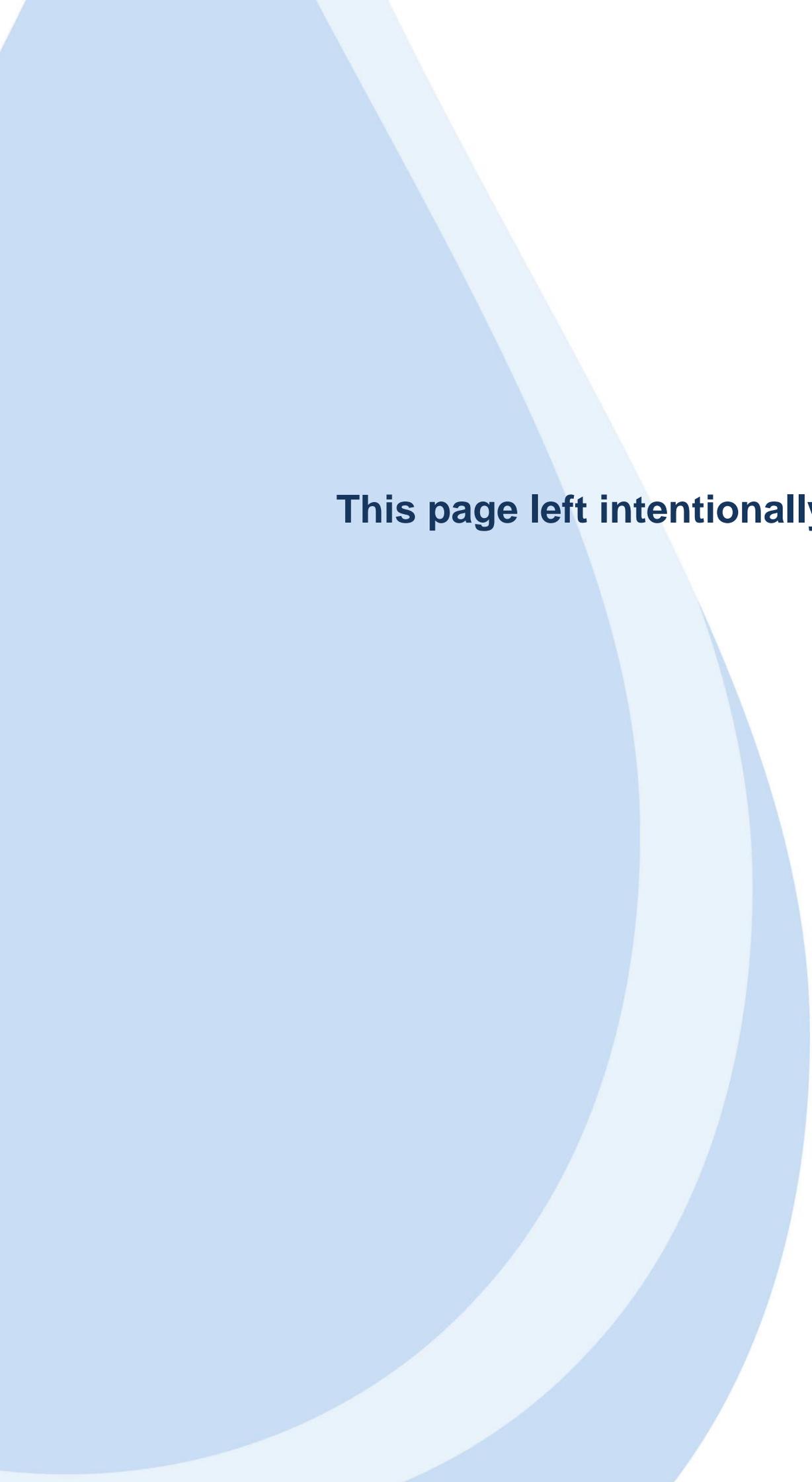




Appendices

Draft Water Resources Management Plan 2020-2080

March 2018



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Appendices

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Appendix A: Progress on our WRMP14 Programmes

A.1.1 Sustainability reductions

Our supply area is home to many chalk streams that flow through areas of importance including the Chilterns Area of Outstanding Natural Beauty (AONB), Dedham Vale AONB and the North Downs. Chalk streams are a globally rare habitat, confined to North-west Europe and notably the UK. These streams are an integral part of our landscape and communities, providing valuable habitat for plants and animals. We have been actively working with the Environment Agency, Wildlife Trusts, Conservation Boards and other stakeholders for more than 20 years to improve and conserve these habitats.

In our last plan we have included 'certain' and 'likely' sustainability reductions with the Environment Agency for 2015 to 2025. We have also continued our studies under our National Environment Programme (NEP) to evaluate the impact of our operations on the environment and assess the benefits from sustainability reductions. This programme includes a number of areas where the requirements for further sustainability reductions remains uncertain.

We have continued to work in partnership with the EA to inform the River Basin Management Plan process so that further obligations under the Water Framework Directive are identified and not disproportionate.

We anticipate we will have to reduce abstraction further in future so we have placed an emphasis on demand management measures in the short term. If we are more successful in reducing demand than our plan forecast that would be more in line with what we have experienced in our Southeast region, then we will be well placed to be able to further reduce abstraction and improve the conditions in more local water catchments.

Our WRMP14 included sustainability reductions at groundwater abstraction sources in three of our eight water resource zones. Table A1.1 shows the average and peak sustainability reductions by water resource zone.

Table A1.1: Groundwater abstraction sustainability reductions

Water Resource Zone	Reduction Average DO MI/d		Reduction Peak DO MI/d	
	AMP6 (implementation)	AMP7 (proposed at PR14)	AMP6 (implementation)	AMP7 (proposed at PR14)
WRZ 1 – Misbourne	11.00	2.00	6.15	2
WRZ 2 – Colne	5.82	8.84	5.82	0
WRZ 3 – Lee	25.27	16.87	27.09	10.49
WRZ 4 – Pinn	0	0	0	0
WRZ 5 – Stort	0	0	0	0
WRZ 6 – Wey	0	0	0	0
Sub-total (Central region)	42.09	27.71	39.06	12.49
WRZ 7 (Southeast region)	0	0	0	0
WRZ 8 (East region)	0	0	0	0
Company Total	69.80		51.55	

The reductions affect 13 of our sources. Abstraction will cease at five sources and eight will have reduced outputs. During AMP6 we are planning to achieve reductions of 42 MI/d under average conditions by 2020.

Table A1.2: AMP6 Sustainability reductions progress

Source	Reduction		Post Reduction		River Catchment	Timing of Reduction	Progress
	Ave DO (MI/d)	Peak DO (MI/d)	Ave DO (MI/d)	Peak DO (MI/d)			
BOWB	5.82	5.82	0	0	Ver	2016	Implemented 01/04/2016
WHIH	16.18	18.00	2.00 (1.96)	10.00 (8.10)	Beane	Voluntarily capped at 15 MI/d in 2014 . Licence reduction 2018	Implemented early 01/04/2017
FULL	9.09	9.09	0	0	Mimram	Capped at 5.6 MI/d in 2015 . Licence to be revoked 2018	Implemented early 01/04/2017
HUGH	1.60	1.75	0	0	Hughenden Stream	2017	Implemented 01/04/2017
PICC	10.00	5.00	5.72	10.72	Gade	2018	On target
MARL	-3.60	-3.60	8.34 (7.73)	8.34	Gade	2018	On target
AMER	3.00	3.00	4.00	9.00	Misbourne	2018	On target
Total reduction	42.09	39.06				AMP 6	Implemented to date 32.69MI/d (average DO)

A.1.2 No deterioration

Since the start of AMP6 we have a significantly increased our environmental monitoring programme to measure the overall effect our abstractions have on the environment particularly at all environmentally sensitive sites.

We recognise our obligations to ensure our proposals for future groundwater development do not cause deterioration. We have carried out an initial assessment of all supply options and rejected those with unacceptable impacts. We have fully investigated the impact of abstraction schemes identified for implementation in AMP6 in our **PP** to ensure we can verify no deterioration of the environment from their implementation in sufficient time that we will be able to switch to alternative schemes. We will do the same for schemes included in dWRMP19 and PR19 our Business Plan.

A.2 Supplying high quality water that can be trusted

We have seen a significant effect of pollution on our resources and we have been proactive in both monitoring pollution and investigating pollution threats to encourage polluters to take responsibility for their actions.

Since our last plan we have undertaken an enhanced programme for catchment management. We have extended our partnering arrangements and our activities in both Central and Southeast regions to mitigate the effect of pesticides, herbicides and nitrate use. Please see Section 8.8 for further information.

A.3 Leakage reduction

Customers continue to expect us to do more around reducing leakage. We continue our challenging programme of leakage reduction for AMP6 and towards achieving the following objectives:

- a continuation in the reduction in leakage
- control of leakage year on year below a predetermined leakage target
- continual improvement towards increasing efficiency in managing and controlling leakage
- continuing our innovative implementation of fast logging to assess legitimate night use on a weekly basis to improve our assessment of net night use and therefore improve the efficiency of our leakage reduction targeting
- confirmation of our non-household logging programme to verify non-household night use
- continuing the monitoring of leakage activities compared to benefits at DMA level. This will enhance our understanding of the natural rate of rise and the cost of reducing leakage further
- implementing leakage monitoring on our critical mains
- improved assessment of leakage reduction from mains renewals
- improved assessment of supply pipe leakage associated with our integrated metering programme.

Leakage management and control

Customers supported our plans to reduce leakage beyond the economic level together with a preference for a greater response to leakage management in times of water scarcity. We have learnt a significant amount about how to manage leakage reduction during this time. Some of our activity will have been visible to customers, but much has gone unnoticed as we strive for more efficient ways to find leaks.

Management and control of leakage is primarily achieved by active leakage control (ALC). This is the detection of non-visible leaks, as well as optimised pressure control to reduce the flow from any live leaks and reduction in bursts and the early repair of leaks. This is combined with accurate reporting of our performance to ensure efficient delivery of regulatory targets.

We have over 800 District Metered Areas (DMAs), covering in excess of 80% of our network and customers. These are monitored on a daily basis in order to review performance and identify potential leakage. In order to comply with the new Water UK consistent method of reporting leakage, we will be increasing our coverage to 95% by 2019/20 such that 90% of these are available for reporting at all times.

Software tools are used to assess daily flows and pressures in these areas and to check to see if any significant changes are identified. Minimum night flows are calculated to quantify leakage and determine daily leakage levels.

During AMP6 we have implemented a new leakage management tool called WaterNet. This has significantly improved targeting of our resources and accuracy of our leakage reporting.

Leakage reduction improvement programmes

Since publishing our fWRMP14, we have met our annual leakage reduction target set by our regulator, Ofwat and continue to work towards achieving a saving of 20MI/d from our distribution network leakage through a number of methods. The principal methods we have employed are outlined below.

- **improved accuracy in the calculation of allowances.** A key piece of work was undertaken to better calculate the usage of non-households and household customers through the night. This included our innovative 'fast logging' system that allowed us to accurately calculate the amount of usage at DMA level. This in turn provided a truer assessment of leakage to increase efficiency by accurately targeting areas where leaks are likely to be occurring
- **deployment of permanent acoustic loggers.** We lead the UK industry and the world when we deployed 20,000 noise loggers across our network in 2017 to constantly listen for leaks. When such a noise is detecting that indicated a potential leak, data is transmitted to our control room, this means that we can now respond to leaks quicker than ever before, and as a result we are more efficient at finding leaks. This has helped us significantly drop leakage rates in the areas in which the loggers are installed
- **training of our operatives.** We have increased the number of directly employed highly trained expert leakage technicians and created our own leakage training site, where we can teach and hone the skills and techniques needed to find leaks as quickly as possible. We have also sought a commitment from our supply chain to ensure that our contractor resource is trained to a high standard. Additionally, we have improved our reporting systems to enable operatives to receive further training quickly if required
- **innovation.** To achieve the challenging target we have set ourselves in the past three years we have had to change the way in which we work and the tools that we use. We have trialled many new methods from satellite images to using conductivity methods to find leaks. Not all have been successful, but our framework to evaluate new technology has also developed alongside enabling us to determine the benefits of new technologies more effectively. In addition we have continued to build and develop a more comprehensive and integrated leakage reporting and monitoring system
- **pressure management.** We have completed a number of pressure management schemes. These have helped to reduce leakage and further helped reduce the burst rate in these areas. We have also divided up several large DMAs into smaller areas so that leakage is more manageable
- **water saving programme – customer supply side leakage detection.** By installing AMR meters at properties, we have had the opportunity to detect leaks on customers' pipes, also known as customer supply side leakage. This includes finding and fixing leaks both at installation and offering free repairs later in the WSP customer journey. This information has helped us locate a significant amount of leakage even quicker and helped customers save money from their water and energy bills at the same time.

A.4 Universal metering programme and Water Saving Programme

Approach

In recognition of water scarcity in our supply area we implemented a universal metering programme to help customers reduce their consumption. Through our PR14 WRMP and Business Planning process we have successfully secured funding for our Water Saving Programme. The Water Saving Programme is the biggest demand management project ever undertaken by Affinity Water and will contribute significantly to reducing the company supply / demand deficit between 2015 – 2040. The programme plans to reduce customer demand by 56 MI/d between 2015 and 2025 through the installation of 525,000 water meters for customers in the Affinity Water Central region, by 2025. This has been supplemented by greater company and customer side leakage detection, and through enhanced water efficiency engagement targeted at domestic customers. We reduced our initial rate of the metering programme in response to Consumer Council for Water’s concerns and will now deliver the programme across the next two AMP periods between 2015 and 2025.

During AMP 6 we aimed to save 29 MI/d through our water saving programme (WSP) which implements automated meter reading (AMR). The savings include a 7MI/d reduction from the repair of customer supply pipe leaks. As part of the WSP each house is offered a ‘home water efficiency check’ (HWEC) which involves a home audit and provision of water saving devices. The current HWECs estimate savings of 4MI/d.

Increases in metering penetration during AMP6

In addition to our WSP, our on-going communication strategy with customers through our website and via the billing process has generated an optant meter rate broadly in line with expectations, resulting in 48.82% of our total domestic customer base now being charged based on their actual consumption with the regional summaries shown in Table A4.1.

Table A4.1: Percentage of properties metered in each region excluding voids 2015/16

Type	Central	Southeast	East	Company
Household	44.70	81.00	72.35	48.32
Non-household	87.17	76.00	99.31	89.55
% metered	47.11	89.59	75.12	50.75

A.5 Water efficiency

Approach

We have continued our baseline water efficiency promotional activities and now have a comprehensive programme of water efficiency support when customers transfer to metered charging. We launched an enhanced awareness campaign during 2014 to prepare the way for our metering programme and have provided information, products and audits to support customers during the optional transition period.

As stated above, as part of the WSP all homes have been offered a HWEC. Affinity expects to complete 25,000 HWEC's a year, in total 112,000 by April 2020. The HWEC offers a circa 45 minute check with free products, simple tap and toilet repairs undertaken and a customer report estimating the financial and water savings from the engagement and this initiative is industry leading. Our Water Efficiency programme has continued building upon the approach of leveraging community partnerships and exploring innovative solutions to help people save water. Working closely with many different teams, Water Efficiency team utilises innovative, creative solutions to raise awareness of the importance of saving water, helping to implement behaviour change and acceptance to Affinity Water's objectives.

We have improved our water efficiency programme to include more educational awareness. The future role of our Education Centre team in Bushey is expanding, as many customers expressed a desire to see Affinity working with local schools. The behavioural education activities include attendance at around 100 events, promotion of the wider metering programme, and a school engagement programme with approximately 50 schools each year.

With the Water Saving Programme expanding rapidly, it has been vital for the Water Efficiency team to engage and educate customers prior to the install of the meter, as well as engagement after the programme has left the area. By utilising many different avenues to promote our water efficiency awareness raising campaigns, customers can gain a wider understanding for the move towards meters and get help to reduce their water bills and consumption.

We have continued utilising the Water Saving Squad to engage with people at community events, handing out devices and educating customers on water efficient behaviours that they can utilise at home, as well as raising awareness of the value of water and the reasons behind saving water. At the same time, instigating partnerships with local councils, housing associations and local community groups has widened our engagement and allowed us to encourage water efficient behaviours to a vast range of customers.

The Water Efficiency team has forged many great partnerships over the last 12 months as well as continuing to grow existing ones. We have regularly worked with universities, colleges and schools in order to raise the awareness of water efficiency to a younger audience. A key outcome from a recent survey we undertook shows that the majority of teenagers were taking 20-30 minute showers. If we can implement behaviour change during teenage years, we hope this behaviour would continue through later years.

On top of these partnerships we are actively engaging with local river and community groups, the Environment Agency and various wildlife trusts. We regularly run competitions and campaigns, as well as utilising social media to raise the profile of water efficiency and to educate customers on the small changes they can make. By utilising creative methods of engagement such as our 3D street art, twitter/facebook, blogs, youtube videos and campaigns with external providers, we hope to make saving water fun, unintimidating and understandable to everyone

SaveWater South East

SaveWater South East is an exciting new collaboration between Waterwise, the Environment Agency and six water companies – Affinity Water, Portsmouth Water, Thames Water, South East Water, Southern Water and Sutton & East Surrey Water. It was established with the aim of increasing the awareness of water as a finite resource and creating a water saving culture in the South East of England. By working together, SaveWater South East aims to promote water efficiency across the region to help people save water and money.

In 2016/2017 we have been running a social media campaign with an engaging website and competition (www.thinkwater.org.uk). The idea of this was to portray a wider message across to a variety of customers, utilising the partnership between the water companies to showcase the aligned objectives and the ways in which customers can start to save water.



Figure A5 ThinkWater campaign

Our Education Services

Our Education Services Team aims to support primary and secondary school teachers in our communities by providing a stimulating hands-on learning experience about the importance of water and the environment, such that it can enrich their curriculum. Our award winning Education Team has been accredited with the Learning Outside the Classroom Quality Badge. We welcome more than 6,000 visitors a year to our Education Centre in Bushey and visit over 7,000 pupils each year by attending their schools. The team has also facilitated various teacher training workshops, attended specialist events and worked with third party organisations such as White Cliffs Countryside Partnership.

In addition, there is a specialist Education Service that is directly supporting the company's Water Saving Programme. In 2016/17, this service reached over 6,500 students and teachers. The programme, 'Water Saving Squad in Schools' is a free of charge curriculum-linked programme; it is led by students and empowers them to take action to save water at school and at home. Water Saving Squad in Schools is offered to primary schools in areas where meters are being installed to help customers understand practical ways in which they can save water and reduce their bills. There is also a 'Challenge: Water' programme supporting secondary schools; this is a STEM based initiative in partnership with WaterAid.

For more information please follow the links below:

The Affinity Water Education Services department: <https://education.affinitywater.co.uk/>

The Water Saving Squad in Schools programme: <https://education.affinitywater.co.uk/water-saving-schools.aspx>

Appendix B: WISER Expectations Relating to WRMP19

Programme of Works	Projects
Solutions to meet water resources management plan outcomes or measures to protect the environment from the supply-demand component of business plans.	Solutions will be developed as part of our optioneering and investment modelling (EBSM) approach being carried out to develop our WRMP preferred strategy in selecting "best value" portfolio of options.
Assess resilience of your water supply system to predicted droughts and other non-drought water supply hazards.	We regularly assess the potential risk derived from drought, flood, pollution incidents and lost in performance, minimising the risks and proposing alternative solutions in accordance with production team, EA and other external stakeholders
Measures to reduce demand and per capita consumption.	We have an ongoing programme of water savings through metering of household properties based on 90% target meter penetration by 2025 and aim to reduce leakage by 14% (27mld) by 2020. We also have an action plan to reduce the company's average water use and improve the accuracy of our water balance.
Achieve a downward trend for leakage with rates at or below the sustainable economic level of leakage	Our Leakage ODI targets in our baseline is set at 14% by 2020 and we are planning a further downward trend of 11% reduction (a figure in line or close to WRSE) which takes us below the economic level of leakage.
Assess universal metering in water stressed areas.	We are currently re-assessing our WSP model and developing a module in Waternet which will allow us to understand and derive water saved from universal metering as part of our water saving programme.
Ensure agreed and up to date plans are place to manage a drought.	We carry out drought studies to minimise the risk of lower water resource availability to the production sources, liaise with the EA to ensure that during drought periods all the mitigation measures are in place and we submit drought permits to ensure the maximum sustainable exploitation of the resources during those periods. We undertake constant review of the performance of the sources during low groundwater periods to ensure longer resilience of the aquifers in the most vulnerable areas
Demonstrate that Defra's Guiding principles for water resources planning have been met.	As part of the delivery of the dWRMP19 we have set up a compliance checklist which is being reviewed regularly by the team to ensure we are meeting our regulatory compliance.
Incorporate sustainability changes into supply forecasts.	We have included AMP6 and AMP7 sustainability reductions in our baseline supply forecast and will further test scenarios as part of the WINEP2 and 3 release.
Current abstractions and operations, and future plans support the achievement of Environmental objectives.	We undertake constant review and check of the source performances by engaging the production team in achieving the maximum exploitable volume of groundwater abstracted and liaise with the EA and other external stakeholder to minimise the effects of the abstractions on the environment

Appendix C: Catchment Management Programme of works, the company benefits and the wider environmental, social and economic benefits

Programme of Works	Projects	Company Benefits	Wider Environmental and Community Benefits
<p>Catchment Management</p>	<p>Agricultural pesticide reduction schemes and nitrate reduction pilot trials</p> <ul style="list-style-type: none"> - Work with farmers in identified high risk catchments to identify and incentivise measures that reduce pesticides into surface and ground waters and nitrates into ground waters. This includes a Payment for Ecosystem Services philosophy that incentivises farmers as producers of clean water through: <ul style="list-style-type: none"> - Retention of soils on the land through cultural controls - Retention of rainfall in the catchment through increased soil organic carbon (e.g. cover crops) - To slow the over land flow and inputs to river systems - Spreader/sprayer testing and calibration of farmer pesticide application machinery in high risk catchments - Pesticide applicator training for farmers and their contractors in high risk catchments - Pesticide amnesty for farmers operating in identified high risk catchments to safely dispose of banned, out of date or unwanted crop protection products. <p>- Hosting specialist workshops and training events for farmer in high risk catchments to adopt best practice in farming techniques focused on water protection</p> <p>Installation of a demonstration biobed to support farmers in retaining waste pesticides on land and preventing ingress to rivers</p> <p>Monitoring groundwater</p> <ul style="list-style-type: none"> - Determine the current health of the aquifers used for public water supply. - Identify water quality issues to predict future trends in concentrations of contaminants and diffuse pollution. - Outcomes of monitoring used to identify pollutant source and determine pollutant pathway(s). <p>Monitoring surface water</p> <ul style="list-style-type: none"> - Capture concentration of Pesticides and other contaminants and future trends - Determine high risk catchments/sub-catchments for diffuse / point source pollution - Responding to, and investigating Pollution incidents <p>Catchment risk assessments</p> <ul style="list-style-type: none"> - Carry out land use surveys, wet-weather walkovers, catchment walkovers, remote sensing and desktop/water quality data reviews to determine land use risk to drinking water quality and capture hotspots for pollution and contaminant inputs to the water environment <p>Stakeholder engagement and collaboration</p> <ul style="list-style-type: none"> - To engage with landowners, farmers, businesses, river catchment partnerships and community groups to share knowledge and best practice in managing the river catchment and protecting groundwaters 	<p>Economic</p> <ul style="list-style-type: none"> - Reducing the leaching/run-off of pesticides and nutrients into groundwater and surface to: - Reduce energy and chemical costs required for treatment - Able to predict future treatment requirements and appropriate levels of investment - To reduce the need for future treatment / blending schemes - Reduce the risk of loss of supply and the increased cost of importing water - Mitigate the risk of future pollution incidents through proactive engagement with land managers <p>Corporate Social Responsibility</p> <ul style="list-style-type: none"> - Enhanced reputation. Closer working relationship with customers and key stakeholders - Leader in best practice, knowledge and innovation - Reporting of pollution incidents - Better understanding of our catchments and the risks to public water supply <p>Regulatory compliance</p> <ul style="list-style-type: none"> - Drinking Water Inspectorate (Drinking Water Directive) Environment Agency – supports the National Environment Programme and WFD no deterioration 	<p>Environment</p> <ul style="list-style-type: none"> - Raising awareness of pollution incidents and hotspots for further investigation and mitigation - Creating and enhancing habitats for birds, mammals, invertebrates and plants - Increasing biodiversity and population migration through green corridors in the catchment - Reduced use of energy and chemicals both by the landowner/farmer/business and water company - Better management of wastes generated by land use activities <p>Economic</p> <ul style="list-style-type: none"> - Value for money water bill - Less input of pesticides and fertiliser for farmers saving money - Reduced risk of pollution incidents and associated costs of remediation <p>Health</p> <ul style="list-style-type: none"> - Wholesome potable water - Reduced nutrification of the river environment <p>Food</p> <ul style="list-style-type: none"> - Retention of valuable soil on land for farming - Retention of nutrients in the soil - More sustainable farming systems

National Environment Programme of works, the company benefits and the wider environmental, social and economic benefits

Programme of Works	Projects	Company Benefits	Wider Environmental and Community Benefits
<p style="text-align: center;">National Environment Programme</p>	<p>Morphological Mitigation</p> <ul style="list-style-type: none"> - Restoring natural river processes - Increase the velocity of river flow and build in resilience to climate change - Reconnecting rivers to their natural flood plain to alleviate flood risk and building in extra river capacity - Enhance river habitat for fish to spawn and migrate - Increase biodiversity (fish, invertebrates, plants) - Treatment and eradication of Non-native Invasive Species <p>Biodiversity</p> <ul style="list-style-type: none"> - Maintenance and habitat management plans for designated landholdings such as Sites of Special Scientific Interest (SSSI) and Local Nature Reserves (LNR) - Treatment and eradication of Non-native Invasive Species on Company owned land - Tree surveys to track the health of trees on Company owned land - Stakeholder engagement with Wildlife Trusts - To preserve and enhance biodiversity on Company owned land <p>Sustainability Reductions</p> <ul style="list-style-type: none"> - Environmental impact assessments - Leaving more water in the environment - Efficient use of assets 	<p>Regulatory compliance</p> <ul style="list-style-type: none"> - Regulatory requirement to implement the National Environment Programme - Compliance with Section 40 of the 2006 Natural Environment and Rural Communities (NERC) Act 2006 - Compliance with Countryside Rights of Way Act (CROW) - Water Framework Directive supporting the rivers to meet 'Good Ecological Status/potential' and no deterioration <p>Corporate Social Responsibility</p> <ul style="list-style-type: none"> - Enhanced reputation and fulfilling our vision to be the leading community focused water company, due to the wider environmental, social and economic benefits of our projects - Leader in best practice, knowledge and innovation - Identification of pollution incidents and no deterioration <p>Economic</p> <ul style="list-style-type: none"> - Morphological mitigation is a cheaper option than moving large quantities of water around the network - Less risk of further sustainability reductions - Reduced costs of land management - Reduce the risk of loss of supply and the increased cost of importing water 	<p>Economic</p> <ul style="list-style-type: none"> - Value for money water bill - Rivers should be self sustaining and require less maintenance by landowners saving money - Pride in the area raised, therefore less anti-social behaviour and fly tipping - Flood alleviation - Increase in property prices <p>Recreation</p> <ul style="list-style-type: none"> - the aesthetic restoration will encourage local residents to use the park more for recreation and exercise, improving well being <p>Environment</p> <ul style="list-style-type: none"> - Creating and enhancing habitats for birds, mammals, fish, invertebrates and plants - Increasing biodiversity and population migration through green/blue corridors in the catchment - Eradication of non-native invasive species will give the opportunity for local native species to thrive - leaving more water in the environment - The rivers will be more resilient in times of low flows with increased capacity at times of high flows - Rivers will be more resilient to the changing climatic patterns of climate change <p>Education</p> <ul style="list-style-type: none"> - The improved river habitat provides a resource for local schools and local residents to visit and learn about Chalk Streams and their unique ecology <p>Health</p> <ul style="list-style-type: none"> - Improved health and mental well being of customers and local community - Healthy rivers keep urban areas cooler in summer and warmer in winter mitigating the urban heat island effect - Reduced impact of diffuse pollution from urban runoff

Appendix D List of Associated Documents

Draft Water Resources Management Plan 2020-2080 List of associated documents

Component	ID	Document Title	Purpose	Redacted Version
Main Report	1.0	Draft Water Resources Management Plan 2020-2080	Regulator use and intend to make publically available	YES
1. Supply	1.1	Deployable Output and Climate Change Impact Assessment	Regulator use and not to be published*	NO
	1.2	Climate Change Assessment	Regulator use and not to be published*	NO
	1.3	Climate Change Vulnerability Assessment	Regulator use and not to be published*	NO
	1.4	Sustainability Reductions	Regulator use and not to be published*	NO
	1.4.1	AMPS NEP Progress and Summary of WINEP PR13 Schemes	Regulator use and not to be published*	NO
	1.6	Water Resource Zone Integrity	Regulator use and not to be published*	NO
	1.8	Draft Drought Management Plan	Regulator use and not to be published*	NO
	1.7	Problem Characterisation Report	Regulator use and not to be published*	NO
2. Demand	2.1	Household Demand Forecast - MLR Modelling Report	Regulator use and not to be published*	NO
	2.2	Household Demand Forecast - Micro-Component Report	Regulator use and not to be published*	NO
	2.3	Domestic Housing and Population Forecast	Regulator use and not to be published*	NO
	2.4	Non-Household Demand Forecasting Summary Report	Regulator use and not to be published*	NO
	2.5	Dry Year Annual Average (DYAA) and Critical Period Factors Analysis	Regulator use and not to be published*	NO
3. Risk and Uncertainty	3.1	Outage	Regulator use and not to be published*	NO
	3.2	Headroom	Regulator use and not to be published*	NO
4. Options and EB&D	4.1	Unconstrained Options Study (Supply Side Options)	Regulator use and not to be published*	NO
	4.2	Unconstrained Options Study (Demand Management Options)	Regulator use and not to be published*	NO
	4.3	AECOM Screening Methodology (Supply Options)	Regulator use and not to be published*	NO
	4.4	LRMC Cost Model Update	Regulator use and not to be published*	NO
	4.6	Supply Side & Constrained Options Report Volume 1	Regulator use and not to be published*	NO
	4.8	Supply Side & Constrained Options Report Volume 2	Regulator use and not to be published*	NO
	4.7	Water Demand Management Framework- Assessment of Demand Side Options	Regulator use and not to be published*	NO
	4.8	Leakage Strategy Report (to be produced for IWRMP18)	N/A	N/A
	4.8.1	ELL and SELL Determination 2018	Regulator use and not to be published*	NO
	4.9	Economics of Balancing Supply and Demand Modelling	Regulator use and not to be published*	NO
	4.10	Strategic Environmental Assessment Scoping Report Volume 1	Regulator use and not to be published*	NO
	4.10.1	Strategic Environmental Assessment Scoping Report Volume 2	Regulator use and not to be published*	NO
	4.11	Strategic Environmental Assessment (SEA) Environmental Report	Regulator use and intend to make publically available	YES
	4.11.1	Strategic Environmental Assessment (SEA) Environmental Report Appendices	Regulator use and intend to make publically available	YES
4.12	Habitat Regulations Assessment	Regulator use and not to be published*	NO	
4.13	Water Framework Directive Report	Regulator use and not to be published*	NO	
5. Regional Modelling	5.1	National and Regional Water Resources Modelling Report	Regulator use and not to be published*	NO
	5.2	Water Company and Third Party Bulk Transfers	Regulator use and not to be published*	NO
6. Tables	6.1	WRP Tables: Commentary & Exception Report	Regulator use and intend to make publically available	YES
	WR21	Dry Year Annual Average	Regulator use and intend to make publically available	YES
		Dry Year Critical Period	Regulator use and intend to make publically available	YES
	WR22	Dry Year Annual Average	Regulator use and intend to make publically available	YES
		Dry Year Critical Period	Regulator use and intend to make publically available	YES
	WR23	Dry Year Annual Average	Regulator use and intend to make publically available	YES
		Dry Year Critical Period	Regulator use and intend to make publically available	YES
	WR24	Dry Year Annual Average	Regulator use and intend to make publically available	YES
		Dry Year Critical Period	Regulator use and intend to make publically available	YES
	WR25	Dry Year Annual Average	Regulator use and intend to make publically available	YES
		Dry Year Critical Period	Regulator use and intend to make publically available	YES
	WR26	Dry Year Annual Average	Regulator use and intend to make publically available	YES
		Dry Year Critical Period	Regulator use and intend to make publically available	YES
	WR27	Dry Year Annual Average	Regulator use and intend to make publically available	YES
		Dry Year Critical Period	Regulator use and intend to make publically available	YES
	WR28	Dry Year Annual Average	Regulator use and intend to make publically available	YES
		Dry Year Critical Period	Regulator use and intend to make publically available	YES
	WR29	Dry Year Annual Average	Regulator use and intend to make publically available	YES
Dry Year Critical Period		Regulator use and intend to make publically available	YES	
WR30	Dry Year Annual Average	Regulator use and intend to make publically available	YES	
	Dry Year Critical Period	Regulator use and intend to make publically available	YES	
7. Consultation	7.1	Engaging with our Customers, Communities and Stakeholders (to be produced for IWRMP18)	N/A	N/A

Note:

*Documents will not be published on our website and unredacted as otherwise readers are not able to assess and comment on the documents. If requested, an unredacted paper copy will be provided to a name and address within our operational area by post or to a legitimate concern or make available for inspection at our offices in Hatfield, Folkestone and Manningtree. Electronic pdf copies will be provided only after verification of identity and under agreement for their own use and not for distribution.

Appendix E Wider Consultation Activities for PR19

Water saving squad

Our Water Efficiency programme works closely with many different teams to utilise creative solutions to raise awareness of the importance of saving water. It helps to implement behaviour change, leveraging community partnerships and exploring innovative solutions to help people save water. A key area of work has focused on our metering programme.

Our Water Saving Squad has engaged with people at community events, handing out devices and educating customers on water efficient behaviours that they can adopt at home, as well as raising awareness of the value of water and the reasons behind saving it. We have instigated partnerships with local authorities, housing associations, community groups, universities, colleges and schools which has widened our engagement and allowed us to encourage water efficient behaviours among a vast range of customers.

The popularity of the squad has grown and resulted in local communities requesting our presence at their events, rather than us seeking opportunities to attend. With a team of over 70 volunteers from various teams and departments, a broad range of topics can be address at squad events. An example of this is the inclusion of members from the Advanced Care Team being on hand to advise vulnerable customers about their bills.

To date in 2017/18, the Water Saving Squad has:

- Attended 44 events this year, distributing around 8,500 devices to the public.
- Distributed 33,000 devices through our free pack web page. This includes shower heads, tooth timers and the Kids Kit.
- Made a total saving of 538,649 litres of water (using Ofwat assumed savings).
- 1812 followers with an average of 40,000 impressions a month on the Water Saving Squad Twitter page.

There are plans for a Water Saving Squad mascot to be introduced for 2017/2018 which will be another great opportunity to engage with children.

SaveWater South East is an exciting new collaboration between Waterwise, the Environment Agency and six water companies – Affinity Water, Portsmouth Water, Thames Water, South East Water, Southern Water and Sutton and East Surrey Water. It aims to promote water efficiency across the region to help people save water and money and we have run a social media campaign with an engaging website and competition (www.thinkwater.org.uk).

All of these activities cement the Water Saving Squad as being a great way to engage with customers around water efficiency.

Education

The Education Centre works with future customers to inspire them to value and protect our water resources. Our work delivers a preventative role in terms of educating customers, children and young people to save water, leading to long term behavioural change.

The type of engagement is varied and includes:

- In reach visits with Key Stage 1-5 students (age 5-18) to the Education Centre in Bushey, Hertfordshire.

- Outreach visits to schools with Key Stage 1-5 students in the Affinity Water operating area.
- Partnership working with other organisations in the Affinity Water operating area to incorporate our activities and messages within their programmes.
- Free online education resources accessed via our website. These support key company messages and are linked to the national curriculum, suitable for Key Stage 1-5 students.
- Water Saving Programme Education Service targets schools and communities where metering is taking place. Using fun activities it challenges customers to reduce their per capita consumption. Table E1 below illustrates the number of people engaged through each method.

Table E1: Number of people engaged

Method	Jan – Dec 2015	Jan – Dec 2016	Jan – July 2017
In reach	3,005	3,928	2,342
Outreach	1,675	2,289	6,207
Third party partnerships	0	1,546	1,770
WSP Education Service	4,976	8,426	10,217
Total	9,656	16,189	20,536

Challenge water

This is an exciting STEM based water saving initiative for secondary schools. It encourages young people to use their creativity and skills to develop innovative solutions to water and sanitation issues in their area, as well as globally. The programme has been developed by WaterAid in partnership with Affinity Water.

A number of schools took part in this Key Stage 3 initiative last academic year and researched and developed a product and behaviour change campaign, whilst competing against other schools in their area.

Keep Track of the Tap

The Keep Track of the Tap campaign was launched in June 2017 to communicate to customers that water resources were below average and to request that they reduced their water use by changing their behaviour. The campaign offered free water saving devices via the Affinity Water website.

A local radio campaign was delivered, followed by a door drop mailing of 1.7 million leaflets to customers in our Central and Southeast regions. This was supported by bus back advertising in selected parts of our communities.

Affinity for Business the largest retailer in our water supply area, sent its own update to their customers.

These campaigns were complemented by the #Tapchat water saving campaign which featured a news release, online website, quiz and social media promotion.

The campaign resulted in significant increases of visits to Affinity Water’s website water saving and resources pages and an increase in orders of water saving devices – peaking at an increase of orders close to 300% at the height of the door drop mailing.

To date, the #Tapchat water saving campaign has resulted in over 190 pieces of national coverage.

The initial response has been positive and encouraging, with extensive media coverage and social media activity. The campaign continues with a focus on promoting the online quiz, planning two community engagement events for Watford and Harlow and an employee event.

Customer data

Customer data provides management information and business intelligence which assist the business to make managerial decisions based on the statistical insights on trend, root cause and forecast. This information includes Service Incentive Mechanism (SIM), unwanted contacts, complaints and Customer Satisfaction (CSAT).

Hi-Affinity

This is a Customer Relationship Management (CRM) and billing system that is used by advisors to record customers' details (addresses, contact numbers, properties), communications between Affinity Water and customers and billing information. One or records can be raised related to the conversation an advisor has with the customer. These can be either:

- Wanted contact - positive from the customer's point of view – for example, to make a payment, provide basic account information such as change of occupier, or to request information such as a leaflet or an application form.
- Unwanted contacts – contact about an event or action that has caused the customer unnecessary aggravation, however mild. It also includes repeat or chase calls by the customer to the company.

Rant & Rave (R&R)

This is a third-party customer feedback system which allows customers to rate our service to them. Minutes after a conversation with us, a text message to ask for the customer's satisfaction rating (1 being very dissatisfied to 5 being very satisfied) will be sent to them.

Service incentive mechanism (SIM)

The Ofwat run incentive mechanism is designed to encourage water companies in England and Wales to provide better customer service. It allows comparison of company performance and measures the qualitative aspect of 200 customers per quarter who are randomly selected for a telephone survey from a particular week's worth of contacts, and the quantitative aspect, where customers have made contact either by telephone or by writing in when something has gone wrong or appears to have gone wrong.

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