

# Society of Public Health Engineers

Newsletter  
Issue Autumn 2007



*The Summer of 2007 – Tewkesbury Abbey Swamped by Flood Water from the River Avon and River Seven (Picture Courtesy of The Daily Telegraph)*

**The Society of Public Health Engineers is a part of the Chartered Institution of Building Services Engineers (CIBSE):**

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If you would like to know more about the SoPHE or are interested in becoming a member visit [www.cibse.org/sophe](http://www.cibse.org/sophe) or contact Nyree Hughes at [nhughes@cibse.org](mailto:nhughes@cibse.org)

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## MESSAGE FROM THE CHAIRMAN

Welcome to the autumn 2007 edition of our newsletter, I hope you were able to enjoy the brief periods of clement weather we experienced. Indeed, parts of the UK have experienced severe weather conditions resulting in high intensity rainfall leading to flash flooding. As well as the distress associated with homes being flooded (see the front cover) there were instances of water shortages as the water supply infrastructure failed. Images of flooding were cut with water bowsers and bottled water. These events are perhaps a timely insight into things to come.

As we are aware, climate change predictions suggest drier summers and wetter winters with an increase in high intensity rainfall events. As public health engineers we will need to ensure that our buildings are both water efficient and do not increase the potential for downstream flooding. The first of these is being considered by Government with proposals for both a whole building water rating system as well as promoting the efficiency of water using fittings and appliances. The second of these issues is being dealt with in various ways including SuDS, water retention and using the building form to retain/delay the release of storm water.

As public health engineers we have an important role to respond to climate change and climate variability through adaptation and mitigation:

Adaption: the reduction of the vulnerability to climate impacts

Mitigation: attempts to slow down the process of climate change by reducing the level of greenhouse gasses in the atmosphere.

Obviously these engineering challenges need to be met without comprising public health. It will require an interdisciplinary approach to engineering problems which consider the whole water cycle. We have had the wake up call, it is now up to us as engineers and as an engineering society to become involved.

Encouragingly SoPHE has been invited to give input into a number of key government consultation exercises including the recent "Mandating Water Efficiency in New Buildings". Our knowledge and expertise is required to ensure we have the best regulatory framework and to ensure best practice is developed and knowledge shared. I believe this is an area where CIBSE and SoPHE can be seen as the natural experts collaborating with each other to reduce man's impact on the environment.

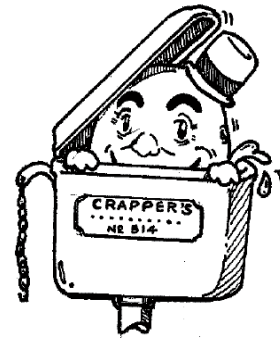
This edition of the newsletter is our biggest to date and I thank all those who have made contributions. My thanks go to the editor Jonathan Gaunt and the Communications team.

Martin Shouler  
SoPHE Chairman

## SAVING FOR A RAINY DAY

By Les Wilson

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Water rationing... highly unlikely here in Aotearoa - the 'Land of the Long White Cloud'. In fact, looking out the window at this very moment, I see the land of the long black cloud and our property is testimony to last night's storm which has left a section of our back garden under 80mm of water! But...across the ditch (as we refer to the Tasman Sea), parts of Australia are experiencing severe drought conditions.

Could New Zealand share the same fate in the future? We seem to get regular rains in Auckland and our catchments are looking pretty full at present and could comfortably sustain the population as it stood ten years ago over a short period of drought, but our population is expanding - what with all the Poms and other nationalities seeking out a less stressful life and the great outdoors?

In an earlier SopHE submission, I quoted Mr Dylan's lyrics "For the times they are a changing" and indeed they are. Natural cyclic phenomenon or manmade? ...who rightly knows, but for sure, weather patterns are being turned upside down in both hemispheres. NIWA (National Institute of Water and Atmospheric Research) has predicted that parts of New Zealand will experience less annual rainfall but greater storm intensities, whilst others will suffer drought conditions over the next 30 years.

My son overheard me talking about a new Water Reclaim project we're currently involved with out at Auckland airport as part of our company's ESD drive, he said, "why do we need to capture rain water for reuse when our dams are full"? A sensible supposition given that he's nearly fifteen, a short term thinker and at an age when 'Hair Gel' tends to be his foremost concern.

In comparison to Europe, water per cubic meter is relatively cheap here in the NZ (I'm sure this fact hasn't been overlooked by the powers to be). Auckland's suburbs are experiencing steady growth and are slowly pushing out to rural boundaries placing us ever closer to our woolly friends. The cost of upgrading infrastructure places a huge strain on local government finances, and let's be honest, why should they be keen



to extend or even upgrade a fifty year old water main when this money could be spent on a piece of abstract art in some obscure corner of the city?

Being 'Green' and being seen to be 'Green' are subtly different as I see it. Developers are reaching out to get ever higher star ratings for their new buildings, why? Well, for one thing, they'll be in a strong market position to demand higher rentals – but perhaps I'm being a little cynical as I'm sure they have our planet at heart!

*"When the well is dry, we know the worth of water."- Abraham Lincoln*

Back to our expanding population and finite water source. Auckland airport's management has decided to seek accreditation with the U.S. Green Building Council by implementing the LEED building rating system for their new Stage 3 arrivals expansion.

I'm not sure how many of you know about the LEED system?...I for one was completely ignorant of its existence until a few months ago, by definition - LEED (Leadership in Energy and Environmental Design) sets out to promote sustainability by recognizing performance in five key areas of human and environmental health:

- sustainable site development
- water savings
- energy efficiency
- materials selection
- indoor environmental quality

Brendan Dwyer (our ESD guru, who judging by the state of his work space is the epitome of sustainability), put together a slick proposal. He sold the benefits of ESD so convincingly that we were given the green light to proceed and suddenly found ourselves knee deep in photovoltaics, solar hot water and water reclaim issues. I dare say this won't happen too often in the future, but to have all of these in one package is a wonderful opportunity to a team of playful engineers! The proposed water reclaim will be used to supplement the cooling tower with city mains water as a back up.

To research rain fall intensity data, I studied a rainfall distribution map of the North Island. Using my abacus and consulting a return period conversation table I was able to extract a figure for a 50 yrs storm return. The peak 10-minute rainfall intensity equated to just a fraction under 115 mm. When this figure was applied to the new roof area it produced a run-off of approximately 150 l/s....enough to water a few plants.

Our ultimate aim was to maximize on the full storm potential, however the 45kW pump along with the cost of the civil works attached to the below ground sumps and



the Ø 300 riser proved prohibitive as effectual payback (the magic word) would have taken us into the next century. Where did we go wrong?....We attempted to design a system that could collect, pump and store rainwater at full storm conditions and transfer this to a proposed tank farm some 140.0m away.

Our second attempt has proved more acceptable. We've chosen a mid-way solution allowing for the fact that at extreme storm conditions we may lose 30% of the rainwater into the overflow storm system. The rainwater will now be collected at source in two large above ground poly storage tanks with the aim of attenuating the out flow. This has allowed the use of smaller pumps to handle the lower out flow rate to the tank farm.

This appears to have brought the concept back on line, but a few questions have been raised about the possibility of metals from the roof surface leeching into the water. We are currently investigating these concerns, although with all the aviation fuel wafting around on the wind, I wouldn't have thought this was a major concern. We're now entering the detail design stage and I'll keep you posted in future editorials on the progress.

If anyone out there is interested and would like to see how we have approached the scheme, please feel free to contact me at <les.wilson@beca.com>

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## **SoPHE – Another Year Older**

### **4<sup>th</sup> Anniversary SoPHE Dinner**

The SoPHE annual dinner takes place on 1<sup>st</sup> November 2007 at the same venue as last year - The Royal Garden Hotel, Kensington, London. This year promises to be an even bigger affair with more tables available and more time for networking and meeting old friends.

The pre-dinner drinks will begin at 5.30pm, with dinner at 7.30pm. We have negotiated a room rate with the hotel for anyone wishing to stay overnight.

SoPHE will once again make a donation to our adopted charity WaterAid. The cut-off date for sponsorship of the tables was the end of September but a few tickets for individual SoPHE members are still available. Please contact Nyree Hughes (nhughes@cibse.org) on 020 8772 3643 for further details.

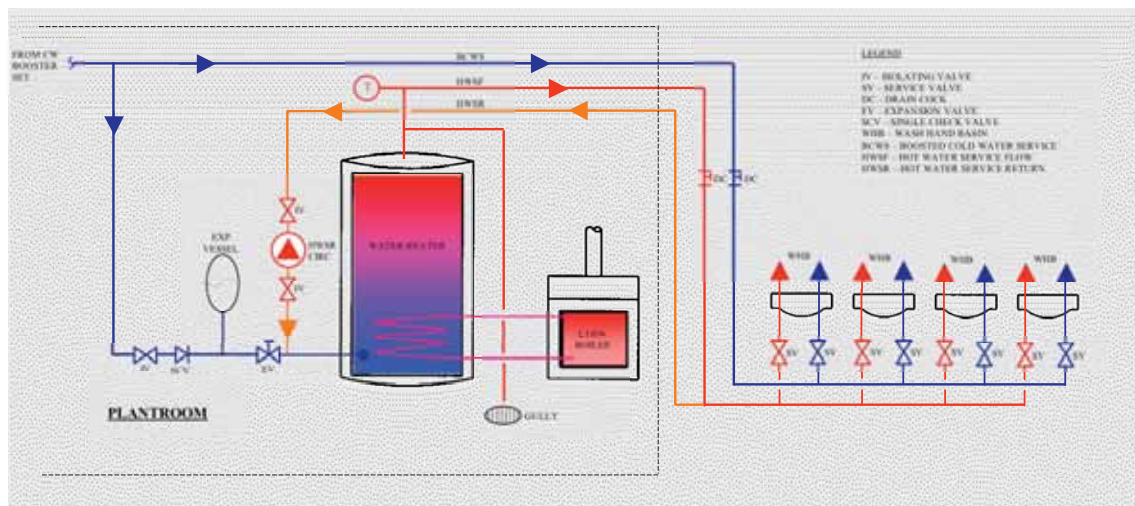
## SPOT THE CLANGERS.....

Can you find the mistake's in the schematic below?

Hopefully the answer to that question will be yes. If not, then perhaps this can be considered a learning opportunity as well as a bit of fun.

The schematic below is part of a hot water services system for a primary school. The system has been drawn with 5 technical blunders. The answers will be printed in the next issue of our news letter. Of course, if something here generates a question please do not hesitate to post it on the web site forum.

<http://www.cibse.org/index.cfm?go=home.show&pageid=312&topsecid=18>



A free highly sought after SoPHE Pin Badge will be provided to the first person that correctly identifies all of the mistakes. Please forward your answers to [jonathan.gaunt@arup.com](mailto:jonathan.gaunt@arup.com)

## THE LIGHTER SIDE OF PUBLIC HEALTH.....

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*Seen in a street somewhere near you.....*



*The latest in In-train toilet facilities – don't look too carefully but you can see the train track through the outlet hole. Picture taken on a train travelling through the jungles of Malaysia.*





*The all new Public Convenience (From the outside)*



*.....and from the inside!*



*It's amazing what a lick of paint on the bathroom floor can achieve...*



## A LETTER FROM AMERICA

By Simon Reynolds

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Allow me to introduce myself, I am a new Member of SoPHE, a long time Public Health Engineer and now an expat in America (Seattle, the Evergreen State and a rainy place to boot).

I have spent the last 20 years either designing, teaching or installing Plumbing in both the UK and West Africa. I have seen a pipe from many different perspectives and up until now it has generally been 100mm, now to me it's 4".

How is plumbing different in America to Britain? It's a lot more prescriptive, if it says you have to do something in the Plumbing Code then it has to be done that way, there is no room for interpretation which leaves sanitation stacks looking like works of art from the turn of the century (that's 19<sup>th</sup> Century not 20<sup>th</sup>) anti siphon pipes abound. Whilst it's early days for me here I don't think we will be introducing waterless traps just yet.

From another perspective things are a bit more advanced, it seems to be more common to be talking about waterless urinals, dual flush WC's from the start of the project rather than trying to convince an Architect that they are aesthetically pleasing if you squint right.

Why is this so? One of the reasons is LEED, which is similar to BREEAM, a points scoring exercise in environmentally friendly design. Several of the points up for grabs are for water saving based against a baseline design (i.e. 6 litre WC flushes). The Plumbing Engineer is also responsible for selecting the sanitaryware, although the Architect has the power of veto if the waterless urinal selected is too ugly. From the earliest stage in the design the LEED goal is announced, typically silver, gold or possibly platinum (the hardest to achieve). This is then continued through the design stages and assuming that items are not value engineered out (unlikely as there is relatively little cost difference between a low volume flush and regular flush WC), then actual environmentally friendly plumbing design becomes a reality.

Another thing I am learning is that different States have different amendments to the Plumbing Codes. Whilst greywater might be the norm in California it is banned in Oregon. Work now needs to be carefully researched to make sure the grand water harvesting scheme can be legally implemented in the respective State. Part of this effect is for consultants to generally go for work in their own state, although this may also be due to all construction drawings requiring to be stamped by a Professional Engineer qualified in the State.



One thing I am enjoying are the mains water pressures which are higher than London, after converting psi back into metres head then mentally working out how many feet head I can get, I realize that my six storey building doesn't need a storage tank and booster pump set, life has just got a bit easier.

Another thing I am getting to grips with is the spelling, my apologies if there are missing U's and Z's when there should be S's – its just the way they do things here.

Until next issue – have a nice day.

Simon Reynolds  
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\*apologies to Alastair Cooke

## **SoPHE SETS UP IN THE SOUTH WALES & WEST REGION**

**By Michael Jones**

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On a beautiful spring evening on the 18<sup>th</sup> April, the inaugural meeting of the South Wales and West Region took place at the Bristol Offices of Hoare Lea. The meeting was attended by 15 people and included much appreciated support from members of the Industry Group.

A brief introduction to the Society of Public Health Engineers, its history, structure and aims was provided by Mike Jones. This provided an ideal opportunity for everybody to catch up on their sleep.

Fuelled on the lethal combination of Tea, Coffee and Hob Nobs, those attending set about producing a diary for the year ahead. The result has been a diary of technical events which provides a good cross section of the Public Health Engineering Industry. Areas covered include sustainability, water treatment, underfloor heating, acoustics and innovative products.

In conjunction with the University of the West of England, we have managed to secure a great venue for the technical presentations. Their New Department of Education Block provides air conditioned rooms, excellent IT facilities, space for



Manufacturers' exhibition stands and a fully catered break out area with indoor and outdoor seating.

If you are interested in attending any of the South Wales and Western region events, we look forward to seeing you. Full details of the year ahead are detailed below:-

29<sup>th</sup> November 2007 – Saint Gobain/TA Hydraulics

Saint Gobain -	The Acoustic Qualities of Cast Iron and BS EN 14366
TA Hydraulics - System	Powerful Protection Against Legionella - TA Aqua

10<sup>th</sup> April 2008 – Blucher/ Dyno Rod

Blucher -	Advantages of Stainless Steel Drainage Systems
Dyno Rod -	Lining of Drainlines

(TBC) June 2008 – Ultimate UFH/Pipex

Ultimate UFH -	An Introduction to Wet Underfloor Heating
Pipex -	Using Pre-fabricated Manholes

If you are interested in learning more about the South Wales and West Region, please contact [michaeljones@hoarelea.com](mailto:michaeljones@hoarelea.com) or Tel: 01454 889122.

## TECHNICAL ARTICLE

By Saint Gobain

### If it's a question of time? The answer's EEZI

Cast iron as a material for drainage systems has many inherent qualities that sets it apart from other materials, such as fire resistance, sound deadening, strength, long life and greater performance under pressure (up to 5bar). On the subject of ease of installation however, it is highly probable cast iron would figure less favourably behind the lighter materials or perhaps those materials perceived as less specialised to install.

Saint-Gobain Pipelines Ensign cast iron drainage system is now set to challenge this area with the introduction of Ensign EEZI-FIT, a range of push-fit socketed fittings and coupling in 100mm diameter designed for gravity sanitary installations, combining the performance benefits of cast iron with the simplicity of push-fit assembly.



The established mechanical joint is particularly favoured for its ability to be dismantled in applications where internal drainage systems may need to be altered or extended in the future, or if there is a higher level of pressure capability required in case of blockages, such as internal rainwater systems. A push-fit joint can prove to be a very practical option for installations such as high-rise residential blocks where the main soil stacks are not likely to be changed over time, service duct space is limited, and the system performance is not greater than 0.5bar gravity pressure.

A number of fittings within the EEZI-FIT range have been designed to give the specifier and installer maximum versatility for this type of building application, providing many new options for waste connections never before seen in cast iron.

There are new single and double radius branches with 4 boss positions, with the single branch having a rear access door option. The waste connections are simply made using a 51mm diameter hole saw to remove the blanked centre of the boss connection required, and fitting a rubber grommet capable of accepting 54-56mm OD waste pipes, which are simply pushed in again with the assistance of a small amount of lubricant.

Also included is a range of short boss pipes with various combinations of up to 3 waste connections and a new manifold connector. The manifold which accommodates 2x50mm waste connections has an extended spigot that is capable of penetrating a floor thickness of up to 300mm thereby, avoiding a joint being made within the slab.



The EEZI-FIT coupling incorporates a new gasket design made from EPDM rubber that is simple to install with the application of a small amount of lubricant. The joints are designed and tested to 0.5bar (accidental static water pressure) performance but have been successfully tested to much higher levels. In situations where equipotential bonding (earthing) is required, electrical continuity clips can be fitted to the EEZI-FIT system. The design of the clips enables them to be installed as a retrofit option.

Ensign EEZI-FIT has been designed to meet the requirements of BS EN 877, (Kitemark applied for) and utilises standard Ensign double spigot pipe. This means that any fitting within the standard Ensign range can be used with EEZI-FIT, and ductile iron mechanical couplings positioned in certain sections of the push-fit system can allow the system to be dismantled at a later stage.

The Ensign ductile iron brackets and the new acoustic bracket are the recommended supports for the EEZI-FIT system. For exceptional acoustic performance the ductile iron bracket fitted with an acoustic dampener (recorded during testing to BS EN 14366:2004), achieved noise levels of 47dB(A) for airborne sound and as low as 11dB(A) for structure borne noise at 4litres per second. The latter result out performing any other material by up to 10dB(A).



Ensign has already been established as one of the most versatile systems for above and below ground use, Ensign EEZI-FIT pushes the boundaries once more, reflecting market needs for easier to install drainage systems. Opportunities are presented to the installer to save installation time for jointing, have more flexibility to connect with waste pipes, and be able to reduce time for testing installations. The specifier gets the same high quality drainage system to BS EN 877 backed by Kitemark which is the perfect solution for flats and apartments.

## RECENTLY IN THE NEWS.....

**Extract from the Environment Agency Website:**

[www.environment-agency.gov.uk](http://www.environment-agency.gov.uk)

### **Dirty drains pose a problem says new report**

One in five homes and businesses have drains illegally connected to clean water drainage systems causing pollution in our rivers, lakes and groundwater according to a new report published today (30<sup>th</sup> May) by the Environment Agency.

Tricia Henton, Director of Environment Protection: " Wrong connections of washing machines are common but we also know of cases where entire housing and industrial estates have been incorrectly connected to the drainage system, discharging used dirty water and sewage into surface water drains which go straight to our rivers and groundwaters.

"Resolving the problem of drains wrongly connected to surface water sewers requires homeowners, builders and plumbers to take more care, and for building regulations to be enforced.

"We would like to see the introduction of Sustainable Drainage Systems (SUDS) in the building of new homes and becoming a common feature of urban design. SUDs can reduce and intercept pollution by slowing down rainfall run-off in soakways, permeable surfaces, ponds and wetlands. They also help clean the water before it drains into rivers or groundwater. We will continue to work with central and local government to promote the use of SUDS.

"As well as SUDs we want to see simple checks for wrong drainage connections in the new house seller's pack accepted, this would help to raise awareness of the problem and reduce its impact."

The report, *The Unseen Threat to Our Water Quality*, looks at how diffuse pollution is affecting rivers, lakes, groundwaters, estuaries and coastal waters in England and Wales. Diffuse pollution occurs when chemicals or other contaminants disperse onto land or into water. It is most visible after rainfall and can take hours, days or years to manifest itself.

Diffuse pollution comes from both rural and urban environments and can include, run-off from roads contaminated with oils and other chemicals - poor drainage from



housing estates, accidental chemical and oil spills from transport and industrial sites. It also includes, nutrients, soil and pesticides from farming.

The report also found:

In 2005 pesticides were detected in nearly a fifth of all the groundwater sites monitored. There is no risk of contamination reaching drinking water because water companies treat water to ensure it meets drinking water standards. This is costly, the UK Water Industry spends several million pounds each year removing pesticides from drinking water abstracted from river and groundwater sources.

More than one in five rivers is at risk from the build up of sediment. Too much sediment, often resulting from soil erosion from farming practices, blocks river-bed gravels and reduces the supply of oxygenated water to aquatic plants and animals. In 2005 over half the rivers in England had high levels of phosphates. High levels of nutrients can cause too much algal growth, a process called eutrophication, which harms other wildlife. A study of 129 lakes in England and Wales found that two thirds had concentrations of nutrients high enough to be ecologically damaging. Half of all rivers and 40 per cent of lakes are at risk from high levels of phosphate.

Tricia Henton continued "As well as becoming an increasing threat to our water quality, diffuse pollution also has social and indirect economic costs. Cleaning up rivers can turn them into natural focal points for business and leisure. The poor quality of many urban rivers adds to social deprivation and deters business investment. Diffuse pollution impacts on fisheries and bathing waters, reducing angling opportunities and limiting recreation and tourism. The costs are difficult to measure but are often likely to be substantial.

"However, there has been good news. We have made great strides in cleaning pollution problems from single sources such as major discharges from sewage treatment works and industry. As a result salmon has returned to our major rivers like the Tees and the Mersey. "

"Diffuse water pollution poses many challenges but we are determined to address the issues in order to improve water quality further. The Water Framework Directive, a significant new piece of environmental legislation requiring all inland and coastal waters to be of 'good status' by 2015, will help us in this but it will also require help from industrialists, farmers, planners and the public at large.

"As part of this, we have refocused our monitoring to provide better information on the impacts of diffuse pollution which will enable us to develop relevant, targeted measures to improve water quality. We also want to work with Government on their three forthcoming consultations, looking at tackling problems caused by rural and urban diffuse pollution."





**Extract from BBC News Website (Tuesday 19 June 2007)**

### **Flushed bra causes sewer collapse**

A bra and a pair of knickers have been blamed for a flood and road collapse in County Durham.

Northumbrian Water said that the underwear was flushed down a toilet and caused a blockage in a sewage pipe in Middleton-St-George, near Darlington.

Heavy rain, together with a build up of grease and fat, caused the pipe to burst and the road above to collapse.

The road will remain closed for days and the Northumbrian Water estimates repairs will cost more than £15,000.

The company has now urged residents to think carefully about what they flush away.

A spokesman said: “If the underwear had not been flushed down the toilet, this would not have happened. It was very irresponsible behaviour. When we dug down to inspect the damage, we found a bra and knickers had snagged itself across the nine-inch diameter of the pipe. There was also a heavy build-up of grease and fat, which contributed to the situation. We were forced to repair a 2m section of sewer and a 10m section of road was affected. These pipes are not designed to carry bras and knickers”.

The spokeswoman said it was impossible to trace the owners of the underwear. She added: “Unfortunately no-one wants to even touch the offending items. They will remain bagged for a time and then disposed of properly”.



## FORUM

This section will enable members to raise or ask questions relating to specific projects or design items for comments or guidance. This would enable other members to assist by explaining or giving design advice, considerations, or stating where/which BS Codes or authorities could be contacted in answering original questions.

1. Please inform us of any technical subjects or design issues which you feel we would all benefit from arranging for an evening presentation.
2. We would appreciate any comments on the previous technical evening events.
3. Is there any design issues within the Water, Drainage, Sanitation, PHE scope of works which you may feel could be investigated or which you feel could be reviewed /re-evaluated. Example 24 Hour Cold Water Storage within buildings. Do you think the storage allowance is grossly over the top, should storage figures be revised to avoid risks of stagnation etc?

Please forward any questions, comments or answers you may have to the above points to:

[jonathan.gaunt@arup.com](mailto:jonathan.gaunt@arup.com)

Below are some responses we received for the Forum questions posed in the last newsletter edition:

1. How should one size the vent pipes when combining a number of stacks in order to reduce roof penetrations?

**Answer:**

Install vent pipes (same diameter as stack pipe and each vent pipe of the same length) to run to one vent outlet/inlet point ('drum'), through the roof structure. Drum section to be 'small' in length and its diameter (equivalent diameter to the number of stacks connected to the drum times the individual vent pipe's cross-sectional area).

2. Should low gradient pipework, at say high level ground floor, connecting a number of drainage stacks from upper levels, before a final single drop to the below ground system be considered an offset, thus requiring venting at the foot of the connecting stacks and at the drop to the drain?

**Answer:**

I suggest a venting system as for a drainage offset. Ventilate each stack at the stack's bottom section. Ventilate at the top section of the common dropper. Join these ventilation pipes together into one ventilation system.



3. In a building up to five storeys and with a low gradient run, as No 2 above, does the 750mm rule, as given in the B.S from the lowest connection to the invert of the gradient run apply, or should it be considered in some other way?

Answer:

I suggest for the top four floors of the building, install the above ground drainage system as required. For the ground floor connect all the sanitary appliances and/or drainage points to a separate drainage branch pipe(s). Join all the drainage stacks from the 'upper floors' of the said building to the ground floor branch drainage pipe(s), so as to form one drainage system for the complete building. So as, the flow of 'water' and the air pressures inside the 'upper floors' drainage system will not affect the performance of the ground floor drainage traps and/or pipes.

4. Is venting above and below an offset required when the set is immediately beneath the uppermost contributing floor of appliances and the stack terminates in free air?

Answer:

For item 4 in the newsletter. Ventilate the stack offset (which is just below the top floor of a building), both above and below, even though the stack runs eventually to the external atmosphere. Reason: the flow of 'water' and the air pressures in the upper floor drainage stack will not affect the performance of the rest of the stack and other above ground drainage pipes/traps.

Many thanks to David Read for supplying this edition's answers to the Forum questions. If you have additional information on the above questions or would like to challenge the answers proposed, please forward any correspondence directly to [jonathan.gaunt@arup.com](mailto:jonathan.gaunt@arup.com)



## PREVIOUS TECHNICAL EVENTS (2003-2007)

1. **TYCO/WORMALD FIRE SYSTEMS.** Life and building fire protection  
Contact: [www.wormald.co.uk](http://www.wormald.co.uk)
2. **MARLEY PLUMBING.** Sanitation sizing to BS12056, Part 2.  
Contact: [www.marleyplumbinganddrainage.com](http://www.marleyplumbinganddrainage.com)
3. **HYDROTEC UK LTD.** Technical overview of physical water conditioners and ultra violet disinfection.  
Contact: [www.hydrotec.co.uk](http://www.hydrotec.co.uk)
4. **A O SMITH (WATER PRODUCTS Co).** Assessing, sizing of direct and storage type hot water heaters for commercial/industrial applications, giving consideration to latest building regulations.  
Contact: [www.hotwater.com](http://www.hotwater.com)
5. **VERNAGENE.** Chlorine dioxide, Disinfection. Understanding the principles of dosing with consideration to health and safety aspects.  
Contact: [www.vernagene.com](http://www.vernagene.com)
6. **NEW HADEN PUMPS.** The design and sizing of both foul and surface water pump sump chambers and stations.  
Contact: [SouthEast@NHPumps.com](mailto:SouthEast@NHPumps.com)
7. **ALLAN AQUA LTD.** Design principles for boosted cold water and fire services relating specifically to high rise buildings.  
Contact: [www.allanaqua.co.uk](http://www.allanaqua.co.uk)
8. **THAMES WATER PLC.** Discussions on items within the Regulations which required clarification.  
Contact: [www.thames-water.com](http://www.thames-water.com)
9. **CLAY PIPE DEVELOPMENT ASSOCIATION LTD.** An overview of Building Regulations 'H', Parts H1-H6 Drainage and Waste Disposal.
10. **KSB LTD.** Grey Water Re-cycling for various types of buildings. General over view on the design principles with advantages and disadvantages on the possible options for re-using water
11. **BRE.** Control of Legionella Bacteria in water systems.
12. **SPEL Products.** An introduction to surface water/Foul water Purceptors, Stormceptors, both full retention and by-pass types. Sizing, Alarms, Regulations and update on the latest Rivers Authority Requirement etc
13. **EVAC.** Design principles for vacuum drainage systems.
14. **GRINEL.** Designing Sprinkler Mist systems
15. **GEBERIT.** Design principles of symphonic rainwater systems
16. **HONEYWELL.** Applications of Thermostatic Mixing Valves. TM2 and TM3 valves
17. **NEW HADEN PUMPS.** Over pumping into surcharged sewers
18. **Grundfos.** The principles of borehole pumping and pump sizing. [www.grundfos.co.uk](http://www.grundfos.co.uk)
19. **Micro Drainage.** Suds attenuation modelling through the use of Micro Drainage computer software.
20. **Conder.** Sizing principles of small sewage treatment works. [www.conderproducts.com](http://www.conderproducts.com)
21. **Polypipe.** Engineering solutions in relation to SUDS. [www.polypipe.com](http://www.polypipe.com)



## **FORTHCOMING TECHNICAL EVENTS**

1. 23<sup>rd</sup> Oct 07. STORMSAVER. R W Harvesting sizing, installations, and details. Confirmed. O Neil's
2. 1<sup>st</sup> Nov 07 – SoPHE Annual Dinner. The Royal Garden Hotel, Kensington, London
3. 27<sup>th</sup> Nov 07. Douglas Water Controls. Store Street.

## **NEW MEMBERS:**

### **Associate Member:**

M Garcia  
D Smith

### **Student:**

J Harding

### **Industrial Group:**

Reliance Water Controls  
Oventrop  
Hepworth

## **USEFUL WEBSITES AND EMAILS**

### **The Chartered Institution of Building Services Engineers**

[www.cibse.org](http://www.cibse.org)

### **Society of Public Health Engineers**

[www.cibse.org/sophe](http://www.cibse.org/sophe)

### **Technical Group:**

Alan Neall – [aneall@geneverandpartners.co.uk](mailto:aneall@geneverandpartners.co.uk)



**Membership Group:**

Martin Shouler – martin.shouler@arup.com

**Communication Group:**

Alan Watson - awatson@cibse.org

Chris Northey- chris.northey@bdsp.com

**Education Group:**

Ian Fellingham – ian.fellingham@arup.com

**SoPHE Industrial Group:**

Mike Darville (Chairman) – mike@climatepipework.co.uk

**THE STEERING COMMITTEE**

Chairman: Martin Shouler  
martin.shouler@arup.com

Vice Chairman: David Shaw  
dshaw@geneverandpartners.co.uk

Honorary Secretary: Chris Northey  
chris.northey@bdsp.com

Honorary Treasurer: Richard Mountney  
richard@mountneyconsultants.co.uk

Roger Baker	Peter Jefferson
Jim Buckmaster	Iain Johnstone
Bill Bumstead	Paul Marsden
Ian Fellingham	Alan Neall
Alan Flight	Jack Osbourne
Alison Franklin	Peter Pavlovic
Jonathan Gaunt	Mark Sampson
Simon Hedger	Steve Vaughan
Alan Homewood	Alan Watson
Mike Darvill (Representative of the SoPHE Industrial Group)	

**Regional Committee Contacts**

Manchester:  
Kate Longley  
kate.Longley@arup.com

Bristol:  
Michael Jones  
MichaelJones@hoarelea.com



## **FEEDBACK**

We would welcome any comments on this newsletter or contributions to future editions, in particular with regards to:

- Future events for consideration.
- What SoPHE should be providing to our members.
- Items or comments you think may be worth raising or informing your fellow members about.
- Technical articles from members, giving situations encountered and how they were overcome.

**Please email comments to Jonathan Gaunt at [jonathan.gaunt@arup.com](mailto:jonathan.gaunt@arup.com)**

A photograph of several red cast iron pipe fittings, including a multi-waste radius branch and a coupling, arranged in a circular pattern. The fittings are set against a dark background with faint, circular patterns. A spotlight effect is visible at the top, illuminating the fittings.

# A question of time?

## The answer's EEZI!

Ensign cast iron drainage system has already answered 'The Burning Question' with its superior fire resistance. It silenced the opposition with its 'Hearing is Believing' campaign, proving to be the quietest system on the market.

Now there's Ensign **EEZI-FIT**, a new push-fit range of socketed fittings in 100mm diameter, designed for above ground gravity applications, that combines all the benefits of cast iron with the simplicity of push-fit assembly.

- New range of 100mm diameter push-fit fittings and coupling
- New multi-waste radius branch
- Compatible with all existing Ensign fittings
- Fully compliant with BS EN 877
- Ideal solution for flats and apartments
- All the benefits of cast iron with the labour saving opportunities of push-fit assembly.

For a copy of our brochure please email: [brochures.uk.pipelines@saint-gobain.com](mailto:brochures.uk.pipelines@saint-gobain.com) or alternatively, for further information or technical enquiries contact: [innovations.uk.pipelines@saint-gobain.com](mailto:innovations.uk.pipelines@saint-gobain.com). Please quote campaign code EEZI 1 on all correspondence.

[www.saint-gobain-pipelines.co.uk](http://www.saint-gobain-pipelines.co.uk)

*Ensign EEZI-FIT – pushing the boundaries in cast iron drainage.*

The Ensign EEZI-FIT logo is located in the bottom left corner. It features the word 'Ensign' in a white, sans-serif font above the words 'EEZI-FIT' in a bold, red, sans-serif font.

Ensign  
**EEZI-FIT**

The Saint-Gobain Pipelines logo is located in the bottom center. It features a stylized white icon of a building with a dome above the words 'SAINT-GOBAIN' in a white, sans-serif font and 'PIPELINES' in a blue, sans-serif font below it.

SAINT-GOBAIN  
PIPELINES

The BS EN 877 logo is located in the bottom right corner. It features a white icon of a heart shape with a stylized 'S' inside, above the text 'BS EN 877' and '(Applied for)' in a white, sans-serif font.

BS EN 877  
(Applied for)