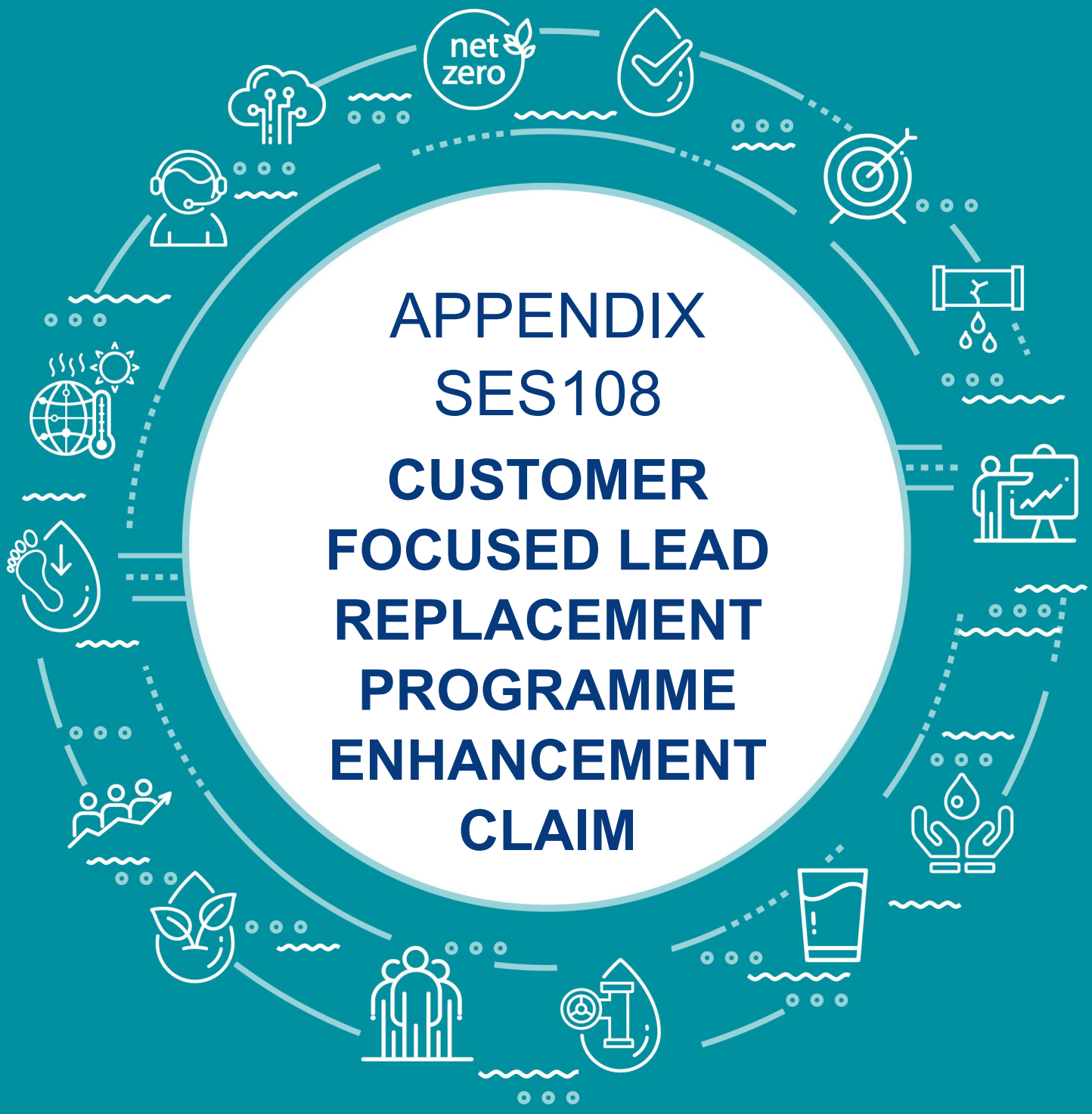
APPENDIX SES108

CUSTOMER FOCUSED LEAD REPLACEMENT PROGRAMME ENHANCEMENT CLAIM



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Our PR24 Business Plan included forecast enhancement expenditure associated with the replacement of lead pipes that supply water to customers who are at most risk from lead exposure.

This representation case has been developed in response to Ofwat's PR24 draft determinations, which has only partially allowed our enhancement expenditure.

We have identified some issues in the way we reported our base versus enhancement expenditure costs and volumes, which has unfortunately led to the misinterpretation of our lead replacement enhancement case. As a result, Ofwat's modelling in its draft determinations appears to incorrectly allocate a significant element of our lead replacement base costs to our enhancement expenditure.

In addition, we provide our views on the approach Ofwat has taken in its benchmarking and unit cost analysis of our lead replacement enhancement costs, including its assessment of our schools programme, and where we think improvements can be made ahead of final determinations.

We consider these issues to be easily resolvable and in this representation we provide supporting information to clarify our proposed lead replacement programme and the associated £3.8m enhancement expenditure, as well as suggestions on how Ofwat should update its analysis ahead of final determinations.

A. Introduction and Context

1. In October 2023 we submitted Appendix SES006 Water Quality Enhancement Case, which included our customer focussed lead replacement programme. Within this enhancement case we expressed our ambition to replace lead pipes that supply water to customers who are at most risk from lead exposure. The enhancement expenditure will eliminate lead exposure at high-risk premises, including schools, colleges and nurseries, through the replacement of both lead communication and supply pipes, through to the point where water is drawn for consumption. This is part of a progressive programme of works, over multiple AMPs, which in AMP8 focuses on those premises considered most at risk, namely primarily schools.
2. This planned investment goes considerably beyond our statutory duty, which requires us to replace lead communication pipework when lead is detected at a concentration greater

than 10 ug/l in drinking water samples collected at customers' premises, because schools were identified as a key priority by our customers and stakeholders.

3. Within our water quality enhancement case the total enhancement expenditure for our lead replacement programme in AMP8 is £3.816 million. For reference, the total forecast base expenditure for our lead programme is £3.384 million. Our base lead replacement programme has been established based on long term average replacement rates since 2010. Our base programme includes:

   - Replacement of all lead communication pipes during mains replacements (estimated at 200 per annum);
   - Replacement of all lead communication pipes when customers replace their part of the lead service pipe (estimated at 200 per annum);
   - Replacement of all lead communication pipes due to non-quality service failures, including leakage and flow & pressure (estimated at 50 per annum);
   - Reactive replacement of all lead communication pipes where lead is detected in any sample which is greater than 5 µg/l, which is half of the regulatory Standard (estimated at 100 per annum); and
   - Where the lead detected in any sample is greater than 10 µg/l, which is the regulatory Standard, in addition to the communication pipe, we will offer the replacement of the customer owned supply pipe (estimated at 30 per annum).

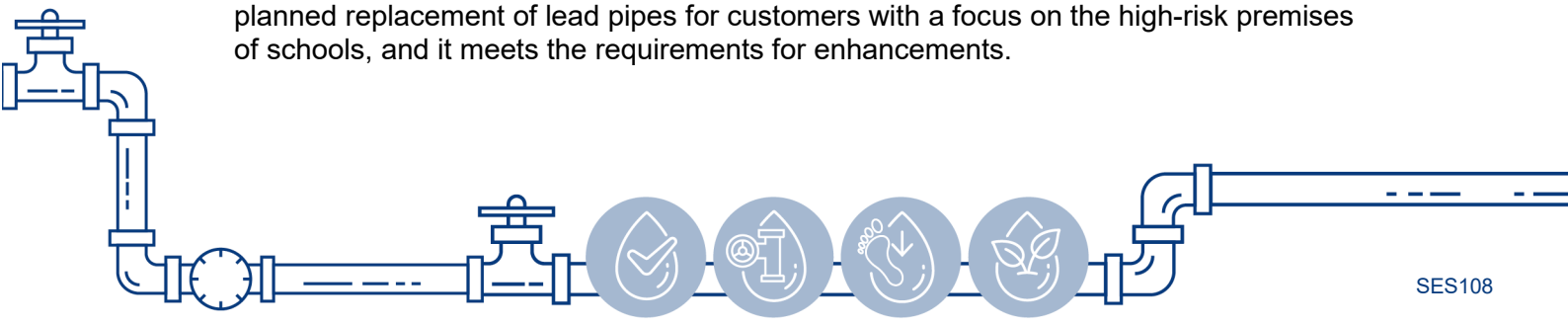
4. The interventions put forward in our enhancement case were designed to deliver best value for our customers. Our engagement with customers and stakeholders told us that lead replacement is an area that they expect us to invest in over the next 25 years. When presented with different options in our Bespoke 2 research, 70% of customers chose an option that involved targeting schools, colleges and nurseries, as young people are most at risk from lead exposure.

5. In its PR24 draft determinations, Ofwat allowed £1.638 million for our enhancement expenditure lead replacement programme, £2.178 million less than what we requested. Ofwat determined this allowance using a combination of econometric modelling and unit cost analysis. Ofwat has also provided allowances for our base expenditure lead replacement programme, which were modelled using its base models.

6. The Drinking Water Inspectorate completed a detailed assessment of our lead strategy that was used to develop our lead replacement programme submitted at draft determination. They responded to us, copying in Paul Martin of Ofwat, on 8 November 2023 (DWI scheme reference: SES1 - Lead Strategy Final Decision Letter – Support Proposed Scheme) supporting the need for this scheme.

   "Based on the information submitted by the company, the Inspectorate supports the need for this scheme. As previously advised in letters from the Inspectorate, the lead strategy should be in the Company Business Plan and their future strategy. In accepting the company's lead strategy, this should not be interpreted as an acceptance of an overall strategy to reduce the longer-term outcomes by 2050"

7. In not fully allowing for our enhancement case, Owat puts at significant risk our ability to fully deliver our lead replacement programme, which is supported by the DWI, and complete in full our planned programme of works at schools. We maintain that all enhancement expenditure proposed within the enhancement case is required to meet our planned replacement of lead pipes for customers with a focus on the high-risk premises of schools, and it meets the requirements for enhancements.



8. This document provides our response to Ofwat's draft determinations on our enhancement expenditure lead replacement programme, and is structured in the following way:

   - In Section B, we clarify our base and enhancement expenditure forecasts, which we think have been misinterpreted in Ofwat's draft determinations, because of the issues that we identified in our original submission.
   - In Section C, we provide our thoughts on Ofwat's proposed approach to benchmarking and unit cost analysis of our enhancement expenditure and set out our views on how these costs have been treated as part of Ofwat's overall assessment of our enhancement expenditure.

B. The costs and volumes associated with our lead replacement enhancement expenditure programme

9. The costs and volumes associated with our lead replacement enhancement programme submitted in our original Business Plan tables included some errors and as a result we think they have unfortunately been misinterpreted by Ofwat in its draft determinations.[1] To support Ofwat ahead of its final determinations, and to provide additional clarity on the costs and volumes we have forecast, we have resubmitted these numbers as part of our overall response.

10. For the avoidance of doubt, we have forecast £3.816 million (in 2022/23 prices) in enhancement expenditure for our lead replacement programme in AMP8. The number of lead replacements, broken down by base and enhancement expenditure programmes is provided in Table 1 below, including Business Plan table references where appropriate.

Table 1: Volumes associated with lead replacement base and enhancement expenditure programmes

Volumes description	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	AMP8 Total
Total volumes									
Number of lead communication pipes replaced or relined for water quality	-	-	-	-	-	-	-	-	-
Number of lead communication pipes replaced for other reasons **(CW6.22)**	424	353	310	609	609	609	609	609	**3,045**
Number of external lead supply pipes replaced or relined **(CW6.24)**	-	-	-	89	89	89	89	89	**445**
Number of internal lead supply pipes replaced or relined	-	-	-	-	-	-	-	-	-
Total comms and supply pipes replaced or relined	**424**	**353**	**310**	**698**	**698**	**698**	**698**	**698**	**3,490**
Base volumes									
Number of lead communication pipes replaced or relined for water quality	-	-	-	-	-	-	-	-	-
Number of lead communication pipes replaced for other reasons[2]	424	353	310	550	550	550	550	550	**2,750**

[1] The errors identified in our original submission are predominately related to the reporting of costs and volumes across tables CW6 and CW3. Our base costs and volumes, associated with our lead replacement base expenditure programme were incorrectly included in some of the enhancement costs and volumes.

[2] Our base volumes of 550 per annum are reported in CW6.22, included in our total volume of 609 per annum for AMP8 alongside our enhancement volumes of 59 per annum.

Number of external lead supply pipes replaced or relined[3]	-	-	-	30	30	30	30	30	**150**
Number of internal lead supply pipes replaced or relined	-	-	-	-	-	-	-	-	**-**
Total comms and supply pipes replaced or relined	**424**	**353**	**310**	**580**	**580**	**580**	**580**	**580**	**2,900**
Enhancement volumes									
Number of lead communication pipes replaced or relined for water quality	-	-	-	-	-	-	-	-	**-**
Number of lead communication pipes replaced for other reasons[4]	-	-	-	59	59	59	59	59	**295**
Number of external lead supply pipes replaced or relined[5]	-	-	-	59	59	59	59	59	**295**
Number of internal lead supply pipes replaced or relined	-	-	-	-	-	-	-	-	**-**
Total comms and supply pipes replaced or relined	**-**	**-**	**-**	**118**	**118**	**118**	**118**	**118**	**590**

Source: SES Water Data

11. The total costs associated with our lead replacement programmes, broken down by base and enhancement expenditure, are set out in Table 2 below, including Business Plan table references where appropriate.

Table 2: Costs associated with lead replacement base and enhancement expenditure programmes (£k)

Cost description	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	AMP8 Total
Total costs									
Lead communication pipes replaced or relined	915	762	669	778	778	778	778	778	**3,889**

[3] Our base volumes of 30 per annum are reported in CW6.24, included in our total volume of 89 per annum for AMP8 alongside our enhancement volumes of 59 per annum.
[4] Our enhancement volumes of 59 per annum are reported in CW6.22, included in our total volume of 609 per annum for AMP8 alongside our base volumes of 550 per annum.
[5] Our enhancement volumes of 59 per annum are reported in CW6.24, included in our total volume of 89 per annum for AMP8 alongside our base volumes of 30 per annum.

External lead supply pipes replaced or relined	-	-	-	662	662	662	662	662	**3,311**
Internal lead supply pipes replaced or relined	-	-	-	-	-	-	-	-	-
Total	**915**	**762**	**669**	**1,440**	**1,440**	**1,440**	**1,440**	**1,440**	**7,200**
Base costs									
Lead communication pipes replaced or relined	915	762	669	647	647	647	647	647	**3,237**
External lead supply pipes replaced or relined	-	-	-	29	29	29	29	29	**147**
Internal lead supply pipes replaced or relined	-	-	-	-	-	-	-	-	-
Total	**915**	**762**	**669**	**677**	**677**	**677**	**677**	**677**	**3,384**
Enhancement costs									
Lead communication pipes replaced or relined **(CW3.115)**	-	-	-	130	130	130	130	130	**652**
External lead supply pipes replaced or relined **(CW3.109)**	-	-	-	633	633	633	633	633	**3,164**
Internal lead supply pipes replaced or relined **(CW3.112)**	-	-	-	-	-	-	-	-	-
Total	**-**	**-**	**-**	**763**	**763**	**763**	**763**	**763**	**3,816**

Source: SES Water Data

12. In our Business Plan data tables, and in Ofwat's draft determinations, our costs and volumes were misrepresented, which has impacted Ofwat's analysis of the efficiency of our enhancement expenditure programme. For example, we question Ofwat's reference to communication pipes being the core of the enhancement programme as our enhancement programme is primarily focused on the replacement of lead supply pipes. The majority of our planned communication pipe programme (550 of 609 per annum) is considered base expenditure.

13. Of the planned supply pipe replacements, those that exceed the lead standard (30 per annum) we have considered as base expenditure; the other 59 we have considered as enhancement expenditure and split them out as 25 per annum on the investigation of shared services and 34 per annum for non-standard supply pipes (large diameter and of considerable length) at schools, on non-household premises.

14. Ofwat's draft determinations state that our requested lead communications pipe replacement is £2.5 million for AMP8.[6] As presented in Table 2 above, our actual

[6] Ofwat PR24 Draft Determinations Expenditure Allowances – Enhancement Cost Modelling appendix, Table 37.

requested enhancement allowance for lead communications pipe is £0.652 million for AMP8. Similarly, in Ofwat's draft determinations lead enhancement expenditure model, Ofwat calculates our unit costs for the replacement of communication pipes using a total number of pipes replaced value of 500 rather than the 295 that we forecast as part of our enhancement programme.

15. We consider that these issues with the reporting and interpretation of our original submission, has impacted Ofwat's assessment of our forecast enhancement expenditure in its draft determinations, and our enhancement expenditure allowance. The impact of this is that our allowed enhancement expenditure is significantly less than what we require to deliver this programme of works.

16. To remedy this Ofwat should reassess our lead replacement expenditure using the resubmitted costs and volumes information provided above and included as part of our revised Business Plan data tables. The specific Business Plan data tables, where we have identified issues with our original submission requiring changes to the information we report, are summarised as follows:

    - CW6 - Water network+ - Mains, communication pipes and other data.
        - CW6.21: No. of lead comm pipes replaced for quality.
        - CW6.22: No. of lead comm pipes replaced for other reasons.
        - CW6.23: Total length of lead communication pipes replaced or relined.
        - CW6.24: No. of external Lead supply pipes replaced.
        - CW6.25: Total length of supply pipes replaced.
        - CW6.26 & CW6.27: Internal Lead supply pipes.
    - CW3 - Enhancement expenditure - water resources and water network+
        - CW3.106 – CW3.117: Lead enhancement costs.

17. The updates to CW6 and CW3 then follows through into corresponding updates in tables CW9, CW13, CW14, CW15 and LS3.

C. Ofwat's benchmarking and unit cost analysis of our enhancement expenditure

18. As set out in Section B, we consider that the issues that we have identified in our original submission may have impacted Ofwat's assessment of our lead replacement base and enhancement expenditure programmes at draft determinations, including its benchmarking and unit cost analysis. In this section we set out our understanding of the approach Ofwat has taken in its assessment of our lead communication pipes, lead supply pipes, and our schools programme. We also provide our thoughts where we think improvements can be made ahead of final determinations.

Lead communication pipes

19. In Ofwat's draft determinations it has assessed our costs for the replacement of lead communication pipes as follows:

    (a) Unit cost analysis – Ofwat calculated a forecast unit cost using our (incorrect) forecast cost and volume information, and then used it within the calculation of a forecast median unit cost for the sector (SES Water £4,963.60, sector wide £1,581.30). Ofwat then produced a set of modelled allowances using its forecast median unit cost alongside companies forecast volumes. Our allowance was calculated at £0.791 million.

    (b) Econometric modelling – Ofwat used an econometric model to produce a set of modelled allowances, using forecast number of lead communication pipes replaced or relined for water quality as a cost driver. Our allowance was calculated at £1.719 million.

20. Ofwat then applied equal weight to the modelled allowances calculated using its forecast median unit cost (£0.791 million) and the modelled allowances from its econometric model (£1.719 million) to produce our allowance for the replacement of lead communication pipes of £1.255 million.

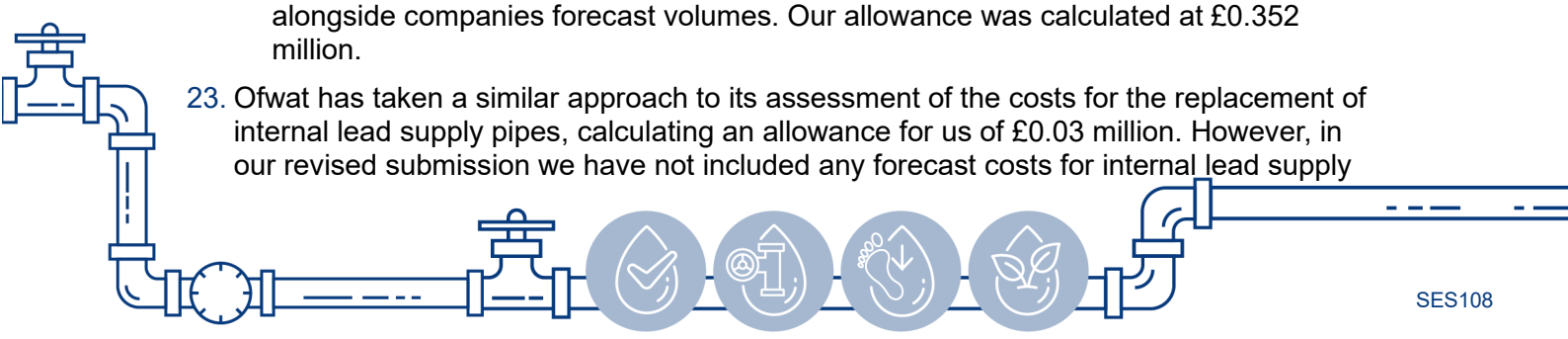
21. Our total forecast for lead communication pipe replacement for AMP8 is £0.652 million and was calculated using an approximate unit cost estimate of £2,200 per communication pipe and a total volume of 295 pipes to be replaced (59 per annum) throughout AMP8. We do not have any comment on the approach that Ofwat has taken in calculating allowances for the replacement of lead communication pipes other than to note that ahead of final determination, Ofwat will need to update its analysis with the updated information provided as part of this representation and our revised Business Plan data tables.

Lead supply pipes

22. In Ofwat's draft determinations it has assessed our costs for the replacement of external lead supply pipes as follows:

    (a) Unit cost analysis – Ofwat calculated a forecast unit cost using our (incorrect) forecast cost and volume information, and then used this within the calculation of a forecast median unit cost for the sector (SES Water £6,048.24, sector wide £2,072.50). Ofwat then produced a set of modelled allowances using its forecast median unit cost alongside companies forecast volumes. Our allowance was calculated at £0.352 million.

23. Ofwat has taken a similar approach to its assessment of the costs for the replacement of internal lead supply pipes, calculating an allowance for us of £0.03 million. However, in our revised submission we have not included any forecast costs for internal lead supply



pipes as part of our enhancement case and as such in Ofwat's final determinations there is no requirement for an allocation of allowance to this activity.

24. Our total forecast for lead supply pipe enhancement expenditure for AMP8 is £3.164 million and is made of up two components:

    - The investigation of separating shared lead supply pipes on private land (£0.126 million); and
    - Our schools programme (£3.039 million), which we discuss further in the next section.

25. We consider that delivery of the investigation of shared services work element of the programme is one of the biggest blockers to achieving a lead-free network. Through our participation in the Water UK Lead Steering Group, and the shared learning opportunities offered, we plan to review how Severn Trent Water, South West Water, and other water companies have dealt with the complex issue of shared common services through their Green Recovery Scheme.

26. Our forecast enhancement expenditure for the investigation of shared services was calculated using an approximate unit cost of £1,000 per shared supply pipe and a total volume of 125 pipes to be replaced (25 per annum) throughout AMP8.

27. We agree with Ofwat's approach to assessing the replacement of lead supply pipes, but we recommend that Ofwat adjust its calculation to reflect our restatement of our cost and volume information that we set out in Section B. However, we do not believe that the approach Ofwat has taken is appropriate for the assessment of our schools programme, for the reasons we explain in the next section.

Schools Programme

28. The majority of expenditure associated with our lead replacement enhancement case is that associated with our schools programme, which represents £3.039 million out of our total £3.816 million forecast enhancement expenditure for AMP8. These costs are included within our external lead supply pipes replaced or relined costs of £3.164 million, presented in Table 2.

29. To estimate this we have assumed an approximate unit cost of £20,000 per school, to provide the investigation, sampling, new pipework, and a hydration station, applied to a total volume of 170 schools across AMP8 (34 per annum). These volumes are included within the 295 (59 per annum) external lead supply pipes replaced or relined enhancement volumes, presented in Table 1.

30. In AMP5, recognising that the risk from lead ingestion was greatest to children, we delivered a major initiative to replace lead communication pipes supplying establishments where children are educated or cared for. There was a target of 275 within AMP5. Since then we have conducted an investigation that found that many establishments no longer had lead communication pipes. Therefore, our focus for AMP8 is on lead supply pipes. Nevertheless to confirm that we removed all the lead communication pipes supplying schools, we will need to carry out sampling and investigations as part of these works. Based on our risk-based programme, we will also be confirming any new or converted establishments that were not in our original AMP5 programme of works. As a result of this, the unit cost is expected to vary significantly on a school-by-school basis.

31. If work can be completed more efficiently, or less lead pipework is detected than expected, then we will utilise the total allowed expenditure to offer the scheme to more schools, nurseries and colleges at a faster rate, and complete more than the planed 170 educational premises by 2030. We set out this proposal for our schools programme within our Business Plan and refer to it again here to assist with interpretation of our plan and the proposals we made at the time, accepting that Ofwat have proposed an

alternative mechanism for PCDs in relation to our lead programme. In our Water Quality Enhancement Case (Appendix SES006) we said:

- *The PCD deliverables will be the number of schools expected to be covered in each year, profiled over the AMP. At this stage, we propose a unit cost rate for the PCD of £20k per school. We recognise that there is a range of potential unit costs - some will be higher, others lower – however we cannot accurately categorise schools in advance by likely unit cost and hence we do not consider that we would be incentivised by a single unit rate to tackle lower unit cost schools in preference to higher cost schools.*
- *We propose that there should be annual assurance and reporting on progress and unit cost to Ofwat, but that the PCD is assessed and settled on the basis of performance by the end of the period. The effect will be to return the full amount of the enhancement claim to customers in the event of non-delivery (and pro-rata for partial delivery), taking account of cost-sharing. We do not consider that an annual performance or timing incentive is appropriate here as there is no statutory or regulatory requirement to deliver the proposed improvements at any specific point within the AMP.*

32. Our main concern is that in Ofwat's proposed assessment of our enhancement expenditure associated with our schools programme, no consideration has been given for the additional and higher cost of carrying out the schools work (which includes up to 50m of supply pipe and installation of a lead free drinking water supply, manifold and 'hydration station'). Instead Ofwat has included these costs and volumes within its unit cost analysis for the replacement of lead supply pipes. This approach fails to recognise that these costs are not comparable with the unit costs associated with a single lead communication or supply pipe replacement.
33. Since the bulk of our enhancement expenditure is associated with our schools programme, the impact of this assessment approach is that Ofwat has not provided us with sufficient allowances to deliver this programme of works. To remedy this Ofwat needs to separate out costs and volumes associated with our schools programme from its unit cost analysis and carry out a separate assessment of these costs.
34. As mentioned within our enhancement case, we consider that there is compelling evidence that customers want us to invest in replacing lead pipes, taking a targeted approach so that we eliminate lead exposure in buildings that are predominantly frequented by children and young people. This investment was included in our preferred plan which we tested with customers for affordability and acceptability.
35. Customers have told us that lead replacement is an area they expect us to invest in over the next 25 years and have shown a preference for us to take a risk-based approach by targeting schools, nurseries, and colleges first, as young people are most at risk from lead exposure.
36. We looked at a number of options focused on the progressive removal of lead as part of an enhancement programme of works. By setting a programme for lead-free schools, nurseries, and colleges, we are focusing resources on higher risk and higher 'volume' sites – meaning that the cost per unit of risk reduction is lower than in other applications.
37. We will not be able to match our customer expectations unless we are funded to do so.