TMS-DD-057
WINEP7 Carryover

Contents

1 Summary

1.1 Purpose of this document

This document provides an update to the document "TMS13 – Completion of our AMP7 WINEP", submitted to Ofwat in our October 2023 submission of our PR24 Business Plan.

The total cost to complete WINEP7 schemes across the water and wastewater price controls in AMP8 is estimated to be £1,726m (22/23 prices). Of this, we set out our case for a forecast totex allowance of £1,181m (22/23 prices) to be included in the PR24 Final Determination. Our forecast therefore includes a material level of cost efficiency / risk that Thames Water is prepared to accept in AMP8 and has incurred in AMP7. However, we feel this request is fair and reasonable considering the level of change beyond management control that we could have envisaged when accepting the PR19 Final Determination.

1.2 Summary of this enhancement case

In our original TMS13 document, we explained that Thames Water had an allowance of £474m (2017/18 prices) to deliver our WINEP7 programme, with potential to unlock a further £198m (2017/18 prices) through a midnight regulated capital value (RCV) adjustment. We also explained that we will not deliver all the WINEP7 schemes by the end of AMP7 and that the AMP7 allowances are insufficient due to macroeconomic conditions, change in regulatory requirements, increases in population growth projections in our densely populated region and changes in scope of the schemes. We made a case for £1,134m (22/23 prices) additional funding to complete the remaining WINEP7 schemes.

In its PR24 Draft Determination, Ofwat has allowed £424m of the £1,134m requested. Our updated case, presented here, is that we require £1,181m (22/23 prices) to complete the remaining WINEP7 schemes. This document sets out our case for the full additional funding to complete the WINEP7 schemes.

Note that there are currently 812 schemes within the full WINEP7 programme[1]. Of these, 122 will be completed beyond AMP[2]. These schemes are listed in Annex 1.

Each scheme has a "WINEP driver" that is assigned by the Environment Agency (EA) and describes the core obligation and the action, or output required. For example, a scheme with a U_IMP5 driver is required to meet the Urban Waste Water Treatment Regulations (UWWTR) requirements and the output is to increase flow to full treatment (FFT) at a Sewage Treatment Works (STW). Within Thames Water, we deliver multiple schemes at a single site (e.g. an STW) by grouping all schemes at that site into a single project to maximise delivery efficiencies.

1.3 Outline of this document

[1] This is the total number of schemes in the WINEP7 programme that have funding allowance from Ofwat in PR19. There are WINEP6 schemes that carried over to our AMP7 programme that are not included in this number.

[2] Note that of the total number of schemes forecast to complete in AMP8, 3 of these have AMP8 deadlines agreed with the EA since the start of AMP7.

This enhancement case document is set out as follows:

- Section 2 provides an outline of what we were funded for in our PR19 Final Determination (FD) for WINEP7.
- Section 3 sets out our current forecast for our spend on WINEP7 in AMP7 and AMP8.
- Section 4 sets out the reasons for the cost increases to deliver the WINEP7 programme.
- Section 5 provides a breakdown of the requested funding.
- Section 6 provides some examples of projects where there has been significant cost increase since PR19, explaining the reasons for these cost increases.
- Section 7 provides some concluding remarks.

2 Outline of our PR19 submission and Final Determination

2.1 PR19 submission and Final Determination cost breakdown

Most of the schemes in our WINEP7 programme were agreed with the EA at the time of submission of our PR19 Business Plan and therefore were funded at PR19 without any uncertainty mechanism (these were the "green" schemes in plan). Part of our PR19 WINEP programme was, however, funded through two uncertainty mechanisms as, at the time of the FD, the EA was not able to confirm the schemes that needed to be delivered. The first uncertainty mechanism (uncertainty mechanism one; amber schemes in plan) included funding for schemes at PR19 but allowed funding to be clawed back if they were not delivered. The second uncertainty mechanism (uncertainty mechanism two; amber schemes not in plan) provides additional funding if we deliver 27 additional schemes from a preset list.

Table 1 sets out our PR19 submission and Ofwat's allowances via its FD and uncertainty mechanism.

Our PR19 business plan requested £555m (17/18 price base, or £655m in 22/23 price base) to deliver AMP7 WINEP requirements excluding amber schemes not in plan. Ofwat's PR19 FD was set 15% lower, at £474m (17/18 price base, or £560m in 22/23 price base).

During the first year of AMP7, the 27 additional schemes (amber schemes not in plan) that were not included in the FD, were agreed as outputs to be delivered. Using the agreed uncertainty mechanism unit rates this has the potential to unlock up to a further £198m (2017/18 prices, or £233m in 22/23 price base) through a midnight RCV adjustment.

This means that the original Ofwat allowance for PR19 FD and uncertainty mechanism two (amber schemes not in plan) totals £672m (17/18 prices, or £793m in 22/23 price base).

Table 1 WINEP7 PR19 submission, final determination and uncertainty mechanism allowances

£m, 22/23 prices	Water Total	Waste Total	Total Water and Waste
PR19 Thames Water submission (green and amber in plan)	205	450	655
PR19 Thames Water submission (amber not in plan)	-	-	-
Total – Thames Water PR19 submission	205	**450**	**655**
PR19 Ofwat final determination allowance (green and amber in plan)	172	387	560
Ofwat allowance for uncertainty mechanism for Amber schemes (amber not in plan)	-	233	233
Total – Ofwat PR19 allowance	**172**	**621**	**793**

Table 2 and Table 3 provide the detailed cost breakdown for our PR19 submission and Ofwat's PR19 FD and uncertainty mechanism two. This provides a breakdown of costs by scheme drivers.

Table 2 WINEP7 PR19 submission and final determination: detailed cost breakdown, £m

	17/18			22/23		
Driver	Business plan submission	Modelled allowance	Post efficiency allowance	Business plan submission	Modelled allowance	Post efficiency allowance
Conservation drivers	5.9	5.9	5.3	7.0	7.0	6.3
Event Duration Monitoring	2.5	2.8	2.5	3.0	3.3	3.0
Flow monitoring at STW	22.9	13.5	12.2	27.1	15.9	14.4
Schemes for FFT	81.1	75.3	68.1	95.7	88.9	80.4
Storage at STW	30.7	52.1	47.1	36.2	61.5	55.6
Chemical removal schemes	10.2	8.7	7.8	12.0	10.2	9.3
Chemical investigations	4.1	4.1	3.7	4.8	4.8	4.3
Wastewater Investigations	1.6	1.6	1.4	1.8	1.8	1.7
P removal	156.9	133.6	120.8	185.2	157.8	142.7
Reduction in Sanitary parameters	65.3	65.3	59.0	77.1	77.1	69.7
Total Wastewater	**381**	**363**	**328**	**450**	**428**	**387**
WINEP / NEP ~ Making ecological improvements at abstractions	27.9	26.2	26.2	32.9	30.9	30.9
WINEP / NEP ~ Eels Regulations (measures at intakes)	0.4	0.4	0.4	0.5	0.4	0.4
WINEP / NEP ~ Invasive non-native species	4.8	4.5	4.5	5.6	5.3	5.3
WINEP / NEP ~ Drinking Water Protected Areas	20.8	19.5	19.5	24.5	23.0	23.0
WINEP / NEP ~ Water Framework Directive measures	119.8	95.4	95.4	141.4	112.7	112.7
Total Water	**174**	**146**	**146**	**205**	**172**	**172**
Total Wastewater and Water	**555**	**509**	**474**	**655**	**601**	**560**

Table 3 WINEP7 PR19 uncertainty mechanism two (27 amber schemes not in plan): detailed cost breakdown

Unique ID * (completed on company collation)	Scheme Name/Name of Investigation/Site Name/Licence name	Driver Code (Primary)	In PR19 FD	Permit (mg/l)	PE	PR19 WINEP totex £ rate/PE	Recoverable amount (17/18 £m)	Recoverable amount (22/23 £m)
7TW200749	BURGHFIELD STW	WFD_IMPm	No	0.25	8,100	754	6.1	7.2
7TW200693	Haslemere STW	WFD_IMPg	No	0.25	17,600	438	7.7	9.1
7TW200764	HARTLEY WINTNEY STW	WFD_IMPm	No	0.25	27,900	438	12.2	14.4
7TW200712	RIPLEY STW	WFD_IMPg	No	0.25	24,200	438	10.6	12.5

7TW200733	WISLEY STW	WFD_IMPg	No	0.25	27,300	438	12.0	14.1
7TW200737	ALTON STW	WFD_IMPm	No	0.25	34,800	147	5.1	6.0
7TW200096	BRENTWOOD SEWAGE TREATMENT WORKS	WFD_IMPm	No	0.25	42,300	147	6.2	7.3
7TW200659	BORDON STW	WFD_IMPg	No	0.25	49,000	147	7.2	8.5
7TW200121	CHESHAM SEWAGE TREATMENT WORKS	WFD_IMPm	No	0.25	37,900	147	5.6	6.6
7TW200734	WOKING STW	WFD_IMPg	No	0.25	90,100	55	5.0	5.9
7TW200122	BLACKBIRDS SEWAGE TREATMENT WORKS	WFD_IMPm	No	0.25	91,900	55	5.1	6.0
7TW200691	GUILDFORD STW	WFD_IMPg	No	0.25	120,500	55	6.6	7.8
7TW200103	LUTON (EAST HYDE) SEWAGE TREATMENT WORKS	WFD_IMPm	No	0.25	201,600	55	11.1	13.1
7TW200123	MAPLE LODGE SEWAGE TREATMENT WORKS	WFD_IMPm	No	0.25	575,300	55	31.6	37.4
7TW200756	CRONDALL STW	WFD_IMPm	No	0.3	2,500	1500	3.8	4.4
7TW200156	Burstow wwtw	WFD_IMPm	No	0.3	11,100	754	8.4	9.9
7TW300093	Hockford STW	WFD_IMPg	No	0.3	10,500	754	7.9	9.3
7TW200687	GODALMING STW	WFD_IMPg	No	0.3	37,600	147	5.5	6.5
7TW200104	HARPENDEN SEWAGE TREATMENT WORKS	WFD_IMPm	No	0.3	40,100	147	5.9	7.0
7TW200760	FARNHAM STW	WFD_IMPm	No	0.3	50,400	147	7.4	8.7
7TW200761	FLEET STW	WFD_IMPm	No	0.3	66,400	147	9.8	11.5
7TW200676	CRANLEIGH STW	WFD_IMPg	No	0.4	24,800	193	4.8	5.7
7TW200120	BERKHAMSTED SEWAGE TREATMENT WORKS	WFD_IMPm	No	0.4	26,900	193	5.2	6.1
7TW200682	DORTON STW	WFD_IMPg	No	0.5	200	2734	0.5	0.6
7TW200714	SHAMLEY GREEN STW	WFD_IMPg	No	0.7	6,000	343	2.1	2.4
7TW200743	BENTLEY STW	WFD_IMPm	No	0.9	4,100	474	1.9	2.3
7TW200105	HATFIELD (MILL GREEN) SEWAGE TREATMENT WORKS	WFD_IMPm	No	1	31,800	78	2.5	2.9
						Total	**198**	**233**

3 Our expenditure on WINEP7 in AMP7 and AMP8

3.1 Cost breakdown

In our original TMS13 document (October 2023 submission of our PR19 business plan) we explained why we will not deliver all WINEP7 schemes in AMP7. This was not the first time that we had communicated with our regulators to explain we are forecasting delays to our WINEP7 programme. In June 2022, we met with the EA to explain that, at that time, we were forecasting delays to 10 WINEP schemes, with delivery in AMP8. We highlighted that a further 18 schemes were at risk of delay to AMP8.

We wrote to Ofwat, the Environment Agency and other stakeholders on 10 August 2023 to provide details of the cost pressure to the WINEP7 programme and the delay of 98 schemes to AMP8. We have quarterly meetings with Environment Agency Area Directors to update them on the progress of the WINEP programme[3], and, since June 2023, we have provided monthly updates to the Environment Agency of our forecast completion dates for schemes with late forecasts, including updates to the total number of schemes with AMP8 completion forecasts.

Our total spend on WINEP7 schemes in AMP7 and AMP8 is set out in Table 4. We have £793m allowance to complete WINEP7. We are forecasting to spend £601m in AMP7 on WINEP7 and the WINEP6 carryover (with a quality driver). We forecast that to complete WINEP7 we need an additional £1,181m in AMP8. We have factored in efficiency savings into our forecast of additional funding (see Section 5.2).

The breakdown of the requested £1,181m in our PR24 is presented in data tables CW3 and CWW3 and further explanation is provided in Section 5.2.

Table 4 WINEP7 funding and spend across AMP7 and AMP8

£m, 22/23 prices	AMP7	AMP8	Total
Calculated Ofwat allowance	369*	424	793
Thames Water's forecast spend	601***	1,725	2,326
AMP7 realised programme risk	232	-	232
AMP8 efficiency challenge	-	292	292
Not included in forecast totex allowance	-	253	253
Thames Water's requested funding	369	1,181**	1,550

*Notes: * £369m = £793m - £424m (i.e. the calculated allowance for AMP7 is the total PR19 allowance minus the total claw-back and unclaimed costs under uncertainty mechanisms one and two), see Section 3.2. ** Our PR24 submission for WINEP7 carry over funding is a request for £1,181m. ***Total WINEP annual return and CWW/CW3 tables in 22/23.*

As we can see in Table 4, our total requested funding of £1,550m across AMP7 and AMP8 is £776m less than the forecast cost to Thames Water of delivering the WINEP7 programme. We

[3] We also have monthly meetings with the Environment Agency WINEP leads.

will shoulder a £232m (£601m minus £369m) realised risk in AMP7 and a £292m challenge in AMP8. We believe this cost pressure is our responsibility to accept, having accepted the PR19 FD. The remaining £1,181m is requested in our PR24 business plan submission as it is fair and reasonable to request additional funding for the substantial additional scope that could not have been foreseen at PR19 FD.

3.2 Ofwat's Draft Determination for PR24

In its Draft Determination for PR24, Ofwat has allowed £424m for the completion of the WINEP7 programme. This allowance provides funding for schemes where the PR19 allowance has either been clawed back for non-delivery in PR19 (uncertainty mechanism one), or not provided in PR19 as the proposed scheme has not been delivered (uncertainty mechanism two).

Ofwat has not allowed additional funding for all uncompleted PR19 WINEP actions above those identified in uncertainty mechanisms one and two. It considers that these actions have already been funded in PR19 and that the risk of cost escalation is for Thames Water to bear. We set out the reasons why funding for these costs should be allowed in AMP8 in Section 4.

This means that the assumed total allowance that Ofwat has determined in draft for the delivery of WINEP7 is £793m, which is unchanged from its PR19 FD and uncertainty mechanism two, as set out in Table 4.

4 Reasons for WINEP7 delays and cost increase

A number of factors have contributed to the cost increase in AMP7 WINEP. This section provides a summary of the key reasons for the cost escalation, including flow to full treatment and storm tank increase assumptions, unfunded growth, scope changes, inflation, and other project risks. Annex 1 lists all schemes with carry over to AMP8.

4.1 Flow to full treatment increase (U_IMP5)

The EA guidance[4] on the standard approach for the calculation of flow to full treatment (FFT) is that the normal minimum setting should be FFT = 3 PG + I_{max} + 3E, where P is catchment population, G is per capita domestic flow, I_{max} is infiltration and E is trade effluent. The guidance allows provision for exceptions to this standard calculation approach by allowing for an evidence-based approach in circumstances where an alternative approach can be justified.

In previous AMPs, Thames Water has applied an evidence-based approach to the calculation of FFT at all sewage treatment works, to meet environmental needs for the most efficient cost for our customers. This included disregarding outlier exceptionally high infiltration values when setting I_{max}, using population forecasts to set "P" and in some cases using a lower multiplier than 3. We discussed our approach with the EA and in June 2020 it agreed in principle that this approach would meet its requirements. It was therefore reasonable for us to assume, when we accepted the PR19 FD, that we could apply an evidence-based approach to the calculation of FFT in AMP7.

In AMP7, however, the EA has applied more challenge and expected more evidence to justify any deviation from the use of the 3PG+I_{max}+3E method than it has done in previous AMPs. This has meant that we have had to adopt the 3PG+I_{max}+3E method across the FFT programme, including using extreme outliers to set I_{max}, using P based on maximum DWF permits, irrespective of population forecasts and no deviation from using the 3 multiplier. This resulted in a significant scope increase, taking programme increase in FFT from 1,431 litres per seconds as assumed at PR19 to 2,421 litres per second (+69%), increasing our costs by approximately 40% for the U_IMP5 AMP7 programme. This change required adjustments to our designs, leading to project delays, additional scope revisions, and increased costs. This assessment does not include other cost increases due to inflation for example and consequences for other scope items, it only includes the direct cost increases due to changes in the calculation of the FFT.

Applying these revised costs and FFT increases into Ofwat's PR19 cost model for FFT indicates that if these numbers were known in time for PR19 Ofwat's model would have allowed £96.9m of the requested £114.5m (17/18 prices, £114.4m of requested £135.2m in 22/23 prices) before the "WINEP in the round" aggregator adjustment was applied. After this adjustment is applied, this equates to an increase in allowance of £19.5m (17/18 prices, £23.1m in 22/23 prices).

[4] Published here: Water companies: environmental permits for storm overflows and emergency overflows - GOV.UK (www.gov.uk).

In summary:

- By updating the increase in FFT by 69% to meet new requirements, the overall FFT programme cost is £135.2m in 22/23 prices. This is approximately a 40% cost increase compared to the final determination allowance.
- If the revised FFT requirements were known for PR19, Ofwat's models indicate the allowance would have been £23.1m higher (22/23 prices).

4.2 Storm tank capacity increase (U_IMP6)

Similar to FFT requirements, the variables used to scope and price our AMP7 storm tank schemes were subsequently challenged by the EA after FD19, resulting in a significant increase in additional volume required. Our submitted scope requirements had made allowances for proportions of the network that were on separate sewerage systems (we considered that the storm flow was not "connected" and therefore not contributing to storm storage requirements) and for local populations/forecasts. After the FD, the EA clarified that the design should be based on all population equivalent (PE) and should be based on maximum dry weather flow (DWF) permit equivalent PE, not current PE. Through negotiation, the EA later agreed population trigger thresholds for excess storm tank volumes where there was material difference between the current PE and the DWF_{max} equivalent PE.

Consequently, the required storage volumes we need to install have more than doubled from the scope submitted at PR19, increasing from 34,232m^3 to 71,767m^3, increasing costs to approximately 80% more than allowed for (£207.7m in 17/18 prices, £245.3m in 22/23 prices).

Applying these revised costs and storm tank volume increases into Ofwat's PR19 cost model for storm tanks indicates that if these numbers were known in time for PR19 Ofwat's model would have allowed £127.4m (17/18 prices, £150.4m in 22/23 prices) before the "WINEP in the round" aggregator adjustment was applied. After this adjustment is applied, this equates to an increase in allowance of £68.1m (17/18 prices, £80.4m in 22/23 prices).

In summary:

- By updating the increase in storage volumes by 210% to meet new requirements, the overall storm tank programme cost is £245.3m in 22/23 prices. This is approximately an 80% cost increase compared to the final determination allowance.
- If the revised storm tank requirements were known for PR19, Ofwat's models indicate the allowance would have been £80.4m higher (22/23 prices).

Specific examples of how storage requirements have increased, including the most extreme case at Hogsmill STW are presented in Section 6.

4.3 Inflation

There have been a range of macroeconomic events that have impacted all of the water industry during AMP7. The impact of these macroeconomic events has been that the cost of inflation has far outstripped the CIPH allowance applied to the funding for AMP7.

Thames Water commissioned Mott MacDonald to review the real-term inflationary pressures faced by Thames Water in AMP7 and compare them with inflation rates for the Consumer Price Index (CPI), Retail Price Index (RPI), and Consumer Prices Index including owner occupiers' housing costs (CPIH). The work specifically considered the typical “basket of goods” that Thames Water requires to deliver its AMP7 programme. The report concludes that the cost of inflation to Thames Water’s AMP7 programme upon AMP7 exit is 11% greater than CPIH.

4.4 Changes in scope and project risks

TMS13 lists multiple drivers of cost increase due to scope changes and project risks that could not reasonably have been foreseen in 2018 when our PR19 business plan was submitted or when we accepted the PR19 final determination. These are:

- Limited space on sites has led to temporary works and unforeseen land acquisition/land access requirements whilst we complete more technically complex upgrade works (see for example, Kingston Bagpuize STW in Section 6.6).
- New AMP7 contractor frameworks alongside the impact of COVID-19 resulted in a slower start to the AMP, delaying projects and driving cost increase due to the increased inflation.
- There have been several revisions to population projections (SOLAR) data on projects resulting in change - delaying projects and increasing the scope (see specific examples in Section 6).
- Changes in scope on projects following consultation with the EA resulting in further design work and investment. For example, across a number of sites the EA has requested significant additional storm tank volumes.
- In discussions with the EA when securing new permits, increases in flow to full treatment above what was originally forecast, have been needed (see Section 4.1).
- The cost of phosphorus (P) removal schemes that are delivering the tightest consent levels (of less than 1 mg/l) does not appear to be accurately reflected in Ofwat PR19 econometric models. The projects to deliver the most ambitious P removal are considerably more complex to deliver than envisaged at PR19.
- The increase in capital maintenance and expansion of site power and control infrastructure to accommodate scope changes as a result of changed assumptions to meet EA requirements and/or changes population growth forecasts, has caused both delays and cost escalation across the WINEP7 programme.

Section 5 describes the level of impact these issues have had on costs in more detail.

5 Breakdown of the requested funding for WINEP7 in our PR24 plan

5.1 Setting out the costs at sub-programme level

The costs that we set out at the programme level in Sections 2 and 3 are presented at the sub-programme level in this section and we demonstrate the reasons for the additional funding request.

Table 5 shows the breakdown of our PR19 FD and our requested funding in PR19. We assume, for the purposes of this exercise, that the funding we would have requested for the amber schemes not in plan (uncertainty mechanism two) would have been equal to the Ofwat FD allowance (see Table 1). It also shows the additional funding that we would have requested (see column "Change in regulatory approach") had we foreseen the changes in regulatory approach to requirements for storm tanks and FFT. The explanation for the changes in regulatory approach for these two drivers is set out in Sections 4.1 and 4.2.

Table 5 shows that Ofwat's allowance in the PR19 FD was £95m less than the requested funding (£888m-£793m=£95m). It also shows that we would have asked for an additional £103m if we had foreseen the change in regulatory approach for storm tank and FFT requirements and as a result. This £103m was unfunded in Ofwat's PR19 FD.

Table 5 WINEP7 sub-programme costs at PR19, 22/23 prices

Water/Waste	Sub-programme	Ofwat PR19 FD £m	Thames Water PR19 request £m	Change in regulatory approach £m	Revised Thames Water PR19 request £m
Waste	P programme	376	419		419
Waste	Storm tanks	56	36	80	116
Waste	FFT	80	96	23	119
Waste	Other	109	133		133
Water		172	205		205
Total – quality drivers		**793**	**888**	**103**	**991**

Table 6 shows the breakdown of other unforeseen costs that have had a substantial impact on the WINEP7 programme. Firstly, inflationary pressures have driven up the costs of delivering projects and with inflation at 11% above CIPH (see Section 4.3) for Thames Water. The cost of the inflation impact across the programme is £109m when this uplift is applied to the "Revised Thames Water PR19 request" costs from Table 5.

We can see that the forecast cost of delivering the WINEP7 phosphorus programme is £879m (Table 7) across AMP7 and AMP8, compared to a PR19 allowance of £376m (Table 5). The second factor considered in Table 6 is the under-prediction of Ofwat's phosphorus programme cost models at PR19. The PR24 DD has applied approximately a one third reduction to our requested WINEP8 phosphorus programme. Our requested WINEP8 phosphorus programme costs were built up from Thames Water's cost model estimates that are developed from the

actual cost of delivering projects and outputs. Applying a one third uplift to Ofwat's PR19 allowance for the P programme, to account for the difference in Ofwat cost models between PR19 and PR24, gives an additional £125m that would have been funded at PR19 had Ofwat's PR24 cost model been used. See document TMS-DD-038 (see section 3.2.2.3) for further explanation on this.

Table 6 WINEP7 sub-programme costs: other unforeseen costs, 22/23 prices

Water/Waste	Sub-programme	Inflation above CIPH at 11% £m	Under-prediction of P programme cost models £m
Waste	P programme	46	125
Waste	Storm tanks	13	
Waste	FFT	13	
Waste	Other	15	
Water		23	
Total – quality drivers		**109**	**125**

Table 7 provides the breakdown of forecast costs for WINEP7. Our total WINEP7 costs are 47% higher than our original request in PR19, reflecting the scale of the unforeseen impacts on programme costs. It shows that our forecast cost of WINEP7 quality drivers in AMP8 is £1,306m. It also shows that there are AMP8 growth costs of £231m included in our WINEP7 carry over costs and are not claimed elsewhere in our PR24 growth enhancement case. There is £174m capital maintenance to enable the delivery of the larger WINEP7 programme and £14m other costs associated with delivering the WINEP7 carry over projects.

Table 7 WINEP7 sub-programme forecast costs, 22/23 prices

Water/Waste	Sub-programme	AMP7 forecast costs £m	AMP8 forecast costs £m	Total AMP7/8 forecast £m	Variance to original request £m	% cost increase
Waste	P programme	189	690	879	460	52%
Waste	Storm tanks	98	152	250	134	54%
Waste	FFT	120	154	274	155	57%
Waste	Other	61	136	197	64	33%
Water		32	174	206	1	1%
Total – quality drivers		**500**[5]	**1,306**	**1,806**	**815**	**45%**
AMP8 Growth Not included in AMP8 EC Plan			231			

[5] Note that £500m is the forecast cost of the WINEP7 programme in AMP7. It is different from the £601m number provided in Table 4 because the £601m number includes the WINEP6 carry over in AMP7, as per the data tables provided.

Capital Maintenance to enable delivery of larger WINEP programme		174			
Other Costs		14			
Total AMP8 costs to complete Programme		**1,725**			
Thames Water efficiency challenge & cost not included in forecast totex allowance		(544)			
PR24 enhancement case request for WINEP7 carry over		**1,181**			

5.2 Cost build-up of the requested funding

The drivers of costs that build-up to the requested funding for PR24 of £1,181m are presented in Table 8 and shown in Figure 1. This explains that these costs are attributed to:

1. The difference between Ofwat's PR19 FD and Thames Waters PR19 requested funding. This accounts for £95m. See Table 5 for the detailed breakdown of this.
2. The change in regulatory approach for the calculation of FFT and storm tank requirements accounts for £103m. The explanation for the changes in regulatory approach for these two drivers is set out in Sections 4.1 and 4.2.
3. The impact of inflation is estimated by external experts to be 11% above CPIH (see Section 4.3) and this accounts for £109m.
4. The phosphorus programme allowance has been based on Ofwat's PR19 cost models and it is estimated that this allowance would be £125m greater using the PR24 cost models, which would be appropriate given the phosphorus programme is substantially part of the carry over to AMP8.
5. The impact of growth in AMP8 on the scope of the WINEP7 schemes is substantial, as we can see with our example of Oxford STW (see Section 6.2). This accounts for £231m across the WINEP7 carry over programme and has not been funded in PR19 or elsewhere in the PR24 business plan. This includes a number of sites where the design horizon has been extended to 2041 (Oxford STW and Maple Lodge STW in particular)
6. The delivery of a large WINEP7 programme driven by scope increase has led to an increase in capital maintenance base costs required to support the greater amount of capital works and larger kit etc. This accounts for £174m.
7. There is an additional £887m cost pressure to the WINEP7 programme carry over to AMP8, which is driven by the multiple factors driving scope change and project risks, as described in Section 4.4. We could not have reasonably foreseen or planned for many of these issues and therefore propose that the scale of this pressure is beyond the level of risk we could have knowingly accepted at PR19. We will accept a challenge to find £292m of the £887m cost pressure. We are requesting funding for £342m, with the remaining £253m we expect to incur but not including in the forecast totex allowance. This represents a substantial level of challenge to us and will provide cost efficiency for our customers. For clarity, the £342m will include cost pressure from the supply chain market driven by changes in regulation. For example, changes in the calculation of FFT (as point 2 above) which equates to a modelled allowance of £23m across the programme, but noting that bottom-up cost estimates for Oxford STW alone are £25m (see Section 6.2).

8. The sum of these sources of cost is £1,181m, which is our request for WINEP7 carry over funding in our PR24 business plan.

Table 8 Cost build-up to £1,181m

Ref	Description	Cost £m
1	Difference between PR19 FD and Thames Water's PR19 submission	95*
2	Change in regulatory approach for calculation of FFT and storm tank requirements	103
3	Inflation above CPIH	109*
4	P programme – difference between PR19 and PR24 cost models	125*
5	AMP8 growth not included elsewhere in PR24 business plan	231
6	Capital maintenance to enable delivery of a larger WINEP	174
7	£887m cost pressure of which Thames Water challenges itself to find efficiencies of £292m. With £253m not included in the F/C totex allowance	342
8	Total	1,181

*Notes: *Numbers rounded down for table presentation, hence total is £1,181m not £1,180m. All figures in 22/23 prices.*

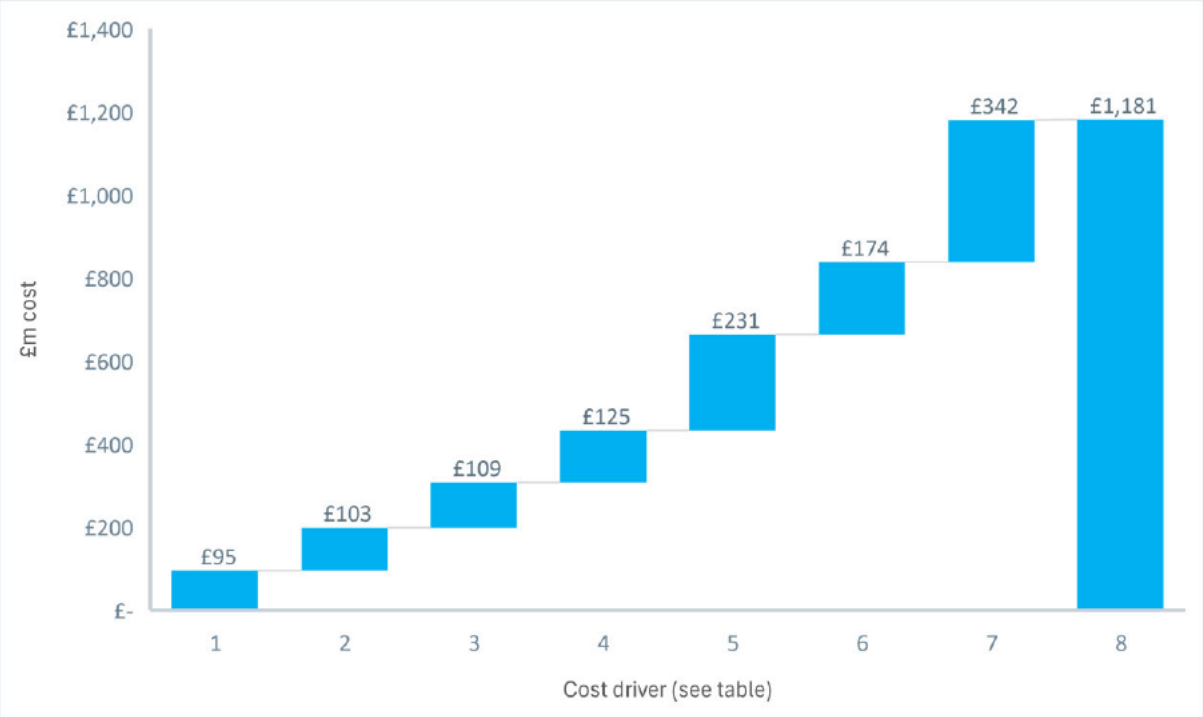

Figure 1 Cost breakdown of the requested £1,181m for WINEP7 in our PR24 plan. All figures in £m, 22/23 prices.

As noted in Section 3, our requested funding of £1,181m in AMP8 for the WINEP7 carry over represents a position whereby we have accepted a material shortfall in funding for WINEP7 across both AMP7 and AMP8 due to the risks we carried in accepting the PR19 FD.

In its PR24 DD, Ofwat has allowed £424m for the completion of the amber schemes in the WINEP7 programme (see Section 3.2), which are not already funded in the assumed PR19 funding allowance. This case demonstrates that the full amount of the £1,181m funding we are requesting for completion of WINEP7 in PR24 has not already been funded in PR19 and is over and above the risk that it was reasonable and fair for us to take when accepting the PR19 FD.

7 Conclusion

Our response to the Draft Determination incudes a forecast of totex in AMP8 to complete the delivery of WINEP7. The cost pressures experienced in AMP7 mean that although we will spend all our PR19 allowance for WINEP7, we will not complete delivery of all outputs. The allowance being requested through PR24 will allow the completion of the AMP7 WINEP and fund the additional requirements that have arisen through the detailed development and design of the solutions needed to meet the AMP7 WINEP outputs.

Ofwat's Draft Determination provides funding in PR24 for WINEP7 schemes where the PR19 allowance has either been clawed back or not claimed in PR19 via the uncertainty mechanisms. Ofwat has not allowed *additional* funding for any of the WINEP7 schemes that will carry over to AMP8. We set out the reasons for the cost escalation across the WINEP7 programme and make the case that the cost escalation is driven by external factors that are beyond fair and reasonable that as a business we could have planned for when accepting the PR19 FD, as set out in Section 4. Our requested funding of £1,181m in AMP8 for the WINEP7 carry over represents a position whereby we have accepted a material shortfall in funding for WINEP7 due to the risks we carried in accepting the PR19 FD (see Section 3).

We note that Ofwat's PR24 Draft Determination proposes to accompany any funding for WINEP7 carry over with a PCD. As these are statutory obligations, there is no need to protect customers from non-delivery, and customers are already protected from late delivery with the common Performance Commitments on STW compliance, River Water Quality and Storm Overflows in AMP8. Therefore we propose that no additional PCD is required.

Annex 1: WINEP7 schemes that will carry over to AMP8

Table 22 WINEP7 waste schemes that will carry over to AMP8

SAP code	Project	WINEPID	Scheme ID	Forecast Scheme Completion
K444.01	Alton STW	THM00575	7TW200737	21/12/2026
K450.01	Bampton STW	FLO01235	7TW200892	07/09/2026
K435.01	Banbury STW (TV)	THM00088	7TW200250	31/05/2026
K435.01	Banbury STW (TV)	THM00078	7TW200240	28/10/2026
L695.01	Barford St Michael STW (TV)	THM00494	7TW200656	16/12/2026
L717.01	Barkway STW (LNI)	HNL00221	7TW200110	10/01/2028
K932.01	Bentley STW (LNI)	THM00581	7TW200743	02/04/2027
L703.01	Bishop Stortford STW (LNI)	HNL00226	7TW200115	25/03/2027
K537	Blackbirds STW (MP)2	HNL00233	7TW200122	30/08/2029
L694.01	Blunsdon STW (TV)	THM00585	7TW200747	10/11/2026
K104.01	Bordon STW (LNI)	THM00497	7TW200659	26/05/2026
K445.01	Bourton on the Water STW (TV)	FLO01241	7TW300156	18/10/2025
K445.01	Bourton On the Water STW (TV)	FLO01242	7TW300157	18/10/2025
L693.01	Boxford STW (TV)	THM00064	7TW200226	29/09/2026
L718.01	Braughing STW (LNI)	HNL00220	7TW200109	24/10/2026
K556.03	Brentwood (Nags Head Lane) STW (MP)	HNL00253	7TW200915	12/05/2026
K556.03	Brentwood (Nags Head Lane) STW (MP)	HNL00207	7TW200096	12/10/2027
L483.01	Burghfield STW (MP)	THM00587	7TW200749	25/01/2027
J991.01	Burstow STW (LNI)	KSL00235	7TW200156	07/04/2025
K982.01	Chieveley STW (TV)	THM00065	7TW200227	11/07/2026
L040.01	Chinnor STW (TV)	FLO01251	7TW200497	31/05/2025
J970.01	Chobham STW (LNI)	THM00657	7TW200819	24/05/2025
K552.01	Cirencester STW (TV)	FLO01254	7TW300164	22/06/2025
K552.01	Cirencester STW (TV)	THM00093	7TW200255	22/06/2025
L719.01	Clavering STW (LNI)	HNL00223	7TW200112	23/01/2028
J984.01	Cranleigh STW (MP)	THM00514	7TW200676	28/12/2027
J984.01	Cranleigh STW(MP)	THM00659	7TW200820	28/12/2027
J982.01	Dorking STW (LNI)	FLO01261	7TW300170	25/05/2025
L698.01	Dorton STW (TV)	THM00520	7TW200682	30/09/2026
K543.01	Drayton STW (TV)	THM00105	7TW200267	30/07/2025
K543.01	Drayton STW (TV)	THM00094	7TW200256	30/07/2025
K934.01	Earlswood STW (LNI)	FLO01264	7TW300173	04/04/2026
L708.01	Elstead STW (LNI)	THM00521	7TW200683	11/05/2026
L713.01	Epping (Fiddlers Hamlet) STW (LNI)	HNL00252	7TW200914	12/06/2027
L713.01	Epping (Fiddlers Hamlet) STW (LNI)	HNL00211	7TW200100	12/06/2027
K452.01	Fairford STW (TV)	THM00095	7TW200257	28/12/2026
L057.01	Faringdon STW (TV)	FLO01267	7TW300175	24/09/2025
K556.18	Farnham STW (MP)	THM00598	7TW200760	28/11/2026

K444.04	Fleet STW (LNI)	THM00096	7TW200258	30/11/2027
K444.04	Fleet STW (LNI)	THM00599	7TW200761	30/11/2027
L705.01	Godalming STW (LNI)	THM00525	7TW200687	10/01/2028
J009	Guildford (MP)	THM00529	7TW200691	31/12/2026
J988	Harpenden STW (MP)	HNL00215	7TW200104	29/02/2028
L704.01	Hartley Wintney STW (LNI)	THM00602	7TW200764	18/10/2026
J983.01	Haslemere STW (LNI)	THM00531	7TW200693	30/01/2027
K649.01	Hatfield (Mill Green) STW (LNI)	HNL00216	7TW200105	23/06/2026
L473.01	Hatfield Heath STW (MP)	HNL00229	7TW200118	08/04/2027
J985.01	Heath Lake SSSI Enhancements	THM00074	7TW200236	13/12/2025
K650.01	Henley STW (TV)	FLO01271	7TW200906	17/01/2026
K568.01	Heyford STW (TV)	FLO01272	7TW200907	31/08/2025
L706.01	Hockford STW (LNI)	THM00754	7TW300093	05/03/2029
K760.01	Hogsmill STW (MP)	FLO01273	7TW200190	26/09/2027
L745.01	Holmwood STW (MP)	KSL00233	7TW200154	12/01/2027
J971.01	Kingston Bagpuize STW (TV)	FLO01277	7TW200561	16/08/2026
J971.01	Kingston Bagpuize STW (TV)	THM00536	7TW200698	30/01/2027
K676.01	Leatherhead STW (MP)	KSL00279	7TW200163	27/12/2027
L697.01	Lewknor STW (TV)	THM00538	7TW200700	06/08/2028
L716.01	Little Hallingbury STW (LNI)	HNL00227	7TW200116	01/02/2029
J568	Luton (East Hyde) STW (MP)	HNL00214	7TW200103	31/07/2028
L710.01	Manuden STW (LNI)	HNL00224	7TW200113	14/09/2027
K298	Maple Lodge STW (MP)	HNL00234	7TW200123	30/08/2030
K298	Maple Lodge STW (MP)	HNL00192	7TW200093	30/08/2030
L696.01	Marsh Gibbon STW (TV)	THM00543	7TW200705	23/12/2026
L707.01	Merstham STW (LNI)	KSL00234	7TW200155	09/04/2028
K563.01	Middleton Cheney STW (TV)	THM00671	7TW200832	26/12/2027
K540.01	Milton under Wychwood STW (TV)	FLO01283	7TW200908	31/05/2026
K758.01	Moreton in Marsh STW (TV)	FLO01284	7TW300185	08/12/2027
L711.01	Moreton STW (LNI)	HNL00210	7TW200099	14/02/2028
L511.01	North Weald STW (MP)	HNL00208	7TW200097	18/01/2027
K245	Oxford STW (MP)3	FLO01287	7TW200912	28/04/2030
K245	Oxford STW (MP)3	THM00722	7TW200883	28/04/2030
K542.01	Ramsbury STW (TV)	THM00098	7TW200260	22/09/2025
K672.01	Ripley STW (LNI)	THM00550	7TW200712	08/12/2027
L487.01	Shamley Green STW (MP)	THM00552	7TW200714	12/07/2026
K082.01	Shutford STW (TV)	THM00554	7TW200716	22/11/2025
K222	Slough STW (MP)	THM00672	7TW200833	28/02/2029
K222	Slough STW (MP)	THM00099	7TW200261	28/02/2029
L700.01	South Leigh STW (TV)	THM00558	7TW200720	21/06/2027
L712.01	Standon STW (LNI)	HNL00222	7TW200111	05/06/2028
L709.01	Stanford Rivers STW (LNI)	HNL00212	7TW200101	12/02/2029
K936.01	Stansted Mountfitchett STW (LNI)	HNL00225	7TW200114	21/06/2026
L701.01	Stanton Harcourt STW (TV)	THM00561	7TW200723	11/07/2027
K645.01	Takeley STW (LNI)	HNL00228	7TW200117	18/03/2027

L699.01	Tetsworth STW (TV)	THM00562	7TW200724	22/12/2026
K440.01	Therfield STW (LNI)	HNL00219	7TW200108	06/12/2026
K440.01	Therfield STW (LNI)	FLO01297	7TW300193	06/12/2026
L470.01	Theydon Bois STW (MP)	HNL00213	7TW200102	19/07/2026
K831.01	Thornwood Common STW (MP)	HNL00209	7TW200098	23/01/2027
L484.01	Waddesdon STW (MP)	THM00564	7TW200726	10/06/2026
K759.01	Watlington STW (TV)	THM00567	7TW200729	15/08/2026
K759.01	Watlington STW (TV)	FLO01298	7TW200913	15/08/2026
L702.01	Weston (Herts) STW (MP)	HNL00217	7TW200106	21/06/2027
L692.01	Weston-On-The-Green STW (LNI)	THM00569	7TW200731	30/08/2026
K984.01	Wingrave STW (TV)	THM00570	7TW200732	16/08/2025
L514.01	Wisley STW (MP)	THM00571	7TW200733	09/10/2027
K081.01	Witney STW (TV)	FLO01303	7TW300198	13/07/2025
K677.01	Woking STW (MP)	THM00572	7TW200734	20/10/2027
K677.01	Woking STW (MP)	THM00109	7TW200271	20/10/2027
K455.01	Cricklade STW (TV)	FLO01256	7TW200899	21/05/2025
K428.01	Croughton STW (TV)	THM00660	7TW200821	24/05/2026
K444.03	Easthampstead Park STW (LNI)	THM00662	7TW200823	10/08/2027
L714.01	Kimpton STW (LNI)	THM00669	7TW200830	10/04/2026
L707.01	Merstham STW (LNI)	KSL00171	7TW200151	09/04/2028
Total number of waste schemes in WINEP7 carry over				**103**

Table 23 WINEP7 water schemes that will carry over to AMP8

SAP code	Project	WINEPID	Scheme ID	Forecast Scheme Completion
K035	BEXLEY PUMPING STATION	KSL00046	7TW100008	29/07/2029
K035	BEXLEY PUMPING STATION	KSL00044	7TW100007	29/07/2029
K560	Continue the river restoration work from AMP7 for Farmoor (Oxford Water Course)	THM00759	7TW300097	20/04/2027
K560	Continue the river restoration work from AMP7 for Pangbourne on the Sulham Brook	THM00758	7TW300144	20/04/2027
K560	Continue the river restoration work from AMP7 for Pann Mill	THM00760	7TW300098	22/04/2027
K560	RIVER RESTORATION PROJECTS - CHESS	HNL00095	7TW100064	28/06/2027
K558	Fish passage at Fobney Turbine House	THM00690	7TW200851	28/02/2027
K558	Fish passage at Glenfield Gate weir on the Cherwell d/s of Grimsbury Reservoir abstraction	THM00691	7TW200852	28/02/2027
K558	Fish Passage at River Pang at Pangbourne WTW	THM00692	7TW200853	28/12/2026
K558	Fish Passage on the River Thames at Tangier Mill	THM00694	7TW200855	28/02/2027
K036	HAWRIDGE PUMPING STATION	HNL00092	7TW100044	31/05/2028

L443	Hogsmill stream habitat enhancements	KSL00092	7TW200143	31/10/2025
K562	River Lee Nitrate No Deterioration Scheme	HNL00262	7TW300085	28/03/2030
K559	RIVER RESTORATION PROJECTS - LOWER LEE	HNL00096	7TW100065	02/04/2027
K561	Upper Cray Restoration	KSL00401	7TW300092	14/03/2027
K561	Upper Darent Restoration - SUNDRIDGE PUMPING STATION	KSL00045	7TW100009	14/03/2027
K561	Upper Darent Restoration - WESTERHAM HILL PS	KSL00049	7TW100081	14/03/2027
K561	Wandle Restoration - BRANTWOOD ROAD, CROYDON	KSL00047	7TW100017	14/03/2027
K561	Wandle Restoration - WADDON PUMPING STATION - WELLS & BOREHOLES	KSL00048	7TW100079	14/03/2027
Total number of water schemes in WINEP7 carry over				19
Total number of waste and water schemes in WINEP7 carry over				122


Thames
Water