


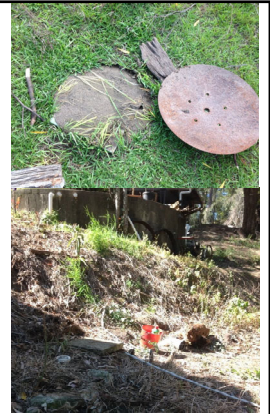
Inspection and Troubleshooting of Onsite Wastewater Management Systems


Undertaking the Inspection What to Look For?

Centre for Environmental Training 

What You Need

- A sense of self preservation
 - If it looks dodgy, don't do it! Leave a calling card
- Your investigator hat
 - Finding things when you don't have the details
 - Finding things that look out of place




Centre for Environmental Training 

What You Need


- An approachable attitude
- Your attitude will often impact how people react to you when they answer the door



Centre for Environmental Training 

Access the Site

- Where is the access? Address v access?
- Locked gates
- Dogs, stock, wildlife
- Is anyone home?
- Irate and uncooperative occupants
- Renters that are unaware of the inspection

Centre for Environmental Training 

What Type of Inspection

- Walk-over or visual inspection?
- Opening covers? Internal inspection?
- Digging up components (destructive)?
- Testing and sampling wastewater, effluent and/ or environmental sampling?
- Gathering evidence for enforcement action

Centre for Environmental Training 


Start at the start (source) and head downstream

- Identify sources of wastewater
 - Dwellings (primary and secondary)
 - Shed with amenities
 - Extensions
 - Split systems (toilet, kitchen, greywater)
 - Outside toilet
 - Check for vent pipe and plumbing pipework

Centre for Environmental Training 

Other Sources


- Other hydraulic load
 - Stormwater – flow paths, ingress
 - Groundwater – wet patches, vegetation
- Organic load (food production)
- Pollutants (chemicals, medications)
- Home business (trade waste inputs)

Centre for Environmental Training 

Gravity or Pumped System?


- Gravity systems step down a slope
- Pumped systems can have upslope or long distance application areas




Centre for Environmental Training 

Investigate

- Use a checklist to guide and record the inspection
- Use a GPS to locate and mark components
- Open everything – lids, covers, vents
- Not everything will be easily visible. Use a probe, torch and dye to follow pipes and components
 - Built over or buried
 - Covered with ornaments or pot plants!
 - Covered with rubbish
 - Overgrown vegetation or gardens
- Trigger the pump


Centre for Environmental Training 




Centre for Environmental Training 

Questions

- Does the system match the approved site plan, design, conditions of consent?
- Are the components operating as intended?
- Are there missing components?
- Is wastewater or effluent causing risk to human health or the environment?
- Are there additional flows?

Centre for Environmental Training 



Centre for Environmental Training 



Centre for Environmental Training cet

Assess

- Structural integrity – cracks, breaks, deformation?
- Seals and covers – present and intact?
- Access – suitable (inspection, maintenance)
- Movement – uneven settlement, lifting?
- Internal components – T-pieces, baffles, sludge return, outlet filter
- Liquid and solids levels suitable?

Centre for Environmental Training cet

Assess

- Performance – odour, colour, turbidity
- Open pipes – damaged or deliberate
- Blockages – pipes, filters
- Distribution – box, valves, across LAA, aeration bubbles, composting solids
- Operational – pump, blower, valves, sprays
- Ponding liquid – wetland, sand filter, LAA
- Overgrown vegetation and mulch (LAA)

Centre for Environmental Training cet



**Pump triggered and effluent flows to the surface
Why?**

Centre for Environmental Training cet

Scum and Sludge

- Check each tank and compartment
- Foreign objects (wipes, sanitary products)?
- Use Sludge Judge or Sludge Depth Indicator
- Note condition (depth, colour, texture, odour)
- Impact on baffle and T-pieces?
- Solids should be pumped out if volume of liquid is reduced to less than 24 hours detention or solids are within 150mm of bottom of inlet or outlets

Centre for Environmental Training cet


Sludge Judge



Centre for Environmental Training cet

Land Application Area


- Located? Unable to be found? Accessible? Open pipe?
- Distribution even? (uneven growth or moisture?)
- Stormwater intrusion (onto LAA, sunken trench)
- Vehicle or stock damage?
- Moisture – pooling effluent or soft ground?
- Damaged inspection or flush ports?
- Poor installation – trenches sloped down hill?
- Vegetation – is it maintained short with no mulch?

Centre for Environmental Training 




Assessment for Upgrade Design

- Measure dimensions and capacity
 - Tank – internal diameter and liquid depth
 - LAA – length, width, sometimes depth
- Condition assessment
 - Tank – structural and operational
 - LAA – type and condition

Centre for Environmental Training 


Assessment for Upgrade Design

- Site and soil assessment
- Are the treatment system and LAA suitably sized?
 - To what guideline or regulation?
 - Is it suitable for continued use?
- Is there room to expand or replace?

Centre for Environmental Training 


Disaster Inspections

- Safety
 - Is there risk to human health or the environment from use of the OSMS following a disaster?
 - If so, can alternative arrangements be made for wastewater management?
 - Pump out existing/ temporary tank/s
 - Portable amenities use

Centre for Environmental Training 

Disaster Inspections

- Bushfire
 - Burned and melted components (tank, pipes, electronics, underground pipes)
 - Cracked concrete (expansion)
 - Damage from trucks – tanks, pipes, LAA
 - Unstable trees

Centre for Environmental Training 



Disaster Inspections

- Flood
 - Hydraulic flooding of tanks and trenches
 - Flood debris in tanks and components
 - Lifted tanks
 - Overloaded land application areas

Centre for Environmental Training cet



Disaster Inspections

- Earthquake or landslip
 - Damaged tanks, pipes and land application areas
 - Movement or deformation of tanks and pipes
 - Unstable structures and trees

Centre for Environmental Training cet

