The objectives of all pumping studies are to assess flow mixing, improve benching, reduce pre-swirl, eliminate vortices and improve flow presentation throughout the design, from TWL to lowest water level in the sump.

In the recent scheme shown below, pre-swirl levels were found to exceed design standards and excessive operational pump wear was predicted. By making (relatively minor) changes to the design the lifetime of a £1.2m pumping station was significantly extended.