



Cost Change Process Submission

Gravity Sewer Surveys

Executive Summary

This submission sets out Thames Water’s request for additional totex allowances of £7.089m (2022/23 prices) to deliver a random and representative CCTV survey of 0.5% (535km) of our gravity sewer network during AMP8, in line with recent Ofwat guidance on enhancing industry-wide understanding of sewer asset health.

Our submission includes:

- A description of the need for investment, including our proposed random sample methodology



- The resultant totex allowance request
- Our request for in-period revenue adjustment to be made
- Customer views which inform our request
- The Price Control Deliverable we propose
- A description of our delivery of existing programmes

The proposed programme, part of a wider industry initiative, will significantly improve our understanding of the existing gravity sewer network condition, supporting better-informed investment decisions, improved asset health outcomes, and long-term benefits for customers and the environment.

Cost Request Summary

Table 1 shows the total cost allowances requested.

Table 1: Cost Change Process Allowance Request. 22/23 Prices

	2025-26	2026-27	2027-28	2028-29	2029-30	AMP8 Total
Capex (£m)	0.00	0.00	0.00	0.00	0.00	0.00
Opex (£m)	0.000	1.418	5.671	0.000	0.000	7.089
Totex (£m)	0.000	1.418	5.671	0.000	0.000	7.089

The expenditure is required to deliver a CCTV Sewer Survey programme in line with the requirements set out by Ofwat recently issued guidance.¹

Thames Water’s projected appointed turnover for 2025-26 is £3170m² (22/23 prices). As such, the totex request we submit is less than 2% of Thames Water’s 2025-26 revenue and so does not meet the materiality threshold required for in-period revenue adjustment.

However, we ask that Ofwat initiates the in-period determination process and allows in-period revenue adjustment for this programme. Ofwat has required that we undertake this survey

¹ Ofwat, February 2026, PR24 Cost assessment process: Gravity sewers investment assessment guidance

² Final Determination Financial Model, Thames Water Including Delivery Adjustment, Tab “Output RR10”, row RR10.21

programme, which is additional to the requirements expected at PR24 Final Determination. Delivering this programme absent an in-period revenue adjustment will require that additional investment is obtained by the company to fund the survey programme. We consider that companies should not be required to provide bridge funding for new regulatory requirements where there are mechanisms to allow funding to be reconciled in period.

Documentation Submitted

In Table 2, we provide a reference guide to the documents we have submitted as part of our submission.

Table 2: Documentation Submitted

Document Reference	Purpose
TMS-CCP-26-ASH-001	Main Submission (this document)
TMS-CCP-26-ASH-002	Cost Change Process Data Table

Need for Investment

Regulatory Requirements

The general case for investment in asset health was made through the asset health roadmap³, with the objective of creating an “enhanced, common understanding of the current health of gravity sewers” further set out in more recently published guidance⁴. This enhanced, common understanding will be delivered through visual surveys of assets, with the information gained used to “assess the need to increase existing allowances to facilitate a higher rate of investment during the AMP to deliver additional asset health improvements”.

The evidential requirements for securing funding for gravity sewer surveys are made in Ofwat’s recent guidance⁵. This submission is based on the criteria specified in that guidance.

In particular, Table 1 on page 8 of the guidance specifies the sewer length we are expected to survey. The target set is 535 km or 0.5% of our network during the remainder of the AMP.

Table 3: Expected length of gravity sewer surveys (extract from Ofwat guidance)

Company	Total length of “legacy” public sewers, excluding rising mains and “other wastewater network” ⁶ pipework (km)	Total sewer length, excluding rising mains and “other wastewater network” ⁷ pipework	0.5%, Expected survey length (including private, km)
Thames	66,932	107,009	535

In addition to the length to be surveyed, Ofwat’s guidance sets out that the survey samples should be random and representative of our wider sewer network, based on the characteristics of age, diameter, material and type (and excluding some sewer cohorts).

Survey Programme Design

In this section, we describe the approach we propose to apply in determining the programme of sewer surveys that we will undertake. The aim of this programme is to undertake a programme of surveys which results in inspection of a random but representative sample of 0.5% of our overall sewer network, in order to allow for appraisal of the condition of our network.

This programme will be targeted differently to our usual inspection programme. At present, we capture fully coded CCTV on around 200km of sewers per annum, with those surveys targeted to find asset health issues in areas of poor network performance. This means that our surveys are targeted towards areas of our network in which we are more likely to find issues, and so it is not possible to extrapolate the findings of those surveys to our wider network. The programme proposed in this submission will be, in line with the requirements of guidance, random (i.e., not targeted according to condition or network performance) and representative of the overall

³ Ofwat, 2024, Roadmap for enhancing asset health understanding in the water sector

⁴ Ofwat, 2026, PR24 Cost change process: Gravity Sewers Investment Assessment Guidance

⁵ Ofwat, 2026, PR24 Cost change process: Gravity Sewers Investment Assessment Guidance

⁶ As defined for the purpose of reporting in APR Table line 7C.20

⁷ As defined for the purpose of reporting in APR Table line 7C.20

network. This will mean that it will be possible to extrapolate the findings of these surveys to our wider network.

In this submission, we have not undertaken the sampling to determine the sewers which we propose to survey, and instead outline the selection approach we propose to apply.

In line with guidance, our random sewer sample will exclude:

- Sewers with diameter >1500mm
- Sewers which are made from asbestos cement, cast iron, ductile iron, glass reinforced plastic, steel, or “other” material categories
- Sewers with a type of “other” (i.e., not foul, surface water, or combined sewers)

In developing the design of our proposed programme, we have considered how we will ensure that the programme meets the requirements of a non-targeted (random) sample, which is representative of our wider network, while ensuring that the programme we propose is deliverable.

We initially considered proposing an approach in which we would survey a proportion of all of our (c.2000) sewer cohorts, or a sub-sample of those cohorts (excluding, for example, cohorts with very short lengths). We also considered proposing a sample in which we would sample whole cohorts of sewers which, when taken in aggregate, would result in a representative sample of our network. Both of these approaches would allow for entirely random cohorts to be surveyed. However, applying either of these approaches would be highly likely to result in a programme which would pose significant deliverability challenges, and which would be inefficient to deliver. This is because sewers within the same cohort can be in very different geographical locations (e.g., a cohort of vitrified clay foul sewers from 1921-1940 with a diameter of <165mm could include sewers across our whole operational area). Additionally, a “random” sample may not be “representative” and vice versa. We consider that a representative sample which is not targeted according to asset condition is likely to be sufficiently random, and so that ensuring the representativeness of the sample should be the primary aim.

As such, we propose a slightly more targeted approach, which will involve the following steps:

- We will randomly select a number of Local Authority areas and/or SDACs within our operational area in each year which will be the focus of our random sewer inspection programme for that year. Sampling within defined areas will help deliver an efficient programme as it will limit the geographic spread of sewers within a given sample.
- We will select sewers within the selected areas within the different cohort groupings to ensure a representative overall sample of the network. The sewers would not be selected on the basis of condition grade or network performance but may not be completely random, to build a deliverable and efficient overall programme.
- We will undertake targeted sampling of sewer cohort groups with small lengths in the network (<2% of our total network), rather than random sampling, in order to meet the 5km cohort group minimum set by Ofwat.

In addition, we propose two additional methodological steps:

- Where the random selection approach includes sewers which we have already surveyed recently, or which we already proposed to survey as part of a targeted programme, we will “count” this towards the total random sewer survey length but would not “count” this towards the PCD

- Where we are undertaking targeted sewer surveys, we may extend our survey beyond the area we are targeting and include this additional length surveyed within the “random” sample
- Where we randomly sample a sewer, we may extend our survey beyond the specific sewer length selected and include this additional length surveyed within the random sample, to ensure a more deliverable programme overall

Please see our section on our proposed Price Control Deliverable to see how we will ensure that this approach results in a representative sample overall.

Regarding the schedule for delivering the survey programme, Ofwat’s guidance notes that the programme should be delivered during AMP8, and Ofwat has further clarified⁸ that the programme should be delivered during the period 2026-28, in order to inform PR29 business plans. We consider that a period of ramp-up may be required as the additional programme will be a substantial proportion of the total surveys delivered.

Cost Estimation

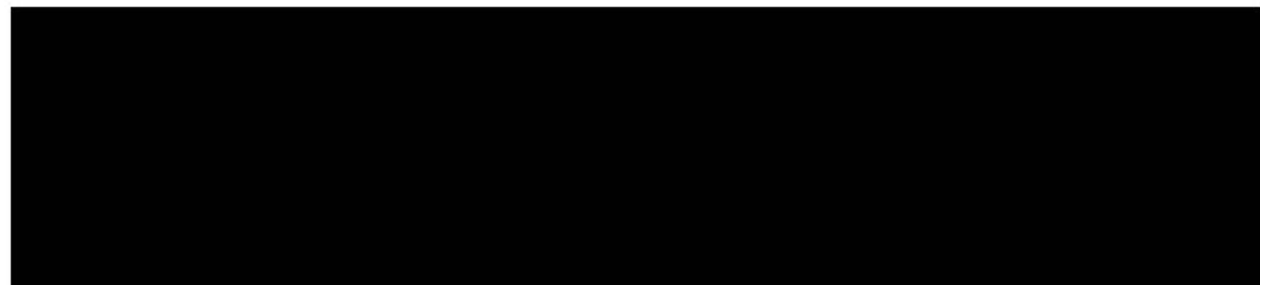
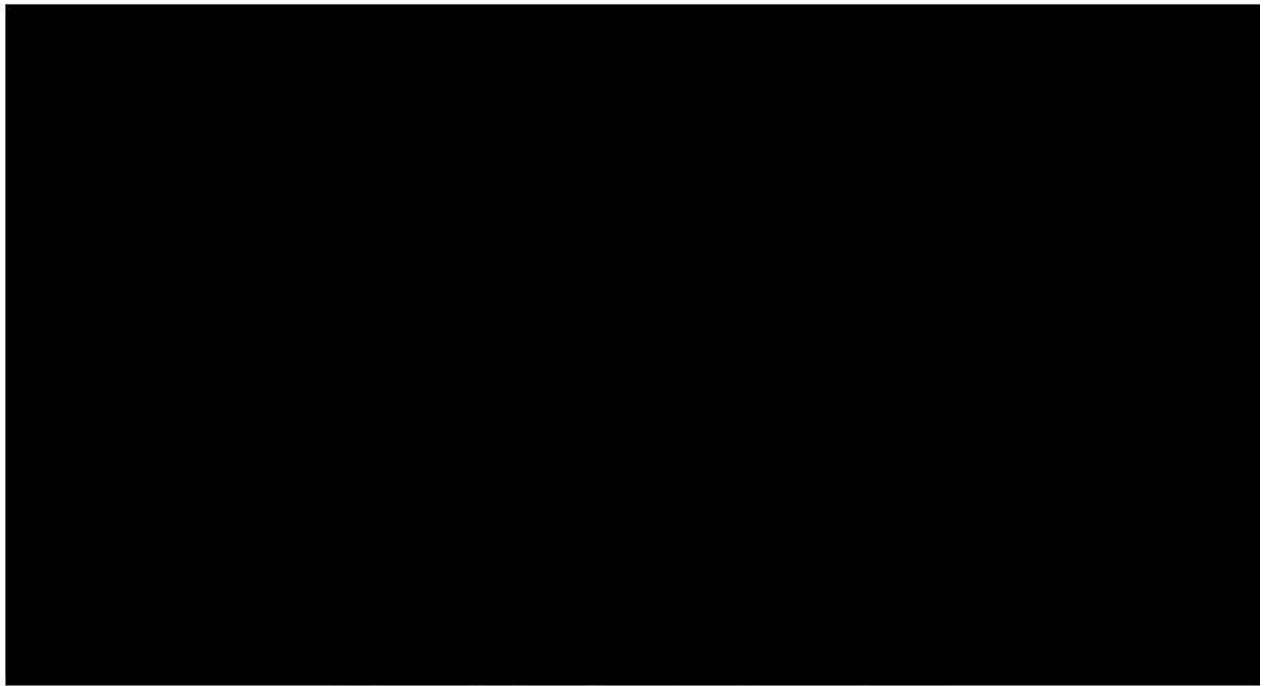
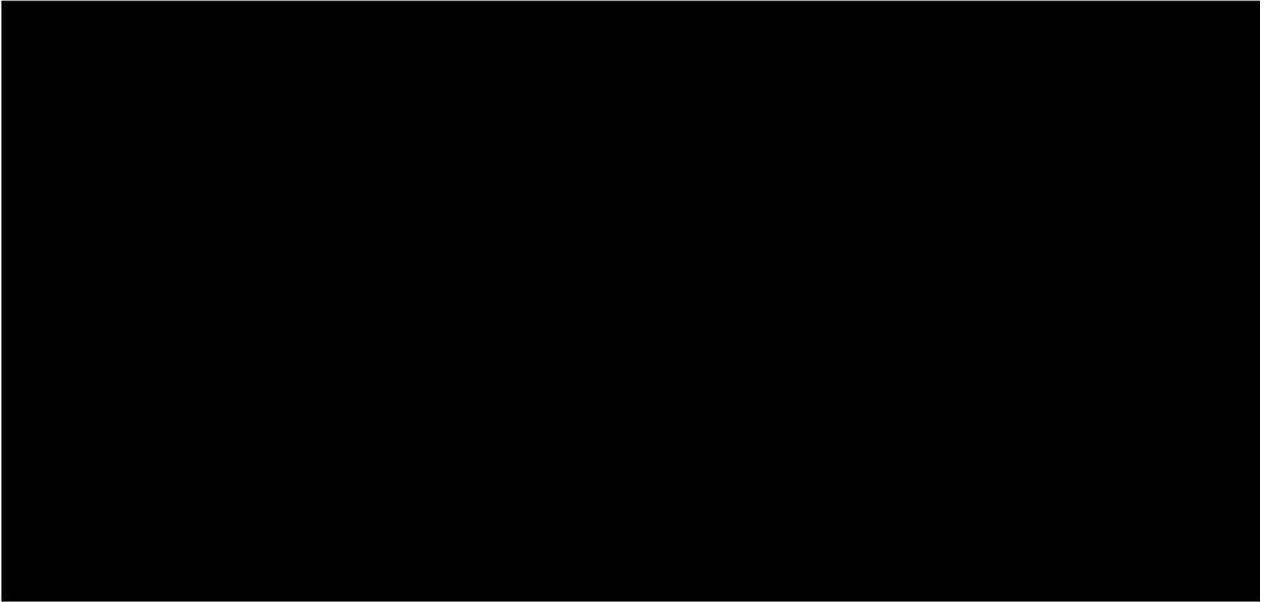
When reviewing the proposed costs that we request through this submission, we consider that Ofwat should bear in mind the following points:

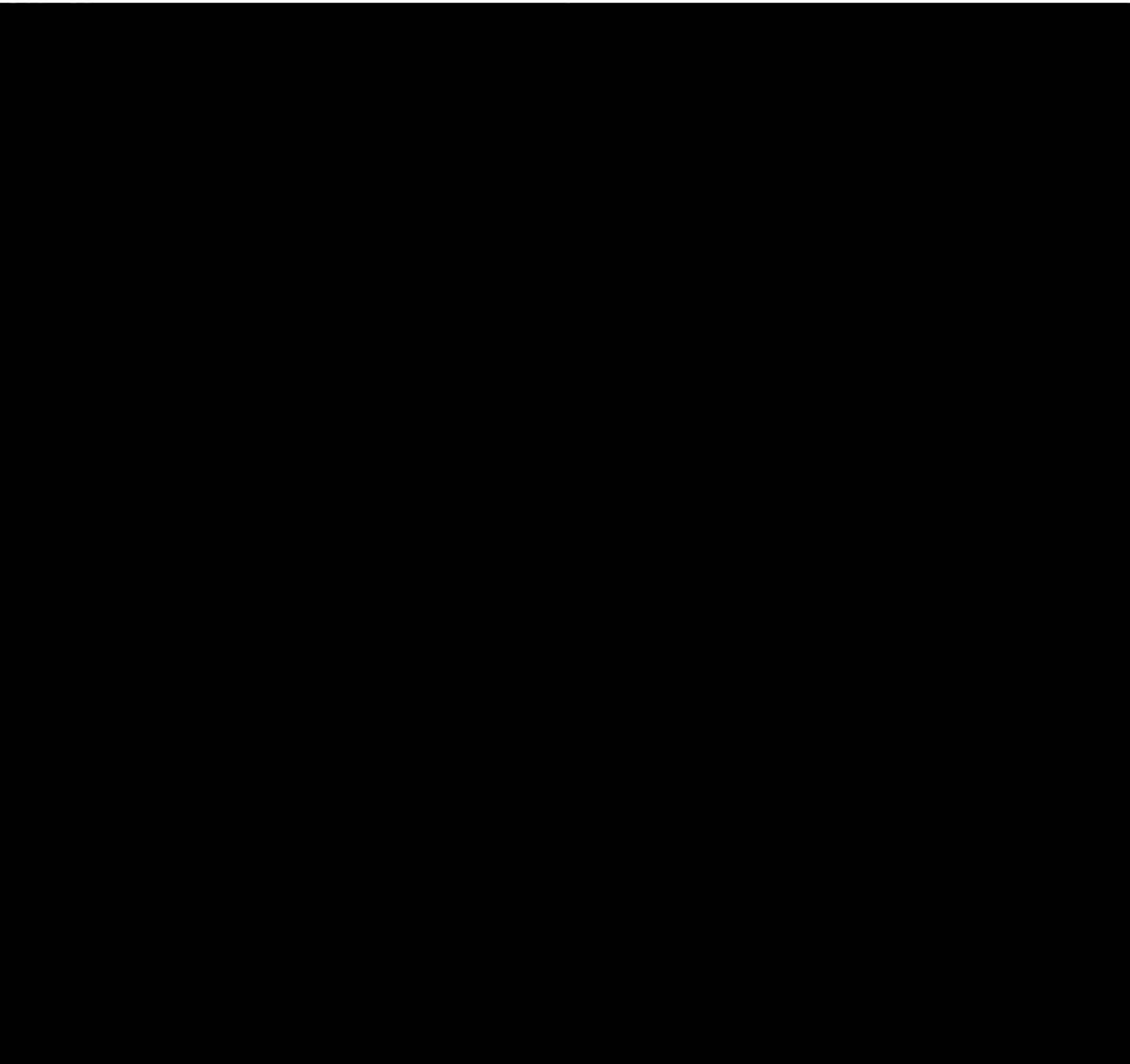
- This submission is made in response to guidance from Ofwat. We are supportive of the aim of undertaking this industry-wide sewer survey programme, and consider that the findings of the programme will be of benefit to Thames Water and our customers. However, we are not obliged to undertake the programme and should the cost allowances made by Ofwat at the cost change process draft determination be insufficient we may need to reconsider our submission.
- The proposed random sewer survey programme is large relative to the scale of our existing sewer survey programme. At present, we capture fully coded CCTV surveys of around 200km per annum. Undertaking a survey of 0.5% of all of our sewers (535km, or 0.9% of our mapped sewer network) in the period 2026-28⁹ will mean substantially increasing the scale of our programme. Further, Ofwat has guided all WaSCs to undertake surveys of 0.5% of their sewers. The market for providers of CCTV sewer surveys is concentrated, with a small number of providers. The expansion in the level of demand can be expected to cause an increase in the costs companies will pay.
- Being random in nature, the proposed programme is likely to be more expensive than our existing programmes on a unit cost basis.
- This market for inspection services is fragmented as a whole but is concentrated for more specialist services. It has relatively high entry barriers caused by a limited number of specialist personal and advanced inspection systems needed to undertake the work.
- Furthermore, on the demand side there is an increasing need for maintenance and rehabilitation of aging sewer infrastructure in the UK and worldwide meaning there will be a sustained demand for these services during the AMP. The project itself will create public

⁸ Via email on 26 March 2026, from EnhancingAH mailbox

⁹ In line with guidance set by Ofwat in an email of 26 March 2026

interest led demand which is inelastic as it will be a regulatory requirement which could lead to inflated prices.





What Base Buys

Our existing CCTV sewer survey inspection programme includes targeted surveys only. We do not propose to amend our existing CCTV sewer survey inspection programme, and so consider that base does not "buy" any of the proposed 0.5% random sample, except where we find that the random sample selected overlaps with our existing targeted programme.

Please see the section below on the proposed PCD for how we propose to account for this.

Cost Change Process Request



This results in a total programme cost of £7.089m. We have profiled this cost on the basis that we would conduct the programme over the period January 2027 (the first month at which point the cost allowance request will have been confirmed) to March 2028 (to meet Ofwat's requirement that the survey programme inform PR29). This project timeline indicates delivery of 20% of the programme in



2026/27 and 80% of the programme in 2027/28, and so we have proportioned our cost request according to this profile.

We highlight that this delivery profile will be very difficult to achieve. We have highlighted in our proposed PCD that we do not think Ofwat should hold companies to account for delivering as early as 2028, and should instead apply the PCD at 2030, in order not to disincentivise companies from undertaking the programme at all.

Table 5: Cost Request - Gravity Sewer Surveys

	2025/26	2026/27	2027/28	2028/29	2029/30	AMP8 Total
Cost request (£m)	0.000	1.418	5.671	0.000	0.000	7.089

We may encounter asset condition issues that should be rectified following a random survey. Where these occur we will record the rehabilitation works which have been triggered. We propose that Ofwat should allow either a cost change process request in a later year where rehabilitation works resulting from issues identified from random surveys are allowed, and/or introduce a reconciliation mechanism at PR29 to account for additional expenditure that has been required. We would be happy to discuss this further with Ofwat.

Revenue and RCV Adjustment

Thames Water’s projected appointed turnover for 2025-26 is £3170m¹¹ (22/23 prices). As such, the totex request we submit is less than 2% of Thames Water’s 2025-26 revenue and so does not meet the materiality threshold required for in-period revenue adjustment.

However, we ask that Ofwat initiates the in-period determination process and allows in-period revenue adjustment for this programme. Ofwat has required that we undertake this survey programme, which is additional to the requirements expected at PR24 Final Determination. Delivering this programme absent an in-period revenue adjustment will require that additional investment is obtained by the company to fund the survey programme. We consider that companies should not be required to provide bridge funding for new regulatory requirements where there are mechanisms to allow funding to be reconciled in period.

We would be happy to provide further information to Ofwat regarding the bill impact that would result from in-period revenue adjustment. We have not undertaken this analysis to date as the need for this cost change process request arose more recently than other cost change process request needs.

¹¹ Final Determination Financial Model, Thames Water Including Delivery Adjustment, Tab “Output RR10”, row RR10.21

Customer Views

Customers understand that with a growing population, different climate patterns and ageing infrastructure, there is a need for investment to maintain a reliable sewerage service. Customers place a high value on maintaining sewage services and reducing the risk of sewer flooding in particular. How we are maintaining sewage infrastructure now is a key indicator of the confidence that customers have in how we can cope with future challenges.¹²

In research undertaken to support our Cycle 1 DWMP¹³, customers placed a high priority on asset health and want to see us keep sewers and pipes in good working condition. Customers will benefit from the enhanced understanding yielded through this industry-wide survey programme through the insight it will yield into the level of maintenance that is required to maintain and restore an appropriate level of asset health.

¹² Thames Water, 2023, What Customers, Communities and Stakeholders Want

¹³ SP9 Drainage and Wastewater Management Plan – Customer Research: Part 3 Quantitative Research – Final Report, 2021

Customer Protection

We propose that a PCD deliverable with a single, length-based output should be used to measure the length of sewers surveyed. A PCD structured in this way would have a complexity proportionate to the magnitude of the expenditure requested (i.e., a relatively low level of expenditure and a low level of PCD complexity). We do not consider that there should be cohort-group level PCDs introduced as this would result in a disproportionate level of complexity (there would be c.25 PCD categories in order to capture all classifications).

We recognise that Ofwat is seeking a representative and random sample of surveys to be undertaken and that a single, length-based PCD would not incentivise this. As such, rather than a complex PCD structure, we instead propose that independent third party assurance be undertaken which confirms the representativeness of the sample overall. We propose the additional assurance below. Where the sample is found not to be representative, we propose that the independent third party assurer may make an expert judgement decision regarding the length that should be reported as under-delivered.

Our existing targeted sewer survey programme is motivated by the need to identify and fix asset performance issues; customer protection for this existing programme is provided through incentives associated with performance commitments. As this PCD structure results in a programme of surveys which is distinct from our existing programme, and which would remove any randomly selected sewers which we have already surveyed or already intend to survey, we consider that ensuring customer protection does not require that a PCD should be placed on our existing survey programme.

We propose that surveys identified through the random sample which are already captured within our targeted sewer survey programme should be excluded from the PCD. As such, we may report under-delivery against the 535km total PCD length, but that should be seen as an indication of overall random programme efficiency rather than under-delivery on the programme – i.e., we may report less than 535km sewers surveyed through the PCD but meet the 535km target for the random sample.

We will make every effort to deliver the sewer survey programme by Ofwat's target date of 2028, in order that as much new data as possible can inform our PR29 submission. However, the magnitude of the proposed programme is substantial and it may prove to be undeliverable by 2028. A PCD which is set to aggressively target the 2028 target date may simply disincentivise a company from delivering the programme at all. As such, we propose that the PCD should target a 2030 deliverable data for the programme.

Definition

The Price Control Deliverable will monitor the km of CCTV sewer surveys undertaken through this randomised, representative approach.

Measurement and Reporting

Thames Water should report progress against deliverables as per the common reporting requirements set out in Section 2.2 of Ofwat's PR24 Final Determination Price Control Deliverables Appendix.

Assurance

We propose that independent, third party assurance be undertaken regarding:

- The sewers which have been surveyed, including the cohort group to which they belong and their location
- In aggregate, the length of sewer surveyed within each cohort group
- The information that has been gained as a result of the sewer survey, e.g., on asset condition and whether maintenance is required, in line with the finalised data template to be issued by Ofwat
- The representativeness of the overall sample. We propose that a “representative” sample should include:
 - No less than 0.25% of a cohort group (e.g., no less than 0.25% of sewers in the 1921-1940 age cohort group should be surveyed) should be sampled, except
 - Where this is less than the 5km minimum cohort length specified by Ofwat, 5km, except
 - Where we have fewer than 100km of sewers within a given cohort group, no minimum sample requirement

Deliverables

	2025/26	2026/27	2027/28	2028/29	2029/30
Km Sewers Surveyed	0	0	0	0	535

Payments

We do not propose that time-incentive payment rates should apply. We consider that companies are incentivised to deliver the programme on time, in order that PR29 business plans can be fully informed by the best available dataset.

Progress Against Delivery of Existing Programmes

Our Overall Delivery During AMP8

In this Cost Change Process submission, we request totex allowances above those included in the baseline allowances set at PR24 Final Determination. We recognise the importance of demonstrating performance against the programmes and allowances already funded. Consistent with Ofwat's Cost Change Process guidance, this section provides commentary on our progress in delivering the existing PR24 baseline programme. This evidence is intended to give confidence in our ability to deliver the full investment programme in aggregate, including any additional allowances sought through this process.

We published our Delivery Plan Submission^{14,15} in November 2025, and submitted an update on our Delivery Plan to Ofwat in January 2026¹⁶. AMP8 will see us deliver the biggest investment programme in 150 years; we do not underestimate the magnitude of the challenge in front of us, and we have grown our capital delivery, engineering and planning teams accordingly. We have transformed our approach to overseeing delivery, with our Executive and Board having approved our Capital Governance Framework for our AMP8 investment programme in June 2025.

Progress in Delivering Sewer Surveys

We already undertake sewer survey and maintenance programmes as a BAU activity. In this section we give an overview of those programmes and our performance within them.

Blockage Hotspot (BHS) Programme

Blockage Hotspot (BHS) is a proactive, data-led sewer maintenance programme designed to reduce repeat blockages, external flooding, and pollution incidents by identifying and fixing structural issues. All assets included in the programme receive fully coded CCTV surveys, providing a consistent and auditable assessment of structural and service condition. The programme has an annual survey target of approximately 200 km of sewer. In the first year of AMP8 we delivered 172km against this target, but have since made changes to the level of resource allocated, contractual arrangements and organisational changes which make us more confident that we will achieve the target in Year 2.

Any structural defects identified through CCTV are subject to a formal appraisal and prioritisation process, with outputs used to inform delivery of the proactive sewer rehabilitation programme, which currently targets 20 km of remedial works per year.

Asset selection for BHS focuses primarily on foul and combined sewers with diameters ≤ 600 mm that have:

- Previously exhibited defects identified through routine blockage clearance activities, or
- Undergone CCTV appraisal within the previous three years.

¹⁴ Thames Water, AMP8 Delivery Plan Progress Report Executive Summary, November 2025, <https://www.thameswater.co.uk/media-library/3bujlqtp/thames-water-amp8-delivery-plan-executive-summary.pdf>

¹⁵ Thames Water, AMP8 Delivery Plan Progress Report, November 2025, <https://www.thameswater.co.uk/media-library/so3bt35j/thames-water-amp8-delivery-plan-progress-report.pdf>

¹⁶ Thames Water, Delivery Plan 2025/26 Quarter 3 Report – October to December 2025

These assets are further prioritised where they are in areas with a high likelihood of escalation (e.g. history of internal/external flooding or pollution) or high consequence sensitivity, such as proximity to watercourses, environmentally sensitive receptors (including SSSIs), or densely populated areas.

A deterioration modelling approach, based on asset age and material type, is applied as a secondary prioritisation factor. This model predicts future condition degradation and is used to refine ranking of candidate assets, applying the same likelihood and consequence-based risk framework. This ensures survey and rehabilitation activity is targeted where it will deliver the greatest risk reduction benefit.

Planned Sewer Maintenance (PM) Programme

Planned sewer maintenance (PM) is a proactive intervention programme aimed at preventing blockages, flooding, and pollution by maintaining serviceability and operational performance across the sewer network. In Year 1 of AMP8, the programme targeted delivery of 1,593 km of inspections and 1,662 km was delivered. Our target for Year 2 of AMP8 is to increase this target to 2,100 km.

The programme deploys a range of specialist inspection and maintenance techniques, including:

- Fast-pass CCTV and acoustic survey methods to identify emerging defects or restrictions
- High-pressure water jetting to remove paper, rags, fat, oil and grease (FOG), and other deposits
- Mechanical cutting tools where required to address tree root ingress

By identifying and removing material before it develops into a full blockage, the programme significantly reduces the likelihood of sewage surcharge, manhole overflow, and flooding, helping ensure that flows are conveyed efficiently through the system.

- Prioritisation of assets for PM activity is based on a combination of: -
- Data-led analysis (e.g. repeat incident history and location-based risk),
- Expert operational judgement, and
- Referrals from frontline field teams.

Higher priority is typically assigned to areas with elevated blockage repeat rates, concentrations of food service establishments, or locations where a pollution incident would have a greater environmental consequence, such as proximity to sensitive watercourses. All assets included in the programme receive a fast-pass CCTV or acoustic survey. Any defects identified are escalated to the Office Technical Specialist (OTS) team for review and, where appropriate, progression into follow-on repair, rehabilitation, or capital intervention programmes.

Assurance Statement

This submission has been subject to “second line”, internal assurance to provide confidence that the information provided is accurate and complete, using the assurance approach documented in the Company’s External Reporting Standard. This Standard is used as the framework for all external submissions. The internal second line review explicitly covered the following scope:

- High level review of the proposed gravity sewer survey programme main submission document to confirm alignment with regulatory requirements;
- Sample testing of the proposed statements and data within the submissions to confirm accuracy, completeness, and that they can be supported by accurate descriptions and evidence.
- Review of completion of process and sign-offs to ensure all assurance steps have been completed as required or can be evidenced as planned including (where relevant) planned external assurance, activities to confirm alignment with other submissions such as IIDs, completeness and accuracy of any tracking/ assurance spreadsheets, and completeness and accuracy of any evidence packs produced to support Executive sign-off of the Submission

A series of first line assurance checks were also completed, including:

- Ensured alignment with our documented assurance framework;
- Confirmed completion of first line review of document sections by preparers and reviewers
- Completed a risk assessment to identify areas of higher risk that require additional review by the Thames Water Internal Assurance Team; and
- On a sample basis reviewed areas identified as medium and high risk to confirm that there is evidence to support the statements we have made, and that data is accurate and complete, and aligns with documented regulatory requirements

