

# National Performance Review

## Quality Assurance Process

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## 1. Preamble

Water New Zealand aims to provide data through the National Performance Review that is accurate and comparable. The reliability of information is however limited by the data that individual participants have provided.

The type and sophistication of data collection and reporting systems employed amongst participants vary from pen-and-paper-based data collection to comprehensive data management technologies. There are also multiple approaches to data capture and standards that mean different organisations interpret measures in the review differently.

To this end the National Performance Review has in place quality assurance processes focused on data quality and comparability. Mechanisms in place are outlined in this document.

## 2. Data definitions

Data definitions are provided encourage consistent interpretation of measures in the review. Definitions are summarised on data collection sheets, and a set of guidelines definition provides more detailed definition guidelines are available at:

[www.waternz.org.nz/NationalPerformanceReview](http://www.waternz.org.nz/NationalPerformanceReview).

## 3. Participant data review

Participant internal data reviews are conducted prior to data submission, following desktop audit and following the publishing of comparative benchmark tables.

Participants select a nominated representative responsible for collating data and reviewing it prior to issue to Water New Zealand. Previous years data values are provided on the collation sheet to assist participants in identifying major deviations which might suggest errors prior to submission.

Following a desktop or external audit participants are provided an opportunity to comment on anomalies found during the audits and correct any data points that appear to be in error.

The final participant review is of both the report and collated data summarised in comparative histograms. Through this process any remaining outliers are identified and queried with participants. Participants are again and given an opportunity to correct any data points that may be in error.

## 4. Desktop audits

Water New Zealand conducts an internal review of submitted data. This consists of:

**visual inspection** focused on:

- obvious anomalies
- supporting commentary
- changes from previous years data values

**automated data checks** that highlight data that is:

- out of an expected range of values
- fails a set of basic log checks.

Any queries arising from this review are noted on the participant data collection sheet and returned to participants for correction, or external auditors for closer scrutiny. A list of the error check included in this process is provided in Appendix II.

## 5. Third party scrutiny

External auditors employed to conduct an external audit of submitted data. Measures selected for audit changes each year. Factors which contribute to measures being selected for inclusion in the audit are based on:

- Previous years where responses were problematic/inconsistent
- Any new or redefined measures
- Data values inconsistent within peer groups
- Lack of response to a measure
- Lack of clarity around how data values were derived/sourced

External audits are rotated around participants each year, and target 20% of those involved.

A list of participants who were audited and issues identified are included in an external audit report provided by independent consultants. Copies of the external audit reports are available online at: [www.waternz.org.nz/NationalPerformanceReview](http://www.waternz.org.nz/NationalPerformanceReview) .

A list of issues targeted in the latest round of reporting are included in Appendix I. Improvements suggested through the audit process are fed into subsequent years data definitions.

## 6. Confidence grades

Each performance indicator is assigned a confidence grade based on the definitions in Table 1. This information is used to understand how robust participants believe their data is.

A summary of participants data confidence ratings is included in the Appendix of the main report.

Where data confidence is low, confidence grades are included on comparative performance figures in the data portal.

Table 1: Data confidence grades

	Highly reliable/ Audited	Reliable/ Verified	Less Reliable	Uncertain	Very uncertain
Processes	Formal process for collecting and analysing data. Process is documented and always followed by all staff.	Strong process to collect data. May not be fully documented but usually undertaken by most staff.	Process to collect data established. May not be fully documented but usually undertaken by most staff.	Semi-formal process usually followed. Poor documentation. Process to collect data followed about half the time.	Ad hoc procedures to collect data. Minimal or no process documentation. Process followed occasionally.
Asset Data	Very high level of data confidence. Data is believed to be 95-100% complete and + or - 5% accurate. Regular data audits verify high level of accuracy in data received.	Good level of data confidence. Data is believed to be 80-95% complete and + or - 10% to 15% accurate. Some minor data extrapolation or assumptions has been applied. Occasional data audits verify reasonable level of confidence.	Average level of data confidence. Data is believed to be 50-80% complete and + or - 15 to 20% accurate. Some data extrapolation has been applied based on supported assumptions. Occasional data audits verify reasonable level of confidence.	Not sure of data confidence, or data confidence is good for some data, but most of dataset is based on extrapolation of incomplete data set with unsupported assumptions.	Very low data confidence. Data based on very large unsupported assumptions, cursory inspection and analysis. Data may have been developed by extrapolation from small, unverified data sets.

## Appendix I: Measures and issues covered in 2018-19 external audit

Measure	Changes to definition, or potential issue
CB3 Residential properties	Previously this measure had been automatically populated based on census data. It is now required to be entered by participants. Audited to compare approaches to determining this to see if they are consistent across participants and if deviation from the values provided in the previous year census figures exists
CB10b: Retiring staff	This is a new measure. Audits to check if contractors as well as internal staff have been included. This wasn't made clear in definitions.
CB14: Staff training	This is a new measure. Audits to check if contractors as well as internal staff have been included. This wasn't made clear in definitions.
CB15, CB15a-CB15d: Qualifications	This is a new measure. Check if Bachelor of Science and/or other qualifications are being counted here. This wasn't made clear in definitions.
CB19c SCADA Controls	Definition changed from "The approximate proportion of your network that can be controlled using your SCADA system." To "The approximate proportion of pump stations and treatment plants that have elements which can be controlled using SCADA."
CB19d SCADA Monitoring	Definition changed from "The approximate proportion of monitoring points in the network connected to the SCADA system." To Definition changed from "The approximate proportion of pump stations and treatment plants that have elements which can be monitored by SCADA". Audited to check if the definition is being adhered to.
WSF1, WWF1, SWF1 Operating revenue	Definition changed so grants revenue is not included (grants has always been a separate field, however definition had specified that grants should be included in revenue. This may have resulted in double counting of grants revenue). Audited to check if grants revenue has been included, and if this marks a change from previous years if possible.
WSF3, WWF3 Development Contribution Revenue	Updated to clarify that infrastructure growth charges (received by Watercare who are unable to charge developer contributions) are also included. Watercare audited to check if this has included infrastructure growth charges.
WSF6, WWF6, SWF5 Debt Funding	Audited to check if internal loans from within the organisation are being included in this figure
WSF10 Management Costs, WWF11 Management Costs, SWF7 Management Costs	Further detail added to specify that costs included in this field relate to salary, accommodation, IT, rate payment and insurance costs. Audited to check if the definition is being adhered to.

WSF11, WWF12, SWF8 Councils Contract Management Costs	Measure descriptor changed from "Councils Overview Cost" and extra text added to clarify the measure relates to contract management costs of independent contractors. Check if this measure is being consistently interpreted.
WSA1a Length of water supply network	Stock water races have sometimes mistakenly been included in water pipe lengths. Audited to check that they are not being included.
WSA1a, WWA1a Length of network	Council owned service laterals have been accounted for according to the definition, but this is not always the case. Audits to check if they are being included.
WSB2, WWB2 Residential Serviced Properties	Sometimes farming properties have been included in this figure. They should be counted as non-residential. Audit to check the definition is being correctly adhered to.
WSB2, WWB2 Residential Serviced Properties	The number of domestic accounts for connections to the network can differ from the number of properties, for example, an apartment building or terrace complex may have one body-corporate connection servicing many residential dwellings. Check how multiple dwellings connected to a single connection are being accounted for, and the way this information is derived.
WSB3, WWB3 Water Serviced properties non-residential	This is the number of non-domestic accounts differs from the number of properties and connections, the major differences being: 1. most office buildings may have only one connection to the network but may have numerous tenancies 2. large businesses may have several accounts on the same property 3. One property may have many connections and accounts Audited to check if and how multiple dwellings connected to a single network connection are being accounted for.
WSF9a, WSF9b, WWF9, WWF10, SWF6a, SWF6b Routine and reactive maintenance split	Routine/reactive maintenance split, could be missing types of expenditure
WSS7a: Fixed charge non-residential water	If the targeted rate is based on capital value, is it realistic to expect an average capital value to be determined or is the spread going to be too wide for non-residential properties? Participants approaches to this measure queried through audits.
WWE2: Wet Weather Wastewater Overflows	Additional clarification that wet weather wastewater overflows may be determined from "either monitoring, field observation" or modelling data (e.g. SCADA alarms or hydraulic models). Definition changed from: "Where overflows occur at multiple locations arising from a particular event or period of rainfall (or there are multiple reported overflows relating to what is effectively a continuous discharge) this is defined as a single overflow." To "A new overflow starts after a continuous 24-hour period without an overflow. An overflow that continues for longer than 24 hours will be counted as a separate overflow event for each 24-hour period." Audits to check if participants can interpret this definition in a consistent way.

<p>WWE8a Sewage design standards</p>	<p>Measure name changed from “WWE8a: Sewage containment design standards” Definition changed from: “The capacity of sewage the network has been designed to contain” To “The capacity of diluted sewage the network has been designed to contain during wet weather events” To more accurately articulate what the measure represents. Audits to check if participants can interpret this definition in a consistent way.</p>
<p>WWE8b Average calculated wet weather overflow frequency</p>	<p>Units field changed from AEP (annual exceedance probability) to ARI (annual recurrence interval). Definition changed from: “The median wet weather overflow frequency determined by recent hydraulic models or original design (if recent modelling doesn’t exist).” To “The average recurrence interval of the modal (most commonly occurring average) event that the existing sewerage network is able to contain.” Audits to check if participants can interpret this definition in a consistent way.</p>
<p>WWS7c: Planel Interruptions: Wastewater</p>	<p>Measures replaces previous question, WWS7a: Failure of wastewater pipes (to align with equivalent questions on water outages). Audits to check if this measure is being consistently interpreted.</p>
<p>WWE4e, WWE4f, SWE2: consent non-conformance</p>	<p>This is a new measure. Audits to check if this is being interpreted as only formal warnings and letters of direction (or other regional council actions not otherwise specified) or breaches noted by the organisation themselves.</p>
<p>WWE4g: Wastewater network discharge consents</p>	<p>This is a new measure. Audits to check participants are understanding that this is related to wet weather overflows. Further information on the nature of wet weather overflow consents would also be valuable.</p>
<p>SWA1a Total length of public stormwater network</p>	<p>Data suggested that variable there were approaches to whether stormwater channels and stormwater swales are accounted for in pipe length. Some clarifications have been made to the measure around this; previously unlined channels were to be included in the length, but swales were not. Unlined channels are no longer included to remove ambiguity. Audits to check: - that unlined channels/swales are not included in this figure. - if lined channels and culverts are being included and how practicable this is to include if not.</p>
<p>SWB4 Total Stormwater Serviced Properties</p>	<p>Stormwater rated (but not connected) properties appear to have not always been included. Audits to check the extent to which the definition is being adhered to.</p>

<p>SWE1a: Number of stormwater discharges from the piped network</p>	<p>Expanded definition to provide further clarity on what is included. Changed from “The number of outfalls from stormwater systems controlled by the organisation where stormwater is discharged into receiving water bodies, or to land.” To “The number of direct discharges from the public piped network controlled by the organisation which discharge directly to open watercourses, drains, rivers, coastal areas. This may also include discharge to soakage in rural and / or urban areas where the quality and / or the volume of stormwater discharged may result in an environmental impact.” This does not include individual or small groups of road cesspits which may discharge to soakage.” Audits to check if participants can interpret this definition and are doing so in a consistent way. If not, what difficulties or clarifications are required.</p>
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## Appendix II: Automated error checks of 2018-19 National Performance Review Measures

Year	Max value	Min value	Logical check
Total Area [CB1]	30198.41	100	
Total Population [CB2]	1695900	3555	
Residential properties [CB3]	700000	1584	
Non-residential properties [CB4]	506811	8	
Total Properties [CB5]	700000	1584	
Household Occupancy [CB6]	3	1.00149	
Internal staff [CB10]	945	1	
Staff vacancies [CB10a]	102	0	<Internal staff [CB10]
Retiring staff [CB10b]	114	0	<Internal staff [CB10]
Contracted staff [CB11]	413	0	
Near miss reports [CB12]	399	0	
Lost time injuries [CB13]	9200	0	
Staff training [CB14]	80		
Staff with a Bachelor of Engineering [CB15a]		0	<Internal staff [CB10]
Staff with a NZ Diploma [CB15c]		0	<Internal staff [CB10]
Staff with a NZ Certificate [CB15b]		0	<Internal staff [CB10]
Staff with completed apprenticeships [CB15d]		0	<Internal staff [CB10]
Continuing professional development enrolments [CB16]		0	<Internal staff [CB10]
Analogue SCADA [CB19a]	1	0	
Digital SCADA [CB19b]	1	0	
SCADA Controls [CB19c]	1	0	
SCADA Monitoring [CB19d]	1	0	
Water Served Population [WSB1a]	1533988	0	<Total Population [CB2]
Water Supply Service Coverage [WSB1b]	1	0	
Water Served Properties: Residential [WSB2]	447000	1598	<Residential properties [CB3]
Water Served Properties: Non-residential [WSB3]	34296	0	<Non-residential properties [CB4]
Total Water Served Properties [WSB4]	495738	0	<Total properties [CB5]
Water Supplied to Own System [WSB5]	1.58E+08	900000	
Water imported from other authorities [WSB5a]	10000000	0	
Water exported to other authorities [WSB5b]	10000000	0	
Authorised Consumption [WSB6]	1.3E+08	74584	<Water Supplied to Own System [WSB5]
Non-residential Water Consumption [WSB7]	43253336	1	
Average Daily Residential Water Consumption [WSB8]	500	140	
Water Demand Forecasting [WSB9]			
Length of Water Supply Network [WSA1a]	10000	80	

Length of water mains renewed using internal CAPEX [WSA1b]	40	0	
Length of new water mains constructed using internal CAPEX [WSA1c]	40	0	
Condition grade 1: Water pipelines [WSA2a]	1	0	
Condition grade 2: Water pipelines [WSA2b]	1	0	
Condition grade 3: Water pipelines [WSA2c]	1	0	
Condition grade 4: Water pipelines [WSA2d]	1	0	
Condition grade 5: Water pipelines [WSA2e]	1	0	
Not assessed: Water pipelines [WSA2f]	1	0	sum (WSA2a, WSA2b, WSA2c, WSA2d, WSA2e) NEQ 0
Pipeline Condition Assessment Approach [WSA2g]			
Average Age of Water Pipelines [WSA3]	61.51	15.11	
Water Treatment Plants [WSA4]	23	0	
Water Treatment Plant Standby Generators [WSA4a]	11	0	>Water Treatment Plants [WSA4]
Water Pump Stations [WSA5]	130	0	
Water Pump Stations Standby Generators [WSA5a]	28	0	>Water Pump Stations [WSA5]
Water Supply Reservoirs [WSA6]	256	0	
Water Stored in Reservoirs [WSA7]	700000	600	
Capacity of Water Storage Reservoirs [WSA8]	1813800 0	1860	<Water Stored in Reservoirs [WSA7]
Properties with Water Meters Residential [WSA9a]	447000	0	<Water serviced residential properties [WSB2]
Properties with Water Meters Non-residential [WSA9b]	34296	0	<Water serviced non-residential properties [WSB3]
Properties with Water Restrictors [WSA10]	7220	0	<Water serviced residential properties [WSB2]
Water Treatment Sludge Production [WSA11]	15000	0	
Above ground asset condition assessment programme [WSA13a]			
Protocol used for above ground condition assessments [WSA13b]			
Percent of above ground assets assessed within 3 years [WSA13c]	1	0	
Estimated total network water loss [WSE1a]	2895450 9	100000	<Water Supplied to Own System [WSB5]
Percentage Estimated Total Network Water Loss [WSE1b]	1	0.001	
CARL (current annual real loss) [WSE1c]	2106634 1	200000	<Estimated total network water loss [WSE1a]
CARL (current annual real loss) [WSE1d]	500	50	
CARL (current annual real loss) [WSE1e]	30	0.61	
UARL (unavoidable annual real loss) [WSE1f]	3638963	50000	<Estimated total network water loss [WSE1a]
UARL (unavoidable annual real loss) [WSE1g]	300	50	
ILI (infrastructure leakage index (=CARL/UARL) [WSE1h]	18	0.5	
Average system pressure [WSE2]	75	20	
Energy Consumption: Water Supply [WSE3]	200000	0	
Energy Intensity: Water Supply [WSE3a]	0.004	0.0005	
Unplanned Total Interruptions: Water Supply [WSS1]	3137	10	
Unplanned Interruption Frequency: Water Supply [WSS2]	20	1	

Planned Interruptions: Water Supply [WSS3]	1832	0	
Third Party Incidents: Water Supply [WSS4]	1528	0	
Water Quality Complaints [WSS5]	2935	0	
Drinking water clarity complaints [WSS5a]	1164	0	
Drinking water taste complaints [WSS5b]	321	0	
Drinking water odour complaints [WSS5c]	207	0	
Drinking water pressure or flow complaints [WSS5d]	966	0	
Continuity of water supply complaints [WSS5e]	1000	0	
Water Quality Complaints Frequency [WSS6]	50	0	
Number of different water charging regimes [WSS7]	21	1	
Fixed Charge: Non-residential water [WSS7a]	1104.4	30	
Fixed Charge Type: Non-residential water [WSS7b]	0	0	
Volumetric Charge: Non-residential water [WSS7c]	3	0	
Fixed Charge: Residential water [WSS8a]	901.27	100	
Fixed Charge Type: Residential water [WSS8b]	0	0	
Volumetric Charge: Residential water [WSS8c]	3	0	
Average Residential Water Charge Based on 200 m <sup>3</sup> /yr. [WSS9]	1000	200	
Attendance for urgent water supply fault callouts [WSS10a]	14.8	0.10833 3	
Resolution for urgent water supply fault callouts [WSS10b]	72.87	0.03541 7	
Attendance for nonurgent water supply fault callouts [WSS10c]	322.07	0.1	
Resolution for nonurgent water supply fault callouts [WSS10d]	392.73	0.03541 7	
Water restriction days [WSS11]		0	>365*Total water serviced properties [WSB4]
Fire hydrants tested in the previous five years [WSS12a]	1	0	
Noncompliant fire hydrants [WSS12b]	313	0	
Boiled water notices [WSS12]	252333	0	>365*Total water serviced properties [WSB4]
Water safety plan actions [WSS13a]	1000	0	
Water safety plan implementation [WSS13b]	1000	0	>Water safety plan actions [WSS13a]
Source water zone management [WSS14]	0	0	
Source water monitoring [WSS15]	0	0	
Revenue from Supply of Water to Other Local Authorities [WSF1]	5000000	0	
Operating Revenue: Water Supply [WSF2]	2.27E+0 8	1000000	
Development Contribution Revenue: Water Supply [WSF3]	7112406	0	
Total Revenue: Water Supply [WSF4]	2.31E+0 8	1000000	
Revenue per Property: Water Supply [WSF5]	1300	100	
Debt funding: Water Supply [WSF6]	5957600 0	0	
Energy Costs: Water Supply [WSF7]	6405000	20000	

Chemicals and Consumables: Water Supply [WSF8]	5389288	30000	
Routine maintenance: Water Supply [WSF9a]	8768977	38902	
Reactive maintenance: Water Supply [WSF9b]	2867400 0	0	Flag if both routine and reactive maintenance are 0
Management Costs: Water Supply [WSF10]	4271400 0	0	
Council Overview Costs: Water Supply [WSF11]	1063757 7	0	
Operating Cost: Water Supply [WSF12]	8501100 0	115452. 5	
Operating Cost per Property: Water Supply [WSF13]	917.2	150	
Annual Depreciation: Water Supply [WSF14]	1.13E+0 8	100000	
Interest: Water Supply [WSF15a]	1293000 0	0	
Debt affordability: Water Supply [WSF15b]	1	0	
Operational Cost Coverage: Water Supply [WSF16]	2.5	0.5	
Total Cost: Water Supply [WSF17]	3.57E+0 8	115452. 5	
Total Cost per Property: Water Supply [WSF18]	1898.07 1	44.4	
Budgeted Capital Expenditure: Water Supply [WSF19]	2E+08	0	
Budgeted capital to meet additional demand [WSF19a]	9453333 0	0	
Budgeted capital to improve the level of service [WSF19b]	6742867 0	0	
Budgeted capital to replace existing assets [WSF19c]	6408999 0	30000	
Actual Capital Expenditure: Water Supply [WSF20]	1.56E+0 8	0	
Actual capital to meet additional demand [WSF20a]	7474011 1	0	
Actual capital to improve the level of service [WSF20b]	5535080 5	0	
Actual capital to replace existing assets [WSF20c]	5608400 0	0	
Actual Capital Expenditure per Property: Water Supply [WSF21]	1135	0	
Development Contributions: Water Supply assets [WSF22]	2409400 0	0	
Water treatment facility value at end of reporting year [WSF23a]	9.43E+0 8	0	
Other water supply asset value [WSF23b]	3.02E+0 9	0	
Decline in Service Potential: Water Supply [WSF24]	3	0	
External Grants: Water Supply [WSF25]		0	flag any grants
Wastewater Serviced Population [WWB1a]	1592677	1000	>Total Population [CB2]
Wastewater Service Coverage [WWB1b]	1	0.1	
Wastewater Serviced Properties: Residential [WWB2]	450211	843	>Residential properties [CB3]
Wastewater Serviced Properties: Non-residential [WWB3]	32016	0	>Non-residential properties [CB4]
Total Wastewater Serviced Properties [WWB4]	480354	1500	>Total properties [CB5]

Wastewater 'Exported' for treatment [WWB5]	6800000 0	0	>Total Wastewater Produced [WWB7]
Wastewater 'Imported' for Treatment [WWB6]	4082314	0	
Total Wastewater Produced [WWB7]	1.7E+08	0	
Total Length of Public Wastewater Network [WWA1a]	9000	40	
Length of wastewater mains renewed using internal CAPEX [WWA1b]	30	0	
Length of new wastewater mains constructed using internal CAPEX [WWA1c]	30	0	
Condition Grade 1: Wastewater pipelines [WWA2a]	1	0	
Condition Grade 2: Wastewater pipelines [WWA2b]	1	0	
Condition Grade 3: Wastewater pipelines [WWA2c]	1	0	
Condition Grade 4: Wastewater pipelines [WWA2d]	1	0	
Condition Grade 5: Wastewater pipelines [WWA2e]	1	0	
Not assessed: Wastewater pipelines [WWA2f]	1	0	sum (WWA2a, WWA2b, WWA2c, WWA2d, WWA2e, WWA2f) NEQ 1
Pipeline Condition Assessment Approach [WWA2g]	0	0	
Average Age of Wastewater Pipelines [WWA3]	62.45	10	
Wastewater CCTV inspection [WWA4]	1	0	
Wastewater Pump Stations [WWA5]	516	0	
Wastewater Pump Stations Standby Generators [WWA5a]	100	0	>Wastewater Pump Stations [WWA5]
Above ground asset condition assessment programme [WWA6]	0	0	
Protocol used for above ground condition assessments [WWA6a]	0	0	
Percent of above ground assets assessed within 3 years [WWA6b]	1	0	
Number of wastewater treatment plants [WWA7]	18	0	
Wastewater treatment plant name [WWA7a]			
Volume of wastewater treated at treatment plant [WWA7d]	1.71E+08	9490	
Proportion of trade waste at treatment plant [WWA7f]	1	0	
Number of consents at each treatment plant [WWA7g]			
Treatment Plant effluent resource consent expiry date [WWA7h]			
Treatment plant effluent consent status [WWA7i]			
Treatment Plant sludge production [WWA7j]	#N/A	#N/A	
Disposal of wastewater sludge in year to on site stockpile [WWA7k1]	#N/A	#N/A	
Disposal of wastewater sludge in year to landfill [WWA7k2]	1	0	
Disposal of wastewater sludge in year to composting and reuse [WWA7k3]	1	0	
Disposal of wastewater sludge in year to other routes [WWA7k4]	1	0	
Last year desludged [WWA7k-5]			
Treatment Plant backup generator [WWA7l]	7	0	>Number of wastewater treatment plants [WWA7]

Treatment plant peak wet to dry weather flow ratio [WWA7m]	8	0	
Total Length of Combined Wastewater and Stormwater Pipelines [WWA8]	250	0	
Dry Weather Wastewater Overflows [WWE1]	490	0	
Overflows caused by blockages [WWE1a]	482	0	
Overflows caused by mechanical failures [WWE1b]	52	0	
Wet weather overflows from the wastewater network [WWE2a]	866	0	
Wet weather overflows from combined stormwater and wastewater networks [WWE2b]	343	0	
Total Wastewater Overflows [WWE3]	3530	0	
Wastewater overflows on private properties [WWE3a]	32	0	
Sewage design standards [WWE8a]			
Average calculated wet weather overflow frequency [WWE8b]	200	1	
Overflows recorded through verbal reports [WWE9a]	0	0	
Overflows recorded through SCADA monitoring [WWE9b]	0	0	
Overflows calculated through hydraulic models [WWE9c]	0	0	
Overflows calculated through calibrated hydraulic models [WWE9d]	0	0	
Wastewater consent abatement notices [WWE4a]	3	0	
Wastewater consent infringement notices [WWE4b]	3	0	
Wastewater consent enforcement orders [WWE4c]	1	0	
Wastewater consent successful prosecutions [WWE4d]	1	0	
Wastewater treatment plant consent non-conformance [WWE4e]	110	0	
Wastewater network discharge non-conformance [WWE4f]	16	0	
Wastewater network discharge consents [WWE4g]	9	0	
Energy Consumption: Wastewater [WWE5a]	477138.4	2000	
Energy Intensity: Wastewater [WWE5b]	0.009079	0.000567	
Trade Waste Management [WWE6]	0	0	
Fixed Charge: Non-residential wastewater [WWS1a]	2391.36	0	
Fixed Charge Type: Non-residential wastewater [WWS1b]	0	0	
Volumetric Charge: Non-residential wastewater [WWS1c]	6	0	
Contaminant Based Charging [WWS1d]	0	0	
Fixed Charge: Residential wastewater [WWS2a]	1217	116.35	
Fixed Charge Type: Residential wastewater [WWS2b]	0	0	
Volumetric Charge: Residential wastewater [WWS2c]	0		
Average Annual Residential Wastewater Charge Based on 200 m3/yr. [WWS3]	1217	47.67721	

Wastewater complaints [WWS4]	14993	0	
Sewage odour complaints [WWS4a]	879	0	
Sewerage system fault complaints [WWS4b]	3606	0	
Sewerage system blockage complaints [WWS4c]	6558	0	
Wastewater complaints frequency [WWS5]	57.9	0	
Wastewater fault attendance time [WWS6a]	3	0	
Wastewater fault resolution time [WWS6b]	24	0	
Unplanned Total Interruptions: Wastewater [WWS7a]	400	0	
Third party Incidents: Wastewater [WWS7b]	166	0	
Planned Interruptions: Wastewater [WWS7c]	0	0	
Unplanned Interruption Frequency: Wastewater [WWS7d]	6.40788 7	0	
Revenue from the Provision of Wastewater Treatment Services to Another Local Authority [WWF1]	1169600 0	0	
Operating Revenue: Wastewater [WWF2]	4.1E+08	54936	
Development Contribution Revenue: Wastewater [WWF3]	1405436 7	0	
Total Revenue: Wastewater [WWF4]	4.22E+0 8	0	
Revenue per Property: Wastewater [WWF5]	2000	100	
Debt funding: Wastewater [WWF6]	2.07E+0 8	0	
Energy Costs: Wastewater [WWF7]	1258200 0	0	
Sludge Disposal Costs: Wastewater [WWF8]	6333000	0	
Routine Maintenance: Wastewater [WWF9]	5038239 9	0	
Reactive Maintenance: Wastewater [WWF10]	3253100 0	0	
Management Costs: Wastewater [WWF11]	7903300 0	0	
Councils Contract Management Costs: Wastewater [WWF12]	9538266	0	
Operating Cost: Wastewater [WWF13]	1.41E+0 8	0	
Operating Cost per Property: Wastewater [WWF14]	786.48	0	
Annual Depreciation: Wastewater [WWF15]	1.33E+0 8	200000	
Interest: Wastewater [WWF16a]	7421971 1	0	
Debt affordability: Wastewater [WWF16b]	0.3	0	
Operational Cost Coverage: Wastewater [WWF17]	2	0.5	
Total Cost: Wastewater [WWF18]	6.09E+0 8	1000000	
Total Cost per Property: Wastewater [WWF19]	2000	300	
Budgeted Capital Expenditure: Wastewater [WWF20]	3.92E+0 8	0	
Budgeted capital to meet additional demand [WWF20a]	1.66E+0 8	0	
Budgeted capital to improve the level of service [WWF20b]	3164598 2	0	

Budgeted capital to replace existing assets [WWF20c]	95803958	0	
Actual Capital Expenditure: Wastewater [WWF21]	2.86E+08	0	
Actual capital to meet additional demand [WWF21a]	1.84E+08	0	
Actual capital to improve the level of service [WWF21b]	17152380	0	
Actual capital to replace existing assets [WWF21c]	78385426	0	
Actual Capital Expenditure per Property: Wastewater [WWF22]	1000	0	
Development Contributions: Wastewater assets [WWF23]	40679000	0	
Wastewater facility value at end of reporting year [WWF24a]	1.12E+09	157064	
Other wastewater asset value [WWF24b]	3.93E+09	2000000	
Decline in Service Potential: Wastewater [WWF25]	2	0	
External Grants: Wastewater [WWF26]		0	
Stormwater Served Population [SWB1]	1490000	0	>Total Population [CB2]
Stormwater Served Properties Residential [SWB2]	452912	1000	>Residential properties [CB3]
Stormwater Served Properties Non-residential [SWB3]	50000	50	>Non-residential properties [CB4]
Total Stormwater Served Properties [SWB4]	642514	1050	>Total properties [CB5]
Total Length of Public Stormwater Network [SWA1a]	6622	18.36	
Length of stormwater mains renewed using internal CAPEX [SWA1b]	10	0	
Length of new stormwater mains constructed using internal CAPEX [SWA1c]	20	0	
Condition Grade 1: Stormwater pipelines [SWA2a]	1	0	
Condition Grade 2: Stormwater pipelines [SWA2b]	1	0	
Condition Grade 3: Stormwater pipelines [SWA2c]	1	0	
Condition Grade 4: Stormwater pipelines [SWA2d]	1	0	
Condition Grade 5: Stormwater pipelines [SWA2e]	1	0	
Not assessed: Stormwater pipelines [SWA2f]	1	0	1.01 < SUM (SWA2a, SWA2b, SWA2c, SWA2d, SWA2e, SWA2f) < 0.99
Stormwater Pipeline Condition Assessment Approach [SWA2g]			
Average Age of Stormwater Pipelines [SWA3]	63	10	
Above ground stormwater asset assessment program [SWA5a]			
Protocol used for above ground stormwater asset assessments [SWA5b]	0	0	
Percentage of above ground stormwater assets assessed in 3 years [SWA5c]	1	0	
Stormwater network CCTV inspection [SWA6]	1	0	
Stormwater Pump Stations [SWA7]	46	0	
Number of stormwater discharges from the piped network [SWE1a]	30000	0	
Number of stormwater discharges with resource consents [SWE1b]	6261	0	Number of stormwater discharges from the piped network [SWE1a] < Number of



			stormwater discharges with resource consents [SWE1b]
Stormwater consent abatement notices [SWE2a]	10	0	
Stormwater consent infringement notices [SWE2b]	10	0	
Stormwater consent enforcement orders [SWE2c]	10	0	
Stormwater successful prosecutions [SWE2d]	10	0	
Stormwater consent non-conformance [SWE2e]	10	0	
Stormwater quality monitoring [SWE3]			
Stormwater catchment management plans [SWE4]			
Stormwater Charge [SWS1]	500	0	
Stormwater Charge type [SWS2]	1000	0	
Stormwater Complaints [SWS3]	1645	0	
Stormwater blockage complaints [SWS3a]	980	0	
Stormwater fault complaints [SWS3b]	1170	0	
Stormwater Complaints Frequency [SWS4]	30	0	
Flooding events resulting from storms exceeding stormwater capacity [SWS5]	57	0	
Number of habitable floors affected by storms exceeding stormwater capacity [SWS5a]	59	0	
Number of habitable floors affected per 1000 stormwater serviced properties [SWS5b]	1	0	
Flooding events resulting from other causes [SWS5c]	103	0	
Number of habitable floors affected by flooding from other causes [SWS5d]	104	0	
Flooding Response Time [SWS6]	5	0	
Primary stormwater network capacity [SWS7a]	0.2	0.05	
Secondary stormwater network capacity [SWS7b]	0.02	0.005	
Operating Revenue: Stormwater [SWF1]	1.63E+08	100000	
Development Contribution Revenue: Stormwater [SWF2]	4000000	0	
Total Revenue: Stormwater [SWF3]	1.95E+08	100000	
Total Revenue per Property: Stormwater [SWF4]	1000	30	
Debt funding: Stormwater [SWF5]	8054400	0	
Routine maintenance: Stormwater [SWF6a]	1304900	0	
Reactive maintenance: Stormwater [SWF6b]	6235322	0	Routine maintenance [SWF6a] + Reactive maintenance [SWF6b]
Management Costs: Stormwater [SWF7]	1986200	0	
Council Contract Management Costs: Stormwater [SWF8]	8102631	0	
Operating Cost: Stormwater [SWF9]	6200000	0	
Operating Cost per Property: Stormwater [SWF10]	400	15	
Annual Depreciation: Stormwater [SWF11]	5646740	0	<Stormwater asset value at end of reporting year [SWF20]

Interest: Stormwater [SWF12a]	1700000 0	0	
Debt Affordability: Stormwater [SWF12b]	0.4	0	
Operational Cost Coverage: Stormwater [SWF13]	2	0.5	
Total Cost: Stormwater [SWF14]	2.33E+0 8	0	
Total Cost per Property: Stormwater [SWF15]	1000	25	
Budgeted Capital Expenditure: Stormwater [SWF16]	1.14E+0 8	0	
Budgeted capital to meet additional demand [SWF16a]	4100000 0	0	
Budgeted capital to improve the level of service [SWF16b]	4100000 0	0	
Budgeted capital to replace existing assets [SWF16c]	7181400 0	0	
Actual Capital Expenditure: Stormwater [SWF17]	1.23E+0 8	0	
Actual capital to meet additional demand [SWF17a]	6000000 0	0	
Actual capital to improve the level of service [SWF17b]	4400000 0	0	
Actual capital to replace existing assets [SWF17c]	8843600 0	0	
Actual Capital Expenditure per Property: Stormwater [SWF18]	591.848 1	0	
Development Contributions: Stormwater assets [SWF19]	9102444 7	0	
Stormwater asset value at end of reporting year [SWF20]	4.58E+0 9	0	
Decline in Service Potential: Stormwater [SWF21]	3	0	
External Grants: Stormwater [SWF22]	0		
Actual Versus Budgeted Expenditure [(WSF20+WWF21+SWF17)/WSF19+WWF20+SWF16]	2	0.2	
Balanced Budget [(WSF1+WSF2)/(WSF12+WSF15a)]	3	1	
Balanced Budget [(WWF1+WWF2)/(WWF13+WWF16a)]	3	1	
Balanced Budget [SWF1/(SWF9+SWF12a)]	3	1	
Contracted staff per 1000 serviced properties [CB11/(WSB4+WWB4)]	0.002	0	
Days of treated water stored in reservoirs on average [WSA7/(WSB5/365)]	#VALUE!	#VALUE!	
Debt servicing [SWF12a/SWF1]	0.4	0	
Debt servicing [WSF15a/ (WSF1 + WSF2)]	0.4	0	
Debt servicing [WWF16a/ (WWF1 + WWF2)]	0.4	0	
Dry Weather Wastewater Overflows per 1000 connections [WWE1/WWB4]	10	0	
Internal staff per 1000 serviced properties [CB10/(WSB4+WWB4)]	0.0025	0.0001	
Lost time injuries per staff member (internal and contracted) [CB13/(CB10+CB11)]	365	0	
Near miss reports per staff member (internal and contracted) [CB12/(CB10+CB11)]		0	
Percentage of non-residential connections with meters [WSA9b/WSB3]	1	0	

Percentage of residential connections with meters [WSA9a/WSB2]	1	0	
Reservoir average level [WSA7/WSA8]	1	0	
Total Revenue [WSF4+WWF4+SWF3]	1E+09	2000000	
Vacancies per 1000 serviced properties [CB10a/(WSB4+WWB4)]	0		
Volumetric Charge for 200m3	500	0	
Wastewater connection density [WWB4/WWA1a]	20	70	
Wastewater Pump Stations without backup generators [WWA5-WWA5a]	516	0	
Wastewater Treatment Plants without backup generators [WWA7a -WWA7]	18	0	
Water Pump Stations without backup generators [WSA5-WSA5a]	130	0	
Water Supply Connection Density [WSB4/WSA1a]	70	10	
Water Treatment Plants without backup generators [WSA4-WSA4a]	23	0	
Wet Weather Wastewater Overflows per 1000 connections [WWE2a/WWB4]	10	0	
Water capital expenditure versus depreciation [WSF20/WSF14]	5	0.1	
Wastewater capital expenditure versus depreciation [WWF21/WWF15]	5	0.1	
Stormwater capital expenditure versus depreciation [SWF17/SWF11]	5	0.1	
Water and wastewater properties serviced [WSB4+WWB4]	900000	5000	
Fixed Charge: Residential water [WSS8a; MAX]	1200	50	
Fixed Charge: Residential water [WSS8a; MIN]	1200	50	
Average Residential Water Charge Based on 200 m3/yr. [WSS9; MAX]	1200	50	
Average Residential Water Charge Based on 200 m3/yr. [WSS9a; MIN]	1200	50	
Peak wet to average dry weather ratio [WWA7m; MAX]	15	0.5	
Peak wet to average dry weather ratio [WWA7m; MIN]	15	0.5	
Wastewater maintenance [WWF9+WWF10]	5000000 0	100000	
Total CAPEX [SWF17, WWF21, WSF20]	5E+08	1000000	
Total asset value (WWF24b, WSF23b, SWF20, WWF24a, WSF23a)	1E+10	1000000 0	
Developer Contributions (WSS22, WWF23, SWF19)	1E+08	0	
Reactive vs Routine Water Supply OPEX (WSF9b/WSF9a)	15	0.05	
Reactive vs Routine Wastewater OPEX (WWF10/WWF9)	15	0.05	
Reactive vs Routine Stormwater OPEX (WWF10/WWF9)	15	0.05	