Agricultural Developments

Introduction

This Guidance Note is aimed at anyone involved with agricultural developments in Portsmouth Water's groundwater catchments. It recognises that construction and operational processes can pose risks to the environment and identifies our key areas of concern in relation to groundwater protection and mitigation.

Information relating to water supply and connection to the Portsmouth Water network can be obtained from our website.

Portsmouth Water

Portsmouth Water has been supplying water to Portsmouth and the surrounding area since 1857. Our customers include a domestic population exceeding 698,000.

Our area of supply extends through South East Hampshire and West Sussex from the River Meon in the west to the River Arun in the east. All our public water sources are reliant on the chalk aquifer of the South Downs, with approximately 85% of our water being directly sourced from boreholes or springs and 15% derived from the River Itchen which itself is groundwater fed.

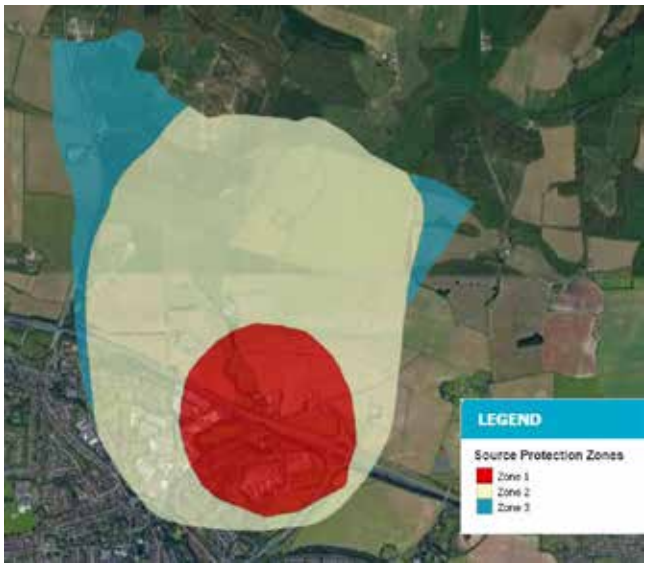
Our Groundwater Catchments

The groundwater catchments that Portsmouth Water utilise are particularly sensitive to pollution and activities that pose a risk to groundwater quality. Parts of the catchment are prone to solution features, resulting in rapid travel times for groundwater moving from its source to our abstractions.

Solution features are formed over time in the Chalk as water passes through and dissolves it, forming underground cavities, sinkholes, sinking streams and large springs. Changes in ground or surface water flow can flush out existing sediment-filled fissures and sinkholes, causing the formation of circular cylindrical or conical depressions at the ground surface. These zones have a higher permeability than the surrounding geology and therefore rapidly transmit groundwater and contaminants through them.

Due to the sensitivity of the catchments, Portsmouth Water needs to carefully manage the risks posed by developments and land-use practices. These risks include the adverse impact on groundwater from point-source and diffuse pollution sources, waste disposal, brownfield development, drainage strategies and the storage of hazardous items.

This guidance note supports the work carried out by the Downs and Harbours Clean Water Partnership, formed in 2008 by Portsmouth Water, the Environment Agency and Natural England, to address the diffuse pollution effects on the quality of groundwater, surface and coastal waters in West Sussex and East Hampshire.



Permitted Development

Control of agricultural development on farms is often covered by permitted development. This means that if the farm is five hectares or more an owner has the right to erect, extend or alter a building and/or carry out excavations and engineering operations needed for agricultural purposes. Types of permitted development include temporary uses of land, agricultural buildings below a certain size, forestry buildings, caravan sites and related buildings.

It is likely that approval will be required for certain details of each development so, to ensure the potential risks to groundwater are understood and mitigated through the planning process, Portsmouth Water encourages applicants to get environmental advice through consultation with the Local Planning Authority, the Environment Agency, Natural England and ourselves.

Broadley Copse Farm, West Sussex

KEY RISKS

Each of the following 'Key Risks' should be taken into account at an early stage and understood in the context of a Conceptual Site Model (CSM) and risk assessment; this may be qualitative or quantitative, depending on the significance and nature of the proposal. Where developments are not controlled under planning, we would seek assurances that the groundwater catchment is not at risk from the proposed development/operation.

A Construction Environmental Management Plan (CEMP) may be required to outline the key environmental processes proposed on site during construction and provides information on what to do in the event of an incident in line with the applicant's Environmental Management Systems (EMS).

Point-source Pollution & Storage of Chemicals and Polluting Materials

On any development site, during construction and operation, there is the potential for polluting materials to enter the environment as leaks, spills or pollution incidents; these are defined as point-source pollutants.

Good housekeeping and environmental management will reduce this risk and regular maintenance of plant and machinery will ensure best practices are followed. Bulk storage of chemicals and hydrocarbons (oils) should be carried out in line with The Common Agricultural Policy and, where relevant, be located on impermeable surfaces in accordance with British Standards.

Pollution prevention measures should include bunding, secondary containment where feasible and an incident response plan that includes spill kits on site and training of employees on how to use them. This information should be presented in an EMS and can also form part of the CEMP to be readily available to all staff on site.

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Diffuse Pollution

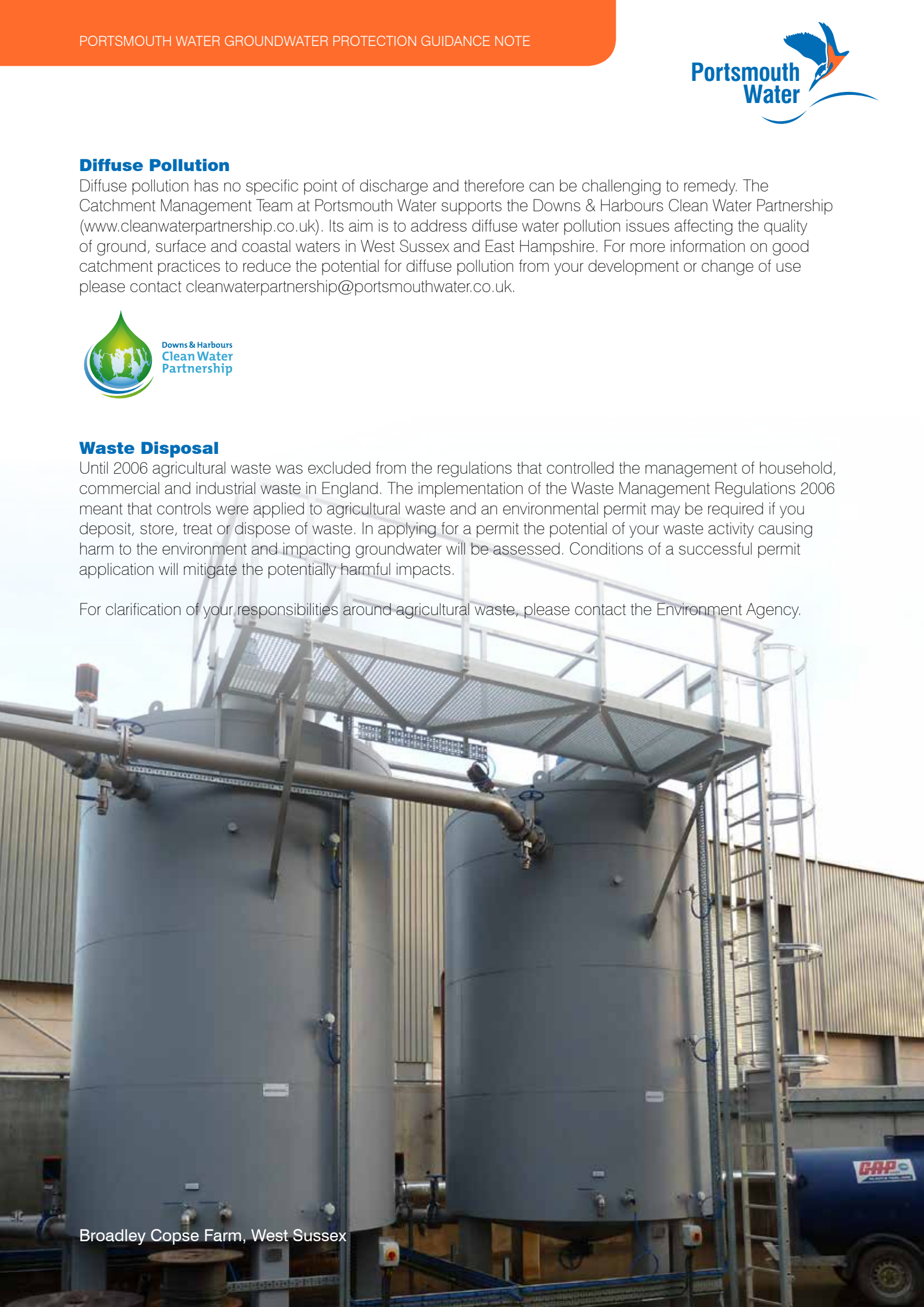
Diffuse pollution has no specific point of discharge and therefore can be challenging to remedy. The Catchment Management Team at Portsmouth Water supports the Downs & Harbours Clean Water Partnership (www.cleanwaterpartnership.co.uk). Its aim is to address diffuse water pollution issues affecting the quality of ground, surface and coastal waters in West Sussex and East Hampshire. For more information on good catchment practices to reduce the potential for diffuse pollution from your development or change of use please contact cleanwaterpartnership@portsmouthwater.co.uk.

Downs & Harbours Clean Water Partnership

Waste Disposal

Until 2006 agricultural waste was excluded from the regulations that controlled the management of household, commercial and industrial waste in England. The implementation of the Waste Management Regulations 2006 meant that controls were applied to agricultural waste and an environmental permit may be required if you deposit, store, treat or dispose of waste. In applying for a permit the potential of your waste activity causing harm to the environment and impacting groundwater will be assessed. Conditions of a successful permit application will mitigate the potentially harmful impacts.

For clarification of your responsibilities around agricultural waste, please contact the Environment Agency.



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Brownfield Development

Development of land that is contaminated poses significant risks to groundwater if not carried out correctly. A common example of agricultural brownfield development is the conversion and change of use of an agricultural barn to domestic use, achieved under the Class Q Permitted Development Rights. To reduce the risks from brownfield developments Portsmouth Water considers a phased approach appropriate by starting with a desk study and literature review identifying all potential source, pathway and receptor linkages. The desk study should also include a site walkover and preliminary assessment for the potential presence of solution features.

Based on the findings of this review, an intrusive investigation may be required. In addition to chemical, geological and geotechnical characterisation, the investigation must aim to identify the presence of solution features that act as rapid pathways for pollutants. A risk assessment should be completed that incorporates the hydrogeological setting and any contamination identified. This phase is typically followed by an options appraisal and, following approval, remediation and validation testing.

The fundamental basis for all this work is the construction of a CSM. A CSM is a dynamic model that acquires more detail as the project evolves. It should represent the anticipated site conditions and the interactions between different processes, both natural and man-made.

The CSM is a vital tool to understand the potential risks associated with land contamination and the risks to our water supply from development and operation.

Portsmouth Water may request monitoring as part of a planning permission and will require assurances from the applicant, local authorities and regulatory bodies that the development of land affected by contamination is being carried out in a way that protects groundwater quality.

Without an approved desk study, site investigation, conceptual site model and risk assessment Portsmouth Water would object to developments on land that could pose a risk to groundwater.

Drainage & Sustainable Urban Drainage Systems (SUDS)

It is essential to present the proposed drainage methodology of a new development early on in the planning application process. There are significant risks posed to groundwater associated with new surface and foul water drainage systems. The drainage strategy must take into account the specific environmental risks posed by the agricultural development and operation.

When proposing a drainage scheme, the following should be considered:

Portsmouth Water has a presumption against the discharge of foul and surface water into ground where adequate pollution prevention measures are not in place.

There are areas in the catchment where Portsmouth Water would object in principal to discharging surface/ foul water due to the risk of contamination. These locations are in Source Protection Zones (SPZs - see the Government's groundwater protection guides), areas close to our abstractions and areas known to have solution features present.

Portsmouth Water has a presumption against the use of deep bore soakaways in areas where there is the potential for polluted runoff to enter the system. All applications for the construction and installation of deep bore soakaways should be accompanied by an adequate risk assessment demonstrating how the risk to groundwater would be mitigated in the proposed design.

For foul drainage in SPZ1 we require the use of the highest specification pipework and designs for schemes to minimise leakage.

Where SUDS are proposed in sensitive areas to manage surface water, we would welcome being consulted to advise what measures would be appropriate to protect groundwater quality. This may include settlement chambers to reduce turbidity from runoff, separators and syphon heads for trapping hydrocarbons and/or regular monitoring.

Drainage plans may take the form of Surface Water Management Plans (SWMPs), which are encouraged to ensure a suitable and reliable drainage strategy is adopted early on and, in particular, during construction. The means of site drainage during the construction phase may form part of a CEMP that outlines how surface water is to be managed during construction, along with the EMS on site to prevent pollution from spills and leaks.

Useful Guidance

You can read the relevant guidance by clicking on the links below:

Adlib Document Library

Cross Compliance Rules 2017 GAEC 3: Groundwater

Environmental Permitting Regulations and Guidance

Groundwater protection guides covering: requirements, permissions, risk assessments and controls

CLR11 Model Procedures for the Development of Land Contamination

The SUDS Manual 2015 CIRIA 753 (including the handbook for the construction of SUDS: CIRIA 698)

Pollution Prevention Guideline 22 Incident Response – Dealing with spills - DRAFT

How Safe is your Heating Oil Storage Tank?

Acknowledgement
Portsmouth Water would like to acknowledge Basil Baird (Fareham) Ltd for the provision of images for this guidance document.

Further Information

Other Portsmouth Water Guidance Notes in this series:

- **Housing Developments**
- **Oil & Gas Developments**
- **Minerals and Waste Developments**
- **Commercial Development**

For further information please contact Portsmouth Water:

023 9249 9888 (during normal hours)
023 9247 7999 (24 hour emergency line)

catchment.management@portsmouthwater.co.uk

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