

Radiator repairers

Released: 12 December 2017

Trade waste discharges from companies conducting radiator repairs could harm the sewerage system. Coolants and used waters can contain contaminants such as heavy metals, grease/oil and suspended solids and have a low pH. Appropriate management practices at each site are needed.

For the purpose of this guideline 'radiator repairer' refers to the draining, cleaning, repairing and testing of industrial and automotive radiators. 'Coolants' refers to water and water-based fluids used in radiators.

Key trade waste quality parameters

Parameter	Generally accepted level
Suspended solids	≤500 mg/L
Grease/oil	≤100 mg/L
pH	Between 8.5 -11 units
Zinc, copper, lead	≤10 mg/L
Tin	≤50 mg/L
Total dissolved solids	≤1500 mg/L
Flow rate to sewer	Dependant on capacity of receiving sewer

Note: Discharge limits may be varied under certain circumstances for individual dischargers.

Design/installation

- Only used water complying with the [Restricted Wastewater Acceptance Standards](#) is permitted to discharge to sewer.
- All used waters, oils, solvents, settled sludge and chemical solutions not permitted to discharge to sewer are stored in approved containers or tanks prior to removal by a licensed liquid waste contractor in accordance with the [Bunding and Blind Tank Guideline](#).
- All radiator repair areas, pre-treatment systems and chemical storage areas are banded in accordance with the [Bunding and Blind Tank Guideline](#).

Typical pre-treatment

- Where used water contaminants exceed the acceptance standards, one of the following options is used:

- **Option 1** – Isolation from the sewer with removal of all used water by a licensed liquid waste contractor. A recirculation system with alkali dosing and solids removal will extend the life of process waters before removal offsite. See *Figure 1*.
 - **Option 2** – Batch discharge to sewer via an approved pre-treatment system. This may include an oil water separator, pH adjustment and metal precipitation. A pH electrode with 'set points' is linked to the pump control to safeguard against incorrect disposal. Pump activates only if pH is correct. See the [Batch Treatment Guideline](#).
 - **Option 3** – Continuous discharge to sewer via an approved pre-treatment system. Similar in principle to Option 2, but an automatic system controls alkali dosing and safeguards the sewer. See *Figure 2*.
- All used waters from radiator repair operations (using Options 2 or 3) discharge to a gully trap that does not accept other used water streams. Samples for monitoring purposes are drawn from this point.

Best practice management

- Minimise use of soldering flux solution to reduce zinc levels (flux contains approximately 400,000mg/L zinc).
- Grit blasting to clean components instead of acid pickling.

Maintenance

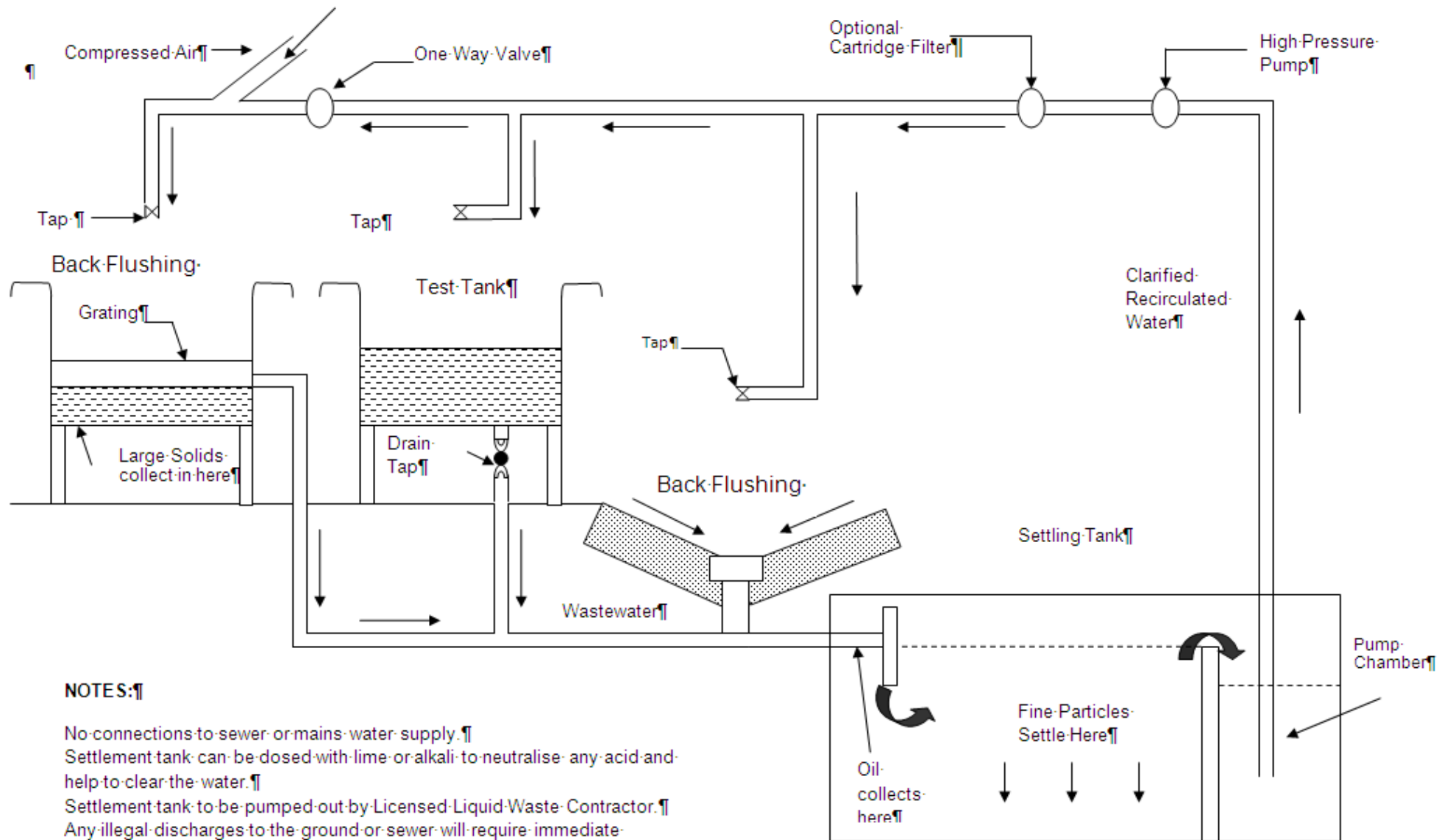
Site management is responsible for ensuring the effective operation of all pre-treatment equipment, e.g. ongoing removal of accumulated oil and/or coolant, sludge removal, treatment chemical replacement and pH probe calibration and cleaning.

More information

Mains Water Protection (AS/NZS 3500.1:2015)

[Backflow Prevention Requirements - Office of the Technical Regulator](#)

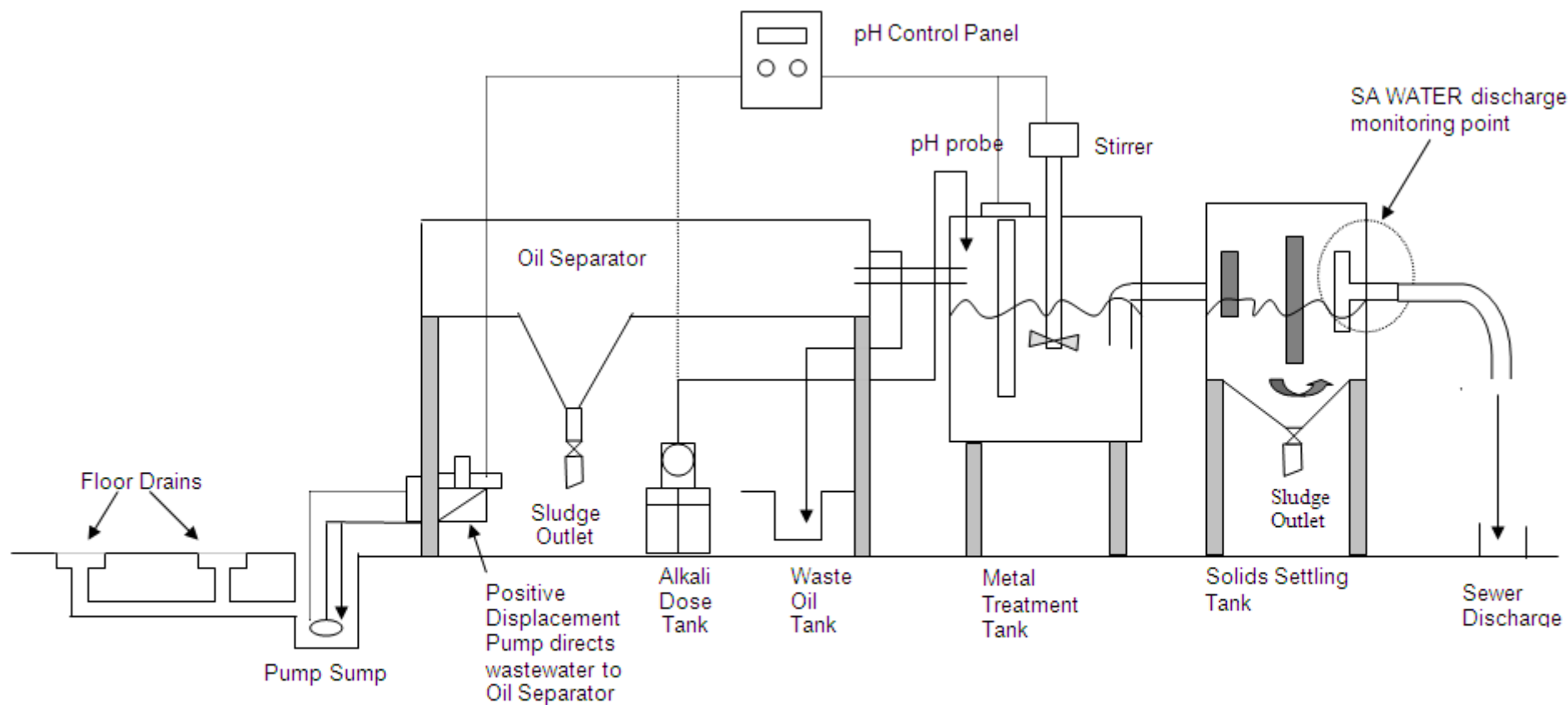
Figure 1: recirculating water system



NOTES:

- No connections to sewer or mains water supply.
- Settlement tank can be dosed with lime or alkali to neutralise any acid and help to clear the water.
- Settlement tank to be pumped out by Licensed Liquid Waste Contractor.
- Any illegal discharges to the ground or sewer will require immediate upgrading to a full treatment system.

Figure 2: continuous discharge pre-treatment



NOTES:

The treatment systems illustrated on this plan are intended as a guide only.
 Discharge via pH controlled and TIMED DELAY PUMP or VALVE to SEWER.
 This drawing is not to scale.