

MINUTES OF MEETING HELD ON 11TH NOVEMBER 2015 AT 11.05 HOURS

VENUE: SEVERN TRENT OFFICES, COVENTRY

WATER REUSE AND SURFACE WATER MANAGEMENT TECHNICAL COMMITTEE

Present:

Name	Affiliation
Kevin Reed (Chair)	Graf UK
Doug Clarke	Severn Trent
Phil Mills	Policy Consulting UK (special guest)
Terry Nash	UK Rainwater Management Association

Participating by Phone:

Name	Affiliation
Colin Booth	University of West of England
Kimberly Bryan	University of Exeter
Peter King	Ouse & Adur Rivers Trust
Andy Wilson	Scottish Water
Suzy Armsden	WATEF Administrator
David Knaggs	Albion Water
Katherine Hyde	University of Reading
Lutz Johnen	Aquality

Apologies:

Name	Affiliation
Sue Charlesworth	University of Coventry
Alan Fewkes	Nottingham Trent University
Daniel Goodwin	Cranfield University
Angela Wallis	Environment Agency
Will Harte	DEFRA
Sarah Mukherjee	Water UK
Phil Barnard	Chandlers
Carmen Snowdon	WRc PLC
Neil Pendle	Waterscan
Aaron Burton	Foster Wheeler AMEC
Kemi Adeyeye	WATEF Network Lead
Phil Henry	Polypipe

1. Important not to forget GWR it is an important part of Water Reuse but usually not domestic.
2. Focus on small series of questions perhaps answer today? Perhaps we can split amongst the TC members so that next time we meet we can have further discussions.
3. TC strategic plans for next year – ideas
 - a. Try to push forward debate and thinking/knowledge on integrating RWH into SWM. Also GWR – how much integration is happening right now? **Perhaps Lutz Johnen could offer some insight?** Severn Trent already have RWH and GWR on site but does it link together? Need to look at integrated solution. We need to help people to understand how to integrate and get joint benefits.
 - b. Any case studies : commercial users e.g. [UK Urban Demonstrator – Birmingham](#) (Severn Trent : John Brewington); scheme in Elephant and Castle mentioned which combines attenuation tanks and RWH into one (Polypipe are main suppliers: **Action: Phil Henry to provide details**). Katherine Hyde has PhD student at University of Reading who is conducting research using water from GWR treatment plant to irrigate green walls (**Action: Katherine to provide details**)
 - c. Need for manufacturers to know the market ; need for clarity – why are we doing it, how are we doing it, why do manufacturers specify certain equipment? What are the requirements? What is the legislation ? Need to look at things on both a national and local level in terms of influencing planning going forward.
 - d. Water companies : there are certain areas where water companies (Severn Trent) would want to push forward e.g. GWR, SUDS (due to flood risk areas : these sorts of areas are important to water companies). Generally water companies have little influence over developers on what water efficiency measures they should be including. The main issue is there are no drivers.
 - e. Drivers: perhaps we should brainstorm drivers – identify them via [Home Quality Mark](#) ? Phil Mills attending meeting today as has been asked to look at drivers for codes and standards for use of water efficient products in homes. Phil has talked to a few people around codes and standards and there is uncertainty around specifications for domestic use e.g. what make of washing machines can use recycled Greywater? Water scarcity – certain areas are affected (South and S.East) more than others – to assist planning should be on a local rather than national level. Challenge is how to monitor water efficiency - should water companies be responsible for monitoring? There are other factors to consider e.g. brown field sites far away from water sources. This is another separate factor which drives new developers to look for alternative approaches to reduce water intake. What most brown field sites have in common is that they are mainly situated in the south/south-east where there is already a restricted supply. We have to look at urban water sources which are fed by water running down rivers and hills. We should be considering rural as well as urban developments. Severn Trent already working with farmers and supporting them including where they are installing RWH – giving them some financial support.
 - f. **How can we move forward?** Severn Trent already doing work on barriers – perhaps TC can contribute? Phil Mills needs to go back to DEFRA with interim report and

they will take it from there. Barriers we can identify are: water quality, in the case of RWH it has been difficult to get figures to prove how much water can be saved.

Data we do have is mostly from commercial installations e.g. schools. Action: Terry Nash to send Suzy historical data report on RWH to circulate amongst TC.

- g. Does anyone want to step up? Plenty of scope for universities/academics to help. We need to decide who will assist and what will be their level of involvement. There should be 10 questions in total. KH indicated she make like to get involved in the paper for the online paper

<http://www.sciencedirect.com/science/article/pii/S0360132315300937>

h.

University of Reading have a GWR treatment plant on site which processes effluent and uses it to irrigate green walls. One of the barriers is that people are concerned about the water quality. This is more prevalent in RWH sites (Alan Fewkes to provide data) where concerns exist around water quality e.g. legionella.

The problem of cross connections also a concern – it's a problem which can store up and reappear say 5 years later on. This is a challenge when we have only a few good systems available in terms of pipes and valves etc. We need robust colour coding, pipe labelling i.e. advising "this water is non potable".

4. Strategic Plans for TC over network year: What do we think our main focus should be for coming year and the run up to the WATEF conference (7-9 September 2016) in Coventry?
- Perhaps focus on robustness of systems – GWR systems are ones where people have most fear in terms of treatment of water and quality. This also applies to RWH to a lesser extent.
 - Cross connections - education : we need to educate both installers, consultants and designers as to what should be there and what should not be there in an installation. There is a need for a lot of education around this.
 - SUDS : much of the same thing – should we focus on reduction of water to drain network – not just delay? Infiltration or reuse as first option.
 - Suggested subjects for conference are Education; Payback, Robustness
 - Research: what is useful research we can include?
 - Education of developers: when the question was asked whether it would be better to flush WC's with mains water rather than GWR or RWH most chose mains water – the public still do not understand.
 - Price: the public want lower water bills (generally water bills are going down rather than up).
 - Education of public when installing GWR, RWH or SUDS into domestic properties – benefits and payback.
 - Regulations: ultimately you may only get people to use when legislation is in place.
 - Perhaps look at non domestic market first of all – get the commercial side to buy in and a cascade may happen.
 - Deregulation: Retail competition in 2017 may mean that water companies are working with other larger customers. In Scotland what they have found is that the focus moves from encouraging water efficiency to retention of customers. Water companies will no longer have influence with the customer making it very difficult to

encourage water efficiency. If the water company does not have a direct relationship with the customer they cannot exercise any influence over the customer only via a third party. The retailer is only interested in retaining the customer and making money. What is required is for evidence to be pulled together that water reuse systems can work and water quality is not compromised. Only when you have this evidence available can you begin to engage and educate.

- I. Case study at Upper Rissington – Stow-on-the Wold – Albion Water
<https://www.albionwater.co.uk/developers/our-projects/upper-rissington-gloucestershire> Albion are making progress but there is still a lot of work to be done in terms of urban data sets. Area of concern is cross connections (water quality) – Smart metering identifies where cross connections may occur into the potable water supply. Albion keen to produce more evidence – timing of data – available next year – David Knaggs invited TC on site visit. Need to get university on board to collect and analyse data – perhaps Sue Charlesworth has a PhD student who could assist? Albion currently have relationship with Cranfield but keen to work with Coventry (Sue) and Reading (Katherine). David Knaggs happy to talk to Sue and/or Katherine about this.

Case study: Bicester Eco Town – 90 RWH systems installed – Graf UK working with Willmot Dixon and Thames Water.

We have academic members in the Technical Committee who can perhaps help on the following:

- Need for evidence to be pulled together – identify current projects – source some examples we can use – if we want to dispel public concerns these would be great examples to use.
- Look at measuring flow of water and energy usage
- If we can help coordinate and push forward research surely that will be very useful?
- Who are we doing this research for? Manufacturers of equipment, DEFRA, EA (for future regulations); water companies, local authorities (to assist with their planning);
- If we can prove the technology works perhaps this can be something retailers could sell (post deregulation)?
- We need to plan carefully – how to deliver – there need to be 2 or 3 key areas – ACTION: all TC to suggest key areas and Chairs to allocate roles and responsibilities – time frame week ending 20th November 2015
- Drivers: need to look at their features and their benefits. Impetus in Cotswold development (Upper Rissington) was water infrastructure and capacity requirements – if the infrastructure does not exist there could be significant capital cost. The developers needed to come up with a solution. Location is also a driver – how much it will cost to install into a home – is there a water source in the vicinity? In the case of SUDS most installations are underground so who is responsible for their on-going maintenance

costs? Is it the householder who holds the burden? Someone needs to maintain the system. Recently Graf installed a RWH tank in Aberdeen – the system was adopted by Aberdeen City Council (Scottish Water insisted on this to ensure future maintenance). Fairhurst are the consulting engineers and whereas two years ago there was a reluctance to include these systems in any developments – they are now happy to incorporate in any future schemes.

- ANY OTHER BUSINESS ? None

MAIN ACTION POINTS ARE HIGHLIGHTED IN YELLOW

NEXT MEETING: DATE TO BE DECIDED ONCE PLANS IN PLACE. MEETING VENUE – LONDON