



John Meunier StormGuard®
Overflow Fine Screen
CSO, SSO, Stormwater Management

WATER TECHNOLOGIES

STORMGUARD® Overflow Fine Screen

Application

Every year, large volumes of raw sewage overflow into our waterways when the storage capacity of the sewer network is exceeded. When an overflow cannot be avoided, effective retention of floatables and debris is required. The StormGuard® Overflow Fine Screen, a weir mounted horizontal band screen, provides one of the highest capture ratios on the market.

Operation

As the water in the sewer system reaches the bottom of the unit, a level detector activates the screening removal mechanism. Screenings are retained on the surface of the filtering elements, as water passes through the 6mm (1/4") diameter perforations. The filtered water continues to the outfall while the retained material is conveyed downstream in the main channel section by the traveling elements. A rotating brush cleans the filtering elements

The StormGuard® is manufactured to suit any weir length up to 8m (26ft) and can readily handle flows up to 5,000 L/s (115 MGD). Flow passes through perforated elements and continues towards the outfall, while screenings are retained in the foul flow. Designed with minimal headloss across the perforated elements at peak flow, the StormGuard® allows for the overflow weir to be set as high as possible.

and returns the screenings back into the main channel. At this point, the clean elements are reintroduced into the flow. The screen and the brush operate continuously during the entire length of the overflow event.

Should the maximum water level exceed the screen capacity, the top of the screen frame serves as an emergency overflow.

Features and Benefits

- Excellent solids capture ratio
- Optimized hydraulic design
- Very low headloss, 75mm (3")
- Positive, mechanical cleaning using a rotating brush above the water level
- Solids remain in the main channel
- Submersible electric motors
- Top of unit becomes emergency overflow
- Robust stainless steel design
- Low maintenance requirements



Figure 1 : StormGuard® Typical Installation

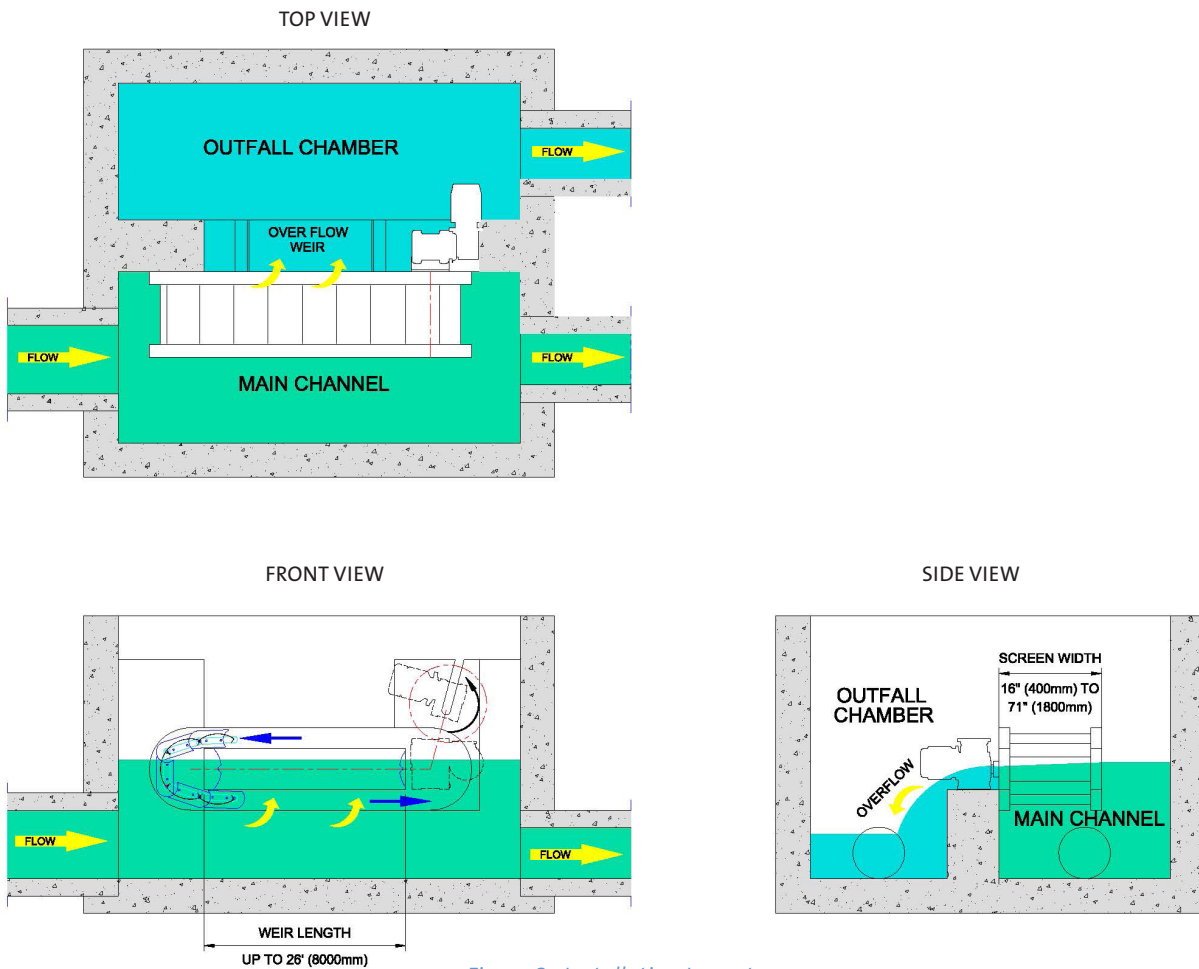


Figure 2 : Installation Layout

Hydraulic Characteristics

The submerged surface area of the StormGuard® Overflow Fine Screen is much larger than the overflow section of the weir. This induces slower through flow velocities which limit the screen headloss to a mere 75 mm (3") at peak flow under normal conditions. Also, the inner water circulation generates secondary flow effects that help to clean the perforated elements at peak flow.

Installation

The StormGuard® Overflow Screen can be installed on any straight-edged weir structure. To prevent submergence, the capacity of the outfall should be greater than the overflow capacity. The two drive units are located on the outfall side of the weir. The electrical motors are explosion-proof and submersible. Front and rear access ports are provided for easy maintenance.

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