

# Inspection and Maintenance Requirements for Closed Detention Systems (Tanks/Vaults)



## Maintenance Checklist

Maintenance Component	Defect	Conditions When Maintenance is Needed	Results Expected When Maintenance Is Performed	Satisfactory	Unsatisfactory	Comments
Storage area	Plugged air vents	<ul style="list-style-type: none"> <li>One-half of the cross section of a vent is blocked at any point or the vent is damaged.</li> </ul>	<ul style="list-style-type: none"> <li>Vents open and functioning.</li> </ul>			
	Debris and sediment	<ul style="list-style-type: none"> <li>Accumulated sediment depth exceeds 10% of the diameter of the storage area for 1/2 length of storage vault or any point depth exceeds 15% of diameter.</li> </ul> <p><i>Example: 72-inch storage tank would require cleaning when sediment reaches depth of 7 inches for more than 1/2 length of tank.</i></p>	<ul style="list-style-type: none"> <li>All joint between tank/pipe sections are sealed.</li> </ul>			
	Openings/voids in joints between tank/pipe sections	<ul style="list-style-type: none"> <li>Any openings or voids allowing material to be transported into facility.</li> </ul> <p><i>Will require engineering analysis to determine structural stability.</i></p>	<ul style="list-style-type: none"> <li>No contaminants or pollutants</li> </ul>			
	Tank/pipe bent out of shape	<ul style="list-style-type: none"> <li>Any part of tank/pipe is bent out of shape more than 10% of its design shape.</li> </ul> <p><i>Review required by engineer to determine structural stability.</i></p>	<ul style="list-style-type: none"> <li>Tank/pipe repaired or replaced to design.</li> </ul>			

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Storage area (cont.)	Cracks in wall, bottom, damage to frame and/or top slab of vault structure	<ul style="list-style-type: none"> <li>Cracks wider than 1/2-inch and any evidence of soil particles entering the structure through the cracks, or maintenance/inspection personnel determines that the vault is not structurally sound.</li> <li>Cracks wider than 1/2-inch at the joint of any inlet/outlet pipe or any evidence of soil particles entering the vault through the walls.</li> </ul>	<ul style="list-style-type: none"> <li>Vault replaced or repaired to design specifications and is structurally sound.</li> <li>No cracks more than 1/4-inch wide at the joint of the inlet/outlet pipe. .</li> </ul>			
Manhole	Cover not in place	<ul style="list-style-type: none"> <li>Cover is missing or only partially in place. Any open manhole requires maintenance.</li> </ul>	<ul style="list-style-type: none"> <li>Manhole is closed.</li> </ul>			
	Locking mechanism not working	<ul style="list-style-type: none"> <li>Mechanism cannot be opened by one maintenance person with proper tools.</li> <li>Bolts into frame have less than 1/2 inch of thread (may not apply to self-locking lids).</li> </ul>	<ul style="list-style-type: none"> <li>Mechanism opens with proper tools.</li> </ul>			
	Cover difficult to remove	<ul style="list-style-type: none"> <li>One maintenance person cannot remove lid after applying normal lifting pressure. Intent is to keep cover from sealing off access to maintenance.</li> </ul>	<ul style="list-style-type: none"> <li>Cover can be removed and reinstalled by one maintenance person.</li> </ul>			

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Manhole (cont.)	Ladder rungs unsafe	<ul style="list-style-type: none"> <li>Ladder is unsafe due to missing rungs, misalignment, not securely attached to structure wall, rust, or cracks.</li> </ul>	<ul style="list-style-type: none"> <li>Ladder meets design standards. Allows maintenance person safe access.</li> </ul>			
Catch basins	Refer to Catch Basin maintenance checklist					