



SCOTTISH WATER

Water Industry Commission for Scotland (WICS) ANNUAL RETURN 2023/24

Section H – Asset Inventory

Contents

1	Table H1: Summary	3
2	Table H2: Water Non-Infrastructure	11
3	Table H3: Water Infrastructure.....	16
4	Table H4: Wastewater Infrastructure	21
5	Table H5: Wastewater Non-Infrastructure	24
6	Table H6: Support Services.....	28

Section H – Asset Inventory

1 Table H1: Summary

1.1 Overview

Section H reports the number of infrastructure and non-infrastructure assets in the Scottish Water inventories that were operational on 24 March 2024. The data is extracted near the end of March rather than the last day in March to allow time to process and complete relevant quality checks. In comparison, Section E tables report assets that were operational at any time during the year, so assets that were operational during the year but decommissioned before year end will appear in Section E but not in Section H. The exceptions to this are combined sewer overflows, sewers and water mains assets that are only reported if they are operational at the end of the year due to the frequency of status changes that occur making tracking changes throughout the year overly complex.

Section H also reports the gross and net modern equivalent asset values (MEAV) for each site level asset class e.g. Water Treatment Works (WTW). The MEAV is calculated using an asset related cost algorithm matched to asset data at unit level. Units are a collection of equipment. The MEAV for each unit are summed to give the site MEAV. When the MEAV for a site is built up, all units present at that point in time (as at year-end) are priced using cost models. Then an allowance for inflation, using the Consumer Price Index, is added and then on-costs, e.g. contractor overheads, are added. The relevant sites are summed to give the total Gross MEAV for the asset class. The Net MEAV is calculated for non-infrastructure assets by taking the multiplication of Gross MEAV with the proportion of the assets remaining life by its expected overall life.

Net MEAV = Gross MEAV x Asset remaining life / Expected overall asset life. The MEAV has been recalculated for all assets and is influenced by:

- Inflation indexing
- Changes in inventory between end of March 2023 to end of March 2024
- The assessment of on-costs
- The allocation of assets and units to cost models
- The application of a capital project rebate

1.1.1 Revisions to cost models and approach to estimating MEAV for AR24

Scottish Water has undertaken a full review of its cost models, as well as revising a few aspects of its approach to estimating MEAV as part of the AR24 process. The principal changes resulting from this review are:

- Development of revised cost models (R2309) to replace the V13 cost models used in AR23. The revised cost models have been updated to include more recent and relevant cost data and remove older, less relevant cost information, and now also seek to reflect actual out-turn costs on projects rather than using estimated costs
- Adjustment of MEAV to reflect rebates received on capital investment during the year to March 2024. Previously, the cost models did not consider rebates that Scottish Water earns from its capital investment suppliers. For AR24, a 2% rebate

has been applied to all infrastructure and non-infrastructure assets. This is the upper end of actual achieved Scottish Water rebates in recent years. However, it is a conservative adjustment in the context of a hypothetical valuation which considers the construction of an entirely new water and wastewater network, which would be a far larger project, and which might expect to achieve larger rebates as a result.

- The sewers cost models have been revised as set out above to include more recent, outturn cost data. In addition, the sewers MEAV is now estimated only based on those projects of >25 metres in length. This approach has been adopted to avoid short-length, high per metre cost projects skewing the overall MEAV estimate.
- In estimating the MEAV of water mains, we have adapted our approach to apply the specific mix and proportion of surface types for each length of water main, rather than continuing with an approach used in AR23 and prior years in which the MEAV of a length of water main was based on the most expensive type of surface relevant to that length. We consider that this represents a more accurate approach to estimating MEAV.

Together these revisions have resulted in an increase in reported Gross MEAV from £92.530 billion at AR23 to £119.157 billion for AR24, an increase of £26.63 billion (28.8%). Further details of the revisions to our cost models and our approach to estimating MEAV are set out in Annex 1 below.

Table H1 is a summary table of Tables H2 to H6. The gross valuation is dominated by the infrastructure (H3 & H4) valuation of £103.308 billion, comprising 86.7% of the total. The non-infrastructure (H2 & H5) valuation is £15.654 billion, which is 13.1% of the total valuation with the remaining £195.287 million (0.2%) allocated to Support Services (H6) such as vehicles and IT equipment.

- Sewer structures have a variance of 75%. The change is largely due to the new cost models, inflation and the increase in the asset stock of combined sewer and emergency overflows. Robust data improvement activity has been undertaken as part of the Improving Urban Waters plan.
- Sewers have a variance of 43.5%. The change is largely due to the new sewer cost models and inflation.
- Sewage pumping stations have a variance of 22.9%. The change is largely due to the new cost models and inflation.

The MEAV for all remaining asset types, except water pumping stations and sustainable urban drainage systems, have increased due to new cost models, inflation and minor changes in the asset base. Water pumping stations have decreased due to the new cost models. There are no cost models for sustainable urban drainage systems, so continue to be reported with zero value.

The improvements made to the cost models have resulted in moving confidence grades for MEAV from a C to a B due to the removal of extrapolation which was consistent for the specific asset types. Where the confidence grade for MEAV was already at B4 these have been moved to B3 as there are a higher proportion of data points within the cost models for the relevant asset types which results in a greater degree of accuracy. The details of each change to confidence grades are detailed in the Performance Trends Section 1.2.

1.2 Performance Trends

1.2.1 Lines H1.1-H1.13 - Asset Inventory

The AR24 Scottish Water reported gross asset inventory valuation is £119.157 billion. The breakdown by asset type is provided in Table 1 below. The gross valuation is dominated by the infrastructure valuation of £103.308 billion, comprising 86.7% of the total. The non-infrastructure total valuation is £15.654 billion, which is 13.1% of the total valuation. Support services valuation is £195.287 million representing 0.2% of the gross asset inventory valuation.

Table 1: Gross asset inventory valuation by asset type.

Asset Type	AR23 Gross MEAV (£m)	% of Total	AR24 Gross MEAV (£m)	% of Total
Water Non-Infrastructure	6,727.9	7.27%	7,366.7	6.18%
Water Infrastructure	22,347.9	24.15%	23,360.5	19.60%
Wastewater Infrastructure	55,655.4	60.15%	79,947.3	67.09%
Wastewater Non-Infrastructure	7,613.7	8.23%	8,287.0	6.95%
Support Services	185.4	0.20%	195.3	0.16%
Total	92,530.3	100%	119,156.9	100%

Table 2 below shows the change in the total gross asset valuation of Scottish Water assets from AR23 to AR24 by asset category.

Table 2: Change in the total gross asset valuation of Scottish Water assets from AR23 to AR24 by asset category.

Line Ref	Asset Category	AR23 Gross MEAV (£m)	% of Total	AR24 Gross MEAV (£m)	% of Total	Change (£m)	% Change
H1.1	Water treatment works	3,768.5	4.1%	4,186.7	3.5%	418.1	11.1%
H1.2	Water storage	2,519.1	2.7%	2,765.4	2.3%	246.4	9.8%
H1.3	Water pumping stations	440.3	0.5%	414.6	0.3%	-25.6	-5.8%
H1.4	Water resources	4,190.7	4.5%	4,473.7	3.8%	283.0	6.8%
H1.5	Water mains	18,157.2	19.6%	18,886.9	15.9%	729.7	4.0%
H1.6	Sewers	54,264.6	58.6%	77,846.4	65.3%	23,581.8	43.5%
H1.7	Sewer structures	837.7	0.9%	1,465.7	1.2%	628.0	75.0%
H1.8	Sea outfalls	553.1	0.6%	635.2	0.5%	82.1	14.8%
H1.09	Sustainable Urban Drainage Systems	0.0	0.0%	0.0	0.0%	0.0	
H1.10	Sewage pumping stations	1,436.5	1.6%	1,765.8	1.5%	329.3	22.9%
H1.11	Sewage treatment works	5,822.8	6.3%	6,091.0	5.1%	268.2	4.6%
H1.12	Sludge treatment facilities by disposal type	354.4	0.4%	430.2	0.4%	75.8	21.4%
H1.13	Support services	185.4	0.2%	195.3	0.2%	9.9	5.3%
	Total	92,530.3	100%	119,156.9	100%	26,626.6	

A summary of the asset categories that had a variance greater than +/- £200m or +/- 30% in any one asset category is contained in Table 3 below.

Table 3: Summary of the changes incorporating a variance greater than +/- £200m or +/- 30% in any one asset category.

Asset Category	Change (£m)	% Change
Water treatment works	418.14	11.1
Water storage	246.36	9.7
Water resources	282.99	6.8
Water mains	729.68	4.0
Sewers	23,581.80	43.5
Sewer structures	628.01	75.0
Sewage Pumping Stations	329.30	22.9
Sewage Treatment works	268.20	4.6
Total	26,681.73	29.32

The total net value of the Scottish Water non-infrastructure asset inventory (including support services depreciable assets) is £4.526 billion. The changes to the net valuation by asset category between AR23 and AR24 are outlined in Table 4 below.

Table 4: Changes in net valuation by asset category.

Line Ref	Asset Category	AR23 Net MEAV (£m)	% of Total	AR24 Net MEAV (£m)	% of Total	Change (£m)	% Change
H1.1	Water treatment works	987.487	25.0	1,158.512	25.6	171.03	17.3
H1.2	Water storage	855.578	21.6	891.564	19.7	35.99	4.2
H1.3	Water pumping stations	134.452	3.4	141.323	3.1	6.87	5.1
H1.10	Sewage pumping stations	454.948	11.5	635.792	14.0	180.84	39.8
H1.11	Sewage treatment works	1,368.017	34.6	1,512.945	33.4	144.93	10.6
H1.12	Sludge treatment facilities by disposal type	60.176	1.5	77.105	1.7	16.93	28.1
H1.13	Support services	97.045	2.5	109.176	2.4	12.13	12.5
	Total	3,957.703	100	4,526.417	100	568.713	14.4

1.3 Data

The data for the non-infrastructure asset inventory is extracted from the Works & Asset Management system (Ellipse) whereas the infrastructure inventory is extracted from the Geospatial Information system (GIS). The cost models are provided by the Scottish Water internal costing team. R2309 cost models have been used and costs inflated using CPI.

The R2309 (Release 2023 September) cost models have been created to replace the v13.1 cost models that have been used to price MEAV since Annual Return 2017 (AR17). The R2309 cost model methodology is similar in approach to previous releases. The primary improvements between V13.1 and R2309 methodology are:

- To move away from wholly estimated costs to a combination of both relevant current actual and estimated cost data to increase data coverage
- Applying a conversion percentage uplift to bridge the gap between estimated data models to make them 'equivalent' out-turn models

- To ensure inclusion of ‘true’ modern equivalent assets (new technologies, scopes of work, productivity, up-to-date delivery models etc.) by adding extra estimated cost data and retiring SR06 data where possible.

Further details on the process of revising and assuring the R2309 cost models are set out in Annex 1 below.

The residual life method used to estimate the life expectancy of the assets remains the same as previous years and therefore has had no impact on significant changes in the Gross or Net Value of element categories. However, there have been some material changes to the element category values but these are in line with the overall changes, due to new cost models, inflation or changes to the asset stock as described later against the relevant lines.

The confidence grades for Table H1 are assessed individually considering the proportion of each asset as opposed to defaulting to the lowest value in Tables H2-H6. Given the introduction of new cost models which utilise project out-turn costs and not just estimated design costs, confidence grades have moved from a C classification to a B where the out-turn costs contribute at least 50% of the data points used to develop the model, given there is less estimation used within the data source. This has resulted in:

- **H1.2** Water storage changing from C4 to B4
- **H1.3** Water pumping stations changing from C4 to B4
- **H1.6** Sewers changing from C4 to B4
- **H1.7** Sewer structures changing from C4 to B4
- **H1.8** Sea outfalls changing from C4 to B4.
- **H1.10** Sewage pumping stations changing from C4 to B4
- **H1.11** Sewage treatment works changing from C4 to B4
- **H1.12** Sludge treatment facilities by disposal type changing from C4 to B4

The remaining lines are unchanged, except **Line H1.5** Water mains which has changed from B4 to B3 as there was already greater confidence in the cost data for this asset type, so the accuracy has improved with the introduction of out-turn costs.

Some figures within the commentary may be subject to rounding; this will account for minor variances. The reason for the variances is that the level below the summary tables uses calculations to provide more detailed information.

Annex 1: Revisions to cost models and approach to estimating MEAV for AR24

Since AR17 Scottish Water has been using “V13” cost models for the calculation of its MEAV for its Annual Return. The V13 cost models were prepared based on data from the SR06 and SR10 regulatory periods and produced a total Gross MEAV of £92.5bn in AR23. Scottish Water undertook a review of these cost models and identified the following issues:

- The use of SR06 and SR10 data meant that the V13 cost models did not include the latest available cost information (i.e. that from SR15) and were, therefore, unlikely to reflect the most up-to-date cost in terms of scopes of work, construction methodologies, technologies^[1], productivity and the structure of the supply chain. Over time, this could result in a potentially material divergence from actual costs of construction in current market conditions.
- The V13 curves were largely based on Gate 90 data (expected outturn cost), rather than Gate 110 data (actual outturn cost), with the latter likely to be more reflective of the actual total costs incurred in investments.
- On-cost factors do not reflect the current delivery models including transformation, e.g. initiatives to get to site/off site in half the time, as they are based on historic data.

Scottish Water has, therefore, developed revised and updated cost models (the R2309 models), which address the first two of these factors (but not yet the third).

Assurance of the R2309 cost models

Scottish Water has sought to assure and improve the revised cost models via the following steps:

- 1) We commissioned Mott McDonald to review and support the development of the R2309 cost models as follows:
 - a. Benchmarking of 100 of the most significant (out of 238) cost models against eight UK Water and Sewerage Companies of comparable scale and operating model to test the reasonableness / reliability of Scottish Water cost models.
 - b. Benchmarking a small number of Scottish Water Projects via a comparison of actual costs against those predicted by the cost models.
 - c. Addition of industry datapoints for a number of Scottish Water cost models with a low sample size.
 - d. Undertaking a cost engineering logic review for the yardstick ranges and the curve types used in the Scottish Water models.
 - e. Undertaking a more detailed assessment to identify the reasons for the significant increases in three of the infrastructure curves, which comprised c.55% of the total MEAV under the R2309 curves.
- 2) Following Mott’s review, Scottish Water made adjustments to a number of its cost models in line with Mott’s recommendations, including incorporating further data points into 22 of our cost models and changing the curve type for six of our cost models to better fit the available data.
- 3) Following Mott’s review, Scottish Water undertook a further detailed review of its water

mains and sewers cost models (which showed relatively large increases in MEAV) and underlying data to understand:

- a. Whether these models were influenced by anomalous data points.
 - b. To what extent changes in project scope (length), geography and/or complexity were contributing to the observed cost increases and whether these were representative of the Scottish Water network as a whole or reflected a biased sample of projects.
- 4) As a result of this review and associated analysis, we determined that:
- a. There was no evidence to suggest anomalous data points were materially contributing to the increase in the cost models.
 - b. The evidence suggested that while the geographic mix of projects undertaken in SR10 and SR15 might have tended slightly towards more expensive areas, e.g. Highlands & Islands, this did not appear to be material.
 - c. For water mains, changes in “the average length of main laid” did not appear to be material.
 - d. For sewers, there was a material reduction in both the average length of sewer pipe laid across the data set (from 165 metres to 72 metres), as well as a significant increase in the proportion of projects of particularly short lengths, i.e. less than 25 metres (from 38% of the V13 data set to 50% of the R2309 data set). We observed that short-length projects had particularly high unit costs and this was likely to partly explain the material increase in the sewers cost models.

We considered that these short-length projects were less relevant to estimating the hypothetical replacement cost of the whole Scottish Water asset base, i.e. the MEAV, than longer-length projects. Hence, we revised our cost models for sewers to include data points from projects of >25 metres only.

In addition, in reviewing our cost models, we identified two further adjustments that we considered should be made:

- 1) Application of Surface Codes - In previous Annual Returns, the approach that Scottish Water adopted to estimating the MEAV of water mains assumed that when a length of water main is replaced, that replacement should be costed as if the full length of replaced water main passed through the most costly/complex ground type encountered during the replacement. We note that it is more accurate to cost water main replacements on the specific mix of ground types actually present and have taken this approach for AR24.
- 2) Application of rebates discounts - Scottish Water commercial agreements with its supply chain contain provisions for the company to earn rebates from its suppliers in response to achieving certain levels of expenditure. These rebates are paid at the end of each year but are not reflected in the project costs that are used to estimate the cost models. In estimating the MEAV of the Scottish Water network, it seems appropriate to include an adjustment to reflect the fact that costs are reduced by these rebates. Based on the levels of rebates earned in recent years, we have applied a 2% adjustment to take this factor into account.

Scottish Water considers that its revised R2309 cost models provide the most accurate available means of estimating the MEAV of its assets. However, we note that further revisions and improvements are expected to be made to these models over the next year, with expected impacts on the values reported for AR25.

2 Table H2: Water Non-Infrastructure

2.1 Overview

Table H2 provides information on the water non-infrastructure asset inventory. The gross asset valuation for AR24 has increased to £7.367 billion. This represents an increase of £639m, equivalent to 9.5%, of which +3.2% is the direct result of inflation and the remaining change is predominately due to the transition from Version 13 to R2309 cost models (+7.7%) with only a minor decrease due to the inventory (-1.5%).

Table H2 has three subsections: water treatment works, water storage and water pumping stations. The greatest change in the Gross MEAV within each subsection is:

- Water treatment works has a 96.7% increase in Gross MEAV reported in **Line H2.7** GW2 treatment works. This increase is due to the new cost models, inflation, additional units, site data improvements and the addition of one site.
- Water storage has a 9.9% increase in Gross MEAV reported in **Line H2.9** Service reservoirs. This increase is due to the new cost models and inflation.
- Water pumping stations has an 8.8% decrease in Gross MEAV reported in **Line H2.13** Booster. This decrease is due to the new cost models and reduction in the asset stock.

As described in Table H1, the number of assets reported in the Section H differ to those in the Section E due to the inclusion of assets which have been operational during the year for Section E and the end of year only status of assets included in Section H.

The improvements made to the cost models have resulted in moving confidence grades for MEAV from a C to a B due to the removal of extrapolation which was consistent for the specific asset types. Where the confidence grade for MEAV was already at B4 these have been moved to B3 as there are a higher proportion of data points within the cost models for the relevant asset types which results in a greater degree of accuracy. The details of each change to confidence grades are detailed in Performance Trends - Section 2.2.

2.2 Performance Trends

2.2.1 Lines H2.1-H2.8 Water Treatment Works

The number of Water Treatment Works reported for AR24 is 226. This is a net decrease of one from AR23. The details of the changes in Water Treatment Works due to sites being added or removed in AR24 are shown in Table 5 below.

Table 5: Changes in reported Water Treatment Works due to removals or additions.

Plant No	Site	AR24 Status	WIC H Grade	Band
WTW000824	INVERMORISTON WTW 2019 NH423150	Added	4	2
WTW000828	DALWHINNIE WTW 2019 NN637847	Added	7	0
WTW000552	DALWHINNIE WTW 1970 NN637848	Removed	8	0
WTW000741	FORT AUGUSTUS WTW 2005 NH416091	Removed	4	0

Plant No	Site	AR24 Status	WIC H Grade	Band
WTW000759	INVERMORISTON WTW 2007 NH422157	Removed	4	0

Invermoriston WTW (WTW000824) replaced Fort Augustus WTW (WTW000741) and Invermoriston WTW (WTW000759). There were no changes to the WIC H Grades for these assets. The following site change occurred due to improvements in data quality of the site design capacity:

- Tobermory WTW moved from Band 1 to Band 2.

Line H2.7 GW2 Treatment works increased from £13.275 million to £26.117 million. In addition to cost model changes and inflation, the change in valuation is also due to two additional factors:

- Fair Isle WTW: Inventory expanded from 13 to 23 units adding £3.4 million to the valuation.
- Dalwhinnie WTW: Site added in AR24 with a £4.0 million valuation.

The confidence grade for the asset stock remains the same as for AR23, A2, as the data quality level has been sustained but not improved.

The gross asset valuation for WTW for AR24 has increased from £3.769 billion to £4.187 billion due to the updated cost models and inflation.

The confidence grade for the asset valuation has been changed from C4 to B4 for **Lines H2.3, H2.5 and H2.6** reporting lines due to the improved confidence in the revised cost models used to provide the valuation. **Lines H2.2, H2.4, H2.7 and H2.8** have remained as C4 due to the lower confidence in the cost models related to these lines.

2.2.2 Lines H2.9-H2.10 Water Storage

The number of Water Storage Assets reported for AR24 is 1,296. This is a net increase of 12 assets from AR23 as a result of the removal of 19 service reservoirs and a single water tower, offset by the addition of 32 service reservoirs. These are listed in Table 6 below.

Table 6: Changes to reported Water Storage Assets due to additions and removals.

Plant No	Site	AR24 Status	WIC H Grade	Band
TWS000182	COCHNO NO.2 C.WT.	Added	9	2
TWS000183	COCHNO DIR NS496737	Added	9	2
TWS000184	COCHNO NO.4 TWS	Added	9	2
TWS000185	COCHNO NO.5 TWS	Added	9	2
TWS000186	COCHNO DIR NS496738	Added	9	2
TWS000199	CORRIEGILLS DSR NS029351	Added	9	0
TWS000275	DUNOON NO 3 DSR TWS	Added	9	0
TWS000276	DUNOON NO 4 DSR TWS	Added	9	0
TWS000278	DUNOON DIR NS165768	Added	9	2
TWS000308	FAULDRIBBON DSR NX197973	Added	9	1
TWS000388	HIGHLEES MID CWT 1960 NS368334	Added	9	4
TWS000389	HIGHLEES NORTH CWT 1960 NS367334	Added	9	4
TWS000412	JOCKSTOWN DSR 1 NY214714	Added	9	1

Plant No	Site	AR24 Status	WIC H Grade	Band
TWS000506	LOCH FERGUS DSR NX696518	Added	9	1
TWS001413	KEMNAY PARKHILL DSR 1930 NJ740158	Added	9	0
TWS001512	SLOPEFIELD BPT 1950 NJ903041	Added	9	2
TWS001740	BALMOSSIE DSR 1938 NO479334	Added	9	3
TWS001839	FOULA SOUTH CWT 1981 HT969377	Added	9	0
TWS002273	GARYVARD DSR	Added	9	0
TWS003398	LOCH LEACACH DSR NC688573	Added	9	0
TWS003493	MANSE ST NEW CWT NT479366	Added	9	1
TWS003524	DHU LOCH CWT	Added	9	2
TWS003540	LIMEFIELD DSR 1 NS988691	Added	9	2
TWS003639	CARBOST WTW CWT 2006 NG342340	Added	9	0
TWS003676	DRUMFEARN DSR 2011 NG672155	Added	9	0
TWS003711	NEWCASTLETON TWS 1 1972 NY495882	Added	9	0
TWS003729	FORT AUGUSTUS DSR 2019 NH376101	Added	9	1
TWS003730	INVERMORISTON TWS 2019 NH422157	Added	9	0
TWS003731	INVERMORISTON TWS 2019 NH423150	Added	9	0
TWS003749	TOLSTA VILLAGE DSR TWS NB529473	Added	9	0
TWS003750	CRAIGHEAD CWT 1975 TWS NJ497405	Added	9	0
TWS003758	SILVERBURN DSR 2 NT204602	Added	9	0
TWS000188	COLINTRAIVE BPT NS033746	Removed	9	0
TWS000416	KAIM LARGE CWT 1997 NS347623	Removed	9	2
TWS000472	KNOCKJARDER DSR NS353150	Removed	9	2
TWS000754	WHITING BAY DSR NS040261	Removed	9	1
TWS000954	FISCAVAIG DSR 1960 NG321334	Removed	9	0
TWS001109	ACHBUIE DSR 1994 NH567358	Removed	9	0
TWS001309	BALLOCH WOOD DSR NE 2001 NJ459485	Removed	9	0
TWS001312	HERRICKS DSR 1973 NJ458494	Removed	9	0
TWS001451	CROVIE DSR 1989 NJ807650	Removed	9	0
TWS001648	KINNAIRD DSR 1998 NN956595	Removed	9	0
TWS001701	AIRLIE DSR 1961 NO315508	Removed	9	0
TWS001818	GOURDON DSR NO824711	Removed	9	0
TWS002032	HILL OF ROW DSR NN756002	Removed	9	0
TWS002096	PORT OF MENTEITH DSR NN581018	Removed	9	0
TWS002102	REDNOCK BPT NN611027	Removed	9	0
TWS002234	BALREAVIE DSR 1922 NO266064	Removed	9	1
TWS003435	FORT AUGUSTUS CWT NH416091	Removed	9	1
TWS003512	GALSON SR DSR NB441575	Removed	9	0
TWS003515	HABOST KERSHADER DSR NB347199	Removed	9	0
TWS001267	LOSSIEMOUTH HIGH DSR 1937 NJ233707	Removed	10	1

Data cleansing has impacted the figures as tanks were represented as cells and are now represented as separate tanks. "Tanks Removed" contains a combination of tanks updated to out of service, and status changes as a result of data cleansing. There were no changes to the WIC H Grades for these assets. The following site change occurred due to improvements in data quality of the site design capacity:

- Glenhove DSR 2 moved from Band 0 to Band 5 Update to design capacity from infill value of 0.4ML to 47.7ML.

The confidence grade for the asset stock remains the same as for AR23, A2, as the data quality level has been sustained but not improved.

The gross asset valuation for Water Storage for AR24 increased from £2.519 billion to £2.765 billion due to the new cost models and inflation.

The confidence grade for the asset valuation has improved from C4 to B4, as the updated cost models are partly based on project costs from Gate 110, at which stage a project is reaching delivery, and therefore more representative of the final cost.

2.2.3 Lines H2.11-H2.13 Water Pumping Station

The number of Water Pumping Station assets reported for AR24 is 781. This is a net decrease of six assets from AR23, as a result of the following changes:

- Intake (RWP): Two (2) added, five (5) removed – net change of -3
- Source (GWS): Two (2) added – net change of +2
- Booster (TWP): Fourteen (14) added, nineteen (19) removed – net change of -5

The affected sites are listed below in Table 7.

Table 7: Changes to reported Water Pumping Stations due additions and removals.

Plant No	Site	AR24 Status	WIC H Grade	Band
RWP000259	INVERMORISTON RWP 2019 NH425156	Added	11	2
RWP000264	BADCAUL WTW EMERGENCY RWP NH051896	Added	11	0
GWS000305	CAMISKY WELLFIELD BOREHOLE 1	Added	12	0
GWS000316	DALWHINNIE GWS NN631854	Added	12	0
TWP001142	ACHMORE TWP NG852332	Added	13	0
TWP001254	ABERDEEN CHARLESTOWN TWP NJ935003	Added	13	2
TWP001315	ST RONANS TERRACE TWP 2007 NT328369	Added	13	1
TWP001354	F AUGUSTUS PRI TWP 2019 NH387083	Added	13	2
TWP001355	F AUGUSTUS SEC TWP 2019 NH404090	Added	13	0
TWP001356	INVERMORISTON TWP 2019 NH423150	Added	13	3
TWP001363	SOUTH MOORHOUSE TWP 2018 NS524511	Added	13	2
TWP001376	ASCOG MILLBANK TWP 2019 NS106639	Added	13	2
TWP001379	WEMYSS BAY KELLY TWP 2019 NS201684	Added	13	2
TWP001381	CAIRNDOW ST CATHERINES TWP 2019 NN133080	Added	13	2
TWP001390	BACK TWP NB485401	Added	13	3
TWP001397	YARROWFORD TWP NT409301	Added	13	3
TWP001398	HATTON GREENHEADS TWP NK036390	Added	13	2
TWP001420	CAMBUSMORE STRAID TWP NN654058	Added	13	0
RWP000218	INVERMORISTON LOW RWP NH426154	Removed	11	0
RWP000220	SPEY BOREHOLES RWP NJ339592	Removed	11	0
RWP000221	TOMATIN RWP NH802276	Removed	11	1
RWP000224	PERTH RWP NO104266	Removed	11	0
RWP000247	INVERMORISTON HIGH LIFT RWP NH425153	Removed	11	1
TWP000231	WHINHILL TWP NS282747	Removed	13	3
TWP000594	FAIR ISLE TWP 1980 HZ212718	Removed	13	3
TWP000123	HOGGANFIELD TWP NS628660	Removed	13	4
TWP000128	KELLY TWP NS201684	Removed	13	1
TWP000166	MILLBANK TWP NS107640	Removed	13	0
TWP000211	SOUTH MOORHOUSE FARM P.S.	Removed	13	1
TWP000214	ST CATHERINES TWP 2002 NN134081	Removed	13	2
TWP001014	WATLEE TWP 1986 HP592048	Removed	13	3

Plant No	Site	AR24 Status	WIC H Grade	Band
TWP000328	DOUNIE TWP 1997 NH571907	Removed	13	0
TWP000515	CHECKIEFIELD TWP 1977 NO406530	Removed	13	3
TWP001085	FOULA TWP 1997 HT969389	Removed	13	1
TWP000560	FLADDABISTER TWP 1992 HU434325	Removed	13	1
TWP000579	GRAEMSAY TWP 1988 HY253054	Removed	13	1
TWP001121	LOGANS WELL TWP 2004 NS517526	Removed	13	2
TWP001161	STANMORE RD TWP 2007 NS585616	Removed	13	0
TWP000705	NEWMARKET TWP NB424365	Removed	13	2
TWP000711	ELLENBEICH TWP NM748175	Removed	13	0
TWP000712	ERISKAY TWP NF792106	Removed	13	2
TWP001328	PORTREE TORVAIG TWP 2014 NG495465	Removed	13	0

There were no changes to the WIC H Grades for these assets. The following site change occurred due to improvements in data quality of the site design capacity:

- Hungry Snout RWP moved from Band 5 to Band 4 – Update to design capacity from 1600kW to 945kW.
- Milngavie RWP moved from Band 0 to Band 5. This was due to previously having a default infill value of 4kW (AR23) which has been updated with the actual value of 2,520kW (AR24).

The confidence grade for the asset stock remains the same as for AR23, A3, as the data quality level has been sustained but not improved.

The asset valuation for Water Pumping Stations for AR24 decreased from £440.257 million to £414.614 million primarily due to the new cost models.

The confidence grade for the asset valuation has improved from C4 to B4, as the updated cost models are partly based on project costs from Gate 110, at which stage a project is reaching delivery, and therefore more representative of the final cost.

2.3 Data

Ellipse is the data source for the inventory data. The valuations utilise the R2309 cost models (refer to H1 appendix). Confidence grades are detailed in Performance Trends - Section 2.2 where relevant.

There are no forecast data for Table H2.

3 Table H3: Water Infrastructure

3.1 Overview

Table H3 provides information on the water infrastructure asset inventory. The gross asset valuation for AR24 has increased to £23.361 billion. This represents an increase of 4.5% which is due to variance caused by the updated cost models, used for Raw Water Aqueducts and the assets in the Water Mains category, and inflation. There is little change from AR23 in the asset numbers and length reported in Table H3.

A summary of Table H3 lines affected by both the new cost models and the change in the method used to designate pipes into the surface class they are laid in is shown in Table 8 below. This demonstrates the change in the MEAV produced by each of the factors.

Table 8: The change in the MEAV produced by new cost models and changes in method.

Line	Description	AR23	AR24 using AR23 v13 Cost Models	Inflation and Asset length Change	New R2309 Cost Models	Cost Model Change	New Surface Class Method	Surface Class Method Change	Rebate Method (AR24)	Rebate Method Change
H3.3	Raw water aqueducts	2,296.9	2,551.8	11%	3,975.9	56%	2,705.6	-32%	2,651.5	-2%
H3.4	Mains potable	16,742.0	18,337.9	10%	23,182.4	26%	16,135.4	-30%	15,812.7	-2%
H3.5	Mains other	63.3	70.1	11%	115.8	65%	76.2	-34%	74.7	-2%

Table H3 has two subsections: water resources and water mains. The greatest change in the Modern Equivalent Asset Value (MEAV) within each subsection is:

- Aqueducts MEAV has increased by £354.6m (15.4%) due to the updated cost model
- Communication pipes (lead) have increased by 108% and Communication Pipes (Other) have increased by 124% due to the updated cost model

There is a difference in the way sites are reported between Section H and Section E. The sources in Table E4 are only included if they are direct sources, as per the definitions document, as the lines report the distribution input from each source in columns 110-140, therefore indirect sources are omitted. Section E also only reports assets that are operational (including emergency assets) during the year. Table H3 reports all assets that are operational, emergency, out of service or work in progress (as classified in the Works & Asset Management system (Ellipse), at the end of the year. As such this table will not include assets that were operational during the year but removed prior to year-end. Note that **Line H3.3** - raw water aqueducts are infrastructure assets that are sourced from the Scottish Water Geospatial Information system (GIS) and have no equivalent asset in Table E4.

The improvements made to the cost models have resulted in moving confidence grades for MEAV from a C to a B due to the removal of extrapolation which was consistent for the specific asset types. Where the confidence grade for MEAV was already at B4 these have been moved to B3 as there are a higher proportion of data points within the cost models for the relevant asset types which results in a greater degree of accuracy. The details of each change to confidence grades are detailed in Performance Trends - Section 3.2.

3.2 Performance Trends

H3.1 Water Resources – Dams & Impounding Reservoirs

The number of Dams & Impounding Reservoirs reported for AR24 is 199. This is a net increase of one from AR23, although the one site added (Loch Crackavaig) is out of service and was erroneously not included in AR23 (Table 9).

Table 9: Changes to reported Dams & Impounding Reservoirs due to additions and removals.

Plant No	Site	AR23 Status	WIC H Grade
DIR000275	LOCH CRACKAVAIG DIR NF793106	Added	14

The confidence grade for the asset stock remains the same as for AR23, C4, as there has been no change in the data analysis methods.

The asset valuation for Dams & Impounding Reservoirs for AR24 decreased from £1.86 billion to £1.79 billion. The valuation decreased due to the re-basing of the inflation of the historic costs from RPI to CPI. Calculation of the MEAV for Dams and Impounding Reservoirs is based on extrapolation of historic costs from 2007 due to insufficient data being available to produce a cost model.

The confidence grade for the asset valuation remains the same as for AR23, C4, as there has been no change to the data or calculation method.

H3.2 Water Resources – Raw Water Intakes

The number of Raw Water Intakes reported for AR24 is 263, which is the same number as AR23. Three sites have been added and the same number removed however, as shown in Table 10.

Table 10: Changes to reported Raw Water Intakes due additions and removals.

Plant No	Site	AR24 Status	Design Capacity
RWI001009	ESSET BURN RWI	Added	0.791
RWI001072	INVERMORISTON RWI 2019 NH425156	Added	0.791
RWI001077	BADCAUL WTW EMERGENCY RWI NH051896	Added	0.791
RWI000505	RIVER TAY RWI 1970 NO104266	Removed	27.3
RWI000701	LOCH NESS RWI 1960 NH426154	Removed	0.113
RWI001036	PERTH RWI	Removed	0.791

The confidence grade for the asset stock remains the same as for AR23, C5, as there has been no change in the data analysis methods.

The asset valuation for Raw Water Intakes for AR24 decreased from £30.76 million to £28.65 million. The valuation decreased due to the re-basing of the inflation of the historic costs from RPI to CPI. Calculation of the MEAV for Raw Water Intakes is calculated using a model based on extrapolation of historic costs from 2007 due to insufficient project data costs being available.

The confidence grade for the asset valuation remains the same as for AR23, C5, as there has been no change to the data or calculation method.

H3.3 Water Resources – Raw Water Aqueducts

The total length of Raw Water Aqueducts in this reporting year is 1,678.82km. This is an increase of 15.9 km from AR23. The additional aqueducts are a result of digitizing work in GIS causing the pipes to come into the category reported under **Line H3.3**, rather than new aqueducts being commissioned during the year.

The confidence grade for the asset stock remains the same as for AR23, B2, as the data quality level has been sustained but not improved.

The asset valuation for Raw Water Aqueducts has increased from £2.30 billion to £2.65 billion. The valuation has mainly increased due to the CPI increase as confirmed in H1.

Approximately 8.7% (146.1km) of the total length of Raw Water Aqueducts required the diameter to be infilled based on connected pipe values where available (1.7%) or based on an average diameter for the pipe based on its material (7.0%). The pipe diameter is required to produce an asset valuation. The confidence grade for the asset valuation remains the same as for AR23, B2, as the data quality level has been sustained but not improved.

H3.4 Water Mains – Mains Potable

The total length of Potable Mains in this reporting year is 49,224.42km. This is an increase of 114.1km from AR23.

The confidence grade for the asset stock remains the same as for AR23, A2, as the data quality level has been sustained but not improved.

The asset valuation for this reporting year has decreased from £16.742 billion to £15.813 billion. The valuation has decreased due to the updated cost models and improved application of them to the surface class (grass / rural road / urban road) each pipe section is laid in. These factors have offset the inflation increase in AR24.

The diameter of a main is required to produce an asset valuation. Approximately 0.3% (145.8km) of the total length of Potable Mains required the diameter to be infilled based on: connected pipe values where available (0.3%) or an average diameter for the pipe based on its material (0.0% equivalent to 2km).

The accuracy of the confidence grade for the asset valuation has improved from B4 to B3 as the updated cost models are partly based on project costs from Gate 110, at which stage a project is reaching delivery, and therefore more representative of the final cost.

H3.5 Mains Other

The total length of Mains Other in this reporting year is 146.2km. This is an increase of 1.2km from AR23, which is an 0.8% increase in length shown in previous years.

The confidence grade for the asset stock remains the same as for AR23, A3, as the data quality level has been sustained but not improved.

The asset valuation for this reporting year has increased from £63.3 million to £74.7 million. This is mainly due to the increase in inflation and the updated cost models.

The accuracy of the confidence grade for the asset valuation has improved from B4 to B3 as the updated cost models are partly based on project costs from Gate 110, at which stage a project is reaching delivery, and therefore more representative of the final cost.

H3.6 Communication Pipes (Lead)

The total number of Communication Pipes (Lead) in this reporting year is 48,675, equivalent to 2.6% of total communication pipes. This is a decrease of 3,295 from AR23 due to the planned and opportune removal of lead pipes from our network.

Scottish Water bases its understanding of the number of lead communication pipes in the network on a statistical survey which estimated the number at approximately 4% of total number of communication pipes in 2010. Each subsequent year this estimate is reduced based on the activity on our network to remove lead communication pipes. We aim to refine the estimate by using a risk assessment approach to target water quality sampling in areas likely to have lead communication pipes. We are also undertaking pilot projects for the replacement of lead communication and supply pipes in Tighnabruaich, Kyle of Lochalsh and a Dynamic Mechanical Analysis (DMA) in Edinburgh which will help confirm or refine our estimates.

The confidence grade for the asset stock remains the same as for AR24, B4. However the procedure for recording lead replacement work has improved as there are specific categories now available in the Scottish Water new Salesforce Task Scheduling system.

The asset valuation for this reporting year has increased from £36.04 million to £74.83 million due to the updated cost models and the increase in inflation despite the reduction in the number of assets.

The reliability of the confidence grade for the asset valuation has improved from C4 to B4 as the updated cost models (£/m) are partly based on project costs from Gate 110, at which stage a project is reaching delivery, but replacement is based on numbers and not pipe length, so the cost of replacement remains within the accuracy band 4 (10%-25%).

H3.7 Communication Pipes (Other)

The total number of Communication Pipes (Other) in this reporting year is 1,804,298. This is an increase of 18,705 from AR23 due to new housing and commercial developments being connected to our network.

The confidence grade for the asset stock remains the same as for AR23, B4, as the data quality level has been sustained but not improved.

The asset valuation for this reporting year has increased from £1.238 billion to £2.773 billion. The valuation has increased due to the updated cost curves, the increase in inflation and the increase in the number of pipes reported.

The reliability of the confidence grade for the asset valuation has improved from C4 to B4 as the updated cost models (£/m) are partly based on project costs from Gate 110, at which stage a project is reaching delivery, but replacement is based on numbers and not pipe length, so the cost of replacement remains within the accuracy band 4 (10%-25%).

H3.8 Water Meters

The total number of Water Meters in this reporting year is 138,074. This is a slight decrease of 461 (0.3%) from AR23.

The confidence grade for the asset stock remains the same as for AR23, A3, as the data quality level has been sustained but not improved.

The asset valuation for this reporting year has increased from £77.45 million to £150.76 million. The valuation has increased due to the updated cost curves and the increase in inflation.

The accuracy of the confidence grade for the asset valuation has improved from B4 to B3 as the updated cost models are partly based on project costs from Gate 110, at which stage a project is reaching delivery, and therefore more representative of the final cost.

3.3 Data

Data sources and confidence grades are detailed in Performance Trends - Section 3.2 where relevant.

There have been no notable data improvement programmes in AR24, however improvements have been made to the cost models (details are within Annex 1 of the Table H1 commentary).

There are no forecast data for Table H3.

4 Table H4: Wastewater Infrastructure

4.1 Overview

Table H4 provides information on the wastewater infrastructure asset inventory. The gross asset valuation for AR24 has increased to £79.947 billion. This represents an increase of 43.6% caused primarily by the updated cost models.

Table H4 has four subsections: sewers, sewer structures, sea outfalls and sustainable drainage systems. The greatest change within each subsection is:

- Sewers has a 43.9% increase in gross MEAV reported in **Line H4.1 Sewers**. This increase is due to the new cost models and inflation
- Sewer structures have a 116.4% increase in gross MEAV reported in **Line H4.3 Combined sewer and emergency overflows**. This increase is due to the new cost models, inflation and a 11.1% increase in the asset stock.
- Sea outfalls have a 15.1% increase in gross MEAV reported in **Line H4.5 Short Sea outfalls**. This increase is due to the new cost models and inflation.
- Sustainable urban drainage system assets have a 46.0% increase in number of assets reported, similar to the percentage increase reported in AR23. This increase is due to new assets being installed throughout the year. Scottish Water does not currently have an appropriate cost model to calculate the MEAV for sustainable urban drainage systems so gross MEAV is excluded from this table submission. Note net MEAV would not be applied to this asset type because infrastructure assets are assumed not to depreciate.

The improvements made to the cost models have resulted in moving confidence grades for MEAV from a C to a B due to the removal of extrapolation which was consistent for the specific asset types. Where the confidence grade for MEAV was already at B4 these have been moved to B3 as there are a higher proportion of data points within the cost models for the relevant asset types which results in a greater degree of accuracy. The details of each change to confidence grades are detailed in Performance Trends - Section 4.2.

4.2 Performance Trends

H4.1 Sewers

The total length of Sewers in this reporting year is 54,689.6km. This is an increase of 469.4km from AR23. The increase is due equally to new sewers and new sewer laterals.

The confidence grade for the asset stock remains the same as for AR23, B2, as the data quality level has been sustained but not improved.

The asset valuation for this reporting year has increased from £53.588 billion to £77.128 billion. The valuation has increased due to the length of new sewers commissioned, the updated cost models and the increase in inflation.

The accuracy of the confidence grade for the asset valuation has improved from C4 to B4 as the updated cost models are partly based on project costs from Gate 110, at which stage a project is reaching delivery, and therefore more representative of the final cost, but over a third of the length is based on estimated laterals limiting the accuracy grade.

H4.2 Sewers – Sewage and Sludge Pumping Mains

The total length of Sewage and Sludge Pumping Mains in this reporting year is 1,442.5km. This is an increase of 24.2km from AR23.

The confidence grade for asset stock remains the same as for AR23 at A4, as the data quality level has been sustained but not improved.

The asset valuation for this reporting year has increased from £676.510 million to £718.483 million. The valuation has increased due to the length of the mains commissioned, the updated cost models and the increase in inflation.

The accuracy of the confidence grade for the asset valuation has improved from B4 to B3 as the updated cost models are partly based on project costs from Gate 110, at which stage a project is reaching delivery, and therefore more representative of the final cost.

H4.3 Combined sewer and emergency overflows

The number of combined sewer and emergency overflows in the report year is 4,083, an increase of 409 from AR23.

Robust data improvement activity has been undertaken during the year to identify intermittent discharges not previously recorded in the Scottish Water Ellipse system. The additions are mainly located at Wastewater Treatment Works (WwTW) where intermittent discharges were not recorded separately from the works. Individual identification means discharges can be included and prioritised for spill monitor installation in the Improving Urban Waters plan.

As a result of the work that has been undertaken during the year, the accuracy of the CSO Asset Stock has improved from 4 to 3 (10%-5%). The confidence grade for asset stock for CSOs is therefore now A3.

The asset valuation for this reporting year increased from £513.908 million to £1,112.2 million. The valuation has increased due to the 11% increase in the number being reported, the updated cost models and the increase in inflation.

The confidence grade for the asset valuation has improved from C4 to B4, as the updated cost models are partly based on project costs from Gate 110, at which stage a project is reaching delivery, and therefore more representative of the final cost.

H4.4 Other Sewer Structures

The number of Other Sewer Structures is 428, which is an increase of 161 from AR23. This figure has been taken from the Works & Asset Management system (Ellipse) and reflects the increase in the number of sewer storage tanks being built. The confidence grade for the asset stock remains at B3.

The asset valuation for this reporting year increased from £323.791 million to £353.502 million. The valuation was based on the estimated figure used in AR23 inflated by this year's RPI. Scottish Water aims to develop an improved cost model to calculate a MEAV based on the asset information held in the Works & Asset Management system (Ellipse) in future years.

The confidence grade for the asset valuation remains the same as AR23, D5, as the data quality level has been sustained but not improved.

4.2.1 Lines H4.5 and H4.6 - Sea Outfalls: Short and Long Sea Outfalls

Short Sea Outfall categories have increased by 1 to 1,188 in AR24 and long sea outfall numbers have remained at 55.

The confidence grade for asset stock remains the same as for AR23, B2, as the data quality level has been sustained but not improved.

The asset valuation for both outfall types has increased from £553.1 million to £635.177 million due to the updated cost models and inflation.

The confidence grade for the asset valuation has improved from C4 to B4, as the updated cost models are partly based on project costs from Gate 110, at which stage a project is reaching delivery, and therefore more representative of the final cost.

4.2.2 H4.7-H4.11 - Sustainable Drainage Systems (SUDS)

The total number of Sustainable Urban Drainage Systems in AR24 is 473 which is an increase of 149 from AR23. This increase is solely due to new assets being installed.

The volume (m³) data was sourced from the Ellipse Works & Asset Management system for SUDS sites to designate size bands to the asset stock. 28% of the 473 reported SUDS sites were populated with capacities from this source and the remainder were designated with the median of known volumes, 700m³, which put them into Size Band 2.

The confidence grade for asset stock remains at A3 to reflect the number of volumes infilled as there is uncertainty in the correct banding of SUDS rather than the total number.

Scottish Water does not currently have an appropriate cost model to assess MEAV for SUDS assets therefore zero MEAV figures are reported.

4.3 Data

Data sources and confidence grades are detailed in Performance Trends - Section 4.2 where relevant.

Robust data improvement activity has been undertaken during the year to identify intermittent discharges not previously recorded in the Scottish Water Ellipse system resulting in improved asset data for combined sewer and emergency overflows. Also, improvements have been made to the cost models (details are in Annex 1 of the Table H1 Commentary).

There were no other notable data improvement programmes in AR24. There are no forecast data for Table H4.

5 Table H5: Wastewater Non-Infrastructure

5.1 Overview

Table H5 provides information on the wastewater non-infrastructure asset inventory. The gross asset valuation for AR24 has increased to £8.287 billion. This represents an increase of £673m equivalent to 8.8%, of which +3.4% is the direct result of inflation, -4.1% is the direct result of changes to the inventory, and the remaining change (+9.5%) is predominately due to the transition from Version 13 to R2309 cost models. The changes to the inventory have been a combination of changes to sites reported and the inventory on the sites, with the volume of units reducing by 1.6% which contributes to the calculation of MEAV for each site (details of the MEAV methodology are in the Table H1 Commentary).

Table H5 has three subsections: sewage pumping stations, sewage treatment works and sludge treatment facilities by disposal type. The greatest change in the MEAV within each subsection is:

- Sewage pumping stations have a 24% increase in Gross MEAV for **Line H5.1** Sewage pumping stations (in-line). This increase is due to new cost models and inflation.
- Sewage treatment works have a 54% decrease in Gross MEAV for **Line H5.3** - cess & septic tanks. This decrease is due to new cost models. 46% of the data points used to develop this new cost model are based on data provided by Motts (details of the methodology are in Annex 1 of the Table H1 Commentary). This has resulted in no change to the confidence grade as although newer costs are being used almost half are not Scottish Water project delivered costs so until the proportion of costs are actual Scottish Water costs we have decided to keep the confidence grade reflective of the uncertainty in the MEAV for this asset type.
- Sludge treatment facilities by disposal type has a 34% increase in Gross MEAV for **Line H5.8** Sludge treatment – liquid disposal. This is due to the new cost models, inflation and the addition of another asset of this type.

The improvements made to the cost models have resulted in moving confidence grades for MEAV from a C to a B due to the removal of extrapolation which was consistent for the specific asset types. Where the confidence grade for MEAV was already at B4 these have been moved to B3 as there are a higher proportion of data points within the cost models for the relevant asset types which results in a greater degree of accuracy. The details of each change to confidence grades are detailed in Performance Trends - Section 5.2.

5.2 Performance Trends

5.2.1 Lines H5.1 and H5.2 - Sewage Pumping Stations

The total number of Sewage Pumping Stations in AR24 is 2,313. This is a net increase of 23 assets from AR23.

Table 11 lists the affected sites.

Table 11: Changes to reported Sewage pumping stations due additions and removals.

Plant No	Site	AR23 Status	WIC Grade	HBand
SPS000669	INVERNESS SLACKBUIE AVE WWPS NH671424	Added	29	3
SPS000907	PERSLEY SLUDGE WWPS NJ908097	Added	29	1
SPS002210	LOANHEAD WWPS NT282650	Added	29	2
SPS003055	KILMAURS MARSHALL GDNS WWPS NS404411	Added	29	2
SPS003870	MUIR OF ORD CORRIE VIEW WWPS NH530488	Added	29	1
SPS003919	THE SIDINGS WWPS NS682649	Added	29	1
SPS003920	7-17 MONTFORT PARK WWPS NS514594	Added	29	2
SPS004079	GLASGOW LONDON ROAD WWPS 2011 NS635625	Added	29	2
SPS004097	CANONBIE WWPS 2014 NY394765	Added	29	2
SPS004122	NEWTON MEARNS BARRANCE WWPS NS560555	Added	29	1
SPS004155	WEST CLERKHILL WWPS 2014 NK107451	Added	29	1
SPS004156	WEST LINTON ALICE HAMILTON WAY WWPS	Added	30	1
SPS004161	CRAIGHALL FARM WWPS 2014 NS444409	Added	29	1
SPS004167	HIGHLAND GATE WWPS 2015 NS780953	Added	29	1
SPS004195	SOUTH GYLE WYND WWPS 2015	Added	29	1
SPS004348	STEPS DUNLOP CLOSE WWPS 2011 NS675680	Added	29	1
SPS004368	OLD CRAIGHALL WWPS 2017 NT336705	Added	29	1
SPS004466	ARDERSIER BISHOPS HILL RD WWPS NH781504	Added	29	1
SPS004468	DUMFRIES COLLEGE RD WWPS 2019 NX967770	Added	29	1
SPS004501	LINWOOD BRIDGE OF WEIR RD WWPS NS430638	Added	29	1
SPS004540	BURRELTON WWPS 2021 NO207378	Added	29	3
SPS004568	MORAY STYNIE ROAD WWPS NJ333604	Added	29	1
SPS004603	KINROSS THE MUIRS WWPS NO118027	Added	29	1
SPS004652	ELGIN FINDRASSIE WWPS NJ218651	Added	29	3
SPS004656	DUMFRIES SUMMERPARK ROAD WWPS NX985769	Added	29	2
SPS004660	ELIE ROAD WWPS NO520016	Added	29	1
SPS004850	EDINBURGH GRANTON SQ WWPS NT236771	Added	29	1
SPS004869	EDINBURGH 25 MAIN ST SUMP AND PUMP	Added	29	1
SPS004878	JEMIMAVILLE WWTW FE WWPS NH722652	Added	29	1
SPS000157	BALLOCH DRUMKINNON BAY WWPS NS387824	Removed	29	1
SPS000334	MINNIGAFF HOLMPARK WWPS NX413652	Removed	29	3
SPS000349	NETHERMAINS WWPS NS310421	Removed	29	2
SPS000668	LONGMAN DR S/WATER WWPS 2 1975 NH670469	Removed	29	2
SPS002066	MILTON WWPS	Removed	29	2
SPS004099	CONNEL SEP WWPS NM890339	Removed	30	2

The following site change occurred due to improvements in data quality of the site design capacity:

- Longman Dr S/Water SPS moved from H5.1 to H5.2
- Lockerbie SPS moved from Band 1 to Band 2
- Ellon Castle Meadows SPS moved from Band 1 to Band 2
- Broadleys SPS 1 moved from Band 2 to Band 3

The confidence grade for asset stock remains the same as for AR23, A3, as the data quality level has been sustained but not improved.

The gross asset valuation for this reporting year has increased from £1.437 billion to £1.766 billion. The valuation has increased primarily due to the new cost models and inflation.

The confidence grade for the asset valuation has improved from C4 to B4, as the updated cost models are partly based on project costs from Gate 110, at which stage a project is reaching delivery, and therefore more representative of the final cost.

5.2.2 Lines H5.3 to H5.7 - Sewage Treatment Works (STWs)

The total number of STWs (Wastewater Treatment Works) in this reporting year is 1,841. This is a net decrease of 1 from AR23. The affected sites are listed in Table 12 below.

Table 12: Changes to reported Sewage Treatment Works due additions and removals.

Plant No	Site	AR23 Status	WIC H Grade	Band
STW003782	CANONBIE WWTW 2014 NY394773	Added	34	0
STW003838	NETHERMAINS SEP WWTW NS310421	Added	31	0
STW003839	MIDDLEBIE NEW 2006 SEP WWTW NY2155876154	Added	31	0
STW000124	CANONBIE SEP NY395766	Removed	31	2
STW000511	MIDDLEBIE SEP NY215762	Removed	31	0
STW001727	BURRELTON WWTW 1931 NO207378	Removed	34	3
STW002368	REARQUHAR WWTW NH745920	Removed	31	0

The following site change occurred due to improvements in data quality of the site design capacity:

- Dolphinton Creamery Sep WWTW moved from **H5.6** to **H5.3**
- Carloway WWTW moved from **H5.6** to **H5.3**
- Ballygrant WWTW moved from **H5.7** to **H5.6**
- Keills WWTW moved from **H5.7** to **H5.6**
- Allanfearn WWTW moved from **H5.7** to **H5.6**

The confidence grade for asset stock remains the same as for AR23, A2, as the data quality level has been sustained but not improved.

The gross asset valuation for this reporting year has increased from £5.823 billion to £6.091 billion. The valuation has increased primarily due to inflation. The valuation of **Line H5.3** - cess and septic tanks has decreased by 54% due to the new cost models. The new cost models used for Line H5.5 - Primary treatment only also have a reduction in cost compared to the old

models. Whereas the new cost models used for the other sewage treatment works types have an increased impact when compared to the old models.

The confidence grade for the asset valuation has improved from C4 to B4, for all the WwTW lines except for Cess and Septic Tanks which has remained at C4, as the updated cost models are partly based on project costs from Gate 110, at which stage a project is reaching delivery, and therefore more representative of the final cost. 46% of the data points used to develop the new cost model for Cess and Septic Tanks are based on data provided by Motts (details of the methodology are in Annex 1 of the Table H1 Commentary). This has resulted in no change to the confidence grade as although newer costs are being used almost half are not Scottish Water project delivered costs so until the proportion of costs are actual Scottish Water costs we have decided to keep the confidence grade reflective of the uncertainty in the MEAV for this asset type.

5.2.3 Lines H5.8 and H5.9 Sludge Treatment Facilities

The total number of sludge treatment facilities in AR24 is 22. This is a net increase of one from AR23 (see Table 13).

Table 13: Changes to reported Sludge Treatment Facilities due additions and removals.

Plant No	Site	AR23Status	WIC H Grade	Band
STC000067	PERSLEY STC	Added	36	3

The confidence grade for the asset stock remains the same as for AR23, A2, as the data quality level has been sustained but not improved.

The gross asset valuation for AR24 has increased from £354.411 million to £430.209 million. The valuation has increased primarily due to the new cost models and inflation.

The confidence grade for the asset valuation has improved from C4 to B4, as the updated cost models are partly based on project costs from Gate 110, at which stage a project is reaching delivery, and therefore more representative of the final cost.

5.3 Data

Data sources and confidence grades are detailed in Performance Trends - Section 5.2 where relevant.

There are no forecast data for Table H5.

6 Table H6: Support Services

6.1 Overview

Table H6 provides information on the support services asset inventory. The gross asset valuation for AR24 has increased to £195.287 million. This represents an increase of 5.3% which is the result of increases in the asset base. Inflation is not applied to these asset types.

The greatest change is shown in **Line H6.1**, with an increase in the number of offices producing a 15.1% increase in the gross MEAV to £58.381 million, and in **Line H6.2**, which is reporting 29 more depots and workshops with corresponding MEAV increase of 20.5% to £13.564 million.

6.2 Performance Trends

6.2.1 Lines H6.1 and H6.2 - Offices & laboratories, Depots & Workshops

Changes in the areas (band 1) and numbers (band 2) are a result of data improvement work undertaken during the year. This compared and aligned several data sources to improve the accuracy and completeness of the properties and non-operational buildings being reported. The work is outlined in Section 6.3 - Data.

The changes in the office numbers are detailed below in Table 14.

Table 14: Added / Removed Offices H6.1

Office	Area (m ²)	Added / Removed
Dalmoak Office Hub	350	Added
Forth House Office	639	Added
Lairpark Office Hub	360	Added
Perth Gowans Terrace Office	300	Added
Prestwick Office	766	Added
Castle House Office	2900	Removed

In addition to the change in area from the newly reported buildings, the areas at existing buildings were reviewed. This resulted in several changes and removals of set infill values with areas based on the building outline, or plans. There are 29 additional depots identified in AR24 because of the data improvement work. The confidence grade of **Line H6.1** remains at B2 for AR24, but the confidence grade of **Line H6.2** has increased from B4 to B3 due to replacing estimated values with actual area values, this is further explained in Section 6.3 - Data.

The asset valuation for the reporting year has increased from £50.743 million to £58.381 million for Offices & Laboratories. For Depots & Workshops this has increased from £11.252 million to £13.564 million.

The confidence grade for the asset valuation remains the same as for AR23, C4, as there was no change to the valuation data.

H6.4 Vehicle & Plant

The value of Vehicles (band 1) and Plant (band 2) reported in **Line H6.4** has increased from £79.507 million to £79.560 million, despite a reduction of 29 in the number of vehicles and plant, as the current stock is of higher value overall.

The confidence grade remains the same as for AR23, B3, as the data quality level has been sustained but not improved.

H6.5 Telemetry Systems

The number of Telemetry sites in AR24 is 5,100, which is a reduction of 61 from AR23. The gross MEAV has decreased to £23.409 million as a result of the reduction in numbers.

The confidence grade for the asset stock remains the same as for AR23, A2, as the data quality level has been sustained but not improved. The confidence grade for the asset valuation remains the same as for AR23, B3, as the data quality level has been sustained but not improved.

H6.6 Information Systems

Laptops (band 1) have increased from 4,151 to 4,383. Desktops (band 2) have decreased to 0 from 34 in AR23 as they have been retired from service and are now fully replaced by laptops. Servers (band 3) remain unchanged at 249.

The confidence grade for the asset stock remains the same as for AR23, A2, as the data quality level has been sustained but not improved.

The asset valuation for this reporting year has slightly increased from £4.571 million to £4.706 million.

The confidence grade for the asset valuation remains the same as for AR23, B2, as the data quality level has been sustained but not improved.

H6.7 Other Non-Operational Assets

Seven additional houses are reported in AR24, which brings the total number of Other Non-operational assets to 35. The properties are listed below in Table 15.

Table 15: Added / Removed Other Non-operational Assets H6.7

Asset Name	Building Type	Added / Removed
11a Glenburn Drive	Other Non-op House	Added
1-5 Glengyle Steading + Bothy	Other Non-op House	Added
19 Brandon Gardens	Other Non-op House	Added
23 St Nicholas Road	Other Non-op House	Added
29 Laighlands Road	Other Non-op House	Added
House No. 1, Glen Turret	Other Non-op House	Added
No 3 Gorbals WTW	Other Non-op House	Added

The confidence grade for the asset stock has improved from C4 in AR23 to B3 in AR24, due to the data improvement and validation carried out in the year.

6.3 Data

Data sources and confidence grades are detailed in the commentary where relevant.

Data improvement work was undertaken during the year that aligned several data sources to improve the accuracy and completeness of the properties and non-operational buildings being reported. It compared the existing Annual Return list with buildings held in Ellipse, the Stores address list, Property & Estates management approach inventory and the Power BI buildings item stock list. Subject matter experts were also consulted to review the assets compiled from the data sources.

Improved area measurements were taken from building layouts where available, or aerial photography measurements (mainly used for depots). Eight depots had an estimated floor area of 1,416m², which was the value used when the actual was known, but when measured the average area of the buildings was 176m², therefore this reduced the total area, but this was offset overall by the newly added buildings.

The improvement in the data sources and the validation work performed has resulted in the confidence grade of the assets in **Line H6.2** - depots and workshops to move from B4 to B3. There has been no change to the MEAV data.

There are no forecast data for Table H6.