ESSEX&SUFFOLK WATER *living water*

REVISED DRAFT WATER RESOURCES MANAGEMENT PLAN 2024

FURTHER INFORMATION IN SUPPORT OF CONSULTATION STATEMENT OF RESPONSE

APRIL 2024

DOCUMENT CONTROL SHEET

Report Title:	Revised Draft Water Resources Management Plan 2024 – Further Information in Support of Consultation Statement of Response
Related Reports:	Draft Water Resources Management Plan 2024 – Consultation Statement of Response, July 2023 ESW Revised Draft Water Resources Management Plan 2024 ESW Draft Water Resources Management Plan 2024 Draft WRMP24 Customer Summary Draft WRMP24 Technical reports Essex & Suffolk Water Drought Plan 2022
Distribution List:	**Internal:** NWL Board, NWL ELT, NWL Water Leadership **External:** Defra, Environment Agency, Ofwat, Defra Sharepoint
Published:	www.nwg.co.uk/wrmp

Document Change Record

Release Date	Version	Report Status	Change Details
16 April 2024	1.0	Final	N/A

Document Signoff

Nature of Signoff	Person	Date	Role
Reviewer	Katie Davis Andrew Beaver	16/04/24	Head of Water Service Planning Regulation & Assurance Director
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Essex & Suffolk Water is a trading division of Northumbrian Water Limited which is a group company of Northumbrian Water Group Limited

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GLOSSARY

Term / Acronym	Definition
AMP7	Asset Management Period 7 (April 2020 – March 2025)
AMP8	Asset Management Period 8 (April 2025 – March 2030)
APR	Annual Performance Reporting
BNG	Biodiversity Net Gain
CMOS	Central Market Operating System
Defra	Department of Environment, Food and Rural Affairs
DMA/DA	District Metering Areas / Drainage areas
DMOs	Demand Management Options
DO	Deployable Output
DWI	Drinking Water Inspectorate. DWI has responsibilities under the Water Industry Act 1991 relating to the sufficiency and quality of water supplies.
DWMP	Drainage and wastewater management plan
dWRMP	Draft Water Resource Management Plan
DYAA	Dry Year Annual Average
DYCP	Dry Year Critical Period
EA	Environment Agency. The Environment Agency is a statutory consultee for WRMPs. It leads on producing guidance for water companies to use in compiling their WRMP. It has a statutory duty to secure the proper use of water resources in England. The Environment Agency works with water companies as they prepare WRMPs and provide a representation as part of water companies' WRMP consultation. At the statement of response stage, its role changes and it becomes a technical advisor to the Department for Environment, Food & Rural Affairs (Defra) and the Secretary of State.
EBSD	Economic Balance of Supply and Demand
EIP	Environment Improvement Plan
ER	Environment Report
HRA	Habitats Regulations Assessment
fWRMP	Final WRMP
HH	Household (Domestic use customers)
INNS	Invasive Non-native Species
l/head/day	Litres per head per day (litres per person per day)
l/min / l/hr / l/yr	Litres per minute / litres per hour / litres per year
l/p/d	Litres per property per day (litres per premises per day)
Ml/d	Megalitres per day
MOSL	Market Operator Service Ltd
Natural Capital	The natural resources and environmental features in a given area, regarded as having economic value or providing a service to humankind.
NAVs	New Appointments and Variations
NHH	Non-Household (Business customers whose primary use of water is non-domestic)
NPP	National Population projections

Term / Acronym	Definition
NPPF	National Planning Policy Framework
NWG	Northumbrian Water Group
NWL	Northumbrian Water Limited
NYAA	Normal Year Annual Average
Ofwat	Ofwat is the economic regulator of the water industry. It is a statutory consultee for WRMPs, has been key stakeholder during the development of our plan and will provide a representation as part of our consultation. Our WRMP will primarily inform the supply demand balance part of our business plans which we will submit to Ofwat. Ofwat determines the extent to, and conditions under which, we can recover the costs of investment through our charges to customers.
ODIs	Outcome Delivery Incentives
p.a.	Per annum (per year)
PCC	Per Capita Consumption
PHC	Per Household Consumption
Planning Horizon	Refers to the forecasted years from 2024/25 until 2049/50.
PPP	Review of Policies, Plans and Programmes
PR19	Price Periodic Review 2019 – Business Plan 2020-2025
Price Review (PR)	Ofwat is the economic regulator of the water industry and every five years it sets the investment and service package that customers receive including the price water companies charge their customers. Ofwat carry out a review of these price limits known as a Price Review (PR) every five years. The current Price Review will be completed in 2024 and so is known as PR24 and will set customer bills for the period 2025 to 2030. As part of the Price Review process, water companies submit a business plan which sets out the investment and outcomes for customers and the environment that they are required to deliver and how this would impact customer bills. The Business Plan will include the investment needed to deliver the WRMP24 Best Value Plan.
RAPID	Regulators' Alliance for Progressing Infrastructure Development (RAPID) RAPID will help accelerate the development of new strategic water infrastructure and inform future regulatory frameworks. It is made up of the 3 water regulators in England: Ofwat, Environment Agency and DWI. It also works closely with Welsh Government and Natural Resources Wales. Find further information on RAPID's website. Some water companies received additional funding to investigate and develop strategic regional water resource options in the 2019 price review (PR19) final determination.
RdWRMP24	Revised draft Water Resources Management Plan 2024
SAC	Special Area of Conservation
SDB	Supply Demand Balance
SEA	Strategic Environmental Assessment
SPA	Special Protection Area
SoR	Statement of Response
SRO	Strategic Resource Option
SSSI	Site of Special Scientific Interest
WAFU	Water Available For Use
WETT	Water Efficiency Target Tracker

Term / Acronym	Definition
Water Industry National Environment Programme (WINEP)	A programme of actions (investigations, options appraisals, and implementation schemes) water companies are required to take to meet the environmental legislative requirements that apply to water companies in England.
WFD	Water Framework Directive
WRE	Water Resources East
WRMP19	Water Resource Management Plan 2019
WRMP24	Water Resource Management Plan 2024
WRMP29	Water Resource Management Plan 2029
WRPG	Water Resources Planning Guideline
WRZ	Water Resource Zone

1. INTRODUCTION

This document is our revised draft Water Resources Management Plan 2024 (RdWRMP24) **Further Information in Support of our consultation Statement of Response**. It addresses feedback we received from Defra on 23 January 2024, and from the Environment Agency on 29 January and 15 February 2024, on our draft Water Resources Management Plan 2024. It has been sent to statutory consultees, and all those who submitted consultation responses on our draft WRMP24 and has been published on our website (www.nwg.co.uk/wrmp).

Our RdWRMP24 sets out how we intend to achieve a secure, resilient, and sustainable supply of water for our customers and a protected and enhanced environment, both now and in the long term.

Our draft WRMP24

We developed our draft WRMP24 between April 2020 and October 2022 taking account of:

- pre-consultation feedback from regulators; and,
- feedback received during and following a pre-consultation webinar on 31 January 2022 where we shared our initial baseline supply demand balance position, the planning assumptions used in developing the forecasts, and our ambition to reduce leakage and customer demand (Per Capita Consumption or PCC).

We submitted our draft WRMP24 to Defra on 3 October 2022, published it on our website at https://www.nwg.co.uk/responsibility/environment/wrmp/nw-draft-water-resources-management-plan-2024-consultation, and invited statutory consultees, our customers, and other interested stakeholders to comment on it. The consultation took place over a 12 week period between 21 December 2022 and 29 March 2023.

We asked consultees to share their views on our dWRMP24 including those on:

- Our projections of future water needs including those of our customers, businesses, and the environment; and
- Our preferred plan including:
  - Our demand management options to reduce leakage by 50% by 2049/50 through a range of actions including smart metering, and water efficiency programmes; and
  - In the long term, potential raw water transfers to other water companies.

Consultees were asked to send their written representations on our dWRMP24 to the Secretary of State for Environment Food and Rural Affairs which were then made available to us at the end of the consultation period.

Our regional water resources group, Water Resources East (WRE) has also prepared a regional plan which can be found at https://wre.org.uk/the-regional-plan. It sets out how it will address the need for resilient and sustainable water supplies at a regional and national level. WRE's Regional Plan has informed our Essex & Suffolk Water draft WRMP24 and was consulted on at the same time as our draft Plan.

We prepared a consultation Statement of Response (SoR) which described:

a. our consideration of the consultation responses;
b. the changes we have made to our dWRMP24 to prepare our RdWRMP24, as a result of the consultation responses and the reasons for doing so, and where no change has been made to the dWRMP24 the reasons for this; and
c. how we have taken account of the third round of regional reconciliation planning in which water transfers between companies and regions were agreed.

Our Revised draft WRMP24

We submitted our Statement of Response (SoR) to our consultation on our dWRMP along with our RdWRMP24 to Defra and published those documents on our website on 25 August 2023. Defra have reviewed them along with advice from the Environment Agency, prior to submitting the documents to the Secretary of State for a decision on next steps. Before Defra can refer our plan to the Secretary of State for a decision, we must provide the further information they have requested to support our Statement of Response, which can be seen in Appendix A.

Section 1.2 of this document provides our response to that request and details how we will amend or update our RdWRMP24 as a result. We envisage that we will be directed to publish our final WRMP24 on our website (www.nwg.co.uk/wrmp) either in July 2024 or in September 2024 after the parliamentary summer recess.

Other changes to our Revised draft WRMP24

The Environment Agency has also provided us with additional feedback on our RdWRMP24 in a **'Statement of Response Review Annex'**, which can be seen in Appendix B. The Environment Agency has indicated that these points were not raised to Defra but may improve our plan, and whilst we are not obliged to address these issues, the Environment Agency has recommended that as many as possible are considered. We have detailed in section 1.3 where we will incorporate amendments in response to these recommendations, and where we are not planning to make amendments, we have explained why.

The Environment Agency has also provided us with their **'Statement of Response SEA Technical Appendix'**, which can be seen in Appendix C, referred to in their advice to Defra, which details their review of our Strategic Environmental Assessment, which accompanies our RdWRMP24. We have detailed in section 1.4 where we will incorporate amendments in response to these recommendations, and where we are not planning to make amendments, we have explained why.

2. ADDITIONAL INFORMATION IN SUPPORT OF CONSULTATION STATEMENT OF RESPONSE

2.1 ADDITIONAL INFORMATION REQUESTED BY DEFRA AND OUR RESPONSES

This section describes how we have considered each of Defra's further information requests, whether or not a change to our RdWRMP24 has been made as a result, and if a change has not been incorporated into our draft final WRMP24 we have explained why.

Issue		Defra Information request	ESW Response
1	Ensure protection and improvement of the environment	The plan assumes that abstraction licence changes to meet the Water Framework Directive Regulations 2017 to prevent the risk of deterioration in the status of water bodies will not be made until 2030. You have not sufficiently demonstrated how any potential risks of deterioration and licence changes would be managed through the WRMP before 2030. The severity of risks and potential wider implications from constrained growth, which are already being seen in Cambridge, require additional immediate mitigating actions. This is required to further manage the significant environmental risks, the uncertainty surrounding levels of growth and the reliance on effective demand management by: • Investigations – Before finalising your plan, you should assess expected abstraction growth against the 2010-2015 baseline period at a licence level across all your sites and reflect any implications this has for your deterioration risk and licence change requirements, following 2018 guidance (*Guidance on water resources investigations into the risk of WFD water body deterioration, January 2018, Environment Agency*). The approach should be discussed and agreed with the Environment Agency. • Monitoring – You should clearly set out in your plan how you will monitor the levels of abstraction and ensure that the risk of deterioration is and remains low across all licences. • Action – In the event of abstraction increases, you should clearly demonstrate how you will ensure a surplus supply demand balance in the event of abstraction increases which require the EA to use Section 52 to limit abstraction before 2030. If there is a high or medium risk of deterioration by 2030 then the Environment Agency would need to take action to change licences (through section 52 Water Resources Act 1991) to limit abstraction. This must happen before the end of AMP8/2030 if needed to prevent deterioration and could be as early as 2025.	**Investigations:** For each of our GW sources we have compared abstraction during the 2010-2015 Recent Actual period (used within WFD assessments) with actual abstraction during the subsequent 2016-2021 period, to see where there has already been actual growth in average abstraction between the two periods. For our Suffolk area (where the vast majority of our GW abstractions are located) we have also used forecasted abstraction in 2030 (from our WRMP tables) at a Water Resource Zone (WRZ) level and attributed this back to individual licences and abstraction locations (for group licences where abstraction sites are geographically spread), based on the proportion of actual abstraction from each site in 2016-2021. We have made some adjustments where we know we are planning to use sources differently in the future compared to the 2016-2021 period. Although this may not accurately reflect the actual operational reality in 2030, this approach has allowed a 'future predicted' level of abstraction to be estimated for each Suffolk GW source for 2030. We have added the detail of this assessment in section 3.6 of our updated WRMP24 Sustainability Technical Report, and a summary of the conclusions in section 3.3.6 of our draft final WRMP24. For abstraction sites where the 'future predicted' abstraction is greater than actual abstraction in either the 2010-2015 or 2016-2021 periods, the next step is to look at the waterbodies potentially affected by each abstraction and their level of 'WFD deterioration' risk with increasing abstraction, specifically in terms of the four WFD groundwater tests and the 'hydrology supports good' test for surface waterbodies. We will plan to do this assessment over the course of 2024. The EA provided us with information, in March 2023, regarding its view of the reductions required on each of our GW licences to ensure 'no deterioration', based on its 2018 guidance. Please note that this was before the EA published their updated guidance in February 2024, which supersedes the 2018 guidance. We have included this March 2023 information within the forecasts in our WRMP and within our AMP8 WINEP. Some of the licence

Issue		Defra Information request	ESW Response
			changes are due to be delivered before 2030, because the relevant licences will require renewal before then, e.g., in 2026 or 2028. For three time limited licences within our Hartismere WRZ, which already require renewal, due to the supply demand balance situation within Hartismere, we are having to seek a Regulation 19 exemption, on the grounds of overriding public interest, to delay the implementation of the 'no deterioration' licence reductions until we are able to deliver new supply schemes via our PR24 WRMP and Business Plan, to maintain a positive supply demand balance and supplies to our customers. The Environment Agency is currently in the process of determining these licence renewal applications and Regulation 19 cases. As other time limited licences come up for renewal between now and 2030, we will use our updated supply demand balance (which will have more certainty of the sustainability reductions required under the Habitats Regulations, and updated demand forecasts, etc) to determine whether we are able to make the required 'no deterioration' licence reductions at licence renewal on a case by case basis. If we are not able to make the full reduction required, we will need to discuss with the EA which licences should be prioritised for reductions, and what other actions we are able to implement to reduce the risk of deterioration until we have sufficient new supplies to enable us to reduce our existing GW licences, and whether any further Regulation 19 exemptions may be needed. **Monitoring:** We monitor abstraction from individual sources continuously (via our telemetry and SCADA system) and report actual daily and cumulative annual abstraction against target within the business weekly. Additionally, we submit an annual abstraction return to the EA. These existing processes will be used to ensure that the risk of deterioration is and remains low across all licences. We will report on this in our WRMP Annual review report. **Action:** We have implemented a moratorium on applications for new mains water supplies and for increases to existing mains water supplies where the water will be used by businesses for non-domestic purposes in our Hartismere WRZ. Additionally, we are confident that our leakage reduction, accelerated compulsory smart metering and water efficiency programmes will deliver demand savings which will offset any household and non-household (domestic) growth, thus preventing growth in abstraction in Hartismere WRZ. Our new non-household water efficiency programme aims to reduce non-household demand by supporting businesses identify wastage as well as opportunities to reduce the amount of water they use and to recycle water. Our Water Efficiency and Water Regulations teams are already working closely on this, particularly in our Hartismere WRZ. However, we cannot rule out an increase in abstraction, for example because businesses utilise the spare

Issue		Defra Information request	ESW Response
			capacity of an existing connection. We laid a new water main in 2022 to enable a small, treated water import from Anglian Water into our Hartismere WRZ. However, Anglian Water is unable to guarantee the export every year given it must also comply with the WFD no deterioration policy. We will continue to work closely with Anglian Water and will agree in the December of each year whether the export is feasible. Once we have exhausted our demand management measures, in order to maintain public water supply to our existing customers (this being of overriding public interest), we would need a Regulation 19 derogation in place until our new supply schemes are operational.
2	Ensure that there is no critical period deficit when drought measures are not available.	The company has not been able to confirm that it will not have critical period deficits due to its reliance on drought measures. Drought measures will not be available in all cases where there is high peak demand, but there has not been an exceptional shortage of rain and the company's resource situation is above drought action trigger levels. It needs to provide details of other mitigation options that it could use to ensure there is no deficit in these cases. The company has stated it will provide further evidence on this issue, but this has not been made available at the time of writing this report.	We have set out how we have assessed the supply-demand balance for the dry year critical period, including our assumptions for the critical period demand scenario in section 4.10, regarding critical period Outage Allowance in section 3.7.4, deployable output in section 6.1, and the resulting baseline and final plan DYCP SDB in sections 6.3 and 8.4.2 respectively of our WRMP24 main report. We have added to section 6.1 of our draft final WRMP24 main report that we feel it is a reasonable assumption that we would have implemented our L1 and L2 drought actions for the DYCP, and therefore include the benefit from demand side drought measures in our WRMP data tables. To determine if we have a critical period deficit excluding demand side drought measures, we have prepared a DYCP SDB for each WRZ with 'Benefits from demand side drought measures' (7.02FP) removed. We have assumed that in this scenario, most planned outage would be occurring (we have assumed three quarters of historical planned and unplanned outage), whilst some planned outage would be delayed (the remaining quarter of historical planned and unplanned outage) as per our routine Coordination Planning process. Co-ordination Planning is an NWL quality procedure ensuring all applicable planned work has been communicated to and given full consideration by all relevant parties for risk, conflict, historical events, impact, and mitigation prior to the planned work taking place. Coordination Planning would be the process by which we monitor for, identify, and trigger the need to delay planned outage as mitigation during critical periods. A postponement of as much planned outage as necessary would occur if a peak demand period is expected, which for all ESW WRZs is during a hot summer (as opposed to freeze/thaw winter events). All our WRZs remain in surplus under these assumptions. If all historical planned outage is included in the assessment, then all the Suffolk WRZs remain in surplus. In the Essex WRZ, 77% of total outage allowance (historical planned and unplanned) can be accommodated in the

Issue		Defra Information request	ESW Response
			Essex WRZ SDB before a critical period (excluding benefit of demand side drought measures) deficit occurs. However, what the WRMP data tables do not include is the additional buffer of treated water storage, which in Essex is estimated to be at least 310Ml, i.e., if all the WTWs in Essex were to cease output, we would have 310 Ml of treated water in storage, enabling peak customer demands to be met for an average of 15.5 hours (with duration varying depending on area within the WRZ. This is our resilience time against 'reserve demand', 'reserve demand' being the second highest demand we have experienced in the previous 10 year period. We have added the results of this sensitivity testing to a new section 8.4.3 of our draft final WRMP24 main report.
3	Give greater focus to the Habitats Regulations adaptive plan.	The Habitats Regulations adaptive path described in Section 8.8 of the plan is clear, however the likelihood of this plan superseding the preferred plan is less clear. As the Statement of Response referred to the preferred plan when addressing queries on options and the moratorium, we believe that there was potential for stakeholders to overlook the significance of the Habitats Regulations pathway and remain unclear on the most likely timescales for lifting the moratorium. It is highly likely that the Habitats Regulations adaptive plan will be needed and the company should adopt this as its core plan. This would more clearly emphasise the likelihood of this pathway happening and highlight the implications this has for preferred options and the implication for Hartismere moratorium (for non-household demand) as compared to the preferred revised draft WRMP. You are already aware that there may be additional licence changes associated with the outcomes of upcoming Conservation of Habitats and Species Regulations 2017 (Habitats Regulations) assessments on the Waveney. The scale of these licence changes is currently uncertain until assessments have concluded and there is therefore some risk that your WRMP does not currently cater for these potential licence changes.	As required by regulatory guidance, we have allowed for the following types of abstraction licence sustainability reductions in our baseline and final preferred plans: • Outcomes of AMP7 WINEP Investigations for delivery by 2030; and • Long Term Environmental Destination for delivery in 2040 and 2045. Additionally, in November 2022, the Environment Agency asked us to include additional abstraction licence sustainability reductions for nine groundwater and surface water sources in our Northern Central WRZ in our baseline supply forecast. This was to meet the requirements of the Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations), due to the potential effects of our abstraction on the Broads Special Area of Conservation (SAC). The request for us to apply additional sustainability reductions to our WRMP supply forecasts was too late for our draft WRMP24 and so we allowed for them in our revised draft WRMP24. The extent of likely sustainability reductions required to meet the requirements of the Habitats Regulations will not be known until December 2024 once the Environment Agency has concluded its investigations. We have therefore worked with the Environment Agency to agree some likely worse case sustainability reduction values in our revised draft WRMP24. However, given the uncertainty, we have not included these sustainability reductions in our central supply forecast. Instead, we have included them in the supply forecast of our Habitats Regulations adaptive pathway. The additional Habitats Regulations sustainability reductions cause larger supply deficits, particularly in our Suffolk Northern Central WRZ. Consequently, to restore a supply surplus, we have also presented a Habitats Regulation adaptive programme in our revised draft WRMP24 which includes all of the schemes in our preferred plan

Issue		Defra Information request	ESW Response
			(see appendix 1), as well as a further Water Reuse scheme at Caister, near Great Yarmouth. The Environment Agency wrote to us in September 2023 to confirm that we should allow for further Habitats Regulations sustainability reductions in our final WRMP24, this time in relation to abstractions from boreholes that supply two of our Hartismere WTWs in the River Waveney catchment (a Broadland River) and within our Hartismere WRZ. While these sources are located outside of the Broads Special Area of Conservation (SAC), the fenland habitats in the Waveney headwaters are very similar to those in the Norfolk Broads SAC and so Natural England has instructed the Environment Agency to treat them in the same way. The Environment Agency has indicated that a worst case scenario is that we would lose the full annual licensed quantity on the two Hartismere abstraction licences. If this is the outcome, we will require a larger diameter Suffolk Strategic pipeline as well as an extension from Eye to those WTWs. Based on least cost optimiser modelling, the maximum capacity of the Barsham to Holton Potable Water Transfer (PWT) of 15 Ml/d is sufficient, but the maximum utilisation of the Holton to Eye PWT increased from 7.5 Mld to 9.13 Ml/d (+1.63 M/d). This represents an estimated increase in costs of c.£35m for the Holton to Eye PWT, which results from a larger service reservoir at Eye, and additional main and pumping station from Eye to Wortham, and additional Opex associated with pumping energy requirements. We have presented the impact of these additional 'worst case' sustainability reductions on the Habs Regs Adaptive Programme in section 8.8.5; and the associated costs in Table 84, section 8.9.5 of our draft final WRMP24 report. However, it should be noted that once the large uncertainty around the magnitude of all of the proposed sustainability reductions under the Habitats Regulations is resolved, which will be when the Environment Agency concluded their assessments later this year, we will reassess our SDBs to derive the size of the forecasted deficit and will then be in a position to reassess the cost of the required solution. Defra directed us in January 2024 to make the Habitats Regulations adaptive programme our preferred plan. However, we subsequently met with the Environment Agency on 30 January 2024 and agreed that while it is increasingly likely that we will need to move to the Habitats Regulation Adaptive Programme, given Environment Agency investigations have not concluded, moving to the adaptive programme now would make our plan more uncertain. Consequently, we agreed not to move to the Habitats Regulations adaptive programme but instead to include a funding allowance in our core AMP8 plan to cover the investigation and design phase of the Caister Reuse

Issue		Defra Information request	ESW Response
			option. We plan to start this work in Year 5 of AMP7 so that it is closer to being construction ready should it be required. We will add additional narrative to the final WRMP main report to confirm the increased likelihood of needing to move to the Habitats Regulation adaptive programme which in addition to our current preferred final plan, will also require us to construct the Caister Water Reuse scheme, as well as the higher capacity transfer from Holton to Eye discussed above. However, a marginally smaller North Suffolk Reservoir is required because the deficit in the Northern Central WRZ, driven by sustainability reductions, requires two new resources options before the North Suffolk Reservoir is available (in 2033/34). We have already proposed an uncertainty mechanism to reopen price controls in 2028 and would extend this to the Habitats Regulations adaptive pathway too.
4	Strategic Environmental Appraisal (SEA) concerns	Essex & Suffolk Water provided its environmental assessments, Strategic Environmental Assessment (SEA) and Habitats Regulations Assessment (HRA) late (20 October 2023). It has not been possible for the Environment Agency, or Natural England, to fully assess whether the plan has incorporated these assessments in a satisfactory way. Initial assessment by the Environment Agency indicates several points in need of improvement relating to cumulative effects, uncertainty around mitigation measures, how the SEA has influenced the plan, assumptions, and limitations. They will complete the review of these reports as soon as practicable and provide the company with feedback in a technical appendix. Any significant issues that are raised must be addressed by the company before the final plan is published. Initial review of the HRA by Natural England suggests that conclusions within the HRA have changed since previous draft. There are therefore contradictions within the HRA for a number of options, between the information provided and the stated conclusions of no adverse effect on	We are in the process of updating the HRA report to respond to the feedback provided by Natural England. This includes providing greater detail/breakdown of the likely surveys, data, and mitigation required. In all cases it will be acknowledged that this would need to be completed alongside the project-level EIA, required for planning. We are also updating the SEA report and responding to the comments provided in the SoR SEA Technical Appendix (Appendix C). Specific responses to each of these elements is provided in section 2.3.

Issue		Defra Information request	ESW Response
		integrity. This is contrary to the approach taken in the draft WRMP that Natural England supported and you agreed to adopt in their Statement of Response. To achieve sustainable abstraction, the company must show how they plan to reduce their reliance on environmentally damaging abstractions. The company should therefore ensure that all outstanding issues raised by Natural England in relation to compliance with relevant statutory requirements, as set out in Annex 2 to Natural England's formal consultation response to the draft plans, are fully addressed. As also set out in the Water Resources Planning Guideline (WRPG), this includes ensuring that any previous HRA of options included in your preferred plan remains current and covers any material changes in circumstance. The company should therefore continue to work closely with both Natural England and the Environment Agency to resolve outstanding statutory environmental issues before the final plan is published.	
5	Ensure Environment Improvement Plan (EIP) targets are included and met in the plan	Essex and Suffolk Water has not included information in the plan to show whether they will or will not meet the EIP interim targets. This should be included within the final plan as instructed in the water resources planning guideline. Where targets will not be met the reason should be provided.	**Interim Targets** We have included a summary table in our draft final WRMP24 (section 8.10.5) confirming if we are forecasting to meet EIP targets, and additional narrative to explain that whilst we are forecasting to deliver the interim PCC targets (2038) and long-term targets (2050), for both normal and dry year; we are not forecasting to meet the interim targets for leakage or Distribution per head. Our understanding is that the interim EIP targets are not a legal requirement on individual water companies. Consequently, the profiles we have assumed for reducing both leakage and household and non-household consumption are based on what we think is deliverable, for example in the case of our smart metering programme, the availability of contractors and smart meters, the latter of which has been problematic due to global demand for microchips. We have considered alternative scenarios for leakage including a profile for reducing leakage faster in AMP8 to hit the interim 2032 target, with the remainder of the planning period to 2050 having a linear delivery profile. However, we have chosen a linear profile because: • An acceleration towards the start would incur significant additional cost in AMP8 as well as overall cost, even though the end point is the same, a 40% reduction by 2050. • Reflecting a linear delivery profile is important to maximise deliverability in terms of employing and training the right resources to enable and support additional find activity. By adopting a linear profile, we are able to train and retain staff to deliver over the profile rather than increasing resources and then needing to reduce later in the profile.

Issue		Defra Information request	ESW Response
		The company is not currently forecasting to meet non-household reduction targets. It proposes an increase in business consumption of 11% by 2030 (from 2019-20 baseline) and states it will deliver interim and long-term targets excluding the impact of growth. We expect more engaged actions to address this. The company should also further demonstrate that it is proposing sufficient mitigating actions to offset its non-household demand growth through activities such as metering/water efficiency and should continue to work to understand the levels of uncertainty regarding future business growth.	Our preferred final plan strategy is to continue with a linear leakage reduction delivery profile. Nevertheless, we recognise the importance of implementing sustainability reductions and lifting the Hartismere non-household moratorium as soon as possible. Consequently, we will strive to outperform our leakage target where feasible and efficient to do so and will work collaboratively to develop innovative approaches to reducing leakage. **Non-household demand** Business Demand is a new obligation and therefore an emerging area. In collaboration with WRE partners we engaged retailers and non-household customers to test barriers and opportunities related to non-household water efficiency. In turn, we have devised a non-household water efficiency strategy that effectively balances ambition against deliverability, to deliver a 9% reduction on existing annual NHH demand (i.e., excluding growth) by 2037/38 against a 3-year average baseline taken in 2019/20. We expect that we will have to further iterate our strategy as our learning and experience progresses in this area. We have committed to a relative target (i.e., excluding growth) instead of an absolute target because: i. We are forecasting significant additional non-household potable water demand in ESW (i.e., Sizewell C nuclear power station and food processing). If we were to commit to an absolute 9% reduction target (including forecast non-household growth), this would mean we would have to significantly increase our non-household water efficiency programme which we consider would be an unreasonable burden both on NWL and our customers. We suggest national policy, regulations (e.g., Water Supply (Water Fittings) Regulations (1999) (revised)), development control and environmental permitting should ensure that new development is water efficient from the outset. ii. We have sized our non-household water efficiency programme to deliver a 9% reduction (excluding growth) considering uncertainties regarding the deliverability of the preferred water efficiency options, water savings achieved and engagement through the complex relationship between wholesalers, retailers, and non-household customers. Given these uncertainties, we do not consider it possible to deliver the demand savings that would be required to achieve an absolute 9% reduction including the forecast non-household growth. Delivery of the Government's Business Demand EIP target will require action from multiple sectors, organisations, and stakeholders. Our new non-

Issue		Defra Information request	ESW Response
			household water efficiency strategy includes provision to work collaborative with retailers by actively driving the relationships and opportunities. We have already demonstrated collaboration through initiating development of the NHH demand management options in conjunction with WRE partners, retailers, and businesses. **Management of uncertainty in the context of the NHH demand reduction strategy** For the reasons described above, our non-household demand reduction strategy will deliver a 9% reduction in current demand (excluding growth). More generally, uncertainty is managed within our measured NHH demand forecast which was developed by specialist consultants Ovarro Da Ltd (Ovarro). In addition, uncertainty in the HH and NHH demand forecast is included in Target Headroom. We will continue to work with the Local Authorities that cover our operating areas asking for information on known and expected business growth in the region. Particularly in Hartismere, working with our larger non households where a high percentage of demand is from the food processing sector.
		The evidence presented in the plan does not adequately explain the baseline numbers from which the company have derived the assumed reductions. The company must ensure the final plan clearly articulates the baseline and therefore the targets for the EIP metrics to ensure progress against delivery of these targets can be monitored.	**Baseline** We have included section 8.10.5 in our main report which details the forecast against the EIP targets and details the baseline for these targets which is the 2019/20 reported values.
6	Differentiate between base and enhancement activities	The company was asked to clearly identify how it has assessed the degree of overlap with activities it is funded to deliver through base expenditure when presenting enhancement schemes. This feedback was not addressed and the revised draft WRMP now includes additional schemes to reduce outage which may have a significant overlap with base maintenance activities. The company must update its final WRMP to identify and justify the breakdown of base and enhancement expenditure where respective schemes (including supply, demand, and outage reduction schemes) overlap.	We have updated our draft final WRMP24 to identify and justify the breakdown of base and enhancement expenditure for our supply, demand, and outage reduction schemes. We confirm that the supply schemes (namely Lowestoft Reuse, North Suffolk Reservoir, Suffolk Strategic Network, Linford Borehole and Treatment Works) are only needed to address supply deficits caused by abstraction licence sustainability reductions, new non-household demand and climate change and so are enhancement schemes. Our revised draft WRMP24 also includes additional schemes to reduce unplanned outage. Our response to Ofwat query OFW-OBQ-NES-173 confirmed the breakdown for four schemes, including three outage reduction

Issue		Defra Information request	ESW Response
			schemes - Langford, Langham and Barsham nitrate schemes, and the Abberton RWPS and Langford Clarifier Upgrade. All of the scope for these projects is enhancement activity, with no investment included to maintain existing infrastructure or restore any capacity (for example, by replacing aging infrastructure). The outage reduction schemes address the deterioration in quality in some of our river water sources, requiring additional treatment processes, combined with changes in demand and abstraction licences which mean alternatives will no longer be available. This is beyond our control. **Langford, Langham, and Barsham Nitrate Schemes - Background** There is a deteriorating trend in Essex and Suffolk river nitrate concentrations, both in terms of an increasing duration (weeks) and of peak autumn and winter concentrations. We described this in our response to Ofwat query OFW-OBQ-NES-082. We currently achieve compliance with the Nitrate Prescribed Concentration Value (PCV) through abstraction management and/or blending a low and a high nitrate source. As described for each of the WTWs below, this impacts on reservoir refill and deployable output because the high nitrate sources are so high that the volume must be limited to achieve an acceptable blend and level of nitrate. This means that during part of the autumn and winter, we can no longer use the full capacity of the treatment works because of the deteriorating raw water. The nitrate standard is a health-based standard that must be met. <u>Barsham WTW</u> Barsham WTW source water is from the River Waveney which has a largely arable catchment with widespread use of agri-fertiliser (and so a high nitrate concentration). When River Waveney nitrate concentrations are above the 50mg/l Prescribed Concentration Value (PCV), we blend treated river water with low nitrate treated groundwater from our Barsham boreholes. This reduces the concentration of nitrates in drinking water. However, the Barsham Boreholes abstraction licence will now be subject to sustainability reductions and Suffolk non-household demand will significantly increase (such as Sizewell C and poultry processing companies – we provided a more detailed breakdown of expected NHH demand changes in our response to Ofwat query OFW-OBQ-NES-175). This means that there will then be insufficient groundwater to blend down very high nitrate concentrations to below the PCV. There is no raw water bankside storage at Barsham River Works and so we would not be able to employ abstraction management (i.e., reduce or cease river Waveney abstraction) for the long durations that would be required to manage nitrate. This means that our proposed nitrate removal treatment process is required to:

Issue		Defra Information request	ESW Response
			i. allow us to implement the abstraction licence sustainability reductions while meeting current demand; and, ii. supply future non-household demand. This is not because the treatment works is not itself capable of meeting the deployable output – but because the current approach of blending will no longer be possible. This scheme is enhancement expenditure because we need to add an additional treatment process to this works in response to increasing nitrate levels and sustainability reductions in abstraction from low nitrate sources (both of which are beyond our control). We have not included any element of maintenance or replacement of existing assets in our scope for this scheme, nor is this need driven by any loss of capacity at the treatment works. <u>Langham WTW</u> Langham WTW source water is from the River Stour which has a largely arable catchment with widespread use of agri-fertiliser. When River Stour nitrate concentrations are above the maximum allowed limit in treated water, we blend river water with low nitrate groundwater from our Langham boreholes. However, the Langham Boreholes abstraction licence will now be subject to significant sustainability reductions which means we would have to back pump raw water from Abberton Reservoir to Langham WTW more frequently to provide a low nitrate source to blend. The longer duration of back pumping is not supported by the Environment Agency because this reduces the River Stour to Abberton Reservoir transfer capacity by 50% at the time of year when we must fill Abberton Reservoir in order to achieve our system dry year deployable output. It takes one year to fill Abberton Reservoir. We agree with the Environment Agency – this would not be an acceptable risk to supplies at Abberton. Our experience over the last five years has shown that back pumping from Abberton Reservoir to Langham WTW also increases the use of the EA's Ely Ouse to Essex Transfer Scheme drought scheme in non-drought years. The Environment Agency does not support this because this has high financial and carbon costs and expects us to address this through WRMP. Since there are no alternatives for using alternative sources of raw water, we now need nitrate treatment at the treatment works itself. This will remove nitrates from the River Stour water directly, rather than relying on borehole sources that are no longer available. This scheme is enhancement expenditure because we need to add an additional treatment process to this works in response to the upward trend in river nitrate concentrations, and the sustainability reductions to abstraction from low nitrate sources (which is beyond our control). We have not included any element of maintenance or replacement of existing assets in our scope for

Issue		Defra Information request	ESW Response
			this scheme, nor is this need driven by any loss of capacity at the treatment works. <u>Langford WTW</u> Langford WTW source water is from the River Chelmer and River Blackwater, both of which have largely arable catchment with widespread use of agri-fertiliser. The WTW does benefit from ~3 days of bankside storage. This can be drawn down when river water quality does not meet water quality standards (including for nitrate treatment) and blended to reduce nitrate concentrations in drinking water. However, the duration that river nitrate concentrations are above the PCV is increasing and can be between 4 months and 9 months. During this time, we reduce the output of Langford WTW and blend the output with treated water from Layer WTW to ensure compliance with the nitrate standard. This reduction in Langford WTW output means that Hanningfield WTW must then increase its output - which can result in an increase in the utilisation of the EA's Ely Ouse to Essex Transfer Scheme drought scheme in non-drought years. As we explained for Langham WTW, the EA does not support this and expects us to address this through WRMP. Since there are no alternatives for using alternative sources of raw water, we now need nitrate treatment at the treatment works itself. This will remove nitrates from the River Chelmer and River Blackwater raw water directly. This scheme is enhancement expenditure because we need to add an additional treatment process to this works in response to increasing nitrate levels. We have not included any element of maintenance or replacement of existing assets in our scope for this scheme, nor is this need driven by any loss of capacity at the treatment works. **Langford, Langham, and Barsham Nitrate Schemes – Scope of Work** We developed the scope of work for all three nitrate schemes to address deteriorating raw water quality so that the final water meets maximum permissible limits. Langford, Langham and Barsham WTWs currently do not have any water treatment processes to remove nitrates. As the introduction of nitrate removal is a new / additional water treatment process, there is no cross over between base and enhancement costs. We will update our WRMP24 to show that each nitrate scheme has the following components: • Plant for the nitrate removal treatment itself. These are costed as using an EDR (electrodialysis reversal) method. • Pumping station for the water to move through this plant for treatment. • Pumping station to remove waste from the plant.

Issue		Defra Information request	ESW Response
			• Other elements of the building to house the plant (such as walkways and stairs). In addition to this, we must pay Anglian Water for the waste treatment (under their trade effluent charges). Each of these elements is new and is specific to additional nitrate treatment. There are no upgrades to, or refurbishment/maintenance of, existing equipment included in this scope. **Abberton Raw Water Pumping Station (RWPS) and Langford WTW Clarifier Upgrades** When we originally designed our AMP7 transfer scheme, the pipeline would have transferred water from Abberton Reservoir to Hanningfield Reservoir. The Abberton Reservoir water would be transferred from Langford WTW to Hanningfield WTW through the existing pumping station and raw water pipeline between Langford WTW and Hanningfield Reservoir. However, this was subsequently (after PR19) discounted as a viable option because of the risk of transferring Invasive Non-Native Species (INNS) from Abberton Reservoir into Hanningfield Reservoir. In response, the scheme was revised so that the water is treated at Langford WTW. <u>Abberton RWPS</u> The Abberton RWPS scheme includes replacing two of the four existing pumps with larger capacity pumps to increase pumping station capacity by 50Ml/d. This is not because these pumps need replacing. The existing four pumps are able to deliver the current and historical pumping requirements. This pumping station was new in AMP6 and the pumps are in good condition. Instead, this is because we need additional capacity to transfer up to 50 Ml/d of raw water from Abberton to Langford WTW through the new AMP7 Abberton to Langford Pipeline. This is in addition to maintaining all previous raw water pumping (that is, transferring raw water from Abberton Reservoir to Layer WTW and back-pumping raw water to Langham WTW during periods of poor raw water quality in the River Stour). The proposed additional pumping capacity is to meet this additional requirement, and so this is enhancement expenditure. This does not replace or duplicate any base maintenance activities. <u>Langford WTW Clarifier upgrade</u>

Issue		Defra Information request	ESW Response
			The Langford WTW Clarifier upgrade is needed to treat raw water from Abberton Reservoir that will be transferred to Langford WTW through the new AMP7 Abberton to Langford Pipeline. Abberton Reservoir water is of a different quality (significantly lower alkalinity) than the River Blackwater and River Chelmer water that currently feeds Langford WTWs, requiring more settlement and filtration time than the clarifiers were designed to treat. As the water types are so different additional clarifiers and filters will be required. Hydraulic and process reviews have confirmed that the upgrade is required to realise the full Water Available for Use (WAFU) gain from the pipeline. This investment was not included in our AMP7 enhancement case for the pipeline. The existing Langford WTW Clarifiers can treat the full deployable output of Langford WTW. This means that the clarifier upgrade is enhancement expenditure, as these are only required to meet this higher need for settlement time and filtration. There is no cross over with base maintenance of the existing assets, and we would not otherwise need to invest here. We have not included any enhancement expenditure for additional sludge processing - only the changes in primary treatment due to the difference in settling velocities which are dictated by the source water alkalinity. **Langford WTW Ultra Violet (UV) Scheme** The Langford WTW UV scheme is needed to reduce raw water pumping outage due to elevated cryptosporidium concentrations in the rivers Chelmer and Blackwater, often during and immediately following significant rainfall events. To ensure compliance with drinking water standards (i.e., no cryptosporidium oocysts in final water), we currently employ abstraction management and consider a temporary cessation of abstraction when the number of cryptosporidium oocysts detected in the river water is greater than 5 oocysts/litre. We have identified an increasing trend in the concentration and frequency of elevated cryptosporidium in the rivers Chelmer and Blackwater, resulting in more frequent raw water pumping outages. Raw water pumping outage does not translate into WTW unplanned outage because we draw down bankside storage and reduce Langford WTW output. This means that Hanningfield WTW has to make up any shortfall in supply to meet demand, which can result in additional drawdown in Hanningfield Reservoir. This can be problematic following a summer drought and can compromise refill of Hanningfield Reservoir and increases our reliance on the Environment Agency's Ely Ouse to Essex Transfer scheme, to ensure refill of Hanningfield Reservoir before the next draw down season.

Issue		Defra Information request	ESW Response
			As our existing Langford WTW assets do not prevent raw water pumping outage due to cryptosporidium and that this can compromise refill of Hanningfield reservoir, the Langford UV scheme is enhancement expenditure. **<u>Demand management options</u>** The full details of our methodology for calculating base and enhancement performance from these activities can be found in our WRMP Demand Management submission for PR24, nes15.pdf (nwg.co.uk).
7	Increase in costs from the draft WRMP	The revised WRMP shows an increase in (financial) costs. This is due to a combination of increased scheme costs for some schemes that were in the draft WRMP, and the addition of new schemes since the draft WRMP. This has significantly changed the scale of costs. This requires more detailed understanding in order to determine that this is justified. It is also noted that options have been identified for the core plan to address outage, which is likely to form part of base, not enhancement expenditure. The company must provide justification for the increase in scale of costs between draft and revised WRMP, and address funding of outage of schemes which are base, not enhancement schemes	Our revised WRMP24 shows an increase in (financial) costs of £248.14 million compared to our draft plan. £113.65 million is due to the inclusion of the unplanned outage reduction schemes (i.e., Nitrates and cryptosporidium removal schemes). As described in our response above, all of the unplanned outage schemes are enhancement expenditure. In our response to Ofwat Query OFW-OBQ-NES-173 and Query OFW-OBQ-NES-192, we have confirmed the scope and cost of the schemes and will update our final WRMP24 to include a summary table of these costs. The remaining £134.49 million increase in costs is due to: i. Increased capacity of Linford new WTW from 7 Ml/d to 10 Ml/d following information from the Environment Agency that there is additional currently unlicensed groundwater available in the area. ii. The addition of Abberton Raw Water Pumping Station and Langford Clarifier upgrade option, to support flows through the Abberton to Langford WTW pipeline, being built in AMP7. iii. Extension of the Bungay to Broome WTW raw water transfer to Barsham WTW transfer. iv. refinement of our costs following submission of our draft plan, notably to include updated land purchase and Biodiversity Net Gain (BNG) costs. Our revised draft WRMP24 final plan is based on Best Value EBSD modelling which uses the latest costs. Our PR24 business plan, published in October 2023, already used these updated costs.

Issue		Defra Information request	ESW Response
8	The baseline deficit between dWRMP and revised dWRMP remains virtually unchanged despite extra schemes	The deficit between draft and revised plans remains virtually unchanged (-39.21Ml/d in draft WRMP tables and - 38.76Ml/d in revised WRMP tables) despite extra schemes that deliver circa 14 Ml/d of water available for use (WAFU). It is unclear whether any schemes have been removed to offset this, whether the scale of funding is appropriate, and whether the significant WAFU associated with the new schemes has a proportionate benefit on the supply demand balance. The company must provide clarity in the final plan regarding the WAFU benefits of the new schemes and the limited change in 2029-30 baseline supply demand balance.	The benefit of new schemes is accounted for in the final plan SDB (10FPW), not in the baseline. At the ESW company level (Table 2e) the benefit of the new schemes in our draft WRMP24 was 23.93 Ml/d in 2029/30 and is 27.25 Ml/d in the same year in our revised draft, an addition of 3.32 Mld in annual average WAFU. However, the benefit of the new schemes offset a total companywide net loss in WAFU between draft and revised draft of 17.65 Mld. This loss largely resulted from a 14.63 Ml/d reduction in WAFU in the Essex WRZ, as a result of updates made to our Essex system Aquator model to include Chigwell WTW (a 8.75 Mld loss of deployable output), an updated climate change assessment (an increase in deployable output loss of 2.82 Mld), an increase in potable water transfers (3.16 Mld) and a reduction in process losses (0.1 Ml/d). Whilst there was a concurrent loss of WAFU of 2.29 Ml/d in the Blyth WRZ and a loss in WAFU of 2.13 Ml/d in the Hartismere WRZ, both due to sustainability reductions being brought forward, there was a gain in WAFU of 1.6 Ml/d in the Northern Central WRZ due to updates to our groundwater deployable output assessments. The schemes that were included in our revised draft WRMP24, that were not in our draft WRMP24 included: **Essex WRZ:** • Linford New WTWs at 10 Mld rather than 7 Ml/d. • Langham nitrate removal with an outage reduction benefit of 0.9 Ml/d. • Langford nitrate removal with an outage reduction benefit of 2.75 Ml/d. • Langford UV (cryptosporidium removal) with an outage reduction benefit of 0.2 Ml/d • Abberton raw water pumping station and Langford Clarifiers upgrade with a WAFU benefit 8 Mld. **Northern Central WRZ:** • Barsham nitrate removal with an outage reduction benefit of 2.15 Ml/d. • The largest of the North Suffolk Winter Storage Reservoir options (19.9 Ml/d) in our revised draft WRMP24 replaced the smallest option (16.2 Ml/d) as well as Caister Water Reuse (16.4 Ml/d) in our draft WRMP24. It should be noted that the actual capacities of the nitrate removal schemes is expected to be larger than the outage reduction benefits in Ml/d shown above. These benefits were derived from removing nitrate outage events from the historical record and reassessing the resulting outage allowance. In reality, the schemes will be used in all years given that nitrate and cryptosporidium concentrations in our source river waters are above treatable limits for periods

Issue		Defra Information request	ESW Response
			every year. We have provided more detail on this to OFWAT in Query OFW-OBQ-NES-082. As a result of the total increase in WAFU of 12.23 Ml/d resulting from the revised draft BVP, compared to the draft BVP, there was an associated increase in TOTEX from £293.90 million (BVP Capex + NPV Opex) to £542.04 million (+£248.14 million). However, the benefit of the outage reductions schemes, represented by outage avoided, underestimates the benefit of these schemes to resilience of our SDB in our Essex and NCZ WRZ. Their principal purpose is not gain in WAFU, but for resilience under normal year and critical periods, as well as DYAA, to ensure that the water we have forecasted to be available to us, will be, and not unusable due to poor water quality (i.e., nitrates and cryptosporidium). The Essex schemes will also minimise utilisation of the Environment Agency's Ely Ouse to Essex Transfer Scheme, reducing pumping and thereby carbon emissions. This is explained in our WRMP24 main report in section 8.4.1.
9	New Appointments and Variations	New Appointments and Variations (NAVS) are required to produce a statutory WRMP. This means that when ensuring alignment with regional and neighbouring water company plans incumbents should ensure alignment with the NAV plans. This means the transfers to each NAV should be described in the plan and contractual volumes should be set out in the planning tables. Essex & Suffolk Water should also ensure properties and populations served by NAVS are not included within the forecasts in the company plan going forward. This is to prevent double counting of demand components and also overstating supply. The company should ensure the volumes transferred to NAVS are recorded in the planning tables. The company should work with the NAV companies to ensure alignment of assumptions e.g., number of sites, population, property, and contractual volumes. We do not expect incumbents to forecast beyond the appointed sites set out in the NAV WRMPs i.e., new sites will be awarded but the incumbent will not know when and to which NAV. The company should use the WRMP cycle to update the figures and adjust forecasts accordingly.	We can confirm that: i. properties and populations served by NAVS are not included in our demand forecast - they are only included as an export to NAVs and associated population has been removed from our total population. ii. we worked with the NAV companies to ensure alignment of assumptions e.g., number of sites, population, property, and contractual volumes. iii. we have not included NAV export forecasts beyond existing sites. Please refer to sections 4.4 and 6.3 of our WRMP24 Demand Forecast Technical Report, where we describe these points in detail. We will update figures through the WRMP cycle. We have included all bulk supply volumes to NAVs in line '5BL - Potable water exported' in our WRMP data tables.

2.2 FURTHER AMENDMENTS IN RESPONSE TO ENVIRONMENT AGENCY SoR REVIEW ANNEX RECOMMENDATIONS

The following items were provided to us by the Environment Agency in a **Statement of Response Review Annex**, but not raised to Defra by them. We are therefore not obliged to address these issues, but we have incorporated amendments in response to as many as we have determined appropriate to further improve our plan. In this section, we have detailed what amendments we have made in response to these recommendations.

Issue		EA area for improvement	EA recommended changes to the plan	ESW Response
10	Transfers alignment	**External transfers:** ESW includes a potable water import called 'Bulk import from AWS – Cressing', which is not included in Anglian Water's tables. It remains difficult to reconcile the Thames Chigwell* raw water transfer in the plan with information provided in Thames Water's (TW) plan. A review to assess the alignment between companies' baseline transfers identified differences in DYAA and DYCP volumes. The final plan will need to be clarified to confirm that the assumptions on exports enable the CP and DYAA modelled benefits to be achieved in practice in the Essex zone. ESW state it has a DYAA volume of 91 Ml/d and a DYCP volume of 118 Ml/d whereas TW state the DYAA volume is 67 Ml/d and doesn't include a volume for DYCP. ESW has included the benefit of the bulk import in its Aquator model. The supply modelling technical report (Table 4) indicates that this provides 88 Ml/d net benefit. This is included in the DO figure for the zone. We suspect that the difference between the 91 Ml/d and the 88 Ml/d is due to treatment works losses and operational use losses which are also included in Aquator but this should be confirmed. ESW has then included a -20Ml/d export to account for the fact TW will be supplying less water up to 2035. Arithmetically this reduces net benefit to 68Ml/d, which is	The company should: **Anglian Water:** • liaise with Anglian Water to ensure that all transfers and their volumes are aligned between each company's table 1g, in particular the DYCP volume for the export named 'bulk exports to AWS'. **Thames Water:** • liaise with Thames Water to confirm the DYAA and DYCP volume for the Chigwell (also referred to as Lower Hall, William Girling/King George V) raw water transfer. This transfer volume should be aligned between company planning tables 1g and 3a. • confirm that the assumptions on exports enable the DYCP and DYAA modelled benefits to be achieved in practice in the Essex zone. • particularly, clarify that the full DYCP import is available, the benefits this has to supply, and that this is consistent with TW's assumptions on critical period exports. • confirm that the difference between the 91 Ml/d and the 88 Ml/d is due to treatment works and operational use losses and that these are included in Aquator DO value – if not due to	**Anglian Water:** We have reviewed our Table 1g figures and liaised with AWS to discuss alignment regarding the representation of the transfers between ESW and AWS. Our figures are based on maximum contracted values. We are content that our Table 1g figures are correct and have not made any amendments to our revised WRMP24 data tables. We will continue to liaise with AWS to identify opportunities for potential variations to the current transfers to support resilient supply demand balances in our neighbouring WRZs. **Thames Water:** • We have liaised with Thames Water regarding how each company has represented the bulk import from Thames Water into ESW at Chigwell WTWs. We have produced a jointly authored Technical Note to explain how each company has accounted for the import in our WRMP24 tables, and to demonstrate that we are aligned. Please see Appendix D to this Further Information Statement of Response. • Our Essex WRZ DYAA and DYCP SDBs (Tables 3a and 3d) both include an export (line 4BL) of 20 Mld to Thames to account for our current water sharing agreement. Therefore, we are satisfied that we have not overestimated the exported volume that would be available and the modelled benefits can be achieved in practice, including in the DYCP. Please also see our response to issue 2 in this document for further information. • Previous to our revised draft WRMP24 we accounted for the bulk import into Chigwell WTWs, and its contribution to deployable output of the Essex WRZ, as a bulk import in line 2BL of 91 Mld – our contracted average monthly

Issue		EA area for improvement	EA recommended changes to the plan	ESW Response
		almost the same as TW's 67 Ml/d assumed export, but ESW need to ensure that it is not assuming there will be more water imported than TWs assumes it will need to export. TW's plan and ESW's plan both show a net change in 2035. ESW's plan stops the -20 export (proxy for the reduced import) and TW export rises by 23 Ml/d. TW provides no data on critical period exports. For the final plan ESW need to clarify that the full CP import is available, the benefits this has to supply, and that this is consistent with TW's assumptions on CP exports. We also need ESW (and TW) to explain why there are minor differences in the assumed export of water and the DO benefits calculated in ESW's Aquator model to ensure both companies are working from the same assumptions. * This transfer may also be referenced as the Lower Hall, William Girling/King George V transfer. **Internal transfers:** After conducting a comparison between table 1g and tables 3a it appears that ESW has excluded internal transfers from table 1g. For example, ESWNCT table 3a includes an export of 0.37 Ml/d but table 1g doesn't include this transfer, meaning it remains difficult to reconcile the tables and identify where this water has come from.	TWLOU explain the reason for the different net benefit. • explain why there are minor differences between ESW and TW assessments regarding the assumed export of water and the DO benefits calculated in ESW's Aquator model and confirm both companies are working from the same assumptions. • ensure internal transfers are included in table 1g and table 3a and are aligned. • after conducting the reviews above ensure planning tables 1f, 1g and tables 3a are aligned.	import. However, we made developments to the Essex system Aquator model between our draft and revised draft WRMP24 reports, which included adding Chigwell WTW to the system model. The resulting system response benefit to WRZ DO was the full 91 Mld. We have corrected the figure from 88 Ml/d to 91 Ml/d in our WRMP24 Supply Forecast Report. • We can confirm that we are working from the same assumptions as Thames Water regarding the bulk transfer, the technical note in Appendix D to this document demonstrates our alignment with regards to how we account for it in our respective revised WRMP24 data tables. • We have now included internal transfers in Table 1g and can confirm alignment with Tables 3a. • We have reviewed our planning Tables 1f, 1g and Tables 3a and confirm that they are aligned.
11	The company's supply-side options are not well developed, and individual options might not be feasible or yield the	The company has partially addressed this point but has not provided a detailed programme of work for development and delivery of preferred and alternative supply options. Delivery of supply options remains a significant risk for the plan, particularly in the short to medium term. Feasibility of some options is still unconfirmed, and the company needs to provide confidence that	We suggest that the company: • continue to progress all proposed options with decision or trigger points prior to 2030 as far as possible until final decisions on design, feasibility, adaptive pathway can be made • submit a detailed programme of work as part of the 2024 annual review setting out actions taken and required to progress development of its preferred and alternative supply options	In contrast to the baseline supply demand balance surplus in our WRMP19, the baseline supply demand balance in our WRMP24 has a significant supply demand balance deficit caused by abstraction licence sustainability reductions, non-household growth and climate change. Consequently, we have not been able to draw on options from previous AMPs and so our PR24 options appraisal was largely started from scratch. However, In line with the regional methodology, our consultants have developed outline design and costs for all feasible options. Nevertheless, we recognise that some

Issue		EA area for improvement	EA recommended changes to the plan	ESW Response
	assumed supply benefits	it can coordinate the ambitious programme of works and ensure timely delivery of its options. ESW must allow sufficient time for their proposals to move through the required regulatory processes.		schemes are less well developed and so we are progressing detailed design through the Accelerated Infrastructure delivery programme. Our Capital Delivery project teams are established and progressing among other aspects, detailed design and permitting requirement for the following final plan and adaptive programme options: • **Accelerated Infrastructure Delivery Programme:** Suffolk Strategic Network Enhancement, Lowestoft Reuse, North Suffolk Reservoir and Linford New Borehole and Treatment Works; and, • **ESW Accelerated Schemes:** Barsham, Langford and Langham Nitrate schemes, Langford, UV, and Clarifier Schemes. Project teams are addressing a number of challenges now that we have moved to the detailed design phase. For example, this includes a new river Waveney Hands Off Flow (HoF) condition that the EA has indicated will be applied to the abstraction licence required to fill the proposed North Suffolk Reservoir. This HoF, if confirmed, would require a larger reservoir in order to achieve the same deployable output (Ml/d) and so could significantly increase costs. We are currently confirming the implications of the higher HoF which we will then discuss with the Environment Agency. Additionally, we have included a new funding allowance in our core plan to undertake investigate and detailed design of two further supply options that could be used to address supply deficits caused by Habitats Regulations sustainability reductions, namely Bacton Desalination Scheme and Trinity Broads Winter Storage Reservoir. **Bacton Desalination Plant** Anglian Water has been asked by Defra to further consider the implications of the Habitats Regulations investigations in Norfolk. As a result, Anglian Water has asked for further funding in AMP8 to develop the Bacton Desalination Plant on the northeast coast of Norfolk. Following Defra direction, we met with Anglian Water to discuss the option and have since agreed that it could be sized to address some of the Suffolk supply deficits driven by our Habitats Regulations

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				sustainability reductions. Subsequently, Anglian Water has included a funding allowance in its AMP8 core plan that will allow it to progress the investigations and design stages of the Bacton Desalination Plant along with early work on pipelines back to Norwich. We have agreed that we will include a funding allowance in our AMP8 core plan to progress the detailed investigations and design stages of a pipeline from Norwich to our Barsham WTW where it could then connect into the Suffolk Strategic mains which are enhancements in our WRMP24 preferred final plan. The Norwich to Barsham main was costed for our initial options appraisal process at £40.5 m and so we will include a £2.4 m funding allowance (6% of capex) in our AMP8 core plan to progress detailed design. This will ensure the scheme is progressed in a timely manner in the increasingly likely event that we will need to move to the Habitats Regulations adaptive pathway. The Bacton Desalination scheme was previously discounted as a feasible option for AMP8 delivery in our WRMP24 by both us and Anglian Water. This was because, given its location, the scheme was only considered feasible if Anglian Water also needed it and, in their case, it was not until the 2040s to make up for environmental destination sustainability reductions. Now that the scheme may be brought forwards, it becomes a feasible scheme for our ESW final plan. **Trinity Broads Winter Storage Reservoir** We currently have an abstraction intake on Ormesby Broad, part of the Trinity Broads system, which eventually discharges to the River Bure via an Internal Drainage Board (IDB) pumping station. However, Habitats Regulations sustainability reductions could result in the partial or full loss of the Ormesby abstraction licence licensed quantity. We have since identified a new option which would be to construct a new winter storage reservoir which the IDB pumping station would discharge into. The reservoir would be filled during the winter and subject to further modelling, could remove all summer Public Water Supply (PWS) abstraction from the Trinity Broads system. We have discussed this option with both the Environment Agency and Natural England who are both supportive of us investigating it as a solution to make up for the loss of direct abstraction from Ormesby Broad. The

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				scheme would also include a raw water pipeline from the reservoir back to Ormesby WTW. We propose that the reservoir has a storage capacity of 7,500Ml (the same size as the North Suffolk reservoir). The capex cost (based on the North Suffolk Reservoir) is £214.8 m and so we will include a £12.9 m funding allowance (6% of capex) in our AMP8 core plan to progress detailed design. As with the Bacton scheme, this will ensure the scheme is progressed in a timely manner in the increasingly likely event that we will need to move to the Habitats Regulations adaptive pathway. We confirm that we will report on progress against programme for each of the above schemes as part of our 2024 WRMP Annual Review.
12	Clarify timings and size of new supply options	Some details relating to timings and scale of options could be clearer. The plan sets out option delivery dates chosen by the optimiser model. It also compares the preferred plan with the adaptive pathways based on those timings. However, these timings may be different when accelerated funding and modelling issues linked to resilience schemes are considered. We suggest that the plan expands on the timings for options to reflect both the modelled dates and any alternative dates the company considers to be more realistic. This would ensure that more meaningful comparisons can be made. Some examples from the rWRMP are given below but we acknowledge that these points may be superseded by revisions to the preferred plan, Habitats Regulations path in light of Issues 1 & 3 and new available information on potential water availability for the reservoir. **Lowestoft reuse:** Delivery date for Lowestoft reuse scheme is 2032/33 but the company believes this date was influenced (delivery date shifted	The company should: • include the options timings for both the modelled dates and any alternative dates the company considers to be more realistic – this should include detailed explanation for differences in timings/sizes and reasons for alternative dates proposed. consider whether the benefits of alternative pathways remain in light of updated timings for delivery of schemes. • explore the scale of the NSR under the Habitats Regulations pathway further, ensure the chosen scale is justified. • review these points in light of Issues 1 & 3 as required by Defra.	We confirm that the accelerated scheme delivery dates have been used in the optimiser model. **Lowestoft reuse**: The earliest delivery date for Lowestoft Reuse in the revised draft WRMP24 EBSD model was 2030/31 and is the first year (with accelerated infrastructure funding) that the scheme can be delivered. However, our revised draft WRMP24 preferred plan has Lowestoft Reuse delivery date as 2032/33, which is when the Northern Central WRZ SDB first falls into deficit. The Suffolk Strategic Pipelines, which satisfy the deficits in the Blyth and Hartismere WRZs with the small surplus in the Northern Central WRZ will be operational from 2030/31. Consequently, no Reg 19 derogations are required between 2030/31 and 2032/33 although the moratorium on new NHH demand is in place until 2031/32 in the Hartismere WRZ. In order to lift the Hartismere non-domestic moratorium earlier, we will update the central preferred final plan in our final WRMP24 so that we will deliver, subject to detailed design between now and the 2027 review point, Lowestoft Reuse in 2030/31. This will then enable the Hartismere WRZ non-household moratorium to be lifted once Lowestoft Reuse is operational. This is also prudent to do given the uncertainty of Habitats Regulations sustainability reductions which will not be confirmed by the Environment Agency until later in 2024/25.

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		later) by the inclusion of resilience schemes even though these are not intended to provide new water supply. Accelerated funding is intended to allow Lowestoft to be delivered by 2030/31. The need for the company to delivery sustainability reductions and lift the non-household moratorium suggests that this option should be delivered as soon as feasibly possible. It is not clear what the impact on the plan is if this accelerated timeline is taken into account. **North Suffolk Reservoir (NSR) pathway:** Part of the justification for the NSR adaptive pathway is that the reservoir would only be delivered one year behind Lowestoft reuse. However, this is based on the optimiser date for Lowestoft which is 2032/33. If Lowestoft delivers in 2030/31 the difference in delivery of a reservoir instead is three years rather than one year. This may make a difference to the decision on which path to proceed with. As noted above, the company has identified supply-demand deficits and is unable to meet all request for new demand suggesting it should deliver solutions as quickly as possible. **NSR – Habitats Regulations pathway**: Under the Habitats Regulations adaptive pathway, the smaller reservoir is chosen. The reason for this is not clear. Given potential for growth in the future a larger reservoir appears to be better value. The model output should be reviewed to explore this aspect and ensure that the decision is best value.		**North Suffolk Reservoir (NSR) pathway:** The earliest delivery date for North Suffolk Reservoir in the revised draft WRMP24 EBSD model was 2033/34 and is the first year (with accelerated infrastructure funding) that the scheme can be delivered. As described above, our current preferred plan has Lowestoft Reuse delivery date as 2032/33 which is just one year ahead of the 2033/34 delivery date of the reservoir. However, we note, that the difference increases to three years if we were to deliver Lowestoft reuse in 2030/31. We will confirm in 2027 (adaptive plan review point) whether we proceed with Lowestoft Reuse and / or the North Suffolk Reservoir and what years they will be delivered by. **NSR – Habitats Regulations pathway**: Under our updated Habitats Regulations adaptive pathway for our draft final WRMP24 (which includes the additional sustainability reductions to our Redgrave Group and Rickinghall licences) the medium sized reservoir is now chosen. This is because the deficit in the Northern Central WRZ, driven by sustainability reductions, requires two new resources options before the North Suffolk Reservoir is available (in 2033/34). Therefore, the optimiser chooses Lowestoft Reuse (as this is the earliest available), plus a second option from those available from 2032-33, of which Caister Reuse is chosen as the lowest TOTEX option over the 25 planning horizon. The reservoir is then chosen in 2040-41 to resolve the deficit as a result of Environmental Destination sustainability reductions. Subject to support by the Environment Agency, Ofwat and Defra, we would be open to constructing the largest feasible reservoir, on the basis that it is a longer term option than the 25-year planning horizon, even if it resulted in greater supply headroom than the current demand forecast requires. Our North Suffolk Reservoir Accelerated Infrastructure Delivery project is necessarily covering different reservoir sizes to take account of the new river Waveney HoF condition but also to ensure we have choices once Habitats Regulation sustainability reductions are final confirmed.

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13	Incorporate new information on likely sustainability changes in the revised plan.	Notwithstanding new developments as set out in the Defra letter, the company has largely addressed this item, but some improvements could be made. **Redgrave group:** Figures from the capping spreadsheet have been used. For this licence these aren't completely correct as you will retain the fully licensed quantity of 2,500,000 m3/y even with caps applied to Mendlesham and Wortham. This source, along with Rickinghall, is affected by the investigation Waveney and Little Ouse Valley Fens Habitats site indicated in Issue 3, therefore we acknowledge that the outcome is subject to change. **Langford and Ball Lane:** The cap has been downgraded to a maximum peak (MP) Original cap following the growth assessment, however ESW need to confirm if growth is planned on these licences before the EA confirm they don't need a MP Operational cap.	The company should: • review the licence values used for the Redgrave group licence and consider whether these should be amended for the final plan. • note that the Redgrave and Rickinghall licences are subject to outcomes of the Waveney and Little Ouse Valley Fens Habitats site so figures used for these may be subject to change. • confirm to the EA whether growth is planned for Langford and Ball Lane.	While we acknowledge that with the proposed caps to the Wortham and Mendlesham abstraction points on our Redgrave Group licence we would still retain the current annual total group licence of 2,500 Ml, the licence is currently with the Environment Agency awaiting renewal / variation and it, and the associated Regulation 19 exemption case, have not yet been determined and are unlikely to be until after our WRMP24 has been published. Therefore, for consistency with other abstractions, we are using the same source of licence cap information for the Redgrave Group as for our other licences, namely the spreadsheet provided by the EA in March 2023. We will therefore not make any changes in respect of 'no deterioration' licence caps for the Redgrave licence in our final plan. We were informed by the EA of the addition of our Redgrave Group and Rickinghall licences to their Habitats Regulations sustainability investigation in September 2023, after the submission of our revised draft WRMP24. We will make amendments to our final draft plan and associated technical reports to reflect the addition of these sites to the Habitats Regulations Investigation. We can confirm that there has been no actual growth at either our Ball Lane or Langford Trench groundwater abstractions since the Recent Actual period (2010-2015). Abstraction in the subsequent 2016-2021 period at both these sites has been lower than in the 2010-2015 period. We are not planning for increased abstraction at either of these sites in the future.
14	The impact of operational constraints and outages at the company's abstraction and treatment assets is not fully accounted for in the plan and risks security of supply	The company was asked to ensure its plan reflects known operational constraints and set out a fully detailed plan for how it will improve the condition of its assets. The outage assessment has been revised, the company has undertaken works to remove operational constraints, and proposes additional options to improve treatment and minimise outage in the revised plan. This largely addresses our concerns. Points outstanding are below:	The company should: • update the final plan with modelled water quality constraints, if the Aquator work is completed in time for its inclusion.	We are not yet confident that our Aquator model is able to accurately reflect water quality constraints on deployable output. The Aquator software is currently designed to model the flow of water only. Whilst there is work underway by the providers of the software to design a water quality module, this work is in its infancy. We will continue to work on incorporating water quality constraints into our modelling of deployable output for both operational forecasting and for sensitivity testing our modelled deployable output of the Essex system and will be looking to present this work in the next round of water resources planning.

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		The EA had requested that Aquator was used to model operational constraints, but ESW has used an alternative method (which it has since outlined). This is because ESW found that Aquator is not currently able to reliably model water quality. Work is needed to ensure triggers are correct and to validate the results before there is confidence in a good representation of the system response. ESW are currently working on that, looking at historical water quality data, and reviewing River Stour flows to ensure they are as accurate as possible, as the results are sensitive to these. The final plan should include this if possible. ESW noted that outage data at Barsham is not sufficiently detailed enough to enable the precise cause and magnitude of an outage event to be attributed to individual or merged elements of treatment. Therefore, the outage allowance has been calculated from data that is not ideal. We note that the result is an overestimate so there is no concern for supply. However, as Barsham is to become a significant hub under WRMP24 it will be important that assumptions are accurate. The company anticipates that the groundwater treatment plant, onsite storage, and offsite pumping currently being rebuilt will significantly improve this situation moving forwards.	• if work is not completed in time, update the plan with the alternative method used and explain the further work that is still needed to reliably model water quality. • improve its outage data where it is recognised that current information isn't satisfactory (for WRMP29). • review outage assumptions remain relevant for Barsham as planned works are delivered (report updates via annual review, incorporate into future plans.	We consider the way we have included water quality impacts on Water Available for Use, as part of the outage allowance, to be appropriate and follows the current Water Resources Planning Guideline. We have already started engagement with the Environment Agency to suggest where the current guidance requires updating, including both for supply forecast and outage allowance, so that it is fit for purpose for WRMP29. As part of our continual improvement programme, we have optimised the collection and validation of outage data. This will ensure that it is as accurate and detailed as possible, in preparation for annual reporting and in preparation for WRMP29. We will review outage assumptions for Barsham Bore Works and will report findings in our WRMP Annual review.
15	Unit costs	The SoR acknowledges ESW's unit costs being higher than the industry median rate. It attributes this to being in one of the driest parts of the country, having one of the highest numbers of water dependant SSSIs at risk from water company abstractions, and having options such as aquifer storage unavailable. It suggests that traditional, lower cost schemes are no longer available to the company. It does	The company should: • update the final WRMP to identify how unit costs will be monitored in AMP8.	We published our business plan in October 2023. This included an assessment of cost efficiency for our proposed water supply schemes, comparing these against six comparable water and wastewater companies from England and Wales. This showed that all of our projects were more efficient than the benchmark, with an average of 13% better than the average benchmark (please see our NES14 PR24 Business Case) for direct costs and 10% for indirect costs.

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		not address how unit costs will be managed to ensure they remain efficient. Ofwat needs to be reassured that ESW is monitoring and minimising its unit costs, given that it has accepted they are higher than industry average.		We have also set ourselves an additional 0.8% per year ongoing efficiency challenge to ensure cost effectiveness through innovation and technological improvements (in our NES01 PR24 Business Case) – higher than most of the sector. Innovation has been a key part of our strong position on cost efficiency, and this will be crucial in delivering the future efficiencies required in our business plan. We have been one of the leading performers in Ofwat's Water Innovation competitions so far, and some of these projects have sector wider benefits and potential to speed up innovation across the sector. We will report on the costs of our WRMP24 enhancement projects annually, in our published annual performance reports to Ofwat as well as through our normal management processes. As with all expenditure, there is a strong incentive to monitor and minimise our unit costs – through cost sharing mechanisms and through new price control deliverables (PCDs). It is difficult to compare the marginal costs of new water supplies across companies (as this depends on the available options in each area), but all of this will help to make sure that we are minimising costs through careful planning and efficient delivery.
16	The approach to assessing and presenting information about the climate change impacts on its sources and supply forecast in the plan lacks evidence and justification in places	The SoR has mostly covered the issues raised but the response was incomplete and there are several minor issues which should be addressed: • Section 5.2 of the Supply Technical Report was updated to use system response for scenario selection rather than historic rainfall events – there appears to be no evidence that the robustness of this approach has been tested. • In Section 6.4 of the Supply Technical report the impact of climate change scenarios on the DO of Essex WRZ are in Table 13. However, the results for the Suffolk WRZs are not presented - provide these to provide climate impacts for all WRZs.	The company should: • provide evidence or sign post to evidence that the robustness of the system response approach has been tested. • provide impact of climate change scenarios on DO results for the Suffolk WRZs (Table 13).	• Section 5.2 of the Supply Technical report details the changes made from WRMP19 to WRMP24, mainly the shift from historic droughts to a range of stochastic scenarios to test system response. This change was required by the WRMP24 guidance. • Details of the climate change impact on groundwater sources is detailed in Section 3 of the Groundwater DO Technical Report. There are three surface water sources in the Suffolk WRZs: 1 **Shipmeadow intake on the River Waveney:** The Shipmeadow abstraction is supported by the Waveney Augmentation Groundwater Scheme (WAGS), which is owned and operated by the EA. The scheme was designed, built, and operated to

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		• A Drought Vulnerability Assessment is carried out in Section 2.4 of the main Plan which uses the principles of the UKWIR 'Drought Vulnerability Framework' (17/WR/02/12). A BVA hasn't explicitly been carried out. • There is no evidence provided of how the UKCP18 probabilistic scenario range has been considered to demonstrate how the full range of potential impacts has been considered in Section 6.5 of the Supply Technical report. • Although further detail has been added about RCP8.5, an explanation for the choice of RCP2.6 needs to be included.		support the ESW abstraction. Pending licence reviews the EA has committed to continue this support and the source is therefore not vulnerable to climate change in its present configuration. 2 **Fritton Lake and the Lound Ponds between Lowestoft and Great Yarmouth**: Fritton Lake and the Lound ponds, having no significant surface water courses flowing into them, are predominantly spring-fed, and are therefore considered as sourced from groundwater. Climate change groundwater modelling undertaken across Suffolk at all our other borehole sources has indicated negligible impact on aquifer levels and we expect this to be the same for the Lound Ponds. However, we are in the process of developing an Aquator model for the Suffolk region, which includes the derivation of historic, ground water-fed inflow sequences for the Lound Ponds. We will reconsider the impact of climate change on this source for WRMP29. 3 **Ormesby-Bure system in Norfolk:** Like Fritton Lake and the Lound Ponds, a significant proportion of the inflow to the Trinity Broads (one of which is Ormesby Broad) is groundwater, and also like Fritton Lake and the Lound Ponds, they are not considered to be vulnerable to climate change. However, we are in the process of developing historic inflow sequences for our new Aquator model, which was developed between submission of our daft and revised draft WRMP24s. The abstraction on the River Bure at Belaugh is subject to a licence condition limiting the daily amount to 18.2Ml/d when flow drops below 0.385m3/s at the upstream Ingworth gauge, there is no requirement to leave a residual flow in the river, therefore this represents the deployable output of the abstraction. Climate change analysis has confirmed that under the worst climate change scenario the upstream flow at Ingworth is still sufficient to maintain the Belaugh DO of 18.2Ml/d.

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			• A climate change BVA hasn't explicitly been carried out - the company should explain why and how its approach ensures the potential impact of climate change are properly screened to inform its choice of assessment methodology. • provide a more detailed description of how the UKCP18 Probabilistic scenario were considered to ensure the full range of potential impacts were accounted for in Section 6.5 of the Supply Technical report. • include an explanation for the choice of RCP2.6.	The above additional detail on the Suffolk surface water sources will be added to section 5.6 of our WRMP24 Supply forecast Technical Report. • A BVA was carried out - details are in Section 6.1 of the Supply Technical report. • Section 6.6 of the Supply Technical report includes information on the alternative climate change modelling carried out. We will update this section to expand the description. • RCP2.6 was chosen as it represents a low emission climate change scenario, we will update text in Section 6.6 of the Supply Technical report accordingly.
17	The assessment of carbon costs and emissions in the plan requires further development. Some aspects have not been considered, or evidence has not been presented.	The SoR has mostly covered the issues raised but there are several minor issues which could be addressed: • Total carbon costs for final options have been included in section 9.3.3 in Table 94 and 95 but should be included for all feasible options. • Section 8.2.2 lacks information on how carbon costs have been compiled. • Although Section 9.3.3 does describe the uncertainty associated with carbon assessment and explains that the assessment provides a good comparison on the scale of expected emissions, it does not explain how the assessment minimises uncertainty. • For carbon emitted by third parties, reference can only be found to the EA assets and pumps, it is unclear whether there are other relevant third parties that should be considered.	The company should: • include total carbon costs for all feasible options in Table 94/95, or signpost if this information is presented elsewhere. • includes information on how carbon costs have been compiled in s8.2.2, or signpost if this information is presented elsewhere. • explain how uncertainty in carbon assessment will be minimised	• Total carbon costs for all feasible options are included in the WRMP24 data tables in column AG of sheet 'Table 4. Options Appraisal Summary'. • Detail on the methodology used to compile carbon costs is presented in section 2.2.4.3 'Carbon Cost Methodology' of our WRMP24 Options Appraisal Technical Report. • We noted inherent uncertainty in carbon emissions assessment as part of our transparent approach to this Water Resources Management Plan. However, regarding how uncertainty will be minimised, we have robust carbon assessment practices – we follow industry standard approaches, use UK government emissions factors where available and collaborate with our supply chain to produce good quality assessments of our environmental impact. As part of our continuous improvement approach, we are currently working with Newcastle University to better understand whole-life emissions from our assets and are developing our own tools for emissions management.

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		The company has been able to provide an indicative emission value for carbon emissions from EA assets. The SoR states that it commits to working via the Ely Ouse Operator's group and Senior Managers' meetings to consider how and by when net zero can be achieved with the EA for transfer activities.	• explicitly provide clarity on other third parties (or confirm of there are no other third parties). • We suggest that as part of the 2024 annual review the company submit a roadmap for working via the Ely Ouse Operator's group and Senior Managers to achieve net zero for EA assets - including a plan of action reporting any discussions already undertaken, how the working groups will proceed, and actions required.	• Our preferred plan includes Lowestoft Reuse scheme which will treat effluent from Anglian Water's Water Recycling Centre. At this point in time, we do not envisage that Lowestoft Reuse scheme will increase Anglian Water pumping and so should not impact their carbon costs. We will raise this at the next ESW / Environment Agency Senior Managers Meeting and agree on a way forward.
18	Customer supply pipe leakage policy	ESW's customer supply pipe leakage (CSPL) policy is unclear from the plan and representations noted that Ofwat are encouraging companies to evaluate the benefits of a common industry approach. The SoR clarifies that there will be no change to the WRMP19 policy but has not clarified what the existing policy entails or whether ESW has a view on the common industry approach. One of the benefits of smart metering is that CSPL can be more readily detected. Considering this it would be useful for the plan to explain why there will be no change to the policy despite the growth of smart metering and emphasis on demand management.	The company should: • set out the company's customer supply pipe leakage policy (if this is unchanged from WRMP19 the policy should still be described). • explain the decision not to amend the policy in light of a smart metering programme which provides additional data. • provide the company's view on the benefits of a common industry approach to customer supply pipe leakage.	Our policy is that if a customer private supply pipe leaks, we will advise them to fix it as soon as possible and within 30 days of the leak being confirmed. When installing a meter, we will check the supply pipe to establish if there is a leak. If a leak is detected in the supply pipe that can be repaired without additional excavation when the meter is installed, we will repair it at our expense. If, as a result of that check, a leak is detected that cannot be repaired without additional excavation, we will notify the customer. Currently, we do not offer free repairs to our wider customer base. However, we will support repairing a leak where a customer is financially vulnerable. In the Essex region, where customers do not have insurance for fixing leaks, we can help them pay for the repair costs with a 12-month interest-free payment option. This is not applicable in the Suffolk or the Northumbrian regions. While smart metering will enable many individual and societal benefits, including quicker leak visibility and, ultimately, leak repair, responsibility for water and supply pipes and repairs to these will not change in this scenario.

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				Smart meters will not provide universal visibility of supply pipe leakage as some meters will be installed internally, and some properties will be un-meterable. Where meters are installed externally, and leakage markers are flagged, we will proactively highlight this and investigate. A common industry approach to customer supply pipe leakage will offer customers a consistent approach and improved experience by making it easier for them to know their rights and responsibilities than those of their water company. We believe customers' continuing responsibility for their supply pipes provides the fairest and most balanced approach overall. It is the right approach that other companies should follow, particularly as more smart meters are installed throughout the country. Providing additional support for customers unable to fund repairs themselves supports our commitment to eradicating water poverty.
19	Collaboration with other water companies	ESW was asked to carry out further work to resolve modelling issues which had led to a put and take transfer with AWS being excluded as an option. It was also asked that in the plan clarify whether collaborative work had been undertaken with other neighbouring water companies such as Affinity Water. The SoR provides further detail on why the AWS transfer was ruled out, but again draws the conclusion that it is modelling issues preventing the option being taken forward. The company has not clarified whether further work could resolve the modelling issue, or whether the option is simply not technically feasible at this time. The response and revised plan have not clarified whether other companies besides AWS and TW have been considered.	The company should: • clarify whether further work could resolve the AWS put and take transfer option modelling issue, or whether the option is not technically feasible at this time. • update the plan to confirm which water companies were considered for collaborative work and which were ruled out, signposting to further detail as appropriate but noting that the technical reports may not be clear to a lay person.	• At this point in time, the AWS put and take option is still not considered feasible. However, we have agreed with AWS to revisit the feasibility of the scheme regularly. • Section 1.3.2 of our WRMP24 main report outlines how we have explored the opportunity for inter-regional transfers between Water Resources East and Water Resources South East and Water Resources East and Water Resources North, which have been assessed by the regional groups. However, it was agreed at national reconciliation workshops that these would not provide best value. However, we have considered intra- and inter-regional transfers with both Thames Water and Anglian Water. We have worked collaboratively with all water companies operating in the Anglian region, through our membership of Water Resources East, to support the preparation of the regional WRMP24 and our WRMP24.

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		The company has significant uncertainty over future water needs, as do other water companies. This means several companies have adaptive plans and new options as part of core and adaptive pathways. The development of these new options may offer new chances to trade water and this should be kept under review. ESW should ensure opportunities to trade water can be assessed alongside other feasible options and are included as preferred options where these form part of best value plans.	• continue to work with neighbouring water companies and WRE through the planning period to keep opportunities to trade water under review and updated as new options are developed, or triggered in adaptive pathways and there is more certainty in the demand for water.	• As part of WRE and in liaison directly with each of our neighbouring water companies, we will continue to work from now and throughout the next planning period to continually review and identify new opportunities to trade water. We will do this in response to any routine updates to our modelling and forecasting work and as part of our adaptive pathways, to incorporate increasing certainty around deployable output forecasts, climate change impacts, sustainability reductions and environmental destination, and the future demand for water.
20	Collaboration with Local Authorities	Population forecasting and growth were areas picked up by various consultees as areas of uncertainty or subject to change. Several Local Authorities were keen to work together to plan for growth and ensure effective communication channels. The SoR addressed these points and flagged that ESW are keen to work with Local Authorities, though the mechanism for this is not discussed in the plan.	We suggest that the company should: • work to ensure effective communication channels are put in place between WRE, water companies and local authorities • work closely with all local councils to build up a detailed picture of proposals for new development and to ensure water needs are captured early so that development can be delivered sustainably and aligned to the delivery any options needed to secure supplies - this should include exploring how Local Authorities, developers and the company can work together to deliver water efficient development and reduce demand and leakage • consider whether reporting communications/updates with LA's (& other interested parties) could feature as part of the annual review.	We have established the following routes to ensure effective and sustained communication with our local authorities and regional group: • We meet monthly with WRE demand practitioners to facilitate ongoing discussions on demand in the region. • East of England Local Authority Water Summit: This platform which meets regularly provides a platform where water companies, regional group and local authorities can meet and provide updates. • We are recruiting a Local Planning Authority Liaison Officer who will work closely with local authorities on their plans and proposals. • We will provide an update on any key local authority aspects in our WRMP Annual Review. We have updated section 1.3.3 of our draft final WRMP24 main report.
21	Points raised by Southend Council	A representation from Southend Council is referred to in the Statement of Response but was not submitted to Defra as far as the Environment Agency is aware. The following is based on the material included in the SoR document. The SoR states that 'Reuse schemes are currently not in our preferred delivery	The company should: • review the points made and consider whether any amendments to the WRMP are required.	• We included responses to all points made by Southend Council in our Statement of Response submitted to Defra in August 2023 (SoR reference numbers 232 to 239), outlining the update we made to section 8.8 of our revised WRMP24 main report as a result. • We confirm that Southend Council's point regarding a holistic approach to water management in larger

Issue		EA area for improvement	EA recommended changes to the plan	ESW Response
		options.' (SoR ref 234). This is in response to a point noting that there is scope, especially within larger developments to take a holistic approach to water management, including recycling of grey water for non-potable uses. The response is unclear as the preferred plan contains the Lowestoft reuse option. We assume that the response refers to reuse of water in relation to building development rather than WRMP options, but the company needs to clarify this response for the avoidance of doubt. More detailed information was requested about the Southend re-use scheme (SoR ref 235). Section 8.8 of the rWRMP indicates that this scheme is not likely to appear in the final plan (a change to 1:500 year resilience is proposed in its place) but this was not clear in the SoR response.	• ensure all representations are uploaded onto the Defra SharePoint • clarify the Southend reuse option in the final plan (remove if changing to delayed 1:500 year resilience, demonstrating that this option is better value)	developments, including recycling of grey water for non-potable uses was referring to the reuse of water in relation to building development rather than WRMP options. • We have now uploaded the original response from Southend Council to the Defra SharePoint. • We clarify in section 8.8 our revised WRMP24 that the likelihood of the Southend reuse option being required is very low, as the better value solution would be a short term, temporary delay to 1 in 500 year resilience.
22	Data and information sharing	We welcome the company's support of the National Meter Strategy on data sharing and its intention to continue to be involved in industry discussions on the subject. We encourage collaboration with other water companies, local authorities, retailers, stakeholders and customers to develop plans for use and sharing of data from smart metering, including to encourage behavioural change. Representations also raised benefits linked to better sharing of wider data and information with local or statutory authorities to better plan infrastructure maintenance and delivery. The SoR indicates that the company will progress with this via further discussions with interested parties which we also welcome. It does not appear that there will be a change to the final plan as a result so these commitments are noted here for the record.	With the aim of incorporating outcomes into WRMP29 the company should: • consider how its smart metering data can best be used to deliver the range of potential benefits such as leakage detection, network response, and targeting efficiency of programmes - including how information may be used directly by both household and non-household customers to modify their own use, address concerns customers may have about use of data, and how information may be used indirectly to encourage behaviour change. • progress its commitment to sharing information with other bodies to achieve wider benefits to society.	Smart metering for the NHH portfolio is still in its infancy in design but we continue to work closely with UK water companies to define what good looks like and collaborate on the MOSL National Metering Strategy. Our ambition is to replace all NHH traditional meters across all 3 supply regions by 2035. Our deployment strategy will be to align household and non-household rollout together to optimise use of field resource on a DMA by DMA approach. We will focus our attention on the most water stressed WRZ and DMAs with the highest leakage to ensure we can deliver the most value through smart meters. We will also prioritise effort on including replacing meters that are currently 'long unread', 'hard to read', broken, etc. Our meters will take data on an hourly basis with a 15-minute night line and there will be no charge for this data, however at present it has not been agreed how this data will be made available and shared; this will be decided once the NHH National Metering Strategy project delivers its recommendations at the end of March 2024. Initially it will be 1 billing reading per month uploaded to CMOS under the terms of the CP142 change proposal which makes wholesalers responsible for meter reading submission for

Issue		EA area for improvement	EA recommended changes to the plan	ESW Response
				settlements purposes, where a smart meter is installed at the property. We recognise that some NHH customers have chosen to have loggers fitted to their meters to provide more granular data and we will ensure that our future smart meters continue to allow this addition. Smart Meters are a really effective tool to influence customers behaviours and promote water efficiency and also to identity customer side (i.e., within property) leakage. Once we get smart meters at scale, we can also manage the leakage on our network much better as we can more easily determine what's real consumption and what's being lost to leakage. Smart meters are not a "silver bullet" and some customers are very reluctant to change behaviour, but at scale the evidence suggests that they have a positive impact. Driving down leakage and improving water efficiency is a cost effective way to contribute to achieving supply demand balance. In order to effectively manage supplies in an increasingly climate stressed world we need to reduce water consumption and drive down leakage. We're focussing our main efforts on deploying smart meters to our most water stressed areas first. Data from smart meters is classed as persona data and managed as such by water companies in a secure way – only fully anonymised and or aggregated data would be shared, and only where this would be for the benefit of the customer.
23	Data Tables	Throughout this WRMP cycle there has been concern about the level of detail and accuracy applied to the WRMP data tables, which has included missing, incomplete, and resubmitted data. This must be resolved for the final WRMP without reliance on resubmission of tables	The company should: • ensure that final plan data tables are accurate prior to submission.	We note this feedback from the Environment Agency and will ensure accuracy of final plan data tables before submission using our internal assurance process. Our purpose places the trust of our customers at the heart of everything we do and we recognise this means that they need to be able to have confidence in the data we report. For WRMP29 we will introduce a three line of defence model that has worked well for us for APR; this has an identified data provider, data reviewer and assurance provider assigned for each block of data. The assurance provider will be allocated based on risk and could be our own Internal Audit Team or our Technical Assurance Partners – currently PwC.

2.3 FURTHER AMENDMENTS IN RESPONSE TO ENVIRONMENT AGENCY SEA TECHNICAL APPENDIX RECOMMENDATIONS

The Environment Agency has provided us with their **'Statement of Response SEA Technical Appendix'** referred to in their advice to Defra with regards to their feedback on our Strategic Environmental Assessment. In this section we have detailed where we will incorporate amendments in response to these recommendations.

Item		Issue	EA recommended changes to the SEA	ESW Response
1	Clarify uncertainty by clearly setting out assumptions and limitations - it is particularly important to recognise that there are significant uncertainties regarding the deliverability of certain options that could entail HRA and WFD compliance issues	Assumptions and limitations have not been clearly set out.	Clearly set out assumptions and limitations to address the recommendation.	Assumptions and Limitations have been set out in greater detail within the existing assumptions and limitations text contained within Section 2 of the updated Environmental Report, which will be submitted along with our draft final WRMP24 reports by 23 April. This includes how HRA and WFD non-compliance issues would be addressed.
2	Clarify the cumulative and in-combination effects assessment of the draft WRMP – extend the scope of the PPP review to consider the issues arising in the regional plan and other neighbouring water company WRMP	Table 3-1 includes local water company RBMP and Catchment Flood Management Plans, but does not include other water companies' WRMPS, DWMPs, drought plans within the scope of the PPP review. Section 3.2 identifies that a review of the policies, plans, and programmes relevant to the WRMP24 was undertaken as part of the SEA Scoping process and used to inform the development of the SEA Framework. However, no clear explanation is provided to link the key issues to any of the specific SEA objectives proposed. Section 7.2.4 identifies that a review of other water companies draft WRMP24s was undertaken in June 2023, but this is high-level. Failure to properly consider neighbouring water company plans could undermine the effectiveness of the WRMP. Section 7.2 considers the cumulative effects with other PPPs; however, it is a high-level	The scope of the PPP review should be extended to consider the issues arising in other neighbouring water company WRMPs and other water related plans in greater detail to more clearly identify cumulative effects of other company and regional plans.	The PPP review has been updated to consider (as appropriate/where publicly available): - Neighbouring water company WRMPs - Neighbouring water company Drought Plans It has also been updated to reflect the revised Water Resources East Regional Plan.

Item		Issue	EA recommended changes to the SEA	ESW Response
		assessment and would benefit from greater detail so that the cumulative effects, taking into account the regional and other water company plans, are more clearly identified. Section 2.5. outlines the relationship to the Water Resources East Regional Plan. The WRE draft Regional Plan is referred to within this section (despite a revised draft being available). It will be important for a full consistency check to be carried out before finalising the ESW WRMP. Not all significant residual effects are identified in the cumulative effects assessment for all topics, with some only noting if there is anticipated to be a cumulative effect without reference to the significance of the effect or characteristics of effects. Justification for WDF and HRA inter-project effects is provided, and the 2km buffer identified.		
3	More detailed consideration should be given to efficacy and feasibility of securing appropriate mitigation.	SEA regulations require the SEA environmental report (ER)to set out the measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment. Mitigation identified in Table 8.1 are high level and generic, and some measures suggest the need for further, more detailed, assessment (which is not mitigation). The ER relies upon mitigation being addressed at the project stage, without the confidence as to whether it will be achievable and sufficiently effective to reduce or avoid effects. Therefore, there is uncertainty about the efficacy of suggested measures which may be inadequate at the project delivery stage. Only high-level information has been provided on how mitigation will be secured (Section 8.1.10 identifies that ESW will be responsible for embedding identified	Provide further detail on how the mitigation will be secured and further developed should be provided or explain what action(s) ESW will take if the project stage identifies that mitigation is not adequate. Include effects pre and post mitigation, any identified mitigation requirements, and the residual effects in the assessment. Finally, describe the risks to option and plan delivery and how the company propose to manage this should further SEA scheme level work suggest the options are not promotable.	Mitigation requirements have been outlined in greater detail within the SEA Assessment Matrices which will be provided in a new appendix (Appendix K) to the updated Environmental Report, which will be submitted by the 23 April. The matrices show pre- and post-mitigation effects, and also outline the proposed mitigation required for this. Further project-level assessment work would be used to determine the efficacy of mitigation and precise routes for securing the mitigation. Text has been added into Section 8 to highlight the next steps in case un-mitigatable effects are predicted.

Item		Issue	EA recommended changes to the SEA	ESW Response
		measures for the design and consenting of each option within the scheme delivery and Section 8.1.4 provides further detail on how the secondary mitigation will be secured). If possible, further detail on how the mitigation will be secured and further developed should be provided. Within the ER effects pre and post mitigation have not been identified (only residual effects presented). Therefore, there is a lack of clarity/transparency and certainty on the effectiveness of proposed mitigation, and a risk that mitigation measures may not be appropriate. While the reporting of effects should focus on the residual effects, the assessment should consider effects before mitigation, any identified mitigation requirements and the residual effects. By showing pre and post mitigation effects, this can also help to show how the SEA has contributed to changes to the WRMP. This information may already be presented within each options 'SEA table' referred to within Section 8.1.5, however these were not available to review.		
4	The Executive Summary/ Non-Technical Summary lacks clarity.	The Executive Summary/Non-Technical Summary (NTS) lacks clarity as to the objectives of the WRMP, the assessment scope (spatial, technical, and temporal), the screening and option assessment stages and an explanation as to how the WRMP has been shaped by the SEA process.	Update the NTS to clarify these aspects.	We have updated the Executive Summary in line with the aspects outlined.
5	Demonstrate clearly how the SEA has influenced option assessment and selection for its preferred plan.	Some relevant updates were made (see italics below) but overall, this point is not considered to be adequately addressed. We were unable to locate Appendix A Supply Option Development Report (100104977-RP-ESW-001) for rejection register. Supply and demand management options forming this RdWRMP24 are included in Table 5-1, however, there is no clear	Provide Appendix A Supply Option Development Report (100104977-RPESW-001) for rejection register. Provide a clear explanation within the ER for the reasons for selecting or rejecting options.	We uploaded Appendix A of the Supply Option Development Report (100104977-RP-ESW-001), containing the rejection register to the Defra website as part of our revised draft submission. Text has been added within the updated Environment Report - to outline the rejection and selection of options.

Item		Issue	EA recommended changes to the SEA	ESW Response
		explanation within the ER for the reasons for selecting or rejecting options. Whilst this may be a matter of presentation and detail in the ER, it could also indicate insufficient regard having been given to the potential likely significant effects of plan implementation. There should be greater confidence in the justification for taking forward measures/options with the potential to engage HRA and WFD compliance issues and significant effects. Section 1.4.1 now includes details on the high-level environmental screening assessments, and further detail is provided in Section 4.2, 4.3 and Appendix J. A more detailed environmental assessments following the high-level environmental screening is presented within Appendix E.		
6	Clearly set out the likely significant effects on the environment, including short, medium, and long term effects, direct/indirect effects and permanent and temporary effects.	The ER does not clearly set out the likely significant effects on the environment, including short-, medium- and long-term effects, direct/indirect effects, and permanent and temporary effects. This point was raised in the additional comments on the SEA sent separately to the representation and evidence report. It still appears to be relevant.	Clearly set out the likely significant effects on the environment, including short, medium and long term effects, direct/indirect effects and permanent and temporary effects.	A description of how the options and plan(s) affect the environment has been provided within Sections 5, 6 and 7 of the updated Environment Report. The SEA Matrices that will be provided in the new Appendix K will add clarity to the specific effects of each option and the determined significance at option-level. Text has been added to Section 4 to outline how the scoped SEA-framework (construction and operation assessments) maps against the short/medium/long-term effects. Please also see Tables 7-1 to 7-4 which outline the construction and operational effects of the BVP and alternative plans as a whole.
7	Clarify how significance and the different scales of effect are determined.	Table 4-3 provides the definitions of effect scale, however, there is little clarity as to the thresholds between the different scales (e.g., what constitutes a major decrease in groundwater levels as compared with a moderate decrease). Noted that the methodology refers to professional judgement.	Clarify the thresholds between the different effect scales. Define short-, medium- and long-term effects, and ensure these are consistently used throughout the assessment. Clarify whether major, moderate, or minor effects constitute 'significant effect', and ensure consistency throughout the assessment.	Text has been added to Section 4 to outline how the scoped SEA-framework (construction and operation assessments) maps against the short/medium/long-term effects.

Item		Issue	EA recommended changes to the SEA	ESW Response
		Section 4.1.12 explained how permanent or temporary effects were considered and the duration of the effect. Short-, medium- or long-term effects are not defined, or consistently used within the assessment. This is a requirement of the regulations. Section 4.1.5 now identifies that Major and Moderate are classified as 'significant effects'; however, Section 5.5.1 states 'Significant effects are defined as those scoring moderate or minor effects.' The numeric scoring system in Appendix E is not clearly explained.	Clearly explain the numeric scoring system in Appendix E.	
8	Evidence more clearly that all feasible alternatives have been considered - a least cost and best environment and society alternative should be covered.	Section 6.1.6 states 'Least Cost Plan and Best Value (Preferred) Plan have been found to comprise the same options', and therefore the assessment has not been repeated for Least Cost Plan. Best Environment & Society Plan is assessed. The ER sets out a high-level reasoning for the options and alternatives assessed against the SEA objectives, however there is less clarity as to how the assessment outcomes have influenced the development of the draft WRMP. The ER is lacking clear justification for options taken forward into the draft WRMP. Section 7.3.2 identifies that further information on ESW's justification for this plan is provided within the main report.	Provide clarity as to how the assessment outcomes have influenced the development of the draft WRMP. We recommend that you include detail on justification for this plan within the ER as well as in the main plan	Text has been added to Section 2.3 to highlight how the assessment outcomes have influenced the development of the WRMP. Justification is primarily provided within the main WRMP report and BVP document, which we have, i) cross referenced to, and ii) included text in the updated Environment Report from this report.
9	Clearly outline the study area for the SEA and describe the characteristics and potential future changes of that area.	Geographical scope is covered within Sections 4.1.14 –4.1.18. This includes details on the study area buffers used. Future baseline is provided within Section 3.4 but this is high-level and does not consider spatially specific implication. An explanation as to how the baseline analysis has shaped the SEA objectives	Update the ER to explain how the baseline analysis has shaped the SEA objectives.	Text has been added in Section 3 to outline how the baseline analysis was used in the SEA Scoping, to determine the SEA Assessment Topics and Sub-Questions.

Item		Issue	EA recommended changes to the SEA	ESW Response
		would give stakeholders greater confidence in the WRMP development process.		
10	Clearly outline and justify the technical and temporal scope of the SEA, reflecting the full duration of the WRMP period.	Section 4.1.13 provides clarities on the temporal scope of the assessment. ER makes reference to the scoping stage of the SEA, the PPP review and the identification and finalisation of SEA objectives in the light of scoping consultation but lacks any definitive statement as to the final scope of the SEA.	Update the ER to provide a definitive statement on the final scope of the SEA.	Further text has been provided in the Temporal Scope and Geographic Scope Sections, within Section 4.

3. APPENDIX A – DEFRA REQUEST FOR FURTHER INFORMATION IN SUPPORT OF OUR STATEMENT OF RESPONSE

Department
for Environment
Food & Rural Affairs

T: 03459 335577
helpline@defra.gov.uk
www.gov.uk/defra

William Robinson
Essex and Suffolk Water

By email only: william.robinson@nwl.co.uk

Date: 23 January 2024

Dear William,

Draft WRMP: further information in support of your statement of response

Thank you for submitting the statement of response (SoR) to the consultation on your water resources management plan. We have been reviewing the revised draft plan, SoR and advice from the Environment Agency prior to submitting the documents to the Secretary of State for a decision on next steps. Before we can refer your plan to the Secretary of State for a decision, we would like you to provide some further information in support of your plan, in addition to more substantial changes. The information requested is enclosed at Annex A.

The Environment Agency will share with you an additional annex with further suggestions on how you can improve your plan.

The additional information should be sent to: water.resources@defra.gov.uk; water-company-plan@environment-agency.gov.uk; wrmp@ofwat.gsi.gov.uk

Any further information will form part of your SoR prepared under Regulation 4 of the Water Resources Management Plan Regulations 2007 and as such it should be published on the water company's website and a copy sent to those that made representations on the draft Plan. This is to enable stakeholders to understand, fully, the company's proposals and to ensure that all information informing the Secretary of State's decisions is in the public domain.

I would be grateful if you could let me have this further information as quickly as possible, but in any case no later than 12 weeks from receipt of this letter.

I am copying this letter to Richard Thompson and Stuart Sampson at the Environment Agency, Paul Hickey and Haydn Johnson at Ofwat/RAPID.

Yours sincerely

Martin Woolhead
Deputy Director – Water Services
T: 07881 676 158
E: Martin.Woolhead@defra.gov.uk

Annex A - Action needed in addressing significant issues in a revised draft plan.

We advise that the company resolves these significant issues and sets out how it will do this in a revised plan. This information will be reviewed by regulators and the government before publication.

Issue 1: Ensure protection and improvement of the environment

The plan assumes that abstraction licence changes to meet the Water Framework Directive Regulations 2017 to prevent the risk of deterioration in the status of water bodies will not be made until 2030. You have not sufficiently demonstrated how any potential risks of deterioration and licence changes would be managed through the WRMP **before 2030**. The severity of risks and potential wider implications from constrained growth, which are already being seen in Cambridge, require additional immediate mitigating actions. This is required to further manage the significant environmental risks, the uncertainty surrounding levels of growth and the reliance on effective demand management by:

- Investigations – Before finalising your plan, you should assess expected abstraction growth against the 2010-2015 baseline period at a licence level across all your sites and reflect any implications this has for your deterioration risk and licence change requirements, following 2018 guidance[1]. The approach should be discussed and agreed with the Environment Agency.
- Monitoring – You should clearly set out in your plan how you will monitor the levels of abstraction and ensure that the risk of deterioration is and remains low across all licences.
- Action – In the event of abstraction increases, you should clearly demonstrate how you will ensure a surplus supply demand balance in the event of abstraction increases which require the EA to use Section 52 to limit abstraction before 2030. If there is a high or medium risk of deterioration by 2030 then the Environment Agency would need to take action to change licences (through section 52 Water Resources Act 1991) to limit abstraction. This must happen before the end of AMP8/2030 if needed to prevent deterioration and could be as early as 2025.

Issue 2: Ensure that there is no critical period deficit when drought measures are not available.

The company has not been able to confirm that it will not have critical period deficits due to its reliance on drought measures. Drought measures will not be available in all cases where there is high peak demand, but there has not been an exceptional shortage of rain and the company's resource situation is above drought action trigger levels. It needs to provide details of other mitigation options that it could use to ensure there is no deficit in these cases.

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[1] Guidance on water resources investigations into the risk of WFD water body deterioration, January 2018, Environment Agency

The company has stated it will provide further evidence on this issue, but this has not been made available at the time of writing this report.

Issue 3: Give greater focus to the Habitats Regulations adaptive plan.

The Habitats Regulations adaptive path described in Section 8.8 of the plan is clear, however the likelihood of this plan superseding the preferred plan is less clear. As the Statement of Response referred to the preferred plan when addressing queries on options and the moratorium, we believe that there was potential for stakeholders to overlook the significance of the Habitats Regulations pathway and remain unclear on the most likely timescales for lifting the moratorium.

It is highly likely that the Habitats Regulations adaptive plan will be needed and the company should adopt this as its core plan. This would more clearly emphasise the likelihood of this pathway happening and highlight the implications this has for preferred options and the implication for Hartismere moratorium (for non-household demand) as compared to the preferred revised draft WRMP.

You are already aware that there may be additional licence changes associated with the outcomes of upcoming Conservation of Habitats and Species Regulations 2017 (Habitats Regulations) assessments on the Waveney. The scale of these licence changes is currently uncertain until assessments have concluded and there is therefore some risk that your WRMP does not currently cater for these potential licence changes.

Issue 4: Strategic Environmental Appraisal (SEA) concerns.

Essex and Suffolk Water provided its environmental assessments, Strategic Environmental Assessment (SEA) and Habitats Regulations Assessment (HRA) late (20 October 2023). It has not been possible for the Environment Agency, or Natural England, to fully assess whether the plan has incorporated these assessments in a satisfactory way. Initial assessment by the Environment Agency indicates several points in need of improvement relating to cumulative effects, uncertainty around mitigation measures, how the SEA has influenced the plan, assumptions and limitations. They will complete the review of these reports as soon as practicable and provide the company with feedback in a technical appendix. Any significant issues that are raised must be addressed by the company before the final plan is published.

Initial review of the HRA by Natural England suggests that conclusions within the HRA have changed since previous draft. There are therefore contradictions within the HRA for a number of options, between the information provided and the stated conclusions of no adverse effect on integrity. This is contrary to the approach taken in the draft WRMP that Natural England supported and you agreed to adopt in their Statement of Response.

To achieve sustainable abstraction, the company must show how they plan to reduce their reliance on environmentally damaging abstractions. The company should therefore ensure that all outstanding issues raised by Natural England in relation to compliance with relevant

statutory requirements, as set out in Annex 2 to Natural England's formal consultation response to the draft plans, are fully addressed. As also set out in the Water Resources Planning Guideline (WRPG), this includes ensuring that any previous HRA of options included in your preferred plan remains current and covers any material changes in circumstance. The company should therefore continue to work closely with both Natural England and the Environment Agency to resolve outstanding statutory environmental issues before the final plan is published.

Issue 5: Ensure Environment Improvement Plan (EIP) targets are included and met in the plan.

Essex and Suffolk Water has not included information in the plan to show whether they will or will not meet the EIP interim targets. This should be included within the final plan as instructed in the water resources planning guideline. Where targets will not be met the reason should be provided.

The company is not currently forecasting to meet non-household reduction targets. It proposes an increase in business consumption of 11% by 2030 (from 2019-20 baseline) and states it will deliver interim and long-term targets excluding the impact of growth. We expect more engaged actions to address this. The company should also further demonstrate that it is proposing sufficient mitigating actions to offset its non-household demand growth through activities such as metering/water efficiency and should continue to work to understand the levels of uncertainty regarding future business growth. The evidence presented in the plan does not adequately explain the baseline numbers from which the company have derived the assumed reductions. The company must ensure the final plan clearly articulates the baseline and therefore the targets for the EIP metrics to ensure progress against delivery of these targets can be monitored.

Issue 6: Differentiate between base and enhancement activities.

The company was asked to clearly identify how it has assessed the degree of overlap with activities it is funded to deliver through base expenditure when presenting enhancement schemes. This feedback was not addressed and the revised draft WRMP now includes additional schemes to reduce outage which may have a significant overlap with base maintenance activities. The company must update its final WRMP to identify and justify the breakdown of base and enhancement expenditure where respective schemes (including supply, demand and outage reduction schemes) overlap.

Issue 7: Increase in costs from the draft WRMP.

The revised WRMP shows an increase in (financial) costs. This is due to a combination of increased scheme costs for some schemes that were in the draft WRMP, and the addition of new schemes since the draft WRMP. This has significantly changed the scale of costs. This requires more detailed understanding in order to determine that this is justified. It is

also noted that options have been identified for the core plan to address outage, which is likely to form part of base, not enhancement expenditure.

The company must provide justification for the increase in scale of costs between draft and revised WRMP, and address funding of outage of schemes which are base, not enhancement schemes.

Issue 8: The baseline deficit between dWRMP and revised dWRMP remains virtually unchanged despite extra schemes

The deficit between draft and revised plans remains virtually unchanged (-39.21Ml/d in draft WRMP tables and - 38.76Ml/d in revised WRMP tables) despite extra schemes that deliver circa 14 Ml/d of water available for use (WAFU). It is unclear whether any schemes have been removed to offset this, whether the scale of funding is appropriate, and whether the significant WAFU associated with the new schemes has a proportionate benefit on the supply demand balance.

The company must provide clarity in the final plan regarding the WAFU benefits of the new schemes and the limited change in 2029-30 baseline supply demand balance.

Issue 9: New Appointments and Variations

New Appointments and Variations (NAVS) are required to produce a statutory WRMP. This means that when ensuring alignment with regional and neighbouring water company plans incumbents should ensure alignment with the NAV plans. This means the transfers to each NAV should be described in the plan and contractual volumes should be set out in the planning tables. Essex and Suffolk Water should also ensure properties and populations served by NAVS are not included within the forecasts in the company plan going forward. This is to prevent double counting of demand components and also overstating supply.

The company should ensure the volumes transferred to NAVS are recorded in the planning tables. The company should work with the NAV companies to ensure alignment of assumptions e.g. number of sites, population, property and contractual volumes. We do not expect incumbents to forecast beyond the appointed sites set out in the NAV WRMPs i.e. new sites will be awarded but the incumbent will not know when and to which NAV. The company should use the WRMP cycle to update the figures and adjust forecasts accordingly.

4. APPENDIX B – ENVIRONMENT AGENCY STATEMENT OF RESPONSE REVIEW ANNEX

Essex and Suffolk Water: Statement of Response Review Annex

This table sets out:

- material issues raised to Defra for completeness - where further detail is available which will support the company in addressing those items this is provided
- issues which we do not consider material to the plan, however we believe that addressing them will improve the company's plan.

Area of issue	Issue	Why this would be useful to address and who raised this issue.	Recommended changes to the plan
The items that are material to your plan and were raised by Defra must be addressed. The letter from Defra outlines these items. The content below adds additional information to aid understanding of the issue raised.			
Issue 1: Protection of the environment (risk of deterioration)	The rdWRMP plan assumes that abstraction licence changes to meet the Water Framework Directive Regulations 2017 to prevent the risk of deterioration in the status of water bodies will not be made until 2030. However, if there is a medium or high risk of deterioration by 2030 then the Environment Agency would need to take action to change licences (through section 52 Water Resources Act 1991) to limit	This issue was initially raised by the EA in recommendation 4. ESW provided a response and update for its rdWRMP, however due to the growing risk of rising abstraction risking causing deterioration a greater level of detail is required to ensure that actions are taken to protect the environment and the implications to the plan are assessed if licence changes are needed before 2030.	Before finalising the plan, the company should: • assess expected abstraction growth against the 2010-2015 baseline period at a licence level across all sites and reflect any implications this has for deterioration risk and licence change requirements, following

	abstraction. This must happen before the end of AMP8/2030 if needed to prevent deterioration and could be as early as 2025. Recent actual abstraction has grown considerably from the WFD 2010-15 baseline and is above the WRMP19 forecasts at all zones. Whilst levels of demand are forecast to drop to 2030, there has been significant growth above the PR19 forecast and the company is 100% reliant on demand management measures to reduce and/or manage abstraction at current levels. The plan does not fully assess the impact of forecast growth at licence level – this is needed to properly assess the risk of deterioration in each WFD water body. It is not clear in the plan how the risk of deterioration and licence changes would be managed, or what the implications would be for the plan if licence changes are needed before 2030.		2018 guidance[1] - the approach should be discussed and agreed with the Environment Agency • clearly set out in the plan how it will monitor the levels of abstraction and ensure that the risk of deterioration is and remains low across all licences • clearly demonstrate how it will ensure a surplus supply demand balance in the event of licence changes begin required before 2030

[1] Guidance on water resources investigations into the risk of WFD water body deterioration, January 2018, Environment Agency

Issue 2: Potential critical period deficit	The company has not been able to confirm that it will not have critical period deficits due to its reliance on drought measures. The plan includes drought measures as mitigation for the critical period deficit. However, the critical period may need to cover peak demands outside of a drought situation. In that case drought measures would not be available to the company and the plan may be underestimating the impact to supplies. The plan indicates that planned outage would not go ahead during critical periods. However, the plan is not clear whether this cancellation of planned outage would be linked to drought triggers. If drought triggers would be used to cancel planned outage this may not be appropriate for critical periods outside a drought. The company needs to confirm that postponement of planned outage during critical period is not determined by drought triggers alone.	Addressing the issues listed would ensure the supply demand balance is maintained during critical period. The issue was not specifically picked up in the Environment Agency's original representation as it is a consequence of reporting being unclear in the original draft plan on how outage had been assessed, or how drought measures were expected to be used to maintain security of supply. Whilst the company has attempted to provide additional clarity, this issue is still not fully resolved. It is important the company clearly sets out how it has assessed critical period demand and supply and how outage is accounted for in the assessment.	The company will need to: • clearly set out how it has assessed the supply-demand balance for the critical period, including its assumptions on outage and the potential use of drought measures • confirm whether there is a critical period deficit. if drought measures are not used • should there be a deficit, provide details of options it will use to resolve the deficit • confirm if and how planned outage will be stopped as mitigation during critical periods, including how this will be monitored and triggered

Issue 3: Give greater focus to the Habitats Regulations adaptive plan.	The Habitats Regulations adaptive path described in Section 8.8 of the rdWRMP is clear, however the likelihood of this plan being triggered and superseding the preferred plan is less clear. The Statement of Response referred to the preferred plan when addressing queries from stakeholders on options and the planned use of the moratorium on non-household growth and how long this was likely to last. As there is a high likelihood of the adaptive path being triggered, we believe that there was potential for stakeholders to overlook the significance of the Habitats Regulations pathway and remain unclear on the most likely timescales for lifting the moratorium and which options will be needed to secure supplies. Given that it is highly likely that the Habitats Regulations adaptive plan will be needed the company should consider adopting this as its core plan. This would more clearly emphasise the likelihood of this pathway happening and highlight the implications this has for preferred options and the implication for Hartismere moratorium (for non-household demand) as compared to the preferred revised draft	This is a highly significant area of uncertainty and risk in the plan. Ensuring that the situation is fully clear to stakeholders is vital and the plan need to clearly set out how security of supply will be maintained if additional licence changes are needed and how it will manage this risk. This point was raised by the Environment Agency and Natural England but several stakeholders made responses on topics that relate to the outcome (such as the timings of the moratorium on non-household use).	The company should: • adopt the Habitats pathway as its core plan If the company will not change the preferred plan it should: • draw greater attention to the Habitats Regulations adaptive path so that the plan reflects the likelihood of it being taken forward, the associated option timings and implications for the moratorium • set out which options it is progressing to manage risks to security of supply and how these will be funded and developed immediately in parallel with other preferred options, and update the draft Business Plan if necessary • explore how further licence changes will affect the plan - this should include an assessment of how changes

	WRMP. It can be made clear that the company can adapt away from the Habitats plan (towards what is currently the preferred plan) if not needed. The Habitats pathway presented requires the Caister reuse option that has not received accelerated funding. Due to the short timescales ESW will need to immediately start work on the development of this option, or others that it assesses are needed to manage risk to security of supply. The current 'Habitats pathway' identified in the rdWRMP was based on the best available information of the likely outcome of ongoing investigations. It does not however represent a worst-case scenario. Reductions greater than those assumed in the rdWRMP cannot currently be ruled out and the plan does not explore how a wider range of outcomes will affect the supply-demand balance. The company has already been made aware of two further abstraction licences changes associated with the outcomes of upcoming Conservation of Habitats and Species Regulations 2017 (Habitats Regulations) for the Waveney and Little		might affect the choice, selection and timing of options currently set out in the core and adaptive pathways • clearly set out in the plan how it will resolve any additional deficits and how options will be developed and promoted - this could be via a further adaptive pathway that accounts for greater sustainability changes • continue to work with regulators on the adaptive plan as more info emerges - submit updates via annual review or as otherwise required • be prepared to make a material change to the plan if the investigation outcome is not in line with that included in the plan

	Ouse Valley Fens Habitats site. The scale of these licence changes is currently uncertain until assessments have concluded and there is therefore some risk that your WRMP doesn't currently cater for these potential licence changes. The company should explore the implications of greater licence reductions on its plan. The plan should assess the risk to security of supply and ensure it has sufficient options to meet potential deficits. We acknowledge that the scale of future licence changes is still uncertain and so the company will need to consider which options it should progress now as these are low regret, and which others it will need to progress if additional licence changes further to those already in the Habitats adaptive pathway are needed. ESW should continue to work closely with regulators as more information emerges and confirm any changes to the path/plan. Should the investigation(s) result in a significantly different outcome to that set out in the plan ESW should be prepared to make a material change to its plan.		

Issue 4: Strategic Environmental Assessment (SEA)	The company has made a number of improvements to its SEA. However, some issues were not adequately addressed and further updates are required. **Key issues:** • contradictions within the HRA • outstanding issues raised by Natural England (NE) • scope of policies, plans, and programmes review • assumptions and limitations • mitigation measures • likely significant effects on the environment A technical appendix 'ESW SoR SEA technical appendix – Jan 2024' has been sent to the company outlining issues that should be addressed by the company. ESW should note that the technical appendix does not include comments from NE. ESW should discuss the environmental assessments with NE directly and	Addressing the issues that have been raised would improve compliance with the SEA requirements, reduce the risk that significant effects have been missed within the company's SEA assessment, and strengthen the credibility of delivery of future options on time.	The company should: • ensure that all outstanding issues raised by Natural England in relation to compliance with relevant statutory requirements, as set out in Annex 2 to Natural England's formal consultation response to the draft plans, are fully addressed • ensure that any previous HRA of options included in its preferred plan remains current and covers any material changes in circumstance e.g. the need for new options • set out a clear plan and timeline for the steps to be taken to gain the options design and mitigation information needed to inform the HRA

	address any concerns raised, particularly those linked to the HRA. The HRA is high level due to current lack of scheme detail and investigation. The approach in the revised HRA is not in accordance with NE's advice. However, the conclusions reached are not final and do not preclude options being developed further at this stage. Final decisions on Habitats Regulations conclusions will depend on timely, satisfactory scheme investigation and assessment. The work needed to inform the options is vital and must continue at pace. A clear plan and timeline on the steps to be taken to gain the necessary information and design and mitigation detail should be included in the plan. Furthermore, if ESW identifies it requires additional preferred options because of its further work to address issues raised in issues 1,2 and 3 above these should be included in its updated SEA.		• address issues that are raised in the technical appendix 'ESW SoR SEA technical appendix – Jan 2024' • continue to work closely with both Natural England and the Environment Agency to resolve outstanding statutory environmental issues and before the final plan is published

Issue 5 - Ensure Environment Improvement Plan (EIP) targets are included and met in the plan	**Interim targets** The company has not included information in the plan to show whether it will, or will not, meet the EIP interim targets. This should be included within the final plan as instructed in the water resources planning guideline. Where targets will not be met the reason should be provided. **Non-household demand** The company is not currently forecasting to meet non-household reduction targets due to forecast growth. It proposes an increase in business consumption of 11% by 2030 (from 2019-20 baseline) and states it will deliver interim and long-term targets when excluding the impact of growth. We expect further actions to address this. **Baseline** The evidence presented in the plan does not adequately explain the baseline numbers from which the company have derived the assumed reductions. For example, for distribution input the plan states that the 20% reduction by 2037/38 target is met (21%) but the baseline used is not clear so it is not possible to verify	These issues were raised by the Environment Agency and Ofwat. Clarification will ensure that the ambitions regarding targets are clear and that the company is demonstrating the efficient level of business demand reduction it can achieve. Without sufficient evidence, there is potential for Ofwat to intervene to set a PR24 Performance Commitment Level more stretching than the final WRMP proposals.	The company should: • include a table in the plan to show whether it will or will not meet the EIP interim targets - where targets will not be met it should provide a reason for this • better demonstrate that it is proposing sufficient mitigating actions to offset its non-household demand growth through activities such as metering/water efficiency and should continue to work to understand the levels of uncertainty regarding future business growth • ensure the final plan clearly states the baseline used when referring to EIP targets

	this figure. The company must ensure the final plan clearly articulates the baseline and therefore the targets for the EIP metrics to ensure progress against delivering these targets can be monitored.		
Issue 6: Differentiate between base and enhancement activities	The company was asked to clearly identify how it has assessed the degree of overlap with activities it is funded to deliver through base expenditure when presenting enhancement schemes. This feedback was not addressed and the revised draft WRMP now includes additional schemes to reduce outage which may have a significant overlap with base maintenance activities.	This issue was raised by Ofwat. This information is needed to allow clear understanding of the separation of expenditure between BAU (base) and enhancement.	The company should: • update its final WRMP to identify and justify the breakdown of base and enhancement expenditure where respective schemes (including supply, demand and outage reduction schemes) overlap
Issue 7: Increase in costs from the draft WRMP	The revised WRMP shows an increase in (financial) costs. This is due to a combination of increased scheme costs for some schemes that were in the draft WRMP, and the addition of new schemes since the draft WRMP. This has significantly changed the scale of costs. This requires more detailed understanding to determine that this is justified. It is also noted that options have been identified for the core plan to address outage, which is likely to form part of base, not enhancement expenditure.	This issue was raised by Ofwat. This information is needed to allow clear understanding of the justification of cost changes between draft and revised plans.	The company should: • provide justification for the increase in scale of costs between draft and revised WRMP, and address funding of outage of schemes which are base, not enhancement schemes

Issue 8: The baseline deficit between dWRMP and revised dWRMP remains virtually unchanged despite extra schemes	The deficit between draft and revised plans remains virtually unchanged (-39.21Ml/d in draft WRMP tables and - 38.76Ml/d in revised WRMP tables) despite extra schemes that deliver circa 14 Ml/d of water available for use (WAFU). It is unclear whether any schemes have been removed to offset this, whether the scale of funding is appropriate, and whether the significant WAFU associated with the new schemes has a proportionate benefit on the supply demand balance.	This issue was raised by Ofwat. This information is needed to allow clear understanding of the benefits of the new schemes.	The company should: • provide clarity in the final plan regarding the WAFU benefits of the new schemes and the limited change in 2029-30 baseline supply demand balance
Issue 9: New Appointments and Variations	It remains difficult to reconcile NAV transfers in the plan with information provided in NAV companies' WRMPs. ESW has not included NAV companies and their export volumes in table 1g meaning it is unclear how ESW have incorporated NAVs in their table 3a. NAV sites are treated as potable water exports and therefore should be included as such in table 3a. The three NAV companies which are excluded from the tables but have sites in ESW's area are: Albion (1 site of 0.14 Ml/d),	The Environment Agency raised this issue. It is important that the approach for engaging with NAVS and demand management activities are appropriately aligned to ensure consistency between statutory plans.	The company should: • review the NAV company WRMP24 planning tables to align with their planning tables • represent NAV exports in table 1g as one NAV company per water resource zone to ensure the volumes are aligned • ensure NAV company exports are represented as potable

	IWNL (12 sites totalling 1.32 Ml/d) Leep (1 site of 3.38 Ml/d) To help cross compare NAV and ESW's tables we request the NAVs are included in table 1g. Each NAV company should be listed separately and split into WRZs, i.e. if IWNL's sites are split over ESW's WRZs, it should feature for each of ESW's WRZs. Some companies have included NAVs in their demand forecast but this is incorrect as it leads to the water and demand being double counted by the incumbent and the NAV company. It appears that ESW have done this correctly but as NAVs are not listed in planning table 1g you should ensure properties and populations served by NAVS are not included within the forecasts in the company plan. You should work with the NAV companies to ensure alignment of assumptions e.g. number of sites, population, property and contractual volumes. We do not expect incumbents to forecast beyond the appointed sites set out in the NAV WRMPs. The company should use		water exports in table 3a for each water resource zone, ensuring tables 1g and 3a volumes align

	the WRMP cycle to update the figures and adjust forecasts accordingly.		
The following items were not raised to Defra but may improve the plan. The company is not obliged to address these issues but we would recommend that as many as possible are considered.			
Issue 10: Transfers alignment	**External transfers:** ESW includes a potable water import called 'Bulk import from AWS – Cressing', which is not included in Anglian Water's tables. It remains difficult to reconcile the Thames Chigwell* raw water transfer in the plan with information provided in Thames Water's (TW) plan. A review to assess the alignment between companies' baseline transfers identified differences in DYAA and DYCP volumes. The final plan will need to be clarified to confirm that the assumptions on exports enable the CP and DYAA modelled benefits to be achieved in practice in the Essex zone. ESW state it has a DYAA volume of 91 Ml/d and a DYCP volume of 118 Ml/d whereas TW state the DYAA volume is 67 Ml/d and doesn't include a volume for DYCP.	This issue was raised by the Environment Agency. Clarification of transfer volumes is required to provide transparency, ensure alignment between companies, and provide assurance that the final planning supply-demand balance is accurate.	The company should: • liaise with Anglian Water to ensure that all transfers and their volumes are aligned between each company's table 1g, in particular the DYCP volume for the export named 'bulk exports to AWS' • liaise with Thames Water to confirm the DYAA and DYCP volume for the Chigwell (also referred to as Lower Hall, William Girling/King George V) raw water transfer. This transfer volume should be aligned between company planning tables 1g and 3a • confirm that the assumptions on exports enable the DYCP and DYAA modelled benefits to

	ESW has included the benefit of the bulk import in its Aquator model. The supply modelling technical report (Table 4) indicates that this provides 88 Ml/d net benefit. This is included in the DO figure for the zone. We suspect that the difference between the 91 Ml/d and the 88 Ml/d is due to treatment works losses and operational use losses which are also included in Aquator but this should be confirmed. ESW has then included a -20Ml/d export to account for the fact TW will be supplying less water up to 2035. Arithmetically this reduces net benefit to 68Ml/d, which is almost the same as TW's 67 Ml/d assumed export, but ESW need to ensure that it is not assuming there will be more water imported than TWs assumes it will need to export. TW's plan and ESW's plan both show a net change in 2035. ESW's plan stops the -20 export (proxy for the reduced import) and TW export rises by 23 Ml/d.		be achieved in practice in the Essex zone • particularly, clarify that the full DYCP import is available, the benefits this has to supply, and that this is consistent with TW's assumptions on critical period exports • confirm that the difference between the 91 Ml/d and the 88 Ml/d is due to treatment works and operational use losses and that these are included in Aquator DO value – if not due to TWLOU explain the reason for the different net benefit • explain why there are minor differences between ESW and TW assessments regarding the assumed export of water and the DO benefits calculated in ESW's Aquator model and confirm both companies are working from the same assumptions

	TW provides no data on critical period exports. For the final plan ESW need to clarify that the full CP import is available, the benefits this has to supply, and that this is consistent with TW's assumptions on CP exports. We also need ESW (and TW) to explain why there are minor differences in the assumed export of water and the DO benefits calculated in ESW's Aquator model to ensure both companies are working from the same assumptions. * This transfer may also be referenced as the Lower Hall, William Girling/King George V transfer. **Internal transfers:** After conducting a comparison between table 1g and tables 3a it appears that ESW has excluded internal transfers from table 1g. For example, ESWNCT table 3a includes an export of 0.37 Ml/d but table 1g doesn't include this transfer, meaning it remains difficult to reconcile the tables and identify where this water has come from.		• ensure internal transfers are included in table 1g and table 3a and are aligned. • after conducting the reviews above ensure planning tables 1f, 1g and tables 3a are aligned

Issue 11: The company's supply-side options are not well developed, and individual options might not be feasible or yield the assumed supply benefits	The company has partially addressed this point but has not provided a detailed programme of work for development and delivery of preferred and alternative supply options. Delivery of supply options remains a significant risk for the plan, particularly in the short to medium term. Feasibility of some options is still unconfirmed, and the company needs to provide confidence that it can coordinate the ambitious programme of works and ensure timely delivery of its options. ESW must allow sufficient time for their proposals to move through the required regulatory processes.	This issue was raised by the Environment Agency as part of recommendation 3.2. Providing more detail of the works programme would provide confidence in the deliverability of the plan.	We suggest that the company: • continue to progress all proposed options with decision or trigger points prior to 2030 as far as possible until final decisions on design, feasibility, adaptive pathway can be made • submit a detailed programme of work as part of the 2024 annual review setting out actions taken and required to progress development of its preferred and alternative supply options
Issue 12 – Clarify timings and size of new supply options	Some details relating to timings and scale of options could be clearer. The plan sets out option delivery dates chosen by the optimiser model. It also compares the preferred plan with the adaptive pathways based on those timings. However, these timings may be different when accelerated funding and modelling issues linked to resilience schemes are considered.	This issue is linked to those raised by the Environment Agency under Recommendations 3 & 9. Further detail on timings and scale of chosen options would improve understanding, transparency, and aid comparison of the various alternatives.	The company should: • include the options timings for both the modelled dates and any alternative dates the company considers to be more realistic – this should include detailed explanation for differences in timings/sizes and reasons for alternative dates proposed

	We suggest that the plan expands on the timings for options to reflect both the modelled dates and any alternative dates the company considers to be more realistic. This would ensure that more meaningful comparisons can be made. Some examples from the rWRMP are given below but we acknowledge that these points may be superseded by revisions to the preferred plan, Habitats Regulations path in light of Issues 1 & 3 and new available information on potential water availability for the reservoir. **Lowestoft reuse:** Delivery date for Lowestoft reuse scheme is 2032/33 but the company believes this date was influenced (delivery date shifted later) by the inclusion of resilience schemes even though these are not intended to provide new water supply. Accelerated funding is intended to allow Lowestoft to be delivered by 2030/31. The need for the company to delivery sustainability reductions and lift the non-household moratorium suggests that this option should be delivered as soon as feasibly possible. It is not clear what the		• consider whether the benefits of alternative pathways remain in light of updated timings for delivery of schemes • explore the scale of the NSR under the Habs Regs pathway further, ensure the chosen scale is justified • review these points in light of Issues 1 & 3 as required by Defra

	impact on the plan is if this accelerated timeline is taken into account. **North Suffolk Reservoir (NSR) pathway:** Part of the justification for the NSR adaptive pathway is that the reservoir would only be delivered one year behind Lowestoft reuse. However, this is based on the optimiser date for Lowestoft which is 2032/33. If Lowestoft delivers in 2030/31 the difference in delivery of a reservoir instead is three years rather than one year. This may make a difference to the decision on which path to proceed with. As noted above, the company has identified supply-demand deficits and is unable to meet all request for new demand suggesting it should deliver solutions as quickly as possible. **NSR – Habitats Regulations pathway:** Under the Habitats Regulations adaptive pathway the smaller reservoir is chosen. The reason for this is not clear. Given potential for growth in the future a larger reservoir appears to be better value. The model output should be reviewed to explore this aspect and ensure that the decision is best value.		

Issue 13: Incorporate new information on likely sustainability changes in the revised plan.	Notwithstanding new developments as set out in the Defra letter, the company has largely addressed this item, but some improvements could be made. **Redgrave group:** Figures from the capping spreadsheet have been used. For this licence these aren't completely correct as you will retain the fully licensed quantity of 2,500,000 m3/y even with caps applied to Mendlesham and Wortham. This source, along with Rickinghall, is affected by the investigation Waveney and Little Ouse Valley Fens Habitats site indicated in Issue 3, therefore we acknowledge that the outcome is subject to change. **Langford and Ball Lane:** The cap has been downgraded to a maximum peak (MP) Original cap following the growth assessment, however ESW need to confirm if growth is planned on these licences before the EA confirm they don't need a MP Operational cap.	Addressing the issues listed would ensure the sustainability changes are clear and the best available information is used.	The company should: • review the licence values used for the Redgrave group licence and consider whether these should be amended for the final plan • note that the Redgrave and Rickinghall licences are subject to outcomes of the Waveney and Little Ouse Valley Fens Habitats site so figures used for these may be subject to change • confirm to the EA whether growth is planned for Langford and Ball Lane

Issue 14: The impact of operational constraints and outages at the company's abstraction and treatment assets is not fully accounted for in the plan and risks security of supply	The company was asked to ensure its plan reflects known operational constraints and set out a fully detailed plan for how it will improve the condition of its assets. The outage assessment has been revised, the company has undertaken works to remove operational constraints, and proposes additional options to improve treatment and minimise outage in the revised plan. This largely addresses our concerns. Points outstanding are below: The EA had requested that Aquator was used to model operational constraints, but ESW has used an alternative method (which it has since outlined). This is because ESW found that Aquator is not currently able to reliably model water quality. Work is needed to ensure triggers are correct and to validate the results before there is confidence in a good representation of the system response. ESW are currently working on that, looking at historical water quality data, and reviewing River Stour flows to ensure they are as accurate as possible, as the	This issue was raised by the Environment Agency as recommendation 1.1 Provision of the information would improve the plan by providing full confidence that the expected level of resilience and reliability can be met.	The company should: • update the final plan with modelled water quality constraints, if the Aquator work is completed in time for its inclusion • if work is not completed in time, update the plan with the alternative method used and explain the further work that is still needed to reliably model water quality • improve its outage data where it is recognised that current information isn't satisfactory (for WRMP29) • review outage assumptions remain relevant for Barsham as planned works are delivered (report updates via annual review, incorporate into future plans)

	results are sensitive to these. The final plan should include this if possible. ESW noted that outage data at Barsham is not sufficiently detailed enough to enable the precise cause and magnitude of an outage event to be attributed to individual or merged elements of treatment. Therefore, the outage allowance has been calculated from data that is not ideal. We note that the result is an overestimate so there is no concern for supply. However, as Barsham is to become a significant hub under WRMP24 it will be important that assumptions are accurate. The company anticipates that the groundwater treatment plant, onsite storage and offsite pumping currently being rebuilt will significantly improve this situation moving forwards.		
Issue 15 - Unit costs	The SoR acknowledges ESW's unit costs being higher than the industry median rate. It attributes this to being in one of the driest parts of the country, having one of the highest numbers of water dependant SSSIs at risk from water company abstractions, and having options such as aquifer storage unavailable. It suggests that traditional, lower cost schemes are no	This issue was raised by Ofwat. Addressing this point will provide assurance that costs are to be managed appropriately.	The company should: • update the final WRMP to identify how unit costs will be monitored in AMP8

	longer available to the company. It does not address how unit costs will be managed to ensure they remain efficient. Ofwat needs to be reassured that ESW is monitoring and minimising its unit costs, given that it has accepted they are higher than industry average.		
Issue 16: The approach to assessing and presenting information about the climate change impacts on its sources and supply forecast in the plan lacks evidence and justification in places.	The SoR has mostly covered the issues raised but the response was incomplete and there are several minor issues which should be addressed: • Section 5.2 of the Supply Technical Report was updated to use system response for scenario selection rather than historic rainfall events – there appears to be no evidence that the robustness of this approach has been tested. • In Section 6.4 of the Supply Technical report the impact of climate change scenarios on the DO of Essex WRZ are in Table 13. However, the results for the Suffolk WRZs are not presented - provide these to provide climate impacts for all WRZs.	This issue was raised by the Environment Agency as Improvement 7.1 Addressing the points raised would improve the climate change assessment.	The company should: • provide evidence or sign post to evidence that the robustness of the system response approach has been tested • provide impact of climate change scenarios on DO results for the Suffolk WRZs (Table 13) • A climate change BVA hasn't explicitly been carried out - the company should explain why and how its approach ensures the potential impact of climate change are properly screened

	• A Drought Vulnerability Assessment is carried out in Section 2.4 of the main Plan which uses the principles of the UKWIR 'Drought Vulnerability Framework' (17/WR/02/12). A BVA hasn't explicitly been carried out. • There is no evidence provided of how the UKCP18 probabilistic scenario range has been considered to demonstrate how the full range of potential impacts has been considered in Section 6.5 of the Supply Technical report. • Although further detail has been added about RCP8.5, an explanation for the choice of RCP2.6 needs to be included.		to inform its choice of assessment methodology • provide a more detailed description of how the UKCP18 Probabilistic scenario were considered to ensure the full range of potential impacts were accounted for in Section 6.5 of the Supply Technical report • include an explanation for the choice of RCP2.6
Issue 17: The assessment of carbon costs and emissions in the plan requires further development. Some aspects have not been considered, or	The SoR has mostly covered the issues raised but there are several minor issues which could be addressed: • Total carbon costs for final options have been included in section 9.3.3 in Table 94 and 95 but should be included for all feasible options. • Section 8.2.2 lacks information on how carbon costs have been compiled.	This was raised by the Environment Agency as Improvement 6.1. Addressing the points raised would improve the carbon assessment.	The company should: • include total carbon costs for all feasible options in Table 94/95, or signpost if this information is presented elsewhere • includes information on how carbon costs have been compiles in s8.2.2, or signpost

evidence has not been presented.	• Although Section 9.3.3 does describe the uncertainty associated with carbon assessment, and explains that the assessment provides a good comparison on the scale of expected emissions, it does not explain how the assessment minimises uncertainty. • For carbon emitted by third parties, reference can only be found to the EA assets and pumps, it is unclear whether there are other relevant third parties that should be considered. The company has been able to provide an indicative emission value for carbon emissions from EA assets. The SoR states that it commits to working via the Ely Ouse Operator's group and Senior Managers' meetings to consider how and by when net zero can be achieved with the EA for transfer activities.		if this information is presented elsewhere • explain how uncertainty in carbon assessment will be minimised • explicitly provide clarity on other third parties (or confirm of there are no other third parties) We suggest that as part of the 2024 annual review the company submit a roadmap for working via the Ely Ouse Operator's group and Senior Managers' to achieve net zero for EA assets - including a plan of action reporting any discussions already undertaken, how the working groups will proceed, and actions required.
Issue 18 - Customer supply pipe leakage policy	ESW's customer supply pipe leakage (CSPL) policy is unclear from the plan and representations noted that Ofwat are encouraging companies to evaluate the benefits of a common industry approach. The SoR clarifies that there will be no	This issue was raised by Ofwat and CCW. Clarity would be helpful for customers, regulators, and stakeholders.	The company should: • set out the company's customer supply pipe leakage policy (if this is unchanged from

	change to the WRMP19 policy but has not clarified what the existing policy entails or whether ESW has a view on the common industry approach. One of the benefits of smart metering is that CSPL can be more readily detected. Considering this it would be useful for the plan to explain why there will be no change to the policy despite the growth of smart metering and emphasis on demand management.		WRMP19 the policy should still be described) • explain the decision not to amend the policy in light of a smart metering programme which provides additional data • provide the company's view on the benefits of a common industry approach to customer supply pipe leakage
Issue 19 - Collaboration with other water companies	ESW was asked to carry out further work to resolve modelling issues which had led to a put and take transfer with AWS being excluded as an option. It was also asked that in the plan clarify whether collaborative work had been undertaken with other neighbouring water companies such as Affinity Water. The SoR provides further detail on why the AWS transfer was ruled out, but again draws the conclusion that it is modelling issues preventing the option being taken forward. The company has not clarified whether further work could resolve the	This issue was raised by CCW. Clarification on this point will ensure good understanding and demonstrate that alternative options have been considered appropriately.	The company should: • clarify whether further work could resolve the AWS put and take transfer option modelling issue, or whether the option is not technically feasible at this time • update the plan to confirm which water companies were considered for collaborative work and which were ruled out, signposting to further detail as appropriate but noting that the

	modelling issue, or whether the option is simply not technically feasible at this time. The response and revised plan have not clarified whether other companies besides AWS and TW have been considered. The company has significant uncertainty over future water needs, as do other water companies. This means several companies have adaptive plans and new options as part of core and adaptive pathways. The development of these new options may offer new chances to trade water and this should be kept under review. ESW should ensure opportunities to trade water can be assessed alongside other feasible options and are included as preferred options where these form part of best value plans.		technical reports may not be clear to a lay person • continue to work with neighbouring water companies and WRE through the planning period to keep opportunities to trade water under review and updated as new options are developed, or triggered in adaptive pathways and there is more certainty in the demand for water
Issue 20 - Collaboration with Local Authorities	Population forecasting and growth were areas picked up by various consultees as areas of uncertainty or subject to change. Several Local Authorities were keen to work together to plan for growth and ensure effective communication channels.	This issue was raised by multiple respondents including: Basildon Council, Southend Council, CCW, East Suffolk Council, Essex County Council, Greater London Authority.	We suggest that the company should: • work to ensure effective communication channels are put in place between WRE,

	The SoR addressed these points and flagged that ESW are keen to work with Local Authorities, though the mechanism for this is not discussed in the plan.	Addressing this point will be useful to aid sustainable development and delivery of secure supplies.	water companies and local authorities • work closely with all local councils to build up a detailed picture of proposals for new development and to ensure water needs are captured early so that development can be delivered sustainably and aligned to the delivery any options needed to secure supplies - this should include exploring how Local Authorities, developers and the company can work together to deliver water efficient development and reduce demand and leakage • consider whether reporting communications/updates with LA's (& other interested parties) could feature as part of the annual review

Issue 21 - Points raised by Southend Council	A representation from Southend Council is referred to in the Statement of Response but was not submitted to Defra as far as the Environment Agency is aware. The following is based on the material included in the SoR document. The SoR states that 'Re-use schemes are currently not in our preferred delivery options.' (SoR ref 234). This is in response to a point noting that there is scope, especially within larger developments to take a holistic approach to water management, including recycling of grey water for non-potable uses. The response is unclear as the preferred plan contains the Lowestoft reuse option. We assume that the response refers to reuse of water in relation to building development rather than WRMP options, but the company needs to clarify this response for the avoidance of doubt. More detailed information was requested about the Southend re-use scheme (SoR ref 235). Section 8.8 of the rWRMP indicates that this scheme is not likely to appear in the final plan (a change to 1:500	Regulators have been unable to determine whether the SoR/rWRMP has adequately addressed concerns raised in the representation without seeing the original. Specific points were raised by Southend Council. Clarification of the points indicated would aid understanding.	The company should: • review the points made and consider whether any amendments to the WRMP are required • ensure all representations are uploaded onto the Defra SharePoint • clarify the Southend reuse option in the final plan (remove if changing to delayed 1:500 year resilience, demonstrating that this option is better value)

	year resilience is proposed in its place) but this was not clear in the SoR response.		
Issue 22 - Data and information sharing	We welcome the company's support of the National Meter Strategy on data sharing and its intention to continue to be involved in industry discussions on the subject. We encourage collaboration with other water companies, local authorities, retailers, stakeholders and customers to develop plans for use and sharing of data from smart metering, including to encourage behavioural change. Representations also raised benefits linked to better sharing of wider data and information with local or statutory authorities to better plan infrastructure maintenance and delivery. The SoR indicates that the company will progress with this via further discussions with interested parties which we also welcome. It does not appear that there will be a change to the final plan as a result so these commitments are noted here for the record.	This issue was raised by multiple respondents including: Everflow and Greater London Authority Addressing this action will help the company to realise the potential benefits of smart metering, aid efficient delivery of projects and minimise impacts on customers and wider society.	With the aim of incorporating outcomes into WRMP29 the company should: • consider how its smart metering data can best be used to deliver the range of potential benefits such as leakage detection, network response, and targeting efficiency of programmes - including how information may be used directly by both household and non-household customers to modify their own use, address concerns customers may have about use of data, and how information may be used indirectly to encourage behaviour change • progress its commitment to sharing information with other bodies to achieve wider benefits to society

Issue 23 - Data Tables	Throughout this WRMP cycle there has been concern about the level of detail and accuracy applied to the WRMP data tables, which has included missing, incomplete and resubmitted data. This must be resolved for the final WRMP without reliance on resubmission of tables.	This point was raised by the EA and Ofwat. Accurate data tables underpin clear understanding of the plan.	The company should: • ensure that final plan data tables are accurate prior to submission.

5. APPENDIX C – ENVIRONMENT AGENCY STATEMENT OF RESPONSE SEA TECHNICAL APPENDIX

Essex & Suffolk Water:
Statement of Response SEA Technical Appendix

This table is the technical appendix referred to in our advice to Defra. It sets out issues identified by our review of the revised SEA where we believe that further technical detail will support the company in making the recommended changes.

Has the SoR dealt with the original recommendation effectively?	Significance	Issue	Recommended changes to the SEA
Item 1: **Clarify uncertainty by clearly setting out assumptions and limitations - it is particularly important to recognise that there are significant uncertainties regarding the deliverability of certain options that could entail HRA and WFD compliance issues**			
No	Key point - of particular concern from a compliance perspective	Assumptions and limitations have not been clearly set out.	Clearly set out assumptions and limitations to address the recommendation.
Item 2: **Clarify the cumulative and in-combination effects assessment of the draft WRMP – extend the scope of the PPP review to consider the issues arising in the regional plan and other neighbouring water company WRMP's**			
Partially	Key point - of particular concern from a compliance perspective	Table 3-1 includes local water company RBMP and Catchment Flood Management Plans, but does not include other water companies' WRMPS, DWMPs, drought plans within the scope of the PPP review.	The scope of the PPP review should be extended to consider the issues arising in other neighbouring water company WRMPs and other water related plans

		Section 3.2 identifies that a review of the policies, plans, and programmes relevant to the WRMP24 was undertaken as part of the SEA Scoping process and used to inform the development of the SEA Framework. However, no clear explanation is provided to link the key issues to any of the specific SEA objectives proposed. Section 7.2.4 identifies that a review of other water companies draft WRMP24s was undertaken in June 2023, but this is high-level. Failure to properly consider neighbouring water company plans could undermine the effectiveness of the WRMP. Section 7.2 considers the cumulative effects with other PPPs; however, it is a high-level assessment and would benefit from greater detail so that the cumulative effects, taking into account the regional and other water company plans, are more clearly identified. Section 2.5. outlines the relationship to the Water Resources East Regional Plan. The WRE draft Regional Plan is referred to within this section (despite a revised draft being available). It will be important for a full consistency check to be carried out before finalising the ESW WRMP. Not all significant residual effects are identified in the cumulative effects assessment for all topics, with some only noting if there is anticipated to be a cumulative effect without	in greater detail to more clearly identify cumulative effects of other company and regional plans.

		reference to the significance of the effect or characteristics of effects. Justification for WDF and HRA inter-project effects is provided, and the 2km buffer identified.	
Item 3: **More detailed consideration should be given to efficacy and feasibility of securing appropriate mitigation.**			
Partially	Key point - of particular concern from a compliance perspective	SEA regulations require the SEA environmental report (ER) to set out the measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment. Mitigation identified in Table 8.1 are high level and generic, and some measures suggest the need for further, more detailed, assessment (which is not mitigation). The ER relies upon mitigation being addressed at the project stage, without the confidence as to whether it will be achievable and sufficiently effective to reduce or avoid effects. Therefore, there is uncertainty about the efficacy of suggested measures which may be inadequate at the project delivery stage. Only high-level information has been provided on how mitigation will be secured (Section 8.1.10 identifies that ESW will be responsible for embedding identified measures	Provide further detail on how the mitigation will be secured and further developed should be provided or explain what action(s) ESW will take if the project stage identifies that mitigation is not adequate. Include effects pre and post mitigation, any identified mitigation requirements, and the residual effects in the assessment. Finally, describe the risks to option and plan delivery and how the company propose to manage this should further SEA scheme level work suggest the options are not promotable.

		for the design and consenting of each option within the scheme delivery and Section 8.1.4 provides further detail on how the secondary mitigation will be secured). If possible, further detail on how the mitigation will be secured and further developed should be provided. Within the ER effects pre and post mitigation have not been identified (only residual effects presented). Therefore, there is a lack of clarity/transparency and certainty on the effectiveness of proposed mitigation, and a risk that mitigation measures may not be appropriate. While the reporting of effects should focus on the residual effects, the assessment should consider effects before mitigation, any identified mitigation requirements and the residual effects. By showing pre and post mitigation effects, this can also help to show how the SEA has contributed to changes to the WRMP. This information may already be presented within each options 'SEA table' referred to within Section 8.1.5, however these were not available to review.	
Item 4: **The Executive Summary/ Non-Technical Summary lacks clarity.**			
Partially	Key point - of particular concern from a compliance perspective	The Executive Summary/Non-Technical Summary (NTS) lacks clarity as to the objectives of the WRMP, the assessment scope (spatial, technical and temporal), the screening and option assessment stages and an explanation as to how the WRMP has been shaped by the SEA process.	Update the NTS to clarify these aspects.

Item 5: **Demonstrate clearly how the SEA has influenced option assessment and selection for its preferred plan.**			
No	Moderate – should be addressed	Some relevant updates were made (see italics below) but overall, this point is not considered to be adequately addressed. We were unable to locate Appendix A Supply Option Development Report (100104977-RP-ESW-001) for rejection register. Supply and demand management options forming this rdWRMP24 are included in Table 5-1, however, there is no clear explanation within the ER for the reasons for selecting or rejecting options. Whilst this may be a matter of presentation and detail in the ER, it could also indicate insufficient regard having been given to the potential likely significant effects of plan implementation. There should be greater confidence in the justification for taking forward measures/options with the potential to engage HRA and WFD compliance issues and significant effects. *Section 1.4.1 now includes details on the high-level environmental screening assessments, and further detail is provided in Section 4.2, 4.3 and Appendix J.*	Provide Appendix A Supply Option Development Report (100104977-RP-ESW-001) for rejection register Provide a clear explanation within the ER for the reasons for selecting or rejecting options.

		A more detailed environmental assessments following the high-level environmental screening is presented within Appendix E.	
Item 6: **Clearly set out the likely significant effects on the environment, including short, medium and long term effects, direct/indirect effects and permanent and temporary effects.**			
No	Moderate – should be addressed	The ER does not clearly set out the likely significant effects on the environment, including short-, medium- and long-term effects, direct/indirect effects and permanent and temporary effects. This point was raised in the additional comments on the SEA sent separately to the representation and evidence report. It still appears to be relevant.	Clearly set out the likely significant effects on the environment, including short, medium and long term effects, direct/indirect effects and permanent and temporary effects.
Item 7: **Clarify how significance and the different scales of effect are determined.**			
Partially	Moderate – should be addressed	Table 4-3 provides the definitions of effect scale, however, there is little clarity as to the thresholds between the different scales (e.g. what constitutes a major decrease in groundwater levels as compared with a moderate decrease). Noted that the methodology refers to professional judgement.. Section 4.1.12 explained how permanent or temporary effects were considered and the duration of the effect.	Clarify the thresholds between the different effect scales. Define short-, medium- and long-term effects, and ensure these are consistently used throughout the assessment.

		Short-, medium- or long-term effects are not defined, or consistently used within the assessment. This is a requirement of the regulations. Section 4.1.5 now identifies that Major and Moderate are classified as 'significant effects'; however, Section 5.5.1 states 'Significant effects are defined as those scoring moderate or minor effects.' The numeric scoring system in Appendix E is not clearly explained.	Clarify whether major, moderate, or minor effects constitute 'significant effect', and ensure consistency throughout the assessment. Clearly explain the numeric scoring system in Appendix E.
Item 8: **Evidence more clearly that all feasible alternatives have been considered - a least cost and best environment and society alternative should be covered.**			
Partially	Moderate – should be addressed	Section 6.1.6 states 'Least Cost Plan and Best Value (Preferred) Plan have been found to comprise the same options', and therefore the assessment has not been repeated for Least Cost Plan. Best Environment & Society Plan is assessed. The ER sets out a high-level reasoning for the options and alternatives assessed against the SEA objectives, however there is less clarity as to how the assessment outcomes have influenced the development of the draft WRMP. The ER is lacking clear justification for options taken forward into the draft WRMP. Section 7.3.2 identifies that further	Provide clarity as to how the assessment outcomes have influenced the development of the draft WRMP. We recommend that you include detail on justification for this plan within the ER as well as in the main plan.

		information on ESW's justification for this plan is provided within the main report.	
Item 9: **Clearly outline the study area for the SEA and describe the characteristics and potential future changes of that area.**			
Partially	Moderate – should be addressed	Geographical scope is covered within Sections 4.1.14 – 4.1.18. This includes details on the study area buffers used. Future baseline is provided within Section 3.4 but this is high-level and does not consider spatially specific implication. An explanation as to how the baseline analysis has shaped the SEA objectives would give stakeholders greater confidence in the WRMP development process.	Update the ER to explain how the baseline analysis has shaped the SEA objectives.
Item 10: **Clearly outline and justify the technical and temporal scope of the SEA, reflecting the full duration of the WRMP period.**			
Partially	Moderate – should be addressed	Section 4.1.13 provides clarities on the temporal scope of the assessment. ER makes reference to the scoping stage of the SEA, the PPP review and the identification and finalisation of SEA objectives in the light of scoping consultation but lacks any definitive statement as to the final scope of the SEA.	Update the ER to provide a definitive statement on the final scope of the SEA.

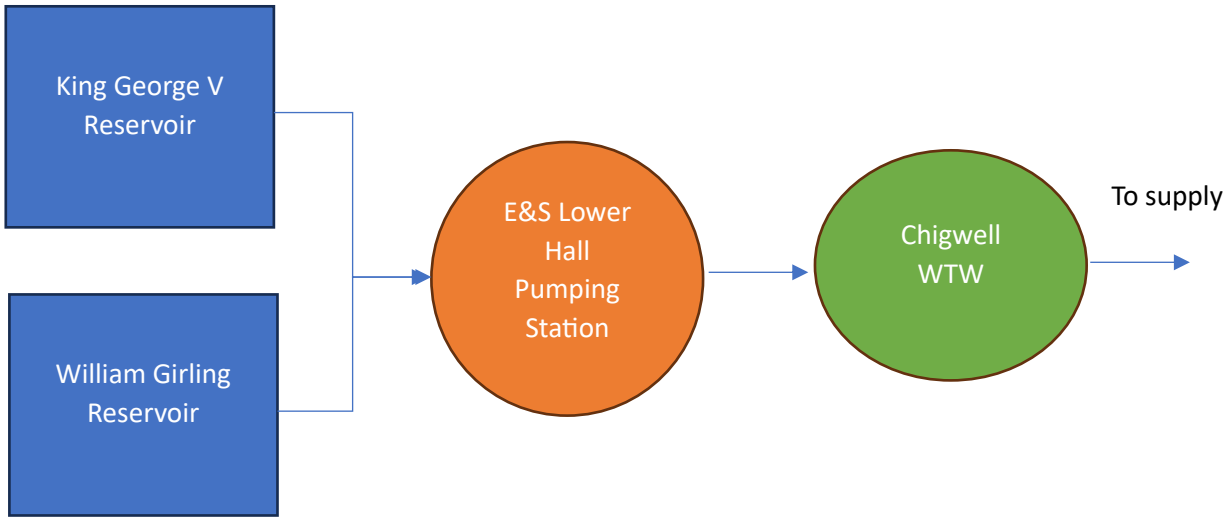
6. APPENDIX D – TECHNICAL NOTE REGARDING THE THAMES WATER BULK IMPORT TO CHIGWELL WTW

Thames Water to Essex & Suffolk Water Transfer – Joint Note on Representation in WRMP Tables

This note has been produced as a result of an issue raised in a letter sent from Defra to Thames Water requesting more information on the Thames Water rdWRMP24; and as a result of a recommendation for improvement from the Environment Agency to Essex & Suffolk Water on their rdWRMP24. This note has been jointly authored by Thames Water and Essex & Suffolk Water.

Background

Thames Water provides a transfer of raw water from its reservoirs in the Lee Valley (King George V and William Girling), which are in the London Water Resource Zone (WRZ), to Essex & Suffolk Water's Essex WRZ. This water is pumped by a pumping station which is operated by Essex & Suffolk Water (Lower Hall Pumping Station) before being treated by Essex & Suffolk Water at the Chigwell Water Treatment Works (WTW).



This transfer has been operated since 1965 and began following an agreement made in 1963 between the Metropolitan Water Board (now Thames Water) and the South Essex Waterworks Company (now Essex & Suffolk Water). The origin of the transfer relates to the construction of the Wraysbury Reservoir in West London.

The agreement states that Thames Water should supply up to 20 million gallons per day (91 Ml/d) of raw water to Essex & Suffolk Water, and that the maximum daily quantity provided should not exceed 130% of the maximum average daily quantity permitted to be taken in a year, i.e., 26 million gallons (118 Ml/d). The agreement exists in perpetuity.

The agreement states that if Thames Water has a Temporary Use Ban in place in the London WRZ and Essex & Suffolk Water does not have a Temporary Use Ban in place in the Essex WRZ, the transfer may be reduced by 25%.

Subsequent to the agreement made in 1963, water trading agreements have been made between Thames Water and Essex & Suffolk Water. In these agreements, variations have been made to the 1963 agreement whereby Thames Water may reduce the volume of water exported, subject to the required notice being provided. The current water trading agreement in place allows Thames Water to reduce the average quarterly quantity of water supplied to the volumes listed in Table 1, and results in an

average transfer of 71 Ml/d. This water trading agreement would only be enforced during periods of drought, as Thames Water have to pay Essex & Suffolk Water a supplement in order to enact the transfer reduction. The current agreement extends to 31st March 2035, and after this point the transfer shall revert to the 1963 agreement of 91 Ml/d on average.

Table 1: Thames Water to Essex & Suffolk Water, reduced (drought) transfer volumes according to water trading agreement.

	January-March	April-June	July-September	October-December
Export volume (Ml/d), quarterly average	60	75	75	75

Representation in Water Resources Management Plan 2024 Tables

Table 1

WRMP Table 1 shows licences and transfers included in the company's base year supply forecast.

The representation of the transfer in Thames Water and Essex & Suffolk Water's rdWRMP24 Table 1 is highlighted in Table 2. This table indicates that the understanding of the transfer volume is the same, which is that:

- The annual licence limit for the transfer is 91 Ml/d
- There is a water sharing agreement in place whereby the transfer may be reduced to 71 Ml/d, which extends until 2034/35

While the understanding is the same, clearly the values stated in the tables are different. Specifically:

- No value is stated for the DYCP Deployable Output impact of the export in the Thames Water tables. This is because the DYCP scenario is not assessed for the London WRZ.
- The DYAA Deployable Impact of the export is stated as 67 Ml/d by Thames Water and is stated as 91 Ml/d by Essex & Suffolk Water. The reasons for this are:
    - The value stated by Essex & Suffolk Water is reflective of the 1963 agreement, rather than the current variation. The value stated by Thames Water is reflective of the current variation.
    - The value stated by Thames Water is reflective of the "system" Deployable Output impact of the transfer on the London WRZ.

Table 2: Representation of London WRZ to Essex WRZ transfer in rdWRMP24 Table 1.

** Thames Water do not assess a DYCP Deployable Output for the London WRZ, and as such no DYCP Deployable Output impact is stated*

	DYAA Deployable Output (Ml/d)	DYCP Deployable Output (Ml/d)	Annual Limit (Ml/d)	Changes to agreement during drought	Additional notes (if desired)
Thames Water	67	N/A*	91	Current variation allows TW to ask E&S to reduce the import during drought periods, reflected in DO impact. In addition, original agreement states that E&S should impose hosepipe bans at the same time as	Original bulk supply (1963) allows for a transfer of 91 Ml/d on average. A variation was in place in AR21 whereby TW could request that E&S reduce the transfer to 66.25 Ml/d on average (DO impact 62 Ml/d) during drought periods. A similar variation is in place for the period AR22-

				Thames Water, or TW may reduce the transfer by 25%	AR35 whereby we can request E&S to reduce the import to 71.25 Ml/d on average (DO impact 67 Ml/d - this is the value stated in this row). From AR36 onwards, the transfer will return to the 91 Ml/d on average.
Essex & Suffolk Water	91	118	91	Reduction to 71 Mld when TWU implement a L2 TUB, under water sharing agreement which expires in 2034/35	

Changes made since rdWRMP24

Table 3 shows the updated representation of the transfer in each company's WRMP Table 1. In this table, the Thames Water value for the DYAA Deployable Output impact of the export has been changed to 90 Ml/d. This ensures that both Essex & Suffolk Water and Thames Water both state values aligned with the original 1963 agreement and note that a reduction to 71 Ml/d (DO impact of 67 Ml/d for London WRZ) in additional notes. The misalignment which remains is reflective of the Deployable Output impact of the transfer on the London WRZ.

Table 3: Representation of London WRZ to Essex WRZ transfer in updated rdWRMP24 Table 1.

	DYAA Deployable Output (Ml/d)	DYCP Deployable Output (Ml/d)	Annual Limit (Ml/d)	Changes to agreement during drought	Additional notes (if desired)
Thames Water	**90**	N/A*	91	Current variation allows TW to ask E&S to reduce the import during drought periods, reflected in DO impact. In addition, original agreement states that ESW should impose hosepipe bans at the same time as Thames Water, or TW may reduce the transfer by 25%	Original bulk supply (1963) allows for a transfer of 91 Ml/d on average. A variation was in place in AR21 whereby TW could request that ESW reduce the transfer to 66.25 Ml/d on average (DO impact 62 Ml/d) during drought periods. A similar variation is in place for the period AR22-AR35 whereby we can request E&S to reduce the import to 71.25 Ml/d on average (DO impact 67 Ml/d - this is the value stated in this row). From AR36 onwards, the transfer will return to the 91 Ml/d on average.
Essex & Suffolk Water	91	118	91	Reduction to 71 Mld when TWU implement a L2 TUB, under water sharing agreement which expires in 2034/35	

Table 3a-3c

WRMP Tables 3a to 3c show the supply-demand balance position under the Dry Year Annual Average scenario.

Both the London WRZ and Essex WRZ are complex systems, involving multiple reservoirs, inter-WRZ transfers and groundwater systems. As such, the supply capability, known as Deployable output, for each WRZ is calculated using complex hydrological and water resources models.

In these complex systems, the Deployable Output impact of a given transfer may not be a simple "1 for 1" relationship, i.e., a 10 Ml/d import/export may not yield a 10 Ml/d Deployable Output increase/decrease. Similarly, the Deployable Output impact of a given transfer may be different for the donor and recipient, according to the supply systems of the donor and recipient. In the case of this transfer, the DYAA Deployable Output impact of the 1963 agreement is -90 Ml/d on the London WRZ and +88 Ml/d for the Essex WRZ.

Given the magnitude of the transfer, both companies incorporate it within their Deployable Output modelling. As a change in WRMP24, Thames Water have established the Deployable Output impact of the transfer on its London WRZ and have stated a Baseline Deployable Output value exclusive of all transfers and then stated the export volume.

Table 4 shows how the transfer is represented in each company's rdWRMP24 DYAA supply-demand balance. This representation again demonstrates an aligned consideration of the transfer, insofar as there is a change to the exported volume stated by each company in the 2035/36. The two differences in the representation are:

- Thames Water state exports of 67 Ml/d and 90 Ml/d. These are different to the annual volume limits of 71 Ml/d (during the contract variation period) and 91 Ml/d (after the contract variation period). This is because Thames Water has modelled the impact of the transfer on its Deployable Output of its London WRZ.
- Essex & Suffolk Water state an export of 20 Ml/d until 2034/35, and 0 Ml/d after this point. This reflects the amendment to the 1963 agreement during the period until 2034/35. As such, Essex & Suffolk Water have included the 1963 agreement in baseline deployable output, and amendments to that agreement are reflected in the stated export volumes.

Table 4: Representation of the London WRZ to Essex WRZ Raw Water Transfer in rdWRMP24 Table 3a-3c

	2021-22 to 2034-35	2035-36 onwards
Thames Water (line 4BL, raw water export), Ml/d	-67	-90
Essex & Suffolk Water (line 4BL, raw water export), Ml/d	-20	0

While the numbers in these tables are clearly different, they also indicate that the export is considered correctly within each company's supply demand balance. The only difference in the representation is whether the transfer is accounted for directly within Deployable Output (as Essex & Suffolk have done) or as a transfer (as Thames Water have done). From a WAFU perspective, the transfer's representation is aligned in both WRMPs.

Table 3d-3f

WRMP Tables 3d to 3f show the supply-demand balance position under the Dry Year Critical Period scenario.

Table 5Table 4 shows how the transfer is represented in each company's rdWRMP24 DYCP supply-demand balance. Thames Water does not assess a DYCP scenario for the London WRZ, as there is a large volume of potable water storage in the Thames Water Ring Main. As such, the transfer is not represented in Thames Water's rdWRMP24 Tables 3d-3f.

The representation of the export in Essex & Suffolk Water's WRMP tables is aligned with the representation in Tables 3a-3c, i.e., the 1963 agreement is reflected in baseline deployable output, and amendments to that agreement are reflected in the stated export volumes.

Table 5: Representation of the London WRZ to Essex WRZ Raw Water Transfer in rdWRMP24 Table 3d-3f

	2021-22 to 2034-35	2035-36 onwards
Thames Water (line 4BL, raw water export), Ml/d	N/A	N/A
Essex & Suffolk Water (line 4BL, raw water export), Ml/d	-20	0

Conclusions

In this document, it has been demonstrated that Thames Water and Essex & Suffolk Water presented an aligned view of the transfer between them in their rdWRMP24s. Changes to improve transparency and alignment within WRMP24 Table 1 have been identified and actioned.