

Trickle irrigation and quarry dewatering

The DEFRA publication "Consultation on implementing the abstraction elements of the Water Act 2003" from April 2009 was intended to lead to the introduction of new regulations affecting abstraction licensing from October 2009. The implementation process has been consistently slipping and our current estimate is October 2011. This has significant implications for the horticulture, agriculture and the quarrying industries.

Envireau Water has been actively involved in these issues and monitoring the progress of the relevant regulations.

The two key areas that affect our clients are trickle irrigation and quarry dewatering, although there are other activities and issues, such as licence exempt areas that are captured by the regulations.

Trickle Irrigation

The most common question posed to us is "will I get a trickle irrigation licence?" This is difficult to answer, because we don't know how the regulations will be implemented. However, we think that it is reasonable to assume that if your existing abstraction is not having a measurable or visible impact on flows in the source water course then you will probably be able to continue, at least in the short term. However, if you know that you would not get an abstraction licence for a summer abstraction now, then things may be more challenging. Our best advice is to make sure that you consider your options so that you know what you may have to do in the future. The most likely scenario is that a high flow (winter) storage reservoir will be needed. The big question is when! That can

only be answered by you – if you are worried, then the options can be developed now. If not – then we would suggest that you wait until there is more detail on the proposals. We wouldn't suggest that a reservoir is built for trickle irrigation storage, just yet – unless you know that you are having an impact on a water course.

Quarry Dewatering

Here the question is "will we get a "dewatering" licence?" Our answer remains the same as it has always done – almost certainly. We believe that there are few quarry dewatering operations that are having a significant effect



on the environment. Those that are or may be, are well known to the operators and probably the Environment Agency (EA), via the planning process, Review of Old Mineral Permissions (ROMP) system and Review of Consents work undertaken under the auspices of the Birds and Habitats Directives. So in general the issue with dewatering will be less the question of if a licence will be granted, but what will the conditions be on that licence. The conditions could simply be measuring and recording the volumes of water transferred (almost certainly the likely minimum). Those quarries with schemes of monitoring defined in planning conditions are unlikely to have the scheme extended, other than the requirement to measure and record water rates and volumes pumped

from the quarry. If a quarry has no monitoring conditions, then there may be a requirement for water level monitoring as well. The design of appropriate monitoring, a sensible and pragmatic data collection system - which may be electronic and automatic – together with a pragmatic system for data handling and reporting (there will be an annual reporting requirement), will in our opinion be essential.

All abstractors

The procedure to obtain an abstraction licence, whether it be a transfer licence or a full licence for trickle irrigation, will almost certainly be the same as that prescribed by the EA now. Therefore, it is possible that an Environmental Statement will be required. Envireau Water are still of the opinion that in many cases this statement can be easily prepared from previous hydrogeological assessments done as part of planning applications and/or Environment Act (ROMP) reviews, within the quarrying sector.

For the horticultural and agricultural sectors, an environmental statement may have to be prepared from scratch, possibly requiring baseline data to be collected. Envireau Water has been and will continue to monitor the development of the regulations and will provide updates, either formally or if we hear things "on the grapevine". We are committed to giving practical and realistic advice. If you have any questions or would like to talk about planning for the changes, then please contact James Dodds or Tamsin Morey directly, on 01332 871870.

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Diary dates

21st October 2010

Integrated Water Management
London
www.coastms.co.uk/conferences/435

11th November 2010

Water Framework Directive: Next steps
London
www.ciwem.org/events/

- STOP PRESS 1 - NEW POWERS FOR ENVIRONMENTAL REGULATORS

From the beginning of April, the Environment Agency gained new powers to issue "Parking Ticket type fines for water abstraction offences". for full details check out: www.envireauwater.co.uk

- STOP PRESS 2 - HOSEPIPE BANS, WHERE NEXT?

Talk to us now to find out how we can get you a private water supply.

The new Private Water Supply Regulations

STATUTORY INSTRUMENTS	
2009 No. 3101	
WATER, ENGLAND	
The Private Water Supplies Regulations 2009	
Made - - - -	24th November 2009
Laid before Parliament	30th November 2009
Coming into force - - -	1st January 2010
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17.	Authorisations of different standards

The Private Water Supply Regulations 2009 came into force in England and Wales on the 1st January 2010 implementing the UK's obligations under the revised European Union Directive 98/83/EC.

This Directive fundamentally updates the previous Directive 80/778/EEC to take account of medical, scientific and technological advances. The Directive sets standards and identifies other quality measures for drinking water that are generally in line with the World Health Organisation's (WHO) Guidelines for Drinking Water Quality.

The main changes

The WHO Guidelines attach greater emphasis to system-wide, proactive measures, rather than carrying out infrequent monitoring for large numbers of parameters in drinking water supplies. The WHO 'water safety plans' are described in the Regulations as 'risk assessments'.

These assessments place a duty on local authorities, the Environmental Health Officer (EHO) in particular, to carry out a risk assessment on private water supplies within five years of the Regulations coming into force—and

then every 5 years afterward.

The objective is to consider the risks and measures to prevent or control contamination from 'catchment to tap'. The areas that must be covered include;

- the source of a drinking water supply, be it a borehole, spring or piped supply
- the treatment facilities,
- the distribution infrastructure including pipes, reservoirs or tanks,
- the internal pipe work within premises, and,
- control measures, monitoring and operating protocols

A local authority may use its own staff to perform risk assessments provided they are trained and competent. Alternatively, an external organisation can carry out the risk assessments on its behalf. Envireau Water provides this service for EHOs or the supply owner, in preparation for the risk assessment.

In addition to risk assessment, all private water supplies, large and small, are required to meet the standards in the Regulations. Large supplies (over 10m³/day or supplying over 50 people or any commercial activity) must be monitored in accordance

with specified frequencies to determine compliance. The two types of monitoring are; 'check monitoring' carried out relatively frequently for a few important parameters and 'audit monitoring' carried out less frequently for the remaining parameters.

Local authorities can omit parameters from 'audit monitoring' if they can demonstrate by risk assessment and results of previous monitoring that those parameters are present at concentrations consistently below the standards.

Small supplies must also be risk assessed and monitored within five years and subsequently kept up to date.

Users of a supply to a single dwelling can request the local authority to carry out a risk assessment and/or monitoring.

Any relevant person may apply to the local authority for an *authorisation* (also termed a *derogation*). This grants permission to continue supplying water to a more relaxed standard on a temporary basis while remedial action is taken. A local authority can only grant an authorisation if it does not cause a potential danger to human health.

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The new Private Water Supply Regulations

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Authorisations cannot be granted for any microbiological parameters. When the monitoring carried out by a local authority detects a failure to meet a standard, the authority must carry out an investigation to determine the cause. If the local authority cannot secure action by informal negotiation, and an authorisation has not been granted, it *must* serve a notice on that person.

Water supplied must be of a quality that is “wholesome”. Water is wholesome if;

- it does not contain any microorganism, parasite or substance, alone or in conjunction with any other substance, at a concentration or value that would constitute a potential danger to human health;
- it complies with the concentrations or values tabulated within Part I of Schedule I of the Regulations
- the water meets

requirements specific to nitrate alone, and a separate limit for nitrite and nitrate combined.

The Regulations also include limits for indicator parameters. These are not part of the definition of wholesome water. These parameters indicate if there is a potential problem with the supply which needs investigating.

Note: The allowable concentration of lead within water is 25µg/l until 24 December 2013, after which the final standard of 10µg/l will apply.

Less noise at top London hotel

Envireau Water were approached by the owners of a Mayfair, London hotel to investigate the cause of a sudden increase in the perceived volume of noise from the London Underground. The client reported that the increase in noise immediately followed a large water leak in the street outside the hotel. It was suspected that water had penetrated beneath the foundations and was increasing sound

transmission from the underground railway.

Initially an acoustic and vibration survey was undertaken to quantify the noise levels in the affected areas of the hotel. A geophysical survey was undertaken to investigate the ground conditions beneath the floor of the hotel. This survey indicated that water was present beneath part of the floor. Consequently several holes

were cored through the floor slab of the hotel which confirmed the findings from the survey.

Currently a scheme is being developed to install a sump and remove the water from beneath the floor to reduce transmission of sound and reduce the noise levels.



Charity of the year 2010

Envireau Water identifies a charity each year that will be supported by a generous donation. Our charity for 2010 is the Open Spaces Society as chosen by Phil Ham (Employee of the Year). The Open Spaces Society aim is to protect, increase, enhance and champion the common land, village greens, open spaces and public rights of way in England and

Wales, and the public's right to enjoy them. Phil, who has been a member of the Society for a number of years said, “I'd like to think that everyone appreciates the open spaces that typify Britain's countryside. Unfortunately, few are aware of the complex and often archaic laws which govern them and there is an increasing tendency for these open spaces to be

abused. I have first hand experience of the Society's vital but often 'behind-the-scenes' role in protecting our open spaces and preserving them for future generations.”

More information about the Open Spaces Society can be found at:

www.oss.org.uk/



CASE STUDY: AkzoNobel private water supply

Introduction

AkzoNobel consumes approximately 45,000m³ of water per year in the production of water-based packaging coatings at their Birmingham factory. Currently, this requirement is sourced from a mains water supply but owing to increasing utilities costs, AkzoNobel were keen to obtain a private water supply capable of supplying all their processing needs and are aiming for sustainable water management at all of their sites by 2015.

Overview

After carrying out initial investigations to confirm that a private water supply borehole capable of delivering the factory requirements should be feasible at the site, Envireau Water were appointed to project manage the construction of a 210m deep borehole targeting the confined Sherwood Sandstone aquifer. Steel casing was installed to a depth of 160m to prevent surface contamination and seal out poor quality water

from the overlying Mercia Mudstones. Drilling was carried out by WD & AD Morgan in a highly restrictive process area of the factory site with Envireau Water providing all technical and regulatory support. A high level of supervision was required throughout the drilling and testing phases of the works owing to the use of solvents and other hazardous substances in the adjacent processing units; combined with the confined space in which the borehole needed to be constructed.

The borehole was completed on schedule and we are now in the process of obtaining an abstraction licence from the Environment Agency. Once the borehole is brought online, it will provide a significant reduction in the factory's operating costs; with an estimated two year payback.



Envireau Water

Water management addresses issues as diverse as water supply, effluent treatment, flooding, drainage and energy. It affects every industry from agriculture through quarrying to zoos.

Water management covers independent water supplies; the management and control of drainage on a site; and the dewatering of quarries and civil engineering works; as well as the potential for contamination from agricultural activities or brownfield site development and treatment/disposal of waste water and effluents. Water may be the whole or part of the primary product, a major input, or simply a nuisance to be dealt with. With increased energy costs the use of water as a direct or indirect energy source is rapidly growing in popularity.

Getting it right saves money and getting it wrong costs money. Whatever the situation, solutions to water related issues need to fit within overall business objectives as well as the regulatory controls.

Envireau Water offer solutions that fit this new wider view of water management, by understanding not only water, but the big picture too. The first step to achieving a better business is by improving efficiency, managing water in a more intelligent way and cutting through regulatory red tape.



Envireau Water is a results-focused hydrogeological and environmental consultancy specialising in:

- groundwater development projects
- river abstraction
- the environmental impacts of abstraction
- the interactions between quarrying/mining/civil engineering and water systems
- water management and SUDS
- flood risk assessment
- water resources management
- ground source heating and cooling
- negotiation with regulators

Created to provide a distinct service where any project can be structured and costed around the client's needs and objectives, Envireau Water applies its experience and expertise in identifying and implementing down-to-earth, sensible solutions. Our core staff and key associates comprise hydrogeologists, hydrologists, environmental scientists and engineers with extensive experience of water-related projects in many different geological, ecological and environmental systems, both in the UK and worldwide.

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