

Providing on site solutions to protect the environment from contaminated
firewater for EV charging hubs





Tackling EV fires is exceptionally difficult for fire fighters



It is not the legal responsibility of the Emergency Services to prevent contaminated fire water entering the environment or sewer system



Nothing has been designed into EV charging infrastructure to prevent highly contaminated fire water entering the environment



At **EV-EXBOX Fire Water Protection we think this is wrong**

Fire Water Protection

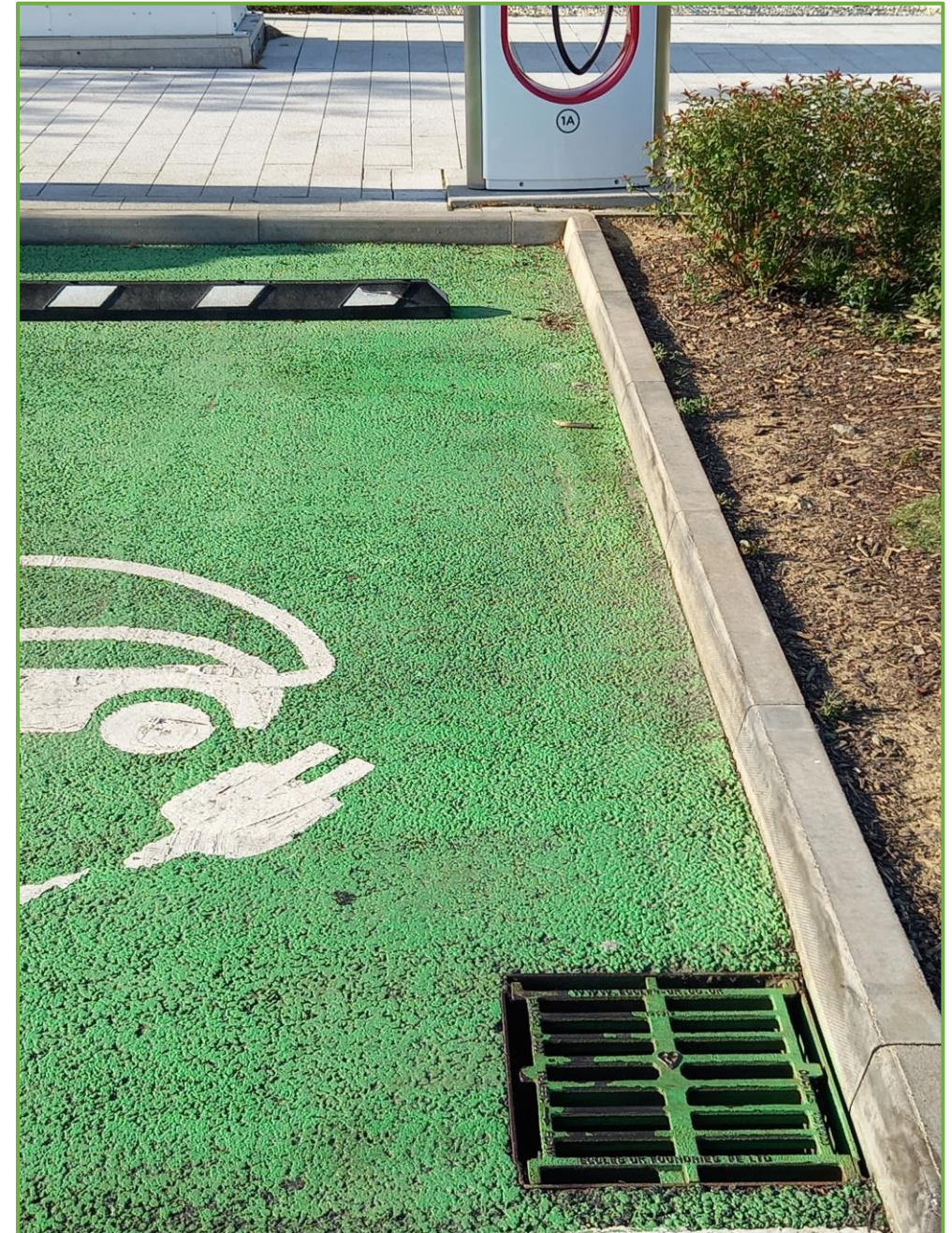
It is the legal responsibility of organisations installing charging points or operating EV facilities to ensure that in the event of an on-site fire, highly contaminated fire water does not enter the environment or sewer system

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If you have installed an **EV-EXBOX** you will already be aware of the immediate contamination pathways both above and below ground

Poor firewater management may result in the need to close sites, shops, roadways,(including motorways), and result in serious environmental pollution

The **Fire Water Prevention** Team at **EV-EXBOX** provide bespoke solutions to reduce the risks of environmental pollution and ultimately prosecution for EV charging hubs



On every site **EV-EXBOX** has surveyed, run off from the EV charging area goes to :

- Surface storm drains
- Forecourt or carpark separators

It is estimated that between 10000 – 15000 litres of contaminated firewater are generated per EV fire

EV fire water will contain :

Lithium, cadmium, zinc, polycyclic aromatic hydrocarbons, aliphatic compounds, formaldehyde, carbon fluoride and 100's of volatile organic compounds

Gasses emitted during thermal runaway will include :

Hydrogen fluoride, hydrogen cyanide, phosphorous oxyfluoride, hydrogen and methane

Contamination from extinguishing a battery alone is 70 times greater than most EU industrial discharge limits



Fire Water Protection Survey





Undertake full on site drain survey



Identify potential sacrificial drain for EV fire water, including drain isolation point



Identify potential surface water holding capacity for EV fire water



Prepare scheme for installation of shut off valves and increased surface water retention (if required)



Plan and execute scheme



Deliver new or update existing site geo mapper plan to hub operator and emergency services

EV charging hubs and locations come in all shapes and sizes.

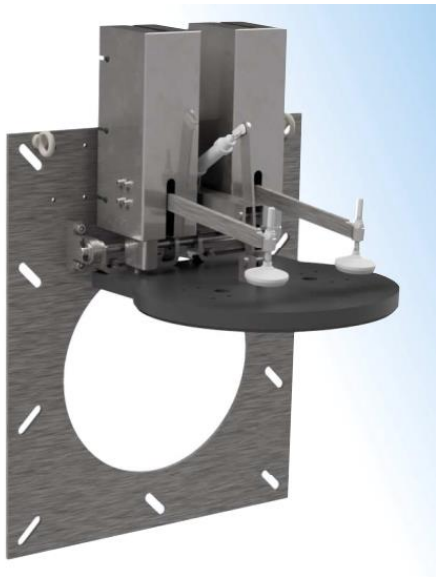
Our bespoke solutions aim to help find the best solution for each site in terms of practicality and budget

Our recommended isolation valves can be :

Fully automated
Linked to existing alarm systems
Solar powered requiring no mains connection

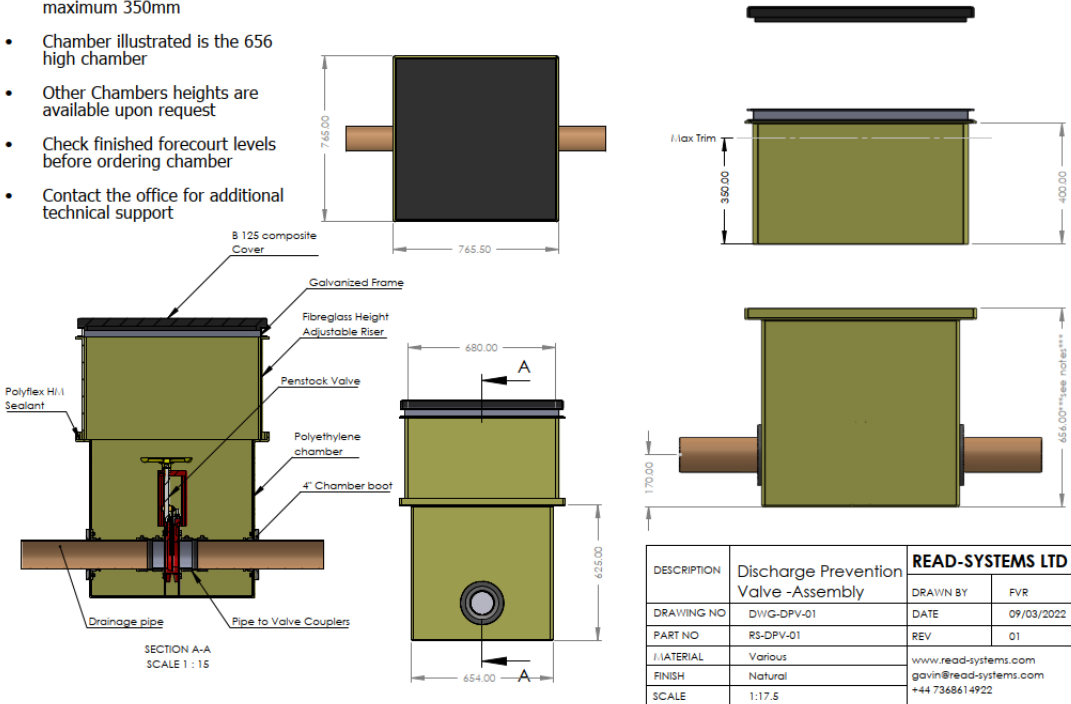
Or
Installed as clearly labelled, manually activated valves

Both valves are designed specifically for fire water prevention



Notes:

- Riser can be trimmed to a maximum 350mm
- Chamber illustrated is the 656 high chamber
- Other Chambers heights are available upon request
- Check finished forecourt levels before ordering chamber
- Contact the office for additional technical support



All FWP valves and EV-EXBOXES are digitally recorded and shared with site operators & the emergency services



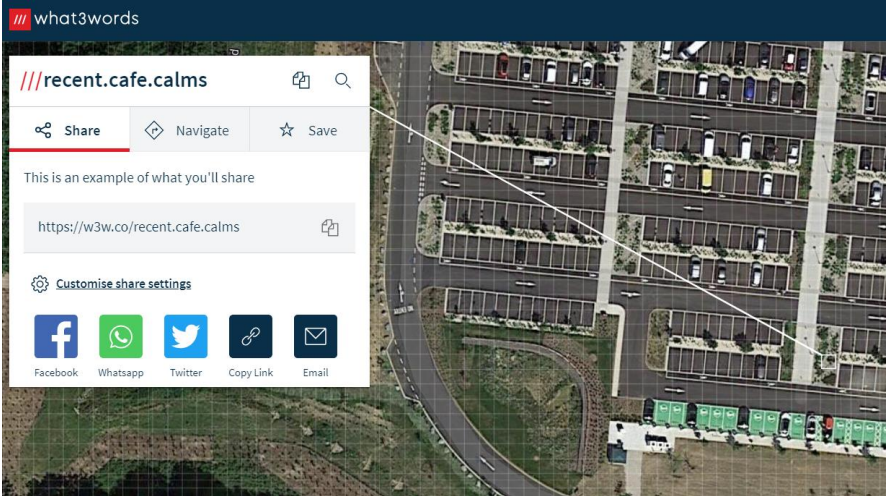
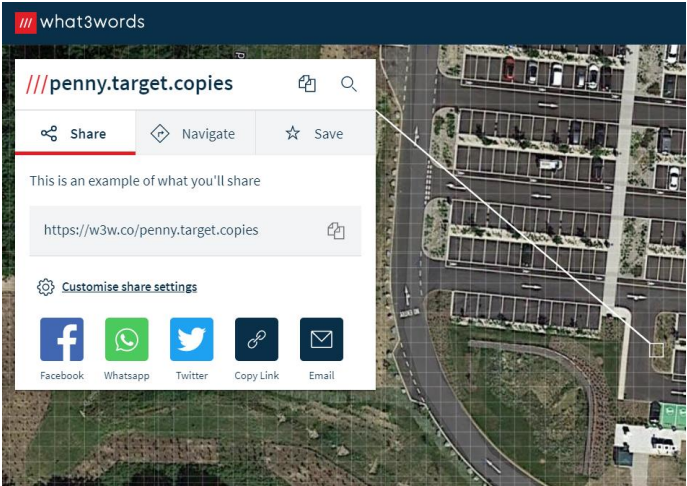
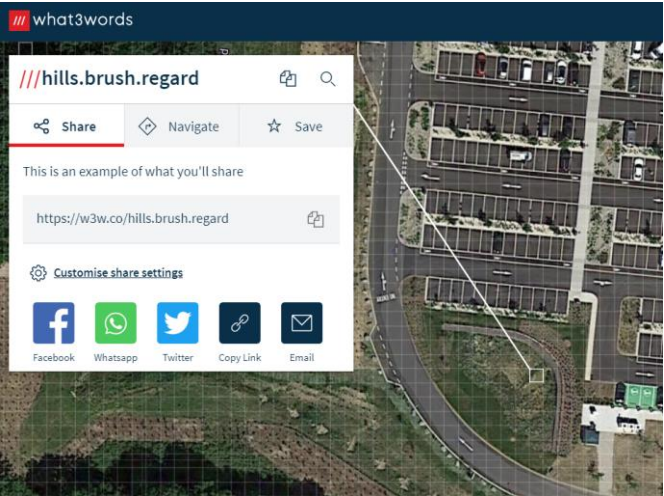
EV fire water drain isolation valve

EV-EX Box
5x 20 litres

EV-EX Box
5x 20 litres

Tesla Supercharger

GRIDSERVE
Charging Station



The risks regarding fire water prevention are well known and best guidance is well documented. The Water Resources Act is clear on the polluter pays

There is no legal defence for fire water contamination from an EV charging hub or location

WATER/WASTEWATER

Metal Company Fined £133,000 after Fire Pollutes Warwickshire River

Abbey Metals Limited was fined £133,000 recently, plus £33,000 in costs after a fire at the premises caused contaminated water to enter the River Anker, Warwickshire, killing over 26,000 fish.

The charge was brought by the Environment Agency after the company failed to take measures to prevent major accidents and limit their consequences to the environment.

 News ▸ Coventry News ▸ Longford

Prologis fire 'likely source' as dead fish plague Coventry river

Environment Agency statement on polluted waters

CIRIA736

Loss prevention standards

Preventing Pollution from Fire Fighting Run-off



NFCC
National Fire
Chiefs Council

[GUIDANCE](#)

[TRAINING](#)

[LEARNING](#)

[TOOLS](#)

Hazard - Fire water run-off

MAKING WATER POLLUTION PREVENTION PAY

THE WATER POLLUTION
PREVENTION HANDBOOK

DAVID COLE MSEE

For more information, please contact Graeme Warnell info@gwenvironmentalconsulting.com

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Providing on site solutions for Lithium – ion battery fires and EV / Hybrid car fires



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