

NATIONAL COUNCIL OF PROVINCES

MP: WATER AND SANITATION OVERVIEW AND EMPULUZI/METHULA REGIONAL BULK WATER SUPPLY PROJECT PROGRESS REPORT

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Designation: DEPUTY MINISTER
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WATER IS LIFE - SANITATION IS DIGNITY



water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA



Provincial overview of water resources

- The province is bordered by two African countries namely Mozambique and Kingdom of eSwatini.
- All rivers are part of the internationally shared basins, namely:
 - Komati- Usuthu basin shared with Mozambique & Kingdom of eSwatini.
 - Vaal basin shared with Lesotho, Namibia & Botswana.
 - Olifants-Limpopo basins shared with Zimbabwe, Mozambique & Botswana.
- There are **26** main dams with a storage volume of just under **2.6 billion** m³.
- The developed water resources are linked to other provinces through the Vaal, Olifants and Usuthu linkages transfer schemes
- The province is one of the bettered watered in South Africa but the water situation is challenged due to increasing demand and competing requirements. The drivers for water demand include:
 - Several growing towns like Mbombela, White River, Middelburg, Emalahleni, and many other small towns and villages
 - A large rural population, in which some settlements are transitioning to urban due to natural clustering;
 - Mining and power generation on the Highveld
 - Irrigated agriculture (sugarcane and banana farms in the Lowveld)
 - Afforestation on the escarpment
 - International demands from the shared water resources with neighbouring states of Mozambique and Kingdom of eSwatini

WATER SECURITY / AVAILABILITY / DEMAND

- The water resources of the Olifants, Inkomati and Usuthu River sub-catchments have been harnessed by the construction of several large dams. Evident from the table below is the large demand compared to available resource. Various augmentation options have been considered including transfer of water from the Vaal to augment shortages in the Olifants. The Crocodile East (Mbombela) reconciliation has identified a need for a new dam – feasibility planning process has been initiated. Mine Water Reclamation has been implemented in the Olifant (Emalahleni and Steve Tshwete Municipalities).

Surface Water Resources Availability and demand				
Catchment	(Million m3/a)	Demand (Million m3/a)	Surplus/Deficit (Million m3/a)	Augmentation Intervention
Olifants (Mp)	425	458	-33	Mine water reclamation
Inkomati Usuthu	2178	2982	-804	Mbombela Dam
Integrated Vaal (Mp, NW, GP, FS)	3154	3120	34	

Groundwater Resources Availability and demand		
(Million m3/a)	Abstracted (Million m3/a)	Surplus (Million m3/a)
942,4	295	647,3

Current water resource system balance

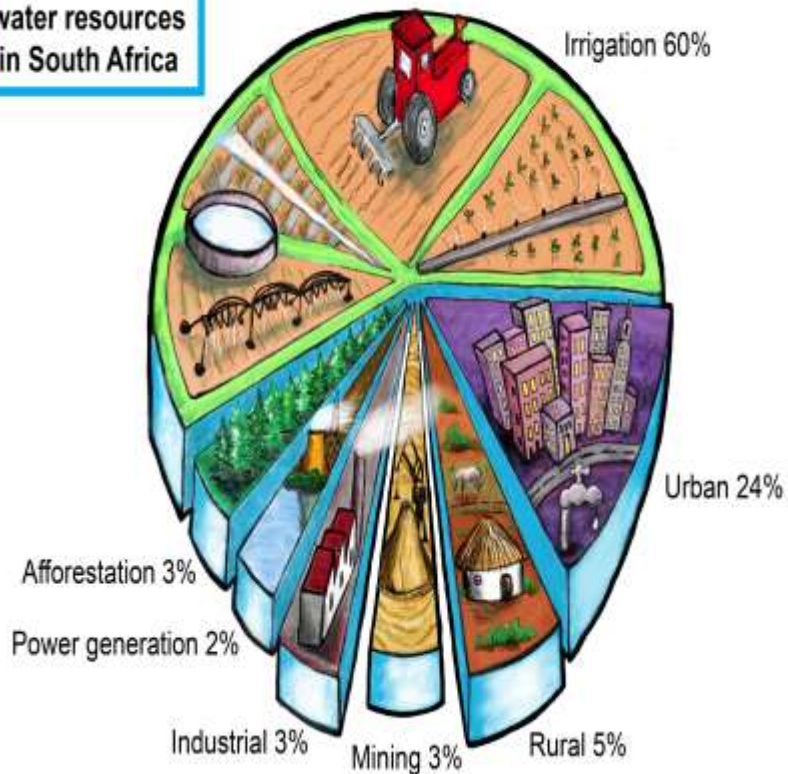
Water supply system	Major water users	System water balance	Main dams in the system	Future water sources
Upper Usuthu	Chief Albert Luthuli LM; Eskom; irrigation; Gauteng; Mkhondo	Balanced	Heyshope, Morgenstond, Westoe, Jericho	Groundwater
Upper Olifants	Eskom, Irrigation	Stressed (water quality issues)	Emalahleni, Loskop	Treatment of mine affected water
Upper Vaal	Standerton, Eskom, Sasol, Secunda	Balanced	Grootdraai	System in balance
Upper Inkomati	Chief Albert Luthuli LM, Mining, Irrigation, Eskom	Balanced	Lomati dam, Boesmanspruit, Nooightgerdacht; Vygeboom	System in balance
Lower Inkomati	Nkomazi LM, international obligations, irrigation	Stressed	Driekoppies dam and various smaller dams	Groundwater
Crocodile	City of Mbombela, irrigation	Stressed	Kwena and various farm dams	Crocodile East Water Project (proposed dam development)
Sabie	Bushbuckridge	Balanced	Inyaka, Maritsane and various small dams	Groundwater

Interventions for improving water resources in the province

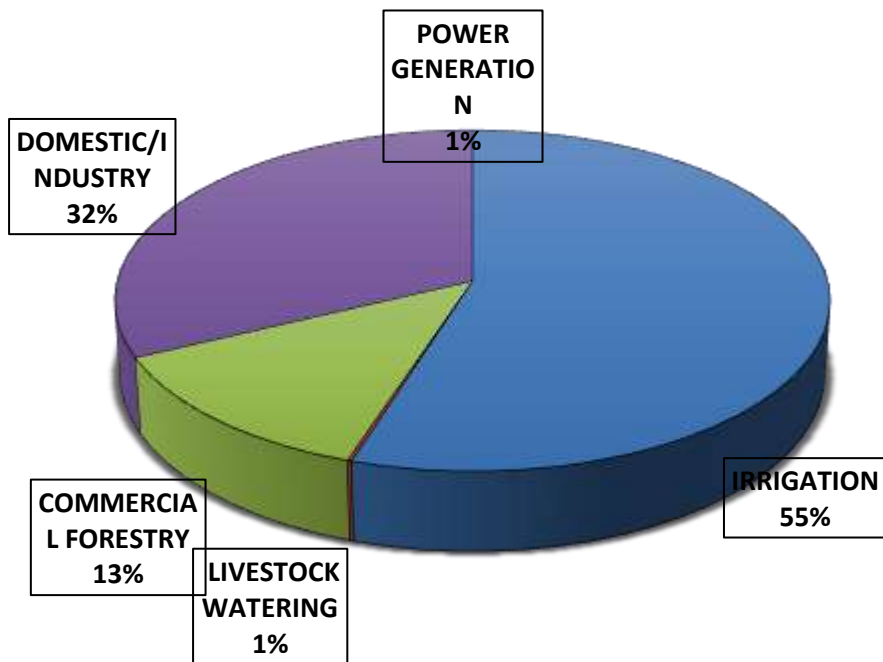
- Water Conservation and Demand Management (WC/WDM)
- Removal of Invasive Alien Plants (IAPs)
- Reallocation of water across and within water use sectors
- Optimise system operations
- **Inter-catchment transfers**
- Groundwater development
- **Development of water resource infrastructure**
 - Surface developments (new dams)
 - Groundwater options
 - Other options (e.g. reuse of effluent)

SECTORAL WATER ALLOCATION: NATIONAL AND PROVINCIAL SCENARIO

How we use our water resources in South Africa



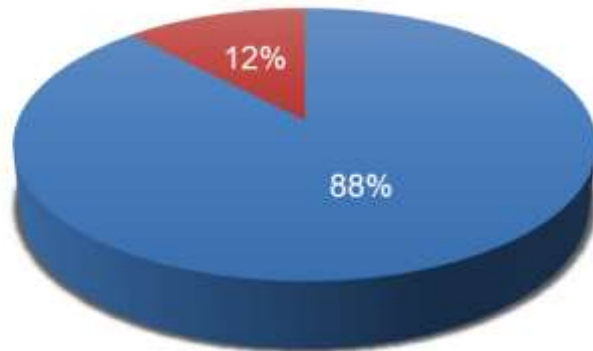
SECTORAL WATER ALLOCATION: MPUMALANGA



Household water services indicators per district

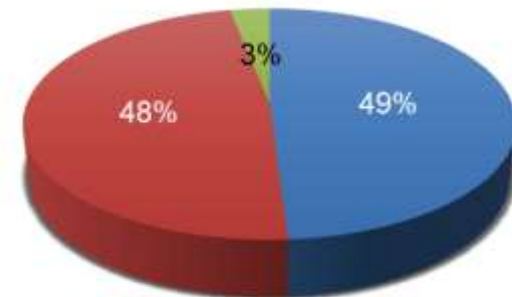
Province/ District/ Local Municipality	Main source of water for drinking				Sanitation Facility				No access to sanitation
	Access to Piped Water	Household below basic level of service (tinkering, rainwater etc)	% access to water	% below basic level	Flush/Chemi cal Toilet	Other (on site facilities, convertibl e latrines)	Household below basic level of sanitation service	% Access to sanitation	
Mpumalanga	1 090 892	147 969	88%	12%	607 082	593606	38 174	97%	3%
3Gert Sibande DM	305 282	28 533	91%	9%	234 267	90 787	8 760	97%	3%
Nkangala DM	379 870	41 274	90%	10%	233 783	180 173	7 187	98%	2%
Ehlanzeni DM	405 740	78 162	84%	16%	139 031	322 645	22 226	95%	5%

Mpumalanga province access to water



- Access to pipewater
- Below basic level of service

Mpumalanga access to sanitation services



- Waterborne sanitation /Chemical Toilet
- On site facilities
- Household below basic sanitation level

HOUSEHOLD WATER SERVICES INDICATORS PER MUNICIPALITY: STATS SA 2016

Province/District/Local Municipality	Main source of water for drinking			Sanitation Facility			
	Access to Piped Water	Household below basic level of service (tinkering, rainwater etc)	% Access to water	Flush/Chemical Toilet	Other (on site facilities, convertible latrines)	Household below basic level of sanitation service	% Access to sanitation
Mpumalanga	1 090 892	147 969	88	607 082	593606	38 174	97
Gert Sibande DM	305 282	28 533	91	234 267	90 787	8 760	97
Albert Luthuli	43 656	9 824	82	12 559	39 120	1 801	97
Msikaligwa	46 846	4 243	92	38 895	10 899	1 295	97
Mkhondo	38 789	6 805	85	21 312	22 318	1 965	96
Pixley Ka Seme	20 334	2 212	90	15 102	6 485	958	96
Lekwa	34 987	2 347	94	32 318	3 902	1 114	97
Dipaleseng	13 479	1 397	91	10 996	2 980	901	94
Goven Mbeki	107 191	1 704	98	103 086	5 082	726	99
Nkangala DM	379 870	41 274	90	233 783	180 173	7 187	98
Victor Khanye	21 093	3 177	87	20 897	3 055	318	99
Emalahleni	136 628	13 792	91	108 868	39 366	2 186	99
Steve Tshwete	82 631	4 082	95	71 000	14 671	1 042	99
Emakhazeni	12 947	1 686	88	12 060	1 817	756	95
Thembisile Hani	77 972	4 768	84	9 329	71 294	2 117	97
Dr JS Moroka	48 599	13 769	78	11 629	49 970	768	99
Ehlanzeni DM	405 740	78 162	84	139 031	322 645	22 226	95
Thaba Chweu	32 940	4 082	89	26 690	10 006	326	99
Mbombela	161923	43573	79	74 159	123 076	8 261	96
Nkomazi	88 675	15 290	85	13 068	84 436	6 461	94
Bushbuckridge	122 202	15 217	89	25 114	105 126	7 178	95

NKANGALA DISTRICT MUNICIPALITY: BULK WATER SUPPLY AND DEMAND

Municipality	Water Sources (dams)	Demand Centres	2020 requirement (ML/d)	2035 High Demand (MI/d)	Available water resource 2020 (ML/d)	Current surplus/deficit (MI/d)	Intervention
Dr JS Moroka	Mkhombo Dam Rust de Winter dam	Siyabuswa Cluster Bloedfontein Cluster Garamatsane cluster	60,27	78,08	40,27	-20,00	Rust de Winter Bulk Water Scheme
Thembisile Hani	Randwater City of Tshwane Bundu weir	Kwaggafontein KwaMhlanga Moloto	66,60	88,40	49,5	-17,1	Loskop Bulk Water Scheme
Emalahleni (include highveld steel)	Witbank dam	Emalahleni Kriel (Ganala)	161,92	196,44	122,49	-39,43	Emalahleni Bulk water scheme
Victor Khanye	Randwater Borehole scheme	Delmas Eloff Sundra	26,43	31,48	33,32	6,89	Adequate supply
Steve Tshwete	Middelburg dam	Middelburg Hendrina	58,98	61,21	59,75	0,77	Adequate supply
Emakhazeni	Belfast dam Dorpsdam (Dullstroom)	Waterval boven Machadodorp Belfast Dullstroom	12,20	12,58	14,88	2,68	Adequate supply Upgrading of Machadodorp from 2.7MI to 4MI and Belfast 4MI to 8MI underway

EHLANZENI DISTRICT: BULK WATER SUPPLY AND DEMAND

Municipality	Water Sources	Demand centers	2020 requirement (ML/d)	2035 High Demand (MI/d)	Available water resource 2020 (ML/d)	Current surplus/deficit (MI/d)	Intervention
Nkomazi	Driekoppies dam Kwena dam	Malelane Komatipoort Driekoppies cluster Tonga Cluster Sibange Cluster	105,50	130,88	111,64	6,14	Sibange bulk scheme Driekoppies scheme (additional 10ML/d to be acquired from Driekoppies dam)
Bushbuckridge	Injaka dam Acornhoek dam Edinburg dam	Bushbuckridge Marite cluster Acornhoek cluster	116,38	154,42	142,19	25,81	Adequate resource – reticulation in progress
Thaba Chweu	Lydenburg dam Sabie mine Graskop fountain	Mashishing Graskop Matibidi cluster Sabiie	25,38	26,99	27,37	2,00	Water conservation, groundwater
City of Mbombela	Kwena dam Longmere dam Klipkopie dam Primkopie dam Lomati Dam	Elandshoek Mbombela White river Hazyview Nsikazi cluster Matsulu Barberton	191,72	274,55	179,40	-12,33	Appointment of Specialist Engineer (PSP): 2021. Mbombela dam at Technical Feasibility & EIA: 2021- 2023 Design: 2024-2025 Construction: 2025-2028:

GERT SIBANDE DISTRICT: BULK WATER SUPPLY AND DEMAND

Municipality	Water Sources	Demand Centers	Water Demand in 2020 (ML/d)	Available water 2020 (ML/d)	Water Demand 2035 (ML/d)	Surplus/ deficit (ML/d) 2020	Intervention
Chief Albert Luthuli	Boesmanspruit dam Vygeboom dam	Carolina Manzana Mpuluzi - Methula Eerstehoek cluster	41,14	24,38	57,53	-16,75	Mpuluzi – Methula scheme Eerstehoek bulk scheme
Mkhondo	Gabosch dam Westoe dam Jericho - Heyshoop	Amsterdam Piet Retief KwaNgema Diekiedorp	18,91	19,45	19,45	0,55	Usuthu Transfer scheme
Dr Pixley Ka Isaka Seme	Skuihoek dam Balfour dam Mahawane dam Martins dam	Volksrust Wakkerstroom Amersfoort- Perdekop Daggakraal	13,23	18,66	17,15	5,42	Usuthu Transfer Scheme
Msukaligwa	Douglas dam Weselton dam Torbanite dam	Ermelo – Davel Sheepmoor Breyten Chrissiessmeer-Warburton - Lothair	26,46	28,58	45,32	2,12	Usuthu Transfer scheme
Govan Mbeki	Randwater	Secunda - Mbalenhle Trichardt Kinross - Leandra Bethal	100,00	111,78	126,99	11,78	Randwater
Lekwa	Grootdraai dam Morgenzon dam	Standerton Morgenzon	33,48	25,56	39,86	-7,92	Vaalriver Augmentation
Dipaleseng	Fortuna dam	Balfour Nthorwane Grootvlei	11,27	14,74	16,49	3,47	

PRIORITY INTERVENTIONS REQUIRED TO ADDRESS BULK WATER SUPPLY

Municipality	Bulk Water supply surplus/deficit (MI/d) 2020/21	Required interventions
Dr JS Moroka	-20.0	Rust De Winter Bulk Water Project (10 MI/d): Approval has been granted for appointment of Nkangala District Municipality as Implementing Agent (IA) Restore Mthombo Emergency Pipeline (6 M/d): Installation to complete Feb 22 Groundwater (3 MI/d) ;Water conservation (5MI/d) ; Relief from Thembisile Hani (5 MI/d) Total: 29 MI/d
Thembisile Hani	-17,1	Loskop Bulk Water Project (20 MI/d) ; Supply from City of Tshwane (8.8 MI/d) ;Moloto groundwater scheme (4MI/d) ;Moses River /Bundu Scheme (2.5 MI/d) Total: 35.5 MI/d
Emalaheni	- 39.4	Mine Water Reclamation (8MI/d).; Additional water from Witbank dam (13MI/d) ; Effluent re-use (14MI/d) ;Water Conservation (15MI/d savings) Total: 50 MI/d
City of Mbombela	-12,33	Water Conservation: 37 MI/d Additional Yield from Mbombela Dam: 78Mm3/a
Chief Albert Luthuli	-16,75	Mpuluzi Scheme (7.5MI/d) – completion date 2022 ; Eerstehoek Scheme (15MI/d) – completion date April 2023; Methula Scheme (4MI/d) – completion Dec 2021 Water Conservation and Demand Management (4,4 MI/d) Total: 30.9ML
Lekwa	-7,92	Vaal River Eastern Supply System. Water Conservation and Water Demand Management Water Conservation: 10.2 ML/d

GERT SIBANDE DISTRICT: PRIORITY INTERVENTIONS REQUIRED TO ADDRESS BULK WATER SUPPLY

Municipality	Bulk Water supply surplus/deficit (ML/d) 2020/21	Required interventions
Chief Albert Luthuli	-16,75	Mpuluzi Scheme (7.5MI/d) – completion date 2022 Eerstehoek Schme (15MI/d) – completion date 2023 Methula Scheme (4MI/d) Water Conservation and Demand Management (4,4 MI/d)
Mkhondo	0,55	Sufficient water resources from Usuthu Transfer Scheme to meet domestic requirements Water Conservation: 11,5MI/d
Dr Pixley ka Isaka Seme	5,42	Sufficient water resources from Usuthu Transfer Scheme to meet domestic requirements Water Conservation: 4ML/d
Msukaligwa	2,12	Vaal River Eastern Supply System. Water Conservation: 11ML/d
Govan Mbeki	11,78	Sufficient supply from Rand water. Municipality to honour the payment arrangement Water Conservation 21MI/d
Lekwa	-7,92	Vaal River Eastern Supply System. Water Conservation and Water Demand Management Water Conservation: 10.2 ML/d
Dipaleseng	3,47	Vaal River Eastern Supply System. Water Conservation and Water Demand Management Water Conservation: 2.8 MI/d

Overview of the 2023/24 grant allocation for per district

Programme	DoRA schedule	Gert Sibande	Nkangala	Ehlanzeni	Total	Number of Projects
		R 000	R 000	R 000	R 000	
Regional bulk infrastructure grant (RBIG)	5B (direct)	355 793	100 000	50 000	505 793	6 projects
	6B (indirect)	310 000	505 000	5 000	820 000	7 projects
Water Services infrastructure grant (WSIG)	5B (direct)	149 937	174 000	160 000	483 937	25 projects
	6B (indirect)	50 000	30 000	0	80 000	2 projects
Total		865 730	809 000	215 000	1 889 730	40 projects
Percentage		45,8%	42,8%	11,4%	100%	

MTEF ALLOCATION PER LM

WSA	REGIONAL BULK INFRASTRUCTURE			WATER SERVICES INFRASTRUCTURE			TOTAL
NKANGALA	2023/24	2024/25	2025/26	2023/24	2024/25	2025/26	
eMalahleni	R0.00	R0.00	R0.00	R15m	R15m	R15m	R45million
Victor Khanye	R0.00	R0.00	R0.00	R60m	R57.24m	R64.6m	R181.84million
Steve Tshwete	R100m	R30m	R0.00	R12m	R0.00	R0.00	R142million
Dr JS Moroka	R5	R50	R100	R0.00	R0.00	R0.00	R155million
Thembisile Hani	R500	R100	R100	R80	R71.35	R62.7	R914.05million
Emakhazeni	R0.00	R0.00	R0.00	R29m	R26.13m	R27.25m	R82.38million
TOTALS	R605M	R180M	R200M	R196M	R169.72M	R169.55M	R1.52BILLION
EHLANZENI	2023/24	2024/25	2025/26	2023/24	2024/25	2025/26	
Bushbuckridge	R40m	R40m	R105m	R50m	R41.7m	R43.5m	R320.2million
City of Mbombela	R0,00	R0,00	R0.00	R0.00	R31.35m	R32.6m	R63,95million
Nkomazi	R5m	R40m	R30m	R30m	R32.6m	R30m	R167.6million
ThabaChweu	R10m	R40m	R40m	R80m	R50.9	R56.7	R277.6million
TOTALS	R55M	R120M	R175M	R160M	R156.55M	R162.8M	R829.35M

MTEF ALLOCATION PER LM

WSA	REGIONAL BULK INFRASTRUCTURE			WATER SERVICES INFRASTRUCTURE			TOTAL
	2023/24	2024/25	2025/26	2023/24	2024/25	2025/26	
GERT SIBANDE							
Chief Albert Luthuli	R305.8m	R368.5m	R279m	R104.9m	R93.72m	R90m	R1.24billion
Dipaliseng	R60m	R21.4m	R30m	R0.00	R0.00	R0.00	R111.4million
Dr Pixley	R0.00	R0.00	R0.00	R15	R31.35	R32.7	R79.05million
Govan Mbeki	R5m	R30m	R30m	R0,00	R0.00	R0.00	R65million
Lekwa	R175m	R70m	R89m	R50m	R104m	R107m	R595million
Mkhondo	R70m	R100m	R100m	R0.00	R0.00	R0.00	R270million
Msukaligwa	R50	R50	R110	R30	R33.46	R40m	R313.46millio n
TOTAL	R666M	R639,9M	R638M	R199.9M	R262,53	R269.7M	R2.63BILLION

MPUMALANGA MAJOR PROJECTS : RBIG & WSIG

WSA	Project Name	Project Cost	Implementing Agent	Status	2023/24 Budget	Milestones
NKANGALA DISTRICT MAJOR PROJECTS						
Thembisile Hani LM	LOSKOP REGIONAL BULK WS PROJECT: Construction of 23ML/d Water Treatment Works, 3X10ML Reservoir, 4 Pumpstation and 75km bulk pipeline. The project will abstract water from Loskop dam and is intended to supply both Thembisile (MP) and Moutse (LP).	R2billion (RBIG)	Nkangala District	WP1,2,3&5 at Construction WP 4 at Tender Stage	R500million	WP1: May 24 WP2;3 & 5: Nov24 WP: TBC
Steve Tshwete	UPGRADING OF VAAL BANK WATER TREATMENT WORKS AND CONSTRUCTION OF REVERSE OSMOSIS PLANT: Upgrading of water treatment work and construction of reverse osmosis plant to deal with hard metals due to pollution by mines	R500million RBIG	Steve Tsheret	Phase 1 and Phase 2 at Construction	R100million	April 2024
Dr JS Moroka	RUST DE WINTER RBWS- MATHANJA: Construction of 10ML WTW's , Bulk Pipeline , Pump Stations and Reservoirs. The project intends to abstract water from Rust De Winter Dam to supply areas of mathanjana (MP) and Pankop (LP)	R800million (RBIG)	Nkangala District	Implementation Readiness Study (Regulatory)	R5million	Dept of Environmental Declined application and at an appeal stage
Victor Khanye LM	UPGRADING OF DELMAS WASTE-WATER TREATMENT WORKS: Upgrading of Delmas WWTW's from 4ML/d to 12ML/d including construction of Pre-Treatment System	R320million (70% WSIG; 30% NDM)	Nkangala District	Construction	R30million	
EHLANZENI DISTRICT MAJOR PROJECTS						
Bushbuckridge LM	UPGRADING OF MKHUHLU WASTEWATER TREATMENT WORKS : Upgrading of existing 1.5ML WWTW's to 8.5ML/day	R242million RBIG	Bushbuckridge LM	Feasibility Study	R40million	TBC
Nkomazi LM	DRIEKOPPIES RBWS: Upgrading of Water Treatment Works from 20ML/d to 40ML/d and construction of approximately 40km bulk pipeline and various reservoirs	R424million	Ehlanzeni & Nkomazi	Construction	R5million	
ThabaChweu LM	UPGRADING OF LYDENBURG WASTEWATER TREATMENT WORKS: Refurbishment of existing 5,5ML/d and Upgrading of WWTW's from 5.5ML to 11ML/d to eliminate spillage to Sabie River	R180million WSIG	Ehlanzeni District		R80million	Jun 2023- Dec 2023

MPUMALANGA MAJOR PROJECTS : RBIG & WSIG

WSA	Project Name	Project Cost	Implementing Agent	Status	2023/24 Budget	Milestones
GERT SIBANDE DISTRICT MAJOR PROJECTS						
Dipaliseng LM	BALFOUR / SIYATHEMBA/GREYLINGSTAD /GROOTVLEI RBWS PROJECT: Upgrading of Fortuna Water Treatment Works from 6.5ML to 19.5ML/d to supply water to Balfour, Greylingstad and Grootvlei	R590million (RBIG)	Gert Sibande District	Phase 2 & Phase 4 at Construction	R60million RBIG	November 2024
Govan Mbeki	UPGRADING OF IMBALENTLE BULK SEWER AND WASTEWATER TREATMENT WORKS: Upgrading of bulk sewer network and pump stations and wastewater treatment works from 10ML/d to 25ML/d	R500million (RBIG)	Gert Sibande District	Feasibility Study	R10milliom RBIG	Construction planned for March 2024
Chief Albert Luthuli	EMPULUZI RBWS PROJECT: Upgrading of Methula and Mayflower WTW, construction of Bulk pipeline Distribution, reservoir and construction of a small dam	R1.1billion	Gert Sibande District	Phase 3,5,6,7 Construction Phase 1 at IRS	R305million RBIG	Phase 3,5,6,7 : End November 2024 Phase 1(Dam): TBC
	EERSTEHOEK RBWS PROJECT: Upgrading of abstraction weir, WTW's from 13ML/d to 29ML/d, construction of balancing dam, command reservoirs and bulk distribution network	R288million	Chief Albert Luthuli	Phase 3 & 4 at construction		Phase 3: June 2024 Phase 4: Dec 2024
Lekwa LM	REHABILITATION OF SEWER NETWORK IN ROOIKOPEN AND STANDERTON: Rehabilitation of 42km sewer reticulation in rooikoppen, unblocking of sewer in town and township, rehabilitation of extension 8 sewer and water network and WCDM in rooikoppen and Standerton	R500million RBIG & WSIG	Gert Sibande	Construction	R175million RBIG R50million WSIG	December 2024
	UPGRADING OF STANDERTON WASTEWATER TREATMENT WORKS: Upgrading of wastewater treatment works from 9ML to 30ML/d to reduce pollution within Vaal system	R700million	Gert Sibande	Implementation Readiness Study	R50million RBIG	Construction planned to start in January 2024
Msukaligwa	MSUKALIGWA RBWS PROJECT: Upgrading of water supply in Dave (Cluster 3), Breyten, Chressiesmeer, Lothair and Warbuton (Luster 2); Ermelo and Weeselton (Cluster 1)	R1.5billion	Gert Sibande	Cluster 2 at construction and Cluster 1 at planning	R50million RBIG	Cluster 2 : May2024 Cluster 1: expected to start in April 2024
Mkhondo	AMSTERDAM / SHEEPMOOR RBWS : Construction of Gabosch dam and bulk pipeline in Amsterdam and construction of package plant and bulk pipeline in Sheepmoor	R600million	Gert Sibande District	Dam: at construction	R70million RBIG	June 2026

GENERAL CHALLENGES

- Lack of Operations and Maintenance of water and sanitation infrastructure
- Theft and Vandalism
- Ageing Infrastructure
- High Water Debt owed by Municipalities

SITE VISIT IN CHIEF ALBERT LUTHULI : EMPULUZI/ METHULA

2023 & 24 BUDGET ALLOCATION - OVERVIEW

	MPUMALANGA	GERT SIBANDE DISTRICT MUNICIPALITY	CHIEF ALBERT LUTHULI LOCAL MUNICIPALITY
Regional Bulk Infrastructure Grant	R 1 325 793.00	R 665 793.00	R 305 793.00
Water Services Infrastructure Grant	R 563 937.00	R 199 937.00	R 104 937.00
TOTALS	R 1 889 730.00	R 865 730	R 410 730.00
Number of Projects	41 projects	20 projects	8 projects

PROJECTS UNDER CHIEF ALBERT LUTHULI

PROGRAM	PROJECT NAME	PROJECT DESCRIPTION	PROJECT COST	EXPENDITURE	PROJECT STATUS	BENEFICIARIES
REGIONAL BULK INFRASTRUCTURE	Empuluzi/Methula Regional Bulk Water Supply	Construction of empuluzi dam, upgrading of Mayflower WTW, Construction of new water treatment works at Methula and construction of 29km bulk pipeline	R1 3billion	R 370million	Dam : at Design Phase 2,4 &8 –Completed Phase 3,5,6,7- at Construction	31 276households (116 350 people)
	Eerstehoek Regional Bulk Water Supply	Upgrading of WTW's from 13.4ML – 29ML , Upgrading of upstraction point and balancing dam, bulk pipeline and storage reservoirs	R316million	R244million	Construction	19 440 households (77 760 people)
	Refurbishment and Upgrading of Carolina Waste Water Treatment Works	Construction of 6ML WWTW's and upgrading of Bulk sewer conveyance infrastructure and pumpstations	R380million	R19million	Refurbishment- under construction Upgrading - Design	32 550 households (130 200 people)
	Chief Albert Luthuli Water Services	Development of masterplan and assessment of water needs for next 30years	R300million	R0.00	Feasibility	TBC
Water Services Infrastructre Grant	Refurbishment of Elukwatini Sewer Pump Station	Replacement of pumps, upgrading of electricity connection and installation of back up generator	R13million	R0.00	Tender Stage	14 751households (59 004people)
	Refurbishment of Ekulindeni Sewer Ponds	Excavation and cleaning of ponds, installation of lining, dosing station	R26million	R0.00	Tender Stage	1389 households (5556 people)
	Refurbishment of Ekulindeni WTW's	Inlet works, anaerobic ponds, maturity ponds, dosing station	R26million	R0.00	Tender Stage	1341 households (5 364people)
	Refurbishment of Emanzana WWTW's	Inlet works, anaerobic ponds, maturity ponds, dosing station	R19million	R0.00	Tender Stage	1965 households (7 860 people)

Empuluzi/Methula RBWS project Details

- Empuluzi / Methula Regional Scheme is intended to augment water supply for both Mayflower areas and Methula to improve water quality and quantity in order to establish a sustainable water supply for 31 276 household (116 350 population).
- The project entails;
 - *The construction of the Empuluzi dam (planning)*
 - *the upgrading of Mayflower WTW's by 7.5ML to achieve a capacity of 10ML/d (Under Construction)*
 - *The construction of a new 5ML in Methula (completed)*
 - *Construction of 29.3km of Bulk Pipelines and 2 pumpstations (under construction)*
 - *Storage facilities*
- Due to project size and its complexity the project was sub-divided into 8 phases
- The project is estimated to cost R 1,3 billion and is expected to be fully completed in 2026

PROJECT STATUS PER PHASE

PHASE	PROJECT COST	PROJECT STATUS	PROJECT SCOPE / DESCRIPTION	EXPENDITURE TO DATE	COMMENTS
1: Dam	R 1 019 202 781.04 (Estimate)	Planning stage.	Construction of: Diversion weir, Transfer canal and Off-channel storage dam in the eMpuluzi River Pipelines to Mpuluzi and Methula WTW's	R 10 196 401.48	Project is at planning stage (preliminary designs stage)
2: Abstraction	R 11 019 148.24	Completed- Operations and Maintenance stage	<ul style="list-style-type: none"> •Upgrade of pump house •Replacement of abstraction steel pipeline •Construction of bulk earthworks. •Construction of drainage channel •Upgrade of electrical components 	R 11 019 148.24	Project is 100% completed and handed over to the Local Municipality for operation and maintenance, defects liability period expired.
3: Mayflower WTW's	R 78 698 005.78	Construction stage	<ul style="list-style-type: none"> •The upgrade WTW from 2,5MI/d to 10.0MI/day •Upgrade of clear water pump station Upgrade of sedimentation and flocculation tanks •Upgrading of filter house •Supply and installation of standby generator. 	R 70 110 123.18	Challenges: Covid 19 pandemic Fatal incident on site, Site stoppages by community & business forums, rainfall and flooding. Site will resume shortly after ensuring compliance with safety regulations.

PROJECT STATUS PER PHASE

PHASE	PROJECT COST	PROJECT STATUS	PROJECT SCOPE / DESCRIPTION	EXPENDITURE TO DATE	COMMENTS
4: Methula WTW's	R 78 698 005.78	Completed-Operations and maintenance	<ul style="list-style-type: none"> •The construction of new components to meet the capacity of 5MI/D •Upgrade and refurbishment of Fernie A and Fernie B Pump Stations •Construction of a Chemical Dosing House, Sedimentation and Flocculation Tanks, Filter House And Construction of an Access Road 	R 78 698 005.78	Project completed and handed over to Local Municipality for operation & maintenance.
5, 5,6 &7: Bulk Pipelines and PS	R 194 472 736,29	Construction at 94%	<ul style="list-style-type: none"> •Construction of 10 pipelines to various settlements in Mpuluzi. • upgrading of Fernie and Dundonald booster pumpstations (PS 4 & PS 5). •(full description on slide 7) 	R 171 775 623,29	Project is 94% completed and anticipated completion is 30 November 2023.
6: Storage Facilities	R 30 476 214.38	Completed-operations and maintenance stage	Construction of 1MI concrete reservoir in Redhill and construction of 2ML reservoir in Glenmore.	R 29 695 541.55	Project completed and handed over to Local Municipality

DETAILED SCOPE OF WORK

Phase 1:	Phase 2: MAYFLOWER RAW WATER ABSTRACTION – PHASE 2	Phase3: The upgrading of Mayflower Water Treatment Works
<p><i>The construction of an off-channel dam is at planning stage. The feasibility study has been completed. Currently undertaking preliminary designs and regulatory requirement to finalise the Implementation Readiness Study. All the planning processes is intended to be completed by June 2024 with construction planned to commence in 2024/25FY. The phase is estimated to cost approximately R 1 019 202 781.04</i></p>	<p><i>The project is complete at an amount of R 11 019 148.24. Scope of works included the following:</i> <i>Upgrade of pump house (Partial demolition of existing building and extension to accommodate new pumps)</i> <i>Replacement of two pumps</i> <i>Replacement of abstraction steel pipeline</i> <i>Construction of bulk earthworks.</i> <i>Construction of drainage channel</i> <i>Upgrade of electrical components</i></p>	<p>The project entails the upgrading of the WTW by 7.5 MI/d to a total capacity of 10.0MI/day. Scope includes the Upgrade of clear water pump station, Upgrade of sedimentation and flocculation tanks, Upgrading of filter house, sludge drying beds, Construction of sludge holding pond, fencing and upgrade of access road and internal roads, Standby generator and Electrical works.</p>

PHASE DETAILS

Phase4: The upgrade of Methula WTW.	Phase 5/6/7: Construction of 29.3km of Bulk Pipelines and 2 pumpstations (under construction	Phase 8: (PHASE 8 – CONSTRUCTION OF REDHILL AND GLENMORE RESERVOIRS)
<p>•The project entails the upgrading of the treatment works from being a river scheme to a 5MI/day water treatment works. The scope included the upgrading and refurbishment of Fernie A and Fernie B Pump Stations, Construction of a Chemical Dosing House, Balancing dam, Construction of Sedimentation and Flocculation Tanks, Filter House And Construction of an Access Road.</p>	<p>This project is about the construction of 29.3 km of bulk pipelines which is split into 10 different pipelines within Greater Mpuluzi Area. Pipeline 1 (200mm X 3746 m steel pipe from Mpuluzi WTW to Mayflower reservoir). Pipeline 2(300mm X 2173m steel pipe from Mayflower WTW to Dundonald PS) Pipeline 3(200mmX4257m steel pipe from Dundonald PS to Redhill reservoir). Pipeline 4 (160mmX 3760m from Redhill to Slovo reservoirs). Pipeline 5 (110mm X 1537m from Slovo reservoir to Dundonald tank) Pipeline 6 (315mmX 2829m from Dundonald PS to Dundonald Break pressure tank. Pipeline 7 (250mmX 2168m from Dundonal break pressure tank to Glenmore reservoir). Pipeline 8 (200mmX 4085m from Glenmore reservoir to Glenmore reservoir 4. Pipeline 9 (160mm X 776m from Glenmore reservoir to Swallowsnest. Pipeline 10 (160mm X 4264m from Fernie to Diepdale). And lastly the upgrading of Fernie booster pumstation and Dundonald booster pumpstation.</p>	<p>This project entails the construction of a 1MI concrete reservoir at Redhill and a 2ml reservoir at Glenmore. The works includes pipework to connect to the existing infrastructure, supply and installation of paving, construction of a guard house, fencing and opening gravel access roads.</p>

PROJECT CHALLENGES AND SUCCESSES

PROJECT CHALLENGES	PROJECT SUCCESS
Covid 19 Pandemic which delayed commencement of project by 3months and Tropical Cyclone Dineo (flooding) delayed by a month	Provision of portable water supply for Methula areas
Local Business Forum demanding 30% and numerous project stoppages as a result and demands of employment by communities & other strikes outside project	Increased water supply in Mayflower
Prices Escalations affecting contractors performance	Employment opportunities for both local labour and businesses
Fatality incident result in closure of site by Dept of Labour	

RECOMMENDATIONS

- NCPO to note progress on Empuluzi / Methula RBWS

PROJECT GALLERY : Empuluzi Phase 2



Two suction pipes.



MCC Panel

Site Photos

MAYFLOWER RAW WATER ABSTRACTION- PHASE 2B (Completed)



Two suction pipes.



MCC Panel.

Site Photos

MAYFLOWER WATER TREATMENT WORKS – PHASE 3B



Gantry Installation



Retaining wall construction

Site Photos

UPGRADE OF METHULA WATER TREATMENT WORKS 4B (Completed)



sedimentation and flocculation channel.



MCC Panel.

Site Photos

BULK WATER PIPELINES PHASE 5, 6, 7



MCC electrical cable trench.



Casting of connection chamber floor slab.

THANK YOU