

# UUWR\_11

## PR24 Draft Determination: UUW Representation

# Area of representation: Gated mechanisms

**August 2024**

This document outlines UUW position on the proposed Large Scheme Gated Process for wastewater projects

Reference to draft determination documents - PR24 draft determination: Expenditure Allowances, section 4.7.3 Approach to large schemes, pages 177 - 184

# 1. Key points

- **We support the proposal for gated processes, where schemes are uncertain in scope, cost or deliverability:** However, we believe that the four UW WINEP schemes selected for this approach (Davyhulme P and BOD, Eccles and Wigan WWTW) are not suitable for the Large Scheme Gated Process under Ofwat's criteria. We are confident in the need, scope, delivery schedule and the cost of these schemes. Conversely, the late WINEP additions of Windermere commitments present better candidates for the Large Scheme Gated Process as there is considerably greater uncertainty regarding these actions.
- **Negotiations with the Environment Agency have been complex, but now are clear:** We recognise that Environment Agency negotiations have been prolonged as we have optimised adaptive plans that deliver benefits for customers. This has reduced AMP8 requirements by £240m and avoided wasteful or abortive investments. We now have clarity and are ready to deliver at pace for customers and the environment based on the optimised plan.
- **The financing approach to the Large Scheme Gated Process is overly punitive:** There seems little justification for the punitive approach proposed to financing the schemes selected for the Large Scheme Gated Process. The approach described at the Draft Determination excludes the expenditure from the PR24 financial model. As such, it makes no (ex-ante) allowances for RCV run-off or allowed returns within AMP8 revenues or customer bills beyond a 6% development allowance. We do not agree that this approach provides a reasonable return on investments which, in the case of WINEP schemes, are fundamental to the company performing its functions. The process should be more balanced, with Ofwat recognising that scheme scope and costs may legitimately increase during the process.
- **There is commercial uncertainty arising from the Large Scheme Gated Process:** We have endeavoured to establish our commercial delivery contract for AMP8, utilising an Enterprise model. All partners are incentivised to deliver best value and innovative solutions based on the October 2023 submission, which includes the four schemes named by Ofwat for inclusion in the Large Scheme Gated Process. The significant change in approach that the Large Scheme Gated Process presents would lead us to notify the Enterprise and potentially renegotiate the terms. For the new Windermere schemes proposed for the Large Scheme Gated Process we consider this commercial risk to be low, as these are new commitments that have not previously been negotiated with the Enterprise.
- **We forecast significant risk in achieving the regulatory dates through the Large Scheme Gated Process:** The four schemes Ofwat has allocated to the Large Scheme Gated Process are part of our new commercial arrangement to deliver large schemes called the Enterprise delivery model. This contract has been established and therefore early works have already started to safeguard delivery and to achieve the regulatory dates. However, if these schemes were to remain within the Large Scheme Gated Process it would trigger contractual discussions that will take time to resolve, and we expect will result in a new procurement process as we consider that the Large Scheme Gated Process conflicts with the Enterprise contract. We have further concerns that the Large Scheme Gated Process would have delivery implications, ranging from navigating the gateways (and the added administrative burden this may add) through to the potential need for a new procurement process, (as UW has no procured route to deliver the gated process). Consequently, we have provided evidence in section 5 of this document that we would risk being unable to achieve the regulatory dates for all four WINEP schemes if they remained within the Large Scheme Gated Process.
- **We have a track record of delivery that also supports inclusion of the schemes in the "Enhanced Engagement and Cost Sharing" gated mechanism:** We have a strong track record of delivering large and complex schemes. Large schemes such as the recent Davyhulme modernisation and Blackburn projects have been delivered on time and in line with the project plans. The Environment Agency's EPA report for 2023 stated *'UU are consistently good performers in delivering their WINEP and engage with the*

*Environment Agency well with regards to delivery plans, alterations required and updates on schemes where issues are identified'*

## 2. Introduction and Overview

### 2.1 Introduction

This document describes our observations on the gated processes that Ofwat has proposed at Draft Determination. We acknowledge there are merits to the two mechanisms, and with amendments there are clear benefits to managing large and complex schemes.

In this document we evidence why we consider that the four schemes that Ofwat has allocated to the "Large Scheme Gated Process" are not suitable for that process, but instead are appropriate for the "Enhanced Engagement and Cost Sharing" scheme. We are certain of the need for the schemes, with clarity from the Environment Agency, and we are confident in the scope, cost and deliverability of the schemes to meet the statutory requirements. We recognise the need for additional customer protection given the scale of the schemes but consider that the proposed "Enhanced Engagement and Cost Sharing" process is appropriate for the four schemes. We evidence the four schemes and the clear need with cost and confidence in delivery in section 5. We also outline observations and recommended improvements for the Large Scheme Gated Process.

We have also received and agreed to late additional requirements for nine treatment works and three overflows in the Windermere catchment. These have been included in the WINEP. We discuss these requirements and how we consider these are well placed for inclusion in the "Large Scheme Gated Process" in section 6.

### 2.2 Overview

The remainder of this document is structured as follows:

- In Section 3 we set out how we developed our PR24 plan and a summary of our 2 October 2023 submission. This includes our WINEP development approach with the Environment Agency and our ambition to avoid abortive investment and to seek best value solutions over multiple drivers and investment periods.
- Section 4 outlines our understanding of the gated processes from Draft Determination and Ofwat's application of these processes to our AMP8 programme.
- Section 5 describes the four schemes that Ofwat has proposed for the Large Scheme Gated Process and why we consider that they no longer meet the criteria Ofwat has set out. Negotiations with the Environment Agency have continued since our 2 October 2023 submission, and we now have clarity and certainty of the four named schemes. For Davyhulme we have secured agreement to phase and optimise solutions and in other instances we have accepted drivers and WINEP actions in AMP8 as we recognise the regulatory constraints the Environment Agency has.
- Section 6 focusses on schemes that have arisen since our 2 October 2023 submission and - in the case of Windermere - extremely close to the WINEP released on 5 July 2024. We consider that these schemes are appropriate for Ofwat's proposed Large Scheme Gated Process.
- Section 7 sets out our specific observations around the financing and commercial implications of the current structure of the Large Scheme Gated Process.
- Section 8 outlines the approach we propose for Final Determination.
- This document is also supported by three appendices ([UUWR 11.1 - Appendix – Davyhulme WwTW](#), [UUWR 11.2 - Appendix – Eccles WwTW](#), [UUWR 11.3 - Appendix – Wigan WwTW](#)) with details on Davyhulme, Eccles and Wigan schemes respectively.
- Detail on Windermere is available in [UUWR 78 – Windermere – Enhancement Case](#).

### 3. UW's PR24 proposal

Our PR24 WINEP development strategy was underpinned by collaborative and open working with the Environment Agency and adaptive planning principles. Our overall intent was to develop integrated catchment solutions, targeting lower costs for customers and lower whole life costs overall for these large schemes.

Our adaptive planning approach was as follows:

- Addressing problems where there is evidence of impact in the short-term;
- Developing solutions to meet a combination of requirements driving best value;
- Prioritising low regrets investment;
- Implementing monitoring of uncertain needs to identify appropriate timing and approach for investment; and
- Planning upfront through no and low regrets activities to keep future options open.

Our ambition was to avoid abortive investment and poor value for money interventions by optimising multiple drivers over investment periods. This principle was especially important to us, as for the first time we had foresight of the significant WINEP expenditure over the next 25-years. We can see that the scale of the overall programme is bigger than previous investment periods and recognising the need to offer value for money for all customers that we serve in the North West, we need to work harder than ever to plan and efficiently deliver schemes where we can see opportunities.

The schemes currently proposed by Ofwat for the Large Scheme Gated Process are all large treatment works where we propose to utilise biological P removal, rather than traditional chemical P removal. We consider there are significant resilience and whole life cost benefits to this technology which is less commonly deployed and so is represented less accurately through the existing cost models. These techniques are discussed throughout but a short definition of the two techniques is:

*Chemical phosphorus removal uses a chemical such as ferric sulphate to bind the phosphorus into a floc making it heavier and allowing it to settle out and be removed in the sludge. Biological phosphorus removal creates the environment for bacteria to take up phosphorus within the activated sludge process, this is removed from the process in the surplus activated sludge (SAS).*

More detail on the processes for chemical and biological phosphorus (Bio-P) removal can be found in DD representation document [UWWR 33 - Phosphorus removal](#).

A summary of our proposal for the four schemes in our original business plan submission in October 2023 is set out below, and we described our approach to these large schemes and WINEP development in submission documents *UW43 - WINEP Optimisation* and *UW79 - Statutory obligations* in our October 2023 business plan.

#### Davyhulme WwTW

At the time of submission, in October 2023, discussions were ongoing with the Environment Agency regarding the potential phasing of BOD and P limits. We were having detailed discussions exploring BOD permit limits (between 8mg/l and 6mg/l for AMP8) and phosphorus limits of 3mg/l in AMP8 and 0.25mg/l by 2038.

- **Our Core Plan** – the WINEP at the time of submission included 6mg/l BOD in AMP8 which involved significant investment in the AMP8 period and presented challenges to delivery to the regulatory date of March 2030. The core plan for P removal was 3mg/l in AMP8 and 0.25mg/l to be delivered by 2038. Our submission aligned with the WINEP at the time, and we included £787m to meet the requirements.
- **Our Adaptive Plan** – we identified effective delivery options in the AMP8 period by targeting 8mg/l in AMP8 and phasing delivery of 6mg/l to 2035 that enabled positive environmental improvements and were secure solutions to hit regulatory dates. This BOD solution also supported efficient phosphorus reduction across AMP8 and AMP9. This preferred option was described in our submission but was not the core plan due to the misalignment to the WINEP at the time. The expected efficiency of this phasing and preferred option is £169m over AMP8 and AMP9.

## Eccles WwTW

As described in our October 2023 submission and through subsequent letters by way of update to Ofwat, the scheme for Eccles WwTW is linked to an AMP5 NEP scheme, which is still subject to ongoing legal proceedings. The proceedings are relating to a compulsory purchase order for land to enable storm overflow improvements for SAL0018 storm overflow, Eccles WwTW storm tanks and Eccles WwTW inlet overflow scheme. The current status of this ongoing legal situation is that an element of the Secretary of State's decision to confirm the compulsory purchase order is being challenged through the courts.

- **Our Core Plan** – the WINEP at the time of submission included stringent limits for BOD (6mg/l which is considered the lowest currently technically achievable) and 1mg/l ammonia.
- **Our Adaptive Plan** – with the ongoing legal proceedings, site constraints and constructability challenges (as the site is close to the M60 motorway) we were exploring the opportunity to deliver a longer-term resilient solution to resolve multiple drivers and, to a large degree, future-proof Eccles WwTW.

## Wigan (Hoscar) WwTW

At the time of our main business plan submission discussions were ongoing with the Environment Agency regarding the regulatory dates related to stringent limits for phosphorus and ammonia.

- **Our Core Plan** - the WINEP at the time of submission included a tightening of the discharge permit to 0.25mg/l Phosphorus and 1mg/l ammonia. The late confirmation of the significant improvements to the treatment assets presented a challenge to achieving the regulatory date. In addition, Wigan WwTW is intrinsically linked to the Pennington Flash overflows schemes, which are on trunk sewers within the catchment. These are also of significant complexity and scale, and we had not had the opportunity to work through this in full detail at the time of the October 2023 submission.
- **Our Adaptive Plan** – we identified opportunities for catchment nutrient balancing, rainwater management interventions and the potential for a DPC delivery approach that would be possible if the stringent limits could be delivered in AMP9. We considered this to be adding value to the catchment through nature-based solutions and delaying investment to allow for efficient solutions and delivery through DPC.

## Summary

Discussions with the Environment Agency continued up to and beyond our October 2023 submission, as we were striving to reach an agreement that would lead to solutions that are a lower cost for customers and a lower whole life cost overall. To reflect these ongoing discussions, in our October 2023 submission we described our core plan as well as potential variants to the plan that continued to be negotiated with the Environment Agency.

Since October 2023 all uncertainty around the requirements, and variants to the plan, have been resolved through productive negotiations with the Environment Agency. Eccles was positively resolved in March 2024 and Davyhulme was positively confirmed in May 2024. While discussions with the Environment Agency continued beyond October 2023 the requirements for Wigan remained unchanged from October 2023, as there were national regulatory requirements that could not be moved.

With the re-publication of the WINEP on 5 July 2024 we are now confident in the requirements, the scope, costs and delivery of the solutions to meet the step change in performance expected from the WINEP.

A summary of the scheme costs from our October 2023 submission is set out in Table 1 below:

**Table 1: Summary of scheme costs since our October 2023 submission**

Scheme	AMP8			AMP9			Total Cost		
	Business Plan	DD Response	Variance	Business Plan	DD Response	Variance	Business Plan	DD Response	Variance
Davyhulme - P removal	£123m	£75m	-£49m	£168m	£132m	-£36m	£292m	£207m	-£85m
Davyhulme - Sanitary	£356m	£218m	-£139m	£139m	£194m	£55m	£495m	£411m	-£84m
Wigan - P removal	£353m	£279m	-£74m	0	0	0	£353m	£279m	-£74m
Eccles – Sanitary*	£177m	£177m	0	£1m	£1m	0	£178m	£178m	0
<b>Sub-Total</b>	<b>£1,010m</b>	<b>£748m</b>	<b>-£262m</b>	<b>£309m</b>	<b>£327m</b>	<b>£19m</b>	<b>£1,318m</b>	<b>£1,075m</b>	<b>-£243m</b>

Source: UUW analysis – pre-efficiency

Since October 2023 additional requirements for Eccles WwTW have been added to the WINEP and these are described further in Section 5.2 of this document and in [UUWR 11.2 Appendix – Eccles WwTW](#).

Table 1 demonstrates that our discussions with the Environment Agency have been productive, and we have been successful in reducing costs for customers in AMP8 by £262m from our October core plan. In the example of Eccles, we have a robust and resilient adaptive solution that will serve the needs at Eccles for the long-term by optimising drivers across investment periods.

## 4. Draft determination position

Ofwat has imposed additional controls for schemes considered large and uncertain. This is described in PR24 DD Expenditure Allowances pages 177-184, with key points below.

*In light of the uncertainty inherent in certain large schemes, we are proposing to apply an alternative approach to providing allowances for large enhancement schemes. This approach will apply when the scheme's requested value is greater than £100 million and where we have concerns around scope, cost, deliverability, complexity or if they are novel/complex technologies. The scope and costs of large schemes can often change and significantly increase as the schemes are developed leading up to delivery. The aim of adopting an alternative approach to providing enhancement allowances is to protect customers and companies from final scheme costs being very different to the costs requested in business plans and to give the best chance for schemes to be delivered to achieve the desired outcomes.*

The basis of our concerns are:

- **Scope** - where the scope of proposed schemes, which may involve a selection of alternative options results in significant cost swings. For example, where a company is required to meet a new compliance requirement, but the solutions are not yet well developed.
- **Cost uncertainty** - where options and solutions are provided, but there is significant uncertainty around cost. This is likely to apply more to bespoke schemes where the cost cannot be modelled. Or where the modelling benchmarks provide a wide range, resulting in uncertainty. We would consider schemes where companies proposed costs differ significantly from cost benchmarks.
- **Uncertainty due to deliverability, complexity or novel** - where options and solutions are complex or novel, resulting in delivery uncertainty. This could be schemes with new technologies which have not been tried before or have had previous limited success. Or we simply have concerns about the company's ability to deliver a scheme where it may have failed to deliver something similar in the past.

We propose two distinct approaches for large enhancement schemes that meet the above criteria. In summary, the approaches are:

- **Enhanced Engagement and Cost Sharing** - assessed cost allowances are provided for 2025-30. This is a relatively light touch enhanced engagement approach rather than a formal gated process.
- **Large Scheme Gated Process** - which allows development funding only at 6% of the total scheme delivery costs. Revenue will be logged-up after a passing through a decision gate - either with a formal timetable or one informed by the company.

We have two schemes in the “Enhanced Engagement and Cost Sharing” process which are Salford WwTW and Pennington Flash. We understand the decision and make no representation on this process. However, we also have four schemes in the Large Scheme Gated Process. These are Davyhulme P and BOD, Eccles and Wigan WwTW which this representation document relates to. Table 2 below summarises the four schemes that Ofwat has proposed for the Large Scheme Gated Process with the determinands, scheme overview, dates when requirements were secured and the value.

**Table 2: Summary of the four schemes**

Scheme	Driver (summary – full details in section 5)	Scheme Summary	Date EA Requirements Agreed	AMP8 Scheme Value (DD response)
Davyhulme – sanitary parameters	Sanitary parameters 8mg/l by 27/28 6mg/l by 34/35	Enhanced settlement and process optimisation to achieve 8mg/l P in AMP8 and allow construction space for AMP9 biological P removal	21 May 2024	£218m
Davyhulme – P-removal	P removal 3mg/l by 28/29 0.25mg/l by 34/35	P recovery plant in AMP8, then linked to above and AMP9 biological P removal	21 May 2024	£75m
Eccles - sanitary parameters	Sanitary parameters 6mg/l BOD by 29/30 1mg/l ammonia by 29/30	Combine spill and sanitary drivers and replace trickling filters that are not capable of the stringent standards with biological P removal	28 Mar 2024	£177m
Wigan (Hoscar) WwTW – P-removal	P removal and ammonia 1mg/l ammonia and 0.25mg/l P by 29/30	Combine Skelmersdale and Wigan flows, replace trickling filters that are not capable of the stringent standards with biological P removal	5 July 2023	£279m

Source: UUW analysis

In section 5 which follows, we outline the four named schemes and evidence how we consider that the criteria identified by Ofwat is no longer appropriate to the status of the schemes, as there is clarity of the need, cost, scope and delivery schedule. As such, the four schemes are best suited to the Enhanced Engagement and Cost Sharing scheme.

## 5. Investments that are not suited to the Large Scheme Gated Process

In this section we set out evidence as to why we consider the four schemes are not suitable for the "Large Scheme Gated Process" but are more suitable for the "Enhanced Engagement and Cost Sharing" process.

We recognise that negotiations with the Environment Agency were more extended than anticipated and this led to variants in our plan. We acknowledge the complexity within the plan that this resulted in; however, we considered that the rewards from continued discussions with the Environment Agency were worth pursuing.

This section describes the four schemes, where we were at the October 2023 submission, what we did following the main submission and how the negotiations have concluded. Summary Table 3 below indicates where we were against the criteria for the Large Scheme Gated Process in October 2023 and where we now consider we are with clarity of the scope, costs and delivery schedule for each of the four schemes.

**Table 3: Development of four schemes from October 23 to July 24**

Scheme	Scope Uncertainty		Cost Uncertainty		Deliverability / complexity		Development since Oct-23 submission
	Oct-23	Jul-24	Oct-23	Jul-24	Oct-23	Jul-24	
<b>Davyhulme</b> – sanitary parameters	Medium	Low	High	Low	High	Low	Our proposal to phase delivery over AMP8 and AMP9 was accepted 21 May 2024 giving clarity of requirements and time to refine costs and delivery schedule.
<b>Davyhulme</b> – P-removal	Medium	Low	Medium	Low	Medium	Low	
<b>Eccles</b> - sanitary parameters	High	Low	High	Low	Medium	Low	Discharge location and requirements were agreed 28 Mar 2024 leading to clarity of requirements and time to refine costs and delivery schedule.
<b>Wigan (Hoscar) WwTW</b> – P-removal	Medium	Low	High	Low	Medium	Low	AMP8 requirements were confirmed 5 July 2023 and with further discussions unable to change this position our adaptive plan fell away, but allowed for scope and cost refinement.

Source: UUW analysis



## 5.1 Davyhulme WwTW

### 5.1.1 Our Position in October 2023 - Davyhulme WwTW (BOD and P-removal)

In October 2023 discussions with the Environment Agency had not concluded which meant we had a core plan and variants to the core plan. Table 4 below shows the core plan at the October 2023 submission against the Ofwat criteria for the Large Scheme Gated Process.

**Table 4: Summary of Davyhulme WwTW against Ofwat Large Scheme Gated Process criteria – October 20233**

Scheme	Scope Uncertainty	Cost Uncertainty	Deliverability/ complexity
Davyhulme – sanitary parameters	Medium	High	High
Davyhulme – P-removal	Medium	Medium	Medium

Source: UUW analysis

#### Sanitary Parameters

- Scope:** At the October 2023 submission we had two possible scenarios for BOD, a new 6mg/l or 8mg/l permit limit for AMP8. We had solutions developed for both limits that would achieve the standards. As confirmation of the permit limit was unclear the scope had medium levels of uncertainty.
- Cost:** Both BOD scenarios had designed and costed solutions, however the stringent limit of 6mg/l BOD by 2030 was extremely stretching to the regulatory date. Additional cost assumptions were made for 24/7 working and accelerated contractual negotiations. With the large range in cost due to assumptions around accelerated delivery there was higher uncertainty around cost.
- Deliverability:** With two BOD scenarios at the October 2023 submission there was high uncertainty of delivering to the regulatory date, especially for the 6mg/l BOD by 2030 which was assessed as extremely stretching for a significant intervention. With assumptions around 24/7 working arrangements, the deliverability risk was higher than typical.

#### P-Removal

- Scope:** The scope of the P removal intervention is linked to the BOD limit confirmation. With 6mg/l BOD a new biological ASP can be delivered that also delivers the low P requirement. With the uncertainty over limits and regulatory dates the scope uncertainty at the October 2023 submission was medium.
- Cost:** With the scenarios for P removal, we had interventions and costs developed, but these varied substantially. We have good historical costs for P removal but with the range of scenarios still being considered at the time of submission there was a medium level of cost uncertainty.
- Deliverability:** The deliverability of the P intervention is linked to the BOD limit confirmation. With the uncertainty over limits and regulatory dates there was a medium level of uncertainty about deliverability.

#### Core plan vs adaptive plan

The table below articulates the scope differences (and therefore prior uncertainty) between the core plan and adaptive plan in October 2023. There are two key points:

- The difference between a 6mg/l BOD solution compared to 8mg/l BOD is a significant modification to the treatment units at Davyhulme taking around 10 years to construct in this constrained site while maintaining service. With the marginal benefits and deliverability challenges identified we proposed 8mg/l BOD in AMP8 and 6mg/l BOD for 2035.
- The significant modification intervention for 6mg/l BOD also supports delivery of a low P standard, with the 0.25mg/l not due till AMP9/10. By aligning the 6mg/l BOD and additional low ammonia requirement in AMP9,

the AMP8 solution becomes a significantly lower investment (£169m over AMP8 and AMP9) and avoids abortive spend across AMP8 and AMP9. A summary of the current and future permit limit for Davyhulme are in Table 5 below.

**Table 5: Current and future permit requirements at Davyhulme WwTW**

	Existing permit	Our core plan target permit limits	Our adaptive plan target permit limits Oct-23
BOD	20 mg/l (95%ile)	6mg/l (95%ile)	8mg/l (95%ile)
Ammonia	1 mg/l (95%ile)	1mg/l (95%ile)	1mg/l (95%ile)
Phosphorus	n/a	3 mg/l	3 mg/l

Source: UUW analysis

A key factor in these extended discussions with the Environment Agency and uncertainty relates back to the Manchester Ship Canal which Davyhulme discharges to.

The Manchester Ship Canal is a unique waterbody due to its history, construction and the complex interactions between the canal, which connects the River Irwell to the River Mersey, and the multiple drainage systems which discharge into it. Due to the unique nature of the Manchester Ship Canal’s location and physical properties, we have for some time adopted an adaptive approach to manage water quality in relation to our operations. This deep, slow moving water body has a legacy of issues with dissolved oxygen, which leads to ecological impacts and does not comply with The Water Environment (Water Framework Directive) 2017 Regulations with respect to dissolved oxygen.

As part of our development of options for Davyhulme WwTW we modelled the sensitivity of the Ship Canal dissolved oxygen concentrations to changes in the BOD permit at Davyhulme WwTW. This was important as there is no defined end point for developing the BOD permit standard as the in-river dissolved oxygen standards cannot be met for this water body. The results of this modelling work showed that much of the benefit to dissolved oxygen from changing the Davyhulme BOD permit is delivered by meeting an 8mg/l BOD permit. Whilst moving to a 6mg/l BOD permit limit delivers some further benefit this is marginal compared to the gains achieved from moving from the current 20mg/l to 8mg/l. The results of this modelling work have been accounted for in our Manchester Ship Canal Adaptive Plan and have been central to our view of delivering 8mg/l BOD in AMP8 and 6mg/l in AMP9.

**5.1.2 Scope and Cost Development work for Core and Adaptive Plans**

Through optioneering we identified several potential approaches to treatment as presented in Table 6. All the solutions investigated are progressive solutions that would be implemented over a 10-year period. This supports continual delivery of improvements to the adaptive plan while maintaining service and spending money wisely to deliver multiple outcomes.

We assessed both the “do nothing” and “enhance existing assets” options for Davyhulme. Neither addresses the requirement to achieve BOD standards in AMP8 and was therefore not developed for our business plan submission.

This led us to asset interventions, including the enhancement of the existing ASP2 and Biological Aerated Flooded Filter (BAFF) plant. This does achieve the AMP8 requirement for BOD (8mg/l), however, to achieve the 3mg/l phosphate whilst maintaining works throughput and treatment, we had to consider an alternative and more holistic approach. Our preferred solution selected was a phosphorus recovery system for the return liquors aimed at reducing phosphorus load to the existing works. This has the added benefit of providing the potential for a circular economy outcome. The phosphorus recovery approach will remove the pollutant from the wastewater, breaking the cycle and giving the option to transform it into a resource that could support wider industries, including fertiliser manufactures and agriculture.

Table 6 below describes the range of permit limits and the intervention options that have been considered as part of the solution development phase. Green assessment represents where the intervention meets the permit standard, and a red categorisation indicates where the intervention would not meet the requirement.

**Table 6: Potential options for Davyhulme**

Option considered	Permit limits under consideration				
	15 BOD Apr-25	8 BOD 95%ile Mar-28	6 BOD 95%ile Mar-35 (TAL)	3 P average Dec-28	0.25 P average Mar-35 (TAL)
Do nothing (Re-use existing only). PSTs; 40% ASP2 + BAFF; 60% ASP3	Green	Red	Red	Red	Red
Enhance existing assets	Green	Red	Red	Red	Red
Enhance ASP2 + BAFF	Green	Green	Red	Red	Red
<b>Adaptive Plan</b>					
Phase 2: Addition of phosphorous recovery from sludge liquors	Green	Green	Red	Green	Red
Phase 3: Replace ASP2 with Bio P ASP4, conversion of ASP3 to Bio P and the addition of trim chemical dosing on both ASP3 and ASP4	Green	Green	Green	Green	Green
<b>Chemical Dosing</b>					
Further enhancements of ASP2 + BAFF, Dual Point Chemical Dosing and new tertiary solids removal for both ASP2 and ASP3	Green	Green	Green	Green	Green

Source: UUW analysis

Important to the adaptive plan at Davyhulme was chemical supply resilience and the impact on customers local to the WwTW from chemical tanker deliveries. To provide for the future requirements of 6 mg/l BOD and 0.25 mg/l phosphorus we will need to drastically reduce the quantity of solids within the Davyhulme final effluent. It is calculated that a chemical dosing approach would require on average 7 tanker deliveries per day in total of ferric sulphate and caustic to achieve the desired water quality. We consider this option to be unviable as it is not sustainable, excessive traffic movements are detrimental to customers and it is very high risk from a chemical resilience perspective. The final option in the table is the proposed solution, delivering Biological P removal in a phased and cost-effective way. This option also mitigates the reliance on chemical supply and the tanker movements that results from extensive chemical dosing.

As the scope and associated cost was progressively built-up to meet the requirements of 6mg/l or 8mg/l BOD and 3mg/l or 0.25mg/l P we have had confidence in the scope and costs since our submission in October 2023.

The only factor that was uncertain, albeit an important factor, at the October 2023 submission was the confirmed requirements with Environment Agency. We worked hard to achieve certainty throughout the PR24 process, and this was achieved in May 2024.

### 5.1.3 Development of the plan from October 2023 to date

#### Improving scope certainty

We have been in discussions with the Environment Agency for many years regarding the Manchester Ship Canal and permit limits for our discharges, which we described in UUW63 in October 2023. Our adaptive plan to phase interventions over AMP8 and AMP9 was an approach we continued to develop after the October 2023 submission, as we were focussed on avoiding abortive spend, seeking lower costs for customers and agreeing a schedule that both we and the Environment Agency had confidence in.

Through the Water Quality Subgroup we have with the Environment Agency we discussed evidence to secure confidence in the approach for Davyhulme, and that phasing was value for money and the lower cost option was the right solution for customers.

Agreement was obtained, and on 21 May 2024 we received written confirmation of the alteration from a 6mg/l BOD requirement by 2030 to 8mg/l BOD requirement by 2028. This decision unlocked the phased approach for BOD of 8mg/l in AMP8 and 6mg/l in AMP9 which supports a more cost effective and sustainable approach to achieving new standards for BOD and P at Davyhulme, and the subsequent benefits to the Ship Canal.

With written confirmation of the alteration on 21 May 2024 and the WINEP released on 5 July 2024 we have clear agreed requirements. With the adaptive plan and costs that have been built up progressively, we had improved clarity of the cost and the delivery schedule.

#### Improving cost certainty

Prior to the submission of our business plan, we challenged our solutions to ensure they were efficient and best value for customers. In the case of Davyhulme significant efficiencies were adopted including the removal of a tertiary solids process, which was included to ensure robust 6mg/l BOD and 0.25mg/l P. We are confident that this is the most efficient solution. It will leave some operational risk in achieving the tight phosphorus permit. However, unlike Eccles there is not a stringent iron limit at Davyhulme which allows us to make this efficiency and manage this risk and therefore not burden customers with additional costs in this instance.

The cost challenge generated significant efficiency for Davyhulme, which was removed from our costs prior to the submission of our business plan.

Post submission we have continued to develop the adaptive plan solution through our Transitional Investment programme. We appointed Jacobs as our Strategic Solution Partner in February 2024, and since then we have been working with their global experts to leverage advancements in technology and identify efficiencies in our catchment solution. Through this early engagement with our Strategic Solutions Team, including drawing upon global technical expertise, we have identified a further £169m of efficiency savings across the AMP8 and 9 drivers. This resulted in a revised business plan of £618m for the AMP8 and AMP9 solution. Efficiencies have been made from interventions that avoid the need for odour control in this sensitive area, optimisation of the scale of the ASP and challenging the P recovery technology.

The AMP8 efficiency is £188m with a revised business plan of £292m.

As part of our business plan submission and ongoing refinement of costs we have carried out a methodical approach to estimating and assurance. A summary of our approach is as follows: -

#### Cost Estimating

To develop robust and efficient costs we have used an estimating approach based on data collected over a number of AMPs (AMP3 to AMP7), updated to reflect present market conditions under which we and the UK water industry are operating. We have partnered with Mott MacDonald who provide us and other UK water and sewerage companies with an estimating service, which allows them to provide a benchmarked approach to our PR24 capital cost estimates.

Our Investment Programme Estimating System (referred to as the PR24 Estimating Database / IPES) is an in-house estimating tool which is used to provide costs for the Price Review and scheme development. The system is a robust repository for data from previous AMP periods, which sits alongside estimated data, to allow us to develop project and programme estimating.

**Cost Assurance**

Mott MacDonald has provided us with a specialist estimating function utilising costing data derived from our construction data, which supports our scheme estimates. Post business plan submission, to give us additional confidence that our cost estimates produced by Mott MacDonald were accurate, we undertook a self-assurance exercise by appointing ChandlerKBS. We asked ChandlerKBS to price up a selection of our projects using their Cost Intelligence Database (CID). ChandlerKBS are an international commercial company who have provided estimating services to a number of UK infrastructure businesses, including a number of water companies. Their CID contains data derived from their clients over 20 years, including tens of thousands of cost curves and capital projects.

The outcome of this review was that an overall variance of 3% against the Mott MacDonald estimate shows a close level of correlation and gives us confidence in the costs we have developed for our schemes. This was backed up by the output report: “The overall ChandlerKBS estimate total for the fourteen projects is 3% lower than the UU PR24 estimates. ChandlerKBS consider the UU PR24 estimates to be comparable with our industry cost data” (ChandlerKBS 2024).

With confirmation of the requirements we have been able to continue to refine the scope and challenge ourselves on cost certainty. We consider that the estimate which has been developed bottom up is robust, and we have tested this with third party input. With the detailed site assessment of constructability, outlined in more detail in appendix [UUWR 11.1 Appendix – Davyhulme WwTW](#), we consider there are factors that may not be well represented through econometric models, such as the immediate proximity of the M60 and the high-level Barton Bridge as well as confirmed contaminated land. Furthermore, the solution for Davyhulme is also a biological P removal plant which we observe is not specifically assessed through econometric models. For these reasons we propose a separate assessment, beyond a model assessment, is required for this scheme.

We have confidence in our cost estimate and with clarity of need and scope we are progressing to deliver the improvement for customers and the environment. With our efforts to phase delivery and time to optimise the solution we have secured a lower cost solution from our October core plan which is set out in Table 7 below:

**Table 7: Davyhulme summary of changes since October 2023 submission**

Scheme	AMP8			AMP9			Total Cost		
	Business Plan	DD Response	Variance	Business Plan	DD Response	Variance	Business Plan	DD Response	Variance
Davyhulme - P removal	£123m	£75m	-£49m	£168m	£132m	-£36m	£292m	£207m	-£85m
Davyhulme - Sanitary	£356m	£218m	-£139m	£139m	£194m	£55m	£495m	£411m	-£84m

Source: UUW analysis

**Deliverability and complexity**

As described in our approach to deliverability for AMP8 (UU PR24 Submission, UUW 47 Deliverability) we have a proven track record in the delivery of large construction projects that meet intended environmental outcomes. Previous examples of delivering significant environmental drivers at large WwTWs include Blackburn (AMP6), Oldham (AMP6) and Davyhulme (AMP5/6), which are comparable to the plans in place for AMP8. We have demonstrated that we have experience of successfully implementing appropriate solutions (such as activated sludge type systems) that perform to the required regulatory water quality standards. Our experienced team supported by the skills of our supply chain enable high quality, on time and on budget delivery.

From our experience of consistent delivery, we were concerned with the delivery of the 6mg/l BOD solution by 2030 which was a key driver for us pursuing a phased delivery to 2035, along with the efficiency this phasing also enables. By securing agreement for 8mg/l BOD in AMP8 and 6mg/l BOD in AMP9 we are confident in the delivery schedule.

Whilst P recovery is new to UU, it is not new to the UK water industry and the supply chain. The preferred solution put forward for these schemes predominately utilises conventional solutions in conjunction with P recovery. It should be noted that P recovery accounts for small proportion of the overall scheme costs.

We have assessed the interventions against the regulatory date and in Figure 1 below we demonstrate our high-level schedule to deliver these schemes over AMP8 and AMP9.



**Summary position: Davyhulme WwTW**

From our work with the Environment Agency from October 2023, we now have clear, confirmed requirements and are confident sanitary and P schemes at Davyhulme are clear, robustly costed and deliverable. A summary of the position of Davyhulme sanitary and P schemes against the Ofwat criteria is set out below.

**Table 8: Summary of Davyhulme WwTW against Ofwat Large Scheme Gated Process criteria – August 2024**

Scheme	Scope Uncertainty	Cost Uncertainty	Deliverability/ complexity
Davyhulme – sanitary parameters	Low	Low	Low
Davyhulme – P-removal	Low	Low	Low

Source: UUW analysis

**Davyhulme summary for sanitary and P standards due to the now confirmed solution:**

- **Scope:** In May 2024 the scenario for BOD was agreed with the Environment Agency for 8mg/l in AMP8, progressing to 6mg/l in AMP9. This agreed, and preferred scope has allowed us to efficiently phase delivery and avoid abortive costs.
- **Cost:** Since October 2023 we have engaged with our supply chain and challenged our scope and costs. We have been able to refine and reduced the cost in AMP8 for Davyhulme by £188m
- **Deliverability:** With clarity of the requirement for 8mg/l BOD we are confident in the delivery schedule for this preferred plan, and we are in the initial stages of delivering Davyhulme to the agreed regulatory dates.

We have included detailed engineering supporting evidence as an appendix to this document. This can be found in appendix [UUWR 11.1 Appendix – Davyhulme WwTW](#).

**5.1.4 Commercial Challenges to Delivering Davyhulme via the Large Scheme Gated Process**

We have undertaken an impact assessment on the schedule if Davyhulme progressed through the Large Scheme Gated Process. Figure 2 below is our high-level schedule that summarises the output of this analysis and provides evidence of how we forecast significant risk in achieving the regulatory dates for both sanitary parameters and P removal schemes. We are confident we can meet the regulatory date if this project progresses through the Enhanced Engagement and Cost Sharing process, but we forecast that we would be at high risk of not achieving these dates if Davyhulme remains in the Large Scheme Gated Process. Our key observations of this additional risk to the schedule is that the Large Scheme Gated Process delivery programme must accommodate:

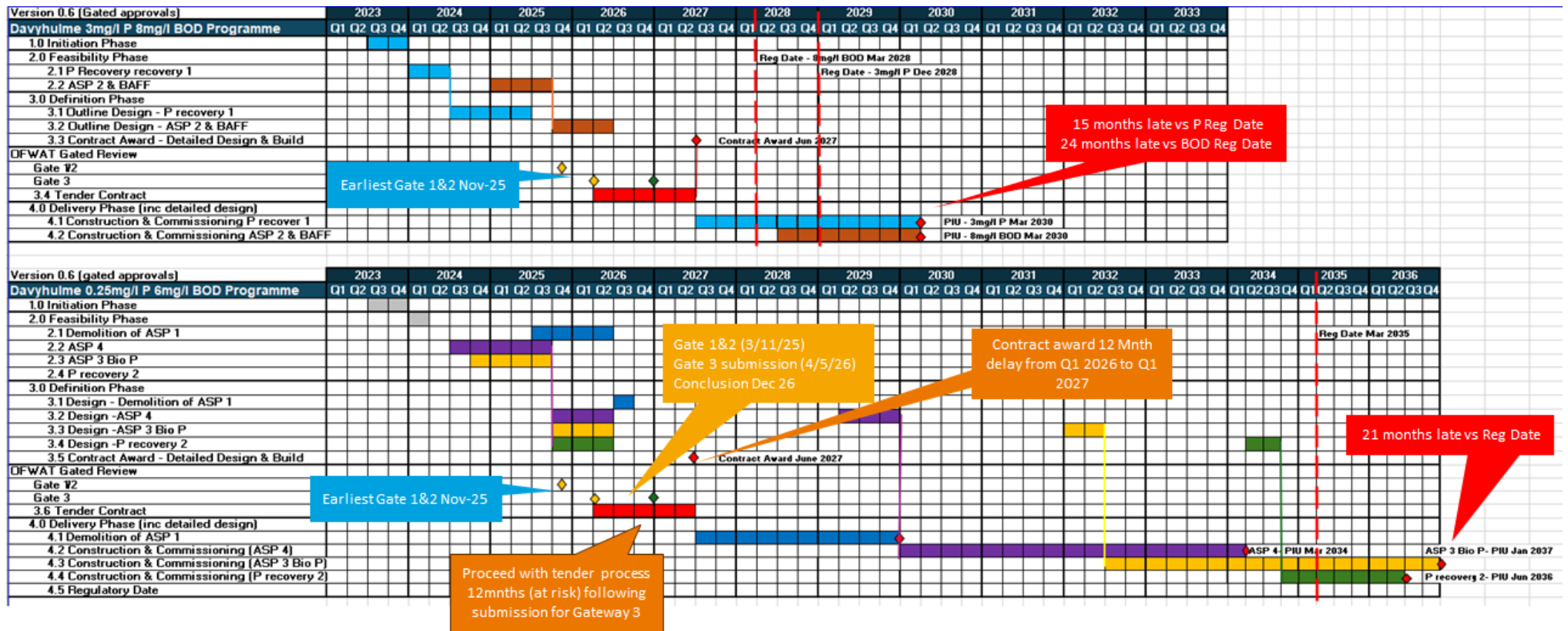
- A new procurement process as these schemes would need to be competitively tendered, as the Enterprise model is unlikely to work with the gated process. We have set out the wider commercial implications of the Large Scheme Gated Process in section 7.2.
- A consultation process for each gate submission (as outlined by Ofwat at Draft Determination<sup>1</sup>) that we consider will add time to the schedule while evidence is produced and assessed. Contractual arrangements and governance will not enable ongoing work and expenditure on the scheme while there is risk of intervention and uncertainty on solution approvals and allowances.

Our Enterprise contract is in place and all partners are incentivised to deliver best value and innovative solutions. Davyhulme BOD and P schemes are included in the Enterprise contract and early works have already started to safeguard delivery and achieve the regulatory commitment date. A high-level assessment of the impact of the Large Scheme Gated Process to schedule is outlined in Figure 2 below.

<sup>1</sup> PR24 draft determinations: expenditure allowances page 181



Figure 2: Davyhulme delivery schedule assessed through the Large Scheme Gated Process



Source: UUW analysis

## 5.2 Eccles WwTW

### 5.2.1 Our Position in October 2023 - Eccles WwTW (Sanitary parameters)

In October 2023, discussions with the Environment Agency were ongoing with regards to Eccles WwTW. We wanted to continue to explore the opportunity to accelerate future spill reduction schemes into AMP8 and deliver a longer-term resilient solution at Eccles WwTW. Table 9 below summarises the core plan at October 2023 submission against the Ofwat criteria for the Large Scheme Gated Process.

**Table 9: Summary of Eccles WwTW against Ofwat Large Scheme Gated Process criteria – October 2023**

Scheme	Scope Uncertainty	Cost Uncertainty	Deliverability/ complexity
Eccles – sanitary and P parameters	High	High	Medium

Source: UUW analysis

#### Eccles summary at the time of the October 2023 submission:

- **Scope:** At the October 2023 submission we had ongoing discussions regarding the acceleration of AMP9 spill drivers and the securing of a resilient discharge point. The alternative discharge point, while robust had additional drivers attached. With this unresolved, along with spill drivers not confirmed the scope uncertainty was higher than typical.
- **Cost:** The multiple options for the scenarios were costed. However, as a preferred option was not secure, refinement of the costs had not been possible. As a result, there was relatively high cost uncertainty.
- **Deliverability:** Schedules were developed for the possible scenarios. However detailed constructability and impact on the construction schedule was still in development. As a result, there was a medium level of deliverability uncertainty.

#### Core plan vs adaptive plan

In Table 10 below we summarise the scope variability between the core plan and adaptive plan in October 2023. The key difference is the introduction of spill reduction requirements at three locations (Eccles WwTW inlet overflow, Eccles WwTW storm tanks and SAL0018 CSO). Whilst the additional spill reduction requirements do not impact our original solution to meet the revised sanitary parameters, there were ongoing discussions regarding the discharge point for Eccles WwTW which had implications for additional determinands to be agreed with Environment Agency.

**Table 10: Current and future permit requirements at Eccles WwTW**

	Existing permit	Our core plan target permit limits Oct-23	Our adaptive plan target permit limits Oct-23
BOD	20 mg/l (95%ile)	6mg/l (95%ile)	6mg/l (95%ile)
Ammonia	8 mg/l (95%ile)	1mg/l (95%ile)	1mg/l (95%ile)
Spill reduction	n/a	None	10 spills per annum (1 spill per summer)
Cypermethrin	n/a	0.0019205 ug/l (99%ile)	None
Nonyl-Phenol	n/a	1.5 ug/l (99%ile)	None

Source: UUW analysis

### 5.2.2 Scope and Cost Development work for Core and Adaptive Plans

We undertook an optioneering assessment to identify what solutions were available to meet the new requirements. We concluded that a “do nothing” or “optimise existing asset” solution would not be feasible as the existing process does not have capability to achieve the new requirements. Our detailed engineering

appendix ([UUWR 11.2 Appendix – Eccles WwTW](#)) describes in more detail why the existing asset arrangement cannot achieve the new requirements, and the process undertaken for the development of this scheme.

We subsequently focused our assessment on new asset solutions and identified a new secondary treatment process as the preferred option. This treatment process would include new deep final settlement tanks (FSTs), new biological P activated sludge plant (ASP) and new sludge thickening plant, that would replace trickling filters which are not capable of meeting the new environmental standards. We also discounted the standard ASP option as it had a higher whole life cost NPV (over a 30-year appraisal) than the Bio-P ASP. Table 11 below describes permit limits considered and the intervention options that have been assessed as part of the solution development phase. Green assessment represents where the intervention meets the permit standard, and a red categorisation indicates where the intervention would not meet the requirement.

**Table 11: Potential options for Eccles WwTW**

Option considered	Permit limits under consideration	
	6 BOD 95%ile Mar 2028	1 NH4 95%ile Mar 2028
Do nothing (Re-use existing only)		
Enhance existing operation		
New standard build ASP, new final tanks, new tertiary solids removal with dual point chemical dosing, alkalinity balancing, storm storage and sludge caking		
Refurbished PSTs, New EBPR (Bio-P) ASP and new Final Tanks with inlet works modifications		

Source: UUW analysis

The only factor that was uncertain, albeit an important factor, at the October 2023 submission was the confirmed requirements with Environment Agency. We worked hard to reach certainty throughout the PR24 process and it achieved March 2024, as is described in the next section.

### 5.2.3 Development of the plan from October 2023 to date

#### Scope certainty

We continued discussions with the Environment Agency beyond October 2023 to establish the appropriate phasing of interventions over AMP8 and AMP9, as we were keen to avoid abortive spend, seek lower costs for customers and agree a delivery programme which both UUW and the Environment Agency had confidence in.

Through discussions with the Environment Agency, we have agreed to accelerate the three overflow requirements from AMP9 into AMP8. Furthermore, we have secured agreement to retain our existing discharge point for the adaptive plan which has introduced new AMP8 drivers, namely:

- A tighter P requirement of 0.25mg/l, with a regulatory date of the end of AMP8. This requirement forms part of a longer-term strategy to meet a future P permit limit of 0.1mg/l. As part of the recent EA discussions, it has also been agreed that the 0.1mg/l will be achieved by 2032. This approach helps to avoid abortive spend across AMP8 and AMP9.
- Tightening of requirements for chemical drivers (Cypermethrin and Nonyl-Phenol), to be achieved by the end of AMP8.

Table 12 below sets out the details of the new permit requirements that have been agreed with Environment Agency in relation to P and chemical drivers.

**Table 12: New permit requirements at Eccles WwTW introduced since October-23**

	Existing permit	Our core plan target permit limits Oct-23	New permit limits Aug 24
Cypermethrin	n/a	0.0019205 ug/l (99%ile)	0.000186 (99%ile)
Nonyl-Phenol	n/a	1.5 ug/l (99%ile)	0.82 ug/l (99%ile)
Phosphorus	1.1 mg/l (annual average)	None	0.25 mg/l (annual average)

Source: UUW analysis

We obtained written agreement from the Environment Agency on 28 March 2024 to accelerate the three overflow requirements and include the additional P and chemical drivers within AMP8. This was subsequently reflected through the WINEP released on 5 July 2024.

We now have a clear set of requirements for Eccles WwTW and therefore scope certainty.

**Improving cost certainty**

From the submission in October 2023 the entire project cost of £177m was attributed to the sanitary drivers for BOD and ammonia for the ASP solution described above.

Since then, a new cypermethrin driver has been confirmed which can be delivered within the sanitary scheme and further validates the need to move to the biological activated sludge plant solution. The cost assessment for the intervention delivering this new requirement is complex. We have proposed a biological P activated sludge plant that is delivering multiple outcomes that may not be reflected in cost assessment models.

The new 0.25mg/l P driver could not be delivered within the costs of the October submission, so we have been developing the integrated solution through Transition Investment programme. We appointed Jacobs as our Strategic Solution Partner in February 2024, and since then we have been working with their global experts and this engagement has allowed us to refine the additional investment of £21.408m associated with the low P driver which has been optimised within the overall scope of the Eccles scheme.

With this acceleration of requirements into AMP8, we have undertaken additional engineering and estimating activities to establish the best solution and corresponding costs. We challenged ourselves to remove a tertiary solids treatment intervention. However, given the tight iron permit of 2.75 mg/l at Eccles WwTW, we determined the best option was to include a new enhanced tertiary solids treatment, with new ferric dosing and caustic dosing. This solution provides a no regrets solution for the AMP9 0.1mg/l P driver and allows us to achieve what would be an extremely challenging AMP9 regulatory date.

We have included detailed engineering supporting evidence as an appendix to this document. This can be found in appendix [UUWR 11.2 Appendix – Eccles WwTW](#) and describes in more detail why we are confident in the adaptive solution for Eccles WwTW to meet the AMP8 drivers, maintaining our excellent environmental performance and delivers best value for customers.

As part of our business plan submission, and ongoing refinement of costs, we have carried out a methodical approach to estimating and assurance. A summary of our approach is as follows: -

**Cost Estimating**

To develop robust and efficient costs we have used an estimating approach based on data collected over several AMPs (AMP3 to AMP7) updated to reflect present market conditions under which we and the UK water industry are operating. We have partnered with Mott Macdonald who provide us and other UK water and sewerage companies with an estimating service, which allows them to provide a benchmarked approach to our PR24 capital cost estimates.

Our Investment Programme Estimating System (referred to as the PR24 Estimating Database / IPES) is an in-house estimating tool which is used to provide costs for the Price Review and scheme development. The system is a robust repository for data from previous AMP periods, which sits along-side estimated data, to allow us to develop project and programme estimating.

**Cost Assurance**

Mott MacDonald has provided us a specialist estimating function utilising costing data derived from our construction data which supports our scheme estimates. Post business plan submission, to give us additional confidence that our cost estimates produced by Mott MacDonald were accurate, we undertook a self-assurance exercise by appointing ChandlerKBS. We asked ChandlerKBS to price up a selection of our projects using their Cost Intelligence database (CID). ChandlerKBS are an international commercial company who have provided estimating services to a number of UK infrastructure businesses, including a number of water companies. Their CID contains data derived from their clients over 20 years including tens of thousands of cost curves and capital projects.

The outcome of this review was that an overall variance of 3% against the Mott MacDonald estimate shows a close level of correlation and gives us confidence in the costs we have developed for our schemes. This was backed up by the output report: "The overall ChandlerKBS estimate total for the fourteen projects is 3% lower than the UU PR24 estimates. ChandlerKBS consider the UU PR24 estimates to be comparable with our industry cost data" (ChandlerKBS 2024).

With the confirmed need we have refined the scope and challenged ourselves on costs. We consider that the estimate which has been developed bottom up is robust, and we have tested this with third party input. With the detailed site assessment of constructability, outlined in more detail in appendix [UUWR 11.2 Appendix – Eccles WwTW](#), we consider there are factors that may not be well represented through econometric models.

Furthermore, the solution for Eccles is also a biological P removal plant which we observe is not specifically assessed through econometric models. For these factors we propose a separate assessment, beyond a model assessment is required for this scheme.

**Deliverability and complexity**

Throughout the development of this scheme, we assessed schedules for delivering each of the scenarios. With clarity of the requirements, we have been able to refine the schedule for the preferred option and are confident in delivering to the regulatory date.

While the agreed permit limits are stringent, the interventions to achieve the standards are not novel or complex. We have assessed the interventions against the regulatory date and in Figure 3 below we demonstrate our high-level schedule to deliver these schemes in AMP8.



**Summary position: Eccles WwTW**

From our work with the Environment Agency following the October 2023 submission we have secured clear regulatory requirements, therefore we consider the P removal, chemical and sanitary parameters scheme at Eccles to be clear, robustly costed and deliverable, as is summarised below: -

**Table 13: Summary of Eccles WwTW against Ofwat Large Scheme Gated Process criteria – August 2024**

Scheme	Scope Uncertainty	Cost Uncertainty	Deliverability/ complexity
Eccles – sanitary parameters	Low	Low	Low

Source: UUW analysis

**Eccles summary for sanitary, chemical and P standards due to the now confirmed solution:**

- **Scope:** In March 2024 the regulatory position and discharge location for the adaptive plan were agreed with the Environment Agency. This clarification has allowed the appropriate scope to be refined and secured. We now assess the scope uncertainty to be low.
- **Cost:** With clear, stringent requirements we have been able to assess the interventions to deliver all the requirements and refine the costs. We now assess the cost uncertainty to be low.
- **Deliverability:** With clarity of the requirements and discharge location we are confident in the delivery schedule for this preferred plan to the agreed regulatory dates. We now assess the deliverability risk to be low.

**5.2.4 Commercial Challenges to Delivering Eccles via the Large Scheme Gated Process**

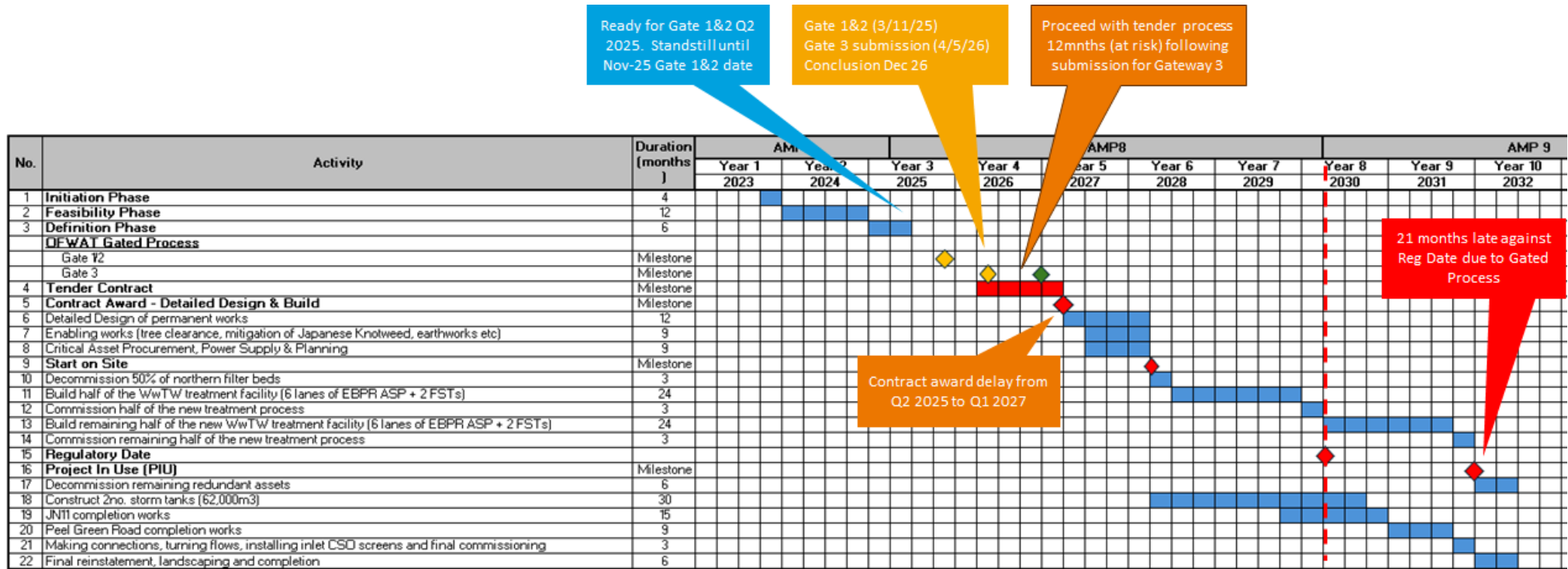
We have undertaken analysis of what would happen if Eccles progressed through the Large Scheme Gated Process. Figure 4 summarises the output of this analysis and provides evidence of the forecast significant risk to achieving the regulatory date for the scheme. We are confident that we can meet the regulatory date if this project progresses through the Enhanced Engagement and Cost Sharing process but forecast that we would be at high risk of not achieving the regulatory date if Eccles remains in the Large Scheme Gated Process. Our key observations of this additional risk to the schedule is that the Large Scheme Gated Process delivery programme must accommodate:

- A new procurement process as these schemes would need to be competitively tendered as the Enterprise model no longer works through the Large Scheme Gated Process. We have set out the wider commercial implications of the Large Scheme Gated Process in section 7.2.
- A consultation process for each gate submission (as outlined by Ofwat at Draft Determination<sup>2</sup>). For example our schedule is to be through the feasibility and definition phase by the end of the financial year 2025, but submission into the gated process is not until November 2025. We forecast that this will lead to delays while the submission is made and while evidence is assessed through the gateway. It is unlikely that governance and contractual arrangements support working at financial risk while there is uncertainty on solution approvals and allowance through this process, leading to risk in achieving the regulatory date.

Our Enterprise contract is in place and all partners are incentivised to deliver best value and innovative solutions. Eccles has been included in the Enterprise contract and early works have already started to safeguard delivery and achieve the regulatory commitment date. The impact of the Large Scheme Gated Process on the Eccles schedule in Figure 4 below.

<sup>2</sup> PR24 draft determinations: expenditure allowances page 181

Figure 4: Eccles delivery schedule assessed through the Large Scheme Gated Process



Source: UUW analysis



## 5.3 Wigan WwTW

### 5.3.1 Our Position in October 2023 - Wigan WwTW

When the WINEP was published on 5 July 2023, it became clear that EnvAct\_IMP1 and WFD\_IMPm drivers (stringent ammonia and phosphorus limits) at Wigan and Skelmersdale WwTWs were accelerated from AMP9 to AMP8 following new Government guidance to the North West Environment Agency.

We still wanted to deliver our adaptive plan and optimise rainwater management opportunities before having to lock in the final design for a new wastewater treatment works taking flows from both Wigan and Skelmersdale WwTW. On 19 July 2023, UUW submitted a proposal to move these limits back into AMP9. The Environment Agency reviewed our proposal, but concluded on 17 August 2023 that these requirements were to remain within the AMP8 WINEP.

At the time of business plan submission, we wanted to pursue further discussions with the Environment Agency on this matter. Consequently, we had a core plan and variants to the core plan. Table 14 below summarises the core plan at October 2023 submission against the Ofwat criteria for the Large Scheme Gated Process.

**Table 14: Summary of Wigan WwTW against Ofwat Large Scheme Gated Process criteria – October 2023**

Scheme	Scope Uncertainty	Cost Uncertainty	Deliverability/ complexity
Wigan WwTW – P-removal	Medium	Medium	Medium

Source: UUW analysis

#### Wigan summary at the time of the October 2023 submission:

- **Scope:** At the October 2023 submission we had ongoing discussions regarding the potential to phase requirements into AMP9 to support rainwater management interventions in AMP8 and the initiation of a possible DPC scheme to deliver in AMP9. We were clear with the two scenarios: phased delivery to AMP9 or requirements delivered in full in AMP8, but with discussion ongoing with the Environment Agency scope uncertainty remained a medium level risk
- **Cost:** The two principal options for the scenarios were costed. However, as a preferred option was not secure refinement of the costs had not been possible. As a result, there was a medium level of cost uncertainty.
- **Deliverability:** Schedules were developed for the possible scenarios. However, detailed constructability and impact on the schedule was not as advanced as we would have preferred. As a result, there was a medium level of deliverability uncertainty.

#### Core plan vs adaptive plan

Our core plan included the July 2023 WINEP requirements of 0.25mg/l Phosphorus and 1mg/l ammonia. The significant improvements to the treatment assets were challenging to the regulatory date and linked to Pennington Flash overflows schemes which are also significant.

Our adaptive plan identified opportunities for catchment nutrient balancing, rainwater management interventions and the potential for a DPC delivery approach that would be possible if the stringent limits could be delivered in AMP9. We considered this added value to the catchment through nature-based solutions and delaying investment to allow for efficient solutions and delivery through DPC.

### 5.3.2 Scope and Cost Development work for Core and Adaptive Plans

We undertook an optioneering assessment, using site specific information, to identify what solutions were available to address the requirements. We concluded that “do nothing” or “optimise existing asset” solutions were not feasible and subsequently focused our assessment on new asset solutions. Our detailed engineering appendix ([UUWR 11.3 Appendix Wigan](#)) describes in more detail why the existing asset arrangement cannot achieve the new requirements and the process undertaken for the development of this scheme.

We identified a new biological phosphorus removal activated sludge plant as the preferred option. This solution will treat the effluent from both Wigan and Skelmersdale WwTWs as these sites are very close to each other with flows coming together ahead of the joint UV treatment. This preferred option was assessed against alternative chemical dosing options and treatment at the respective works individually. At Wigan WwTW this solution includes a new biological phosphorus ASP, new final tanks and new rapid gravity filters (RGF). Sludge thickening and blending is also included to accommodate biological phosphorus sludge production. The solution at Skelmersdale WwTW includes the installation of diversion pipework to connect to an existing pipeline to Wigan WwTW. The effluent from Skelmersdale will join the Wigan effluent downstream of the primary settlement tanks.

Table 15 below describes permit limits considered and the intervention options that have been assessed as part of the solution development phase. Green assessment represents where the intervention meets the permit standard, and a red categorisation indicates where the intervention would not meet the requirement.

**Table 15: Potential options for Wigan WwTW**

Option considered	Permit limits under consideration			
	Pennington Flash FTFT increase March 2030	Wigan 1 mg/l Ammonia March 2030	Wigan 0.25mg/l Phosphorus March 2030	Skelmersdale 0.25mg/l Phosphorus March 2030
Do nothing (Re-use exiting assets)	Red	Red	Red	Red
Repurpose existing assets	Red	Red	Red	Red
Tertiary nitrification & chemical dosing with tertiary solids removal	Red	Green	Green	Green
New biological phosphorus activated sludge process & new UV asset	Green	Green	Green	Green

Source: UUW analysis

With rainwater management interventions within the upstream catchment and optimisation we strived to avoid, or at least minimise, any increase to existing flow to full treatment, beyond the increase of transferred flow from Skelmersdale to Wigan. The design assumptions and process unit sizing allow capacity for projected growth in both catchments. A wastewater treatment model based on wastewater characterisation sampling data demonstrated the sizing of the units is appropriate and will operate as intended and the effluent has been assessed as being suitable for enhanced biological phosphorous removal (EBPR) throughout the year due to significant trade effluent contribution and hence strong crude influent.

### 5.3.3 Development of the plan from October 2023 to date

#### Improving scope certainty

We continued discussions with the Environment Agency beyond October 2023 to explore the opportunity to phase the EnvAct\_IMP1 and WFD\_IMPm drivers into AMP9. The Environment Agency maintained its position set out in August 2023, and UUW has now fully accepted this position.

We now have a clear set of requirements for Wigan WwTW and therefore scope certainty.

**Improving cost certainty**

Following submission of our Business Plan in October 2023, we have continued to develop the catchment solution through our Transition Investment programme. We appointed Jacobs as our Strategic Solution Partner in February 2024, and since then we have been working with their global experts to leverage advancements in technology and identify efficiencies in our catchment solution for Wigan.

Our high-level solution remains unchanged since October 2023. However, by leveraging global expertise we have moved to a more intensified biological phosphorus removal technology. This has allowed us to reduce the size of the assets and reduce costs from £353m to £279m.

By engaging with our Strategic Solution Partner and working with global experts, we have continued confidence that our preferred solution represents the best value to customers and the environment.

As part of our business plan submission, and ongoing refinement of costs, we have carried out a methodological approach to estimating and assurance. A summary of our approach is as follows:

**Cost Estimating**

To develop robust and efficient costs we have used an estimating approach based on data collected over a number of AMPs (AMP3 to AMP7) updated to reflect present market conditions under which we and the UK water industry are operating. We have partnered with Mott MacDonald who provide us and other UK water and sewerage companies with an estimating service, which allows them to provide a benchmarked approach to our PR24 capital cost estimates.

Our Investment Programme Estimating System (referred to as the PR24 Estimating Database / IPES) is an in-house estimating tool which is used to provide costs for the Price Review and scheme development. The system is a robust repository for data from previous AMP periods, which sits along-side estimated data, to allow us to develop project and programme estimating.

**Cost Assurance**

Mott MacDonald has provided us a specialist estimating function utilising costing data derived from our construction data which supports our scheme estimates. Post business plan submission, to give us additional confidence that our cost estimates produced by Mott MacDonald were accurate, we undertook a self-assurance exercise by appointing ChandlerKBS. We asked ChandlerKBS to price up a selection of our projects using their Cost Intelligence database (CID). ChandlerKBS are an international commercial company who have provided estimating services to a number of UK infrastructure businesses, including a number of water companies. Their CID contains data derived from their clients over 20 years including tens of thousands of cost curves and capital projects.

The outcome of this review was that an overall variance of 3% against the Mott MacDonald estimate shows a close level of correlation and gives us confidence in the costs we have developed for our schemes. This was backed up by the output report: "The overall ChandlerKBS estimate total for the fourteen projects is 3% lower than the UU PR24 estimates. ChandlerKBS consider the UU PR24 estimates to be comparable with our industry cost data" (ChandlerKBS 2024).

With the confirmed need we have refined the scope and challenged ourselves on costs. We consider that the estimate which has been developed bottom up is robust, and we have tested this with third party input. With the detailed site assessment of constructability, outlined in more detail in appendix [UUWR 11.2 Appendix – Eccles WwTW](#), we consider there are factors that may not be well represented through econometric models.

Furthermore, the solution for Eccles is also a biological P removal plant which we observe is not specifically assessed through econometric models. For these factors we propose a separate assessment, beyond a model assessment is required for this scheme.

**Improving deliverability**

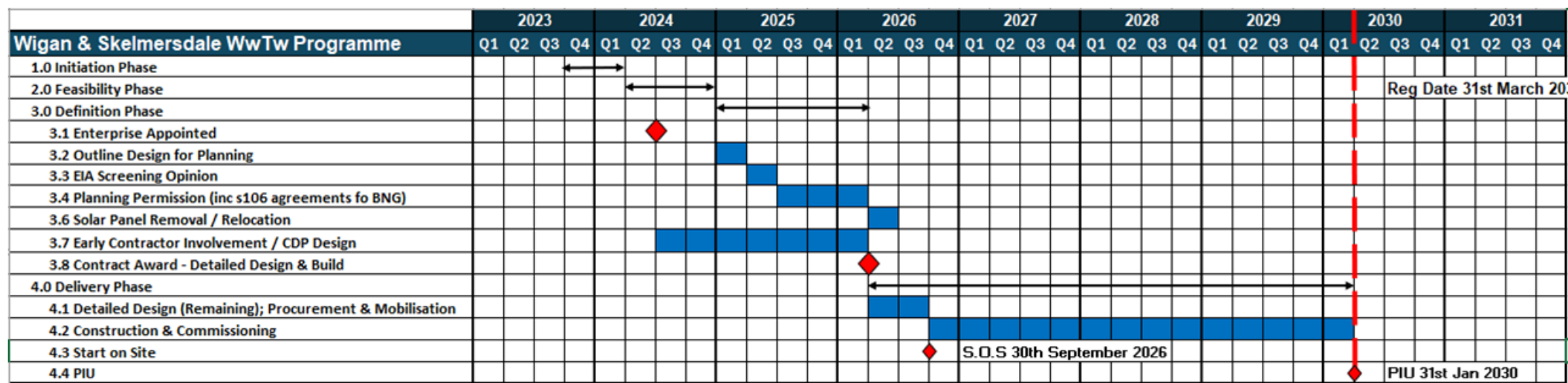
We have continued to understand the specific constructability challenges at Wigan with ground conditions and site constraints remain the most significant areas of concern. Since the October 2023 submission, we have improved our understanding of ground conditions onsite and, using the more intensified biological phosphorus removal technology, have improved confidence that our preferred solution can be constructed within the existing site footprint.

We have reviewed the sequencing of construction activities to provide confidence that we can achieve the regulatory dates. This review has identified specific challenges at the incoming pressurised gravity main from Skelmersdale and construction of the new secondary treatment feed pumping station. We are now seeking to establish the most appropriate mitigation to address these challenges.

By understanding the specific site challenges in terms of constructability and deliverability at Wigan, we have improved confidence that we can deliver our preferred solution by the agreed regulatory date.

The interventions to achieve the standards are not novel or complex and we have assessed the interventions against the regulatory date and in Figure 5 below we demonstrate our high-level schedule to deliver these schemes in AMP8 if the scheme is to be managed through the Enhanced Engagement and Cost Sharing scheme.

Figure 5: Wigan delivery schedule



Source: UUW analysis

The schedule above demonstrates our plan to deliver to the secure environmental requirements as agreed with the Environment Agency as outlined in the WINEP published 5 July 2024.

By securing our Enterprise model we have begun early contractor involvement that is supporting confidence in delivering this schedule to the regulatory dates for the P, chemical and sanitary requirements.

**Summary position: Wigan WwTW**

Post the October 2023 business plan we explored the potential for phasing the low P driver into AMP8 with the Environment Agency. However, national regulatory guidance meant that this part of our adaptive plan was not possible. We now considered the P removal scheme at Wigan to be clear, costed and deliverable as summarised below:

**Table 16: Summary of Wigan WwTW against Ofwat Large Scheme Gated Process criteria – August 2024**

Scheme	Scope Uncertainty	Cost Uncertainty	Deliverability/ complexity
Wigan – P removal	Low	Low	Low

Source: UUW analysis

**Wigan summary P standards due to the now confirmed solution:**

- **Scope:** The accelerated low P standard requirement for Wigan was confirmed with the Environment Agency to be in line with the core plan as per the October 2023 business plan submission. This clarification has allowed the appropriate scope to be refined and secured. We now assess the scope uncertainty to be low.
- **Cost:** With clear, stringent requirements we have been able to assess the interventions to deliver all the requirements and refine the costs. We now assess the cost uncertainty to be low.
- **Deliverability:** With clarity on the requirements we are confident in the delivery schedule for this preferred plan to the agreed regulatory dates. We consider the deliverability risk to be low.

**5.3.4 Commercial Challenges to Delivering Wigan via the Large Scheme Gated Process**

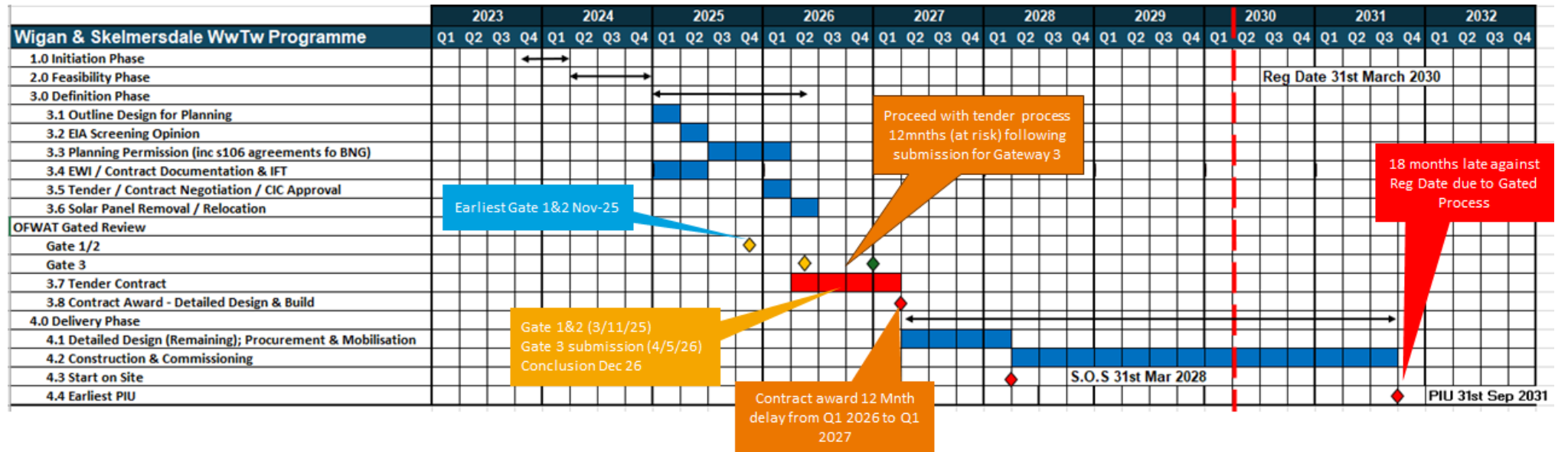
We have undertaken analysis of what would happen if Wigan progressed through the Large Scheme Gated Process. Figure 6 summarises the output of this analysis and provides evidence of the forecast significant risk to achieving the regulatory date for the scheme. We are confident that we can meet the regulatory date if this project progress through the Enhanced Engagement and Cost Sharing scheme. However, if the Wigan scheme remains in the Large Scheme Gated Process we forecast the project completion is over 20 months late against the regulatory date. This is because the Large Scheme Gated Process must accommodate:

- A new procurement process as these schemes would need to be competitively tendered for as the Enterprise model no longer works through the Large Scheme Gated Process. We have set out the wider commercial implications of the Large Scheme Gated Process in section 7.2.
- A consultation process required for each gate submission as outlined by Ofwat at Draft Determination<sup>3</sup> that we consider will add time to the schedule while evidence is produced and assessed. Contractual arrangements and governance will not enable ongoing work and expenditure on the scheme while there is risk of intervention and uncertainty on solution approvals and allowances.

We can meet the regulatory date if this project progresses through the Enhanced Engagement and Cost Sharing process, the impact of the Large Scheme Gated Process on the Wigan schedule is outlined in Figure 6 below. Our Enterprise contract is in place and all partners are incentivised to deliver best value and innovative solutions. Wigan P removal scheme has been included in the Enterprise contract and early works have already started to safeguard delivery and achieve the regulatory commitment date.

<sup>3</sup> PR24 draft determinations: expenditure allowances page 181

Figure 6: Wigan delivery schedule assessed through the Large Scheme Gated Process



Source: UUW analysis

## 6. Investments more suited to the Large Scheme Gated Process

### 6.1 Background to Windermere and late WINEP requirements

Our discussions with the Environment Agency about future investment needs are ongoing, and we discuss current and future projects on a regular basis. The stakeholder and media interest and reports of algal blooms in the water of Lake Windermere has been a regular topic of discussion.

Lake Windermere is a nationally significant waterbody, attracting visitors from around the world. We have kept pace with our regulatory requirements and delivered improvements across the catchment. The lake has four areas designated as bathing waters and these are consistently rated as excellent by the Environment Agency.

However, in recent years scrutiny and interest in the lake, the water quality and its appearance has escalated. The impact of discharges to the lake from public wastewater treatment works and the estimated 1,800 privately owned systems, plus warming from climate change, means it is likely we need act faster.

We had already proposed accelerated infrastructure schemes for assets discharging into Windermere, including, Hawkshead pumping station, Near Sawrey WwTW, Elterwater pumping station and Ambleside WwTW through Defra’s Accelerated Infrastructure Delivery Project. However, continued discussions with the EA identified further opportunities to improve a wider portfolio of assets to leading standards of treatment and performance.

The new requirements stipulated in the WINEP of 5 July 2024 require us to improve our facilities to levels of performance that are pushing the boundaries of innovation and what is technically achievable, and to deliver ambitions for spill targets as soon as practicable. This programme of work includes 9 of the 10 WwTWs in the catchment (Windermere WwTW is not included as it is already delivering stringent discharge standards) and 3 additional overflows that discharge to the lake.

However, as these requirements were late additions to the WINEP in July this year, we have only had a short period of time to assess the scope and develop solutions with costs and a schedule. We have not had sufficient time to refine scope and costs to a level where we have complete confidence in them and further work with stakeholders, including the Environment Agency, needs to take place. We have significant experience of delivering projects in the Windermere catchment in AMPs 5 and 6, and know that, due to the vital tourism industry in the area, we cannot always actively construct and deliver new infrastructure all year round, as the impact on tourist traffic and access would be too great. In addition, the landscape, complex geology and National Park planning conditions adds time and cost to construction. As a result, at this stage we are uncertain of the exact scope, cost and delivery schedule across all the drivers, as summarised in Table 17 below: -

**Table 17: Assessment of the Windermere schemes against the Large Scheme Gated Process criteria**

Scheme	Scope Uncertainty	Cost Uncertainty	Deliverability/ complexity
Windermere Overflows (3 across the catchment)	Medium	High	High
Windermere WwTWs (9 across the catchment)	Medium	High	High

Source: UUW analysis

Upon assessment of the interventions and our interpretation of the Large Scheme Gated Process described at Draft Determination we consider these schemes are ideally placed for the process.



### 6.1.1 Clear Requirements

The WINEP of 5 July 2024 outlined the regulatory requirements and these are set out in Table 18 below: -

**Table 18: New WINEP requirements for Windermere from WINEP 23 July 2024**

Discharge	WINEP driver	Completion Date	Requirement Summary
Glebe Road PS	EnvAct_IMP3, EnvAct_IMP4 and EnvAct_IMP5	31/03/2035	10 spills pa and 1 spill per summer
Hawkshead PS	EnvAct_IMP4	31/03/2035	10 spills pa (WFD already in AMP8)
Grasmere WwTW inlet overflow	EnvAct_IMP4 and EnvAct_IMP5	31/03/2035	10 spills pa
Near Sawrey WwTW	WFD_ND	31/03/2030	8mg/l ammonia, 2mg/l phosphorus
Langdale WwTW	WFD_ND	31/03/2030	20mg/l ammonia, 1mg/l phosphorus
Hawkshead WwTW	WFD_ND	31/03/2030	17mg/l BOD, 25mg/l suspended solids, 4mg/l ammonia (0.8mg/l P already in AMP8)
Troutbeck WwTW	U_IMP1	13/05/2030	30mg/l BOD, 45mg/l suspended solids, 20mg/l ammonia, 2mg/l phosphorus
Far Sawrey WwTW	U_IMP1	13/05/2030	30mg/l BOD, 45mg/l suspended solids, 20mg/l ammonia, 2mg/l phosphorus
4 WwTW to phosphorus TAL (Ambleside, Grasmere, Langdale, Hawkshead)	25YEP_IMP (25-year Environment Plan)	31/03/2030	0.25mg/l phosphorus (annual average)
5 WwTW to phosphorus TAL (Near Sawrey, Ferry House, Outgate, Far Sawrey, Troutbeck)	25YEP_IMP (25-year Environment Plan)	31/03/2030	0.5mg/l phosphorus (annual average)

Source: UUW analysis

### 6.1.2 Scope uncertainty

With the clear requirements from the Environment Agency in the WINEP released on the 5 July 2024 we have been able to develop a defined scope, following an options phase, across all the assets and we have challenged ourselves to explore innovative solutions that can deliver in this environmentally sensitive area.

We have developed an enhancement case which sets out the process and detailed scope and costs in DD representation document [UUWR 78 – Windermere Enhancement Case](#).

While we are confident that the scope we have developed could meet the requirements, we have not been able to do detailed optioneering or optimisation of the programme of work. As a consequence, the additional time that the Large Scheme Gated Process allows would be valuable in refining the approach and therefore the costs of this significant undertaking.

### 6.1.3 Cost uncertainty

We have utilised our estimating tools and experience of project delivery in the Windermere catchment to develop costs for all the schemes identified. We have run internal cost challenge processes since the 5 July 2024 WINEP, but a full cost challenge and assurance has not been possible in the time available.

Project delivery in the Windermere catchment is inherently complex due to tourism restrictions and challenging ground conditions. Detailed development of options and refinement of costs has not been possible to complete in

full since the WINEP of 5 July 2024, as such we consider that this batch of projects is well placed to be managed within Ofwat's proposed Large Scheme Gated Process to allow for detailed and robust cost assessment to be undertaken.

#### **6.1.4 Uncertainty due to deliverability and complexity**

Working in the Windermere catchment is challenging, and we have experience in managing sensitive issues relating to access, traffic management, impact on tourism, land constraints and ground conditions that often encounter rock which all contribute to a challenging environment to construct in.

In-terms of deliverability the rocky ground conditions adds time and complexity to schemes. Then critically, traffic management and restrictions imposed because of tourism means that there are periods of the year when construction is prohibited.

We have a delivery schedule in place; however, we consider that the geology and access issues in this tourist hotspot add uncertainty related to deliverability and complexity and therefore appropriate for the Large Scheme Gated Process. With the initial schedule, in Figure 7 below, we have produced against the regulatory dates and with the uncertainty on this group of projects we consider the Large Scheme Gated Process is complementary.

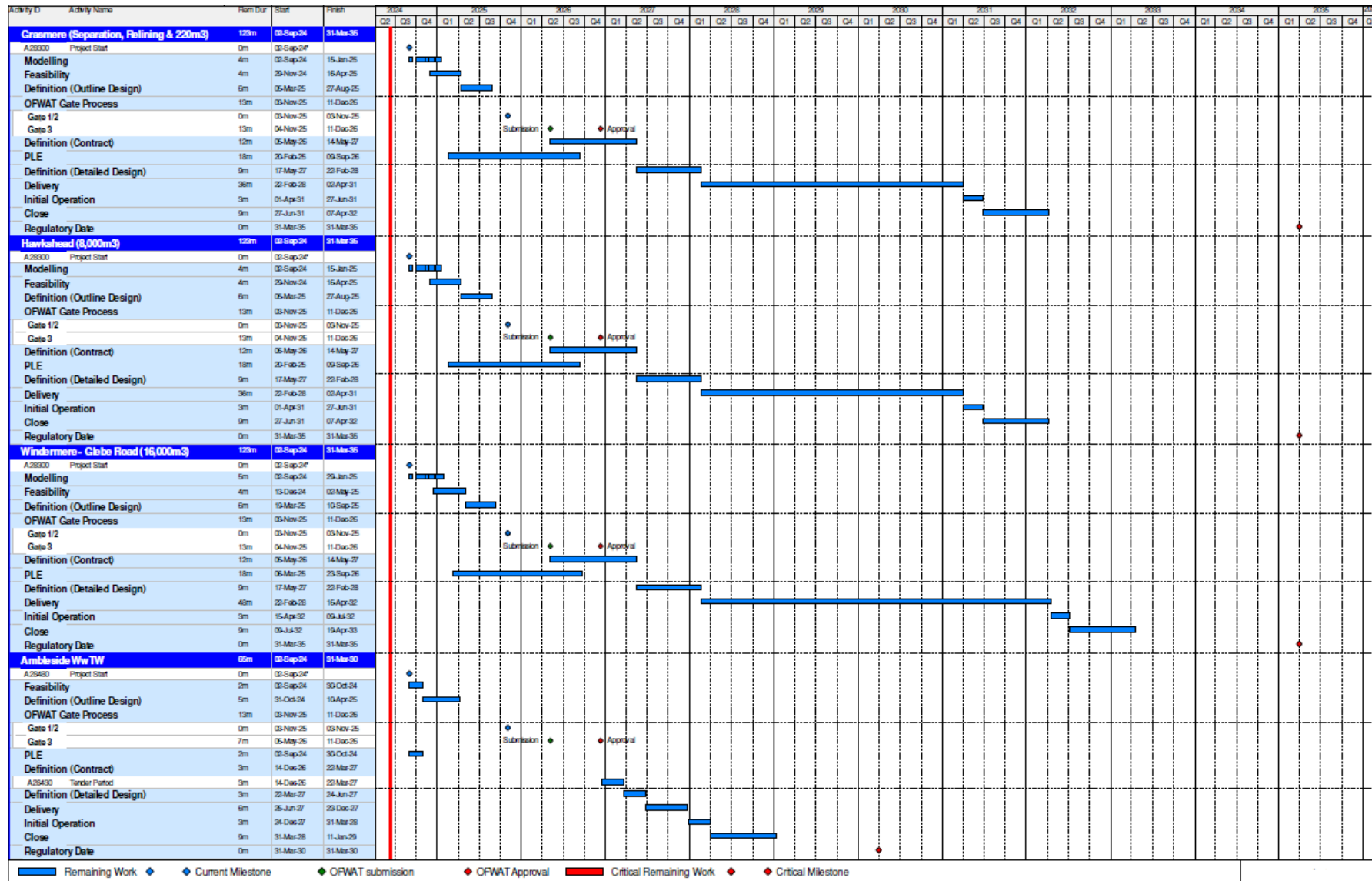
These challenges in-terms of deliverability and complexity are described further in DD representation document [UUWR 78 – Windermere Enhancement Case](#).

#### **6.1.5 Commercial Opportunities for Delivering Windermere via the Large Scheme Gated Process**

Our commercial delivery Enterprise contract that is now established to deliver AMP8 does not include the late additional requirements for the Windermere catchment. Therefore, the challenges that are described in section 5.1.3 do not apply. Placing the Windermere batch of schemes into the proposed Large Scheme Gated Process allows us to utilise our other delivery partners and potentially initiate new commercial discussions and market engagement for this new requirement.

This approach will allow ourselves and regulators to collectively mature our thinking, with the new process to deliver WINEP requirements in an innovative way that we anticipate will be efficient and effective in delivering for customers.

Figure 7: Windermere delivery schedule assessed through the Large Scheme Gated Process



Source: UUW analysis

## 7. Financing and Commercial Implications

### 7.1 Financial Implications

Ofwat's approach to 'contingent allowances' for the Draft Determinations excludes this expenditure from the PR24 financial model and as such, creates two main issues from a financing perspective that Ofwat should look to address in advance of the Final Determinations to make the Large Scheme Gated Process a viable alternative to making ex-ante allowances for large schemes.

First, it makes no (ex-ante) allowances for RCV run-off or allowed returns within AMP8 revenues or customer bills beyond a 6% development allowance. Whilst no allowance for RCV run-off is a timing issue, with the run-off allowed for in future periods, if there is no adjustment for financing costs as part of the end of period reconciliation and PR29 midnight adjustment, this would represent a permanent loss of return that is required to finance the very substantial investment. Based on the data at Draft Determination, we estimate the quantum of revenue not allowed relating to the allowed return to be £59m.

Second, as expenditure relating to the Large Scheme Gated Process will not be included in the Final Determination RCVs or revenues, it will lead to a deterioration in reported credit rating metrics and, most notably, will increase gearing by c5% by 2030<sup>4</sup>.

#### 7.1.1 Addressing the shortfall in financing costs

Of the £1.3bn contingent allowance, c£765m relates to spend in AMP7/8 with the remaining relating to AMP9. Based on the Draft Determination run-off rates and WACC, we estimate the quantum of revenue not allowed therefore to be £112m (2022-23 prices). Of this, £59m relates to the allowed return. The punitive nature of the financing arrangement therefore means that United Utilities does not receive sufficient financing – including through a return on capital – to deliver its required outputs in this area.

Absent an adjustment for financing costs as part of the end of period reconciliation and PR29 midnight adjustment, this would represent a permanent loss of return that is required to finance the very substantial investment. We do not agree that this approach provides a reasonable return on investments which – in the case of WINEP schemes – are fundamental to the company performing its functions.

We note that there are a number of inconsistencies between the approach to the Large Scheme Gated Process and the approach taken to other regulatory mechanisms where Ofwat deals with uncertainties:

- the IDoK,
- the 'PR19 WINEP reconciliation', and
- the 'Enhanced Engagement and Cost Sharing' mechanisms.

For each of these mechanisms, Ofwat makes an allowance for the financing costs of the investment, either ex-ante or ex-post. However, Ofwat considers it reasonable that companies with contingent allowances through the Large Scheme Gated Process should look to absorb the additional financing costs as an implicit efficiency challenge.

We do not agree with this approach, noting that the financing costs are legitimately incurred in the course of performing our functions.

Whilst for companies with only a small amount of the programme applied to the gated mechanisms, it is possible that these unreimbursed costs could be relatively small. However, that is not the case here given the quantum of our expenditure included in the Large Scheme Gated Process and therefore the allowed return excluded from the revenue allowances for these schemes estimated to be £59m. The value of contingent allowance for UW in the

<sup>4</sup> 5% of the draft determination RCVs.

Draft Determination is £1.3bn is greater than the IDoK materiality threshold (of £194m<sup>5</sup>). It is unrealistic to assume the absorption of these legitimately incurred costs.

For the Final Determination, we would therefore expect Ofwat to adopt an approach that is consistent with the other regulatory mechanisms that it uses to deal with other areas of uncertainty, in which it makes provisions for the allowed return. It should therefore commit to making the adjustment to the RCV at PR29 that includes the time value of money.

### 7.1.2 Adverse impact on credit metrics

The Draft Determination approach to the Large Scheme Gated Process means that £765m has been excluded from the revenue building blocks and therefore, would need to be financed at shareholders expense through AMP8. As this expenditure will not be included in the Final Determination RCVs or revenues, it will lead to a deterioration in reported credit rating metrics, as the debt and interest incurred to fund the schemes will be included in AMP8 ratios without any offsetting in period compensation (RCV or revenue).

We estimate that, based on draft determination, the impact of expenditure in relation to the Large Scheme Gated Process not being reflected in the in-period RCV would increase gearing by c5% by 2030 and risks placing considerable strain on credit rating metrics, for what should simply be a difference in timing.

Furthermore, we estimate that revenue of £54m has been excluded from the Draft Determination in relation to RCV run-off and a further £99m of additional net interest payments over the period will be incurred (assuming nominal debt raised at Ofwat's PR24 cost of new debt). This results in a short-term cash flow shortfall and will therefore put strain on income statement based credit metrics.

The strain on credit rating metrics is overlaid on to a financeability assessment that has been set with minimal headroom and so any additional negative move is significant. We note that this impact on credit metrics has been recognised by rating agencies. In its 14 August 2024 report on the sector<sup>6</sup> Moody's stated:

*“Around 85% and 92% of water and wastewater enhancement expenditure, respectively, will be subject to PCDs or a gated approval process. The latter will provide funds only if certain steps are achieved at several points or gates over the regulatory period. As a result, companies will have to prefund some of these contingent gated allowances during the AMP7 period. The true-up adjustment to reflect these investments in the regulatory capital value, or RCV, and revenue will only apply at the start of the next period, although Ofwat may consider in-period adjustments if required to support financeability on a notional basis. United Utilities Water Limited (A3 stable), Southern Water, Northumbrian Water Ltd. (Baa1 stable) and Thames Water have the largest proportionate exposure to these gated investments and their in-period financial ratios may be weaker as a result (Exhibit 6).”*

In addition, in our experience in AMP7 with significant additional spend above our PR19 FD scope, rating agencies are unwilling to adjust financial ratios for end of period true-ups without Ofwat published evidence. Whilst the agencies have indicated that they will consider these matters ‘in the round’ there is a risk that the less certain elements (end of AMP true up) may be overlooked, whilst the certain increase in debt and interest will not.

We note that Ofwat has indicated that where the gated schemes mean that financeability may become an issue for a notional company, an in-period adjustment could be sought. Whilst the reduced revenues, higher interest and lower RCV will all have adverse impacts on credit metrics during AMP8, we recognise that the reduced revenues is a timing difference rather than lost value as the full value of the investment will be reconciled at PR29 (and that we expect the cost of financing to be included within Ofwat's allowance as set out in 7.1.1 to remunerate for the higher interest incurred). However, the RCV issue is not as readily manageable, and we suggest that Ofwat looks to address this in order for the gated mechanism to be acceptable without the need for an in-period adjustment process.

<sup>5</sup> Based on 10% of total appointed revenue in 2023-24, as reported in table 2I of the APR

<sup>6</sup> Moody's Sector In-Depth: Regulated Water Utilities – United Kingdom. Regulator's draft determination increases sector risk 14 Aug 2024 ([https://www.moody.com/research/doc--PBC\\_1417545](https://www.moody.com/research/doc--PBC_1417545))

To alleviate this risk, we propose that for the Final Determination, Ofwat should commit to updating its approach to publishing the Final Determination RCVs annually to reflect the addition of the contingent allowance(s) so any approved investment can be taken into consideration by the credit rating agencies.

Finally, we note that there are further knock on effects of the large gated schemes, in that the exclusion of gated spend from financeability assessments will result in those assessments giving false comfort on financeability for those companies with significant levels of gated schemes. In addition, the calculated equity issuance required to ensure financeability may be underestimated resulting in the loss of equity issuance allowances. Further the large gated schemes could result in the embedded / new debt split in the WACC being understated. These items are discussed further in our financing representation document [UUWR 70 - Balance of Risk and Return and Financeability](#).

## 7.2 Commercial Implications

In addition to the financial implications, there are commercial implications with the Large Scheme Gated Process. In our PR24 submission, we presented a document 'UUW47 – Deliverability' describing in detail the methodology and approach through which the capital programme will be procured and successfully delivered in AMP8.

In UUW47 we describe our delivery 'runways,' including our approach to large complex design and build projects, where we will engage our Strategic Solutions Identification Partner (SSIP) early with our Construction Delivery Partners (CDP) to identify innovative solutions that can be delivered through an Enterprise agreement. Enterprise delivery models are identified as best practice for the delivery of large and complex projects. The benefits of moving to an Enterprise way of working are set out in the Institution of Civil Engineers' 'From Transactions to Enterprises' report<sup>7</sup>.

Our Enterprise contract is in place and all partners are incentivised to deliver best value and innovative solutions. Davyhulme BOD and P schemes, Eccles WwTW and Wigan WwTW are all included in the Enterprise contract and early works have already started to safeguard delivery and achieve the regulatory commitment dates.

On review of the Large Scheme Gated Process, we consider that the gated process is at odds with the Enterprise model, because commitments cannot be provided on outcomes to be achieved or certainty of associated funding.

Meanwhile, our other procured delivery routes comprising of the 'design and build' and 'build-only' contractors are not compatible for these large schemes, as the contractors do not have the capacity or capability to deliver such projects. Non-Enterprise delivery routes are optimised for delivery of smaller schemes.

A consequence of Davyhulme BOD and P, Eccles WwTW and Wigan WwTW remaining in the Large Scheme Gated Process will mean we will need to notify our contracted Enterprise Partners of this significant change and review the contractual implications. It is possible that the Large Scheme Gated Process breaks the contract and we need to re-start market engagement for contractors to build the schemes at Davyhulme, Eccles WwTW and Wigan WwTW. This will lead to delays and risks to the regulatory dates and will add costs from a new round of contractual negotiations. Further analysis of this was provided in Section 5.

## 8. Approach for final determination

We support the principle of gated processes where they provide time and scope for improvements to company business plans and we are actively engaging with Ofwat's proposal by suggesting Windermere investments as an addition to the process. However, we consider that there should be substantial revisions to the Large Scheme Gated Process to resolve commercial and financing issues.

In this section we outline the actions that we consider Ofwat should take at Final Determination.

---

<sup>7</sup>Institution of Civil Engineers report: [https://www.ice.org.uk/media/jjkn5bxo/ice\\_report\\_v6\\_22\\_03\\_17\\_pages\\_digital.pdf](https://www.ice.org.uk/media/jjkn5bxo/ice_report_v6_22_03_17_pages_digital.pdf)

## 8.1 Approach for the four schemes currently in the Large Scheme Gated Process

### Remove Davyhulme WwTW P and BOD, Eccles WwTW and Wigan WwTW

We consider that the four schemes included in the Large Scheme Gated Process should be removed and placed into the Enhanced Engagement and Cost Sharing scheme. On all four schemes we have clarity of the requirements and with that the scope, costs and delivery plan to deliver the requirements on time.

Crucially the four schemes are included in the Enterprise contract and early works have already started to safeguard delivery and achievement of the regulatory commitment dates. If the schemes remain in the Large Scheme Gated Process we will have to notify the Enterprise which will lead to a contractual review and potentially a re-tendering process that will significantly put at risk delivery to the regulatory dates.

On moving the four schemes to Enhanced Engagement and Cost Sharing scheme we recommend the four schemes are treated as a deep dive cost assessment rather than through a modelled approach as we are aware that these schemes are large biological P removal assets and with constructability challenges, we expect them to be viewed as outliers against the model assessment. Our observations of the limitations of the P removal cost assessment models are discussed in detail in DD representation document [UUWR 33 - Phosphorus removal](#), with a summary of relevant areas as follows:

- Ofwat has developed four econometric models to assess phosphorus removal costs. Two of these models are backwards-looking, using data on the AMP7 phosphorus removal programme, while two are forward-looking, using data on companies' proposed phosphorus expenditure within AMP8. These models perform well in terms of statistical significance, though there is a noticeable deterioration in the model fit of the backward-looking AMP7 models. PR24 is the first time Ofwat has used a scheme-level econometric approach.
- Ofwat assesses outliers separately. It identifies outliers using the Cooks Distance statistic. Outliers are subject to a deep dive assessment. 'Efficient' outliers receive the business plan value rather than the (higher) modelled value. 'Inefficient' outliers receive the modelled value if insufficient evidence has been provided to support higher cost forecasts.
- Ofwat does not distinguish between chemical and biological solutions, because it considers that biological solutions will only be adopted at a small number of sites in AMP8.

The final point of not distinguishing between chemical and biological solutions being key to Wigan, Davyhulme and Eccles discussed in this document as they are large biological P removal solutions. We consider that large biological P removal solutions will not perform well through existing model assessments. In our solution development, we have considered chemical supply resilience, impact to customers from traffic movements from chemical tanker deliveries and whole life cost assessments that we propose are not considered in existing model assessments.

We are supportive of biological P removal techniques, along with the Environment Agency. However, if insufficient allowance to deliver biological P removal at these sites materialises, we may be guided towards the lowest capex solution and to what we consider to be a lower value and less resilient solution of chemical P removal and the disruption that the extensive tanker movements this will result in at these sites.

### Place in Enhanced Engagement and Cost Sharing Scheme

We propose that: -

- Davyhulme WwTW P and BOD (in more detail in appendix [UUWR 11.1 Appendix – Davyhulme WwTW](#)),
- Eccles WwTW (in more detail in appendix [UUWR 11.2 Appendix – Eccles WwTW](#)) and
- Wigan WwTW (in more detail in appendix [UUWR 11.3 Appendix – Wigan](#))

are placed into the Enhanced Engagement and Cost Sharing scheme. We consider that the protections provided are sufficient for customers, water companies and delivery partners given an appropriate cost assessment process is undertaken.

We are confident that the Enhanced Engagement and Cost Sharing scheme would not contradict the Enterprise contract we have secured, and delivery can continue to progress towards the regulatory dates.

## **8.2 Include the Windermere Catchment schemes in the Large Scheme Gated Process**

With amendments to the Large Scheme Gated Process we support the approach and propose additional requirements we have for the Windermere catchment to enter the process for AMP8. We describe these interventions and amendments to the WINEP from the 5 July 2024 in section 6. Given the late addition of these requirements, the large scale of the schemes, plus the complexity of working in the lake district that the 12 schemes are appropriate for the Large Scheme Gated Process as a grouped programme of work.

## **8.3 Refining the Large Scheme Gated Process**

### **8.3.1 Financing**

We support the notion of the Large Scheme Gated Process, however in its current form the mechanism seems to introduce significant additional risk for companies, as described in section 7. The details of the scheme need to reflect and address those concerns, for example:

- In order to prevent a permanent loss of return that is required to finance schemes that fall under the Large Scheme Gated Process, Ofwat should make an adjustment for financing costs as part of the end of period reconciliation and PR29 midnight adjustment.
- Given the risk of significant unfunded costs being incurred, it is imperative that this is reflected in the actual RCV within period, otherwise this will cause undue stress to gearing metrics and credit ratings – this should naturally be resolved in cases where a reasonable up front cost estimate has been assumed, rather than just the 6% proposed by Ofwat.
- Given that this is placed to address significant scope/cost uncertainty, Ofwat should take a symmetric approach at Gate 3 must be symmetric – i.e. Ofwat should equally be accepting of where scheme scope/costs have legitimately increased.

We consider that these amendments would enhance the Large Scheme Gated Process for AMP8.

### **8.3.2 Changes to PCDs**

Ofwat stated that for schemes under the Large Scheme Gated Process, a decision would be taken at the equivalent RAPID gate 3 for cost allowances and definition of scheme and PCD.

Given that we are proposing that the four schemes are moved to Enhanced Engagement and Cost Sharing process, we would like the corresponding PCDs for these schemes to be reinitiated.