



Public Document Pack

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1 April 2021

ENVIRONMENT & LEISURE WORKING GROUP

A meeting of the Environment & Leisure Working Group took place virtually on the 25 March 2021 **at 6.00 pm.**

Members: Councillors Mrs Warr (Chairman), Brooks (Vice-Chair), Bicknell, Mrs Catterson, Clayden, Dixon, Gunner, Huntley, Jones, Kelly, Purchase and Ms Thurston

AGENDA

5. SOUTHERN WATER (Pages 1 - 16)

Please find attached the questions submitted by members to Southern Water, with the answers Southern Water provided.

Note : Reports are attached for all Members of the Working Group only and the press (excluding exempt items). Copies of reports can be obtained on request from the Committee Manager.

Note : Members are reminded that if they have any detailed questions would they please inform the Chairman and/or relevant Director in advance of the meeting.

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E&L Working Group - 25 March 2021 Questions to Southern Water

Cllr David Huntley

Sewage

An information request revealed that 55 discharges of sewage occurred into Pagham Harbour international nature reserve between 2011 and 2016. How many discharges have occurred between 2016 and 2021? Is this getting worse or are efforts being made to improve this? Are you satisfied with this performance?

There have been 181 discharges between 2016 and 2020 which is worse by comparison to the earlier time period. The causes may be attributed to better monitoring, reporting and on-site telemetry in more recent years, as well as population growth (which remains within the acceptable limits of the current DWF permit). However, there is extensive work being done to improve this situation. This work includes an assessment of storm storage capacity to ensure that Pagham WTW complies with new standards set by the EA (not yet finalised), an assessment of flows through the site to ensure that the site complies with new standards set by the EA (not yet finalised). There is also a Water Industry National Environment Programme (WINEP) requirement for improved storm discharge monitoring at Pagham. An AMP 7 growth scheme for the site, as well as recent mineral filter refurbishment which has created some headroom for growth, should also contribute to an improvement in storm discharge performance.

You approved the local plan to build 1500 houses in Pagham and 2500 in North Bersted; are you confident the sewage plants can cope at Summer Lane and Lidsey? Is this likely when they can't cope at the moment? Are you obliged to say you will be able to cope before upgrades are made and are you genuinely confident that upgrades to sewage plants will be made in time to prevent worse Pagham harbour pollution?

We do not see as many as 1500 homes allocated in the Arun Local Plan in Pagham – closer to 700-1000 in fact. This is likely because Pagham catchment adjoins Ford WTW catchment west of Nytimber and east of Rose Green, and therefore some of the Pagham allocations to the north may in future be connected to Ford catchment.

Both Lidsey and Pagham are currently compliant with their permits. We monitor all local authority Local Plans within our area of operation, and work with these alongside separately commissioned population forecasts to assess future impact and plan accordingly.

Lidsey WTW experienced challenges in previous years when the site had a landfill discharge to it irregularly, but which has now been diverted to Ford. SW also carried out some infiltration reduction work in the catchment which proved beneficial. The above freed up some headroom to accommodate part of the growth in the catchment.

Pagham WTW faced challenges in previous years when the mineral filters had to be taken offline for refurbishment. This work has been completed and the site has since

been operating fine. It also now has the ability to take one of the mineral filters offline for maintenance without affecting performance. This means the site can also now accommodate some additional growth.

At Pagham WTW, we have improvement schemes in progress already, which are due to complete in April 2025. These will

1. Reduce the phosphorus levels in the recycled water.
2. Reduce the Ammonia levels in the recycled water
3. Improve monitoring of flows through the process
4. An assessment of Storm Storage Capacity is being carried out to ensure that the site complies with new standards set by the EA, not yet finalised
5. An assessment of Flows through the site is being carried out to ensure that the site complies with new standards set by the EA ,not yet finalised
6. Additionally we have engaged our Engineering technical services department to assess growth within the Pagham area and to develop a strategy to accommodate this growth in the most efficient way.

We are also carrying out various environmental studies in the catchment and have another quality driver pertaining to Pagham Harbour, to reduce Nitrate levels, to be implemented either at Pagham or Sidlesham WTW.

Meanwhile, SW is working on a regional growth investment scheme that includes Ford, Lidsey and Pagham to support long term growth in the area which anticipates over 15,000 units in total by 2035. This investment scheme is part of SW's PR19 business plan (AMP7) approved by OFWAT. The design population for this scheme takes into account anticipated growth from relevant local plans. Preliminary work has started. The anticipated completion time for AMP7 investment schemes is 2024.

Can you confirm that many new strategic site and other developments have or will have their sewage taken away almost daily in tankers. Is this a satisfactory solution? Should you not upgrade the sewage plants before the houses are built?

The tanker solutions are put in place to relieve pressure on the sewerage network (pipes and pumping stations), not the WTW. This is a temporary solution until network upgrades are implemented. The timeframe for these upgrades should normally be 24 months from the granting of planning consent. See [provision-of-network-reinforcement-position-statement.pdf \(southernwater.co.uk\)](https://www.southernwater.co.uk/provision-of-network-reinforcement-position-statement.pdf) for further information.

Water Quality

Much of our water comes from the south downs aquifers. Was it wise to pursue fracking and risk polluting our water supplies in an area of the highest sunshine and the most productive land with longest growing season?

Southern Water is not responsible for fracking operations, and certainly does not 'pursue' it.

Water companies became statutory consultees for fracking applications in 2015. Key reasons for having water companies as statutory consultees are:

- to ensure that water companies are involved early in the planning process, so they can work with operators to develop solutions that will work for all stakeholders – and satisfy their regulatory duties;
- to enhance public confidence by demonstrating that impacts on drinking water and drinking water sources will be fully taken into account.

Water UK and its members have consistently taken a neutral stance on the development of shale and other unconventional oil and gas reserves in the UK.

To date SW has not issued any trade effluent consents relating to the discharge of waste from fracking activities within Arun or anywhere in our region. If a fracking company wanted to discharge waste to sewer they would need to make a formal application to discharge and we would carry out a consultation to determine whether the waste and its constituents would be acceptable for transfer and treatment via our assets. Each application would be considered on an individual basis as to whether our WTW could treat the waste and any substances it contained.

No fracking applications have been received in our area to date.

Cllr Shirley Haywood

Does SWA have any long-term plans to solve the problems of surface water flooding along the coastal fringe? This historical flooding is a direct result of SWA's past failures to maintain its network. With the increasing burden on the system of large numbers of new homes, SWA is now failing to upgrade its system to cope with the ever increasing volumes of surface water. Future rising sea levels due to climate change will also have a serious impact on existing outdated public surface water outfalls. A cohesive plan for the future surface water drainage of this area is now pressing and I would be interested to know if SWA is taking this problem seriously and what plans they have to alleviate residents' anxiety.

Southern Water is responsible for foul drainage only (or surface water that finds its way into the historic combined sewer systems). The Environment Agency is responsible for flooding arising from rivers or the sea, with the lead local flood authorities (upper tier Councils and Unitary Authorities) taking responsibility for managing the risk of flooding from surface water, groundwater and ordinary watercourses. Concerns arising from surface water flooding should be raised with the LLFA in the first instance. For more information see; [Managing flood risk: roles and responsibilities | Local Government Association](#)

Surface water should not be connected to the foul drainage system as this was not designed to accommodate surface water.

However, Southern Water is currently working with the EA, LLFAs and other stakeholders on the development of its Drainage and Wastewater Management Plan (DWMP), which will set out how water and wastewater companies intend to extend,

improve and maintain a robust and resilient drainage and wastewater system. For more information see; [DWMP \(southernwater.co.uk\)](http://DWMP.southernwater.co.uk)

Cllr Tony Dixon

Question 1

In March 2020, Southern Water pleaded guilty at Maidstone crown court to 51 criminal charges brought by the EA of dumping poisonous, noxious substances including raw sewage, after a criminal inquiry that ran alongside the Ofwat investigations. Sentencing in the criminal case was due in February 2021.

What were the sentences handed down by the court?

The sentencing hearing has not yet taken place. To avoid any misunderstanding, the company pleaded guilty to charges of releasing '*poisonous, noxious or polluting matter or waste matter*' - the unpermitted discharges were of diluted and settled (i.e. no solids) *waste matter*. The case is about a number of unpermitted discharges that occurred between 2010 and 2015 at a number of wastewater treatment works on the North Kent Coast and the Solent and the potential risk that those discharges may have had on the shellfish in those areas at that time.

Have any individual(s) within SW been held accountable by the company for these criminal breaches and, if so, what action has been taken against them?

As the case is not concluded, it would not be appropriate to discuss such matters.

Question 2

Southern Water regularly discharges sewage into Pagham Harbour and other locations, as evidenced by the substantial fines imposed by OFWAT. But whose fault is it really?

To clarify, Ofwat is a financial regulator and the Ofwat financial penalty was related to the misreporting of data to Ofwat about the performance of wastewater treatment works. Ofwat stated in its Final Determination that -

"For the avoidance of doubt, Ofwat's findings in this document are purely about regulatory obligations in respect of which Ofwat has jurisdiction. We have not made findings about site specific environmental permit failures, actual environmental impact from any permit failures, or whether the acts of Southern Water were criminal in nature. These matters are currently being dealt with by the Environment Agency, as the environmental regulator".

We know that SW is required by the Water Industries Act to accommodate new development whatever the circumstances – and whether or not it overloads the system. SW can make recommendations for infrastructure improvements at the planning stage but the onus is on the planning authority to set robust conditions when granting planning permission and to then enforce those conditions. At the same time the planning authority is under incredible pressure to meet government housing

targets and tough conditions might conflict with this.

Are the discharges into Pagham Harbour due to negligence on the part of SW or inadequate infrastructure?

Discharges into the harbour occur as a result of large volumes of storm water in the system which is released under the environmental permits issued and enforced by the EA. These controlled releases are something that all water companies do and they occur as part of the design of the sewer network that Southern Water inherited, and they occur in order to prevent flooding of the environment and customers' homes and public property (such as Hospitals and Schools) and in order to protect the operation of the WTW. We appreciate that what was historically an accepted feature of the network design, dating back many decades, is less so in modern times, particularly when climate change and population growth have added pressure to the networks.

A government task force was set up last year to address this nationwide issue. SW fully supports the work of the Storm Overflows Taskforce and are committed to collaborating with government, regulators and others to improve river quality. More information can be found here; [Taskforce sets goal to end pollution from storm overflows - GOV.UK \(www.gov.uk\)](http://www.gov.uk)

Does Arun support SW by setting robust enough conditions and then by enforcing them?

If the council has set the drainage conditions that SW has recommended in its consultation responses, this should ensure all requirements are met. Should any developers breach these conditions we would expect the council to ensure the appropriate action is taken.

Is SW satisfied that the conditions imposed by the council on the Pagham strategic developments are robust enough?

They should be if the system is working correctly, ie that there is a follow up from DC teams to ensure planning conditions have been met post construction.

Cllr Jim Brooks

Q1 Bathing Water Standards

Will Southern Water still be adhering to current and future EU Bathing Water Standards even though we have left the EU? Why given previous commitments by Southern Water are some of our beaches in Arun still not always meeting these standards, and what next steps are proposed?

All the legislation that related to our relationship with the EU, including the EU bathing Water Directive, has been carried forward into new legislation. We therefore expect standards to remain the same until new legislation is developed.

There is currently a Bathing Water investigation in Pagham, due for completion by the end of September. Pagham bathing water is currently classed as 'excellent'. However, Pagham failed to meet its baseline class in 2016 and 2017 and has therefore

been flagged as deteriorating. The objective of the investigation is to understand SW's contribution to the baseline class failure and identify the SW assets impacting on the bathing water, and any improvements required. The final sign off for this investigation is by the end of September 2021.

Q2 Covid 19

While Covid19 is presently airborne, viruses can live in water, and variants are arising all the time. Could a variant of Covid19 live in water and does Southern Water regularly review its procedures to identify new threats and treatments?

Last year the government investigated the possibility of tracing outbreaks via testing at WWT sites (Southern Water supported this along with other water companies) for the presence of fragments of C-19 genetic material in wastewater, to help identify Covid -19 outbreaks. More information is available here; Sewage signals early warning of coronavirus outbreaks - GOV.UK (www.gov.uk)

The World Health Organization is clear that the likelihood of coronavirus being transmitted via sewerage systems is extremely low or negligible. However we will continually liaise with the relevant authorities to ensure we are working collectively to provide information and maintain safety at all times.

Cllr Isabel Thurston

Question 1

How old are the majority of sewers in Arun? In particular the system in the Barnham area is overloaded - do you have plans for an upgrade? Does the Lidsey treatment works have enough capacity to cope with all the new development planned in the central West area of Arun/Barnham? If not, what are the improvements needed, and timescales?

We don't have date laid dates for all sewers particularly older sewers, but it's likely that the age of sewers mirrors the age of development with the exception of old and isolated properties. Most recent changes would have been for schemes such as the bathing water improvements at Littlehampton and Bognor in that late 90's where new trunk sewers were constructed to take flows to the then new WTW at Ford.

Barnham – we have undertaken a drainage area plan and modelling exercise for the Lidsey sewerage catchment that includes Barnham. Options to address overloading have been identified and these are being reviewed in our prioritisation process. We will be engaging with external stakeholders on our Drainage and Wastewater Management plan (DWMP) for the Arun and Western streams River Basin District over the next couple of months.

See previous answer to Cllr Huntley question on page 1 regarding upgrades to Lidsey/Pagham/Ford WTWs.

Question 2

Are you researching new, environmentally friendly private package treatment works and other solutions for small developments - and more importantly the back up to ensure they are effective?

Southern Water is not responsible for private package treatment plants. If the developer wishes to pursue this option for their site, they will need to agree this with and gain the necessary permits from the Environment Agency. Ongoing maintenance of the PTP would be the responsibility of the developer who may set up a management company or similar. It is not within SW's remit.

Question 3

Are you planning to improve monitoring of storm drain outflow to rivers?

Yes. There is an extensive list of BW-MON, SW-MON and U-MON schemes within the current Water Industry National Environment Programme (WINEP), all linked to the monitoring of CSO storm discharges (in designated Bathing Waters (BW), Shellfish Waters (SW) and Urban Wastewater Treatment regulations (U) requirement for monitoring in waters other than BW or SW). Information is available to download from; [Water Industry National Environment Programme - data.gov.uk](https://data.gov.uk)

Cllr June Hamilton

Sewage and Fresh Water

Question 1

For many years there have been regular verified reports of untreated sewage being observed in Pagham Harbour and its Rifes. Southern Water's official 'Spill' Report for 2019 in fact states there have been 24 incidents from Pagham WTW and Sidlesham WTW in that year alone. The 2020 report is not yet available but we expect it to be similar, if not worse. While we appreciate that these spills can often be diluted with rainwater, nonetheless 40-45% by volume is still unprocessed wastewater (merely filtered to screen out nappies, condoms, cotton buds and the like) of which maybe 5-10% is still raw sewage. Pagham Harbour is of course a special Protected Area and a Site of Special Scientific Interest, and so this gives us great cause for concern. An information request disclosed that there were 55 discharges of sewage into Pagham Harbour International Nature Reserve between 2011 and 2016. What are the figures please for the following five years ie 2016-2021?

See response to Q1 on page 1.

Question 2

So going forward, what please is Southern Water's plan to eliminate these 'spills' of untreated effluent?

Our aim is to have zero pollution incidents by 2040. A pollution incident is a discharge that is outside the permits granted by the EA. It would not be possible to eliminate all CSO/CEO discharges as these were designed into the system that we inherited in order to perform the essential function of providing an outlet for storm water during times of heavy rainfall, rather like a pressure relief valve. If these permitted discharges were to be prevented, the excess water would need to go elsewhere, resulting in the flooding of homes, businesses, hospitals, schools, streets and the environment. We are investing in a pollution reduction programme to significantly reduce the number of pollution incidents, which are discharges that are outside of the permits granted by the EA.

The DWMP is assessing the storm overflow risks based on the current and future predicted number of spills. Where the spills are more than 40 on average over the last three years (the limits are tighter for bathing and shellfish waters) then we will need to consider what action can be taken to reduce the number of spills as part of our long-term investment plans, known as Drainage and Wastewater Management Plans (DWMPs).

We have included a list of plans to reduce the impact of CSO discharges within our presentation for the meeting on 25 March.

Question 3

If the answer to the question above is going to be dealt with in terms of the intended scoping study of Pagham Harbour which will determine late in 2021/2022 any actions to go into their next planning cycle for 2024-2029, then please explain, what is Southern Water intending to do in the meantime about all the 'spills'?

See response to Q1 on page 1

Question 4

Will it be to install a larger or secondary containment tank of appropriate size, or does it have some other solution in mind please?

Improvement schemes in progress at Pagham WTW include an assessment of Storm Storage Capacity to ensure that the site complies with new standards set by the EA, (not yet finalised) and an assessment of flows through the site is being carried out to ensure that the site complies with new standards set by the EA, also not yet finalised.

Question 5

If the Environment Agency were to reclassify Pagham Harbour as a 'sensitive' area (say because of the discovery of the Lagoon Spiral Snail (*semisala stagnorum*), or because of interim findings arising from the University of Brighton intertidal sediment study), or risks to other protected wildlife, how prepared and how quickly and how responsive could Southern Water be in equipping Pagham and Sidlesham WTW with UV disinfecting capability? Will it take 12 months, 24 months? Years?

Southern Water would act in accordance with the requirements of our regulators, who would be the ones to make such decisions. The EA has however recently stated that 'Pagham Harbour does not contain any designated shellfish waters, and commercial shellfish harvesting is not allowed, unlike Chichester Harbour; therefore there is not a regulatory driver for tertiary treatment to reduce faecal bacteria, such as ultra-violet disinfection'. UV disinfection does not, for example, remove excessive nutrients which can cause eutrophication which can lead to the degradation of habitats. This AMP, there are programmes in place to reduce nutrient outputs from both of these WTWs.

Question 6

When Southern Water is fined for polluting incidents as it has been, is this cost charged against the operational profit and loss account or against the shareholder fund and dividends of Southern Water?

No dividends have been paid to shareholders since 2017. Any fine imposed on Southern Water by a court is not paid by customers. Similarly, the £3m financial penalty imposed by Ofwat in 2019 was not met by customers.

Question 7

The fines have been huge, what lessons have been learned please, and what undertakings can Southern Water give that the very serious incidents of pollution will not be repeated?

Please see [Southern Water welcomes Ofwat's proposal over its wastewater failings between 2010 and 2017](#) for answers to this question.

Question 8

Southern Water was consulted in relation to the Arun District Local Plan proposing 1500 new homes for Pagham and 2,500 for Bersted. It was, no doubt, also consulted by Chichester District Council in relation to their housing intentions in the Sidlesham area WTW catchment area and also for Hunston and North Mundham which are in fact in Pagham WTW's catchment. How did Southern Water anticipate being able to cope with this overload?

The houses have not yet been built and as outlined in previous question responses, planning is underway to accommodate growth in all of these catchments.

Question 9

We understand that Southern Water cannot legally refuse to connect any household to the local drainage systems, but what advice, and what difficulties did they express to Arun District Council, West Sussex County Council, and Chichester District Council when discussing the implementation of the Local Plan currently in force, please?

The councils will have been made aware of the way in which Southern Water plans for growth; with network upgrades being planned for through the new infrastructure charge to developers and delivered in tandem with new development. WTW upgrades are planned for through the 5 yearly business plan. Population forecasting and the monitoring of adopted local plans provides SW with the growth data evidence it needs to project the point at which capacity upgrades will be required, and justify the investment to OFWAT. It is our environmental regulator (the EA) who will determine the impacts of growth on water quality and may tighten current permits as necessary to ensure no deterioration.

Question 10

When Southern Water allegedly and as far as we know, raised no objections to the problems of so many big development sites on a coastal flood plain close to sea level, did it also take into account the predicted and inevitable sea-level rise, the very high water tables, the low lying land barely above sea-level, the sluice-gated rifes which can only drain for six hours out of twelve for tidal reasons, or the agricultural drainage channels, which are difficult for anyone except the landowners to control?

Water companies are not statutory consultees on individual planning applications. We have statutory obligations to provide water and wastewater services; we cannot refuse new connections and we are unable to object to new developments. Southern Water will only comment on foul drainage provision for these developments as that is the extent of our remit. Regardless of their impact on the foul sewer network, the other issues outlined above relate to surface and groundwater, and coastal flood risk, all of which are within the remit of other flood risk management agencies, such as the LLFA, the EA and the IDB. However as previously outlined, our work on the DWMP seeks to engage all the aforementioned stakeholders, including LPAs, in identifying the issues and working towards sustainable solutions.

Question 11

Additionally, what works please, are planned to these WTWs and also to Lidsey, and to the sewer system pipe network and its pumping stations in order to provide for this number of additional homes? And how has Southern Water calculated these needs? What reserve contingency for the future will Southern Water build into its planning?

See response to Question 1 on page 1.

Question 12

When will the influent and effluent sampling standards of Pagham WTW be aligned to those conducted at Sidlesham WTW?

Currently Pagham has tighter permits than Sidlesham for all determinands other than Total Nitrogen. There is a WINEP requirement to either tighten Nitrogen permits at Sidlesham or introduce Nitrogen removal at Pagham by 2024, but the decision will be based on the outcome of current growth considerations.

Question 13

We are given to understand (by Natural England) that Sidlesham WTW is to be upgraded for nitrogen removal during the current Asset Management Planning round due for completion in 2024. When can Pagham WTW expect to be similarly equipped?

See above. The EA state that there is a WFD_ND nitrate requirement by 31/03/25 - this may be implemented at either Pagham, Sidlesham or a combination of both. To achieve a load standstill accounting for growth.

Question 14

Does Southern Water have any thoughts or suggestions as to how coordination and communication between the District Council Planning Officers, Southern Water Services, West Sussex County Council, Environment Agency and other agencies can be enhanced and improved? Also, who does Southern Water think should take the lead on this?

It depends on the specific issue that is causing concern but there is always room for improvement in terms of inter-agency or indeed inter-departmental communication. Provided we have up to date shared information to hand, this can help us make informed decisions around investment for growth. It is anticipated that the DWMP process will also improve communication between agencies, as multiple stakeholders

have been invited to participate and contribute.

Question 15

Can Southern Water please clarify which of the planning applications in relation to Pagham, Bersted and North Mundham are to be permitted to connect to the public sewage system immediately and which will need to resort to using road tankers until such time as the necessary works are completed?

Whilst water companies are not statutory consultees on planning applications, we encourage Arun District Council to (and are satisfied that ADC do) consult us on any major development applications in their area. Once submitted for comment, we will run an assessment of network (pipes and pumping stations) capacity to accommodate the new flows. Where capacity is available SW will not make any comment relating to it, and the development will be permitted to connect without any preliminary reinforcement. Where capacity is not available, we will ask the planning authority to impose a condition that occupation of development be phased to align with the delivery of network reinforcement.

Part of the design and delivery process will include a review of a development site and its associated occupancy programme. This may inform whether there may be a need to undertake mitigation whilst an investment project is in delivery, one of these measures may be tankering.

The following sites will require network reinforcement;

Planning ref.	Site/development details
P/25/17/OUT	Church Barton House, Horns Lane, Pagham, PO21 4NZ
P/30/19/OUT	Land North of Hook Lane, Pagham
20/02989/FUL	Land at the south Of Lowlands, North Mundham, West Sussex
P/140/16/OUT	Land South of Summer Lane & West of Pagham Road, Pagham, PO21 4NJ
P/134/16/OUT	Land North of Sefter Road & 80 Rose Green Road, Pagham, PO21 3EE

Using tankers to dispose of wastewater arising from new development is a last resort, and an expensive one which SW aim to avoid unless absolutely necessary in order to mitigate sewer flooding that may arise as a result of new development connecting ahead of network reinforcement delivery. In every case it is a temporary measure.

Question 16

Does Southern Water consider the use of road tankers a sensible or sustainable short or medium or long term solution to these problems?

These measures are not what SW aims for when planning for growth. However they are sometimes necessary (in the short term only) to mitigate flood risk in situations where the delivery of network upgrades has fallen behind schedule as a result of any

number of unforeseen problems.

Question 17

It is noted that Southern Water has expressed reservations concerning the long term reliability of SuDs if not adequately maintained, and also for what it described as “urban creep” whereupon permeable land is being consumed and lost through overbuilding. Who is going to be responsible for the maintenance and who will supervise it?

Under the new SFA8, SW are able to adopt certain types of SuDs provided they meet the following criteria;

- 1) Compliance with Appendix C of Design and Construction Guidance for new surface water drainage systems is demonstrated
- 2) Construction of SuDS conforms to requirements set out in CIRIA document ‘The SuDS Manual C753’
- 3) SuDS are part of a continuous sewer system –not an isolated end of pipe SuDs component
- 4) It is constructed for the drainage of buildings and yards appurtenant to buildings;
- 5) It has a channel (a depression between banks or ridges with a definite boundary);
- 6) It conveys and returns flows to a sewer or to a surface water body or to groundwater; and,
- 7) It has an effective and maintainable point of discharge, which must have lawful authority to discharge into a watercourse or other water body or onto or into land
- 8) It is safe and practical to maintain

Question 18

What does Southern Water think might be the potential impact on Pagham and Bersted and the many homes already existing there, in relation to the high (and exponentially rising) water table and concerns over climate change and rising sea-levels of very low-lying land situated just a handful of feet above sea-level with minimal gradients over long distances to sewage treatment plants, across Chichester Plain, so that the natural force of gravity provides almost no assistance with sewage drainage and the water table continuing to rise and flooding people’s homes and the wider environment, with the additional pressures created by the additional homes? Does Southern Water see any solution and/or happy ending to all these counterproductive and conflicting demands?

For existing development in these locations, engineering solutions in place include rising mains and pumping stations, where gravity sewers are not an option. The NPPF sets the national policy approach to development in high flood risk areas. In terms of future development, planning practice guidance states that a water cycle study can help a local authority plan for sustainable growth. These studies are promoted by the EA and would examine these and other water related impacts associated with growth, flood risk and water quality in an area. See <https://www.gov.uk/guidance/water-cycle-studies>. Southern Water has participated in many water cycle studies commissioned by local planning authorities across its region and is happy to comply with all the necessary data requests and any other contributions needed to enable consultants to carry out the work.

Question 19

The quality and quantity of our fresh water has also been brought into question. Much of our water comes from the Southdowns chalk aquifers, which also cross the downs and Chichester Plain from east to west. Do you agree and will the domestic water supplies in the area be able to continue unimpeded when the additional housing is in place?

Southern Water provides drinking water to the eastern half only of Arun District up to and including Littlehampton and Arundel. Our WRMP sets out how we aim to deliver a sustainable and reliable source of drinking water for the next 50 years, and of course takes growth, as well as climate change, into account in these plans. See [Water Resources Management Plan 2020–70 \(southernwater.co.uk\)](https://www.southernwater.co.uk)

In terms of the environment we are regulated by the Environment Agency and Natural England to ensure that we do not have a detrimental impact on the natural water environment, with our catchment teams and hydrogeology teams working closely with the EA and also developing schemes like CHAMP to improve water quality. In terms of tap water quality, we are regulated by the DWI and must provide wholesome water as defined by regulation 4 of the Water Supply (Water Quality) regulations 2016 as amended 2018. <https://www.legislation.gov.uk/ukxi/2016/614/regulation/4/made>

Question 20

It seems there is now some doubt about fresh water supply as well as foul water drainage in the district. I would like to ask if, in hindsight, it was wise to pursue fracking on the Downs, risking pollution of our fresh water supply and in an area of the highest productive agricultural land in the region, with the highest sunshine hours and a very special microclimate?

See response to the Water quality question on page 2.

Question 21

So what is the predicted and actual supply flow rates and BAR that Southern Water will be able to maintain for Pagham and Bersted please, with all the additional homes?

Southern Water does not supply fresh water to Pagham or Bersted (we serve the eastern half only). Questions related to water supply in these areas should be directed to Portsmouth Water.

There is however significant growth planned for Littlehampton and our approach would be the same here as it is across our supply network. Assessments would be made of the ability of the existing network to cater for the additional homes and where necessary additional supply can be brought in through appropriate re-zoning or upsizing of the network.

Question 22

What are the current flow and BAR rates please?

Minimum standard for water pressure as required by our regulators is 15 metres (1.5 BAR). Current pressure varies dependent on which area of the network you're looking at but will always be 15m or above. SW has over supplies water to over 1 million properties across it's region, and of these just over 300 have problems with pressure being below this minimum level. These addresses are known, regulators are aware and causes / solutions are investigated. The business does not wish to increase this number and therefore takes planning water supply for growth very seriously.

Question 23

Given that Southern Water cannot legally refuse to connect any property authorised with planning permission to the public sewage network and that just today, (February 26th - <https://committees.parliament.uk/committee/127/public-accounts-committee/news/144764/next-housing-and-building-regulations-scandal-brewing-in-flood-protection-failures/>), Public Accounts Committee called for the planning rules to be changed to force developers to include protection measures and said that new homes on flood plains should be built on stilts or raised platforms and, that government policy recommends that new developments should not be built on "areas prone to flooding" and the Environment Agency figures show that 50 per cent could be built on flood plains in the next 50 years (SW comment: the article actually says a 50% increase in homes built on flood plains, not that 50% of new homes will be built on flood plains), does Southern Water welcome the Committee's clearly expressed hope that all developers will soon be forced to ensure that any home built on a flood plain should be built on stilts or raised platforms, and must have proper drainage systems implemented, at the cost of the developer, with maintenance obligations in place?

SW would support any flood mitigation measures that prioritise the safety of new homes' occupants, in particular avoidance in the first instance. However, we could not find any reference in the PAC article or the associated report relating to building houses on stilts and requiring developers to implement and maintain the drainage systems.

Question 24

Officers at Arun have claimed publicly that Chichester Plain is not technically a flood plain. As this term usually relates to fluvial flooding, it can be argued that they have a point. However, geographically, it is a plain, (Chichester Plain appears in many school atlases), a substantial flat expanse, cut by many chalk rifes, bringing water down from the South Downs and exiting into the sea and the local harbours and nature reserves. And it certainly floods in many places. All of the rifes flood, as do the bigger rivers, every year, however, the degree of flooding depends largely on the amount of precipitation, which affects the ground water levels, the aquifer levels and flash flooding and the like. It is never really possible to define only one reason for flooding and the Environment Agency or the Planners (whoever started this practice), seems to be dealing in semantics. It is understood that Southern Water is not itself responsible for flooding, but on these low levels the flooding has been known and

clearly seen to exacerbate the backing up of sewage and household toilets, because there is nowhere for the waste to go when tanks are full, and if they do they are probably exiting the system illegally. The different and varied causes of flooding are impossible to accurately separate, they all contribute. With this in mind, does Southern Water think it wise to continue with such heavy volumes of development on Chichester Plain, given recent increased levels of flooding? If it does think this is OK, what is the cure for it please? Can you suggest any helpful prevention measures? Southern Water will only comment on flood risk as it relates to the risk arising from our own sewer network (ie associated with foul drainage). We generally do not accept surface water connections into foul sewers, and since October last year sewerage companies are able to adopt certain types of SuDS systems.

Question 25

Is Southern Water aware that the Pagham site and the Bersted site were under water, or at best awash, for about six months last winter, and this winter, is looking like being about the same? Has Southern Water seen the photographs of the Pagham Sites under water, and the Seftor Road sites with people swimming and sailing in small boats across the site?

If these sites are currently greenfield sites, we would make the assumption that no engineered drainage system currently exists to take surface water away from that location. Given that the flooding effectively demonstrates that their topography and/or ground conditions make them prone to retaining water, the developers of the site will need to take this into account in the design of their on-site drainage, and SW will look to ensure that surface water is not permitted to enter the foul drainage network.

Question 26

Does Southern Water envisage being able to cope with these water levels, and how will the current residents close to the proposed development areas be safeguarded against a worsening of the current drainage situation?

As mentioned, we will look to the council to ensure that surface water is not permitted to drain to the foul network, in order to mitigate any increased risk of flooding from sewers. Should our network models determine that the addition of foul flows from these sites to the existing sewer network will necessitate network reinforcement, we will request a planning condition that properties are not occupied until the necessary work has been carried out.

Question 27

Does Southern Water agree with the report written about the local drainage problems by Mr Keith Meadmore's final draft, v3? (Copy supplied).

We have yet to assess the content of this report, however it's not possible to agree or disagree with the report in its entirety as there are elements of the data supplied by us that have been misinterpreted by Mr Meadmore, leading to incorrect conclusions (particularly in the first version). Assessment is made more challenging when a full list of research references and reports provided as appendices are absent from the

report. To properly assess the content of the report requires a significant time commitment from colleagues who are the experts in their various fields of on-site operations, process scientists, data analysts etc who are consistently working with pressing deadlines and priorities. We have responded to the first report and I hope will be able to provide comment on the second version in due course.

Question 28

Is there anything Arun District Councillors can do to assist better planning cooperation?

Myself and my colleagues in the Growth team are always available for discussions with ADC Local Plan or Development Control officers regarding the council's aspirations for growth, and how SW can accommodate it. Our knowledge gained from local authorities and developers on growth projections feeds into the wider business strategy for investment planning – the better our knowledge based on the information we receive from local authorities, the more informed our investment decisions can be.

In addition we believe that for development to be truly sustainable, it must be future proofed in terms of resource use, and strive to take pressure off the environment. There is a lot of focus on carbon reduction and energy efficiency in new homes, but water efficiency should also have a role to play. Southern Water's Target 100 program seeks to reduce per capita consumption to 100 litres per person per day by 2040 – more information is available here; [Target 100 \(southernwater.co.uk\)](https://www.southernwater.co.uk/target-100)