Southern Water: West Sussex update

16 October 2024



Agenda

- Welcome George Eykyn
- Company update John Penicud
- Wastewater Groundwater Infiltration update Alex Saunders, Andy Webb and Chris O'Grady
- Clean Rivers and Seas Task Force Nick Mills
- Water operational and capital delivery updates John Maguire and Emmanuel Iwuamadi
- Water Resources Management Plan (WRMP) Sam Underwood and Ken MacDonald
- Closing words



Company update

John Penicud, Managing Director for Wastewater



Our Business Plan – 2025 to 2030

- In October 2023, we submitted our Business Plan to Ofwat for the period 2025-30.
- On the 11 July we received initial feedback from Ofwat, known as the Draft Determination
- We have now published our response, ahead of Ofwat's **Final Determination** in December 2024.
- Our plan is the company's largest ever c.£8 billion to enhance the health and wellbeing of our communities, protect and improve the environment and help to sustain the local economy.
- More than 25,000 customers spent over 8,000 hours telling us what they think



Draft Determination response

- After carefully reviewing Ofwat's Draft
 Determination, we don't believe it would secure the investment required to deliver change required
- In our response we've said that to secure the investment required, essential change is needed to its draft determination to make plans affordable, deliverable and financeable.
- We've spoken to thousands of customers to inform our proposals, to further understand their priorities
- Our revised plan will achieve this and includes additional investment
- These changes will deliver more environmental improvements in a shorter timescale







Sussex Environmental investment 2025–30



Southern Water.

Total proposed environmental investment



Arun and Western Streams

- Nutrient reduction at 18 sites.
- Reducing spills in catchment by 54% by improving 29 overflows.
- 145km of river improved.

Rother

- Nutrient reduction at 20 sites.
- Reduced use of storm overflows
 36% at 21 overflows.
- 112km of river improved.

Hardham Water Supply Works

- More reliable supplies to 246,000 properties.
- Enhanced treatment.

Cuckmere and Pevensey Levels

£542m

£119m

£30m

81.5m

· Nutrient reduction at seven sites.

- Reduced use of storm overflows 20% at 18 overflows
- Coastal resilience scheme . at Eastbourne.
- 55km river improved.

Adur and Ouse

£194m

- Nutrient reduction at 18 sites
- Reduced use of storm overflows
 34% at 34 overflows.
- Coastal resilience scheme near Brighton.
- 135km of river improved.

* This is the proposed level of investment set out in our 2025-30 business plan, but is subject to change following Ofwat's Final Determination.

Wastewater – Groundwater Infiltration update



Our role

- Southern Water is responsible for managing flows within its network, taking wastewater from customers' homes to Wastewater Pumping Stations (WPS).
- Across West Sussex, we have more than 500 WPSs, which then pump flows into nearby Wastewater Treatment Works (WTWs).
- There are a variety of sewer network flooding risks, and we work very hard to find and fix an issue before it arises, but some are out of our control.
- Risks include:
 - High groundwater levels / rainfall
 - Fat, oil and grease (FOG) / Unflushables entering our network
 - Illegal connections





A very wet winter

- Last winter we experienced extreme levels of rain and the ground in certain areas of Sussex became heavily saturated.
- The local drains and sewers were inundated with surface water run-off, which put significant pressure on our local WPSs. We experienced extreme levels of rain, which meant groundwater found its way into the sewer network.
- Areas that particularly suffered from groundwater infiltration were Barnham, Felpham, Lancing, Southwick, Shripney and Middleton-on-Sea.







Preparing for this winter









Improving our response this winter - operational

Created Groundwater playbooks for different scenario, to ensure we are best prepared for potential issues

- Enhanced use of our Sewer Level Monitors (SLMs): Live monitoring of our catchments, so we can react quickly if we see sewer network levels rising
- 22 Wastewater Pumping Station winter readiness checks completed, to ensure they are working as they should. More than 20 wet well cleans have also taken place, and this work is ongoing.
- More than 800m of Infiltration CCTV surveys completed across Sussex.
- Pre-season jetting of our sewers in 'hot spot' locations, ensuring our sewer network is in the best possible condition before winter.



SU80082101Y_736de3af-8988-4446-ba3d-e880cc677ac4_20 240808_141000_206.jpg, 00:08:15, 65.04 m Infiltration, gushing at joint at 3 o'clock

Extensive rehab and pathfinder activity West Sussex



Charlton-Pathfinder Idsworth Up Marden More funds released to continue Singleton/West Dean-Rehab West Marden Upwaltham to Charlton A km of new lining work including the relief site Forestside East Dean West Dean Rowlands Binderton East Dean-Pathfinder Funtington-Pathfinder Castle 1400m of relining and 3 100m of sewer lining and Ides Common chambers to be sealed 5 manholes sealed Eartham Adsdean Aldsworth Funtington East Lavant Halnake Westbourne West Ashing **Funtington-Operations** Crockerhi Proposals for 90m pipe burst on DENVILLES Watery Lane vant Fontw Westhempnett Emsworth Tangmere Southbourne Prinsted Aldingbourne Sidlesham Catchment–Sewer Rehab Nutbourne: 6 km's of sewer lining in Birdham Easterg Chichester Oving and Itchenor layling Island Bosham

Improving our response this winter – communication

- Spoke with customers on the ground to look at how we can reduce potential impact (tankering / generator locations etc)
- Improved customer communications with SMSs messages
- Improved transparency by using our Incident Map System, which customers can access to show areas where we have live groundwater issues
- Proactive stakeholder updates with elected members
- Weekly calls with the Environment Agency







How we're changing

Our future delivery model:

Southern Water

BROWNE



Key Services:

- Blockages
- Cleaning
- CCTV
- Patch Lining
- **Gravity Sewer Tankering**
- Smart Network SLMs
- Manholes S81 & Customer led (Mainland)





- Dig down repairs
- **Rising Main repair**
- Low/No dig solutions
- Chamber & benching repairs
- Activity related flow management
- Manholes S81 & Customer led (IoW)

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Key Services:

- Full length lining
- Activity related flow management



Making sure our Wastewater Treatment Works (WTW) are ready for winter



Winter readiness – wastewater treatment

- To help with our groundwater infiltration response, we're also making sure our WTWs are also prepared for the winter months.
- Our winter readiness programme includes a 45-point check per site, to ensure we are resilient. Checks range from making sure our backup generators are working as they should in case of an emergency, to ensuring the site is gritted and staff are safe.
- Reviewing how we work with the Environment Agency and build on our work from last winter, pushing more flow through sites which have additional capacity beyond the flow to full treatment, to reduce storm spills and the impact of groundwater.
- We've also implemented storm outfall checks, following discharges. We are using machine learning and static models to generate tasks for our teams to check outfalls following genuine releases to the environment.



Goddards Green WTW



Wastewater Capital Delivery Investments – West Sussex



Wastewater Capital Delivery Investments – West Sussex

During AMP7 (2020-2025) we've invested £229m so far which includes:

- **Network Projects**; Rising Mains (£15m), Growth (£12m)
- Treatment Enhancement; Additional Storm Storage (£5m), Increase Flow to Full Treatment (£6m) & Improved quality of treated wastewater, including Phosphorus removal (£99m)

£28m still to spend this AMP, largely relates to **Treatment Enhancement**, vast majority schemes now on site.

Key Projects: Goddards Green (£24m), Horsham (£31m), Pagham (£20m)







Horsted Keyners FST Base Framework





Scaynes Hill Deep bed sand filter in commissioning





Top Ten Schemes

Project Name	Detailed Programme	Investment		
Goddards Green Odour reduction	Goddards Green THP	24,296		
Summer Lane, Pagham WTW	WINEP WFD Quality	19,970		
Horsham WTW Growth	WTW Growth	19,341		
Scaynes Hill WWTW	WINEP WFD Quality	15,258		
Wencelling Rising Main	Rising Mains	13,889		
Horsham WWTW	WINEP WFD Quality	12,240		
Chichester Development Phase 2	Waste - Network Reinforcement	9,609		
AMP6 Planed WTW Est Wortng Inle	Planned WTW capital maintenance	8,352		
Billingshurst WTW -AMP6 Planned Works	WINEP AMP6 Carryover	7,270		
Godstone WWTW	WINEP WFD Quality	5,345		





Clean Rivers and Seas Task Force West Sussex update



Sealing and relining

East Dean

Part of our Lavant WWTW network catchment

We hope to proceed to Charlton next and then continue to Singleton

1616m of private and public sewer sealed so far

Wetland to treat storm overflows constructed at Lavant

Funtington

Part of our Bosham WWTW network catchment

The total of sewer sealed so far 363m

We will continue to end of Jan 26, hope to seal 1620m of private and public sewer

See our video here:

Sealing public and private pipework to prevent groundwater squeezing through pipe joints

No dig solution







Highway SuDS Programme – West Sussex

- Approximately 30-50% of surface water that enters the combined sewer network comes from roads.
- Working with West Sussex County Council to establish a highways SuDS programme – removing the equivalent of 44km of highways drainage from the combined sewer
- Held two workshops, with a third next month. Currently focusing on Bognor area due to our overlapping priorities (i.e. flooding incidents and regulatory targets)
- Next steps: partnership delivery workshop in November, identify pilot area(s) in Bognor







Water – operational update



Leakage in Sussex

Total leak repairs 2022/23

	Sussex
Bursts	663
Customer leaks	256
Network leaks	7,576
Total	8,495

Total leak repairs 2023/24

	Sussex
Bursts	533
Customer leaks	1,201
Network leaks	7,241
Total	8,975

Total leak repairs Apr 24 to date

	Sussex
Bursts	213
Customer leaks	591
Network leaks	3,531
Total	4,335



Embracing innovation – water network







Water production – our sites in West Sussex

- 14 Groundwater sites in West Sussex 12 operational, two undergoing enabling works
- 2 Surface Water sites: Hardham – fully operational and currently being upgraded
 Weirwood – full upgrade ongoing and will return to supply in Dec 2025, when first phase is completed
- Both upgrades will improve the operability and resilience of the sites and security of supply within the Sussex region
- Water compliance indicator (CRI) 0.26, against company ODI target of 2



Hardham WSW



Improving the resilience of Hardham WSW

- Hardham Water Supply Works is one of our four key strategic supply sites, supplying 248,000 people in the West Sussex and surrounding areas
- We are currently investing £12m this AMP (2020-25) to upgrade key assets, which will improve the resilience of the site to ensure we reduce the risk of customer disruption.
- 90% of DWI notices for this AMP have been completed, with the remaining 10% on track to be completed by the end of the financial year
- Key improvements completed this year include silt removal from the River Rother intake and major enabling works for the future poly dosing pump replacements
- Additional significant investment will be made in AMP8 (2025-30) to enhance the site further.



Hardham WSW





Water Resources Management Plan (WRMP)

October 2024 update



The South East of England is seriously water-stressed

- The Environment Agency has identified that by 2050, almost 5 billion extra litres of water will be required every day, to maintain public water supplies in England.
- More than half that need is in the South East.
- The main driver in the South East is what the EA defines as "Environmental Destination" which means improving and enhancing the natural world.



- Climate Change
- Environmental Destination
- Household Population Growth
- Business Growth
- Drought Resilience



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Water Resources Management Plan (WRMP)

Consultation 11 September to 4 December 2024

- What is the WRMP?
- Why are we consulting on it?
- Where can you find it?
- How to provide feedback



Visit www.waterresources.southernwater.co.uk



West Sussex water strategy 2025-35



West Sussex and Brighton and Hove

- 11. Reduce leaks
- 12. Help customers use less water 🌢
- Apply for a drought permit or order on the River Rother to continue abstracting water during dry weather until 2029-30 and after that only in droughts more severe than 1-in-200 year likelihood

 Image: Severe than 1-in-200
 <
- Catchment schemes to address nitrates and pesticides and improve the resilience of our water sources
- Deliver upgrades to Weir Wood Water Supply Works
- Groundwater improvement schemes in West Sussex and a groundwater scheme in Brighton to provide more water
- 19. Develop a groundwater source near Petworth 🧆



Key

Less than five million litres of water each day.

iew sources of water and transfers.

Catchment or nature-based scheme

Reduce demand for water

Drought action

stween five and 50 million itses of water each day. More than 50 million litres of water each day.



West Sussex water strategy 2035-50



West Sussex and Brighton and Hove

- Reduce leaks I I
- Help customers use less water •
- Stop the use of all permits and orders to source more water during droughts after 2040-41 unless faced with a drought of more than 1-in-500 year severity
- Build a new reservoir in Sussex to store water from the River Adur
- Catchment schemes to address nitrates and pesticides and improve the resilience of our water sources
- 15. Import water from South East Water to Pulborough 🌢 🌢
- Build pipelines to extend our grid to transfer water between Pulborough and Worthing and between Worthing and Brighton
- 17. Build a desalinaton plant on the tidal River Arun 🌢 🌢





West Sussex water strategy 2050-75



West Sussex and Brighton and Hove

- 4. Reduce leaks
- Help customers to maintain a sustainable level of water use
- Recycle water near Horsham and transfer it through a new pipeline to an existing reservoir near Pulborough before it is treated and supplied to customers
- Ongoing work to use catchment management and nature-based solutions to improve the environment
- 8. Import water from South East Water to Brighton 🌢 🌢



Key

Less than five million litres of water each day.

New sources of water and transfers Catchment or nature-based scheme

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Drought action

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Our consultation on securing a resilient water future for the South East

Have your say on our revised draft Water Resources Management Plan before Wednesday 4 December 2024.

Please encourage your local communities to take part....

We'd love to hear from you!

Visit <u>waterresources.southernwater.co.uk</u>











Appendix



Community Centre Grants



Community Centre Grants - West Sussex

- As part of our programme to support making the community stronger, our Community Centre Grant is back for a third year.
- This year we're providing over 30 grants of £1,000 each and five will be awarded in West Sussex.
- These grants have directly alleviated the burden of rising energy and operational costs, ensuring that vital services continue to be accessible to the local community.
- Previous Community Centre grants have been awarded to:

Chichester Community Development Trust Horsham Matters Fishbourne Playing Field Assocation St Johns Church Crawley - The Bridge Cafe Eastergate Village Hall Bognor Regis Youth & Community Centre Angmering Community Centre Association Bentswood Hub C.I.C Ashenground Community Centre



"This funding means that we can run as a warm space for our community through these colder months without worrying about how we are going to pay the everrising utilities. Our community centre is like a second home for some of our users, where the kettle is always on and the conversation is always flowing, thank you so much!"

Anna - Bentswood Hub



Apply now

Applications opened on 1 October and close on 31 October 2024 at 5pm.

Business Partnership Fund



Business Partnership Fund goes live

- The third round of our popular Business Partnership Fund is now open.
- We're on the look-out for new and innovative ideas to help reduce water use in businesses across our region.
- Ideas include harvesting rain or shower water, fitting flow restrictors on taps or harnessing new technology to save water.
- The fund is open to all retailers, businesses and third-party conservation providers.
- More details: <u>Business Partnership Fund Southern Water</u>







Future Growth and Developer Services

Working with planners and developers to enable a water resilient future



Our Delivery Teams

Future Growth Team

- ✓ Local plan consultations
- Neighbourhood plan consultations
- Planning application referrals

Developer Services

- ✓ Sewer & Water main diversions/requisition/' build over' applications
- ✓ Sewer & Water main connection applications

Asset Strategy & Planning ✓ Plan infrastructure growth schemes as required

Developer

Capital Delivery

 Deliver capital schemes, from diversions, connection & requisitions, to larger infrastructure growth schemes

Future Growth Team - Introduction

- We are a <u>Statutory Consultee</u> on Local and Neighbourhood Plans (5–20-year plans) & a <u>Non-Statutory Consultee</u> on individual Planning Applications (2–5-year plans)
- For Local Plans we seek to influence policy provisions that mitigate the impact of the proposed housing allocations on the operation of our infrastructure, promotes water efficiency & protects water quality
- For Planning Applications, should there be insufficient capacity to serve the development, we will request **planning conditions** to allow for the occupancy of the development to be **phased** in line with the upgrade to our infrastructure
- This is required as we have limited powers to prevent connections to our network, even when capacity is limited; for example, under Section 106 of the Water Industry Act, developers have a right to connect foul drainage on <u>21 days' notice</u>



Developer Services - Introduction

- We administer developer applications for water & wastewater connections, diversions, requisitions and 'build overs' within regulatory levels of service <u>Water UK Developer</u> <u>Services</u>
- The above provides the *quantitative* measure for the Developer Measure of Experience (DMEX) alongside quarterly developer questionnaires, which provide the *qualitative* measure; these measures are combined to provide a DMEX score - <u>Customer and</u> <u>developer services experience – Ofwat</u>,
- The DMEX score determines our position on the Ofwat DMEX table, which in turn determines the associated financial rewards or penalties for water companies
- We also provide technical approval & guidance for developer plans; this is supported by industry & national technical standards
- Aswell as, receiving revenue from developers through application fees, including the developer infrastructure charge, which is utilised for capital growth schemes where required



Our Policy Statement on Sustainable Development We have the following expectations for developers when building new homes and commercial buildings:



Water efficiency – designs for developments must meet 100 litres per person per day.



Water efficiency labelling – water consumptive appliances fitted by developers will use water efficiency labelling.



Water neutrality – developments in Sussex North must demonstrate Water Neutrality for any new development with designs meeting 85 litres per person per day.



Smart metering – Our programme to roll out smart metering for new and existing connections is in development.



Sewer connections – Connections from new developments to Foul or Combined Sewers for surface water runoff will not be accepted unless all options to separate surface water have been applied.



Sustainable drainage – Designs must include features to slow the flow of surface water runoff as close to the source as possible, for example, green roofs, permeable paving, rain gardens and water butts.



Water recycling – incorporate rainwater capture and grey water recycling systems into designs, linking it to blue-green infrastructure and joining or establishing partnerships where practical to eliminate rainwater from drains.



Nutrient Neutrality – developments in the Stodmarsh area in Kent and parts of South Hampshire and Chichester new developments are required to demonstrate Nutrient Neutrality.



Water Offsetting - where opportunities to offset water consumption are available these will be adopted as a planning gain principle.

These expectations contribute to our transformational programmes:





Catchment First







Sustainable Development - Industry Updates

- Surface Water: Sustainable drainage systems are currently <u>optional</u>, however the proposed inclusion of Schedule 3 to the Flood and Water Management Act 2010 will make it mandatory to install sustainable drainage to manage surface water on a new development (*this has been delayed due to the general election*) New approach to sustainable drainage set to reduce flood risk and clean up rivers GOV.UK (www.gov.uk)
- Government's Environmental Improvement Plan 2023: Working with the Future Homes Hub and other stakeholders, Government have developed a roadmap on water efficiency in new developments and retrofits, proposing 10 actions over the next decade Environmental Improvement Plan 2023 -<u>GOV.UK (www.gov.uk)</u>
- Building Regs Water Efficiency Review Feb 2024: Report commissioned by Water Wise and delivered by Welsh Water & Water Resource Centre, found the need to address deeper concerns related to enforcement and compliance of building regulations <u>Building Regulations Water Efficiency</u> <u>Review – Database WW (waterwise.org.uk)</u>



Wastewater Asset Strategy and Planning





There are four key themes encompassing our delivery plans



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Sussex environmental schemes – key areas of focus

- Improving river water quality through nutrient reduction and reduction in storm overflows
- Increasing capacity of our wastewater systems to support new homes and businesses
- Enhancing climate resilience with greater use of green solutions • to reduce spills from storm overflows, power resilience at treatment works, and protecting 1 site from coastal erosion



unbridge

Sussex enhancements (slide 1 of 2)

odalmine

Arun & Western Streams

- Nutrient reduction at 13 sites
- Storm overflows at 28 sites
- 5 growth sites
- Length of river improved 145km
- 54% reduction in storm overflow discharges
- Total environmental investment £330m



Adur & Ouse

- Nutrient reduction at 13 sites
- Storm overflows at 34 sites
- 3 growth sites
- 1 coastal resilience scheme
- Length of river improved 135km
- 34% reduction in storm overflow discharges
- Total environmental investment £260m





Rother

- Nutrient reduction at 18 sites
- Storm overflows at 11 sites
- 4 growth sites
- Power resilience at 2 site

Sussex enhancements (slide 2 of 2)



Nature-based solutions as a first choice

 Defra principle: "Rainwater should be discharged back to the environment as close as possible to where it lands or channelled to a close watercourse without first mixing it with sewage"

How:

- Separating and "slowing the flow" at source where the rain falls
- Reducing groundwater infiltration into sewers

Approach:

- Catchment and nature-based solutions
- Wetlands, swales, ponds
- Rainwater capture and harvesting
- Green roofs, planters, water butts



Lavant WTW wetland: using nature to prevent harm from discharges from the storm overflow





Current Growth Process

We are notified that planning permission has been granted or receive a local plan for future developments.

We are not statutory consultees and can only comment on applications.





Prioritising Growth

How:

- 1. Development size and expected build out.
- 2. Developments impact on existing issues
- 3. Spread of growth and potential 'Hot Spots'
- 4. Working alongside Councils and Developers to understand when large strategic developments will start.
- 5. Having a Local Plan is key to having well informed network growth schemes

Approach:

- 1. Reduce Surface water inundation & Ground water infiltration
- 2. Remove existing rainwater connections and facilitate the building of surface water drainage systems to local environment
- 3. Removal of system pinch points that cause hydraulic issues
- 4. Increase storage within the system
- 5. Upsize sewers



- Protecting the environment by ensuring abstractions are sustainable and enhancing biodiversity
- Protecting water quality and the environment by working with stakeholders including agriculture
- Safeguarding our drinking water supplies by making our catchments more resilient
- Working with Catchment Partnerships







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Our priority water areas



West Sussex

Water Quality

- Nitrate is impacting our groundwater drinking water sources, and we are working in partnership with landowners and farmers to reduce the risk.
- We are implementing measures to reduce risks to water quality from sediment, pesticides and PFAS sources in the Arun & Rother.

Water Resources

- We are creating a sustainable abstraction regime to protect important habitats.
- We are planning delivery of a programme of river environmental enhancements for ecological resilience on the Arun & Rother

Environment Strategy

- We are developing a holistic Environment Strategy to help define our strategic environmental ambition.
- We are embedding natural capital approaches within our decision making.
- We need to deliver a programme of Biodiversity Net Gain (BNG).





And the construction Constructi

Boardwalk over marshy terrain to add additional amenity value to the well used public open space. The walk should offer scenic views of

the historic Cowdray Castle.

Series of interconnected wetland scrapes in the floodplain to maintain and flouristically enhance

River restoration scheme throughout the riparian corridor to enhance biodiversity and

natural functioning of the river. The proposal includes the introduction of gravels, raising bed

levels, and providing spawning substrate for native fish species. Bank regrading to naturalise areas of steep eroding banks and encourage floodplain reconnection. In-channel woody habitat enhancements to provide refuge

Midhurst Greenway, a shared off road path for wheelchair and mobility scooler users, walkers,

and food sources for fish and macroinvertebrates.

and cyclists

the existing meadow.

Pilot Project: Town Meadows

We are investigating opportunities for multiple benefit river and floodplain wetland restoration on a site in Midhurst, West Sussex in partnership with Cowdray Estate.



Arun & Western Rother Catchment Partnership

Hosted By



The Vision

Riverscapes which enable native wildlife to thrive and which people will enjoy and value for generations to come

Our Catchment Management Specialist attends the Quarterly Catchment Partnership meetings where we present key business updates and discuss options to progress partnership work.

Monthly meetings with the Catchment Partnership host allows our team to progress internal collaboration by updating decision makers on catchment wide initiatives and aligning them with our own goals for maximum benefit

At a recent catchment parntership meeting, Southern Water hosted a catchment speed networking session to identify shared goals



The Arun & Western Rother Catchment Partnership brings together local people and organisations to plan and deliver positive actions that will improve our water environment and society. Typical organisations involved are:

- Statutory agencies (EA, NE etc)
- NGOs (Rivers Trusts, Wildlife Trusts, RSPB etc)
- Local Authorities
- Local Community Groups
- Landowners and farmers
- Angling Societies/Trusts
- ... And many more!



Sediment and erosion Citizen Science Highways Run off Agricultural land use

Southern Water input timeline

Tæsk	Q2 23/24	Q3 23/24	Q4 23/24	Q3 24/25	Q2.24/25	Q3 24/25	Q4 24/25	AMPS
1 Collating SWS info	-							
2 Collating CP info								
3 Defining shared goals	1	- 1.						
4 Co-creation of a plan								
5 Co-delivery of a plan								
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