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  - Concealed Hose Union Tap
  - (Model HUC)
- **“Boost-A-Break”**
  - Break Tank & Booster Set
  - (Model BTAB)
- **“Waterpoint”**
  - Standpipe with bucket shelf
  - (Model SPWP/SC)
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A Message from the Chairman

A very warm welcome to this Spring edition of the Societies’ newsletter. This new edition marks the continuing high profile issue of our new formatted newsletter which we will continue to issue to our Members’ on a quarterly basis during each year. We are very proud of this production and this flagship document shows our continued professionalism within the building services sector as a whole and raises the profile of the Public Health Engineer.

As we enter the Spring period of 2014 the overall economic outlook is much improved, with real signs of optimism and confidence as more and more projects, particularly within London are given the ‘green light’ in terms of design. I hope that this continued improvement in the UK’s economy can be sustained in the short, medium and long term. Our industry has suffered during the recession and I now hope that investment can be found to continue to train the next generation of Public Health Engineers.

As I look back on 2013 as a year, this was a very special year for the Society not least as it marked our 10th Anniversary, a very important landmark indeed. To sum up the years’ key events I would like to summarise some of the achievements that the Society has contributed to and achieved during the last year.

I am also very pleased to inform our members that the Society has seen a continued and stable growth in the overall Membership base. Despite the trying economic strains that our industry has faced over the last year our membership numbers has grown an overall increase of 10% 2012’s numbers. Our Membership now stands at 217 individual members. This is a triumph for the Society through the year as we passed the 200 member boundary mark.

Membership growth will still be a priority for the Society and I hope to see further growth on this number during the coming months of 2014. I must also mention our industry working group which is a key to our continued success. I am pleased to announce that this group has now reached 55 members in total and we are indebted to each and every industry member for the support that they continue to offer the Society.

In May of last year I was honoured to attend the 3rd SoPHE Northern Dinner in Manchester. This was again a highly successful event with a total of 115 guests in attendance. As last years’ event continued to be a success I can inform our members that the 2014 Northern Dinner is now being planned and further details will be provided to members in the near future.

The Societies’ CPD technical seminars have continued to take place during the year which are key to the activities of what the Society can offer to our members. On average a total of 5 - 7 technical presentations on a variety of subjects have run on behalf of the Society. These CPD events have also been carried out around the SoPHE Regions to all members. A very special thanks to all of those who have contributed to these successful events. As part of our continued review within SoPHE, I am pleased to announce that a new Technical Committee Structure has been developed. This new structure reinforces the good work of the Society and we welcome a host of new members that have volunteered to support its initiative. Further details can be found on the SoPHE website.

The final and most important event for the year was of course our 10th Annual dinner held in November, which was well represented by some 314 guests, our largest annual dinner to date. Our annual awards were also well received, which this year involved our, Hon. Fellowship Award and our Young Engineers Award. I am glad to say that a full and extensive write-up of this historic event is contained within this newsletter.

My continued key aim as your Chairman is to continue to promote the Society within the general building services industry at large and I will continue to look for opportunities to do this on behalf of our members. This continues to be a short, medium and long-term priority for me as your Chairman.

It is my continued belief that our ongoing success is based upon the good inter-organisational relationships that we have forged over the last 10 years that co-exist within the realm of the public health industry. I along with others have been very fortunate to have worked alongside some of these organisations over many years. I also strongly believe & am very passionate about continuing to maintain these important links which already exist and also look forward to exploring new opportunities in sharing our knowledge with other professional institutions and organisations which have a high regard to public health issues.

The next edition of the SoPHE newsletter within 2014 is the Summer edition. This is due to be issued to our members at the end of July 2014.

My final thought for this Spring edition of the newsletter is as always to once again thank all of those who support the Society, whose dedication and enthusiasm enable us to keep improving and moving forward with the ultimate aim of raising the profile of our trusted Society.

Chris Northey
Chairman, SoPHE
On the evening of 7th November 2013 at The Royal Garden Hotel in London the Societies’ Annual dinner took place. This event marked the very historic 10th Annual Dinner organised by the Society. The event’s proceedings were conducted by the Chairman, Chris Northey. Chris outlined that he believed that this 10th SoPHE Annual Dinner was once again a very special and momentous occasion for the Society. Chris also believed that this established event will continue to be a highlight of celebration for the Society as a whole moving forward. The evening was attended by some 317 industry colleagues and VIP guests, which was a great credit to the Society. Chris welcomed all attending the dinner and in particular the distinguished VIP guests who kindly accepted to join him for the evening.

During his speech Chris paid tribute to the Steering Committee of the society whose continued hard work and dedication goes on behind the scenes on a daily basis in developing the Societies’ aims, activities & image. Chris also stated that, “It is particularly important to acknowledge the commitment and dedication that the SoPHE Regions, namely the North-West, Scottish & South-West Regions of the Society.” Chris also acknowledged that he was again very privileged to attend the 3rd SoPHE Northern Dinner in Manchester on 10th May 2013 which was a huge success and achievement, with an increased attendance on last year, with a total of 117 guests in attendance.

Chris also went on to give a huge vote of thanks to the Industrial Associates who are a key part of the societies structure and success, who offer invaluable support and knowledge transfer to our members. He stated, “The Industrial Associate Membership now stands at 55; and is still growing! Over the last 10 years the Society has seen a steady and continued increase in membership year upon year, which is a credit to our specialised part of the building services industry. At present we now stand at 217 individual members.”

SoPHE Awards Presentations
After dinner Chris then went on to introduce this years’ SoPHE awards.

SoPHE Honorary Fellow Presentation
The first award of the evening was to award a SoPHE Honorary Fellowship. A SoPHE Honorary Fellowship is the highest accolade that the Society can grant to an individual of the highest standing within industry. Chris then announced, “On behalf of the Executive of SoPHE I would like to formally announce that this year we wish to present an Honorary Fellowship to: - Professor Rodney Cartwright. Before Chris presented Rodney with his Honorary Fellowship, he read out a short citation of Professor Cartwright’s industry achievements within the Plumbing Industry, a summary of some of his achievements follows:

In 1963, Rodney Cartwright graduated in medicine from Birmingham University. After spells as a junior hospital doctor and a year in general practice he specialised in medical microbiology - that is, he became a bug chaser. He joined the public health laboratory service eventually becoming director of the Guildford laboratory. He developed an expertise in water born infections becoming adept at studying hotel plumbing systems when investigating legionnaires disease and in tracing drinking water and sewage systems associated with stomach upsets. He was a council member of the royal
institute of public health (now the royal society of public health) and was honoured with an honorary fellowship. He has been the medical advisor for many water companies and the independent medical advisor to the government’s drinking water inspectorate. He has also been a guest speaker at one of our previous SoPHE annual dinners here in London which we remember well. Rodney is also a past master of the Worshipful Company of Plumbers. In 2011 he was invited to be the independent chairman of the CIPHE board of trustees, a post he still holds. Rodney Cartwright remains a passionate believer that high standards of plumbing and public health engineering are essential for good public health.

SoPHE Young Engineers Award Presentation

All of the 3 teams that were selected as the finalists for this years’ young engineers award were present on the night. Ian Fellingham, SoPHE Vice Chairman had the honour of presenting the finalists with their awards. Once again this years’ competition was in partnership with the Societies’ official charity, WaterAid.

The overall winning team this year consisted of Paul Foulds and Ivana Rusnakova. Further details on the winning competition entry will be relayed to our members outside of this article.

SoPHE Guest Speaker

This years’ SoPHE guest speaker was Peter Hancock, who entertained the audience after the main events were concluded. Having our guest speaker who is not related to our industry has now become part of the celebration activities during our Annual Dinner. This addition to the evening has been very well received by our members and our guests.

SoPHE Charity Donation to Water Aid

The final duty that Chris performed was to present a cheque on behalf of SoPHE to Water Aid. Water Aid is the nominated Charity of the Society and each year a donation is made to this worthy organisation.

This year a cheque for the sum of £1,000 was presented to Water Aid during the evenings events.
The Ken Dale Bursary offers young engineers an opportunity to travel overseas to experience, first hand, the way in which differing technical, economic, environmental, social and political conditions impact upon the way in which building services engineering systems are designed, implemented and operated.

Due to the exceptional quality of applicants, there were three winners in 2013; one of which was supported jointly by CIBSE and the SoPHE Industry Group. The recipient, Kayley Lockhead, who works with NG Bailey (Leeds office), travelled to East Africa last September.

Kayley travelled to three countries in East Africa (Kenya, Uganda and Tanzania) focusing on the use of renewable energy schemes in rural communities. In particular, Kayley was interested in exploring the extent to which alternative energy sources are used, and how they can mitigate the negative impacts of energy poverty.

Departing the UK in September, Kayley first travelled to Kenya, where she attended the East African Power Industry Convention, learning of the disparity in provision of electricity between urban and rural areas, and how a feed-in tariff scheme, adopted in 2008, has supported the development of a number of renewable energy systems. Continuing her trip, Kayley then visited the Watoto site in Uganda. Watoto is a holistic care programme that helps orphaned children and vulnerable women, and currently manages two villages, Bbira and Suubi; home to approximately 1500 women and children. The charity also has a baby unit, caring for around 100 babies under the age of two. But the numbers of people residing within the villages mean that the septic tanks, fed from pit latrines, often overflow, resulting in problems for both operators and residents.

This problem had been partly addressed by those running the Good Shephard school; the location of Kayley’s next stopping point in Uganda. This school is run as a charitable organisation and has grown quickly; now accommodating 300 children aged 4-18 years. As was the case for the Watoto project, the Good Shephard School uses wood and charcoal for cooking purposes, and kerosene for lighting, but the staff have a desire to use less fossil fuel. As a result, they now capture biogas from pit latrines to provide energy for lighting and cooking. The main bio-digester on the site is 22 x 12ft and took one month to build. Slurry produced from the process, which takes around a month to complete (depending on temperature and moisture content), is also used as fertilizer for local crops.

Finally, Kayley visited Tanzania, where she was hosted by Clarke Energy Ltd, a company recently contracted to supply the first two containerised Jenbacher biogas engines in Sub-Saharan Africa (near Lake Naivasha, in Kenya) in 2013.

Overall, Kayley found that the renewable energy projects used in East Africa make a significant contribution not only to the energy demand of the local population but also to people’s lives. The trip was a huge success, and provided many new insights into the challenges faced by these rural communities. Kayley was keen to acknowledge the support from CIBSE and the SoPHE Industry Group for funding her travel. In addition, Kayley noted the support from her employer, NG Bailey, and from the many contacts she established in East Africa.
SoPHE/CIPHE International trip to Prague
13th to 15th March 2014

By Dr Steve Ingle

Organised to deepen our understanding of ACO Building Drainage’s capabilities, the trip began early on Thursday 13th March as delegates travelled from Scotland, Manchester and the South of England to London Heathrow.

After a short flight to Prague and a quick change of clothes at our hotel, the hospitality began with a tour of the city’s historic 1920s water treatment plant at Bubeneč with its stunning brickwork and coal-fired Lancashire boiler - a boiler which uses three tonnes of coal per hour and is still used even though the sewage plant ceased operation many years ago.

A trip to Novoměstský pivovar ‘brew tap’ – a restaurant that brews its own beer – followed where we enjoyed a splendid meal and got to sample the beer before retiring for the night. Day two gave us the chance to learn more about ACO’s product range and manufacturing capabilities with a visit to ACO Industries’ manufacturing facility in Prybislav.

Plant tours enabled us to see how ACO combines the very latest technology with hand finishing skills to manufacture products to extremely fine tolerances. As part of the tour we were shown ACO’s ‘pickling plant’ (a pickle passivation plant and not another brewery!) ACO also explained how pickle passivation restores the chromium-rich oxide film on the steel’s surface which is destroyed by the welding process.

Following lunch, we learnt more about the expertise that goes into the hygienic design of ACO’s products which is based on industry best practice, academic research and the very latest EHEDG guidelines.

We also met with technicians and department heads to discuss some of the technical problems we had all encountered, entering into a full and frank exchange – a real challenge. Malcolm Atherton concluded the afternoon with a short presentation on the benefits of SoPHE membership before presenting gifts to our host Andy Buchan and trip organiser Caroline Guizani who ensured everything ran like clockwork.

Caroline also did a splendid job of organising that evening’s activities – a hands-on cookery class where everyone got to cook Czech cuisine under the supervision of two trained chefs. It was a very entertaining and enjoyable evening!

On our final day, we got to see the beautiful city of Prague with its superb architecture and historical landmarks. We embarked on a guided tour of the Prague Castle – the largest coherent castle complex in the world - before inclement weather forced us to retire to a local coffee house. We then enjoyed lunch in restaurant and former theatre before going to the airport to catch our flight home.

Described by some guests as one of the best trips they have ever been on, our visit to the Czech Republic was informative and thoroughly enjoyable, and we would like to thank ACO Building Drainage for their hospitality.
Arrow Valves Ltd was established April 1999, initially specialising in the supply of anti-pollution valves known as Reduced Pressure Zone (RPZ) valves. Fifteen years on they still supply RPZ valves but, in response to market demands, now manufacture and distribute a range of high quality water associated products – all designed to assist Public Health Engineers comply with the Water Regulations.

Saving space and installation time is at the forefront of innovation ranging from Check Valves (some requiring no tools to fit), complex Break Tank and Booster sets (designed to be easily carried through a standard doorway) to intelligent Pressurisation Units for filling heating systems with self-diagnostic software ensuring reliability.

The aesthetically pleasing and vandal-proof “Conceal-A-Tap” lies flush with the wall offering enhanced health and safety benefits.

In addition to the extensive range of engineering led solutions Arrow Valves can manufacture bespoke assemblies for specific applications and they are committed to providing a friendly and efficient service. All staff are BPEC qualified in the Water Regulations, enabling them to provide accurate advice, guidance and comprehensive aftersales support.

Along with their wide range of products Arrow offer tutorials to assist Designers and Installers with the latest interpretations of the Water Regulations.

Arrow Valves is committed to Backflow Protection with the purpose of protecting the public from potential illness or death from consuming contaminated water. Tutorials are broken down into nine bite sized portions to ensure they are easy to relate to. Each takes an application, compiles the relevant regulations and suggests practical solutions.

To give an insight into Arrows expertise we have detailed below an excerpt from their ‘Conservation Tutorial’. Water Conservation continues to be a priority for the team at Arrow Valves and as such they continually seek improvement where saving water and cost to the customer are concerned.

Water fittings consumption characteristics can be put into one of two categories – consumption dependent on flow rate and consumption independent of flow rate (fixed volume).

Filling a washing machine at 0.2 litres per second consumes no more water than filling at 0.1 litres per second. However, a hand basin, with no plug, will consume more water under the same circumstances when opened for the same period. One method of reducing the flow is achieved by reducing the pressure with a Pressure Reducing
Valve (PRV). A second method involves limiting the flow by restriction.

A fixed orifice can reduce flow but it would need to be sized according to the supply pressure and flow rate required. The hole is so small, it often blocks.

A far better solution is to use a variable orifice type, such as the Arrow Valves Automatic Flow Limiting Valve (AFL), which limits the maximum flow rate, irrespective of the supply pressure. AFL cartridges limit the flow by automatically varying the size of the orifice of the cartridge. As the flow approaches the specified rate, the orifice contracts – like a camera lens. The regular flexing of the cartridge material avoids build-up of scale and allows small particles to pass through. The properties have been tested over 20 years and are stable up to 60 deg C. The cartridge is fitted through a side port after installation and can be changed at any time without disconnecting the pipes or draining the system.

Details of this and other Tutorials can be found at www.arrowvalves.co.uk
Blue drinking water

The water industry has investigated multiple incidents in recent months where water from toilet cisterns has been siphoned back into customers’ plumbing systems because the WC float valve and flushing device were wrongly adjusted.

In one incident, three properties in one street had blue water at kitchen and bathroom taps shortly after a burst main was repaired. An incorrectly adjusted WC cistern at a house in the same road caused water containing blue cleaning chemical to be drawn back from the toilet cistern into the water main when the water pressure fell due to the burst. WC manufacturers do not recommend the use of blue cleaning blocks in cisterns, but fortunately some people haven’t completely stopped using them, which has allowed the risk of backflow to be identified.

In another incident, all four toilets at a property had been assembled incorrectly, allowing water from the toilet cistern to enter the kitchen cold water supply, and all had to have the faults rectified to prevent backflow. In a third incident, the float valve was submerged in a toilet cistern fitted with blue disinfectant blocks and the occupant and a neighbour were getting blue water out of their taps.

This shows how easily toilet cistern water can be drawn into the cold water supply when mistakes are made in the assembly of toilet fittings. It’s probably under-reported, because occupants can only see it where a blue cleaning block is used in the WC cistern.

Air gap to prevent backflow

To stop water flowing back from the cistern into the supply pipe, the overflow water level, controlled by the overflow or warning pipe, must always be sufficiently below the inlet discharge point. The Water Fittings Regulations and Scottish Water Byelaws require an effective air gap between the inlet valve discharge point and the overflow water level in the cistern. The regulations require the vertical dimension of the air gap to be 20mm or twice the internal bore diameter of the pipe feeding the inlet valve, whichever is the greater.

For a cistern with traditional side-entry overflow (warning pipe), the water overflow level is the centreline of the overflow pipe (Diagram 1). The air gap is the vertical measurement up from this overflow level to the lowest point of discharge on the inlet valve above it.

Diagram 1: WC cistern with siphon showing a Type AG air gap measured between the overflow level and the lowest point of the discharge from the inlet float valve.
Other types of inlet valves and overflow arrangements are allowed. Diagram 1 also shows a bottom-entry overflow (warning pipe) whereas Diagram 2 shows an internal overflow through a drop valve flushing device. In these arrangements the overflow level must be sufficiently below the inlet discharge point to create the air gap of 20mm or twice the internal bore diameter of the pipe feeding the inlet valve, whichever is the greatest.

Checking and adjusting the air gap

Backflow occurred in the recent incidents because the inlet and overflow arrangements had not been installed at the correct heights to maintain the air gap. Commonly, the problems occur in WC cisterns with adjustable-height bottom-entry inlet valves and drop valve flushing devices. It’s especially important with these that after installing the components and checking for leaks, the installer remembers to make the final check and adjustment of the height of the inlet or overflow. Some manufacturers of bottom entry inlet valves assist by marking the inlet discharge point on the valve body with a datum line (CL mark).

Designers’ and specifiers’ duty

Legally, WCs must meet the Regulators’ performance specification to ensure they work as required, using no more water than permitted and without causing contamination of other supplies. Included in testing is the function of the inlet valve, flushing device and overflow. The performance specification requires that the whole WC suite must comprise fully compliant components which, when installed together, satisfy all the tests. It is necessary when specifying fittings to choose a WC suite which has been tested in this way, rather than choosing individual components to combine without knowing they will comply.

Further information

WRAS publishes a video clip showing an actual incident where blue water came from the kitchen tap due to backflow from the WC cistern. The video describes how the problem was caused and shows how to check the WC arrangements and correct them if necessary. It’s free to watch via the WRAS website homepage (www.wras.co.uk) - click on Publications and scroll down to ‘Other items of interest’ to find the title “How should a toilet cistern be set up?”

Diagram 2: WC with internal overflow via a drop valve flushing device, showing the air gap required
In the last SoPHE newsletter Paul Angus penned an excellent article on ‘Water scarcity and mitigating the risk’; he went on to discuss the importance of water conservation and the merits of creating a water strategy. Western Australia is a water stressed territory and this situation has been steadily exacerbated over the last five years by the influx of people seeking work opportunities fuelled by the resources sector. This has resulted in more houses, schools and general infrastructure to support its burgeoning growth.

The ‘Beenyup Groundwater Replenishment Trial’ is Water Corps response to address the rapidly dwindling water supplies here in Perth. The plant has received various mentions in technical journals so we arranged to take a group of interested people on a scheduled CIBSE site visit last November. The advanced recycling facility is operated by Water Corp and is located approximately 35 kms north of Perth city. We headed out there on a beautiful sunny day last November with not a cloud in sight ….It reminded me of ‘Blighty’ and its wonderful summers!

Approval to recharge the ground water was granted in November 2010 and the government gave Water Corp a two year window to build the plant and complete the trial. The study was a collaborative research under the strategic direction of the Department of Health; Water Corporation; Curtin University; The University of Western Australia; Chemistry Centre; CSIRO; National Measurement Institute; Department of Water and the Department of Environment and Conservation. Given the location, the time of day and the fact that it was away from public transport routes, the attendance was better than we expected. Following a quick induction about keeping to the paths and not to go wandering off in the grass as the snakes shared the local habitat, we all donned floppy sun hats and sun screen and plodded off with smiley faces to the allurement of treated human excrement.

The recycling plant was built adjacent to a Waste Water Treatment Plant (WWTP) using advance secondary treatment. The WWTP receives raw sewerage from three main sewers that combine at the site inlet channel. The raw effluent passes through a five step screens with 6mm openings to screen out large material such as rags, plastics and all sorts of weird and wonderful stuff. The screened waste flows through grit removal tanks to allow the inorganic material to settle out whilst the organic material remains in suspension.

**Primary Treatment:**
Following preliminary treatment, the flow enters six rectangular tanks. The wastewater remains there just long enough to allow 90% settlement of solids whilst the less dense oil and grease float to the top. The top layer is skimmed off into and sent back to the head of the plant where it is absorbed into the rags during the screening process. The settled solids are pumped to the activated sludge treatment where it undergoes biological nutrient removal.

**Secondary Treatment:**
The primary treated waste is blended with the microbiological biomass to form a ‘mixed liquor’ (won’t be in my drinks cabinet!) in aeration tanks, mechanical blowers provide the air which is diffused via fine bubble membrane diffusers on the floor of each tank. The air provides the oxygen for the microbiological breakdown of the organic compounds. The mixed liquor finally moves on to the sedimentation tanks. The biologically active sludge that settles out is continually removed and returned to the aeration tanks to sustain the microbiological population. The excess settled activated sludge is thickened in three dissolved air floatation thickeners before being sent to the digesters. A percentage of the overflow from the sedimentation tanks is diverted to the recycling plant whilst the rest goes out to the ocean.

Recycling Plant:
The diverted treated wastewater enters the recycling plant where it undergoes a further three processes; Ultrafiltration; Reverse Osmosis and UV disinfection before entering an underground aquifer where it will be further filtered by natural processes to safely replenish the ground water;

The secondary treated waste water is stored in tanks. From the tanks it is pumped at a high pressure through an ultrafiltration barrier before being processed through a two-stage reverse osmosis barrier. The next process involves de-gassing (removing bubbles); before finally passing through the UV treatment stage. Once again it is stored prior to being injected via a well head for recharge.
Although ground water replenishment is an innovative concept it cannot be considered a new technology. Using recycled water to replenish groundwater reserves has been practised in the States since the 1970’s providing a workable and safe solution to water re-supply.

“Well I guess if you don’t have Madam Tussauds or the London Dungeon this is where you go....”

The centre has also proved a big hit with schools bringing to the fore front water awareness and imersing young children into water sustainibily.

A potted history of water and sanitation throughout the ages

Pre History
During the Neolithic, man dug the first permanent water wells, from where vessels could be filled and carried by hand. Wells dug around 6500 BC have been found in the Jezreel Valley. Stepwells have mainly been used in South Asia. The size of human settlements was largely dependent on nearby available water. Pit toilets and chamber pots were the only alternative to defecation in the open. Devices such as shadoofs, and sakias were used to lift water to ground level. Mohenjo-daro ruins in Pakistan, part of the Indus Valley Civilization, shows that the city had one of the ancient world’s most sophisticated sewerage system that contained drainage channels and street ducts.

Ancient plumbing systems
Throughout history people have devised systems to make getting and using water more convenient. The Indus Valley Civilization has early evidence of public water supply and sanitation.

The ancient Greek civilization of Crete, known as the Minoan civilization, was the first civilization to use underground clay pipes for sanitation and water supply. Their capital, Knossos, had a well organized water system for bringing in clean water, taking out waste water and storm sewage canals for overflow when there was heavy rain. It was also one of the first uses of a flush toilet, dating back to 18th century BC. In addition to sophisticated water and sewer systems they devised elaborate heating systems. The Ancient Greeks of Athens and Asia Minor also used an indoor plumbing system, used for pressurized showers. The Greek inventor Heron used pressurized piping for fire fighting purposes in the City of Alexandria. The Mayans were the third earliest civilization to have employed a system of indoor plumbing using pressurized water.

The Roman Empire had indoor plumbing, meaning a system of aqueducts and pipes that terminated in homes and at public wells and fountains for people to use. Rome and other nations used lead pipes; while commonly thought to be the cause of lead poisoning in the Roman Empire, the combination of running water which did not stay in contact with the pipe for long and the deposition of precipitation scale actually mitigated the risk from lead pipes. Persian Qanats (see image below) have been used for water supply and cooling in the Middle East.

Middle and early modern age
Pail closets, outhouses, and cesspits were used to collect human waste. The use of human waste as fertilizer was especially important in China and Japan, where cattle manure was less available. After the adoption of gunpowder, municipal outhouses became an important source of raw material for the making of saltpeter in European countries.

In London, the contents of the city’s outhouses were collected every night by commissioned wagons and delivered to the nitrite beds where it was sown into the special soil beds to produce earth rich in mineral nitrates. The nitrate rich-earth is then further processed to produce saltpeter, or potassium nitrate, an important ingredient in black powder.

Classic and Early Modern Mesoamerica
The Classic Maya at Palenque had underground aqueducts and flush toilets; the Classic Maya even used household water filters using locally abundant limestone carved into a porous cylinder, made so as to work in a manner strikingly similar to Modern ceramic water filters.

Modern age
Until the Enlightenment era, little progress was made in water supply and sanitation and the engineering skills of the Romans were largely neglected throughout Europe. This began to change in the 17th and 18th centuries with a rapid expansion in waterworks and pumping systems.
SoPHE London Update
By Jassim Daureeawo

A number of technical Seminars have been organised by the London technical team including the following:

- The Shard – Designing and Installing Public Health Systems in Western Europe’s tallest building - ARUP and DG Robson
- Sprinkler Systems Design & Installation Guidance - Grundfos
- Conservation and Control of Water at the Point of use - Delabie
- Legionella Control - From a Public Health Design perspective - David Harper

It is apparent that technical forums have provided significant value to CIBSE SoPHE members during the last few months as these draw on our ability to include open discussion from a broad range of industry backgrounds. We feel that they are a useful addition to the manufacturers technical seminars and allow our members to strengthening their knowledge on relevant technical topics. We believe the main reason that they have been such a success is due to the range of attendees, varying from designers/consultants, manufactures and contractors. This enables the forums to benefit from three different perspectives resulting in a more holistic approach for the discussion. Thus, the Technical Committee will aim to organise more regular technical forums on a number of topics with the aim to enhance technical skills, with corresponding publication of technical notes that will be eventually be of benefit to all members and the Industry.

SoPHE North West Update
By Malcolm Atherton

Since our last update, we have had another 3 technical evenings the first of which took place on 20th November; this was a joint evening between ourselves & members of IHEEM NW. The presentation was by Hydrotec UK Ltd entitled “Biological Control for Domestic Water Systems including in Healthcare Premises”; there were approximately 30 people who attended the evening in which some interesting & thought-provoking questions were asked during & after the presentation.

The second evening took place on the 15th January and was presented by Conex Banninger Ltd. The evening was entitled “Conex experiences & continuous improvements over the years”; The evening after that was on 19th March 2014 to which Honeywell Engineering Ltd will gave a presentation entitled “Domestic Water Balancing”. As always, the evenings were held at The Rain Bar on Great Bridgewater Street in Manchester where everyone & anyone is warmly welcome. I would be grateful if “the word” could be spread to all your colleagues for them to attend as many of our future events as possible; they are a great way of networking & you may actually learn something as well – I know I do!!

Early in 2014 I shall be formalising the programme of technical evenings for the next 12 months so if anyone has any suggestions for a suitable topic, please let me know. Also, if there are any “younger” engineers out there who would like to get more involved in the organisation of various events in the SoPHE NW region – not just the technical evenings – please do not hesitate in contacting me to discuss further.

Finally, please do not forget that the next SoPHE Northern Dinner is to be held on Friday 9th May 2014 at the Midland Hotel, Manchester. Further details will be released & when we get them but, please, make a note in your diary. Remember that, without your attendance at these events, they become a “non-entity”!!
NEW MEMBERS
Robert Moss - Affiliate
Paul Towler - Affiliate
Stuart Dunton - Affiliate
Ian Livsey - Affiliate
Glynn Williams - Affiliate
Steve Gamble - Affiliate
Ruth Howlett - Affiliate
Kevin Graham - Affiliate
Nicholas Jerrard - Affiliate
Rodney Cartwright - Honorary Fellow
Bartosz Chrabol - Member
David Gosling - Member
John Dunton - Affiliate
David Bell - Affiliate
Leslie Crawford - Affiliate
Peter Maullin - Affiliate
Ting Kin Leung - Affiliate
Leslie Simpson - Affiliate
Kenneth Thomas - Affiliate
George Adams - Affiliate
Jeffrey Slough - Affiliate
Jonathan Marriott - Affiliate
Christopher Barrett - Affiliate

SoPHE TECHNICAL COMMITTEE
Following the restructuring of the Technical Committee, please find below a list of emails setup to better attend queries from members:
• General Enquiries: info@sophe.co.uk
• Technical Publications: publications@sophe.co.uk
• Technical Reviews: reviews@sophe.co.uk
• Technical Events: events@sophe.co.uk
• Technical Issues: technical@sophe.co.uk
Please feel free to contact us should you have any queries on the relevant related matters.

SoPHE FORTHCOMING TECHNICAL SEMINARS
SoPHE London region
All London Events held at:
AECOM, 4th Floor Mid City Place, 71 High Holborn, London, WC1V 8QS (unless otherwise stated)
Date: 9th September 2014
Time: 18:00-19:30 (approx.)
Topic: Grease control in drainage (CPD Presentation)
Date: 6th November 2014
Event: CIBSE SoPHE Annual Dinner (Details to follow)
Date: 11th November 2014
Time: 18:00-19:30 (approx.)
Topic: Installation Best Practice Forum
Date: 2nd December 2014
Time: 18:00-19:30 (approx.)
Topic: Heat Interface Units and District Heating Plant load diversity CPD presentation – By Baxi Commercial

SoPHE North West Region
All Manchester Events held at:
The Rain Bar, 80 Great Bridgewater Street, Manchester M15JG (unless otherwise stated)
Date: 25th June 2014
Time: 18:00-19:30 (approx.)
Topic: Water Regulations Update – By Julie Spinks, Managing Director of WRAS
Date: 16th July 2014
Time: 18:00-19:30 (approx.)
Topic: Digital control of domestic water systems – By Kevin Graham, Armstrong International
Date: 17th September 2014
Time: 18:00-19:30 (approx.)
Topic: Conservation and control of water in commercial installations- By Ross Rigby, Delabie

THE LIGHTER SIDE OF PUBLIC HEALTH
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THE STEERING COMMITTEE

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   Christopher.Northey@chapmanbdsp.com

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FEEDBACK

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

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

Please email comments to Jonathan Gaunt or Paul Angus at
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paul.angus@erbas.com.au