CASE STUDY

DUNBIA LLANYBYDDER INLET SCREEN

Installation of raw effluent management system

Owned by Dawn Meats, the Dunbia Llanybydder site is an abattoir specialising in the processing of Welsh lamb. Due to the success of the business, the site wanted to increase production and to incorporate beef abattoir processing.

To treat the increased volume of wastewater, and to provide space for the new processing building, this project involved the installation of a new pumping system, filter, balance tank mixing system and equalised effluent transfer system.

CLIENT: DAWN MEATS LTD
LOCATION: DUNBIA LLANYBYDDER, LAMPETER
PROJECT VALUE: CONFIDENTIAL
DURATION: 8 MONTHS
SERVICES PROVIDED: DESIGN, EQUIPMENT SUPPLY, M&E INSTALLATION, COMMISSIONING

FLI CAP Technology Role:

The project included all aspects of the design, equipment supply, mechanical and electrical installation, and commissioning.

A new pump station was installed to intercept the existing raw effluent pipeline exiting the abattoir. Raw effluent was then pumped to a new 1mm rotary drum screen mounted on a low-level platform above a transfer tank. The 1mm rotary drum screen is manufactured in stainless steel 316 and is capable of receiving flows up to 100 m3 per hour. Solid particles larger than 1mm are removed and deposited into a screening compactor to increase the dry solids percentage.

Filtered water passes through the rotary drum screen via gravity and is collected in a transfer tank mounted beneath the screen. From here, it is pumped to a 1,000m3 balance tank. A new mixing and aeration system was installed to ensure that the contents of the tank remain mixed and aerated.

The equalised contents of the balance tank are then transferred to the existing treatment system. Due to the hydraulic profile of the site, when the balance tank is full, flows can be transferred by gravity using an actuated ball type flow control valve. When the tank is at low level, the contents of the tank are pumped to the existing treatment system. A level sensor monitors the volume of effluent within the balance tank to determine which transfer method is used.

A new PLC control panel system with touch screen HMI was installed as part of the project and enables operators to have full visibility and control of the new equipment.

The completed plant was completed according to an agreed programme, on budget, and fully achieved the agreed performance targets.