

# Portsmouth Water



## FINAL WATER RESOURCES MANAGEMENT PLAN 2024

## APPENDIX 11A – WRMP24 TECHNICAL ASSURANCE REPORT

Portsmouth Water Ltd  
PO Box 8  
West Street  
Havant  
Hants  
PO9 1LG

October 2024

## WRMP24 Technical Assurance Report

Document no: v2.1  
Revision no: Final v2.1

Portsmouth Water

WRMP24 Technical Assurance  
29 August 2023



## WRMP24 Technical Assurance Report

**Client name:** Portsmouth Water

**Project name:** WRMP24 Technical Assurance

**Document no:** v2.1

**Revision no:** Final v2.1

**Date:** 29 August 2023

**Project no:** B2447300

**Project manager:** Lea Cole

**Prepared by:** Sarah Fane

**File name:** dWRMP24 Technical Assurance Report - PRT V2.0

## Document history and status

Revision	Date	Description	Author	Checked	Reviewed	Approved
v1.0	12/09/22	Draft	PH	AKM	AKM	
V1.1	20/09/22	Final	PH	AKM	AKM	
V2.0	25/08/23	Final Draft	SF	JL	AKM	

## **Important note about your report**

This document has been prepared by a division, subsidiary or affiliate of Jacobs U.K. Limited ("Jacobs") in its professional capacity as consultants in accordance with the terms and conditions of Jacobs' contract with the commissioning party (the "Client"). Regard should be had to those terms and conditions when considering and/or placing any reliance on this document. No part of this document may be copied or reproduced by any means without prior written permission from Jacobs. If you have received this document in error, please destroy all copies in your possession or control and notify Jacobs.

Any advice, opinions, or recommendations within this document (a) should be read and relied upon only in the context of the document as a whole; (b) do not, in any way, purport to include any manner of legal advice or opinion; (c) are based upon the information made available to Jacobs at the date of this document and using a sample of information since an audit is conducted during a finite period of time and with finite resources. No liability is accepted by Jacobs for any use of this document, other than for the purposes for which it was originally prepared and provided.

This document has been prepared for the exclusive use of the Client and unless otherwise agreed in writing by Jacobs, no other party may use, make use of or rely on the contents of this document. Should the Client wish to release this document to a third party, Jacobs may, at its discretion, agree to such release provided that (a) Jacobs' written agreement is obtained prior to such release; and (b) by release of the document to the third party, that third party does not acquire any rights, contractual or otherwise, whatsoever against Jacobs and Jacobs, accordingly, assume no duties, liabilities or obligations to that third party; and (c) Jacobs accepts no responsibility for any loss or damage incurred by the Client or for any conflict of Jacobs' interests arising out of the Client's release of this document to the third party.

## Contents

1.	Introduction.....	5
2.	Scope & approach .....	6
3.	Observations and findings .....	7
	3.1 Key Findings .....	7
4.	Conclusion .....	8

## Appendices

	Appendix A. Summary of assessments.....	9
--	---	---

## 1. Introduction

Every five years water companies publish water resources management plans (WRMPs) that set out how they plan to balance the supply and demand for water in their areas over the next 25 years. The updated Water Resource Planning Guideline was published in April 2023 and Portsmouth Water is due to submit its revised draft water resources management plan (rdWRMP) to the Environment Agency by 31 August 2023.

Water companies are also required to contribute to a regional resilience plan covering their area of supply and neighbouring water company areas. Portsmouth is part of the Water Resources in the South East (WRSE) group for regional planning. WRSE published its Emerging Regional Plan in January 2022 and the Draft Regional Plan for South East England for consultation between November 2022 and February 2023. WRSE received updated WRMP24 data tables from Portsmouth Water in Spring 2023 which were independently assured by Jacobs. The individual company WRMP24 Plans must align with member companies' dWRMPs and with other regional plans.

Assurance in 2023 on WRMP24 for Portsmouth Water has been split into two phases. Phase one included process audits on Headroom, Environmental Destination, Demand Management, Demand Options Model and Demand Forecasts. Phase two included data table audits prior to submissions to Ofwat on the 31 July 2023 and the Environment Agency on the 31 August 2023.

## 2. Scope & approach

For Phase 1 assurance process audits, you asked us to take a risk-based approach to our assurance, focusing on plan components that you considered to be relatively high risk. On that basis, we assessed the following:

1. Review process method, including inputs
2. Review assumptions to confirm appropriateness
3. Confirm alignment to WRMP reporting guidance (reference to both the WRMP and WRSE methodologies)
4. Review process methodology controls to confirm checks are appropriate
5. Review to ensure clear links and process in place with PR24 and WRSE
6. Identify key risks and mitigations

For Phase 2 assurance data audits checks were completed back to WRSE upload tables and against the Portsmouth Water Demand Model. Focus was given to tables to be submitted to Ofwat in July 2023 and the Environment Agency in August 2023. We assessed the following:

1. Review changes to the WRMP24 Demand Model
2. To check alignment between the Ofwat Input Tables and the WRSE Upload Tables and Demand Model.
3. To check alignment between the WRMP24 Template Tables, WRSE Input Tables and Demand Model.
4. Trace formulas back to source data and complete checks on exported data feeding into the tables. Additionally, alignment across the tables was checked to ensure data was linking up appropriately across the tables to be submitted.
5. To check the proposed approach is in alignment with the updated Water Resource Planning Guidelines.
6. To check that assumptions and scenarios are appropriate and in alignment with WRSE companies/ guidance.
7. Check the approach to ensuring assumptions and outputs are aligned with the Portsmouth PR24 and supply team, LTDS and business case planning.
8. Check the appropriateness of the control and sign off process Portsmouth Water apply to the data before submission.
9. Identify key risks and mitigations.

Our principal aim was to determine if any elements of your approach were likely to be materially inconsistent with the technical guidelines or have material errors within the data. We also examined your team's process, control and management, including quality assurance.

### 3. Observations and findings

All scores and summary findings are presented in Appendix A. We provide an overview of key findings below. Please note there are no outstanding material actions from the assurance audits conducted.

#### 3.1 Key Findings

We scored one of the audits an 'A' indicating low risk and no issues identified. Six of the audits scored a 'B' showing low to medium risk with only non-material issues identified. The risks can be categorised as follows:

- Many non-material actions of low to medium risk related to commentary additions sitting alongside table submissions or for inclusion within the WRMP24 technical report.
- Clarification / liaison with WRSE representative to understand some of the nuances of table elements, such as cost profiles in 5b of WRMP24 Template Table required before submission.
- Maintaining an up-to-date control log within the Demand Model to confirm changes made, data updates and sign off on changes to show a clear audit trail as the plan develops.
- Base and enhancement allocations for each option profile need to be justified and contained within a reference document should the allocations be questioned in the future.
- The inflation rates applied across the different tables made it challenging to reconcile all values. This was due to different regulators working from different base years for the inflation rate.

**Table 1: Potentially Material Issues**

Area	Summary findings
<p><b>Data Inflation Rates Applied</b></p>	<p>While checking the WRSE template tables against the Ofwat tables, auditors were satisfied that all allocations had been correctly labelled according to the values set out from Portsmouth Water senior management. However, it was identified that there were some issues with the inflation rate that was applied. It is recommended that a review of the inflation rate associated with the base/enhancement split in the WRSE Input Tables and WRMP24 Template Tables is checked to ensure it is aligned with Ofwat specifications.</p> <p>The company have prepared a statement within the commentary sitting alongside the WRMP24 Template Tables explaining the cost base and inflation rates applied.</p>
<p><b>Base and Enhancement Allocations</b></p>	<p>It was noted that base and enhancement allocations for the different options did not have a clear justification. It is recommended that the base/ enhancement allocations for each option profile are justified and contained within a document that could be referenced should the allocations be questioned in future. Consider adding a statement on the allocations to the commentary and /or WRMP24 Technical Report.</p> <p>The company have prepared a statement within the commentary sitting alongside the WRMP24 Template Tables explaining the approach to the base and enhancement split in addition to particular options of note regarding the allocations made.</p>



## 4. Conclusion

Taking account both of our previous assurance in 2022 and our phase 1 and phase 2 assurance in 2023, and except where noted above, we consider that:

- you have met your obligations in developing your plan.
- the plan incorporates the long-term government requirements for leakage and demand reduction.
- the plan aligns with the WRSE regional plan, and has been developed in accordance with the national framework and relevant guidance and policy, or provides a clear justification for any differences.
- the WRMP and PR24 planning assumptions are consistent.
- the submissions to Ofwat and the Environment Agency, in addition to the upload tables to WRSE are accurate representations of the WRMP24 Plan.

## Appendix A. Summary of assessments

As we note in the report above, our assurance approach focuses on the level of risk associated with the submission. The result of our approach is a score of A, B, C or D for each detailed feedback to explain our assessment. In assessing your data, we used a standard scoring framework to produce results that are comparable across the measures. Table 1 below summarises this framework.

**Table 1. Summary of scoring framework for our assurance**

Grade	Description
A	No issues identified (low risk that submission does not comply with guidance).
B	Non-material issues identified (low to medium risk that submission does not comply with guidance).
C	Material issues identified (medium to high risk that submission does not comply with guidance).
D	Significant material issues identified (high risk that submission does not comply with guidance).

**Table 2. Phase 1: Process Assurance Assessments**

Area of Review	Score	Audit Summary	Proposed actions (open)	Expected score at submission of draft plan if all actions resolved
Demand Forecasts	B	<p>Since the previous audit conducted by Jacobs in August 2022 there have been several updates including updates to:</p> <ul style="list-style-type: none"> <li>• The base year data (updated to 2021/2022)</li> <li>• The options model_Amp7</li> <li>• Population and property inputs.</li> <li>• Leakage assumptions (removal of 2019-2020 outrun data adjustment)</li> </ul> <p>It is understood that there will be further changes in the future to incorporate changes to WRMP24 option data.</p> <p>The completion of the WRSE submission table has not yet been completed. It is understood that this will be sent through in due course for review but that this may be post submission to WRSE.</p> <p>We did not identify any issues with the reporting process. A minor data correction was identified for ONS-18-P' on tab 'hhPop&amp;Props'.</p>	<p><u>Non-Material</u></p> <p>Control Log to be updated to confirm review of data was completed by Helen Chapman of Atkins</p> <p>Updated data not brought through to line 139 'ONS-18-P' on tab 'hhPop&amp;Props' (v224). Update data as required prior to submission</p>	A
Headroom	B	<p>The approach to calculate Target Headroom is consistent with industry guidance and Water</p>	<p><u>Non-Material</u></p> <p>Given growth and environmental destination are not included as components of the FTTHR, the EDG profile is the same as the FTTHR. We recommend this point is</p>	A

Area of Review	Score	Audit Summary	Proposed actions (open)	Expected score at submission of draft plan if all actions resolved
		<p>Resource South East (WRSE) guidance for regional planning.</p> <p>The team has benchmarked their approach against other Company methods to assess target headroom and key assumptions appear reasonable and are clearly justified.</p> <p>There were no further material issues identified during this audit. Some non-material issues remain that relate to the documentation of the approach and evidence of checks and sign-off.</p> <p>One material action from the August 2022 audit remained outstanding at the time of the audit however this has since been resolved. The audit determined that the data processing had been undertaken by one individual and had not been subject to any detailed checks. This action is now closed.</p>	<p>clarified in the Appendix 6A narrative and supporting charts and tables.</p> <p>Confirm that delivery risk associate with Havant Thicket is considered elsewhere in the WRMP24 assessment.</p> <p>The team has presented a comparison between the draft WRMP24 headroom profile and the revised draft WRMP24 headroom profile. However, there is no commentary to support the validation and sign-off of the final profile.</p> <p>We recommend the team clearly document the differences between the two profiles as evidence of the validation and checking process. The team should also provide evidence of formal sign-off.</p> <p>The component for Havant Thicket reservoir only considers uncertainty regarding the yield of the works and not the delivery risk. The team agreed to confirm that delivery risk was considered elsewhere in the WRMP analysis.</p>	
Demand Management	B	<p>The approach to update the Demand Management Options appears reasonable and consistent with the recently issued draft Water Resources Planning Guideline (WRPG). Two scenarios are proposed to meet the PCC targets outlined in the WRPG and</p>	<p><u>Non- Material</u></p> <p>We recommend the team provide clear evidence to support the savings assumption and show that this does not duplicate household efficiency savings.</p>	A

Area of Review	Score	Audit Summary	Proposed actions (open)	Expected score at submission of draft plan if all actions resolved
		<p>Environmental Improvement Plan (EIP) and will align with the Ofwat Long-Term Delivery strategy (LTDS) Core Reference Scenarios (CRS) for technology.</p> <p>Testing the adjusted demand option strategies against the final base demand forecast to confirm achievement of PCC targets is ongoing and will take place once the base demand forecast is finalised.</p> <p>Key assumptions relating to smart meter programme roll-out and associated savings are based on industry experience and are therefore considered appropriate.</p> <p>The team has a sound review process in place to ensure sign-off of key decisions. Sign-off of the demand management options and the final demand forecast will take place once the proposed updates are complete. We recommend evidence of sign-off is maintained to support the audit trail.</p> <p>A RAG score of B is assigned as documentation of key assumptions is incomplete and there are some aspects that are ongoing and still to be confirmed, including:</p> <ul style="list-style-type: none"> <li>- Selection of the Government-led scenario (Policy C or C+ to be confirmed)</li> </ul>	<p>Ensure the baseline demand forecast assumptions on climate change are aligned with the Ofwat core reference scenarios and supply forecast and confirm the approach to develop DMO scenarios with the Portsmouth Water’s LTDS Team.</p> <p>Recommend adding either:</p> <ul style="list-style-type: none"> <li>- comments to the cells that include the assumptions with a link to documentation that provides explanation of and evidence for the assumption</li> </ul> <p>or</p> <ul style="list-style-type: none"> <li>- add in a tab on the spreadsheet for assumptions and detail them there.</li> </ul> <p>Additionally, key assumptions such as changes to smart meter savings should be evidenced and documented to support the audit trail.</p> <p>Add a change log to the spreadsheet to record all changes made to the model.</p> <p>Ensure the DMOs are developed to represent a most-likely scenario, core pathway and alternative pathways and ensure alignment with the LTDS.</p> <p>Ensure review outcomes and sign-off is documented to support the audit trail.</p>	

Area of Review	Score	Audit Summary	Proposed actions (open)	Expected score at submission of draft plan if all actions resolved
		<ul style="list-style-type: none"> <li>- Adjustment of Demand Management Option strategies to meet the new PCC targets</li> <li>- Alignment of the base demand forecast with the climate change CRSs</li> <li>- Alternative options and trigger points to support the development of adaptive pathways.</li> </ul>		
Environmental Destination	B	<p>Portsmouth Water have completed a significant amount of work to understand their current and future predicted water resource situation. They have now included information on Havant Thicket reservoir and have built a joint Pywr model with Southern Water (SWS).</p> <p>Portsmouth Water (PW) have improved their understanding of Climate Change impacts by modelling the full set of stochastic replicates.</p> <p>They have also developed alternate strategies for licence capping to lessen the impact on their Deployable Output (DO) and these strategies have been discussed with the EA. PW should also let the Environment Agency (EA) know updates to profiling the Environmental Destination (ED) scenarios and that they plan to meet all the ED reductions by 2050.</p>	<p><u>Non- Material</u></p> <p>New approach to climate change modelling. Inform WRSE of the updated approach.</p> <p>Revised licence capping strategies. Seek EA agreement on the approach.</p> <p>Environmental Destination profiles. Present to the EA the new approach to profiling ED reductions over time and seek their agreement.</p> <p>Assumptions related to Environmental Destination. Include a narrative in the revised WRMP to describe that PW will investigate other means to abate ED impacts alongside the WINEP investigations (e.g. network enhancements/changes and catchment measures) and once more knowledge is gained, other types of options will be considered with adaptive planning.</p>	A

Area of Review	Score	Audit Summary	Proposed actions (open)	Expected score at submission of draft plan if all actions resolved
Demand Options Model	A	<p>This assurance audit reviewed updates to the Water Resources South East (WRSE) Demand Management Options (DMOs) for Water Resources Management Plan 2024 (WRMP24). Actions following the March 2023 audit were checked in addition to data and verifying the PRT options, assumptions and scenarios align with the other companies within WRSE.</p> <p>The approach taken for the DMOs is reasonable and consistent with the recently issued Water Resources Planning Guideline (WRPG) (published April 2023). The company confirmed the government-led C+ policy scenario has been chosen for the model and this has been applied to the figures (in line with WRSE). In addition, alongside WRSE companies, the climate change model predictions on supply have been applied to the WRMP. Targets set within the Environmental Improvement Plan (EIP) are largely expected to be met however there is a lag in PCC targets being achieved between 2025 and 2037. This is due to the limited current installation of smart meters in the PRT area. The PCC targets from 2037/38 onwards are expected to be met. It is suggested that the commentary supporting the submission is clear in the justifications for not meeting the 2026/27 and 2031/32 dates. It is noted that PRT have been awarded accelerated funding for smart meter roll out ahead of 2025.</p>	<p><u>Non- Material</u></p> <p>It is suggested that the commentary supporting the submission is clear in the justifications for not meeting the 2026/27 and 2031/32 targets set in the EIP.</p> <p>It is recommended that PRT include commentary on this figure, with references to industry meetings where applicable to justify the assumptions on % loss reduction. It is suggested that, to ensure a consistent approach, the 50% figure is reviewed with WRSE companies to ensure PRT are aligning on the leakage loss reductions being assumed by smart meters.</p> <p>It is recommended that the submitted commentary clearly outlines the variation on the dry year modelling with PRT working to a one in 20 year rather than a one in ten dry year. It is suggested that PRT include a forward look towards WRMP29 and the incorporation of the one in ten dry year probability. Across all submitted documents within the WRSE template, labelling stating one in ten year should be either amended or a comment included on the cell to make it clear that the data shown are for a one in 20 dry year.</p> <p>It is suggested that the company consider adding a change control log for the 'PR24 costs and units' spreadsheet to record updates.</p>	A

Area of Review	Score	Audit Summary	Proposed actions (open)	Expected score at submission of draft plan if all actions resolved
		<p>The scenarios proposed align with Ofwat long-term delivery strategy (LTDS) requirements and core reference scenarios (CRS). PRT have additionally ensured the WRMP aligns with the company's business case and plans for the LDTS and any alternative pathways that may be triggered or decided upon. The team are in regular liaison with the PRT LTDS and business case groups.</p> <p>Key assumptions were reviewed during the audit particularly the percentage of internal plumbing leakage reductions expected through the smart meter roll out. It is suggested that this 50% figure is clearly justified in the submitted commentary making reference to the available industry information and the PRT data on plumbing losses and supply pipe leakage being used to determine this figure.</p> <p>The team had a well-structured and up to date control log and sign off procedure associated with the Demand Model. Internal checks, sensitivity testing and third party assurance formed the review process. It was suggested during the audit that to enhance the audit trail the company may want to consider a change control log for the PR24 costs and units spreadsheet as currently changes are made based on email communication with no centralised record log held within the spreadsheet.</p>	<p>Ensure review outcomes and sign-off is documented to support the audit trail.</p>	



Area of Review	Score	Audit Summary	Proposed actions (open)	Expected score at submission of draft plan if all actions resolved
		A RAG score of A is assigned as no material, high risk issues were identified. With the exception of ensuring the submitted commentary is clearly justifying some of the key assumptions and data formats outlined below (e.g. Smart Metering improving internal plumbing losses by 50% and figures based on 1 in 20 dry year probability) all checks were satisfactory.		

Table 3. Phase 2: Data Assurance Assessments

Area of Review	Score	Audit Summary	Proposed actions (open)	Expected score at submission of draft plan if all actions resolved
Ofwat Template Tables for Ofwat Submission	B	Assurance checks were made on the Ofwat template tables 2A, 2C, 8B, 8C, 8E. Checks were completed using the Demand Model, the WRSE Input Template and several supporting spreadsheets to trace data back to source. Most data checks completed were found to be correct and matching WRSE and demand model spreadsheets. However, there were some data discrepancies between the tables that need to be reconciled by the company. These related to the application of the government led intervention in the WRSE template and the inflation rate used within the Ofwat template. In addition to this, the split between base and enhancement against the different options should be justified	<p><u>Potentially Material</u></p> <p>Review the data (Tables 2a and 2c in particular) with the aim of resolving the government led interventions discrepancy between the WRSE template and Demand Model. Ensure the corrections are followed through onto the PCC and DI figures.</p> <p><u>Non-Material</u></p> <p>It is suggested that the commentary supporting the submission is clear in the justifications for not meeting the 2026/27 and 2031/32 targets set in the EIP.</p>	A

Area of Review	Score	Audit Summary	Proposed actions (open)	Expected score at submission of draft plan if all actions resolved
		<p>within a supporting document that could be referenced. Some potentially material and material actions were raised, and these have been detailed in the feedback report to the company. Jacobs expects to complete further assurance on the data before the WRSE submission in August 2023. The score for the Ofwat submission has been given a 'B' as it is understood that all material actions are now resolved (as of 31/07/23). The 'C' score for the WRSE template data is linked to the potentially material and material actions that need to be resolved before the August submission.</p>	<p>Ensure review outcomes and sign-off is documented to support the audit trail.</p> <p>It is suggested that commentary on this is included within the Water Efficiency appendix to ensure that the regulator understand the reasons for non-household PCC increases and the anticipated review at WRMP 29. Address the comments made by Jacobs within the Water Efficiency and Leakage appendices.</p> <p>It is recommended that the commentary text includes reference to this table explaining that the figures are not '0' values and should be read at 2dp.</p>	
WRMP24 Template Tables for Environment Agency Submission	B	<p>Data tables to be submitted to the Environment Agency on the 31 August 2023 are completed and checks have not identified any material errors. The company and associated partners (Atkins) have a good understanding of the data input and table links across WRSE input tables and the company Demand Model.</p> <p>Some minor non-material issues were identified which have been outlined below in the Action Log and which the company should aim to resolve before submission.</p>	<p><u>Non- Material</u></p> <p>Rounding issue identified within Table 7 which affects the third decimal place figure. This issue is associated with the WRMP24 Template rather than the PRT data. Consider correcting this rounding issue when values are copied across from WRMP24 Template to EA Template.</p> <p>Resolve discrepancy with data via a manual data update to align table 4 and 5 for the year start and maximum gains achieved. PRT to contact WRSE to check the 1.8921 value is correct.</p>	A

Area of Review	Score	Audit Summary	Proposed actions (open)	Expected score at submission of draft plan if all actions resolved
			<p>Resolve discrepancy with data via a manual data update to align table 4 and 5 for maximum gains achieved in 2021/22 (this year reflects the highest benefit of the option).</p> <p>PRT_PRT_200_los resilience in Table 5a does not appear in the costing profiles. This option has no cost associated with it. Consider adding into table 5a cost profile with nil values for completeness.</p> <p>Speak to WRSE to understand whether PRT need to complete table 5b cost profiles as no options are greater than £100M individually. In addition, check the use of the high + basket and the medium baskets listed</p>	