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Regular Inspection and Maintenance Guidance for The Subsurface Gravel Wetland Stormwater Management Device

Regular inspection and maintenance is critical to the effective operation of Subsurface Gravel Wetland (SGW) systems. It is the responsibility of the owner to maintain the SGW in accordance with the minimum design standards. This page provides guidance on maintenance activities that are typically required for these systems, along with the suggested frequency for each activity. Individual systems may have more, or less, frequent maintenance needs, depending on a variety of factors including but not limited to: the occurrence of large storm events, overly wet or dry periods, regional hydrologic conditions, and the upstream land use.

ACTIVITIES

The most common maintenance activity is the removal of sediment and organic debris from the system and bypass structures. Visual inspections are routine for system maintenance. This includes looking for standing water, accumulated leaves, holes in the soil media, signs of plant distress, and debris and sediment accumulation in the system. Vegetation coverage is integral to the performance of the system. A SGW system is a subsurface horizontal filtration system and does not rely on surface soil infiltration capacity for treatment. As such, surface infiltration rates are expected to be low and not a criterion for cleaning. Rather, stormwater access to subsurface treatment is by way of a hydraulic inlet. It is important to ensure these inlets are performing properly.

ACTIVITY	FREQUENCY
CLOGGING AND SYSTEM PERFORMANCE	
<p>Inspect inlets and outlets to ensure good condition and no evidence of deterioration. Check to see if high-flow bypass is functioning. Remedy: Repair or replace any damaged structural parts, inlets and outlets. Clear or remove debris or restrictions.</p>	<p>Annually, more frequently in the first year of operation</p>
<p>Check for internal erosion, evidence of short circuiting, and animal burrows. Remedy: Soil erosion from short-circuiting or animal borrows should be repaired when they occur.</p>	
<p>Check that the system is fully draining within a 24 - 48 hour period after rain events Remedy: Repair or restore hydraulic inlet or outlet function.</p>	
VEGETATION	
<p>Check for robust vegetation coverage throughout the system and dead or dying plants. Remedy: Vegetation should cover > 75% of the system and should be reseeded and cared for as needed.</p>	<p>Annually or as needed</p>
<p>Cut and remove vegetation from the Gravel Wetland System and forebay in order to maintain nitrogen removal performance. Remedy: The vegetation should be cut and removed from the system to prevent nitrogen from cycling back into the system.</p>	<p>Once every 3 years</p>