

Have you looked at your major spill and firewater risks?

As far back as 1388 a UK law was passed that made it illegal to dump animal waste, dung or litter into ditches and rivers. 625 years later, we like to think that we live in more enlightened times




“Over 70% of businesses involved in a major fire either do not reopen, or subsequently fail within 3 years*”

Very often spill and firewater costs will not be covered by standard environmental insurance, especially if there is any question that adequate containment and safety procedures were not adhered to.

We therefore urge all readers to check their environmental liability insurance for spill and firewater run-off cover and consult the Environment Agency for advice on appropriate containment.

* Business Continuity Statistics: Where Myth Meets Fact, 2009. Continuity Central.
Available at www.continuitycentral.com/feature0660.html (Accessed 26 March 2013).



In the vast majority of cases the fines that appear in the media do not include the remediation costs. In April 2010 a UK Water Utility Company was fined £15,000 for polluting a river, however the true costs were far greater; Tankering away the spilt chemical, £32,600, Plugging the leak,

£8,300, EA fish surveys, £26,000, installing new leak detection equipment, £60,000, Environment Agency officer charge, £2,271, restocking the stretch of river, £63,500. This all totals £211,164, however still doesn't include loss of production, staff down tie, and loss of good-will.

The Flapstopper™

The Flapstopper™ has been designed to effortlessly mitigate spill and firewater incidents.

Using in-drain containment theory this dual purpose drain closure device can help any site meet their legislative requirements.

Manufactured from stainless steel, the Flapstopper™ is more robust than older bladder style systems. The pollution containment valves can be tailored to bespoke drain measurements, from 100mm up to '000's of mm. The Flapstopper™ can be activated manually via a push button on the control panel, or remotely using worker operated call points, fire alarm detection equipment, or a range of condition detecting probes, for example, oil interceptor alarms allowing the end user to have total control over their system.



Completely retro-fittable

Already being used in:

- chemical environments
- locations where medias may cause bladders to perish
- ATEX areas where a more hardy product is required.



Choice and flexibility

The control panel can be operated by mains electric, or a solar panel, which can be as small as 10W. The solar option allows use of the Flapstopper™ in hard to reach sites, or in locations where it is not cost-effective to run mains power to.



Market leader

Activation rapidly closes the valve in the man-hole or outflows in less than 5 seconds significantly reducing the risk of contamination, enabling the Flapstopper™ to be a market leader in pollution control and major spills.





Case Study Risk to water during a major spill or firewater event

Background:

As part of a continuous development programme, a COMAH site in the West Midlands needed to address their potential risk to the local water course during a major spill, or firewater event. Numerous products used to create foam and coverings for the automotive industry have the potential to seriously damage the local wildlife and environment should an incident occur.

Brief:

To quickly and remotely operate valves which would isolate their surface water drainage network during an event combined with a remote positive closure message. Full testability, along with a secondary closure and open method; in addition, visual recognition of the valve status. No mains power available at the outfalls to be isolated.

Solution:

A completely solar powered system was developed which included three valves, isolating three different surface water outflows from site, giving the site control over various elements of their production and loading facilities either collectively, or autonomously. This enabled the client to also use the valves for smaller spill events ensuring the customer had maximum efficiency out of the Flapstopper™ system. Once remotely operated, a completely stand-alone positive closure system activates to give the status of each of the valves. EIL also added the automation of the Flapstoppers™ by linking two interceptor alarms to the system, fully integrating the GSM and web interface notification facility. This gave further value added to the system, meaning the client was now also managing their interceptor tanks more efficiently, finding cost savings on empties and services. The entire system is not closed, but can be expanded at any point.

Wireless Automation

Automating a closure of a Flapstopper™ can mean anything from wirelessly linking your drain closure device to an Interceptor Alarm, an in-drain pH probe, to turbidity or on sensing milk. Initiating a closure without human interaction can save precious moments when trying to protect the environment from your on-site activity

Wireless Call Point

The wireless call point has been designed to activate your Flapstopper™ from a remote location. Any number of call points can be used to operate a system from on site. Being the size of a general fire alarm button, this wireless call point can either be mounted in critical locations where incidents may occur, or can be carried with key members of staff around a site.

The freedom of having a portable

unit means that your site will be protected wherever a spill may occur. Furthermore, it saves valuable time mitigating the need to find a spill kit and get it to a particular location, especially on larger sites.

The call point requires minimal training, and can be used however best you see fit – this is a product which is built to work with you, whatever your site specific needs are.



Wireless Acoustic Listening Ear

The Acoustic Listening Ear is designed specifically to address the issues of fire on an industrial or commercial site. On detecting a prolonged fire alarm, the Acoustic Listening Ear will automatically trigger your Flapstopper™,



isolating your site from polluting the surrounding environment. Using low powered radio technology the Ear will give you piece of mind and logistical practicality when it comes to weighing up the emergency of a fire, and the environmental responsibility your site has. As a completely bespoke unit, we can build an Acoustic Listening Ear to suit your site specific needs.

pH Probes

Measuring the pH levels of surface water may well be a condition of your discharge permit. As a result you may already monitor this and want to add an automated shut off valve system. The Flapstopper™ can use most pH probes already installed to activate the system automatically using volt free contacts. This being said, Environmental Innovations are experienced in installing complete turn-key systems where

no monitoring currently exists. Due to a change of business activities, or enforcement by a regulatory body this may well be something your business must now focus on.

Probes of this nature generally require some thought as to how best they can be used for the highest return on investment, but with a number of projects of this nature Environmental Innovations will provide the correct solution needed to improve your current operations.

Lactometer

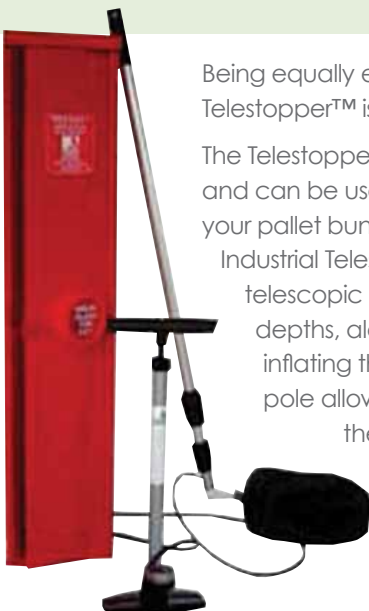
Dairies, fromageries, and creamery's make up a good portion of our clients due to the fact that a milk spill can be worse than oil. Milk is high in protein, and as it enters the surface water drainage systems can spur phenomenal growth of algae and bacteria. As a result this significantly reduces the dissolved oxygen in the water to dangerous levels.

The unit can be used to automate a Flapstopper™ valve to mitigate the effects of such a spill, giving your business piece of mind whatever the activities on site. Numerous notification process can be added to this system along with a logging mechanism. Most sites require differe3nt usage, which can be accommodated quite easily with our bespoke systems.



The Telestopper™

The efficient set-up of the Industrial Telestopper™ allows for a quick and stress-free application.



Being equally easy to tidy-away after use, the Telestopper™ is an essential spill kit tool on site.

The Telestopper™ is perfect as an emergency tool and can be used as secondary containment should your pallet bund or spill cabinet be over utilised. The Industrial Telestopper™ comes complete with a 3m telescopic pole for suitable use in varying drain depths, along with a heavy-duty stirrup pump for inflating the bladder. The fixing at the end of the pole allows the Bladder to be removed whilst in the inflated position, meaning numerous bladders can be used with regard to a spill should this be necessary.



Completely reusable

Completely reusable, the Telestopper™ can be activated many times over its product lifetime



Easily portable

Being Portable, this tool can be used for a period of time before being redeployed in another location



Tough and visible

The durable metal unit is coloured emergency red making it easy to see should an incident occur

Interceptors and Separators

Protecting surface water outflows from any potential spill risks, your site will most probably need, or have an interceptor or separator. Once your needs are assessed, the correct environmental protection equipment can be selected

Surface water drainage which flows to any receiving waters, sewers or soakaways should have an inline interceptor. Environmental legislation denotes that the risk of a spill can come from almost every commercial activity, even an office block with a car park. For this reason, most businesses should address their need for environmental protection from oil and petrol contamination.

The correct interceptor is important to maintain business continuity, and therefore a number of factors must be taken into account when selecting the right product for you. Do not hesitate to contact us to discuss your needs.

Full Retention Interceptor

For use in areas where there is high, and potentially frequent risk of contamination to the surface water outfall.

Full retention interceptors are available in varying sizes, from a few thousands litres, to tens of thousands. Interceptor size is generally governed by the likely flows through the unit, taking into

consideration the storm flows, and potential need for storage of pollutants. Interceptors of this nature may possess numerous chambers assisting with the pollution containment process of your site.

Manufacture Plants, COMAH Sites, Distribution Depots, Scrap Yards, Vehicle Workshops, Airports



Bypass Interceptor

This style of interceptor should be used when light or infrequent contamination of petrol and oil may occur.

Bypass interceptors differ to full retention as they may not treat and contain all of the pollutant flushed through the system, especially in storm conditions. When a storm flow occurs, the

bypass interceptor will contain some contaminants but will allow the excess flows through without prohibiting full bore flow. For this reason, a bypass interceptor is used for smaller locations, where flow calculations allow.

Smaller Car Parks, Industrial Estates, Roads and Highways, Small manufacturing units.

ROSOV and ASOV's

Policy denotes remote operated shut off valves and automatic shut off valves, something Environmental Innovations can economically retro-fit

Turn back a page to see the Flapstopper™ which can cover all of the ROSOV and ASOV requirements outlined by the Environment Agency and HSE with regard to petrol and oil interceptors.

Interceptor Alarms

Monitor your interceptors to improve service efficiency, cut running costs, and meet environmental legislation

Legislation states that interceptors must be fitted with a method of warning when oil is at 90% of the



tank storage capacity: in addition to this, when there is a high liquid level. Our interceptor alarms provide these warnings locally and remotely when required, with the added benefit of being able to trigger remote, and automatic shut-off valves. The units can also be wired directly into BMS and EMS systems.

Monitoring the interceptor in most cases highlights the unnecessary servicing of tanks, and shows that where tanks may be being emptied on a monthly basis, the end user can now have them serviced once a quarter. In short, the systems generally pay for themselves within twelve months, and therefore can be accommodated in most sites' immediate budget.



Easy to retro-fit and install in remote locations



No mains power required



15 minute probe check monitoring



Oil, liquid and silt monitoring

Web Interface

Being able to remotely monitor your interceptor alarm can provide piece of mind, but also dramatically cut site operating costs

Many facility managers will have to monitor numerous interceptors, or numerous tanks over various sites. With the web interface, our alarms will report into one web page with a private log-in so any one end user can see the status of all tanks and interceptors wherever they are. This then allows for the selective maintenance regime of interceptors, rather than all tanks on site being serviced.

The web interface provides accurate and instant record keeping for environmental purposes



such as a date stamp to confirm all is working correctly for EA, or ISO14001 accreditation.



Weekly date and time stamp for records



Password protected for site security



Reduces need for manual inspection



Monitor 24/7 from anywhere in the world

Flood Alarms

At Environmental Innovations we don't claim to be able to eliminate flooding; but we would like to think that we can make a difference to this massive problem.

Flooding can arise from many sources including groundwater, storm water run-off, river rise, blocked drains and sewers (sewer flooding). It affects millions of people per annum and is a growing problem for both residential and commercial properties alike.

We can generate and distribute advanced warnings to communities and businesses, using technology which can be used as a stand-alone warning system, or which can be used to create a turn-key package, utilising flow control, closure, and sampling devices.

Flood gates, air-brick seals, and quick fix sand-bagging all take time

to fit or close therefore there is little point in having a flood alarm on your front door step - it needs to be remote to give you time! A few additional tens of minutes warning can make all the difference when it comes to mitigating the effects.

“Protecting Your Home, Business, Or Entire Community”

We have developed a surface mounted flood alarm that is specifically intended as a retro-fit that can be installed quickly, with no calibration on site and very minor installation works, on either a solid surface, gravel or ballast.



Case Study

New RDC for large supermarket chain

Background:

Located on the banks of the Thames, just outside Dartford, this large supermarket have invested in a new regional distribution centre for their online capacity. The area is nominated as a sacrificial flood plain should the Thames Barrier be activated on the basis that a super-high tide was to occur. The site is located below river level and is protected by a large sea wall.

Brief:

To wirelessly warn that the river level is 1000mm below the breaching point of the sea wall. The wireless unit must report; regularly, any fault, and must fail safe. No mains power supply available at probe location. The wireless link will be 500m. The receiver must link with the building BMS system, and also the fire alarm panel.

Solution:

Using a wireless flood alarm probe housed in a UV, and marine proof enclosure, a battery operated bulk head unit with a five year lifespan overcame a lack of mains power. This wireless unit sends a health message every 5 minutes, along with readings every 2.5 seconds. Should readings not be received, the receiver will wait until 3 health messages are missed before failing safe, making the BMS aware that there is a potential fault. The receiver houses volt free contacts for linking with the fire alarm panel allowing for easy integration. The receiver provides an opportunity for text messages and emails to be sent to key staff so that management will know if a flood incident is occurring should they be off-site. This project saved the client thousands of pounds in unnecessary hard-wiring and design charges. The probes have no moving parts and can be serviced by the end user for the entirety of the product life.

What else can our flood alarms do?

- ▶ Switch and control Pumps
- ▶ Activate flow Diversion valves
- ▶ Activate and drive Sirens
- ▶ Activate GSM/SMS Messages
- ▶ Activate Wide area or on-site paging
- ▶ Activate existing alarm systems
- ▶ Interface with telephone dial Systems
- ▶ Interface with Scanning Telemetry
- ▶ Interface with your existing BSM/EMS system



Environmental Innovations manufacture a range of remote hard-wired or wireless flood alarms housed in stainless steel, GRP enclosures, or Bollards to meet the most demanding needs of both the public and industry. The alarms are

available with cable outputs for triggering local sirens or alarms. When combining this with GSM, SMS, e-mail or low power radio communications for remote alarming, we can initiate these alarms to singular locations, or entire communities.



Case Study London Mainline Station suffering recurring Blocked Sewers

Background:

A busy mainline commuter train station in the heart of London houses a shopping centre above its platforms. Restaurants were frequently blocking the main sewer outfall with Fat, Oil and Grease (FOG). The blockage was causing raw sewage to spill onto the passenger platforms, causing the platforms to be closed.

Brief:

To wirelessly link a blocked sewer detection probe to the main control centre of the station which was based approx. 600m away. No mains power available at the spill location. The receiver should have visual notification within the control room, and a text message should also be sent to the station master on a blockage occurring.

Solution:

Using a wireless blocked sewer detection probe mounted directly in the affected chamber, a battery operated bulk head unit with a five year lifespan mitigates the need for mains power. There is no calibration needed, and therefore the unit can easily be removed and replaced should the manhole need jetting. This wireless unit reports every 2.5 seconds, so real-time monitoring can occur. Should readings not be received, the receiver will wait until 3 health messages are missed before failing safe, visually warning the on-duty guard, and texting the station manager. The receiver also uses a beacon to visually warn on-duty guards of an incident. An audible warning was also available, however is not used here. This project saved commuter disruption and fines for the station from British Rail. The platform has not had to be closed since.



Blocked Sewer Detection & CSO Monitoring

Nobody wants to be dealing with blocked, or overflowing foul drains. This is especially so if they cause an expensive stop in production, are in a public environment, or induce large fines. But truth be told, it happens more than we all like to think.

Our wireless blocked sewer detection system requires no cabling, or mains power at the probe location. This means that you can monitor remotely what is happening in even the furthest corners of your site. This battery powered unit provides a 5 year lifespan, along with regular reporting, fault detection, and fail safe procedures.

Reporting back to our Utility Gateway Receiver, we offer volt-free contacts so you can link this system directly with your existing BMS, EMS, or SCADA system.

We can link a large network of monitoring probes as many of our water Utility clients choose to do, so they can proactively prevent sewage disturbance by sending engineers to site to deal with the issue in hand.

In addition to this, we can build smaller unique packages which may include email, or text alerting to individuals, or key members of staff.

We can offer our own software package providing stand-alone monitoring on your PC. This allows complete control over your system.

The effects of Combined Sewer Overflows (CSO's) where the outfall is into a public area or on a private beach can be proactively monitored and mitigated when using our blocked sewer detection system along with the Flapstopper™ technology.

Using valves to close off these outfalls can buy time for engineers to fix issues before causing an environmental hazard which would be liable for fines.



Industrial Kitchens & Food Manufacture Plants

The Sewer Sentinel effortlessly monitors your drainage network on site mitigating the surprise of a blocked and overflowing kitchen drain



The Sewer Sentinel Lite is a blocked sewer system intended for use within buildings where there is a risk of sewer flooding, blocked sewers or basement flooding.

Based upon our award winning BDT technology that won in 2012 the prestigious SBWWI innovation award and the Institute of Water innovation award in 2013, the BDT is a unique level sensor with no moving parts and

is supplied complete with a wireless uplink unit that meets the strict safety requirements for use in a sewer of ATEX zone 2 certification.

Typically the BDT blocked sewer transmitter has a battery life of up to 10-years and broadcasts the status of the sewer 24/7/365 to Sentinel Receiver which is located nearby without the need for digging up floors to install cables or to modify the manhole covers. With the manhole cover fitted securely in place the BDT transmitter has a typical operating range within a building of between 10 and 30m.

Typically, the Sentinel Receivers can be supplied to operate with up to 4 BDT transmitters. These can be assigned for sewer blockage alarming, sewer surcharge alarms, pump well alarming and/or basement flooding.

Case Study

New BDT Lite probes for prestigious restaurant

Background:

A prestigious Soho Restaurant suffering with blocked sewers and sewer surcharges due to fat oils and grease, but also shallow main sewer lines.

Brief:

To give an early warning indication that action must be taken.

Solution:

Fix 4 BDT Lite probes under the manhole covers, reporting to the Sewer Sentinel, which sounded when a sewer was backing up. This allowed for a drainage crew to be called before a spill occurred in a sanitised environment



Servicing & Installation

Environmental Innovations can offer full installation by qualified engineers for all of the products featured in this brochure.

Many of the Flapstopper™ Valves, Oil Interceptors, and Interceptor alarms will require a confined space installed, to which all of our engineers are familiarised and trained.

We are experienced in all kinds of installations in hard-to-reach locations, from outfalls in lakes, intank fitting, to deep chamber works. Where necessary we can provide suitable traffic and pedestrian management, or work out of hours.

Our servicing contracts can vary between the types of products we install. These can be from one-off services, to contracts over a number of years. All services are deemed an important part of the product lifecycle, ensuring you have the best performance and therefore greatest value for money that our innovations seek to deliver.

In addition to this, we aim to give great customer service which means you would never hesitate to come to us again in the future.



Spill Kits

Many of our innovations will be complimented by traditional spill kits, helping your site to remain cohesive with the latest regulation

Environmental Innovations are pleased to announce a new fully comprehensive range of spill kits and materials for any size of incident. Whether you need to safeguard, mitigate, or deal with a potential spill incident, we have a solution. We do have a specific brochure for spill kits which is available on request.



- ✓ Safely and Efficiently deal with all kinds of small scale spills
- ✓ Next Day delivery available
- ✓ One off purchases and Accounts welcome

Containment News

A FREE monthly e-round-up of the most headline-hitting spill, firewater and CSO incidents.

This e-newsletter provides stories from the UK and around the world and edits them down to a single manageable, relevant publication.

It will also ensure that you are kept up-to-date with the latest changes to environmental legislation.



“Containment News is a great free resource, packed with the latest relevant news on environmental crimes, actions and solutions. Subscribe now and ensure you are kept up to date with all the important environmental issues”

Andy Cummins, Campaign Director, Surfers against Sewage

“Containment News is an informative news-feed and I'd encourage all of our Environment Officers to sign-up to it”

Dr. Paul Leinster, Chief Executive of the Environment Agency



Environmental Regulations

Oil Storage Regulations

- **The control of Pollution (Oil Storage) (England) Regulations 2001**
- **The control of Pollution (Oil Storage) (Scotland) Regulations 2006**
- **The control of Pollution (Oil Storage) (Northern Ireland) Regulations 2010**

'Containers should be stored on secondary containment equipment (bunded pallets). Bunds should be able to contain 110% of the maximum contents of the largest container, or 25% of the total volume stored, whichever is greater'

Pollution Prevention Guidelines

- **PPG2 Above Ground**
- **PPG7 Refuelling facilities**
- **PPG18 Managing Firewater and Major Spillages**
- **PPG21 Pollution Incident Response Planning**
- **PPG26 The Storage and Handling of Drums and IBC's**

ISO14001

- ISO14001 encourages business to have adequate spill protection equipment on hand and to train staff how to use it to protect the environment in the event of a spill.

Integrated Pollution Prevention and Control (IPPC)

- In order to gain an IPPC permit, operators of industrial sites must show that they have systematically developed proposals to apply the Best Available Techniques (BAT) to pollution prevention and control and that they address other requirements, relevant to local factors.

Considerate Constructors

Terms of reference (Environment Sections)

10. 'Avoid Pollution and wastage at all times.'
11. 'Have fuel-oil spillage clean up equipment available.'

The water resources Act 1991 (amendment)(England and Wales) Regulations 2009

It is an offence to cause or knowingly permit poisonous, noxious, or polluting matter or and sold waste to enter any controlled waters. Penalties range from a term of imprisonment to a fine or both.