

Document Owner: Manager Customer Planning

Wastewater Pump(s) Inspection & Maintenance - Planned Maintenance

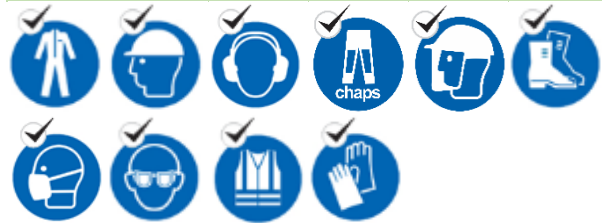
Planned maintenance procedures for pump inspection and maintenance at pump stations.

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

Operation's & Maintenance Documentation

- Corridor Access Requests (CAR) and WIP Permits (site specific or generic/global)
- Service plans (B4uDig)
- Design drawings & P&ID's
- Site plans

Customer Information (Confidential)

Priority Customer Categories

Emergency Procedure / Escalation

Additional Documentation

Emergency

- 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.

Required Skills, Competencies (Qualifications and/or Certifications)

Registered Electrician.
 Mechanical Fitter or Welder
 Suitably qualified Engineer for assessments or certifications.

Document Owner: Manager Customer Planning

Wastewater Pump(s) Inspection & Maintenance - Planned Maintenance

Standard Operating Procedure

Required Equipment

Equipment and Information	Details
Fully Equipped Vehicle	Ensure vehicle, plant, equipment and materials appropriate to the day's work schedule is available.
Specialist Equipment	Ensure specialist equipment required is available for utilisation.
Specialist Materials & Parts	Ensure you have loaded up all the required parts and materials required to undertake the maintenance work to be completed.
Vulnerable & Priority List	<As required – remove row if not required>
Specialist Contractor	> Certified Electrician for any electrical work. Suitably qualified engineer for any engineering assessments or certifications.

Prepare to do the work @52 Weeks

Action	Action Details
Pre Start Process	Complete the Daily Pre Start - Planning Reactive Maintenance <ul style="list-style-type: none"> - Include Hazard ID - Include Pre-Start Tailgate Meeting Undertake all tasks required in the Generic Planned Maintenance SOP.
Compliance	Traffic Management Plan - Where required, TMP to be in place prior to work starting. TMP to be accessible on site.

Perform the work

Action	Trade	Action Details
Inspect	Mechanical Fitter or Welder	Check pumps in manual operation. Switch pumps back to "Auto" Check pump and motor for excessive noise and vibration. Report any defects. Check Reflux Valve Operation Check Control System Operation Check Alarm System Operation Check for abnormal pump bearing temperatures. Grease bearings as required.
Record	Mechanical Fitter or Welder	Number of pump starts where counter is fitted. Pump run hours Motor Running Current (Amps) Unusual aspects of the station's operation noted during the visit (such as excessive pump starts, high motor current or abnormal run- hours). Engineer notified where the cause cannot be readily identified and resolved Record the following: <ul style="list-style-type: none"> • Pump flow testing

Document Owner: Manager Customer Planning

Wastewater Pump(s) Inspection & Maintenance - Planned Maintenance

Action	Trade	Action Details
		<ul style="list-style-type: none"> Drawdown in wetwell Current draw of pump when possible
Maintenance	Mechanical Fitter or Welder	Maintenance. Change Duty Standby Sequence when applicable If submersible pump isolate pump and raise pump for inspection. Ensure lifting chains work freely. Check gland packing or mechanical seal for leakage. Repack packing as required. Report mechanical seal leakage Conduct vibration analysis at marked positions on agreed plant and report results along with trend warnings

Action	Trade	Action Details
Maintenance	Mechanical Fitter or Welder	Maintenance. Drain oil on submersible and replace with Manufacturers recommended lubricant.
Maintenance	Mechanical Fitter or Welder	Maintenance. Remove end casing and check impellor and casing for wear. Measure clearances and record. Report any damage or excessive clearance.
Maintenance	Mechanical Fitter or Welder	Maintenance. Reassemble pump and motor and test run. Switch pump back into "Auto" on completion.
Maintenance	Mechanical Fitter or Welder	Maintenance. Change O rings and nuts as required
Maintenance	Mechanical Fitter or Welder	Maintenance. Make sure all screws, bolts and nuts are tight.
Inspect	Mechanical Fitter or Welder	Inspect. Check the condition of the carrying handle/eyes, chains, wire ropes and lifting equipment.
Inspect	Mechanical Fitter or Welder	Inspect. Check that the gland screw for cable entry is tight and there is no damage to the outer jacket of the cable.
Maintenance	Registered Electrician	Maintenance: Electrical tests - Turn duty selection switch and main (and local) isolator to "Off" prior to undertaking any electrical tests.
Maintenance	Registered Electrician	Maintenance: Electrical tests - Disconnect plug(s) from socket(s) and clean out any built-up on pins and sockets.
Maintenance	Registered Electrician	Maintenance: Electrical tests - Check all cables, glands, joints and junction boxes for damage or leakage. Repair/reseal if necessary.
Record	Registered Electrician	Record: Electrical tests - Megger test "power" circuit of both motor and supply side with 500V meggar and record results for each pump motor individually Pump ID - Motor ID: R-E (_____)M, Y-E (_____)M, B-E (_____)M.
Maintenance	Registered Electrician	Maintenance: Electrical tests - Re-connect pumps after test and run on "manual" to confirm operational. Return all duty selection switch to "Auto".