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PR24 Cost change process

Gravity sewers investment assessment guidance

Ofwat

About this document

This document provides guidance to wastewater companies that plan to submit gravity sewers asset health improvement investment proposals through the PR24 cost change process. This document should be read in conjunction with our cost change process guidance note and asset health investment assessment guidance.[1] [2]

Through the asset health roadmap, we will deliver an enhanced, common understanding of the current health of gravity sewers. This will be delivered through enhanced visual surveys of assets during the 2025-30 period. Through the cost change process, we will assess the need to increase existing allowances to facilitate a higher rate of investment during the period to deliver additional asset health improvements. We will also consider the need for any additional allowances to facilitate surveying during the period (although any such additional allowances would only be implemented through an end-of-period adjustment). Any additional allowances provided through the cost change process will be above and beyond what base already buys at PR24.[3]

Gravity sewers differ from the other priority asset classes as they are typically buried assets, and can therefore not be externally surveyed to infer asset condition. This has warranted further consideration, and development of an alternative approach to assessing gravity sewers.

The guidance in this document sets out core evidential requirements relating to gravity sewers, and our approach to assessing investment proposals through the cost change process. This includes cases to support an increased rate of proactive sewer inspections, and to deliver an increased rate of sewer rehabilitation. Companies will be able to submit gravity sewer related claims in 2026, 2027 and 2028.

Our approach to assessing gravity sewers has been developed in collaboration with the sector. We have sought to embed flexibility within the approach to facilitate timely and effective delivery of sewer rehabilitation programmes that deliver maximum benefits to customers, the environment and the long-term health of the sewer network. This approach builds upon our approach to setting and monitoring allowances at PR24, and incorporates feedback from the sector through our enhancing asset health working group. We will reflect on any lessons learnt through the PR24 cost change process when developing the PR29 cost assessment methodology.

[1] Cost-change-process-guidance-note.pdf
[2] Asset-Health-Assessment-Guidance.pdf
[3] PR24-final-determinations-Expenditure-allowances-V2.pdf

Contents

1. Introduction

1.1 Context

Sewers are a collection system of wastewater to transfer the flows safely below ground to a treatment facility. Flow within sewers can be transferred via gravity, known as gravity sewers, or pumping, known as a sewage pumping mains or rising mains. Sewers can fail in different ways, including structural, operational, and hydraulic failure, all of which can have impacts on public health and the environment. It is therefore important that wastewater companies understand the health of their sewers and the associated risks to maintain their sewers to ensure that that their area is effectually drained.[4]

At PR24, we collected asset condition data on the sewer network to inform an assessment of asset health. This relied on failure data, which is commonly used by the sector to understand the health of underground assets.[5] For gravity sewers, this was based on sewer collapses, and for rising mains, mains bursts. Based on this data, we concluded that while there appeared to be some company specific condition issues, there was no evident sector wide sewer health issue. We also received no base cost adjustment claims from companies in PR24 business plans to increase the rate of sewer rehabilitation.[6]

Since then, wastewater companies have prioritised **gravity sewers** through the asset health roadmap to further improve asset health understanding during the 2025-30 period.[7] We set out the rationale companies included for this below:

- While failure data is commonly used to infer the health of water and wastewater infrastructure assets, the definition used at PR24 does not capture total sewer collapses across the sewer network. The definition used aligned to the performance commitment (PC) definition, which captures customer reported collapses only. Companies therefore consider that it is not a true representation of the failure across the entire sewer network.

- Failure data is often used where visible condition data is not available. Unlike the other priority asset classes which may have a more regular inspection timetable, companies have told us that visual surveys have tended to focus on sewers where there are known or indicated issues. This means that historical data is likely to skew the view of the overall health of the network.

[4] Section 94 Water Industry Act 1991
[5] Companies report using a range of metrics and information to inform their overall assessment of sewer deterioration and investment needs.
[6] We note that Anglian Water included a gravity sewer investment proposal as part of its CMA redetermination case however this included an indicative scope of work and cost only.
[7] We set out what we consider in scope when referring to gravity sewers in appendix A2.

- Gravity sewer rehabilitation rates are variable across the sector, with a reported sector average of around 0.1% per year over the PR19 period. The sector is delivering works on a reactive basis, which is difficult to plan for and can be more costly over the long term. The sector would like to move towards a more sustainable, proactive rate of intervention, including more proactive surveying of assets. We provided a water mains renewals cost adjustment at PR24 to facilitate a similar approach.[8]

Reflecting on the above, we consider there is merit in undertaking further work during the 2025-30 period to develop a common and accurate representation of gravity sewer health. This will involve internal sewer surveys, and exploring the need for additional allowances to facilitate a move towards a more sustainable long term rate of investment.

This guidance note sets out our approach to gravity sewer investment proposals submitted through the PR24 cost change process and our approach to assessment. This builds on the published asset health assessment guidance. [9]

1.2 Our approach to developing the guidance

We have developed our approach to assessing gravity sewers in collaboration with the sector and technical specialists. We have sought to reflect industry best practices, and use existing information where available to support development of the approach.

We discussed the approach with the sector through a workshop, and provided a four week window for detailed, written feedback. Overall, the feedback was broadly positive and the approach received support from the sector. We have reflected on the feedback received as we finalised the approach. Please see appendix A1 for a summary of how we have addressed sector feedback.

1.3 How to use the guidance

This guidance should be used to support the development of gravity sewer investment cases that request an increase in allowances to undertake a higher rate of proactive sewer surveying, and/or an increase in allowances to deliver a step change in investment to deliver asset health improvements via gravity sewer rehabilitation.

This guidance should be read alongside our asset health investment assessment guidance and cost change process guidance note.[10]

[8] PR24-final-determinations-Expenditure-allowances-V2.pdf, pp.31-39
[9] Asset-Health-Assessment-Guidance.pdf
Cost-change-process-guidance-note.pdf

1.4 Timeline

The timeline for gravity sewers submissions aligns to other asset health investment proposals, and the wider cost change process. Companies will be required to submit their investment proposals through the cost change process. The submission window will be open between 1 March and 1 May in 2026, 2027 and 2028.

As discussed in more detail below, where companies consider there is a need to increase their existing base allowances to fund additional gravity sewer inspections, we will expect these companies to submit an investment case in 2026. For investment proposals on gravity sewer rehabilitation, companies can choose when to submit this across the 2026-2028 period.

Please see section 2 in our asset health assessment guidance for a detailed timeline.

2. Approach to assessing gravity sewers

2.1 Overview

Through the asset health roadmap, we want to deliver an improved, common understanding of gravity sewer asset health during the 2025-30 period through proactive, intrusive sewer surveying. This will provide a robust and accurate view of the current health of the sewer network across England and Wales, whilst enhancing data collection to support deterioration modelling and exploration of forward looking asset health.

For some companies, this may lead to an increased rate of surveys relative to what has been delivered in previous periods, and we will consider the need to increase base expenditure allowances to facilitate this through the cost change process.

Alongside this, we will assess the need to increase existing PR24 base expenditure allowances to enable companies to move towards a more sustainable long term rate of gravity sewer rehabilitation during the 2025-30 period. We recognise the potential benefits to the long term health of the sewer network, and benefits to customers and the environment through improved service and reduced sewer failure.

As with other asset health investment proposals, we will assess the need for additional allowances based on the quality of evidence provided by companies, and an assessment of 'what base buys' at PR24 so that customers do not pay twice.[11]

2.1.1 Scope

For submissions in 2026, the scope of the condition assessment and rehabilitation investment proposals is limited to **standard public gravity sewers** (including privately transferred sewers), **with a diameter of < 1500mm**.[12] We consider all standard gravity sewers under this diameter within scope; including high consequence, critical sewers.

Companies should not submit investment proposals for programmes of work that focus exclusively on ancillary pieces of equipment. However, where interventions on ancillary components are directly associated with sewer replacement or refurbishment programmes, we will assess this as part of the overall investment proposal. See appendix A2 for clarification on ancillary items.

[11] Asset-Health-Assessment-Guidance.pdf, section 4

[12] Sewers with a diameter > 1500mm are strategic in nature and should already form part of companies PR24 delivery plans if delivery is expected during the 2025-30 period.

The scope does not include complex below-and-above-ground crossings, due to the fact that these locations would require substantial advanced planning, and as such should already be included as part of companies' PR24 business plans if intervention is required and delivery is intended within the 2025-30 period. Therefore, we consider below the sewers crossing (or located within) out of scope:

- Motorways
- A-Roads
- Railway lines
- All water crossings (including canals)
- All above ground crossings
- Overbuilds
- Sewers laid over 10m deep

We intend to consult on expanding the scope of the PR24 asset health reopener via the cost change process later this year. Should the sector be interested in exploring a wider range of sewers (such as the sewer crossings listed above, or those listed as being out of scope in section A2) as part of an expanded cost change process scope for 2027 and 2028, we will look to discuss this further with the working group ahead of consultation.

2.2 Increasing proactive sewer inspections

2.2.1 Context

The most reliable way to understand the physical condition of an infrastructure asset is to undertake a visual survey, i.e. to inspect the internal structure. For underground assets specifically, companies cannot easily undertake external surveys to give an indication of the overall condition of the asset. This is why, in the absence of internal survey data, the sector relies on other metrics, such as failure and performance data. Common metrics include sewer collapses and blockages, sewer flooding and pollution

Through our sector engagement, companies have stated that they undertake visual surveys of gravity sewers to a varying degree. While some companies have indicated that they have undertaken proactive survey programmes, for example, surveying critical sewers across their network, it is unclear to which extent this is being done across the entire sector. Companies have also told us that sewer inspections tend to be driven by known or indicated failures or performance issues. Using the data from these surveys is therefore likely to misrepresent the overall health of the network, i.e. it is not possible to extrapolate the findings of those surveys to the overall condition of the network.

Undertaking larger scale proactive surveys on a representative sample of sewers will provide a greater understanding of the overall health of the sewer network. This will have secondary

benefits of enriching company data which can be used to strengthen and validate sewer deterioration modelling. In turn, this should improve companies' ability to understand and evidence forward looking investment requirements.

2.2.2 Approach

In 2026, we will issue a data request to all wastewater companies to provide visual inspection data on a random, representative sample of gravity sewers. As with the other data requests, the structure of this will be developed in collaboration with the sector and is intended to be finalised ahead of summer 2026. Please see section 3 for further information.

Companies have the opportunity to submit an investment proposal through the cost change process to request additional allowances to deliver these surveys, where they consider existing base expenditure allowances are insufficient to do so. In line with feedback from the sector and our statistical analysis, we have predefined the required rate of surveying to inform proposals (0.5% of the gravity sewer network), and have set out the company specific requirements in table 1.

We consider that the defined sample size (0.5%) is the minimum requirement for companies to survey during the remainder of the 2025-30 period. However, should companies consider they would like to go beyond this rate to gather further information on their gravity sewer network, we will allow companies to include this in their investment proposal.

Table 1: Expected length of gravity sewer surveys

Company	Sewer length (excluding private, km)	Sewer length (including private, km)	0.5%, Expected survey length (including private, km)
ANH	42,136	73,336	367
HDD	265	461	2
NES	16,149	29,659	148
SRN	20,899	38,436	192
SVE	53,601	90,405	452
SWB	13,636	24,079	120
TMS	66,932	107,009	535
UU	41,088	77,653	388
WSH	18,493	35,742	179
WSX	16,926	33,918	170
YKY	29,466	51,026	255
Total	319,591	561,724	2809

We will assess the need for adjustments alongside our assessment of what base buys to decide if additional allowances for inspections are required. We will assume that additional allowances are not required if a company does not submit an investment proposal to fund the minimum level of inspections (0.5% of gravity sewers). But we still expect the company to respond to the data request.

Through our assessment of company evidence we will arrive at a view of an efficient unit cost(s) of surveying. This will be used to determine the value of any required increases to allowances. Where companies do not provide sufficient and convincing evidence on unit costs, we may use the query process to gather further information.

Any adjustments to allowances for increased gravity sewer inspections will be agreed through the cost change process, but only made end-of-period.

Rationale for considering additional allowances

As responsible asset managers, companies should be collecting information on their assets on a regular basis. Data collection enriches understanding of asset health and performance, and should lead to robust, evidence based decision making. Companies should be collecting, storing and analysing data on their assets as part of Business As Usual base expenditure activities.

We consider that gravity sewers are a unique case that may warrant additional allowances to deliver asset inspections on during the 2025-30 period for the following reasons:

- To support delivery of the enhancing asset health understanding roadmap, we want to facilitate accelerated and timely collection of condition data. In scenarios where companies have not undertaken surveys at the same rate as the representative sample historically, this may require a step up in investment.
- In comparison to the other priority assets, these assets cannot be assessed externally, and the existing data is considered to be unrepresentative of the wider network due to it being heavily failure focused.

Companies should use this as an opportunity to facilitate a move towards a more proactive rate of asset gravity sewer inspections ahead of the next price review period, when the benefits of enhanced data collection and asset health understanding can be realised.

2.2.3 Selecting a representative sample

The sewers surveyed must be random and representative of the wider gravity sewer network. Using gravity sewer cohort data, such as reported at PR24, companies should survey 0.5%

across the key cohorts. Companies are required to determine the specific lengths of sewers to survey to fulfil the reporting requirements and randomly select the sewers within each cohort for surveying. We consider this approach is more proportionate, and allows companies to plan their inspection programmes in the most efficient way.

The principles detailed below have been based on reviewing sector level data collected at PR24, focusing on the common characteristics across companies. These principles are to ensure that we can collect data that is representative across the entire sector, and that the data could be used for other purposes, e.g. exploring forward looking asset health metrics/models. This may mean that the data collected does not capture information on all types of gravity sewers that companies currently operate. However, companies can request additional funding to deliver inspections on a wider range of cohort groups should that be considered valuable (eg company specific characteristics). See section 2.2.4.

To support companies with selecting a representative sample, we have developed a set of principles. Companies should ensure that their final selection of sewers satisfies the below:

- Condition data request returns will need to capture condition data on 0.5% of total gravity sewer length (on a per company basis).

- The sewers surveyed should reflect a random and representative selection based on the following characteristics:

    - Age;
    - Diameter;
    - Material; and
    - Type.

- Companies should only use the defined cohort groups for selecting the random sample, these groupings can be found in Appendix A3.

- Companies should determine the lengths of sewers to survey across the relevant 'cohorts', i.e. the proportion of company gravity sewers within each cohort based on the characteristics above.

    - We consider PR24 CWW21 cohort data is a sensible starting point for determining the required makeup of the representative sample. But companies should investigate and be able to explain any inconsistencies with gravity sewer lengths reported in the annual performance report.

- When determining the appropriate mix of sewers that constitutes a representative sample, companies should rely on known data to determine this.

- Companies should not exclude sewers with unknown characteristics from sample selection of sewers to survey. Rather, surveys should be used as an opportunity to collect this data and they should form part of the random sample selection.

- Where companies have existing survey data collected during the 2020-25 period that is not driven by indicated failure or performance issues, which can be mapped to the methodology, we will allow companies to use this data.

- Companies must explain the process followed to establish a representative sample.

- We have reviewed sector wide data from PR24 and the following materials should not form part of the sample selection process as these materials represent a small proportion of the overall sewer population meaning sample lengths would not be representative[13]:

    - Asbestos Cement – AC
    - Cast Iron – CI
    - Ductile Iron – DI
    - Glass Reinforced Plastic – GRP
    - Steel – ST
    - Other – O

- Sewers classified as a type of "Other" as part of the PR24 data collection should not form part of the sample selection.

- Each cohort grouping e.g. "Brick – BR" should have a minimum survey length of 5km in order for the data received to be comparable at company and a sector level.

Companies must confirm their sewer lengths by cohort and cohort group (in line with PR24 CWW21), and their planned surveying lengths by cohort group.

Companies can discuss and agree the sample selection with Ofwat ahead of commencing their inspection programme.

2.2.4 Evidential requirements

For companies that are seeking additional allowances to deliver an increased rate of inspections, companies are required to submit an investment proposal by 1 May 2026. The scope of the proposal should cover only the costs associated with undertaking the survey, not the costs of assessing the data collected.

[13] But companies can request additional funding to deliver inspections on a wider range of cohort groups should that be considered valuable (eg company specific characteristics) to go above and beyond the 0.5% representative sample.

We consider that companies should seek to make use of the latest technology to innovate how they assess survey data. There are available techniques that some companies are already using that could accelerate and streamline the assessment process, leading to cost and process (time and resource) efficiencies over the short and long term. As such, the costs associated with assessing surveys and/or acquiring or using AI technology to assess surveys should not be included within investment proposals.

Investment proposals should include evidence on:

- Preferred approach to undertaking surveys of a representative sample of sewers;
- Evidence of options considered, e.g. CCTV survey or other technology;
- Efficient unit cost, including evidence on unit cost range per km of sewer survey and further cost breakdowns where relevant; and
- Company view of what base buys in terms of sewer inspections, including evidence on the current rate of surveys and associated cost.

Companies are not required to submit evidence on all the requirements set out in our asset health assessment guidance. We expect companies to deliver inspections through opex allowances rather than capital maintenance, and therefore consider that most requirements included in the asset health assessment guidance are not relevant to the inspection investment proposals.

Increasing the survey rate beyond 0.5%

Companies have opportunities to collect asset condition information on the gravity sewer network through surveying and rehabilitation of sewers during the 2025-30 period. However, companies can submit an investment proposal through the PR24 cost change process to deliver proactive gravity sewer inspections beyond the representative sample (0.5%) during the remainder of the 2025-30 period.

We expect these would be targeted survey programmes, with a clear driver for the need to undertake further surveying. For example, a move towards a more long term sustainable inspection rate, underpinned by sufficient and convincing evidence on the benefits associated with the additional surveys. Or to inspect company specific gravity sewer cohorts not included within the scope of the 0.5% representative random sample selection. The proposed scope should be deliverable within the timeframe, noting the concerns raised by the sector regarding supply chain constraints and the required step up to 0.5%.

In addition to the above requirements, these companies should provide further evidence on the additional survey rate:

- Driver for increased survey rate;
- Expected benefits and use of increased survey data;
- Clear scope of intended surveying, e.g. critical sewers, expected poor condition sewers; and
- Evidence of how companies have considered delivery risks.

2.3 Increasing sewer rehabilitation

2.3.1 Context

At PR24, we acknowledged that water mains renewals were at an unsustainably low rate and we set an expectation for all companies to move towards a more sustainable rate during the period irrespective of current asset condition. [14] Moving towards a more sustainable rate of intervention on infrastructure assets should enable companies to target high risk, aging and poor condition water mains ahead of their failure, promoting the long term health and resilience of the network. In turn, this should reduce the rate of reactive interventions, which can be more costly and disruptive in the event of a service failure.

We consider the same principle applies to gravity sewer assets, particularly as rehabilitation rates have decreased over time and companies report operating on a more reactive basis. We therefore encourage companies to use the 2025-30 period to move towards a more sustainable long term rate of sewer rehabilitation. The cost change process offers a route to additional funding where companies provide sufficient and convincing evidence to justify a step change in investment.

Our expectations for gravity sewer rehabilitation cases have been largely shaped by our discussions with the sector, reflecting the current status of rehabilitation programmes. We have supported this with our own technical expertise to arrive at an approach which we consider is proportionate and will deliver better outcomes to support long term asset health.

We have sought to embed flexibility into the approach, acknowledging the nature of sewer maintenance programmes and the range of solutions companies may choose to deliver. We want to incentivise companies to deliver solutions that deliver the highest benefits to customers, for the most efficient cost, while maintaining appropriate protections for customers.

We will reflect on lessons learnt through the PR24 cost change process when developing the PR29 cost assessment methodology.

2.3.2 Investment driver

The primary driver for any investment proposals submitted through the cost change process should be for improvements to the asset health and structural condition of the gravity sewer network. Companies should not submit investment proposals that are primarily driven by other causes, for example, growth, resilience, flooding or stormwater discharges.

[14] PR24-draft-determinations-Expenditure-allowances-to-upload.pdf, p.37

There may be some scenarios where asset health has led to other failures, e.g. infiltration. In these scenarios, the company's investment proposal is required to demonstrate a clear link between the poor structural condition of the sewer(s) and the infiltration observed. If the infiltration is occurring in an otherwise structurally sound sewer, for example due to high groundwater, it should not be included in the scope of asset health investment proposals.

Infiltration reduction is still expected to be investigated and addressed where necessary through existing base allowances, or through enhancement cases for poorly performing assets where an investment driver exists, e.g. a storm overflow improvement.

2.3.3 Principles

To support companies with developing their gravity sewer rehabilitation investment proposals we have established a set of core principles:

- Proposed investment should focus on improving the overall long-term health of the gravity sewer network, focusing on capital maintenance investment, not operational or short term solutions such as cleaning (jetting).

- Delivering works that are in the best interest of customers, the environment and long term asset health.

- The proposed investment is based on issues and risks verified by visual inspections of sewers, not solely based on statistical deterioration models. For example, companies should not assume that a forecast grade 5 sewer requires replacing based on model outputs alone. In addition investment should take into consideration consequence of failure, not just sewer condition.

2.3.4 Solutions

The solutions included within investment proposals should improve the structural integrity of the sewers and significantly extend the life of the asset. The solutions should be delivered via capital maintenance allowances.

Investment proposals include a mix of replacement and rehabilitation techniques to deliver the optimum mitigation for the specific issues identified. We define below what we expect the key solutions proposed by companies to be.

- **Replacement** – the physical replacement of an old sewer with a new one which provide the same or better functionality and life than the sewer it replaces. This can be delivered through open cut excavation techniques (trench) or trenchless

techniques such as: pipe bursting, slip lining (entire new sewer inside an old one); or horizontal directional drilling (HDD).

- **Rehabilitation** – trenchless full structural techniques which restore the functionality and restore or extend the life of the sewer. This can include (but not limited to): sewer lining (Cured-in-Place Pipe – CIPP) and close fit slip lining (structural lining to an existing main).

2.3.5 Approach

From 2026, we will assess the need to increase existing PR24 base expenditure allowances to increase gravity sewer rehabilitation. Companies have the opportunity to submit a case through the cost change process to:

- target a known set of gravity sewer issues that are informed by previous asset inspections, i.e. a defined scope of works which the company has reasonable certainty over; or

- reflect an ambition to move towards a more sustainable rate of intervention during the 2025-30 period.

We expect companies to determine and evidence their own view of a sustainable rate of gravity sewer rehabilitation during the remainder of the 2025-30 period. This should be reflective of the company's asset class strategy, and broader delivery strategy. It should take into consideration not just the condition of the sewers / their probability of failure, but also the different levels of risk associated with sewer failures across the asset base. It should be deliverable and reflective of any supply chain constraints the company expects to incur.

Investment proposals should provide clarity over the defined or forecast scope of works, including the mix of solution types, and a clear line of sight between the mix and volume of work that the company expects to deliver and the requested additional expenditure allowance. The mix of work should be informed by robust information which may include historical investment trends, asset condition data or deterioration models.

We acknowledge that companies may not be able to accurately define the exact mix of works that they intend to deliver during the period ex-ante. Hence, we will assess cases based on a reasonable company forecast. We will then monitor investment via delivery plan engagement to understand if and how the mix of work changes. Companies will be required to provide evidence of third party assurance with a duty of care to both Ofwat and the company at the end of the period to support a reconciliation exercise to understand whether the expected benefits have been delivered, and investment decisions were efficient and appropriate. See section 'Customer protection' below for further information.

2.3.6 Evidential requirements

Gravity sewers differ from other wastewater priority asset classes in that they are underground and extend across the entirety of company operating areas. As a result, they cannot be located and assessed in the same way as treatment works civil assets, which are discrete and accessible for site-based inspection. Gravity sewer rehabilitation programmes also differ materially from those for civil assets, typically comprising high-volume, low-unit-cost, and largely standardised interventions. Accordingly, we have developed a standalone gravity sewers guidance note that sets out the evidential requirements and approach to assessing gravity sewer investment proposals. While the majority of requirements align with the asset health assessment guidance, the guidance has been tailored where necessary to reflect the specific characteristics of gravity sewers and their rehabilitation programmes.

We will assess the evidence provided by companies in line with our asset health assessment guidance. This will include arriving at a view on the need for additional allowances, the scope of the requested works, and an efficient allowance.

Companies should provide the best available evidence to support their case. We will assess the evidence holistically to satisfy ourselves that the company has provided sufficient and convincing evidence that there is a need for a step change in investment, and that it has arrived at the most cost efficient and appropriate solution(s) that delivers maximum value for customers, the environment and long-term asset health.

Need for a step change in investment

Companies need to provide sufficient and convincing evidence that there is a need for a step-change in the current level of investment. Companies must show that the risk to assets and/or service in the future is sufficiently different to current, and that without a step-change in investment in its asset base, the company will not able to mitigate those risks.

Companies need to provide sufficient and convincing evidence of:

- historical investment and how risk and asset health has changed over time, to underpin the ‘as is’ position. If historical health or risk data is not available, an explanation of how the assets have been managed should be provided;

- an assessment of ‘what base buys’ to provide confidence that the requested additional investment is to address risk above and beyond what existing base expenditure allowances cover (see section 4 for further detail);

- identified risks posed to service or the environment as a result of the asset’s current health. Where there is no historical precedent, companies should use expert judgement to determine risk;

- forecast of future asset health, how health and risk will change over time showing a change in quantified risk requiring a step-change in asset investment. If quantified risk information is not available, qualitative risk information and expert judgement should be used;

- alignment to long-term asset class strategies that demonstrate why the future is different from the past for the priority asset type, and why the investment is required now. For example, evidence that the asset is posing a greater risk in the future due to asset deterioration. Future uncertainties are taken into account for example. climate change impacts;

- engagement with stakeholders, where appropriate (e.g. Environment Agency and local authorities).

Assessment criteria

The evidence to demonstrate the need for step change in investment must be sufficient and convincing. If the company does not provide sufficient and convincing evidence, then the proposed investment will not progress past this assessment gate. **The need for a step change in investment will be assessed as pass/fail.** However, if some elements of the proposed investment demonstrate a sufficient and convincing need, then it may be considered a **partial pass.** In this scenario, the proposed investment will be reduced to align to the scope that meets the Need gate requirements set out.

For further information on the required evidence for each criteria and 'what good looks like', please refer to section 3.4.1 in our asset health assessment guidance.[15]

Best option for customers

It is important that a sufficient number and range of intervention options are considered and suitably assessed. Otherwise, credible alternatives may not have been considered at all and/or the assessment process could have discounted the options unfairly. In some cases, a large range of options may not be obvious, however we want to encourage broader thinking and **innovative solutions**, therefore we consider it important that the company can demonstrate it has exhausted all other credible possibilities before arriving at its preferred solution.

In their submissions, companies should provide sufficient and convincing evidence of:

- a set of potential credible options over a range of intervention types to meet the identified need;

[15] Asset-Health-Assessment-Guidance.pdf

- robust decision making and robust whole life cost-benefit appraisal that clearly shows best value for customers, the environment and long-term asset health to inform the selection of the proposed solution(s);

- the proposed solutions, including scale and timing of the investment. Including how it meets customer preferences;

- what additional benefits the proposed solution will provide compared to the current situation, with clarity on the assumptions underpinning the cost benefit analysis (CBA); and

- customer engagement to understand customer preferences for final options where appropriate.

Optioneering should be proportionate to the scale of the risk and cost of intervention e.g for low value high volume risks an optioneering methodology could be defined at programme level, but for high value, low volume risks we would expect this assessment at asset level.

In line with the new customer involvement rule, we expect companies to put forward investment proposals through the cost change process that have accounted for the views of customers.[16] This may include engagement with expert consumer representatives, Consumer Council for Water (CCW) or through their Independent Challenge Group (ICG).

Assessment criteria

The evidence to demonstrate that the proposed investment is the best option for customers must be sufficient and convincing.

Where a company submits a case to deliver a forecast programme of gravity sewers work, including a range of solutions, we consider a percentage challenge assessment may be less appropriate. Rather, we will look to understand the mix of work and solutions proposed by the company, alongside the evidence provided under the need for a step change in investment, to arrive at a view on whether the company has selected the best option for customers, and the most appropriate mix of works. If we conclude that the company has not provided sufficient and convincing evidence to justify the proposed options, we will look to engage with the company in advance of our draft decisions to better understand the company's proposed mix of solutions.

Where further engagement does not strengthen the evidence provided by the company to demonstrate best option for customers, we will determine allowances based on what we consider is an appropriate mix of solutions to address the identified risk. Companies will have the opportunity to respond to this as part of our draft decision consultation. For further

[16] PDF-20250630-Consumer-involvement-rule-stat-con-FINAL-1.pdf

information on the required evidence and 'what good looks like', please refer to section 3.4.2 in our asset health assessment guidance.

Robust and efficient costs

It is important for companies to demonstrate that the proposed costs are efficient to help ensure that customers do not pay more than they need to. Ofwat should be able to clearly understand the methodology used by companies to derive efficient costs. The proposed costs should be reflective of actual delivery cost and have no overlap with allowances in other areas.

In their submissions, companies should provide sufficient and convincing evidence of:

- the costing methodology and approach being applied to derive the cost of options and chosen solution;
- efficient costs for options and the chosen solutions;
- cost benchmarking, including comparison to historical outturn costs and external benchmarks, where available (for related/alike schemes)[17]
- proportionate cost breakdowns for each intervention type, including but not necessarily limited to:
    - Pipe rehabilitation – relining
    - Pipe rehabilitation – re-rounding / other
    - Replacement - excavation
    - Replacement - trenchless (cured in place pipe (CIPP))
    - Localised repairs (manhole sealing, patch repair)

Assessment criteria

Using the information provided by companies, we will aim to arrive at an efficient unit cost per intervention type. Where considered relevant, we will look to reflect on key characteristics and cost drivers where companies can provide sufficient and convincing evidence that these impact the efficient unit cost. We therefore encourage companies to provide evidence on these factors where they are considered to be a material driver of cost.

For further information on the required evidence and 'what good looks like', please refer to section 3.4.3 in our asset health assessment guidance.

[17] Benchmarking using 3rd party cost data is acceptable, coverage is expected to be broad but does need to include all companies in England and Wales.

Customer protection

Companies are required to propose a price control deliverable (PCD) as part of their investment proposal, and should follow the guidance set out in section 3.4.4 of our asset health assessment guidance.

We intend to hold companies to account for the forecast mix of gravity sewers rehabilitation included in their proposal, and the associated expenditure. The PCD will also reflect the efficient unit rate used to determine additional allowances.

We will monitor the PCD via the delivery plan process, during which we will engage with companies to understand programme delivery and any changes to the forecast mix of work during the 2025-30 period.

We want to embed flexibility into the PCD to enable companies to explore alternative, more efficient and appropriate solutions when delivering their programmes. Therefore, delivering an alternative volume / mix of work than originally forecast will not automatically result in a direct financial clawback.[18]

We will undertake an end-of-period reconciliation to understand:

- Outturn delivery, via existing and additional base expenditure allowances;
- Outturn mix of work compared to forecast;
- Evidence provided by company to explain its investment delivery; and
- Third party assurance reports.

If we conclude that the company has provided sufficient and convincing evidence that the delivered investment remains appropriate, efficient, in the best interests of customers, the environment and long-term asset health, and has delivered equivalent or greater benefits (e.g. level of risk removed), we do not intend to apply a financial clawback. Where a company fails to demonstrate this, the PCD will return money to customers.

For further information on the required evidence and 'what good looks like', please refer to section 3.4.4 in our asset health assessment guidance.

Investment delivery plan

A robust and well-developed delivery plan is key to ensuring successful delivery of a project. Companies will be required to provide this in their investment proposal to reduce the risk of

[18] We consider this is similar to Ofgem's approach to 'Risk trading', whereby the regulator allows companies to deliver risk reduction in their preferred, most cost effective way. However, companies are required to demonstrate that their original intent is delivered in a justified way without windfall gains.

non-delivery. Companies should follow the guidance set out in section 3.4.5 in our asset health assessment guidance.

The investment delivery plan presented should be proportionate to the scale of the investment.

Companies have reported supply chain constraints as a concern in relation to any additional gravity sewers investment during the 2025-30 period. Companies should reflect how their plan has taken account of these constraints and the risks of non-delivery.

For further information on the required evidence and 'what good looks like', please refer to section 3.4.5 in our asset health assessment guidance.

3. Assurance

The general assurance requirements as set out in section 7 of our asset health assessment guidance will also apply to gravity sewers. In addition, we will require assurance on solution selection to support our end of period reconciliation exercise.

These requirements will be drafted in line with the guidance provided in this note, and the principles to inform investment proposals.

4. Next steps

Set out below are the key next steps following publication of the gravity sewers guidance:

1. We will consider issuing a data request to all companies ahead of our draft decisions to gather sector wide cost information, where 2026 cost change process investment proposals do not include sufficient evidence to enable us to assess the efficiency of sewer rehabilitation and/or inspection unit costs.

2. In collaboration with the sector, we will finalise the structure and content of the sewer condition data request by 1 May 2026.

3. Investment proposals under the 2026 cost change process are submitted between 1 March and 1 May 2026.

A1 Company feedback

Theme	Summary of feedback	Response
Scope of sewers included	• Majority of companies agreed with a focused scope. • Some companies asked for a common definition of the sewers classified as in/out of scope. • Some companies asked for high-consequence sewers with a diameter of <1500mm to be reflected in the scope as these are not exclusive to trunk sewers.	• We have retained the proposed scope, but have clarified the definition of these so that it is clear companies can invest in high consequence sewers that have a diameter of >1500mm. • We have included a summary of in vs. out of scope in appendix A2. • We intend to consult on a broader cost change process scope in advance of the next price review, and will welcome a discussion with the sector on inclusion of a broader of scope of sewers as part of this.
Scope of investment	• One company stated that rehabilitation programmes should be primarily risk based, and focus on delivering benefits not only to customers and the environment, but also to the long-term health of the network. • One company asked whether cases to increase sewer rehabilitation to prevent infiltration would be accepted.	• We have reflected the proposal on a broader scope of benefits. • We have clarified that the primary driver of any investment proposals needs to be asset health improvements, as per the cost change process. Where this is linked to other failure modes or indicators of poor performance, companies will be required to demonstrate a clear link to asset health as the primary driver.
Condition methodology	• Companies shared several suggestions that we are considering as part of our refined proposal. This included agreeing a common methodology, e.g. WRc, avoiding using maximum defect score to avoid biasing results, and reviewing international approaches. • Two companies asked about the use of existing survey data to support the request.	• Our work to finalise the request is ongoing with the sector. • We intend to MSCC5 which is an established methodology that is broadly supported by the sector. • We have set out our position on existing data in section 2.2.3.
Selecting a representative sample size	• Companies suggested a range of sample sizes, ranging from 0.25% to a stepped increase towards 2% per year at PR29 (2030-35 period). • Companies were supportive of the need to survey a random, representative sample of the network based on key characteristics identified at PR24 (CWW21).	• We have informed our view of a sample size based on statistical model outputs and feedback from the sector. • We have selected a rate which is in line with sector feedback and is considered to be deliverable during the 2025-30 period, whilst still representative based on key characteristics.
Deliverability	• Five companies raised concerns around supply chain capacity to deliver inspections and additional rehabilitation.	We expect companies to submit an investment proposal that they consider is deliverable in the time available. We also request that companies submit an investment delivery plan that demonstrates how they have considered and incorporated supply chain risks into their investment proposals.

A2 List of items in and out of scope

The tables below show a full list of components associated with gravity sewers.

We consider the following items within scope of the cost change process where they are directly associated with the replacement or refurbishment of the gravity sewer.

Sewer Pipe	Gravity sewer pipe
	Sewer laterals / house connections
	Sewer joints and fittings
	Bends, junctions & tees
	Concrete surround / bedding
	Drop connections
	Culverts
	Lined sewer sections
	Saddle connections

We consider the below ancillary items out of scope of the cost change process. We will continue to review the scope in the future.

Access/Chambers	Manholes
	Inspection chambers
	Access shafts
	Access covers & frames
	Step ladders
	Manhole lifting points
	Manhole benches and channels
	Overflow chambers
	Silt and sediment traps
	Boundary chambers
	Vents
Flow Monitoring	Flow control structures
	Backflow prevention devices
	Flumes
	Discharge headwalls
	Drop structures
	Flow splitting chambers
	Flood tide/flap gates
	Spill weirs
Control and Monitoring	Level sensors
	Depth–velocity flow meters
	Pressure sensors
	Temperature sensors

	Event Duration Monitors
	Gas monitors
	Samplers
	CCTV access points
	Corrosion probes
	Overflow detection switches
Odour Control	Passive ventilation
	Forced ventilation fans
	Odour control units
	Air extraction ducting
	Chemical injection
Civil Structures	Concrete chambers
	Support structures
	Headwalls
	Embankment protection
	Ground stabilisation works
	Pipe / Sewer bridges

Also out of scope are other sewer types, including:

Other sewer types	Rising mains
	CSOs
	Outfalls

A3 Cohort groups

Material:

Asbestos Cement - AC
Brick - BR
Cast Iron - CI
Concrete - CON
Concrete (Precast)
Glass Reinforced Plastic - GRP
Other - O
Pitch Fibre - PF
Polyethylene - PE
Polyvinyl Chloride - PVC
Steel - ST
Unknown - UKN
Vitrified Clay – VC

Age:

pre-1880
1881 to 1900
1901 to 1920
1921 to 1940
1941 to 1960
1961 to 1980
1981 to 2000
2001 to 2020
2021 onwards
Unknown

Diameter:

<= 165mm
>1500mm
>165mm and <=320mm
>320mm and <=625mm
>625mm and <=1500mm
Unknown

Type:

Combined
Foul
Other
Surface Water
Unknown

Ofwat (The Water Services Regulation Authority) is a non-ministerial government department. We regulate the water sector in England and Wales.

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