

**DWQAR Annual Report 2023 - Kerepehi**

Note: Yellow rows are rules reported to Taumata Arowai on a monthly basis, the rest are reported annually.

Rule ID	Rule Requirement	Rule Type	Compliance Period	Reporting Period	Supply Component ID	Complies With Rule	Non Compliant Periods	Notes
T3.1-t10	Continuous: FAC, pH, Turbidity, Flow, Reservoir Level Calculations: FACE, T <sub>10</sub> contact time, Concentration time (C.t)	Monitoring	1 day	Annually	TP00070	FALSE	2	12/02/2023 - 18:12-19:06 55 minutes no data due to a powercut. 13/12/23 10:31-14:22 Data lost for reservoir 3 only, contact time and concentration time still calculated but may be inaccurate. Flow to reticulation during this period.
T3.1-c.t		Monitoring	1 day	Annually	TP00070	FALSE	2	12/02/2023 - 18:12-19:06 55 minutes no data due to a powercut. 13/12/23 10:31-14:22 Data lost for reservoir 3 only, contact time and concentration time still calculated but may be inaccurate. Flow to reticulation during this period.
T3.2	Treated water must achieve a chlorine C.t value of at least 15 min.mg/L for at least 95 % of each day.	Monitoring	1 day	Monthly	TP00070	FALSE	2	12/02/2023 - 18:12-19:06 55 minutes zero readings due to a powercut. 21/02/23 - The FAC online instrument was moved to a new location 13:34 - 16:03. Instruments readings were placed on hold during this time but came off hold at 14:05 leading to very low readings. The job was not expected to take longer than 30 minutes so no manual readings were taken during this time. UV provided barrier for this period.
T3.3	Treated water must have a FACE of no less than 0.2 mg/L.	Monitoring	1 day	Annually	TP00070	FALSE	5	21/02/23 - The FAC online instrument was moved to a new location 13:34 - 16:03. Instruments readings were placed on hold during this time but came off hold at 14:05 leading to very low readings. The job was not expected to take longer than 30 minutes so no manual readings were taken during this time. UV provided barrier for this period. 09/05/23 - Five non-consecutive minutes under 0.2 FAC. Fluctuating readings caused by low flow rate to instrument. Barrier provided by UV. 12/05/23 - A total of 15 minutes between 23:34 and 23:49 when work was being done on the reticulation pumps. The sample valve wasn't opened once completed giving no flow to the instrument and low readings. Barrier provided by UV. 26/05/23 - Low FACE 46 minutes between 20:42 and 21:41, due to a probe error. Probe could not be recalibrated due to a drift in the zero-point which required over 10 zero-point calibrations to reset. Manual reading at start of calibrations showed FAC of 1.46 mg/L vs instrument reading of 0.17 mg/L. UV provided barrier during this period. 09/06/23 - Total of 2 minutes of FAC readings <0.2 mg/L. Instrument error causing unstable readings and drift in baseline. UV compliant. 03/08/23 - See NOT-5342.
T3.4	T10 contact time of at least 5 minutes must be demonstrated.	Monitoring	1 day	Annually	TP00070	FALSE	2	12/02/2023 - 18:12-19:06 55 minutes zero readings due to a powercut. 21/02/23 - The FAC online instrument was moved to a new location 13:34 - 16:03. Instruments readings were placed on hold during this time but came off hold at 14:05 leading to very low readings. The job was not expected to take longer than 30 minutes so no manual readings were taken during this time. UV provided barrier for this period.
T3.5	Turbidity of water leaving the treatment plant must be less than 1.0 NTU for at least 95% of each day. <sup>43</sup>	Monitoring	1 day	Annually	TP00070	FALSE	4	17/02/23 - 20/02/23 - Retic turbidity meter blocked on Friday 17/02/23 giving reading over 1 NTU, alarms not enabled. Lines cleaned on Monday 20/02/23 and re-enabled alarms. Bacterial compliance covered by UV.
T3.6	Turbidity must not exceed 2.0 NTU for the duration of any consecutive 15-minute period.	Monitoring	1 day	Annually	TP00070	TRUE	0	
T3.15-uvt	All water passing through the treatment plant must pass through the UV reactor(s) and be within the reactor's certified flow range and must be monitored in accordance with Table 22.  Continuous: UVT, Turbidity, Dose, Flow. Monthly: UVI sensor checks Annual: UVI reference sensor calibration/replacement	Monitoring	1 day	Annually	TP00070	TRUE	0	
T3.15-turb		Monitoring	1 day	Annually	TP00070	TRUE	0	
T3.15-dose		Monitoring	1 day	Annually	TP00070	TRUE	0	
T3.15-flow		Monitoring	1 day	Annually	TP00070	FALSE	3	05/05/23 - UVA flow over validated range for 1 min (472.6 m3/hr) caused by a spike in flow through membrane cell 3 on start-up. Dose 45.2 mJ/cm2. Flow measured 258 m3/hr and 265 m3/hr either side. Barrier provided by chlorine. 23/07/23 - UV flow outside of validated range for one minute. Spike in flow through UVA up to 468 m3/hr at 19:21 as membrane cells B and C came online (19:18 and 19:21). Working on the programming of this to avoid this spike. 05/08/23 - See NOT-5343. UVA flow outside range (465.6 m3/hr) for 1 minute at 19:20 when there was a membrane swap. All three filter units were running together for one minute while UVB was off. Work completed on reprogramming later in August 2023.
T3.15-sens	Monitoring	1 month	Annually	TP00070	FALSE	4	Monthly sensor checks not completed in June, September, November and December 2023. Reference sensor standardisations valid at times of monthly checks.	
T3.16	A reduction equivalent dose (RED) of not less than 40 mJ/cm2 (or equivalent) must be achieved for not less than 95 % of each day.	Monitoring	1 day	Annually	TP00070	FALSE	3	UVT programmed in to calculate dose from 19/07/23, prior to that report set that UVT readings below validated value of 90% failed dose even if readings above 40 mJ/cm2. 29/03/23 - UVT instrument error which gave readings below 90% for 83 minutes, 11:56-12:54 (zero readings from 11:56 to 12:30) then off and on between 16:27 and 19:02. Instrument error - manual reading at 12:01 showed 96% UVT. Checked and recalibrated at 12:50. Barriers of 4-log from membranes and chlorine during this period. 02/07/23 - A total of 167 minutes UVT below 90% between 00:38 and 16:02 with an average of 88.9%. 9 non-consecutive minutes of dose readings below 40 mJ/cm2 on top of breaches due to UVT. Chlorine and membrane filtration (4-log) provided barrier for bacteria and protozoa. 05/07/23 - A total of 92 mins below 90% between 19:40-21:53 with an average of 89.6%. 30 non-consecutive minutes of dose readings below 40 mJ/cm2 on top of breaches due to UVT. Chlorine and membrane filtration (4-log) provided barrier for bacteria and protozoa.
T3.17	The RED UV dose must be not less than 40 mJ/cm2 for any consecutive 15-minute period.	Monitoring	1 day	Monthly	TP00070	FALSE	3	UVT programmed in to calculate dose from 19/07/23, prior to that report set that UVT readings below validated value of 90% failed dose even if readings above 40 mJ/cm2. 29/03/23 - UVT instrument error which gave readings below 90% for 83 minutes, 11:56-12:54 (zero readings from 11:56 to 12:30) then off and on between 16:27 and 19:02. Instrument error - manual reading at 12:01 showed 96% UVT. Checked and recalibrated at 12:50. Barriers of 4-log from membranes and chlorine during this period. 17/05/23 - UVT readings put on hold for 30 minutes then read zero for 24 consecutive minutes. Barrier provided by chlorine. 02/07/23 - 1 consecutive period of < 90% UVT of 18min. Chlorine and membrane filters provided compliance for bacteria and protozoa.

Chlorine

Water Treatment Plant - Bacterial Rules

UV



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Rule ID	Rule Requirement	Rule Type	Compliance Period	Reporting Period	Supply Component ID	Complies With Rule	Non Compliant Periods	Notes
T3.18	Turbidity must not exceed 5.0 NTU for the duration of any consecutive 15-minute period.	Monitoring	1 day	Annually	TP00070	TRUE	0	
T3.19	For UV units certified to Ultraviolet Disinfection Guidance Manual (USEPA 2006b) monitored UVI, UVT and flow must be used to calculate dose.	Assurance	1 year	Annually	TP00070	FALSE	1	UVT programmed to calculate dose from 19/07/23 - prior to that UVT compliance measured
T3.22	Drinking water supplies must have a protozoa barrier that provides treatment equal to or exceeding the log level of the water class identified by the Source Water Protozoa Log Credit Treatment Requirements.	Assurance	1 year	Annually	TP00070	TRUE	0	7-log plant
T3.73	All water passing through the treatment plant must pass through the membrane filtration process.	Assurance	1 year	Annually	TP00070	TRUE	0	
T3.74	Direct integrity tests must be performed on each membrane filtration unit at least daily (midnight to midnight) if the membrane filtration unit has been in service at any point during the day.	Monitoring	1 day	Annually	TP00070	FALSE	1	See NOT-4891.
T3.75	No membrane unit may be used while it has failed its direct integrity test.	Assurance	1 year	Annually	TP00070	FALSE	1	16/02/23 to 18/02/23 4-log not met but look-up table confirmed 3-log met in combination with UV (3-log) barrier still in place. Incident report emailed to Taumata Arowai 23/02/23. 21/11/23 - See NOT-6122, 29/11/23 - See NOT-6124, 20/12/23 - See NOT-6312 and 21/12/23 - See NOT-6314.
T3.76	If the turbidity of the membrane filtrate exceeds 0.1 NTU for more than 15 consecutive minutes the membrane unit must be run to waste and not returned to supply until it has passed a direct integrity test.	Monitoring	1 day	Monthly	TP00070	FALSE	1	23/09/23 - See NOT-5489 and incident report M3506249. Over 0.1 NTU from 20:17 to 20:38 (22 minutes), average reading 0.25 NTU, max 0.81 NTU. Reading fell to 0.1098 NTU at 20:24:32, it's possible readings went below 0.1 NTU but were not picked up due to dead bands in data logging. EPIC adjusted programming and logging as per email M3506264.
T3.77	Filtrate turbidity must not exceed 1 NTU at any time.	Monitoring	1 day	Monthly	TP00070	TRUE	0	
T3.78	If the membrane unit has been out of service for maintenance or any other reason for more than 6 hours, a direct integrity test must be completed before the unit is returned to service.	Assurance	1 year	Annually	TP00070	TRUE	0	
T3.79-turb	All of the monitoring requirements in Table 29 must be met.	Monitoring	1 day	Annually	TP00070	TRUE	0	
T3.79-sers		Monitoring	1 day	Annually	TP00070	TRUE	0	
T3.79-cert		Assurance	1 year	Annually	TP00070	TRUE	0	In WSP
T3.85	All water passing through the treatment plant must pass through the UV reactor(s) and be within the reactor's certified flow range for at least 95% of each day.	Assurance	1 year	Annually	TP00070	TRUE	0	
T3.86	The UV dose must meet or exceed that required to achieve the claimed log credit for at least 95% of each day.	Monitoring	1 day	Monthly	TP00070	FALSE	3	UVT programmed in to calculate dose from 19/07/23, prior to that report set that UVT readings below validated value of 90% failed dose even if readings above 40 mJ/cm2. 29/03/23 - UVT instrument error which gave readings below 90% for 83 minutes, 11:56-12:54 (zero readings from 11:56 to 12:30) then off and on between 16:27 and 19:02. Instrument error - manual reading at 12:01 showed 96% UVT. Checked and recalibrated at 12:30. Barriers of 4-log from membranes and chlorine during this period. 02/07/23 - A total of 167 minutes UVT below 90% between 00:38 and 16:02 with an average of 88.9%. 9 non-consecutive minutes of dose readings below 40 mJ/cm2 on top of breaches due to UVT. Chlorine and membrane filtration (4-log) provided barrier for bacteria and protozoa. 03/07/23 - A total of 92 mins below 90% between 19:40-21:53 with an average of 89.6%. 30 non-consecutive minutes of dose readings below 40 mJ/cm2 on top of breaches due to UVT. Chlorine and membrane filtration (4-log) provided barrier for bacteria and protozoa.
T3.87	The UV dose must not be less than that required to achieve the claimed log credit for the duration of any consecutive 15-minute period.	Monitoring	1 day	Annually	TP00070	FALSE	3	UVT was not programmed to calculate dose until 19/07/23, validated value of 90% for unit so report set to fail dose regardless of reading if UVT below 90% until then. 29/03/23 - UVT instrument error which gave readings below 90% for 83 minutes, 11:56-12:54 (zero readings from 11:56 to 12:30) then off and on between 16:27 and 19:02. Instrument error - manual reading at 12:01 showed 96% UVT. Checked and recalibrated at 12:30. Barriers of 4-log from membranes and chlorine during this period. 07/05/23 - UVT readings put on hold for 30 minutes then read zero for 24 consecutive minutes. Barrier provided by membranes (4-log). 02/07/23 - UVT < 90% for 18 minutes. Chlorine and membrane filtration (4-log) provided barrier for bacteria and protozoa.
T3.88	Turbidity must not exceed 5.0 NTU for the duration of any consecutive 15-minute period.	Monitoring	1 day	Annually	TP00070	TRUE	0	
T3.89	UVT must meet or exceed 95% of the UVT for which the reactor has been certified for at least 95% of each day. <sup>54</sup>	Monitoring	1 day	Annually	TP00070	FALSE	1	UVT programmed to calculate dose from 19/07/23 - prior to that UVT compliance measured. 29/03/23 - UVT instrument error which gave readings below 90% for 83 minutes, 11:56-12:54 (zero readings from 11:56 to 12:30) then off and on between 16:27 and 19:02. Instrument error - manual reading at 12:01 showed 96% UVT. Checked and recalibrated at 12:30. Barriers of 4-log from membranes and chlorine during this period.
T3.90	UVT must not be less than 80% of the lowest UVT for which the reactor has been certified for the duration of any consecutive 15-minute period. <sup>55</sup>	Monitoring	1 day	Annually	TP00070	FALSE	2	UVT programmed to calculate dose from 19/07/23 - prior to that UVT compliance measured. 29/03/23 - UVT instrument error which gave readings below 90% for 83 minutes, 11:56-12:54 (zero readings from 11:56 to 12:30) then off and on between 16:27 and 19:02. Instrument error - manual reading at 12:01 showed 96% UVT. Checked and recalibrated at 12:30. Barriers of 4-log from membranes and chlorine during this period. 07/05/23 - UVT readings put on hold for 30 minutes then read zero for 24 consecutive minutes. Barrier provided by membranes (4-log).
T3.91-uvt	All of the monitoring requirements in Table 32 must be met.	Monitoring	1 day	Annually	TP00070	TRUE	0	
T3.91-turb		Monitoring	1 day	Annually	TP00070	TRUE	0	
T3.91-dose		Monitoring	1 day	Annually	TP00070	FALSE	200	UVT programmed to calculate dose from 19/07/23 - prior to that UVT compliance measured and dose programmed to fail in reports when UVT dropped below validated value (90%).
T3.91-flow		Monitoring	1 day	Annually	TP00070	TRUE	0	



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T3.91-sens	<b>Annual:</b> UVI reference sensor calibration/replacement	Monitoring	1 month	Annually	TP00070	FALSE	4	Monthly sensor checks not completed in June, September, November and December 2023. Reference sensor standardisations valid at times of monthly checks. in WSP
T3.91-cert		Assurance	1 year	Annually	TP00070	TRUE	0	
T3.92	Values for determinands in treated water that: 1. exceed 50% of their MAV in the source water, or 2. are added or formed in the treatment process (as well as impurities in treatment chemicals), must be identified by the collection and analyses of 15 samples over a 12-month period (with no more than two samples collected in any calendar month).	Assurance	1 year	Annually	TP00070	TRUE	0	
T3.93-stan	Determinands identified by the sampling programme outlined in rule T3.92 must be categorised as either standard typical range or elevated typical range and must be sampled at the frequency set out in Table 33.	Monitoring	1 year	Annually	TP00070	TRUE	0	
T3.93-fac	<b>Continuous:</b> FAC <b>Monthly:</b> Mn, Al, Pb <b>Annually:</b> all other chemicals (see table 34)	Monitoring	1 month	Annually	TP00070	TRUE	0	
T3.94	Samples must be taken from a point directly after the final treatment process (including chlorine contact tanks as they are part of the treatment process).	Assurance	1 year	Annually	TP00070	TRUE	0	
T3.95	Containers used for collecting samples must be obtained from a laboratory and appropriate for the target determinand.	Assurance	1 year	Annually	TP00070	TRUE	0	
T3.96	Event based monitoring (determined by the water supplier) must be undertaken for any event that may rapidly introduce high concentrations of health-significant chemical determinands into the water at the source or at the treatment plant.	Monitoring	1 year	Annually	TP00070	TRUE	0	No events in 2023.
T3.97	If cyanotoxins are identified in treated water, cyanotoxin testing must be undertaken in accordance with the supply cyanobacteria/cyanotoxin response plan or at least twice weekly (whichever is more frequent) until cyanotoxins are not present.	Monitoring	1 year	Annually	TP00070	TRUE	0	Toxins not detected in treated water in 2023.
D3.19	A FAC of at least 0.2 mg/L must be maintained in 85% of samples (or 85% of the time if continuously monitored). Up to 15% of samples (or 15% of the time if continuously monitored) may have a FAC of less than 0.2 mg/L but must be greater than 0.1 mg/L.	Monitoring	1 month	Monthly	KER005KW	TRUE	0	
D3.20	Samples must be collected for FAC at the frequencies outlined in table 35. <sup>65</sup> <b>Frequency:</b> 3/wk, max interval 4 days, 5 days of week used	Assurance	1 year	Annually	KER005KW	TRUE	0	
D3.21	Routine sampling sites must be located to adequately represent the distribution system and areas associated with higher risk of deterioration in drinking water quality and population exposure. <sup>66</sup>	Assurance	1 year	Annually	KER005KW	TRUE	0	
D3.22-chlf	Analyses must be undertaken in each distribution zone according to the frequencies set out in Table 37 for the following disinfection by-products: 1. trihalomethanes: chloroform, bromodichloromethane, dibromochloromethane, and bromoform; and 2. haloacetic acids: dichloroacetic acid and trichloroacetic acid. <b>Frequency:</b> 1 per quarter <sup>68,69</sup>	Monitoring	1 year	Annually	KER005KW	TRUE	0	
D3.22-bdcm		Monitoring	1 year	Annually	KER005KW	TRUE	0	
D3.22-dbcm		Monitoring	1 year	Annually	KER005KW	TRUE	0	
D3.22-brof		Monitoring	1 year	Annually	KER005KW	TRUE	0	
D3.22-dcca		Monitoring	1 year	Annually	KER005KW	TRUE	0	
D3.22-tcaa		Monitoring	1 year	Annually	KER005KW	TRUE	0	
D3.23	Sample sites for disinfection by-products must represent both peripheral and central locations in the distribution system.	Assurance	1 year	Annually	KER005KW	TRUE	0	See HDC Sampling Plan, 10/11/22.
D3.24-anti	Analyses must be undertaken in each distribution zone for the plumbosolvent metals outlined in Table 38.  <b>Six-monthly:</b> Antimony, cadmium, chromium, copper, lead, mercury, nickel, zinc <sup>70</sup>	Monitoring	1 year	Annually	KER005KW	TRUE	0	
D3.24-cadm		Monitoring	1 year	Annually	KER005KW	TRUE	0	
D3.24-chro		Monitoring	1 year	Annually	KER005KW	TRUE	0	
D3.24-copp		Monitoring	1 year	Annually	KER005KW	TRUE	0	
D3.24-lead		Monitoring	1 year	Annually	KER005KW	TRUE	0	
D3.24-merc		Monitoring	1 year	Annually	KER005KW	TRUE	0	
D3.24-nick		Monitoring	1 year	Annually	KER005KW	TRUE	0	
D3.24-zinc		Monitoring	1 year	Annually	KER005KW	TRUE	0	
D3.28	A written sampling plan for monitoring total coliforms, E. coli and any other determinands deemed necessary by the water supplier must be prepared, including a system map indicating sampling locations and a response plan for positive results.	Monitoring	1 year	Annually	KER005KW	TRUE	0	See HDC Sampling Plan, 10/11/22.
D3.29	E. coli and total coliforms must be monitored in each zone of the distribution system according to the frequencies set out in Table 39. <b>Frequency:</b> 1/wk, max interval 9 days, 5 days of week used	Monitoring	1 month	Monthly	KER005KW	TRUE	0	
D3.30	Routine sampling sites must be located to adequately represent water in the distribution system, including water leaving storage facilities, and entry points for water from another water supplier.	Assurance	1 year	Annually	KER005KW	TRUE	0	See HDC Sampling Plan, 10/11/22.
D3.31	Samples must be collected according to written sampling protocols prepared by the drinking water supplier or the laboratory undertaking the sample analysis.	Assurance	1 year	Annually	KER005KW	TRUE	0	Shared Services Collecting Drinking Water Samples Version 18.1 dated 18/03/2023.

<sup>7</sup> Separation between data records of up to five minutes is allowed for FAC analysers and fluoride analysers where the minimum cycle time specified by the analyser manufacturer exceeds 1 minute.

<sup>31</sup> Samples of raw water may be collected at the treatment plant for this purpose.

<sup>32</sup> Samples should not be collected if there are health and safety risks to people collecting samples that are not appropriately eliminated or minimised.

<sup>35</sup> Must be sampled monthly if the determinand exceeds 50% of its MAV. Sampling may return to annually after 12 consecutive samples are less than 50% of the MAV.

<sup>41</sup> Where continuous monitoring analysers fail or require maintenance, daily grab samples can be taken until the continuous monitoring equipment can be brought back into service.

<sup>43</sup> Where lime is used for post-treatment pH adjustment, analysis may be undertaken before the lime is dosed.

<sup>54</sup> These requirements do not apply to UV disinfection systems that automatically adjust the UV dose as the UVT of the water flowing through the reactor varies.

<sup>55</sup> These requirements do not apply to UV disinfection systems that automatically adjust the UV dose as the UVT of the water flowing through the reactor varies.

<sup>65</sup> Demonstrating compliance with this rule (D3.20) is not required if FAC is continuously monitored according to rules D3.25 to D3.27.

<sup>66</sup> Demonstrating compliance with this rule (D3.21) is not required if FAC is continuously monitored according to rules D3.25 to D3.27.

<sup>68</sup> Additional targeted sampling should be undertaken in accordance with the sampling programme to understand the conditions and circumstances that lead to DBP formation.

<sup>69</sup> After 2 years if consecutive samples are less than 50% of the MAV sampling may reduce to 1 per year. If any annual sample exceeds 50% of a MAV, sampling must return to quarterly.

<sup>70</sup> Must be sampled monthly if the determinand exceeds 50% of its MAV. Sampling can return to 6 monthly after 12 samples are less than 50% of the MAV.



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Rule ID	Rule Requirement	Rule Type	Compliance Period	Reporting Period	Supply Component ID	Complies With Rule	Non Compliant Periods	Notes	
General Rules	G13	For continuous monitoring equipment that is used to demonstrate compliance against treatment Rules (T1, T2, T3), the separation between data records must be no more than 1 minute. <sup>7</sup>	Assurance	1 year	Annually	TP00071	TRUE	0	
	G14	Generation of continuous monitoring data that is used to demonstrate compliance against T3 treatment Rules or D3 Distribution Rules, must not be interrupted for a period of more than 15 consecutive minutes, or for a total of more than 72 minutes in any one-day compliance period, for compliance to be achieved.	Assurance	1 year	Annually	TP00071	TRUE	0	
	G15	For continuous monitoring equipment that is used to assess source water or to demonstrate compliance against distribution zone Rules, the separation between data records must be no more than 30 minutes.	Assurance	1 year	Annually	S00046	FALSE	1	All continuous monitoring instruments live 01/08/2023.
	G15	For continuous monitoring equipment that is used to assess source water or to demonstrate compliance against distribution zone Rules, the separation between data records must be no more than 30 minutes.	Assurance	1 year	Annually	S00370	FALSE	1	All continuous monitoring instruments live 01/08/2023.
	G17	Where continuous monitoring equipment that is used to demonstrate compliance (excludes source water monitoring) fails, or is not otherwise able to provide data, grab samples can be taken to substitute for continuous data if analyses of the parameters is undertaken for at least every 30-minute period that the continuous monitoring equipment is not operating.	Assurance	1 year	Annually	TP00071	TRUE	0	
Source Water Rules Ta Stream, S00370 - Waitakaruru River	S3.1	Water suppliers must determine the class of source water for each of the source waters that are used, based on the Source Water Protozoa Log Credit Treatment Requirements.	Assurance	1 year	Annually	S00046	TRUE	0	Class 3, 4-log required.
	S3.1	Water suppliers must determine the class of source water for each of the source waters that are used, based on the Source Water Protozoa Log Credit Treatment Requirements.	Assurance	1 year	Annually	S00370	TRUE	0	Class 3, 4-log required.
	S3.3-ecol	All source waters must be monitored for the determinands and at the frequencies set out below; <b>2 per month:</b> E. coli and total coliforms <b>Monthly:</b> Iron, manganese, colour, nitrate <b>Annually:</b> Alkalinity, antimony, arsenic, barium, cadmium, calcium, chloride, chromium, copper, lead, magnesium, mercury, nickel, sodium, sulphate. <sup>35</sup> <b>Continuous:</b> Conductivity, pH, Turbidity <sup>41</sup>	Monitoring	N/A	Annually	S00046	TRUE	0	
	S3.3-coli		Monitoring	N/A	Annually	S00046	TRUE	0	
	S3.3-iron		Monitoring	N/A	Annually	S00046	TRUE	0	
	S3.3-mang		Monitoring	N/A	Annually	S00046	TRUE	0	
	S3.3-colo		Monitoring	N/A	Annually	S00046	TRUE	0	
	S3.3-nitr		Monitoring	N/A	Annually	S00046	TRUE	0	
	S3.3-alka		Monitoring	N/A	Annually	S00046	TRUE	0	
	S3.3-anti		Monitoring	N/A	Annually	S00046	TRUE	0	
	S3.3-arse		Monitoring	N/A	Annually	S00046	TRUE	0	
	S3.3-bari		Monitoring	N/A	Annually	S00046	TRUE	0	
	S3.3-cadm		Monitoring	N/A	Annually	S00046	TRUE	0	
	S3.3-calc		Monitoring	N/A	Annually	S00046	TRUE	0	
	S3.3-chld		Monitoring	N/A	Annually	S00046	TRUE	0	
	S3.3-chro		Monitoring	N/A	Annually	S00046	TRUE	0	
	S3.3-copp		Monitoring	N/A	Annually	S00046	TRUE	0	
	S3.3-lead		Monitoring	N/A	Annually	S00046	TRUE	0	
	S3.3-magn		Monitoring	N/A	Annually	S00046	TRUE	0	
	S3.3-merc		Monitoring	N/A	Annually	S00046	TRUE	0	
	S3.3-nick		Monitoring	N/A	Annually	S00046	TRUE	0	
	S3.3-sodi		Monitoring	N/A	Annually	S00046	TRUE	0	
	S3.3-sulp	Monitoring	N/A	Annually	S00046	TRUE	0		
	S3.3C-cond	Monitoring	N/A	Annually	S00046	FALSE	0	Continuous monitoring instruments live 01/08/2023 (reading combined raw water at the WTP), 50 manual samples taken in 2023 but not covering all days before this was set up	
	S3.3C-ph	Monitoring	N/A	Annually	S00046	FALSE	0	Continuous monitoring instruments live 01/08/2023 (reading combined raw water at the WTP), 52 manual samples taken in 2023 but not covering all days before this was set up	
	S3.3C-turb	Monitoring	N/A	Annually	S00046	TRUE	0		
	S3.3-ecol	Monitoring	N/A	Annually	S00370	TRUE	0		
	S3.3-coli	Monitoring	N/A	Annually	S00370	TRUE	0		
	S3.3-iron	Monitoring	N/A	Annually	S00370	TRUE	0		
	S3.3-mang	Monitoring	N/A	Annually	S00370	TRUE	0		
	S3.3-colo	Monitoring	N/A	Annually	S00370	TRUE	0		
	S3.3-nitr	Monitoring	N/A	Annually	S00370	TRUE	0		
	S3.3-alka	Monitoring	N/A	Annually	S00370	TRUE	0		
S3.3-anti	Monitoring	N/A	Annually	S00370	TRUE	0			
S3.3-arse	Monitoring	N/A	Annually	S00370	TRUE	0			
S3.3-bari	Monitoring	N/A	Annually	S00370	TRUE	0			
S3.3-cadm	Monitoring	N/A	Annually	S00370	TRUE	0			
S3.3-calc	Monitoring	N/A	Annually	S00370	TRUE	0			
S3.3-chld	Monitoring	N/A	Annually	S00370	TRUE	0			
S3.3-chro	Monitoring	N/A	Annually	S00370	TRUE	0			
S3.3-copp	Monitoring	N/A	Annually	S00370	TRUE	0			
S3.3-lead	Monitoring	N/A	Annually	S00370	TRUE	0			
S3.3-magn	Monitoring	N/A	Annually	S00370	TRUE	0			
S3.3-merc	Monitoring	N/A	Annually	S00370	TRUE	0			
S3.3-nick	Monitoring	N/A	Annually	S00370	TRUE	0			
S3.3-sodi	Monitoring	N/A	Annually	S00370	TRUE	0			
S3.3-sulp	Monitoring	N/A	Annually	S00370	TRUE	0			



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Note: Yellow rows are rules reported to Taumata Arowai on a monthly basis, the rest are reported annually.

Rule ID	Rule Requirement	Rule Type	Compliance Period	Reporting Period	Supply Component ID	Complies With Rule	Non Compliant Periods	Notes	
S S00046 - Mangatarai	S3.3C-cond	Monitoring	N/A	Annually	S00370	FALSE	0	Continuous monitoring instruments live 01/08/2023 (reading combined raw water at the WTP), 179 manual samples taken in 2023 but not covering all days before this was set up.	
	S3.3C-ph	Monitoring	N/A	Annually	S00370	FALSE	0	Continuous monitoring instruments live 01/08/2023 (reading combined raw water at the WTP), 230 manual samples taken in 2023 but not covering all days before this was set up.	
	S3.3C-turb	Monitoring	N/A	Annually	S00370	TRUE	0		
	S3.5	Additional monitoring of Class 2, Class 3 and Class 4 source waters must be undertaken either during or immediately after a severe or extreme weather event or other events which could adversely affect source water quality. <sup>31 32</sup>	Monitoring	N/A	Annually	S00046	FALSE	0	Weather event (high rainfall) baseline samples taken 05/09/23 and 30/10/23 as stated in the SWRMP but not for all determinands listed.
	S3.6	Monitoring of source water must be undertaken for any determinand additional to those set out in Table 16 and 18 if the determinand has been identified in the drinking water supply Source Water Risk Management Plan as presenting a potential risk to the drinking water supply.	Monitoring	N/A	Annually	S00046	FALSE	0	Quarterly samples taken as stated in the SWRMP but not all determinands listed able to be sampled.
	S3.7	Water sources must be categorised as either low-risk, medium-risk or high-risk for the presence of cyanobacteria.	Assurance	1 year	Annually	S00046	TRUE	0	High-risk
	S3.8	When a water supply is categorised as medium or high-risk under rule S3.7, a cyanobacteria / cyanotoxin response plan must be prepared which includes vigilance levels for assessing the presence of cyanobacteria and alert levels related to the presence of cyanotoxins, monitoring for cyanobacteria/cyanotoxins and the action that will be taken to protect consumers.	Assurance	1 year	Annually	S00046	TRUE	0	Testing being done as stated in latest update (draft) of cyanobacteria management plan using DWG ch9 matrix.
	S3.9	If a water supplier becomes aware of the presence of cyanobacteria in source water, monitoring to determine the level of cyanobacteria and/or cyanotoxin levels must be considered in accordance with the cyanobacteria/cyanotoxin response plan.	Assurance	1 year	Annually	S00046	TRUE	0	Testing being done as stated in latest update (draft) of cyanobacteria management plan using DWG ch9 matrix.
	S3.5	Additional monitoring of Class 2, Class 3 and Class 4 source waters must be undertaken either during or immediately after a severe or extreme weather event or other events which could adversely affect source water quality. <sup>31 32</sup>	Monitoring	N/A	Annually	S00370	FALSE	0	Weather event (high rainfall) baseline samples taken 05/09/23 and 30/10/23 as stated in the SWRMP but not for all determinands listed.
	S3.6	Monitoring of source water must be undertaken for any determinand additional to those set out in Table 16 and 18 if the determinand has been identified in the drinking water supply Source Water Risk Management Plan as presenting a potential risk to the drinking water supply.	Monitoring	N/A	Annually	S00370	FALSE	0	Quarterly samples taken as stated in the SWRMP but not all determinands listed able to be sampled.
	S3.7	Water sources must be categorised as either low-risk, medium-risk or high-risk for the presence of cyanobacteria.	Assurance	1 year	Annually	S00370	TRUE	0	High-risk
	S3.8	When a water supply is categorised as medium or high-risk under rule S3.7, a cyanobacteria / cyanotoxin response plan must be prepared which includes vigilance levels for assessing the presence of cyanobacteria and alert levels related to the presence of cyanotoxins, monitoring for cyanobacteria/cyanotoxins and the action that will be taken to protect consumers.	Assurance	1 year	Annually	S00370	TRUE	0	Testing being done as stated in latest update (draft) of cyanobacteria management plan using DWG ch9 matrix.
	S3.9	If a water supplier becomes aware of the presence of cyanobacteria in source water, monitoring to determine the level of cyanobacteria and/or cyanotoxin levels must be considered in accordance with the cyanobacteria/cyanotoxin response plan.	Assurance	1 year	Annually	S00370	TRUE	0	Testing being done as stated in latest update (draft) of cyanobacteria management plan using DWG ch9 matrix.
	IV Water Treatment Plant - Bacterial Rules Chlorine	T3.1-fac	Monitoring	1 day	Annually	TP00071	TRUE	0	
T3.1-ph		Monitoring	1 day	Annually	TP00071	TRUE	0		
T3.1-turb		Monitoring	1 day	Annually	TP00071	TRUE	0		
T3.1-flow		Monitoring	1 day	Annually	TP00071	TRUE	0		
T3.1-leve		Monitoring	1 day	Annually	TP00071	TRUE	0		
T3.1-face		Monitoring	1 day	Annually	TP00071	TRUE	0		
T3.1-t10		Monitoring	1 day	Annually	TP00071	TRUE	0		
T3.1-c-t		Monitoring	1 day	Annually	TP00071	TRUE	0		
T3.2		Treated water must achieve a chlorine C.t value of at least 15 min.mg/L for at least 95 % of each day.	Monitoring	1 day	Monthly	TP00071	FALSE	2	01/01/23 and 05/01/23 - fault with pH probe which caused spikes in readings up to pH 14 affecting FACE and concentration time. Actual FAC concentrations OK, manual pH readings not taken for all periods. UV providing barrier on those days.
T3.3		Treated water must have a FACE of no less than 0.2 mg/L.	Monitoring	1 day	Annually	TP00071	FALSE	3	01/01/23, 05/01/23 and 09/01/23 - fault with pH probe which caused spikes in readings up to pH 14. Actual FAC concentrations OK, manual pH readings not taken for all periods. UV providing barrier on those days.
T3.4		T10 contact time of at least 5 minutes must be demonstrated.	Monitoring	1 day	Annually	TP00071	TRUE	0	
T3.5		Turbidity of water leaving the treatment plant must be less than 1.0 NTU for at least 95% of each day. <sup>43</sup>	Monitoring	1 day	Annually	TP00071	FALSE	3	01/04/23 and 02/04/23 - see NOT-4354. 21/12/23 - turbidity in reservoir above 1.0 NTU for 6.3% of day due to low level, UV barrier in place.
T3.6		Turbidity must not exceed 2.0 NTU for the duration of any consecutive 15-minute period.	Monitoring	1 day	Annually	TP00071	FALSE	1	21/12/23 - Turbidity high in reservoir due to low level, over 2 NTU twice for two consecutive 19 minute periods, UV barrier in place.
T3.15-uvt		Monitoring	1 day	Annually	TP00071	TRUE	0		
T3.15-turb	Monitoring	1 day	Annually	TP00071	TRUE	0			
T3.15-uvi	Monitoring	1 day	Annually	TP00071	TRUE	0			
T3.15-dose	Monitoring	1 day	Annually	TP00071	TRUE	0			
T3.15-flow	Continuous: UVT, Turbidity, Dose, Flow. Monthly: UVI sensor checks	Monitoring	1 month	Annually	TP00071	FALSE	1	13/02/23 - UVB outside validated flow for 2.4% of the day. Bacterial barrier provided by chlorination.	
T3.15-sens	Annual: UVI reference sensor calibration/replacement				TP00071	FALSE	7	Monthly sensor checks not completed in October and December 2023. Reference sensor standardisation 10/06/22, expired 10/06/23, non-compliant from June to December.	



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Note: Yellow rows are rules reported to Taumata Arowai on a monthly basis, the rest are reported annually.

Wā	U	Rule ID	Rule Requirement	Rule Type	Compliance Period	Reporting Period	Supply Component ID	Complies With Rule	Non Compliant Periods	Notes
tozoal Rules	U	T3.16	A reduction equivalent dose (RED) of not less than 40 mJ/cm2 (or equivalent) must be achieved for not less than 95 % of each day.	Monitoring	1 day	Annually	TP00071	FALSE	1	01/04/23 - See NOT-4354.
		T3.17	The RED UV dose must be not less than 40 mJ/cm2 for any consecutive 15-minute period.	Monitoring	1 day	Monthly	TP00071	TRUE	0	
		T3.18	Turbidity must not exceed 5.0 NTU for the duration of any consecutive 15-minute period.	Monitoring	1 day	Annually	TP00071	TRUE	0	
		T3.19	For UV units certified to Ultraviolet Disinfection Guidance Manual (USEPA 2006b) monitored UV, UVT and flow must be used to calculate dose.	Assurance	1 year	Annually	TP00071	TRUE	0	
	T3.22	Drinking water supplies must have a protozoa barrier that provides treatment equal to or exceeding the log level of the water class identified by the Source Water Protozoa Log Credit Treatment Requirements.	Assurance	1 year	Annually	TP00071	TRUE	0	Plant capable of 8-log barrier provided by coagulation, flocculation, sedimentation and filtration (up to 4-log) followed by UV (4-log)	
	Sand filters (3-log)	T3.38	All water passing through the treatment plant must pass through the coagulation, flocculation, sedimentation, and filtration process.	Assurance	1 year	Annually	TP00071	TRUE	0	
		T3.39	Turbidity must not exceed 0.3 NTU for more than 5% of each day.	Monitoring	1 day	Monthly	TP00071	FALSE	4	02/04/23 - See NOT-4354. Only met on filter 2 (of 3) for 87% of run time. UV compliant providing the 4-log removal required. 08/07/23 - 3-log lost on SF2. See incident report M3449231 and NOT-4949. UV provided 4-log barrier. 11/09/23 - SF2 - 3-log not achieved (above 0.3 NTU for 5.1% of 762 mins) 4-log achieved from UV unit. 11/09/23 - SF1 turbidity above 0.3 NTU for 6.2 % of run time (1123 minutes), 4-log achieved from UV
		T3.40	Turbidity must not exceed 0.5 NTU for the duration of any consecutive 15-minute period.	Monitoring	1 day	Monthly	TP00071	FALSE	3	02/04/23 - See NOT-4354. Filter 2 (of 3) not compliant for 57 consecutive minutes. UV compliant providing the 4-log removal required. 08/07/23 - 3-log lost on SF2. See incident report M3449231 and NOT-4949. UV provided 4-log barrier. 11/09/23 - SF1 turbidity above 0.5 NTU for 56 consecutive minutes, 4-log achieved from UV
		T3.41-turb	All of the monitoring in Table 25 must be met. Continuous: Turbidity, Service state	Monitoring	1 day	Annually	TP00071	TRUE	0	
		T3.41-sers		Monitoring	1 day	Annually	TP00071	TRUE	0	FCVs used to determine service state.
		T3.41-lmts		Assurance	1 year	Annually	TP00071	TRUE	0	
		T3.42	All water passing through the treatment plant must pass through the coagulation, flocculation, sedimentation, and filtration process.	Assurance	1 year	Annually	TP00071	TRUE	0	
	Sand filters (3.5-log)	T3.43	Turbidity must not exceed 0.15 NTU for more than 5% of each day.	Monitoring	1 day	Monthly	TP00071	FALSE	17	23/03/23 - 3.5-log not achieved on SF1. 3-log achieved for this day, combined with 4-log from UV. 01/04/23 - See NOT-4354. Not met on any filter. T3.39 (3-log) met. 02/04/23 - See NOT-4354. Not met on any filter. 04/05/23 - 3.5-log lost on filter 2, 106 mins over 0.1 NTU and 48 mins over 0.15 NTU (763 mins run time). 3-log achieved with 4-log from UV. 13/06/23 - 3.5-log lost for SF1. 3-log met which provided barrier with UV 4-log. 08/07/23 - 3-log lost on SF2. See incident report M3449231 and NOT-4949. UV provided 4-log barrier. 13/07/23 - 3.5-log lost on SF2, 3-log achieved - 185 min run time, 65 min >0.15 NTU. 18/07/23 - 3.5-log lost on SF2, 3-log achieved - 1270 min run time, 76 over 0.15 NTU. 20/07/23 - 3.5-log lost on SF1, 3 log achieved - only running for 14 minutes, over 0.15 NTU for 2 of them. 11/08/23 - SF2 - 3.5-log not achieved (above 0.15 NTU for 8.3% of 762 mins) 4-log achieved from UV unit. 28/08/23 - SF1 - 3.5-log not achieved (above 0.15 NTU for 9.9 % of 1283 mins) but 7-log total for day. 29/08/23 - SF1 - 3.5-log not achieved (above 0.15 NTU for 12.9 % of 1254 mins) but 7-log total for day. 11/09/23 - SF1 turbidity above 0.15 NTU for 6.5 % of run time (1123 minutes), 4-log achieved from UV. 13/09/23 - SF1 turbidity above 0.15 NTU for 4.8 % of run time (819 minutes) and SF2 turbidity above 0.1 NTU for 36.4 % of run time (802 minutes), 3-log achieved with 4-log from UV. 08/11/23 - SF2 above 0.15 NTU for 16.8% of run time (167 minutes), 3-log from filters, 4-log from UV. 19/12/23 - SF1 over 0.15 NTU for 7.4% of run time (813 mins). 3-log achieved from filters and 4-log from UV. 31/12/23 - SF1 over 0.15 NTU for 24.6% of run time (921 mins), SF2 over 0.15 NTU for 18.1% of run time (941 mins) and SF3 over 0.15 NTU for 20.2% of run time (659 mins). 3-log achieved from filters and 4-log from UV.
		T3.44	Turbidity must not exceed 0.5 NTU for the duration of any consecutive 15-minute period.	Monitoring	1 day	Monthly	TP00071	FALSE	3	02/04/23 - See NOT-4354. Not met on filter 2 (of 3). 08/07/23 - 3-log lost on SF2. See incident report M3449231 and NOT-4949. UV provided 4-log barrier. 11/09/23 - SF1 turbidity above 0.5 NTU for 56 consecutive minutes, 4-log achieved from UV.
		T3.45-turb	All of the monitoring in Table 25 must be met. Continuous: Turbidity, Service state	Monitoring	1 day	Annually	TP00071	TRUE	0	
		T3.45-sers		Monitoring	1 day	Annually	TP00071	TRUE	0	FCVs used to determine service state.
	T3.45-lmts	Assurance		1 year	Annually	TP00071	TRUE	0		
T3.46	All water passing through the treatment plant must pass through the coagulation, flocculation, sedimentation, and filtration process.	Assurance	1 year	Annually	TP00071	TRUE	0			



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Water Treatment Plant - Protoz

Sand filters (4-log)

Rule ID	Rule Requirement	Rule Type	Compliance Period	Reporting Period	Supply Component ID	Complies With Rule	Non Compliant Periods	Notes
T3.47	Turbidity must not exceed 0.13 NTU for more than 5% of each day.	Monitoring	1 day	Monthly	TP00071	FALSE	43	23/04/23 - 3-log not achieved on SF1 or SF2. 3-log achieved for this day, combined with 4-log from UV. 01/04/23 - See NOT-4354. Not met on any filter. T3.39 (3-log) met. 02/04/23 - See NOT-4354. Not met on any filter. 02/05/23 - 4-log lost on filter 3, 71 mins over 0.1NTU. 3.5-log achieved with 4-log from UV. 04/05/23 - 4-log lost on filter 3, 141 mins over 0.1 NTU. 3.5-log achieved with 4-log from UV. 13/06/23 - 4-log lost for SF1. 3-log met which provided barrier with UV 4-log. 17/06/23 - 4-log lost for SF1. 3.5-log met which provided barrier with UV 4-log. 18/06/23 - 4-log lost for SF2. 3.5-log met which provided barrier with UV 4-log. 26/06/23 - 4-log lost for SF1. 3.5-log met which provided barrier with UV 4-log. 08/07/23 - 3-log lost on SF2. See incident report M3449231 and NOT-4949. UV provided 4-log barrier. 13/07/23 - 4-log lost on SF2, 3-log achieved - 185 min run time, 145 min >0.1 NTU. 18/07/23 - 4-log lost on SF2, 3-log achieved - 1270 min run time, 78 over 0.1 NTU. 20/07/23 - 4-log lost on SF1, 3-log achieved - only running for 14 minutes, over 0.1 NTU for 12 of them. 24/07/23 - 4-log lost on SF1, 3.5-log achieved - 1138 minutes run time, 57 minutes over 0.1, 5.009%. 04/08/23 - SF3 - 4-log not achieved (above 0.1 NTU for 5.9% of 286 mins) but 7.5-log total for day 05/08/23 - SF3 - 4-log not achieved (above 0.1 NTU for 5.9% of 286 mins) but 7.5-log total for day 08/08/23 - SF1 - 4-log not achieved (above 0.1 NTU for 9% of 987 mins) but 7.5-log total for day 09/08/23 - SF1 - 4-log not achieved (above 0.1 NTU for 11.2% of 975 mins) but 7.5-log total for day 11/08/23 - SF2 - 4-log not achieved (above 0.1 NTU for 21.7% of 762 mins) 4-log achieved from UV unit. 13/08/23 - SF1 - 4-log not achieved (above 0.1 NTU for 11.2% of 80 mins) but 7.5-log total for day 14/08/23 - SF1 - 4-log not achieved (above 0.1 NTU for 11.2% of 148 mins) but 7.5-log total for day 20/08/23 - SF1 - 4-log not achieved (above 0.1 NTU for 13.6% of 690 mins) but 7.5-log total for day 28/08/23 - SF1 - 4-log not achieved (above 0.10 NTU for 9.9 % of 1283 mins) but 7-log total for day 29/08/23 - SF1 - 4-log not achieved (above 0.10 NTU for 12.9 % of 1254 mins) but 7-log total for day 10/09/23 - SF1 turbidity above 0.1 NTU for 5.8 % of run time (1252 minutes). 3.5-log from filters achieved with 4-log from UV. 11/09/23 - SF1 turbidity above 0.1 NTU for 6.9 % of run time (1123 minutes). 4-log achieved from UV 12/09/23 - SF1 turbidity above 0.1 NTU for 7.2 % of run time (1220 minutes). 3.5-log achieved with 4-log from UV. 13/09/23 - SF1 turbidity above 0.1 NTU for 37.1 % of run time (819 minutes). SF2 turbidity above 0.1 NTU for 36.4 % of run time (802 minutes) and SF3 turbidity above 0.1 NTU for 4.6 % of run time (773 minutes). 3-log achieved and 4-log from UV. 14/09/23 - See
T3.48	Turbidity must not exceed 0.3 NTU for the duration of any consecutive 15-minute period.	Monitoring	1 day	Monthly	TP00071	FALSE	7	02/04/23 - See NOT-4354. Not met on filter 2 (of 3). 08/07/23 - 3-log lost on SF2. See incident report M3449231 and NOT-4949. UV provided 4-log barrier. 18/07/23 - 4-log lost on SF2, 3-log achieved - 22 consecutive minutes above 0.3 NTU. 25/07/23 - 4-log lost on SF2, 3.5-log achieved - 18 consecutive minutes over 0.3 NTU. 11/08/23 - SF2 - 4-log not achieved (above 0.3 NTU for 39 consecutive mins) 4-log achieved from UV unit 11/09/23 - SF1 turbidity above 0.3 NTU for 70 consecutive minutes, 4-log achieved from UV 13/09/23 - SF1 turbidity above 0.3 NTU for 29 consecutive minutes. 3-log achieved and 4-log from UV.
T3.49-turb	All of the monitoring in Table 25 must be met. Continuous: Turbidity, Service state	Monitoring	1 day	Annually	TP00071	TRUE	0	
T3.49-sens		Monitoring	1 day	Annually	TP00071	TRUE	0	FCVs used to determine service state.
T3.49-lmts		Assurance	1 year	Annually	TP00071	TRUE	0	
T3.85	All water passing through the treatment plant must pass through the UV reactor(s) and be within the reactor's certified flow range for at least 95% of each day.				TP00071	TRUE	0	
T3.86	The UV dose must meet or exceed that required to achieve the claimed log credit for at least 95% of each day.	Monitoring	1 day	Monthly	TP00071	FALSE	1	01/04/23 - See NOT-4354.
T3.87	The UV dose must not be less than that required to achieve the claimed log credit for the duration of any consecutive 15-minute period.	Monitoring	1 day	Annually	TP00071	TRUE	0	
T3.88	Turbidity must not exceed 5.0 NTU for the duration of any consecutive 15-minute period.	Monitoring	1 day	Annually	TP00071	TRUE	0	
T3.89	UVT must meet or exceed 95% of the UVT for which the reactor has been certified for at least 95% of each day. <sup>14</sup>	Monitoring	1 day	Annually	TP00071	TRUE	0	
T3.90	UVT must not be less than 80% of the lowest UVT for which the reactor has been certified for the duration of any consecutive 15-minute period. <sup>15</sup>	Monitoring	1 day	Annually	TP00071	TRUE	0	
T3.91-uvt	All of the monitoring requirements in Table 32 must be met. Continuous: UVT, Turbidity, Dose, Flow Monthly: UVI sensor checks Annual: UVI reference sensor calibration/replacement	Monitoring	1 day	Annually	TP00071	TRUE	0	
T3.91-turb		Monitoring	1 day	Annually	TP00071	TRUE	0	
T3.91-uvi		Monitoring	1 day	Annually	TP00071	TRUE	0	
T3.91-dose		Monitoring	1 day	Annually	TP00071	TRUE	0	
T3.91-flow		Monitoring	1 day	Annually	TP00071	TRUE	0	
T3.91-sens		Monitoring	1 day	Annually	TP00071	FALSE	7	Monthly sensor checks not completed in October and December 2023. Reference sensor standardisation 10/06/22, expired 10/06/23, non-compliant from June to December.
T3.91-cert		Monitoring	1 month	Annually	TP00071	TRUE	0	In WSP.
T3.92	Values for determinands in treated water that: 1. exceed 50% of their MAV in the source water, or 2. are added or formed in the treatment process (as well as impurities in treatment chemicals), must be identified by the collection and analyses of 15 samples over a 12-month period (with no more than two samples collected in any calendar month).	Assurance	1 year	Annually	TP00071	TRUE	0	
T3.93-stan	Determinands identified by the sampling programme outlined in rule T3.92 must be categorized as either standard typical range or elevated typical range and must be sampled at the frequency set out in Table 33.	Monitoring	1 year	Annually	TP00071	TRUE	0	

Rules



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*Note: Yellow rows are rules reported to Taumata Arowā on a monthly basis, the rest are reported annually.*

Rule ID	Rule Requirement	Rule Type	Compliance Period	Reporting Period	Supply Component ID	Complies With Rule	Non Compliant Periods	Notes
WTP - Chemical	T3.93-fbc Continuous: FAC Monthly: Mn, Al, Pb Annually: all other chemicals (see table 34)	Monitoring	1 month	Annually	TP00071	TRUE	0	
	T3.94 Samples must be taken from a point directly after the final treatment process (including chlorine contact tanks as they are part of the treatment process).	Assurance	1 year	Annually	TP00071	TRUE	0	
	T3.95 Containers used for collecting samples must be obtained from a laboratory and appropriate for the target determinand.	Assurance	1 year	Annually	TP00071	TRUE	0	
	T3.96 Event based monitoring (determined by the water supplier) must be undertaken for any event that may rapidly introduce high concentrations of health-significant chemical determinands into the water at the source or at the treatment plant.	Monitoring	1 year	Annually	TP00071	TRUE	0	No events in 2023.
	T3.97 If cyanotoxins are identified in treated water, cyanotoxin testing must be undertaken in accordance with the supply cyanobacteria/cyanotoxin response plan or at least twice weekly (whichever is more frequent) until cyanotoxins are not present.	Monitoring	1 year	Annually	TP00071	TRUE	0	Toxins not detected in treated water in 2023.

For Distribution Zone rules see Kerepehi/Waitakaruru under Kerepehi tab

<sup>7</sup> Separation between data records of up to five minutes is allowed for FAC analysers and fluoride analysers where the minimum cycle time specified by the analyser manufacturer exceeds 1 minute.

<sup>81</sup> Samples of raw water may be collected at the treatment plant for this purpose.

<sup>82</sup> Samples should not be collected if there are health and safety risks to people collecting samples that are not appropriately eliminated or minimised.

<sup>83</sup> Must be sampled monthly if the determinand exceeds 50% of its MAV. Sampling may return to annually after 12 consecutive samples are less than 50% of the MAV.

<sup>84</sup> Where continuous monitoring analysers fail or require maintenance, daily grab samples can be taken until the continuous monitoring equipment can be brought back into service.

<sup>84</sup> Where lime is used for post-treatment pH adjustment, analysis may be undertaken before the lime is dosed.

<sup>84</sup> These requirements do not apply to UV disinfection systems that automatically adjust the UV dose as the UVT of the water flowing through the reactor varies.

<sup>85</sup> These requirements do not apply to UV disinfection systems that automatically adjust the UV dose as the UVT of the water flowing through the reactor varies.



**DWQAR Annual Report 2023 - Paeroa**

Note: Yellow rows are rules reported to Taumata Arowai on a monthly basis, the rest are reported annually.

Rule ID	Rule Requirement	Rule Type	Compliance Period	Reporting Period	Supply Component ID	Complies With Rule	Non Compliant Periods	Notes	
General Rules	G13	For continuous monitoring equipment that is used to demonstrate compliance against treatment Rules (T1, T2, T3), the separation between data records must be no more than 1 minute. <sup>7</sup>	Assurance	1 year	Annually	TP00120	TRUE	0	
	G14	Generation of continuous monitoring data that is used to demonstrate compliance against T3 treatment Rules or D3 Distribution Rules, must not be interrupted for a period of more than 15 consecutive minutes, or for a total of more than 72 minutes in any one-day compliance period, for compliance to be achieved.	Assurance	1 year	Annually	TP00120	FALSE	1	See T3.1 and T3.79
	G15	For continuous monitoring equipment that is used to assess source water or to demonstrate compliance against distribution zone Rules, the separation between data records must be no more than 30 minutes.	Assurance	1 year	Annually	S00064	FALSE	1	All continuous monitoring instruments live 05/10/23.
	G17	Where continuous monitoring equipment that is used to demonstrate compliance (excludes source water monitoring) fails, or is not otherwise able to provide data, grab samples can be taken to substitute for continuous data if analyses of the parameters is undertaken for at least every 30-minute period that the continuous monitoring equipment is not operating.	Assurance	1 year	Annually	TP00120	TRUE	0	
Source Water Rules S00064 - Waitawheta Stream	S3.1	Water suppliers must determine the class of source water for each of the source waters that are used, based on the Source Water Protozoa Log Credit Treatment Requirements.	Assurance	1 year	Annually	S00064	TRUE	0	Class 3, 4-log required.
	S3.3-ecol	All source waters must be monitored for the determinands and at the frequencies set out below;  2 per month: E. coli and total coliforms Monthly: Iron, manganese, colour, nitrate Annually: Alkalinity, antimony, arsenic, barium, cadmium, calcium, chloride, chromium, copper, lead, magnesium, mercury, nickel, sodium, sulphate. <sup>35</sup> Continuous: Conductivity, pH, Turbidity <sup>41</sup>	Monitoring	N/A	Annually	S00064	TRUE	0	
	S3.3-coil		Monitoring	N/A	Annually	S00064	TRUE	0	
	S3.3-iron		Monitoring	N/A	Annually	S00064	TRUE	0	
	S3.3-mang		Monitoring	N/A	Annually	S00064	TRUE	0	
	S3.3-colo		Monitoring	N/A	Annually	S00064	TRUE	0	
	S3.3-nitr		Monitoring	N/A	Annually	S00064	TRUE	0	
	S3.3-alka		Monitoring	N/A	Annually	S00064	TRUE	0	
	S3.3-anti		Monitoring	N/A	Annually	S00064	TRUE	0	
	S3.3-arso		Monitoring	N/A	Annually	S00064	TRUE	0	
	S3.3-bari		Monitoring	N/A	Annually	S00064	TRUE	0	
	S3.3-cadm		Monitoring	N/A	Annually	S00064	TRUE	0	
	S3.3-calc		Monitoring	N/A	Annually	S00064	TRUE	0	
	S3.3-chld		Monitoring	N/A	Annually	S00064	TRUE	0	
	S3.3-chro		Monitoring	N/A	Annually	S00064	TRUE	0	
	S3.3-copp		Monitoring	N/A	Annually	S00064	TRUE	0	
	S3.3-lead		Monitoring	N/A	Annually	S00064	TRUE	0	
	S3.3-magn		Monitoring	N/A	Annually	S00064	TRUE	0	
	S3.3-merc		Monitoring	N/A	Annually	S00064	TRUE	0	
	S3.3-nick		Monitoring	N/A	Annually	S00064	TRUE	0	
	S3.3-sodi		Monitoring	N/A	Annually	S00064	TRUE	0	
	S3.3-sulp		Monitoring	N/A	Annually	S00064	TRUE	0	
	S3.3C-cond		Monitoring	N/A	Annually	S00064	FALSE	0	Continuous monitoring instruments live 05/10/2023, 238 manual samples taken in 2023 but not covering all days before this was set up.
S3.3C-ph	Monitoring		N/A	Annually	S00064	FALSE	0	Continuous monitoring instruments live 05/10/2023, 146 manual samples taken in 2023 but not covering all days before this was set up.	
S3.3C-turb	Monitoring	N/A	Annually	S00064	TRUE	0			
S3.5	Additional monitoring of Class 2, Class 3 and Class 4 source waters must be undertaken either during or immediately after a severe or extreme weather event or other events which could adversely affect source water quality. <sup>31,32</sup>	Monitoring	N/A	Annually	S00064	FALSE	0	Weather event (high rainfall) baseline samples taken 22/06/23 and 30/10/23 as stated in the SWRMP but pesticide suites left off quotes.	
S3.6	Monitoring of source water must be undertaken for any determinand additional to those set out in Table 16 and 18 if the determinand has been identified in the drinking water supply Source Water Risk Management Plan as presenting a potential risk to the drinking water supply.	Monitoring	N/A	Annually	S00064	FALSE	0	Quarterly samples taken as stated in the SWRMP but pesticide suites left off quotes.	
S3.7	Water sources must be categorised as either low-risk, medium-risk or high-risk for the presence of cyanobacteria.	Assurance	1 year	Annually	S00064	TRUE	0	Medium-risk	
S3.8	When a water supply is categorised as medium or high-risk under rule S3.7, a cyanobacteria / cyanotoxin response plan must be prepared which includes vigilance levels for assessing the presence of cyanobacteria and alert levels related to the presence of cyanotoxins, monitoring for cyanobacteria/cyanotoxins and the action that will be taken to protect consumers.	Assurance	1 year	Annually	S00064	TRUE	0	Testing being done as stated in latest update (draft) of cyanobacteria management plan using DWG ch9 matrix.	
S3.9	If a water supplier becomes aware of the presence of cyanobacteria in source water, monitoring to determine the level of cyanobacteria and/or cyanotoxin levels must be considered in accordance with the cyanobacteria/cyanotoxin response plan.	Assurance	1 year	Annually	S00064	TRUE	0	Testing being done as stated in latest update (draft) of cyanobacteria management plan using DWG ch9 matrix.	
erial Rules rine	T3.1-fac	All water passing through the treatment plant must be treated with chlorine and must be monitored in accordance with Table 19.  Continuous: FAC, pH, Turbidity, Flow, Reservoir Level Calculations: FACE, T <sub>10</sub> contact time, Concentration time (C.t)	Monitoring	1 day	Annually	TP00120	TRUE	0	
	T3.1-ph		Monitoring	1 day	Annually	TP00120	TRUE	0	
	T3.1-turb		Monitoring	1 day	Annually	TP00120	TRUE	0	
	T3.1-flow		Monitoring	1 day	Annually	TP00120	FALSE	1	04/07/23 - Readings froze 16:39-17:39 (61 minutes) after Historian upgrade.
	T3.1-leve		Monitoring	1 day	Annually	TP00120	FALSE	1	04/07/23 - Readings froze 16:38-17:39 (62 minutes) after Historian upgrade.
	T3.1-face		Monitoring	1 day	Annually	TP00120	TRUE	0	
	T3.1-t10		Monitoring	1 day	Annually	TP00120	TRUE	0	
	T3.1-c.t		Monitoring	1 day	Annually	TP00120	TRUE	0	



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Note: Yellow rows are rules reported to Taumata Arowai on a monthly basis, the rest are reported annually.

Rule ID	Rule Requirement	Rule Type	Compliance Period	Reporting Period	Supply Component ID	Complies With Rule	Non Compliant Periods	Notes		
WTP- Bact	Chlo	T3.2	Treated water must achieve a chlorine C.t value of at least 15 min.mg/L for at least 95 % of each day.	Monitoring	1 day	Monthly	TP00120	TRUE	0	
		T3.3	Treated water must have a FACE of no less than 0.2 mg/L.	Monitoring	1 day	Annually	TP00120	TRUE	0	
		T3.4	T10 contact time of at least 5 minutes must be demonstrated.	Monitoring	1 day	Annually	TP00120	TRUE	0	
		T3.5	Turbidity of water leaving the treatment plant must be less than 1.0 NTU for at least 95% of each day. <sup>43</sup>	Monitoring	1 day	Annually	TP00120	TRUE	0	
		T3.6	Turbidity must not exceed 2.0 NTU for the duration of any consecutive 15-minute period.	Monitoring	1 day	Annually	TP00120	TRUE	0	
		T3.22	Drinking water supplies must have a protozoa barrier that provides treatment equal to or exceeding the log level of the water class identified by the Source Water Protozoa Log Credit Treatment Requirements.	Assurance	1 year	Annually	TP00120	TRUE	0	Plant has a 4-log barrier from membrane filtration.
WTP - Protozoal Rules	Membrane Filtration (4-log)	T3.73	All water passing through the treatment plant must pass through the membrane filtration process.	Assurance	1 year	Annually	TP00120	TRUE	0	
		T3.74	Direct integrity tests must be performed on each membrane filtration unit at least daily (midnight to midnight) if the membrane filtration unit has been in service at any point during the day.	Monitoring	1 day	Annually	TP00120	FALSE	29	23/05/23 to 20/06/23 - DIT results not logged due to a programming error, see NOT-4846. 18/06/23 - No DIT performed on either cell. Plant shut-down for the day 435am before daily scheduled test. See NOT-4890.
		T3.75	No membrane unit may be used while it has failed its direct integrity test.	Assurance	1 year	Annually	TP00120	FALSE	1	04/05/23 - 10/05/23 - 4-log not met, see NOT-4354. 23/05/23 to 20/06/23 - DIT results not logged due to a programming error, see NOT-4846.
		T3.76	If the turbidity of the membrane filtrate exceeds 0.1 NTU for more than 15 consecutive minutes the membrane unit must be run to waste and not returned to supply until it has passed a direct integrity test.	Monitoring	1 day	Monthly	TP00120	TRUE	0	
		T3.77	Filtrate turbidity must not exceed 1 NTU at any time.	Monitoring	1 day	Monthly	TP00120	FALSE	6	10/02/23 - Rack B 1.25 NTU at 04:35, blip on start-up (on for 2 mins) then shut-down, minute before and after were 0.28 and 0.46 NTU, likely instrument read error (bubble?) and not a risk to DW quality. 13/02/23 - Rack A 1.57 NTU at 12:23, blip on start-up (on for 2 mins) then shut-down, minute before and after were 0.047 and 1.27 NTU then down to 0.57 NTU, likely instrument read error (bubble?) and not a risk to DW quality. 14/03/23 - Rack 2 over 1 NTU for two non-consecutive minutes only during filtration, 15:34 and 16:30 (1.12 and 1.05 NTU). Looks like intermittent spikes in data showing readings either side of (15:34) 0.05 NTU before and 0.36, 0.06 NTU after, and (16:30) 0.26 NTU before, 0.54 NTU after. 01/05/23 - 1 minute above 1 NTU. Settings were adjusted on this 4/5 by EPIC (M3416540) from shutdown being 30s over 0.99 NTU to 5s. 22/09/23 - Raw data shows cell A over 1 NTU for 1 minute, 1.38 NTU at 07:19. This was on start-up of the cell (cell index 5, filtration initiation). The cell was automatically shut-down at 07:20 and restarted 07:22 with a reading of 0.20 NTU which dropped below 0.1 NTU after two minutes filtering. Likely caused by something in the sampling line that came through when the cell started up like a bubble and unlikely a risk to water safety. 22/11/23 - Cell 2 4 minutes over 1 NTU from 17:17 to 17:20 on start-up. 0.61 NTU at 17:21 and 0.06 NTU at 17:22. A PDT (DIT) was initiated at 17:24 and passed (LRV = 4.87, PDR = 1.81 kPa/min). Cell 1 1.47 NTU at 17:43, 0.074 NTU the minute before and 0.36 NTU the minute after (with no flow through cell due to PDT being done). Cell PDT passed (LRV 4.44) and when flow resumed at 17:59 turbidity was 0.064 NTU. The plant had been shut-down since approximately 9am 21/11 due to work on the raw water line. These high readings were likely caused by air in the instruments after being off for a significant period of time, which is confirmed by the rapid drop in readings. Low/no risk to drinking water safety.
		T3.78	If the membrane unit has been out of service for maintenance or any other reason for more than 6 hours, a direct integrity test must be completed before the unit is returned to service.	Assurance	1 year	Annually	TP00120	TRUE	0	
		T3.79-turb	All of the monitoring requirements in Table 29 must be met.	Monitoring	1 day	Annually	TP00120	TRUE	0	
		T3.79-sers	Continuous: Turbidity, Service State	Monitoring	1 day	Annually	TP00120	FALSE	1	04/07/23 - Readings froze 16:38-17:39 (62 minutes) after Historian upgrade.
		T3.79-cert	Non-Continuous: Membrane Integrity, Membrane certification	Assurance	1 year	Annually	TP00120	TRUE	0	In WSP
		WTP - Chemical Rules	T3.92	Values for determinands in treated water that: 1. exceed 50% of their MAV in the source water, or 2. are added or formed in the treatment process (as well as impurities in treatment chemicals), must be identified by the collection and analyses of 15 samples over a 12-month period (with no more than two samples collected in any calendar month). Determinands identified by the sampling programme outlined in rule T3.92 must be categorised as either standard typical range or elevated typical range and must be sampled at the frequency set out in Table 33.	Assurance	1 year	Annually	TP00120	TRUE	0
T3.93-stan	Continuous: FAC		Monitoring	1 year	Annually	TP00120	TRUE	0		
T3.93-fac	Monthly: Mn, Al, Pb Annually: all other chemicals (see table 34)		Monitoring	1 month	Annually	TP00120	TRUE	0		
T3.94	Samples must be taken from a point directly after the final treatment process (including chlorine contact tanks as they are part of the treatment process).		Assurance	1 year	Annually	TP00120	TRUE	0		
T3.95	Containers used for collecting samples must be obtained from a laboratory and appropriate for the target determinand.		Assurance	1 year	Annually	TP00120	TRUE	0		
T3.96	Event based monitoring (determined by the water supplier) must be undertaken for any event that may rapidly introduce high concentrations of health-significant chemical determinands into the water at the source or at the treatment plant.		Monitoring	1 year	Annually	TP00120	TRUE	0	No events in 2023.	



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Note: Yellow rows are rules reported to Taumata Arowai on a monthly basis, the rest are reported annually.

Rule ID	Rule Requirement	Rule Type	Compliance Period	Reporting Period	Supply Component ID	Complies With Rule	Non Compliant Periods	Notes
T3.97	If cyanotoxins are identified in treated water, cyanotoxin testing must be undertaken in accordance with the supply cyanobacteria/cyanotoxin response plan or at least twice weekly (whichever is more frequent) until cyanotoxins are not present.	Monitoring	1 year	Annually	TP00120	TRUE	0	Toxins not detected in treated water in 2023.
D3.19	A FAC of at least 0.2 mg/L must be maintained in 85% of samples (or 85% of the time if continuously monitored). Up to 15% of samples (or 15% of the time if continuously monitored) may have a FAC of less than 0.2 mg/L but must be greater than 0.1 mg/L.	Monitoring	1 month	Monthly	PAE001KA	FALSE	1	20/03/23 - See NOT-4125.
D3.20	Samples must be collected for FAC at the frequencies outlined in table 35. <sup>65</sup> Frequency: 3/wk, max interval 4 days, 5 days of week used	Assurance	1 year	Annually	PAE001KA	TRUE	0	
D3.21	Routine sampling sites must be located to adequately represent the distribution system and areas associated with higher risk of deterioration in drinking water quality and population exposure. <sup>66</sup>	Assurance	1 year	Annually	PAE001KA	TRUE	0	
D3.22-chlf	Analyses must be undertaken in each distribution zone according to the frequencies set out in Table 37 for the following disinfection by-products: 1. trihalomethanes: chloroform, bromodichloromethane, dibromochloromethane, and bromoform; and 2. haloacetic acids: dichloroacetic acid and trichloroacetic acid. Frequency: 1 per quarter <sup>68,69</sup>	Monitoring	1 year	Annually	PAE001KA	TRUE	0	
D3.22-bdcm		Monitoring	1 year	Annually	PAE001KA	TRUE	0	
D3.22-dbcm		Monitoring	1 year	Annually	PAE001KA	TRUE	0	
D3.22-brof		Monitoring	1 year	Annually	PAE001KA	TRUE	0	
D3.22-dcca		Monitoring	1 year	Annually	PAE001KA	TRUE	0	
D3.22-tcaa		Monitoring	1 year	Annually	PAE001KA	TRUE	0	
D3.23		Sample sites for disinfection by-products must represent both peripheral and central locations in the distribution system.	Assurance	1 year	Annually	PAE001KA	TRUE	0
D3.24-anti	Analyses must be undertaken in each distribution zone for the plumbosolvent metals outlined in Table 38.  Six-monthly: Antimony, cadmium, chromium, copper, lead, mercury, nickel, zinc <sup>70</sup>	Monitoring	1 year	Annually	PAE001KA	TRUE	0	
D3.24-cadm		Monitoring	1 year	Annually	PAE001KA	TRUE	0	
D3.24-chro		Monitoring	1 year	Annually	PAE001KA	TRUE	0	
D3.24-copp		Monitoring	1 year	Annually	PAE001KA	TRUE	0	
D3.24-lead		Monitoring	1 year	Annually	PAE001KA	TRUE	0	
D3.24-merc		Monitoring	1 year	Annually	PAE001KA	TRUE	0	
D3.24-nick		Monitoring	1 year	Annually	PAE001KA	TRUE	0	
D3.24-zinc	Monitoring	1 year	Annually	PAE001KA	TRUE	0		
D3.28	A written sampling plan for monitoring total coliforms, E. coli and any other determinands deemed necessary by the water supplier must be prepared, including a system map indicating sampling locations and a response plan for positive results.	Monitoring	1 year	Annually	PAE001KA	TRUE	0	See HDC Sampling Plan, 10/11/22.
D3.29	E. coli and total coliforms must be monitored in each zone of the distribution system according to the frequencies set out in Table 39. Frequency: 1/wk, max interval 9 days, 5 days of week used	Monitoring	1 month	Monthly	PAE001KA	FALSE	1	25/01/23 - See NOT-3575 and incident report M3339344.
D3.30	Routine sampling sites must be located to adequately represent water in the distribution system, including water leaving storage facilities, and entry points for water from another water supplier.	Assurance	1 year	Annually	PAE001KA	TRUE	0	See HDC Sampling Plan, 10/11/22.
D3.31	Samples must be collected according to written sampling protocols prepared by the drinking water supplier or the laboratory undertaking the sample analysis.	Assurance	1 year	Annually	PAE001KA	TRUE	0	Shared Services Collecting Drinking Water Samples Version 18.1 dated 18/03/2023.
D3.19	A FAC of at least 0.2 mg/L must be maintained in 85% of samples (or 85% of the time if continuously monitored). Up to 15% of samples (or 15% of the time if continuously monitored) may have a FAC of less than 0.2 mg/L but must be greater than 0.1 mg/L.	Monitoring	1 month	Monthly	PAE001KI	FALSE	1	04/01/23 - Low FAC at Maratoto Rd (0.07 mg/L). Sample was retested (0.0 mg/L) and a sample taken to confirm result with bench meter at the WTP (0.27 mg/L). High pH (9.8) may be interfering with FAC readings. Have investigated high pH on this road and only occurs at the end properties. Backflow prevention devices to be installed, but may be linked to pipe material. Ferry Rd also checked and FAC OK.
D3.20	Samples must be collected for FAC at the frequencies outlined in table 35. <sup>65</sup> Frequency: 3/wk, max interval 4 days, 5 days of week used	Assurance	1 year	Annually	PAE001KI	TRUE	0	
D3.21	Routine sampling sites must be located to adequately represent the distribution system and areas associated with higher risk of deterioration in drinking water quality and population exposure. <sup>66</sup>	Assurance	1 year	Annually	PAE001KI	TRUE	0	
D3.22-chlf	Analyses must be undertaken in each distribution zone according to the frequencies set out in Table 37 for the following disinfection by-products: 1. trihalomethanes: chloroform, bromodichloromethane, dibromochloromethane, and bromoform; and 2. haloacetic acids: dichloroacetic acid and trichloroacetic acid. Frequency: 1 per quarter <sup>68,69</sup>	Monitoring	1 year	Annually	PAE001KI	TRUE	0	
D3.22-bdcm		Monitoring	1 year	Annually	PAE001KI	TRUE	0	
D3.22-dbcm		Monitoring	1 year	Annually	PAE001KI	TRUE	0	
D3.22-brof		Monitoring	1 year	Annually	PAE001KI	TRUE	0	
D3.22-dcca		Monitoring	1 year	Annually	PAE001KI	TRUE	0	
D3.22-tcaa		Monitoring	1 year	Annually	PAE001KI	TRUE	0	
D3.23		Sample sites for disinfection by-products must represent both peripheral and central locations in the distribution system.	Assurance	1 year	Annually	PAE001KI	TRUE	0
D3.24-anti	Analyses must be undertaken in each distribution zone for the plumbosolvent metals outlined in Table 38.  Six-monthly: Antimony, cadmium, chromium, copper, lead, mercury, nickel, zinc <sup>70</sup>	Monitoring	1 year	Annually	PAE001KI	TRUE	0	
D3.24-cadm		Monitoring	1 year	Annually	PAE001KI	TRUE	0	
D3.24-chro		Monitoring	1 year	Annually	PAE001KI	TRUE	0	
D3.24-copp		Monitoring	1 year	Annually	PAE001KI	TRUE	0	
D3.24-lead		Monitoring	1 year	Annually	PAE001KI	TRUE	0	
D3.24-merc		Monitoring	1 year	Annually	PAE001KI	TRUE	0	
D3.24-nick		Monitoring	1 year	Annually	PAE001KI	TRUE	0	
D3.24-zinc	Monitoring	1 year	Annually	PAE001KI	TRUE	0		
D3.28	A written sampling plan for monitoring total coliforms, E. coli and any other determinands deemed necessary by the water supplier must be prepared, including a system map indicating sampling locations and a response plan for positive results.	Monitoring	1 year	Annually	PAE001KI	TRUE	0	See HDC Sampling Plan, 10/11/22.

Karangahake

Distribution Zone Rules

Kaimanawa



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Note: Yellow rows are rules reported to Taumata Arowai on a monthly basis, the rest are reported annually.

Rule ID	Rule Requirement	Rule Type	Compliance Period	Reporting Period	Supply Component ID	Complies With Rule	Non Compliant Periods	Notes
D3.29	E. coli and total coliforms must be monitored in each zone of the distribution system according to the frequencies set out in Table 39. Frequency: 1/wk, max interval 9 days, 5 days of week used	Monitoring	1 month	Monthly	PAE001KI	TRUE	0	
D3.30	Routine sampling sites must be located to adequately represent water in the distribution system, including water leaving storage facilities, and entry points for water from another water supplier.	Assurance	1 year	Annually	PAE001KI	TRUE	0	See HDC Sampling Plan, 10/11/22.
D3.31	Samples must be collected according to written sampling protocols prepared by the drinking water supplier or the laboratory undertaking the sample analysis.	Assurance	1 year	Annually	PAE001KI	TRUE	0	Shared Services Collecting Drinking Water Samples Version 18.1 dated 18/03/2023.
D3.19	A FAC of at least 0.2 mg/L must be maintained in 85% of samples (or 85% of the time if continuously monitored). Up to 15% of samples (or 15% of the time if continuously monitored) may have a FAC of less than 0.2 mg/L but must be greater than 0.1 mg/L.	Monitoring	1 month	Monthly	PAE001PA	TRUE	0	
D3.20	Samples must be collected for FAC at the frequencies outlined in table 35. <sup>65</sup> Frequency: 3/wk, max interval 4 days, 5 days of week used	Assurance	1 year	Annually	PAE001PA	TRUE	0	
D3.21	Routine sampling sites must be located to adequately represent the distribution system and areas associated with higher risk of deterioration in drinking water quality and population exposure. <sup>66</sup>	Assurance	1 year	Annually	PAE001PA	TRUE	0	
D3.22-chlf	Analyses must be undertaken in each distribution zone according to the frequencies set out in Table 37 for the following disinfection by-products: 1. trihalomethanes: chloroform, bromodichloromethane, dibromochloromethane, and bromoform; and 2. haloacetic acids: dichloroacetic acid and trichloroacetic acid. Frequency: 1 per quarter <sup>68,69</sup>	Monitoring	1 year	Annually	PAE001PA	TRUE	0	
D3.22-bdcm		Monitoring	1 year	Annually	PAE001PA	TRUE	0	
D3.22-dbcm		Monitoring	1 year	Annually	PAE001PA	TRUE	0	
D3.22-brof		Monitoring	1 year	Annually	PAE001PA	TRUE	0	
D3.22-dcca		Monitoring	1 year	Annually	PAE001PA	TRUE	0	
D3.22-tcaa		Monitoring	1 year	Annually	PAE001PA	TRUE	0	
D3.23	Sample sites for disinfection by-products must represent both peripheral and central locations in the distribution system.	Assurance	1 year	Annually	PAE001PA	TRUE	0	See HDC Sampling Plan, 10/11/22.
D3.24-anti	Analyses must be undertaken in each distribution zone for the plumbosolvent metals outlined in Table 38. Six-monthly: Antimony, cadmium, chromium, copper, lead, mercury, nickel, zinc <sup>70</sup>	Monitoring	1 year	Annually	PAE001PA	TRUE	0	
D3.24-cadm		Monitoring	1 year	Annually	PAE001PA	TRUE	0	
D3.24-chro		Monitoring	1 year	Annually	PAE001PA	TRUE	0	
D3.24-copp		Monitoring	1 year	Annually	PAE001PA	TRUE	0	
D3.24-lead		Monitoring	1 year	Annually	PAE001PA	TRUE	0	
D3.24-merc		Monitoring	1 year	Annually	PAE001PA	TRUE	0	
D3.24-nick		Monitoring	1 year	Annually	PAE001PA	TRUE	0	
D3.24-zinc		Monitoring	1 year	Annually	PAE001PA	TRUE	0	
D3.28	A written sampling plan for monitoring total coliforms, E. coli and any other determinands deemed necessary by the water supplier must be prepared, including a system map indicating sampling locations and a response plan for positive results.	Monitoring	1 year	Annually	PAE001PA	TRUE	0	See HDC Sampling Plan, 10/11/22.
D3.29	E. coli and total coliforms must be monitored in each zone of the distribution system according to the frequencies set out in Table 39. Frequency: 1/wk, max interval 9 days, 5 days of week used	Monitoring	1 month	Monthly	PAE001PA	TRUE	0	
D3.30	Routine sampling sites must be located to adequately represent water in the distribution system, including water leaving storage facilities, and entry points for water from another water supplier.	Assurance	1 year	Annually	PAE001PA	TRUE	0	See HDC Sampling Plan, 10/11/22.
D3.31	Samples must be collected according to written sampling protocols prepared by the drinking water supplier or the laboratory undertaking the sample analysis.	Assurance	1 year	Annually	PAE001PA	TRUE	0	Shared Services Collecting Drinking Water Samples Version 18.1 dated 18/03/2023.

<sup>7</sup> Separation between data records of up to five minutes is allowed for FAC analysers and fluoride analysers where the minimum cycle time specified by the analyser manufacturer exceeds 1 minute.

<sup>31</sup> Samples of raw water may be collected at the treatment plant for this purpose.

<sup>32</sup> Samples should not be collected if there are health and safety risks to people collecting samples that are not appropriately eliminated or minimised.

<sup>35</sup> Must be sampled monthly if the determinand exceeds 50% of its MAV. Sampling may return to annually after 12 consecutive samples are less than 50% of the MAV.

<sup>41</sup> Where continuous monitoring analysers fail or require maintenance, daily grab samples can be taken until the continuous monitoring equipment can be brought back into service.

<sup>43</sup> Where lime is used for post-treatment pH adjustment, analysis may be undertaken before the lime is dosed.

<sup>65</sup> Demonstrating compliance with this rule (D3.20) is not required if FAC is continuously monitored according to rules D3.25 to D3.27.

<sup>66</sup> Demonstrating compliance with this rule (D3.21) is not required if FAC is continuously monitored according to rules D3.25 to D3.27.

<sup>68</sup> Additional targeted sampling should be undertaken in accordance with the sampling programme to understand the conditions and circumstances that lead to DBP formation.

<sup>69</sup> After 2 years if consecutive samples are less than 50% of the MAV sampling may reduce to 1 per year. If any annual sample exceeds 50% of a MAV, sampling must return to quarterly.

<sup>70</sup> Must be sampled monthly if the determinand exceeds 50% of its MAV. Sampling can return to 6 monthly after 12 samples are less than 50% of the MAV.



### DWQAR Annual Report 2023 - Waihi

Note: Yellow rows are rules reported to Taumata Arowai on a monthly basis, the rest are reported annually.

Rule ID	Rule Requirement	Rule Type	Compliance Period	Reporting Period	Supply Component ID	Complies With Rule	Non Compliant Periods	Notes	
General Rules	G13	For continuous monitoring equipment that is used to demonstrate compliance against treatment Rules (T1, T2, T3), the separation between data records must be no more than 1 minute. <sup>7</sup>	Assurance	1 year	Annually	TP00075	TRUE	0	
	G14	Generation of continuous monitoring data that is used to demonstrate compliance against T3 treatment Rules or D3 Distribution Rules, must not be interrupted for a period of more than 15 consecutive minutes, or for a total of more than 72 minutes in any one-day compliance period, for compliance to be achieved.	Assurance	1 year	Annually	TP00075	FALSE	1	See T3.1 and T3.79.
	G15	For continuous monitoring equipment that is used to assess source water or to demonstrate compliance against distribution zone Rules, the separation between data records must be no more than 30 minutes.	Assurance	1 year	Annually	S00049	FALSE	1	Source water turbidity meter not yet installed, to be done early 2024. There was post-hydrocyclone combined source water turbidity monitoring in place for all of 2023.
	G15	For continuous monitoring equipment that is used to assess source water or to demonstrate compliance against distribution zone Rules, the separation between data records must be no more than 30 minutes.	Assurance	1 year	Annually	S01025	FALSE	1	All continuous monitoring instruments live 29/07/2023.
	G17	Where continuous monitoring equipment that is used to demonstrate compliance (excludes source water monitoring) fails, or is not otherwise able to provide data, grab samples can be taken to substitute for continuous data if analyses of the parameters is undertaken for at least every 30-minute period that the continuous monitoring equipment is not operating.	Assurance	1 year	Annually	TP00075	TRUE	0	
source waters stream, S01025 - Ohinemuri River	S3.1	Water suppliers must determine the class of source water for each of the source waters that are used, based on the Source Water Protozoa Log Credit Treatment Requirements.	Assurance	1 year	Annually	S00049	TRUE	0	Class 3, 4-log required.
	S3.1	Water suppliers must determine the class of source water for each of the source waters that are used, based on the Source Water Protozoa Log Credit Treatment Requirements.	Assurance	1 year	Annually	S01025	TRUE	0	Class 3, 4-log required.
	S3.3-ecol	All source waters must be monitored for the determinands and at the frequencies set out below;  2 per month: E. coli and total coliforms Monthly: Iron, manganese, colour, nitrate Annually: Alkalinity, antimony, arsenic, barium, cadmium, calcium, chloride, chromium, copper, lead, magnesium, mercury, nickel, sodium, sulphate. <sup>35</sup> Continuous: Conductivity, pH, Turbidity <sup>41</sup>	Monitoring	N/A	Annually	S00049	TRUE	0	
	S3.3-coli		Monitoring	N/A	Annually	S00049	TRUE	0	
	S3.3-iron		Monitoring	N/A	Annually	S00049	TRUE	0	
	S3.3-mang		Monitoring	N/A	Annually	S00049	TRUE	0	
	S3.3-colo		Monitoring	N/A	Annually	S00049	TRUE	0	
	S3.3-nitr		Monitoring	N/A	Annually	S00049	TRUE	0	
	S3.3-alka		Monitoring	N/A	Annually	S00049	TRUE	0	
	S3.3-anti		Monitoring	N/A	Annually	S00049	TRUE	0	
	S3.3-arse		Monitoring	N/A	Annually	S00049	TRUE	0	
	S3.3-bari		Monitoring	N/A	Annually	S00049	TRUE	0	
	S3.3-cadm		Monitoring	N/A	Annually	S00049	TRUE	0	
	S3.3-calc		Monitoring	N/A	Annually	S00049	TRUE	0	
	S3.3-chld		Monitoring	N/A	Annually	S00049	TRUE	0	
	S3.3-chro		Monitoring	N/A	Annually	S00049	TRUE	0	
	S3.3-copp		Monitoring	N/A	Annually	S00049	TRUE	0	
	S3.3-lead		Monitoring	N/A	Annually	S00049	TRUE	0	
	S3.3-magn		Monitoring	N/A	Annually	S00049	TRUE	0	
	S3.3-merc		Monitoring	N/A	Annually	S00049	TRUE	0	
	S3.3-nick		Monitoring	N/A	Annually	S00049	TRUE	0	
	S3.3-sodi		Monitoring	N/A	Annually	S00049	TRUE	0	
	S3.3-sulp		Monitoring	N/A	Annually	S00049	TRUE	0	
	S3.3C-cond		Monitoring	N/A	Annually	S00049	FALSE	0	Continuous monitoring instrument live 29/07/2023 (reading combined raw water at the WTP), 149 manual samples taken in 2023 but not covering all days before this was set up.
	S3.3C-ph		Monitoring	N/A	Annually	S00049	FALSE	0	Continuous monitoring instrument live 29/07/2023 (reading combined raw water at the WTP), 179 manual samples taken in 2023 but not covering all days before this was set up.
	S3.3C-turb	Monitoring	N/A	Annually	S00049	FALSE	0	Source water turbidity meter not yet installed, to be done early 2024. 178 manual samples of pre-hydrocyclone combined source turbidity were taken in 2023 and post-hydrocyclone combined source water turbidity monitoring in place for all of 2023.	
	S3.3-ecol	All source waters must be monitored for the determinands and at the frequencies set out below;  2 per month: E. coli and total coliforms Monthly: Iron, manganese, colour, nitrate Annually: Alkalinity, antimony, arsenic, barium, cadmium, calcium, chloride, chromium, copper, lead, magnesium, mercury, nickel, sodium, sulphate. <sup>35</sup>	Monitoring	N/A	Annually	S01025	TRUE	0	
	S3.3-coli		Monitoring	N/A	Annually	S01025	TRUE	0	
	S3.3-iron		Monitoring	N/A	Annually	S01025	TRUE	0	
	S3.3-mang		Monitoring	N/A	Annually	S01025	TRUE	0	
	S3.3-colo		Monitoring	N/A	Annually	S01025	TRUE	0	
	S3.3-nitr		Monitoring	N/A	Annually	S01025	TRUE	0	
	S3.3-alka		Monitoring	N/A	Annually	S01025	TRUE	0	
S3.3-anti	Monitoring		N/A	Annually	S01025	TRUE	0		
S3.3-arse	Monitoring		N/A	Annually	S01025	TRUE	0		
S3.3-bari	Monitoring		N/A	Annually	S01025	TRUE	0		
S3.3-cadm	Monitoring		N/A	Annually	S01025	TRUE	0		
S3.3-calc	Monitoring		N/A	Annually	S01025	TRUE	0		
S3.3-chld	Monitoring		N/A	Annually	S01025	TRUE	0		
S3.3-chro	Monitoring		N/A	Annually	S01025	TRUE	0		
S3.3-copp	Monitoring		N/A	Annually	S01025	TRUE	0		
S3.3-lead	Monitoring		N/A	Annually	S01025	TRUE	0		
S3.3-magn	Monitoring	N/A	Annually	S01025	TRUE	0			
S3.3-merc	Monitoring	N/A	Annually	S01025	TRUE	0			



**DWQAR Annual Report 2023 - Waihi**

Note: Yellow rows are rules reported to Taumata Arowai on a monthly basis, the rest are reported annually.

Rule ID	Rule Requirement	Rule Type	Compliance Period	Reporting Period	Supply Component ID	Complies With Rule	Non Compliant Periods	Notes	
S S00049 - Walmsley S	S3.3-nick S3.3-sodi S3.3-sulp Continuous: Conductivity, pH, Turbidity <sup>41</sup>	Monitoring	N/A	Annually	S01025	TRUE	0		
		Monitoring	N/A	Annually	S01025	TRUE	0		
		Monitoring	N/A	Annually	S01025	TRUE	0		
	S3.3C-cond	Monitoring	N/A	Annually	S01025	FALSE	0	Continuous monitoring instruments live 29/07/2023 (reading combined raw water at the WTP), 149 manual samples taken in 2023 but not covering all days before this was set up.	
	S3.3C-ph	Monitoring	N/A	Annually	S01025	FALSE	0	Continuous monitoring instruments live 29/07/2023 (reading combined raw water at the WTP), 179 manual samples taken in 2023 but not covering all days before this was set up.	
	S3.3C-turb	Monitoring	N/A	Annually	S01025	FALSE	0	Source water turbidity meter errors with readings between 01/01/23 to 03/02/23. 178 manual samples of pre-hydrocyclone combined source turbidity were taken in 2023 but not covering all of this period. Post-hydrocyclone combined source water turbidity monitoring was in place for all of 2023.	
	S3.5	Additional monitoring of Class 2, Class 3 and Class 4 source waters must be undertaken either during or immediately after a severe or extreme weather event or other events which could adversely affect source water quality. <sup>31 32</sup>	Monitoring	N/A	Annually	S00049	TRUE	0	Weather event (high rainfall) baseline samples taken 22/06/23 and 30/10/23 as stated in the SWRMP for all determinands listed.
	S3.6	Monitoring of source water must be undertaken for any determinand additional to those set out in Table 16 and 18 if the determinand has been identified in the drinking water supply Source Water Risk Management Plan as presenting a potential risk to the drinking water supply.	Monitoring	N/A	Annually	S00049	TRUE	0	Quarterly samples taken as stated in the SWRMP for all determinands listed.
	S3.7	Water sources must be categorised as either low-risk, medium-risk or high-risk for the presence of cyanobacteria.	Assurance	1 year	Annually	S00049	TRUE	0	Medium-risk
	S3.8	When a water supply is categorised as medium or high-risk under rule S3.7, a cyanobacteria / cyanotoxin response plan must be prepared which includes vigilance levels for assessing the presence of cyanobacteria and alert levels related to the presence of cyanotoxins, monitoring for cyanobacteria/cyanotoxins and the action that will be taken to protect consumers.	Assurance	1 year	Annually	S00049	TRUE	0	Testing being done as stated in latest update (draft) of cyanobacteria management plan using DWG ch9 matrix.
S3.9	If a water supplier becomes aware of the presence of cyanobacteria in source water, monitoring to determine the level of cyanobacteria and/or cyanotoxin levels must be considered in accordance with the cyanobacteria/cyanotoxin response plan.	Assurance	1 year	Annually	S00049	TRUE	0	Testing being done as stated in latest update (draft) of cyanobacteria management plan using DWG ch9 matrix.	
WTP- Bacterial Rules Chlorine	T3.1-fac T3.1-ph T3.1-turb T3.1-flow T3.1-leve T3.1-face All water passing through the treatment plant must be treated with chlorine and must be monitored in accordance with Table 19. Continuous: FAC, pH, Turbidity, Flow, Reservoir Level Calculations: FACE, T10 contact time, Concentration time (C.t)	Monitoring	N/A	Annually	S01025	FALSE	0	Weather event (high rainfall) baseline samples taken 22/06/23 and 30/10/23 as stated in the SWRMP but not for all determinands listed.	
		Monitoring	N/A	Annually	S01025	FALSE	0	Quarterly samples taken as stated in the SWRMP but not all determinands listed able to be sampled.	
		Assurance	1 year	Annually	S01025	TRUE	0	Medium-risk	
		Assurance	1 year	Annually	S01025	TRUE	0	Testing being done as stated in latest update (draft) of cyanobacteria management plan using DWG ch9 matrix.	
		Assurance	1 year	Annually	S01025	TRUE	0	Testing being done as stated in latest update (draft) of cyanobacteria management plan using DWG ch9 matrix.	
		Monitoring	1 day	Annually	TP00075	TRUE	0		
		Monitoring	1 day	Annually	TP00075	TRUE	0		
	T3.1-t10	Monitoring	1 day	Annually	TP00075	FALSE	1	21/02/23 - 26 minutes of null data (13:46-14:11) for reservoir level which is used to calculate this.	
	T3.1-c.t	Monitoring	1 day	Annually	TP00075	FALSE	1	21/02/23 - 26 minutes of null data (13:46-14:11) for reservoir level which is used to calculate this.	
	T3.2	Treated water must achieve a chlorine C.t value of at least 15 min.mg/L for at least 95 % of each day.	Monitoring	1 day	Monthly	TP00075	TRUE	0	
T3.3	Treated water must have a FACE of no less than 0.2 mg/L.	Monitoring	1 day	Annually	TP00075	FALSE	4	27/05/23 - < 0.2mg/L FACE for 3 minutes, minimum reading of 0.006 mg/L with 1.26 mg/L and 1.06 mg/L readings either side. Possible instrument error caused by bubble or partial blockage causing low flow through instrument. 05/08/23 - See NOT-5345. 10/08/23 - See NOT-5346. 01/09/23 - See NOT-5290.	
T3.4	T10 contact time of at least 5 minutes must be demonstrated.	Monitoring	1 day	Annually	TP00075	TRUE	0		
T3.5	Turbidity of water leaving the treatment plant must be less than 1.0 NTU for at least 95% of each day. <sup>43</sup>	Monitoring	1 day	Annually	TP00075	TRUE	0		
T3.6	Turbidity must not exceed 2.0 NTU for the duration of any consecutive 15-minute period.	Monitoring	1 day	Annually	TP00075	TRUE	0		
T3.22	Drinking water supplies must have a protozoa barrier that provides treatment equal to or exceeding the log level of the water class identified by the Source Water Protozoa Log Credit Treatment Requirements.	Assurance	1 year	Annually	TP00075	TRUE	0	Plant has a 4-log barrier from membrane filtration.	
T3.73	All water passing through the treatment plant must pass through the membrane filtration process.	Assurance	1 year	Annually	TP00075	TRUE	0		



### DWQAR Annual Report 2023 - Waihi

Note: Yellow rows are rules reported to Taumata Arowai on a monthly basis, the rest are reported annually.

Rule ID	Rule Requirement	Rule Type	Compliance Period	Reporting Period	Supply Component ID	Complies With Rule	Non Compliant Periods	Notes			
WTP - Protozoal Rules	Membrane Filtration (4-log)	T3.74	Direct integrity tests must be performed on each membrane filtration unit at least daily (midnight to midnight) if the membrane filtration unit has been in service at any point during the day.	Monitoring	1 day	Annually	TP00075	FALSE	1	27/01/23 - DIT interrupted before completion. Programming changed to reschedule PDT if interrupted.	
		T3.75	No membrane unit may be used while it has failed its direct integrity test.	Assurance	1 year	Annually	TP00075	FALSE	1	12/09/23 - See NOT-5344. 13/09/23 - See NOT-5344. 25/09/23 - Filtration after failed PDT (DIT) for three minutes, 12:00-12:02, on start-up before completing another DIT which passed. 16/10/23 - see NOT-5589.	
		T3.76	If the turbidity of the membrane filtrate exceeds 0.1 NTU for more than 15 consecutive minutes the membrane unit must be run to waste and not returned to supply until it has passed a direct integrity test.	Monitoring	1 day	Monthly	TP00075	TRUE	0		
		T3.77	Filtrate turbidity must not exceed 1 NTU at any time.	Monitoring	1 day	Monthly	TP00075	FALSE	2	25/10/23 - Three 1-minute spikes above 1 NTU at 13:22, 13:37 and 15:44 not picked up by the report. PDTs (DITs) were done immediately after each instance and were found to be OK. Likely caused by membrane replacement that occurred that morning which may have introduced bubbles into the instrument. Readings on either side come down to below 0.1 NTU within 1-2 readings. Low/no risk to drinking water quality. 29/12/23 - Two minutes over 1 NTU, 1.12 NTU at 16:55 and 1.24 NTU at 16:57 after restart post-CIP. A PDT was triggered at 16:58 which showed no issues and gave an LRV of 5.24. Once flow through the cell resumed it took 8 minutes for the turbidity drop below 0.1 NTU. It is possible something got into the instrument lines during the CIP which created falsely high readings but we are investigating operation of the CIP program to confirm.	
		T3.78	If the membrane unit has been out of service for maintenance or any other reason for more than 6 hours, a direct integrity test must be completed before the unit is returned to service.	Assurance	1 year	Annually	TP00075	TRUE	0		
		T3.79-turb	All of the monitoring requirements in Table 29 must be met. Continuous: Turbidity, Service State Non-Continuous: Membrane Integrity, Membrane certification	Monitoring	1 day	Annually	TP00075	TRUE	0		
		T3.79-sers		Monitoring	1 day	Annually	TP00075	FALSE	1	04/07/23 - 28 minutes continuous null values for service state of membrane (only) 11:54-12:21, just as plant started up after Historian upgrade. Membrane turb <0.1 NTU for this period.	
		T3.79-cert		Assurance	1 year	Annually	TP00075	TRUE	0	In WSP	
		WTP - Chemical	T3.92	Values for determinands in treated water that: 1. exceed 50% of their MAV in the source water, or 2. are added or formed in the treatment process (as well as impurities in treatment chemicals), must be identified by the collection and analyses of 15 samples over a 12-month period (with no more than two samples collected in any calendar month). Determinands identified by the sampling programme outlined in rule T3.92 must be categorised as either standard typical range or elevated typical range and must be sampled at the frequency set out in Table 33.	Assurance	1 year	Annually	TP00075	TRUE	0	
			T3.93-stan	Continuous: FAC Monthly: Mn, Al, Pb	Monitoring	1 year	Annually	TP00075	TRUE	0	
T3.93-fac	Annually: all other chemicals (see table 34)		Monitoring	1 month	Annually	TP00075	TRUE	0			
T3.94	Samples must be taken from a point directly after the final treatment process (including chlorine contact tanks as they are part of the treatment process).		Assurance	1 year	Annually	TP00075	TRUE	0			
T3.95	Containers used for collecting samples must be obtained from a laboratory and appropriate for the target determinand.		Assurance	1 year	Annually	TP00075	TRUE	0			
T3.96	Event based monitoring (determined by the water supplier) must be undertaken for any event that may rapidly introduce high concentrations of health-significant chemical determinands into the water at the source or at the treatment plant.		Monitoring	1 year	Annually	TP00075	TRUE	0	No events in 2023.		
T3.97	If cyanotoxins are identified in treated water, cyanotoxin testing must be undertaken in accordance with the supply cyanobacteria/cyanotoxin response plan or at least twice weekly (whichever is more frequent) until cyanotoxins are not present.		Monitoring	1 year	Annually	TP00075	TRUE	0	Toxins not detected in treated water in 2023.		
Waihi	D3.19		A FAC of at least 0.2 mg/L must be maintained in 85% of samples (or 85% of the time if continuously monitored). Up to 15% of samples (or 15% of the time if continuously monitored) may have a FAC of less than 0.2 mg/L but must be greater than 0.1 mg/L.	Monitoring	1 month	Monthly	WAI003WA	FALSE	1	04/09/23 - FAC result of 0.05 mg/L at Waihi Cemetery after low chlorine from the WTP on 01/09/23, see NOT-5290 and incident report M3491037.	
	D3.20	Samples must be collected for FAC at the frequencies outlined in table 35. <sup>65</sup> Frequency: 3/wk, max interval 4 days, 5 days of week used	Assurance	1 year	Annually	WAI003WA	TRUE	0			
	D3.21	Routine sampling sites must be located to adequately represent the distribution system and areas associated with higher risk of deterioration in drinking water quality and population exposure. <sup>66</sup>	Assurance	1 year	Annually	WAI003WA	TRUE	0			
	D3.22-chlf	Analyses must be undertaken in each distribution zone according to the frequencies set out in Table 37 for the following disinfection by-products: 1. trihalomethanes: chloroform, bromodichloromethane, dibromochloromethane, and bromoform; and 2. haloacetic acids: dichloroacetic acid and trichloroacetic acid. Frequency: 1 per quarter <sup>68,69</sup>	Monitoring	1 year	Annually	WAI003WA	TRUE	0			
	D3.22-bdcm		Monitoring	1 year	Annually	WAI003WA	TRUE	0			
	D3.22-dbcm		Monitoring	1 year	Annually	WAI003WA	TRUE	0			
	D3.22-brofa		Monitoring	1 year	Annually	WAI003WA	TRUE	0			
	D3.22-dcaa		Monitoring	1 year	Annually	WAI003WA	TRUE	0			
	D3.22-tcaa		Monitoring	1 year	Annually	WAI003WA	TRUE	0			
	D3.23	Sample sites for disinfection by-products must represent both peripheral and central locations in the distribution system.	Assurance	1 year	Annually	WAI003WA	TRUE	0	See HDC Sampling Plan, 10/11/22.		
	D3.24-anti	Analyses must be undertaken in each distribution zone for the plumbosolvent metals outlined in Table 38.	Monitoring	1 year	Annually	WAI003WA	TRUE	0			
	D3.24-cadm		Monitoring	1 year	Annually	WAI003WA	TRUE	0			
	D3.24-chro		Monitoring	1 year	Annually	WAI003WA	TRUE	0			
D3.24-copp	Monitoring		1 year	Annually	WAI003WA	TRUE	0				
D3.24-lead	Monitoring		1 year	Annually	WAI003WA	TRUE	0				
D3.24-merc	Six-monthly: Antimony, cadmium, chromium, copper, lead, mercury, nickel, zinc <sup>70</sup>	Monitoring	1 year	Annually	WAI003WA	TRUE	0				



### DWQAR Annual Report 2023 - Waihi

Note: Yellow rows are rules reported to Taumata Arowai on a monthly basis, the rest are reported annually.

Rule ID	Rule Requirement	Rule Type	Compliance Period	Reporting Period	Supply Component ID	Complies With Rule	Non Compliant Periods	Notes
D3.24-nick		Monitoring	1 year	Annually	WAI003WA	TRUE	0	
D3.24-zinc		Monitoring	1 year	Annually	WAI003WA	TRUE	0	
D3.28	A written sampling plan for monitoring total coliforms, E. coli and any other determinands deemed necessary by the water supplier must be prepared, including a system map indicating sampling locations and a response plan for positive results.	Monitoring	1 year	Annually	WAI003WA	TRUE	0	See HDC Sampling Plan, 10/11/22.
D3.29	E. coli and total coliforms must be monitored in each zone of the distribution system according to the frequencies set out in Table 39. Frequency: 1/wk, max interval 9 days, 5 days of week used	Monitoring	1 month	Monthly	WAI003WA	TRUE	0	
D3.30	Routine sampling sites must be located to adequately represent water in the distribution system, including water leaving storage facilities, and entry points for water from another water supplier.	Assurance	1 year	Annually	WAI003WA	TRUE	0	See HDC Sampling Plan, 10/11/22.
D3.31	Samples must be collected according to written sampling protocols prepared by the drinking water supplier or the laboratory undertaking the sample analysis.	Assurance	1 year	Annually	WAI003WA	TRUE	0	Shared Services Collecting Drinking Water Samples Version 18.1 dated 18/03/2023.
D3.19	A FAC of at least 0.2 mg/L must be maintained in 85% of samples (or 85% of the time if continuously monitored). Up to 15% of samples (or 15% of the time if continuously monitored) may have a FAC of less than 0.2 mg/L but must be greater than 0.1 mg/L.	Monitoring	1 month	Monthly	WAI003WK	TRUE	0	
D3.20	Samples must be collected for FAC at the frequencies outlined in table 35. <sup>65</sup> Frequency: 3/wk, max interval 4 days, 5 days of week used	Assurance	1 year	Annually	WAI003WK	TRUE	0	
D3.21	Routine sampling sites must be located to adequately represent the distribution system and areas associated with higher risk of deterioration in drinking water quality and population exposure. <sup>66</sup>	Assurance	1 year	Annually	WAI003WK	TRUE	0	
D3.22-chlf	Analyses must be undertaken in each distribution zone according to the frequencies set out in Table 37 for the following disinfection by-products: 1. trihalomethanes: chloroform, bromodichloromethane, dibromochloromethane, and bromoform; and 2. haloacetic acids: dichloroacetic acid and trichloroacetic acid. Frequency: 1 per quarter <sup>68,69</sup>	Monitoring	1 year	Annually	WAI003WK	TRUE	0	
D3.22-bdcm		Monitoring	1 year	Annually	WAI003WK	TRUE	0	
D3.22-dbcm		Monitoring	1 year	Annually	WAI003WK	TRUE	0	
D3.22-brof		Monitoring	1 year	Annually	WAI003WK	TRUE	0	
D3.22-dcca		Monitoring	1 year	Annually	WAI003WK	TRUE	0	
D3.22-tcaa		Monitoring	1 year	Annually	WAI003WK	TRUE	0	
D3.23	Sample sites for disinfection by-products must represent both peripheral and central locations in the distribution system.	Assurance	1 year	Annually	WAI003WK	TRUE	0	See HDC Sampling Plan, 10/11/22.
D3.24-anti	Analyses must be undertaken in each distribution zone for the plumbosolvent metals outlined in Table 38.  Six-monthly: Antimony, cadmium, chromium, copper, lead, mercury, nickel, zinc <sup>70</sup>	Monitoring	1 year	Annually	WAI003WK	TRUE	0	
D3.24-cadm		Monitoring	1 year	Annually	WAI003WK	TRUE	0	
D3.24-chro		Monitoring	1 year	Annually	WAI003WK	TRUE	0	
D3.24-copp		Monitoring	1 year	Annually	WAI003WK	TRUE	0	
D3.24-lead		Monitoring	1 year	Annually	WAI003WK	FALSE	1	See NOT-3579. Result over MAV in January 2023, 12 samples taken over the next 12 months but November sample missed, taken early December 2023.
D3.24-merc		Monitoring	1 year	Annually	WAI003WK	TRUE	0	
D3.24-nick		Monitoring	1 year	Annually	WAI003WK	TRUE	0	
D3.24-zinc		Monitoring	1 year	Annually	WAI003WK	TRUE	0	
D3.28	A written sampling plan for monitoring total coliforms, E. coli and any other determinands deemed necessary by the water supplier must be prepared, including a system map indicating sampling locations and a response plan for positive results.	Monitoring	1 year	Annually	WAI003WK	TRUE	0	See HDC Sampling Plan, 10/11/22.
D3.29	E. coli and total coliforms must be monitored in each zone of the distribution system according to the frequencies set out in Table 39. Frequency: 1/wk, max interval 9 days, 5 days of week used	Monitoring	1 month	Monthly	WAI003WK	TRUE	0	
D3.30	Routine sampling sites must be located to adequately represent water in the distribution system, including water leaving storage facilities, and entry points for water from another water supplier.	Assurance	1 year	Annually	WAI003WK	TRUE	0	See HDC Sampling Plan, 10/11/22.
D3.31	Samples must be collected according to written sampling protocols prepared by the drinking water supplier or the laboratory undertaking the sample analysis.	Assurance	1 year	Annually	WAI003WK	TRUE	0	Shared Services Collecting Drinking Water Samples Version 18.1 dated 18/03/2023.

<sup>7</sup> Separation between data records of up to five minutes is allowed for FAC analysers and fluoride analysers where the minimum cycle time specified by the analyser manufacturer exceeds 1 minute.

<sup>31</sup> Samples of raw water may be collected at the treatment plant for this purpose.

<sup>32</sup> Samples should not be collected if there are health and safety risks to people collecting samples that are not appropriately eliminated or minimised.

<sup>35</sup> Must be sampled monthly if the determinand exceeds 50% of its MAV. Sampling may return to annually after 12 consecutive samples are less than 50% of the MAV.

<sup>41</sup> Where continuous monitoring analysers fail or require maintenance, daily grab samples can be taken until the continuous monitoring equipment can be brought back into service.

<sup>43</sup> Where lime is used for post-treatment pH adjustment, analysis may be undertaken before the lime is dosed.

<sup>65</sup> Demonstrating compliance with this rule (D3.20) is not required if FAC is continuously monitored according to rules D3.25 to D3.27.

<sup>66</sup> Demonstrating compliance with this rule (D3.21) is not required if FAC is continuously monitored according to rules D3.25 to D3.27.

<sup>68</sup> Additional targeted sampling should be undertaken in accordance with the sampling programme to understand the conditions and circumstances that lead to DBP formation.

<sup>69</sup> After 2 years if consecutive samples are less than 50% of the MAV sampling may reduce to 1 per year. If any annual sample exceeds 50% of a MAV, sampling must return to quarterly.

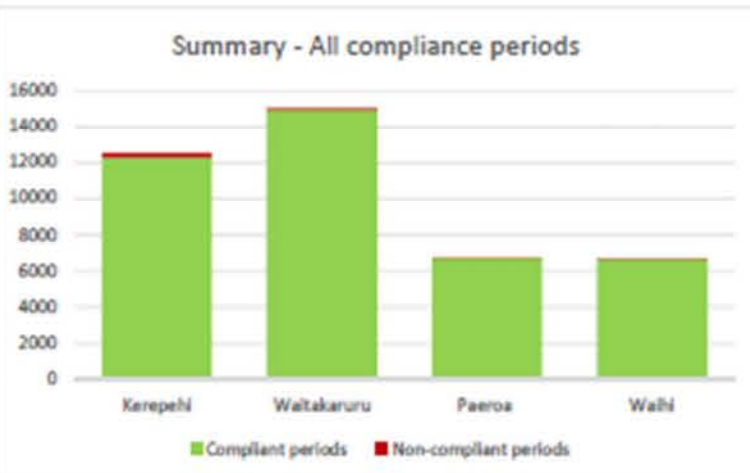
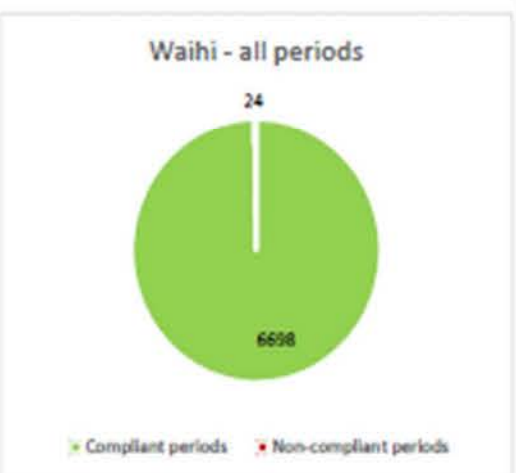
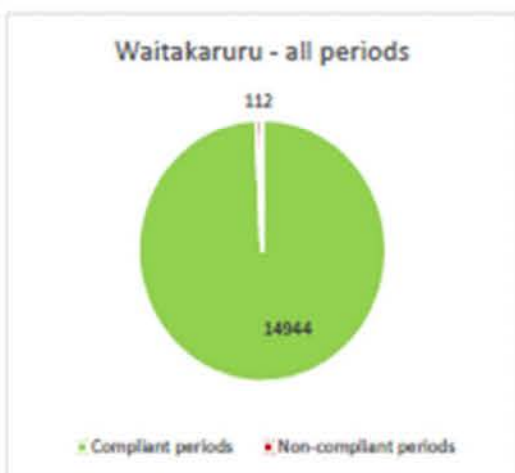
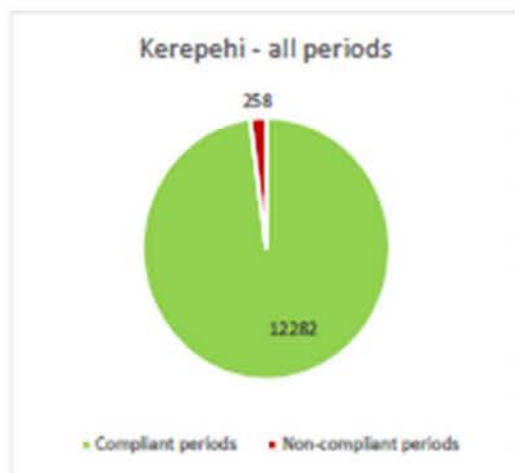
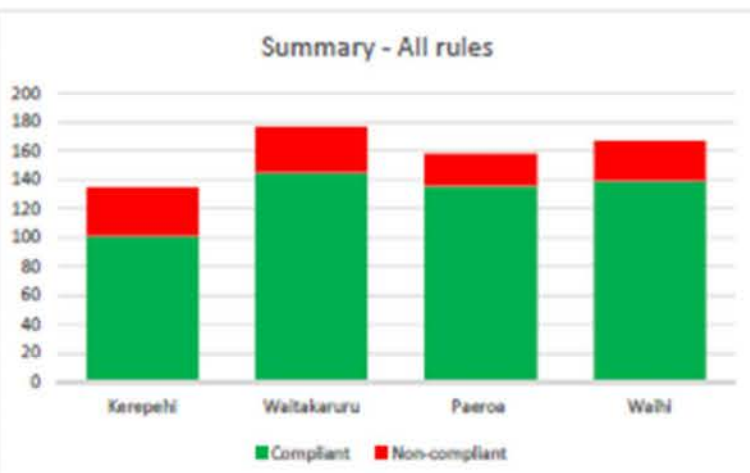
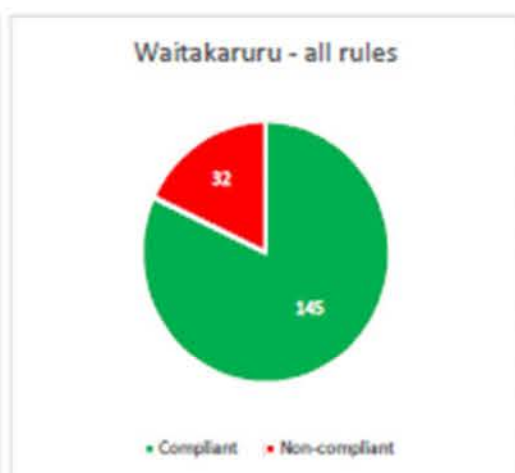
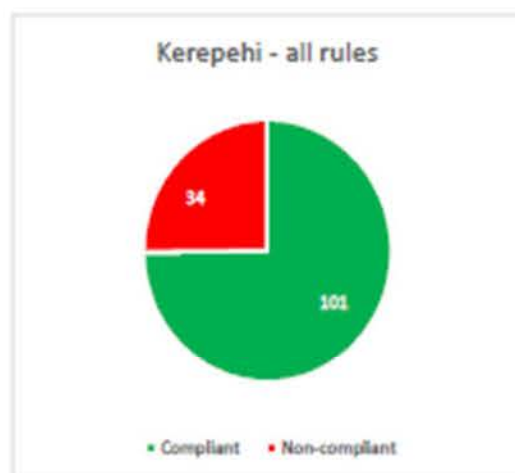
<sup>70</sup> Must be sampled monthly if the determinand exceeds 50% of its MAV. Sampling can return to 6 monthly after 12 samples are less than 50% of the MAV.



Visuals

Magiq ref: 3597956

	Kerepehi	Waitakaruru	Paeroa	Waihi
Number of rules	135	175	158	167
Compliant	101	145	136	139
Non-compliant	34	32	22	28
Blank	0	0	0	0
Percentage compliant	74.815	82.857	86.076	83.234
Total compliance periods	12540	15056	6761	6722
Compliant periods	12282	14944	6710	6698
Non-compliant periods	258	112	51	24
N/A periods	26	52	26	52
Percentage compliant	97.943	99.256	99.246	99.643





## 17 APPENDIX C – CAPEX REPORTING – SUMMARY OF PROJECTS

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### SUMMARY OF PROJECTS – WATER SERVICES MARCH 2024 MONTH END

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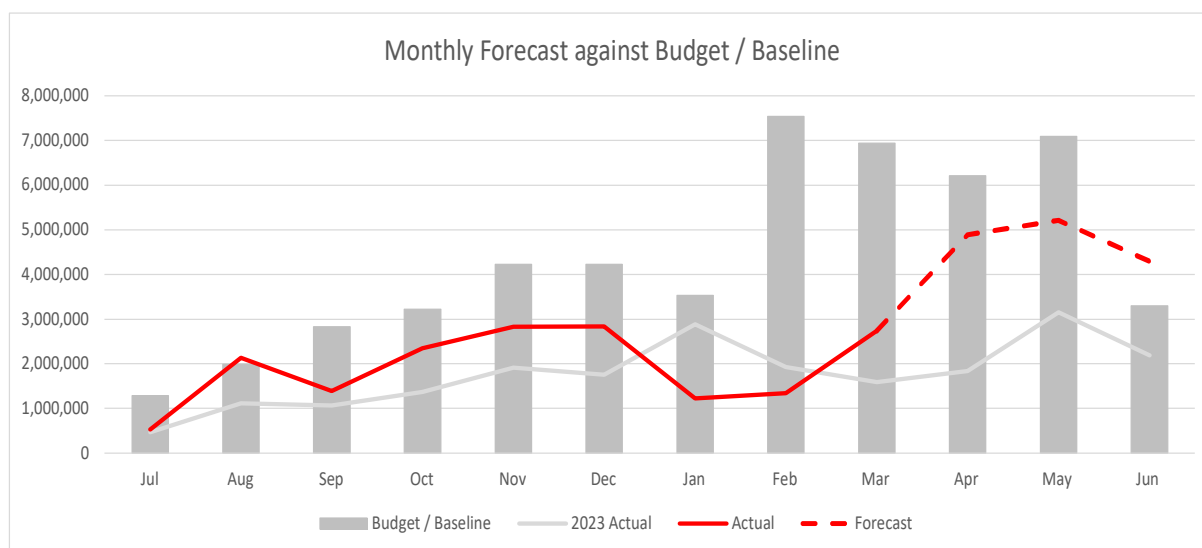
## 18 2023/24 CAPITAL FORECAST OVERVIEW

The 2023/24 capital budget is \$41.8M with a forecast as of March month end of \$31.8. An underspend of \$9M is projected, this is primarily in the Water Services Activities.

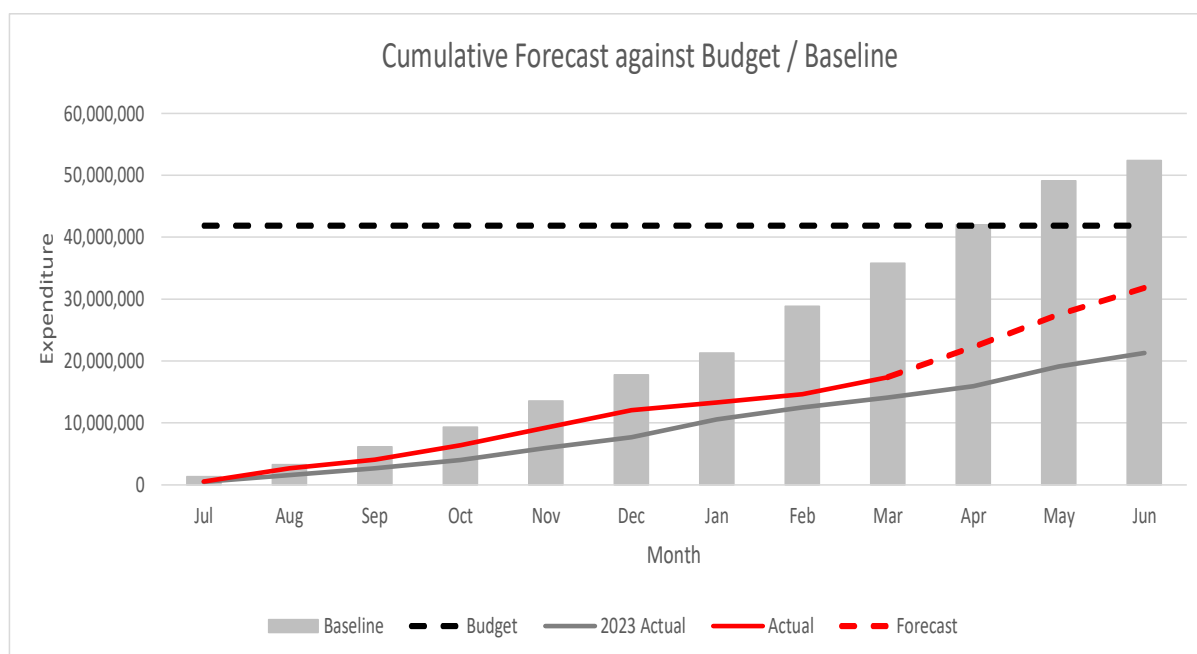
The baseline shown in charts below is from September, prior to the deferral process, for the purposes of this report the baseline and budget shows the impact the deferrals will make.

The capital programme forecast spend currently sitting at 76% of the budget. Removing the Paeroa WwTP effect changes this to 79%.

**Chart: Overall Capital Programme Monthly Plan versus Actual**



**Chart: Overall Capital Programme Cumulative Budget versus Actual**



Below the 'significant' underspends and overspends have been documented.

Significance has been determined by filtering up everything with an under or overspend forecast on the capex list, over a certain dollar amount stated in the table header.



**Table: Capital Budget Forecast Budget Carry Forwards greater than \$500K**

Project Name	Budget	Forecast Carry Forward	The Short Story
1272_001 - Waihi Second Membrane	\$4,153,365	\$2,613,703	Delays with agreeing detailed design have seen the contractor behind schedule. They have now (mid-March) taken possession of the site to commence works.
1279_001 - Raw Water Tank Kerepehi	\$3,670,963	\$1,753,317	Construction has been pushed out however the tanks are being manufactured.
1263_001 - Paeroa Upgrading WwTP	\$3,560,000	\$1,602,507	This has gone to Council as a separate report. Contract has been signed.
1261_001 - Paeroa Northern Sewer	\$976,125	\$956,451	On hold while an agreement with the developer is completed.
1238_001 - Hauraki Rail Trail – Waihi Extension	\$731,333	\$550,247	There have been delays obtaining DoC's agreement to cross their land. Nationally concessions have been a challenge. They have informed us of an additional 2 year delay once they hit the next step. We have also had an unexpected decision from key stakeholders. We will explore our options to determine the next stage. Focus is now on getting the trail into Waihi town centre.
<b>Total (of the above projects only)</b>	<b>\$13,091,786</b>	<b>\$7,476,225</b>	
<b>Total Underspends</b>		<b>\$13,223,714</b>	

**Table: Capital Budget Overspend greater than \$50K**

Project Name	Budget	Forecast Overspend	The Short Story
1027_001 - District Treatment Asset Renewals	\$239,644	\$361,799	Council Report in April.
1059_001 - District Wide Reactive Renewals Plants Pumpstations	\$170,122	\$279,873	Council Report in April.
1166_001 - Ngatea North Stage 4	\$5,430,398	\$200,000	Council Report to Discuss Options.
1305_001 & 1358_001 Hauraki Rail Trail Waitakaruru to Kopu	\$719,668	\$127,682	Council Report. The overspend will be covered by MBIE. A report will go to Council in May.
1129_001 - Waihi SW Waihi Upgrades	\$158,149	\$90,083	Council received a report with respect to Adams Street.
1340_001 - Pump Station Communication Upgrade	0	\$85,000	Council Report. \$104,540 was deferred after commitments were made.
1016_001 - Pavement Rehabilitation	\$1,612,994	\$56,788	Council Report. Deferrals to be brought forward.
1117_001 - WPDD (F1) - Primary SB Reconstruction	\$479,413	\$50,049	The project will be re-scoped to reduce expenditure.
1287_001 - Comprehensive Storm Water discharge consents - district wide	\$46,099	\$31,000	Council Report for Decision in May.
<b>Total (of the above projects only)</b>	<b>\$8,810,388</b>	<b>\$1,282,274</b>	
<b>Total Overspends (NB: some will be addressed / managed across to other budgets that are currently underspent)</b>		<b>\$3,151,186</b>	



### Water Services Overview

The 2023/24 full year forecast as at March for Water Services is \$16.2M. As at December, the last Utilities/Water Services Report - the forecast was \$19.9M. Actual spend in January and February are much lower than was forecast back in December.

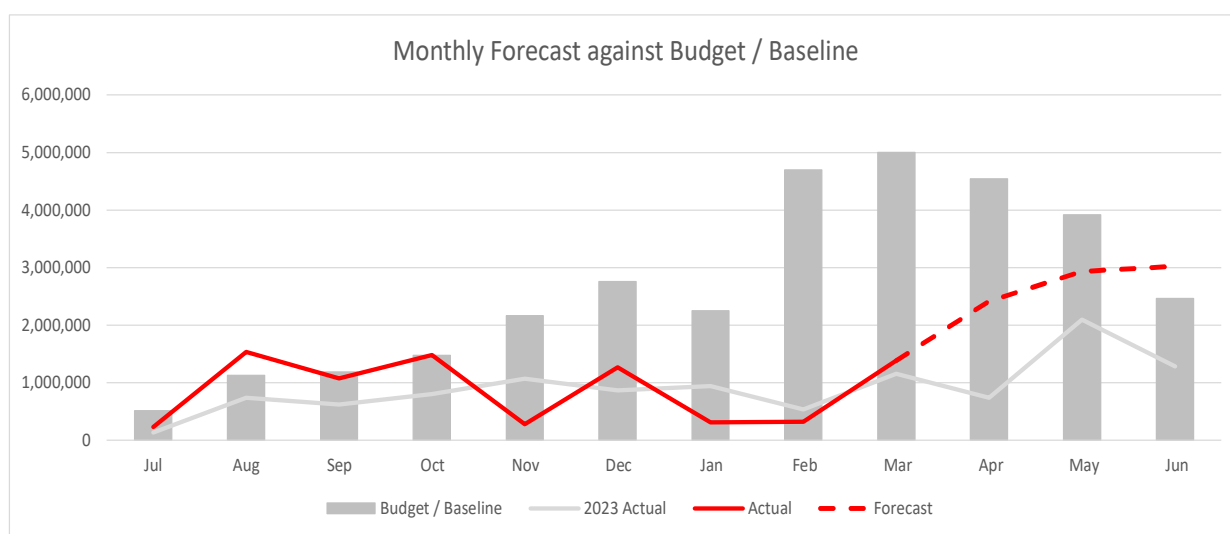
The budget is \$23.8M. An under-spend of \$7.6M is now forecast.

The baseline shown in charts below is from September, prior to the deferral process. For the purposes of this report the baseline and budget shows the impact the deferrals will make.

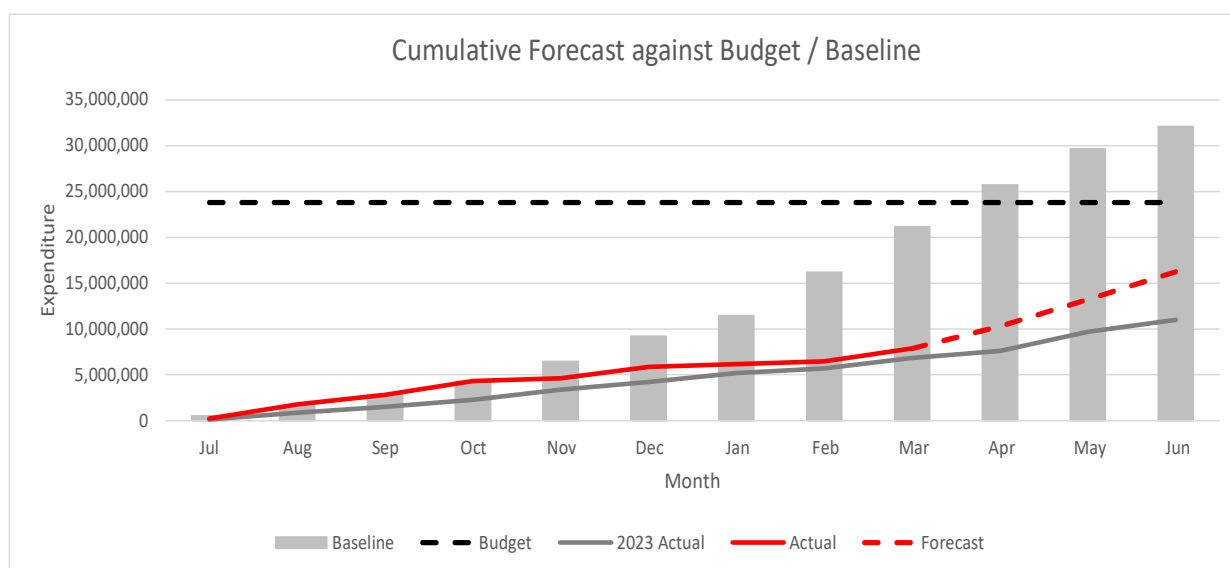
While the workshops and decisions for deferrals were undertaken; the PMO held off progressing any significant financial commitments which has had an impact on delivery as you can see the drop in November and continuing on for the remainder of the year.

See the charts below for the current monthly forecast versus budget.

**Chart: Water Services Capital Programme Monthly Plan versus Actual**



**Chart: Utilities Capital Programme Cumulative Budget versus Actual**

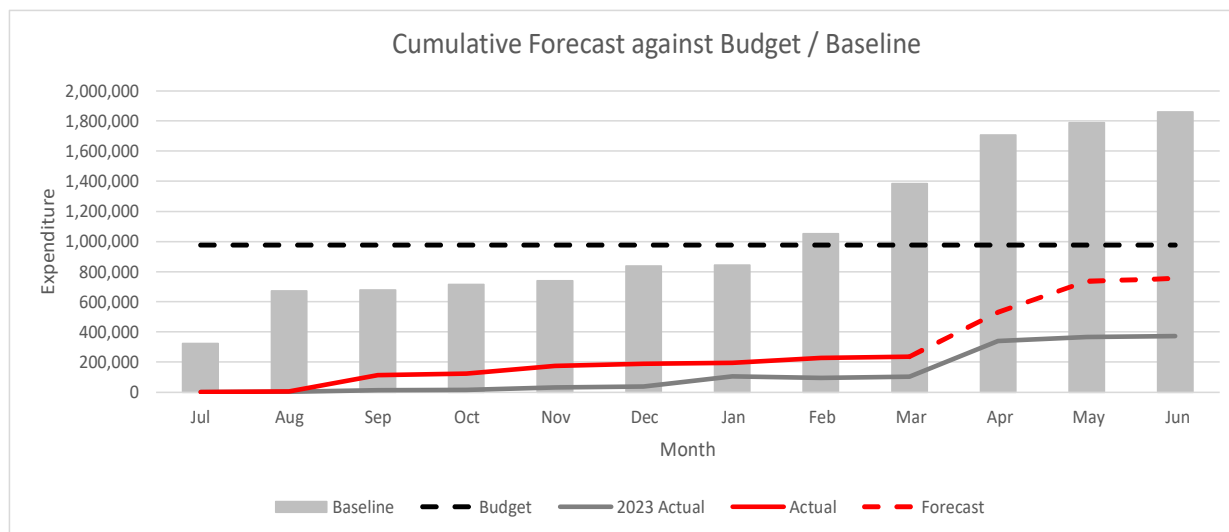




## 19 SUMMARY OF PROJECTS FOR LAND DRAINAGE OVERVIEW

The budget for Land Drainage is \$977K, with a December forecast of \$755K.

**Chart: Land Drainage Capital Programme Cumulative Budget versus Actual**



### 1114\_001 - WPDD Miranda Pumpstation

*Status: In progress* - This project involves replacing the roof at Miranda plus painting the spaceframe using internal resources. This work will be undertaken by the end of the financial year.

### 1117\_001 - WPDD (F1) - Primary Stopbank Reconstruction

*Status: Construction* - The overall budget includes the three projects Maukoro Canal Stopbank, Foreshore Stopbank and the Hot Springs Stopbank:

#### Maukoro Canal Stopbank

To be completed this financial year.

- The project manager has highlighted an overspend so the project will be re-scoped to reduce expenditure.
- Several items of additional works have been identified.
- Contractor has committed to start on 3/3/24 with a construction programme of 30 working days.

#### Foreshore Stopbank Stage 2:

This is on hold due to insufficient budget, however needs to be completed at some point.

Hot Springs Left Stopbank Completion: Close-Out.



Maukoro Canal Stopbank.



The image below shows the left bank of Hot Springs Canal taken in July 2023 from the upstream end near Back Miranda Road. The right stopbank was completed the previous year. The left stopbank increase was completed with reshaped berm plus canal diggings on top. The dried out diggings have been re-spread this month (April) for re-grassing and fencing to complete the works.



Hot Springs Canal

### **1340\_001 – Pumpstation Communication Project**

*Status: In progress* - This project was deferred, however expenditure was committed prior to the deferral decision. This was missed in the reporting to Council. The project involves several pumpstations including switchboards and setting up signal to test messaging. The Activity Manager will report to Council for Decision.

### **1342\_001 - Comprehensive Land Drainage Consent**

*Status: Implementation:* Project has been divided into Stages 1 and 2.

- Stage 1: Fixing and confirmation of strategy for consent with Waikato Regional Council - 90% complete.
- Stage 2: Implementation of strategy and lodging of consent application - to begin in March 2024.

### **Projects Currently on Hold or Deferred**

- 1107\_001 - WPDD Central North Pumpstation.
- 1112\_001 - WPDD Mangawhero Flume Replacement.
- 1117\_003 - Kaiaua Foreshore.
- 1340\_001 – Pumpstation Communication Project.

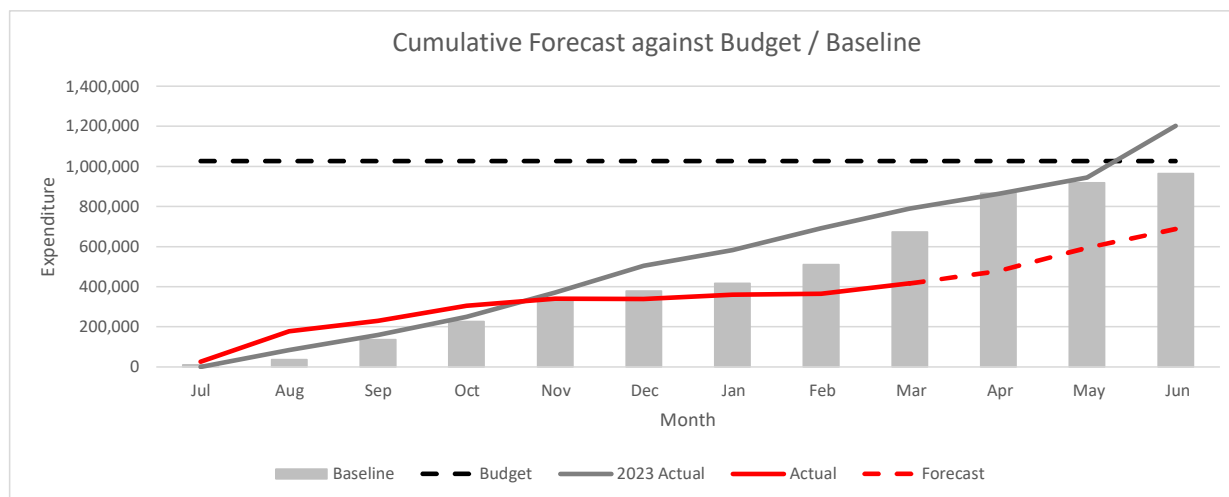


## 20 SUMMARY OF PROJECTS FOR STORM WATER OVERVIEW

The budget for Storm Water is \$1M, with a December forecast of \$687K.

The project detail is below.

**Chart: Storm Water Capital Programme Cumulative Budget versus Actual**



### 1248\_001 - Criterion Bridge Storm Water Pumpstation Upgrade

*Status: Design* - Currently in discussions with Waikato Regional Council regarding discharge location at the current headwall upstream.

The consent is ready to submit.



Criterion Bridge Pump Station

### 1287\_001 - Comprehensive Storm Water Discharge Consents - District Wide

*Status: Implementation* – Waikato Regional Council has agreed in principle to enable Hauraki District Council to retain protection under s124 of the Resource Management Act and to continue to operate under the existing consents while applying for new consents.

S92 from Waikato Regional Council has been received on 22 March 2024, wherein they have sought further information on certain technical aspects and few other things which may involve Iwi engagement.

The project manager is flagging a potential overspend which will be discussed in a Council report in May 2024.



### 1294\_001 - Storm Water - Wharf Street 3 Waters Upgrade

Status: Design - Plan to progress in 2023/24 in advance of the Paeroa Streetscape.

#### Ongoing Operational

All operational capex – budgets are likely to be used or have been fully utilised.

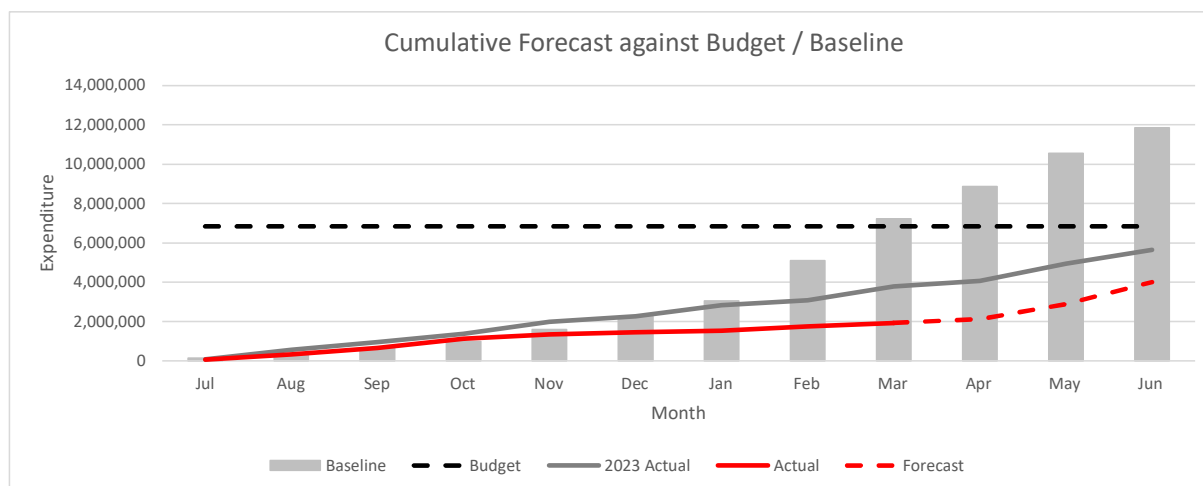
- 1124\_001 – Storm Water Kaiaua Upgrades
- 1126\_001 – Storm Water Ngātea Upgrades
- 1127\_001 – Storm Water Paeroa Upgrades
- 1132\_001 – Storm Water Kaiaua Renewals
- 1133\_001 – Storm Water Kerepēhi Renewals
- 1134\_001 – Storm Water Ngātea Renewals
- 1135\_001 – Storm Water Paeroa Renewals
- 1136\_001 – Storm Water Turua Renewals
- 1137\_001 – Storm Water Waihi Renewals
- 1360\_001 – Storm Water Treatment Upgrades – Paeroa
- 1361\_001 – Storm Water Treatment upgrades – Waihi
- 1362\_001 – Storm Water Treatment upgrades – Ngātea
- 1363\_001 – Storm Water Treatment upgrades – Turua
- 1364\_001 – Storm Water Treatment upgrades – Kaiaua
- 1365\_001 – Storm Water Treatment upgrades – Whiritoa
- 1366\_001 – Storm Water Treatment upgrades – Kerepēhi

## 21 SUMMARY OF PROJECTS FOR WASTEWATER OVERVIEW

The budget for Wastewater is \$6.8M, with a December forecast of \$4M.

The project detail is below.

**Chart: Wastewater Capital Programme Cumulative Budget versus Actual**



### 1078\_001 - Waihi Resource Consents

Status: Resource Consent - Working with Fish & Game regarding their feedback and with contractor regarding response.

Next step is going to a hearing.



**1089\_001 – Whiritoa Irrigation Block Renewals**

*Status: Construction* - Extra planting has been completed to replace dead loss. Spraying and removal of noxious weeds has taken place however more is required. Scheduled for the end of April 2024.

Spraying programme for the next three to four years has been scoped approved by Asset Manager.

**1090\_001 – Whiritoa Upgrading WwTP**

*Status: Awaiting Construction Season* - SCADA upgrade, desludging and relining design completed. Contractor has provided final inputs for relining contract.

Engineers estimate and Asset Manager's Approval required to proceed. Contract to be compiled for issue in July 2024 for summer construction of new liner and desludging.

**1258\_001 - Kerepēhi Sewer**

*Status: Start-up* - Project requires scoping. The costs are likely to be more like \$200k. However the budget was utilised elsewhere.

Budget was used for Rata St Relay due to an overspend there. The Rata Street was part of the overall project, but needed to be completed early in the project

**1263\_001 – Paeroa Upgrading WwTP**

*Status: Construction* - Contract has been awarded with kick-off held late February 24.

Contract works insurance procurement is currently in progress with AoN. Contractors have in turn awarded contracts to their designer and membrane provider. Preliminary design will now commence with the target of physical works commencement late 2024 - please also refer to the Project Status Report attached.



Paeroa Wastewater Treatment Plant

**1263\_002 - Paeroa WwTP – Inlet Works RFT**

*Status: Design* - The Contractor is currently manufacturing the Inlet screens with delivery due mid-2024. Coincides with Paeroa WwTP.



### **1267\_001 - Waitakaruru Resource Consents**

*Status: Resource Consent* - Winter ground water levels were measured and a seasonal land irrigation report was done.

Summer ground water levels have been measured in January and the report will be completed end of February.

The report is likely to confirm that seasonal land irrigation can be done. An Addendum to the consent application, which has already been accepted by Waikato Regional Council, will be completed requesting seasonal land irrigation.

### **1320\_001 - Paeroa Meters**

*Status: Start-up* - Looking to implement March 2024.

### **Projects Completed this Financial Year**

- 1056\_001 - Wastewater Waihi DAF Sludge Process
- 1067\_001 - Paeroa - Pipe Renewals Hydraulic
- 1082\_001 - 083AP - Wastewater - Waihi East Manhole Repairs - Stage 3 with a \$26k underspend.

### **Ongoing Operational**

All operational capex – budgets are likely to be used or have been fully utilised.

- 1057\_001 - District Wide Pipe Renewals Condition.
- 1059\_001 - District Wide Reactive Renewals Plants Pumpstations.
- 1060\_001 - District Wide Replacement Pumpstation Cabinets Etc.
- 1061\_001 - District Wide Sewer Pump Renewals.
- 1070\_001 - Paeroa VSD Renewals.
- 1075\_001 - Waihi Aerator Component Renewals.
- 1079\_001 - Waitakaruru Prostep Onsite Set Renewals.
- 1080\_001 - Waitakaruru WwTP Component Renewals.
- 1259\_001 - Pumpstations SCADA.
- 1323\_001 - Paeroa UV Renewal.
- 1328\_001 - Waihi Aerator Renewals.
- 1330\_001 - Waihi SCADA Instrumentation Renewals.

### **Projects Currently on Hold**

- 1051\_001 - Karangahake to Paeroa Wastewater Line – No budget.
- 1092\_001 - Step Screen Junction Road - On hold until the Paeroa inlet works are complete.
- 1261\_001 - Paeroa Northern Sewer - The Developer's contribution to the project is being ironed out which will determine the forecast for Council's contribution.
- 1266\_001 - New Storage Tanks at Waihi WwTP
- 1325\_001 - Pit Rim Sewer - the line had a camera review in February or thereabout to check flushing points and the pipe is in good condition. The issue is leachate build-up and unknown to Hauraki District Council. At this stage this project is on-hold until it is backed up by data.
- 1344\_001 - Connection for Maori/Iwi Development – No budget.



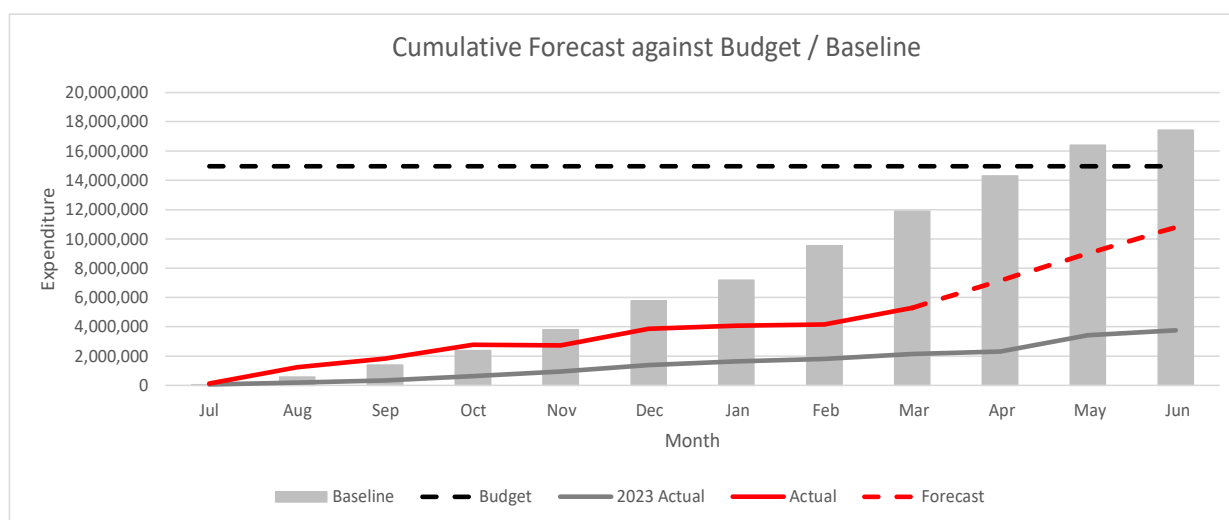
**Projects Currently Deferred**

- 1062\_001 - Kerepēhi Resource Consents - With Waikato Regional Council for final feedback. Otherwise complete.
- 1187\_001 - Wastewater (Renewal) Paeroa Resource Consents.
- 1262\_001 - Wastewater Consents (District wide).
- 1313\_001 - Ngātea New Pumpstation.
- 1321\_001 - Paeroa Storage Chamber Pump.
- 1343\_001 - Waitakaruru WwTP Upgrade.
- 1370\_001 - Future Sewer Connection Plains to Paeroa.

**22 SUMMARY OF PROJECTS FOR WATER SUPPLY OVERVIEW**

The budget for Water Supply is \$15M, with a December forecast of \$11M. The project detail is below. The underspend is with the Waihi Second Membrane project.

**Chart: Water Supply Capital Programme Cumulative Budget versus Actual**



**1023\_001 – Ōhinemuri Pipeline Encasement**

*Status: Complete*

**1026\_001 - District Cast Iron Pipe Renewal & 1030\_001 - District Wide Pipe Renewal Programme**

*Status: Procurement* - These projects have been merged. Decision report went to Council in January 2024 to award contract.

**1029\_001 - District Water Meter Renewals**

*Status: Procurement* - The Project Manager has organised for a Contractor to transfer the first lot of 194 Meters over to billing.

There are a few data anomalies preventing this at present. The PMO is liaising with the contractor and Water Billing to rectify this. Once the First set of Smart Meters is online and working we will look to install the remaining meters.

**1032\_001 – Karangahake Mackaytown Pump Refurbishments**

*Status: Start-up* - The bearing life alert has been triggered. The contractor has been to site and they think the bearings are still good, but we are going to do one pump bearing replacement as a precaution.

**1038\_001 - Paeroa Raw Water Pumps**

*Status: Awaiting Construction Season* - Reconditioned pump has arrived, installation scheduled for April.

**1271\_001 - Colour, Turbidity and pH Monitoring at Intakes**

*Status: Procurement* - Exemption was approved; there is a possible delay on instruments arriving.

**1272\_001 - Waihi Second Membrane**

*Status: Construction* - Works have now commenced on site with the transformer located successfully, demolition of obsolete tanks and foundation works currently underway.

Stormwater and wastewater manholes are now in place and have been inspected and passed.

The foundation works have also passed geotechnical inspections and building control. Regular H&S inspections are underway and site safety audits. The programme has been brought forward and some progress is being made rapidly on site to make up for previously lost design time - please also refer to the Project Status Report attached.



Transformer location work underway

**1277\_001 – Communications/Control Integration for Waitakaruru/Quarry/Mangatarata Intake**

*Status: Planning* - IT and the contractor are to come up with a plan to determine when this work will happen. Currently in the planning phase.



**1278\_001 - Waihou Intake Control Upgrade**

*Status: Construction* - The order for parts has been placed, waiting on delivery. Kick-off meeting occurred in January 2023.

**1279\_001 - Raw Water Tank Kerepēhi**

*Status: Construction* - Funding approved in August, contract awarded. Tanks are now in the country - please also refer to the Project Status Report attached.

**1280\_001 - Kerepēhi Raw Water Main**

*Status: Construction* - 2.5kms of pipeline now laid, the contractor is laying approximately 180m per day - please also refer to the Project Status Report attached.



Picture to Left: Kerepēhi Raw Water Main – Undocumented Raw Water Connection.  
Picture to Right: 650mm Pipe from Pekapeka Intake to Kerepēhi Water Treatment Plant.

**1282\_001 - Concrete Pipe Replacement**

*Status: Construction* - Hauraki Rd; the pipes have been purchased. Work is planned for 2024.

**1295\_001 - Water Supply - Wharf Street 3 Waters Upgrade**

*Status: Design* - Plan to progress this financial year ahead of the Paeroa Streetscape.

**1298\_001 - Pressure Improvements Orongo**

*Status: Construction* - Work is currently underway.

**1345\_001 - Steen Road Consent**

*Status: Implementation* - Stage 1: Complete. The Water Management Plan has been accepted by WRC.

Stage 2: In progress. Iwi participation with the Hauraki District Council Team.

Iwi have advised that they do not support a consent application for an increased water take during high river levels, unless proof is delivered that all other options have been exhausted. A list of suggested options has been provided by iwi and escalated for direction.

Additional funding will be required for stage 2.

**1346\_001 Cyanotoxin Investigation and Implementation**

*Status: Start-up* - Potentially operational, no update at this time.

### 1376\_001 - Repair the Gabions at the Quarry Intake

*Status: Start-up* - It appears that one whole gabion was washed away and needs to be replaced. Existing gabions to be strengthened. Cost estimate to be done and additional funding will be required.

### 1306\_001 - Housing of Generator – Kerepēhi

This project was on hold, however is now a priority. The containerised generator has been delivered (April) to the Kerepēhi Water Treatment Plant. Cables weighing 400kg are to arrive next.



Kerepēhi Water Treatment Plant Containerised Generator

### Projects Completed this Financial Year

- 1331\_001 - Waihi WTP Plant Screening.
- 1023\_001 - Ōhinemuri Pipeline Encasement.

### Ongoing Operational

All operational capex – budgets are likely to be used or have been fully utilised.

- 1027\_001 - District Treatment Asset Renewals.
- 1035\_001 - Kerepēhi UV Lamps Renewal.
- 1041\_001 - Paeroa UV Lamps.
- 1047\_001 - Waitakaruru UV Lamps Renewal.
- 1281\_001 - Self-Cleaning Colour Sensors for Paeroa and Waihi.
- 1273\_001 - Waitakaruru Dose Pump Renewals.
- 1310\_001 - Mangatarata Intake Flowmeter.
- 1312\_001 - Mangatarata Intake VSD.
- 1333\_001 - Waitakaruru Backwash VSD.
- 1334\_001 - Waitakaruru Reticulation 1 VSD.
- 1335\_001 - Waitakaruru Reticulation Flowmeter.
- 1373\_001 - Paeroa Membrane Renewals.
- 1374\_001 - Waihi Membrane Renewals.
- 1375\_001 - Waihi Plant Outflow Meter.

### Projects Currently on Hold

- 1181\_001 - Manganese Treatment.
- 1300\_001 - Second Intake for Paeroa (Resilience).
- 1311\_001 - Mangatarata Intake Pump Renewal.



**Projects Currently Deferred**

- 1341\_001 - Paeroa Raw Water Main.
- 1372\_001 - Cyanotoxin Treatment for the Waitakaruru WTP.
- 1371\_001 - Generators for Treatment Plants.
- 1028\_001 - District Upgrading and Replacing of SCADA Equipment.
- 1269\_001 - Ventilation for Membrane Cell Rooms, MCC's, etc.
- 1297\_001 - Plains and Paeroa Water Connection.

5 PROJECT STATUS REPORT - 1263\_001 - PAEROA UPGRADING WWTP

1. SUMMARY 2. PROJECT PROGRESS INDICATORS 3. ACHIEVEMENTS / WINS

**Programme Activity:** Three Waters  
**Activity:** Wastewater  
**Project location:** Paeroa  
**Capital Project:** Yes

**Project Description:**  
 Paeroa WWTP has secured a short-term, 5-year resource consent to enable the WWTP to continue to operate while a new WWTP is designed, consented and constructed.  
 The project involves a significant upgrade to the WWTP to comply with existing discharge consent and allow for catchment growth.

KEY: Not on Track / Major Issues Not on Track, but plan in place Achieved / On Track

➔ A Point to Note / Escalate

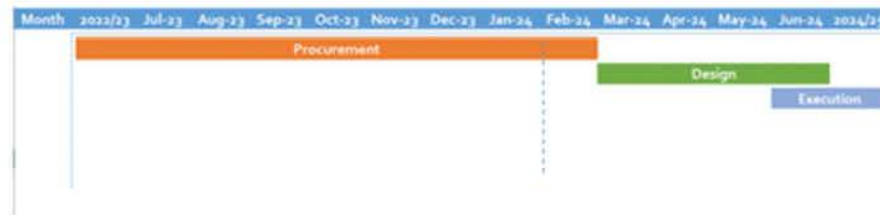
Measure:	Status:	Note against Baseline:
Time:	Not on Track	Completion date approved by Council is now mid-2026 and is forecast to be within this timeframe.
Scope:	Not on Track	Scope of works has been confirmed by Council
Cost:	Not on Track	Total budget has now been increased and the works are currently forecast within budget.
State Date:	1 July 2022	Second FY of project
Projected End Date:	31 March 2026	Baseline Mid-2026

- Including Innovation, Savings and Carbon Commentary*
- The contract has been conformed and signed with Spartan Construction Ltd.
  - Preliminary design is to commence shortly with the contractors designer.
  - The Principal Advisor has been engaged to support the review of prelim design phase.
  - The unsuccessful contractor has been notified and de-brief has been held, stipend has been paid.
  - Application for mains power supply (750kVA) has now been lodged.
  - Insurance provider is currently engaging with the market to provide contract works insurance to Council.



Concept design render of the new proposed WWTP.

4. TIMELINE 5. KEY ISSUES 6. MAJOR RISKS & MITIGATIONS

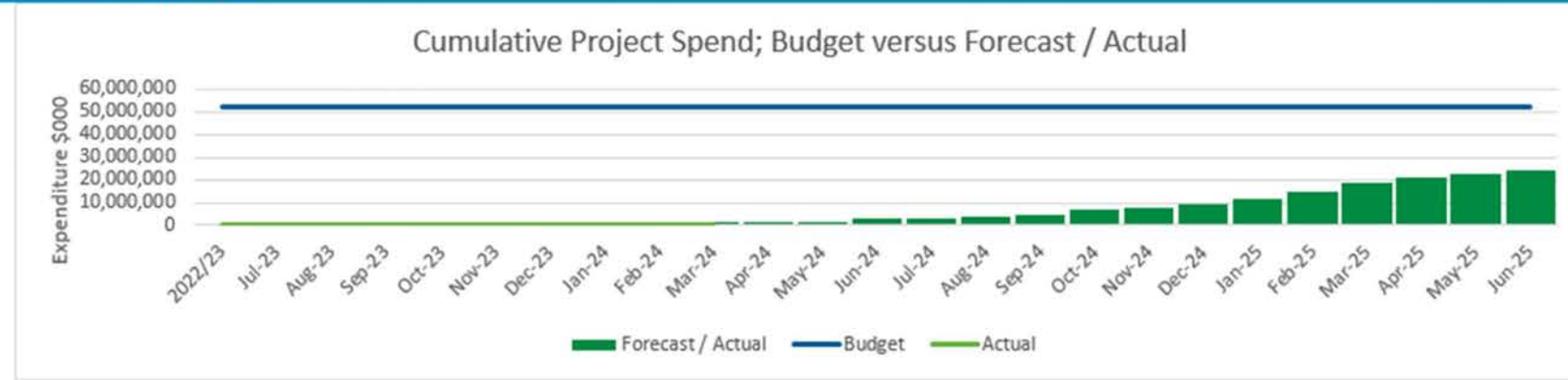


- Including Health and Safety, number of site visits and audits undertaken*
- ➔ **Influent data has been found to show increased loads into the plant which may necessitate an increase in process plant reactor (ASR) sizing. Spartan and their designer are working through the impacts of this. This is likely to result in a larger plant and therefore larger cost.**
  - The influent loads have been formally issued to the contractor and an early warning is now raised in relation to this potential change. A meeting is now scheduled with HDC's technical advisors and the contractor to work through this change. There is a likelihood this will result in a cost increase if the plant size is increased.

- Top three only. Based on risk management framework M: 2823491 (category: financial, H&S, human resources, legal, reputation, operational, project impacts, natural environment)*
- Major & Likely:**  
R001 - Influent loads result in a cost increase  
 • This was identified at the decision paper to council that there is a risk the cost of the plant will increase as a result of increased loads.
  - Major & Likely:**  
R002 - Resource consent for treated effluent discharge has not yet been approved.  
 • Assume the most onerous discharge consent conditions will apply and design accordingly. Progress consent in parallel of the main plant upgrade works.
  - Major & Likely:**  
R003 - Design and construction tender price exceeds allocated budget.  
 • Active contract and risk management to be deployed. Variations to be teted by independent quantity surveyors where required

7. KEY ACTIONS / DECISIONS / NEXT STEPS 8. FINANCIAL FORECAST

- Preliminary design kick off.
- Procurement of contract works insurance.
- Development of detailed works programme to target establishment by October 2024.



Note: future FY26 is not shown for simplicity



6 PROJECT STATUS REPORT - 1272\_001 – WAIHI WTP SECOND MEMBRANE

1. SUMMARY 2. PROJECT PROGRESS INDICATORS 3. ACHIEVEMENTS / WINS

**Programme Activity:** Three Waters  
**Activity:** Water  
**Project location:** Waihi  
**Capital Project:** Yes

**Project Description:** Waihi WTP currently has a single water treatment membrane unit. The project seeks to add resilience by providing an additional membrane process train to mitigate the risk of an unforeseen failure of the existing membrane.

KEY:	Not on Track / Major Issues	Not on Track, but plan in place	Achieved / On Track
	A Point to Note / Escalate		
Measure:	Status:	Note against Baseline:	
Time:	On track	The contractor is late in provision of pre-construction deliverables.	
Scope:	On track	The project is expecting to operate within the approved budget authorised in the 31 May 2023 Council meeting.	
Cost:	On track	Authorisation provided in September 2022	
State Date:	Sep 2022	As approved in the 31 May 2023 Council meeting.	
Projected End Date:	October 2024		

- The contractor now has possession of site and construction works have commenced.
- Plant first planned shutdown has been undertaken successfully on 23 March 2024 to relocate the main transformer away from the extended building.
- Drainage manholes are in place and inspected.
- New membrane air panels are being fitted out and positioned.
- Weekly site meetings are now in effect with the operations team, contractor and project manager.
- Piles have been driven and quality assurance documentation provided by independent geotechnical engineer. The concrete slab pour is now been authorised.
- Service detection and site setup is complete, mains communication cable has been identified and protected.



4. TIMELINE

Month 2022/23 Jul-23 Aug-23 Sep-23 Oct-23 Nov-23 Dec-23 Jan-24 Feb-24 Mar-24 Apr-24 May-24 Jun-24 2024/25



Manhole installation for storm water and wastewater

5. KEY ISSUES

Including Health and Safety, number of site visits and audits undertaken

- 588 hours have been worked to date on site with 2 minor incidents raised. Incident reports are currently being drafted and will be logged in HDC system. Incident 1 relates to minor damage of pipe fitting when demolishing a redundant tank, this has since been repaired. The second incident is an unexpected loss of water supply to nearby residents during the first planned site shutdown. The findings suggest a small number of residents are supplied water using a pump system. When the power was switched off this pump stopped and didn't restart until the generator was connected. This will be managed for future shutdowns, however, a wider risk remains for on-going operation. **Given this issue, the project will explore solutions, options and costings to address this.**
- Minor variations are expected which will result in some cost increase. These are attributed to additional effort required in demolishing the obsolete tank and installation of pressure gauges on all discharge lines on pumps.

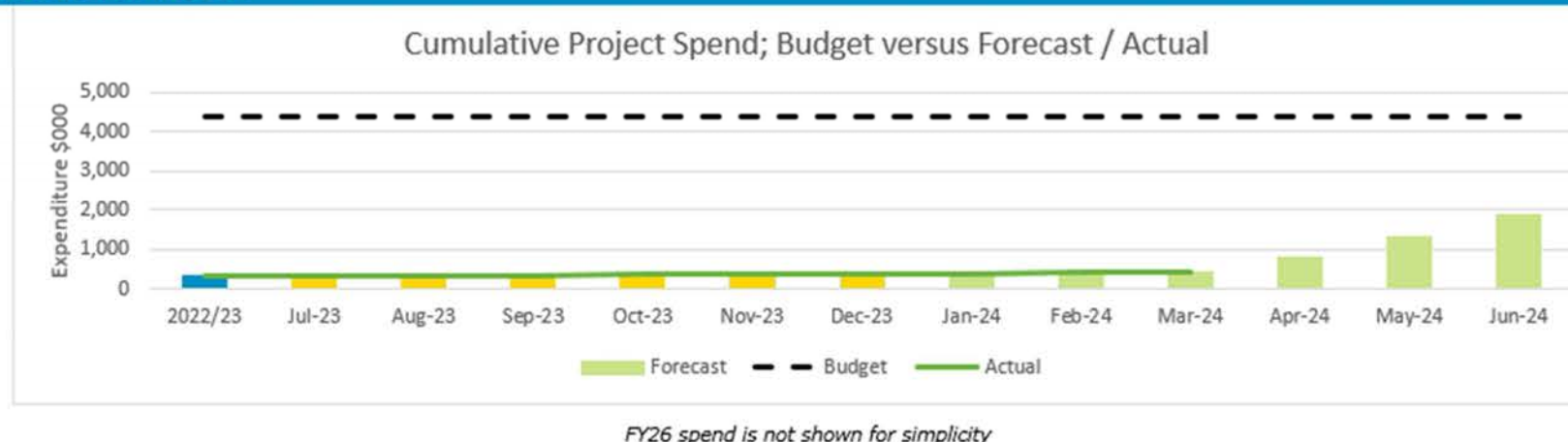
6. MAJOR RISKS & MITIGATIONS

<b>Major &amp; Likely:</b> R001 - Operational and commissioning of the works.	<ul style="list-style-type: none"> <li>Risk of water production impacts due to outages over the course of the works. To be managed carefully with a detailed sequence plan and operations engagement.</li> <li>Due Date 1 Aug 2024</li> </ul>
<b>Moderate &amp; Likely:</b> R002 - Project programme at risk of slippage.	<ul style="list-style-type: none"> <li>Programme to be provided highlighting key milestones. Raise early warnings for areas where slippage may occur. Key timeframes made clear to all suppliers and designers.</li> <li>The current contract programme is projecting 3 months extension on the baseline programme due to delays in design.</li> </ul>
<b>Moderate &amp; Likely:</b> R003 - Contractor resourcing and/or performance issues	<ul style="list-style-type: none"> <li>The contractor is reliant on several sub-contractors for the delivery of the works. There is a potential risk of performance or interface issues. This is mitigated by proactive contract management by HDC with pre-empting and mitigating likely points of failure.</li> <li>Regular meetings are held to ensure the contract works are progressing, reported on and minuted.</li> </ul>
<b>Minor &amp; Almost Certain:</b> R004 - some additional scope	<ul style="list-style-type: none"> <li>It was found some residents are supplied water by a independent pump,, resolving this is outside the project scope, however, it is a risk for on-going plant operation.</li> <li>Options for resolutions and costings are currently being developed.</li> </ul>

7. KEY ACTIONS / DECISIONS / NEXT STEPS

- Membrane building extension earthworks to be undertaken and foundation (piles) to be started.
- Establish active presence on site (multiple times a week).
- Engagement of professional advisor for construction monitoring support.

8. FINANCIAL FORECAST





7 PROJECT STATUS REPORT - 1279\_001 - KEREPEHI RAW WATER TANKS

### 1. SUMMARY

**Programme Activity:** Water Supply

**Activity:** Renewals

**Project location:** Kerepēhi Water Treatment Plant

**Capital Project:** Yes

**Project Description:**  
Build additional raw water storage tanks at Kerepēhi Water Treatment Plant with associated connection pipework. The new reservoirs will add around 4 million litres additional storage.

### 2. PROJECT PROGRESS INDICATORS

**KEY:** Not on Track / Major Issues Not on Track, but plan in place Achieved / On Track  
➔ A Point to Note / Escalate

Measure:	Status:	Note against Baseline:
Time:	Delayed	Delay in design of foundation caused by late reporting of geotechnical review.
Scope:	On track	
Cost:	On track	
State Date:	2 August 2023	
Projected End Date:	31 July 2024	September October looking at 6-8 week delay.

### 3. ACHIEVEMENTS / WINS

*Including Innovation, Savings and Carbon Commentary*

**Innovation, Savings and Carbon Commentary**

- Design of the tanks and associated pipework is complete.




### 5. KEY ISSUES

*Including Health and Safety, number of site visits and audits undertaken*

- A review of geotechnical information was received later than expected with costs higher than initial option.

### 6. MAJOR RISKS & MITIGATIONS

*Top three only. Based on risk management framework M: 2823491 (category: financial, H&S, human resources, legal, reputation, operational, project impacts, natural environment)*

**Major & Likely:**  
Review of geotechnical information in respect to seismic events

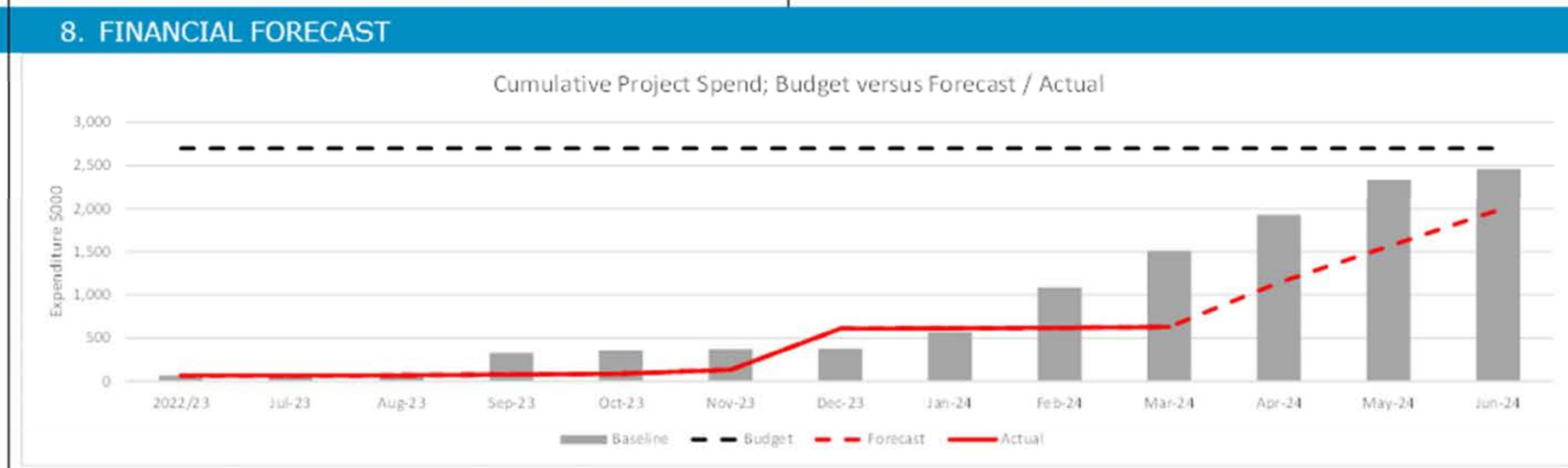
- Tank Supplier geotechnical review delivered late with increase in pricing. Completing design of ground improvement with initial selection due to be complete by end of April 2024.

**Moderate & Likely:**  
Connection pipeline

- Connection pipework redesigned in-house, working with Raw water main contractor to confirm connection and installation.

### 7. KEY ACTIONS / DECISIONS / NEXT STEPS

- Design of tanks and manufacturing complete. Currently at the port.
- Design of foundations to be done. Geotechnical report has been received.
- Pipeline specification review for extension of raw water main.
- Review of risks with methodology of connecting pipeline is currently being undertaken.
- Review of risks with methodology of connecting pipeline being undertaken.





8 PROJECT STATUS REPORT - 1280\_001 - KEREPĒHI RAW WATER MAIN

1. SUMMARY 2. PROJECT PROGRESS INDICATORS 3. ACHIEVEMENTS / WINS

**Programme Activity:** Water  
**Project location:** Plains  
**Capital Project:** Yes

**Project Description:**

This project will increase resilience in the network and provide security of the raw water supply to the Kerepēhi Water Treatment Plant (WTP).

Replacement of the current 450mm-diameter pipe from the Pekapeka intake to the WTP.

A total of 5.3 kilometres of a 630mm-diameter raw water intake pipe is being laid which will connect to the two new raw water storage tanks being constructed at the WTP.

2. PROJECT PROGRESS INDICATORS

KEY: Not on Track / Major Issues Not on Track, but plan in place Achieved / On Track

➔ A Point to Note / Escalate

Measure:	Status:	Note against Baseline:
Time:		
Scope:		
Cost:		
State Date:		
Projected End Date:		

3. ACHIEVEMENTS / WINS

*Including Innovation, Savings and Carbon Commentary*



**Innovation, Savings and Carbon Commentary**

2.5kms of pipe laid to end of March 2024, the contractor is laying approx. 180m per day.

4. TIMELINE



5. KEY ISSUES

*Including Health and Safety, number of site visits and audits undertaken*

- **Health and Safety:**

6. MAJOR RISKS & MITIGATIONS

*Top three only. Based on risk management framework M: 2823491 (category: financial, H&S, human resources, legal, reputation, operational, project impacts, natural environment)*

<b>Moderate &amp; Likely:</b>	•Land owner negotiations underway and ongoing
<b>Minor &amp; Almost Certain:</b>	•Butterfly valve installation – working on detailed design/solution

7. KEY ACTIONS / DECISIONS / NEXT STEPS

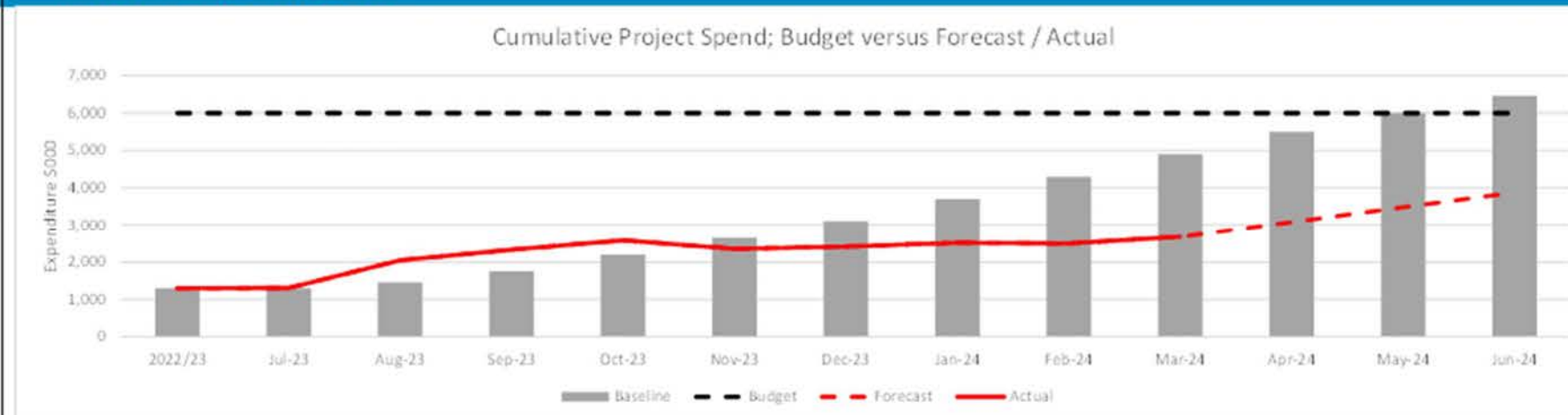


Drilling under SHWY2 – mid April 2024.

Completion of detailed design for connections at to tanks and intake.

Confirmation of butterfly valve design and installation.

8. FINANCIAL FORECAST



## NGĀ MŌHIOTANGA FOR INFORMATION



To Mayor and Councillors

Author Marion Kroukam  
Library Services Team Leader

Meeting date Wednesday, 24 April 2024

File reference Document: 3604160

Subject **Library Services Report – Q3 2023-24**

### 1 TE WHAIKUPU | RECOMMENDATIONS

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THAT Council

Receives the report titled Library Services Report – Q3 2023-24 (Document number 3604160).

### 2 TE WHAKARĀPOPOTANGA | SUMMARY

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The Community Development Group presents an update of activities carried out during the previous quarter to Council. This report covers the District Libraries' quarterly activity.

### 3 TE ARONGA | PURPOSE

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The purpose of this report is to provide to Council the Community Growth activities that involve the District and Community Libraries. The report on these activities will include goals as well as quarterly statistics and trends, and will be presented to Council on a quarterly basis.

### 4 WHĀINGA | GOAL

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4.1 Goal: Library services are provided in a customer focused and effective way to support the recreational needs of the community

Quarter 3 has been extremely busy, as the start of the calendar year is the start of the community year of using our libraries even more than usual. Our work has been varied and interesting as it always is.

This quarter, a new measurement of service to the community was quantified. We have called it **Digital Assistance**. This is in addition to the formal Digital Drop-In session that a volunteer helps with on a Friday at Paeroa. The staff members did not count straightforward printing of customers' documents from the APNK computers or their own devices. They were asked to record every time they helped a person with a digital query that required more technical skills. These ranged from their email program not working on their phone, to queries with IRD



accounts to helping an elderly lady to back-pedal from a WhatsApp scam. In Paeroa, staff members helped 66 people and Waihi assisted 50 customers as part of their daily work. These sessions ranged from 5 minutes to 45 minutes with each person. A total of 693 minutes, almost 12 hours was spent in Paeroa. Waihi spent 748 minutes on these queries, just over 12 hours. These statistics have highlighted how Library staff members have to multi-task.

The regular **programmes** like the Senior Movie monthly session, weekly Story Time and help with Genealogy are under way. The Book Chats at all three libraries were well attended, with Waihi hosting our largest group of over 15 people. Our weekly Chess Club at Paeroa which is run by a member of the community is also taking off, and we hope to offer this at Waihi in the future. A new programme has started called Fun-tastic Fridays and is offered after school at Paeroa and Waihi. Movies, Lego, board games and Play Station are just some of the activities available each week.

The **Summer Holiday Reading Programme** for children over December and January was popular, with challenging activities focusing on Aotearoa's flora and fauna. This was the first time that we offered a programme using the **Beanstack** App. The participants could earn electronic badges as they read the books associated with the colouring book. Beanstack encourages parents and children to read and work together to record their progress. Our Adult, Children's and Teen Reading Challenges are all uploaded to Beanstack for 2024. The engagement in this App will fluctuate depending on when our challenges run.

Our Non-fiction collection is being specifically showcased in a display area this year, starting with Dewey number 000 – titles that range from computer help to books that changed the world – which they do every day! Other **Displays** this quarter included Waitangi Day, the Paeroa Highland Games, New Zealand authors and books with a Red cover. The latter was the most popular, and we had to keep refreshing the colourful books! One of our Library Assistants hand drew cows onto a table cloth for her Agriculture in New Zealand display. Her artistic skills were commented on by several customers and it added a special touch to the display.

On Sunday 10<sup>th</sup> March three staff members set up our stand at the **Paeroa Children's Day** at the Domain. About 30 tamariki visited our stand and filled in the entry form, and we were pleased to give away two book prize-packs in our lucky draws. Some families joined the Library the following week.

4.2 Goal: An appropriate range of print, audio visual and electronic resources are provided to ensure public access to learning materials

Our online movie, series and documentary app called **Beamafilm** had 387 total views of its content this quarter. This is up from 345 last quarter which is pleasing.

The Library **Mobile App** is working again and our customers are being assisted to download it and use it again where necessary. It is very intuitive though, so is easy to use.

**Ancestry.com** was used 236 times this quarter by the community, as well as by our genealogy volunteers who help in the libraries.

Staff members have had training on **CollectionHQ** and it is being used regularly to help with collection development. This program allows us to see trends in our readership, and helps to streamline our book buying and sharing of items between the three libraries.

The **National Library Audiobooks** have run on an old-fashioned card system all these years! In January, we implemented the digital way of handling them on our Library Management System, which makes the issuing and returning to and from the National Library and to our customers much easier. This has resulted in timesaving for all our staff.

Our new eBook and eAudiobook app, **BorrowBox**, has been live since the beginning of March and is gaining popularity very quickly. We have used all their promotional material to market it, and our customers are really enjoying the wider range of authors, in addition to Wheelers. The ePress section has many magazine titles which can be downloaded – and 100 people at a

time can take out one edition. This is the advantage of being in a consortium where titles are shared. The statistics and circulation will be reported on next quarter.

### 4.3 Goal: Libraries attract a wide audience

The number of Library **newsletter** subscribers has increased from an original 170 on the old platform to over **275** on the new one hosted by Datacom. We continue to encourage sign ups. The physical copies are also enjoyed by our readers and we print small amounts and top up as needed.

Following my talk at Paeroa **PROBUS** last year, I was invited to the Ngātea meeting in February. The Senior Librarian - Community Engagement accompanied me, and we had a chance to promote our Library Services, hand out newsletters and encourage many lapsed members to re-join. Many expressed their excitement for the Plains Community Hub and impending upgrade to current Library services in Ngātea. A few people joined the Library straight after the meeting.

The Senior Librarian - Community Engagement and I visited the Kaiaua Community Library on 1<sup>st</sup> March for our biannual **Community Library Interest Group Meeting**. We had a morning tea and the official meeting at a volunteer's home and then we went to see how the Library is run. Library volunteers from Turua and Whiritoa travelled to the meeting as well. All of them have expressed their gratitude for these meetings as ideas are swapped and advice is given.

Many **local schools** were visited this quarter, either just to drop off information flyers and holiday programme information or for in-depth meetings to discuss how our libraries can team up with school projects. Paeroa College is very keen to partner with us under their Literacy banner. Waikino School invited us to be part of a reading programme and we read stories to small groups and encouraged them to come to the libraries in the holidays.

Other community engagement included a meeting at the **Waihi Resource Centre**, and a visit to **Thames Library** to plan our holiday programme which is going to be a very exciting Escape Room – watch this space!

The Library **Facebook** page has had 58 posts this quarter. These are carefully scheduled and aim to inform our online community about the latest Library news and events. The Overall Reach was **14,731**. We now have **871** Followers.

Our **Instagram** reached **1240** accounts with **213** Followers. Customers are enjoying the posts with snippets of information and recommended reads.

The Library **website** is being moved to a new platform. All the current content is being reviewed and updated, and the new look is going to be much more modern. Our page has had **41,376** Page Views which includes all activity. This is an increase since last quarter.

## 5 ATU MAHI | OTHER ACTIVITY

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### 5.1 Cadetship

The Library Cadetship is going very well, both in theory (study) and in practice. The results in the Open Polytechnic papers have been excellent thus far. Practical Library Assistant work and projects are allocated as needed and the roster is structured very carefully.

### 5.2 Skinny Jump modem distribution

**23** modems were given out this quarter. Waihi gave out 9 in February which is a record number in a month. The DIAA is supporting us with people who are trying to get more than one modem (in some cases, more than five!) by contacting them directly before we hand them out.



### 5.3 Wall Walk

All Library staff members attended the Wall Walk that HDC offered as professional development in January. This informative workshop gave us all food for thought in the New Zealand landscape.

## 6 AHU WHAKAMUA | FUTURE DIRECTION

### 6.1 Focus for Q4 2023-2024:

- Programmes for children and adults
- School visits
- Cadetship

### 6.2 Focus over the next year to two years:

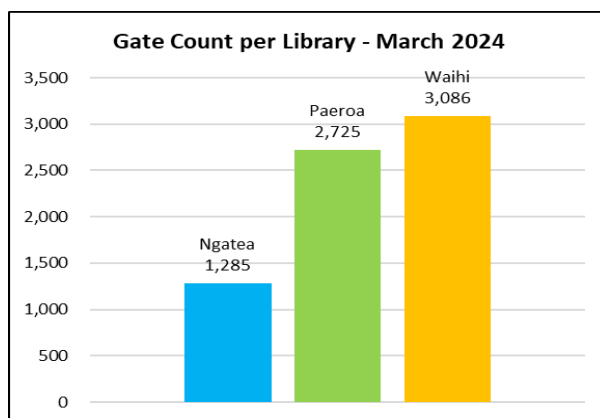
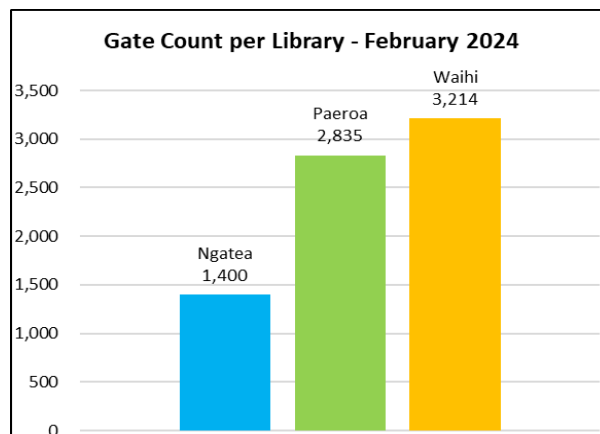
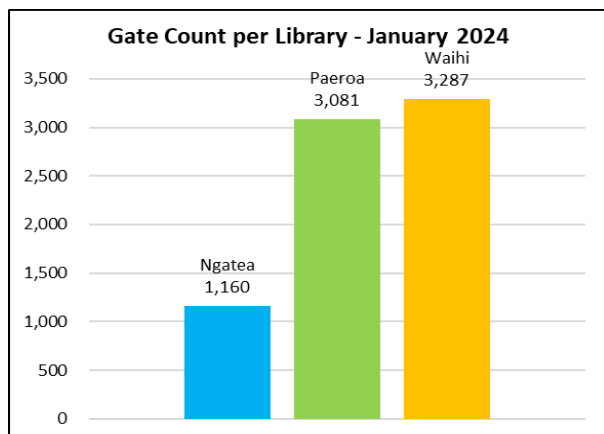
- Plains Community Hub project
- Collection development in all three libraries

## 7 NGĀ TATAURANGA | STATISTICS

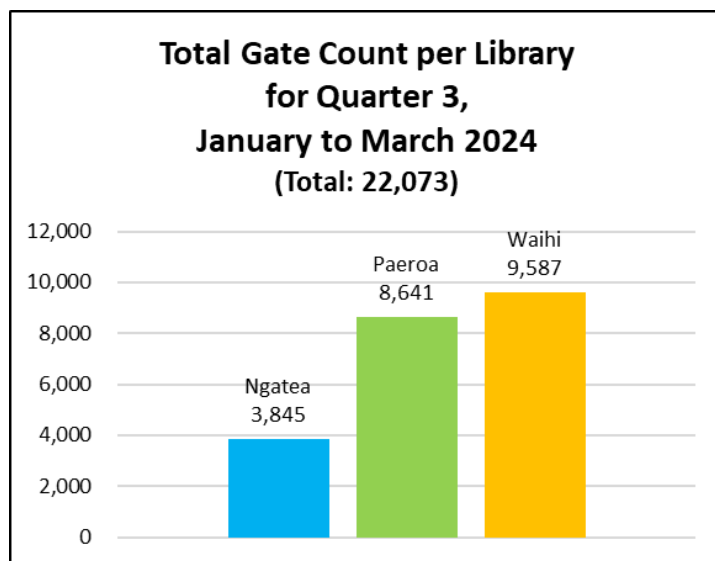
### Quarterly statistics

#### 7.1 Gate Counts

**22,073** people in total used all three libraries in the third Quarter. This is up by 744 visitors since last quarter but down by 787 compared to the same period last year.



**Gate Count per month per Library for Quarter 3**

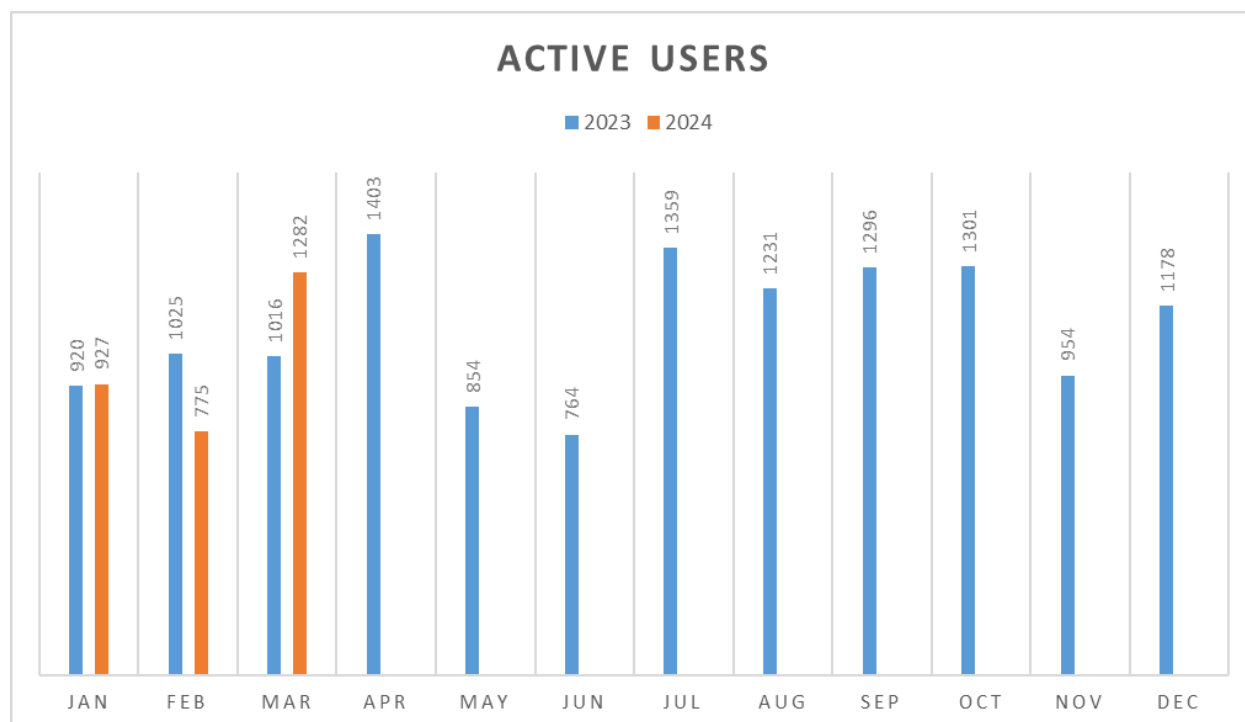


**Gate Count for whole of Quarter 3 per Library**

### 7.2 Active users

The number of active users decreased by 15% compared to Quarter 2 but increased by 14.48% compared to the same period last year.

Please note that these figures ONLY count each individual user once (not how many times they visit during the quarter nor how many items they borrow nor if they use the libraries for other activities).



### 7.3 New members

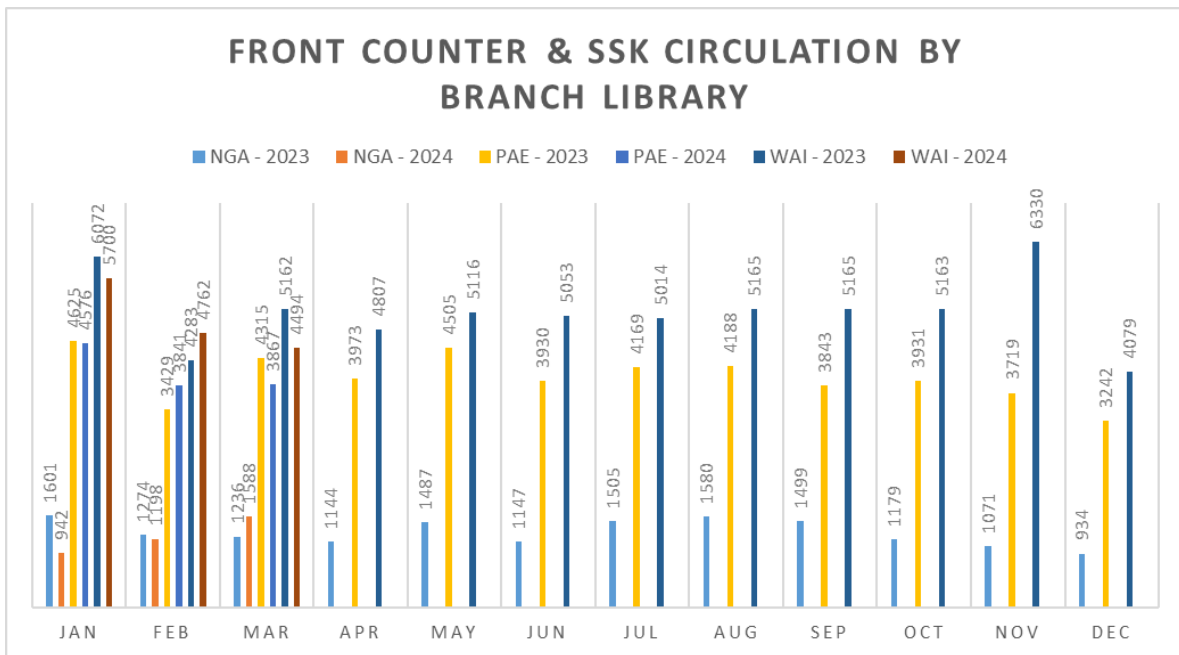
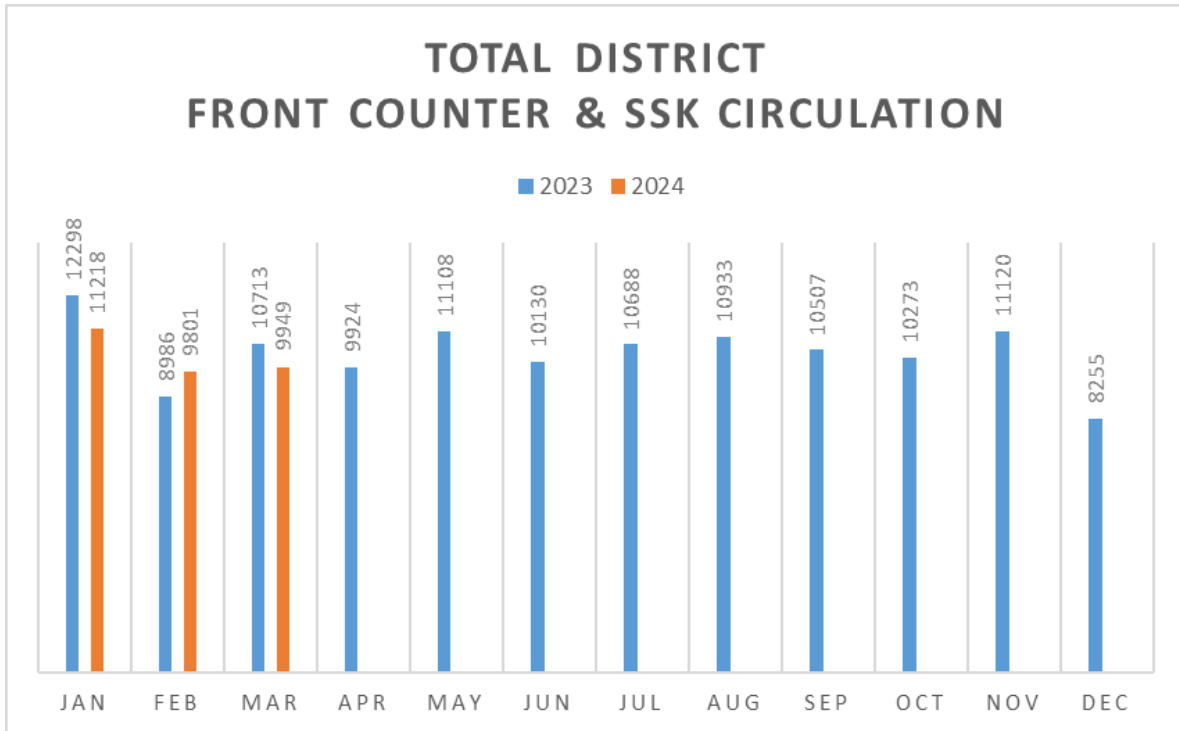
**133** people joined our libraries as new members this Quarter. That is up from **92** compared to last quarter.



### 7.4 Circulation – Total Physical Items

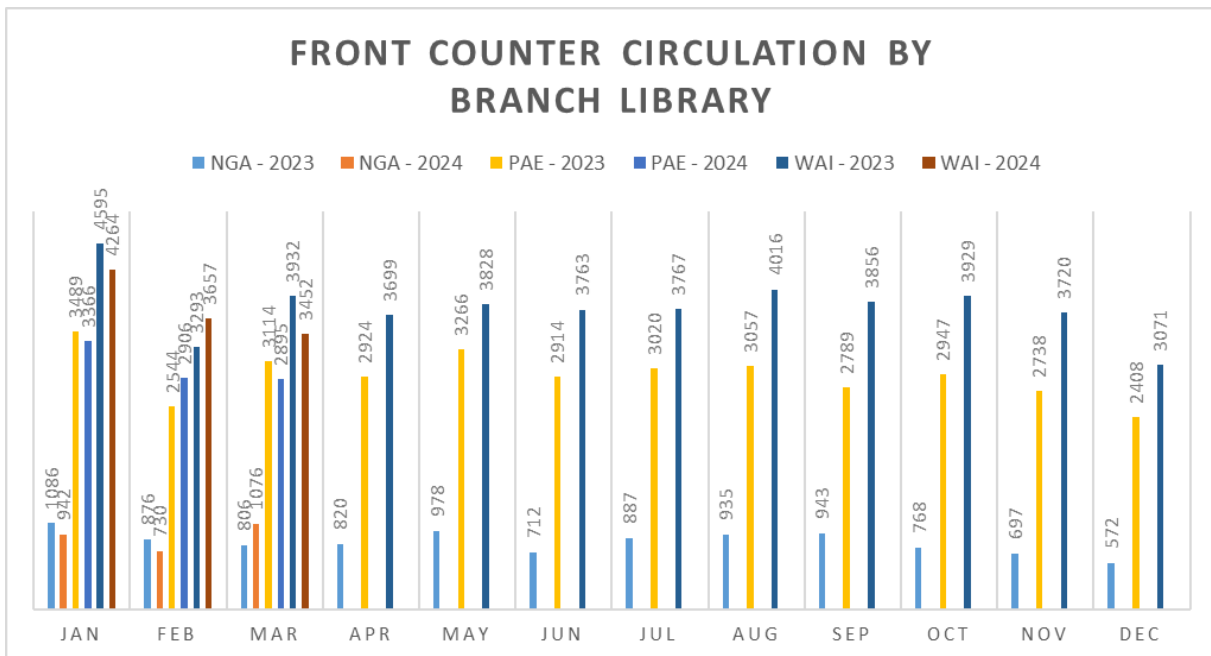
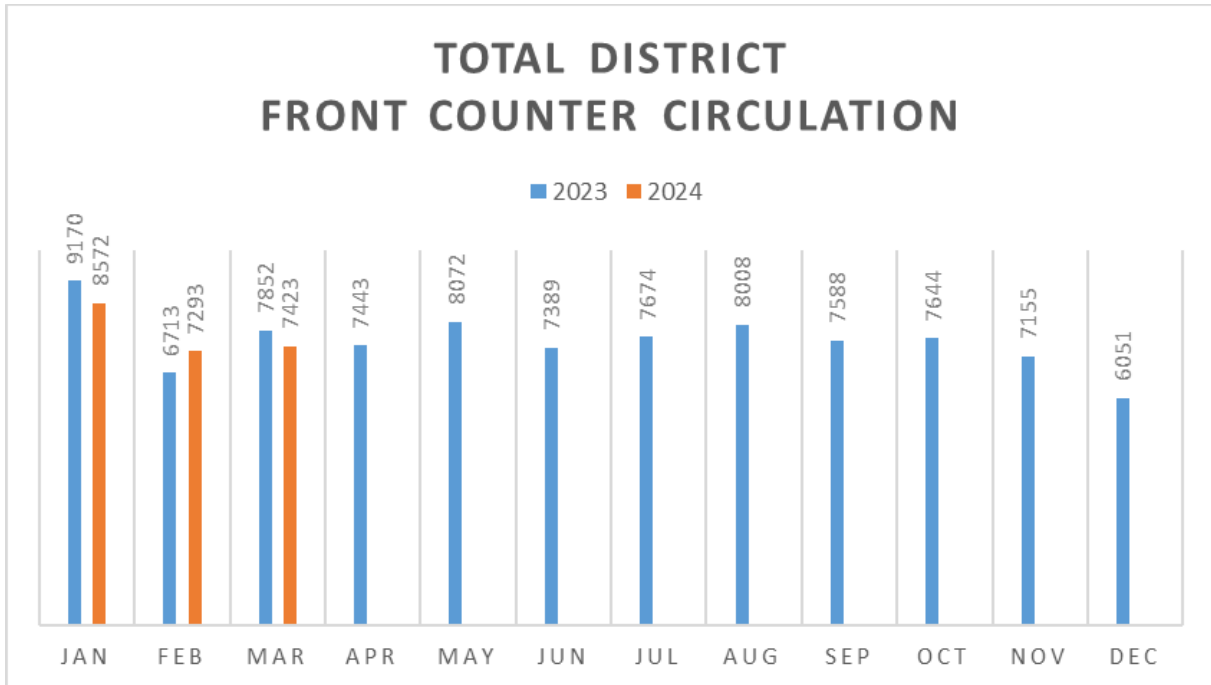
The total circulation of physical items increased by 12.46% compared to Quarter 2. We noted that families have taken out plenty of books going in to the school year, as there is no limit on the number of items customers can take. It decreased slightly by 3.32% compared to the same quarter last year. This is in line with the slightly lower Gate Count compared to Q3 2023.

A total of 30968 books, magazines, audio books and DVDs were processed overall by staff members this quarter.



7.5 Circulation – Front Counter

The circulation of physical items just at the Front Counters increased by 10.47% compared to Quarter 2. It decreased slightly by 1.92% compared to the same quarter last year.

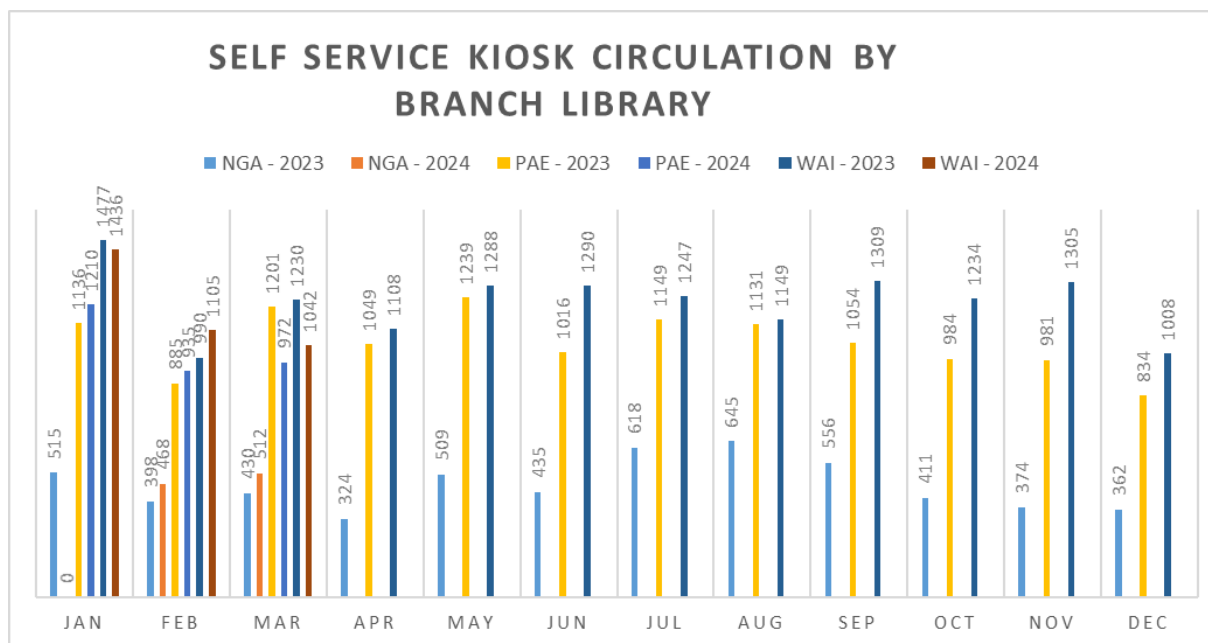
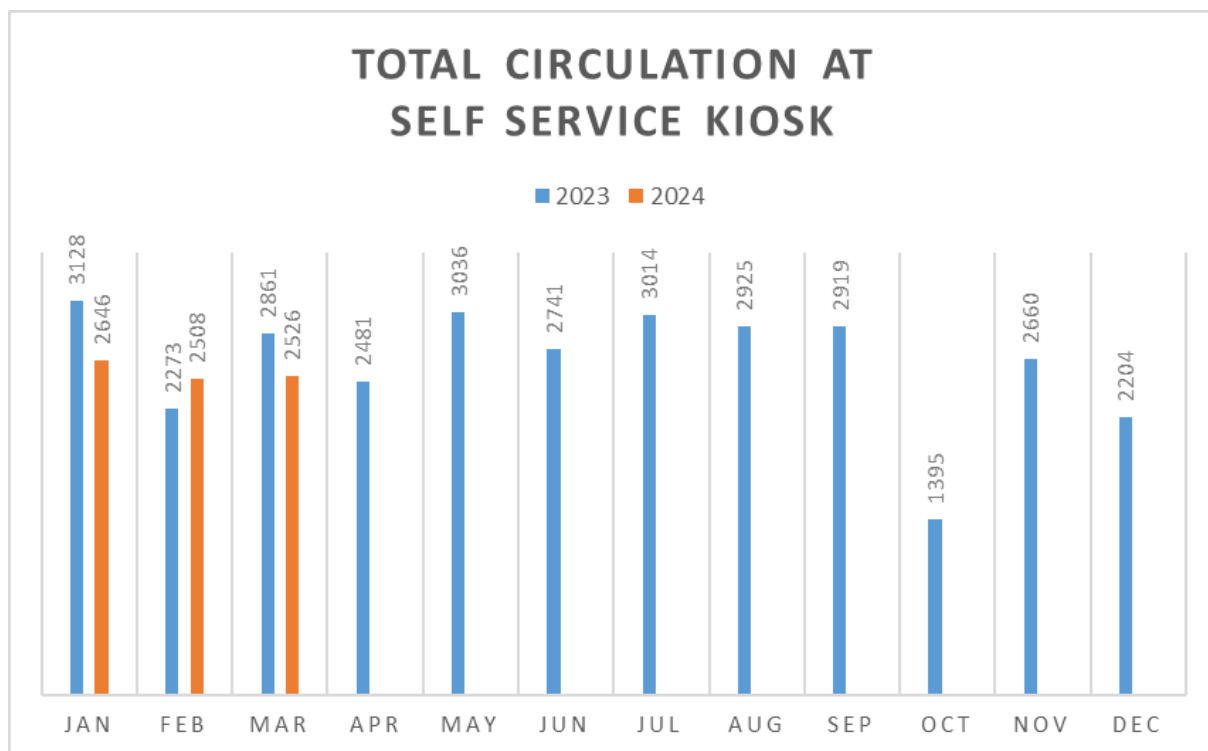




7.6 Circulation – Self Service Kiosk

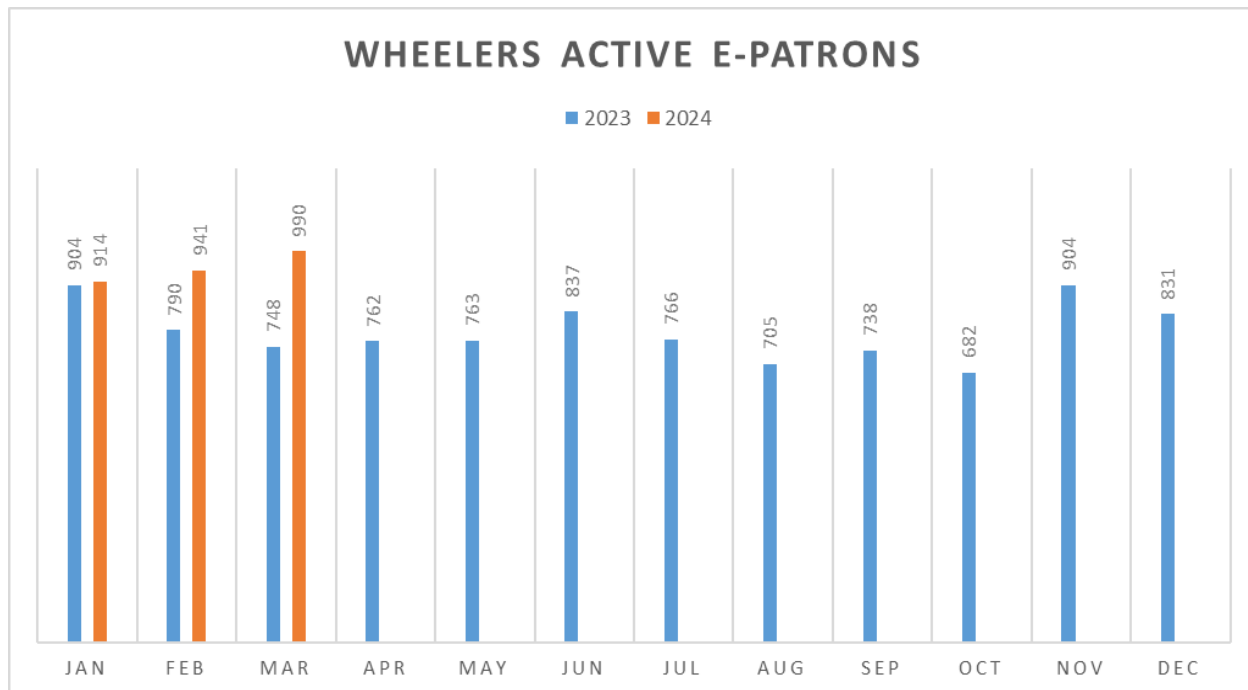
The circulation of physical items on the Self Service Kiosks increased by 18.5% compared to Quarter 2. However, it decreased by 7.58% compared to the same quarter last year.

Customers in Waihi use the kiosk more than anywhere else. This could be due to the age demographic with younger people and families enjoying the independence of using the “fun” interactive machine. One customer commented that she uses the kiosk for her daughter to practise her counting skills!



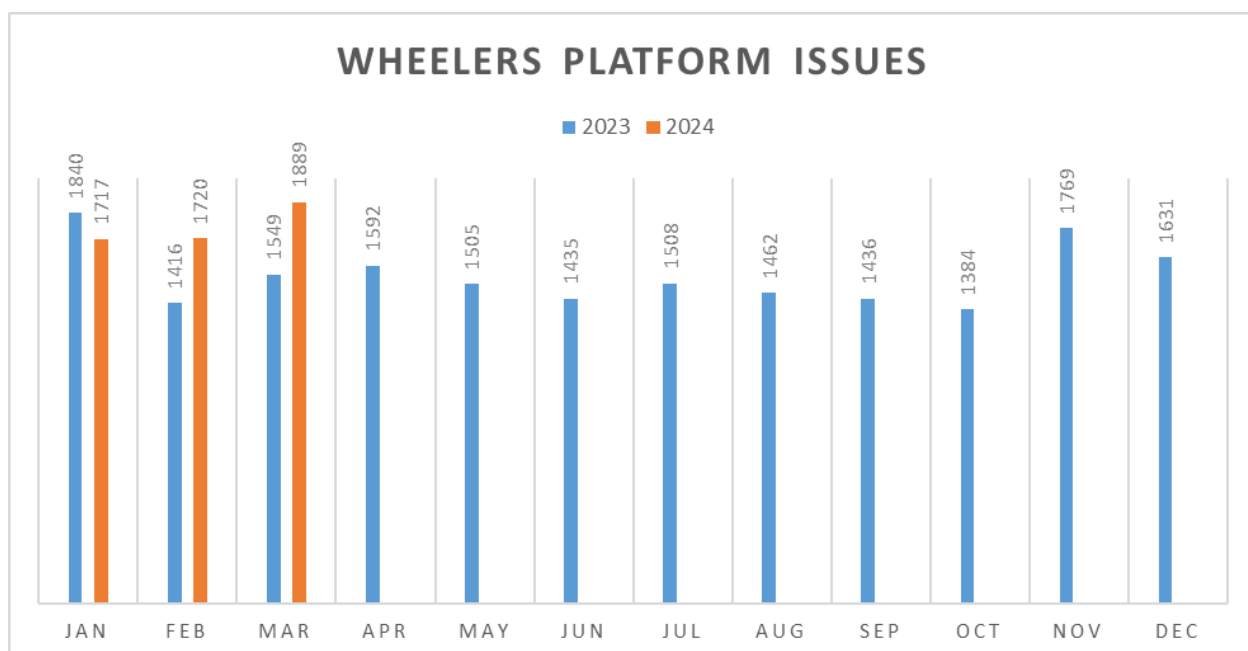
7.7 Active ePatrons

The number of active ePatrons on the Wheeler’s eBook and eAudiobook platform has increased by 15.04% since Quarter 2. The number of active users of this online service has increased in comparison to the same period last year by 16.98% which is also positive.



7.8 Wheeler’s ePlatform circulation (issues)

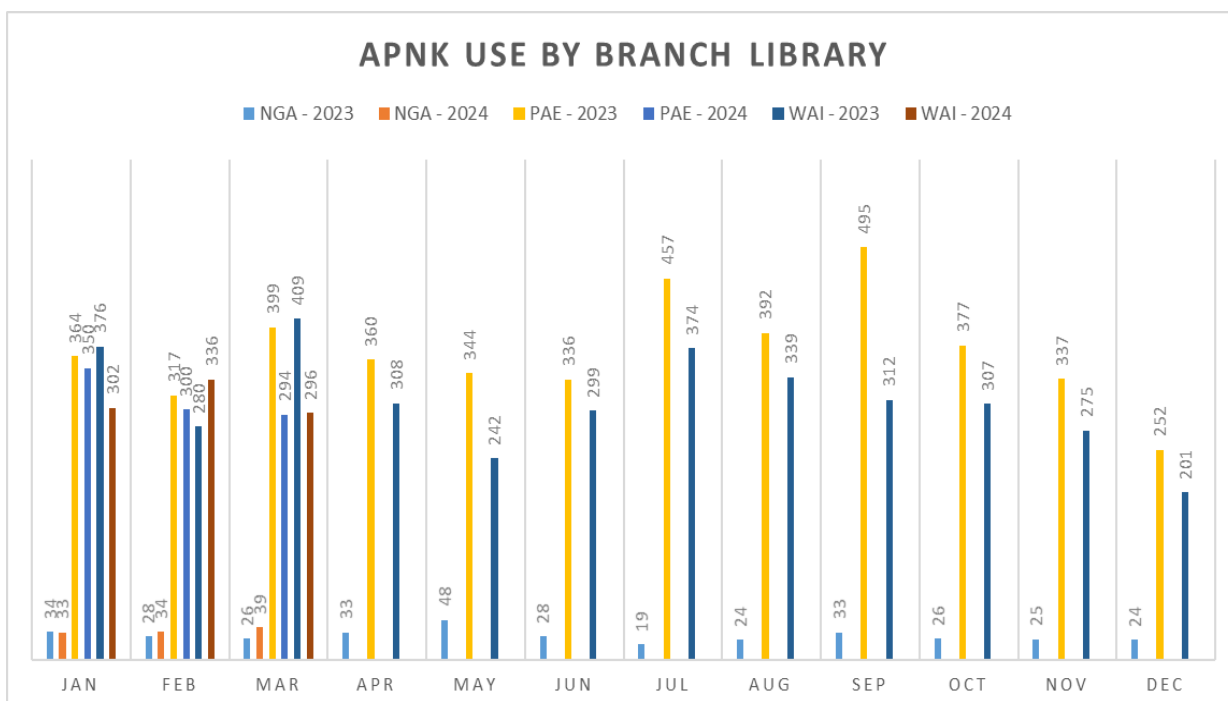
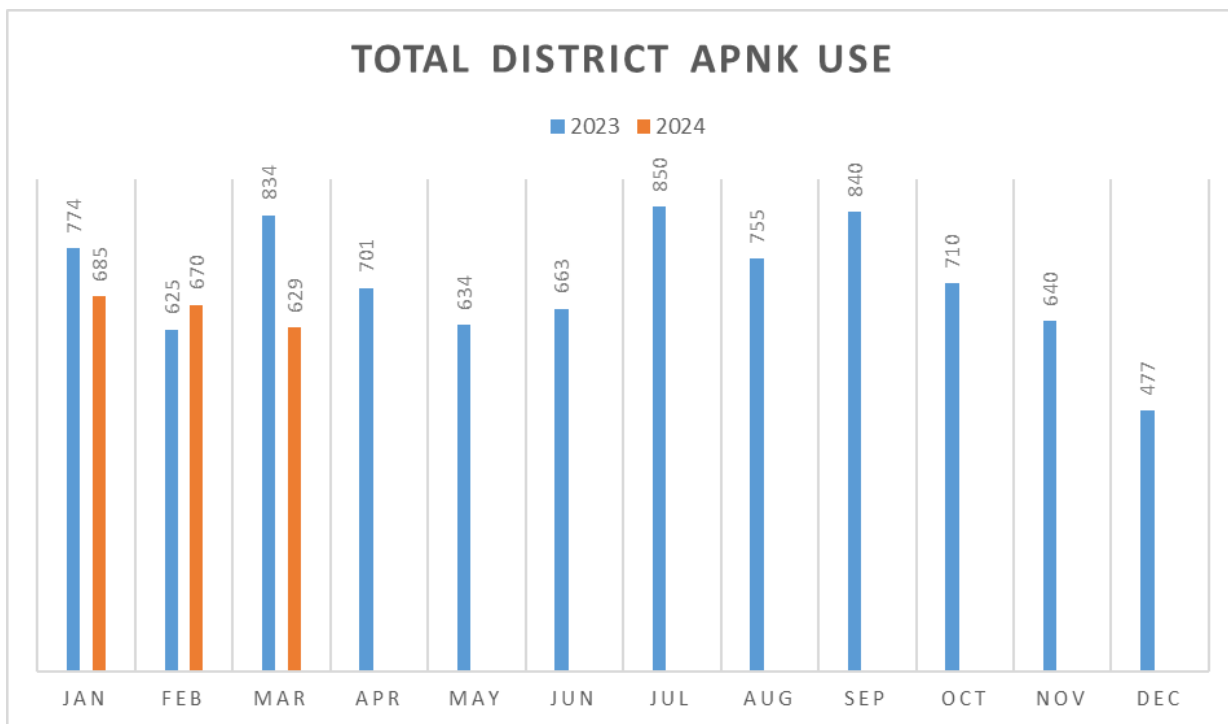
The number of Wheeler’s ePlatform loans increased by 17.31% compared to the same quarter last year and also increased compared to the previous quarter (10.18%). This is interesting in the light of our addition of BorrowBox – customers could be comparing what is available on the two Apps and borrowing accordingly. As already mentioned, BorrowBox statistics will be reported upon next quarter.





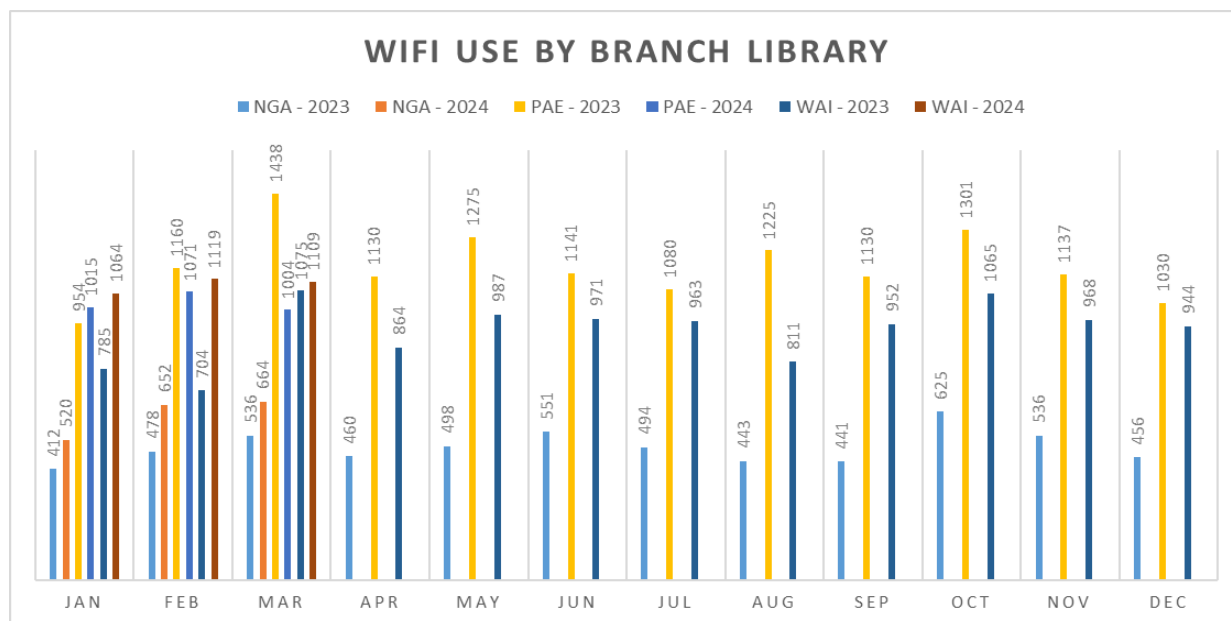
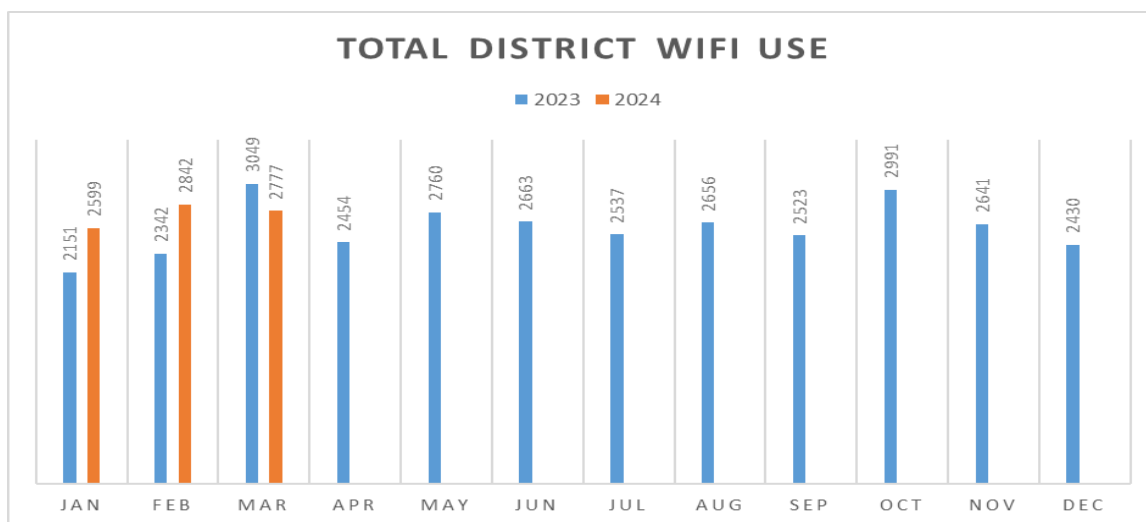
7.9 APNK (**Aotearoa People's Network Kaharoa**) Computer Use

APNK computer use increased by 7.91% compared to the previous quarter. The percentage of use is down by 28.28% compared to the same period last year. Many more people are using their own devices for printing, rather than the physical computers, so they do not have to log in to APNK to do this.



7.10 Wi-Fi Usage

Wi-Fi usage has once again shown a positive increase compared to the same period last year with 1042 more sessions logged onto (12.68%). There has also been an increase of use (1.9%) since the previous quarter.



8 MUTUNGA | CONCLUSION

Community engagement, promotion of our digital offerings and planning of programmes, in amongst the thousands of items going in and out the libraries kept us busy this past quarter.

9 WHAKAPAI | APPROVAL

Prepared by	Marion Kroukam <b>Library Services Team Leader   Kaiārahi Ratonga Ngā Pūtea Mātauranga</b>
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## FOR INFORMATION NGĀ MŌHIOTANGA



To Mayor and Councillors

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Meeting date 24 April 2024

File reference Document: 3604113  
Appendix A: Fact-track Media Release

Subject **Fast-track Approvals Bill – an overview**

### 1 TE WHAIKUPU | RECOMMENDATIONS

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THAT Council

- a) Receives the report titled Fast-track Approvals Bill, (document number 3604113).

### 2 TE WHAKARĀPOPOTANGA | SUMMARY

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The Government's Fast-track Approvals Bill (the Fast-track Bill) was introduced to Parliament under urgency on 7 March 2024. Submissions are being called for, until 19 April 2024, which will be referred to a Select Committee for consideration. The Fast-track Bill, if passed in its current form, will have significant implications for the Council's regulatory role in relation to resource consent applications of regional and national significance.

### 3 TE ARONGA | PURPOSE

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The purpose of this report is to provide summary information on the contents of the Fast-track Approvals Bill as introduced, with some commentary about implications for the Council and local community/ies.

### 4 WHAKAPAPA | BACKGROUND AND CONTEXT

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The Fast-track Bill offers a fast-track consenting process for certain listed and referred projects that will have significant regional or national benefits. The objective of the Fast-track Bill is to reduce consenting costs and timeframes to enable the efficient implementation of large-scale projects.

The Fast-track Bill provides a fast-track consenting option for projects that require one or more of a range of approvals including a resource consent and notice of requirement under the RMA,

authority under the Wildlife Act 1953, the Heritage New Zealand Pouhere Taonga Act 2014, approvals under the Conservation Act 1987 or the Reserves Act 1977, the Crown Minerals Act 1991 and a proclamation under section 26 of the Public Works Act 1981 to take or deal with land.

A project will become eligible for fast track by either being:

- a. Referred to an expert panel by the Ministers of Infrastructure, Regional Development and Transport, and potentially the Minister of Conservation and/or the Minister responsible for the Crown Minerals Act (the Joint Ministers); or
- b. Listed as a project under Part A (Projects listed for direct referral to expert panel) or Part B (Projects listed for Joint Ministers to consider referring to expert panel) of Schedule 2 of the Bill.

The Fast-track Bill does not currently contain any listed projects. Applications for projects to be included in either Schedule 2A or 2B of the Bill were called for on 3 April and can be made (by developers, industry, Government agencies, councils, etc.) to the Ministry for the Environment until 3 May. An advisory group has recently been established to recommend projects to be listed in the Fast-track Bill.

In summary, the key aspects of the fast-track process are:

- The purpose of the Bill is to facilitate “the delivery of infrastructure and development projects with significant regional or national benefits” (which could include housing or industrial proposals, mining, aquaculture, energy or infrastructure projects, etc.).
- To that end, the Bill provides for a three-step process by which authorisations can be obtained under multiple ‘environmental’ statutes (as noted above).
- Step 1 is where Ministers determine, upon application, whether to refer proposals to a consenting panel. To do so, certain eligibility criteria must be met, but there are additional factors requiring ministerial discretion. Some projects are to be specifically listed and go straight to expert panels.
- Step 2 involves consideration of the application by an expert consenting panel. The panel provides recommendations (whether to grant or decline, and conditions) to Ministers (within 25-50 working days).
- Step 3 involves a final decision by Ministers as to whether or not to grant approval, and any conditions.
- A further step, appeal to the High Court, is possible only on points of law and only available to a limited range of persons.

This is not the first ‘fast track’ consenting legislation that has been exercised in New Zealand. The current Fast-track Bill is modelled on the fast-track process under the COVID-19 Recovery (Fast-track Consenting) Act 2020 (CRFA). There are however some important differences between the CRFA and the current Fast-track Bill, summarised as:

- Purpose of the legislation: the purpose of the CRFA was to promote employment and stimulate the economy during the pandemic, while continuing to promote the sustainable management of natural and physical resources. There is no reference to the sustainable management of natural and physical resources in the purpose of the Fast-track Bill and no definitive time period.
- Project eligibility criteria: the Fast-track Bill is more broadly focussed than the CRFA and includes specific reference to projects that will support primary industries, including aquaculture and the development of natural resources, including minerals and petroleum.
- Types of approval: described as a ‘one-stop shop’ approval regime the Fast-track Bill can be applied to a broader range of approvals than under the CRFA.
- Relevant Ministers: The Joint Ministers are responsible for making decisions on project applications. Under the CRFA the Minister for the Environment (and Minister for Conservation where the project would occur in the marine coastal area) was responsible for making referral decisions.
- Role of the expert consenting panel: Under the CRFA, projects were referred by the Minister for the Environment to the Environmental Protection Agency. An expert consenting panel



would consider the project and could choose whether to grant a project subject to conditions, or decline a project. The panel could decline both listed and referred projects. Under the Fast-track Bill, an expert consenting panel only has the power to draft conditions and provide recommendations. It cannot approve or decline a consent. Whether a consent is granted fast-track approval rests entirely with the Joint Ministers.

- Prohibited activities: The Fast-track Bill contains a specific provision stating that a project is not ineligible because that activity is a prohibited activity under the RMA 1991.
- Decision making: when making decisions on projects, the purpose of the Fast-track Bill takes precedence over considerations in other legislation and planning instruments, including national direction under the RMA.

Although no applications have been made under the CRFA in Hauraki District, it is thought there may be several potential candidate projects under the Fast-track Approvals Bill.

## 5 IMPLICATIONS FOR COUNCILS

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Overall, the Fast-track Bill represents a significantly different approach to consenting and authorising large scale projects in New Zealand. As the Bill stands, the following key points are noted to be of potential relevance to the role of councils:

- The applicant is to engage with the relevant council/s (district/s and region) prior to an application being lodged [cl 16]. A record of engagement and a statement explaining how engagement has informed the project is required to be submitted by the applicant with their referral application.
- The council/s are to provide initial written comments to the Joint Ministers, when invited, once an application for referral has been received (comments are required within 10 working days from receipt of a copy of the application) [cl 19]. The Joint Ministers may also copy the application to, and invite written comments from, any other person.
- The Joint Ministers may request further information from the applicant or from the council/s (prior to the decision to refer a project) with the information to be provided within the timeframe specified in the request [cl 20].
- Once a project is listed/referred, the relevant council/s are to nominate 1 person to be part of the expert panel (up to 4 persons on a panel in total) appointed to consider and report on a listed or referred project [Schedule 3, cl 3]. Panel members are to have knowledge, skills and expertise relevant to the project. The relevant iwi authority/ies are also required to nominate 1 person to be part of the expert panel.
- The council/s must assist the expert panel by providing advice, within the scope of their knowledge/functions, if requested by the panel [Schedule 3, cl 12].
- Once a project is listed/referred, a panel must invite comments on an application from the relevant local authorities, the relevant iwi authorities, the owners of land on which the project is to be undertaken and the land adjacent to that land, and any other person the panel considers appropriate [Schedule 4, cl 20]. Written comments must be received by the panel within 10 working days after the date comments were invited [Schedule 4, cl 21].
- The Minister for Infrastructure may delay/suspend processing of an application by a panel (via a written decision with reasons) if a delay will enable a better understanding of the proposal [Schedule 4, cl 25].
- At any time before a panel issues its final recommendation, the panel may request (via the EPA) further information on a proposal, including from the relevant council/s, and the information must be provided within 10 working days [Schedule 4, cl 12].
- Before a panel recommends that a resource consent or notice of requirement be approved, the panel must provide a copy of the draft conditions to every person or group that provided comments in response to the invitation to provide comments (under cl 20), and invite comments on the draft conditions [Schedule 4, cl 38].
- Once granted, the council/s have all the functions, powers and duties in relation to a resource consent/designation as if that council had granted the application itself (i.e. the relevant council is responsible for ensuring implementation actions take place and that monitoring of consent conditions occurs) [Schedule 4, cl 45].

- Appeals are limited to specific groups, including the applicant and relevant council/s, people who the expert panel sought comments from, and any person who has an interest greater than that of the general public. Appeals are to the High Court and only on a question of law [cl 26].

Other points to note:

- Public or limited notification of an application is not permitted [Schedule 4, cl 20].
- There is no requirement for an expert panel to hold a hearing (but the panel may decide to hold a hearing if it considers that appropriate) and no person has a right to be heard by a panel [Schedule 4, cl 23].
- Council/s are able to recover actual and reasonable costs from the applicant in undertaking work to comply with the requirements of Schedule 3 and Schedule 4 of the Bill [Schedule 3, cl 14].

## 6 POTENTIAL SUBMISSION POINTS

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The period for making submissions on the Fast-track Approvals Bill closes on 19 April 2024 which is earlier than the next meeting of Council.

Staff are aware that several other councils, Local Government New Zealand and many other sector groups, including Taituara (representing professionals working in local government) will be making detailed and technical submissions. Hauraki District Council staff intend making a brief/high-level submission on the Bill noting:

- Big projects can have big impacts on the local environment and local communities and limited notification/public notification is a way to ensure effects are properly considered, mitigated and managed.

Note the example of opencast and underground mining in the middle of Waihi where potential effects have been well defined, mitigated and managed through a public process. Project Martha was consented within 6 months with no appeals and very few complaints relating to ongoing mining operations.

- The timeframes in the Fast-track Bill associated with proper consideration of the effects of large scale projects are too tight and unworkable. In terms of comments from councils, many Council experts are in strong demand nationally and internationally and will not be able to 'drop everything' to provide meaningful comments on applications within the required 10 working day timeframe.
- Full cost recovery is required for local government involvement in the Fast-track process including for the Ministerial process, expert panel process, pre-application, and participation in judicial reviews and appeals.
- Getting to use the fast-track process should be reserved for those projects that have done the required pre-requisite work upfront (pre-application discussions, development of draft conditions, etc.). If the application is of poor quality then there will either be processing/assessment issues or, poor environmental and community outcomes on the ground once the project commences.
- The assessment of referred projects should still have to consider the relevant district and regional RMA planning documents – they form an important framework against which to assess the potential effects of proposals.
- Consideration needs to be given to the provision and funding of public infrastructure to support development that is enabled by the fast-track process (its sequencing, cost and funding for it).



- Central government is effectively the consenting authority and should therefore respond to/defend appeals (to the High Court) as it is a Ministerial decision to list/refer a project, set conditions and ultimately, grant or decline consent.
- The rationale/reasons for the Ministers' decision to refer projects to the Expert Panel should be clear and made public as should the advice received/considered by the expert panel in making recommendations and suggesting conditions (this is important for future appeals, judicial review proceedings as well as any subsequent application to vary conditions).
- There should not be the ability for projects to be fast-tracked that have been refused through earlier resource management/court processes.

## 7 TE ARA KI MUA | NEXT ACTIONS

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The table below sets out the next key steps:

Action	Responsibility	By When
A further report will be provided to the Council once the Bill is enacted (following the Select Committee process).	Leigh Robcke	Following enactment of the Bill.

## 8 TUHUTORO | REFERENCES

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Fast-track Approvals Bill available via: [Fast-track Approvals Bill - New Zealand Parliament \(www.parliament.nz\)](http://www.parliament.nz)

## 9 WHAKAPAI | APPROVAL

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**APPENDIX A**

7 MARCH 2024: MEDIA RELEASE

## One-stop shop major projects on the fast track

The Coalition Government's new one-stop-shop fast track consenting regime for regional and national projects of significance will cut red tape and make it easier for New Zealand to build the infrastructure and major projects needed to get the country moving again, say RMA Minister Chris Bishop and Regional Development Minister Shane Jones.

The Fast Track Approvals Bill has been approved by Cabinet and will receive its first reading under urgency this afternoon, before being sent to the Environment Committee for public submissions.

Development of the Bill is part of the coalition agreement between National and NZ First and is a key component of the Government's 100 Day Plan.

"Consenting major projects in New Zealand takes far too long and is far too expensive. A recent report by the Infrastructure Commission shows that the cost of consenting infrastructure projects has increased by 70 per cent since 2014, and the time it takes to get consent has increased by as much as 150 per cent over the same period," Mr Bishop says.

"We are determined to cut through the thicket of red and green tape holding New Zealand back, make it clear to the world that we are open for business, and build a pipeline of projects around the country to grow the economy and improve our productivity.

"The Fast Track Approvals Bill is based on the previous RMA fast track regime developed by the previous government but is far more extensive in its scope and will be far more effective."

Projects will become eligible for fast track through one of two ways – either through a referral by the joint decision of the Ministers of Infrastructure, Regional Development and Transport upon an application, or by being listed as a project in Schedule 2A of the Bill.

Once a project has been referred into the fast-track process, it will be considered by an expert panel which will apply relevant consent and permit conditions. Panels will have a maximum of six months to do so. The project will then be sent back to joint Ministers to either approve the project (with conditions) or decline the project. Ministers will also be able to refer a project back to a panel if they determine the conditions recommended are too onerous.

Projects listed in Schedule 2A of the Bill will be automatically referred into the fast-track process, and the listing of a project in Schedule 2B of the Bill will be required to be taken into account by Ministers if and when a project comes before them for referral into fast-track.



The Bill does not currently contain any projects listed in either Schedule 2A or 2B. To ensure a thorough and transparent process, the Government will be establishing a Fast Track Advisory Group of independent experts to provide advice to Ministers on what projects should be included in the legislation. In the coming weeks, Ministers will establish the group, publish the criteria, and applicants will be able to submit projects to the group for evaluation. Cabinet will decide on the exact mix of projects and the projects will be inserted into the schedules of the Bill through the select committee process.

“The one-stop shop nature of this new regime is overdue,” Mr Jones says.

“For too long New Zealanders have had to wait years, even decades, before crucial projects in their regions are approved and consented, and the benefits flow to communities. Our new fast-track regime starts to change this.”

The new regime will allow the fast tracking of:

- Resource consents, notices of requirement, alterations to designations and certificates of compliance under the Resource Management Act 1991
- Marine consents under the Exclusive Economic Zone and Continental Shelf Environment Effects Act 2012
- Section 61 land access arrangements under the Crown Minerals Act 1991
- Applications for archaeological authority under the Heritage New Zealand Pouhere Taonga Act 2014
- Concessions and other permissions under the Conservation Act 1987 and Reserves Act 1977
- Approvals under the Wildlife Act 1953
- Aquaculture decisions under the Fisheries Act 1996

The bill will also include a more efficient mechanism for Public Works Act 1981 processes.

“Our new regime will unlock the construction of major infrastructure projects in this country while still ensuring the protection of our environment and existing Treaty settlements,” Mr Bishop says.

## Matters to be taken with the Public Excluded

confidential pages 207 to 241 have been removed