



Information, research, and solutions for open channel flow

Operation and Maintenance of Openchannelflow Weir Boxes

While simple in nature, Openchannelflow pre-engineered weir boxes do require certain periodic maintenance and inspection. Below are guidelines to aid in the inspection and proper maintenance of weir box installations.

- 1) Inspect the weir plate / carrier for signs of leakage. While the weir plate / carrier are factory sealed, the stresses of shipment and installation may require that additional sealing be conducted after the weir box has been installed.
- 2) Inspect the inlet and outlet end connections for signs of leakage.
- 3) Check that the approaching flow should be sub-critical, tranquil, and uniformly distributed across the channel. The flow should not be turbulent, surging, unbalanced, or possessing a poorly distributed velocity pattern.
- 4) Verify that the approach velocity does not exceed 0.5 fps [0.15 mps].
- 5) Check that sediment or debris is not present in the weir box. Sedimentation decreased the weir pool area - increasing the velocity of flow over the weir crest.
- 6) Verify that the weir is level from front-to-back and from side-to-side. No deviation from these conditions is allowed.
- 7) Carefully inspect the crest of the weir for signs of nicks, rust, ice, debris, vegetative growth, or any other condition that impedes or affects the clean flow of water over the crest.
- 8) If flow is present at the time of inspection, verify that the flow springs cleanly off the crest of the weir and does not adhere to the downstream face of the weir.
- 9) Verify that the flow is not leaking or otherwise bypassing the weir plate.
- 10) Verify that the head / level reading is at the correct point of measurement. The correct point of measurement is three to four (3-4) times the maximum anticipated water depth (head) (H_{max}) upstream of the weir.
- 11) Verify that the zero level at the point of measurement is at the same elevation as the bottom of the weir crest.