METROPOLITAN MUNICIPALITY NRW PROGRAMME

EXECUTIVE SUMMARY OF DMA (PROJECT AREA) CHARACTERISTICS:

DATE: April 2025

ID	DMA CHARACTERISTICS	DMA1 Reeston NUMBER / QUANTITY / DESCRIPTION									
		Area 1	Area 2	Area 3	Area 4	Area 5	Area 6	Area 7	Area 8	Area 9	DMA Overall
1	Name (or Names) of the Pilot Project Area	Chicken Farm 1 (MZ 006)	Chicken Farm 2 (MZ 007)	Chicken Farm 3 (MZ 008)	New Life (MZ 009)	Reeston 1 MZ 001	Reeston 2 MZ 002	Reeston 3 MZ 003	Reeston 4 MZ 004	Reeston 5 MZ 005	
2	Maximum System Pressure (Bar)	3.6	2	5	6.2	6.2	6.6	10	4.6	6.7	
3	Minimum System Pressure (Bar)	1.5	1.5	1.5	1.1	3.2	3.4	3.1	2.2	2.1	
4	Average System Pressure (Bar)	1.7	1.8	3.3	3.7	4.3	4.5	5	3	4.5	
5	Total number of registered connections	4617				4403					3698
6	Number of residential (domestic) customers	1120	660	1887	950	1261	627	977	878	660	3671
7	Number of commercial customers										25
8	Number of Industrial customers	0				0					
9	Number of institutional customers										2
10	Number of Pressure Reducing Valves (PRV) working (number)	1	1	0	0	0	1	4	2	2	
11	Length of bulk / connector (trunk) water mains (kilometres)	3,914km				3,012km					
12	Sizes, materials and ages of bulk / connector (trunk) mains.	250mm, uPVC, 2005				315mm, mPVC,1998					
13	Length of reticulation water mains (kilometres)										91
14	Sizes, materials and ages of reticulation water mains.	(50mm - 160mm) uPVC				(50mm - 200mm) mPVC, uPVC, HDPE, 2001 -2022					
15	Number of metered customers	3564				4362					3698
16	Number of unmetered customers	107				1369					1015
17	Service connection materials used (stats)	HDPE				HDPE					
18	Type of customer meters (if possible, class, age, make, sizes)	Elster KSM, Sensus SPX, Precision ASM LXH, 15mm - 20mm				Elster KSM, Sensus SPX, Precision ASM LXH, 15mm - 20mm					
19	Meter reading methodologies and technologies	Manual				Manual					
20	Intermittent water supply, rationing schedules of the system (where applicable).	N/A				N/A					
21	Water tariff(s) (cents/KL)	Block tariffs available				Block tariffs available					
22	Collection rates (%)										
23	System Input volumes (SIV)	418,959				803520					
24	Consumption volumes per month - RESIDENTIAL										812548
25	Consumption volumes per month - COMMERCIAL										140332
26	Consumption volumes per month - INDUSTRIAL										
27	Estimated Authorised Unbilled volumes										341040
28	Estimated Unauthorized consumption volumes										0
29	Estimated meter inaccuracy	4244 (96%)				4090 (92%)					
30	Breaks statistics (main line and service connections)	Moderate	Moderate	Moderate	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	17
31	Minimum Night Flow data	16	4	0	8	52kl/h	16kl/h	52kl/h	29kl/h	23kl/h	
32	Map of the Project Area	Attach Map(s) of the Project Area (DMA1) as an Annexure-available	Attach Map(s) of the Project Area (DMA2) as an Annexure-available	Attach Map(s) of the Project Area (DMA3) as an Annexure-available	Attach Map(s) of the Project Area (DMA3) as an Annexure-available	available	available	available	available	available	
33	Theoretical demand/ erf/day	706 l/erf/day	495 l/erf/day	704 l/erf/day	710 l/erf/day	891 l/erf/day	709 l/erf/day	696 l/erf/day	857 l/erf/day	686 l/erf/day	
34	Current billing 6 month ave	29 l/erf/day	161 l/erf/day	20 l/erf/day	12 l/erf/day	17 l/erf/day	26 l/erf/day	143 l/erf/day	65 l/erf/day	66 l/erf/day	
35	Logged consumption	no data	no data	92 l/erf/day	511 l/erf/day	1256 l/erf/day	1006 l/erf/day	1261 l/erf/day	1011 l/erf/day	1055 l/erf/day	
36	Discrete area	Yes	Yes	Yes	Yes	Yes	yes	yes	yes	yes	
37	Reservoir	Outspan	Outspan	Outspan	Outspan	Reeston Reservoir	Reeston Reservoir	Reeston Reservoir	Reeston Reservoir	Reeston Reservoir	
38	Reservoir capacity	18,2 ML	18,2 ML	18,2 ML	18,2 ML	6 ML	6 ML	6 ML	6 ML	6 ML	
39*	Elevated towers (number)	None	None	None	None	None	None	None	None	None	
40*	Pump stations (number)	None	None	None	None	None	None	None	None	None	
41	NRW per project area	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	62%
42	Physical losses per project area - actual losses										29%
43	Commercial losses per project area										12%
44	Unbilled authorised consumption per project area										21%
45**	DMA bulk meters (number)	MM_017	MM_008	MM_007	MM_012	MM_001	MM_002	MM_003	MM_004	MM_011	
46	Billing analysis available	Under development-needs to be updated	partial	Partial							
47	Billing data available	yes	yes	yes	yes	yes	yes	yes	yes	yes	4269
48	No Billing data										191
49	Metered	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
50	Number of erven	1120	660	1887	950	1261	627	977	878	660	4617
51	Notes	Under development-needs to be updated		Under development-needs to be updated							

ID	DMA CHARACTERISTICS	DMA2 Ndevana NUMBER / QUANTITY / DESCRIPTION			
		Area 1	Area 2	Area 3	DMA Overall
1	Name (or Names) of the Pilot Project Area	Ndevana			
2	Maximum System Pressure (Bar)	7.5	8	5.4	
3	Minimum System Pressure (Bar)	1.3	2	1.1	
4	Average System Pressure (Bar)	5.5	4.6	3.3	
5	Total number of registered connections				1758
6	Number of residential (domestic) customers	3307			1738
7	Number of commercial customers				18
8	Number of Industrial customers	0			
9	Number of institutional customers				2
10	Number of Pressure Reducing Valves (PRV) working (number)				
11	Length of bulk / connector (trunk) water mains (kilometres)				
12	Sizes, materials and ages of bulk / connector (trunk) mains.				
13	Length of reticulation water mains (kilometres)				45
14	Sizes, materials and ages of reticulation water mains.	(75mm - 160mm) uPVC 1996 -2008			
15	Number of metered customers				1758
16	Number of unmetered customers				297
17	Service connection materials used (stats)				
18	Type of customer meters (if possible, class, age, make, sizes)				
19	Meter reading methodologies and technologies				
20	Intermittent water supply, rationing schedules of the system (where applicable).				
21	Water tariff(s) (cents/KL)	Block tariffs available			
22	Collection rates (%)				
23	System Input volumes (SIV)	7148263			
24	Consumption volumes per month - RESIDENTIAL	45 927 kl (6 month av)			421160
25	Consumption volumes per month - COMMERCIAL				3928
26	Consumption volumes per month - INDUSTRIAL				
27	Estimated Authorised Unbilled volumes				99792
28	Estimated Unauthorized consumption volumes				0
29	Estimated meter inaccuracy				
30	Breaks statistics (main line and service connections)				22
31	Minimum Night Flow data				
32	Map of the Project Area	Available			
33	Theoretical demand/ erf/day				
34	Current billing 6 month ave				
35	Logged consumption				
36	Discrete area				
37	Reservoir				
38	Reservoir capacity				
39*	Elevated towers (number)				
40*	Pump stations (number)				
41	NRW per project area				
42	Physical losses per project area - actual losses				
43	Commercial losses per project area				
44	Unbilled authorised consumption per project area				
45**	DMA bulk meters (number)				
46	Billing analysis available				
47	Billing data available				
48	No Billing data				
49	Metered				
50	Number of erven	3307			
51	Notes	2013 feasability study design report to be updated			

ID	DMA CHARACTERISTICS	DMA3 Scenary Park NUMBER / QUANTITY / DESCRIPTION			
		Area 1	Area 2	Area 3	DMA Overall
1	Name (or Names) of the Pilot Project Area	Scenery Park Ext (CZ 003)	Scenery Park high and mid level (CZ 002)	Scenery Park Low level (CZ 001)	
2	Maximum System Pressure (Bar)	6.4	5.3	8	
3	Minimum System Pressure (Bar)	1.7	2.8	4.7	
4	Average System Pressure (Bar)	4.1	3.2	5.5	
5	Total number of registered connections	4004			1150
6	Number of residential (domestic) customers	615	3047	342	1119
7	Number of commercial customers				30
8	Number of Industrial customers	13			
9	Number of institutional customers				1
10	Number of Pressure Reducing Valves (PRV) working (number)	no (proposed indicated)	no	no (proposed indicated)	
11	Length of bulk / connector (trunk) water mains (kilometres)				
12	Sizes, materials and ages of bulk / connector (trunk) mains.	200mm PVC & 250mm AC 1998			
13	Length of reticulation water mains (kilometres)				50
14	Sizes, materials and ages of reticulation water mains.	(40mm - 200mm) uPVC, HDPE, 1998			
15	Number of metered customers	3938			1150
16	Number of unmetered customers	1369			2724
17	Service connection materials used (stats)	HDPE			
18	Type of customer meters (if possible, class, age, make, sizes)	Elster KSM, Sensus SPX, Precision ASM LXH, 15mm - 20mm			
19	Meter reading methodologies and technologies	Manual			
20	Intermittent water supply, rationing schedules of the system (where applicable).				
21	Water tariff(s) (cents/KL)	Block tariffs available			
22	Collection rates (%)				
23	System Input volumes (SIV)	1860126			
24	Consumption volumes per month - RESIDENTIAL				965012
25	Consumption volumes per month - COMMERCIAL				56752
26	Consumption volumes per month - INDUSTRIAL				
27	Estimated Authorised Unbilled volumes				915264
28	Estimated Unauthorized consumption volumes				0
29	Estimated meter inaccuracy	3675 (92%)			
30	Breaks statistics (main line and service connections)	Moderate	Moderate	Moderate	44
31	Minimum Night Flow data	96kl/h	60kl/h	7,4kl/h	
32	Map of the Project Area	Available	Available	Available	
33	Theoretical demand/ erf/day	650 l/erf/day	766 l/erf/day	650 l/erf/day	
34	Current billing 6 month ave	150 l/erf/fday tbc	33 l/erf/day tbc	0	
35	Logged consumption	no	no	no	
36	Discrete area	no	no	yes	
37	Reservoir	Dawn	Dawn	Umzonyana	
38	Reservoir capacity	6,785 ML	6,785 ML	Direct supply from the WTW	
39*	Elevated towers (number)	None	None	None	
40*	Pump stations (number)	None	None	1	
41	NRW per project area	Yes	Yes	Yes	69%
42	Physical losses per project area - actual losses				20%
43	Commercial losses per project area				8%
44	Unbilled authorised consumption per project area				41%
45**	DMA bulk meters (number)	MC_001	MC_002	MC_003	
46	Billing analysis available	partial	no	no	
47	Billing data available	No			Flat rate
48	No Billing data				
49	Metered	Yes	Yes	Yes	
50	Number of erven				4004
51	Notes				

ID	DMA CHARACTERISTICS	DMA4 Dimbaza NUMBER / QUANTITY / DESCRIPTION					
		Area 1	Area 2	Area 3	Area 4	Area 5	DMA overall
1	Name (or Names) of the Pilot Project Area	Dimbaza Ward 34	Dimbaza Ward 36	Dimbaza Ward 38	Polo Park Ward 34	Industrial Area	
2	Maximum System Pressure (Bar)	7.1	6.8	6.8	8.6	7.2	
3	Minimum System Pressure (Bar)	2.4	1.3	4.4	1.8	2.2	
4	Average System Pressure (Bar)	4.2	2.5	5.2	3	4	
5	Total number of registered connections	1157	2131	2311	73	111	5589
6	Number of residential (domestic) customers	1157	2131	2311	73	0	5404
7	Number of commercial customers	0	0	0	0	0	178
8	Number of Industrial customers	0	0	0	0	111	
9	Number of institutional customers	0	0	0	0	0	7
10	Number of Pressure Reducing Valves (PRV) working (number)	2	0	1	0	0	
11	Length of bulk / connector (trunk) water mains (kilometres)						
12	Sizes, materials and ages of bulk / connector (trunk) mains.						
13	Length of reticulation water mains (kilometres)						98
14	Sizes, materials and ages of reticulation water mains.	(50mm - 200mm) mPVC, uPVC, HDPE					
15	Number of metered customers	923	1599	1411	47	102	5589
16	Number of unmetered customers	242	508	875	24	9	353
17	Service connection materials used (stats)	HDPE					
18	Type of customer meters (if possible, class, age, make, sizes)	Elster KSM, Sensus SPX, Precision ASM LXH, 15mm - 20mm					
19	Meter reading methodologies and technologies	Manual					
20	Intermittent water supply, rationing schedules of the system (where applicable).	N/A	N/A	Yes	N/A	N/A	
21	Water tariff(s) (cents/KL)	Block tariffs available					
22	Collection rates (%)						
23	System Input volumes (SIV)	3464064					
24	Consumption volumes per month - RESIDENTIAL	48360 kl/month	81840 kl/month	77376 kl/month	1636,8 kl/month	14000kl/month	1287608
25	Consumption volumes per month - COMMERCIAL						76632
26	Consumption volumes per month - INDUSTRIAL						
27	Estimated Authorised Unbilled volumes						118608
28	Estimated Unauthorized consumption volumes	62 kl/h or 46128 kl/month					0
29	Estimated meter inaccuracy	728 (37%)	1042 (48%)	151 (45%)	856 (34%)	0	
30	Breaks statistics (main line and service connections)	Moderate	Moderate	Moderate	Fregent	Freqent	125
31	Minimum Night Flow data	4,1kl/h	8kl/h	20kl/h	1,5kl/h	9.7	
32	Map of the Project Area	Attach Map(s) of the Project Area (DMA1) as an Annexure	Attach Map(s) of the Project Area (DMA2) as an Annexure	Attach Map(s) of the Project Area (DMA3) as an Annexure	Attach Map(s) of the Project Area (DMA3) as an Annexure		
33	Theoretical demand/ erf/day	21,2kl/month/erf					
34	Current billing 6 month ave						
35	Logged consumption						
36	Discrete area	No	No	Yes	No	No	
37	Reservoir	Dimbaza	Dimbaza	Polah Park	Dimbaza	Dimbaza	
38	Reservoir capacity	3,6 ML	3,6 ML	3,6 ML	3,6 ML	3,6 ML	
39*	Elevated towers (number)	None	None	None	None	None	
40*	Pump stations (number)	None	None	None	None	None	
41	NRW per project area	Yes	Yes	Yes	Yes	Yes	
42	Physical losses per project area - actual losses	6980					
43	Commercial losses per project area	2013 Water Loss Ivestigation report to be updated					
44	Unbilled authorised consumption per project area						
45**	DMA bulk meters (number)	D11	D10 & 12	D6	D5	D1 & D3	
46	Billing analysis available						
47	Billing data available	1939	2143	329	2523		
48	No Billing data	Yes	26	1	20		
49	Metered	Yes	Yes	Yes	Yes	Yes	
50	Number of erven						7019
51	Notes						23370

* situated within the DMA
** measure inflow and outflows to and from the DMA

52 **Possible interventions to reduce NRW and to improve service delivery (PBC)**

Install bulk meter(s) for SIV/Water loss calculation	In place	In place	In place	In place	In place	In place	In place	In place	In place	In place	
Log bulk meter	In place	In place	In place	In place	In place	In place	In place	In place	In place	In place	
Pressure management	In place	In place	In place	In place	Yes	Yes	Yes	Yes	Yes	Yes	
Leak detection and fixing	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Pipe replacement	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Meter audit / replacement	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Retrofitting	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Water Management devices	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Billing data cleanup	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	

Bulk metering is at reservoir outlet.			
In place	In place	In place	In place
Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes
No	No	No	No
No	No	No	No
No	No	No	No
No	No	No	No

In place	In place	In place	
In place	In place	In place	
No	No	No	
Yes	Yes	Yes	
Yes	Yes	Yes	
Yes	Yes	Yes	
Yes	Yes	Yes	
Yes	Yes	Yes	
Yes	Yes	Yes	

In place	In place	In place	In place	In place	
Yes	Yes	Yes	Yes	Yes	
Yes	Yes	Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes	Yes	Yes

Check/ secure DMA boundary discreteness	No	No	No	No	Ye s	Ye s	Ye s	Ye s	Ye s	Ye s
Punitive tariffs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Introduction of billing in rural area	No	No	No	No	No	No	No	No	No	No
Installation of new water meters in unbilled unmetered and flat rated areas.	Ye s	Ye s	Ye s	Ye s	Ye s	Ye s	Ye s	Ye s	Ye s	Ye s
Development of water loss consumer awareness campaign and documentation	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

No	No	No	No	
No	No	No	No	
Yes	Yes	Yes	Yes	
Yes	Yes	Yes	Yes	
Yes	Yes	Yes	Yes	

Yes	Yes	Yes		
No	No	No		
Yes	Yes	Yes		
Yes	Yes	Yes		

Yes	Yes	Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes	Yes	Yes
No	No	No	No	No	No
Yes	Yes	Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes	Yes	Yes

Billing Data

AVG Consumption	0 - 6 KL
	6 - 10 KL
	10 - 40 KL
	> 40 KL
Unable to Calculate Consumption	Billing has less than 2 Readings in the last 6 month
	No Billing Data/Could not be linked
Total Number of Erven	

Reeston

108	2.4%
70	1.6%
136	3.0%
56	1.3%
3899	87.4%
191	4.3%
4460	

99	2%
85	2%
117	3%
23	1%
3555	89%
120	3%
3999	

1285	18.3%
761	10.8%
1651	23.5%
545	8.0%
2692	38.4%
85	1.2%
7019	

AVG Consumption	0 - 6 KL
	6 - 10 KL
	10 - 40 KL
	> 40 KL
Unable to Calculate Consumption	Billing has less than 2 Readings in the last 6 month
	No Billing Data/Could not be linked
Total Number of Erven	

Chicken Farm

42	1.0%
35	0.8%
63	1.4%
36	0.8%
1829	41.4%
2415	54.6%
4420	