ERWAT: 2020/2021 Second Quarter Departmental Performance Reporting

2020/21 QUARTERLY REPORTING TEMPLATE AGAINST THE APPROVED BUSINESS PLANS

1. Executive Summary by the Department

ERWAT achieved two (2) out of five (5) reportable key performance indicators. Two (2) targets being Audit Opinion from AGSA and Number of Repeat Audit Findings will be reportable in Q3. The compliance in terms of the wastewater treatment works license conditions and/or exemptions standards was at 82 % against a target of 90%. The major contributors to non-achievement of the target are due to industrial pollution incidents, power outages, critical equipment failures and the 5- day industrial action (strike) in October 2020. Over and above the mentioned reasons for non-compliance for Q2, some of the WCWs are challenged with regards to organic and hydraulic overloading and ageing infrastructure. ERWAT has developed a 5- year CAPEX plan detailing all required CAPEX upgrades and refurbishments and subsequently submitted a report to the Department of Water and Sanitation detailing the risks associated with the lack of capacity at the ERWAT plants in detail, and the associated costs to mitigate the risks. This report is to be taken to Council, having followed all due processes.

ERWAT had been able to strengthen its position with various stakeholders by entering into various strategic partnerships with private and public sector, where memorandum of understanding and agreements have been agreed upon therefore, ERWAT was able to exceed its target on external revenue as a result of Intervention projects which were undertaken by the entity as an Implementing agent which yielded positive results.

Table A: Summary of Service Delivery Performance

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

**City Wide - only 2 of 3 Targets reportable for this Quarter*
**Department Wide – only 3 of 4Targets reportable for this Quarter*

2. Service Delivery Monitoring

CITY- WIDE KPI'S

1. TOTAL REVENUE GENERATED FROM EXTERNAL BUSINESS

Method of Measure
The indicator measures Increased external revenue generated from commercial sources

Evidence
Invoices coupled with general ledger with a balance that agree to the amount reported

Q2 Target
R30 000 000

Q2 Actual
R32 426 404

Comment:
The target for the second Quarter of R30 000 000 in external revenue was exceeded by R2 426 404

Target Exceeded
The target was overachieved due to Intervention projects which were undertaken by the entity as an Implementing agent which yielded positive results.

Corrective Measure
Owing to the target being overachieved for Q2, there are no corrective measures required. It is necessary to maintain the revenue enhancement strategy by embarking on a market penetration action to develop the business. This includes entry into new market segments and maintaining the existing business in both the private and public sector

2. UNQUALIFIED 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
Not reported in Q2

Q2 Actual
Not reported in Q2

Comment:
Not reported in Q2

Corrective Measure
Not reported in Q2

3. PERCENTAGE COMPLIANCE WITH WASTEWATER TREATMENT WORKS LICENSE CONDITIONS AND/OR EXEMPTIONS STANDARDS

Method of Measure:
The indicator measures the compliance of waste water 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.

1. Applicable Water use authorization of each Waste Water Treatment Works

Q2 Target
90%

Q2 Actual
82 %

Comment:
Not achieved.

Reasons for non-compliance:
1. Industrial pollution incidents
2. Critical Equipment failures
3. Power outages
4. Industrial Action

Non-compliance of final effluent:
Olifantsfontein, Hartebeestfontein, Rynfield, Benoni, Esther Park, Ancor, Jan Smuts, Welgedacht, Tsakane, Heidelberg, Dekema, Vlakplaats and Waterval did not meet their Water quality targets due to the following reasons:

1. Industrial pollution incidents:

Benoni, Jan Smuts and Heidelberg received sporadic high industrial incidents during Quarter 2 impacting negatively on the plant operations and final effluent compliance. This was after the country went to level 1 of the lockdown allowing more economic activity and subsequently more industrial discharge. (Refer to Section 3.4 for details of organic loading per WCW)

WCW	Number of industrial pollution incidents in QUARTER 2	Number of industrial pollution incidents in QUARTER 1
Benoni	14 of 92	6 of 92
Jan Smuts	6 of 92	5 of 91
Heidelberg	7 of 92	18 of 92

Actions taken:

WCW	Action Taken	5 Step Budget Model				
		No Cost	Opex 1	Capex1	Opex 2	Capex 2
Jan Smuts Benoni Heidelberg	1.1. Any incident where industrial pollution incidents occur that impacts negatively on the optimum operation of the WCW is communicated to the CoE Water and Sanitation Department: Water Quality Section as well as Lesedi Local Municipality (LLM). COE will investigate the incident and manage the non-compliant industrial CoE clients according to the Water and Sanitation By-laws and the applicable limits for industrial effluent discharges. Minimising risks at source is the most cost-efficient mitigation control in this regard.	As and when incidents occur.				
All WCW	ERWAT and the COE has embarked on a project to develop an improved industrial management model. As the CoE needs to appoint a professional service provider (PSP) for this project, the project has not moved forward due to a lack of funding. ERWAT and the CoE will work very closely with the PSP once the project kicks off				COE Budget, awaiting funding, therefore no date for execution available.	

2. Failure of critical equipment:

Rynfield, Olifantsfontein, Hartebeestfontein, Ancor, Welgedacht, Tsakane, Heidelberg Dekema, Vlakplaats and Waterval had multiple equipment failures affecting the compliance of the plants.

WCW	Critical equipment failures QUARTER 2	Critical equipment failures Q1
Olifantsfontein	49	9
Hartebeestfontein	28	11
Rynfield	10	1
Ancor	14	23
Welgedacht	37	59
Tsakane	21	43
Heidelberg	8	3

WCW	Critical equipment failures QUARTER 2	Critical equipment failures Q1
Dekema	20	20
Vlakplaats	18	36
Waterval	34	54

Action Taken:

WCW	Action taken	No Cost	Opex 1	Capex 1	Opex 2	Capex 2
Olifantsfontein	Faulty DAF compressors (all 3) were defective affecting the sludge treatment process (wasting) for 3 days		Oct 2020			
	Module 1&2 R-recycle mixers are worn out and does not permit full M- UCT configuration to be applied.		Oct 2020			
	FBP alignment sensor and hydraulic pack resulting in FBP operating with one belt for 7 days		Nov 2020			
	Module 1&2 R-recycle mixers are worn out and does not permit full M- UCT configuration to be applied.		Nov 2020			
	DAF saturation tank solenoid valves were faulty and DAF unit could not be operated for 3 days		Dec 2020			
Hartebeesfontein	Defective Module 2 Secondary aerator 1&2		Jan 2021			
	Defective Module 1 Secondary aerator 2&3		Jan 2021			
	Blockages of inlet works Channels		Jan 2021			
	Inspect and repair Tripping ABS 1		Jan 2021			
	Inspect and repair RAS FST 5 & 6		Dec 2020			
Rynfield	Screw pump cable burnt out and still outstanding		Outstanding			
	Continuous blockage of chlorination pump (5 Times)		Repaired on 4th December 2020			
Ancor	7x ferric dosing equipment failures.		All repaired in Q2. Replaced corroded pipes and valves.			
	8 x Chlorine dosing failures.		All repaired in Q2 within one day each.	Replaced 1 pump in Dec.2020		

WCW	Action taken	No Cost	Opex 1	Capex 1	Opex 2	Capex 2
	4 x Raw sludge pump failures		Repaired in Q2.	Replacement of sludge pumps due by .30 June 2021.		
Welgedacht	Multiple McComb main sewer-line blockages resulting in severe fluctuating flows to the WCW affecting processes negatively.		15 Jan 2021			
	Faulty screw conveyor at dewatering facility affecting effluent compliance for 18 days.		Dec. 2020			
	Module 1 Aerator tripping affecting compliance for 5 days.		Dec 2020			
	Module 1 chlorine system failing affecting compliance for 13 days		Dec 2020			
	Faulty Module 2 blowers overheating affecting compliance for 9 days.		Dec 2020			
Tsakane	Both PST pump blockages (6 times),		Partially opened Nov. 2020			
	Scum pump no.1(1 time),		Still faulty to be repaired Jan 2021			
	Mechanical fine screen no.1 failure (2 times),		Partially repaired			
	RAS pumps failure (4 times)		Partially repaired			
	Aerator no.3 failure (1 time),		Repaired in Nov 2020			
	Degritter pump faulty no.1 & 2 (3 times),		Repaired in Oct 2020			
	A-recycle pump no.2 not working (1 time),		Repaired in Oct 2020			
	Chlorine system failure(4 times)		Repaired in Oct 2020			
	Generator not operational (2 times)		Still faulty to be repaired in Jan 2021			
Heidelberg	2x aerator failure;		faulty to be repaired in Mar 2021			
	2x Clarifier Bridge not operational,		Repaired in Oct & Nov 2020			
	1x generator not working,		Repaired in Dec 2020			
	2x power feed cable stolen at substation		Replaced in Dec 2020			

WCW	Action taken	No Cost	Opex 1	Capex 1	Opex 2	Capex 2
	1x degritter not running conveyor)		Still faulty to be repaired in Jan 2021			
Dekema	Breakdown of sludge withdrawal pump impacting effluent compliance		Nov. 2020			
	Failure of 2 wash water pumps which had an impact on compliance,		Dec. 2020			
	Failure of 2 cascade pumps (final effluent mixing / aeration) Largely contributed to non-compliance at Dekema Largely contributed to non-compliance at Dekema		Pump spares procured delivery Jan. 2021			Requested funding to replace 1 pump.
Vlakplaats	Ferric Chloride dosing system, failure of pumps affecting compliance.		Dec. 2020			
	Disinfection (DBF) dosing system failures, impact on effluent compliance		Replacement of pipework, partially mitigated Nov. 2020	Total replacement / refurbishment. Included in flow diversion project Nov. 2021		
	Failure of the WAS pumps/VSD at mod D		Nov. 2020 VSD delivery Jan. 2021			
	Failure of DAF recycle pump at Mod D. Impact on effluent compliance		Jan. 2021	Replacement of pumps due June 2021		
	Failures of raw sludge transfer pumps.		Partially repaired. Nov. 2020	Replacement of pumps due June 2021		
Waterval	Intermittent aeration equipment trippages at module 4 resulting into effluent non-compliance.		Partially repaired in Q2. Delivery of procured VSD's will take place in January 2021			
	Frequent trippages on newly installed blowers due to faulty and overheating cables. Impact on Modules 2/3 effluent compliance			In phase 2 scope of project. Replacement of cables in February 2021		
All 19 WCW	Asset management plans in line with the approved maintenance policy was developed.	2020.				

WCW	Action taken	No Cost	Opex 1	Capex 1	Opex 2	Capex 2
	The asset plans are not fully implemented due to budget cuts by the COE. As the infrastructure is operating above both hydraulic and organic design capacity, it is a **high risk** that planned maintenance cannot be implemented, which will lead to increased critical equipment failures and negative impact on the final effluent water quality				No date for implementation is available due to budget cuts	

Failure of critical equipment remains a serious challenge, even for the 6 WCWs that attained the water quality targets.

Power outages

Esther Park, Ancor, Welgedacht, Jan Smuts, Tsakane, Heidelberg, Dekema and Vlakplaats were affected by extended power outages impacting on the non-compliance of the plant.

WCW	Source of Supply	Unplanned Power Outages	Duration (Hours)	Planned Outages (Load shedding)	Duration (Hours)	Total Outage (Hours)	Cause
Esther Park	CoE	3	34.5	0	0	32	Substation fault
Ancor	CoE	3	13	0	0	13	Cable theft.
Jan Smuts	CoE	3	22	0	0	22	Failed Switchgear at COE Van Eck substation
Welgedacht	Eskom	3	21	2	18	39	Power outage and planned transformer maintenance(ESKOM)
Tsakane	Eskom	21	92	0	0	195	Power outage experienced as a result of load reduction by Eskom.
Heidelberg	LLM	26	138	1	2	140	Cable theft, weather and damaged cable
Dekema	CoE	0	0	20	76	76	Load Shedding
Vlakplaats	CoE	1	43	6	32	75	Failed Switchgear at CoE and load shedding

The following plants, Benoni, Rynfield, JP Marais, Daveyton, Herbert Bickley, were affected by load shedding, stand-by diesel generators were in place to partially mitigate this risk, therefore the plants final effluent compliance was not adversely

affected. It must be noted that generators for critical processes at some WCW have not yet been procured due to budget constraints, awaiting Capex funding.

WCW	Action taken	ERWAT 5 Step budget model				
		No Cost	Opex1	Capex1	Opex2	Capex2
Ancor	1. The stolen cable was replaced by CoE			Oct. 2020 (COE budget)		No date available, awaiting funding
	2. Procurement of Stand-by diesel generators for critical sections of the WCW.					No date available due to budget not confirmed, awaiting funding.
Jan Smuts	COE repaired switchgear in sub-station		2-3 November 2020			
Welgedacht	Eskom repaired and performed planned maintenance on transformer and switchgear.		1 October and 2 November 2020			
Heidelberg	LLM replaced the stolen cable and they always respond to the call out to outages		24 December 2020			

3. Industrial Action

All 19 WCWs were affected by the illegal Industrial action (Labour strike), which resulted in no compliance sampling or laboratory analysis performed from the 23rd to 27th October. This lack of compliance monitoring and daily Laboratory compliance results had a major impact on the 19 WCWs final effluent Compliance for October 2020 and Q2 of 2020/21.

The illegal strike ended on the evening of 27th October, where after sampling and analysis resumed on 28th October.

Actions taken:

The Business Continuity Management (BCM) plan and Incident Management Protocol (IMP) were updated to include strikes by employees.

Inform and update all relevant stake holders and suppliers/service providers. Loss Control to ensure that all WCWs are safe and prevent access by unauthorized persons (this include employees participating in the strike/industrial action with intention to sabotage the plant processes. All non-striking or non-protesting employees are expected to be at their place of work and to continue the services they are responsible for. Should employees be unable to report or remain at their place of work due to safety concerns, it should be reported.

DEPARTMENTAL SDBIP

1. % 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

- Project progress reports (weekly, quarterly and Annual reports)
- Payments certificates
- Invoices

Q2 Target

40%

Q2 Actual

12.64%

Challenges and Interventions

ERWAT has currently spent R26,032 884.27 million (12.64%) of its capital budget at the end of the second quarter. ERWAT had planned to spend 40% at the end of the second quarter.

2. 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

40%

Q2 Actual

13%

Comment:

NOT Achieved. Expenditure year to date is R12 554 812 / total approved maintenance budget is R96 197 637- to yield overall 13%.

Reasons for not achieving 40% target

1. ERWAT has under spent on repairs and maintenance in total R12 554 812 (planned and ad-hoc) for the second quarter YTD.
2. This under spent is mainly contributable to scheduled maintenance not being performed in Q2 due to the COVID-19 lockdown regulation, this was done to evade overcrowding of personnel at the wastewater treatment plants.
3. Skeleton Maintenance personnel were only utilised for Emergency unforeseen breakdowns.

Action taken to address Challenges

Full maintenance staff compliment will resume work under COVID-19 lock down level 1. therefore, more work schedules will be loaded and executed in Q3 in order for the department to close a gap that was created in Q1 and Q2. Weekly spending tracking tool will be developed to expedite departmental performance in Q3.

3. 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

33.33%

Q2 Actual

74.51%

Comment:

Target Exceeded: Spending on contracts that were previously concluded between ERWAT and an SMME amounted to 33.99% of the total expenditure for the second quarter 20202021

Corrective Measure

No remedial action required.

4. 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

Not reported in Q2

Q2 Actual

Not reported in Q2

Comment:

Not reported in Q2

Reasons for not achieving 40% target

Not reported in Q2

Action taken to address Challenges

Not reported in Q2

1.1. City-Wide/Institutional SDBIP 2020/21

Refer to the City-wide SDBIP 2020/21.

Table1: City-Wide Indicators

Entity	Outcome	Ref No.	Performance Indicator (Output level only)	Description of Portfolio of Evidence Verified	Baseline (2019/20 estimated)	Annual Target for 2020/21	2nd Quarter Planned Output as per SDBIP	2nd Quarter Actual Output	Variation	Actual Output Rating	Progress on Targets	Reason(s) for Variation	Remedial Action	2nd Quarter Planned Budget	2nd Quarter Actual Expenditure
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															
ERWAT	Improved Quality of water (including wastewater)	38	Total revenue generated from external business	Invoices coupled with general ledger with a balance that agree to the amount reported	R50 600 000	R100 000 000	R 30 000 000	R32 426 404	R2 426 404	Target achieved and exceeded	The target was over achieved	The target was overachieved due to Intervention projects which were undertaken by the entity as an Implementing agent which yielded positive results.	No remedial action is required due to the overachievement of the target. The required action is to sustain the acquired revenue.	R5 462 138	R 28 520 496.70
	To build a clean, Capable and Modernised Local State	39	Unqualified Audit Opinion	Unqualified Audit Opinion	Unqualified Audit Opinion	Not reported in Q2	Not reported in Q2	Not reported in Q2	Not reported in Q2	Not reported in Q2	Not reported in Q2	OPEX	Not reported in Q2	Not reported in Q2	Not reported in Q2
IDP Strategic Objective 4: To protect the natural environment and promote resource sustainability															
ERWAT	Improved Quality of water (including wastewater)	62	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	89%	90%	90%	82%	8%	Target not achieved	Target not achieved	1.Industrial pollution incidents 2.Critical Equipment failures 3.Power outages 4. Industrial action by	1a) All incidents are reported to the COE who will manage the clients according to the applicable By-laws.	R123 740 813	R115 673 967

Entity	Outcome	Ref No.	Performance Indicator (Output level only)	Description of Portfolio of Evidence Verified	Baseline (2019/20 estimated)	Annual Target for 2020/21	2nd Quarter Planned Output as per SDBIP	2nd Quarter Actual Output	Variation	Actual Output Rating	Progress on Targets	Reason(s) for Variation	Remedial Action	2nd Quarter Planned Budget	2nd Quarter Actual Expenditure
				calculate over all compliance. Applicable Water use authorization of each Waste Water Treatment Works								ERWAT employees.	1 b) ERWAT and CoE have embarked on a project to develop an improved industrial management model. The CoE to appoint a professional service provider (project has not moved forward due to lack of funding) ERWAT and CoE will work very closely with the PSP. 2a). Revised Asset Management plans to reduce breakdowns. 2b) Due to budget cuts, the asset management plans cannot be implemented in full. 3 Stand-by diesel generators are installed at critical sections of the WCWs to mitigate power outages, however, not all required		

Entity	Outcome	Ref No.	Performance Indicator (Output level only)	Description of Portfolio of Evidence Verified	Baseline (2019/20 estimated)	Annual Target for 2020/21	2nd Quarter Planned Output as per SDBIP	2nd Quarter Actual Output	Variation	Actual Output Rating	Progress on Targets	Reason(s) for Variation	Remedial Action	2nd Quarter Planned Budget	2nd Quarter Actual Expenditure
													generators have been procured as yet due to unavailability of Capex funds. 4. The Business Continuity Management (BCM) plan and Incident Management Protocol (IMP) were updated to include strikes by employees		

1.2. Entity's SDBIP Score card with Key Performance Areas and Indicators 2020/21

Table 2: Entity's SDBIP

Entity	Outcome	Ref No.	Performance Indicator (Output level only)	Description of Portfolio of Evidence Verified	Baseline (2019/20 estimated)	Annual Target for 2020/21	2nd Quarter Planned Output as per SDBIP	2nd Quarter Actual Output	Variation	Actual Output Rating	Progress on Targets	Reason(s) for Variation	Remedial Action	2nd Quarter Planned Budget	2nd Quarter Actual Expenditure
IDP Strategic Objective 2: To build a clean, capable and modernized local state															
ERWAT	Improved Quality of Water including Wastewater	1.M	Percentage Capital expenditure on planned projects	Finance year to date expenditure report	95%	95%	40%	12..64%	-27.36%	Quarterly planned Target not met	Expenditure Acceleration plan in place to ensure that 70% in Q3 target is achieved	Refer to below [reasons for not achieving the target.]	Expenditure Acceleration plan is implemented and being monitored	R 82 400 000	R 26 032 884.27
	Improved Quality of Water including Wastewater	2.M	Percentage of repairs and maintenance budget spent	Finance year to date expenditure report	84%	90%	40%	13%	27%	NOT Achieved.	NOT Achieved.	ERWAT has under spent on repairs and maintenance in total R12 554 812 (planned and ad-hoc) for the second quarter YTD. This under spent is mainly contributable to scheduled maintenance not being performed in Q2 due to the COVID-19 lockdown regulation, this was done to evade overcrowdin	Full maintenance staff compliment will resume work under Covid lock down level 1. therefore, more work schedules will be loaded and executed in Q3 in order for the department to close a gap that was created in Q1 and Q2. Weekly spending tracking tool will be developed to expedite departmental	R38 479 055	R12 554 812

Entity	Outcome	Ref No.	Performance Indicator (Output level only)	Description of Portfolio of Evidence Verified	Baseline (2019/20 estimated)	Annual Target for 2020/21	2nd Quarter Planned Output as per SDBIP	2nd Quarter Actual Output	Variation	Actual Output Rating	Progress on Targets	Reason(s) for Variation	Remedial Action	2nd Quarter Planned Budget	2nd Quarter Actual Expenditure
												g of personnel at the wastewater treatment plants. Skeleton Maintenance personnel were only utilised for Emergency unforeseen breakdowns.	performance in Q3.		
	Improved Quality of Water including Wastewater	3.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	R14 184 369	33.33%	33.33%	74.51%	41.18%	Exceeded	Exceeded	Spending on contracts that were previously concluded between ERWAT and an SMME amounted to 33.99% of the total expenditure for the second quarter 20202021. 40.52% of the spend in relation to SMME's occurred as a result of new contract awards to SMME's. The reason	No remedial action required.	R16 302 813	R14,294,236.21

Entity	Outcome	Ref No.	Performance Indicator (Output level only)	Description of Portfolio of Evidence Verified	Baseline (2019/20 estimated)	Annual Target for 2020/21	2nd Quarter Planned Output as per SDBIP	2nd Quarter Actual Output	Variation	Actual Output Rating	Progress on Targets	Reason(s) for Variation	Remedial Action	2nd Quarter Planned Budget	2nd Quarter Actual Expenditure
												for awarding a large proportion of expenditure to SMME's was that the majority of the responses received for bids issues to the market were from bidders who are SMME's.			
	Improved Quality of Water including Wastewater	4.M	Number repeat audit findings	AGSA signed management letter	4	0	0	Not reported in Q2	Not reported in Q2	Not reported in Q2	Not reported in Q2	Not reported in Q2	Not reported in Q2	OPEX	R435,796,593

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

A Flows

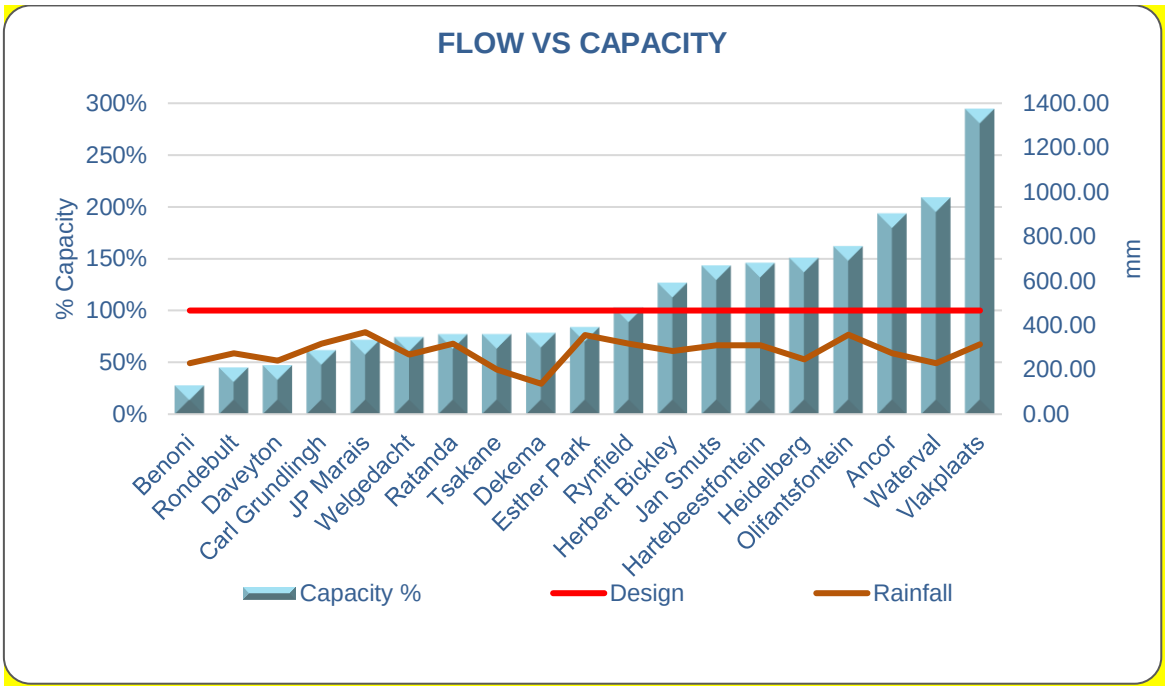


Figure 1

A total of 86 595Ml was treated in QUARTER 2, at an average of 941 Ml/day, utilising 143% of the capacity.

1.4. Service Delivery Highlights and Challenges

Flows

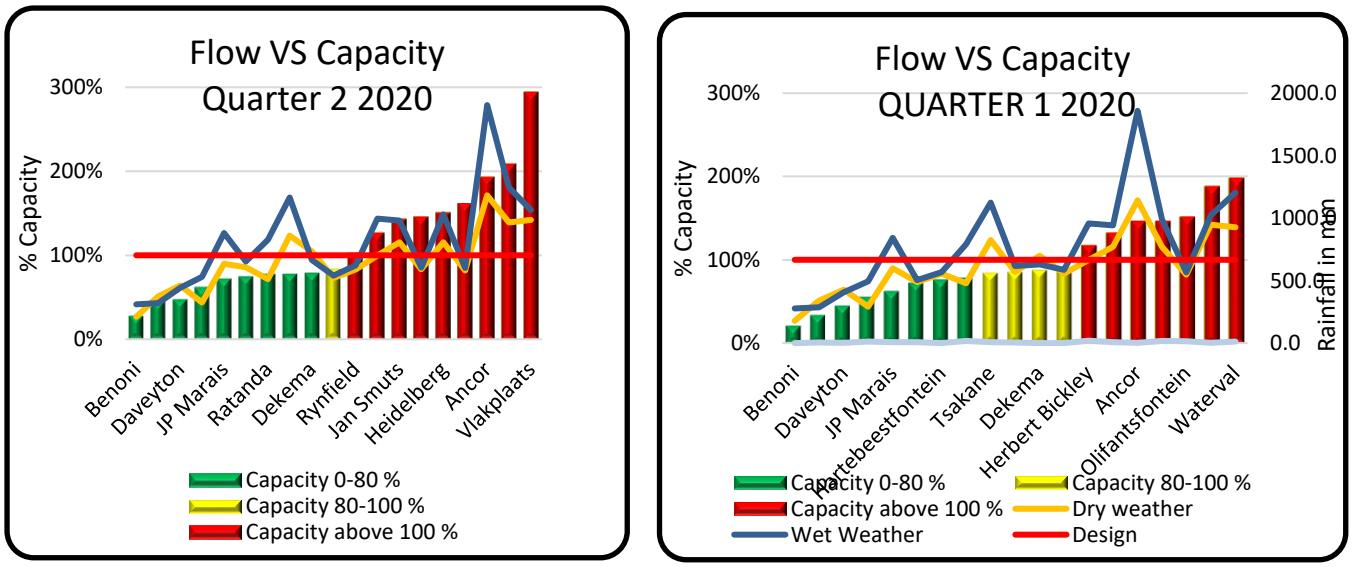


Figure 2

As can be noted in the above graph, during Q2 nine (9) out of nineteen WCW were operating above their hydraulic design capacity, 1 between 80-100% of its hydraulic capacity and nine (9) below their hydraulic design capacity.. In Q1 seven (7)

out of the nineteen (19) WCW were operating above their design capacity, four (4) operating between 80% and 100%, and eight (8) operating below the 80% mark.

Ancor operated at 193%, Heidelberg at 151%, Jan Smuts at 143% and Herbert Bickley at 127% Olifantsfontein at 162% of its capacity, with large regional plants such as Vlakplaats operating at 294% and Waterval operating at 209%. Additional capacity is urgently needed.

Plant	Design Capacity	Flow	Rainfall
Ancor	15.00	29.00	274
Benoni	16.00	4.47	229
Carl Grundlingh	5.21	3.22	317
Daveyton	19.00	9.00	241
Dekema	31.00	24.35	137
Esther Park	1.00	0.84	356
Hartebeestfontein	63.00	91.87	309
Heidelberg	5.40	8.15	246
Herbert Bickley	15.10	19.15	284
Jan Smuts	6.00	8.61	310
JP Marais	15.00	10.76	369
Olifantsfontein	65.00	105.15	357
Ratanda	4.70	3.63	318
Rondebult	20.00	9.00	274
Rynfield	10.00	10.29	318
Tsakane	20.00	15.46	200
Vlakplaats	55.00	161.80	315
Waterval	170.00	355.26	230
Welgedacht	95.00	70.77	269

Although Heidelberg, Herbert Bickley and Waterval achieved their water quality targets, they are operating above their hydraulic design capacity with an ever increasing risk of incidents of non-compliance escalating up to full non-compliance of the plants. (Refer to Section 3.4 for details per plant)

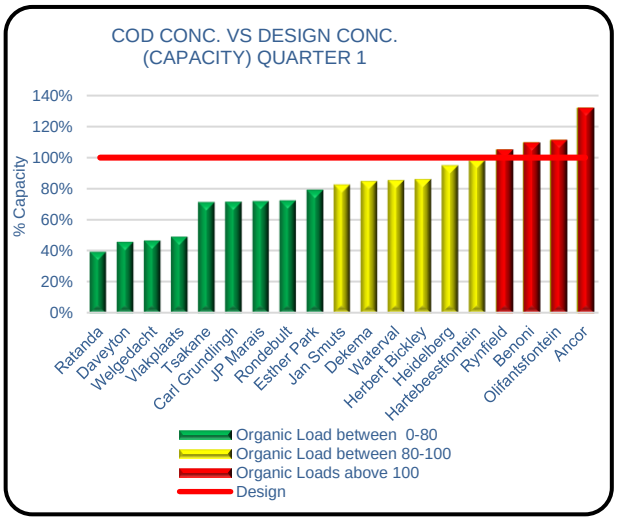
ERWAT does not have Capex funds to extend/upgrade the WCW that require additional capacity, and therefore have serious challenges in supporting the CoE in meeting the Growth Development Strategy (GDS2055) and the development of the Aerotropolis.

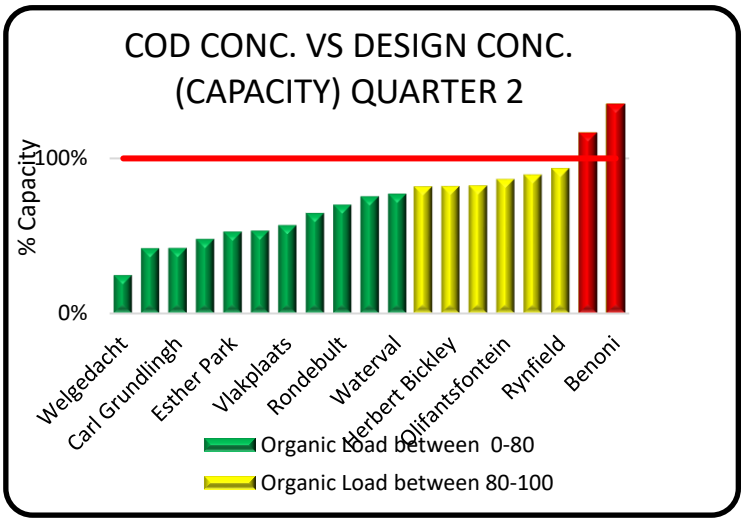
Action taken:

WCW	Action taken	ERWAT 5 Step budget model				
		No Cost	Opex1	Capex1	Opex2	Capex2
Olifantsfontein	Phase 1 a and b capacity projects are at implementation stage, expected completion is the end of Q3. Phase I c will be advertised at the beginning of Q3.			R 75 662 K R20 M (Phase 1a & b) R55 662 K (Phase 1c)		
Hartebeesfontein	Expression of interest tender for the upgrade/ retrofit of treatment technology and associated infrastructure or new build has been advertised.	Closing date:5 February2021				No dates for the upgrade of the various WCW are available as Capex funding is not available.
Ancor	Expression of interest tender for the upgrade/ retrofit of treatment technology and associated infrastructure or new build has been advertised.	Closing date:5 February 2021				No dates for the upgrade of the various WCW are available as Capex funding is not available.
Jan Smuts	Expression of interest for the upgrade/retrofit of treatment technology and associated infrastructure or new build has been advertised.	Closing date:5 February 2021				No date for the upgrade of the WCW is available as Capex funds is not available.
Welgedacht	Expression of interest for the upgrade/retrofit of treatment technology and associated infrastructure or new build has been advertised Extension of the WCW (future Module 3)	Closing date:5 February 2021.				No date for the upgrade of the WCW is available as Capex funds is not available.
Heidelberg	Expression of interest for the upgrade/retrofit of treatment technology and associated infrastructure or new build has been advertised Extension of the WCW (future Module 3)	Closing date:5 February 2021				No date for the upgrade of the WCW is available as Capex funds is not available.
Herbert Bickley	Expression of interest for the upgrade/retrofit of treatment technology and associated infrastructure or new build has been advertised Extension of the WCW (future Module 3)	Closing date:5 February 2021.				No date for the upgrade of the WCW is available as Capex funds is not available.
Vlakplaats	Expression of interest for the upgrade/retrofit of	Closing date:5				No date for the upgrade

WCW	Action taken	ERWAT 5 Step budget model				
		No Cost	Opex1	Capex1	Opex2	Capex2
	treatment technology and associated infrastructure or new build has been advertised Extension of the WCW (future Module 3)	February 2021.				of the WCW is available as Capex funds is not available.
Waterval	Expression of interest for the upgrade/retrofit of treatment technology and associated infrastructure or new build has been advertised Extension of the WCW (future Module 3)	Closing date:5 February 2021.				No date for the upgrade of the WCW is available as Capex funds is not available.
All WCWs	1). ERWAT has developed a 5- year CAPEX plan detailing all required CAPEX upgrades and refurbishments 2).ERWAT's request is that the CoE fairly and proportionally reallocate the Bulk infrastructure grants, which will at least enable ERWAT to refurbish and optimise infrastructure. ERWAT has subsequently submitted a report to the Department of Water and Sanitation detailing the risks associated with the lack of capacity at the ERWAT plants in detail, and the associated costs to mitigate the risks 3). The report is to be taken through all the required COE processes for comments and eventually to Council	Completed 2020. In progress.				

2. Organic Loads





As can be noted, for Q2, 2 WCWs operated above 100% of its organic capacity, 6 WCWs between 80-100% and 11 below their design capacity. Due to the closing of some industries during the Festive Season, the profile of the WCWs organic loading has changed when compared to Q1.

3. Ageing infrastructure

Several WCWs have challenges with failed civil structures where rehabilitation/repairs are urgently required. Where failed structures had to be closed out, the available capacity at the WCW such as Olifantsfontein, Ancor, and Jan Smuts is further reduced, impacting compliance of WCW.

Actions taken:

Deteriorating Civil Structures at the WCW's

Plant	Description	Actions Taken	No Cost	Opex 1	Capex 1	Opex 2	Capex 2
Olifantsfontein	An intervention project commenced at Olifantsfontein to refurbish infrastructure in order to restore the plant's capacity to its original state.	Olifantsfontein operated at a hydraulic capacity of 105.5 Ml/d exceeding the new regraded design capacity of 65 ML/d, without Module 3 collapsed PST and the Biofilters, affecting the water quality compliance negatively. Although phase 1a and 1b project are in implementation phase with phase 1c at the bid			R 75 662 K R20 M (Phase 1a & b) R55 662 K (Phase 1c)		

		specification phase, they are not going to address the current operational capacity challenges of 162% as the new capacity regrading of 64.6 (65) Ml/d without Module 3 PST and Biofilters which is the current status and 71.7 (72 Ml/d with module 3 PST is recommended					
Hartebeestfontein	Effluent pipe leak	The projects of replacing the pipe was canned due to budget constraints.			R1 000 000		
Esther Park	Leaking reactor wall						R 500 000
Ancor	Biofilter distribution towers are severely compromised due to the failing concrete structures leading to ineffective distribution of feed water to the biofilters	Rehabilitate/rebuild the Biofilter distribution towers			30 June 2021.		
	The dosing facility infrastructure has reached the end of their lifespan and are ineffective to disinfect the final effluent to the required standards.	Chlorine facility to be upgraded and new chlorine contact channel to be constructed..					Date cannot be confirmed as Capex funding is not available.
Jan Smuts	1). Refurbishment of civil structure of Digester 1 (currently closed).				30 June 2021		
Ratanda	Drying beds leaking				30 June 2021		
Heidelberg	The joint sealants of Carousel reactor concrete wall are damaged	Escalated the risk to the W2RAP, no funds to execute					Date cannot be confirmed as Capex funding is not available

Herbert Bickley	1.Cracked digesters and bio-filters						Date cannot be confirmed as Capex funding is not available
	2. Replacement of Bio-filter arms					30 April 2021	
Tsakane	1.Digester structure cracked						Date cannot be confirmed as Capex funding is not available
	2.channel for raw sewage feeding HYBACS concrete structures cracked and leaking						Date cannot be confirmed as Capex funding is not available

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 did not comply with WUL effluent standards Physical: 95% Chemical:93% Micro:79%,therefore October overall compliance =89%	Plant operated at 28 % of hydraulic capacity	Plant operated at 135 % of organic capacity	Flow interruptions since July due to Tom Jones pump station which is the main source being operated manually by the security guards deployed by CoE	There were 14 High strength COD pollution incidents	1 reoccurring critical equipment failure of chlorination system from Q1 which affected mostly the micro compliance	There was one power failure in Q2 and duration was only 20 minutes	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 pollution	N/A	N/A	Sludge classification samples taken to ERWAT scientific services, awaiting results. Current sludge classification A2c 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 WUL effluent standards for Q2 20/ 21 Physical: 93% Chemical: 85% Micro: 87%. Q2 overall compliance = 87%	Plant operated at 84 % of hydraulic capacity	Plant operated at 53 % of organic capacity	Flows were above hydraulic capacity for 17 out of 92 days for Quarter 2	Industrial effluent pollution in Quarter 2.	3x critical equipment failures occurred in the quarter that affected ammonia, COD and micro compliance. (Chlorine dosing, Aerator no1, RAS pump no2)	3x power failure recorded in Q2 lasting for total downtime of 34.5 hours	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
Hartebeestfontein	Plant did not comply with WUL effluent standard. Q2 Overall Compliance = 80%	Plant operated at 159% of hydraulic capacity	Plant operated at 75% of organic capacity	Plant received Abnormal fluctuations in inflows on 35 of 92 days with an average of 100.075 Ml/d	Plant received industrial high strength effluent on 5 of 92 days in Quarter 2	28 Critical equipment failures occurred Quarter 2	1 Power failure during Quarter 2 occurred for 1 hour	Aging concrete on plant infrastructure.	Digester 6 & 9 sludge recirculation nozzles blocked	There were no veld fires experience in Quarter 2	987688 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	Sludge classification is B2c, not suitable for the intended purpose; this requires further engagement with the farmer.	ABS blower Chlorine dosing system Standby generator Online monitoring	There were multiple portable water leaks around the plant during quarter 2.

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
														COD was granted in July 2019	Sludge samples were taken in August 2020 for classification	instruments Inlet blockages and Industrial action	
Olifantsfontein	Plant did not comply with WUL effluent standard Plant complied with 75% compliance in Q2	Plant operated at 162% of hydraulic capacity	Plant operated at 117 % over the organic capacity	Abnormal fluctuations in inflows in October & November 2020, were seen in November 2020 when raining with maximum flow of 177 Ml/d on the 5th of December 2020	Plant received industrial high strength effluent (very high Electrical Conductivity above 100 mS/m) on 42 of 91 days. Plant also experiences fine sand ingress	49 critical equipment failures occurred in Q2	There was no Power failure on Q2	Module 3, Anaerobic digesters.	Digester 4 of 6 digesters are blocked due to sand accumulation	None	1 410 904 kg in Q2 Sludge is disposed on different farms around Bapsfontein area and is used for agricultural purposes	Unlined emergency dams contaminating borehole no.2&3	2 x Sinkholes behind and in front of the old laboratory which occurred in Dec 2019 still not rehabilitated	Olifantsfontein WUL is stringent on Ammonia of < 2mg/l, SS of 15 mg/l and and EC of < 80 mS/m.	Sludge is classified into two streams: (1). Dewatering unit(B3a), the sludge not suitable for cultivating crops such as fruits trees (2). Drying beds (A1a), No restrictions and requirements apply	Road to upstream sampling point need to be graded and there is high erosion on the banks. To be reported to the CoE..	No Challenges
Rynfield	Plant complied with WUL effluent standards Physical: 94% Chemical: 84% Micro: 78 %, therefore Q2 2020 overall compliance = 85 %.	Plant operated at 103 % of hydraulic capacity	Plant operated at 93 % of organic capacity	Octomberand November 2020.flow dropped because N12 pump station flooding to the river	None	10 critical equipment failures occurred in Q 2 2020 that affected micro compliance and Chemical	1-power failure that lasted 4 hours	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	Sludge classification not yet classified. 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 complied with WUL effluent standards for Q2 Physical: 74% Chemical:58% Micro:22%,therefore Q2 overall compliance =52%	Plant operated at 182 % of hydraulic capacity	Plant operated at 107% of organic capacity. Contributing Factor was the industries that restarted at the beginning of the quarter	Ancor experienced normal flow during the Q2, but are still over the hydraulic capacity. The RSA Covid - 19 lockdown also reduces flows but the loads organically is still high, effecting compliance	Plant received high COD industrial effluent on 47 days. In Q2 Increase due to industries that started after lockdown moved to level 3	14 critical equipment failures occurred in Q2, namely: 4 failures on the ferric chloride dosing system, 4 x mechanical screens in QUARTER 2; 2 failures of the chlorine system, raw sludge pumps to digesters failed and was repaired, humus sludge pumps and degritter broke down .	2 outages occurred (13 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 are 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 veld fires occurred during Q1.	Stockpile and sludge paddies 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	Solid waste (screenings and grit) is removed by CoE.	Road in very bad condition, potholes was repaired.	
Daveyton	Plant compliance for Q2 is 92%.	Plant operated at 47% of its hydraulic capacity.	Sufficient capacity. Plant operated at 50% of its organic capacity.	Numerous sewer blockages in the CoE network and potable water supply interruption to Etwatwa lead to inconsistent and irregular	N/A. Domestic only.	5 Critical equipment failures occurred in Q2, namely: Screw conveyor at inlet works, Scum box for clarifier #1, The WAS valve	3 power outages occurred (5 hours total). The Generator for the plant failed. Investigation is being conducted	Small crack on the CCT sidewall. (Do not have effect on the operation at the moment) Suspected broken pipe	N/A	Veld fires pose a risk during winter, but no incidents during Q2.	Sludge pumped to 2 lined lagoons, and when they are full, sludge overflow to 3 unlined lagoons for solar drying.	Unlined sludge lagoons pollute the ground water.	N/A	N/A	CoE removes solid waste (screenings and grit).	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
				flow to the plant.		and Aerators.	on the cause of failure.	underground between reactor and clarifiers.			Space for drying is not sufficient and there are no boreholes at the sludge lagoons to monitor the ground water. This is noncompliance to WUL conditions.						
JP Marais	Plant compliance for Q2 is 92%.	Sufficient capacity. Plant operated at 72% of hydraulic capacity	Sufficient capacity. Plant operated at 53% of organic capacity	None.	None	36 critical equipment failures occurred in Q2, namely; PST gearbox motor (3 times), WAS level meter (2 time), WAS pumps (15 times), RAS pumps (8 Aerators (2 times), High mas lights (1 time), Degritter pump (1 time), Inflow meter (x1), Irrigation pump (x1) and Chlorine pumps (2 times)	8 Power outages (68 hours total). 2 x Backup generators available. BNR generator budgeted for 2021/2022 Capex	None.	N/A	No veldfires occurred during Q2	Sludge pumped to Welgedacht, where it is treated.	Some boreholes polluted. Boreholes monitored monthly.	No dolomitic soil	N/A	Solid waste (screenings and grit) removed by CoE.	Road in a good condition	

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
Welgedacht	Plant compliance for Q2 is 85.4%	Plant has sufficient capacity. (operated at 74% capacity)	Sufficient capacity Plant operated at 25% organic capacity.	Plant operational flow decreased from 86% to 74 % due to old McComb sewer line into the plant in November affecting plant flow	Only one industrial influent within quarter 2 which is coloured influent	77 critical equipment failures occurred in Q2. namely; Faulty SCADA communication x1, Defective Chlorine system x13, tripping aerators x 5, Recycle pump x 3, Grit systemX4, Raw sampling Machine x 3, Blockages Ferric pipes X5, RAS pumps) X2, Compactor x 3, Fluidization pump x 1, Power outages x 5, Tripping Blowers x9, Blocked old Mc Comb Sewer line x1, Contact tank desludging pumpx1, Sludge pumps x3, PST Bridge Reactor A x 3 and Grit classifier x 4. Dewatering	5 Power outages (39 hours total). Backup generator available excluding Module 1 reactor.	Sand accumulation in the BNR module 1, due to the module being operated above its capacity before module 2 was commissioned in 2016 .This leads to reduced capacity of the reactor a and failure of reactor critical equipment like mixers and internal A-recycle pumps	N/A	No veldfires occurred during Q2.	Sludge removed from site to the farmers. Disposal of sludge remain major challenge and due to the seasonal demand of the product	Unlined Dechlorination channels and Emergency dam	N/A	Very strict WUL standard for Micro compliance(E.coli) zero counts /100ml.	Solid waste (screenings and grit) is removed by CoE.	Gravel access road in very bad conditions and very slippery when wet.	No potable water supply to the plant. Borehole water used for hygiene activities. Drinking water is being trucked 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
						screw conveyorX10, Wash water pumpX1, Level sensor for sludge sumpX2,Filter belt drivesX1, Poly make up system X2 and sludge to land pumpX1.											
Jan Smuts	Plant compliance for Q2 is 80% Non-compliant parameters: Chemical 67% , Physical 86% and Micro 87%	Plant operated at 143% of its hydraulic capacity	Plant operated at 82% of its organic capacity.	Several blockage in the CoE sewer network.	Plant received industrial high strength effluent on 6 of 92 days.	1 critical equipment failures occurred in Q2. Chlorine dosing system cracked gas pipe.	3 power failure (22 hours) Generator backup available for entire plant.	Humus Tanks scum boards, digester number 2's wall and the bio-filters' feed flow division box/tower.		None	Dried sludge is stockpiled on site.	Unlined sludge stockpile area can cause groundwater pollution.	N/A	N/A	Screenings are incinerated at the plant and the grit is buried at the plant. This practice does not comply with WUL conditions.	N/A	N/A
Heidelberg	Plant Compliance for Q2 is (89%). Physical 94,62%,Chemical 84.88% and Micro 88%	Plant operated at 151% of its hydraulic capacity	Plant operated at 85% of organic capacity	High incoming flows in all the days in Q2	Plant received high COD industrial effluent on 25 of 92 days and high SS on 21 days of 92	8 Critical equipment failures for Q2 (2x aerator; 2x Clarifier Bridge, 1x generator, 2x power feed cable at substation and 1x degritter conveyor)	Heidelberg had 27 power outage with a duration of 140 hours. 2hours was due to load shedding and 138 hours due to cable theft and other faults from Municipality in Q2. Diesel used was 11225L	The joint sealants of Carousel reactor concrete wall are damaged	None	No veldfires occurred during Q2.	Sludge at the plant stockpiled after dewatering , and is also applied/irrigated 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 are still being buried and this practice is not environmental friendly. Potential groundwater pollution	The access road to Heidelberg works is severely damaged 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	**Herbet Bickley** Plant Complied with WUL effluent standards (96.0%)	Plant operated at 127% of hydraulic capacity	Plant operated at 111% of organic capacity	High incoming flows in November due to 121 mm rainfall.	Plant received industrial high strength effluent on 8 of 61 days	13 Critical Equipment (booster pumps, sludge to land pump, chlorine dosing systems, RAS Pumps and raw sludge recycle and desludging pump)	Herbert Bickley had 4 power outages	Anaerobic digesters cracked concrete structures	6 out of 8 digesters not in use due to blockages and leaking digester pipes	No veldfires occurred during Q2.	Sludge used for irrigation at instant lawn	Borehole no.4 showed high count of E.coli in October	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 82.03%.	Sufficient capacity. Plant operated at 77% of hydraulic capacity	Sufficient capacity. Plant operated at 81% of organic capacity	None.	None	24 critical equipment failures occurred in Q2, namely; both PST pump blockages (6 times), Scum pump no.1(1 time), Mechanical fine screen no.1 (2 times), RAS pumps (4 Aerator no.3 (1 time), Degritter pump no.1 & 2 (3 times), A-recycle pump no.2 (1 time), Chlorine system (4 times) and Generator (2 times)	29 Power outages as a result of load reduction implemented by Eskom (92 hours total). 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	Access road to the plant is damaged and requires an upgrade	Potable water leak next to Tsakane hostel, created a wetland.

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
Carl Grundling	Plant Complied with WUL effluent standards (98.6%)	Plant operated at 61.0% of its hydraulic capacity	Plant operated at 45% of organic capacity	None	None	2 Critical equipment failures for Q2 (2x Brush Aerators)	No power outage	None	N/A	No veldfires occurred during Q1	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 (92.50 %)	Plant operated at 78% of its hydraulic capacity	Plant operated at 81.44% of organic capacity	Experienced 1 incident, of low inflow to the plant On 05th November 2020 due to blocked manhole at extension 8 of Ratanda Township, Lesedi LM, DWS and Kareen beef informed	None	3 Critical equipment failures for Q2 (1xChlorine booster;1x Aerator and1x generator)	Ratanda had 6 power outages with a total duration of 36 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
Dekema	**DEKEMA** Plant did not comply with WUL effluent standards. Non-compliant parameters: Physical 79% Chemical 60% Micro 56% Average compliance: 65%	Plant operated at 88 % of hydraulic capacity	Sufficient capacity. Plant operated at 73% organic capacity	Plant received high flows on 2 out of 92 days	Plant received high COD industrial effluent on 3 of 92 days	20 Critical equipment failures occurred in Q2, namely breakdown of 1 sludge withdrawal pump,2 wash water pumps,1 degritter pump and 2 cascade pumps (final effluent mixing / aeration) Q1 – 20 Critical equipment failures -4 x	20 Outages occur (76 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 (grit is buried on-site in a trench).	None	N/A	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
						flow meters , 1 composite sampler , 4 x sludge pump , 1 x grit pump ,1 x broken arms of degritter , 2 x humus tank centre column , 1 x ferric pump , 1 x Generator , 1 x fine screen winch , 1 x biofilter, 2 x cascade pumps , 1 x MCC electrical panel											
Rondebult	Plant did comply with WUL effluent standard Average compliance: 90.49% Compliant Parameters- Physical – 90.83% Chemical: 92.47% Micro: 88.17%	Plant operated at 45% of hydraulic capacity.	Plant operated at 70% of organic capacity.	High and low, flows due to the sluice gate installed at Klippoortjie. High flows of up to 17.16 Ml/day.	Plant received industrial high COD effluent on 3 of 92 days and 3 ad hoc incidents of industrial pollution were observed and reported	15 Critical equipment failures for Q2 as to 8 Critical equipment failures for Q1. Namely 3 faulty main office building electrical panel, 3 failures on the ferric chloride dosing system, 2 Humus recycling pumps and 7 x Secondary bio filter feed	6 Outages occur (62 hours in total) due to power interruptions.) Load shedding and 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	No veld fires occurred during Q2 versus 1 during Q1.	Dried sludge is spread on to land and plough into land.	Unlawful disposal of grit and screenings (grit is 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 deterioratin g fast and will need attention soon.	Undergrou nd rusted pipe works needs to be replaced

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
						pumps failures.											
Vlakplaats	Plant did not comply with WUL effluent standards: Average compliance: 53.41% Compliant Parameters- Physical – 55.26% Chemical: 51.94% Micro: 23.04%	Plant operated at 195.09% of hydraulic capacity. Needs to be upgraded	Plant operated at 52% of organic capacity	High flows of up to 135 Ml/day occurred from dates due to storm water ingress. Rainfall measured at the plant was 0 mm.	Plant received industrial high strength effluent on 0 of 92 days	18 Critical equipment failures occurred in Q2 - Namely: 5 failures of the ferric chloride dosing system. 8 failures of the DBF dosing system, 3 failures of the WAS pumps/VSD, 3 failures of Generators, 8 Failures of DAF recycle pump,16 failures of raw sludge transfer pumps.	7 Outages occur (75 hours in total) Load shedding is a big 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	
Waterval	Plant did not comply with WUL effluent standards: Average compliance: 77.08% Compliant Parameters- Physical – 85.20%	Plant operated above capacity (operated at 209% capacity)	Sufficient capacity Plant operated at 84.67% organic capacity.	Average flow of up to 336.2 Ml/day received due to developments and bypasses for upstream plants.	Plant received industrial high strength effluent on 12 of 92 days. Plant is receiving and treating 30	54 Critical equipment failures occurred in Q2 Mainly from 6 x DAF Recirculation pumps, DAF transfer pump failure, 1x	None	None	None	2 veld fires 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
	Chemical: 67.63% Micro: 78.42%				m^3 of leachate daily from EnviroServ	Compressor failures, 12 x aerators and blower trippages, 2 x RAS and screw pump failure, 2 x scum pump failures, 1 x draw off pump failures, 2 x Axial pump failures, 2 x Chlorine hoist, wash water failure, wash water pump failure, 4 x transfer pump failures, 3 x WAS pump failures, 7 x screen failure, 9 x Cornel pump, belt press and spent wash failures, 1x THS auto sampler failure											

1.1. 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 provides 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).

2.1.1 Ancor WCW
2.1.2 Vlakplaats WCW
2.1.3 Welgedacht WCW
2.1.4 Herbert Bickely WWTW
2.1.5 Waterval WWTW

These Mega Catalytic Project

2.1.1. Ancor WCW

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.	The commissioning of the project is subject to the availability of funds.

	PLANNED PROJECTS	BUDGET REQUIRED	STATUS /COMMENTS	COMMISSIONING DATE
			Pending availability of funds, the R 351 000 000.00 budget required will accommodate 30 Mℓ/d of 52 Mℓ/d.	

2.1.2 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/Retro fit-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/Retro fit-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 commissioning of the project is anticipated to be 2020/2021 Pending availability of funds.

2.1.3 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.

2.1.4 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.

2.1.5 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 debottlenecking 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 accommodate 50 Mℓ/d of 584 Mℓ/d for design-built.	The anticipated date for commissioning is 2023/2024 Pending availability of funds
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

EXPENDITURE BY SOURCE	BUDGET ANNUAL	BUDGET FOR 6 MONTHS DECEMBER 2020	ACTUAL YEAR TO DATE DECEMBER 2020	VARIANCE YTD ACTUAL VS YTD BUDGET	VARIANCE % YTD BUDGET VS YTD ACTUAL	VARIANCE YTD ACTUAL VS BUDGET
Employee Related Costs - Salaries & Wages	398,147,283	199,073,642	179,419,212	(19,654,430)	-10%	(179,419,212)
Remuneration of Directors	4,040,764	2,020,382	982,020	(1,038,362)	-51%	(982,020)
Bad Debts (Provision for Bad Debts)	1,625,838	812,919	(65,315)	(878,234)	-108%	65,315
Depreciation	105,500,000	52,750,000	52,449,999	(300,001)	-1%	(52,449,999)
Pumpstations	68,563,449	17,140,862	18,014,260	873,397	5%	(18,014,260)
Repairs and Maintenance	96,197,637	48,098,819	12,554,812	(35,544,006)	-74%	(12,554,812)
Interest Expense	48,464,563	24,232,282	12,423,701	(11,808,581)	-49%	(12,423,701)
Intervention Expenses	-	-	3,377,837	3,377,837	0%	(3,377,837)
Bulk purchases	269,945,255	134,972,628	117,473,937	(17,498,691)	-13%	(117,473,937)
General Expenses - Other	111,635,305	55,817,653	39,166,130	(16,651,523)	-30%	(39,166,130)
TOTAL OPERATING EXPENDITURE	1,104,120,094	534,919,185	435,796,593	(99,122,592)	-19%	(414,404,497)

Employee related cost (including remuneration of Directors): R180 million spent against a budget of R201 million resulting in a negative variance of R21 million (10.29%). The reason for this variance is that positions which were expected to be filled during the first and second quarters of the financial year had not yet been filled. It is expected that the expenditure on Employee related cost will be close to the budgeted figure at year end.

Provision for Bad Debts: R65,315 income against a budget of R812,919 expense budget. The reason for this variance is that the debtors days had reduced month to month, and the the Bad debt provision was reduced accordingly.

Repairs and Maintenance: R12,5 million spent against a budget of R48 million resulting in a negative variance of R35,5 million (74%). This under spent is mainly contributable to scheduled maintenance not being performed in Q2 due to the COVID-19 lockdown regulation, this was done to evade overcrowding of personnel at the wastewater treatment plants. Skeleton Maintenance personnel were only utilised for Emergency unforeseen breakdowns.

Interest expenditure: R12,4 million spent against a budget of R24,2 million resulting in a negative variance of R11,8 million (49%). ERWAT has saved on interest expenditure due to the continuation of lower than anticipated interest rates.

Bulk purchases: R117,4 million spent against a budget of R135 million resulting in a negative variance of R17,5 million (-13%). It is expected that this variance will be drastically reduced at year end as ERWAT is billed a correcting amount during June 2020 to align billing based on estimates with the actual amounts.

General Expenses – Other: R39,2 million spent against a budget of R55,8 million resulting in a negative variance of R16,6 million (30%). The reason for the underspending are as follows:

1. Feasibility studies that will only be conducted later during the financial period
2. Better than anticipated rates obtained on the contract for printer rental through utilisation of a transversal contract.

3. Tighter cost control over travel, fuel and telecommunication expenses.
4. Lower than anticipated legal costs for advice and litigation
5. Lower than anticipated spending on security services

Table 6: Capital expenditure

Account No	Description	Budget	Total CAPEX spend	% Spend
73536449420TCXBHZZER	PPE COST SANIT INFRASTR COST ACQUISITION	85 140 000,00	7 003 076,77	8%
73536460020TCXBAZZER	PPE COST FURN & OFF IU COST ACQUISITION	6 000 000,00	32 094,01	1%
73546449420TCXBHZZER	PPE COST SANIT INFRASTR COST ACQUISITION	12 085 000,00	2 052 236,67	17%
73616449420TCXBHZZER	ANCOR WWTW UPGRADE PROJECT	16 815 000,00	-	0%
73626449420TCXBHZZER	PPE COST SANIT INFRASTR COST ACQUISITION	385 000,00	-	0%
73646449420TCXBHZZER	HEIDELBERG WWTW UPGRADE PROJECT	8 980 000,00	65 600,00	1%
73676449420TCXBHZZER	PPE COST SANIT INFRASTR COST ACQUISITION	110 000,00	-	0%
73686449420TCXBHZZER	PPE COST SANIT INFRASTR COST ACQUISITION	1 550 000,00	-	0%
73696449420TCXBHZZER	PPE COST SANIT INFRASTR COST ACQUISITION	1 900 000,00	-	0%
73706449420TCXBHZZER	PPE COST SANIT INFRASTR COST ACQUISITION	520 000,00	49 900,00	10%
73716449421TCXBHZZER	PPE COST SANIT INFRASTR COST ACQUISITION	16 370 000,00	1 096 836,30	7%
73716456020TCXBCZZER	PPE COST MACH & EQP IU COST ACQUISITION	2 760 000,00	-	0%
73726449420TCXBHZZER	PPE COST SANIT INFRASTR COST ACQUISITION	8 895 000,00	102 800,00	1%
73816449420TCXBHZZER	PPE COST SANIT INFRASTR COST ACQUISITION	3 060 000,00	49 900,00	2%
73826449420TCXBHZZER	PPE COST SANIT INFRASTR COST ACQUISITION	2 000 000,00	156 000,00	8%
73836449420TCXBHZZER	PPE COST SANIT INFRASTR COST ACQUISITION	26 010 000,00	15 356 978,87	59%
73846449420TCXBHZZER	PPE COST SANIT INFRASTR COST ACQUISITION	13 420 000,00	67 461,65	1%
TOTAL		**206 000 000,00**	**26 032 884,27**	**12,64%**

ERWAT has currently spent **R26,03 million (12,64%)** of its capital budget at the end of the second quarter. ERWAT had planned to spend 40% at the end of the second quarter.

Capital expenditure

Item	Project Detail	Total Original Budget	Total Revised Budget (applicable only after Adjustment)	Budget for Quarter	Actual for Quarter 2	Variance	Total Budget for the year	Actual for FY (Yr to date)	Variance for year (Yr to date)	% Completion
1	VLAKPLAATS FLOW DISTRIBUTION	R 22,915,000.00	N/A	R 15,000,000.00	R13,800,342.97	R 1,199,657.03	R 22,915,000.00	R 13,800,342.97	R 9,114,657.03	70.00%
2	Olifantsfontein WCW: Biofilter Upgrade Project construction Phase 1	R 20,000,000.00	N/A	R 3 000 000	R 1,821,184.67	R -	R 20,000,000.00	R 8,824,261.44	R 13,169,398.23	90.00%
3	Replacement of blowers contracts 1 and 2 (cont) yr 2	R 5,595,000.00	N/A	R 10,363.19	R10,363.19	R -	R 5,595,000.00	R 10,363.19	R 5,584,636.81	0.00%
4	8x Trickling Biological Filters (Mechanical components) at Rondebult WCW	R 8,945,890.40	R 2,200,000.00	R 1,118,236.30	R 1,118,236.30	R -	R 2,200,000.00	R 1,118,236.30	R 1,081,763.70	89.00%
5	Spectrophotometer	R 200,000.00	N/A	R 99,800.00	R 99,800.00	R -	R 200,000.00	R 99,800.00	R 100,200.00	100.00%
6	Portable Chlorometer	R 200,000.00	N/A	R 102,800.00	R 102,800.00	R -	R 200,000.00	R 102,800.00	R 97,200.00	100.00%
7	Disaster Recovery Site	R6,000,000.00	N/A	R 70,368.00	R 70,368.00	R -	R 6,000,000.00	R 70,368.00	R 5,929,632.00	0.00%
8	Electric Hoist - Chlorine System	R 250 000	N/A	R 57,098.46	R 57,098.46	R -	R 250 000	R 57,098.46	R192 903.54	100.00%
9	BA Sets	R 245 000	N/A	R 65,600.00	R 65,600.00	R -	R 245 000	R 65,600.00	R180 000	100.00%
10	8 x Carports	R 40 000	R 134,600.00	R 134,600.00	R 134,600.00	R94 600.00	R 134,600.00	R 134,600.00	-R94 600.00	100%
11	Moisture Balance	R 35,000.00	R 43,068.45	R 43,068.45	R 43,068.45	-R8 068.45	R 43,068.45	R 43,068.45	-R8 068.45	100%
12	Various auxiliaries for the newly installed blowers at WATERVAL WCW (PHASE III)	R500 000.00	R 1,545,222.95	R 1,545,222.95	R 1,545,222.95	-R 1,045,222.95	R 1,545,222.95	R 1,545,222.95	R 1,045,222.95	90%
13	Minor Capex	R 277,500.00	N/A	R 277,500.00	R77,012.95	R200 487.05	R 277,500.00	R77,012.95	R200 487.05	28%

Table 6: Capital expenditure

Comment:

The SDBIP target for the quarter has not been achieved with a 27.36% negative variance. Amongst others, below are the reasons for the poor performance in expenditure:

1. Delay in issuing of Water Use License (WUL)
2. Unavailability of funds to reimburse Suppliers/Contractors on time, this has resulted in delays in completion/ achieving targets of the projects on time
3. 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 27.36% negative variance, however ERWAT is putting measures in place to mitigate the challenges stated above. These measures will ensure that the Quarter 3 CAPEX target of 70% cumulative is achieved.

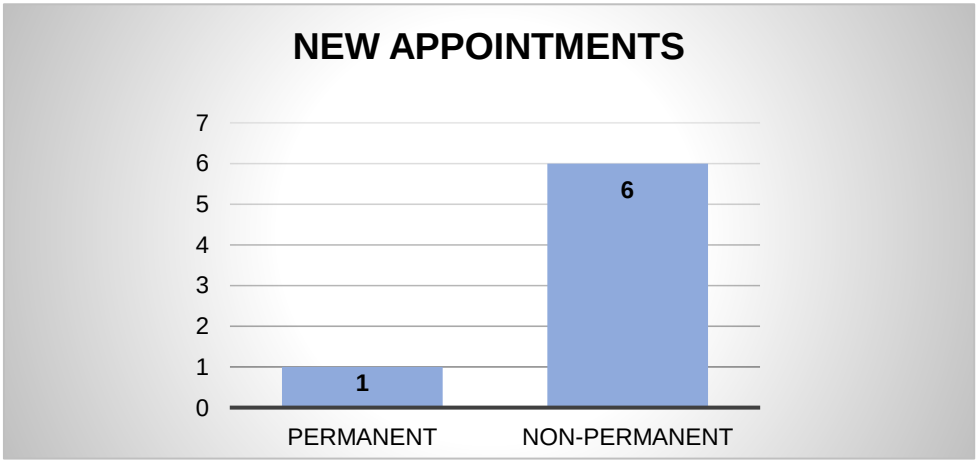
4. Human Resources

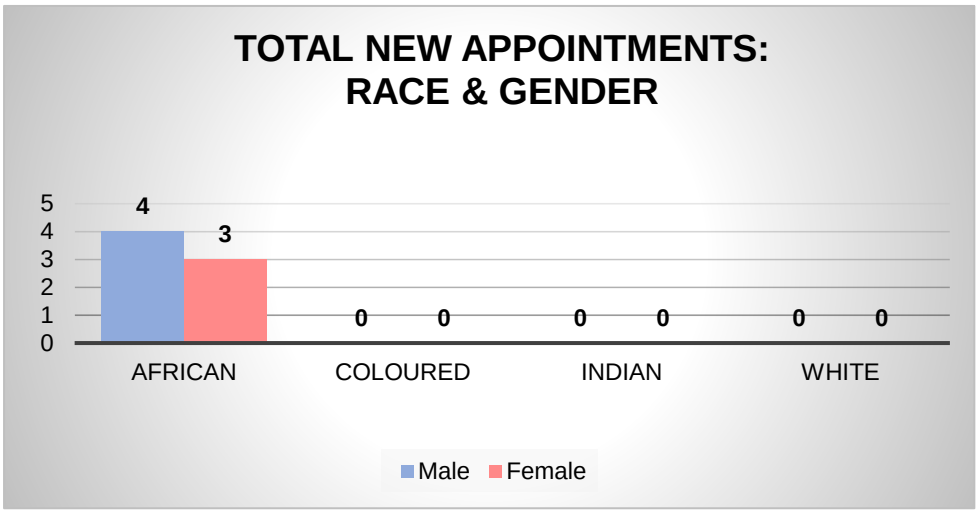
4.1 Staff Movements

Staff Movements	African		Coloured		Indian		Whites		Total
	Male	Female	Male	Female	Male	Female	Male	Female	
Recruitments	4	3	0	0	0	0	0	0	7
Resignations	1	3	0	0	0	0	0	0	4
Retirements	3	0	0	0	0	0	0	1	4
Contract Expired	1	4	0	0	0	0	0	0	5
Dismissals	0	0	0	0	0	0	0	0	0
Deceased	2	0	0	0	0	0	0	0	2
Promotions	152	32	0	0	0	0	0	0	184
Internal Appointments	1	1	0	0	0	0	1	0	3

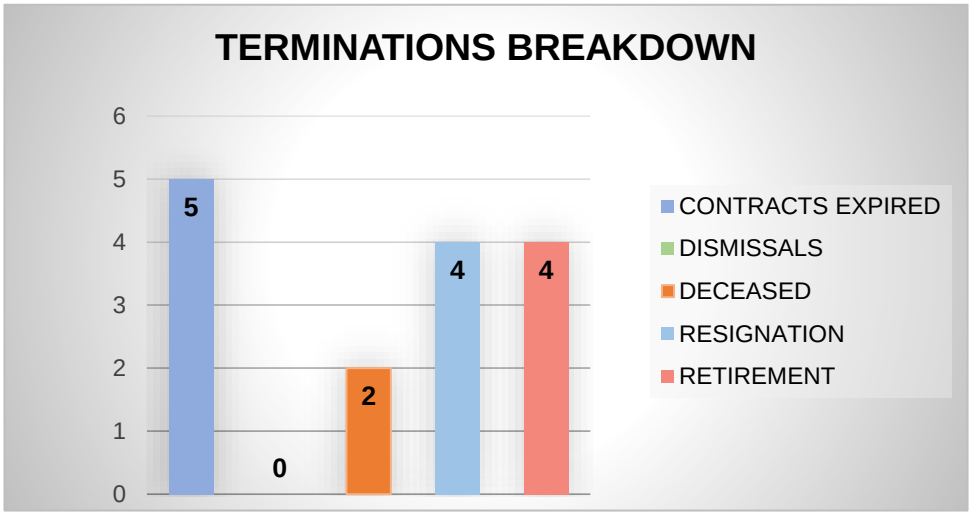
Table 7: Staff Movements

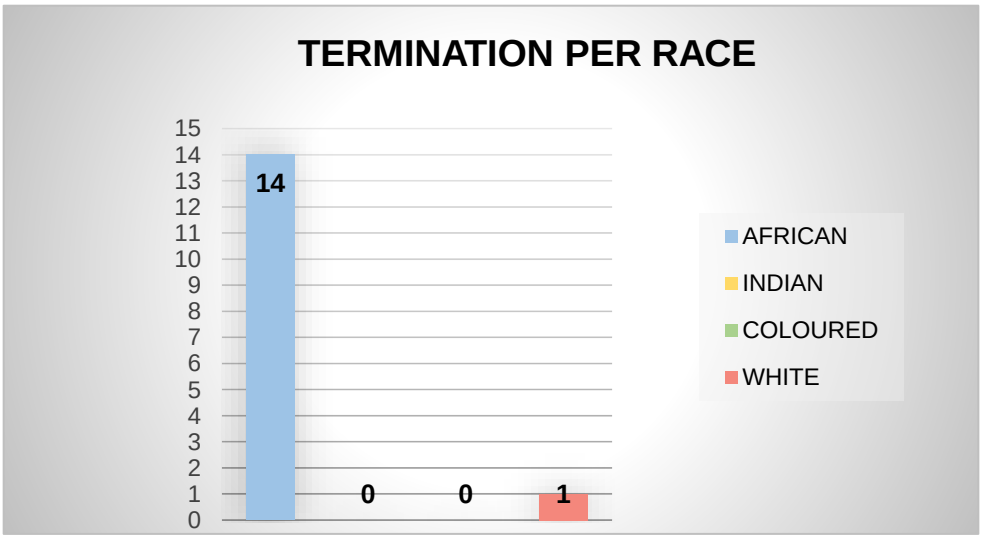
4.1.1 Appointments





4.1.2 Terminations





Status Analysis

During the period under review:

1. Seven (7) employees were appointed.
1.1 Six (6) non-permanent; and
1.2 One (1) permanent

2. Fifteen (15) employees exited the organisation for the following reasons:
2.1 Five (5) contracts expired;
2.2 Four (4) employees resigned for various reasons;
2.3 Four (4) employees went on retirement; and
2.4 Two (2) employee are deceased;

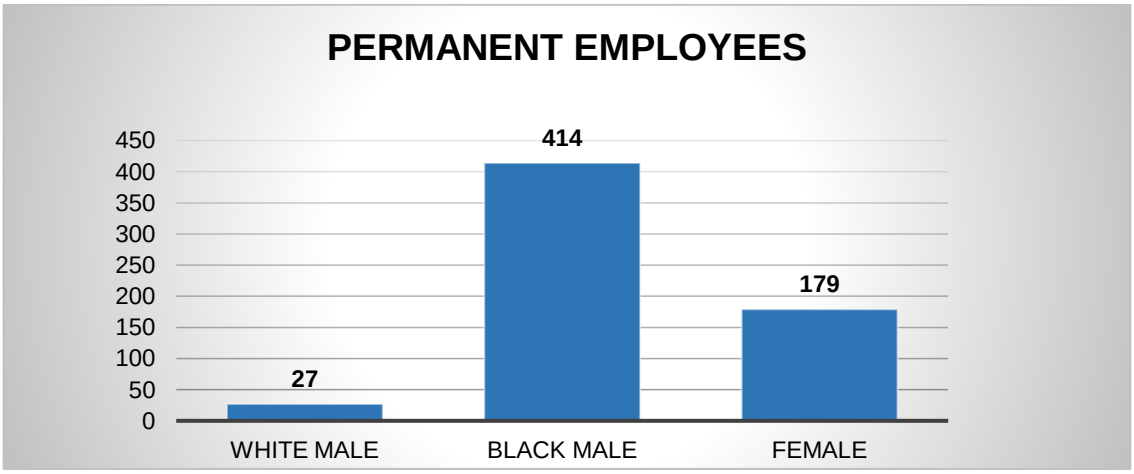
4.2 Overtime Trends

	Quarter 1	Quarter 2
Total Hours	50 018.50	58 999.50
Total Cost	7 092 942.03	8 659 494.08

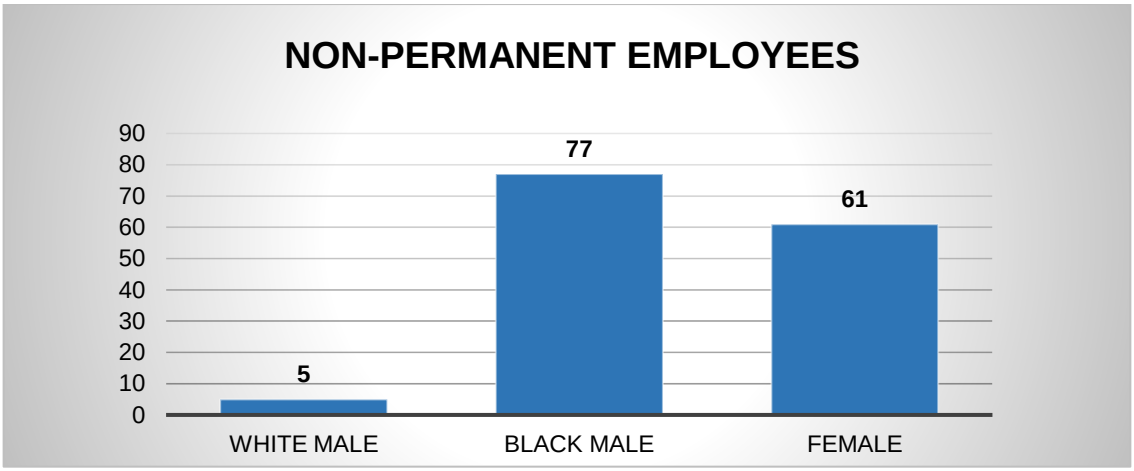
Status Analysis

1. Overtime is monitored and approved by management, as per the needs of the various business units.

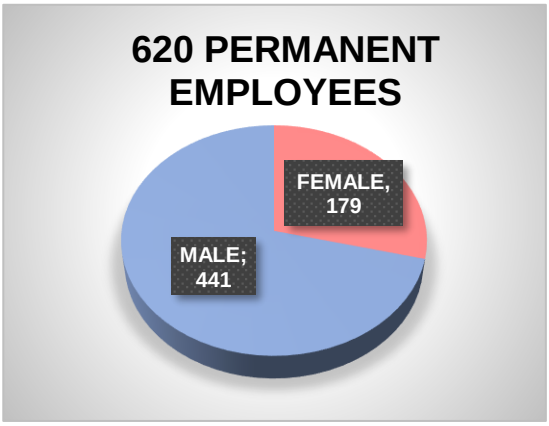
4.3 Employment Equity Demographics

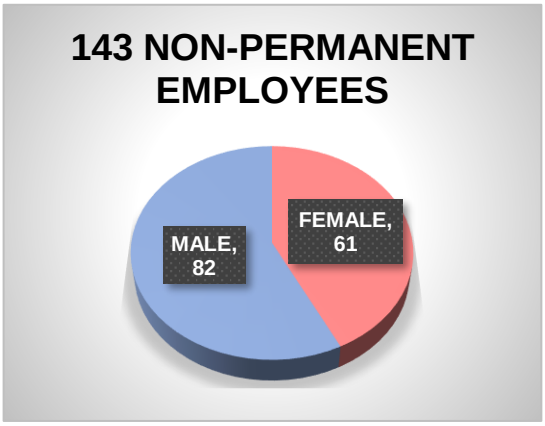


ERWAT has **620** permanent employees;



ERWAT has **143** non-permanent employees.





Status Analysis

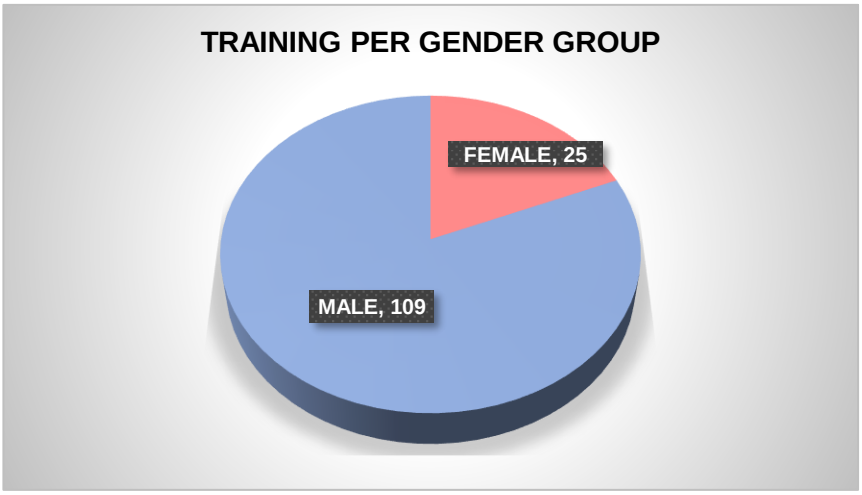
1. The employment demographics of ERWAT as at 31st December 2020 reflects:
   1.1. Females in both permanent and non-permanent positions within ERWAT account for 240 or 31% of total positions filled.
   1.2. Males in both permanent and non-permanent positions within ERWAT account for 523 or 69% of total positions filled.

Employment Equity Update

1. A refresher course for the Employment Equity Committee on the EE Plan was intended for Quarter 1 of the 2020/2021 financial year. However, due to COVID-19, the course was rescheduled for Quarter 3 of the 2020/2021 financial year.

4.4 Training and Development

The resumption of Training and Development on 5 October 2020 with level one regulations as saw **134 employees** trained in various interventions.



Status Analysis

1. Water and Wastewater Process Control Learnerships completed the theoretical sessions on a seven (7) week plan form the 5th of October to 20th November 2020. NQF level 3 consisted of thirty (30) employees and NQF level 4 consisted of forty (40) employees. Portfolios of Evidence submitted and awaiting EWSETA verifications.
2. Wastewater Treatment Masterclass completed by Operations Department on the 26th to 27th November with twenty-five (25) delegates all found competent and certified.
3. Facilitation Train the Trainer skills programme attended on the 23rd to 27th November 2020 by two (2) Training and Development officials.
4. Individual Performance Management training held by CoE on the 1st of December 2020 was attended by seventeen (17) ERWAT delegates.
5. Public Financial Management Act (PFMA) skills programme conducted on the 2nd to 4th December 2020 with twenty (20) delegates. Portfolios of Evidence to be submitted to the service provider in January.

4.5 Percentage of Salary to OPEX.

	Quarter 1	Quarter 2	YTD
Total Manpower Cost	87 744 101,00	91 675 110,59	179 419 211,59
Total Operational Expenditure	191 921 731,00	243 874 862,22	435 796 593,22
% of Salary to OPEX	**45.7%**	**37,6%**	**41.2%**

Table 8: Percentage of Salary to total Opex

4.6 Employee Wellness Programme & OHS

ERWAT Occupational Health Services offers Wellness Programme as follows:

1. ERWAT has 47 Wellness Champions (WC) that are placed on all 19 Plants including the Laboratory and Head Office, during the period under review, 1workshop were conducted.

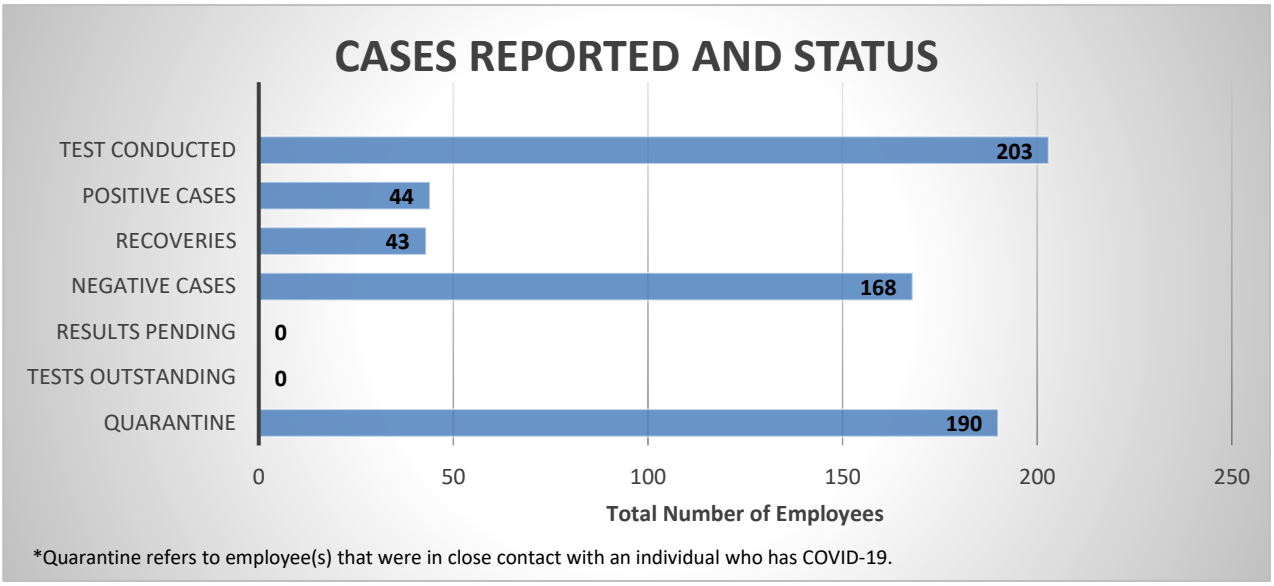
2. The core function of the WC is to assist the Occupational Health Nurse, in identifying any health & wellness concerns amongst employees, monitor absenteeism; they also provide health education in a form of frequently scheduled meetings with employees on site.

4.7 Workplace Wellness Program

A work from home survey was administered during Quarter 2 of the 2020/2021 financial year. The outcome of the survey will determine the overall wellness of the employees that worked from home/is working from home during lockdown.

4.8 COVID-19 Statistics

The COVID-19 statics below depict the accumulative stats as at 30 November 2020.



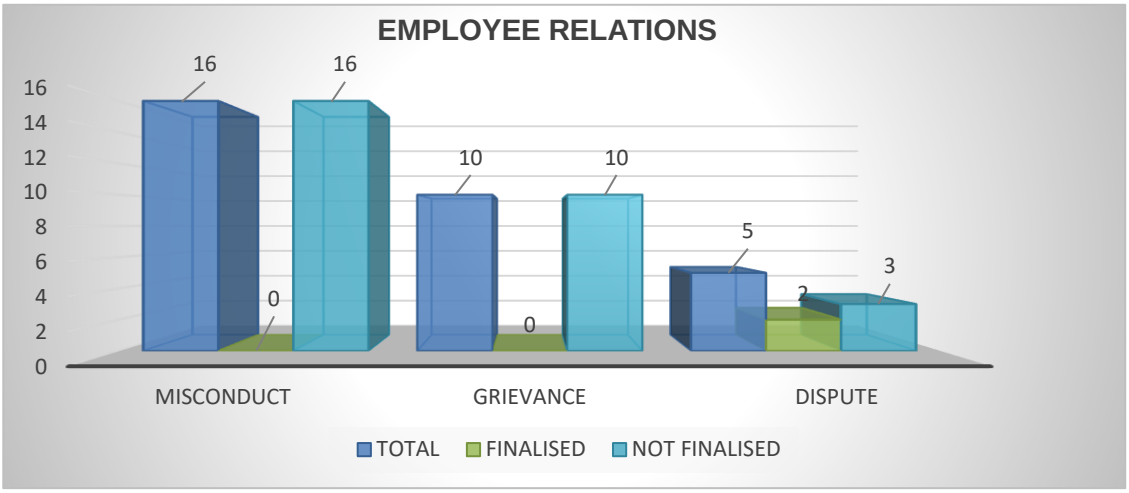
4.9 Management of HIV/AIDS in the workplace

The management of HIV/AIDS is done with strict confidentiality. Employees that have tested positive and seek guidance are referred to the nearest Medical Facility for further management.

ERWAT is also committed to addressing HIV/AIDS, by providing HIV/AIDS education, communication, awareness and prevention programmes.

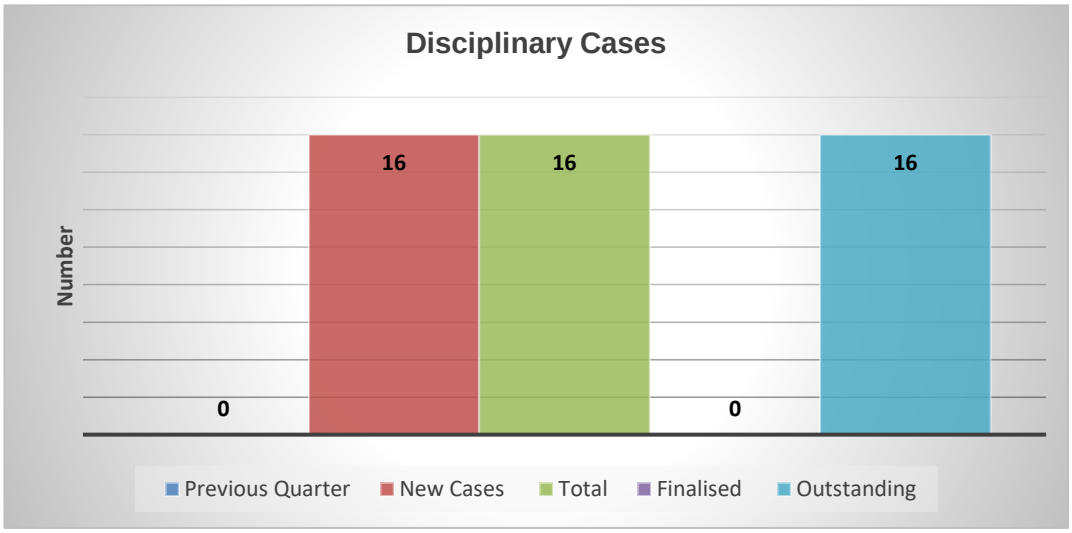
4.10 Employee Relations

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.



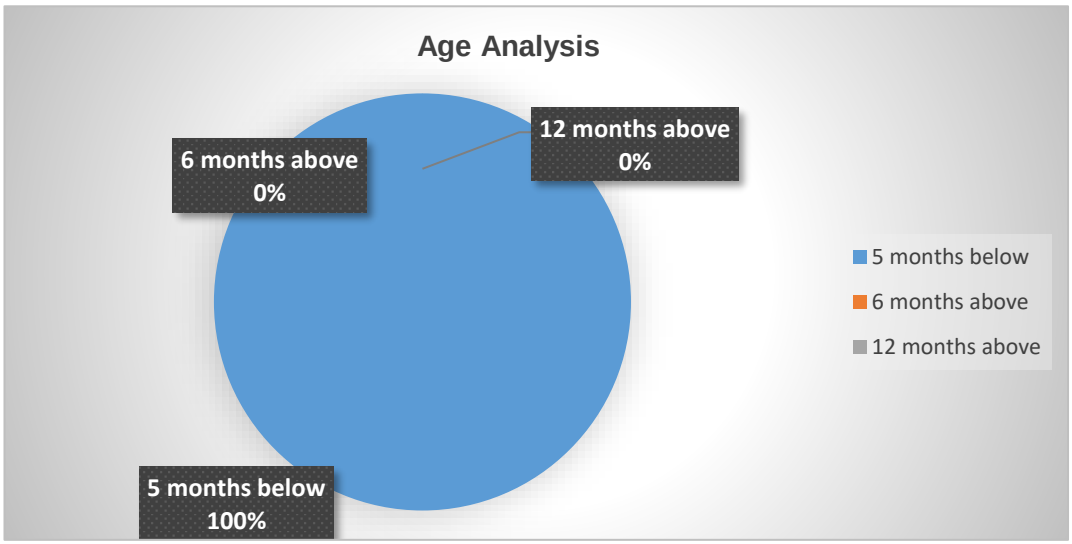
4.11 Disciplinary Cases

1. Sixteen (16) cases were received.
2. Total cases finalised is zero (0) with a remaining balance of sixteen (16) cases outstanding.



4.12 Age Analysis of Disciplinary Cases

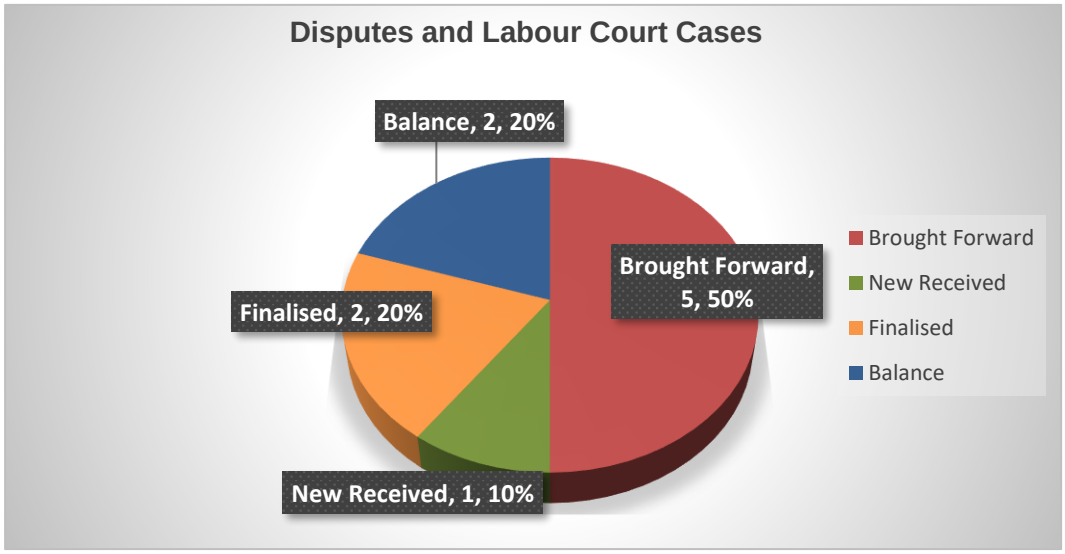
1. The age analysis of the sixteen (16) cases outstanding are below 5 months.



The age analysis of the sixteen (16) outstanding cases are all five (5) months below.

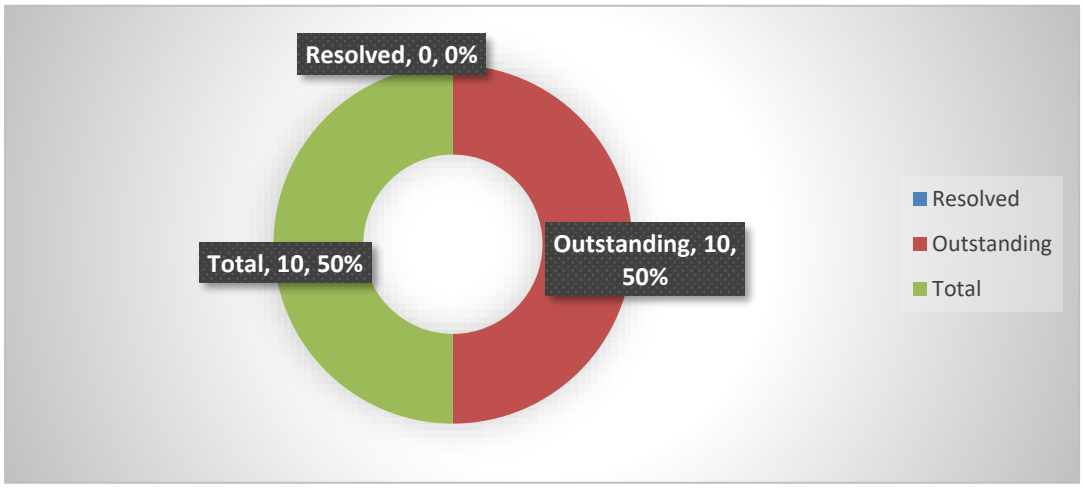
4.13 Disputes, Arbitrations & Labour Court Cases

1. Total cases brought forward five (5) as at end of previous quarter.
2. In respect of disputes at the Bargaining Council cases, ERWAT is sitting at one (1) case.
3. Finalised Bargaining Council cases are two (2).
4. Labour Court cases, ERWAT is sitting at two (2) cases.



The graph illustrates the statistical data of Disputes and Labour Court cases during the previous quarter, as at the end of Q2, with three (3) cases still pending and two (2) cases finalised.

4.14 Grievances



Total grievances are ten (10)

4.15 Suspensions

There was one (1) suspension for the period under review.

5. Procurement Practices, Job Creation and Mainstreaming

PROCUREMENT ACTIVITIES

ERWAT awarded tenders to the value of R12 028 371 to companies with 100% black female ownership and R99 056 742 to companies with 100% HDI ownership for Quarter 2 of the 2020/2021 FY (period: 01 October 2020 to 31 December 2020).

Refer to the table below for a summary of the BEE award practices for the 2nd quarter and year to date.

CATEGORY	TOTAL FOR 1st QUARTER	TOTAL FOR 2nd QUARTER	YEAR TO DATE TOTAL	% OF YEAR TO DATE TOTAL
0% HDI / JURISTIC PERSON	-	12 028 371.00	12 028 371.00	11%
1-50% HDI	-	-	-	0%
51-99% HDI	870 797.83	-	870 797.83	1%
100% HDI	-	99 056 742.00	99 056 742.00	88%
TOTAL	**870 797.83**	**111 085 113.00**	**111 955 910.83**	**100%**
SIZE OF COMPANY				**% OF YEAR TO DATE TOTAL**
LARGE	-	24 056 742.00	24 056 742.00	21%
MEDIUM	-	87 028 371.00	87 028 371.00	78%
SMALL	870 797.83	-	870 797.83	1%
MICRO	-	-	-	0%
TOTAL	**870 797.83**	**111 085 113.00**	**111 955 910.83**	**100%**
AWARDS MADE TO:				
FEMALES	-	12 028 371.00	12 028 371.00	
BLACK FEMALE 30-100%	-	12 028 371.00	12 028 371.00	
HDI 50-100%	870 797.83		870 797.83	
100% HDI	-	99 056 742.00	99 056 742.00	
MILITYARY VETERANS	-	-	-	
PWD	-	-	-	
YOUTH	-	-	-	

BBEEE SCORE CARD				% OF YEAR TO DATE TOTAL
EME	-	-	-	0%
QSE	-	87 028 371.00	87 028 371.00	78%
GENERIC	870 797.83	24 056 742.00	24 927 539.83	22%
TOTAL	**870 797.83**	**111 085 113.00**	**111 955 910.83**	**100%**
AWARD MADE TO				**% OF YEAR TO DATE TOTAL**
COE BASED COMPANIES	870 797.83	75 000 000.00	75 870 797.83	68%
NON COE BASED	-	36 085 113.00	36 085 113.00	32%
	870 797.83	**111 085 113.00**	**111 955 910.83**	**100%**

6. Risk Management

Ref	Risk Title	Risk Mitigation Plan	Cost Implications	Date	RR	Progress Quarter 2
ERW1	Inadequate Infrastructure to treat wastewater	Implementation of Projects in line with the Capital Expenditure Plan MTREF 2020/2021 (1). Olifantsfontein Refurbishment (2) Vlakplaats: Modification to Flow Diversion (3) Waterval WCW New Aeration Blowers Upgrade. - Replacement of blowers contracts 1 and 2 (cont.) yr.2 (4) Replacement of vertical mixers at various ERWAT wastewater care works: (5) Installation and Commissioning of	Capex 1	30 June 2020	**High**	<u>Olifantsfontein Refurbishment Project -**IPAP**</u> Phase 1b –The project is currently at 92% Physical progress and 90% has been claimed to date. Phase 2C – The tender for design the Works The tender is at advertisement stage <u>2) Vlakplaats: Modification to Flow Diversion</u> Construction is on-going and to date the project is at 75% physical and 72% has been claimed to date. <u>3) Waterval WCW New Aeration Blowers Upgrade.</u> The Encana Technologies contract has entered its final stages of execution in order to achieve completion, however paused due to supply chain management compliance issues. More scope of works was discovered during the execution of the two contracts which was not addressed and/ or not covered in the original contracts. Hence, a final contract is sought to finalizing the entire project. (4) **Replacement of vertical mixers at various ERWAT wastewater care works** – The project is at 95% physical progress and 95% has been claimed to date. **(5) Installation and Commissioning of** Biological Filters at Rondebult Water Care Works The project is at 88% physical progress and 88% has been claimed to date. (**6) Ancor WCW: Tertiary Filtration Effluent Pipeline/ Pump station.**

Ref	Risk Title	Risk Mitigation Plan	Cost Implications	Date	RR	Progress Quarter 2
		Biological Filters at Rondebult Water Care Works (6) Ancor WCW: Tertiary Filtration Effluent Pipeline/ Pump stations				Pre-Advert stage. BSC approved in circulation for signature for advert
		Submission of risk reports to the CoE, to motivate the approval of additional budget in the MTREF 2021	No cost	30 June 2020		No further progress for the period under review. Action plan completed in quarter 1
		Development of Engineering Contribution Policy.	No Cost	30 June 2020		***Development of Engineering Policy IPAP*** The policy on Development and Engineering Contributions was approved by the Board on the 19th of November 2020
		Invite through Expression of interest Technology providers to provide funding mechanism and technologies to address the backlog in WCWs	No Cost	30 June 2020		Expression of interest tender on various Technologies has been advertised and it closing in February 2021

Ref	Risk Title	Risk Mitigation Plan	Cost Implications	Date	RR	Progress Quarter 2
		Tracking of incidents and on a quarterly to assist in planning and decision making	No Cost	30 June 2020		*There were 428 breakdowns reported in quarter 2. There is an increased by 159 from the previous quarter.*
		Investigate other potential sources of funding for. infrastructure (e.g. PPP etc.)	No cost	30 June 2020		1. ERWAT submitted an item to the Water and Sanitation department for processing by Council. The item was referred back for amendments to be made. ERWAT has effected all the amendments however it is still awaiting a letter from DBSA to be submitted. The letter is expected to be received during the week ended 8 January 2021. 2. Expression of interest tender on various Technologies has been advertised and it closing in February 2021
		Request the city for additional Capital funding from other funding sources/grants within the CoE.	No cost	30 June 2020		Due to the prevailing economic conditions resulting from the COVID pandemic, ERWAT will not be requesting additional capital expenditure funding from the CoE in the 2020/2021 financial period. There will be no further reporting on this action plan.
		A cost reflective tariff to be determined using the financial model in order to motivate for additional funding.	No cost	30 June 2020		Training took place on the 23rd November 2020. An additional session was scheduled for that week, however it had to be postponed to Q3 2020/2021.

Ref	Risk Title	Risk Mitigation Plan	Cost Implications	Date	RR	Progress Quarter 2
		Do Scheduled Asset Maintenance Plan as planned by Maintenance limited approved budget	Opex1	30 June 2020		*Expenditure achieved for quarter 2 is approximately 30%* *R15 579 903 not processed invoices* *R13 589 952 processed invoices* *Amounting to R29 169 555 of R96 197 637*
		Review Service Master Contracts for critical equipment and emergencies	Opex1	30 June 2020		The Entity has undertaken a process of reviewing all contracts to ensure that contracts are renewed before they expire and also to exclude pump station clauses and scope
		Develop Maintenance Standards and Specifications for critical Equipment's	Opex2	30 June 2020		The maintenance budget was cut by 49% during quarter 2, due to the budget constraints this project can longer be implemented.
		Integration of CRMS, Projects Management System; contract management; finance and SCM as part of ERP	No cost	30 June 2020		All Business Requirement Specifications, Functional Requirement S and role mapping documentation for the has been signed off and submitted to the CoE. Integration is currently being developed but will only be implemented after all individual systems have gone live.
ERW2	Inadequate Cash flow to meet business requirements	Implementation of cash-flow projections taking into account the actual departmental cash-flow requirements	No cost	30 June 2020	**Medium**	Cash flow projections have been implemented and are reported to the Board GRC sub-committees at each meeting

Ref	Risk Title	Risk Mitigation Plan	Cost Implications	Date	RR	Progress Quarter 2
		Embark on a process to slowly build up cash-flow reserves in order to absorb any unforeseen expenditure which may arise.	No cost	30 June 2020		ERWAT has been able to build up its cash flow reserves somewhat in quarter 2, however late payment of service charges and delays in payment of grant funding invoices still poses significant challenges to ERWAT's cash flow position.
		Investigate other sources of funding.(e.g. PPP)	No cost	30 June 2020		The Entity has in the process of researching other possible sources of funding. An RFI will be advertised during the third quarter of the 2020/2021 financial period
		Request the city for additional Capital funding from other funding sources/grants within the CoE.	No cost	30 June 2020		*Due to the prevailing economic conditions resulting from the COVID pandemic, ERWAT will not be requesting additional capital expenditure funding from the CoE in the 2020/2021 financial period.*
		Request the city for additional Operating expenditure funding within the CoE.	No cost	30 June 2020		Due to the prevailing economic conditions resulting from the COVID pandemic, ERWAT will not be requesting additional operating expenditure funding from the CoE in the 2020/2021 financial period.
		A cost reflective tariff to be determined using the financial model in order to motivate for additional funding.	No cost	30 June 2020		Training took place on the 23rd November 2020. An additional session was scheduled for that week, however it had to be postponed to Q3 2020/2021.

Ref	Risk Title	Risk Mitigation Plan	Cost Implications	Date	RR	Progress Quarter 2
		Develop a plan to implement measures on the Cost Containment Policy by implementing cost savings measures: - Use local venues for Lekgotla and avoid accommodation charges	No cost	30 June 2020		No further progress was made in the 2nd quarter.
		Ring-fencing of depreciation charges in order to build up cash-reserves to service our debt repayments.	No cost	30 June 2020		ERWAT has been able to build up its cash flow reserves in quarter 2, however late payment of service charges and delays in payment of grant funding invoices still poses significant challenges to ERWAT's cash flow position.
		Review of Pump Station SLA and incorporation into the Service Delivery Agreement	No cost	30 June 2020		The Pump station Service Level Agreement was terminated by the City on the 5th of November 2020. There will be no further reporting on this action plan.
ERW3	Inadequate revenue generation to supplement the approved budget	Review of the Pricing Model	No cost	30 June 2020	**Medium**	The Entity is in the review process to standardise the tariff models. The process is still in progress in quarter 2 (a). Industrial effluent; (b) leachate, (c) Tankers, (d) Water Care Works Influent; (e) Reclaimed Water - Old tariff currently in use and under review No further progress had been made in this regard during the 2nd quarter of 2020/2021

Ref	Risk Title	Risk Mitigation Plan	Cost Implications	Date	RR	Progress Quarter 2
		Review of sales strategy (consider reducing the profit margin; identify relevant sectors within which to compete)	Opex 1	30 June 2020		The plan to source a service provider to assist the Entity with a Marketing Penetration Strategy is at advertising stage
		Annual review of BBB EE Compliance.	Opex1	30 June 2020		The Service provider was appointed to start the annual review of the BBBEE Compliance. Interviews have been conducted with the relevant stakeholders and other processes being reviewed, it is anticipated that this process will be completed before end of Q3
		Review of credit management policy to cater collection from government institution	No cost	30 June 2020		No further progress to be reported for the period under review. The action plan completed in quarter 1
		Develop a policy with regard to cost of sales	No cost	30 June 2020		Commercial Business Policy is still under review to include Cost of Sales and it is anticipated to be approved by quarter 3 of 2020-21
		Implementation of integrated systems as part of the ERP	No cost	30 June 2020		Integration is currently being developed but will only be implemented after all individual systems have gone live
ERW4	Inability to achieve Capital Expenditure set target	Integration of Contract Management tool Project Management Tool and Document Management systems as part of ERP	No cost	30 June 2020	**High**	1. Integration is currently being developed but will only be implemented after all individual systems have gone live. 2. CoE ICT has placed a hold the implementation of the DRMS as a new system needs to be provided by service providers due to the initial system not meeting the requirements specifications

Ref	Risk Title	Risk Mitigation Plan	Cost Implications	Date	RR	Progress Quarter 2
		Compile a Procurement Plan for 2020/2021 financial year.	No cost	30 June 2020		Procurement plan compiled, signed and submitted to National Treasury. The plan is monitored as the specifications are received at pre-spec stage.
		Review of the Supply Chain Management Policy	No cost	30 June 2020		SCM Policy was reviewed on 13 November 2020 and pending adoption from ERWAT Board. It will be tabled at the next GRC Committee for recommendation to the Board
		Prepare projected cash flows 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)	No cost	30 June 2020		There was no progress made in Q2 2020/2021
		Each department to incorporate Invoice tracking at departmental meetings (No of invoices received, Age and status) - Grant all user departments access to GRN to ensure capturing at the time of receipt of goods	No cost	30 June 2020		Invoice register implemented and monitored accordingly

Ref	Risk Title	Risk Mitigation Plan	Cost Implications	Date	RR	Progress Quarter 2
		Implementation of a central invoice receipt mail. invoice@erwat.co.za	No cost	30 June 2020		Action plan has not yet started. Scheduled for quarter3
		Engage CSR office prior to commencement of construction project. (CSR plan to include Projects)	No cost	30 June 2020		There is no further action as there are no new projects to be rolled-out in the 2020/2021 financial year due inadequate budget allocation
		Investigate insurance coverage against financial loss for damages during projects by ERWAT	No cost	30 June 2020		The Entity revision of the insurance portfolio will be done at the time when the insurance is renewed.
ERW5	Inadequate preparedness in the event of an emergency/disaste.	Flow modification and balancing dam project at Vlakplaats	No cost	30 June 2020	**Medium**	**2) Vlakplaats: Modification to Flow Diversion** Construction is on-going and to date the project is at 75% physical and 72% has been claimed to date.
		Develop a Geotechnical Studies Standard Operating Procedure	No cost	30 June 2020		Action plan not yet started
		Review BCM Strategy	No cost	30 June 2020		Action plan is scheduled for quarter 3

Ref	Risk Title	Risk Mitigation Plan	Cost Implications	Date	RR	Progress Quarter 2
		Tracking of incidents and on a quarterly to assist in planning and decision making	No cost	30 June 2020		*There were 428 breakdowns reported in quarter 2. There is an increased by 159 from the previous quarter.*
		Review of BCM Risk Assessments of all departments	No cost	30 June 2020		Departments reviewed the Business Continuity Risk Assessment after assessing the covid 19 impact
		Review of Business Impact Analysis	No cost	30 June 2020		Departments reviewed the Business Continuity Impact Analysis after assessing the covid 19 impact
		Update Business Recovery Plans for Supply Chain Management	No cost	30 June 2020		The action plan is scheduled for quarter 3
		Review of Business Recovery Plans	No cost	30 June 2020		The action plan is scheduled for quarter 3
		BCM Communications and Awareness	No cost	30 June 2020		Three BCM Steering Committee held during quarter 2. BCM Coordinators raise awareness through the departmental meetings
		Conduct Infrastructure Condition Assessments for Pump stations	Opex 1	30 June 2020		The closeout report for BCM, including the Pump Station Condition assessment was presented to management during December 2020

Ref	Risk Title	Risk Mitigation Plan	Cost Implications	Date	RR	Progress Quarter 2
		Tracking of incidents and on a quarterly to assist in planning and decision making	No cost	30 June 2020		There were 428 breakdowns reported in quarter 2. There is an increased by 159 from the previous quarter.
ERW6	Potential loss of key skills	Implementation of 2020/21 recruitment plan	Opex 1	30 June 2020	**Medium**	13 internal interviews for he D-bands positions has been finalised. 4 appointments were finalised. 8 appointments are still pending finalisation.
		Review of the Competency Based Progression Plan	No cost	30 June 2020		The Progression plan is reviewed quarterly.
		Implementation of 2020/21 annual training plan	Opex1	30 June 2020		The revised Training plan which takes into account the requirements of the Disaster Management Act and regulations has been implemented and is on track
		Review of Human Resources Policies	No cost	30 June 2020		All Human Resources Policies were reviewed and approved by the Board on the 19th of November 2020
ERW7	Potential delay in supply and delivery of goods/services	Develop a Standard Operating Procedure for continuous defaulting bidders/ suppliers for RFQs and web-tenders.	No cost	30 June 2020	**Medium**	SCM SOP # 13 has been developed and submitted with the annual review of the SCM Policy on 13 November 2020. Pending adoption of ERWAT Board.

Ref	Risk Title	Risk Mitigation Plan	Cost Implications	Date	RR	Progress Quarter 2
		Develop a standard operating procedure on Non-compliant and poor performing services providers In-house training	No cost	30 June 2020		Action plan not yet started.
ERW8	Potential loss of the ISO 17025 Accreditation	Replacement of the FIA(Flow Injection Analyser)	Capex1	30 June 2020	**High**	The FIA analyser will be replaced by a Discreet analyser the procurement of which is currently at BID evaluation stage (ERW20200#).
		Maintenance to maintain the equipment as per schedule maintenance	Opex1	30 June 2020		The BID for building maintenance is at adjudication stage
		Refurbishment of the HVAC to restore to its operational state (DESIGN)	Capex1	30 June 2020		HVAC System No further progress for the period under review. Action plan completed in completed in quarter 1
		Replacement of the FIA valves & flow cells	Capex1	30 June 2020		Replacement of the valves is at BID evaluation stage. (ERW202009/TNDR-009
		Replacement of pH and conductivity meters	Capex1	30 June 2020		Action plan completed in previous reporting period
		Replacement of objectives lenses for microscope	Capex1	30 June 2020	**High**	To report in quarter 3.

Ref	Risk Title	Risk Mitigation Plan	Cost Implications	Date	RR	Progress Quarter 2
ERW9	Potential Loss of, and Unauthorised Access Critical Information	Develop Document Management Policy	No cost	30 June 2020	**High**	Draft Policy to be tabled at the Labour Forum pending sign off. The implementation of DMS system is on hold
		Implement Document Management System	No cost	30 June 2020		1. CoE ICT has placed on hold the implementation of the DRMS as a new system needs to be provided by service providers due to the initial system not meeting the requirements specifications. 2. ERWAT will require access to the CoE platforms to access the DRMS when implemented. This has a dependency on the Identity Management System which is currently in progress.
		Develop Protection of Personal Information Policy	No cost	30 June 2020		Draft Policy to be tabled at the Labour Forum pending sign
		Raise awareness on the risk of accessing untrusted websites	No cost	30 June 2020		Security awareness communication issued in December 2020 and is ongoing process. Information security awareness has been incorporated within the entities formal communications. ICT has sent awareness communique using the entities news flash channels.

Emerging Risks (Narrative)

None

7. Legislative (only if applicable to your department)

#	Compliance Risk	Sections	Control Effectiveness	Mitigation Controls	Progress Movement (Residual Rating)		Q2 Progress
					Q1 2019/20)	Q2 (2019/20)	
1.	Companies Act	9 (1) Modified application with respect to state-owned companies 1) Subject to section 5(4) and (5),	Good	1. Review of the Service Delivery Agreement between ERWAT and the City of Ekurhuleni	Low	Low	Service Level Agreement between City of Ekur2huleni and East Rand Water Care Company

#	Compliance Risk	Sections	Control Effectiveness	Mitigation Controls	Progress Movement (Residual Rating)		Q2 Progress
					Q1 2019/20)	Q2 (2019/20)	
2.	National Water Act 36 of 1998	S19. (1) Requires ERWAT to take all practical and rational steps to ensure that their business or activities do not cause harm to any water resources. Are those steps being taken? S20. Control of emergency incidents. S21. Ensure that ERWAT complies with the Water Use License conditions. S22. Permissible water use S40. Application for license	Unsatisfactory	"AC1. Borehole monitoring Green Drop requirements. AC2. Review of Wastewater Risk Abatement Plans/Registers. AC3 Implement the following projects to improve Compliance of the Water Standards (1). Olifantsfontein Refurbishment (2) Vlakplaats: Modification to Flow Diversion	High	High	AC1. Borehole monitoring was conducted for all the plants and dashboard was generated. AC2. The review has been postponed to quarter 3 AC3 Implement the following projects to improve Compliance of the Water Standards <u>Olifantsfontein Refurbishment Project -</u> Phase 1b – The project is currently at 92% Physical progress and 90% has been claimed to date. Phase 2C – The tender is at advertisement stage <u>2) Vlakplaats: Modification to Flow Diversion</u> Construction is on-going and to date the project is at 75% physical and 72% has been claimed to date.

#	Compliance Risk	Sections	Control Effectiveness	Mitigation Controls	Progress Movement (Residual Rating)		Q2 Progress
					Q1 2019/20)	Q2 (2019/20)	
		S41. Procedure for license applications S52. Procedure for earlier renewal or amendment of licenses S19. (1) Requires ERWAT to take all practical and rational steps to ensure that their business or activities do not cause harm to any water resources. Are those steps being taken? S20. Control of emergency incidents.		(3) Waterval WCW New Aeration Blowers Upgrade. - Replacement of blowers contracts 1 and 2 (cont.) yr.2 (4) Replacement of vertical mixers at various ERWAT wastewater care works: (5) Installation and Commissioning of Biological Filters at Rondebult Water Care Works (6) Ancor WCW: Tertiary Filtration Effluent Pipeline/ Pump station			(3) Waterval WCW New Aeration Blowers Upgrade. The Encana Technologies contract has entered its final stages of execution in order to achieve completion, however paused due to supply chain management compliance issues. More scope of works was discovered during the execution of the two contracts which was not addressed and/ or not covered in the original contracts. Hence, a final contract is sought to finalizing the entire project. (4) Replacement of vertical mixers at various ERWAT wastewater care works – The project is at 95% physical progress and 95% has been claimed to date. (5) Installation and Commissioning of Biological Filters at Rondebult Water Care Works The project is at 88% physical progress and 88% has been claimed to date. (6) Ancor WCW: Tertiary Filtration Effluent Pipeline/ Pump station. Pre-Advert stage. BSC approved in circulation for signature for advert

#	Compliance Risk	Sections	Control Effectiveness	Mitigation Controls	Progress Movement (Residual Rating)		Q2 Progress
					Q1 2019/20)	Q2 (2019/20)	
		S21. Ensure that ERWAT complies with the Water Use License conditions. S22. Permissible water use S40. Application for license S41. Procedure for license applications S52. Procedure for earlier renewal or amendment of licenses		"			
3.	Municipal Finance Management Act 56 of 2003	S13. Duty to inform S23. Certain deductions prohibited	Good	1. Recover any unauthorized expenditure. 2. Review Supply Chain Management Policy to. 2. Review of the Finance Asset	Medium	Medium	1. There is no reporting for quarter 2. 2. SCM Policy was reviewed on 13 November 2020 and pending adoption from ERWAT Board. 3. The assets are verified on an ongoing basis as and when they are procured.

#	Compliance Risk	Sections	Control Effectiveness	Mitigation Controls	Progress Movement (Residual Rating)		Q2 Progress
					Q1 2019/20)	Q2 (2019/20)	
		36. Disclosure of information S102. Unauthorized, irregular or fruitless and wasteful expenditure S111. Supply Chain Management Policy S112. Supply chain management policy to comply with prescribed framework. S113. Unsolicited bids. S114. Approval of tenders not recommended.		Management Policy 3. Conduct Audit Verification before the commencement of External Audits 4. Submit SCM related MFMA Compliance Reports 5. Continues monitoring of Unauthorized, Irregular, Fruitless and Wasteful expenditure. 6. Continuous monitoring of ERWAT Contracts including project contract. 7. Staff awareness on misconduct.			4. All quarter 2 Compliance reports submitted to the City as required 5. There were no unauthorized, irregular, fruitless and wasteful expenditure reported in quarter 2. 6. Contracts reviewed by the entity to ensure their validity 7. There is no reporting for the period under review.

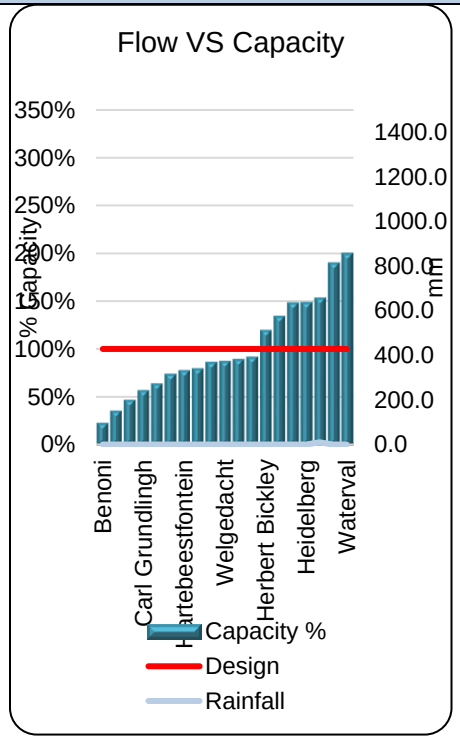
#	Compliance Risk	Sections	Control Effectiveness	Mitigation Controls	Progress Movement (Residual Rating)		Q2 Progress
					Q1 2019/20)	Q2 (2019/20)	
		S116. Contracts and contract management S171. Financial misconduct by municipal officials					
4.	National Environmental Management: Act 107 of 1998	(S 28) Part 1: Environmental hazards.	Satisfactory	1. Conduct Green drop Audits 2. Review of the validity of the Water Use Licenses 3. Conduct Water Use License Compliance Assessment 4. Conduct Environmental Education and Awareness 5. Conducts Environmental Audits	**High**	**High**	1. Conduct Green drop Audits Quarter 2 GD audits finalized and reports are to be finalized. 2. Review of the validity of the Water Use Licenses No Reporting for the period under review. All Licenses are up to date. 3. Conduct Water Use License Compliance Assessment Quarter 2 GD audits finalized and reports are available. 4. Conduct Environmental Education and Awareness Environmental awareness is an going process and is on track 5. Conducts Environmental Audits Environmental audits for quarter 1 of 2020-21 has been finalised and reports are available 6. Construction is on-going and to date the project is at 75% physical and 72% has been claimed to date.

#	Compliance Risk	Sections	Control Effectiveness	Mitigation Controls	Progress Movement (Residual Rating)		Q2 Progress
					Q1 2019/20)	Q2 (2019/20)	
				6. Complete the construction and installation of lining for six (6) maturation ponds at Vlakplaats (long term project)"			
5.	Occupational Health & Safety Amendment Act 181 of 1993	(S 8) General duties of employers to their employees	Satisfactory	1. Review Maintenance Plans 2. Audit of all plants for signage and the replacement of signage as per WUL requirements 3. Immunisation of employees as per immunisation schedule. 4. Conduct drills	Medium	High	1. (a) Implement the Scheduled Maintenance Plan for 2020-2021 The implementation of the maintenance plan is ongoing process and on track (b) Implement the Re-active and Scheduled Maintenance Schedule for 2020-2021 is on track Replace the signage as per Internal Audit findings (2019/2020 fy) Phase 2 of the signage project has been finalised and an AS & WHEN CONTRACTOR has been appointed for future requirements The SAFETY signage were replaced in line with recommendations from Internal Audit. No further reporting required

#	Compliance Risk	Sections	Control Effectiveness	Mitigation Controls	Progress Movement (Residual Rating)		Q2 Progress
					Q1 2019/20)	Q2 (2019/20)	
							3. Immunization of employees as per immunization annual schedule There were no immunization for the period under review 4. Conduct drills No drills scheduled for the period under review"

NON-COMPLIANCE PREVIOUSLY REPORTED AND PROGRESS IN QUARTER 2

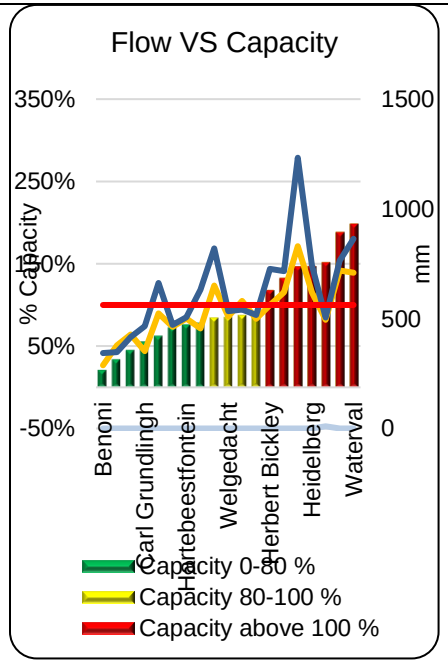
The table below represents the New Non-Compliance that departments should enforce and progress made to address them.

No	Key Legislation	Non Compliance	Details of Non-Compliance	Details	Status & Comments in Q2
1	National Water Act 36of 1998		The reduction in Capital budget will have a detrimental impact to the growth of the City. The Long Term Non-compliance requiring Capex (Ref SDBIP & Capex Budget) 1. A total of 74 350 Ml was treated in QUARTER 1, at an average of 812 Ml/day, utilising 123% of the capacity. 2. A total of 81 495 Ml was treated in Q4, at an average of 896 Ml/day, utilising 133% of the capacity. There was a decrease by 7145Ml of capacity utilised as compared to quarter 4.	Incomplete 7 WCW operate above their design capacity. The Entity has does not have the funds to increase capacity of the WCWs. There is no allocation of funds to build/upgrade the WCW or retrofit newer technologies to increase capacity. 41% (85 000) of the allocated budget (R206 000 000) goes towards the Olifantsfontein project to refurbish the bio-filters. The remainder of the budget goes towards: 1. Equipment replacement to improve the quality of effluent, 2. Control and instrumentation 3. Other – security infrastructure to protect assets and employees	 <u>Olifantsfontein Refurbishment Project -**IPAP**</u> Phase 1b – The project is currently at 92% Physical progress and 90% has been claimed to date. Phase 2C – The bid is at advertisement stage <u>Hartebeesfontein</u> Expression of interest tender for the upgrade/ retrofit of treatment technology and associated infrastructure or new build has been advertised. No dates for the upgrade of the various WCW are available as Capex funding is not available. <u>Ancor</u>

No	Key Legislation	Non Compliance	Details of Non-Compliance	Details	Status & Comments in Q2
				4. Safety improvements to comply with the requirements of Occupational Health and Safety Act	Expression of interest tender for the upgrade/ retrofit of treatment technology and associated infrastructure or new build has been advertised. No dates for the upgrade of the various WCW are available as Capex funding is not available. <u>Jan Smuts</u> Expression of interest for the upgrade/retrofit of treatment technology and associated infrastructure or new build has been advertised. No date for the upgrade of the WCW is available as Capex funds is not available. <u>Welgedacht</u> Expression of interest for the upgrade/retrofit of treatment technology and associated infrastructure or new build has been advertised Extension of the WCW (future Module 3) No date for the upgrade of the WCW is available as Capex funds is not available <u>Heidelberg</u>

No	Key Legislation	Non Compliance	Details of Non-Compliance	Details	Status & Comments in Q2
					Expression of interest for the upgrade/retrofit of treatment technology and associated infrastructure or new build has been advertised Extension of the WCW (future Module 3) No date for the upgrade of the WCW is available as Capex funds is not available. <u>Herbert Bickley</u> Expression of interest for the upgrade/retrofit of treatment technology and associated infrastructure or new build has been advertised Extension of the WCW (future Module 3) No date for the upgrade of the WCW is available as Capex funds is not available. <u>Vlakplaats</u> Expression of interest for the upgrade/retrofit of treatment technology and associated infrastructure or new build has been advertised Extension of the WCW (future Module 3) No date for the upgrade of the WCW is available as Capex funds is not available

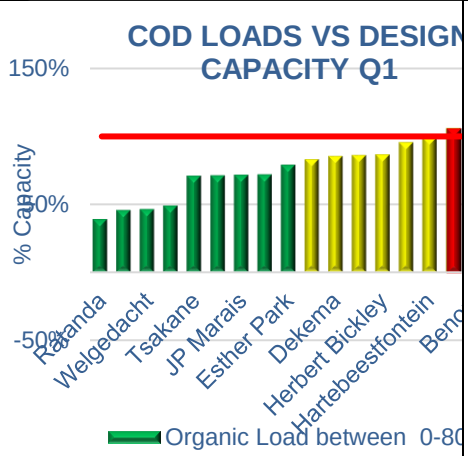
No	Key Legislation	Non Compliance	Details of Non-Compliance	Details	Status & Comments in Q2
					<u>Waterval</u> Expression of interest for the upgrade/retrofit of treatment technology and associated infrastructure or new build has been advertised Extension of the WCW (future Module 3) No date for the upgrade of the WCW is available as Capex funds is not available. <u>All WCWs</u> 1). ERWAT has developed a 5-year CAPEX plan detailing all required CAPEX upgrades and refurbishments 2).ERWAT's request is that the CoE fairly and proportionally reallocate the Bulk infrastructure grants, which will at least enable ERWAT to refurbish and optimise infrastructure. ERWAT has subsequently submitted a report to the Department of Water and Sanitation detailing the risks associated with the lack of capacity at the ERWAT plants in detail, and the associated costs to mitigate the risks

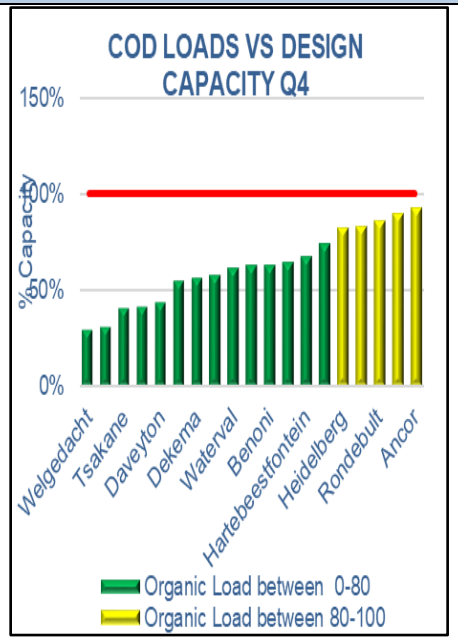
No	Key Legislation	Non Compliance	Details of Non-Compliance	Details	Status & Comments in Q2
					3). The report is to be taken through all the required COE processes for comments and eventually to Council
1.	National Water Act 36of 1998		In Q1 seven (7) out of the nineteen (19) Wastewater Treatment Works were operating above their design capacity, four (4) operating between 80% and 100%, and eight (8) operating below the 80% mark. Ancor operated at 147%, Heidelberg at 147%, Jan Smuts at 133% and Herbert Bickley at 118% Olifantsfontein at 152% of its capacity, with large regional plants such as Vlakplaats operating at 188% and Waterval operating at 198%. Additional capacity is urgently needed.	Incomplete 1. GDS 2055 City Long Term Strategy and 50 Year Masterplan In order for the City to achieve the GDS 2055 Long Term Strategic objectives adequate capital must be invested into the expansion and upgrading of infrastructure and retrofitting new technologies in order to increase capacity as outlined in the recently reviewed 50 Year Infrastructure Master Plan. 2. Increase in Maintenance Costs The current infrastructure is overwhelmed by the demand which result in frequent breakdown of critical infrastructure resulting in increasing maintenance (scheduled and reactive) costs. 3. Insurance Cover There is a probability that insurers may not have the appetite to	Herbert Bickley WWTW The capacity treatment plant upgrade is planned in relation to the 50-year master plan, which computes to 53 Mℓ/d by year The commissioning of the project is anticipated to be 2022/2023 Ancor WWTW 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.

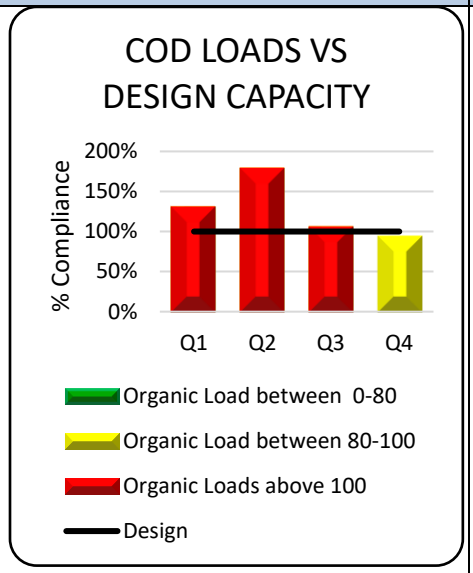
No	Key Legislation	Non Compliance	Details of Non-Compliance	Details	Status & Comments in Q2
				cover assets operating above their design capacity as this in direct violation of the Water use Licences. 4. Pollution Pollution is inevitable with constant breakdown of critical equipment. The Entity has an obligation to care for the environment and protect the health of the communities in which we operate	The commissioning of the project is subject to the availability of funds. Vlakplaats WWTW 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 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 Pending availability of funds Vlakplaats flow distribution project is currently under construction phase to augment and add a peak

No	Key Legislation	Non Compliance	Details of Non-Compliance	Details	Status & Comments in Q2
					flow balancing capacity into the plant. <u>Waterval WWTW</u> 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 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...

No	Key Legislation	Non Compliance	Details of Non-Compliance	Details	Status & Comments in Q2
					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 accommodate 50 Mℓ/d of 584 Mℓ/d for design-built. Pending availability of funds

No	Key Legislation	Non Compliance	Details of Non-Compliance	Details	Status & Comments in Q2
1.	National Water Act 36of 1998		The Country moved from level 3, to level 2 and level 1 of the lockdown during Quarter 1, allowing for more economic activity there was an increase in the industrial loads. This resulted in 4 plants operating above their design organic capacity and six plants operating between 80 and 100% of their design organic capacity. In quarter 4 when the country was still in lockdown levels 5,4 and 3 none of the plants were operating above their design capacity and only 5 were	Incomplete Ancor Care WCW Organic Overload <u>1. Infrastructure Age & Upgrades to date</u> Ancor was built in **1936 (84)** and upgraded over time and consists today of an extended inlet works followed by 3 treatment modules (Module 1, 2, and 3), each module consisting of 3 primary settling tanks (PSTs), 3 bio-filters, 3 humus tanks 5 anaerobic primary digesters and four secondary digesters. Sludge is solar dried in	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.

No	Key Legislation	Non Compliance	Details of Non-Compliance	Details	Status & Comments in Q2
			operating between 80% and 100% of their capacity. Same as above	unlined sludge paddies and stockpiled. 2. Ratio of Wastewater Treatment The WCW treats both domestic wastewater (70%) and highly concentrated industrial (30%) effluent from Springs CBD, New Era- and Nuffield industrial areas. 3. Non-Compliance Problem Statement Ancor WCW is negatively impacted by the high strength industrial effluent received from industries during 2019/2020. The daily organic loads are beyond the design and operational capabilities of the WCW, and is therefore reflected as low compliance with the Water Use License standards. It is recommended that the WCW be upgraded urgently as soon as CAPEX funds becomes available. 4. Challenge The majority of the WCW do not have the technology nor the	*Operations & IPAP*

No	Key Legislation	Non Compliance	Details of Non-Compliance	Details	Status & Comments in Q2
				capacity to treat the organic load received from the industries. The industrial effluent entering the WCW has a negative impact in the treatment processes and contributes to the WCW effluent quality not meeting the Water Use License standards. The organic loading mostly affects the WCW that do not have the hydraulic capacity.	
3	Municipal Finance Management Act 56 of 2003	Account payments within 30 days	Account payments period from days 30-60 days - R17 593 174, 54 61-90 days - R8 227 412,59 91+ days - R32 646 105,80	Incomplete	
				Note: (The reason for the long-outstanding invoices is that the majority of these relates to Pump Station invoices not yet paid, as we have not yet received the corresponding invoice from CoE.)	Finance
		Fruitless and Wasteful Expenditure	There were no fruitless and wasteful reported in quarter 1.	There were no fruitless and wasteful reported in quarter	There were no fruitless and wasteful reported in quarter
		Irregular Expenditure	Prior year irregular expenditure amount to R5 080 069, 00. The	Incomplete	

No	Key Legislation	Non Compliance	Details of Non-Compliance	Details	Status & Comments in Q2
			irregular expenditure relates to 6 contracts.		*Finance & SCM*
4	National Environmental Management: Waste Act, 2008 (Act 59 of 2008)	Underground water pollution	Screenings and Grit generated at the plant are buried on-site at the following 1. Rondebult - 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. 2. Heidelberg. 2. Jan Smuts 3. Ratanda 4 Jan Smuts - Screenings are incinerated at the plant and the grit buried at the plant. 1. Unlined Sludge Drying Beds/Ponds/Dam Ancor, Carl Grundling, Daveyton, Rynfield, Tsakane, Ratanda - Unlined ponds and leaking drying beds Unlined Maturation ponds and Contact tank lagoon Sludge drying beds that are not lined cause underground water pollution. Sludge stock piling is a risk due to veld fires. Stockpiling is seasonal Olifantsfontein -	Incomplete The status on the burial of screenings and grit on-site remained the same According to the 2021 – 2023 MTREF The lining of the Sludge Drying 1. Heidelberg is planned for 2021/2022 and 2022/2023 FY 2. Benoni is planned for 2022/20232. 3. Jan Smuts (stock piling area) planned for 2021/2022 4. Ancor – no budget forecast 5. Carl Grundling – no budget forecast 6. Ratanda – no budget forecast 7. Rynfield - no budget forecast 8. Tsakane – no budget forecast	The status on the burial of screenings and grit on-site remained the same According to the 2021 – 2023 MTREF The lining of the Sludge Drying 1. Heidelberg is planned for 2021/2022 and 2022/2023 FY 2. Benoni is planned for 2022/20232. 3. Jan Smuts (stock piling area) planned for 2021/2022 4. Ancor – no budget forecast 5. Carl Grundling – no budget forecast 6. Ratanda – no budget forecast 7. Rynfield - no budget forecast 8. Tsakane – no budget forecast

No	Key Legislation	Non Compliance	Details of Non-Compliance	Details	Status & Comments in Q2
			Unlined Emergency Dam contaminating borehole		
5	Occupational Health & Safety Act	Signage in line with the requirements of in terms of the Occupational Health & Safety Act Signage on-site not in line with WUL requirements	Signage in line with the requirements of in terms of the Occupational Health & Safety Act Signage in line with the Water Use Licence Requirements	Incomplete Phase 2 of the project is in progress	 *Phase 2 of the Signage project has been finalised and an AS & WHEN Contractor has been appointed for future requirements*

8. Key Audit Matters and Progress

The annual financial statements and annual performance report was submitted to the CoE, National Treasury and the Auditor General of South Africa (AGSA) on 31 October 2020. The auditor general commenced with fieldwork shortly after the submission thereof and the audit is still currently underway.

The AGSA has issued 18 requests for information (RFI's) to date and not findings have been communicated to ERWAT.

The Auditor General of South Africa indicated that they will issue the draft management and audit report by mid-February 2021 and finalise the audit report by the end of February 2021.