



## Bedford Pumps supply ATEX compliant suspended bowl storm pumps to Yorkshire Water

Bedford Pumps Ltd, renowned manufacturers of high capacity engineered stormwater pumps have delivered an important order providing two storm pumps for the Elland Lowfield pumping station as part of Yorkshire Water's continued investment in infrastructure.

Storm pumps are frequently installed in wastewater pumping stations. Heavy rainfall can have a significant impact on the sewerage network often resulting in intermittent discharges of diluted sewage during and after storm conditions. Bedford Pumps' stormwater pumps ensure that during times of heavy rainfall a greater amount of stormwater can be safely taken away from homes in the surrounding area.

As well as the usual requirements of handling solids, grits and rags, this application brought some additional challenges. The existing structure proved problematic as the opening for the pumps was too small for the increased duty requirements. Bedford Pumps used their engineering know how to design a pump to suit the structure, without losing any performance or hydraulic efficiency. This negated the need for additional civil work, saving substantial capital cost. In addition, prior to pump installation, sole plates were installed eliminating the requirement for levelling on initial or subsequent maintenance installations, as well as conforming to gas tight sealing requirements.

Bedford Pumps always engineer longevity into their pump installations. It goes without saying that Waste water storm pumps need to perform when required or there is a real possibility of raw sewage overflowing the station and flooding residential/business areas. Due to the critical nature of these storm pumps, Bedford Pumps designed and supplied the pumps with shaft enclosing tubes, ensuring

the critical water lubricated bearings did not suffer premature failure due to running in waste water. A separate flushing system was supplied by Bedford Pumps comprising; duty and standby pumps; a control panel; all necessary valves; fittings and flow switches mounted on a common base skid.

Another area of concern on waste water applications are the mechanical seals. If the liquid is clean it is normal to use the pumped liquid to provide the lubrication, however, in the case of storm pumps in a WWTW, the pumped liquid is contaminated and therefore not a desirable liquid to lubricate the seal faces. To overcome this problem Bedford Pumps supplied the pumps with double seals using a siphon system ensuring a clean flow of liquid is seen by the mechanical seal faces thus ensuring the max MTBF for the mechanical seals. Bedford Pumps are world leaders in the design and manufacturing of specialist robust and reliable pumping plant for the water, waste water, flood control and dockyard industries.



**Fig 1. Bedford Pumps suspended bowl storm pump installed at Elland Lowfield Pumping Station.**