

# smartPOND Rotary Weir System

# -Operation, Inspection & Maintenance-

#### Overview

The smartPOND rotary weir configuration includes a free-standing device with a rotary weir buck, water level sensor, perforated trash rack, flanged pipe adaptor, pedestal tower, weatherproof and lockable control cabinet housing the motor and electronics and solar panel. Manual control, real time remote control, and pre-programmed automated functions are all standard options with this free-standing, self-contained system.

Periodic inspections and maintenance is required to guarantee proper function and optimal performance of the device. This document will detail those procedures.

#### Inspection

Environmental conditions on site as well as device condition must be inspected regularly. Inspection frequency of your system must be determined based on the contributing drainage area of the site, as well as each respective site's design and environmental conditions, but should never exceed one year between inspections (six months during the first year of operation).

Inspections may be required more frequently for active construction sites which still have disturbed soils in the stormwater basin. Preventative measures must be taken to avoid sediment buildup at the weir base that would prevent its rotation. Accumulation of garbage and debris must also be monitored and cleared on an as-needed basis.

With the right equipment, your inspection and measurements can be accomplished from the surface without physically entering any confined spaces. If your inspection does require confined space entry, consideration of all local/regional requirements as well as OSHA standards should be given.

smartPOND rotary weir systems feature a unique hardware solution that places the selfcontained unit on a concrete pipe and connection to a headwall or outlet control structure via a closed pipe. The inspector should always conduct a visual inspection of the condition of the weir assembly with integrated trash screen, control cabinet, and solar panel.



If sediment buildup or debris is observed around or on the rotary weir bucket the depth of the material should be determined.

### Maintenance

Sediment or debris buildup around the base of the unit should be removed when it reaches depth of six inches or more from the base of the screen. Follow local guidelines to dispose of or relocate the sediment as allowed.

The basin should be well vegetated to prevent erosion and sediment accumulation around the device. Any damage or gaps in the vegetation in the basin should be repaired and re-planted as needed.

Ideally, appropriate vegetation should be established before installation of the smartPOND in order to avoid excess sediment buildup around the weir base. If the system is installed in disturbed-soil conditions, proper sediment control measures should be taken, such as a silt fence around the unit until the soil is stabilized and vegetated.

The hardware of the smartPOND system must be maintained as well. Check for signs of tampering or vandalism, ensure no components are missing, and confirm that the control cabinet door is locked and secured.

#### Step-by-step Inspection and Maintenance Routine

#### 1. Inspection

- a. Pond conditions
  - i. Inspect the conditions of vegetation and note any exposed or disturbed soils.
  - ii. Inspect for signs of erosion on pond slopes
  - iii. Inspect condition of silt fence, if applicable
  - iv. Identify any significant accumulation of garbage or debris in the basin or around the weir base.
  - v. Use a stadia rod or tape measure to measure depth of any accumulated sediment at the base of the perforated inlet riser
- **b.** Rotary weir assembly
  - i. Inspect that the weir bucket is in the correct position and no debris is blocking it from rotating over. Inspect for any damage to the weir box, pressure transducer, cabling or drive chain. Inspect the trash guard on top of the weir bucket and free and clear of debris that would restrict flow.



- c. Control Cabinet
  - i. Ensure cabinet is mounted securely above the system and the door is locked in the closed position
  - ii. Inspect for any signs of damage or vandalism
- d. Solar Panel
  - i. Ensure panel is clean of debris
  - ii. Ensure panel is fastened securely and facing SOUTH
  - iii. Ensure panel wires are connected and undamaged

## 2. Maintenance

- **a.** Use appropriate means to remove accumulated sediment around the base of the weir bucket and trash guard.
- **b.** Use shovels and hand tools to avoid damage by large equipment.
- c. Stabilize soil and re-plant slopes as needed.
- d. Grease rotational surfaces through the integrated grease tubing manifold
- e. Test the battery using a volt meter
- f. Clean solar panel and secure in the south-facing position
- g. If repairs are required to the device, please contact Convergent's manufacturing partner, Autoflow LLC (Ph: 601.842.6806, <u>watson@autoflowllc.com</u> or <u>henri@autoflowllc.com</u>) to receive a Field Maintenance Request Form to discuss pricing and a service call to the device.