

## Wastewater Testing - Planned Maintenance

### Health & Safety and Operational Information

#### Hazard Indicators



#### Personal Protection



#### Health and Safety Information

- Health and Safety documentation.
- Generic Traffic Management Plans or site-specific Traffic Management plan.
- Hazardous Waste
- Confined Space Entry
- Gas detection

#### Operation's & Maintenance Documentation

- Corridor Access Requests (CAR) and WIP Permits (site specific or generic/global)
- Service plans (B4uDig)
- Design drawings
- Site plans
- Notification Calling Cards

#### Customer Information (Confidential)

- Confidential List of Vulnerable customers (DHB supplied list)

#### Priority Customer Categories

- Schools and Childcare
- Commercial premises
- Hospitals
- Old Peoples Homes
- Correction Facilities
- Military Installations
- Oil and Gas Refineries
- **WWL to provide full list!**

#### Emergency Procedure / Escalation

##### Emergency

- In event of service strike to utility/energy source (e.g. fuel, Gas, Power, Water etc.) report immediately to team leader
- Make "Site Safe" and isolate risks to people or property with resources at hand

##### Escalate if extra resources required or problems occur!

- Escalate to Team Leader and inform of the issues faced and/or expected resources required if necessary.

**REPORT** If event is expected to have a duration of greater than 4 hours of no service, then escalation to enable alternate supply provisions must be undertaken via Team leader. If there are, either Vulnerable or Priority customers affected by the Water Off / Isolation period, the team leader should be notified of those customers.

#### Additional Documentation

### Required Skills, Competencies (Qualifications and/or Certifications)

Competent persons only

Annual calibration - External service provider

Document Owner: Manager Customer Planning

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### Standard Operating Procedure

#### Required Equipment

Equipment and Information	Details
See Pre- Start Planned Maintenance	Resource as per Pre Start Planned Maintenance.
Specialist equipment	<p>Ensure specialist equipment required is available for utilisation.</p> <ul style="list-style-type: none"> <li>• Testing equipment</li> <li>• Calibration equipment</li> <li>• Cleaning chemicals</li> <li>• PPE</li> </ul> <p>Manuals as required for specialist equipment</p>
Fully Equipped Vehicle	Ensure vehicle, plant, equipment and materials appropriate to the day's work schedule is available.

#### Prepare to do the work

Action	Action Details
Pre Start Process 1	Complete the Daily Pre Start Planning Planned SOP
Pre Start Process 2	Complete the Generic Planned Maintenance SOP
Compliance	<b>Traffic Management Plan</b> - Where required, TMP to be in place prior to work starting. TMP to be accessible on site.
Shut Down Planned	<i>As required</i>
Utility Requirements (power off water off etc)	<i>As required</i>
Notifications	<i>As required</i>
Parts	<i>As required</i>
Equipment	<i>As required</i> <b>MUST ALWAYS BE KEPT CLEAN</b>
Prior to Testing	<ol style="list-style-type: none"> <li>1. Remove calibration/storage cap and fit the sensor guard to protect the sensor and membrane while in use. Place the probe in the sample and measure; gently agitate to release any air bubbles.</li> <li>2. Allow the readings to stabilize before recording results</li> </ol>
List Affected Customers	List affected customers - Identify all addresses affected by network isolation / water shut off

#### Perform the work

Action	Trade	Action Details
TMP	Competent Person	Implement TMP. Review and update as appropriate to suit site conditions.
Maintenance	Competent Person	Membrane and electrolyte solution to be changed as per manufacturer's instruction.
Maintenance	Competent Person	pH & D.O calibrated at least once a month. Calibrate as per manufacturer's instruction.
Maintenance	External service provider	Calibrate the testing instrument on an annual basis.
Temperature	Competent Person	Submerge the temperature probe into the sample and wait for the reading to stabilise. Temperature results are typically quick and accurate.
Conductivity	Competent Person	Submerge the conductivity probe into the sample and wait for the reading to stabilise. Make sure no air bubbles are trapped in the sensor area.  If readings are slow to settle, cleaning of the sensor may be necessary to maintain accuracy and increase the responsiveness.
pH	Competent Person	Clean the probe with water and dry it with a tissue. Submerge the probe into the sample and stir the probe to homogenise the sample. Wait for the reading to stabilise

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Action	Trade	Action Details
		<p>pH results normally take a couple of minutes to settle.                      Regular reading with buffers is required to check accuracy.                      If readings are slow to settle, cleaning of the pH probe may be necessary to maintain accuracy and increase the responsiveness.</p>
<b>Dissolved Oxygen</b>	Competent Person	<p>This may take several minutes to settle.                      If placing the DO sensor into fast flowing waters it is best to place it perpendicular to the flow and NOT facing into the flow.                      If using the DO sensor in an aeration tanks or heavily aerated flows make sure that the probe base is facing upwards preventing bubbles forming on the membrane surface, this may require doubling back the probe and cable tying probe to the cable.                      If results have poor repeatability or are slow to settle, replace the membrane and solution, also buffing the cathode may be necessary to maintain accuracy and increase the responsiveness.</p>
<b>On Completion</b>	Competent Person	<p>Remove sensor guard flush the sensor and membrane with water to prevent contamination  <b>DO NOT use deionised water</b>                      Replace calibration/storage cap ensuring the sponge inside is damp to prevent the sensor and membrane from being damaged.                      Decontaminate to minimise personal infection or cross contamination of potable water supplies.</p>