Drainage and pollution prevention

A major food flavouring company gets to know its drainage systems.

This food flavouring operation had three separate drainage systems, which handled foul sewage, process effluent and surface water from the site. Sections of these systems became blocked on a regular basis; drainage integrity and the exact routes of the drains were not established.

The company needed assurance that drainage on the site was fit for purpose and could be relied on in the future. Additionally, a drainage inspection and management system was required to demonstrate effective control. The client also needed to know that process effluent was contained and could not flow into an adjacent watercourse as unconsented discharge.

ABB were asked to manage the assessment and subsequent improvement projects.

Solution
The client chose ABB because we have extensive experience of drainage design, construction, inspection and maintenance in the chemical industry. Our drainage assessment and management procedures are well recognised. We approached the project in the following way.

Our experienced civil engineers carried out manhole inspections and traced drainage flows. We then reviewed manhole records and drainage drawings, enabling us to create up-to-date site drainage drawings and manhole schedules. We then assessed all drainage systems for fitness for purpose and rated them according to the hazards they posed to people or the environment.

Our next step was to pressure jet all drains to clear blockages, and to make internal inspections of the three different systems using CCTV.
We made recommendations for improvement of selected drain lengths. These were carried out by ABB civil engineering, design and construction services, using their specialist material technology expertise for protective repair and renewal of drainage systems.

We developed a system to record the life history of the plant’s drainage assets, their inspections, repairs and modifications. These are constantly updated and used to demonstrate effective containment.

Benefits
- Demonstration of drainage integrity to the regulatory authorities
- Reduced potential for unconsented effluent discharge to surface water and subsequent prosecution by the regulator
- Assurance that drainage system was fit for purpose for continued use
- Demonstration of effective control of sites drainage systems

- General public
- Employees / people on site
- Environmental harm
- Unique business requirement
- Legislation

- Initial appraisals
- Routine
- Thorough

Appoint responsible staff
List all drainage
Identify critical drainage
Schemes of examination
Examine drainage
Reports and repair schedules
Carry out repairs

Create register
Maintain register

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