole 02 UAP65	Umzimkhulu LM	R 300 000	
Strangerest-Ward 17	Reservoir	Res UAP65 - Existing Structure	Umzimkhulu LM	R 1 419 164	
Strangerest-Ward 17	Bulk Line	Borehole 01 UAP65	Umzimkhulu LM	R 1 208 379	

Development of UAP for Water & Sanitation in Kwazulu-Natal



Scheme Name	Type	Name	Local Municipality	Infrastructure Cost	Total Cost
Strangerest-Ward 17	Bulk Line	Borehole 02 UAP65	Umzimkhulu LM	R 449 525	
Strangerest-Ward 17	Reticulation	RET_UAP65	Umzimkhulu LM	R 1 470 827	
<b>Strangerest-Ward 17</b>	<b>Total</b>				<b>R 5 147 896</b>
Kromhoek-Ward 20	Borehole	Borehole 01 UAP66	Umzimkhulu LM	R 300 000	
Kromhoek-Ward 20	Borehole	Borehole 02 UAP66	Umzimkhulu LM	R 300 000	
Kromhoek-Ward 20	Borehole	Borehole 03 UAP66	Umzimkhulu LM	R 300 000	
Kromhoek-Ward 20	Borehole	Borehole 04 UAP66	Umzimkhulu LM	R 300 000	
Kromhoek-Ward 20	Borehole	Borehole 06 UAP66	Umzimkhulu LM	R 300 000	
Kromhoek-Ward 20	Borehole	Borehole 05 UAP66	Umzimkhulu LM	R 300 000	
Kromhoek-Ward 20	Reservoir	Res 01 UAP66	Umzimkhulu LM	R 1 419 164	
Kromhoek-Ward 20	Reservoir	Res 03 UAP66	Umzimkhulu LM	R 1 419 164	
Kromhoek-Ward 20	Reservoir	Res 02 UAP66	Umzimkhulu LM	R 1 419 164	
Kromhoek-Ward 20	Bulk Line	Pump Station	Umzimkhulu LM	R 105 429	
Kromhoek-Ward 20	Bulk Line	Borehole 01 UAP66	Umzimkhulu LM	R 580 906	
Kromhoek-Ward 20	Bulk Line	Borehole 02 UAP66	Umzimkhulu LM	R 500 162	
Kromhoek-Ward 20	Bulk Line	Borehole 03 UAP66	Umzimkhulu LM	R 734 940	
Kromhoek-Ward 20	Bulk Line	Borehole 04 UAP66	Umzimkhulu LM	R 325 577	
Kromhoek-Ward 20	Bulk Line	Borehole 06 UAP66	Umzimkhulu LM	R 1 394 964	
Kromhoek-Ward 20	Bulk Line	Borehole 05 UAP66	Umzimkhulu LM	R 786 151	
Kromhoek-Ward 20	Bulk Line	Res 01 UAP66	Umzimkhulu LM	R 957 412	
Kromhoek-Ward 20	Bulk Line	Pump Station	Umzimkhulu LM	R 1 241 154	
Kromhoek-Ward 20	Pumpstation	Pump01_UAP66	Umzimkhulu LM	R 2 862 453	
Kromhoek-Ward 20	Reticulation	RET_UAP66	Umzimkhulu LM	R 6 218 657	
<b>Kromhoek-Ward 20</b>	<b>Total</b>				<b>R 21 765 298</b>

Development of UAP for Water & Sanitation in Kwazulu-Natal



Scheme Name	Type	Name	Local Municipality	Infrastructure Cost	Total Cost
Tafeni-Ward 20	Borehole	Borehole 02 UAP67	Umzimkhulu LM	R 300 000	
Tafeni-Ward 20	Borehole	Borehole 01 UAP67	Umzimkhulu LM	R 300 000	
Tafeni-Ward 20	Borehole	Borehole 03 UAP67	Umzimkhulu LM	R 300 000	
Tafeni-Ward 20	Borehole	Borehole 04 UAP67	Umzimkhulu LM	R 300 000	
Tafeni-Ward 20	Borehole	Borehole 05 UAP67	Umzimkhulu LM	R 300 000	
Tafeni-Ward 20	Reservoir	Res 01 UAP67	Umzimkhulu LM	R 1 419 164	
Tafeni-Ward 20	Reservoir	Res 02 UAP67	Umzimkhulu LM	R 1 419 164	
Tafeni-Ward 20	Bulk Line	Borehole 01 UAP67	Umzimkhulu LM	R 1 679 814	
Tafeni-Ward 20	Bulk Line	Borehole 02 UAP67	Umzimkhulu LM	R 860 074	
Tafeni-Ward 20	Bulk Line	Borehole 03 UAP67	Umzimkhulu LM	R 270 709	
Tafeni-Ward 20	Bulk Line	Borehole 05 UAP67	Umzimkhulu LM	R 427 909	
Tafeni-Ward 20	Bulk Line	Borehole 04 UAP67	Umzimkhulu LM	R 443 884	
Tafeni-Ward 20	Bulk Line	Res 01 UAP67	Umzimkhulu LM	R 1 393 745	
Tafeni-Ward 20	Reticulation	RET_UAP67	Umzimkhulu LM	R 3 765 786	
<b>Tafeni-Ward 20</b>	<b>Total</b>				<b>R 13 180 249</b>
Umzimkhulu NU-Ward 13	Borehole	Borehole 01 UAP68	Umzimkhulu LM	R 300 000	
Umzimkhulu NU-Ward 13	Borehole	Borehole 02 UAP68	Umzimkhulu LM	R 300 000	
Umzimkhulu NU-Ward 13	Reservoir	Res 01 UAP68	Umzimkhulu LM	R 824 662	
Umzimkhulu NU-Ward 13	Bulk Line	Borehole 01 UAP68	Umzimkhulu LM	R 423 655	
Umzimkhulu NU-Ward 13	Bulk Line	Borehole 02 UAP68	Umzimkhulu LM	R 602 701	
Umzimkhulu NU-Ward 13	Reticulation	RET_UAP68	Umzimkhulu LM	R 980 407	
<b>Umzimkhulu NU-Ward 13</b>	<b>Total</b>				<b>R 3 431 425</b>
Rondedraai-Ward 13	Borehole	Borehole 01 UAP69	Umzimkhulu LM	R 270 000	
Rondedraai-Ward 13	Borehole	Borehole 02 UAP69	Umzimkhulu LM	R 270 000	



Development of UAP for Water & Sanitation in Kwazulu-Natal



Scheme Name	Type	Name	Local Municipality	Infrastructure Cost	Total Cost
<b>Rondedraai-Ward 13</b>	<b>Total</b>				<b>R 540 000</b>
Luwambeni-Ward 5/2	Borehole	Borehole 01 UAP7	Ingwe LM	R 300 000	
Luwambeni-Ward 5/2	Borehole	Borehole 02 UAP7	Ingwe LM	R 300 000	
Luwambeni-Ward 5/2	Reservoir	Res UAP7	Ingwe LM	R 2 197 636	
Luwambeni-Ward 5/2	Bulk Line	Boreholes UAP7	Ingwe LM	R 266 114	
Luwambeni-Ward 5/2	Bulk Line	Boreholes UAP7	Ingwe LM	R 239 247	
Luwambeni-Ward 5/2	Reticulation	RET_UAP7	Ingwe LM	R 1 321 199	
<b>Luwambeni-Ward 5/2</b>	<b>Total</b>				<b>R 4 624 195</b>
Thorny Bush-Ward 15	Borehole	Borehole 01 UAP70	Umzimkhulu LM	R 270 000	
Thorny Bush-Ward 15	Borehole	Borehole 02 UAP70	Umzimkhulu LM	R 270 000	
Thorny Bush-Ward 15	Borehole	Borehole 03 UAP70	Umzimkhulu LM	R 270 000	
<b>Thorny Bush-Ward 15</b>	<b>Total</b>				<b>R 810 000</b>
Long Clove-Ward 15	Borehole	Borehole 01 UAP71	Umzimkhulu LM	R 270 000	
Long Clove-Ward 15	Borehole	Borehole 02 UAP71	Umzimkhulu LM	R 300 000	
Long Clove-Ward 15	Borehole	Borehole 03 UAP71	Umzimkhulu LM	R 300 000	
Long Clove-Ward 15	Reservoir	Res UAP71	Umzimkhulu LM	R 1 717 897	
Long Clove-Ward 15	Bulk Line	Borehole 02 UAP71	Umzimkhulu LM	R 190 226	
Long Clove-Ward 15	Bulk Line	Borehole 03 UAP71	Umzimkhulu LM	R 714 369	
Long Clove-Ward 15	Reticulation	RET_UAP71	Umzimkhulu LM	R 1 396 997	
<b>Long Clove-Ward 15</b>	<b>Total</b>				<b>R 4 889 489</b>
Umzimkhulu NU-Ward 15	Borehole	Borehole 01 UAP72	Umzimkhulu LM	R 300 000	
Umzimkhulu NU-Ward 15	Borehole	Borehole 02 UAP72	Umzimkhulu LM	R 300 000	
Umzimkhulu NU-Ward 15	Borehole	Borehole 03 UAP72	Umzimkhulu LM	R 300 000	
Umzimkhulu NU-Ward 15	Borehole	Borehole 04 UAP72	Umzimkhulu LM	R 300 000	

Development of UAP for Water & Sanitation in Kwazulu-Natal

Scheme Name	Type	Name	Local Municipality	Infrastructure Cost	Total Cost
Umzimkhulu NU-Ward 15	Borehole	Borehole 05 UAP72	Umzimkhulu LM	R 300 000	
Umzimkhulu NU-Ward 15	Borehole	Borehole 06 UAP72	Umzimkhulu LM	R 300 000	
Umzimkhulu NU-Ward 15	Borehole	Borehole 07 UAP72	Umzimkhulu LM	R 300 000	
Umzimkhulu NU-Ward 15	Borehole	Borehole 08 UAP72	Umzimkhulu LM	R 300 000	
Umzimkhulu NU-Ward 15	Borehole	Borehole 10 UAP72	Umzimkhulu LM	R 300 000	
Umzimkhulu NU-Ward 15	Borehole	Borehole 09 UAP72	Umzimkhulu LM	R 300 000	
Umzimkhulu NU-Ward 15	Borehole	Borehole 11 UAP72	Umzimkhulu LM	R 300 000	
Umzimkhulu NU-Ward 15	Reservoir	Res 02 UAP72	Umzimkhulu LM	R 1 120 431	
Umzimkhulu NU-Ward 15	Reservoir	Res 01 UAP72	Umzimkhulu LM	R 1 717 897	
Umzimkhulu NU-Ward 15	Reservoir	Res 05 UAP72	Umzimkhulu LM	R 1 717 897	
Umzimkhulu NU-Ward 15	Reservoir	Res 03 UAP72	Umzimkhulu LM	R 1 120 431	
Umzimkhulu NU-Ward 15	Reservoir	Res 04 UAP72	Umzimkhulu LM	R 1 120 431	
Umzimkhulu NU-Ward 15	Bulk Line	Borehole 10 UAP72	Umzimkhulu LM	R 385 351	
Umzimkhulu NU-Ward 15	Bulk Line	Borehole 11 UAP72	Umzimkhulu LM	R 278 175	
Umzimkhulu NU-Ward 15	Bulk Line	Res 04 UAP72	Umzimkhulu LM	R 1 133 442	
Umzimkhulu NU-Ward 15	Bulk Line	Res 03 UAP72	Umzimkhulu LM	R 1 196 787	
Umzimkhulu NU-Ward 15	Bulk Line	Borehole 08 UAP72	Umzimkhulu LM	R 232 949	
Umzimkhulu NU-Ward 15	Bulk Line	Borehole 09 UAP72	Umzimkhulu LM	R 511 161	
Umzimkhulu NU-Ward 15	Bulk Line	Res 02 UAP72	Umzimkhulu LM	R 1 292 510	
Umzimkhulu NU-Ward 15	Bulk Line	Borehole 07 UAP72	Umzimkhulu LM	R 284 878	
Umzimkhulu NU-Ward 15	Bulk Line	Borehole 06 UAP72	Umzimkhulu LM	R 158 797	
Umzimkhulu NU-Ward 15	Bulk Line	Borehole 05 UAP72	Umzimkhulu LM	R 304 728	
Umzimkhulu NU-Ward 15	Bulk Line	Res 02 UAP72	Umzimkhulu LM	R 487 881	
Umzimkhulu NU-Ward 15	Bulk Line	Borehole 04 UAP72	Umzimkhulu LM	R 465 258	

Development of UAP for Water & Sanitation in Kwazulu-Natal



Scheme Name	Type	Name	Local Municipality	Infrastructure Cost	Total Cost
Umzimkhulu NU-Ward 15	Bulk Line	Res 01 UAP72	Umzimkhulu LM	R 2 492 155	
Umzimkhulu NU-Ward 15	Bulk Line	Borehole 03 UAP72	Umzimkhulu LM	R 255 080	
Umzimkhulu NU-Ward 15	Bulk Line	Borehole 02 UAP72	Umzimkhulu LM	R 651 178	
Umzimkhulu NU-Ward 15	Bulk Line	Borehole 01 UAP72	Umzimkhulu LM	R 865 788	
Umzimkhulu NU-Ward 15	Pumpstation	Pump02_UAP72	Umzimkhulu LM	R 2 391 825	
Umzimkhulu NU-Ward 15	Pumpstation	Pump04_UAP72	Umzimkhulu LM	R 2 391 825	
Umzimkhulu NU-Ward 15	Pumpstation	Pump03_UAP72	Umzimkhulu LM	R 2 391 825	
Umzimkhulu NU-Ward 15	Pumpstation	Pump01_UAP72	Umzimkhulu LM	R 2 391 825	
Umzimkhulu NU-Ward 15	Reticulation	RET_UAP72	Umzimkhulu LM	R 12 264 202	
<b>Umzimkhulu NU-Ward 15</b>	<b>Total</b>				<b>R 42 924 706</b>
Langgewacht Forest Reserve-Ward 10	Borehole	Borehole 01 UAP73	Umzimkhulu LM	R 270 000	
<b>Langgewacht Forest Reserve-Ward 10</b>	<b>Total</b>				<b>R 270 000</b>
Satana-Ward 12	Borehole	Borehole 01 UAP74	Umzimkhulu LM	R 270 000	
Satana-Ward 12	Borehole	Borehole 02 UAP74	Umzimkhulu LM	R 270 000	
Satana-Ward 12	Borehole	Borehole 03 UAP74	Umzimkhulu LM	R 270 000	
<b>Satana-Ward 12</b>	<b>Total</b>				<b>R 810 000</b>
Ngwagwane-Ward 5	Borehole	Borehole 01 UAP75	Umzimkhulu LM	R 270 000	
Ngwagwane-Ward 5	Borehole	Borehole 02 UAP75	Umzimkhulu LM	R 270 000	
Ngwagwane-Ward 5	Borehole	Borehole 03 UAP75	Umzimkhulu LM	R 270 000	
Ngwagwane-Ward 5	Borehole	Borehole 04 UAP75	Umzimkhulu LM	R 270 000	
<b>Ngwagwane-Ward 5</b>	<b>Total</b>				<b>R 1 080 000</b>
Mahobe-Ward 13/1	Borehole	Borehole 01 UAP76	Umzimkhulu LM	R 270 000	
Mahobe-Ward 13/1	Borehole	Borehole 03 UAP76	Umzimkhulu LM	R 270 000	

Development of UAP for Water & Sanitation in Kwazulu-Natal



Scheme Name	Type	Name	Local Municipality	Infrastructure Cost	Total Cost
Mahobe-Ward 13/1	Borehole	Borehole 02 UAP76	Umzimkhulu LM	R 270 000	
<b>Mahobe-Ward 13/1</b>	<b>Total</b>				<b>R 810 000</b>
Mahobe-Ward 13/2	Borehole	Borehole UAP77	Umzimkhulu LM	R 270 000	
<b>Mahobe-Ward 13/2</b>	<b>Total</b>				<b>R 270 000</b>
Mabisane-Ward 15	Borehole	Borehole 01 UAP78	Umzimkhulu LM	R 270 000	
Mabisane-Ward 15	Borehole	Borehole 02 UAP78	Umzimkhulu LM	R 270 000	
Mabisane-Ward 15	Borehole	Borehole 03 UAP78	Umzimkhulu LM	R 270 000	
<b>Mabisane-Ward 15</b>	<b>Total</b>				<b>R 810 000</b>
Ingwe NU-Ward 5	Borehole	Borehole 01 UAP79	Ingwe LM	R 270 000	
Ingwe NU-Ward 5	Borehole	Borehole 02 UAP79	Ingwe LM	R 270 000	
<b>Ingwe NU-Ward 5</b>	<b>Total</b>				<b>R 540 000</b>
Luwambeni-Ward 5/3	Borehole	Borehole 01 UAP8	Ingwe LM	R 300 000	
Luwambeni-Ward 5/3	Borehole	Borehole 02 UAP8	Ingwe LM	R 300 000	
Luwambeni-Ward 5/3	Reservoir	Res UAP8	Ingwe LM	R 2 197 636	
Luwambeni-Ward 5/3	Bulk Line	Boreholes UAP8	Ingwe LM	R 236 057	
Luwambeni-Ward 5/3	Bulk Line	Boreholes UAP8	Ingwe LM	R 192 785	
Luwambeni-Ward 5/3	Reticulation	RET_UAP8	Ingwe LM	R 1 290 591	
<b>Luwambeni-Ward 5/3</b>	<b>Total</b>				<b>R 4 517 069</b>
Khetheni-Ward 13	Borehole	Borehole 01 UAP80	Umzimkhulu LM	R 270 000	
Khetheni-Ward 13	Borehole	Borehole 02 UAP80	Umzimkhulu LM	R 270 000	
<b>Khetheni-Ward 13</b>	<b>Total</b>				<b>R 540 000</b>
KwaSandanezwe-Ward 6	Borehole	Borehole 01 UAP81	Ingwe LM	R 270 000	
KwaSandanezwe-Ward 6	Borehole	Borehole 02 UAP81	Ingwe LM	R 270 000	
<b>KwaSandanezwe-Ward 6</b>	<b>Total</b>				<b>R 540 000</b>

Development of UAP for Water & Sanitation in Kwazulu-Natal



Scheme Name	Type	Name	Local Municipality	Infrastructure Cost	Total Cost
Nqabeni-Ward 4	Borehole	Borehole 02 UAP82	Umzimkhulu LM	R 270 000	
Nqabeni-Ward 4	Borehole	Borehole 01 UAP82	Umzimkhulu LM	R 270 000	
Nqabeni-Ward 4	Borehole	Borehole 03 UAP82	Umzimkhulu LM	R 270 000	
<b>Nqabeni-Ward 4</b>	<b>Total</b>				<b>R 810 000</b>
Ingwe NU-Ward 7/4	Borehole	Borehole 01 UAP83	Ingwe LM	R 270 000	
<b>Ingwe NU-Ward 7/4</b>	<b>Total</b>				<b>R 270 000</b>
Novukela-Ward 8	Borehole	Borehole 01 UAP84	Umzimkhulu LM	R 270 000	
Novukela-Ward 8	Borehole	Borehole 02 UAP84	Umzimkhulu LM	R 270 000	
Novukela-Ward 8	Borehole	Borehole 03 UAP84	Umzimkhulu LM	R 270 000	
<b>Novukela-Ward 8</b>	<b>Total</b>				<b>R 810 000</b>
Juta-Ward 18	Borehole	Borehole 01 UAP85	Umzimkhulu LM	R 270 000	
<b>Juta-Ward 18</b>	<b>Total</b>				<b>R 270 000</b>
Luwambeni-Ward 5/4	Borehole	Borehole 01 UAP9	Ingwe LM	R 300 000	
Luwambeni-Ward 5/4	Borehole	Borehole 02 UAP9	Ingwe LM	R 300 000	
Luwambeni-Ward 5/4	Reservoir	Res UAP9	Ingwe LM	R 2 197 636	
Luwambeni-Ward 5/4	Bulk Line	Boreholes UAP9	Ingwe LM	R 275 186	
Luwambeni-Ward 5/4	Bulk Line	Boreholes UAP9	Ingwe LM	R 200 310	
Luwambeni-Ward 5/4	Reticulation	RET_UAP9	Ingwe LM	R 1 309 253	
<b>Luwambeni-Ward 5/4</b>	<b>Total</b>				<b>R 4 582 384</b>
Ubuhlebezwe NU-Ward 3	Reservoir	Res 01 UAPB1	Ubuhlebezwe LM	R 4 302 977	
Ubuhlebezwe NU-Ward 3	Reservoir	Res 02 UAPB1	Ubuhlebezwe LM	R 3 501 465	
Ubuhlebezwe NU-Ward 3	Reservoir	Res 03 UAPB1	Ubuhlebezwe LM	R 4 302 977	
Ubuhlebezwe NU-Ward 3	Bulk Line	WTW_UAPB1	Ubuhlebezwe LM	R 7 681 844	
Ubuhlebezwe NU-Ward 3	Bulk Line	WTW_UAPB1	Ubuhlebezwe LM	R 1 867 919	

Development of UAP for Water & Sanitation in Kwazulu-Natal



Scheme Name	Type	Name	Local Municipality	Infrastructure Cost	Total Cost
Ubuhlebezwe NU-Ward 3	Bulk Line	WTW_UAPB1	Ubuhlebezwe LM	R 5 139 017	
Ubuhlebezwe NU-Ward 3	Bulk Line	WTW_UAPB1	Ubuhlebezwe LM	R 9 696 392	
Ubuhlebezwe NU-Ward 3	Pumpstation	Pump01_WTW_UAPB1	Ubuhlebezwe LM	R 7 194 815	
Ubuhlebezwe NU-Ward 3	Pumpstation	Pump02_WTW_UAPB1	Ubuhlebezwe LM	R 7 194 815	
Ubuhlebezwe NU-Ward 3	Small Package Plant	Small Package Plant	Ubuhlebezwe LM	R 84 000 000	
Ubuhlebezwe NU-Ward 3	Reticulation	RET_UAPB1	Ubuhlebezwe LM	R 53 952 889	
<b>Ubuhlebezwe NU-Ward 3</b>	<b>Total</b>				<b>R 188 835 111</b>
Gqumeni-Ward 5	Borehole	Borehole 01 UAPB10	Ubuhlebezwe LM	R 300 000	
Gqumeni-Ward 5	Borehole	Borehole 02 UAPB10	Ubuhlebezwe LM	R 300 000	
Gqumeni-Ward 5	Reservoir	Res 01 UAPB10	Ubuhlebezwe LM	R 3 089 419	
Gqumeni-Ward 5	Bulk Line	Borehole 02 UAPB10	Ubuhlebezwe LM	R 247 361	
Gqumeni-Ward 5	Bulk Line	Borehole 01 UAPB10	Ubuhlebezwe LM	R 268 820	
Gqumeni-Ward 5	Reticulation	RET_UAPB10	Ubuhlebezwe LM	R 1 682 240	
<b>Gqumeni-Ward 5</b>	<b>Total</b>				<b>R 5 887 839</b>
Ubuhlebezwe NU-Ward 5	Borehole	Borehole 01 UAPB11	Ubuhlebezwe LM	R 300 000	
Ubuhlebezwe NU-Ward 5	Borehole	Borehole 02 UAPB11	Ubuhlebezwe LM	R 300 000	
Ubuhlebezwe NU-Ward 5	Reservoir	Res 01 UAPB11	Ubuhlebezwe LM	R 2 677 374	
Ubuhlebezwe NU-Ward 5	Bulk Line	Borehole 01 UAPB11	Ubuhlebezwe LM	R 752 013	
Ubuhlebezwe NU-Ward 5	Bulk Line	Borehole 02 UAPB11	Ubuhlebezwe LM	R 370 988	
Ubuhlebezwe NU-Ward 5	Reticulation	RET_UAPB11	Ubuhlebezwe LM	R 1 760 150	
<b>Ubuhlebezwe NU-Ward 5</b>	<b>Total</b>				<b>R 6 160 524</b>
Kweletsheni-Ward 5	Borehole	Borehole 01 UAPB12	Ubuhlebezwe LM	R 300 000	
Kweletsheni-Ward 5	Borehole	Borehole 02 UAPB12	Ubuhlebezwe LM	R 300 000	
Kweletsheni-Ward 5	Reservoir	Res 01 UAPB12	Ubuhlebezwe LM	R 2 677 374	

Development of UAP for Water & Sanitation in Kwazulu-Natal



Scheme Name	Type	Name	Local Municipality	Infrastructure Cost	Total Cost
Kweletsheni-Ward 5	Bulk Line	Borehole 01 UAPB12	Ubuhlebezwe LM	R 275 263	
Kweletsheni-Ward 5	Bulk Line	Borehole 02 UAPB12	Ubuhlebezwe LM	R 267 303	
Kweletsheni-Ward 5	Reticulation	RET_UAPB12	Ubuhlebezwe LM	R 1 527 976	
<b>Kweletsheni-Ward 5</b>	<b>Total</b>				<b>R 5 347 916</b>
Ubuhlebezwe NU-Ward 9/1	Borehole	Borehole 01 UAPB13	Ubuhlebezwe LM	R 270 000	
<b>Ubuhlebezwe NU-Ward 9/1</b>	<b>Total</b>				<b>R 270 000</b>
Ubuhlebezwe NU-Ward 9/2	Borehole	Borehole 01 UAPB14	Ubuhlebezwe LM	R 270 000	
<b>Ubuhlebezwe NU-Ward 9/2</b>	<b>Total</b>				<b>R 270 000</b>
Ubuhlebezwe NU-Ward 9/3	Borehole	Borehole 03 UAPB15	Ubuhlebezwe LM	R 270 000	
Ubuhlebezwe NU-Ward 9/3	Borehole	Borehole 02 UAPB15	Ubuhlebezwe LM	R 270 000	
Ubuhlebezwe NU-Ward 9/3	Borehole	Borehole 01 UAPB15	Ubuhlebezwe LM	R 270 000	
<b>Ubuhlebezwe NU-Ward 9/3</b>	<b>Total</b>				<b>R 810 000</b>
Ubuhlebezwe NU-Ward 9/4	Borehole	Borehole 01 UAPB16	Ubuhlebezwe LM	R 270 000	
<b>Ubuhlebezwe NU-Ward 9/4</b>	<b>Total</b>				<b>R 270 000</b>
Ubuhlebezwe NU-Ward 9/5	Borehole	Borehole 01 UAPB17	Ubuhlebezwe LM	R 270 000	
<b>Ubuhlebezwe NU-Ward 9/5</b>	<b>Total</b>				<b>R 270 000</b>
Ubuhlebezwe NU-Ward 9/6	Borehole	Borehole 01 UAPB18	Ubuhlebezwe LM	R 270 000	
<b>Ubuhlebezwe NU-Ward 9/6</b>	<b>Total</b>				<b>R 270 000</b>
Mahehle-Ward 1	Borehole	Borehole 01 UAPB2	Ubuhlebezwe LM	R 300 000	
Mahehle-Ward 1	Borehole	Borehole 02 UAPB2	Ubuhlebezwe LM	R 300 000	
Mahehle-Ward 1	Reservoir	Res 01 UAPB2	Ubuhlebezwe LM	R 2 197 636	
Mahehle-Ward 1	Bulk Line	Borehole 01 UAPB2	Ubuhlebezwe LM	R 285 372	
Mahehle-Ward 1	Bulk Line	Borehole 02 UAPB2	Ubuhlebezwe LM	R 216 190	
Mahehle-Ward 1	Reticulation	RET_UAPB2	Ubuhlebezwe LM	R 1 319 679	

Development of UAP for Water & Sanitation in Kwazulu-Natal



Scheme Name	Type	Name	Local Municipality	Infrastructure Cost	Total Cost
<b>Mahehle-Ward 1</b>	<b>Total</b>				<b>R 4 618 876</b>
Ubuhlebezwe NU-Ward 4	Borehole	Borehole 01 UAPB3	Ubuhlebezwe LM	R 270 000	
<b>Ubuhlebezwe NU-Ward 4</b>	<b>Total</b>				<b>R 270 000</b>
Ubuhlebezwe NU-Ward 2	Borehole	Borehole 02 UAPB4	Ubuhlebezwe LM	R 270 000	
Ubuhlebezwe NU-Ward 2	Borehole	Borehole 01 UAPB4	Ubuhlebezwe LM	R 270 000	
<b>Ubuhlebezwe NU-Ward 2</b>	<b>Total</b>				<b>R 540 000</b>
Tsheleni-Ward 12	River extraction	River 01 UAPB5	Ubuhlebezwe LM	R 300 000	
Tsheleni-Ward 12	Reservoir	Res 01 UAPB5	Ubuhlebezwe LM	R 3 501 465	
Tsheleni-Ward 12	Reservoir	Res 02 UAPB5	Ubuhlebezwe LM	R 2 677 374	
Tsheleni-Ward 12	Reservoir	Res 03 UAPB5	Ubuhlebezwe LM	R 2 677 374	
Tsheleni-Ward 12	Reservoir	Res 04 UAPB5	Ubuhlebezwe LM	R 3 089 419	
Tsheleni-Ward 12	Bulk Line	River	Ubuhlebezwe LM	R 5 042 989	
Tsheleni-Ward 12	Bulk Line	WTW_UAPB5	Ubuhlebezwe LM	R 9 422 733	
Tsheleni-Ward 12	Bulk Line	WTW_UAPB5	Ubuhlebezwe LM	R 199 863	
Tsheleni-Ward 12	Bulk Line	WTW_UAPB5	Ubuhlebezwe LM	R 418 885	
Tsheleni-Ward 12	Bulk Line	WTW_UAPB5	Ubuhlebezwe LM	R 1 058 988	
Tsheleni-Ward 12	Pumpstation	Pump01_WTW_UAPB5	Ubuhlebezwe LM	R 6 121 395	
Tsheleni-Ward 12	Pumpstation	Pump02_WTW_UAPB5	Ubuhlebezwe LM	R 6 121 395	
Tsheleni-Ward 12	Small Package Plant	Small Package Plant	Ubuhlebezwe LM	R 70 000 000	
Tsheleni-Ward 12	Reticulation	RET_UAPB5	Ubuhlebezwe LM	R 44 252 752	
<b>Tsheleni-Ward 12</b>	<b>Total</b>				<b>R 154 884 633</b>
Hlokozi-Ward 8	Borehole	Borehole 01 UAPB6	Ubuhlebezwe LM	R 300 000	
Hlokozi-Ward 8	Borehole	Borehole 02 UAPB6	Ubuhlebezwe LM	R 300 000	
Hlokozi-Ward 8	Reservoir	Res 01 UAPB6	Ubuhlebezwe LM	R 3 089 419	



Development of UAP for Water & Sanitation in Kwazulu-Natal



Scheme Name	Type	Name	Local Municipality	Infrastructure Cost	Total Cost
Hlokozi-Ward 8	Bulk Line	Borehole 01 UAPB6	Ubuhlebezwe LM	R 1 043 240	
Hlokozi-Ward 8	Bulk Line	Borehole 02 UAPB6	Ubuhlebezwe LM	R 430 051	
Hlokozi-Ward 8	Reticulation	RET_UAPB6	Ubuhlebezwe LM	R 2 065 084	
<b>Hlokozi-Ward 8</b>	<b>Total</b>				<b>R 7 227 794</b>
Ubuhlebezwe NU-Ward 9/7	Borehole	Borehole 01 UAPB7	Ubuhlebezwe LM	R 300 000	
Ubuhlebezwe NU-Ward 9/7	Reservoir	Res 01 UAPB7	Ubuhlebezwe LM	R 567 752	
Ubuhlebezwe NU-Ward 9/7	Bulk Line	Borehole 01 UAPB7	Ubuhlebezwe LM	R 675 500	
Ubuhlebezwe NU-Ward 9/7	Reticulation	RET_UAPB7	Ubuhlebezwe LM	R 617 301	
<b>Ubuhlebezwe NU-Ward 9/7</b>	<b>Total</b>				<b>R 2 160 552</b>
Ubuhlebezwe NU-Ward 9/8	Borehole	Borehole 01 UAPB8	Ubuhlebezwe LM	R 270 000	
Ubuhlebezwe NU-Ward 9/8	Borehole	Borehole 02 UAPB8	Ubuhlebezwe LM	R 270 000	
Ubuhlebezwe NU-Ward 9/8	Borehole	Borehole 03 UAPB8	Ubuhlebezwe LM	R 270 000	
<b>Ubuhlebezwe NU-Ward 9/8</b>	<b>Total</b>				<b>R 810 000</b>
Ntabane-Ward 5	Borehole	Borehole 01 UAPB9	Ubuhlebezwe LM	R 300 000	
Ntabane-Ward 5	Borehole	Borehole 02 UAPB9	Ubuhlebezwe LM	R 300 000	
Ntabane-Ward 5	Reservoir	Res 01 UAPB9	Ubuhlebezwe LM	R 2 197 636	
Ntabane-Ward 5	Bulk Line	Borehole 02 UAPB9	Ubuhlebezwe LM	R 750 833	
Ntabane-Ward 5	Bulk Line	Borehole 01 UAPB9	Ubuhlebezwe LM	R 1 090 497	
Ntabane-Ward 5	Reticulation	RET_UAPB9	Ubuhlebezwe LM	R 1 855 586	
<b>Ntabane-Ward 5</b>	<b>Total</b>				<b>R 6 494 553</b>
<b>HARRY GWALA UNIVERSAL ACCESS PLAN</b>					<b>R 1 102 930 393</b>

## 10 RECOMMENDATIONS

The following recommendation needs to be considered as these are likely to impact the water and sanitation services provisions in Harry Gwala:

- Harry Gwala should strive to provide sustainable, cost effective water and sanitation services to all consumers;
- The conceptual bulk schemes identified in this report should be used to form a basis for further investigations to address the current backlogs, pre-feasibilities and feasibility studies must be undertaken.
- Water Master Plan must be updated to reflect the current backlog and solutions to how these will be addressed in the future.
- Water Service Authority must ensure that water and sanitation infrastructure must be aligned to the requirements of the Water Master Planning and Water Services development Plan (WSDP) document.
- Differentiated service levels should be introduced to cater for the needs of different income groups where indigent households qualify for free basic services;
- Formulate a data collection process to ensure reliable base data for strategic planning purposes;
- Water and sanitation services backlogs needs review on an annual basis to ensure that:-
  - The water services programme aligns with the available funding;
  - Equitable allocation of funding is applied;
  - Monitor progress of the planning;
  - Enable future planning.
- Although the focus may be on addressing the backlogs to those in need, Harry Gwala should also prioritise the maintenance of the existing infrastructure by introducing an asset management programme with appropriate budget.
- Water and sanitation attributes captured in this project must be confirmed on site and updated on the Geographic Information System (GIS). This will ensure that better planning could be completed and more accurate and realistic costing could be achieved.

- Regional schemes identified by Harry Gwala must be finalised in order to understand what are the overall costs to construct these schemes and how will this address the long term backlogs and upgrades to existing infrastructure.
- Cross border schemes must also be considered in order to address some of the outline areas.
- Potential dam sites such as the Bulwer dam site must also be investigated as Harry Gwala solely depends on water from outside of the district municipality. If these dam sites are found then it will be possible to supply neighbouring municipalities in need of water such as Ugu district municipality.
- Alternate sources of funding are needed to be secured in order to expedite service delivery and address the current backlogs. The current budget will not be able to address all the backlogs hence it is important for alternative funding models to be investigated.
- The projects listed in the Integrated Development Plan should be updated in terms of current progress and funding required for the completion of them.

---

## 11 CONCLUSION

---

The above mentioned recommendations must be considered to find the best solution to address the current backlogs. Better coordination and communication between Harry Gwala Water Service Authority, Umgeni Water and Department of Water Affairs will ensure that the common goal and vision of addressing backlogs and upgrades to existing infrastructure are achieved.

Funding models must be investigated in order to address these backlogs. Planning of regional and bulk schemes is the first steps but without funding these can be implemented. Harry Gwala together with other stakeholders must conduct feasibility studies in order to accurately determine and quantify the cost and suitability of bulk and regional schemes.

Harry Gwala lacks sources of raw water such as dams and relies on cross border supply. Hence it is important that future dam sites be investigated so that Harry Gwala could source water from these potential dams and become sustainable and not depend on other municipalities.

The short term schemes identified in the report are conceptual designs and are based on inputs from the operational staff at the engagement meeting. It is important that all water and sanitation infrastructure are confirmed through asset management programmes which will determine and confirm this infrastructure. This confirmation of infrastructure can be used for better water and sanitation planning and will update the current GIS database.

Harry Gwala should also prioritise the maintenance of the existing infrastructure by introducing an asset management programme with appropriate budget. Without maintenance and lack of maintenance could lead to an increase in backlogs numbers hence it is crucial that a maintenance budget set aside every year to maintain its current infrastructure.

The findings of this report and the GIS information collected should be used for future planning and decision making and must be further investigated through feasibility studies and must not be read in isolation from other studies undertaken in Harry Gwala District Municipality or other Water Authorities such as Umgeni Water and Department of Water Affairs.

The projects listed in the Integrated Development Plan and those set out by DWA which are shown in Annexure A and D are regional bulk schemes which are long term solutions to address backlogs and improve current water and sanitation infrastructure. These projects have are funded through the Municipal Infrastructure Grant and Municipal Water Infrastructure Grant which we have not considered when proposing conceptual alternate schemes to eradicate current backlogs. There could be overlapping of the proposed conceptual schemes to the regional bulk schemes and thus overlapping of infrastructure costs. The main reason that infrastructure cost could be overlapped is due to our mandate to develop conceptual schemes to eradicate the backlogs identified at the engagement meeting with the district municipalities.

## Annexure A

### Harry Gwala District Municipality

### DWA Priority Actions Plans

PRJNR (MWIG Project Number)	Project Origin	LM	Project Name	Project Description	Project Status	Type of Intervention	Total Project Cost
2006MIGFDC43112291	MIG	Kwa Sani	Underberg Bulk Water Supply Upgrade Phase 2 (AFA) MIS 180557	Construction of water supply in the Underberg area	Construction	-	29 919 386
2007MIGFDC43122607	MIG	Ubuhlebezwe	Ebovini/ Emazabekweni Community Water Supply (AFA) MIS 180558	The scope of the work is to provide the communities of eBovini and eMazabekweni with safe and accessible potable water. Water will be sourced from the neighboring Nokweja Water Project and will be fed into a storage reservoir in central eMazabekweni using a gravity main line. From this reservoir the water will be pumped to storage reservoirs in northern eMazabekweni and northern eBovini. Water will then be gravity fed to the communities, and will be made available through 160 communal tapstands. The project will provide 7119 people with safe and accessible potable water. 1017 households.	Construction	-	31 100 134
2007MIGFDC43123749	MIG	Ingwe	Centocow Community Water Supply (AFA) MIS 183977	The project lies in the area of Centocow which is approximately 15km from the Creighton Town in the Ingwe Local Municipality which falls under the Harry Gwala District Municipality. The communities are in need for an increase in the safe, adequate and reliable source of potable water. The present day population is estimated to e approximately 17690 people. Presently raw water is abstracted from Umzimkhulu River and is treated at an existing treatment works. The cleaned water is currently only used for the supply to the St Appolonaris Hospital. The project is designed to supply a basic to high level of service (25 to 60l/person/day) with water dispensed through community standpipes.	Construction	-	28 254 405
2007MIGFDC43158647	MIG	Ingwe	Gala Donnybrook Phase 1 Water	Gala Donnybrook Phase 1 Water project is located within Ward 3 in the Ingwe Local Municipality, and includes Gala, Diphini, Gqumeni and Isigodini villages (Isigodini Esikulu), and is valued at R11.854m (R14 438/household). The scheme will serve 821 households (4 399 people) at minimum RDP standards, and will ultimately be supplied from the Greater Bulwer Donnybrook bulk scheme.	Completed	-	11 853 590
2008MIGFDC43121865	MIG	Umzimkhulu	Umzimkhulu Bulk Water Supply	The project lies in the area of Umzimkulu Town and Clydesdale, wards 16 and 17 of the Umzimkulu Local Municipality which falls under the Harry Gwala District Municipality. The communities are in need for an increase in the safe, adequate and reliable source of potable water. the infrastructure has reached its capacity and requires augmentation to meet the growing short and long term water requirements. The present day population is estimated to be approximately 12 514 people. In three years' time this population is expected to rise to 24 934 when planned housing developments are completed. A 2.5% growth rate is used to calculate the future population to 2026 (20 years design) which will be 37 940. Presently raw water is abstracted from Mvubukazi River and a borehole source. An abstraction plant at the Umzimkulu river is non-operational since 2003. the raw water from the Mvubukazi river is treated at the Umzimkulu treatment works and the distributed to the Community of Umzimkulu. The Clydesdale Community receives water from the borehole which is erratic and the community frequently goes without water. The project is designed to supply a basic to high level of service (25 to 150 / person / day) with water dispensed through standpipes in the semi urban area and private connections provided at the consumers cost to the urban area. The project will allow for the upgrade of the Umzimkulu abstraction pumps and the Umzimkulu Water Treatment work to cater for 4.4ML/day. Construction of 3No. Concrete reservoirs and the associated piping (rising main and bulk supply).	Construction	-	18 060 000

PRJNR (MWIG Project Number)	Project Origin	LM	Project Name	Project Description	Project Status	Type of Intervention	Total Project Cost
2008MIGFDC43158620	MIG	Kwa Sani	Enhlanhleni and KwaPitela Water Project (AFA) MIS 200174	The project entails the provision of basic water services to the eNhlanhleni and KwaPitela areas, in the KwaSani Local Municipality area. In KwaPitela a scheme exists in the area which was developed (CMIP No. 2003 C43 132) at a cost of R1.3m and the following infrastructure was provided; 1 x borehole, 50kl reservoir, 11.7km pipeline and 30 no. standpipes. This proposed project will increase the storage and reticulation to achieve an RDP level of service to the 850 people residing in the area.	Construction	-	5 970 012
2008MIGFDC43158668	MIG	Kwa Sani	Mqatsheni Stepmore Water Project (AFA) MIS 201756	The project entails the provision of basic water services to the communities of Mqatsheni and Stepmore in the KwaSani Local Municipal area. The project entails the development of infrastructure to abstract, treat and provide water at a basic level of service to 14,993 people in 1874 households with water initially from boreholes. The bulk infrastructure will be designed to enable the abstraction and treatment from the Umkomazi river at a later stage. The reticulation component for 1200 of the households of the project will be funded from the housing upgrade projects currently in progress in the areas.	Construction	-	35 218 916
2008MIGFDC43164137	MIG	Ubuhlebezwe	Hlokozi Water Project	This project entails the provision of a basic level water service to the community of Hlokozi. Hlokozi is situated approximately 15km south of the town of Highflats in southern KwaZulu Natal.	Construction	-	35 411 292
2009MIGFDC43179853	MIG	Ingwe	Mangwaneni Water Supply Project (AFA) MIS 201670	The scope of works covered in the planning phase of the project is to prepare a DWAF Generic Water Feasibility Study (May 2005 format) and Mig registration forms for the above project to enable the Harry Gwala district Municipality to access the funds for the construction of reliable potable water infrastructure to serve the community of Mangwaneni.	Construction	-	8 525 483
2011MIGFDC43195345	MIG	Greater Kokstad	Pakkies Ext Phase 2	The project serves to provide the Pakkies area in Kokstad with rudimentary levels of water services. Some 150 households will be served and about 1200 people will benefit. The previous area that was served was Ekethuleni and Thutakani which is about 10- 15 kilometres away from Pakkies main area. More than 156 houses were served during phase 1. The areas will be supplied with spring water from two sources and will have standpipes as outlet devices as the community is sparsely populated over a wide farming type area. The springs would have to be refurbished, new bulks lines and reticulation lines will be installed.	Design	-	5 325 727
2011MIGFDC43197840	MIG	Greater Kokstad	Kokstad Rudimentary Water Projects	The project is for the eradication of water backlogs in the Greater Kokstad Municipality and entails basic water supply to 1730 people living in 288 households in the rural areas of the Local Municipality. The level of service ranges from springs and borehole schemes. The areas include Wansberg, Skyprop, Nyanisweni, Riverside, Newmarket, Mariaskop and Kraansdraai.	Construction	-	5 081 436
2011MIGFDC43201662	MIG	Ingwe	Khukhulela Water Supply	The Khukhulela water supply project falls under Ingwe LM of Harry Gwala DM area. The project entails provision of basic level of service to some 641 households (3600 people). The scope of work includes construction of the water reticulation network, development of the water source, installation of the package treatment plant and store facility of the source, construction of a new 7800 meter bulk main, construction of one 250 kl, one 75 kl, one 50 kl reservoirs and nine 500 kl break pressure tanks, the construction of 73 supply points, air valves, isolating valves and scour valves, the provision of bulk meters and yard connections.	Construction	-	20 465 370
2011MIGFDC43201672	MIG	Ubuhlebezwe	Ithubalethu Water Supply	The Ithubalethu water supply scheme falls under Ubuhlebezwe LM of Harry Gwala area. The project entails securing a reliable and sustainable water source either surface or/and ground water, installing a package treatment plant to treat the raw water to the required standards; construction of the bulk water mains network including pump station and construction of reservoirs. The project entails providing bulk water to 16395 people (3226 households). The internal reticulation is to be funded by the housing project; construction of suitable storage facilities.	Construction	-	24 298 593



PRJNR (MWIG Project Number)	Project Origin	LM	Project Name	Project Description	Project Status	Type of Intervention	Total Project Cost
2011MIGFDC43201818	MIG	Ingwe	Greater Nomandlovu Water Supply Scheme	The project area falls within the Ingwe Local Municipality and encompasses electoral wards 4, 5 and 6. The project area is approximately 19.75km <sup>2</sup> in extent and will predominately serve the south of Donnybrook Town. The main objective is to provide a 200m walking distance potable water supply to a population of 8171 serving 1654 households. The scope includes the construction of water reticulation networks, installation of a package treatment plant and storage facility at Nxumeni River, 10km bulk pipeline, 52 km reticulation lines, 1 x 250kl reservoir, 5 x 20 000kl jojo tanks, 20 x 10 000kl jojo tanks, break pressure tanks and 132 communal standpipes with associated valve chambers.	Construction	-	43 345 270
2011MIGFDC43195108	MIG	Greater Kokstad	Makhoba Housing Water - Eradication of GKM Water Backlogs	Bulk Water Supply for 1400 houses in Springfontein and Argyll areas of Kokstad. House being built by Dept of Human Settlement. Part of the resettlement programme of the Makhoba Community which is a Presidential project. Springfontein will have bore hole sources that have been confirmed whilst Argyll will have a combination of borehole and surface water from Argyll dam. Estimated population is 11200. Reticulation and house connections being funded by Dept of Human Settlements at an amount of R 26,559,701 and include high level of service as there will water borne system. Harry Gwala DM will only cover the bulk water for the Makhoba Housing project.	Construction	-	40 122 097
2011MIGFDC43203339	MIG	Umzimkhulu	Santombe Water Supply - Phase 3	The project involved development of the water source and reticulation to RDP standards in the villages of Masameni, Mqumeni, Ndlovini and Ehlanzeni.	Construction	-	83 698 348
2011MIGFDC43201172	MIG	Ubuhlebezwe	Ixopo - Mariathal Water Supply Project	The construction of 7000m bulk mains to provide water directly to 335 households and indirectly to 1162 households in the Ixopo- Mariathal region. The construction of the water reticulation network to 335 households. The construction of new reticulation to the area estimated to be approximately 22 600m in total length. A construction of a reservoir to serve the project area. The construction of 48 supply points to supply the households within a 200m radius.	Construction	-	24 420 017
2012MIGFDC43201939	MIG	Ubuhlebezwe	Chibini Water Supply Project	The Chibini Water Supply Project falls under Ubuhlebezwe Local Municipality within the Harry Gwala District Municipality area of jurisdiction. The main objective of the project is to provide approximately 6272 people living in 1162 households with a supply of potable water. The scope of work includes:- 1. Construction of Water Reticulation network with an approximate total length of 58 400m; 2. Construction of Water Storage Reservoirs-1000m <sup>3</sup> 3. Construction of Water 153 water points to supply the households within a 200m radius; 4. Construction of break pressure tanks; 5. Installation of air valves, isolating valves and scour valves. and 6. Installation of bulk meters at the boundary of each supply zone, 7. Construction of booster online pump station.	Construction	-	30 173 853

PRJNR (MWIG Project Number)	Project Origin	LM	Project Name	Project Description	Project Status	Type of Intervention	Total Project Cost
2012MIGFDC43206981	MIG	Ingwe	Greater Kilimon Water Supply Project	<p>This project aims to serve the Greater Kilimon and neighbouring communities. The project area is located in Ingwe Local Municipality which falls under Harry Gwala District Municipality. The population to be served by this project is 31 975 in 5 944 households. Currently the water sources in this area are made up of rivers and boreholes with poor quality water and also the supply runs dry in winter. This project aims to provide the population with a reliable source of potable water from the Ngwangwane River. The scope of works of this project involves the construction of the following:</p> <ul style="list-style-type: none"> <li>Construction of a 12ML/day dam</li> <li>Inter basin transfer from Umzimkhulu River to Ngwangwane River</li> <li>Construction of the bulk mains and reticulation to approximately 5 944 households as identified from recent orthophotos</li> <li>Development of the water source</li> <li>Construction of the water treatment plant and storage facility at the source</li> <li>Construction of a new 2 600m 200mm diameter bulk and 3MI reservoir (Res 1 - Greater Kilimon)</li> <li>Construction of a new 12 100m 200mm diameter bulk main and 300kl reservoir (Res 2 - Project J)</li> <li>Construction of a new 13 700m 150mm diameter and 750 kl reservoir (Res 3 - Project K)</li> <li>Construction of a new 2ML reservoir (Res 4 - Project L)</li> <li>Construction of a new 7 100m 150mm diameter bulk main 1ML reservoir (Res 5 - Project M)</li> <li>Bulk meters will be provided at the boundary of each distinct supply zone.</li> </ul>	Construction	-	700 886 939
2012MIGFDC43207478	MIG	Ubuhlebezwe	Refurbishment of Esiqandulweni Water Treatment Works	<p>Esiqandulweni Water Treatment Works has a capacity of 3 m<sup>3</sup>/hr. It is a Class D works. The works consists of raw water submersible pump in Mkomazi River, package plant in container with a generator, plastic prefabricated clarifier, pressure filters and pump, chemical dosing pumps and high lift pump. The scope of works includes, but is not limited to the following: new inlet structure, replacing filter media, test and refurbish electrical system, new inlet and outlet flow meters, compile O&amp;M manuals, staff training (compliance and regulations) etc. The implementation of this work should ensure that the WTW will become compliant and help improve the Blue Drop score.</p>	Planning	-	1 329 490
2012MIGFDC43207673	MIG	Kwa Sani	Refurbishment of Underberg Water Treatment Works	<p>Underberg Water Treatment Works has a capacity of 3.6 ML/day. It is a Class D works. The works is currently being upgraded under a separate contract. The aim of this business plan is to address issues such as staff/operator training, compilation of O&amp;M manuals and maintenance schedules, on site monitoring equipment etc., and technical support once refurbishment works are complete. The overall aim is to achieve Blue Drop compliance in 2011.</p>	Planning	-	771 962
2012MIGFDC43207875	MIG	Ingwe	Greater Mbhulelweni Water Supply Project	<p>This project aims to serve the Greater Mbhulelweni and neighbouring communities. The project area is located in Ingwe local municipality which falls under Harry Gwala district Municipality. It is the vicinity of Donnybrook town and will serve the communities to the north of town. The population to be served by this project is 30 252 in 5 841 households. Currently the water sources in this area are made up of rivers and boreholes with poor quality water and also the supply runs dry in winter. This project aims to provide the population with a reliable source of potable water from the Ngudwini Dam. The scope of works of this project involves the construction of the following;</p> <ul style="list-style-type: none"> <li>Construction of the water reticulation network to approximately 5 841 households as identified from recent orthophotos</li> <li>Installation of a package treatment plant and storage facility at the source</li> <li>Construction of a new 8 000m rising bulk main to the area with the associated reticulation estimated to be approximately 178 400m</li> <li>Construction of three new primary reservoirs within the project area as outlined in the Master plan</li> <li>Construction of new secondary reservoirs within the project area</li> <li>Construction of 372 supply points to supply the households within a 200m radius</li> <li>Construction of break pressure tanks.</li> </ul>	Construction	-	104 347 225

PRJNR (MWIG Project Number)	Project Origin	LM	Project Name	Project Description	Project Status	Type of Intervention	Total Project Cost
2012MIGFDC43202029	MIG	Ubuhlebezwe	Ufafa Water Supply Project	The proposed site is located in the Amala phansi district in ward 2 of Mbonambi Local Municipality. The ward councillor is Councillor M.C Hlongwane. Population to benefit from the community hall is approximately 7,500 people and 1 071 households according to the local councillor. The proposed site has an area of approximately 75m*80m and is located approximately 35km northeast from the town of Kwambonambi. The proposed site is on a relatively level area as to minimize earthworks. Access to the site is by means of a short gravel access road from the RBM tarred road. The tarred road is currently in poor condition. There is no potable water to the site, but there is electricity supply adjacent to the site. There is currently no water borne sewage network within the area.	Construction	-	42 744 568
2012MIGFDC43205407	MIG	Ingwe	St Apolinaries Water Treatment Works	St Apolinaries Water Treatment Works has a capacity of 1.1 ML/day. It is a Class D works. The works consist of raw water supply from UMzimkhulu River via pumps, raw water balancing tank clarifier, clarified water holding tank, pressure filter, chemical dosing equipment and clear water reservoirs. The scope of works includes, but is not limited to the following: servicing of raw water pumps and electrics, clean and refurbish clarifier, repair and sea reservoir roofs, replacing of filter media, compile O&M manuals, staff training (Compliance with regulations) etc. The implementation of this work should ensure that the WTW will become compliant and improve the Blue Drop score.	Planning	-	1 994 236
2012MIGFDC43209529	MIG	Ubuhlebezwe	Umkhunya Water Supply Schemes	The project area Mkhunya comprises of Sangcwaba, Mahlubini, Phumobala, S'ngandulweni, Nkweletsheni, Butateni, Zasengwa, Amanyuswa, Mnyanyabuzi, Skokfela, Kwanobhunga, Nongegana, Springvale & Mziki Agri-village areas. These areas fall under Ward 5 of Buhlebezwe LM, Harry Gwala DM. The scheme will provide water to 2482 households with a population of 19856 people.	Construction	-	161 364 598
2012MIGFDC43209640	MIG	Ingwe	Mahwaqa Water Supply	The planned scope of work will consist of the following items: Access Grant funding for the implementation of the project; construction of the water reticulation network to approximately 113 households as identified from recent orthophotos; construction of new reticulation to the area estimated to be approximately 9 900m; construction of one reservoir to serve the project area; construction of 18 supply points to supply the households within a 200m radius; construction of break pressure tanks; the network will include for air valves, isolating valves and scour valves. Isolating valves will be located to minimise the effect of closure on the supply and to suit scour activities; bulk meters will be provided at the boundary of each distinct supply zone; the networks are designed to cater for an ultimate demand of 60l/c/day although only communal standpipes will be provided for in terms of this Technical Report; it is envisaged that yard connections will be installed and paid for by the payment of a connection fee. MIG funds will be utilised to provide community dispensing units only where required.	Construction	-	7 283 164
2012MIGFDC43206884	MIG	Ubuhlebezwe	Refurbishment of Nokweja Water Treatment	Nokweja Water Treatment works has a capacity of 1.8 ML/day. It is a class D works. The works consist of raw water supply from Umzimkhulu River. 2 No. clarifiers, 2 No. sludge dams. the scope of works includes, but is not limited to the following inspection and servicing of raw water pumps, implementation of pre chlorination, repair / servicing of chemical dosing pumps, installation of inlet and outlet magnetic flow meters, compile O&M manuals, staff training (compliance with regulations) etc. The implementation of this work should ensure that the WTW will become compliant and help improve the Blue Drop score.	Planning	-	979 248
2012MIGFDC43207664	MIG	Harry Gwala	Refurbishment of Creighton Water Treatment Works	Creighton Water Treatment Works has a capacity of 1.0 MI/day. It is a Class D works. The works consists of raw water supply from Umzimkhulu River, raw water balancing tank, clarifier, and clarified water holding tank, 2 No. pressures filters and chemical dosing equipment. After a thorough assessment of the site and the processes/procedures being carried out a list of works required to make the plant complaint. The scope of works includes, but is not limited to the following: service raw water pumps and electrics, access ladder to clarifier, repair and seal reservoirs, new flow meters, compile O&M manuals, staff training(compliance with regulations) etc. The implementation of these works should ensure that the WTW will become compliant and help improve Blue Drop scores	Planning	-	1 879 871

PRJNR (MWIG Project Number)	Project Origin	LM	Project Name	Project Description	Project Status	Type of Intervention	Total Project Cost
2012MIGFDC43207682	MIG	Harry Gwala	Refurbishment of Hlanganani Water Treatment Works	Creighton Water Treatment Works has a capacity of 1.0 Ml/day. It is a Class D works. The works consists of raw water supply from Umzimkhulu River, raw water balancing tank, clarifier, and clarified water holding tank, 2 No. pressures filters and chemical dosing equipment. After a thorough assessment of the site and the processes/procedures being carried out a list of works required to make the plant complaint. The scope of works includes, but is not limited to the following: service raw water pumps and electrics, access ladder to clarifier, repair and seal reservoirs, new flow meters, compile O&M manuals, staff training(compliance with regulations) etc. The implementation of these works should ensure that the WTW will become compliant and help improve Blue Drop scores.	Planning	-	1 979 941
2012MIGFDC43207686	MIG	Umzimkhulu	Refurbishment of Umzimkhulu Water Treatment Works	Umzimkhulu Water Treatment Works has a capacity of 5 ML/day. It is a Class D works. The works consists of raw water inlet with chemical dosing, flocculation channel, 3 No. clarifiers, 4 No. balancing tanks, 5 No. pressure filters, clear water reservoir, high lift pump station and sludge dams. The scope of works includes, but is not limited to the following: replacement of inlet and outlet flow meters, replacement of dosing system, refurbishment of clarifiers, cleaning of sludge ponds, replacing filter media, servicing high lift pumps and electrics, compile O&M manuals, staff training( compliance with regulations)etc. The implementation of this work should ensure that the WTW will become compliant and improve the Blue Drop score.	Planning	-	2 516 025
KNR007	RBIG	Ingwe	Greater Bulwer Donnybrook Water Scheme	Greater Bulwer Donnybrook Water Scheme	Construction	-	157 600 000
ZKZNSIS10	23DM	Ubuhlebezwe	Esiqandulweni WTW Refurbishment	Esiqandulweni Water Treatment Works has a capacity of 3m3/hr. It is a Class D works. The works consists of raw water submersible pump in Mkomazi river, package plant in container with a generator, plastic prefabricated clarifier, pressure filters and pump, chemical dosing pumps and high lift pump. After a thorough assessment of the site and the processes/procedures being carried out a list of works required to make the plant compliant. The scope of works includes, but is not limited to the following: new inlet structure, replacing filter media, test and refurbish electrical system, new inlet and outlet flowmeters, compile O&M manuals, staff training (compliance with regulations) etc. The implementation of these works should ensure that the WTW will become compliant and help ensure Blue Drop compliance also.	Planning	refurbishment	1 329 490
ZKZNSIS05	23DM	Ubuhlebezwe	Nokweja WTW Refurbishment	Nokweja Water Treatment Works has a capacity of 1.8ML/day. It is a Class D works. The works consists of raw water supply from Umzimkhulu River, 2 No. clarifiers, 2 No. pressure filters, chemical dosing room, high lift pumps, 100KL clear water reservoir and 2 No. sludge dams. After a thorough assessment of the site and the processes/procedures being carried out a list of works required to make the plant compliant was compiled. The scope of works includes, but is not limited to the following: inspection and servicing of raw water pumps, implementation of pre chlorination, repair/servicing of chemical dosing pumps, installation of inlet and outlet mag flow meters, compile O&M manuals, staff training (compliance with regulations) etc. The implementation of these works should ensure that the WTW will become compliant and help ensure Blue Drop compliance also.	Planning	refurbishment	979 248
ZKZNSIS06	23DM	Ingwe	Bulwer WTW Refurbishment	Bulwer Water Treatment Works has a capacity of 472 KL/day. It is a Class D works. The works consists of raw water supply from a spring, 2 no. slow sand filters, chemical dosing room, 2 no. clear water reservoirs. After a thorough assessment of the site and the processes/procedures being carried out a list of works required to make the plant compliant. The scope of works includes, but is not limited to the following: clean and repair sand filters and replace media, replace sand washing structure, replace all chem dosing equipment, replace flowmeters, clean and repair reservoir roofs and walls, compile O&M manuals, staff training (compliance with regulations) etc. The implementation of these works should ensure that the WTW will become compliant and help ensure Blue Drop compliance also.	Planning	refurbishment	3 030 667

PRJNR (MWIG Project Number)	Project Origin	LM	Project Name	Project Description	Project Status	Type of Intervention	Total Project Cost
ZKZNSIS07	23DM	Umzimkhulu	Riverside WTW Refurbishment	Riverside Water Treatment Works has a capacity of 0.7 ML/day. It is a Class D works. The works consists of raw water pump station with flocculation dosing, 1 No. 10KL raw water holding tank, 6 No. clarifiers, 6 No. pressure filters and associated pumps, dosing pumps and high lift pumps.. After a thorough assessment of the site and the processes/procedures being carried out a list of works required to make the plant compliant was compiled. The scope of works includes, but is not limited to the following:replacement of filter media, servicing dosing pumps, install new inlet and outlet flowmeters, provision of new office and ablution facilities, new access road, compile O&M manuals, staff training (compliance with regulations) etc. The implementation of these works should ensure that the WTW will become compliant and help ensure Blue Drop compliance also.	Planning	refurbishment	1 651 142
ZKZNSIS01	23DM	Umzimkhulu	KwaMaiTheekloof Water Supply	To provide approximately 5 746 people living in 1 202 huoseholds with a safe and reliable supply of potable water. The rural communities within the project area presently use rivers, boreholes and springs for the supply of water. These are not reliable and are susceptible to waterborne diseases. The scope of work includes . <ul style="list-style-type: none"> <li>• construction of 600m of 250mm diameter bulk mains from Ibisi WTW to PI1;</li> <li>• construction of 6 300m of 200mm diameter bulk mains from PI1 to project area AB;</li> <li>• construction of 8 300m of 200mm diameter bulk mains from PI1 to project area AD;</li> <li>• construction of the water bulk and reticulation networks to approximately 1 202 households</li> </ul>	Planning	new supply	44 830 378
ZKZNSIS02	Other	Ingwe	Creighton Water Supply	The main objective of this project is to provide for approximately 12 054 people living in 2 940 households with a supply of potable water. The rural communities within the project area presently use rivers, boreholes and springs for the supply of water. These are not reliable and are susceptible to waterborne diseases. The Bulwer system is not taking place in time to satisfy the medium term demand of Creighton. The Nkonzo River/Creighton Dam is the only viable source within the area for this medium term demand. The scope of work: Construction of 1Ml package treatment plant at Creighton, 2Ml reservoir, various bulk mains, a reservoir, water bulk network, bulk meters, etc	Planning	new supply and upgrade	60 454 073
ZKZNSIS03	Other	Ingwe	Nkelabantwana Nkhumba Water Supply	To provide approximately 13 523 people living in 2 702 huoseholds with a safe and reliable supply of potable water. The rural communities within the project area presently use rivers, boreholes and springs for the supply of water. These are not reliable and are susceptible to waterborne diseases. The scope of work includes construction of: bulk mains, internal reticulation, reservoirs, various valves and metering.	Planning	new supply	65 362 818
ZKZNSIS08	Other	Ingwe	Greater Tarrs Valley Water Supply	200 households	Planning	new supply	4 800 000
ZKZNSIS04	Other	Ubuhlebezwe	Hopewell	The purpose of this project is to provide the community with a supply of potable water to 1,235 people in 284 households. This projects involves the construction of approximately 6,600m of bulk water mains and reservoirs. The reticulation network is already in place as are a number of standpipes to provide the 284 households with water within 200m distance.	Planning	new supply and upgrade	9 906 193

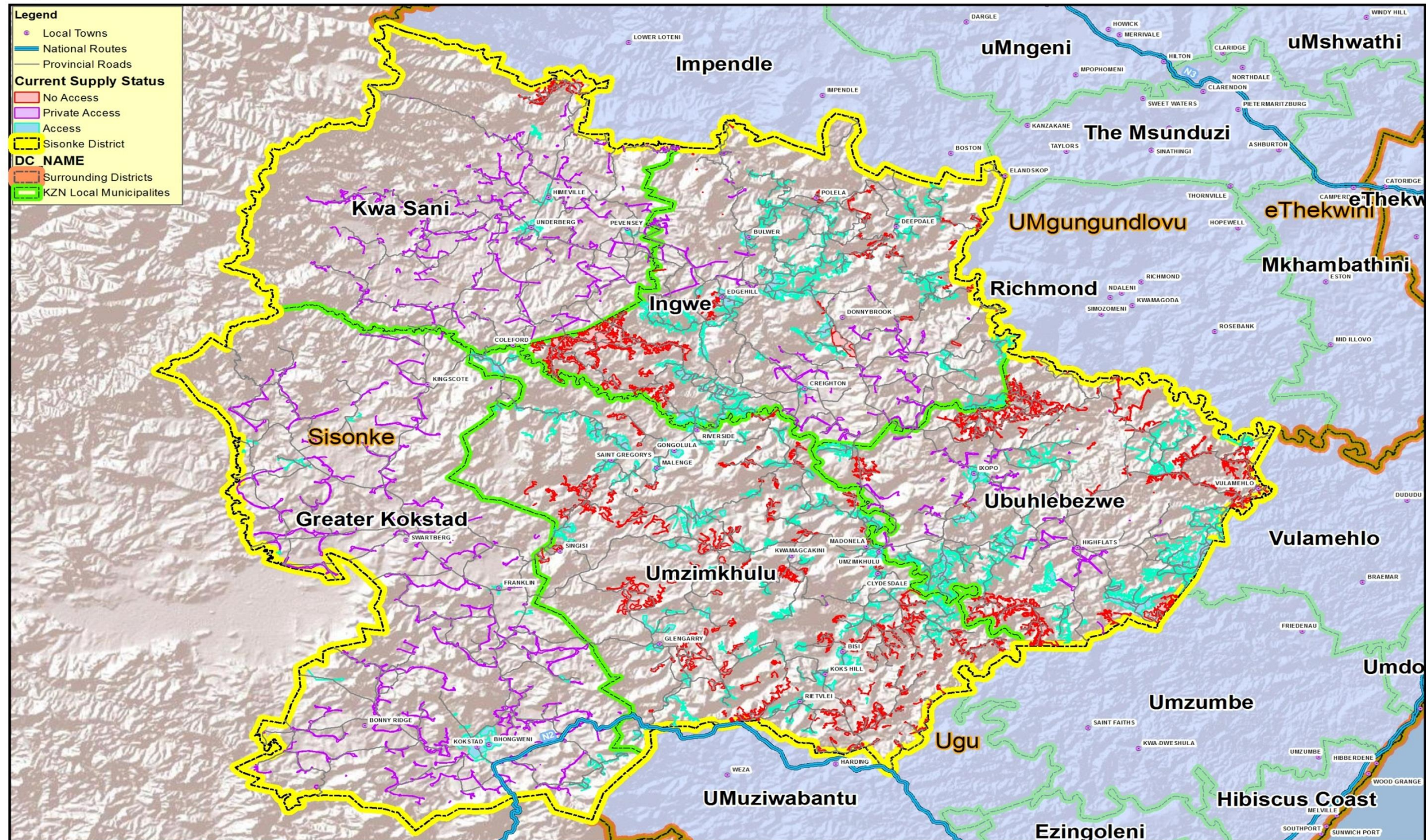
PRJNR (MWIG Project Number)	Project Origin	LM	Project Name	Project Description	Project Status	Type of Intervention	Total Project Cost
ZKZNSIS09	Other	Umzimkhulu	Greater Summerfield Water Project	<p>To provide approximately 25 652 people living in 4 985 households with a safe and reliable supply of potable water. The rural communities within the project area presently use rivers, boreholes and springs for the supply of water. These are not reliable and are susceptible to waterborne diseases. The scope of work includes .</p> <ul style="list-style-type: none"> <li>• construction of Mvolozi Dam;</li> <li>• inter basin transfer from Umzimkhulu River to Mvolozi River;</li> <li>• construction of treatment works;</li> <li>• construction of 2Ml command reservoir;</li> <li>• construction of Reservoirs 23, 24, 25, 26, 27, 28 and 31;</li> <li>• construction of 6 870m of 300mm diameter bulk mains;</li> <li>• construction of 12 590m of 150mm diameter bulk mains;</li> <li>• construction of 26 940m of 100mm diameter bulk mains;</li> <li>• construction of the water bulk network to approximately 1 823 households in Projects Y, Z, AC and AE</li> </ul>	Planning	new supply	282 094 439
		Greater Kokstad					50 529 260
		Ingwe					1 218 203 239
		Kwa Sani					71 880 276
		Ubuhlebezwe					364 036 724
		Umzimkhulu					150 755 893
<b>Totals</b>							<b>1 859 265 204</b>

## Annexure B

# Water Supply & Sanitation Footprints

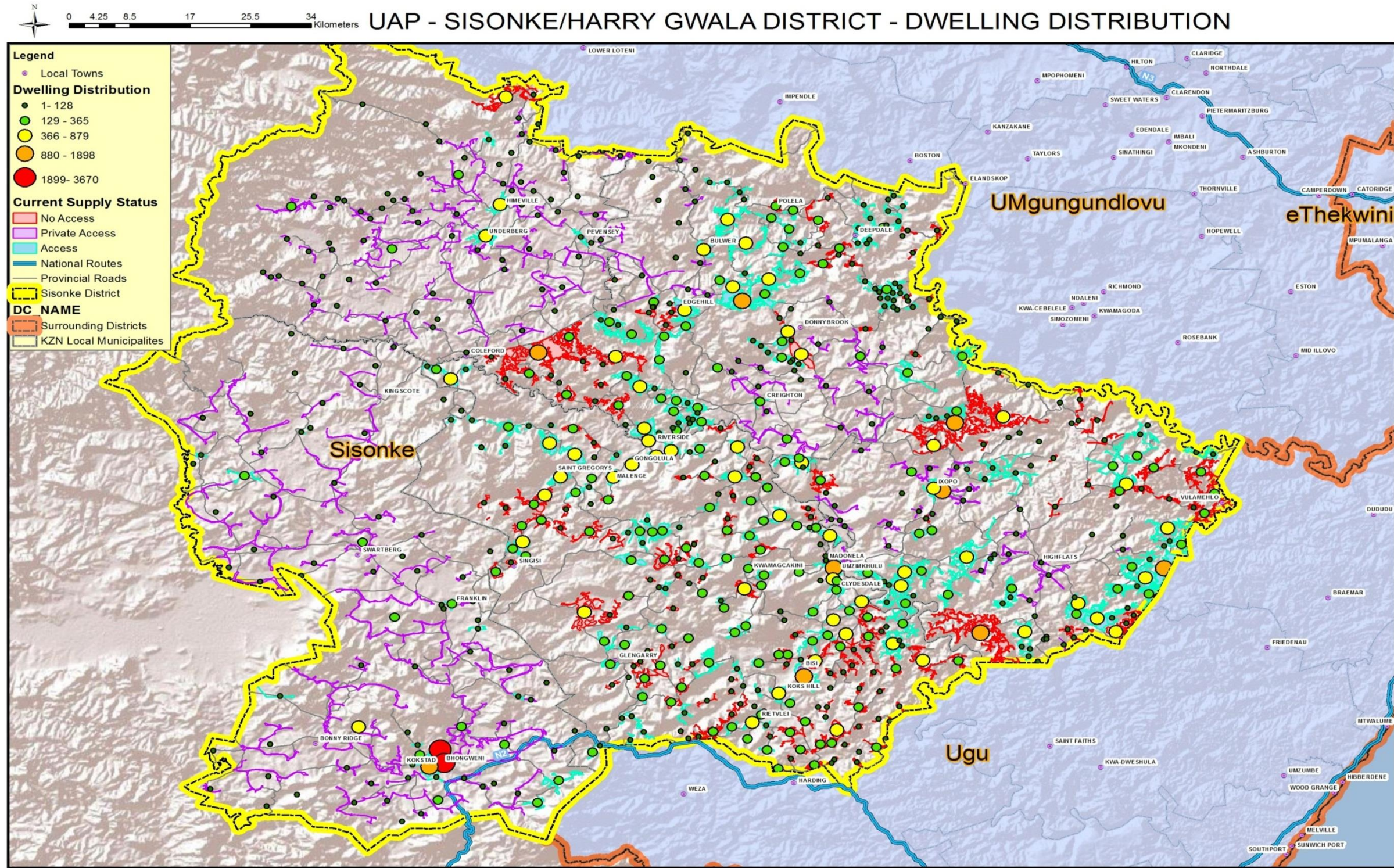


### UAP - LOCAL MUNICIPALITIES - WATER SUPPLY



Map 1: HGDM Water Supply

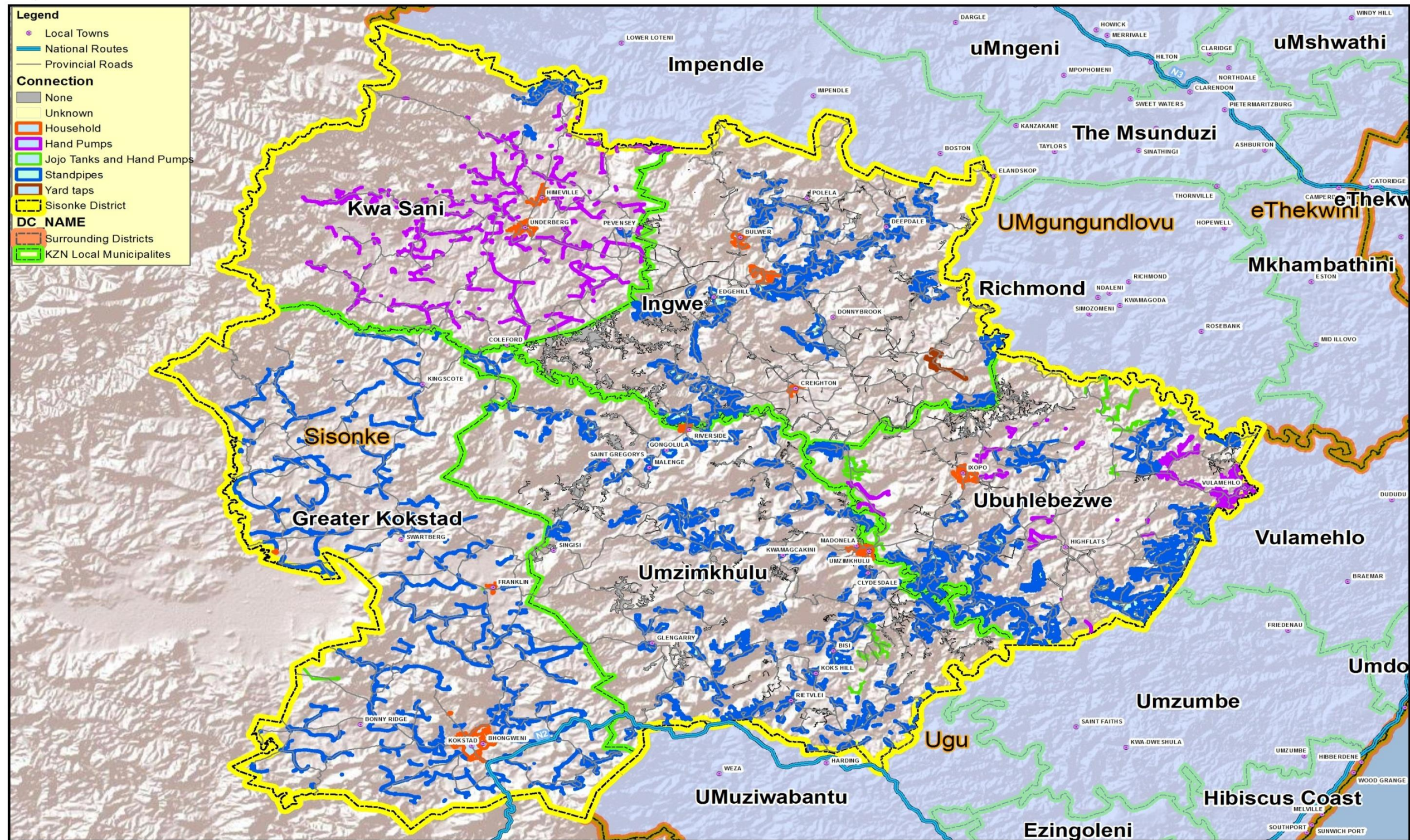




Map 2: HGDM Dwelling Distribution



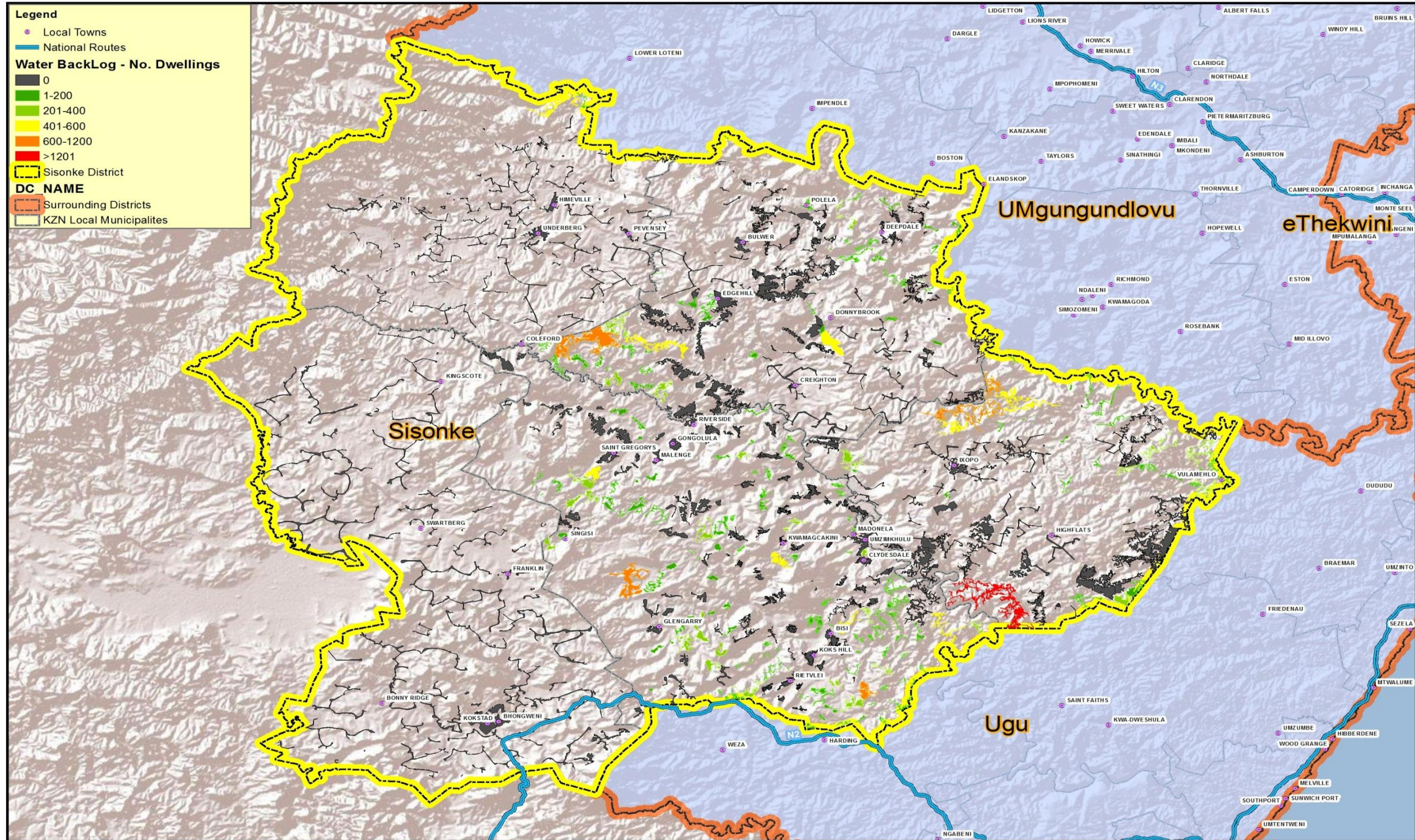
### UAP - LOCAL MUNICIPALITIES - WATER CONNECTION TYPE



Map 3: HGDM Water Connection Types

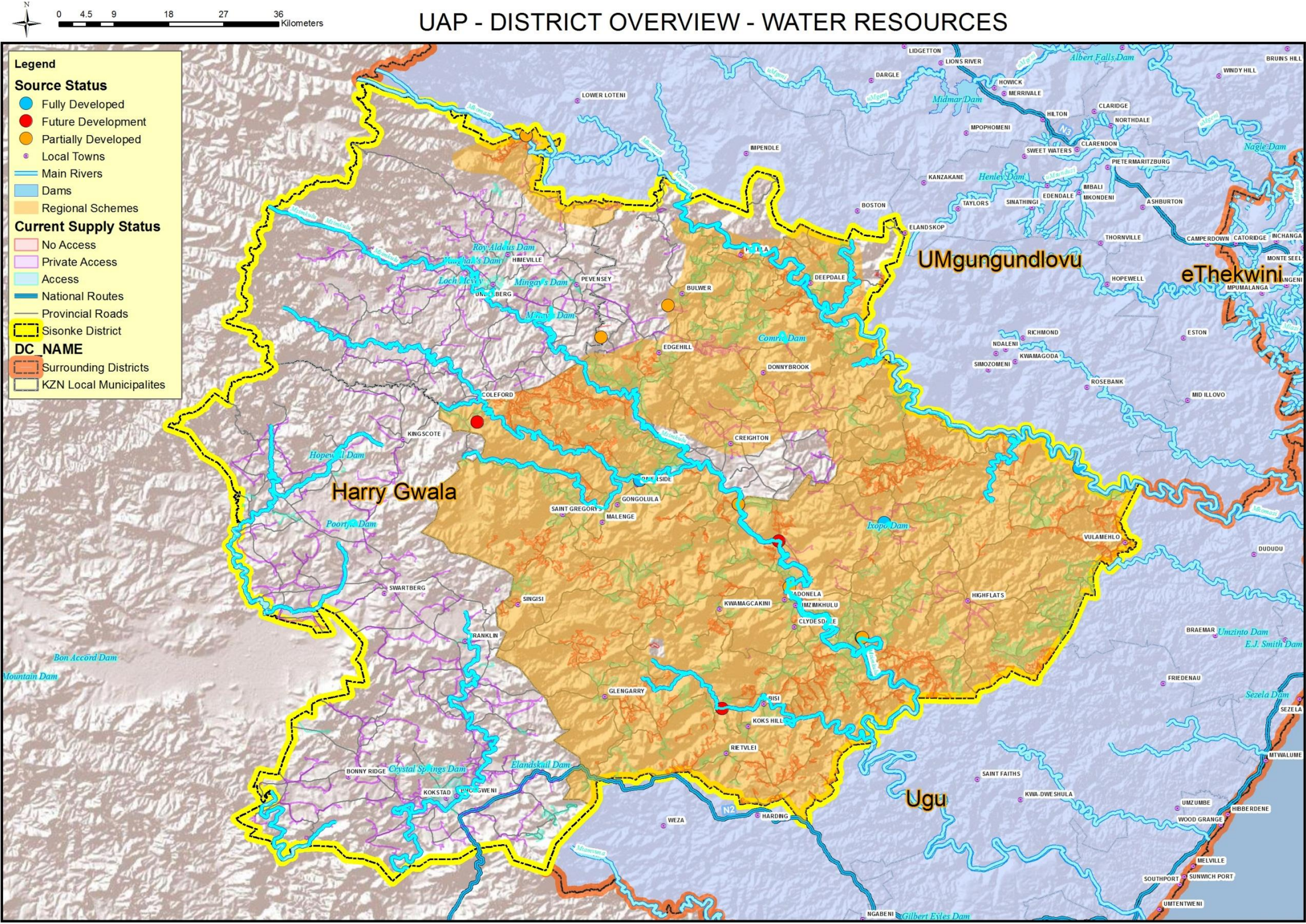


### UAP - SISONKE/HARRY GWALA DISTRICT - WATER BACKLOG



Map 4: HGDM Water Backlogs

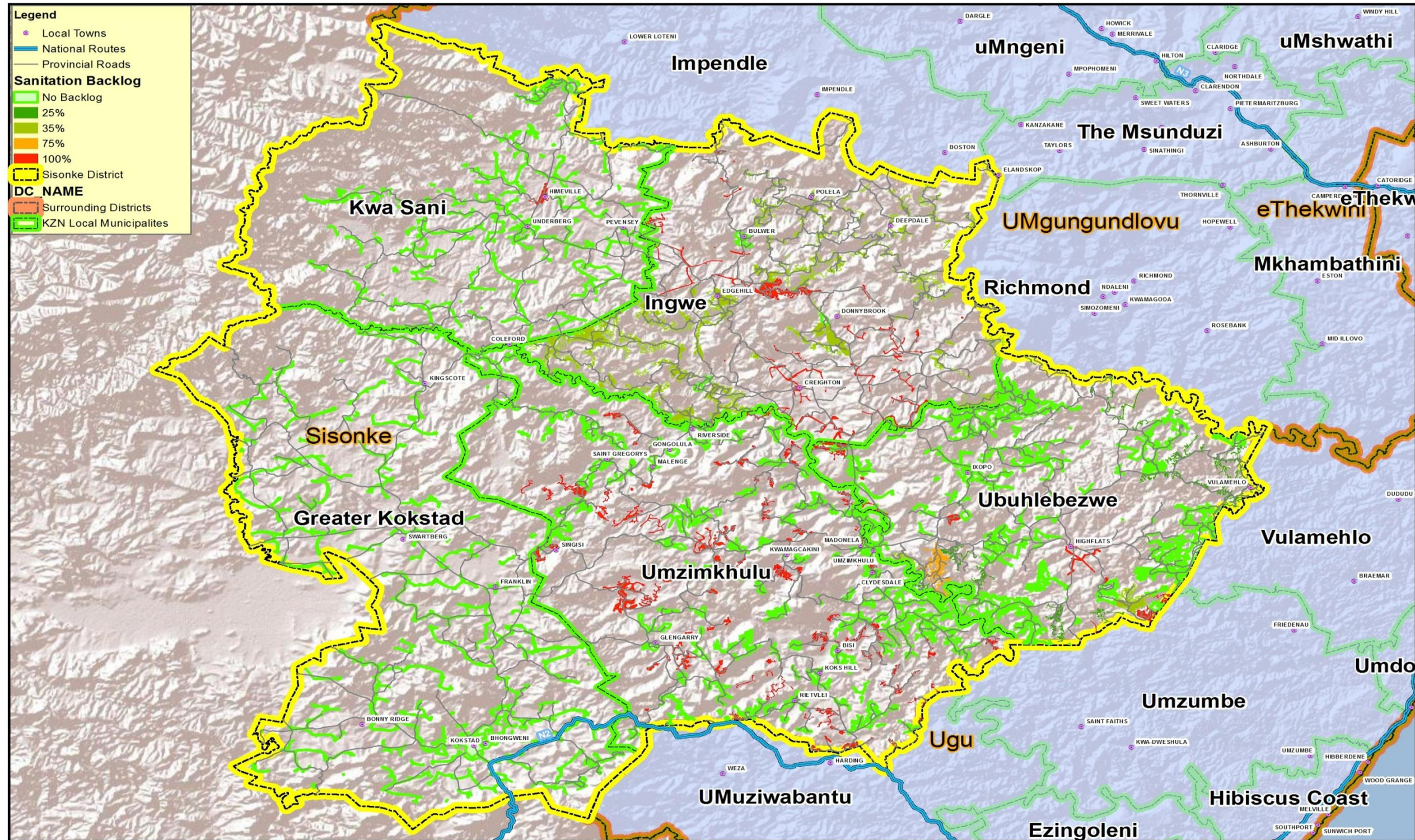




Map 6: HGDM Water Resources



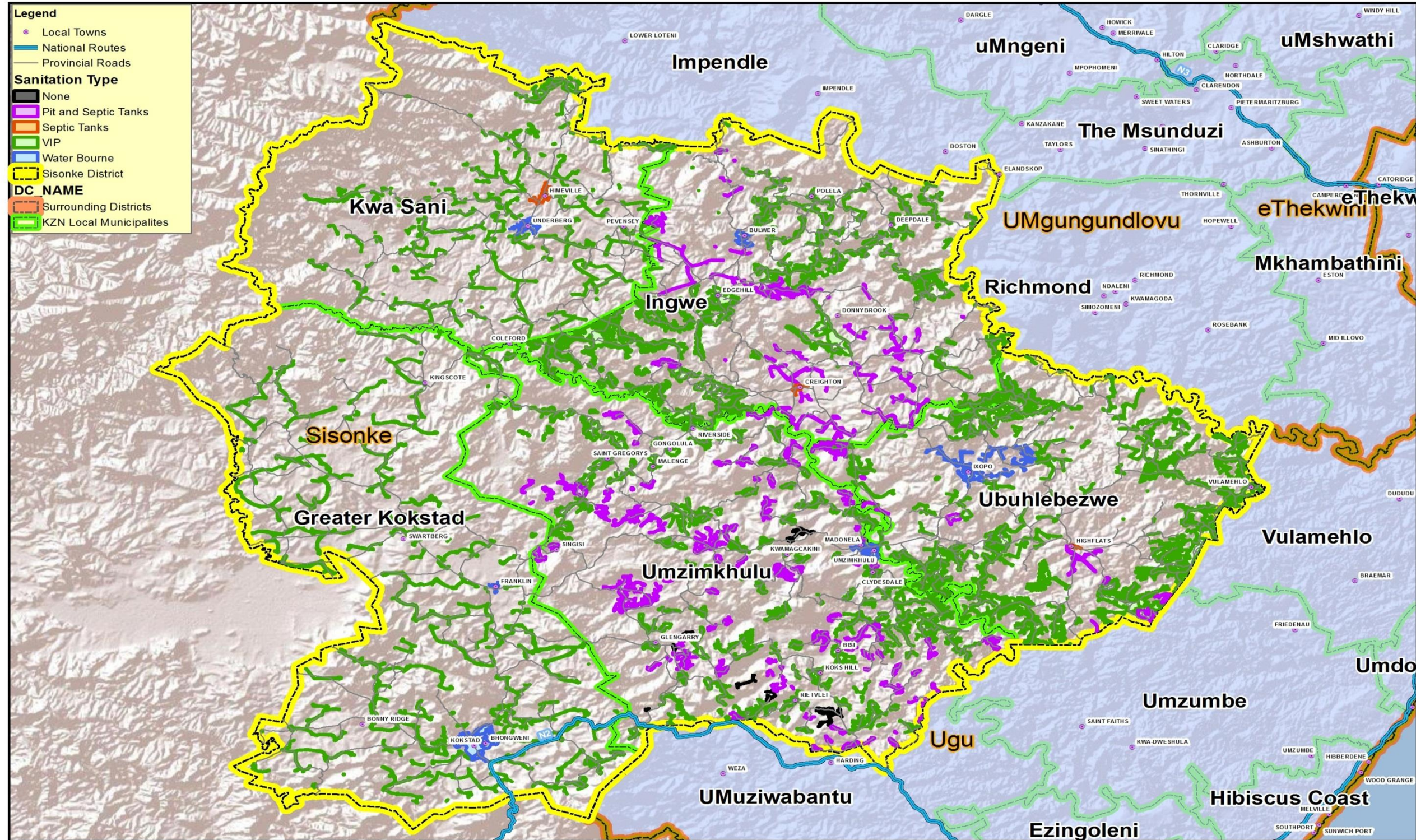
### UAP - LOCAL MUNICIPALITIES - SANITATION SUPPLY



Map 7: HGDM Sanitation Supply



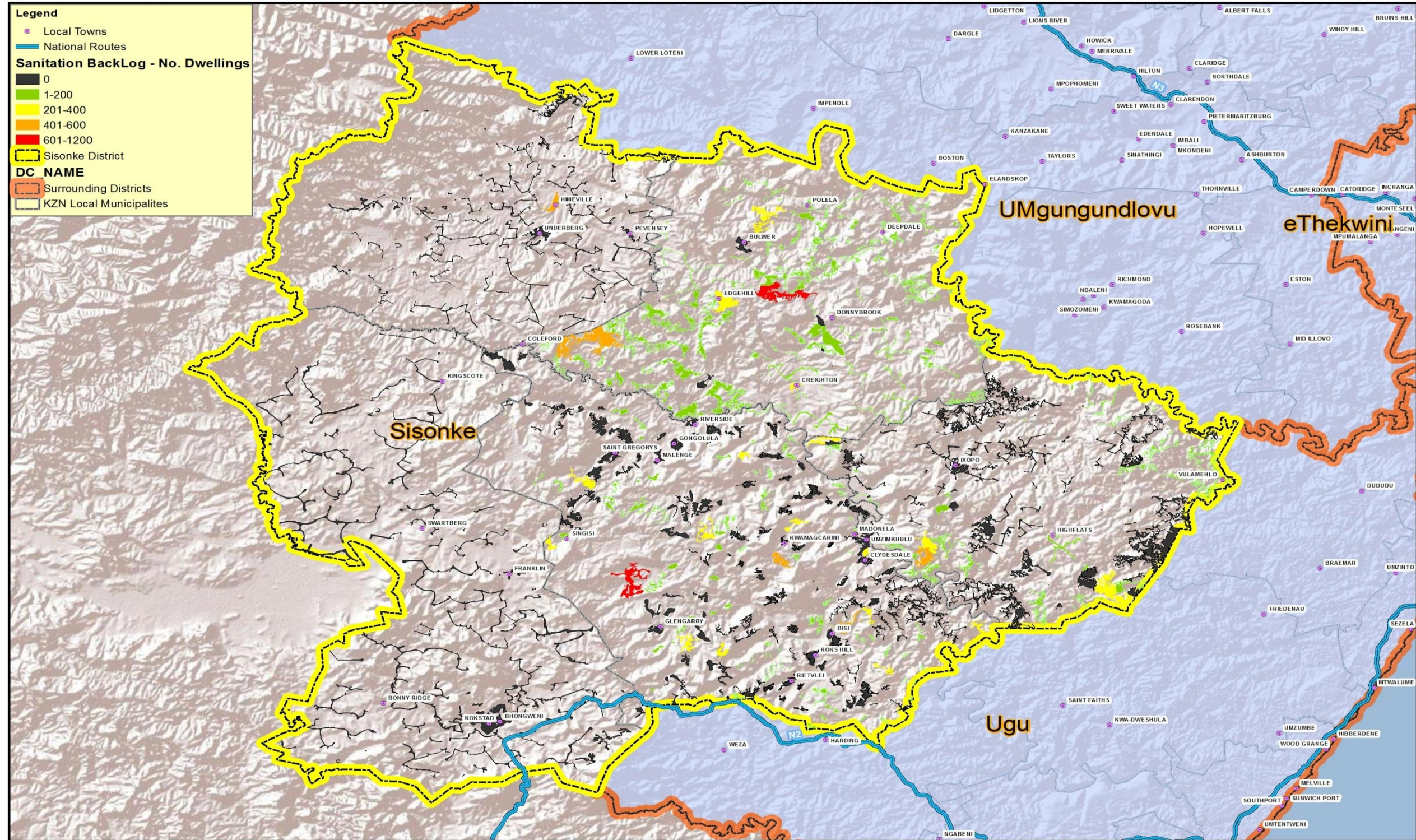
### UAP - LOCAL MUNICIPALITIES - SANITATION TYPE



Map 8: HGDM Sanitation Types

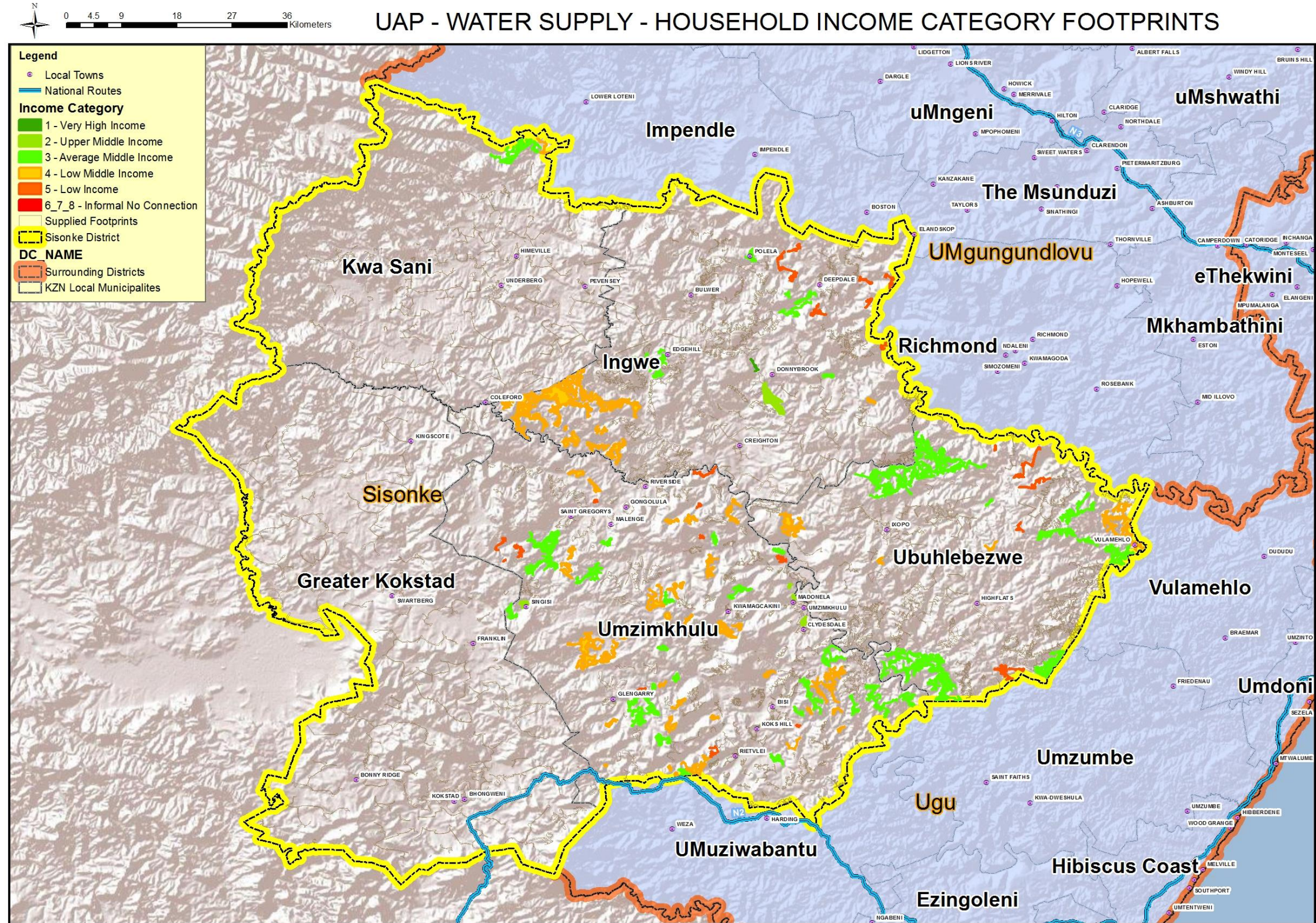


### UAP - SISONKE/HARRY GWALA DISTRICT - SANITATION BACKLOG



Map 9: HGDM Sanitation Backlogs

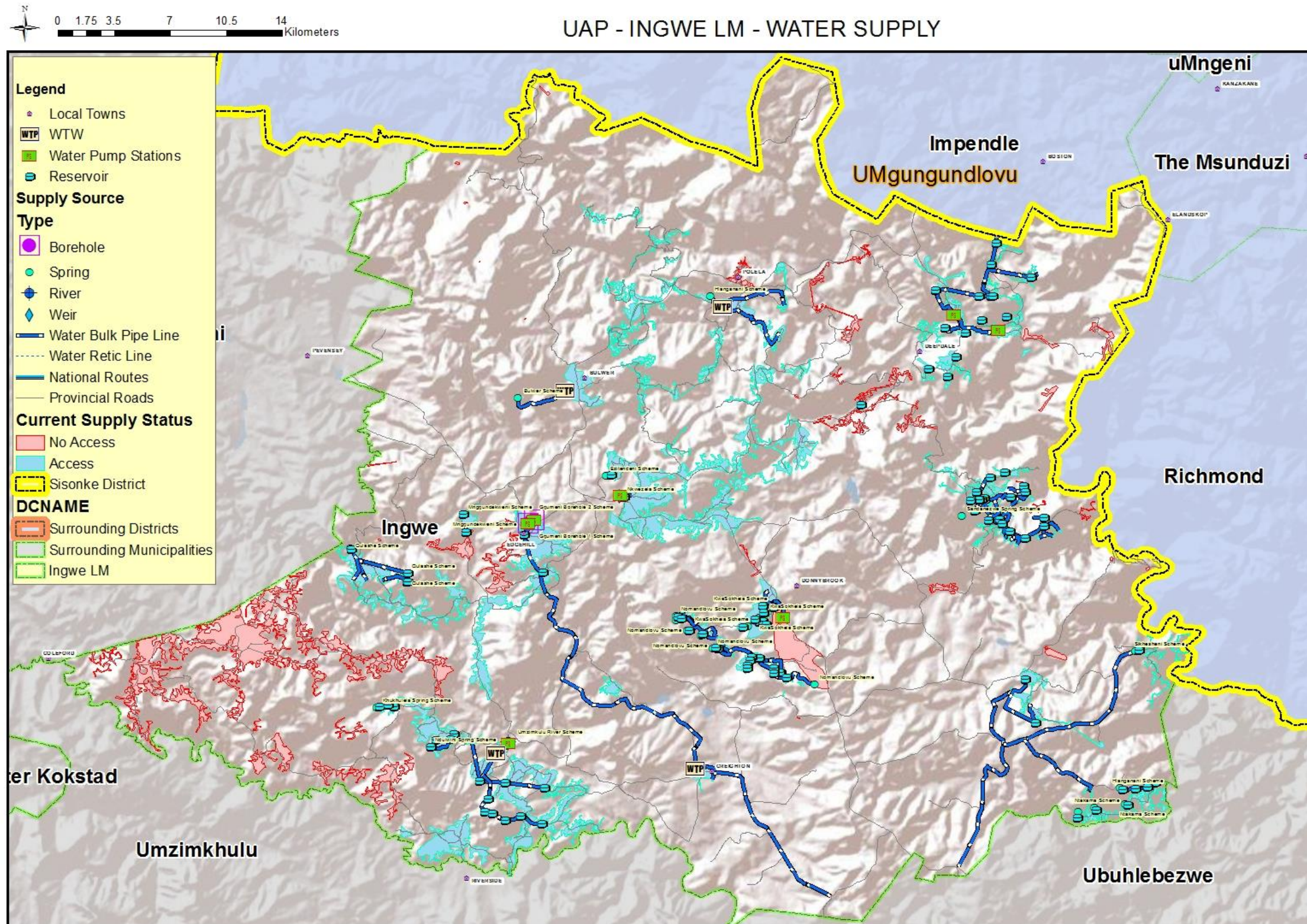




Map 10: HGDM Household Income Categories

## Ingwe

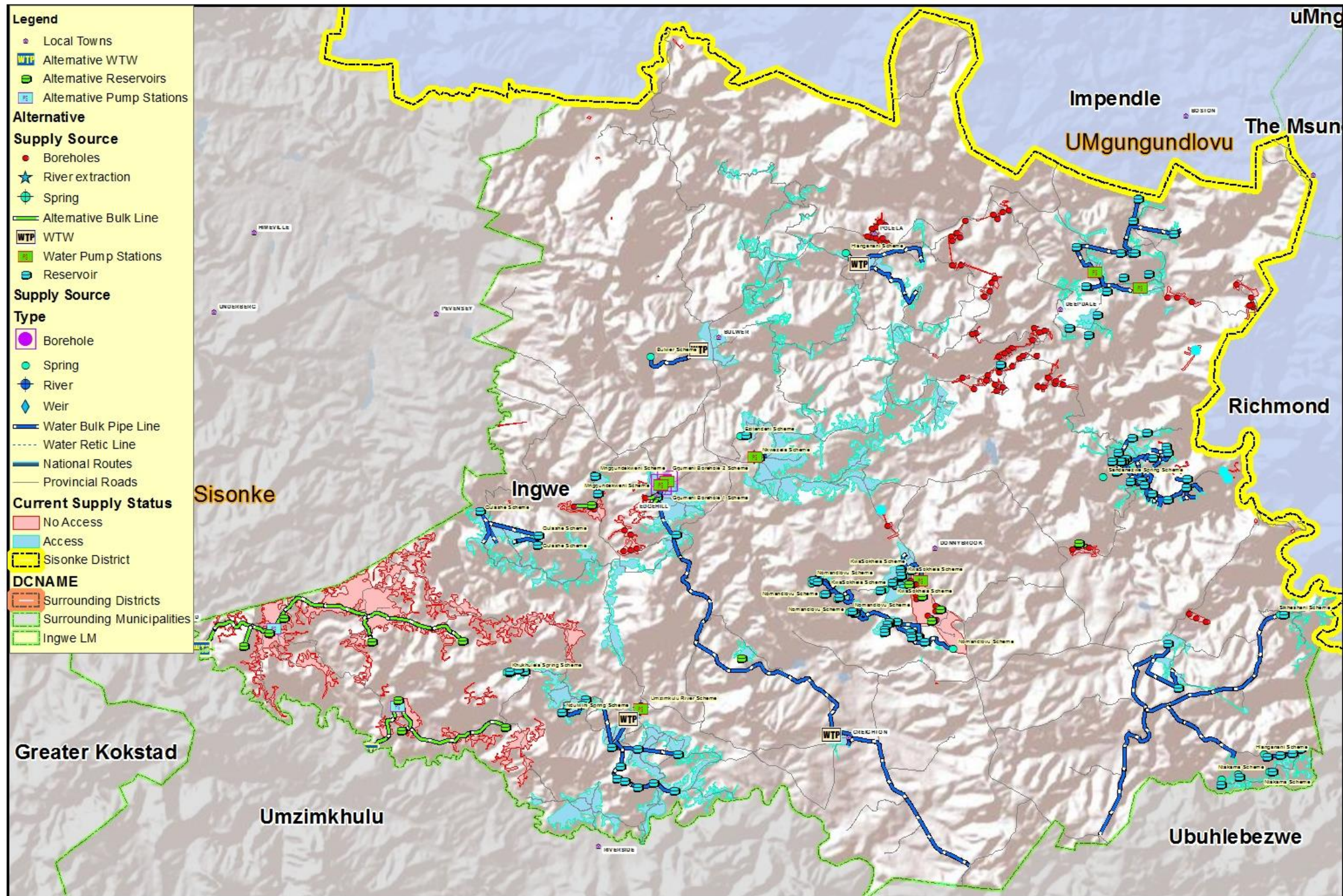
## Water & Sanitation Maps



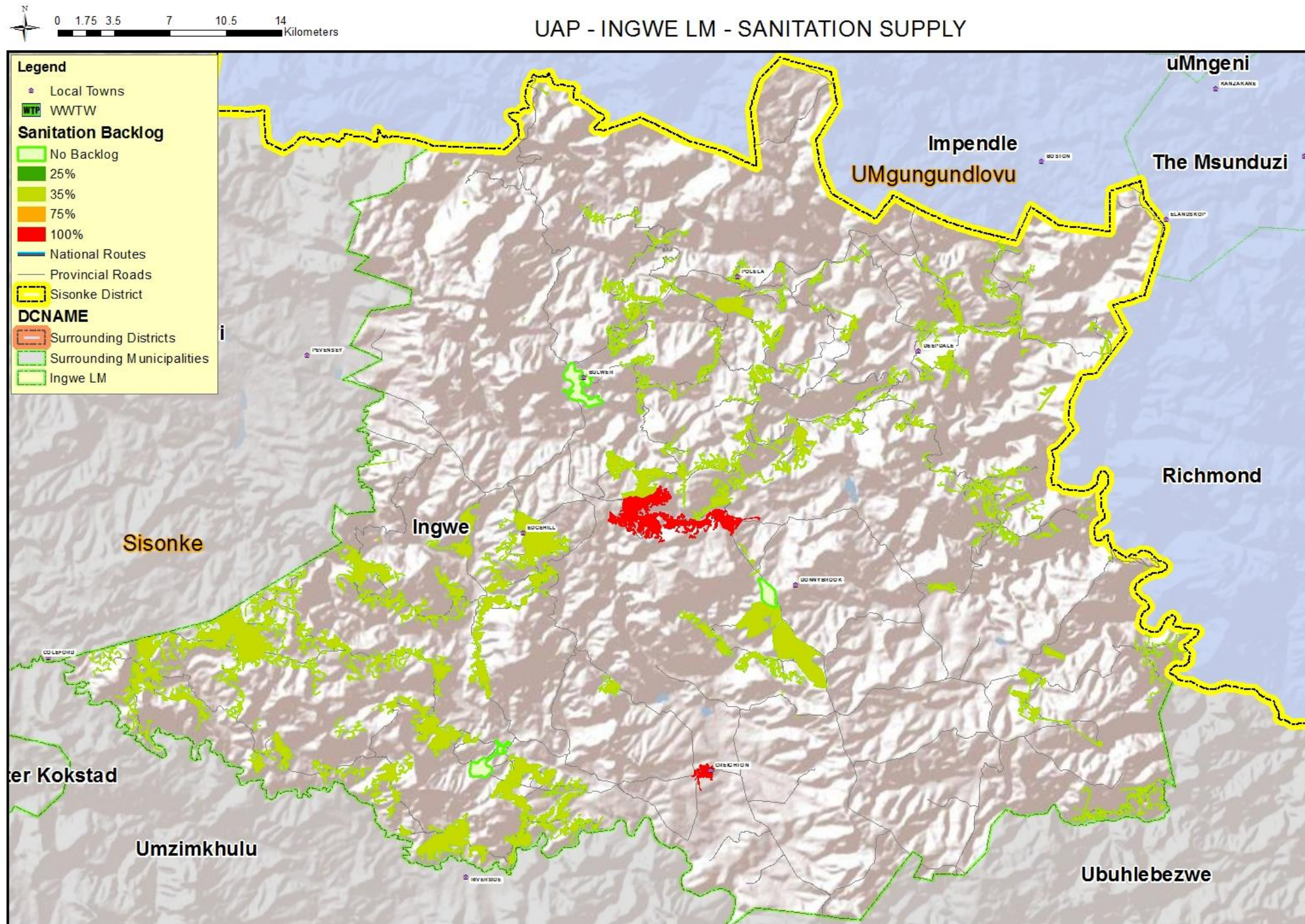
**Map 11: Ingwe Water Supply**



### UAP - INGWE LM - ALTERNATIVE WATER SUPPLY SCHEMES



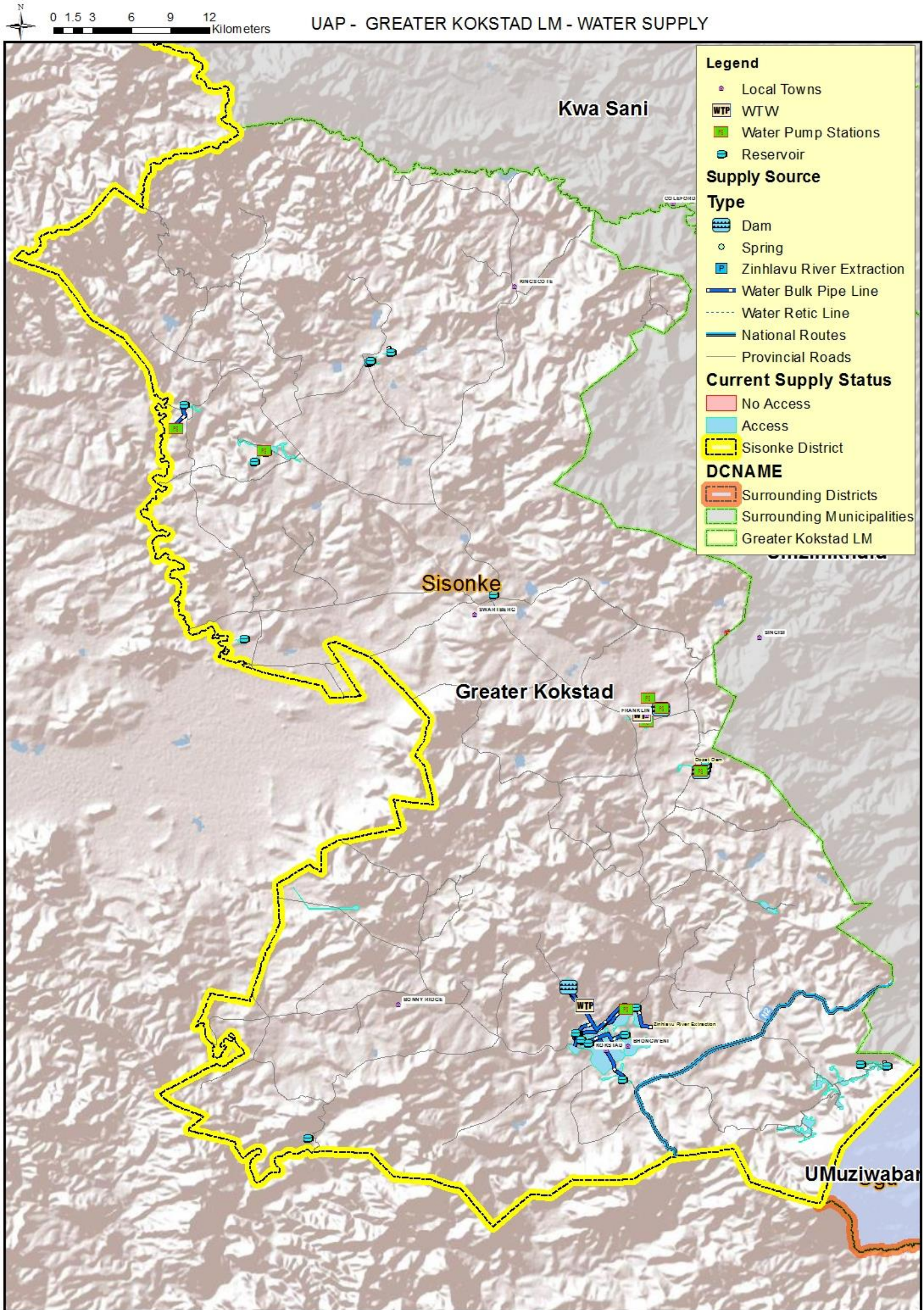
Map 12: Ingwe Proposed Alternate Schemes



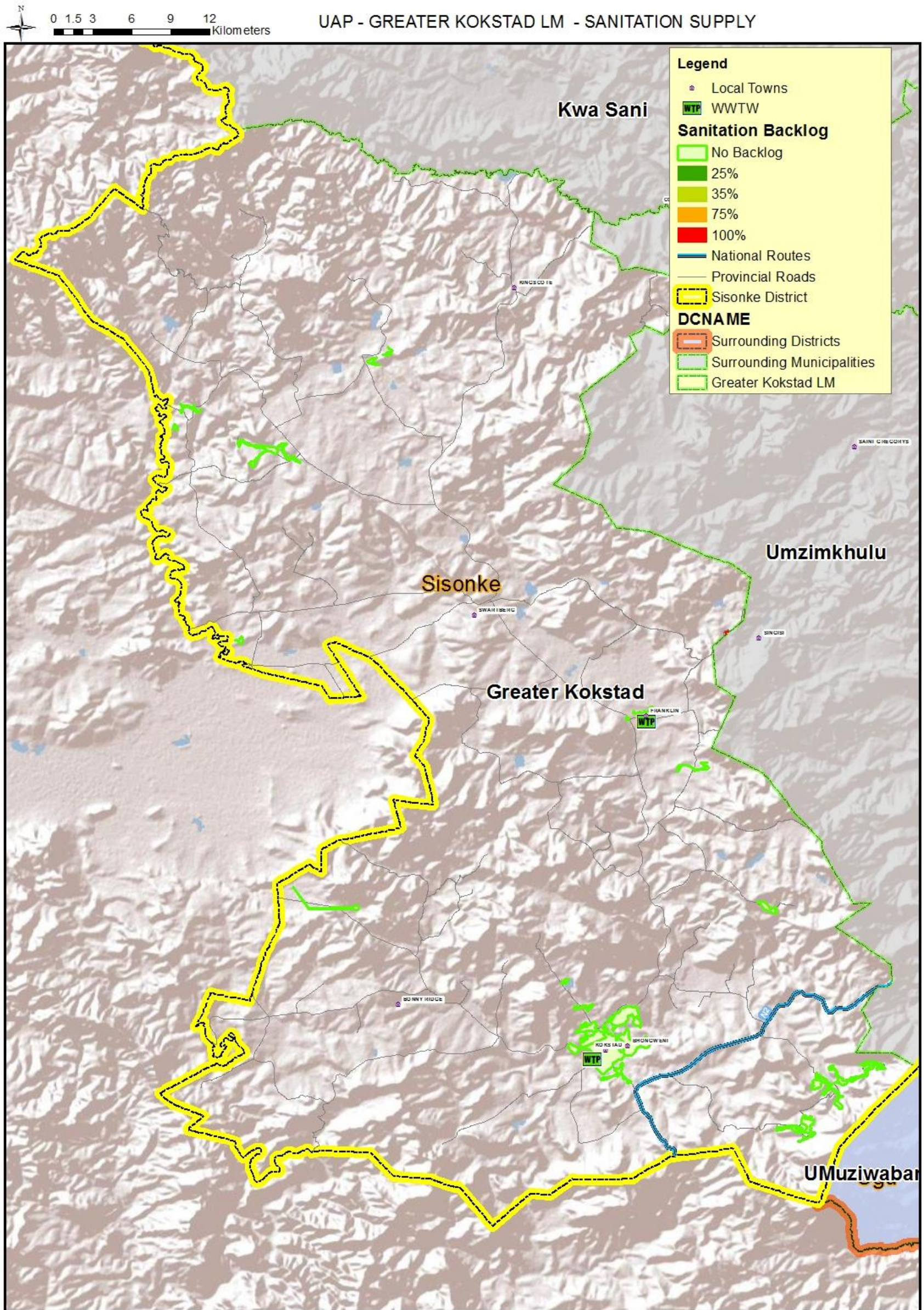
**Map 13: Ingwe Sanitation Supply**

## Greater Kokstad

## Water & Sanitation Maps



**Map 14: Greater Kokstad Water Supply**

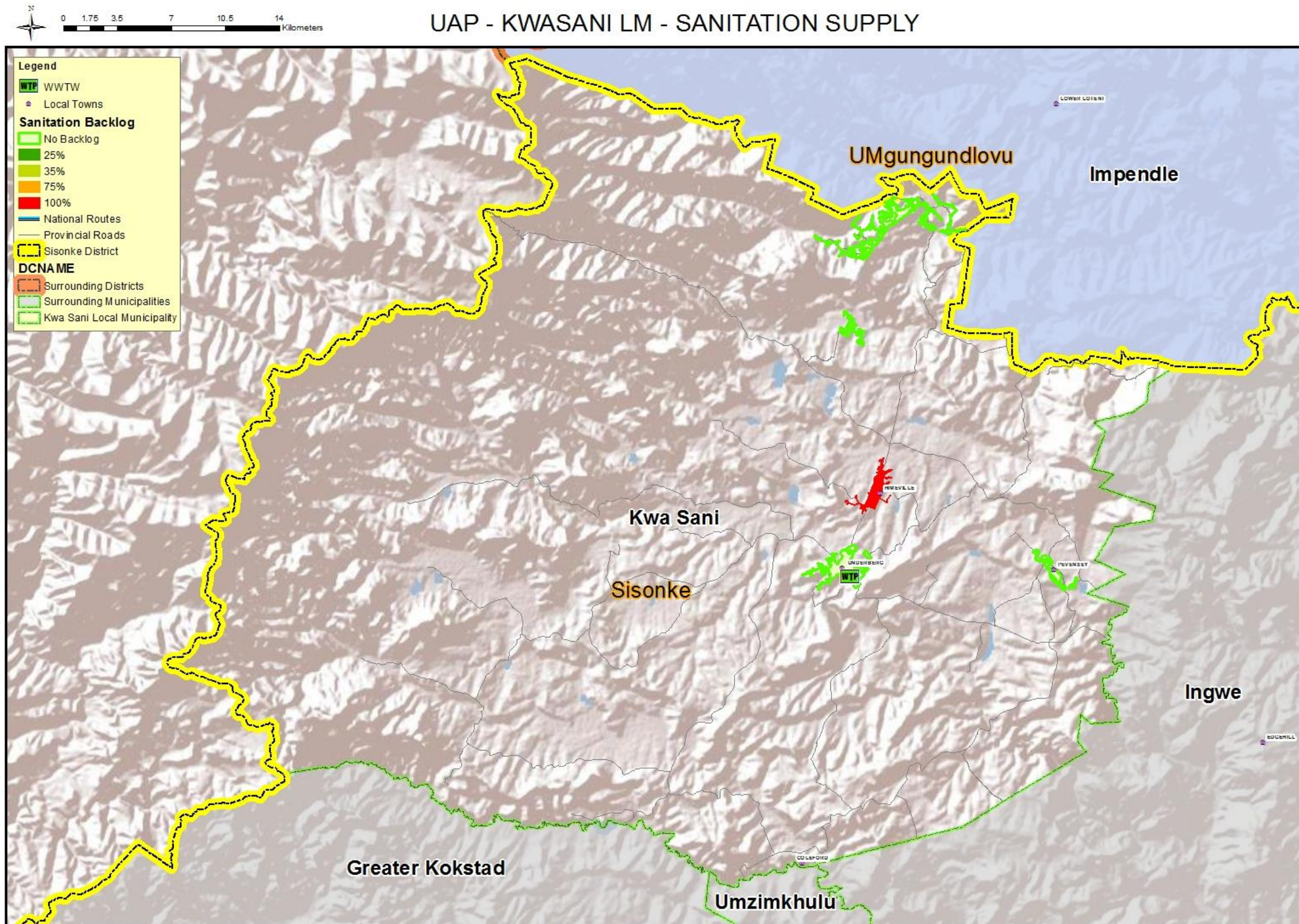


**Map 15: Greater Kokstad Sanitation Supply**

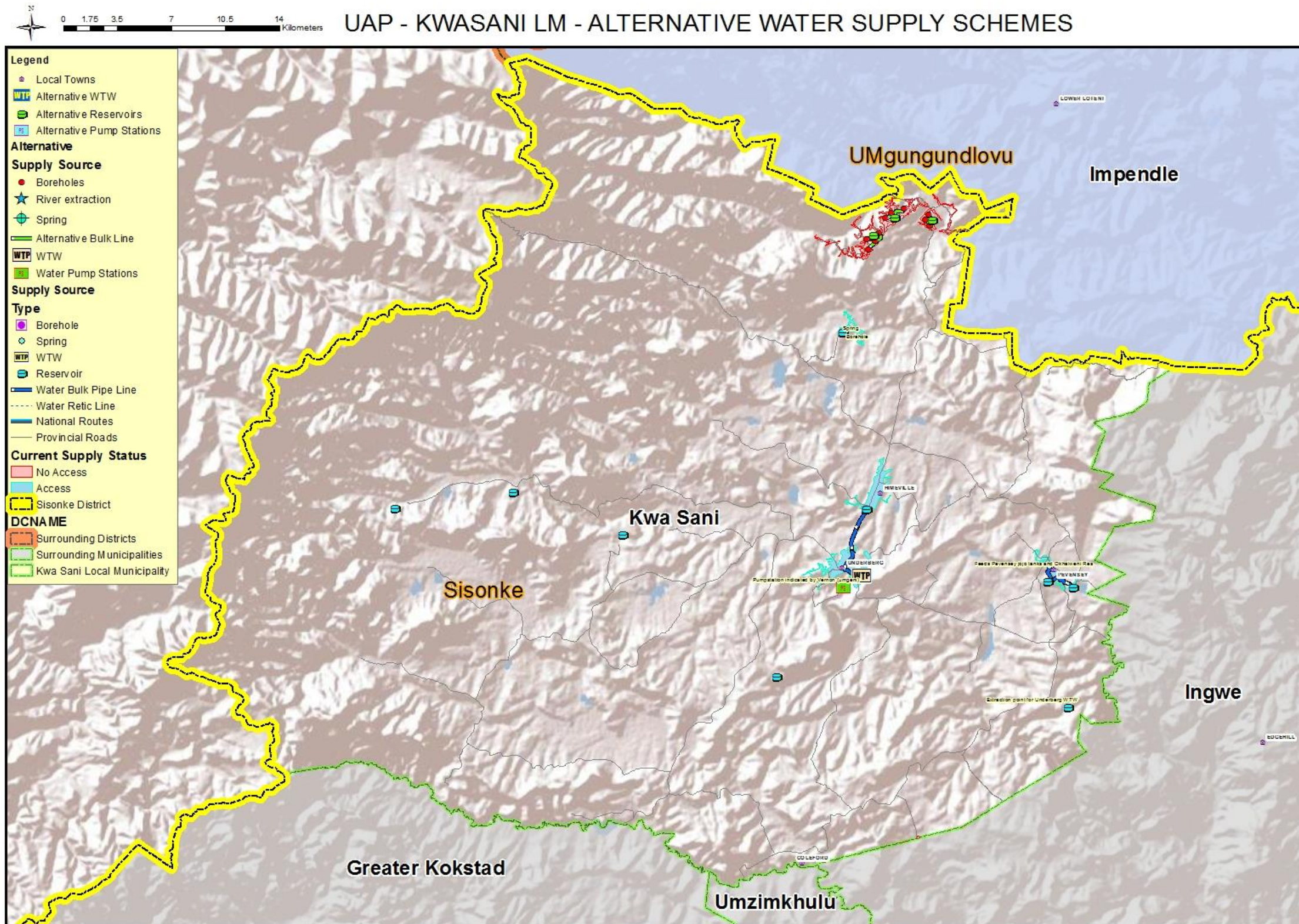


## KwaSani

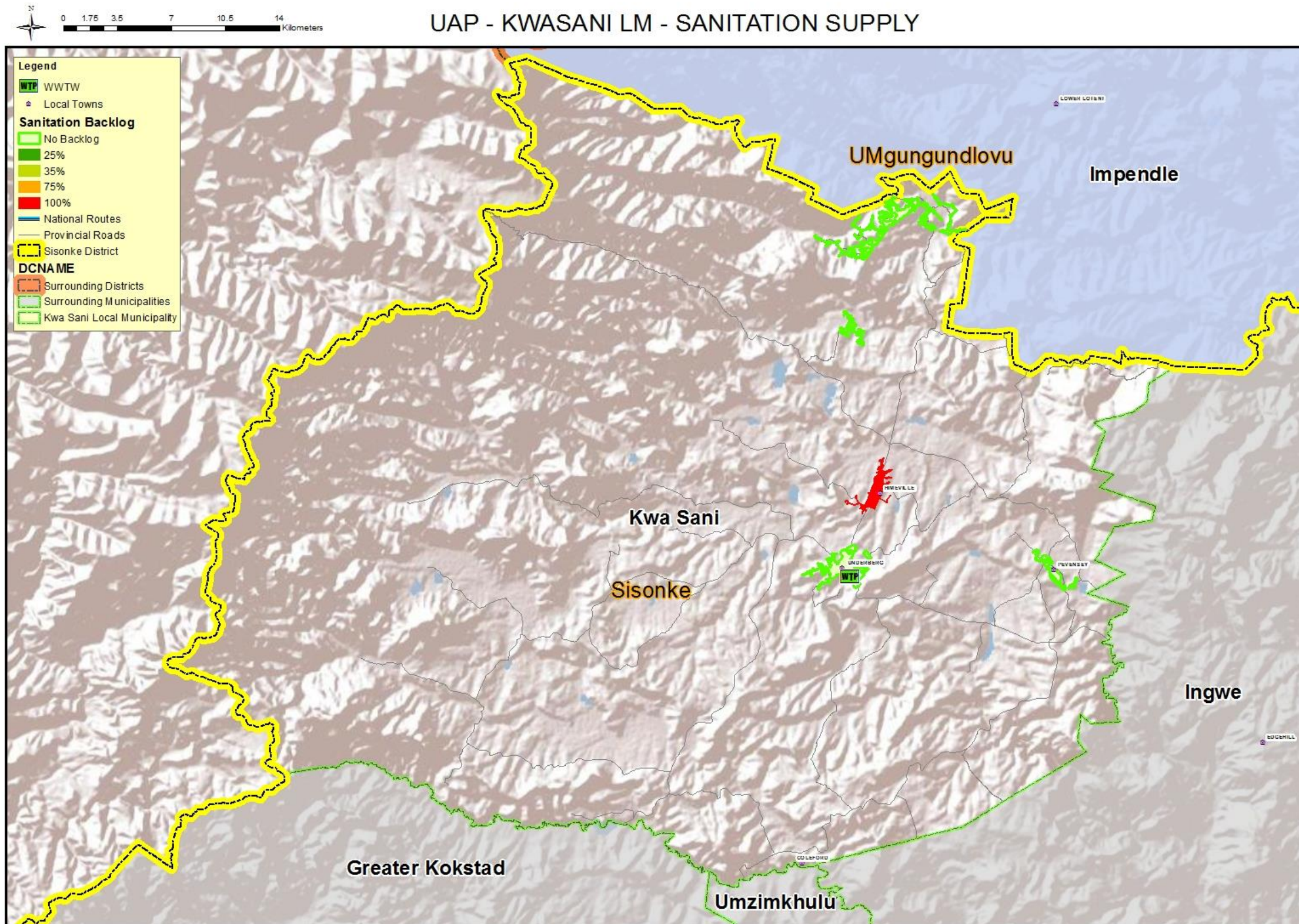
## Water & Sanitation Maps



Map 16: Kwa Sani Water Supply



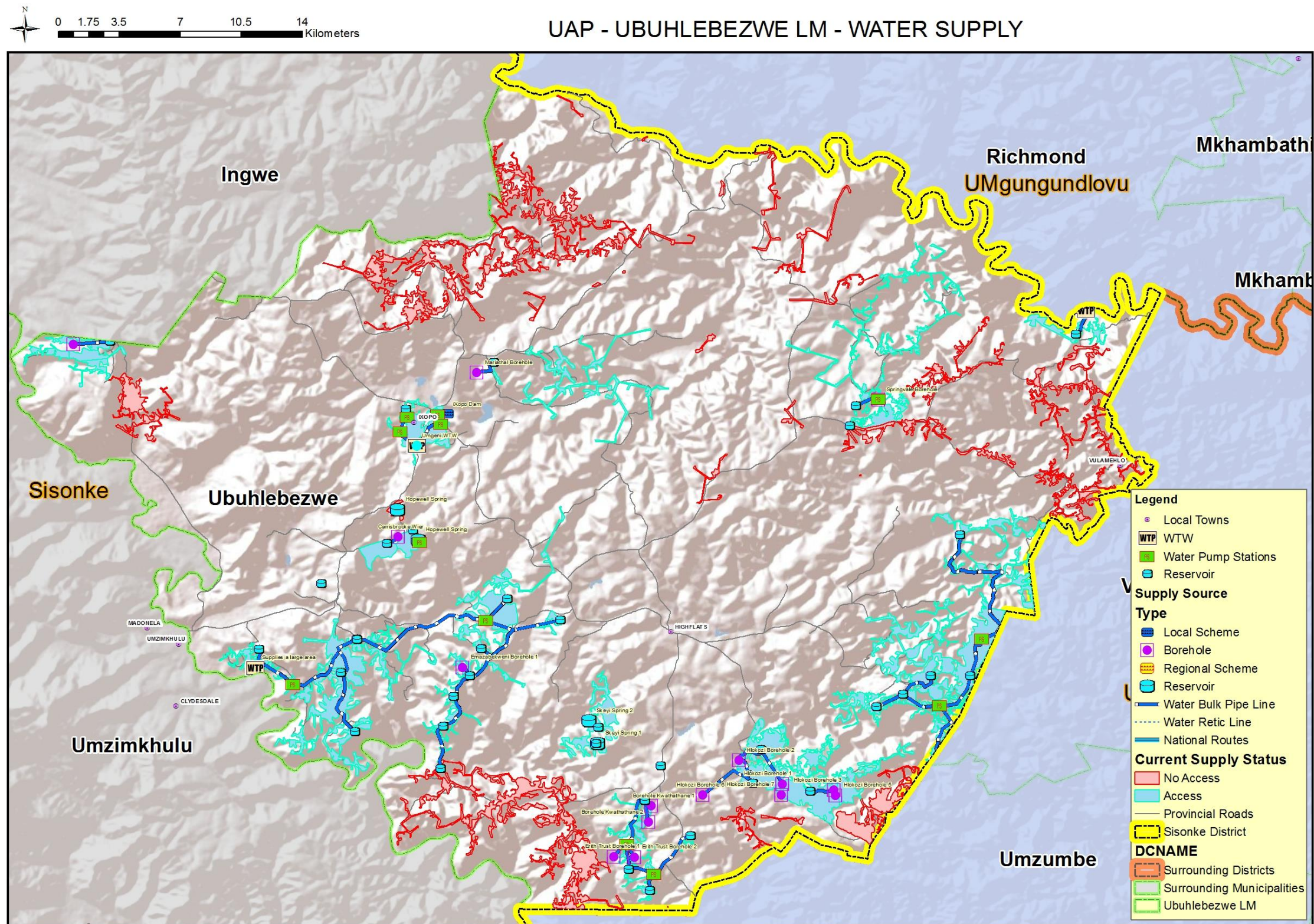
Map 17: Kwa Sani Proposed Alternate Schemes



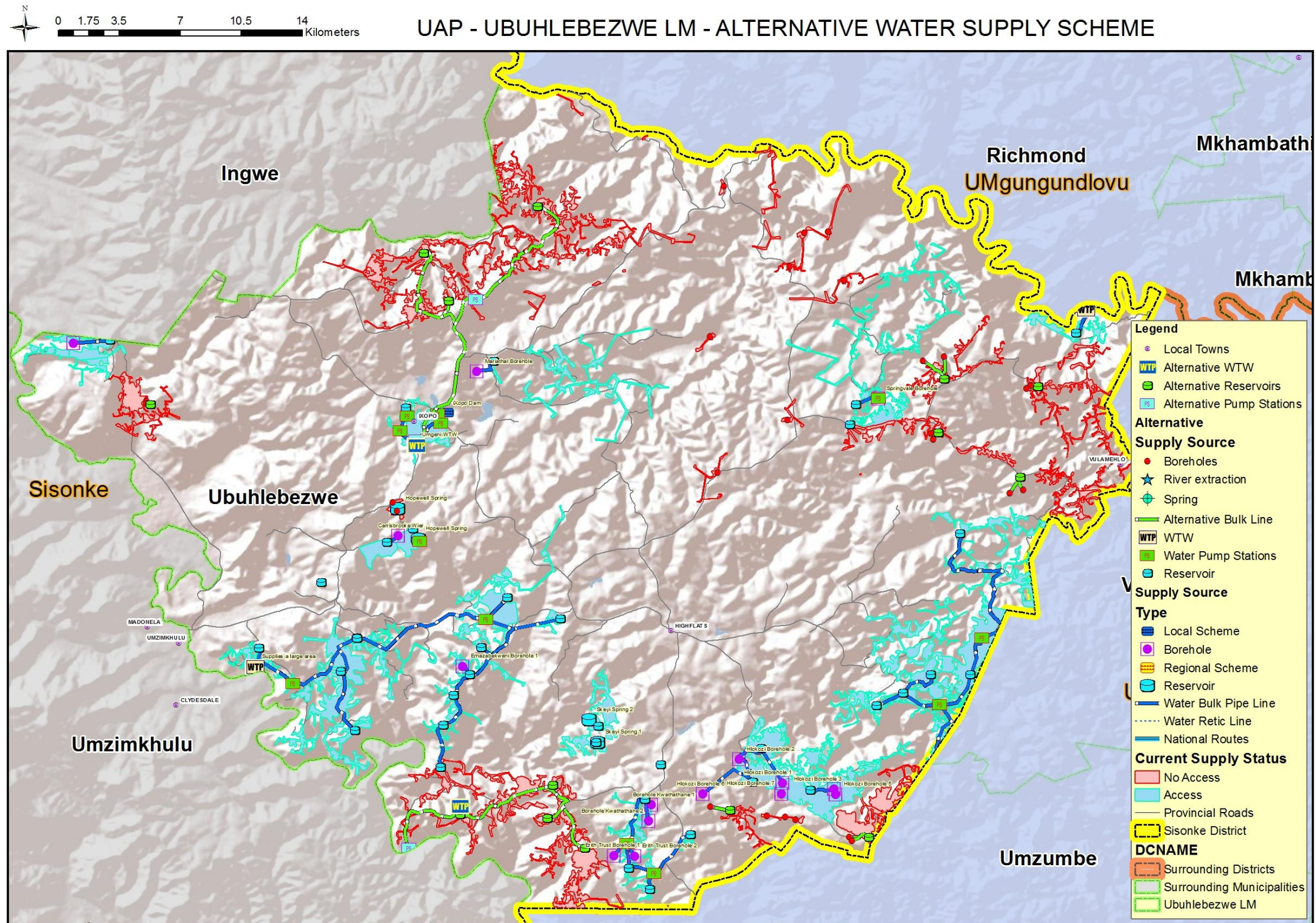
Map 18: Kwa Sani Sanitation Supply

## Ubuhlebezwe

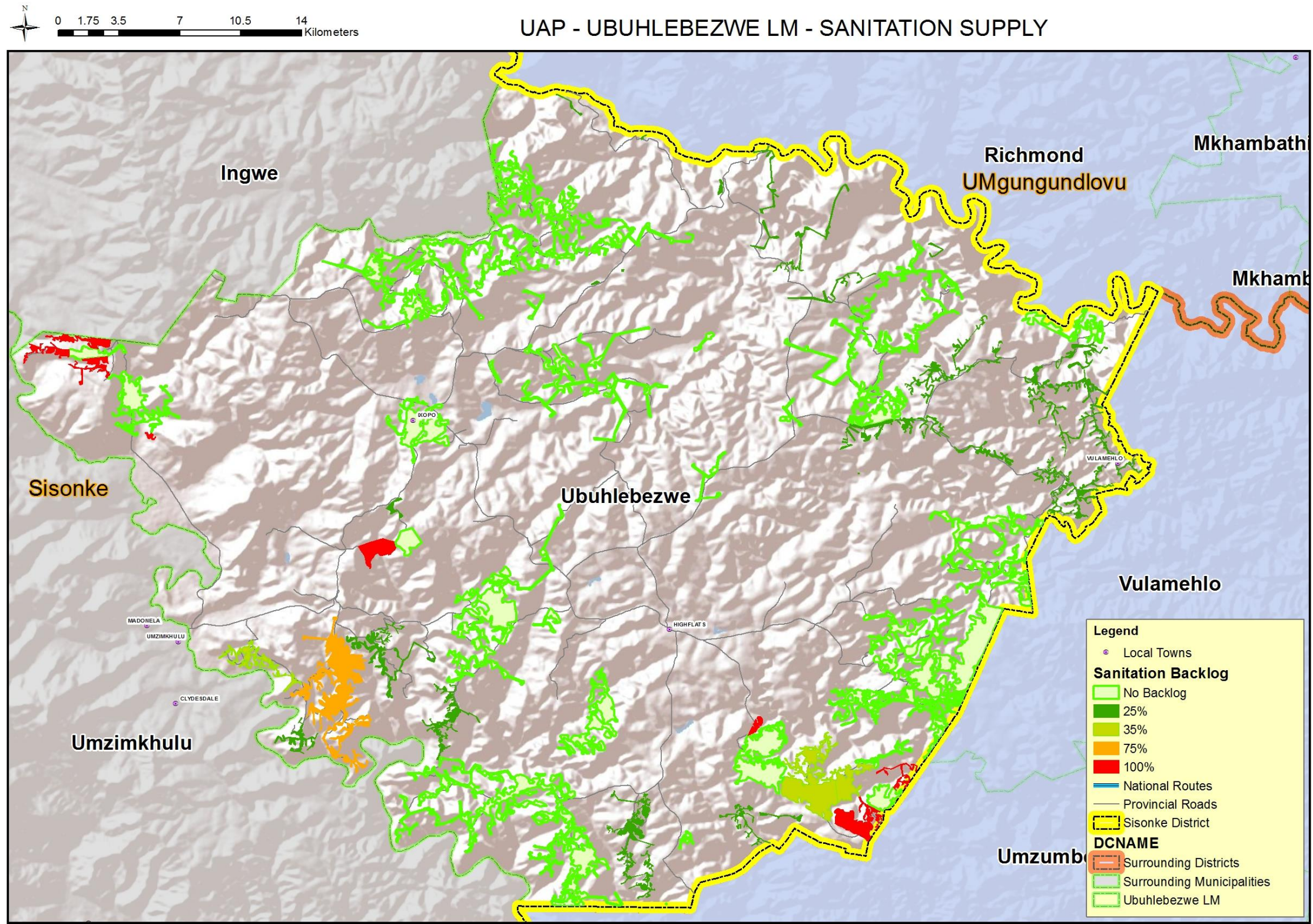
## Water & Sanitation Maps



**Map 19: Ubuhebezwe Water Supply**



Map 20: Ubuhebezwe Proposed Alternate Schemes

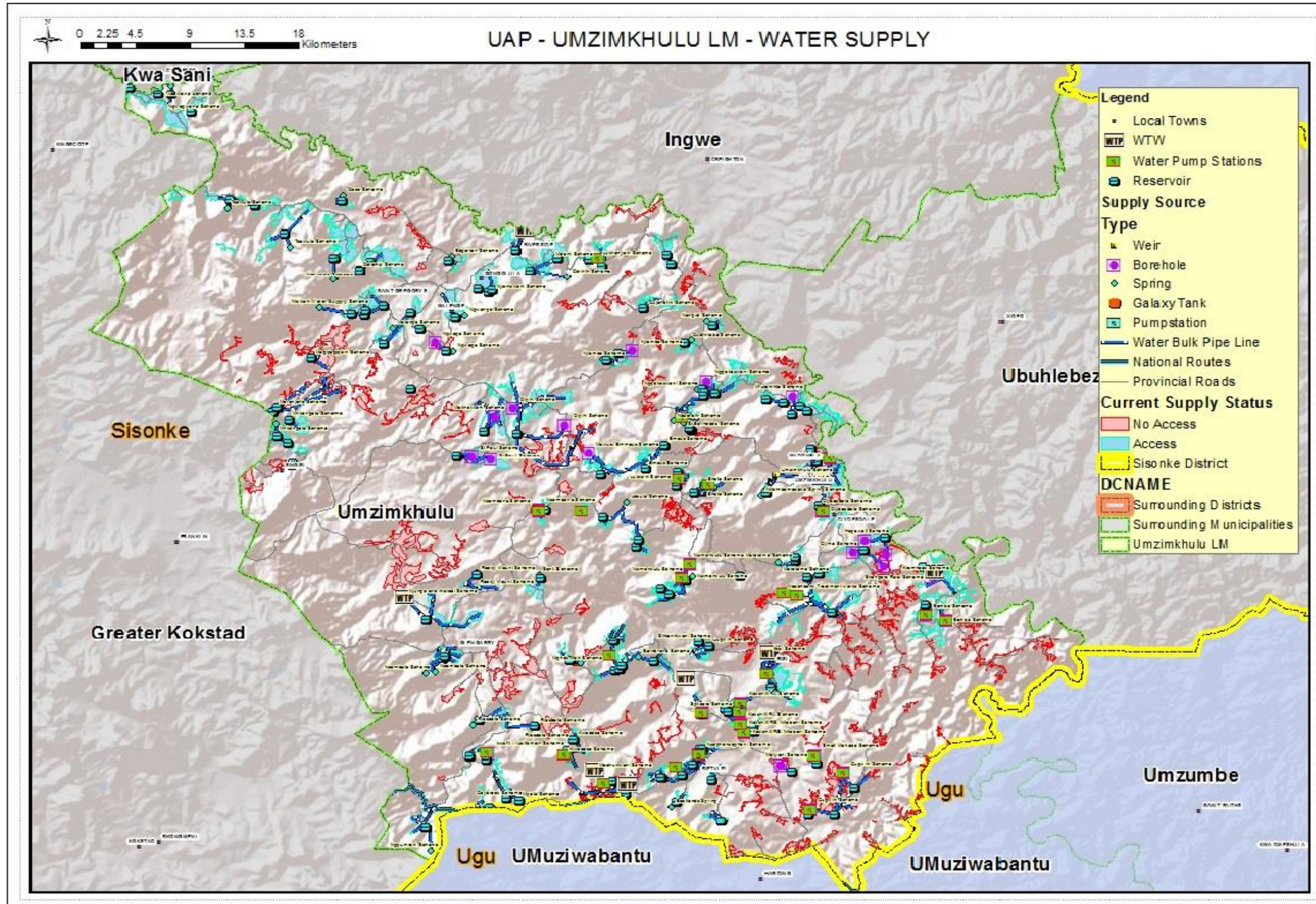


**Map 21: Ubuhlebezwe Sanitation Supply**

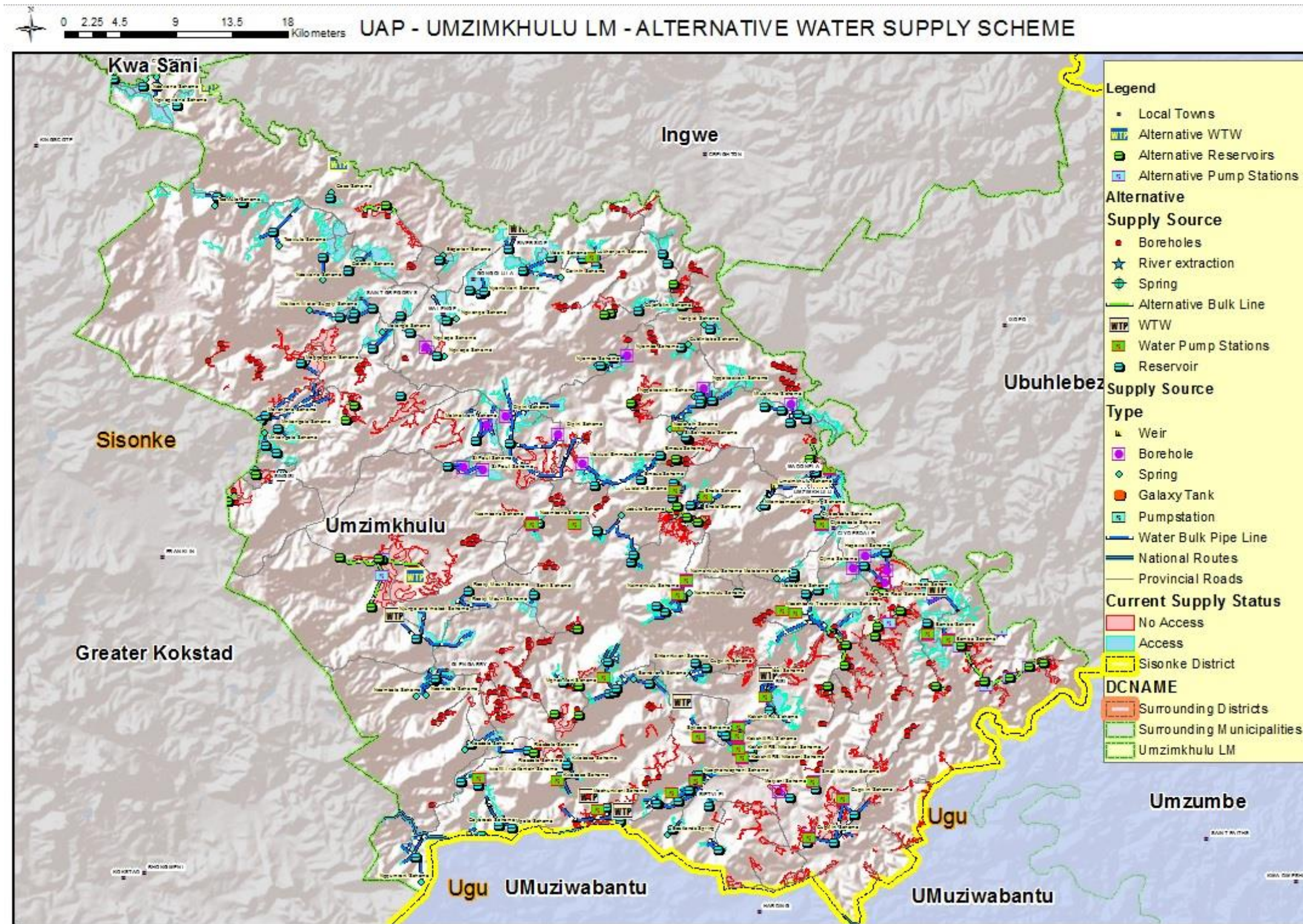


## Umzimkhulu

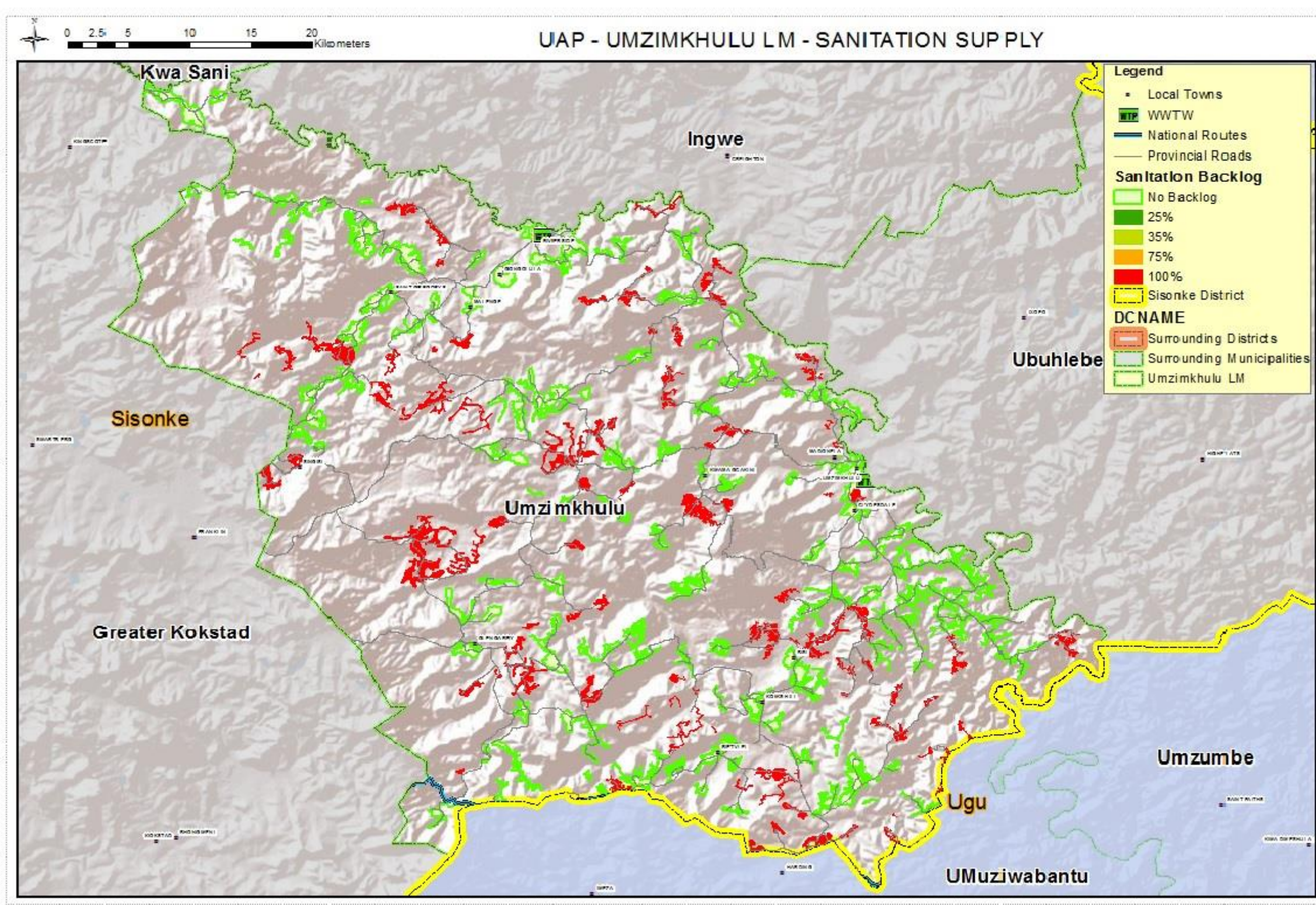
## Water & Sanitation Maps



Map 22: Umzimkhulu Water Supply



Map 23: Umzimkhulu Proposed Alternate Schemes



Map 24: Umzimkhulu Sanitation Supply

# Annexure C

## Attributes Data/Tables

## Water Supply Footprints

Field Name	SMEC Field	Alias	Description	Units	Source
DM		District Municipality	Name of the municipality in which the area falls	Text Description	GIS (Pre Populated)
Area_m2		Area in square metres	GIS calculated	Number	GIS (Pre Populated)
Name		Name	Name of area if known	Text Description	GIS (Pre Populated)
Short_SS	Wat_Supp	Short term supply status	Defines existing supply status	Y/N	Delphi
	Sust_2016		Is existing supply sustainable to 2016?	Y/N	Delphi
	Sust_2016Need		If N, What needs to be done to ensure sustainable supply to 2016?	Text Description	Delphi
	Plan_Aft2016		Are there existing plans to ensure sustainably beyond 2016?	Y/N	Infrastructure Manager/ MIG/ WIG/IDP
	30Yr_Pln		If Y, are these plans for 30 year horizon?	Y/N	Infrastructure Manager/ MIG/ WIG/IDP
	30Yr_PlnDesc		If Y, what are these plans.	Text Description	Infrastructure Manager/ MIG/ WIG/IDP
			If N, What needs to be done to ensure sustainable supply to 2046?	Text Description	Infrastructure Manager/ MIG/ WIG/IDP
Schm_E		Existing scheme name	Name of any existing supply scheme	Text Description	Delphi
Schm_F		Future scheme name	Name of any future proposed scheme	Text Description	Delphi
Sou_E		Existing source	Existing water source from lookup table	Lookup Value	Delphi
Sou_F		Future source	Future water source from lookup table	Lookup Value	Delphi
WatNam_E		Existing source name	Name of existing source	Text Description	Delphi
WatNam_F		Future source name	Name of future source	Text Description	Delphi
Proj_Typ		Project type	Type of project from lookup table	Text Description	Delphi
SuppDate		Scheme supply date	Date of proposed intervention	Date	Delphi
Treat		Treatment type	Existing treatment type from lookup table	Lookup Value	Delphi
WTP_Nam		WTP name	Name of water treatment plant	Text Description	Delphi
Conn		Connection	Type of water connection from lookup table	Lookup Value	Delphi
Design_E		Existing design demand	Demand for which this scheme has been designed	Million m <sup>3</sup> p.a.	Infrastructure Manager/ MIG/ WIG/IDP/Housedold Data/Stats Data
Dem_L		Demand Low	Low demand forecast	Million m <sup>3</sup> p.a.	Infrastructure Manager/ MIG/ WIG/IDP/Housedold Data/Stats Data
Dem_H		Demand High	High demand forecast	Million m <sup>3</sup> p.a.	Infrastructure Manager/ MIG/ WIG/IDP/Housedold Data/Stats Data
Dem_P		Probable demand	Probable demand forecast	Million m <sup>3</sup> p.a.	Infrastructure Manager/ MIG/ WIG/IDP/Housedold Data/Stats Data
Supp_E		Existing supply	Current water supply capacity	Million m <sup>3</sup> p.a.	Infrastructure Manager/ MIG/ WIG/IDP/Housedold Data/Stats Data
Supp_R		Water requirements	Current water requirements	Million m <sup>3</sup> p.a.	Infrastructure Manager/ MIG/ WIG/IDP/Housedold Data/Stats Data
Supp_F		Future water requirements	Future water requirements	Million m <sup>3</sup> p.a.	Infrastructure Manager/ MIG/ WIG/IDP/Housedold Data/Stats Data
Proj_ID		Project ID	ID of project if known	Text Description	Delphi
HH_Low		Households low	Lowest estimate of households served	Number	Infrastructure Manager/ MIG/ WIG/IDP/Housedold Data/Stats Data
HH_High		Households high	Highest estimate of households served	Number	Infrastructure Manager/ MIG/ WIG/IDP/Housedold Data/Stats Data
Pop_Low		Population low	Lowest estimate of number of people	Number	Household Data/Stats Data
Pop_High		Population high	Highest estimate of number of people	Number	Household Data/Stats Data
Capturer		Capturer	Person who captured the area from lookup table	Text Description	Delphi
Sanitation		Type of sanitation scheme	Type of sanitation scheme from lookup table	Lookup Value	Delphi
Comments		Comments	General comments	Text Description	Delphi

## Water Supply Footprints - Delphi

Field Name	SMEC Field	Alias	Description	Units	Source
Short_SS	Wat_Supp	Short term supply status	Defines existing supply status	Y/N	Delphi
	Sust_2016		Is existing supply sustainable to 2016?	Y/N	Delphi
	Sust_2016Need		If N, What needs to be done to ensure sustainable supply to 2016?	Text Description	Delphi
Schm_E		Existing scheme name	Name of any existing supply scheme	Text Description	Delphi
Schm_F		Future scheme name	Name of any future proposed scheme	Text Description	Delphi
Sou_E		Existing source	Existing water source from lookup table	Lookup Value	Delphi
Sou_F		Future source	Future water source from lookup table	Lookup Value	Delphi
WatNam_E		Existing source name	Name of existing source	Text Description	Delphi
	W_Capacity	W_Capacity	Source Capacity	ML	Delphi
	HoldingRes	HoldingRes	Holding Reservoir / Feeding Reservoir	Text Description	Delphi
WatNam_F		Future source name	Name of future source	Text Description	Delphi
Proj_Typ		Project type	Type of project from lookup table	Text Description	Delphi
SuppDate		Scheme supply date	Date of proposed intervention	Date	Delphi
Treat		Treatment type	Existing treatment type from lookup table	Lookup Value	Delphi
WTP_Nam		WTP name	Name of water treatment plant	Text Description	Delphi
Conn		Connection	Type of water connection from lookup table	Lookup Value	Delphi
	W_Material	PipeType	Pipe Material	Text Description	Delphi
	W_Diameter	Diameter	Average Diameter	Text Description	Delphi
	AvgDist	AvgDist	Average Distance to Water Source	Text Description	Delphi
Proj_ID		Project ID	ID of project if known	Text Description	Delphi
Sanitation		Type of sanitation scheme	Type of sanitation scheme from lookup table	Lookup Value	Delphi
	WWTW_N	WWTW_N	WWTW Name	Text Description	Delphi
	S_Capacity		WWTW Capacity	Text Description	Delphi
	S_Material		Pipe Material	Text Description	Delphi
	S_Diameter		Average Diameter	Text Description	Delphi
Comments		Comments	General comments	Text Description	Delphi
	Confid	Confid	Level of Confidence	Text Description	Delphi
Capturer		Capturer	Person who captured the area from lookup table	Text Description	Delphi

## Bulk Pipelines

Field Name	Alias	Description	Units	Source
Schm_E	Scheme Name	Name of the supply scheme	Text Description	Delphi
Sou_E	Water source	Type of Water source from lookup table	Lookup Value	Delphi
WatNam_E	Name of Water Source	Name of Water Source	Text Description	Delphi
Diameter	Diameter	Diameter of Pipeline	Text Description	Delphi
Flow	Flow	Flow type - Gravity/ Pumped	Lookup Value	Delphi
Functionality	Functionality	Operational functionality of the pipeline	Lookup Value	Delphi
Age	Age	Age of the pipeline	Text Description	Delphi
Capturer	Capturer	Data capturer from lookup table	Text Description	Delphi
Comments	Comments	General comments	Text Description	Delphi

## Supply Source

Field Name	Alias	Description	Units	Source
Schm_E	Scheme Name	Name of the supply scheme	Text Description	Delphi
Type	Type	Type of Source	Lookup Value	Delphi
Elevation	Elevation	Elevation of Source	Text Description	Delphi
Functionality	Functionality	Operational functionality of the pipeline	Lookup Value	Delphi
Age	Age	Age of the pipeline	Text Description	Delphi
Capturer	Capturer	Data capturer from lookup table	Text Description	Delphi
Comments	Comments	General comments	Text Description	Delphi

## Meters

Field Name	Alias	Description	Units	Source
Schm_E	Scheme Name	Name of the supply scheme	Text Description	Delphi
Functionality	Functionality	Operational functionality of the pipeline	Lookup Value	Delphi
Age	Age	Age of the pipeline	Text Description	Delphi
Capturer	Capturer	Data capturer from lookup table	Text Description	Delphi
Comments	Comments	General comments	Text Description	Delphi

## Reservoirs

Field Name	Alias	Description	Units	Source
Schm_E	Scheme Name	Name of the supply scheme	Text Description	Delphi
Sou_E	Water source	Type of Water source from lookup table	Lookup Value	Delphi
WatNam_E	Name of Water Source	Name of Water Source	Text Description	Delphi
Capacity	Capacity	Capacity of the Reservoir	Text Description	Delphi
Diameter	Diameter	Diameter of Pipeline	Text Description	Delphi
Flow	Flow	Flow type - Gravity/ Pumped	Lookup Value	Delphi
Functionality	Functionality	Operational functionality of the pipeline	Lookup Value	Delphi
Age	Age	Age of the pipeline	Text Description	Delphi
Capturer	Capturer	Data capturer from lookup table	Text Description	Delphi
Comments	Comments	General comments	Text Description	Delphi



## Pumps

Field Name	Alias	Description	Units	Source
Schm_E	Scheme Name	Name of the supply scheme	Text Description	Delphi
Qty	Qty	Number of pumps	Text Description	Delphi
Capacity	Capacity	Capacity of the pump	Text Description	Delphi
Functionality	Functionality	Operational functionality of the pipeline	Lookup Value	Delphi
Age	Age	Age of the pipeline	Text Description	Delphi
Capturer	Capturer	Data capturer from lookup table	Text Description	Delphi
Comments	Comments	General comments	Text Description	Delphi

## Lookup Values

### Water Footprints

Field Description	Field Name	Lookup Description	Lookup Value
Existing Source	Sou_E	Local Water Scheme	1
		Borehole	2
		Water Tanker	3
		Regional Water Scheme	4
		Spring	5
		Reservoir	6
Future Source	Sou_F	Local Water Scheme	1
		Borehole	2
		Water Tanker	3
		Regional Water Scheme	4
		Spring	5
		Reservoir	6
Water Treatment Type	Treat	WTP	1
		Chlorination	2
		Sand Filter	3
		Package Plant	4
Type of Water Connection	Conn	House	1
		Jojo	2
		Standpipe	3
Type of Sanitation Scheme	Sanitation		
Flow	Flow	Gravity	1
		Pumped	2
Functionality	Functionality		
Project Type	Proj_Typ	MWIG	1
		UW	2

## Annexure D

# Harry Gwala District Municipality Water & Sanitation Project List

Development of UAP for Water & Sanitation in Kwazulu-Natal



Project name	WARD NO.	Municipality	Number of Household	Total Project Budget	12FY13	13FY14	14FY15	15FY16	16FY17
Enhlanhleni/KwaPitela Water Project	2	KwaSani	241	R 5 970.012		R 1 000 000.00			
UNDERBERG SANITATION	3	KwaSani		R 89 461 604.00		R 300 000.00	R 5 000 000.00	R 19 500 000.00	R 20 500 000.00
Underberg Bulk Water Supply Upgrade	3	KwaSani	3085	R 29 919 385.62	R 1 000 000.00	R 636 000.00	R 5 000 000.00	R 10 000 000.00	
Makhoba Housing Water Project	2	GKM	1400	R 13 562 395.32	R 5 000 000.00	R 3 562 395.00	R 3 000 000.00		
Franklin Bulk Water and Sewer Upgrade	2	GKM		R 13 470 770.00		R 1 268 942.00			
Horseshoe Sanitation Project - New	1	GKM	1462	R 29 000 000.00	R 12 500 000.00	R 6 066 935.00	R 5 000 000.00	R 10 000 000.00	
Greater Kokstad Water Conservation	3	GKM	8333	R 19 422 751.01			R 5 000 000.00		
Kokstad Rudimentary Water Project	ALL	GKM	288	R 5 081.436		R 200 000.00			
Kokstad Wastewater Works	3	GKM	9000	R 3 252 249.00					
Khukhulela Water Supply		Ingwe	641	R 20 465 370.49	R 1 000 000.00	R 2 000 000.00	R 6 000 000.00		
Greater Kilimon Water Supply Project	1	Ingwe	5944	R 700 886.94	R 11 000 000.00	R 10 000 000.00	R 15 000 000.00	R 40 000 000.00	R 50 000 000.00
Donnybrook Water Supply	7	Ingwe		R 27 000 000.00					
Creighton Water Supply Project	4	Ingwe	2940	R 60 454 073.00					
Greater Nomandlovu Water Supply	11	Ingwe	1654	R 43 345.27	R 8 000 000.00	R 8 000 000.00	R 1 081 924.85		
Ingwe Household Sanitation Project	ALL	Ingwe	15656	R 101 402 919.00	R 7 266 000.00	R 7 266 000.00	R 9 500 000.00	R 15 875 269.00	R 5 000 000.00
TARRS Valley Water Supply	11	Ingwe					R 2 174 731.00		
Bulwer Dam Emergency Intervention	11	Ingwe	2578	R 38 294 310.00	R 15 000 000.00	R 20 000 000.00	R 26 000 000.00		
Bulwer to Nkelabantwana and Nkumba Water	10	Ingwe		R 65 326 811.46	R 1 500 000.00	R 1 500 000.00	R 5 000 000.00	R 5 000 000.00	
Greater Mbhulelweni Water Supply Project	3	Ingwe	5841	R 104 347 224.50	R 8 000 000.00	R 5 000 000.00	R 15 000 000.00	R 15 000 000.00	R 20 000 000.00
Ubuhlebezwe Sanitation backlog	ALL	Ubuhlebezwe	9842	R 58 187 715.00		R 5 000 000.00	R 8 000 000.00		
Highflats Town Bulk Project	9	Ubuhlebezwe	3000	R 33 369 810.00					R 21 000 000.00
Hlokozi Water Project	6	Ubuhlebezwe	1977	R 35 411 292.00	R 6 000 000.00	R 6 500 000.00			
Ixopo - Marianthal Water Supply Project	4	Ubuhlebezwe	1517	R 24 420 017.43	R 5 255 491.92	R 12 000 000.00	R 6 920 017.00	R 3 000 000.00	
Ixopo - Hopewell Water Supply Scheme	2	Ubuhlebezwe		R 9 906 193.00			R 8 000 000.00		
Ithubalethu Water Supply	4	Ubuhlebezwe	3226	R 24 298 593.00	R 5 500 000.00	R 11 100 000.00	R 8 000 000.00		
Ncakubana Water Supply	1	Ubuhlebezwe	1004	R 12 511 684.00	R 4 179 520.05	R 4 500 000.00			
Chibini Water Supply Project	4	Ubuhlebezwe	1162	R 30 173 853.00	R 3 500 000.00	R 2 000 000.00	R 5 151 119.00	R 10 000 000.00	R 10 000 000.00
Ufafa Water Supply Project	3	Ubuhlebezwe	1060	R 42 744 568.00	R 2 500 000.00		R 5 744 568.15	R 10 000 000.00	R 20 000 000.00
Clydesdale Water Reticulation (Umzimkhulu)	17	uMzimkhulu	3562	R 22 673 324.00	R 6 000 000.00				
Santobe Water Supply Project Phase	14	uMzimkhulu	2834	R 66 198 348.00	R 24 524 350.00	R 25 000 000.00	R 10 000 000.00		
Greater Umzimkhulu Sanitation Project	16	uMzimkhulu	25612	R 150 501 606.00	R 17 000 000.00	R 15 000 000.00	R 25 000 000.00	R 15 000 000.00	R 30 000 000.00
Greater SummerField Water Project	15	uMzimkhulu	4985	R 199 192 776.68	R 3 378 517.21	R 15 000 000.00	R 25 000 000.00	R 15 000 000.00	
KwaTshaka Rural Water Supply	16	uMzimkhulu	62	R 4 596 000.00	R 4 524 350.00	R 2 336 728.00			
Mey/Theekloof Water Supply	20	uMzimkhulu				R 6 500 000.00	R 7 800 000.00		
<b>Total</b>			<b>118906</b>	<b>R 1 330 320 927.17</b>	<b>R 152 628 229.18</b>	<b>R 171 737 000.00</b>	<b>R 212 372 360.00</b>	<b>R 168 375 269.00</b>	<b>R 176 500 000.00</b>

MWIG												
Project name	WARD NO.	municipality	Type	Number of Household	Total Project Budget	12FY13	13FY14	14FY15	15FY16	16FY17	Project Status	Anticipated Completion
Mangwaneni Water Supply Project	10	Ingwe	W		R 8 045 483.00		R 5 480 000.00					
Stepmore Water Supply Project	1	KwaSani	W	1874	R 35 000 000.00		R 2 056 000.00	R 4 104 000.00	R 14 000 000.00			
Mkhunya Water Project	5	Ubuhlebezwe	W	2482	R 161 364 597.50		R 2 466 000.00	R 3 256 000.00	R 10 000 000.00			
<b>Total</b>					<b>R 204 410 080.50</b>		<b>R 10 002 000.00</b>	<b>R 7 360 000.00</b>	<b>R 24 000 000.00</b>			