ERWAT: Second Quarter Departmental Performance Reporting Template

2021/22 QUARTERLY REPORTING TEMPLATE AGAINST THE APPROVED BUSINESS PLANS

1. Executive Summary by the Department

ERWAT achieved four (4) out of the eight (8) reportable key performance indicators. For Quarter 2 a total of 6 targets were supposed to have been reported however only two (2) of the key performance indicators did not have set targets. Due to 2020/2021 Audit performed on time in this current year, the results are now reported in Q2 and not Q3 as originally planned, a total of 8 key performance indicators were reported.

ERWAT did not meet its targets on external revenue, percentage capital expenditure on planned projects, percentage of repairs and maintenance budget spend. Percentage procurement spend allocated to SMME's was exceeded due to measures put in place at specification stage to prioritise SMME's on certain contracts.

The compliance in terms of the wastewater treatment works license conditions and/or exemptions standards is still a challenge as the actual is 84% against the set target of 85% for quarter 2. The target was not achieved due to critical equipment failures and power outages.

ERWAT is striving and working hard towards addressing all Mega Catalytic projects to accommodate all new developments within the City of Ekurhuleni. The planned capacity upgrade of the Water Care Works needs to be upgraded urgently to cater for the current backlog in capacity and to make provision for future housing and industrial developments. ERWAT does not have enough Capex funds to implement the upgrade of the Water Care Works.

Table A: Summary of Service Delivery Performance

Service Delivery Monitoring					
	Total number of targets	**Total number of targets set for the quarter**	**Achieved**	**Not achieved**	**Variance**
City Wide SDBIP	3	3	2	1	1
Department SDBIP	5	5	2	3	3

**City Wide – 2 Targets were set for Q2 however due to 2020/2021 Audit performed on time in this current year. Results are therefore reported in Q2 and not Q3 therefore a total of 3 targets were reportable for Q2*

**Department Wide – 4 Targets were set for Q2 however due to 2020/2021 Audit performed on time in this current year. Results are therefore reported in Q2 and not Q3 therefore a total of 5 targets were reportable for Q2*

2. Service Delivery Monitoring

2.1. CITY-WIDE SDBIP

KPI 1 – City-Wide

Total revenue generated from external business

Method of Measure
Increased Commercial Business revenue generated from commercial sources (Absolute Rand Value per quarter). The indicator target is measured cumulatively across the Quarters Revenue generated from: External Income (none NDA)

Evidence
Invoices - (The invoices to be coupled with general ledger with a balance that agree to the amount reported for SDBIP purposes)

Q2 Target
R15 100 000

Q2 Actual
R 11 731 475

Comment:
The target of R15 100 000 in external revenue was not achieved.

Target Exceeded
The target was not achieved because of the impact of COVID-19 on the economy and business opportunities.

Corrective Measure
Expand our client base and form more partnerships to pursue business opportunities.

KPI 2 – City-Wide

Audit Opinion

Method of Measure
The Audit Opinion is defined by the Auditor General. It is given across a qualitative, ordinal scale including Unqualified with no findings; Unqualified with findings; Qualified with findings; Adverse with findings; and Disclaimed with findings. For those who have not completed the process 'Outstanding audits' are recorded.

Evidence
Dated and signed Audit report from AGSA

Q2 Target
N/A

Q2 Actual
Unqualified Audit Opinion

Comment
Target was achieved

Reasons for achieving KPI
2020/2021 Audit was performed on time in this current year. Results are therefore reported in Q2 and not Q3

KPI 3 – City-Wide

Percentage compliance with wastewater treatment works license conditions and/or exemptions standards

Method of Measure
The indicator measures the compliance of wastewater works effluent to the requirements of biological and chemical indicators as per the water use license granted by the Regulator.

It is calculated by dividing the number of determinants complying to the Water Use Authorization with the total number of determinants.

Evidence
Water quality Data of each Wastewater Treatment Works (from the Lab) Spreadsheet used to calculate over all compliance. Applicable Water use authorization of each Wastewater Treatment Works.

Q2 Target
85%

Q2 Actual
84%

Comment
KPI not achieved.

The entity did not achieve the target. It is important that the reasons for not achieving are noted, together with the ongoing challenges as outlined. These challenges include but are not limited to lack of hydraulic capacity as depicted in Figure 2 under Section 2.8.

Reasons for non-compliance

1. Critical equipment failures
2. Power outages

1. Non-Compliance

The following WCWs experienced a number of critical equipment failures during Quarter 2 affecting the compliance of the WCWs.

WCW	Critical equipment failures QUARTER 2 21/22	Power Failure (hours) QUARTER 2 21/22
Esther park	1	9
Hartebeestfontein	10	36
Olifantsfontein	9	13
Rynfield	7	81
Welgedacht	56	48
Ancor	0	62
Jan Smuts	3	1
Heidelberg	14	180
Herbert Bickley	32	30
Tsakane	45	102
Dekema	12	271
Vlakplaats	19	104
Waterval	63	5

1. **Rynfield:** WCW did not meet the effluent water quality target due to 7 defective critical equipment and 81 hours power failures. The number of critical equipment failures had decreased from 8 in Q1 to 7 in Q2, the power outages has increased from 8 hours in Q1 to 81 hours to Q2. The WCW does not have a generator; therefore, the compliance is affected during power outages.

2. **Hartebeestfontein**: WCW did not meet the target due to 10 critical equipment failures and 36 hours of power failures WCW has five generators, one generator which supply module 4 is and disinfection system is not operational. In addition, isolation of module 2 and Final settling tanks 5 and 6 contributed to non-compliance

3. **Olifantsfontein**: WCW did not meet the effluent water quality target due to the following: Module 3 was isolated for 70 days from 13 October 2021 to 22 December 2021 and overloaded module 1&2 due to cleaning Module 3 BNR, WCW operated at 50% of equipment for 12 days from 11 November 2021 to 23 November 2021 due to burnt of Olifantsfontien main supply substation transformer .The total outage hours were 13 and 2 of 4 generators were operational.

4. **Ancor :** WCW experienced power outage challenges with 26 load shedding incidents, totalling 62 hrs. down time which effected the micro compliance as there is no standby generator at the disinfection section of the WCW. In Q1, there was 3 power outages only.

5. **Jan Smuts:** WCW did not meet the water quality target due to three critical equipment failures that impacted the final effluent compliance directly. (all failures at the chlorine disinfection section.).In Q1, there were 3 critical equipment breakdowns as well.

6. **Welgedacht:** The WCW had 58 critical equipment failures (compared to 38 in Q1), with 7 of the 58 having a serious and direct impact on the final effluent compliance as well as 2 breakdowns at the ESKOM substation feeding the WCW. The total power outage hours were 48, with the 2nd incident lasting 45 hours. In Q1, there was 60 hours of outages.

7. Over and above the equipment failures and power outages, Welgedacht module 1 reactor was re- commissioned in Q2 after essential maintenance and cleaning during Q1. The main outfall sewer blockages and damaged pipeline (old McComb line) as reported in Q1 is still not resolved and the WCW continue to receive low flows from the affected areas. **Heidelberg:** WCW did not meet the target due to failure of critical equipment having recorded 14 in Q2 which is an improvement compared to Q1 where 40 failures were recorded and power outages totalling 180 hours from 53 Incidents in Q2 this has exponentially increased from Q1 where 16 incidents were observed totalling 44 hours, over and above this the WCW had few incidents whereby toxic influent was received upsetting the treatment process.

8. **Herbert Bickley:** WCW did not meet the target due to the frequent failure of critical equipment the works reported 32 equipment failures in Q2 which is lower when compared to Q1 where 45 incidents were reported, prolonged power outage/ s and frequent load shedding incidents totalling 30 hours from 12 incidents experienced in Q2 which is an increase from Q1 where only one incident was observed, this affected effluent compliance. Furthermore, compliance partially affected when some sections at the WCW were isolated to allow for the installation of new pumps at different sections in the WCW that are critical in the efficient operation of the WCW, as such the treatment capacity was reduced

9. **Dekema:** WCW did not meet the target due to failure of critical equipment, the works reported 12 critical equipment in Q2 and power outages to a total of 271 hours and 95 in Q1. Failure of electrical transformer in Q2 and non-availability of the generator since Q1 had a major impact on effluent compliance. The WCW managed to return 83 equipment back in operation, improvement in water quality is expected in Q3.

10. **Vlakplaats:** WCW did not meet the target due to failure of critical equipment, the works reported 19 critical equipment in Q2 which is less than the 27 failures in Q1. The WCW also suffered power outages of 104 hours. Power outages had a minor impact on effluent compliance due to the availability of standby generators and recovered from stolen power cable incident reported in Q1 with total outages of 205 hours.

11. **Waterval:** WCW did not meet the target due to failure of critical equipment impacting the final effluent, the works reported 63 critical equipment failures in Q2 and 55 in Q1.

Remedial Action:

12. **All WCW**: Asset Care plans were developed for critical equipment and partially implemented. Full implementation is not possible due to a lack of OPEX budget. Maintenance Department re-instated several critical equipment master contracts during Q2 to target failed equipment. Repairs will be actioned during Q3.

13. **Rynfield:** The critical equipment failures were attended to during November and December 2021. A standby generator is budgeted for in 2022/2023 financial year (CAPEX 2).

14. **Hartebeestfontien**: Paper work to repair the faulty cable on generator for module 1 and 2 was submitted in December 2021, awaiting the order number from SCM. The order number for repair of final settling tank 5&6 was issued, the contractor is busy with cleaning and repairs of defective sludge transfer system (suction pump, transfer pipe and six inch valve).

15. **Olifantfontien**: Damaged substation transformer was repaired and the module 3 was re-commissioned on the 22 December 2021.

16. **Hartebeestfontien**: Paper work to repair the faulty cable on generator for module 1 and 2 was submitted in December 2021, awaiting the order number from SCM. The order number for repair of final settling tank 5&6 was issued, the contractor is busy with cleaning and repairs of defective sludge transfer system (suction pump, transfer pipe and six inch valve).

17. **Ancor and Jan Smuts:** The failed critical equipment at both WCW were all repaired within Q2, whilst at Welgedacht the 7 most critical equipment failures at the disinfection section were all repaired in Q2. The remainder are all in progress during Q3. Installation of a standby generator at Ancor is subject to the availability of Capex funds to allow uninterrupted disinfection of the final effluent as required. (Capex2).

18. **Heidelberg**: Improved turnaround times on reactive maintenance needed as well as the implementation of the asset care plans. Engagements with the Community Leaders continuing to cease WCW closures as it leads to contravention of the water use license conditions, encouraged instead to use the set-up platform with Lesedi LM to address grievances.

19. **Herbert Bickley**: Improved turnaround times on reactive maintenance needed as well as the implementation of the asset care plans. The installation of the new pumps and isolation of some sections in the WCW completed on 14 December 2021.

20. **Dekema*:*** Damaged transformer and standby generator, reported in Q1, have been repaired within Q2.

21. **Vlakplaats WCW**: Stolen power cable reported in Q1 has been replaced and WCW has partially recovered during Q2, however not all critical equipment are operational which will be actioned during Q3.

Sewer network:

22. **Jan Smuts**: Sewer network challenges as reported in Q1 was resolved in Q2 by the CoE

23. **Welgedacht**: ERWAT is continuing the work on clearing the blockages and repair the damaged pipeline and manholes of the old McComb outfall sewer as reported in Q1, with the estimated completion time March 2022. Due to heavy rain experienced in the catchment during Q2, work was interrupted frequently as the area became inaccessible. The Bakerton, Modder East and Cloverfield blockages (all CoE) as reported in Q1 were all cleared during Q2.

2.2 DEPARTMENT SDBIP

KPI – 1 Departmental SDBIP
% Capital expenditure on planned projects

Method of Measure:

Increase ERWAT Wastewater Treatment Plants (WWTP) treatment capacity and improve process efficiency through infrastructure development projects (CAPEX). The total capital expenditure on major capital projects associated with increasing capacity and improving process efficiency in ERWAT Wastewater Treatment Plant according to green drop requirements and ERWAT Facility Development Plan (FDP 2032).

Evidence

a) Project progress reports (weekly, quarterly and annual reports)
b) Payments certificates
c) Invoices

Q2 Target

60%

Q2 Actual

15.8%

Challenges and Interventions

ERWAT has currently spent R29 568 900.97 (15.8%) of its capital budget at the end of the second quarter. The planned SDBIP target for the quarter has not been achieved with a 44.2% negative variance. Amongst others, below are the reasons for the poor performance in expenditure.

a) Unavailability of funds to reimburse Suppliers/Contractors on time, this has resulted in delays in completion/ achieving targets of the projects on time
b) Cancellation of contracts identified to have been irregular (expired).
c) Delays on shipment on delivery of material delayed due COVID-19

Acceleration Plan:

The SDBIP target for the quarter has not been achieved with a 44.2% negative variance, however ERWAT is putting measures in place to mitigate the challenges stated above.

ERWAT has brought forward other implementation ready contracts in order to expedite expenditure

KPI – 2 Department SDBIP

Percentage of repairs and maintenance budget spent

Method of Measure

The Indicator measures the total budget spent. The indicator target is measured cumulatively across the quarters.

The indicator formula is:

(1) Expenditure year to date / (2) total approved maintenance budget approved.

Evidence

Finance year to date expenditure report

Q2 Target
50%

Q2 Actual
37%

Comment
KPI not achieved.

Reasons for Variance
The department did not achieve the 50% target as planned, this is due to non-payment of December 2021 invoices

Remedial Action
Finance to ensure that all maintenance related invoices are paid within the required 30 days.

KPI – 3 Department SDBIP

Percentage of procurement spend allocated to SMME's

Method of Measure
The indicator measures the percentage of procurement spend allocated to SMME's through ensuring appropriate application of the preferential procurement practices. This support will be calculated aa a percentage of the total value paid to Small, Medium and Micro Enterprises either directly or via the principal contractor in terms of a Preferential Procurement Regulation 4 or 9 contractual condition.

The indicator formula is:

(1) rand value of procurement spend allocated to SMME's / (2) rand value of total procurement spend *100

Evidence
Dated and signed Letter of appointment or subcontract with support (contract) amount Award AND Listing (Register) of SMME supported with support amount.

Q2 Target
45%

Q2 Actual
93%

Reasons for non-compliance
Target met as a result of measures put in place at specification stage to prioritise SMME's on certain contracts.

KPI – 4 Department SDBIP

Number repeat audit findings

Method of Measure
The indicator tracks the number of findings made on the same matter as of the last audit cycle. The “Repeat” findings refer to those findings that have persisted from one year of reporting to the next. These are identified as repeat findings by the Auditor-General on the following administrative areas including but not limited to: i) Annual financial statements and annual report.

The formula for the indicator is the (1) Simple count of the number of "repeat" findings itemized in the Auditor-General's report of each municipality

Evidence
AGSA signed management letter

Q2 Target
N/A

Q2 Actual
3

Comment
Target Not Met. The following repeat findings were noted:

a) Irregular expenditure not prevented
b) SCM- Deviations not in line with regulation 36
c) Fruitless and wasteful expenditure not prevented.

2020/2021 Audit was performed on time in this current year. Results are therefore reported in Q2 and not Q3

Reasons for achieving KPI
Development of SOPs in order to streamline processes and procedures

KPI – 5 Department SDBIP

Total rand value of surplus realised from revenue generated from external business

Method of Measure
This indicator measures Total Rand Value of Surplus Realised from Revenue generated from External Business. The Annual Target for the Revenue to be Generated from External Business R56.3m. This will be calculated by subtracting the total expenditure from the revenue generated.

Evidence
General ledger with a balance that agree to the amount reported Invoices Listing

Q2 Target
R1 700 000

Q2 Actual
R7 017 841.18

Comment
Performance was achieved with a surplus of R5 317 841.18

Reasons for achieving KPI
The target was achieved because of high revenue generation to expenses ratio. More business must be acquired to further increase surplus.

3.1 City-Wide/Institutional SDBIP 2021/22

Refer to the City-wide SDBIP 2021/22.

Table1: City-Wide Indicators

NB: Please note that reasons for variance must be provided for both overachievement and under achievement

Entity	Outcome	Ref No.	Performance Indicator	Portfolio of Evidence	Baseline (2020/21)	Annual Target (2021/22)	Planned Target Quarter 2	Actual Output Quarter 2	Variation	Actual Output Rating	Progress on Targets	Reason(s) for Variation	Remedial Action	Planned Budget Quarter 2	Actual Expenditure Quarter 2
National Prescribed Indicators															
N/A															
Provincial Indicators															
N/A															
City of Ekurhuleni Indicators															
IDP Strategic Objective 2: To build a clean, capable and modernized local state															
Ekurhuleni Water Care Company (ERWAT)	Improved Quality of water (including wastewater)	29	Total revenue generated from external business	Invoices coupled with general ledger with a balance that agree to the amount reported	R24 889 792	R56 300 000	R15 100 000	R11 731 475	-R3 368 525	Performance not achieved with a deficit of R 3 368 525.	The target was not achieved.	The target was not achieved because of the impact of COVID-19 on the economy and business opportunities	Expand our client base . Form more partnerships to pursue business opportunities .	OPEX	OPEX
	To build a clean, Capable and Modernised Local State	30	Audit Opinion	Dated and signed Audit report from AGSA	Unqualified Audit Opinion	Unqualified Audit Opinion	N/A	Unqualified Audit Opinion	N/A	Unqualified Audit Opinion	Target Met	2020/2021 Audit was performed on time in this current year. Results are therefore reported in Q2 and not Q3	None	OPEX	N/A
IDP Strategic Objective 4: To protect the natural environment and promote resource sustainability															
Ekurhuleni Water Care Company (ERWAT)	Improved Quality of water (including wastewater)	52	Percentage compliance with wastewater treatment works license conditions and/or exemptions standards	Water Quality Data of each Wastewater Treatment Works (from the Lab) Spreadsheet used to calculate over all compliance.	89%	85%	85%	84	-1%	Performance not achieved	Not achieved	1. Critical equipment failures 2.Power outages.		R148 479 525.75	R111 436 306. 97

Entity	Outcome	Ref No.	Performance Indicator	Portfolio of Evidence	Baseline (2020/21)	Annual Target (2021/22)	Planned Target Quarter 2	Actual Output Quarter 2	Variation	Actual Output Rating	Progress on Targets	Reason(s) for Variation	Remedial Action	Planned Budget Quarter 2	Actual Expenditure Quarter 2
				Applicable Water use authorization of each Waste Water Treatment Works											

3.2 Entity's SDBIP Score card with Key Performance Areas and Indicators 2021/22

Table 2: Entity's SDBIP

Entity	Outcome	Ref No.	Performance Indicator	Portfolio of Evidence	Baseline (2020/21)	Annual Target (2021/22)	Planned Target Quarter 2	Actual Output Quarter 2	Variation	Actual Output Rating	Progress on Targets	Reason(s) for Variation	Remedial Action	Planned Budget Quarter 2	Actual Expenditure Quarter 2
IDP Strategic Objective 2: To build a clean, capable and modernized local state															
Ekurhuleni Water Care Company (ERWAT)	Improved Quality of Water including Wastewater	1.M	Percentage Capital expenditure on planned projects	Finance year to date expenditure report	97	95.00 %	60.00%	15.8%	-44.2%	Q2 Target Not Achieved	Q2 Target Not Achieved	ERWAT has currently spent R29 568 900.97 (15.8%) of its capital budget at the end of the second quarter. The planned SDBIP target for the quarter has not been achieved with a 44.2% negative variance. Amongst others, below are the reasons for the poor performance in expenditure.	The SDBIP target for the quarter has not been achieved with a 44.2% negative variance, however ERWAT is putting measures in place to mitigate the challenges stated above. ERWAT has brought forward other implementation ready contracts in order to	R46,750 000	R29 568 900.97

Entity	Outcome	Ref No.	Performance Indicator	Portfolio of Evidence	Baseline (2020/21)	Annual Target (2021/22)	Planned Target Quarter 2	Actual Output Quarter 2	Variation	Actual Output Rating	Progress on Targets	Reason(s) for Variation	Remedial Action	Planned Budget Quarter 2	Actual Expenditure Quarter 2
												* Unavailability of funds to reimburse Suppliers/Contractors on time, this has resulted in delays in completion/ achieving targets of the projects on time *Cancellation of contracts identified to have been irregular (expired). *Delays on shipment on delivery of material delayed due COVID-19	expedite expenditure		
	Improved Quality of Water including Wastewater	2.M	Percentage of repairs and maintenance budget spent	Expenditure report from Finance AND Listing of R&M vote numbers and expenditure	83.75	95.00 %	50.00%	37%	13%	Performance not achieved.	Not achieved.	The department did not achieve the 50% target as planned, this is due to non-payment of December 2021 invoices.	Finance to ensure that all maintenance related invoices are paid within the required 30 days.	R53,908,937.00	R39,982,173.93
	Improved Quality of Water including Wastewater	3.M	Number of Repeat Audit Findings	AGSA signed management letter	4	0	N/A	3	-3	N/A	Target not met	The following repeat findings were noted: *Irregular expenditure not prevented *SCM-Deviations not in line with regulation 36 *Fruitless and wasteful expenditure not prevented. 2020/2021 Audit was performed on time in this current year. Results	Development of SOPs in order to streamline processes and procedures	OPEX	N/A

Entity	Outcome	Ref No.	Performance Indicator	Portfolio of Evidence	Baseline (2020/21)	Annual Target (2021/22)	Planned Target Quarter 2	Actual Output Quarter 2	Variation	Actual Output Rating	Progress on Targets	Reason(s) for Variation	Remedial Action	Planned Budget Quarter 2	Actual Expenditure Quarter 2
												are therefore reported in Q2 and not Q3			
	Improved Quality of Water including Wastewater	4.M	Percentage of procurement spend allocated to SMME's	Dated and signed Letter of appointment or subcontract with support (contract) amount Award AND Listing (Register) of SMME supported with support amount	R105 810 543	45%	45%	93%	48%	N/A	Target met	Target met as a result of measures put in place at specification stage to prioritise SMME's on certain contracts.	None	OPEX	R29 566 120 .17
	Improved quality of water including waste water	5.M	Total rand value of surplus realised from revenue generated from external business	General Ledger with a balance amount that agrees with the amount reported AND Listing of invoices	New KPI	R6 500 000	R1 700 000	R7 017 8 41.18	R5 317 8 41.18	Performance was achieved with a surplus of R5 317 841. 18	The target was achieved	The target was achieved because of high revenue generation to expenses ratio.	More business must be acquired to further increase surplus.	OPEX	OPEX

3.3. Reflection on operations/ day-to-day activities (Analytical Narrative Account)

NB: Reflect on the day to day activities that may not be in the Departmental Scorecard but constitute a key mandate of the department. Some of the day to day activities may be in the DH: Scorecards. This may also include the **Mayoral Lekgotla Action Plan, State of the City Pronouncements etc.**

A Flows

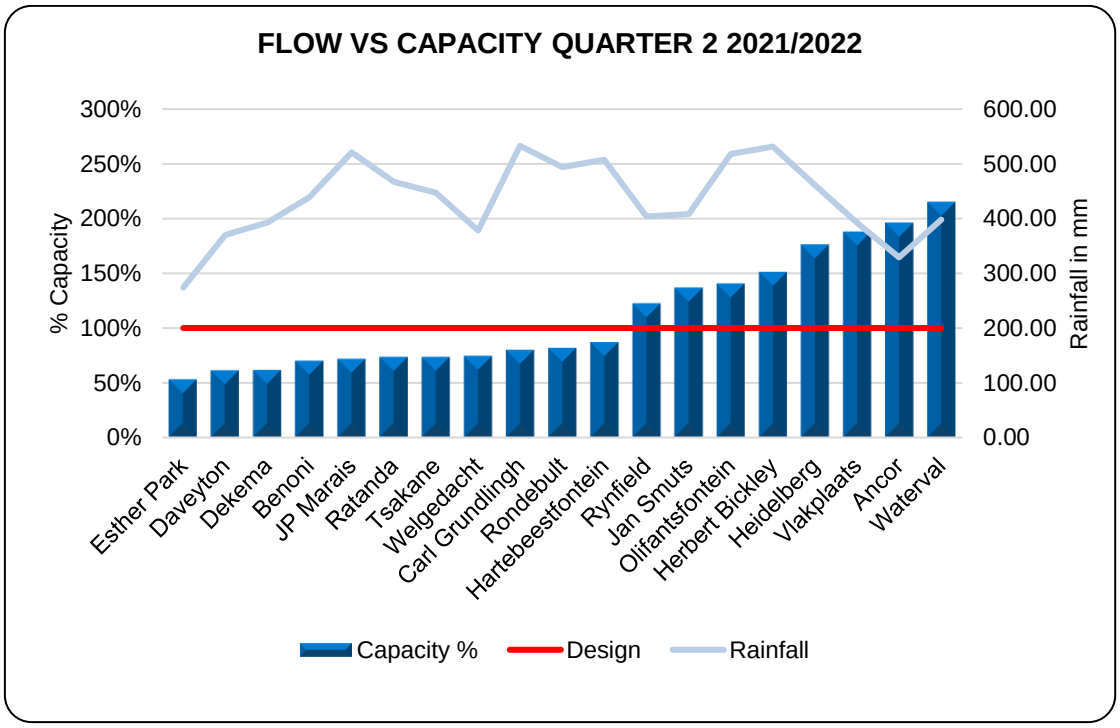
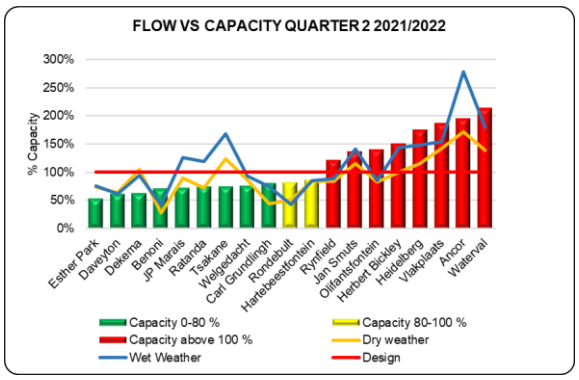


Figure 1

A total of 77 698 Ml was treated in Quarter 2, at an average of 845 Ml/day, utilising 135 % of the capacity as compared to Q1 where a total of 66 963 Ml was treated at an average of 736 Ml/day, utilising 118 % of the hydraulic capacity. The increase in flow can be contributed to the heavy rainfall received with storm water ingress into the sewer network.

3.3.1 Service Delivery Highlights and Challenges

Flows



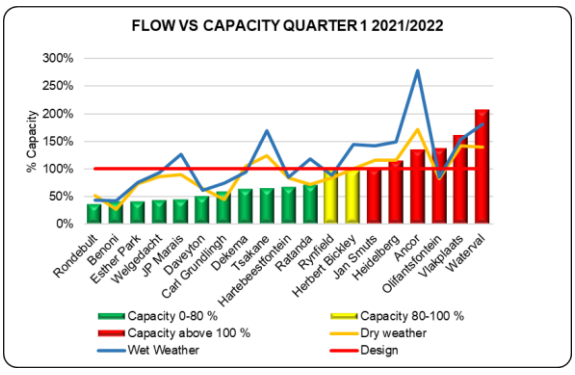


Figure 2

As can be noted in the above graph, during Q2 eight (8) out of nineteen WCW were operating above their hydraulic design capacity, two (2) operating between 80% and 100% and nine (9) below their hydraulic design capacity. In Q1 six (6) out of the nineteen (19) WCW were operating above their design capacity, thirteen (13) operating below the 80% mark, two (2) operating between 80% and 100% and eleven (11) below their hydraulic design capacity. The increase in the % hydraulic capacity during Q2 can be contributed to the heavy rainfall in Q2 with significant stormwater ingress to the sewer network.

Ancor operated at 196%, Jan Smuts at 137%, Heidelberg at 137%, Herbert Bickley at 151 % Olifantsfontein operated at 141%, Rynfield at 122% of its capacity, with large regional plants such as Vlakplaats operating at 188% and Waterval operating at 215%. Additional capacity is urgently needed.

Plant	Design Capacity	Actual Q2	Rainfall Q2
Ancor	15.00	29.40	187
Benoni	7.50	5.25	439
Carl Grundlingh	5.20	4.16	533
Daveyton	19.00	11.77	370
Dekema	31.00	19.03	345
Esther Park	1.40	0.74	274
Hartebeestfontein	63.00	54.85	273
Heidelberg	5.40	9.52	462
Herbert Bickley	15.10	23.00	531
Jan Smuts	6.00	8.20	408
JP Marais	15.00	10.82	521
Olifantsfontein	65.00	91.44	518
Ratanda	4.70	3.46	467
Rondebult	20.00	16.37	494
Rynfield	9.80	12.00	404
Tsakane	20.00	14.71	447
Vlakplaats	55.00	103.37	392
Waterval	170.00	365.87	398
Welgedacht	95.00	70.66	378

ERWAT does not have Capex funds to extend/upgrade the WCW that require additional capacity, and therefore have serious challenges in supporting the CoE in meeting the Growth Development Strategy (GDS2055) and the development of the Aerotropolis. However, the CoE has provided budget in 2021/2022 to commence with the upgrade of six(6) of the most overloaded WCW. Professional Service providers were appointed by CoE and the project is at the inception phase.

3.3.2 Organic Loads

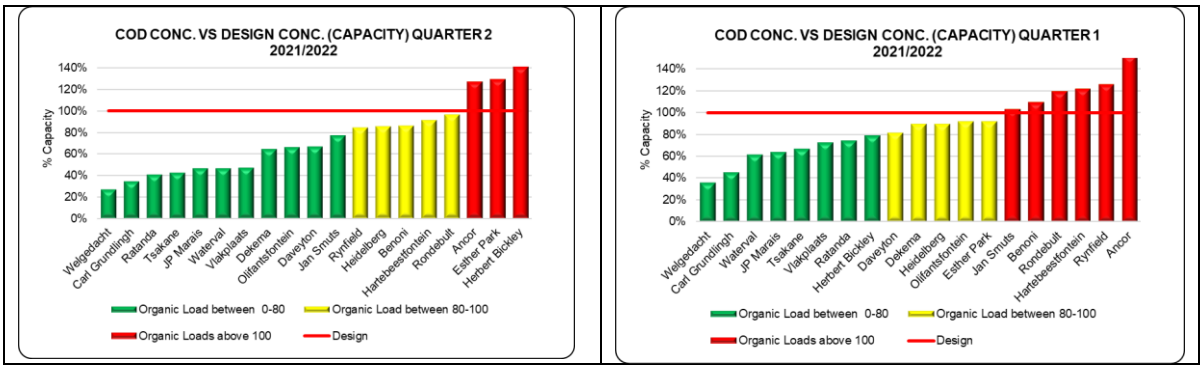


Figure 3

As can be noted, for Quarter 2, 3 WCW's operated above 100% of their organic capacity, 5 WCW's between 80-100% and 11 below their design capacity, for Quarter 1, 6 WCW's operated above 100% of their organic capacity, 5 WCW's between 80-100% and 8 below their design capacity, The main difference between Q1 and Q2 is a result of storm water dilution (lower % organic capacity) during the wet season with heavy rainfall experienced in Q2.

3.3.3 Plant Specific Challenges

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Groundwater pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
Benoni	Plant complied with both WUL effluent standards best practice of 90% and target of 92%. Q2 2021/2022 Physical: 97% Chemical:95% Micro:89%,therefore Q2 overall compliance =94%	Plant operated at 69 % of re-graded hydraulic capacity	Plant operated at 86 % of re-graded organic capacity	Flow interruptions in Q2 due to Tom Jones and Apex not being operational due to pumps not being available	There was 4 of 92 days High strength COD	There were 6 critical equipments in Q2 Chlorine system booster pump was leaking in the month of October and November which did affected micro compliance. In the month of November Greenhouse pump station was flooding	There were 4 power failures and 1 Load shedding in Q2 and the total duration was 13hr19min	Open digesters walls are cracking, Humus tank weirs plates worn out	None	None	Dried sludge is stockpiled on the plant and applied on instant lawn	Unlined sludge paddies and maturation ponds could cause possible ground water pollution	N/A	N/A	Sludge classification samples taken to ERWAT scientific services, awaiting results. Current sludge classification A2b is suitable for the instant lawn application according to WRC guidelines. Screenings and grits that are generated at the plant are collected by CoE	N/A	N/A
Esther Park	Plant complied with both the target of 90% and the WUL standard best practice of 90% Q2 2021/ 2022 Physical: 98% Chemical: 97% Micro: 85%. Q2 overall compliance = 93.%	Plant operated at 53 % of hydraulic capacity (Based on regraded capacity of 1.4 Ml/d)	Plant operated at 129 % of organic capacity	No abnormal flows recorded for Quarter 2.	18x Industrial effluent pollution incidents in Quarter 2.	1x critical equipment failure occurred in the quarter (Mechanical screen scraper needs replacement)	22x power failure incidents recorded in Q2 lasting for total downtime of 77 hours. – Load shedding	Reactor walls are leaking	Not applicable	None	Not applicable	Not applicable	Not applicable	Not applicable	Screenings and grits is collected by the CoE	Access road is slippery in the rainy season.	Drop in water pressure occasionally that affects chlorine dosing

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Groundwater pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
Hartebeestfontein	Plant complied with WUL effluent standards target of 83% and did not comply with best practice target of 90%. Q2 2021/2021 Physical: 99.63% Chemical: 83% Micro: 74.77% Overall compliance: 86.%.	Plant operated at 87.3% of hydraulic capacity.	Plant operated at 91.5% of organic capacity	Abnormal fluctuations in inflows in Q2 was in December, with average flows of 65Ml/d.	Plant received industrial high strength effluent on 28 of 92 days in Quarter 2.	10 Critical equipment failures occurred in Quarter 2.	There were 13 power outages in Q2.	Aging infrastructure.	Digester 1, 4,6 and 9 sludge recirculation nozzles blocked	There were no veld fires experience Quarter 2	1422 000 kg of dry sludge was irrigated to the 200 hectares farm.	Borehole two has high concentration of Nitrates.	Sinkhole next to the fence towards FST 5 & 6 and around the Farm.	License amendment with relaxation on Electrical conductivity, Ammonia, E.coli and COD	Sludge classification is B2c, not suitable for the intended purpose; this requires further engagement with the farmer.	All roads are accessible and grading was done around the fence in May 2021	There was 1 portable leak of main line feeding to head office.
Olifantsfontein	Plant didn't comply with the target of 70% and best practice of 90% Q2 2021-2022. Physical: 48 Chemical: 37 and Micro: 16.	Plant operated at 141% of hydraulic capacity in Q2 21-22	Plant operated at 93% above the organic capacity	Abnormal fluctuations in inflows in Q2 21-22, were seen when it was raining with maximum flow of 141 Ml/d	Plant received industrial high strength effluent (very high Electrical Conductivity above 100 mS/m)	9 critical equipment failures occurred in Q2 21-22	There were 4 Power failures that lasted 13 hours in total	Module 3, Anaerobic digesters.	Digester 4 of 6 digesters are blocked due to sand accumulation	Biofilter 5 fire incident, where platic media was burnt while contractor was	25748 kg in Q2 21-22 due to non operational FBP unit from October 2021Sludge is disposed on different farms around Bapsfontein area and is used for	Unlined emergency dams contaminating borehole no.2&3. Borehole 1 runs dry during dry seasons	2 x Sinkholes behind and in front of the old laboratory which occurr	Olifantsfontein WUL is stringent on Ammonia of < 2mg/l, SS of 15 mg/l and and EC of <	Sludge is classified into three streams: (1). Dewatering unit(B3a), the sludge not suitable for cultivating crops such as fruits trees (2). Drying beds (A3a), No	Road to upstream sampling point need to be graded and RRthere is high erosion on the	Leakage of asbestos main line in the plant

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Groundwater pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
	Overall compliance target of 34%				on 82 of 92 days. COD exceeded 150% of the design capacity days of 91 days in Q2 Plant also experiences fine sand ingress					working on it	agricultural purposes		ed in Dec 2019 still not rehabilitated	80 mS/m.	restrictions and requirements apply 3) Grit and screenings is waste that should be dumped at specialised land fill under strict conditions to ensure ENV compliance	banks. To be reported to the CoE..	
Rynfield	Plant did not comply with both the target of 89% and WUL effluent standards best practice of 90%. Q2 2021/2022 Physical: 99% Chemical:81% Micro: 74 %, Overall compliance = 85%.	Plant operated at 122 % of hydraulic capacity	Plant operated at 84 % of organic capacity	October 2021 flow dropped because N12 pump station flooding to the river due to pumps breakdown.	Plant received industrial high strength effluent on 2 of 92 days in Quarter 2.	7 critical equipment failures(i.e. VSD for Aerator 1 Sludge pumps and Ferric pumps) occurred in Quarter 2 2021 that affected Ammonia , Nox and phosphate compliance	There were 21 power failures in Q2 and the duration was 81 hr due to load shedding.	Pavement Cracked and Digesters & reactor tank concrete structure is cracked .Bio-feeder structure is cracked.	None	None	Dried sludge is stockpiled on the plant	Unlined sludge paddies, Unlined Maturation ponds and Contact tank. Lagoon	N/A	N/A	Awaiting Sludge classification results, sludge samples taken to ERWAT scientific services. CoE collects screenings and grits from the inlet works.	N/A	N/A

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Groundwater pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
Ancor	Plant compliance for Q2 is 68% Non-compliant parameters: Chemical 83.13%, Physical 60.32% and Micro61.10 %	Plant operated at 196% of its hydraulic capacity	Plant operated at 127% of organic capacity, which is lower than the loads received pre-lockdown, Q3-.	Ancor experienced storm water ingress during heavy rainfall, worsening the overloaded hydraulic capacity; however, the RSA COVID -19 lockdown reduced flows to the WCW.	Plant received high COD industrial effluent on 28of 92 days. In Q2, Increase due to industries that started up after we moved to level 3	0 critical equipment failures occurred in Q2,	19 outages occurred (62 hrs. total) (Generator backup available for whole plant except disinfection section).	Bio filter flow division boxes partially collapsed, humus tanks/ PST's- and digesters structures are crumbling /cracked	3 digesters blocked with sand and are not in operation. This cause the plant to run out of sludge handling capacity, which prevent proper desludging and resulting in non-compliances.	No veldfires occurred during Q2.	Stockpile area not lined. Stockpiles on plant is a risk due to veldfires and environmental pollution	Unlined sludge paddies pollute underground water	Area around humus tanks and final effluent channel are dolomitic according to Geotech study performed.	N/A	CoE removes solid waste (screenings and grit).	Access road in bad condition with lots of potholes	N/A
Daveyton	Plant complied; compliance for Q2 is 96.60%.	Plant operated at 62% of its hydraulic capacity.	Sufficient capacity. Plant operated at 66.9 % of its organic capacity.	Numerous sewer blockages in the CoE network and potable water supply interruption to Etwatwa lead to inconsistent and irregular flow to the plant.	N/A. Domestic only.	8 Critical equipment failures occurred in Q2, namely: Gearbox for screw compactor, Power supply to CCT MCC panel, Blowers, Level sensor for WAS station sump, CCT sludge pump, Chlorine rotor meter. .	44 power outages occurred in Q2 (119 hours total). Power outages was load shedding on n6etwork.	CCT sometimes leaking. Do not have direct impact on the operation of the plant at the moment	N/A	Veld fires pose a risk during winter, but there were no incidents in Q2	Sludge lagoons are unlined Space for solar drying is in-sufficient	Unlined sludge lagoons pollute the ground water.	N/A	N/A	Screenings is collected by COE for proper disposal.	N/A	N/A

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Groundwater pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
JP Marais	Plant compliance for Q2 is 97%.	Sufficient capacity. Plant operated at 72% of hydraulic capacity	Sufficient capacity. Plant operated at 46% of organic capacity	Low incoming flows in Q2 due to Modderbee and Benoni outfall sewer lines blockage	Plant received 2 coloured influents in October and 3 in November. With a total of 5 coloured influents in Q2.	2 critical equipment failure occurred in Q2, namely; 1 Screw pump no3 and 1 WAS pump no 1.	2 Power outages due to load shedding	None	N/A	No veld fire incident experienced in Q2	Sludge pumped to Welgedacht, where it is treated.	Some boreholes polluted. Ongoing monitoring of boreholes.	No dolomitic soil	N/A	CoE removes solid waste (screenings and grit) except for PST screenings, due to no screen compactor.	N/A	N/A
Welgedacht	WCW compliance for Q2 is 89%. Target is 88%	WCW operated within design capacity (operated at 74% capacity). Loe capacity usage due to mian sewer line blocked and damaged by illegal miners.	Sufficient capacity WCW operated at 27% organic capacity. Low % is due to mian line blocked and ongoing damage to the lne by illegal miners in the Old McComb works area.	Damaged and blocked manholes at Old McComb sewer line still impacting on Plant flows	None	56 critical equipment failures occurred in Q2, Module 1 MCC electrical panel must be replaced. Blocked sewer line , Aerators x 10, Elbow valve, Clarifier x2, RAS screen, Chlorine system x 8, Flowmeter x 2, Sampling machine x 2, Ferric pipes x 2, Belt press 1, Booster pump x2 , Desludging pump, Blower 3 cables, Screw pumps x 6, scada, Borehole pump x2,	2x power outages which lasted for 48 hours due to failures at Eskom substation supplying Welgedacht substation	N/A	N/A	No veldfires occurred during Q2.	None	Unlined Dechlorination channels and Emergency dam	N/A	N/A	CoE removes solid waste (screenings and grit).and dispose at licensed solid waste site.	Gravel access road in very bad conditions and very slippery when wet.	No potable water supply to the plant. Borehole water used for hygiene . Drinking water is being transported in from other plants.

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Groundwater pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
						Recycle pump, RAS Pumps x3, Compactor Classifier, Broken V-belts x 2, Blocked degritter, Fine screen x3, Inlet blower, Fluidization pump x 2											
Jan Smuts	Plant compliance for Q2 is 83%. Target is 85% Non-compliant parameters: Chemical 79% Physical 88% Micro 83%	Plant operated at 137% of its hydraulic capacity	Plant operated at 77% of its organic capacity.	High incoming flows in all the days in Q2 except for a few weeks when we had several blockages in the collection system that also leaded to chlorine overdosing that lead to low pH	Plant received industrial high strength effluent on 7 of the 91 days in Q2.	No critical equipment failure occurred in Q2 except the irrigation pump's motor and we had to lower the chlorine pumps in the sump to be able to still dose chlorine when water levels are low	1 Power outages (6 hours total) due to loadsheddin g, Generator backup is available for entire plant	Humus Tanks scum boards, digester number 2's wall, drying beds' walls and the bio-filters' feed flow division box/tower.	N/A	Yes, despite having fire breaks inside and outside of plant fire still got into plant	Dried sludge is stockpiled on site.	Unlined sludge stockpile area can cause groundwater pollution.	N/A	N/A	Screenings incinerated at the plant and the grit buried at the plant. This practice does not comply with WUL conditions.	Fair	Rand Water
Heidelberg	Plant Compliance for Q2 is **(88.7%).** Physical 97.12%,Chemical 78.78% and Micro 90.14%	Plant operated at 176% of its hydraulic capacity	Plant operated at 139% of organic capacity	High incoming flows	Plant received high COD industrial effluent on 24 of 92 days and high SS on 8 days of 92.	14 Critical equipment failures for Q2 3x Aerators (1x Clarifier Bridges, 2x Inlet Raw pumps ,4x Sludge pumps, 1x Inlet Panel, 1x Generator,1x mod 2 Mixer and 1x Belt press	Heidelberg had 53 power outage with a duration of 180 hours. Diesel used was 13292 L	The joint sealants of Carousel reactor concrete wall are damaged	None	No veldfire s occurre d during Q2.	Sludge at the plant stockpiled after dewatering, and is also applied/irrigat ed to the lands and could potentially contaminate groundwater resources	Unlined sludge paddies/lack of groundwater monitoring in the sludge paddies	None	None	Screenings and grit generated at the plant buried and this practice is not environmental friendly. Potential groundwater pollution	The access road to Heidelb erg works is severely damage d and a new-tarred road is required urgently	None

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Groundwater pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
Herbert Bickley	Plant Complied with WUL effluent standards (**87.21%**)	Plant operated at 153% of hydraulic capacity	Plant operated at 140.% of organic capacity	High incoming were not experienced in Q2.	Plant received industrial high strength effluent on of 91 days	3 Critical Equipment (booster pumps, sludge to land pump, chlorine dosing systems, RAS Pumps and raw sludge recycle and desludging pump)	Herbert Bickley had 12 power outages which lasted 30 hours Diesel used was 2550L	Anaerobic digesters cracked concrete structures, Biofilter 1 ans 2 have cracked concrete structures,	6 out of 8 digesters not in use due to blockages and leaking digester pipes	No veldfires occurred during Q4.	Sludge used for irrigation at instant lawn	Irrigation of sludge for Instant lawn is a source of pollution Activities are carried out as per Guidelines	None	None	Collected by CoE to a dedicated landfill site	Access road to the plant damaged and requires an upgrade	None
Tsakane	Plant compliance for Q2 is 89.98%.	Sufficient capacity. Plant operated at 64% of hydraulic capacity	Sufficient capacity. Plant operated at 83% of organic capacity	Minimal incoming flow was experienced at the plant due to equipment breakdowns and spillages at Reticulation pump stations (Rockville, Extension 11 and 22)	Plant received high COD industrial effluent on 3 of 92 days.	15 critical equipment failures occurred in Q2, namely; RAS pump no.1 blockages (9 times), Phase loss for RAS pump no1 (2 times) and no.2 (2 times). Damaged chain for the newly installed machanical fine screen (1 time), Blocked PST pump no.2(6 times), Both Degritter pump no.1(3 times) and Degritter pump no2 (5 times)Sludge to land pump no.2 Tsakane Generator	Tsakane had 24 power outages which lasted 91 hours Diesel used was 8270L. 1 x Backup generator available.	Digesters and channel for raw sewage feeding HYBACS concrete structures cracked and leaking	N/A	No veldfires occurred during Q2	Sludge pumped to unlined lagoons/paddies for solar drying. Drying beds have been decommissioned	Unlined sludge lagoons and paddies/lack of groundwater monitoring at the sludge lagoons and paddies. Unfenced drying paddies	None (There's a dolomitic report that shows none at Tsakane)	None	Screenings and grit collected by CoE to a dedicated landfill site	None	Potable water leak next to Tsakane hostel. It also create a wetland next to the fence.

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Groundwater pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
						continuosly tripping (1 time), Compactor (2 times), Outlet flow meter (1 time)											
Carl Grundlingh	Plant Complied with WUL effluent standards (**95.81%**)	Plant operated at 79.17% of its hydraulic capacity	Plant operated at 34.52% of organic capacity		Fats and Oil x4 in Q2	2 Critical equipment failures for Q2 (Effluent Pump 1&2; Inlet flow measurement and Compactor Solenoid)	None	None	N/A	No veldfires occurred during Q2	Land application of sludge is being used	Unlined sludge to land posing ground water pollution	None	None	Collected by CoE to a dedicated landfill site	Access road to the plant is damaged and requires an upgrade.	None
Ratanda	Plant Complied with WUL effluent standards (92,97 %)	Plant operated at 69% of its hydraulic capacity	Plant operated at 60% of organic capacity,	Experienced 1 incident, of low inflow to the plant on 02 October 2021 to 23 October due to blockage between ext 7&8 and no flow to WCW from 11 Nov to 13 Nov 2021 due to three blocked manholes between ext 7&8	None	2 Critical equipment failures for Q2 Borehole pump, generator, transformer,and chlorine dosing pipe	Ratanda had 8 power outages with a total duration of 92 hours in Q2	Drying beds drainage system and chlorine contact tanks are badly leaking structures	N/A	None	Dried sludge is stockpiled on-site, potential groundwater pollution	Unlined sludge ponds and leaking drying beds, potential groundwater pollution	None	None	Screenings and grit generated at the plant are still being buried and this practice is not environmental friendly. Potential groundwater pollution	The access road to Ratanda Works is severely damaged and a new-tarred road is required urgently	No link to the Municipal Potable Water Supply, water transported from Heidelberg Works and borehole water is used for other domestic purposes

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Groundwater pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
Dekema	**DEKEMA** Plant did not comply with WUL effluent standards. Non-compliant parameters: Physical 79% Chemical 62% Micro 71% Average compliance: 70%	Plant operated at 61% of hydraulic capacity	Sufficient capacity. Plant operated at 64% organic capacity	Plant received high flows on 0 out of 92 days	Plant received high COD industrial effluent on 2 of 92 days	13 Critical equipment failures for Q1 as compared to Q2 – 12 Critical equipment failures – Degritter 2 scrappers, cascade pump, section 1-8 biofilter pump suction pipes ,sump pump. PST 9 scum scraper, PST 12 rotating bridge wheel, Inlet screw conveyor, Section 7 Humus tank rotating bridge wheel, Section 2 wash water pump, substation 2 transformer,generator,section 6 biofilter pump.	21 Outages occur (95 hrs total) Load shedding is a big concern.	Channels feeding sections partially collapsed. Biofilters and digesters wall are cracked.	1 out of 12 Anaerobic digesters is blocked	No veld fires occurred during Q2	Sludge pumped to unlined lagoons for solar drying and dried sludge spread to land area to be ploughed into land.	Unlawful disposal of grit and screenings (grit and screenings are buried on-site in a trench).	None	N/A	Screenings and grit generated at the plant are still being buried and this practice is not environmental friendly. Potential groundwater pollution	The access road to Dekema WCW needs to be tarred as it gets muddy and slippery during rainy season.	N/A

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Groundwater pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
Rondebult	Plant did not comply with WUL effluent standard Average compliance: 84.1% Compliant Parameters- Physical – 94% Chemical: 91% Micro: 67%	Plant operated at 82% of hydraulic capacity.	Plant operated at 67% of organic capacity.	High flows of up to 51.58 Ml/day occurred from dates due to storm water ingress. Total rainfall measured at the plant was 196 mm for Q2	Plant received industrial high COD effluent on 9 of 92 days	1 Critical equipment failures for Q2. 1x primary biofilter feed pump No.5	22 Outages occur (36 hours in total) due to power interruption (cable theft, faulty substations and load shedding) The lack of Genset for process continuity is a big concern.	Biofilter walls cracked. Brickwork of open channels are unstable, collapsing and cracked. The feed pipe from the primary biofilters to the secondary biofilters has collapsed.	None	The works did not experience any incidents of veld fire during Q2	Dried sludge is spread on to land and plough into land.	Unlawful disposal of grit and screenings (grit still buried on-site in a trench).	The entire area of the plant are dolomitic	N/A	Attempts were made to get CoE to assist and collect the grit and screening at Rondebult and dispose of it at a dedicated landfill site without any success.	The access road are deteriorating fast and will need attention soon.	Underground rusted pipe works needs to be replaced
Vlakplaats	Plant did not comply with WUL effluent standards: Average compliance: 75.42% Compliant Parameters- Physical –93% Chemical: 58% Micro: 75%	Plant operated at 188% of hydraulic capacity. Needs to be upgraded	Plant operated at 43% of organic capacity	High flows of up to 157 Ml/day occurred from dates due to storm water ingress. Rainfall measured at the plant was 393 mm.	Plant received industrial high strength effluent on 0 of 92 days	19 Critical equipment failures occurred in Q2 - Namely: 3x failures of the ferric chloride dosing system,1x failures of Generators,2x Failures of DAF recycle pump,7x failures of raw sludge transfer pumps. ,1x Failure of effluent pump,3x Failure of Ferric transfer pump meter,1x	28 Outages occur (104 hours in total)Cable theft is a major concern.	Office building have some cracks.	None	No veld fires occurred during Q2.	Dried sludge is stockpiled on the plant. Demand for instant lawn application is seasonal	Unlined Emergency dams. Unlawful disposal of grit (grit is buried on-site in a trench).	Area around bio filters at Mod A are dolomitic	N/A	N/A	Access road to final effluent need to be tarred, can't drive on it during rainy season is too muddy and slippery	

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Groundwater pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
						Failure of power supply cable,2x failure of mechanical screens.											
Waterval	Plant did not comply with WUL effluent standards: Average compliance: 82% Compliant Parameters- Physical – 88% Chemical: 77% Micro: 82%	Plant operated above capacity (operated at 215% capacity)	Sufficient capacity Plant operated at 49% organic capacity.	Average flow of up to 365.9 Ml/day received due to developments and bypasses for upstream plants.	Plant received industrial high strength effluent on 6 of 92 days. Plant is receiving and treating 30 m^3 of leachate daily from EnviroServ	63 Critical equipment failures occurred in November Mainly from 9 x DAF Recirculation pumps, DAF top scrapper and compressor failure, 13 x PST and transfer pump failures, 2 x SSTs failures, 2 x inlet screen failures, 12 x blower failures , 2 x v-belt return pump, 5 x aerator failures 6 x chlorine knob failure, wash water and scum pump failures, 2 x RAS pump failure, 1 x balancing tank screw, 5 x power failure at office and signal at	5 Hours planned outage when ESKOM performed maintenance	None	None	No veld fires at sludge land occurred during Q2	Dried sludge is stockpiled on the plant. Demand for agricultural application is seasonal.	Unlined Emergency dams. Unlawful disposal of grit (grit is buried on-site in a trench).	None	N/A	N/A	N/A	

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Groundwater pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
						dewatering, dewatering and DAF 4, 4 x Belt presses out of alignment and conveyor failure											

3.5. Project/Infrastructure Report

This section includes all major projects that will contribute to the Mega Catalytic projects such as the John Dube Development. ERWAT receives new township applications timeously from CoE and provide responses about the capacity availability at various Water Care Works as and when applications are received. This section focuses on feasibilities studies and major projects at ERWAT Water Care Works (WCW), for projects that contribute either directly or indirectly to the flagship projects. Below is the summary of these planned and running projects that have been identified to address planned Mega Catalytic Projects within City of Ekurhuleni (CoE).

a) Ancor WCW
b) Vlakplaats WCW
c) Welgedacht WCW
d) Herbert Bickely WWTW
e) Waterval WWTW

These Mega Catalytic Project

4.1. Ancor WWTW

The Ancor Works is situated in Springs and falls within the DD5 drainage district. The original design capacity of the plant was 32 Mℓ/d. Conventional biological filtration is employed as the main treatment process. The plant capacity has been downgraded to 15 Mℓ/d. The plant is currently operating at 202% above its hydraulic design capacity, which leads to poor quality of the final effluent. Ancor has older trickling filter technology, which is not suitable to treat high strength sewerage containing industrial pollutants. The new Daggafontein Megacity that is currently under construction directly opposite the plant will require a connection to the Ancor outfall were within this financial year.

Plans are currently underway to upgrade the plant to 52 Mℓ/d in order to enhance the treatment capacity. These upgrades will ensure that future developments flows are accommodated thereby meeting the required standards as stipulated by the department of water and sanitation (DWS).

	PLANNED PROJECTS	BUDGET REQUIRED	STATUS /COMMENTS	COMMISSIONING DATE
1	30 Mℓ/d Plant Upgrade	R351 000 000.00	The capacity treatment plant upgrade is planned in relation to the 50-year master plan, which computes to 52 Mℓ/d by year 2068. The 50-year flow projection is based on the CoE IDP population growth. Pending availability of funds, the R 351 000 000.00 budget required will accommodate 30 Mℓ/d of 52 Mℓ/d.	The commissioning of the project is subject to the availability of funds.

4.2. Vlakplaats WWTW

Vlakplaats is situated in Vosloorus and falls within the DD6 drainage district. The original design capacity of the plant was 83 Mℓ/d. The plant capacity has been downgraded to 55 Mℓ/d. The plant operated at 156% above the design capacity (i.e., 101 Ml/d) above its hydraulic design capacity, which leads to poor quality of the final effluent. Vlakplaats flow distribution project is currently under construction phase to augment and add a peak flow balancing capacity into the plant by converting the old existing ponds into a balancing tank. Plans are currently underway to upgrade the plant to 189 Mℓ/d in order to enhance the treatment capacity. CAPEX funds have been requested for the additional 41 Mℓ/d of 189 Mℓ/d for design-built, but no funds for FY 19/20 available.

These upgrades will ensure that future developments flows are accommodated thereby meeting the required standards as stipulated by the department of water and sanitation (DWS).

PLANNED PROJECTS		BUDGET REQUIRED	STATUS /COMMENTS	COMMISSIONING DATE
1	Plant Upgrade/Retrofit-Activated Sludge	R203 340 000.00	The capacity treatment plant upgrade is planned in relation to the 50-year master plan, which computes to 189 Mℓ/d by year 2068. The 50-year flow projection is based on the CoE IDP population growth. Pending availability of funds, the **R 203 340 000.00** budget required will accommodate 41 Mℓ/d of 189 Mℓ/d for design-built.	The commissioning of the project is subject to the availability of funds. The commissioning of the project is anticipated to be 2022/2023
2	Plant Upgrade/Retrofit-Bio filter	R 108 000 000.00	The capacity treatment plant upgrade is planned in relation to the 50-year master plan, which computes to 189 Mℓ/d by year 2068. The 50-year flow projection is based on the CoE IDP population growth. Pending availability of funds, the **R 108 000 000** budget required will accommodate 18 Mℓ/d of 189 Mℓ/d for design-built	The commissioning of the project is anticipated to be 2022/2023 Pending availability of funds.
3	Flow distribution	R 40 000 000.00	Vlakplaats flow distribution project is currently under construction phase to augment and add a peak flow balancing capacity into the plant.	The project is currently on hold due to expiry of contract period.

4.3. Welgedacht WWTW

The Welgedacht works is situated in Springs and falls within the DD5 drainage district. The original design capacity of the plant was 85 Mℓ/d. Module 2 have been commissioned and is currently undergoing defects liability period. The plant capacity has been up-graded to 95 Mℓ/d. Plans are currently underway to upgrade the plant to 327 Mℓ/d in order to enhance the treatment capacity. These upgrades will ensure that future developments flows are accommodated thereby meeting the required standards as stipulated by the department of water and sanitation (DWS).

PLANNED PROJECTS		BUDGET REQUIRED	STATUS /COMMENTS	COMMISSIONING DATE
1	New 50 Mℓ/d Module 3 - Extension	R 667 734 532.80	The capacity treatment plant upgrade is planned in relation to the 50-year master plan, which computes to 327 Mℓ/d by year 2068. The 50-year flow projection is based on the CoE IDP population growth. Pending availability of funds, the **R667 734 532.80** budget required will accommodate 50 Mℓ/d of 327 Mℓ/d by 2021/2022	The commissioning of the project is anticipated to be 2022/2023 Pending availability of funds.

4.4. Herbert Bickley WWTW

The Herbert Bickley works is situated south of Nigel town and falls within the DD5 drainage district. The original design capacity of the plant was18.75 Mℓ/d. The plant capacity has been downgraded to 15.1 Mℓ/d. Plans are currently underway to upgrade the plant to 53 Mℓ/d in order to enhance the treatment capacity.

	PLANNED PROJECTS	BUDGET REQUIRED	STATUS /COMMENTS	COMMISSIONING DATE
1	10 Mℓ/d Plant Upgrade	R 133 546 906.60	The capacity treatment plant upgrade is planned in relation to the 50-year master plan, which computes to 53 Mℓ/d by year 2068. The 50-year flow projection is based on the CoE IDP population growth. Pending availability of funds, the **R 133 546 906.60** budget required will accommodate 10 Mℓ/d of 53 Mℓ/d by 2021/2022	The commissioning of the project is anticipated to be 2022/2023 Pending availability of funds.

4.5. Waterval WWTW

The Waterval wastewater care works is the largest works operated by ERWAT and is situated in the DD6 area at the Kliprivier. The original design capacity of the Waterval wastewater care works was155 Mℓ/d. The plant capacity has been up-graded to 170 Mℓ/d. The primary treatment-debottlenecking project is currently at the design phase to increase the capacity of module 2 and 3, from 40 Mℓ/d to 60 Mℓ/d per module. Plans are currently underway to retrofit the capacity of module 4 from 50 Mℓ/d to 84 Mℓ/d and add an additional 100 Mℓ/d module 5. Below is the summary of these planned and running projects that have been identified to address planned Mega Catalytic Projects.

PLANNED PROJECTS		BUDGET REQUIRED	STATUS /COMMENTS	COMMISSIONING DATE
1	New 100 Mℓ/d Module 5 - Extension	R 1 333 549 066.00	The capacity treatment plant upgrade is planned in relation to the 50-year master plan, which computes to 584 Mℓ/d by year 2068. The 50-year flow projection is based on the CoE IDP population growth. Pending availability of funds, the **R 1 333 549 066.00** budget required will accommodate 100 Mℓ/d of 584 Mℓ/d by 2027/2028.	The commissioning of the project is anticipated to be 2027/2028 Pending availability of funds
2	Module 2 and 3 Capacity Upgrade by debottleneckin g the primary treatment.	R 20 000 000.00	The primary treatment-debottlenecking project is currently at the design phase to increase the capacity of module 2 and 3, from 40 Mℓ/d to 60 Mℓ/d per module. The capacity treatment plant upgrade is planned in relation to the 50-year master plan, which computes to 584 Mℓ/d by year 2068. The 50-year flow projection is based on the CoE IDP population growth. Pending availability of funds, the **R 20 000 000.00** budget required will accommodate 40 Mℓ/d of 584 Mℓ/d by 2021/2022..	The anticipated date for commissioning is 2022/2023 Pending availability of funds
3	Technology Capacity Upgrade 50 Mℓ/d (Module 4)	R 247 975 609.80	Designs planned to commence for 2020/2021. The capacity treatment plant upgrade is planned in relation to the 50-year master plan, which computes to 584 Mℓ/d by year 2068. The 50-year flow projection is based on the CoE IDP population growth. Pending availability of funds, the **R 247 975 609.80** budget required will	The anticipated date for commissioning is 2023/2024 Pending availability of funds

PLANNED PROJECTS	BUDGET REQUIRED	STATUS /COMMENTS	COMMISSIONING DATE
		accommodate 50 Mℓ/d of 584 Mℓ/d for design-built.	
Total Budget Required			**R3 105 146 115,20**

CONCLUSION:
ERWAT is striving and working hard towards addressing all Mega Catalytic projects to accommodate all new developments within the City of Ekurhuleni. As per table above, the mentioned Water Care Works need to be upgraded urgently to cater for the current backlog in capacity and to make provision for future housing and industrial developments. ERWAT does not have enough Capex funds to extend/upgrade the plant.

3. Financial Report

Table 5: Operational expenditure

REVENUE BY SOURCE	BUDGET ANNUAL R	BUDGET FOR 6 MONTHS DECEMBER 2021 R	ACTUAL YEAR TO DATE DECEMBER 2021 R	VARIANCE YTD ACTUAL VS YTD BUDGET R	VARIANCE % YTD BUDGET VS YTD ACTUAL %
REVENUE					
User Charges	**1 142 878 261**	**571 439 130.50**	**571 439 130**	**(0)**	**0%**
Commercial business - Total	**56 395 600**	**28 197 800**	**19 854 354**	**8 343 446)**	**-30%**
- Government	14 595 600	7 297 800	8 621 190	1 323 390	18%
- Projects	34 400 000	17 200 000	4 940 697	(12 259 303)	-71%
-Beneficiation	7 400 000	3 700 000	4 044 191	344 191	9%
- Pumpstations	-	-	-	-	0%
- Interventions	-	-	2 248 276	2 248 276	0%
Other Income	**3 722 160**	**1 861 080**	**33 478 030**	**31 616 950**	***1699%***
Grants received (Government grants & subsidies)	**187 100 000**	**112 260 000**	**16 478 926**	**(95 781 074)**	**-85%**
OPERATING REVENUE GENERATED	**1 390 096 021**	**713 758 011**	**641 250 440**	**(72 507 570)**	**-10%**

EXPENDITURE BY SOURCE	BUDGET ANNUAL	BUDGET FOR 6 MONTHS DECEMBER 2021	ACTUAL YEAR TO DATE DECEMBER 2021	VARIANCE YTD ACTUAL VS YTD BUDGET	VARIANCE % YTD BUDGET VS YTD ACTUAL
Employee Related Costs - Salaries & Wages	464 241 227	232 120 614	193 498 795	(38 621 818)	-17%
Remuneration of Directors	3 960 262	1 980 131	585 397	(1 394 734)	-70%
Bad Debts (Provision for Bad Debts)	1 742 850	871 425	-	(871 425)	-100%
Depreciation	100 968 000	50 484 000	50 534 162	50 162	0%
Pumpstations	-	-	-	-	0%
Repairs and Maintenance	99 940 419	49 970 210	32 651 988	(17 318 222)	-35%
Interest Expense	51 252 448	25 626 224	12 284 868	(13 341 356)	-52%
Intervention Expenses	-	-	-	-	0%
Bulk purchases	299 273 036	149 636 518	124 851 679	(24 784 839)	-17%
General Expenses - Other	181 617 779	90 808 890	56 618 004	(34 190 886)	-38%
TOTAL OPERATING EXPENDITURE	1 202 996 021	601 498 011	471 024 893	(130 473 118)	-22%
OPERATING SURPLUS/(DEFICIT)	187 100 000	112 260 000	170 225 547	57 965 547	52%

Revenue

ERWAT has a 10% under-recovery on its total revenue budget due to the following reasons:

1. Commercial business revenue targets not met due to the fact that the target/budget was set above the current contracts ERWAT has (over-budgeted).

2. USDG grant income not invoiced in line with the under-expenditure in CAPEX. The under-expenditure is due to delays in shipment of materials due to the effects of COVID, late payment of USDG invoices by the CoE as well as expired contracts identified as a result of prior insufficient CAPEX funds to fund projects.

Expenditure:

ERWAT has a 22% under-expenditure on its total OPEX due to the following reasons:

1. A 17% under-expenditure on employee costs due to delayed recruitment plan as per the new structure. The delay was predominantly caused by a moratorium placed on recruitment by the Board of directors, as well as the lack of a board to appoint the advertised HoD positions;
2. A 70% under-expenditure in directors' remuneration due to the fact that the term of the board ended during the second quarter and ERWAT has been without a board. The number of directors also decreased from 8 to 5 in prior years;
3. A 35% under-expenditure in Repairs and Maintenance due to the fact that the capturing occurs one month in arrears. The expenditure should normalise towards the end of the year in line with the budget.
4. A 52% saving in interest expense due to lower interest rates;
5. A 17% under-expenditure in bulk purchases due to the fact that the capturing occurs one month in arrears. The July 2021 invoices captured were only R1.2m due to this. The expenditure should normalise in accordance with the budget by July 2022.

6. A 38% under-expenditure in general expenditure mainly as a result of budget for the PPP program with the DBSA that has been delayed pending council approval. Further COVID-related savings were experienced as employees were predominantly working from home. Savings arose from expenditure such as training, consulting fees, travel and accommodation, printing, consumables, consulting fees etc.

Table 6: Capital expenditure

CODE	DEPARTMENT NAME	Capital Budget (2021/22)	Actual spend for 2021/2022 (Finance)	Adjusted Actual spend for 2021/2022	Percentage spent of actual budget YTD
			Total YTD		%
73106460020TCXBAZZER	MANAGING DIRECTOR	810 000.00	-	-	0.00%
73146460020TCXBAZZER	ICT	6 000 000.00	220 814.09	226 344.53	3.77%
73436456020FAXBCZZER	SCIENTIFIC SERVICES	15 953 849.00	327 836.37	329 554.37	2.07%
73526449420TCXBHZZER	ESTHER PARK	260 373.00	50 312.50	50 312.50	19.32%
73536449420TCXBHZZER	OLIFANTSFONTEIN	53 723 438.00	3 518 554.36	5 407 803.23	10.07%
73546449420TCXBHZZER	HARTEBEESTFONTEIN	6 119 826.00	524 446.38	526 164.38	8.60%
73616449420TCXBHZZER	ANCOR	4 531 690.00	833 861.38	787 335.24	17.37%
73616456020TCXBCZZER	ANCOR	225 000.00	-	-	0.00%
73626449420TCXBHZZER	BENONI	814 174.00	206 371.07	206 371.07	25.35%
73636449420TCXBHZZER	C GRUNDLING	3 123 357.00	-	-	0.00%
73646449420TCXBHZZER	HEIDELBERG	3 530 274.00	53 750.00	53 750.00	1.52%
73646460020TCXBAZZER	HEIDELBERG		12 336.00	12 336.00	0.00%
73656449420TCXBHZZER	H BICKLEY	4 777 786.00	1 701 667.72	1 701 667.72	35.62%
73666449420TCXBHZZER	JAN SMUTS	3 072 521.00	208 835.03	208 835.03	6.80%
73666456020TCXBCZZER	JAN SMUTS	500 000.00	-	-	0.00%
73676449420TCXBHZZER	J P MARAIS	1 563 910.00	74 841.37	74 841.37	4.79%
73676460020TCXBAZZER	J P MARAIS		6 762.68	6 762.68	0.00%
73686449420TCXBHZZER	DAVEYTON	2 409 996.00	272 474.48	272 474.48	11.31%
73696449420TCXBHZZER	RYNFIELD	5 077 490.00	3 337 810.36	3 337 810.36	65.74%
73706449420TCXBHZZER	RATANDA	1 646 638.00	-	-	0.00%
73706460020TCXBAZZER	RATANDA		597 904.08	597 904.08	0.00%
73706456020TCXBCZZER	RATANDA	1 152 174.00	2 013.60	2 013.60	0.17%
73716449420TCXBHZZER	TSAKANE	2 004 898.00	-	-	0.00%
73716449421TCXBHZZER	TSAKANE	229 553.00	-	-	0.00%
73716456020TCXBCZZER	TSAKANE	-	-	-	0.00%

73726449420TCXBHZZER	**WELGEDACHT**	**7 561 962.00**	**1 628 024.80**	1 628 024.80	**21.53%**
73726456020TCXBCZZER	**WELGEDACHT**	**225 000.00**	**-**	-	**0.00%**
73726460020TCXBAZZER	**WELGEDACHT**		**19 222.60**	19 222.60	**0.00%**
73816449420TCXBHZZER	**DEKEMA**	**3 296 317.00**	**791 789.79**	1 107 823.53	**33.61%**
73826449420TCXBHZZER	**RONDEBULT**	**241 370.00**	**-**	-	**0.00%**
73826456020TCXBCZZER	**RONDEBULT**	**4 889 632.00**	**-**	-	**0.00%**
73836449420TCXBHZZER	**VLAKPLAATS**	**44 639 447.00**	**5 924 038.15**	11 789 951.23	**26.41%**
73846449420TCXBHZZER	**WATERVAL**	**8 529 325.00**	**814 640.21**	1 221 596.89	**14.32%**
73846473520TCXBKZZER	**WATERVAL**	**190 000.00**	**-**	-	**0.00%**
TOTAL CAPITAL EXPENDITURE CAPTURED ON SOLAR		**187 100 000.00**	**21 128 307.02**	**29 568 899.69**	**15.80%**

ERWAT has spent 15.8% of its CAPEX budget as the end of the second quarter of the 2022 financial year compared to the target of 60%. The reasons for not meeting the target are as follows:

a) Delayed shipment of materials due to COVID protocols
b) Late payment of USDG invoices by the CoE; and
c) Cancellation of expired contracts that expired mostly due to lack of funds to implement them in prior years.

Quarter 2 Target Not Achieved

Challenges and Interventions

ERWAT has currently spent R29 568 900.97 (15.8%) of its capital budget at the end of the second quarter. The planned SDBIP target for the quarter has not been achieved with a 44.2% negative variance. Amongst others, below are the reasons for the poor performance in expenditure.

a) Unavailability of funds to reimburse Suppliers/Contractors on time, this has resulted in delays in completion/ achieving targets of the projects on time
b) Cancellation of contracts identified to have been irregular (expired).
c) Delays on shipment on delivery of material delayed due COVID-19

Acceleration Plan:

The SDBIP target for the quarter has not been achieved with a 44.2% negative variance, however ERWAT is putting measures in place to mitigate the challenges stated above.

ERWAT has brought forward other implementation ready contracts in order to expedite expenditure

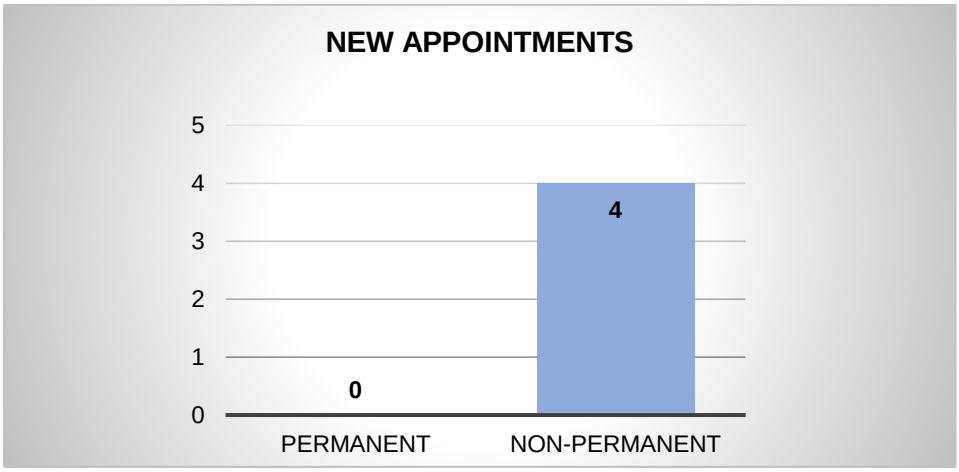
4. Human Resources

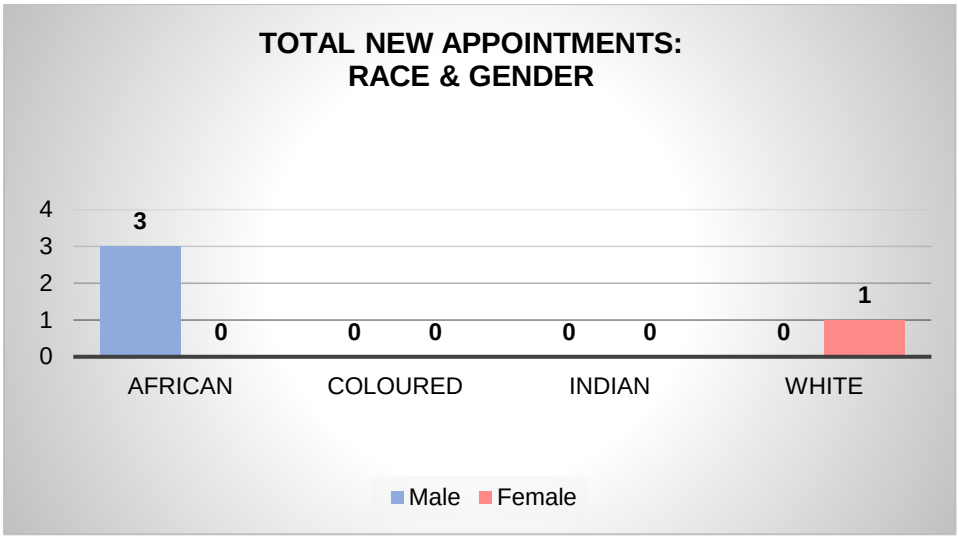
4.1 Staff Movements

Report on current structure and staff movements e.g. recruitments, resignations, retirements, etc.

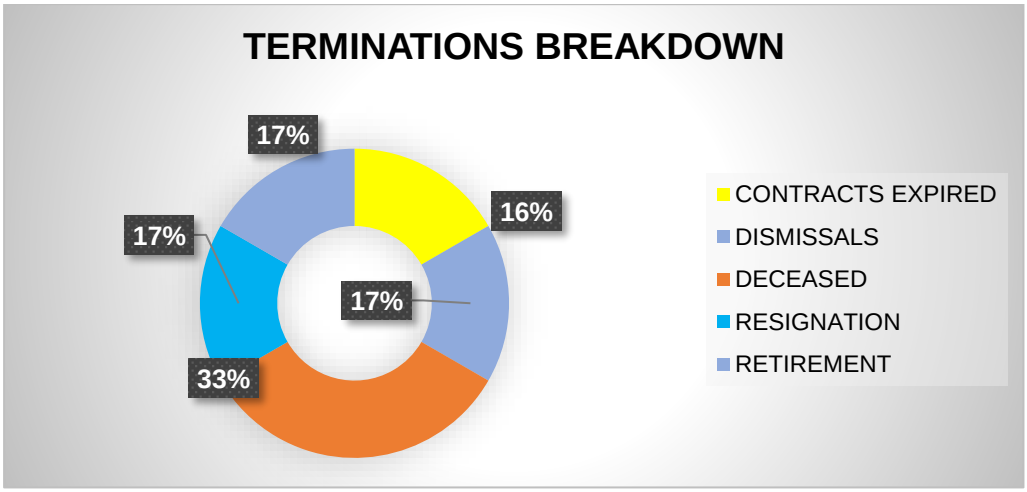
Staff Movements	African		Coloured		Indian		Whites		Total
	Male	Female	Male	Female	Male	Female	Male	Female	
Recruitments	3	0	0	0	0	0	0	1	4
Resignations	1	0	0	0	0	0	0	0	1
Retirements	0	0	0	0	0	0	0	1	1
Contract Expired	0	0	0	0	0	0	0	1	1
Dismissals	0	0	0	0	0	0	1	0	0
Deceased	2	0	0	0	0	0	0	0	2
Promotions	0	0	0	0	0	0	0	0	0

4.1.1 Appointments





4.1.2 Terminations



Status Analysis

1. During the period under review, 4 employees were appointed.
2. During the period under review, 6 employees exited the organisation for the following reasons;

    a) 1 contract expired;
    b) 1 employee resigned;
    c) 1 employee went on retirement;
    d) 1 employee was dismissed and
    e) 2 employees passed away.

4.2 Employment Equity Demographics

The purpose of the Employment Equity Act is to achieve equity in the workplace, by:

1. Promoting equal opportunity and fair treatment in employment through the elimination of unfair discrimination; and

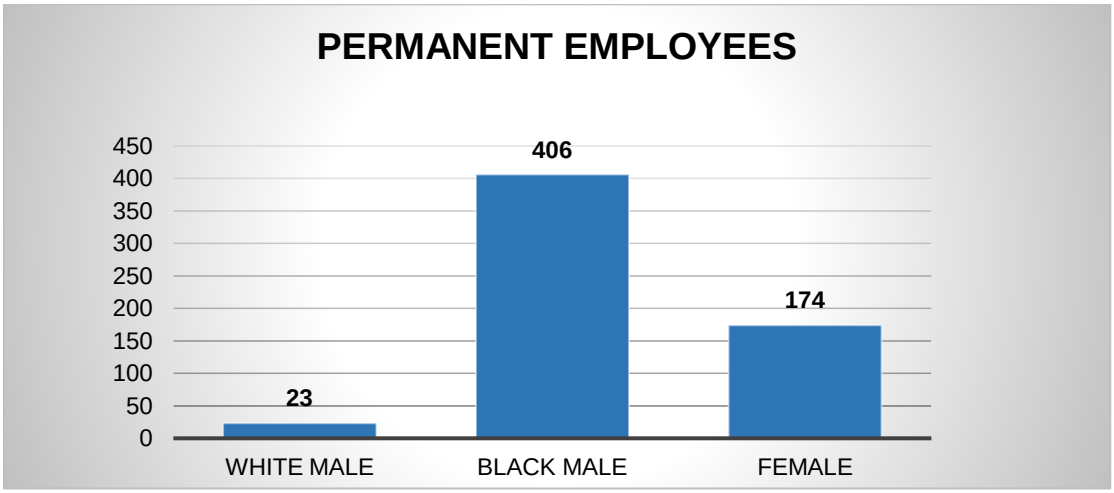
2. Implementing affirmative action measures to redress the disadvantages in employment experienced by designated groups, to ensure their equitable representation in all occupational categories and levels in the workforce.

ERWAT's three (3) Year Employment Equity plan was approved and submitted.

4.2.1. Current Employment Equity Statistics - As at 30th November 2021

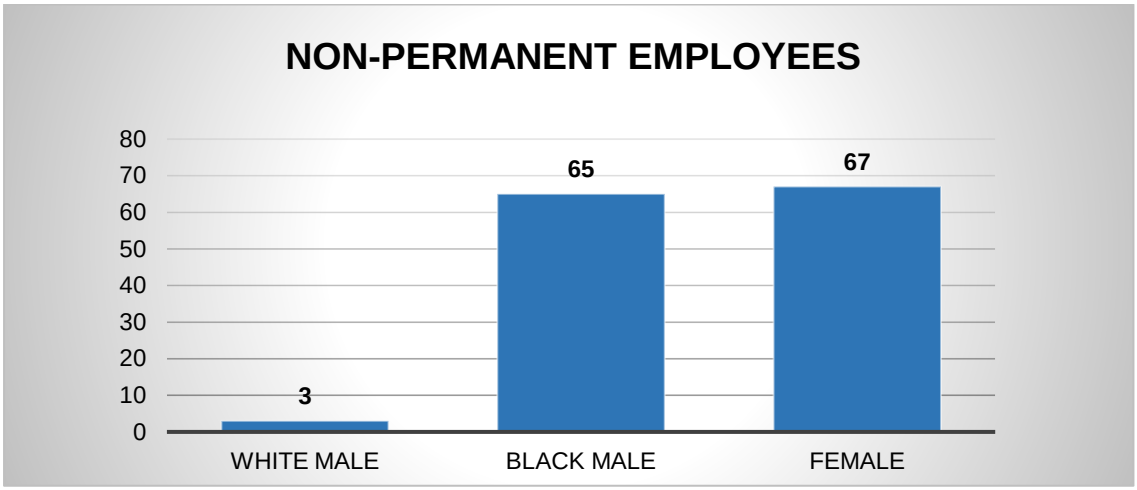
Professionally	Female				Male				Filled Positions	Vacant Positions	All Positions
	African	Coloured	Indian	White	African	Coloured	Indian	White			
Economic Active Population - Gauteng	**35.7%**	**1.3%**	**1.0%**	**6.1%**	**45.3%**	**1.3%**	**1.9%**	**7.4%**			
Current ERWAT EE Stats	**27.5%**	**0.8%**	**0.7%**	**2.9%**	**62.3%**	**1.5%**	**0.8%**	**3.5%**			
Actual EAP Total	**44.1%**				**55.9%**				**100%**		
Current ERWAT status	**31.9%**				**68.1%**				**100%**		
Target to be achieved	**12.2%**				**-12.8%**				**0%**		
Top Management	0	0	0	0	0	0	0	0	0	1	1
Senior Management	1	0	0	1	1	1	0	1	5	4	9
Professionally	11	0	0	4	20	2	1	8	46	21	67
Skilled	64	1	1	6	121	3	2	9	207	75	282
Semi-skilled	37	2	1	2	174	3	1	2	222	43	265
Unskilled	42	1	0	0	71	0	0	3	117	4	121
Temporary Employees	56	2	3	9	38	2	2	2	114	0	114
Grand Total	**211**	**6**	**5**	**22**	**425**	**11**	**6**	**25**	**711**	**148**	**859**

4.2.2. Permanent Employees

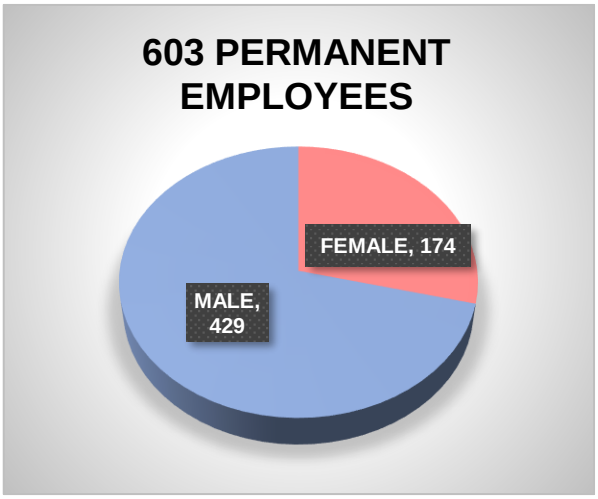


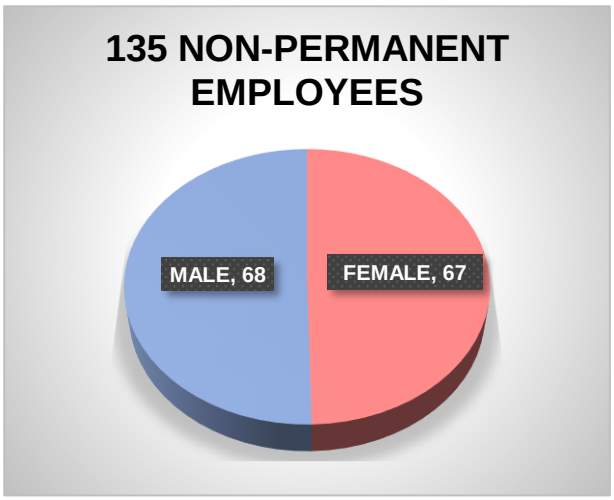
ERWAT has **603** permanent employees.

4.2.3. Non-Permanent Employees



ERWAT has **135** non-permanent employees.

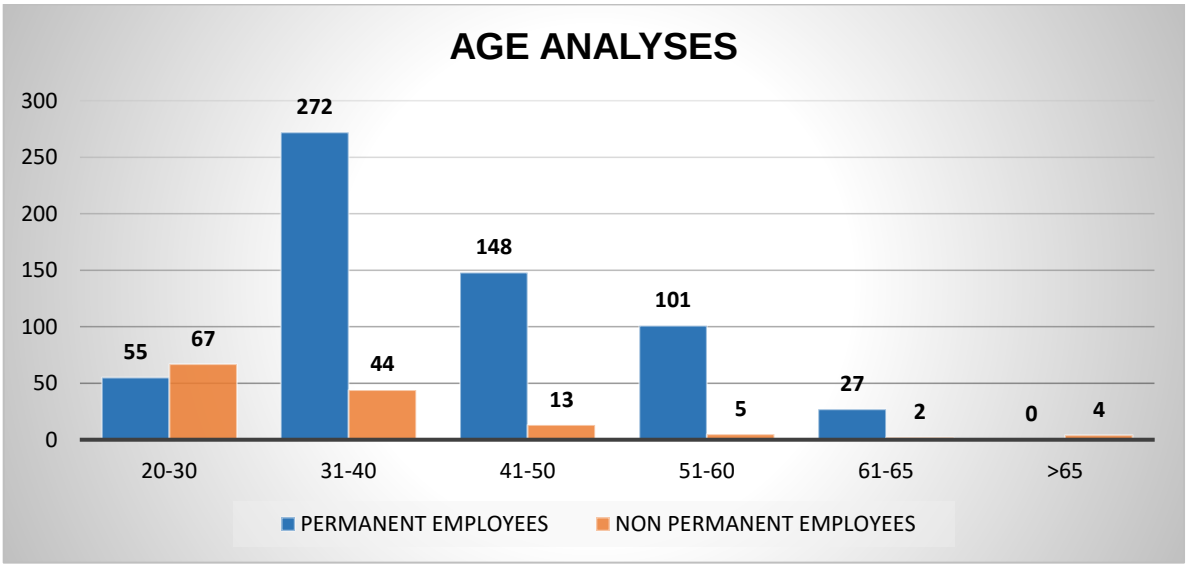




The employment demographics of ERWAT as at 31st December 2021 reflects:

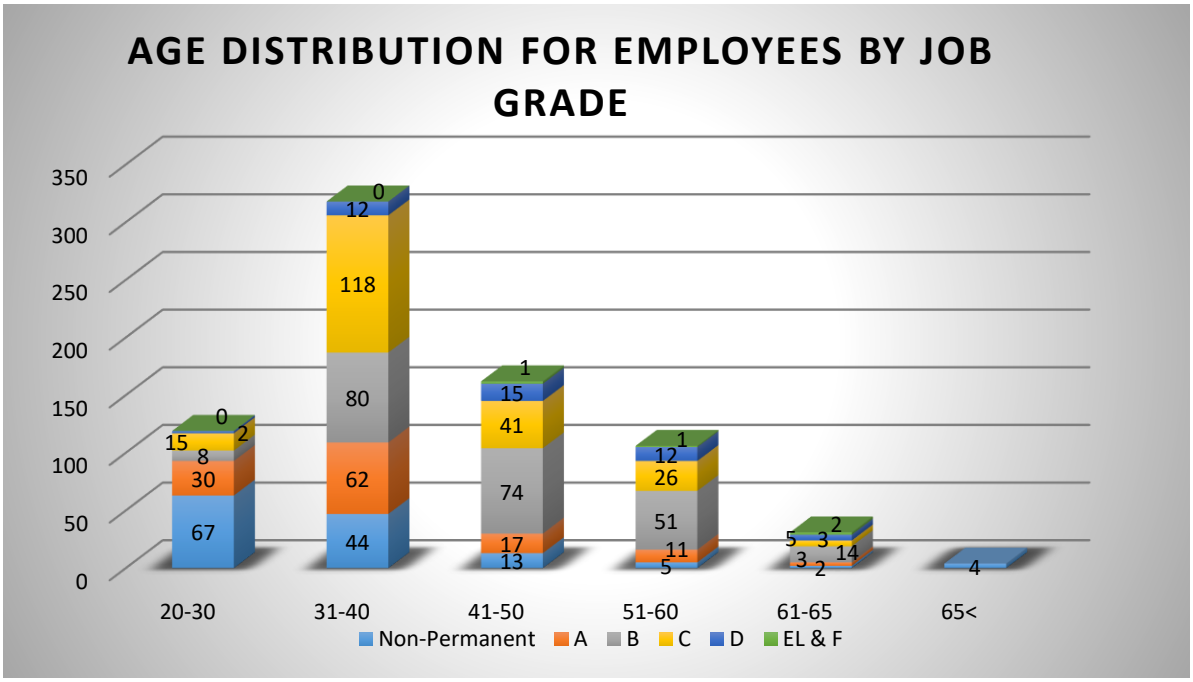
1. Females in both permanent and non-permanent positions within ERWAT account for 241 or 33% of total positions filled.
2. Males in both permanent and non-permanent positions within ERWAT account for 497 or 67% of total positions filled.

4.2.4. Age Analysis



Average age as at 12/2021 = 35

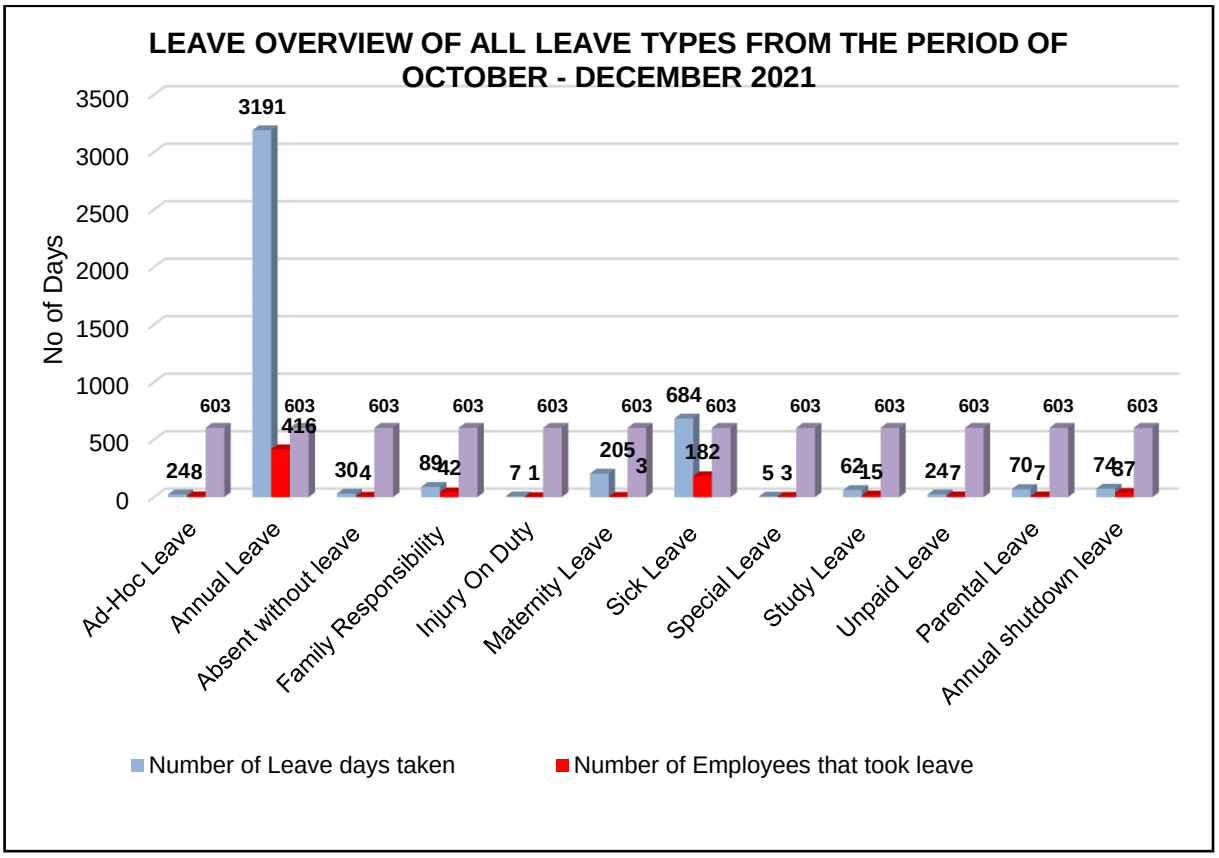
4.2.5. Age Distribution per Job Grade



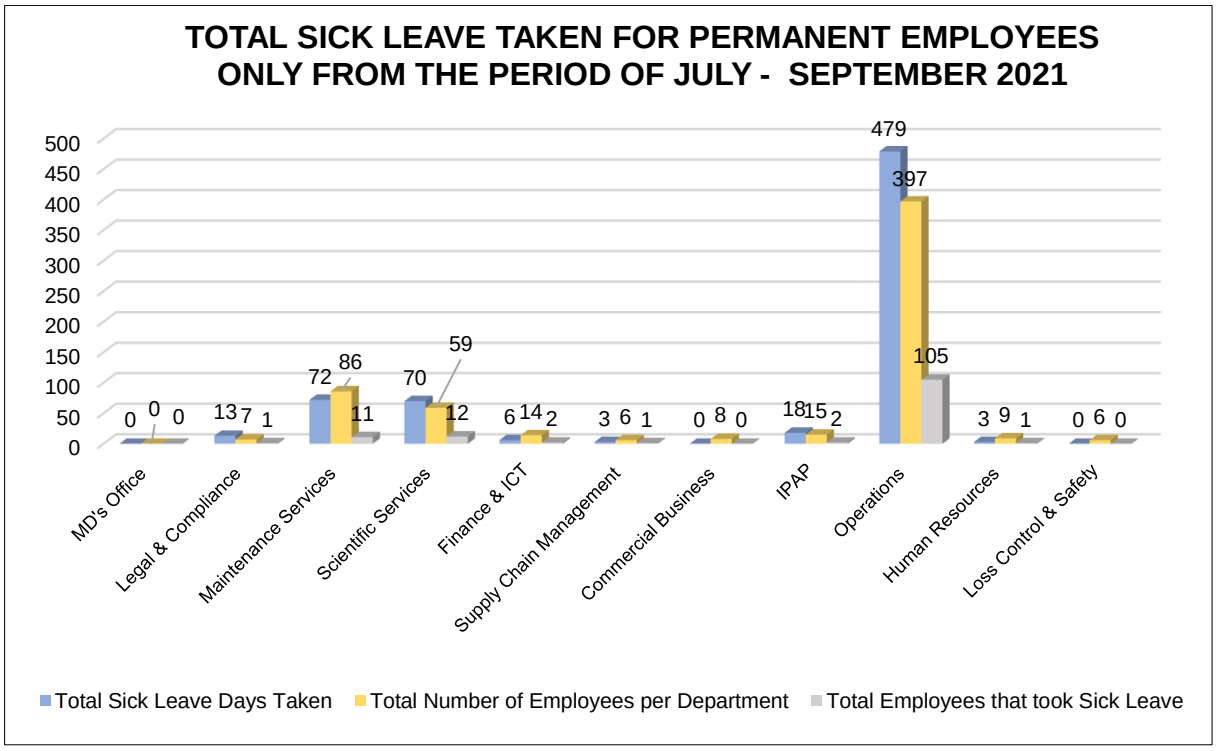
1. The current age distribution of ERWAT depicts that the majority of Employees range between the ages of 31-40

4.3. Leave Management

4.3.1. All Leave Type Overview



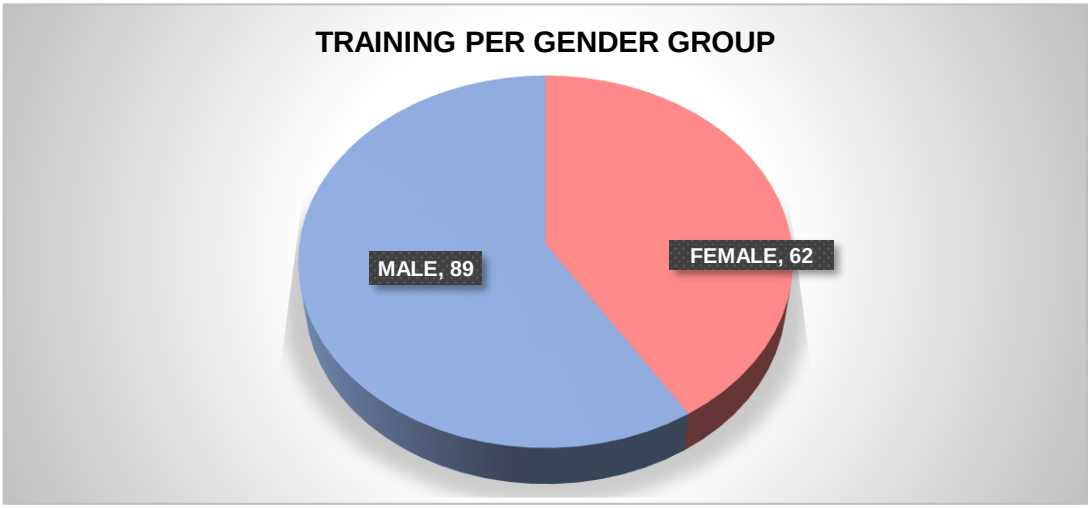
4.3.2. Sick Leave Taken Overview



1. Total number of employees who took sick leave during the period under review are 135. The total sick leave taken equates to a minimum of 4.92 days per employees.

4.4. Training and Development

The reporting period saw **151 employees** attending various training interventions



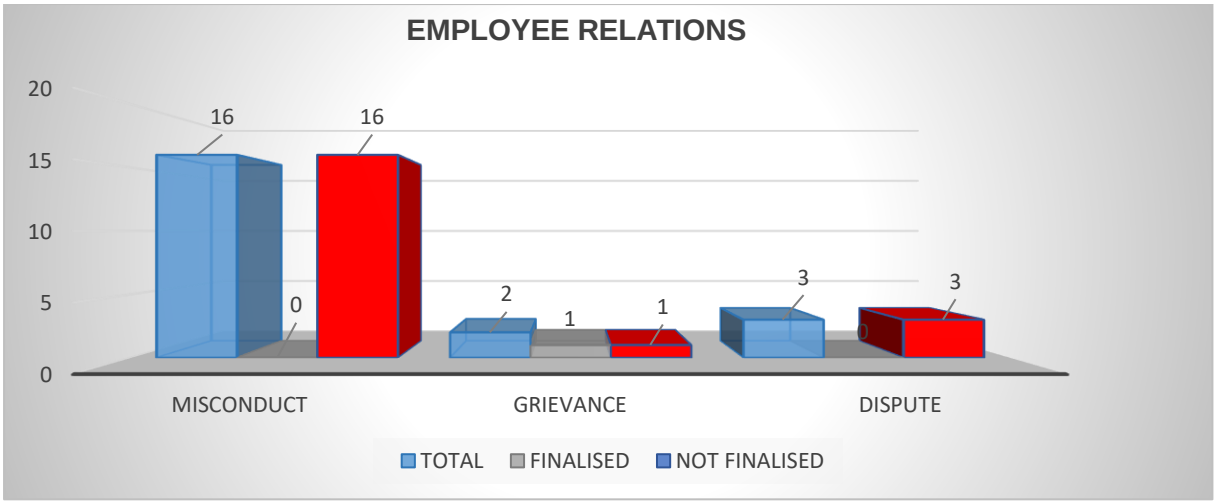
a) First Aid Training with (6) delegates on the 11-13 October 2021
b) Risk Management with (16) delegates on the 27-29 October 2021
c) Basics of Wastewater Treatment with (39) delegates on the 12-15 October 2021
d) Record Management with (19) delegates on the 4-5 November 2021
e) Finance for Non-Financial Managers with (16) delegates on the 8-12 November 2021
f) Driver Safety Awareness Workshop with (15) delegates on the 15th of November 2021
g) Emerging Pollutants Workshop with (10) delegates on the 16th of November 2021
h) Monitoring and Evaluation with (20) delegates on the 18-19 November 2021
i) Catchment Management with (10) delegates on the 30th November 2021

4.5. Performance Management

Quarter 2 (mid-year) evaluations will be conducted for all employees (permanent and non-permanent) during Quarter 3.

4.6. Labour Relations

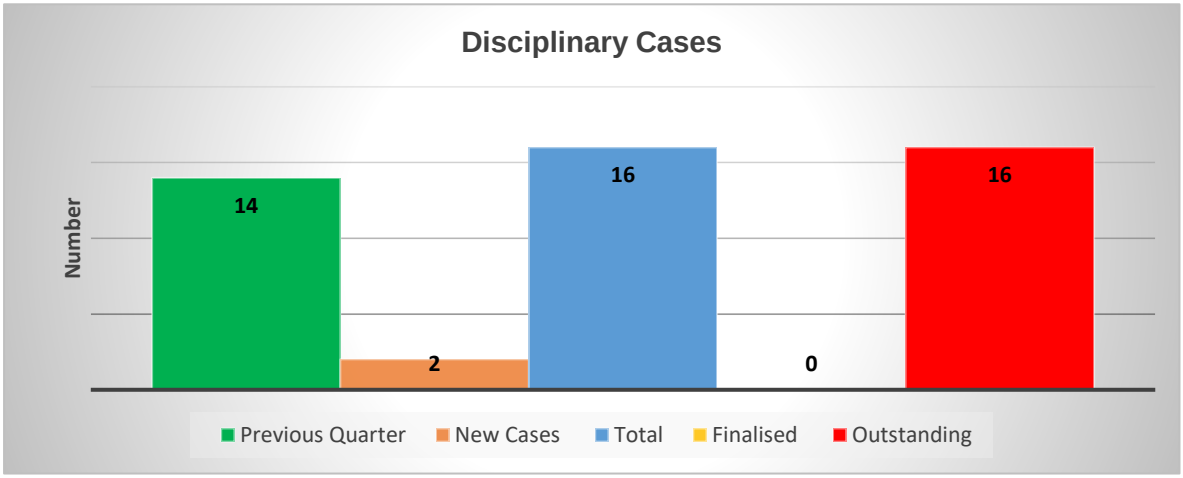
The HR department, has received, recorded and administered the following processes for the reporting quarter, below is the statistical data of all cases and the analysis thereof.



4.6.1 Disciplinary Cases

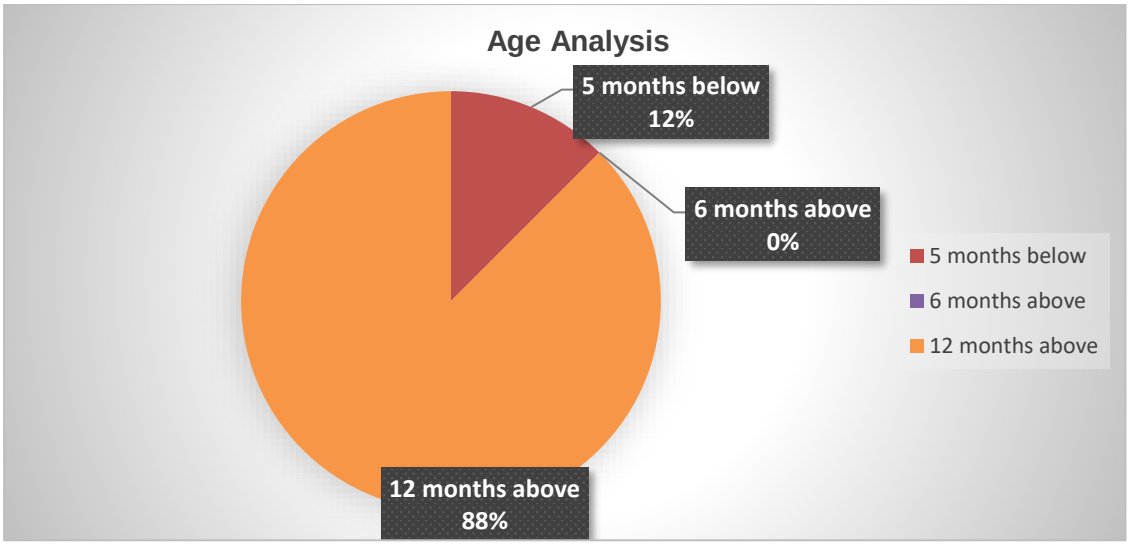
a) Fourteen (14) cases were not concluded in the previous quarter hence brought forward.

b) Two new cases were received; the total for all disciplinary cases is sixteen (16). No case has been finalized with a remaining balance of sixteen (16) cases outstanding.



4.6.2. Age Analysis of Disciplinary cases

a) The age analysis of the sixteen (16) cases outstanding, 12% are below five (5) months, 0% above six (6) months and 88% are above twelve (12) months old

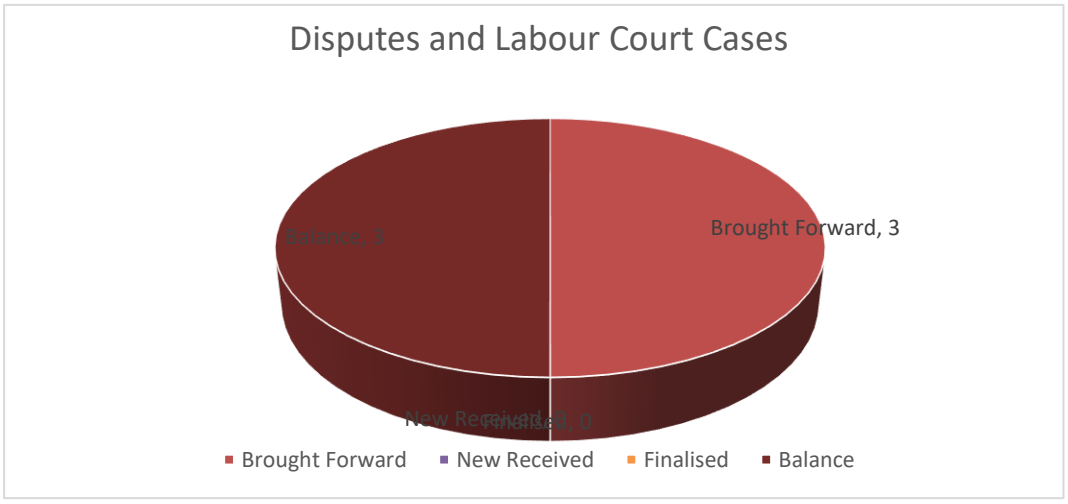


The age analysis of the Sixteen (16) outstanding cases is as follows:

a) Cases that are 3 months old =2
b) Cases that are 12 months old=14

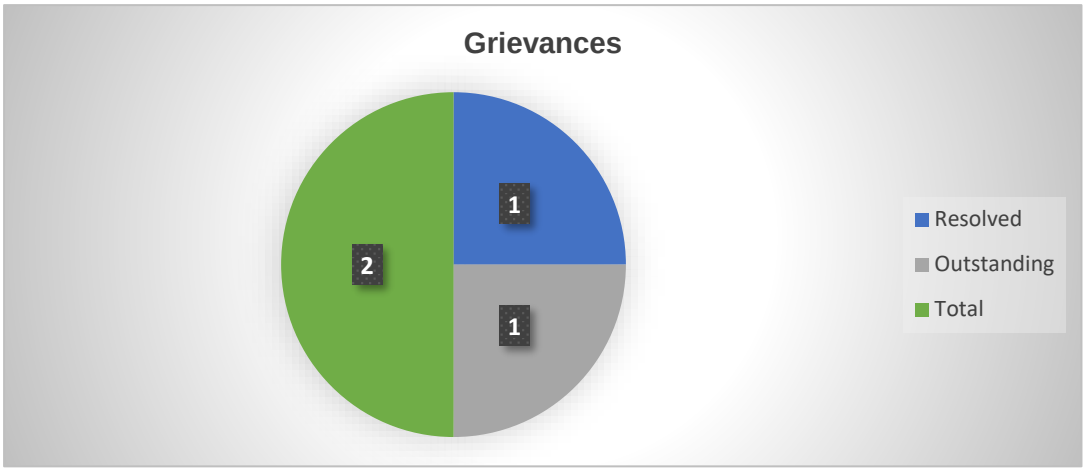
4.6.3. Disputes, Arbitrations & Labour Court Cases

a) Total cases brought forward three (3) as at end of previous quarter.
b) No new cases were received
c) In respect of disputes at the bargaining Council and Labour Court cases, ERWAT is sitting at three (3) cases.
d) One case at the Bargaining Council was finalised
e) The above cases are pending adjudication at the appropriate forums.



The graph illustrates the statistical data of disputes at the Bargaining Council and Labour Court, as at the end of Q2, Three (3) cases are still pending.

4.6.4. Grievances



Total grievances outstanding are one (1).

4.6.5. Suspensions

There is only one suspensions for the period under review.

4.7. Employee Wellness & OHS

4.7.1 Workplace Wellness Program

a) ERWAT has 47 Wellness Champions (WC) that are placed on all 19 Plants including the Laboratory and Head Office. During the period under review, no workshops were conducted, due to the COVID-19 pandemic.

b) The core function of the WC is to assist the Occupational Health Nurse, in identifying any health and wellness concerns amongst employees, monitor absenteeism; they also provide health education in a form of frequently scheduled meetings with employees on site.

c) During the period under review 8 employees received Psychotherapy counselling sessions offered by ERWAT Occupational Health Services

4.7.2 COVID-19 Statistics

As at 09/12/2021

Departments	No. of Positive Cases Reported	No. of Recoveries	No. of Exposed Employees	No of Employees Tested	No.of Negative Detections	No. of Employees Awaiting Results	No. of Employees Still to Test	No of Fatalities
Office of the MD	0	0	0	0	0	0	0	0
Marketing and Communication	1	0	0	0	0	0	0	1
Governance, Legal & Compliance	1	1	1	1	1	0	0	0
Operations	57	54	222	205	174	0	0	1
Maintenance	6	5	37	3	3	0	0	0
IPAP	2	1	2	0	0	0	0	0
Scientific Services	12	9	12	10	1	0	0	0
Finance & ICT	6	5	3	1	0	0	0	0
Human Resources	1	0	4	0	0	0	0	0
Loss Control & Safety	1	1	6	1	1	0	0	0
Supply Chain Manageme	1	1	3	0	0	0	0	0
Commercial Business	0	0	2	2	2	0	0	0
TOTAL	**88**	**77**	**292**	**223**	**182**	**0**	**0**	**2**

4.8. Percentage of Manpower Cost to Total Operational Expenditure.

	Quarter 1	Quarter 2	Quarter 3	Quarter 4	YTD - Actual
Total Manpower Cost	94 480 974	99 603 219.00			194 084 193.00
Total Operational Expenditure	219 392 910	249 613 687.00			469 006 597.00
% of Salary to OPEX	**43.06%**	**40%**			**41%**

5. Procurement Practices, Job Creation and Mainstreaming

ERWAT's departmental target on the support the SMME support of 45% spend on SMME's has been met and exceeded in the current quarter and all previous quarters since the target has been set.

1. ERWAT achieved 93% spend on SMME's during the 2nd quarter of 2022 as follows:

Type	Q2			
	Value of POS paid	KPI target %	Actual % achieved	Variance
EME	R17 578 863.79	45%		
QSE	R9 962 605.55			
GEN	R2 024 650.83			
	R29 566 120.17	**R26 452 636.00**	93%	48%

6. Risk Management

6.1 SUMMARY OF RISKS

The Board of Directors has committed to the process of risk management in the Board Charter which states that the board appreciates that strategy, risk, performance and sustainability are inseparable and give effect to this by satisfying itself that all material risks in the strategy and business plans have been duly considered and addressed by management. Risk Management has become an integral part of strategy setting. Risk Management forma part of senior management's Key Performance Areas

ERW1. Lack of integrated planning between the City and the Entity

Integrated planning is crucial to the success of any mega-project. ERWAT plays a critical role in the growth of the City and the Aerotropolis plans. The integrated planning for the advancement of the City need to be done by the City and the Entity working together

ERW2. Inadequate Capacity to treat wastewater

Ekurhuleni is fast becoming a city that is growing at a rapid pace, placing a high burden on infrastructure capacity. The current status quo: The Infrastructure is old and operating above their design capacity, resulting in frequent breakdown of critical equipment

ERW3. Inadequate Cash flow to meet business requirements

ERWAT derive a substantial portion of its revenue from CoE (user charges, grants funding etc.), the potential delays in the payment from COE to ERWAT has a detrimental impact in the entity's ability to settle its short term obligations as they become due.

ERW4. Inadequate/limited revenue generation to supplement the approved budget

ERWAT receives its operational and capital budget from the City of Ekurhuleni. The entity strives to augment its total budget by generating additional income through the commercial business department. There is a growing number of private companies offering the same services as ERWAT thus making the water sector highly competitive

ERW5. Inability to achieve Capital Expenditure set target

There is a growing trend within the country of project disruptions by communities and business demanding a stake in the project. These can include other factors such as unavailability of material and unfavourable weather conditions at construction sites.

ERW6. Inadequate preparedness in the event of an emergency/disaster.

The waster care works are both hydraulically and organically overloaded threatening the growth of the City and the environment. Wastewater care works that operate above their design capacity pose a huge risk to the City of Ekurhuleni and has a potential to slow down growth and development of the City. Some of the Wastewater care works were built many years ago without considering the need for water flow diversion system. Some wastewater care works does not have emergency dams.

ERW7. Potential loss of key skills

ERWAT recognises there is a growing demand of skilled personnel in the water sector (Ref: Scarce Skills 2019, Vol 6). The loss of key skills within the organisation remains a threat that can impact negatively on the organisational objectives. Some of the employees may succumb to the pandemic

ERW8. Potential delay in supply and delivery of critical goods/services

The entity import some of the equipment and consumables that is critical in testing water for the City, the entity and customers. There are long lead time in the global supply chain due to the pandemic and restrictions by various countries.

ERW9. Potential loss of the ISO 17025 Accreditation

Aging laboratory equipment is a threat to losing the ISO certification gives the general public and customers an assurance that ERWAT applies best practice in while testing the water, it is a requirement for both the Blue drop and Green drop standards. The

ERW10. Potential Loss of, and Unauthorised Access Critical Information

The Protection of Personal Information Act places a burden on the entity to safeguard more responsibility to personal information of employees, customers and other stakeholders.

ERW11. Potential injuries to personnel, visitors and contractors

The Entity takes pride in its Safety programme. Efforts are made to ensure that the employees, contractors and visitors are safe at all times. Accidents however do happen while it is least expected

Strategic Risk Mitigations

Management and the Board ensures that there are adequate risk mitigation plans in place to strengthen the current control environment. Some of the risk mitigations as identified require a huge budget such as the upgrading of infrastructure.

ERWAT Strategic Risks

REF	Risk Title		Contributing Factors	Impact / Consequences on the ERWAT		Current Mitigation Controls	RAP	Risk Action Plan	Action Plan Progress Quarter 2
ERW1	Inadequate integrated planning/coordination between ERWAT and City departments. Business Plan may not be aligned with its corporate strategy, resulting in the entity failing to meet of the entity its Key Performance Indicators	CF1	Inadequate communication and coordination between ERWAT and City departments (city planning water waste storm cluster	Service Delivery	CC1.1	1.Service delivery Agreement	RAP1.1	1. Addendum to the Service Delivery Agreement	The addendum was drafted as advised by the City and submitted to City's Legal Department and the Risk Department.
						2. MMC Senior Management Quarterly Meetings 3.		2. Develop the Terms of Reference for the SDA Coordination Steering Team between ERWAT and the City	Action to be reported in quarter 3
						3. Participation of Technical Cluster Meetings		3. Review the E Corporate Governance Framework	Action plan completed in quarter 1.
ERW2	Inadequate Infrastructure to treat wastewater	CF2.1	Outdated, aging and inadequate infrastructure and technology to treat high strength industrial effluent.	Service Delivery And growth of the City	CC2.1	Development & Engineering Contribution Policy	RAP2.1	Ring-fence Engineering Contributions for plant upgrades	Action completed
								Review the ERWAT Development & Engineering Contribution Policy to align with City Development & Contribution Policy once it's approved	There was no progress reported for quarter 2. No progress was reported in quarter 2.
					CC2.2	50-Year Master Plan	RAP2.1.4	Implementation the MTREF 2021-2022 CAPEX plan in line with the 50 year Master Plan Project 1 Olifantsfontein Intervention Upgrades	**Olifantsfontein Refurbishments** **ERW201902/TNDR-001:** The upgrade / refurbishment of biofilter module (3) Olifantsfontein WCW. R 3 000 000,00 - project 90% complete

<table>
<tr><th>REF</th><th>Risk Title</th><th></th><th>Contributing Factors</th><th>Impact / Consequences on the ERWAT</th><th></th><th>Current Mitigation Controls</th><th>RAP</th><th>Risk Action Plan</th><th>Action Plan Progress Quarter 2</th></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>ERW201902/TNDR-003:
Refurbishment of trickling filter and replacement of various auxiliaries at Olifantsfontein WCW Phase 1A).

R 2 800 000,00 project 96% complete

ERW201912/TNDR-002:

The supply and delivery of trickling filter packaging media to Olifantsfontein WCW (Phase 1B).

R 2 300 000,73 – 99% complete</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>CC2.3</td><td>Wastewater Risk Abatement Plans</td><td>RAP2.1.6</td><td>Implementation the MTREF 2021-2022 CAPEX plan in line with the 50 year Master Plan</td><td><table><tr><th>20/21 Budget</th><th>Budget to date</th><th>Actual Cumulative(R)</th><th>Actual Cumulative (%)</th></tr><tr><td>Capex Budget</td><td>P187 100 000.00</td><td>P29 568 900.97</td><td>15.80%</td></tr></table></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>CC2.4</td><td>Wastewater Research and Development Program</td><td>RAP2.1.9</td><td>Organic testing of industrial effluent</td><td>Action plan to be reported in quarter 3</td></tr>
</table>

<table>
<tr><th>REF</th><th>Risk Title</th><th></th><th>Contributing Factors</th><th>Impact / Consequences on the ERWAT</th><th></th><th>Current Mitigation Controls</th><th>RAP</th><th>Risk Action Plan</th><th>Action Plan Progress Quarter 2</th></tr>
<tr><td rowspan="3"></td><td rowspan="3"></td><td rowspan="2"></td><td rowspan="2"></td><td rowspan="2"></td><td>CC2.5</td><td>C.o.E Schedule A Bylaws
Analysis of samples by ERWAT</td><td>RAP2.1.10</td><td>Participation in the Bylaw Committee</td><td>Action plan to be reported in quarter 3</td></tr>
<tr><td>CC2.6</td><td>Incident management protocol (IMP) .</td><td>RAP2.1.12</td><td>Tracking of incidents and on a quarterly to assist in planning and decision making</td><td>
<table>
<tr><th>WCW</th><th>Critical equipment failures Quarter2-</th><th>Power Failure (hours) Quarter 2</th></tr>
<tr><td>Esther park</td><td>1</td><td>9</td></tr>
<tr><td>Harteb eestfon tein</td><td>10</td><td>36</td></tr>
<tr><td>Olifants fontein</td><td>9</td><td>13</td></tr>
<tr><td>Rynfiel d</td><td>7</td><td>81</td></tr>
<tr><td>Welged acht</td><td>56</td><td>48</td></tr>
<tr><td>Ancor</td><td>0</td><td>62</td></tr>
<tr><td>Jan Smuts</td><td>3</td><td>1</td></tr>
<tr><td>Heidelb erg</td><td>14</td><td>53</td></tr>
<tr><td>Herbert Bickley</td><td>45</td><td>30</td></tr>
<tr><td>Tsakan e</td><td>45</td><td>102</td></tr>
<tr><td>Dekem a</td><td>12</td><td>271</td></tr>
</table>
</td></tr>
<tr><td></td><td>Inadequate budget upgrade infrastructure</td><td></td><td></td><td>MTREF Budget</td><td>RAP2.1.13</td><td>Invite Expression of Interest from the various Technology providers</td><td>The project is at Bid Adjudication stage in quarter 1. No progress reported for quarter 2</td></tr>
</table>

REF	Risk Title		Contributing Factors	Impact / Consequences on the ERWAT		Current Mitigation Controls	RAP	Risk Action Plan	Action Plan Progress Quarter 2
		CF 2.2	Inadequate implementation of maintenance plans leading unavailability of equipment		CC2.1.22	Asset Management Policy	RAP2.1.13	No further mitigation was identified	No action to be implemented for the financial year under review.
					CC2.1.23	Asset Management Care Plans, limited available budget	RAP2.1.14	Implementation of 2021-2022 Maintenance Plan Preventative Plan Predictive Maintenance Re-active Maintenance	
					CC2.1.24	Equipment Operating Manuals	RAP2.1.15	No further mitigation was identified	No action to be implemented for the financial year under review.
		CF 2.3	Inadequate budget allocation to maintain infrastructure		CC2.1.25	Maintenance budget	RAP2.1.16	Implement the 2021-2022 Maintenance Budget	
		CF 2.4	Lack of service contract for critical spares		CC2.1.26	Service Master Contracts	RAP2.1.17	Establish Service Contracts for critical equipment	The project is at the stage of developing a Bid Specification for critical equipment. No progress was reported for quarter 2

REF	Risk Title		Contributing Factors	Impact / Consequences on the ERWAT		Current Mitigation Controls	RAP	Risk Action Plan	Action Plan Progress Quarter 2
		CF 2.5	Delays in bringing back equipment and services due to ling lead time for spares that are sourced overseas			No current control	RAP2.1.18	Investigate the local market for the sourcing of critical equipment	Action plan not yet started.
		CF 2.6	Storm water ingress (be incorporated into the C.o.E register)		CC2.1.27	No current control	RAP2.1.21	No further action plan identified	No action plan can be implemented by the entity. The remedial action needed can only be implemented by the City
					CC2.1.28	Asset Management Strategy	RAP2.1.22	No further action plan was identified	No action plan to be implemented by the entity for the financial year under review.
		CF 2.7	Rapid population and industrial growth within C.o.E		CC2.1.29	50 Year Master Plan 2. Township Development Application	RAP2.1.23	No further action plan was identified	No action plan to be implemented by the entity for the financial year under review.
ERW3	**Inadequate Cash flows to meet business requirements**	CF 3.1	Lack of a consolidated cash-flow forecast based on actual departmental requirements	Compromised service delivery.	CC3.1	Cash-flow projections are created based on assumptions of monthly expenditure	RAP3.1	Implementation of cash-flow projections taking into account the actual departmental cash-flow requirements	Action completed in quarter 1 and 2.
		CF 3.2	Unforeseen increases to labour costs such as overtime and other elements of payroll costs.	Attrition of skilled work force. Low staff morale.	CC3.2	Overtime Policy Remuneration Policy Monitoring of actual expenditure against approved budget and taking conservative approach to cash flows management	RAP3.2	Embark on a process to slowly build up cash-flow reserves in order to absorb any unforeseen expenditure which may arise.	Action completed.

REF	Risk Title		Contributing Factors	Impact / Consequences on the ERWAT		Current Mitigation Controls	RAP	Risk Action Plan	Action Plan Progress Quarter 2
		CF 3.3	Inadequate budgetary increases granted by the C.o.E and budget cuts due to economic pressures (Historic and Current)		CC3.3	Budget deficiency Formal Communicating to C.o.E regarding shortfall in the budget allocation	RAP3.3.1	Investigate other sources of funding.(e.g PPP)	A report that was submitted for council approval was returned for further inputs by ERWAT. No progress reported in quarter 2.
		CF 3.4	Available funds not prioritised in order of its most effective use.		CC3.4.1	Cost Containment Policy	RAP3.4.1	Development and Implementation of a cost containment strategy	Action plan not started as yet. No progress was reported in quarter 2
		CF 3.5	Lack of ring-fencing of income streams to service the corresponding expenditure		CC3.5	Ring-fenced service charges, development contributions, USDG	RAP3.5	Ring-fence income streams	Action completed
		CF 3.6	Delayed settlement of invoices raised by ERWAT for payment by the C.o.E in relation to service charges and CAPEX grants		CC3.6.1	Formal Communication to CoE requesting timeous payment of invoices	RAP3.6.2	Charge interest on long outstanding invoices	There was no interest charged to the City for the late payment of service charges invoices.
ERW4	**Inadequate revenue generation to supplement the approved budget**	CF 4.1	Inability to secure new business due to manpower costs that higher than that of competitors	Compromised service delivery.	CC4.1	In-service trainee rates in line with the Rates Schedule	RAP3.1	Review of the Pricing Model. Develop a model to determine manpower costs per project	The Pricing Model developed in the 2019/2020 FY. The model need to be updated with current information.

REF	Risk Title		Contributing Factors	Impact / Consequences on the ERWAT		Current Mitigation Controls	RAP	Risk Action Plan	Action Plan Progress Quarter 2
		CF4.2	Inability to obtain new business due to operational costs of laboratory services that is higher than that of competitors.	Compromised service delivery.	CC4.2	Reporting Turnaround Time, Lab Accreditation.	RAP3.2	Develop of Sales Strategy	The tender to assist with Commercial Business - Business Plan with Market Penetration Plan was advertised but no award was issued. The tender to be re-advertised. No progress reported in quarter 2.
		CF4.3	Overall cost of pursuing business (Marketing, overheads, travel etc.)	Compromised service delivery.	CC4.3	Manually costing per project basis.	RAP3.3	Develop a tool for tracking cost of sales per project or business lead. (Part of RAP 3.2)	To be reported in quarter 2. No progress reported in quarter 2
		CF4.4	Loss of existing business due to competition in the water sector	Compromised service delivery.	CC4.4	Quarterly Business reviews	RAP3.4	Implement the recommendations from the Customer Survey outcome	To be reported in quarter 2. No progress reported in quarter 2
		CF4.6	Loss of existing business through insourcing and companies closing down or reducing costs	Low staff morale.	CC4.5	Customer Satisfaction Survey	RAP3.6	Review of existing clients contract to incorporate a clause that prohibits the clients from employing ERWAT employees (with the purpose of continuing with the same serious that was previously rendered to the client) who were based at the clients.	Action plan not yet started. No progress reported in quarter 2
		CF4.7	Legislative Limitations/MFMA Section 164 Forbidden Activities.	Unskilled workforce and skills transfer	CC4.6	No current control	RAP3.7	No further action plan was identified	No action plan to be implemented by the entity for the financial year under review.

REF	Risk Title		Contributing Factors	Impact / Consequences on the ERWAT		Current Mitigation Controls	RAP	Risk Action Plan	Action Plan Progress Quarter 2
		CF 4.8	Business requirements limiting of entry to new market (Level of BBB-EEE Compliance/Inadequate and/or no BBEE certificate)		CC4.7	Broad Based Black Empowerment Compliance Reviews	RAP3.8	Annual review of BBBEE Compliance.	Action plan completed
		CF 4.9	Inadequate measures for granting credit and revenue collection		CC4.8	Credit Collection and Debt Management policy	RAP3.9	Develop Standard Operating Procedure for granting of credit.	Action plan has not yet started. No progress was reported in quarter 2
ERW5	**Possible failure to achieve Capital Expenditure set target**	CF 5.1	Planning, SCM processes and systems not fully integrated online		CC5.1	Manual Individual Procurement Plans has been developed and implemented	RAP5.1	No further action plan identified	No action plan to be implemented by the entity for the period under review.
		CF 5.2	Continuation of project (roll-over) not provided in the next financial year (vote not created).		CC5.3	Annual CAPEX Plan with projected cash flows for each project	RAP5.2.1	Prepare projected cashflows in budget tool format per vote number (for multi-year projects & new projects starting in the next budget period) prior to submission of draft budgets. (February every year)	The budget tool is yet to be implemented, however Cashflows are monitored on excel spreadsheet for all running projects
		CF 5.4	Delays in Supply Chain Management/bidding processes. (Including the effect of the Pandemic)		CC5.5.1	Bid Committees appointed with weekly meetings to speed up SCM	RAP5.4.1	Schedule Training on Supply Chain Management	Action plan to be reported in quarter 3. No progress was reported in quarter 2
					CC5.5.2	Bid Committees tracking register implemented.	RAP5.4.2	Develop a Turn Around Policy and procedure/process flow chart	Action plan completed in quarter 2

REF	Risk Title		Contributing Factors	Impact / Consequences on the ERWAT		Current Mitigation Controls	RAP	Risk Action Plan	Action Plan Progress Quarter 2
		CF5.5	Late payment of invoices		CC5.6.1	Creditors Policy	RAP5.5.1	.1. Implementation of finance system a part of ERP, to allow for invoice tracking at departmental level	Action completed
					CC5.6.2	Central email created fast track invoices received	RAP5.5.2	*Implementation of finance system a part of ERP, to allow for invoice tracking at departmental level* ***Implementation of a central invoice receipt mail. invoice@erwat.co.za (to be discussed-tbc)***	Action completed. Invoices are submitted to a single individual within the finance team
					CC5.6.3	Capital Expenditure Spending Tracking Tool generated weekly for monitoring and evaluation.	RAP5.5.3	No further action plan identified	No action plan to be implemented by the entity for the period under review
		CF5.6	Members of the community and the local business forums demanding to be sub-contracted in the project.		CC5.7.1	Community Liaison Officer Appointed through ward councillors to assist with community engagement.	RAP5.6.1	Engage CSR office prior to commencement of construction project. (CSR plan to include Projects)	There were no new projects in quarter 1
					CC5.7.2	Sub-contracting to local business on projects that requires non-technical skills.	RAP5.6.2	1. CSR to conduct an analysis on the communities around the ERWAT plants to determine their needs	Action plan completed
		CF5.7	Potential disruptions such as Contractor employees going on strike and/or any other disruption caused by contractor		CC5.8	No control	RAP5.7	No further action plan identified	No action plan to be implemented by the entity for the period under review

REF	Risk Title		Contributing Factors	Impact / Consequences on the ERWAT		Current Mitigation Controls	RAP	Risk Action Plan	Action Plan Progress Quarter 2
		CF 5.8	Denial of contractor's access to ERWAT sites due to labour unrest		CC5.9	Disciplinary Procedure	RAP5.8	Disciplinary processes to be taken for illegal strikes as and when they arise	A Strike Contingency Plan still in draft format. The status did not change in quarter 2
		CF 5.9	Denial of contractor's access to ERWAT sites due to community unrest		CC5.10	Business Continuity Management Policy	RAP5.9	CSR to conduct an analysis on the communities around the ERWAT plants to determine their needs	Action plan completed
			Denial of ERWAT employees s access to ERWAT sites by the community members			No control		CSR to conduct an analysis on the communities around the ERWAT plants to determine their needs	Action plan completed in quarter 1
		CF 5.10	Unexpected withdrawal from projects by the contractor.		CC5.11	Service Level Agreements for the contractors appointed	RAP5.10	No further action plan identified	No action plan to be implemented by the entity for the financial year under review
ERW6	**Inadequate preparedness in the event of an emergency/disaster**	CF 6.1	Some plants of the 19 Wastewater Care Works do not have wastewater bypassing systems and emergency dams	Service Delivery	CC6.1	Water Bypass System for some Wastewater Care Works and emergency dams	RAP6.1.1	No further mitigation identified	No further action plan to be implemented by the entity for the period under review
		CF 6.2	Some of the Infrastructure built on dolomitic areas		CC6.1.2	Geo tech studies conducted (every three years)	RAP6.1.2	Develop a Standard Operating Procedure for GeoTechnical Studies	Action plan not started. No progress reported in quarter 2

REF	Risk Title		Contributing Factors	Impact / Consequences on the ERWAT		Current Mitigation Controls	RAP	Risk Action Plan	Action Plan Progress Quarter 2
		CF 6.3	Inadequate Business Continuity Management Program -cont-		CC6.1.3	Business Continuity Management Policy	RAP6.1.3	Revie Business Continuity Management Strategy	Action completed in quarter 1.
					CC6.1.4	Incident Management Protocol (Emergency Response Plan)	RAP6.1.4	Develop a Disaster Recovery Plan for ICT	Action completed in quarter 1.
		CF 6.4			CC6.2.1	Business Continuity Management Risk Assessments for Water Care Works and Support Services	RAP6.1.6	Review of BCM Risk Assessments for all departments	Action plan completed
					CC6.2.2	BCM Business Impact Analysis	RAP6.1.7	Review of Business Impact Analysis	Action plan completed
					CC6.2.3	Critical Supplies Register	RAP6.1.8	Update the Critical Supplies Register	Action plan not yet started. No progress reported in quarter 2
					CC6.2.4	Business Recovery Plans	RAP6.1.9	Review of Business Recovery Plan	Action Plan completed
					CC6.2.5	BCM Steering Committee	RAP6.1.10	BCM Communications and Awareness	Daily Covid 19 communications issued as part of the BCM
					C65.2.6	BCM Infrastructure Condition Assessments	RAP6.1.11	No further action plan identified	No action plan to be implemented by the entity for the financial year under review.
							RAP6.1.12	Implementation of recommendations from the Infrastructure Assessment	Some of the recommendations incorporated into the Capex Plan - Action completed
ERW7	**Potential loss of key skills**	CF	Unexpected loss of lives due to the ravaging		CC7.1.1	Succession Plan Framework for critical departments	RAP7.1.1	No further action plan	No action plan to be implemented by the entity for the financial period under review.

REF	Risk Title		Contributing Factors	Impact / Consequences on the ERWAT		Current Mitigation Controls	RAP	Risk Action Plan	Action Plan Progress Quarter 2
		7.1	impact of the pandemic.		CC7.1.2	Covid - 19 Policy and Procedures	RAP7.1.2	Review the Covid 19 Standard Operating Procedure and align it to the HR Climate Survey	Covid 19 Standard Operating Procedure reviewed in December 2021 and to be tabled at EXCO for adoption
					CC7.1.3	Conduct Covid 19 Risk Assessment	RAP7.1.3	Review the Covid 19 Risk Assessment	Action completed
		CF7.2	Dissatisfaction in the Working Environment (e.g. not fitting in with the organisation's culture and inadequate working resources –ppe etc)		CC7.2.1	Employee Benefits Policies	RAP7.2.1	Medical Aid and Funeral Claim Policy to be merged into a single Employee Benefits Policy	Action plan not yet started. Status remains the same as in Quarter 2
								Develop a Pension Fund Policy to be included in the Employee Benefits Policy	Pension Fund Policy has been developed and still in a draft format
					CC7.2.3	Psychosocial support	RAP7.2.3	Appoint service provider for 36 months for the psychosocial and related services	Tender was a non-award. Changes were made to the tender for re-advertisement.
				Service Delivery	CC7.2.3	Management Development Program	RAP7.2.3	Appointment of the National School of Government for 36 months	Service Level Agreement was signed by ERWAT and awaiting the signatures from the National School of Government
					CC7.2.4	Exit Interview	RAP7.2.4	Conduct Exit interviews as and when there is a need	Two resignations in December. Exit interviews planned to be conducted telephonically in January.
					CC7.2.5	HR Policies	RAP7.2.5	Review HR Policies as and when the need arises	There were no HR policies due for review in quarter 2. All policies are up to date. Action plan completed.

REF	Risk Title		Contributing Factors	Impact / Consequences on the ERWAT		Current Mitigation Controls	RAP	Risk Action Plan	Action Plan Progress Quarter 2
			Individuals not coping with the workload pressure, expectations on individuals not met and career advancement		CC7.2.6	Recruitment Plan	RAP7.2.6	Implementation of 2021/22 recruitment plan	No vacancies have been filled during Q2 of the 2021/2022 financial year.
					CC7.2.7	Personal Development Plans	RAP7.2.8	Implementation of the Training Plan	Implementation of the Training Plan is at 62%
ERW8	**Potential delivery in the supply and delivery of critical goods and services**	CF8.1	Turnaround time taken for the additional spec, which is not legislated.	Compromised service delivery.	CC8.1.1	No current control	RAP8.1.1	1. Develop a Standard Operating Procedure govern the turnaround time BID processes	Action completed in quarter 2.
		CF8.2	Early commencement of bid processes result in submission of unrealistic prices that was not necessarily budgeted for in the procurement plan, which lead to non-award or cancellation of tender.		CC8.1.2	ERWAT Procurement Plan	RAP8.1.2	Review the Procurement Plan	Action plan completed in quarter 1.
		CF8.3	Inadequate tracking of, and delays in signing-off of documents.		CC8.1.3	SCM Document Movement Control Tracking Register implemented	RAP8.1.3	3.2. Development and implementation of an integrated tracking tool (for monitoring). Tracking tool	No progress was reported in quarter 2.
		CF8.4	Inadequate monitoring of contract term.		CC8.1.4	Contract Management Register	RAP8.1.4	Review the contract Management Register	Review of the contract is in progress. 5 expired contracts were cancelled in October 2021

REF	Risk Title		Contributing Factors	Impact / Consequences on the ERWAT		Current Mitigation Controls	RAP	Risk Action Plan	Action Plan Progress Quarter 2
		CF8.5	Shortage of skills within SCM(limiting continuity and turnaround time for replacement of staff)		CC8.1.5	ERWAT Recruitment Plan	RAP8.1.5	Appointment of SCM staff in line with recruitment plan	Action to be reported in quarter 2
		CF8.6	Inadequate Processes flow and monitoring of procurement processes		CC8.1.6	Supply Chain Management Policy and the Delegation of authority	RAP8.1.6	No further action plan identified	No action to be implemented for the financial year under review.
		CF8.7	Limitations set under the delegation of authority		CC8.1.7	Delegation of authority	RAP8.1.7	Review of the Delegations of Authority	Action plan completed.
		CF8.8	Lack of a multi-disciplinary SCM working committee		CC8.1.8	No control	RAP8.1.8	Establishment of a multi-disciplinary SCM working committee	Action completed in quarter 1
		CF8.9	Shortage of supplies and consumables (Scientific services, Maintenance, IPAP, Operations) from external providers for the due to pandemic (Covid-19)		CC8.1.9	Critical Suppliers of Goods and Services Register	RAP8.1.9	Review the Critical Supplies Register	No progress reported for quarter 2.
ERW9	**Potential loss of the ISO 17025 Accreditation**	CF	Aging technology	Service Delivery	CC9.1.1	Scheduled maintenance in accordance with	RAP9.1.1	Repairs as per maintenance schedule	Maintenance carried out for 1. repair the leaks. 2. deionised water system

REF	Risk Title		Contributing Factors	Impact / Consequences on the ERWAT		Current Mitigation Controls	RAP	Risk Action Plan	Action Plan Progress Quarter 2
		9.1	(Equipment replacement)			ERWAT Annual Maintenance Plan			
		CF9.2	Lack of budget for infrastructure repairs. (building maintenance; HVAC)		CC9.1.2	Environmental Monitoring (daily)	RAP9.1.2	Procurement of the HVAC System for Scientific Services	The tender for the procurement of the HVAC System is awarded by the Bid Adjudication Committee
		CF9.3	Aging instrumentation and scarcity of spares		CC9.1.3	Internal Inspections and Assessments	RAP9.1.3	Repairs as per maintenance schedule	Routine maintenance carried out on instruments as per Scientific Services Maintenance Plan 1.UPS for GC-MS System 2.Microwave Digester
		CF9.4	Loss of some of the approved testing methods		CC9.1.4	External Audits	RAP9.1.4	Conduct 17025 external audits	Action plan completed in quarter 1
					CC9.1.6	Standard Operating Procedures and Quality Manual	RAP9.1.6	No further mitigation was identified	No action plan to be implemented for the financial year under review.
					CC9.1.7	Process audit conducted as part of the Business Continuity Assessment	RAP9.1.7	No further action plan identified	No action plan to be implemented by the entity for the financial year under review.
ERW10	**Potential Loss of and Unauthorised Access Critical Information**	CF10.1	Lack of document and records management Policies and procedures	Service Delivery	CC10.1.1	Information, Communication and Technology Policy	RAP10.1.1	Develop Document Management Policy	A draft policy is available. To be aligned with the City's policy. No progress reported in quarter 2
		CF10.2	Lack of Documents and Records management Systems		CC10.1.2	ERWAT Public Drive Communications Policy	RAP10.1.2	Implement Document Management System	The Document Management System is at User Acceptance Testing level. No progress reported in quarter 2

REF	Risk Title		Contributing Factors	Impact / Consequences on the ERWAT		Current Mitigation Controls	RAP	Risk Action Plan	Action Plan Progress Quarter 2
		CF10.3	Inadequate Information Security Measures and Record Measures		CC10.1.3	Computer Systems are Password Protected	RAP10.1.3	Develop Protection of Personal Information Policy	Action plan completed.
		CF10.4	Non-Compliance and Inadequate Business Process on Information and Records Management		CC10.1.4	Security Services Policies	RAP10.1.4	Develop an SOP on Document and Records Management	No progress reported in quarter 2
		CF10.5	The use of social media applications which are not linked to company security measures and back-up systems.		CC10.1.5	Guarding Procedure	RAP10.1.5	Review/Update the Business Process on Document and Records Management	Action plan not started as yet
					CC10.1.6	Net Trace to wipe off information in lost or stolen computer systems	RAP10.1.6	No further action plan identified	No action plan to be implemented by the entity for the financial year under review.
ERW111	**Potential injuries to personnel, visitors and contractors**	CF11.1	Non-Compliance to the OHS policies and Standard operating procedures.		CC11.1.1	Occupational Health & Safety Policy	RAP10.1.1	Update COVID-19 Standard Operating Procedure	The Covid 19 Standard Operating Procedure was reviewed in December 2021 and will be tabled at EXCO for adoption in quarter 3
		CF11.2	Vandalism theft, and armed robberies	Delay the availability of analysis results	CC11.1.2		RAP10.1.2	Review the Safety BCM Plan	Safety BCM reviewed for the 2021/2022 financial year. –action completed
		CF11.3	General condition of workplace (slippery conditions)		CC11.1.3	Occupational Health & Safety Procedures (SOPs)	RAP10.1.3	Pre-employment medicals as and when the need arises	
					CC11.1.5	Security Services Policy	RAP10.1.4	No further action plan to be implemented	No action plan to be implemented for the financial year under review

REF	Risk Title		Contributing Factors	Impact / Consequences on the ERWAT		Current Mitigation Controls	RAP	Risk Action Plan	Action Plan Progress Quarter 2
					CC11.1.6	Security Awareness Program	RAP10.1.4	Conduct Security Awareness	No progress reported in quarter 2
					CC11.1.7	Safety Awareness through Toolbox Talks Central Safety and District Safety Committee	RAP10.1.4	No further action plan identified was identified	No action plan to be implemented for the financial year under review
					CC11.1.8	Safety Standard Operating Procedure	RAP10.1.4	Review of the Safe Work Standard Operating Procedure	No progress reported in quarter 2
					CC11.1.9	Safety Risk Assessments	RAP10.1.4	Conduct Safety Risk Assessment review	No progress reported in quarter 2
					CC11.1.10	Training Plan	RAP10.1.4	Implementation of 2021-2022 OHS Training, in line with the ERWAT wide training plan Skills Training Safety Awareness Training	First Aid Training was completed for 6 delegates, as well as a Driver Safety Awareness Workshop for 15 delegates
					CC11.1.11	Safety awareness through Tool box talks /Induction (company-wide and site induction)	RAP10.1.7	No further mitigations was identified	No action plan to be implemented for the financial year under review.

Emerging Risks (Narrative)

There were no emerging risks recorded in Quarter 2

7. Legislative (only if applicable to your department)

The entity acknowledges that legislation is crucial to it's existence and operations. Management and the board has identified and prioritised seven (7) key legislation for monitoring. Compliance risk management plans are developed to ensure that all the risks are mitigated. Any changes to legislation is aligned with internal policies and processes The Regulatory Landscape consist of the following

1. National Water Act 36 of 1998

2. National Environmental Management Act

3. Companies Act 71 of 2008

4. Municipal Finance Management 56 of 2003

5. Labour Relations Act 66 of 1995

6. Occupational Health and Safety Act 85 of 1993

7. Disaster Management Act 57 of 2005

8. Key Audit Matters and Progress

The EKURHULEN WATER CARE COMPANY (ERWAT) has achieved an unqualified audit for the financial year ended 30 June 2021.

Audit outcomes:

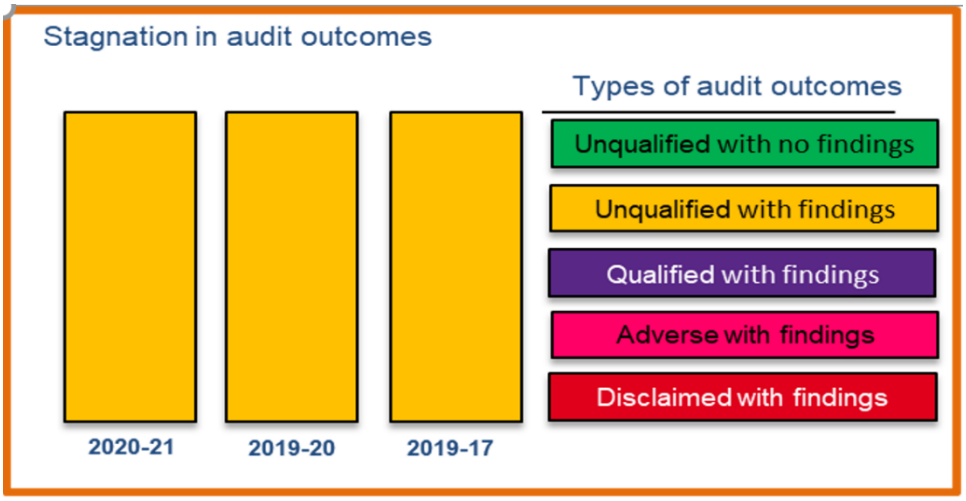


Figure 1: Summary of Audit Outcome

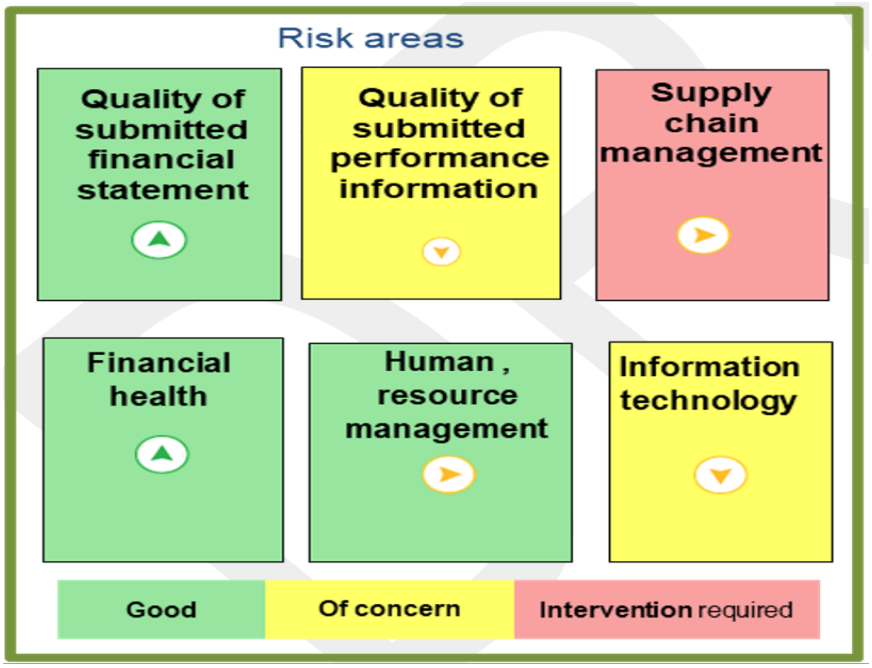


Figure 2: Summary of audit areas

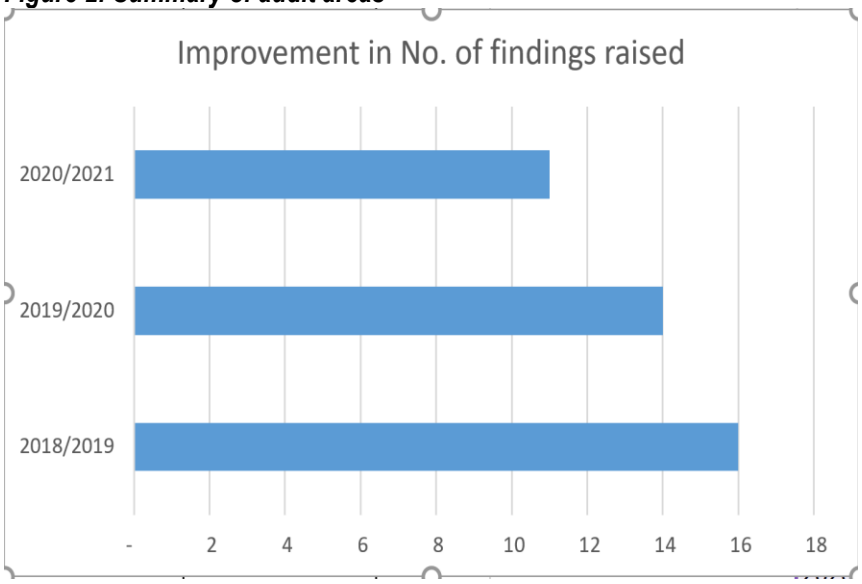


Figure 3: Number of findings raised

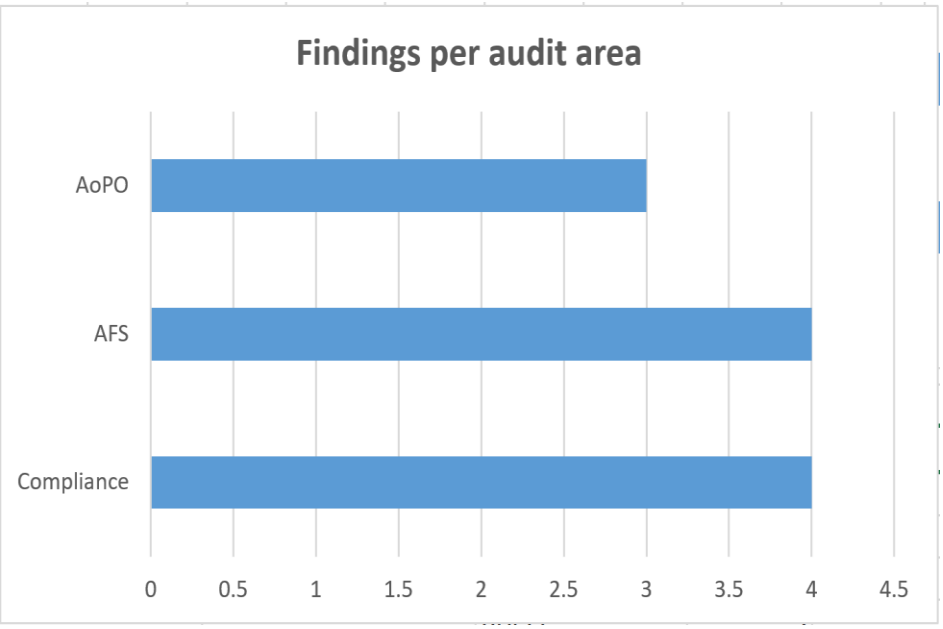


Figure 4: Findings per Audit Area

1. COMAFs ISSUED (compressed to 11 on MR)

a) COMAF 1 – Fruitless and wasteful expenditure not prevented
b) COMAF 2 - Irregular expenditure not prevented
c) COMAF 3 – Assets not adequately tagged
d) COMAF 4 – Consistency of reporting of % target on Maintenance KPI
e) COMAF 6 – ICT control deficiencies
f) COMAF 7 – Appropriation statement differences – Resolved
g) COMAF 9 – Deviations not in line with regulation 36
h) COMAF 10 – CAPEX expenditure differences on reporting
i) COMAF 11 – Maintenance expenditure differences on reporting
j) COMAF 12 – Irregular expenditure Disclosure
k) COMAF 14 – Consequence management

All COMAFs in between were resolved

ERWAT observes all OPCA action plans in order to mitigate from repeat findings in furture, one of the main action plans relates to the development and implementation of standard operating procedures to streamline processes in line with the requirements of the specific legislation.