



# **Annual Information Return 2024**

Reporter's Table Commentaries [Public Domain  
Version]

November 2024

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# Issue and Revision Record

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1	17 July 2024	AIR24 Table Auditors, checked by the Reporter	X	X	Draft issued to NI Water for review and comments on factual accuracy
2	24 July 2024	AIR24 Table Auditors, checked by the Reporter	X	X	Final
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# 1 Context

## 1.1 Introduction

The Reporter's Annual Information Return 2024 (AIR24) Table Commentaries are presented in this document. It is a free standing, stand-alone report, as required by Section 5.2 of the Reporter's Protocol.

The document is a deliverable from independent reporting of Northern Ireland Water's (NI Water's) AIR24 submission, for the financial year 2023-24, as identified through the Reporter's Audit Plan dated 23<sup>rd</sup> April 2024.

## 1.2 Reporter's AIR24 Audit Scope

The scope of the Reporter's work is defined in the Utility Regulator (UR)'s letter dated 25<sup>th</sup> March 2024.

The scope is limited to the following AIR24 Tables with the associated UR guidance notes reproduced here for completeness.

- ☐ Table 5 Key Outputs (including new customer satisfaction measures) Lines 19 and 20. Lines 22, 23 and 24-25.
  - Lines 19 and 20 Total Contacts and Unwanted Contacts
- ☐ Table 11 Activities only (including additional output measures) and not the asset balance. Lines 2-10, Lines 11, 13-17, 18-21, 22-24, 25-26, 27-28, 29-36 and 37-40.
  - We audited delivery of nominated outputs and BU dates on a sample basis.
  - We carried out an evidence-based enhanced audit of Table 11. We also assessed NI Water's approach to completing the information requested via the new AIR24 Data Blocks I-J and provided comments on the effectiveness and value from the introduction of these new data Blocks.
- ☐ Table 16 Activities only (including additional output measures) and not the asset balance. Lines 3-13c, 16a-17b, 18-22, 23-25, 26-28, 29-33 and 34-35.
  - We audited delivery of nominated outputs and BU dates on a sample basis.
- ☐ Table 40 - Capital Investment Monitoring (CIM). All Lines/Columns.
  - We audited a sample of schemes in accordance with the requirements set out in Section 4.0 of Chapter 40 and Section 4.0 of Chapter 30 of the AIR24 information requirements.
- ☐ Table 40b - Delivery of DAPs and Integrated Environmental Modelling. Columns 1-11.
  - We carried out an evidence-based enhanced audit of Table 40b following the approach described in our approved Audit Plan.
- ☐ Table 47 Development Outputs – 18No PC21 Annex T FD Development Outputs.
  - We carried out an evidence-based enhanced audit of Table 47 following the approach described in our approved Audit Plan.

**The Reporter's Team's technical assurance is limited to the Tables within the Reporter's audit scope.**

### 1.3 Content of Document

The structure of this Table Commentaries document is as follows.

- Section 2.1 introduces the Table commentaries.
- Section 2.2 describes the AIR24 Key Outputs Table audited.
- Section 2.3 highlights the AIR24 Non-Financial Tables audited.
- Section 2.4 presents the AIR24 Capital Investment & Drainage Area Plans (DAPs) and Integrated Environmental Models (IEMs) Delivery Tables audited.
- Section 2.5 describes the AIR24 Development Outputs Table audited.
- Appendix A presents the individual Table commentaries with audit findings and recommendations.

## 2 Table Commentaries

### 2.1 Introduction

The Table commentaries in this document are arranged in sequential order according to the following headings: key outputs, non-financial, capital investment, DAPs & IEMs delivery and the PC21 development outputs.

Our audit and reporting of Tables 5, 16 and 40 follows a standard approach used for these Tables in previous years. The audits and reporting of Tables 11, 40b and Table 47 are based on an enhanced audit approach, which is evidence-based.

### 2.2 Key Outputs

The AIR24 Key Output Table audited was:

- Table 5 (Customer Service): Table 5 Key Outputs (including new customer satisfaction measures). Lines 19 and 20. Lines 22, 23 and 24-25.

The Auditor's Table Commentary is given in Appendix A: Table 5 of this document.

### 2.3 Non-Financial

The AIR24 Non-Financial Tables audited were:

- Table 11 (Water Service): Table 11 Activities only (including additional output measures) and not the asset balance (Water Service). Lines 2-10, Lines 11, 13--40.
- Table 16 (Sewerage Service): Table 16 Activities only (including additional output measures) and not the asset balance (Sewerage Service). Lines 3-13c, 16a-17b, 18-22, 23-25, 26-28, 29-33 and 34-35.

The Auditor's Table Commentaries are given in Appendix A: Table 11 and Table 16 of this document.

### 2.4 Capital Investment, DAPs & IEMs Delivery

The AIR24 Capital Investment and the DAPs & IEMs Tables audited were:

- Table 40 - Capital Investment Monitoring (CIM). All Lines.
- Table 40b - Delivery of Drainage Area Plans (DAPs) and Integrated Environmental Modelling (IEM). Columns 1-11.

The Auditor's Table Commentaries with audit findings and recommendations are given in Appendix A: Table 40 and Table 40b of this document.

### 2.5 PC21 Development Outputs

The AIR24 PC21 Development Outputs Table audited was:

- Table 47 (Development Outputs) which covered 18 of the 25 FD21 Annex T Development Outputs identified in our approved audit plan.

The Auditor's Table Commentary is given in Appendix A: Tables 47 of this document.





# Appendices

## **A. Individual Table Commentaries & Recommendations**

## SUMMARY OF AUDIT FINDINGS








Table 5 – Customer Satisfaction Measures Lines 19, 20, 22-25

PREPARED BY	X
DATE	15 November 2024

Rating	Meaning
	No material exceptions and compliant with requirement
	Content with the reported data but supporting information needs to be complete and/or improvement identified for AIR25, or other noteworthy comment
	Minor exceptions
	Material exceptions
N/A	Not applicable to report

## 1. Key Findings

The key findings of the AIR24 Table 5 audit, against the AIR24 audit criteria are summarised below.

AIR24 Table Criteria	RAG	Assessment
Independent review of performance against PC21 target (where relevant)		N/A
Methodology – consistency with the reporting process with clear control points		The methodology for lines have stayed consistent since AIR23. The commentary has been updated to reflect amendments to checking processes for Line 20 and survey processes for Line 23.
Assumptions – reasonableness and applicability		Assumptions are reasonable and applied as agreed with the Utility Regulator.
Source data – completeness		It was highlighted at audit that embedded files within the method statement and commentary do not consistently work. It was recommended that this is checked for next year's submission.
Clarity of audit trails – evidence of appropriate audit trail		Evidence of clear audit trails was provided.
Confidence grades – documentation of appropriateness and rationale		Confidence grades were reviewed at audit and are considered to be appropriate, with supporting rationale documented.
Governance – evidence of quality assurance and of final sign-off		Responsibilities for integrity of data and commentary clearly defined, data and commentary approvals governed through SharePoint tasks.

## 2. Audit Scope

The scope of this audit was the Customer Satisfaction Measures which comprises Table 5 Lines 19-20 and 22-25. Line 21 is no longer used and excluded from the AIR23 Table set [Table 5] submitted by NI Water to the UR. No changes were noted in the line methodologies for all lines from previous years.

## 3. Performance and Significant Events

**Total contacts and unwanted contacts**Lines 19-20

The definition of 'contact' and 'unwanted contact' were updated in AIR19 and remained unchanged in AIR24. As in previous reporting years, the total number of contacts and unwanted contacts are obtained monthly from the All Received CorVu report, which NI Water receives from X, the external service provider

contracted to run the service. The estimate of unwanted contacts is then calculated using the CMS categories of contacts logged within Rapid.

The opening of communication channels including on social media and NI Water's website has been the main factor contributing to the drop in telephone contacts (Line 19) since AIR19. According to the definitions introduced in AIR19, three categories of contacts (requests for information, run of water and switchboard contacts) are no longer considered as 'unwanted' as these events do not cause customers unnecessary aggravation. This explains why the number of unwanted contacts (Line 20) has dropped significantly since AIR19, compared to AIR22 and AIR23 as shown in the table below.

Table Line No & Description	AIR19	AIR20	AIR21	AIR22	AIR23	AIR24
Line 19 - Total contacts	252,844	190,729	182,029	201,170	192,044	199,029
Line 20 - Unwanted contacts	75,569	67,013	70,204	66,064	57,327	50,400

The total contacts (Line 19) are reported as 199,029 in AIR24, which is higher than in AIR23 (about 4% increase). The total unwanted contacts (Line 20) reported in AIR24 was lower than in AIR23 (about a 12% decrease), which continues the trend of decreasing number of unwanted contacts recorded since AIR19.

NI Water keep monitoring monthly performance against target values for unwanted contacts (Line 20). The Company reports a total of 50,400 unwanted contacts for the last reporting period, which meets the target of 65,200. It reported that about 41% and 48% of the total unwanted contacts are related to Sewerage Services and Water Services, respectively, which is similar to AIR23 (38% and 50%). The remaining contacts were associated with other services such as metering and billing. The top complaints under both services related to sewer blockages and water supply issues. This is in line with the previous years.

The principal reason the Company offers for the increase in total contacts is greater customer engagement through automated channels. While telephone contacts have gone down, there have been more contacts received through the WebChat and the recently improved self-service portal on the Company's website. The septic tank portal specifically has also improved, which appears to have increased uptake of this channel.

The continued trend in decreasing number of unwanted contacts could be partly attributed to limited extreme events in the last reporting period. The Company has also undertaken a significant step to review "customer journeys" around specific issues such as billing and low water pressure. This involves proactive customer engagement, through updates on the Company's website and social media, as well as through contractors carrying out works in the area that could affect service.

The Company stated that the correct logging of Wanted and Unwanted contacts is monitored monthly via varying call audits. These include contractual call quality checks, carried out by NI Water's Contracts Team, call calibration sessions hosted by the Customer Experience Team, ad hoc call listening by both the Meter and Billing as well as the Customer Experience teams, and additional call checks carried out by an external consultant employed by NI Water.

From the 2023/24 sample, 3 anomalies were identified where incorrect CMS codes were used to log the calls.

NI Water believes that an accuracy band 2 of +/-5% is most appropriate and that this is justified by uncertainties associated with manual handling and logging of data for the CMS category, which seems sensible. The A reliability band attributed to Line 19 and Line 20 seems reasonable. We are satisfied with the processes and templates demonstrated during the audit and the clarity of results presented. The resulting A2 confidence grade remains in line with AIR23.

## First Point of Contact Resolved (FPOCR)

### Line 22

The definition of FPOCR provided by NI Water is consistent with AIR23 (i.e., ‘when a contact requires an action and the action is completed and there has been no contact from the same property on the same issue within a 180-day period (90 days before or 90 days after) then it shall be counted as FPOCR’).

The definition provided by the UR is as follows: ‘A contact is deemed to be dealt with at first point if there is no repeat contact from the same property on the same issue in the time-period applying. The First Point of Contact Resolved measure is calculated as follows:  $(\text{FPOCR} / \text{Contacts}) \times 100$  by time periods.’ The figure for FPOCR is based on the following criteria:

- A 180-day window (90 days before and 90 days after) – a report run on 31 May for the month of May would look back to 31 January to check whether there was a repeated call in that time window.
- Same CMS category – a contact that has been made regarding the same issue in the given historic window (as more than one contact may have been made by the same customer about different issues).
- Same property – a contact that has been made with reference to same property (as customers may have multiple properties in a given area).

The adoption of a new methodology since AIR19 has resulted in a significant change in the FPOCR figures, which were 90.4% in AIR21 and 90.0% in AIR20, up from 65.8% and 66.5% in AIR18 and AIR19, respectively.

The FPOCR figure reported in the AIR24 Data Table was 86.0%, which is a slight improvement compared to the reported figure for AIR23 (84.0%).

We consider that a confidence grade of A2 Line 22 remains appropriate, for the reasons stated for the numbers in Lines 19 and 20.

## Customer Advocacy measure

### Line 23

A Customer Experience and Insight Specialist, X, has been appointed to undertake independent ‘Voice of the Customer’ surveys. The survey targets customers’ interactions with any part of the business, not only billing and operational areas (Water and Wastewater) as was done in previous reporting years. The survey was conducted on 8139 customers compared to 6869 customers last year.

As in previous years, the survey was conducted on all resolved contacts only (from telephone and written channels). NI Water aligns the closed date and actual closed date fields in the report to ensure the contact is effectively resolved. A list of resolved contacts is provided daily by NI Water to X, who conduct the surveys via text message or similar.

The customer advocacy measure is represented by Net Promoter Score, calculated as the percentage of customers responding to the question *“Based on your recent experience with us, how likely are you to recommend NI Water? Please respond 0 for very unlikely up to 10 for very likely”*, with grades 9 and 10 (promoters), minus the percentage of those responding with grades 0 to 6 (detractors). Percentages of detractors and promoters are calculated over the total number of respondents to the survey, which is the sum of detractors, promoters and ‘passive’ customers (i.e. respondents with grades 7 and 8). Those responding ‘Don’t know’ do not form part of the calculation.

The value reported for Line 23 can fall between -100 (worst score) to +100 (best score). The calculated value in AIR24 is 46, which is an increase from the value reported for AIR23 (36). The Company states that this can be partly attributed to improvement in the survey questions, which have been made clearer and simpler for public accessibility. Survey timings have also been adjusted so that they are carried out after any outstanding service requests are completed. Improvements in the septic tank portal have also contributed to this year's score. For example, there was previously an error with the automated service that customers used to request desludging, which can now be done through the septic tank portal.

### **Omnibus survey question 1 and 2**

#### Lines 24-25

X is an independent firm contracted by NI Water to carry out the annual Omnibus survey. As part of the survey, domestic and non-domestic customers, who may or may not have contacted NI Water, were asked whether they are happy with service received from NI Water (Line 24) and whether they would recommend NI Water (Line 25).

Domestic customers were surveyed through an online platform of Knowledge Base. In this system, panellists are recruited via a random probability unclustered address-based sampling method, meaning that all households have a possibility of being selected to join the panel. Letters were sent to selected addresses (using the Postcode Address File) inviting them to become members of the panel. Members of the public who are digitally excluded are also able to register to the Knowledge Panel either by post or by telephone, and are given a tablet, an email address, and basic internet access which allows them to complete surveys online.

For the purposes of the Omnibus surveys (Lines 24-25) only panellists from Northern Ireland, and in effect, NI Water Customers were used. A total of 1,700 panellists were registered, from which 997 survey responses were received (about 59%). This is similar to the number of respondents in AIR23 (985).

Non-domestic surveys were conducted via Computer Assisted Telephone Interviewing (CATI). The survey is derived from a random sample of businesses in Northern Ireland, with quotas applied to ensure that the survey mirrors the profile of the Northern Ireland business community insofar as this is possible, building quota requirements by region with a view to ensuring maximum geographical representativeness.

Line 24 is the combined, weighted percentage of domestic and non-domestic customers responding 1 (strongly agree) and 2 (tend to agree) on a 1 to 6 scale. From the numbers stated in the commentary, overall satisfaction in AIR24 was 74% for domestic customers (similar to AIR23, reported at 72%) and 73% for non-domestic customers (decreased slightly from 77% in AIR23). The combined score of 73.7% indicates that overall satisfaction has been maintained (also reported to be 73.7% at AIR23).

The score for Line 25 is calculated using Net Promoter Score methodology based on results from the following statement; if people could choose their water company how likely would you be to recommend your water company to a friend or colleague where 1 is 'not at all likely to recommend' and 10 is 'extremely likely to recommend'. Like Line 24, the total score is the sum of the weighted scores from domestic and non-domestic surveys. The AIR24 mean score for Line 25 is 7.4, which is slightly lower than the reported figure at AIR23 (7.5%).

## **4. Summary of Audit Checks**

Our audit was attended by the NI Water team responsible for the derivation of numbers for Table 5, Lines 19-20 and 22-25.

The team confirmed any new definitions and changes in methodology for data collation adopted since AIR23 and responded to the questions on the draft Table 5 commentary provided pre-audit. We discussed this reporting year's results in the context of historical performance.

## 5. Confidence Grades

We generally agree with the rationale for the confidence grades stated as: A2 for Line 19, 20 and 22 and A1 for Line 23-25.

## 6. Challenges to the Company, Recommendations & Suggested Actions

We identified the following minor suggested corrections at the time of audit:

- ☐ Amend commentary and method statement to reflect changes in process for checking that unwanted/wanted calls have been correctly logged (Line 20).
- ☐ Add statement in commentary confirming the number of anomalies in the data for this reporting year (Line 20).
- ☐ Add statement in commentary that survey is carried out daily and confirming the number of survey responses received in AIR24 (Line 23).

## 7. References

- a) NIAUR\_air24\_repreq\_Sec2\_Chap05 01.00.pdf. The UR Guidance for AIR24 Table 5.
- b) NIAUR\_air24\_repreq\_Sec2\_Chap05a 01.00.pdf. The UR Guidance for AIR24 Table 5a.
- c) NI Water Data Table: DT\_Table5\_L13-25.xlsx
- d) NI Water Commentary: CC\_Table5\_Lines13-25.Docx
- e) NI Water Methodology: LM\_Table5\_Lines18-25.Docx

## SUMMARY OF AUDIT FINDINGS

Table 11 – Water Service. Activities only not the asset balance

PREPARED BY	X	NI WATER AUDITEES
DATE	15 November 2024	X

## 1. Overview

- Table 11 provides a statement of the Company's activities in the Report Year relating to the water service through ten Data Blocks. Water service as described in Table 11 includes: activities (Lines 2-11) and asset balance (Line 1 and Line 12) in respect of water distribution - information on water distribution zone studies (Lines 13-17), performance against water quality compliance (Lines 18-21), delivery of nominated outputs (Lines 22-24), PC15 additional water service output measures (Lines 25-26) and PC21 additional water service output measures (Lines 27-28). Since AIR23, additional measures have been introduced through the inclusion of two new data blocks in Table 11 covering Lines 29-36 (water models) and Lines 37-40 (water work packages developed).
- Seven of the 10 Data Blocks associated with Table 11 are covered by the scope of the Reporter's Table 11 audits and reporting. Aspects excluded from the scope are: asset balance (Line 1 and Line 12) and water distribution zone studies (Lines 13-17).
- Through our review of data sets associated with changes during the report year (Appendix A), we identified two issues. One where the total number of bursts had been entered within the table rather than the normalise rate per 1,000km per main. The second issue related to where multiple main repairs were being incorrectly identified as duplicates. We note that NI Water resolved these issues and updated the values reported for Line 11 post-audit.

From our review and audit of the PC15 additional water service output data sets, we note that a total of 78 other educational events took place in AIR24 against a PC21 target of 57. We also note that the reporting for this line now uses the Company's Thrive platform. An original value of 77 was initially reported within the table but when reviewing the data download process from Thrive a total of 78 events were identified. The cause of this discrepancy was a result of the manual data manipulation required. We can confirm that the pre-audit Table 11 data for Line 26 was updated post-audit to report the correct value.

- We have reviewed/examined the new NI Water's AIR24 Table 11 Block I and Block J reported data and we found that that Company's approach is consistent with UR guidance. **We made recommendations on alignment of the X Data set used for AIR24 reporting of Line 32 with the Company's corporate Data set of connected properties, on how Line 30 will be populated based on the definition and categorisation of the level of maintenance being reported and on the appropriate level of evidence that can be used to validate report of the midpoint of model calibration dates.** Details are given in Appendix B.
- We also reviewed the effectiveness and value of the new Data Blocks I-J and the associated guidance. We identified that the total number of models in NI Water's current X model library is 35. This is made up of 18 completed models, 12 with model build on-going and 5 with model build not started.

We concluded that a complete assessment of the effectiveness and value of the new Data Block I would not be possible until the number of models maintained in a report year can be reported based on an approach that fulfils the requirement of the UR guidance Line 30 particularly with respect to the level of model maintenance carried out on each model such as individual DMA or SR area updates or complete WSZ update. With respect to the new Data Block J, for AIR25 reporting, **we suggest that NI**

**Water prepare a work package cost spreadsheet for each of the work packages reported based on the unit rates – mains and unit rates – minor assets information provided for the AIR24 audits.**

On the basis of review findings, **we recommend that NI Water prepares a method statement for the reporting of the number of models maintained in year that fulfils the requirements of UR guidance definition for Line 30 of the new Data Block I.**

Details are given in Appendix C.

## 2. Introduction

This is the Reporter's commentary for the enhanced audit of NI Water's AIR24 Table 11 submission. In addition to the overview section (Section 1), there four sections that provide details of the Table 11 audit scope and approach (Section 3) and audit findings (Section 4).

**Conclusions and recommendations for each scope item are outlined in the Appendices to this commentary:** Appendix A: Update AIR23 review for AIR24, Appendix B: Assess NI Water's approach for the reporting of Block I and Block J data and Appendix C: Review effectiveness and value of new Data Blocks I-J & Guidance.

## 3. Audit Scope and Approach

### 3.1 Scope

#### a) General

We applied an evidence-based audit approach to the audit and reporting of the Table 11 AIR24 Data Blocks outlined in Table TC\_11\_1.

**Table TC\_11\_1:** Outline Summary of AIR24 Table 11 Data Blocks and Audit Approach

S/N	Data Block	Description & Data Lines	Audit Approach
2	Block B	Changes During Report Year. Lines 2-11	<i>Scope Item 1. Review and audit data sets</i>
5	Block E	Water Quality Compliance Measures. Lines 18-21	<i>Scope Item 1. Review and audit data sets</i>
6	Block F	Nominated Water Service Outputs. Lines 22-24	<i>Scope Item 1. Review and audit data sets</i>
7	Block G	PC15 Additional Water Service Output Measures. Lines 25-26	<i>Scope Item 1. Review and audit data sets</i>
8	Block H	PC21 Additional Water Service Output Measures. Lines 27-28	<i>Scope Item 1. Review and audit data sets</i>
9	Block I	Water Models. Lines 29-36 <a href="#">[New for AIR24]</a>	<i>Scope Items 2-3. Review and assess NI Water's approach. Establish list of Company systems used for AIR24 Table 11 reporting. Test effectiveness and value of the introduction of new data Blocks I-J plus the additional UR Table Guidance to NI Water and to the Reporter. Test reliability &amp; accuracy of data.</i>
10	Block J	Water Work Packages Developed (Water Work Packages Issued for Construction). Lines 37-40 <a href="#">[New for AIR24]</a>	

#### b) Scope Item 1 – Update AIR23 Review for AIR24

AIR24 Reporter Letter Requirement. *“Activities only (including additional output measures) and not the asset balance. Delivery of nominated outputs and BU dates should be audited on a sample basis. The Reporter is not required to comment on change control and budget changes.”*

Details of the Scope item 1 audit findings are given in Appendix A.

- c) Scope Item 2 – Assess NI Water’s approach for the reporting of Block I and Block J data AIR24 Reporter Letter (and Table 11 Reporter Guidance) Requirements.

- ❑ “On Table 11, the Reporter shall **assess** the Company’s approach to completing the information requested and **confirm** that the figures are reflective of the data being held on the Company’s systems.”
- ❑ [Reporter Table Guidance, p8 of 20] “**Comment** on NI Water’s progress in building and maintaining its model library and the robustness of the library with respect to the age of models.”
- ❑ [Reporter Table Guidance, p8 of 20] “**Comment specifically** on NI Water’s Table “Summary of Current Model Status” within their Commentary.”

Details of the Scope item 2 audit findings are given in Appendix B.

- d) Scope Item 3 – Review effectiveness and value of new Data Blocks I-J & Guidance AIR24 Reporter Letter Requirement. “ ...The Reporter shall also **comment** on the **effectiveness and value** from the introduction into AIR24 of Blocks I and J and any suggestions on **if/how** these metrics could be improved for future annual information returns and price controls [e.g. in light of current practice in England & Wales)”. ”.

Details of the Scope item 3 audit findings are given in Appendix C.

### 3.2 Approach

#### a) Introduction

Our audit approach is **evidence-based**, focussed on the UR’s scope outlined in Section 3.1. The approach is illustrated in Figure TC\_11\_1.

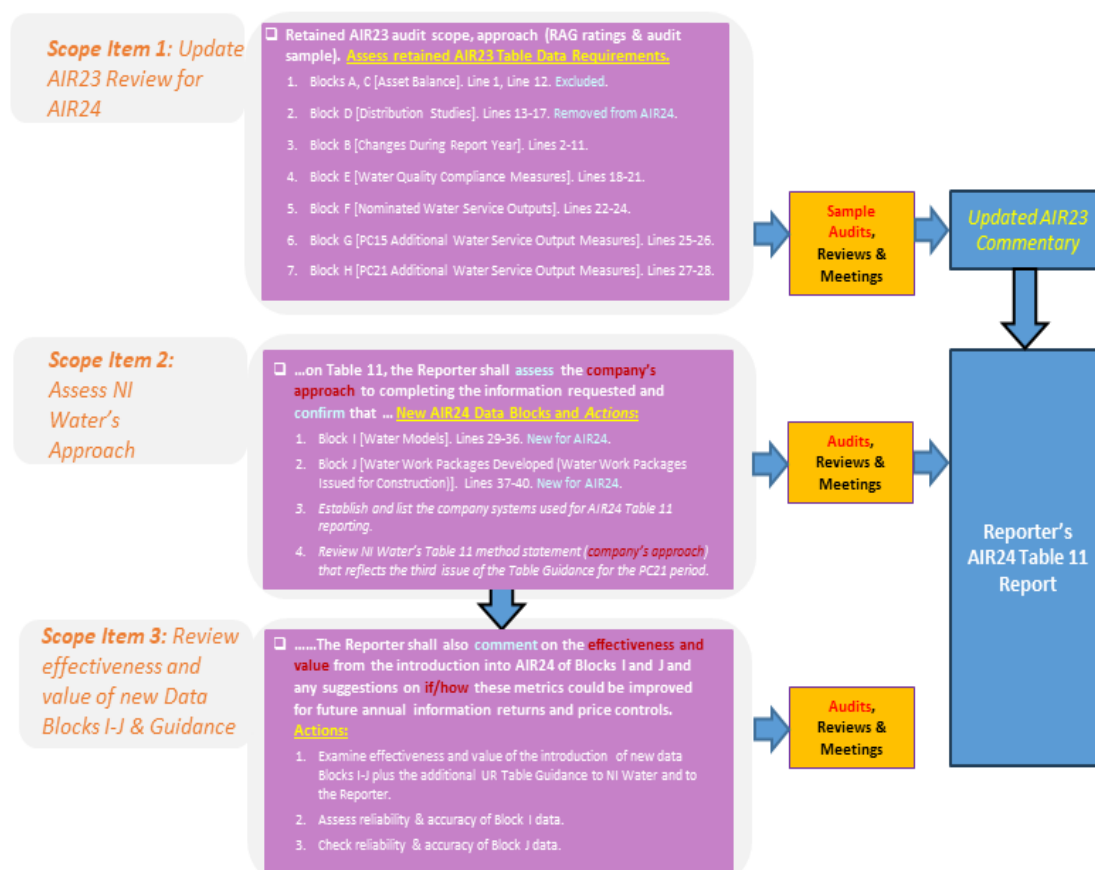


Figure TC\_11\_1: Illustration of Audit Approach

The specific methods used to fulfil the audit scope for Table 11 are outlined in the following sections.

b) Scope Item 1 - update AIR23 review for AIR24

We reviewed of NI Water's draft Table 11 commentary and data sets pre-audit to fulfil the UR's AIR24 specific requirements. We then followed up with audit meetings with each of the Company's Auditees. We carried out seven (7) separate audits with the key NI Water system holders. The Data Blocks and Line numbers associated with the 7 audits are shown in Table TC\_11\_2.

**Table TC\_11\_2: Table 11 Scope Item 1 Audits – Data Blocks and Line Numbers**

S/N	Data Block and Description	Data Lines
1	Block E. Water Quality Compliance Measures.	Lines 18-21
2	Block H. PC21 Additional Water Service Output Measures.	Line 28
3	Block G. PC15 Additional Water Service Output Measures. Lines 25-26	Lines 25-26
4	Block B. Changes During Report Year. Lines 2-11	Line 11
5	Block B. Changes During Report Year. Lines 2-11	Lines 2-10
6	Block F. Nominated Water Service Outputs. Lines 22-24	Lines 22-24
7	Block H. PC21 Additional Water Service Output Measures.	Line 27

From the audits, we provided feedback to Auditees as post-audit corrective actions. We then engaged with the Auditees to close out post-audit actions (where appropriate) to the audit programme timescales and finalised the data sets commentary.

c) Scope Item 2 - assess NI Water's approach for the reporting of Block I and Block J data

We established and reviewed the Company systems used for the new AIR24 Table 11 Block I and Block J reporting. We also reviewed NI Water's Table 11 method statement (**Company's approach**) and commentary that reflects the third issue of the Table Guidance for the PC21 period. We identified and closed out post-audit actions.

d) Scope Item 3 – review effectiveness and value of new Data Blocks I-J & Guidance

We examined the effectiveness and value of the introduction of new data Blocks I-J plus the additional UR Table Guidance to NI Water and to the Reporter. We also assessed the reliability and accuracy of Block I and Block J data sets and the associated confidence grades, according to the UR guidance.

## 4. Audit Findings

### 4.1 Update of AIR23 review for AIR24

- a) Blocks B [Lines 2 – 10, Changes During Report Year], E [Lines 18 – 21, Water Quality Compliance Measures], F [Lines 22 – 24, Nominated Water Service Outputs], G [Lines 25 – 26, PC15 Additional Water Service Output Measures] and H [Lines 27 – 28, PC21 Additional Water Service Output Measures]:

The Company's AIR24 data sets for audited data blocks under Scope Item 1 are consistent with the UR guidance. Where we identified audit issues and post-audit corrective actions, we can confirm that NI Water resolved these issues and updated the values post-audit. Further details are given in Appendix A.

- b) Block I: Water Models. Lines 29-36 [\[New for AIR24\]](#)

NI Water's reporting of the new Block I data is consistent with the UR guidance. The current model coverage is 63% based on the percentage of models fully built in X currently held within NI Water's

Model Library. Models that are undergoing a rebuild make up 25% of the coverage while the models yet to be built in X cover the remaining 12% of connected properties. The Company has reported zero for the number of models maintained in the report year. **But the development of a method of estimating the number of models maintained in a year is outstanding.**

We note that the Company has based its estimates of connected properties (metric associated with Line 32 and Line 30 reports) on the LPS Dataset “X” as opposed to the “expected” NI Water’s X system.

Details are given in Appendix B and Appendix C.

- c) Block J: Water Work Packages Developed (Water Work Packages Issued for Construction). Lines 37-40 [\[New for AIR24\]](#)

NI Water’s reporting of the new Block J data is consistent with the UR guidance. We identified a number of post-audit corrective actions related to accuracy and reliability of the reported data. We can confirm that these actions have been resolved post-audit and closed out.

Details are given in Appendix B and Appendix C.

#### 4.2 Assess NI Water’s approach for the reporting of Block I and Block J data

There are three aspects to the report year data reported through the new Block I Water Models part of the Table 11 AIR24 submission. These are:

- ☐ a description of the features of NI Water’s current X model library such as the number of models in the library, the number of models built/rebuilt in a report year and the number of models maintained in year.
- ☐ model coverage expressed as the aggregated percentage of connected properties associated with each of the models in the model library. The number of models with significant level of maintenance carried out in report year, reported as a percentage of updated model area, using the metric of connected properties.
- ☐ model age and reporting statistics (average, maximum, numbers older than 5 and 7 years).

The new Data Block J introduced for AIR24 provides the total number of X work packages issued for construction in the report year, with the content of the work packages by number, length and estimated cost of the schemes. The work to identify water rehabilitation programmes involve use of the X Model (X) methodology and the related model builds associated with the methodology.

The X approach involves taking all appropriate NI Water asset datasets which reflect the performance of the network (including customer data) and applying a scoring matrix to reflect these datasets for all distribution pipelines across the Company’s water supply network. These scores are then applied to each pipeline.

Details of our audit findings and recommendations are given in Appendix B.

#### 4.3 Review effectiveness and value of new Data Blocks I-J & Guidance

We consider that the model build process is effective in that it is supported by a standard model build specification that encourages consistency of model build and promotes the benefit and cost effectiveness of the model build programme.

The information requirements set out under Block I captures performance measures related to X model library asset lifecycle, model coverage across the active water distribution network, the maintenance risks and materiality of these risks for the established investment and operational model uses.

In particular, the model coverage and the number of models maintained metrics would enable an objective assessment of the value of the model library investments and how changes in NI Water's confirmed number of connected properties for water service is reflected through these measures. In addition, the reporting indicators would combine to provide a basis for improved understanding of the value added by the water models over the model asset's lifecycle.

## References

1. NIAUR, 2024. Annual Information Return 2022-23 (AIR24) – Reporter Letter with Table 40b Audit Guidance on file as "X".
2. NIAUR, 2024. Annual Information Return Reporting Requirements and Definitions Manual for AIR24. Tables & Commentaries. Chapter 11 Non Financial Measures – Water service activities.

Data Block specific references are outlined in the Appendices.

## Appendices

**Appendix A:** Update of AIR23 review for AIR24





**Appendix B:** Assessment of Company's approach - Blocks I-J data

**Appendix C:** Effectiveness and value of new Data Blocks I-J and Guidance

## Appendix A: Update AIR23 review for AIR24






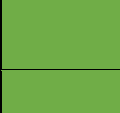

### Scope Item 1: Blocks B, E, F, G and H

The audits reviewed NI Water (or NIW)'s performance for water service which includes: activities and asset balance in respect of water distribution, performance against water quality compliance targets and delivery of nominated outputs.

Rating	Meaning
	No material exceptions and compliant with requirement
	Content with the reported data but supporting information needs to be complete and/or improvement identified for AIR25, or other noteworthy comment
	Minor exceptions
	Material exceptions
N/A	Not applicable to report

In accordance with the UR guidance, we completed audits for Table 11 lines with the exception of the asset balance lines 1 (Block A) and 12 (Block C).

The key findings of the AIR24 Table 11 audit [Activities only (including additional output measures) and not the asset balance (Water Service) Lines 2-10, Lines 11, 13-17, 18-21, 22-24, 25-26 and 27-28], against the AIR24 audit criteria are summarised below.

AIR24 Table Criteria	RAG	Assessment
Independent review of performance against PC21 target (where relevant)		Reported performance against PC21 targets was found to be reported accurately. For Line 23 the number of schemes complete was reported as 7.
Methodology – consistency with the reporting process with clear control points		Methodologies were found to be consistent with current processes.
Assumptions – reasonableness and applicability		Assumptions are generally reasonable and applied appropriately.
Source data – completeness		Source data was found to be complete with the ability to trace back to source observed.
Clarity of audit trails – evidence of appropriate audit trail		Line 2-10: Issues with data were found during the sampling exercise within the audit. A negative length was seen to be included and changes to figures were made post audit as a result of updates from other teams. These issues were addressed post audit. We recommend that NI Water identifies the root causes of the issues observed and implement changes to the process to address these.
Confidence grades – documentation of appropriateness and rationale		Confidence grades appear to have been appropriately assigned.
Governance – evidence of quality assurance and of final sign-off		NI Water's SharePoint workflow process for this Table is in place for document checks and approvals.

#### Introduction

These audits covered the following blocks of Table 11:

- ☐ Block B – Lines 2 – 10. Changes During Report Year
- ☐ Block E – Lines 18 – 21. Water Quality Compliance Measures
- ☐ Block F – Lines 22 – 24. Nominated Water Service Outputs
- ☐ Block G – Lines 25 – 26. PC15 Additional Water Service Output Measures
- ☐ Block H – Lines 27 – 28. PC21 Additional Water Service Output Measures.

The Company's approach, for the reporting of Block I Lines 29-36, is consistent with the UR guidance for AIR24.

## Scope Item 1: Block B Data - Changes During Report Year

### Conclusions:

#### **Line 2:** Mains renewed.

For mains renewed a total of 69.93km has been reported with 69.41km being reported for WMRP and 0.52km relating to mains development/diversions. This is a reduction compared to AIR23 where 90.86km of mains were renewed.

#### **Line 3:** Mains relined.

For Line 3, mains relined, no relining activity has been undertaken within AIR24 and therefore a value of 0 is reported, this remains unchanged from AIR23.

#### **Line 4:** Mains cleaned (total).

For mains cleaned a total of 2,217.09km has been reported. This is based on the number of jobs within the year of 6,994 which is converted to a distance using a conversion of 0.317km, this factor is unchanged from AIR23. This results in a total 2,217.09km. This is marginally lower than the 2,240.24km reported in AIR23.

#### **Line 6:** New mains

The total length of new mains is reported as 124.17km. This includes new mains laid by both Asset Delivery and the Customer and Operations Directorate (C&OD) Networks Water. This is an increase compared to the AIR23 reported length of 101.64km.

#### **Line 6a:** Total length of new, renewed and relined mains.

The total length of new, renewed and relined mains is reported as 194.10km and is the sum of Lines 2, 3 and 6. The calculation of this has been confirmed as correct using the post audit version of the tables produced.

#### **Line 6b:** Length of new, renewed or relined mains delivered under the watermain rehabilitation programme.

The length of new, renewed or relined mains delivered under the watermain rehabilitation programme is reported as 127.37km which is calculated within the Watermains Length worksheet. This is a small increase above the AIR23 value of 123.33km.

#### **Line 7:** Mains abandoned and other changes.

The total length of mains abandoned, and other changes is primarily from asset delivery with the total of 128.88 km taken the corporate system CPMR. An additional 0.16km is reported by the C&OD team. This results in a combined total of 139.04km. This represents a significant increase compared to the AIR23 value of 112.91km.

#### **Line 8a:** Lead communication pipes replaced as a consequence of water quality sample failures.

NI Water reported a total 25 lead communication pipes being replaced as a result of water quality failures. Within AIR23 there were no lead sample failures.

#### **Line 8b:** Lead communication pipes replaced as consequence of customers notifying NI Water that they are replacing their lead supply pipes.

NI Water have reported a figure of 422 lead communication pipes replaced as a consequence of customers notifying them they are replacing lead supply pipes. This activity is undertaken by the C&OD Networks Water Team and represents a similar value to that reported in AIR23, where 395 replacements were made.

#### **Line 8c:** Opportunistic lead communication pipes replacement undertaken under the watermain rehabilitation programme or during burst service pipe repairs.

NI Water have reported a total of 124 opportunistic lead pipe replacements within AIR24. This activity is undertaken by both Asset Delivery and the C&OD Networks Water Team. The sum of values reported by the teams was confirmed to reconcile to 124. AIR23 reported 34 opportunistic replacements.

#### **Line 8d:** Lead communication pipes replaced under the proactive lead replacement programme.

Proactive lead replacement is performed by the Asset Delivery team. A total of 2,016 proactive lead comms pipes replacements were made within AIR24. This shows an increase compared to the AIR23 reported value of 1,873.

**Line 9:** Total lead communication pipes replaced.

The total number of lead communication pipes replaced of 2,587 is the sum of Lines 8a, 8b, 8c and 8d. The calculation of this has been confirmed as correct using the post-audit version of the tables produced. This is higher when compared to the AIR23 value of 2,302.

**Line 10:** Communication pipes replaced - other.

A total of 3,511 other communication pipes are reported. Replacement of other communication pipes is undertaken by both Asset Delivery and the C&OD team with the replacement of 2,320 and 1,191 communication pipes respectively. This is an increase compared to AIR23 value of 2,896.

**Line 11:** Mains bursts per 1000km

Line 11 is consistent with UR guidance but could be improved to reduce uncertainty. For AIR24 the reported number of bursts per 1,000km of mains is 83.6. This is a reduction from the AIR23 value of 92 and is attributed to, in part, the milder winter.

Within the audit we identified two issues. One where the total number of bursts had been entered within the table rather than the normalised rate per 1,000km per main. The second issue related to where multiple main repairs were being incorrectly identified as duplicates. NI Water resolved these issues and updated the values reported for Line 11, post-audit.

In summary:

1. For lines 2 – 10 a number of post audit actions were identified. Overall, the process is difficult to follow and determine how values have been arrived at.
2. For line 11 a confidence grade of B3 is reported which is unchanged from AIR23.

**Recommendations:**

1. For lines 2 – 10 we recommend that NI Water investigates the issues which led to new figures being reported post-audit and to determine root causes. Adjust the Company's process to prevent future occurrences. We recommend NI Water provides, for lines 2 – 10, a more detailed methodology which sets out:

- ☐ Which teams are responsible for providing data?
- ☐ What data is provided?
- ☐ Where is the data entered?
- ☐ What calculations are done to produce table values?
- ☐ A formal process where data sets are signed off as final prior to them being provided for audits.

This will allow for a more robust process with less opportunity for error and be more auditable increasing confidence that the reported values are correct.

2. For Line 11 we recommend:

- ☐ NI Water record additional information relating to ferrule repairs to improve accuracy if they should or should not be included within the calculation of bursts per 1,000 km of main.
- ☐ Define a policy to determine what qualifies as a significant third party incident relating to main bursts, e.g. an incident which results in loss of supply to customers, and communicate this to field managers.
- ☐ Highlight to field managers to identify where there is a third party fault irrespective of if a claim is actually pursued.

## Scope Item 1: Block E Data - Water Quality Compliance Measures

**Conclusions:**

NI Water states that overall compliance with drinking water regulations was 99.92%. We note that the stated level of compliance is consistent with the trend reported in previous years.

**Table TC\_11\_A\_1: Line 18-21 – Trend of Reported Values**

Line	Reporting Year	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
18	% Overall Compliance	99.83	99.86	99.88	99.90	99.90	99.94	99.89	99.91	99.92
19	% Compliance at consumer tap (including supply points)	99.74	99.77	99.81	99.83	99.84	99.91	99.82	99.88	99.88
20	% Iron compliance at consumer tap	98.40	98.66	98.85	98.94	98.89	99.56	99.35	99.15	99.71
21	% Service reservoirs with coliforms in >5% samples	0	0	0	0	0	0	0	0	0

**Line 18:** % overall compliance with drinking water regulations.

The reported AIR24 value (99.92%) is marginally higher than the previous year value of 99.91% and exceeds NIW's target of 99.83%. NI Water note that customer tap samples were collected to a large extent at the upstream end of service reservoirs from 2020 through to 2022 and therefore these values may not be representative. We note NI Water's statement within its commentary that for the AIR24 report year, all samples were collected as normal.

**Line 19:** % compliance at consumers tap.

The reported AIR24 value (99.88%) is unchanged from the previous year's value of 99.88% and exceeds the NIW's target of 99.74%. NI Water note that values for the period AIR20 – AIR22 may not be representative as customer tap samples were being collected to a large extent upstream of service reservoirs.

**Line 20:** % iron compliance at consumers tap.

The reported AIR24 value (99.71%) is an improvement against the previous year (AIR23)'s value of 99.15% and exceeds the target of 98.62%. However, it is noted that customer tap samples that were collected to a large extent at the upstream end of service reservoirs means that the AIR23 figure is not representative.

**Line 21:** % service reservoirs with coliforms in >5% samples.

No service reservoir sites have had more than 3 failures during the year. Where a single failure was observed follow up tests were seen to have been undertaken. All sites achieved 95% compliance.

#### Confidence Grades:

For the Block E lines 18-20 data lines, a confidence grade (CG) of A2 remains unchanged. This is related to the uncertainty in the analytical methods used. Line 21 CG [A1] remains unchanged from last year.

#### Recommendation:

We recommend that NI Water continues to develop its PowerBI Dashboard and highlight its benefit across the business.

## Scope Item 1: Block F Data - Nominated Water Service Outputs

#### Conclusions:

**Line 22** Completion of nominated trunk main schemes.

Three nominated trunk mains schemes were completed in AIR24 which surpasses the target of 1. This gives a cumulative number of 5 nominated trunk main schemes achieving beneficial use against a PC21 target of three. The completed schemes were reviewed on X and the beneficial use dates were seen to align with that reported in the commentary. Email confirmation of beneficial use from the project manager was also noted.

**Line 23** Completion of nominated water treatment work schemes

Three nominated water treatment work schemes were completed in AIR24. This results in a cumulative total of 7 schemes completed at the end of year 3 made up of 2 PC15 schemes and 5 PC21 schemes. The completed schemes were reviewed on X and the beneficial use dates seen to align with those reported in the table commentary.

**Line 24** Completion of nominated improvements to increase the capacity of service reservoirs and clean water tanks

Two nominated improvements to increase the capacity of service reservoirs and clean water tanks were delivered within AIR24. This was against a target of 0 within PC21. This results in a cumulative total of 3 for year 3 of PC21 against a cumulative target of 1.

Confidence Grades:

For the Block F data lines 22-24, the confidence grade of A1 applied, remains unchanged from last year.

Recommendations:

For Line 23, we recommend that NI Water continue to clearly identify if schemes delivered are from PC15 or PC21 and that this is made clear when comparing delivery to targets set out within PC21.

## Scope Item 1: Block G Data - PC15 Additional Water Service Output Measures

Conclusions:

**Line 25:** Number of School Visits.

A total of 219 school visits were carried out across AIR24 against a PC21 target of 176. For AIR24 a new platform, X, has been used to coordinate the whole process from initial inquiry through to completing the visit and tracking any goods distributed at the visits. The information can then be downloaded through predefined reports for reporting, or other purposes. Good use is seen to be made of the system and NI Water is continuing to refine reports. Information can also be directly viewed on the platform and was observed to align with downloaded data. Some manual manipulation of the data is still required for reporting purposes.

**Line 26:** Number of Other Educational Events.

A total of 78 other educational events took place in AIR24 against a PC21 target of 57. The reporting for this line also now uses the X platform. An original value of 77 was initially reported within the table but when reviewing the data download from X a total of 78 events were identified as the process was reviewed. The cause of this discrepancy was a result of the manual data manipulation required. Table 11 was updated post-audit to report the correct value for this line.

Confidence Grades:

For the Data Block lines 25-26 data the applied confidence grade of A1 remains unchanged from last year.

Recommendation:

We recommend that NI Water continues to work with the developers of the X platform to continue to improve the reporting and if possible develop reports which can be used to populate Lines 25 and 26 without any further data manipulation.

## Scope Item 1: Block H Data - PC21 Additional Water Service Output Measures

Conclusions:

**Line 27:** Number of catchments where management plan recommendations have been delivered

For AIR24, 4 catchments had all catchment management plan recommendations completed, this was against a target of 4 within PC21. NI Water use its PC21 Catchment Management Plan Recommendations spreadsheet to track progress of activities and completion. This tracks the measures for each catchment and the work to date.

**Line 28:** Number of treatability studies completed

Zero treatment studies have been delivered in AIR24 against a PC21 target of 0. This give a cumulative total of 1 treatability study delivered in PC21 against a target of 0. Within NI Water's AIR23 programme it had been proposed to deliver 7 treatability studies in AIR24. NI Water explained the Company is no longer using consultants and looking to complete projects in house using pilot plants. NI Water also explained that the Company want to ensure proposed treatment solutions are fit for purpose and therefore must consider seasonality when extending the length of the studies. PC21 specifically notes the need for outcomes to inform its PC27 submission. Post-audit, the Company has added commentary to address these points, how studies are being prioritised and an updated delivery schedule. Furthermore, NI Water added colour coding post audit to clearly indicate which studies are part of PC21.

### Confidence Grades:

For the Block H Lines 27-28 data, the applied confidence grade of A1 remains unchanged from last year.

### Recommendation:

For Line 28, we recommend that NI Water continues to update any impacts on PC27 modelling as a result of changes to delivery of treatment schemes and evidence of engagement with the DWI relating to prioritisation of schemes.

## References

1. Spreadsheet of water mains activity on file as "AIR 2023-2024 - Watermains Length AUDIT.xlsx" dated 7<sup>th</sup> June 2024.
2. Commentary on file as "Table 11 VERSION 31 May 2024.docx" [Post-Audit] dated 31<sup>st</sup> May 2024.
3. Commentary on file as "CC\_Table11\_Lines11.docx" dated 20<sup>th</sup> May 2024.
4. Commentary on file as "CC\_Table11\_Lines11.docx" [Post-Audit] dated 20<sup>th</sup> May 2024.
5. Commentary on file as "CC\_Table11\_Lines18-21.docx" dated 17<sup>th</sup> May 2024.
6. Commentary on file as "CC\_Table11\_Lines22-24.docx" dated 21<sup>st</sup> May 2024.
7. Commentary on file as "CC\_Table11\_Lines25-26.docx" dated 17<sup>th</sup> May 2024.
8. Commentary on file as "CC\_Table11\_Lines25-26.docx" [Post-Audit] dated 29<sup>th</sup> May 2024.
9. Commentary on file as "CC\_Table11\_Lines27 Post Audit.docx" [Post-Audit] dated 20<sup>th</sup> May 2024.
10. Commentary on file as "CC\_Table11\_Lines27.docx" dated 20<sup>th</sup> May 2024.
11. Commentary on file as "CC\_Table11\_Lines28.docx" dated 21<sup>st</sup> May 2024.
12. Commentary on file as "CC\_Table11\_Lines28\_Post\_audit.docx" [Post-Audit] dated 12<sup>th</sup> June 2024.
13. Commentary on file as "CC\_Table40a\_LinesAll.docx" dated 21<sup>st</sup> May 2024.
14. Commentary on file as "CC\_Table11\_Lines2-10\_37-40.docx" dated 13<sup>th</sup> June 2024.
15. Data Table on file as "DT\_Table11\_L11.xlsx" dated 20<sup>th</sup> May 2024.
16. Data Table on file as "DT\_Table11\_L2-10\_37-40.xlsx" [Post-Audit] dated 13<sup>th</sup> June 2024.
17. Data Table on file as "DT\_Table11\_L11.xlsx" [Post-Audit] dated 20<sup>th</sup> May 2024.
18. Data Table on file as "DT\_Table11\_L18-21.xlsx" dated 17<sup>th</sup> May 2024.
19. Data Table on file as "DT\_Table11\_L22-24.xlsx" dated 21<sup>st</sup> May 2024.
20. Data Table on file as "DT\_Table11\_L25-26.xlsx" dated 21<sup>st</sup> May 2024.
21. Data Table on file as "DT\_Table11\_L25-26.xlsx" [Post-Audit] dated 29<sup>th</sup> May 2024.
22. Data Table on file as "DT\_Table11\_L27.xlsx" dated 20<sup>th</sup> May 2024.
23. Data Table on file as "DT\_Table11\_L28.xlsx" dated 21<sup>st</sup> May 2024.
24. Data Table on file as "DT\_Table40a\_LAll.xlsx" dated 17<sup>th</sup> May 2024.
25. Line Methodology on file as "LM\_Table11\_Lines11.docx" dated 20<sup>th</sup> May 2024.
26. Line Methodology on file as "LM\_Table11\_Lines11.docx" [Post-Audit] dated 29<sup>th</sup> May 2024.

27. Line Methodology on file as "LM\_Table11\_Lines18-21.docx" dated 17<sup>th</sup> May 2024.
28. Line Methodology on file as "LM\_Table11\_Lines22-24.docx" dated 21<sup>st</sup> May 2024.
29. Line Methodology on file as "LM\_Table11\_Lines25-26.docx" dated 17<sup>th</sup> May 2024.
30. Line Methodology on file as "LM\_Table11\_Lines25-26.docx" [Post-Audit] dated 29<sup>th</sup> May 2024.
31. Line Methodology on file as "LM\_Table11\_Lines27 Post Audit.docx" dated 20<sup>th</sup> May 2024.
32. Line Methodology on file as "LM\_Table11\_Lines27.docx" dated 20<sup>th</sup> May 2024.
33. Line Methodology on file as "LM\_Table11\_Lines28.docx" dated 21<sup>st</sup> May 2024.
34. Line Methodology on file as "LM\_Table11\_Lines2-10\_37-40.docx" dated 13<sup>th</sup> June 2024.

## Appendix B: Assess NI Water's approach for the reporting of Block I and Block J data

### Scope Item 2: Block I Data - Water Models

#### Introduction

There are three aspects to the report year data reported through the new Block I Water Models part of the Table 11 AIR24 submission. These are:

- ❑ a description of the features of NI Water's current X model library such as the number of models in the library, the number of models built/rebuilt in a report year and the number of models maintained in year.
- ❑ model coverage expressed as the aggregated percentage of connected properties associated with each of the models in the model library. The number of models with significant level of maintenance carried out in report year, reported as a percentage of updated model area, using the metric of connected properties.
- ❑ model age and reporting statistics (average, maximum, numbers older than 5 and 7 years).

The Company's approach, for the reporting of Block I Lines 29-36, is consistent with the UR guidance for AIR24.

#### Conclusions:

1. NI Water's reporting of the new Block I data is consistent with the UR guidance.
2. NI Water states that the current model coverage is 63% based on the percentage of models fully built in X currently held within NI Water's Model Library. Models that are undergoing a rebuild make up 25% of the coverage while the models yet to be built in X cover the remaining 12% of connected properties. Through our audits, we confirmed the Company's statement with respect to the coverage of models completed, on-going and not-started across the current model library.
3. NI Water's report of model age and the associated age statistics (average, maximum, and number of models older than 5 and 7 years) is based on the information presented for audit. **However, we were unable to validate estimates of the calibration dates due to limitation of audit evidence.**
4. The Company has reported zero for the number of models maintained in the report year. **But the development of a method of estimating the number of models maintained in a year is outstanding.** We note that NI Water is exploring the use of AI Technology to undertake maintenance of the older models in its X model library. We also note that this investigation is aligned with emerging practice in water companies of England and Wales.

We expect that over the 2024-25 report year a Maintenance Methodology will be produced to document set procedures to assess the current health of NI Water's Hydraulic Model library. This would facilitate a targeted approach to model maintenance through potential full rebuilds, partial rebuild, detailed update, minor update or transitional maintenance.

5. We note that the Company has based its estimates of connected properties (metric associated with Line 32 and Line 30 reports) on the LPS Dataset "X" as opposed to the "expected" NI Water's X corporate system.

We also note that the Company's commentary states that Line 32 has been given a confidence grading of B3 due to the uncertainty regarding the LPS Dataset 'X'. In addition, NI Water notes that the X Dataset is not owned by NI Water and has not been cleansed or aligned with any other data sets.

#### Recommendations:

1. To report model age and the associated age statistics (average, maximum, and number of models older than 5 and 7 years), the UR guidance requires an estimate of midpoint of model calibration dates. **We suggest that NI Water develops evidence of a sample of calibration dates that can be used to validate these estimates and the associated confidence grades for AIR25 reporting.**
2. **We suggest that NI Water explains [in the method statement] how Line 30 is to be populated based on the definition of and categorisation of the level of maintenance being reported (to be developed for AIR25 and beyond).**

3. We also suggest that NI Water aligns its X Data set used for AIR24 reporting of Line 32 with the Company's corporate Data set of connected properties or use the Corporate Data set for AIR25 reporting of Block I Line 32 and Line 30 numbers.

### Scope Item 3: Block J Data - Water Work Packages Developed

#### Introduction

The new Data Block J introduced for AIR24 provides the total number of X (X) work packages issued for construction in the report year, with the content of the work packages by number, length and estimated cost of the schemes.

The work to identify water rehabilitation programmes involve use of the X methodology and the related model builds associated with the methodology.

The X approach involves taking all appropriate NI Water asset datasets which reflect the performance of the network (including customer data) and applying a scoring matrix to reflect these datasets for all distribution pipelines in across the Company's water supply network. These scores are then applied to each pipeline.

The Company's approach, for the reporting of Block J Lines 37-40, is consistent with the UR guidance for AIR24.

#### Conclusions:

1. NI Water's reporting of the new Block J data is consistent with the UR guidance.
2. Line 37: The number of X packages issued for construction is 4. Line 38: number of water mains rehab schemes within the work packages is 72. Line 39: length of water mains rehab schemes within the work packages is 49.6km.
3. Line 40: estimated cost of water mains rehab schemes within the work packages is X. Each scheme is individually priced and compiled into a total work package cost spreadsheet, to derive the costs reported for each work package issued in this reporting period.
4. Confidence Grading. The Company has applied a confidence grade of A1 to the Lines 37-39 data. For Line 40, a confidence grade of A3 was used. NI Water explained that the estimated cost of water mains rehab schemes within the X packages issued for construction in the report year do not reflect the final construction costs. The cost is subject to further refinements from the on-site enabling process and activities. They are feasibility type costs derived from the Company's unit cost matrix as the schemes are desktop high-level designs.
5. We identified a number of post-audit corrective actions related to accuracy and reliability of the reported data. We can confirm that these actions have been resolved post-audit and closed out. These include addition of a "Main Driver" column to the Company's commentary to highlight the main work package driver e.g. rehab, leakage and DG2.

#### Recommendation:

For AIR25 reporting, prepare work package cost spreadsheet for each of the work packages reported based on the unit rates – mains and unit rates – minor assets information provided for the AIR24 audits.

### References

1. Commentary on file as "CC\_Table11\_Lines29-36.Docx" dated 7<sup>th</sup> June 2024.
2. Data Table on file as "DT\_Table11\_L29-36.xlsx" dated 7<sup>th</sup> June 2024.
3. Method Statement on file as "LM\_Table11\_Lines29-36.Docx" dated 7<sup>th</sup> June 2024.
4. Model Build Process document on file as "NIW Model Build Specification - 2023.03.Docx" dated 7<sup>th</sup> June 2024.
5. Calculation Spreadsheet used to populate Lines 32-36 on file as "Block I Data.xlsx" dated 7<sup>th</sup> June 2024.

6. Historic Gantt Chart of Model Build Programme on file as "Clean Water Modelling Programme 23\_08.mpp" dated 7<sup>th</sup> June 2024.
7. Commentary on file as "CC\_Table11\_Lines2-10\_37-40.Docx" dated 7<sup>th</sup> June 2024.
8. Data Table on file as "DT\_Table11\_L2-10\_37-40\_Post-audit 07 June.xlsx" dated 7<sup>th</sup> June 2024.
9. Method Statement on file as "LM\_Table11\_Lines2-10\_37-40.Docx" dated 7<sup>th</sup> June 2024.
10. Water Infrastructure Investment Model Costing Spreadsheet on file as "Water Infrastructure Investment Model Costing.xlsx" dated 7<sup>th</sup> June 2024.

## Appendix C: Review effectiveness and value of new Data Blocks I-J & Guidance

### Scope Item 2: Block I Data - Water Models

#### Conclusions:

1. Through our audits, we identified that the hydraulic models are rebuilt and kept up to date so they can be used as a tool to help identify network performance problems and develop best value solutions to improve the water consumers' levels of service. The hydraulic models are currently being used to develop schemes for the Water Mains Rehabilitation programme, determine the impact of new developments, resolve DG2 low pressure problems, verify DG3 figures for Interruption to Supply (ITS) events and support major incidents.
2. During the report year, the hydraulic models have aided the completion of 56 Water Impact Assessments. The models were used to inform decisions associated with provision of water supplies for a proposed development with no adverse impact on the existing network. An example of interventions outlined through model optioneering are 'local rezone' / 'extension of an existing HPPE watermain'.
3. The hydraulic models are also being used to plan network improvements, inform investment decisions and support operational decision making. The model library is continually enhanced to improve coverage across the entire network so that the models can be used as a valuable support tool.
4. We consider that the model build process is effective in that it is supported by a standard model build specification that encourages consistency of model build and promotes the benefit and cost effectiveness of the model build programme.
5. The information requirements set out under Block I captures performance measures related to X model library asset lifecycle, model coverage across the active water distribution network, the maintenance risks and materiality of these risks for the established investment and operational model uses.
6. In particular, the model coverage and the number of models maintained metrics would enable an objective assessment of the value of the model library investments and how changes in NI Water's confirmed number of connected properties for water service is reflected through these measures. In addition, the reporting indicators would combine to provide a basis for improved understanding of the value added by the water models over the model asset's lifecycle.
7. Total number of models in NI Water's current X model library is 35. This is made up of 18 completed models, 12 with model build on-going and 5 with model build not started. A complete assessment of the effectiveness and value of the new Data Block I would not be possible until the number of models maintained in a report year can be reported based on an approach that fulfils the requirement of the UR guidance Line 30 particularly with respect to the level of model maintenance carried out on each model such as individual DMA or SR area updates or complete WSZ update.

#### Recommendation:

Prepare a method statement for the reporting of the number of models maintained in year that fulfils the requirements of UR guidance definition.

### Scope Item 3: Block J Data - Water Work Packages Developed





#### Conclusions:

1. For Year 3 of the PC21 period (2023-24), the number of X packages issued for construction in the report year, the associated number of water mains rehab schemes and lengths of the water mains are summarised in the Company's AIR24 commentary. We note that there were no DG2 (Low Pressure) or Leakage "only" Schemes in the list. The listed schemes were exclusively watermains rehabilitation (Rehab) projects.
2. Value of the new Block J information. It is possible to explore the linkage between the new Data Block J information and the AIR Table 46 (Serviceability Return) data and the AIR Table 2 (DG2) data. But the detailed data sets associated with Table 46 and Table 2 are outside the scope of the Reporter's AIR24 audit specification.

## SUMMARY OF AUDIT FINDINGS

Table 16 –NON FINANCIAL MEASURES, SEWERAGE SERVICE ACTIVITIES (NIW Only). Lines 1-35

PREPARED BY	X
DATE	15 November 2024

Rating	Meaning
	No material exceptions and compliant with requirement
	Content with the reported data but supporting information needs to be complete and/or improvement identified for AIR25, or other noteworthy comment
	Minor exceptions
	Material exceptions
N/A	Not applicable to report

## 1. Key Findings

The key findings of the AIR24 Table 16 audit, against the AIR24 audit criteria are summarised below.

AIR24 Table Criteria	RAG	Assessment
Independent review of performance against PC21 target (where relevant)		AIR24 cumulative outturn of 12 is behind when set against the cumulative FD21 target of 49, but met when compared with the cumulative MTR DD target of 12.
Methodology – consistency with the reporting process with clear control points		Methodology found to be clear and reporting consistent with documented methods. Minor errors identified and corrected. Line 18-22 methodology and commentary to align with the recommendation related to the source data criteria – see below.  <b>We suggest check of alignment between Table 16 Line 16a&amp;b, 17a&amp;b, Line 26 and the Table 40a documentation.</b>
Assumptions – reasonableness and applicability		Assumptions reasonable and appropriately documented.
Source data – completeness		Source data mostly well referenced in the methods and commentaries. Master spreadsheets and evidence of NIEA sign-off reviewed in the audit meetings and/or requested as evidence.  Audit concerns over clear accounting of DAPs planned/completed and reconciliation with Table 40b numbers. Also concerned about availability of audit evidence to substantiate estimates of impermeable surface area removed.  We made recommendations to address the audit observations.
Clarity of audit trails – evidence of appropriate audit trail		Audit trails clear.
Confidence grades – documentation of appropriateness and rationale		Mostly consistent documentation of confidence grades and rationale. We queried why pre-audit confidence grades [CGs] for Line 3 [C3], Line 4 [C4] and Line 8 [C3] were different for different lines with the same data source (CPMR). CGs changed to B2 post-audit, with reasonable justifications.
Governance – evidence of quality assurance and of final sign-off		NI Water's SharePoint workflow process for this Table is in place for document checks and approvals.

## 2. Audit Scope

This audit covers non-financial measures for sewerage services activities recorded in Lines 1-35 of Table 16. A series of interviews was conducted with NI Water staff responsible for the collation and reporting of relevant data:

- Lines 3-11a, 17a-17b, 29, 31: X
- Lines 12-13c: X
- Lines 16a-16b: X
- Lines 18-22: X
- Lines 23-25, 30: X
- Lines 26-28, 32-35: X

During the audit, methodologies and commentaries were reviewed, and a range of supporting spreadsheets were audited to verify the provenance of figures in the data table sheets and assess alignment with the Utility Regulator's guidance notes. We also compared the AIR24 reporting methodology and figures against AIR23 to understand any material changes.

## 3. Performance and Significant Events

**Line 3:** 12.81km of new critical sewer was added to the network in AIR24, compared to 6,77km in AIR23. Critical sewers are defined as >600mm diameter. The additional network has been transferred from Developer Services schemes delivered during the period.

Source data is taken from developer services systems and the X system.

**Line 4:** 182.44km of critical sewers inspected, compared to 105.43 km in AIR23. Figure is comprised of totals from Capital Delivery, in-house inspection team and contractor inspections managed by the Asset Performance team as part of the DAP programme.

Capital Delivery carried out 83.7km of CCTV work, with Asset Performance undertaking 15.26km as part of the Drainage Area Study and Sewer Rehab programme. The total length of CCTV work done by in-house crews is reported as 333.93km, to which NIW applied the assumption that 25% are designated as critical sewers. The same assumption was applied in previous years and is derived from the % of critical sewers as a proportion of the total NIW sewer network. In-house CCTV inspection is therefore estimated as 83.48km, bringing the total to 182.44km for Line 4.

We noted the confidence gradings [CG] for Line 3 [C3], Line 4 [C4] and Line 8 [C3] are inconsistent with the confidence grading B2 proposed for lines 5, 6, 9 and 10 where CPMR is also the source of data. Confidence grades for L3, 4 & 8 changed to B2 in the post audit documentation to reflect level of reliability and accuracy of source data, as per discussion and agreement.

**Lines 5 & 6:** Length of critical sewers renovated and replaced is 5.23 km (AIR23 = 5.98 km) and 1.09km (AIR23=2.91km) respectively. Data sourced from the CPMR system and includes outputs from the planned capital programme (Capital Delivery) and unplanned/reactive work undertaken (Customer Services Directorate). Specific designations for replaced/renovated are captured in X.

For Table 16 Lines 5, 6, 9, 10 and 11a we had requested more information on sewer rehabilitation targets to be able to evaluate the statement in the commentary stating that NIW is "on track to meet the targets" for PC21. We did not receive a response but were able to verify this claim independently.

**Line 7:** 0.02km of abandoned critical sewer reported, compared to AIR23 figure of 0.24km. This data comes from records following refurbishment or replacement projects where legacy pipework can be abandoned as part of investment in the network. This was allocated to the project “Portadown Drainage Area Network Improvements Meadow Lane and Bann Street” on X. Minor correction was noted and corrected in the post-audit commentary.

**Line 8:** 132.48km of non-critical sewers added to the network (compared to 100.53km in previous period). The methodology follows the same approach as that of Line 3 but for sewers with a non-critical designation.

**Lines 9 & 10:** Length of non-critical sewers renovated and replaced is 4.51km and 5.70km respectively (5.69km and 7.54km respectively in AIR23). Methodology and data sources as per Lines 5 & 6, but for sewers classified as non-critical.

**Line 11:** 0.02km of non-critical sewers were abandoned in the period and attributed to “WWPS Base Maintenance PC21 Year 3” on X. Equivalent methodology to line 7 but for sewers <600mm diameter.

**Line 11a:** Total length of sewer renovated and replaced is 16.53km. Calculated cell, sum of Lines 5, 6, 9 and 10.

**Line 12:** 83.9 sewer collapses per 1000km were recorded in AIR24, an increase from 77.5 in AIR23. Reporting is consistent with Table 46. Collapse data is collated from Operations and involves manual review of work order feedback and monthly reporting of data from the X system. Contractors are responsible for collating and reporting monthly data, which is subject to NIW validation by field managers. This is reflected in the B3 confidence grade, which has not changed from the previous period. Total sewer network length is derived from GIS and includes any extension of the network carried out in AIR24.

**Line 13:** 636.9 sewer blockages per 1000km in AIR24, a reduction from 695.2 in AIR23. Figure is derived based on the same principles and source data systems as Line 12 (and confidence grade of B3). Duration data for Lines 13a, b and c are recorded as the time between the initial customer contact to the call centre through to the work order being marked as complete in X by field staff.

Total number of blockages recorded was 10,579 an improvement from 11,458, in the previous year which NIW attributes to ongoing work with contractors to resolve issues on the first visit. The total of 10,579 includes blockages < 6hours, which are not shown in Table 16.

The Confidence Grade for Table 16 **Lines 13a, 13b & 13c** is A1 on the basis of the automated monthly blocked sewer report received from the Sewer Maintenance Contractor.

**Line 16a:** Number of unsatisfactory discharges (excluding CSOs). Refers to intermittent discharges that have been defined as unsatisfactory by the NIEA under the terms of the UWWT Directive. Numbers are confirmed by NIEA statement of need. The AIR24 reported figure is 481 (approx. 28% of the total number of discharging assets i.e. number of WwPS & WwTW CSOs of 1723), reflecting the new total of UIDs confirmed by NIEA. Figures have increased in AIR24 due to completion of 29 DAPs in the period. Note that the AIR23 final submission July 23 figure was an error, from AIR23 Auditor’s report was 417 (provided for the AIR23 audit). During AIR24, two UIDs were resolved (X). The 481 is inclusive of the reduction delivered by the 2 resolved UIDs.

At audit we noted the link/alignment between Table 16 Line 16a&b, Line 17a&b and Table 16 Line26. We noted a minor discrepancy in the information contained in the commentaries. In-audit recommendation was to liaise with Auditee (responsible for Table 16 Line 26) to ensure that the information in commentary and reporting figures are presented clearly and aligned. Post-audit version of the commentary (30.05.2024) had removed the table of UIDs associated with Capital Projects with BU dates achieved and referred directly to the Table 40a reporting.

**Post-audit update (30.05.2024)** NIW changed the reported values from 497 [pre-audit] to 481 [post audit] to exclude overflows with a sub type “none” in the NIW Discharge Register, which is where “WWTW have no overflow and thus not discharging into the environment.” This changed reported figures for Table 16 Line 16a and 17a. This was stated in the post-audit commentary for Line 16a.

**Line 16b:** Number of unsatisfactory discharges CSOs. Figures for Line 16b have increased due to the same reason as 16a above. The UID CSO figure is 461 in AIR24 (approx. 64% of CSO assets i.e. number of ‘network CSOs’ of 721). Note that the AIR23 final submission July 23 figure was an error: number from the AIR23 Auditor’s report was 368 (provided for the AIR23 audit).

The confidence grades for Lines 16a&b remain B2, no changes from AIR23.

**Line 17a:** Reported post-audit figure of 1723 [pre-audit was 1812] excludes CSOs and is a sum of the total number of wastewater pumping station overflows and the number of overflows from within WWTWs. Source data is the NIW Discharge Register.

Post-audit the reported values for L17a now excludes overflows with a sub type “none” in the NIW Discharge Register, to replace the previous “WWTW have no overflow and thus not discharging into the environment” entry. This changed reported figures for Table 16 Line 16a and 17a. This was stated in the post-audit commentary for Line 16a.

**Line 17b:** The number of CSOs is reported as 721, compared to 784 in AIR23. We noted that the confidence grade (CG) for Table 16 Lines 17a&b were blank in the pre-audit Data Table, but this was corrected as B2 in the post audit documentation which remains the same as AIR23.

**Line 18:** Cumulative number of DAPs completed is reported as 137, an increase of 29 since the previous year. This comprises 107 discrete catchments/drainage areas with initial DAPs completed (including 29 in the last reporting year from 1<sup>st</sup> April 2023 to 31<sup>st</sup> March 2024 since the AIR23 submission) and 30 drainage areas where the original DAP studies were repeated.

**The pre-audit accounting breakdown shown in NIW’s Commentary and Method Statement was inconsistent and unclear (the pre-audit total of 119 excluded 18 repeated DAPs for PC21 and included 12 repeated DAPs for PC15) and numbers in the text did not tie up.** This was noted and the updated post-audit reporting figure of 137 completed DAPs since the start of the programme in 2003. **There is still concern regarding transparency and consistency of accounting (linked with Table 40b). Refer to recommendation in Section 6.3.**

The methodology for Lines 18 and 19 reflects the addition of Table 40b. Data for DAP completion is derived from the Table 40b spreadsheet based on completion dates.

Other minor errors were identified and corrected in the Company’s post-audit commentary and methodology. The confidence grade (CG) for Table 16 Lines 18-22 were blank in the pre-audit Data Table, but this was corrected as B2 in the post audit documentation which remains the same as AIR23.

**Line 19:** 34 DAPs are currently in progress and scheduled for completion during PC21, a net decrease of 27 from the previous year. 29 were completed, no new DAPs were initiated, and 1 DAP (X) was descope/cancelled from AIR24. A further 3 were rescope as Rural Models Builds due to their small catchment size and not enough flow to support model validation. An additional 36 DAPs are planned to be undertaken and completed during PC21. Data for DAP completion is derived from the Table 40b spreadsheet based on completion dates.

**Line 20:** Total sewerage drainage areas - **this figure only changes with growth/decline in domestic and trade flows which shift catchments above or below the 250 PE threshold.** The reported value of 251 is three less than the AIR23 figure based on updates to the PE figures for each catchment. The current PE

figures are taken from Table 40b, which in turn automatically extracts the PE figures from the NIW Corporate WwTW Headroom Register.

**Line 21:** Cumulative % drainage area plan studies completed. Calculated line, Line 18 (cumulative number of DAPs completed) divided by Line 20 (Total sewerage drainage areas). The value has changed from 35.4% in AIR23 to 47.4% due to changes in both Line 18 and 20 during the AIR24 period.

**Line 22:** % population/properties covered by completed DAP studies. There has been a marked decrease in the Line 22 figure from 89.3% in AIR23 to 78.2% in AIR24. This is possibly driven by a significant change in PE figures over the period. At audit we suggested that the PE figures needed to be confirmed. Post-audit response and updated commentary confirmed figures were obtained from Table 40b which receives PE figures from WwTW Headroom Capacity tables.

**Line 23:** WwTW discharges compliant with numeric consents is reported as 93.6%, which is the same as AIR23. This represents NIW numeric sites only (233) and excludes the six PPP sites. There were 234 numeric sites in AIR23, but one site (X) has been converted to a pumping station to divert the flow to another WwTW. 15 works failed within the AIR24 reporting year. Source data is held in the Lab Information Management System (LIMS) and the monthly reports produced to track regulatory compliance against look-up table conditions. The LIMS data is linked to a PowerBI Dashboard that is shared with NIEA to view or extract the data/reports at any time. The reported figure is the same as AIR22 and AIR23, due to the same number of non-compliant sites with numeric consents (15).

Audit verification checks confirmed the failed sites correspond to LIMS data, performed basic calculation checks and reviewed evidence of NIEA agreement of failed sites claimed, PE figures used and thus the percentages reported.

The confidence grade for compliance data reporting lines 23-25 is A1. This is based on water quality source data in LIMS and consented PE values as agreed with NIEA. There has been no change from AIR23.

**Line 24:** % of total PE served by WwTWs compliant with numeric standards is reported as 94.2% based on updated population records. This figure includes two sites that failed upper tier limits only. The AIR23 reported figure was 98.8%, the difference is due to variations in the population figures used in the calculations. The PE numbers are provided by the Asset Management team who perform the surveys.

**Line 24a** calculates the same metric as Line 24 but excluding sites where only the Upper Tier (UT) was breached. This is reported as 99.1% for AIR24.

**Line 25:** % compliance for WwTW with descriptive consents is reported as 92.70%, a slight increase from 92.65% reported in AIR23. Compliance is based on meeting the requirements of NIEA inspection and reporting includes sites in the range >20 and <250 PE. Criteria for compliance is defined by NIEA who generate the data and report non-compliance to NIW. Figures are confirmed by the NIEA. The confidence grade is A1.

**Line 26:** Reporting consistent with Table 40a which sets out full details of the UID improvement delivery. AIR24 cumulative outturn of 12 is behind when set against the cumulative FD21 target of 49, but met when compared with the cumulative MTR DD target of 12.

NIW are claiming 5 UID outputs achieved beneficial completion in AIR24: X, X, X, X and X.

At the time of the audit, only 2 (X and X) of the 5 claimed have NIEA sign-off. The evidence of performance for the other 3 (X, X and X) was submitted to NIEA on 15 May for approval and response is expected before 19 June 2024. This was not clear in the pre-audit commentary which was updated to include this clarification in the post-audit commentary. Evidence was provided for NIEA sign off for X [not X]. Confirmation of NIEA has sign-off for the additional 3 sites claimed has not been verified by Auditor as this was unavailable at the time of audit.

A Further 6 UIDs (X, X, X, X, X, X) were included in the PC21 MTR Draft Determination however, until these are fully approved within the PC21 MTR Final Determination, they are still pending as nominated outputs.

18 of the UIDs were not delivered in 2023/24 due to reprofiling of the programme as a result of scope certainty exercises and further modelling work being undertaken. As such, these 18 UIDs are expected for delivery across the remainder of PC21 (Years 4-6), as well as through the first half of PC27. Confidence Grade A1 based on NIEA sign-off against guidelines on beneficial use. As part of the PC21 Mid Term Review, NI Water's PC21 targets for UIDs are expected to reset due to scope certainty exercises carried out within the first two years of PC21.

**Line 27:** Three nominated outputs were delivered in AIR24 (compared to six in AIR23). These include: X, X and X. There have been 10 nominated outputs achieved in years 1, 2 and 3, which is approximately 50% of the cumulative target for the end of Year 3. There has been an agreed extension of 10 outputs into the first 4 years of PC27, but the outcome of the Mid-Term Review will determine NIEA agreement on revised programme and targets. Confidence Grade of A1 based on NIEA sign-off (unchanged from AIR23).

**Line 28:** Four outputs achieved beneficial completion as part of the Rural Wastewater Investment Programme for sites <250 PE. The 4 outputs claimed are: X, X, X and X. A total of 16 outputs have been delivered in year 1, 2 and 3, against a PC21 target of 18 (6 per year), so an increased number of outputs will need to be delivered in future years. NIEA agreed (2018/19) that beneficial use can be claimed on based on evidenced delivery of improvement, not NIEA sign-off date. Outputs are then signed-off by NIEA on the basis of 2-3 samples rather than the two-week programme required for larger sites, and this is reflected in the A1 Confidence Grade.

**Line 29:** 124 Event Duration Monitors (EDMs) were installed at CSO sites during AIR24. This is an increase on the previous year (83 installed in AIR23). Data is extracted from X by the Project Manager running the installation project.

**Line 30:** No WwTWs were upgraded to comply with PPC Regulations during the period. Three outputs were achieved in the AIR21 year, and none in AIR22, AIR23 or AIR24. However, improvement works have been carried out at a number of sites under the PC21 Year 3 Base Maintenance Programme. Stage 1 odour modelling reports were completed in November 2023 for X and X, and stage 2 reports were completed in July 2023 for X and X.

**Line 31:** 137,676m<sup>2</sup> of impermeable surface area was removed in 23/24 as part of the delivery of the PC21 storm separation programme. NIW has significantly ramped-up the programme since AIR21. Historic reporting figures: AIR21 = 0km<sup>2</sup>, AIR22 = 1200m<sup>2</sup>, AIR23 = 91,898m<sup>2</sup> and now AIR24 = 137,676 m<sup>2</sup>.

The AIR24 figure has been delivered via a combination of seven projects, with 63% of total reported figure associated with the X, X (86,200m<sup>2</sup>). The First Time Services Programme (25,022m<sup>2</sup> – the contribution was 2,597m<sup>2</sup> in AIR23) and X (13,743) contribute to another 28% of the reported figure. The remaining 9% was delivered by the First Time Services Run Rates Year 1 (1,486m<sup>2</sup>) and X (400 m<sup>2</sup>).

Post-audit we requested to clarify the source data for the impermeable surface area figures within X, as well as the method/approach to measurement. Auditee explained method via a desktop calculation performed by the consultant. As the project progresses monthly returns to X are uploaded based on the desktop calculation with area determined by sewers laid and live in X. Evidence was provided for X (shaded area on a drawing) and a model output for roof and road area for X. No checking or validation process from NIW evident. Refer to recommendation in Section 6.3.

**Line 32:** No sustainable WwTW solutions delivered for site >250 PE. No target. No change from AIR23. Investigation and solution/options analysis is ongoing for specific sites to determine the programme and priority for future years' delivery. NIW considering wetland solutions for selected sites.

**Line 33:** As above. None delivered against a target of 0. Investigations ongoing to determine programme.

**Line 34:** New target for the PC21 period. Number of Economic Constraint Areas removed by PC21 investment. These are areas designated by the Councils where development is restricted due to lack of capacity in the wastewater network. Zero (0) Economic Constraint Area were eased in 2023/24. However, positive planning responses are provided by NI Water to Developers due to the ongoing construction works in a number of catchments.

**Line 35:** Similar to Line 34, this line reflects outputs claimed by NIW to enable planning restrictions to be lifted in key growth areas, but in this case, those designated as Serious Development Restriction areas. 2 Serious Development Restrictions were eased in 2023/24 – X and X.

#### 4. Summary of Audit Checks

We have reviewed all the Word commentary files and Excel tables provided by NI Water during and following the audit, including review of workbooks containing source information and the calculations underpinning the figures reported in Table 16.

We have considered the Reporter guidance set out in the NIAUR AIR24 requirements in assessing NIW's Table 16 reporting. There have been no policy changes related to Table 16 since AIR23, and methodologies remain consistent with previous periods. We have not seen any reported data that would suggest NIW's figures are an outlier compared to the rest of the industry. Neither have we found any unexplained variance in figures since AIR22 (except the PE calculation for Line 22 which NIW corrected post-audit).

#### 5. Confidence Grades

Rationale for confidence grades was reviewed in the audits. We found most documentation and rationale for confidence grades to be consistent. Highest grades are assigned where outputs are signed off by NIEA.

We noted the pre-audit confidence gradings were all the unchanged from previous years. We also noted that the confidence grades are different for different lines using the same source of data [X]. We queried the CGs for Line 3 [C3], Line 4 [C4] and Line 8 [C3] and these were changed to B2 in the post audit documentation to reflect level of reliability and accuracy of source data, as per discussion and agreement.

#### 6. Challenges to the Company, Recommendations & Suggested Actions

##### 6.1. Challenges

The challenges are directly related to the actions raised through our audits and outlined in Section 6.2 below.

##### 6.2. Suggested Actions

**Actions raised** (now closed out) with respect to the following data lines. Line 4, Lines 5, 6, 9, 10 and 11a, Lines 3, 4 and 8, Lines 7 and 11, Lines 17a-17b, Line 17a, Line 31, Lines 16a and Line 26, Line 18 and Line 21, Lines 18-22, Line 22, Lines 18 – 22, Lines 23-25 and Line 26.

##### 6.3. Recommendations

- a) **Line 18-22:** Provide clear accounting of the DAPs planned for AIR25, delayed (planned for AIR22/23/24, delivered in AIR25 (planned and delayed separately) and outstanding DAPs). This will allow clear accounting of cumulative DAPs delivered (Line 28) and DAPs in progress (Line 19) and related Lines 20-22. This will allow for a clear link to Table 40b, which is currently not clear. We recommend methodology and commentary are updated to accurately capture the method of extracting the figures from Table 40b and how repeated DAP numbers are captured/extracted. We recommend that the method statement be checked for pre-audit accounting errors that remain in the document.

- b) **Line 31:** Prepare evidence of the checking/verification of the estimated impermeable surface area removed for audit purposes.
- c) Ensure alignment between Table 16 Line 16a&b, 17a&b, Line 26 and Table 40a documentation.
- d) Ensure preparation and transfer of documentation and evidence more than 48 hours in advance of the audit. Due to delayed information, oversight of bank holiday and non-working days, two audits had to be re-scheduled.

## 7. References

The following documentation was provided by NIW and reviewed as part of the audit:

There were multiple versions of the commentaries, method statements and data tables provided, however only the most updated version of the information provided has been listed below.

### **Lines 3-11a, 17a-17b, 29, 31:**

1. Commentary on file as "CC\_Table16\_Lines 3-11a\_17a-17b\_29\_31 11 June" dated 11 June 2024.
2. Data Table on file as "DT\_Table16\_L3-11a\_17a-17b\_29\_31 updated 11 June" dated 11 June 2024.
3. Method Statement on file as "LM\_Table16\_Lines3-11a\_17a-17b\_29\_31.docx" dated 24 May 2024.
4. Calculation Spreadsheet used to populate Table16\_L3-11a\_17a-17b\_29\_31 dated 24 May 2024 on file as:
  - 4.1 Line 3-11 and Line 31: Capital Delivery (CD) calculation spreadsheet and extract from "AIR24 Critical Sewers (CPMR).xlsx"
  - 4.2 Calculation/figures from Customer Services Directorate (CSD) CPMR "March 2024 Statistics for WWBU.xls" for lines 5,6,9 and 10. (tab: Terry McCrum MUL Stats).
  - 4.3 Line 4: Calculation/figures from Customer Services Directorate (CSD) "AIR24 CCTV CSD.xlsm" for in-house and Contractor.
  - 4.4 Line 4: Source data from "CCTV METERAGE FOR FINANCIAL YEAR 202324 (X).msg" showing Asset Performance contribution and total CCTV work done in-house (by X).
  - 4.5 Line 4: Capital Delivery (CD) extract from "AIR24 CCTV (CPMR).pdf".
  - 4.6 Line 3 and 8: Calculation/figures from Developer Services (DS) "AIR24 DS Site Adoptions.xls".
  - 4.7 Line 29: calculation spreadsheet [CPMR extract] "AIR24 EDM Returns.xlsx".
  - 4.8 Line 17a&b: Evidence of changed 17a numbers from NIW Discharge Register on file as "RE\_ AIR Returns - Table 17" email dated 29 May 2024.
  - 4.9 Line 31: Email response from Auditee on file as "RE\_ Table 16 Line 31 Impermeable Surface Area - source data clarification" dated 6 June 2024. Line 31: Email from consultant on file as "FW\_B040632\_pjc\_40\_011223 - CDP X" dated 30 October 2023. Line 31: Email from consultant on file as "X" dated 30 October 2023 with attached drawing "60567901-ACM-XX-DR-C-3001\_X".

### **Lines 12-13c:**

1. Commentary on file as "CC\_Table16\_Lines12-13c.docx" dated 20 May 2024.
2. Data Table on file as "DT\_Table16\_L12-13c.xlsx" dated 20 May 2024.
3. Method Statement on file as "LM\_Table16\_Lines12-13c.docx" dated 20 May 2024.

**Lines 16a-16b:**

1. Commentary on file as "CC\_Table16\_Lines16a-16b.docx" dated 30 May 2024.
2. Data Table on file as "DT\_Table16\_L16a-16b.xlsx" dated 30 May 2024.
3. Method Statement on file as "LM\_Table16\_Lines16a-16b.docx" dated 30 May 2024.
4. Evidence of changed 17a numbers from NIW Discharge Register on file as "RE\_ AIR Returns - Table 17" email dated 29 May 2024.

**Lines 18-22:**

1. Commentary on file as "CC\_Table16\_Lines18-22 11.06.2024" dated 11 June 2024.
2. Data Table on file as "DT\_Table16\_L18-22 11.06.2024" dated 11 June 2024.
3. Method Statement on file as "LM\_Table16\_Lines18-22 11.06.2024" dated 11 June 2024.
4. Independent verification based on Table 40b information:
  - 4.1 List of MBV and NOR reports planned and submitted for the Table 40b Enhanced Audit. "MBV and NO 220524" dated 24 May 2024.
  - 4.2 The post-audit data table provided for Table 40b Enhanced audit "24-06-10 DT\_Table40b\_DAP Tracker" dated 10 June 2024.
5. Response to query on accounting, on file as "RE\_ Table 16 Line 18 – Accounting error in Commentary text" dated 11 June 2024.

**Lines 23-25, 30:**

1. Commentary on file as "CC\_Table16\_Lines23-25\_30.docx" dated 24 May 2024.
2. Data Table on file as "DT\_Table16\_L23-25\_30.xlsx" dated 24 May 2024.
3. Method Statement on file as "CC\_Table16\_Lines23-25\_30.docx" dated 24 May 2024.
4. Calculation Spreadsheet used to populate 23-25, 30 on file as "AIR24 Calculation Spreadsheet.xlsx" sent 3 June 2024.
5. Calculation Spreadsheet: DT\_Small\_Works\_Compliance.xlsx dated 24 May 2024.
  - 5.1 Evidence of NIEA sign-off emails on file as "FW\_ NIEA 2023 Compliance Assessment corrected.eml" dated 9 April 2024 with attachment.
  - 5.2 Calculation spreadsheet submitted and approved by NIEA on file as "NIEA - REGULATION - WURG - NIW Water Utility Compliance Assessment Dec 2023.XLSX" dated, attachment to email on file as "FW\_ NIEA 2023 Compliance Assessment corrected.eml" dated 9 April 2024 with attachment.
  - 5.3 Evidence of corrected PE for NIEA sign-off emails on file as "RE: NIEA 2023 Compliance Assessment corrected" dated 9 April 2024.

**Lines 26-28, 32-35:**





1. Commentary on file as "CC\_Table16\_Lines26-28\_32-35.docx" dated 24 May 2024.
  - 1.1 Commentary on file as "CC\_Table40a\_LinesAll.docx" dated 4 June 2024.
2. Data Table on file as "DT\_Table16\_L26-28\_32-35.xlsx" provided 24 May 2024.
3. Calculation and supporting evidence in "DT\_Table40a\_LAll.xlsx" provided 24 May 2024.
  - 3.1 Method Statement on file as "LM\_Table16\_Lines26-28\_32-35.docx" provided 24 May 2024.

4. Evidence of NIEA sign-off emails.
  - 4.1 Method Statement on file as "LM\_Table16\_Lines26-28\_32-35.docx" provided 24 May 2024.
  - 4.2 RE\_ ACTIONS from AIR24 Table 16 L26-28 32-35 Audit Session\_X NIEA sign-off" email dated 5 June 2024 contains screenshot of excerpt from the Wastewater Regulation Investment Group decision log on X NIEA sign off dated 29 September 2023.
  - 4.3 "X - Beneficial Use survey results (2024).xlsx" taken in March 2024 attachment to email on file as "RE\_ ACTIONS from AIR24 Table 16 L26-28 32-35 Audit Session" dated 4 June 2024.
  - 4.4 "X.pdf dated January 2009" attachment to email on file as "RE\_ ACTIONS from AIR24 Table 16 L26-28 32-35 Audit Session" dated 4 June 2024.

## SUMMARY OF AUDIT FINDINGS

Table 40 – Capital Investment Monitoring Return

PREPARED BY	X
DATE	15 November 2024

Rating	Meaning
	No material exceptions and compliant with requirement
	Content with the reported data but supporting information needs to be complete and/or improvement identified for AIR25, or other noteworthy comment
	Minor exceptions
	Material exceptions
N/A	Not applicable to report

## 1. Key Findings

The key findings of the AIR24 Table 40 audit, against the AIR24 audit criteria are summarised below.

AIR24 Table Criteria	RAG	Assessment
Independent review of performance against PC21 target (where relevant)		Delivery of projects is clearly being impacted by price rises, inflationary pressures and increasing scope. Non-nominated projects are experiencing delays or reduction in scope as nominated PC21 and LWWP projects are prioritised. The mid-term review has captured the impact of these factors and may result in revised budget allowances or project prioritisation.
Methodology – consistency with the reporting process with clear control points		The line methodology document provides detailed, step-by-step, instructions on extracting data from the X system, for capitalised salaries/overheads, producing Interreg lines, accounting for variance between X and X sources and Table 40 format/population. Recommendations are made to improve completeness checks, following multi-year missing data for milestone information. Auditees have addressed the action to include the population of DAP/IEM reference columns from the finalised Table 40b source. It is noted that improvements to automate data collation further remain underway.
Assumptions – reasonableness and applicability		Overall the application of CIDA guidance was shown as recorded in X and IPAC. Purpose and service cost allocations have been consistently updated where changes in project scope have taken place, although some manual errors have been addressed through the review in this audit.
Source data – completeness		Project information is collated in a consistent manner from X and X sources, supported by IPAC costings and alternations from the scope certainty exercise submitted as part of the PC21 mid-term review. Some gaps in baseline information (milestones) is still evident. The LWWP block also requires population before submission. Manual corrections in various fields were identified and corrected post-audit.
Clarity of audit trails – evidence of appropriate audit trail		We checked audit trails back to X in many cases within the audit sample. The Auditee showed the Auditor how capitalised salaries are extracted from X, and addressed audit actions which were manual errors in nature.
Confidence grades – documentation of appropriateness and rationale	N/A	
Governance – evidence of quality assurance and of final sign-off		A draft of Table 40 was shown for audit purposes. Approvals are governed through SharePoint tasks and will be secured before submission.

- The quality of future expenditure projections and completion dates, as well as expenditure to date and allocation of expenditure has been reviewed. Expenditure values have been produced in line with IPAC costing, however not all milestone dates have been populated for all nominated projects.

- We can confirm that service cost and purpose allocations are consistently applied using Northern Ireland Water's CIDA guidance. These are consistently and comprehensively applied to the forecast programme. Prime and proportional allocations for both purpose and service cost allocations are appropriately applied.
- Reconciliation with other tables is commented upon in detail in the Table 40 commentary, explaining variances where identified.

## 2. Audit Scope

### Guidance

The initial audit was carried out on 23 May 2024 encompassing the requirements of the UR guidance for Table 40 and where relevant as stated in Table 30 and 40a UR guidance.

The UR guidance documents provide guidance relevant the Table 40 submission in the following areas:

- General
- Reconciliation across other reporting tables
- Programme baseline
- Current actual and projected expenditure
- Commentary
- Reporter focus.

### Documentation

The audit is based upon the component parts of the Table 40 submission as provided to the Auditor ahead of the audit on Tuesday 21 May 2024:

- Line methodology (provided post-audit)
- Data table (updated post-audit)
- Commentary (updated post-audit).

### Sample Selection

We sampled projects from Table 40 across scheme types and examined the values presented across all columns, considering the appropriateness, consistency of interpretation and application of the company's CIDA guidance.

The sample includes, but is not limited to, projects from the sub-programmes highlighted in the UR's guidance for AIR24 reporting which contain material future expenditure and with proportional allocation in the following areas.

- Leakage expenditure
- Watermains rehabilitation
- Treatment works
- Unsatisfactory intermittent discharges (UIDs).

A range of PC nominated and PC non-nominated schemes were chosen, as shown in Table TC\_40\_1.

**Table TC\_40\_1: Sample schemes audited**

Sub-programme	Scheme audited	PC Project Period
<i>Block A, Col 8</i>	<i>Block A, Col 3&amp;4</i>	<i>Block K, Col 77</i>
Leakage (09)	X X	
	X X	
Watermains rehabilitation (08)	X X	
	X X	
	X X	
Water treatment works (04)	X X	
	X X	
	X X	
Wastewater treatment (new starts) (16)	X X	
	X X	
Small wastewater treatment works (17)	X X	
Sewerage (12) 12b: WwPS/ CSO Quality (UID)	X X	
	X X	
	X X	

### 3. Performance and Significant Events

#### Progress and ability to deliver PC21 outputs / PC21 outputs for delivery by the end of 2023-24

There are 203 lines assigned as PC21 nominated outputs, of which 56 relate to the Living With Water Programme (LWWP). Although baseline information is not fully populated in the table, where available the table shows 11 of 13 projects expected to achieve beneficial by the end of this reporting year have done so.

Reviewing the beneficial use dates of the remaining PC21 projects it is evident that final year of these projects will extend from 2028 to 2030.

As per NI Water's commentary text, the Company explained that price rises and inflationary pressures, alongside the scope certainty exercise have all exerted significant upward pressure on budgets above that agreed at PC21 FD.

The Auditee explained that the PC21 mid-term review is designed to highlight and update budget allowance for key projects and that non-nominated outputs will be reduced or cut to support as full delivery of the PC21 nominated outputs as possible.

Explanations for variance in the commentary are well articulated and considered reasonable. Challenges to justify changes and values were raised as part of the audit sample, covered further on in this Table commentary.

## 4. Summary of Audit Checks

### General

The Auditee confirmed that Table 40 includes the whole programme and excludes income from grants and contributions. We reviewed the presentation of the table, confirming additional columns beyond column 87 will be removed before submission, unless requested separately by the regulator. The Auditee showed through the sample audit that project and programme forecasts align to distribute funds over time.

NI Water confirmed there are no new changes to the CIDA guidance in place which would alter the approach followed to proportional allocation compared with the last submission. At audit this year we also reviewed the X data source which provides operational capital costs for the table.

### Reconciliation to other tables

We reviewed reconciliation with other associated tables and could see all commentary requirements for Table 40 addressed as per the guidance for Table 30. At audit the DAP references and IEM references (Cols 85 and 86) had not yet been populated, pending finalised references from Table 40b which once confirmed would be reconciled to Table 40.

### Project Information (Block A)

The Auditee spotted an error in the PC21 Programme (Col 8) identifier for project SP00 PC21 Holding Line - Capitalised Salaries (SP001), assigned to 01a within Base maintenance (water) which should be assigned to 00 Capitalised salaries and on-costs.

### Programme baseline (Blocks B-E)

The Auditees have included sub-programme lines 00 to 24 as per Table A2 of the guidance as appropriate, converting these into individual projects lines as programme information develops. The baseline projects listed present all projects with nominated output status.

Milestone dates for projects with nominated output status are required in accordance with paragraph A.11 of the guidance. Although some flexibility is accepted for future projects there are a significant number of applicable projects missing this information.

NI Water confirmed alignment of the projects presented with the PC21 FD and showed the matching total allocation (1,819). The Company also confirmed baseline financial values are reported in 2018-19 prices using RPI as deflator where necessary.

### Current actual and projections (Blocks F-J)

NI Water confirmed current/actual/forecast financial values are reported in money of the day. The Auditee explained that the Company has only included projects relating to future PC periods where already agreed with the regulator, aligning with the guidance to exclude future project phases not committed to in PC21.

The Auditor noted that the current/actual/forecast purpose allocations for two projects (KI802 and KS5903) exceeded 100%.

### Audit sample

A summary of the checks undertaken on projects within the audit sample (as per Table TC\_40\_1) are presented below:

- JI211 X

NI Water showed the record for this project in X, demonstrating how the CIDA guidance has been followed and purpose allocation correctly carried through to the table. We noted that the service cost allocation for current/actual/forecast service cost allocation (Block G) had been incorrectly assigned to Water Non-Infra and should be corrected to Water Infra.

NI Water showed the IPAC costings for this project to evidence the change in purpose allocation applied since the baseline was set. The Auditor challenged the Company on why there is little cost in place; the baseline had £4.886m assigned, however the project only commenced in 2023-24 and has minimal spend in the current/forecast year. The Auditee explained that as a non-nominated project less expenditure is now planned than was set out at baseline as programme priorities are balanced due to overall budget constraints.

- *SP015* X

The Auditor showed the Auditor that this sub-programme holding line contains the baseline as set out in the PC21 FD, and how it is reallocated into associated project lines on an annual basis.

- *SP014* X

On review of the expenditure, we noted around £94m allocated in the baseline and around £125m now allocated to this line. The Auditee explained that additional funding has been requested as part of the mid-year review and that the Company is awaiting the outcome of this from the regulator. The Auditee showed the reallocation of expenditure between this holding line and associated projects. The Company explained overall budget constraints that are likely to impact this sub-programme as it is non-nominated.

We reviewed the purpose allocation of the schemes in the 08z Water Mains Rehabilitation Uncategorised programme with most under proportional allocation, with only a few with under prime allocation. These were considered reflective of the projects.

- *J1227* X

We found the 100% Water Infra service cost allocation had not changed and felt that the forecast expenditure was reasonable, noting these packages will be underway through to PC27 to achieve completion. The Auditee explained the change in purpose allocation from 90% to 100% enhancement, in line with the nature of the project.

- *JH002* X

We reviewed the purpose allocation of 94% ESL and 6% quality purpose allocation and concluded it was calculated at the project level and is appropriate considering the scope.

- *JG097* X

NI Water confirmed that although this is an Alpha site, the costs assigned to Table 40 align with the guidance. The Auditee explained that the project is unlikely to be progressed due to budget constraints and a different solution is being progressed by the PPP.

- *JL815* X

We identified an increase in the expenditure for this project, from around £10m in the baseline to around £13.4m in the forecast. NI Water explained this has increased in line with inflation, as the forecast is provided in money of the day. The Auditee explained that delivery of this project is at risk despite its PC21 nominated status. It is currently scheduled to achieve beneficial use two years later than planned, in 2029. The Company predicts that this may be further delayed to start in PC27 or cancelled due to budget constraints.

There is no change in the service cost and purpose allocations from the baseline, assigned as 100% Water Non-Infra and 100% ESL respectively.

- *JF616 X*

The Auditee explained that significant change in expenditure, from £0.788m in the baseline to £4.252m in the forecast is due to a contractor review lead to include base maintenance activities. This is reflected in the change in purpose allocation from 27% base and 73% ESL to 67% base and 33% ESL. It is still planned to deliver this project within PC21 as per the nominated output status.

- *KR739 X*

We identified a significant increase in expenditure for this project from £73.173 at baseline to £175.842m in the forecast for this PC27 LWWP project. Auditee explained that this change is largely as a result of the scope uncertainty exercise which provides evidence for the new business case that has been submitted as part of mid-term review. This has impacted the purpose allocation, changed from 86% quality and 14% growth to 60% quality, 30% base, 10% growth. The service cost allocation is accurate.

- *KR725 X*

As with the above project, the expenditure for X is now forecast to be an order of magnitude larger due to the scope uncertainty exercise which supports a new business case submitted as part of mid-term review. Changes in allocations are reflective of this.

- *KI675 X*

This project is the rural wastewater investment programme for the PC21 period, it covers improvements at WwTWs serving less than 250 population equivalent.

Auditee explained that the increase in expenditure from around £8.5m at baseline to £11.5 in the forecast is partially due to the inclusion of previously missing cost curves for RWIPS on ICBs, alongside price rises. We noted minor adjustments to the purpose allocation.

- *KR632 X*

The expenditure for this project has increased from around £25m at baseline to £125m now forecast due to the scope uncertainty exercise. The purpose allocation has been updated accordingly and NI Water explained that the Company expects the project to begin in the upcoming year.

- *KR801 X*

NI Water explained that this project was not nominated for PC21, which explains the absence of baseline information. We discussed that the budget constraints across the LWWP are likely to lead to this project being underfunded.

- *KV248 X*

NI Water explained that expenditure in PC21 is limited to identifying a solution with most expenditure allocated beyond PC21 for this non-nominated project. Significant expenditure increase is anticipated overall, from around £4m at baseline to £25m in PC27. The Auditee confirmed the purpose allocation, 100% quality aligns with the current understanding of the project scope.

## Commentary

NI Water's commentary explains reconciliations with other tables, performance and variance on nominated outputs for the reporting year. The Auditee confirmed that Table 40 has been complied with

column definitions for baseline, current/actual/forecast milestone dates where required. The Auditee explained that capitalised salaries and on-costs have been allocated to the 00 sub-programme and within individual projects.

Auditees noted the need to populated leakage detection and repair opex summary lines in Table 1 of the commentary.

The Company also comments upon the impact of the 3.4% RPI inflation allowance annually through the six year period, which is significantly lower than the inflation experienced in recent years.

## 5. Confidence Grades

Confidence grades are not applicable to Table 40 entries.

## 6. Challenges to the Company, Recommendations & Suggested Actions

### Actions

Through our audits, we challenged the Company on aspects of its Table 40 submission. The Table 40 column references, the issues raised, the actions and status are given in Table TC\_40\_2 below.

**Table TC\_40\_2: Challenges, Actions and Status**

Column	Issue	Actions	Resolved?
9	Regulatory Sign-Off Required	The Auditee highlighted that there are 10 schemes for which sign-off requirement can be removed.	✓
85-86	DAP and IEM references	The Auditee highlighted that there are new IDs which will overwrite the references submitted in the previous year, these will be finalised and assured in Table 40b then reconciled to these columns in Table 40.	✓
71-74	Purpose allocations	We identified that for two schemes, X and X, the total % across QBEG is greater than 100% which can be corrected.	✓
49-51	X	We identified that the service cost allocation for this project was 100% water infrastructure in the baseline programme and is 100% water non-infrastructure in the current/actual/forecast. The latter should be corrected in line with the baseline.	✓
8	SP001 SP00 PC21 Holding Line	Adjust programme identifier incorrectly assigned from 01a to 00	✓
77	X	NI Water highlighted that this scheme is assigned as a PC21 nominated output when the scheme was actually nominated in PC15 and will be delayed to PC27. The Company plan to reassign it to PC27 nominated status.	✓

### Recommendations

- LWWP (Block L) – Populate LWWP (Y/N) and LWWP Catchment Delivery Plan IDs, as per Table A4 of the Table 40 guidance document [NIAUR\_air24\_repreq\_Sec2\_Chap40 01.00.PDF] before submission.
- Baseline and current/actual/forecast milestone dates remain unpopulated in a significant minority of cases. Recommend ensuring these are populated for all nominated past and ongoing projects.
- Nominated output (Col 77) – This column is populated with multiple pieces of information, however the column definitions found in Annex B of the guidance suggests the values to be used are 'PC10, PC13, PC15 and PC21'. Recommend populating column 77 of the table for submission with the PC

number only, and only when nominated. The Auditee may choose to replicate the current level of detail into a new column for a working of the table used internally as I appreciate it is useful.

- Blank values – Recommend reviewing and resolving blank values across all columns of the table to ensure the table is fully populated and aligned with the paragraph A.5 of the guidance which requires appropriate population of zeros and blanks.
- Format date fields as dates – Recommend assigning date columns (such as 82 and 83) as date formatted cells so that the values appear as dates rather than numbers.
- Summary Programme Line Identifier (Col 87) – Recommend explaining use of ‘xxx98’ and ‘xxx99’ identifiers in the Company’s commentary, as these are not stated in the identifier code list provided in Table A5 of the guidance.
- Raise sewage pumping station service cost allocation with the regulator – We noted that all sewage pumping stations were allocated as Sewerage Infra in the baseline and greater clarity is required from the regulator to confirm whether these should be Sewerage Non-Infra and therefore the baseline should be corrected or not.
- Recommend improvements to Line Methodology to undertake checks on table completeness (i.e. around milestones information as this has been a multi-year issue)
- Recommend expanding the Line Methodology to include sourcing of DAP and IEM references once finalised from Table 40b.

## 7. References

### Guidance:

- Utility Regulator, 2024. AIR Reporting Requirements and Definitions Manual – Tables & Commentaries – Chapter 30 Financial Measures. v1 March 2024.
- Utility Regulator, 2024. AIR Reporting Requirements and Definitions Manual – Tables & Commentaries – Chapter 40 Capital Investment Monitoring Return. v1 March 2024.
- Utility Regulator, 2024. AIR Reporting Requirements and Definitions Manual – Tables & Commentaries – Chapter 40a Outputs. v1 March 2024.

### Shown at audit:

- NI Water, Commentary: T40 – 23\_24 Commentary.docx
- NI Water, Data Table: T40 – 23\_24.xlsx

### Received post-audit on 06 June 2024:

- NI Water, Data Table: T40 -Shared Copy.xlsx
- NI Water, Line Methodology: LM\_Table40 LinesALL v3.docx

## SUMMARY OF AUDIT FINDINGS

Table 40b – Delivery of DAPs and Integrated Environment Environmental Modelling (IEMs) Cols 1-11

<b>PREPARED BY</b>	X	<b>NI WATER AUDITEES</b>
<b>DATE</b>	15 November 2024	Scope Item 1: X Scope Item 2: X

## 1. Overview

1. Table 40b provides a statement of the Company's plans for delivering Drainage Area Plans (DAPs) and Integrated Environmental Modelling (IEM) for PC21. **It provides a mechanism by which progress on delivery can be monitored.**
2. We have reviewed NI Water's Table 40b submission and progress on the delivery of its DAP Model Build and Verification (MBV) and Needs and Options Reports (NORs) and Integrated Environmental Modelling (IEM).

We identified an audit issue with the accounting of planned/completed/delivered, delayed/outstanding DAP and IEM outputs for the AIR24 report year. **As a result of this issue we are unable to confirm that there is no risk to the delivery of the PC27 capital programme and nominated outputs.**

3. For our AIR24 reviews, NI Water provided draft documentation of processes that may be categorised into the following two but inter-related groupings.

- ☐ **current/looking back** processes associated with the PC21, PC21 Mid-Term Review and PC21 AIR submissions to date.
- ☐ **moving forward** or new/improved processes for PC27 **submissions to promote schemes that are deliverable, buildable and optimised [technical optimisation, collaborative optimisation and programme optimisation], with a reflection of value management/engineering and the relevant asset management standards.**

The new/improved processes being developed for PC27 business planning have attempted to explain the purpose of the improved processes that responds to the shortcomings of the PC21 capital submission processes and to outline the principles of new processes being put in place. The objective being to:

- ☐ facilitate the development and promotion of capital projects that are deliverable, buildable and optimised.

On the basis of the draft documentation of the processes reviewed through our AIR24 audits, we identified gaps in the new/improved processes being developed for PC27 business planning. These gaps can be addressed by acting on the recommendations outlined in this commentary.

4. The conclusions drawn from our review of the effectiveness of the **current/looking back** and the draft new/improved **moving forward** processes provided for our AIR24 reviews and audits by NI Water are summarised as follows.
  - ☐ **Current/Looking Back** Processes. By combining the notes of NI Water's PC21 process issues/shortcomings with audit findings from the Reporter's PC21 MTR review of scope certainty projects, we conclude that there is room for improvement and opportunities for process upgrades to the current PC21 processes for the development and promotion of capital projects that are deliverable, buildable, optimised and reliable.

- ☐ With respect to the **moving forward** processes, the notes of NI Water's responses to the PC21 process issues and shortcomings identified a range of measures that are being implemented (currently in draft form) to address the issues through the development of new/improved processes for PC27 business planning purposes. NI Water expects the draft processes provided for our AIR24 audits to evolve throughout the development of the PC27 Business Plan submission.
- ☐ We conclude that a complete assessment of the effectiveness of the new processes would not be possible until the on-going development and testing of the new/improved processes are completed with the appropriate audit evidence.

## 2. Introduction

This is the Reporter's commentary for the enhanced audit of NI Water's AIR24 Table 40b submission. In addition to the overview section (Section 1), there four sections that provide details of the Table 40b audit scope and approach (Section 3) and audit findings (Section 4).

**Conclusions and recommendations for each scope item are outlined in the Appendices to this commentary:**

Appendix A: Update of AIR23 review for AIR24, Appendix B: Process reviews and Appendix C: Review of effectiveness of process/processes.

## 3. Audit Scope and Approach

### 3.1 Scope

#### a) Scope Item 1 – Update of AIR23 Review for AIR24

AIR24 Reporter Letter Requirement. *"The Reporter should **update** its AIR23 review of the Company's progress on the delivery of DAP Model Build and Needs and Options Reports and Integrated Environmental Modelling."*

Details of the Scope item 1 audit findings are given in Appendix A.

#### b) Scope Item 2A – Process Reviews

AIR24 Reporter Letter Requirement.

*"The Reporter should review the effectiveness of the **process** used to:*

- ☐ *Develop the SP 12 [wastewater infra] & 16 [wastewater non-infra] scope certainty projects within the PC21 Mid Term Review (MTR) submission.*
- ☐ *Identify interdependencies.*
- ☐ *Prioritise the schemes.*
- ☐ *Progress the highest priority projects through the construction phase using the available capital budgets*

Details of the Scope item 2A audit findings are given in Appendix B.

#### c) Scope Item 2B – Review Effectiveness of Process/Processes

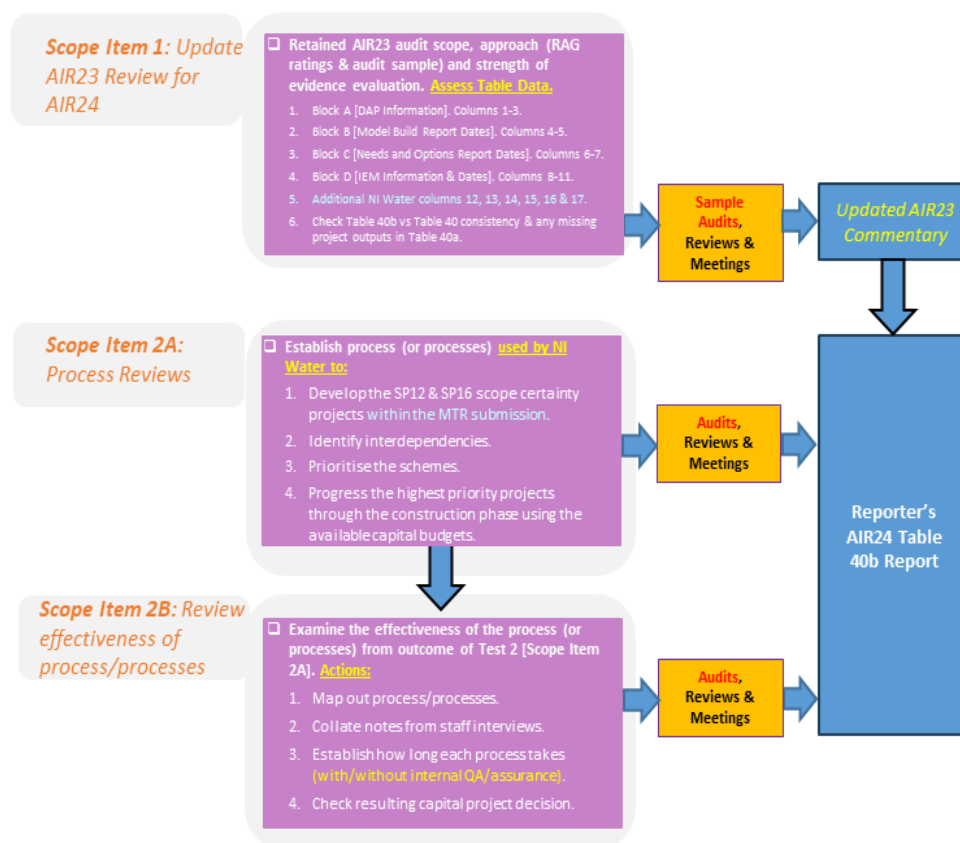
As outlined for Scope item 2A above but with a focus on *"...the **effectiveness** of the process used..."*.

Details of the Scope item 2B audit findings are given in Appendix C.

### 3.2 Approach

#### a) Introduction

Our audit approach is an **evidence-based**, sample audit, focussed on the UR's scope outlined in Section 3.1 and evaluation of the links between Table 40b, Table 40a and Table 40. The approach is illustrated in Figure TC\_40b\_1.



**Figure TC\_40b\_1: Illustration of Audit Approach**

Table 40b provides a statement of the Company's plans for delivering Drainage Area Plans (DAPs) and Integrated Environmental Modelling (IEM) for PC21. It provides a mechanism by which progress on delivery can be monitored.

Through use of a unique DAP reference and a unique IEM reference in Table 40b, consistent with the identifiers entered in column 85 and 86 of Table 40, there is a link between the DAPs, IEM work and any associated capital investment projects and nominated outputs listed with unique project IDs in Tables 40 and 40a.

With this link, it is possible to carry out an audit assessment of how any movement in the planned delivery programme for either the DAPs or IEMs could potentially affect the delivery of capital investment projects and associated benefits to consumers. The specific methods used to fulfil the audit scope for Table 40b are outlined in the following sections.

**b) Scope Item 1 - update AIR23 review for AIR24**

The method consists of five separate but inter-related steps covering: the update of AIR23 templates with AIR24 information for our audit sample, review of NI Water's draft and final Data Table (and commentary) submission, provision of audit feedback to Auditees, closure of post-audit corrective actions (where appropriate), to the audit programme timescales and finalisation of the Audit Templates and related commentaries.

**c) Scope Item 2A - process reviews**

We reviewed NI Water's draft documentation of new/improved processes, engaged with Company staff, challenged aspects of the information provided for audit, identified gaps and made recommendations aimed at addressing corrective actions from our audit findings.

Details are given in Appendix B.

d) Scope Item 2B - review effectiveness of process/processes

We reviewed the effectiveness of the **current/looking back** and the draft new/improved **moving forward** processes provided for our AIR24 reviews and audits. We discussed our audit observations with Company staff. We challenged aspects of the information provided for audit and made a recommendation on the development and testing of the new/improved processes, in time for the AIR25 reviews.

Details are given in Appendix C.

e) Audit Sample

We based our audit on the same representative sample of DAPs and IEMs used in AIR23 audit. The AIR24 audited DAPs and the linked PC21 capital projects are listed in Appendix A.

## 4. Audit Findings

### 4.1 Update of AIR23 review for AIR24

The DAP-IEM-PC21 capital projects and nominated output inter-dependencies are reflected through our audit samples – see Tables TC\_40b\_1 and TC\_40b\_2 in Appendix A. Through our audits, we noted a number of observations and identified a range of post-audit corrective actions. The Company responded to our request for additional information and provided supplementary evidence.

This section contains an overview of our findings across the DAP and IEM audit samples, that informed the conclusions and recommendations outlined in Appendix A.

a) Progress vs programme

- ☐ The Table 40b commentary information was not reported clearly to distinguish between the DAP MBV, DAP NOR and IEM Outputs that were planned for AIR24, delayed from AIR22/AIR23, delayed from AIR24, completed in AIR24 and outstanding outputs. However, it is evident that the Company is experiencing notable delays against its DAP/IEM programme and its AIR24 report year deliverables have been catching up from the AIR22/AIR23 delays. Reasons for the delays have been provided in the Table commentary (same as AIR23).
- ☐ No revised delivery dates for delayed DAPs and IEMs have been provided.
- ☐ There are material gaps in the evidence provided (Finding 3 in Appendix A)
- ☐ It is unclear which of the stated DAP/IEM process stages is considered/reported as “complete”.

Details are given in Appendix A.

b) Table Data – reliability/accuracy

- ☐ The AIR24 update showed that the AIR23 audit finding on areas where there are mismatches of multiple DAP-IEM associations between the AIR24 Table 40 and Table 40b data sets, remains an issue for AIR24.
- ☐ Accuracy/QA issue with changes to the capital projects linked to DAPs and IEMs in AIR24 Table 40.
- ☐ Data table issue date/version control for DA0846 (Culmore) Column 7 date changed between versions of the data table provided. This is possibly due to a QA/version control issue.

Although we have closed out some post-audit corrective actions on the samples regarding the alignment of Table 40 - Table 40b and capital project links in Table 40, we are unable to confirm if this was an intentional change or if our audit observations would remain in the wider population outside of our sample space.

c) **Residual risk of delivery**

We identified an audit issue with the accounting of planned/completed/delivered, delayed/outstanding DAP and IEM outputs for the AIR24 report year.

The way the DAPs and IEMs are reported makes it impossible to reconcile accounting for the DAP and IEM outputs and to be able to confirm that there is no risk to delivery of the PC27 capital programme. Details are given in Appendix A.

#### 4.2 Process reviews

- a) **Current/Looking Back** Processes. We identified that these consists of a mixture of single stage and multi-stage/multiple step and nested processes. **Moving Forward** Draft Processes. We also identified that these are made up of a mix of single stage and multi-stage/multiple step and nested processes.
- b) **Moving Forward** Processes. The new processes are evolving. Documentation of the new processes are in draft form - some live with updates, some conceptual with indication of timeline spanning 2024-25. The principles of the new processes are established with on-going testing to embed them into the wider Company Business As Usual (BAU) processes.
- c) We note that the development of a high level overview of the links between the individual processes (with an overarching flow chart) for top down/bottom-up check of effectiveness of the evolving new/improved processes is outstanding. Any assessment of effectiveness should be based on a detailed understanding of the components of the work flow, including who does what, how the work gets done and when the work gets done. We identified that there is a need to consolidate the draft processes documented as presented for our AIR24 audits.

Details are given in Appendix B.

#### 4.3 Review of effectiveness of process/processes

- a) The level of maturity of the new/improved **moving forward** processes is considered to be 'developing and evolving' on a maturity scale that ranges from 'under-developed' to 'developed'.
- b) The full benefits of the draft new/improved processes will manifest as the procedures mature from the current 'developing' state to the 'developed' state.
- c) We identified a number of corrective actions to the pre-audit draft versions of the new/improved processes that can be completed within our AIR24 audit reporting programme. We can confirm that Auditees have addressed these actions for the AIR24 submission. We provided recommendations on additional corrective actions/observations that can be addressed after the AIR24 submission, in time for the AIR25 reviews.

Details are given in Appendix C.

#### References

1. NIAUR, 2024. Annual Information Return 2022-23 (AIR24) – Reporter Letter with Table 40b Audit Guidance on file as "2024-03-25 AIR24 Reporter Letter.PDF".
2. NIAUR, 2024. Annual Information Return Reporting Requirements and Definitions Manual for AIR24. Tables & Commentaries. Chapter 40b Delivery of DAPs and Integrated Environmental Modelling.

## Appendices

**Appendix A:** Update of AIR23 review for AIR24

**Appendix B:** Process reviews

**Appendix C:** Review of effectiveness of process/processes

## Appendix A: Scope Item 1- Update of AIR23 review for AIR24

### INTRODUCTION

In this Appendix, we present details of our audit findings, conclusions and recommendations. Through our audits, we noted a number of observations and identified a range of post-audit corrective actions. The Company responded to our request for additional information (and clarified some of the statements made in its draft commentary) and provided supplementary evidence.

### AUDIT SAMPLE

We based our audit on the same representative sample of DAPs and IEMs used in AIR23 audit. The AIR24 audited DAPs and the linked PC21 capital projects are listed in Table TC\_40b\_1. The table also highlights changes from AIR23. The audited DAP-IEM-PC21 capital projects and nominated output inter-dependencies are reflected through our audit samples – see Tables TC\_40b\_1 and TC\_40b\_2.

**Table TC\_40b\_1: AIR23 Sample DAPs Audited and updated for AIR24**

Table 40b Ref	Name	AIR24 Linkage to PC21 Capital Projects and Nominated Outputs
DA0755	X	Linked to 4 PC21 project in Table 40 [Project ID KF387, KF396, KF397, KF428]. PC21 sub-programmes refs SP12a & 12b. [KF387] has no link to Table 40a.  <b>Unchanged from AIR23.</b>
DA0363	X	Linked to a PC21 project in Table 40 [Project ID SP019]. PC21 sub-programmes refs SP12b but no link to Table 40a.  <b>Unchanged from AIR23.</b>
DA0040	X	Linked two capital projects [KH010 and KH013]. PC21 sub-programme refs SP-12b and 12d. KH013 has no link to Table 40a.  <b>Unchanged from AIR23.</b>
DA0956	X	Linked to a PC21 project in Table 40 and Table 40a [Project ID KN683]. PC21 sub-programmes refs SP16a.  <b>Unchanged from AIR23.</b>
DA0092	X	Linked to 3 PC21 projects in Table 40 [Project ID KH015, KR667 & KS933]. PC21 sub-programmes refs SP12b & 12c. KH015 & KS933 have no link to Table 40a.  <b>Unchanged from AIR23.</b>
DA0002	X	<b>AIR23:</b> Linked to <b>30</b> PC21 projects in Table 40 [KI599, KR417, KR489, KR561, KR586, KR588, KR599, KR671, KR707, KR716, KR717, KR719, KR721, KR723, KR726...SP033] and <b>4 of these projects are linked to Table 40a</b> [KR417, KR586, <b>KR726</b> , SP026]. PC21 sub-programmes refs SP12a, 12b, 12d, 16a & 16b.  <b>AIR24:</b> Linked to <b>16</b> PC21 capital projects in Table 40 [Project ID KI599, KI604, KR433, KR456, ... KR726, KR746]. PC21 sub-programmes refs SP-12b, 12d, 12e, 12g & 16b. <b>One [KR726] of the sixteen linked outputs in Table 40a. Significant change in linked capital projects from AIR23 to AIR24.</b>
DA0134	X	Linked to three PC21 capital projects [KV249, <b>KS937</b> & KH002]. KH002 & KV249 link to Table 40a. PC21 sub-programme refs SP-12b, 16a. <b>KS937 is new to AIR24</b> and does not link to Table 40a.
DA0844	X	Linked to a PC21 project in Table 40 [Project ID KL489] and links to Table 40a. PC21 sub-programmes refs SP14.  <b>Unchanged from AIR23.</b>

The audited IEMs and the linked DAPs and PC21 capital projects are listed in Table TC\_40b\_2. The table also highlights changes from AIR23.

**Table TC\_40b\_2: AIR23 Sample IEMs Audited for AIR24**

Table 40b Ref	Name	AIR24 Linkage to DAPs & PC21 Capital Projects and Nominated Outputs
IEM01	X	<p>IEM01 [X] is linked to nine (9) DAPs in Table 40b [DA0063, DA0064, DA0066, DA0073, DA0123, DA0134, DA1109, DA1165 &amp; DA1176] and one DAP [DA0134] in Table 40. <b>No change from AIR23.</b></p> <p>The following PC21 capital projects are linked to IEM01 in Table 40.</p> <ol style="list-style-type: none"> <li>1. DA0134: X. [Table 40 ref: SP-12b, Project ID KV249] <b>[Consistent with AIR23]</b></li> <li>2. DA0134: X. [Table 40 ref: SP-16a, Project ID KH002] <b>[Consistent with AIR23]</b></li> </ol> <p><b>The following were linked to IEM01 in AIR23 Table 40, but not in AIR24:</b></p> <ol style="list-style-type: none"> <li>1. X. [Project ID KH004]. <b>[DAP link reference is "N/A" in AIR24 Table 40, in AIR23 it was DA0063].</b></li> <li>2. DA0063: X. [Project ID KS902] [AIR24 Table 40 DAP Reference is DA0063].</li> <li>3. X. [Project ID KS962]. <b>[DAP link reference is "N/A" in AIR24 Table 40, in AIR23 it was DA0063].</b></li> </ol>
IEM02	X	<p>IEM02 [X] is linked to <b>9</b> DAPs in Table 40b [DA0008, DA0009, DA0044, DA0327, DA0330, DA0331, DA0333, DA0339 &amp; DA1175]. In AIR23 there were <b>3</b> linked DAPs in Table 40b [DA330, DA0327 &amp; DA0008] and one DAP in Table 40 [DA0327]. Through our audits, we identified the AIR24 associations between these DAPs and the capital projects listed in Table 40, as follows.</p> <ol style="list-style-type: none"> <li>1. DA0327: X. [Table 40 ref: SP-12b, Project ID KA298] <b>[Consistent with AIR23]</b></li> <li>2. DA0327: X. [Table 40 ref: SP-12b, Project ID KB558] <b>[Consistent with AIR23]</b></li> </ol> <p>The following DAPs did not have any association with the capital projects listed in Table 40. DA0339, DA0331, DA0333, DA0330, DA0008, DA0009, DA0044 and DA1175.</p> <p><b>The following were linked to IEM02 in Table 40 in AIR23, but not in AIR24:</b></p> <ol style="list-style-type: none"> <li>1. DA0327: X. [Table 40 ref: SP-12a, Project ID KA233] <b>[Included for AIR23, but not AIR24]</b></li> <li>2. DA0327: X. [Table 40 ref: SP-16a, Project ID KA256] <b>[Included for AIR23, but not AIR24]</b></li> </ol>
IEM08	X	<p>IEM08 [X] is linked to <b>54</b> DAPs [DA0170, DA0034, ..... DA1065, DA0257, DA0195] in Table 40b and <b>4</b> DAPs [DA0057, DA1100, DA0195, DA0230] in Table 40.</p> <p>This is compared to <b>8</b> linked DAPs in AIR23 Table 40b [DA0145, DA0170, DA0230, DA0259, DA0274, DA0275, DA0309 &amp; DA1097] and <b>1</b> DAP in Table 40 [DA0230].</p> <p><b>This audit finding shows a significant change in the reported, linked capital projects from AIR23 to AIR24.</b></p> <p>The following PC21 capital projects are linked to IEM08 in Table 40.</p> <ol style="list-style-type: none"> <li>1. DA0195: X [Table 40 ref: SP-16a, Project ID KV241] <b>[Newly added since AIR23, consistent reference between Table 40 and Table 40b].</b></li> <li>2. DA0230: X. [Table 40 ref: SP-16a, Project ID KV244] <b>[Consistent with AIR23].</b></li> </ol>

Table 40b Ref	Name	AIR24 Linkage to DAPs & PC21 Capital Projects and Nominated Outputs
		<p>3. DA0230: X. [Table 40 ref: SP-12b, Project ID KV248] <b>[Consistent with AIR23]</b>.</p> <p>4. DA0057: X [Table 40 ref: SP-12b, Project ID KS991] <b>[DA0057 is linked to IEM08 in Table 40, but linked to IEM03 in Table 40b]</b>.</p> <p>5. DA1100: X [Table 40 ref: SP-12g, Project ID KV230] <b>[DA1100 is linked to IEM08 in Table 40, but linked to IEM03 in Table 40b]</b>.</p> <p>6. <b>No linked DAP - Xs</b> [Table 40 ref: SP-12g, Project ID SP023] <b>[AIR24 Table 40 DAP reference is "N/A" but is linked to IEM08 in Table 40b]</b>.</p>
IEM12	North Coast	<p>IEM12 is linked to 2 DAPs in Table 40b [(DA1177, DA0590] and there are no links to Table 40.</p> <p><b>IEM12 is linked to an additional 2 DAPs [DA0613, DA0615] in AIR24, compared to AIR23.</b></p>

## AUDIT FINDINGS

1. We identified an audit issue with the accounting of planned/completed/delivered, delayed/outstanding DAP and IEM outputs for the AIR24 report year – see item 2 below.

As a result of this issue we are unable to confirm that there is no risk to the delivery of the PC27 capital programme.

2. NI Water completed 79 planned rural MBVs but none of the 23 non-rural MBVs and 10 of the 53 DAP NORs planned for AIR24.

The Company also completed 15 non-rural DAP MBV reports and 19 DAP NOR reports that were delayed from the AIR22 and AIR23 report years. Evidence gaps to validate completion of the DAP and IEM outputs are highlighted in Tables TC\_40b\_3 and TC\_40b\_3.

**Table TC\_40b\_3: Planned vs Delivered Outputs against Audit Evidence**

Deliverable	Planned to be Delivered in the AIR24 Report Year (Nr)	Claimed as Delivered in the AIR24 Report Year [Nr (%)]	Audit Evidence Provided by NI Water
DAP MBV (non-rural)	23	0 (0%)	None
DAP MBV (rural)	79	79 (100%)	Complete evidence
DAP NOR	53	10 19%( )	1 of 10
IEM	6	1 (17%)	1 [X]

### Notes to Table TC\_40b\_3 [IEM Deliverable]

- a) The NI Water's Table 40b commentary states that NI Water completed one (17%) of the six IEM studies planned for AIR24 (X, X, X, X, X and X). Another four studies were delivered during AIR24 (X, X, X, X and X), but these were delayed delivery from AIR23. Evidence was provided for the completion of these 5 IEMs studies.
- b) We note that the commentary has listed X IEM study as both planned for AIR24 and then listed as complete (Oct 23) and thus claims that zero of the six IEM studies planned for AIR24 have been completed. However, the evidence provided shows that X IEM study was completed in a combined report with X ("SWELL\_Final\_Report") and thus we have included it in the progress figures in this report as planned and completed for AIR24.

**Table TC\_40b\_4:** Delayed Outputs from AIR22 & AIR23 - Outputs Delivered in Report Year and Evidence

<b>Deliverable</b>	<b>Delayed from AIR22 &amp; AIR Report Years (Nr)</b>	<b>Claimed as Delivered in the AIR24 Report Year [Nr (%) where relevant]</b>	<b>Audit Evidence Provided by NI Water</b>
DAP MBV (non-rural)	Not stated	15	8 of 15
DAP MBV (rural)	Not stated	Not stated	None
DAP NOR	Not stated	19	5 of 19
IEM	4	4 (100%)	5 (including two reports for X and a combined report for X and X).

- At a high level, as shown in Tables TC\_40b\_3 and TC\_40b\_4, there are material gaps in the evidence provided for the validation of the DAPs and IEM outputs claimed as completed. For example, at the DAP level, there is no evidence of NOR report for DA0755, DA0363, DA00992, DA0002, DA0134 from the list of DAP deliverables evidence provided for our audits.
- The Company's method statement for the population of Table 40b lists five stages for the DAP process [Stages 1-5] and five stages for the IEM process [Stages 1-5]. Columns 4-5 of Table 40b records Model Build report dates and this corresponds to Stage 2 of the DAP process. Columns 6-7 provides data on the Needs and Options report dates – this relates to Stage 4 of the DAP process. The relevant stage of IEM completion that is linked to entries in Columns 10-11 of Table 40b is not clear and this needs to be mapped to enable audit evidence to be matched with the completion of IEM outputs.
- We note that NI Water is experiencing notable delays to its planned DAP and IEM programme delivery and has been catching up from the delays reported in AIR22 and AIR23.
- We also note that the Company has not proposed revised delivery dates for the delayed DAPs and IEM projects.
- Accuracy/QA issue with Table 40-Table 40b links. Our AIR24 Table 40b review showed that our AIR23 audit finding re: mismatches of multiple DAP-IEM associations between Table 40 and Table 40b data sets remains an issue for the Company's AIR24 submission. During the audit process, we identified mismatched links for DAPs and IEMs and Auditees corrected these e.g. IEM01 and IEM02 linkages. During the extended audit process, we found additional mismatches. For example: in the IEM08 X sample: DA0057 and DA1100 are linked to IEM08 in Table 40, but linked to IEM03 in Table 40b. Project ID SP023 is also linked to IEM08 but no DAP. [See details in Table TC\_40b\_2]
- Accuracy/QA issue with changes to the capital projects linked to DAPs and IEMs in AIR24 Table 40. As we have used the same audit sample from our AIR23 reviews for the audit of the Company's AIR24 submission, we were able to clearly identify changes to the linked capital projects and DAPs and IEMs in AIR24 Table 40, compared to those in AIR23.
- Accuracy/QA issue with observed movement in X DAP's Column 7 entry in Table 40b. On 30<sup>th</sup> May, a screenshot of the Data Table provided for audit via email shows DA0846 (X) with a Column 7 date of "June 24". The post-audit version of the data table provided on 5<sup>th</sup> June had a Column 7 date of "Feb 24". When we looked at the revised post-audit version provided on 10<sup>th</sup> June, the column 7 date has changed back to "June 24".
- We acknowledge that the document provided ("T40 and 40b Interdependencies.pptx") states that "although a capital scheme may fall within a specific DAP, the planned solution proposed to deliver through the scheme may not be associated with any model outputs." But there is no record of decision-making regarding which projects are informed by DAPs/IEMs or not and when/why these links are changing between versions of the documents issued (AIR23, pre-audit and post-audit of AIR24 information). Some examples are given below and highlighted in Table TC\_40b\_1 and Table TC\_40b\_2:

- ❑ We identified missing link for DA0040, where pre-audit finding that KH013 was not linked to DA0040 in Table 40 (changed from AIR23). This was corrected post-audit to be linked to DA0040 in final post-audit version of Table 40.
- ❑ Post-audit analysis for DA0002 had 30 linked outputs in Table 40 in AIR23 (at audit) and AIR24 Table 40 has 16 linked projects. There is no information on this change in the Commentary.
- ❑ For IEM01 in AIR23, DA0063 was linked to IEM01 and three capital projects [KH004, KS902, KS962] in Table 40 and is not linked in AIR24 - i.e. IEM01 had five linked capital projects in AIR23 and in AIR24 it has two.

Through our audits, we closed out a number of post-audit corrective actions from our sample with respect to the alignment of Table 40 (capital projects) and Table 40b entries, and links to nominated outputs in Table 40a. But we are unable to confirm if the issues that resulted in the corrective actions would remain in the wider population of Table 40b entries, outside of our audit sample space.

## CONCLUSIONS

The conclusions drawn from the AIR24 update of our AIR23 audit findings, set against the high level UR Reporter Scope Item 1 requirements are set out in Table TC\_40b\_5 below.

**Table TC\_40b\_5:** Table 40b [Scope Item 1] Audit Conclusions

Ref	UR Reporter Requirement	Conclusion
UR Scope Item 1-1	<i>The Reporter should review the company submission and comment on its <u>progress</u> on the delivery of DAP Model Build and Needs and Options Reports and Integrated Environmental Modelling.</i>	1. We identified an audit issue with the accounting of planned/completed/delivered, delayed/outstanding DAP and IEM outputs for the AIR24 report year. As a result of this issue we are unable to confirm that there is no risk to the delivery of the PC27 capital programme.
UR Scope Item 1-2	<i>The Reporter should comment on the company's <u>progress</u> with the delivery of DAP and Integrated Environmental Modelling outputs.</i>	2. We note that NI Water is experiencing notable delays to its planned DAP and IEM delivery programme and has been catching up from the delays reported in AIR22 and AIR23. 3. We also note that the Company has not proposed revised delivery dates for the delayed DAPs and IEM projects. 4. There are material gaps in the evidence provided for the validation of the DAPs and IEMs outputs, claimed as complete for the report year.
UR Scope Item 1-3	<i>The Reporter should assess the company's comments on DAPs and Integrated Environmental Modelling (IEMs) <u>which were planned to be delivered by the end of the Report Year (by 31<sup>st</sup> March 2024) and have not been delivered</u> and the potential impact for the delivery of associated capital investment and nominated outputs.</i>	We have assessed NI Water's comments on DAPs and IEMs which were planned to be completed by 31 <sup>st</sup> March 2024 and not completed as planned.  As noted above, we identified an audit issue with the accounting of planned/completed/delivered, delayed/outstanding DAP and IEM outputs for the AIR24 report year.  As a result of this issue we are unable to confirm that there is no risk to the delivery of the PC27 capital programme and nominated outputs.
UR Scope Item 1-4	<i>The Reporter should highlight any material differences between the <u>'baseline' and 'current actual or projected' completion dates</u> and comment on the implications this might have for delivery of the PC21 capital investment programme.</i>	As a result of the audit issue highlighted above, we are unable to confirm that there is no risk to the delivery of the PC27 capital programme and nominated outputs.

## RECOMMENDATIONS

1. Address the AIR24 audit issue on accounting for planned/completed/delivered, delayed/outstanding DAP and IEM outputs for the AIR24 report year. This action should clearly identify the DAP-MBVs, DAP-NORs and IEMs that were planned to be delivered in AIR24, delayed from AIR22/AIR23, delayed from AIR24, completed in AIR24 and the outstanding DAPs/IEMs outputs. Then prepare evidence to validate claim of DAPs and IEMs delivered for the AIR25 report year.
2. Provide revised delivery dates for the delayed deliverables. For example: revised NOR deliverable dates for DA0956, DA0092, DA0134, DA0363, DA0755.
3. Map the relevant stage of completion of the IEM process [Stages 1, 2, 3, 4 or 5?] with the date entries in Columns 10-11 of Table 40b. When would the IEM output be rated as complete – Stage 3 or 4 or 5?
4. Investigate and address observed NI Water's internal accuracy/QA issues with respect to the alignment of DAP/IEM references in Table 40, Table 40b and Table 40a. Also, validate the AIR23 to AIR24 movements in Table 40b DAP/IEM-linked capital projects in Table 40.
5. Document the reason for the linkage between DAP/IEM outputs and capital projects and provide this as audit evidence. Make reference to this evidence in the Table 40b commentary to validate any observed changes to AIR record of linked project between Table 40b and Table 40.

## REFERENCES

1. NI Water, 2024. Table 40b Data Table on file as "24-06-10 DT\_Table40b\_DAP Tracker" dated 10.06.2024.
2. NI Water, 2024. Draft Table 40b commentary on file as "CC\_Table40b\_LinesAll\_Post\_Audit\_Update 6 June" dated 06.06.2024.
3. NI Water, 2024. Method Statement for Table 40b on file as "LM\_Table40b\_LinesALL" dated 06.06.2024.
4. NI Water, 2024. T40 - 23\_24 Data Table on file as "T40 - 23\_24 Data Table 20240606 Post-audit" dated 06.06.2024
- NI Water, 2024. Table 40a Data Table on file as "DT\_Table40a\_Lall" dated 04.06.2024.
5. NI Water, 2024. Draft Table 40a commentary on file as "CC\_Table40a\_LinesAll" dated 29.05.2024.
6. NI Water, 2024. Draft Table 40b extract of planned and completed DAP MBV and NOR reports on file as "MBV and NO 220524.xls" dated 22.05.2024.
7. NI Water, 2024. Evidence of completion of DAP MBV, DAP NOR and IEM provided during the period 22-23.05.2024.
8. NI Water, 2024. Email Correspondence X/X/X titled "RE\_ X Development Output - AIR24 S18 Submission & Table 40b update" on file as "RE\_ X Development Output - AIR24 S18 Submission & Table 40b update.msg" dated 10.06.2024 to resolve queries and close out post audit actions.
9. NI Water, 2024. Email correspondence X's Email titled "RE Note of Actions from TODAY's AIR24 Table 40b Audits-Audit 3 - 23.05.24 Scope 1" dated 29.05.2024 to resolve queries and close out post audit actions.
10. NI Water, 2024. Draft Slide Deck of Interdependencies between Table 40 and Table 40b on file as "T40 and 40b Interdependencies.pptx".
11. NI Water, 2024. Risk Register on file as "07052024 DAP & IEM Risk Register Final.xls" dated 07.05.2024.

## Appendix B: Process reviews

### INTRODUCTION

There are two starting points for our AIR24 process reviews. These are: notes of NI Water's PC21 process issues/shortcomings and responses to inform PC27 Business Planning (Ref 1) and audit findings from the Reporter's PC21 MTR review of scope certainty projects (Ref 2). We engaged with NI Water Auditees to understand the established processes and procedures used by the Company to:

- ☐ develop SP12 scope certainty projects;
- ☐ identify interdependencies;
- ☐ prioritise capital project schemes; and to
- ☐ progress the highest priority projects through the construction phase using available capital budgets.

Ref 1 lists three process issues with notes of the Company's responses to the issues as follows.

1. **Issue 1: Limited coverage of the NI Water's wastewater network model library to inform SP12 scheme designs based on formal Statement of Need (SoN) from the NIEA.** This resulted in the PC21 scope certainty and batch submission with increased model coverage, from less than 50% to about 85%, with improved understanding of the environmental requirements of over 1000 assets and with 57 SoNs agreed with the NIEA. NI Water has also introduced a Discharge Register as a corporate system and a performance inventory for the Company's discharging assets.
2. **Issue 2: Delays to model output-driven SP12 capital project delivery due to buildability and deliverability issues, lack of formal integration/linkage between modelling programme and capital delivery programme and risk of programme misalignment.** The Company has responded to this issue with the following measures/proposals.
  - a) NI Water's modelling team has introduced a new model solution categorisation.
  - b) A Network Optimisation Manager role has also been created within the modelling team to work closely with Engineering Team leads, to ensure that modelled solutions are optimised.
  - c) An engineering team has now been introduced into Asset Management whose role is to transition modelled solutions to engineering designs and the development of related business cases.
3. **Issue 3: Prioritisation of SP12 schemes not based on a formalised corporate system, for consistent application across solution projects.**

To respond to this issue, for PC27 planning, NI Water has introduced a new prioritisation system (tool) known as Asset Needs Analyser (ANA). The system is adaptable and should enable the Company to realise better flexibility in planning and better transparency of communications with stakeholders. It would also facilitate graphical display of needs at the individual, catchment and national levels. **We note that the ANA tool can be used for regional analysis of the future PC27 investment plan.**

**NI Water advised us that the version of the ANA process reviewed through our AIR24 audits is in draft consideration at this point and that it is expected to evolve throughout the development of the PC27 Business Plan submission.**

Ref 2 identified a number of process-related issues including the following.

1. **Issue 4:** Lack of evidence for consideration of a range of options to check whether proposed solutions are genuinely the most cost-effective options.
2. **Issue 5:** The contribution of each scheme to proposed targets (where relevant).
3. **Issue 6:** The need to reinforce pre-submission QA checking processes so that IPAC costing items reflect the most up-to-date details of scope and programme.

The above issues are extensions to the issues outlined in Ref 1 and serve as a reference in any discussion of the effectiveness of NI Water's processes in relation to the Company's PC27 submission. Also see Appendix C.

## AUDIT FINDINGS, OBSERVATIONS & CHALLENGES, GAPS AND NEXT STEPS

### Audit Findings

- For our AIR24 reviews, NI Water provided draft documentation of processes that may be categorised into the following two but inter-related groupings.
  - ☐ **current/looking back** processes associated with the PC21, PC21 Mid-Term Review and PC21 AIR submissions to date.
  - ☐ **moving forward** or new/improved processes for PC27 submissions to promote schemes that are deliverable, buildable and optimised [technical optimisation, collaborative optimisation and programme optimisation], with a reflection of value management/engineering and the relevant asset management standards.
- We refer to the draft process documents provided for our AIR24 audits as Refs 3-7 in the list of references associated with this Table 40b commentary. A map of these process documents to fulfil the UR requirements for Scope 2A and Scope 2B items, is shown in Table TC\_40b\_B1 below.

Table TC\_40b\_B1: Map of UR AIR24 Requirement with Draft Process Documents Reviewed and Timeline

Scope Item	UR Reporter's Review of <b>effectiveness</b> of NI Water's processes used to...	NI Water's Processes Reviewed ( <b>looking back – PC21 MTR &amp; AIRs, moving forward –PC27 &amp; AIRs</b> )	<b>With/Without PC27 Related Timeline?</b>
Scope Item 2A/2B-1	<i>Develop the SP 12 [wastewater infra] &amp; 16 [wastewater non-infra] scope certainty projects within the PC21 Mid Term Review (MTR) submission.</i>	<ol style="list-style-type: none"> <li>New processes for PC27 that respond to PC21 shortcomings (<b>looking back/moving forward</b>).</li> <li>Engineering - Process Maps (<b>moving forward</b>).</li> </ol>	<ol style="list-style-type: none"> <li>N/A.</li> <li><u>Without</u></li> </ol>
Scope Item "2A/2B-2"	<i>Identify interdependencies.</i>	<ol style="list-style-type: none"> <li>Modelling and Capital Programme Integration Process Map R2 (<b>looking back/moving forward</b>).</li> <li>Engineering - Process Maps (<b>moving forward</b>).</li> <li>T40 and 40b Interdependencies (<b>current/looking back/moving forward</b>).</li> <li>New processes for PC27 that respond to PC21 shortcomings (<b>looking back/moving forward</b>).</li> <li>DAP Process Map [Model Build/Model Use] (<b>current/moving forward</b>). <i>Excludes model maintenance.</i></li> <li>PC27 Prioritisation Plan (<b>moving forward</b>).</li> </ol>	<ol style="list-style-type: none"> <li><b>With: July – November 2024.</b></li> <li><u>Without</u>.</li> <li><u>Without</u>.</li> <li>N/A.</li> <li>N/A</li> <li><b>With: December 2024 – October 2025.</b></li> </ol>
Scope Item "2A/2B-3"	<i>Prioritise capital projects schemes.</i>	PC27 Prioritisation Plan ( <b>moving forward</b> ).	<b>With: December 2024 – October 2025.</b>

Scope Item	UR Reporter's Review of <b>effectiveness</b> of NI Water's processes used to...	NI Water's Processes Reviewed ( <b>looking back – PC21 MTR &amp; AIRs, moving forward –PC27 &amp; AIRs</b> )	<u>With/Without PC27 Related Timeline?</u>
Scope Item 2A/2B-4	<i>Progress the highest priority projects through the construction phase using the available capital budgets"</i>	<ol style="list-style-type: none"> <li>1. PC27 Prioritisation Plan (<b>moving forward</b>).</li> <li>2. Engineering - Process Maps (<b>moving forward</b>).</li> </ol>	<ol style="list-style-type: none"> <li>1. <u>With: December 2024 – October 2025.</u></li> <li>2. <u>Without.</u></li> </ol>

### Observations & Challenges

1. **Current/Looking Back** Processes. We identified that these consists of a mixture of single stage and multi-stage/multiple step and nested processes. **Moving Forward** Draft Processes. We also identified that these are made up of a mix of single stage and multi-stage/multiple step and nested processes.
2. **Moving Forward** Processes. The draft "Modelling and Capital Programme Integration Process Map R2.pptx" document describes NI Water's current proposal for the formal integration of Table 40b (Delivery of DAPs and Integrated Environmental Modelling), Table 40a (Nominated outputs by PC21 capital projects and programmes of work) and Table 40 (Capital Investment Monitoring Return) with the NI Water's Corporate Discharge Register (DR), the Corporate WwTW Headroom Register (HR) with CPMR enhancement. NI Water states that future Table 40 reporting would incorporate the look up references in the DR and the HR.
3. **Moving Forward** Processes. The new processes are evolving. Documentation of the new processes are in draft form - some live with updates, some conceptual with indication of timeline spanning 2024-25. The principles of the new processes are established with on-going testing to embed them into the wider Company Business As Usual (BAU) processes.
4. **Moving Forward** Processes. We note the absence of the duration of tasks/timeline associated with 3 of the 5 draft processes [see Table TC\_40b\_B1] and how the processes would fit with the wider PC27 Business Case timelines. We challenged the Company about this. NI Water responded thus:  
  
*"The programme for all PC27 submission documents is currently being discussed by NI Water, the UR and other stakeholders..."*
5. **Moving Forward** Processes. How would draft processes be tested? We challenged the Company about this. NI Water responded like this:  
  
*"No set programme of testing – testing is milestone driven and User Acceptance Testing [UAT] driven ..."*
6. **Moving Forward** Processes. We challenged the Company about the procedures for capturing learning from the UAT and testing that are milestone driven. Auditees responded that this would be developed.

### Gaps and Next Steps

1. New modelled solution categorisation. The Company advised that the proposed categorisation would provide better visibility of the maturity of the modelled solutions **but the maturity scale has not been defined. We have not seen any details on the thresholds/bandings associated with the proposed classifications.**
2. The Asset Needs Analyser tool. The tool is expected to use corporate data and bespoke scoring metrics to produce prioritised schemes across multiple sub programmes. **We identified that potential use of TOTEX hierarchy (and complexity/opportunity clustering) for maximum catchment/scheme benefit and delivery efficiency is not part of the current conceptual design reviewed through our audits.**
3. High level overview of the links between the individual processes (with an overarching flow chart) not yet developed for top down/bottom-up check of effectiveness of the evolving new/improved processes. Any assessment of effectiveness should be based on a detailed understanding of the components of the work flow, including who does what, how the work gets done and when the work gets done. With this in mind, we

identified that there is a need to consolidate the draft processes documented as presented for our AIR24 audits.

4. Process to check synergies and interdependencies e.g. between, for example, capital projects, development outputs and nominated outputs not yet developed. When developed, this should cover examples such as the interdependencies between the stormwater discharge reduction plan topic, the trade review strategy, the ingress and infiltration strategy, the flow compliance strategy, the modelling & monitoring strategy and the storm separation strategy. The expectation is that this would be developed in the run up to the PC27 Business Plan submissions.
5. NI Water currently reports on the planned delivery programme of wastewater models in AIR Table 40b in the form of DAP and IEMs. These are referenced within Table 40 to show linkage to capital intervention schemes where relevant. At present, projects within Table 40 are identified as having potential for a linked DAP/IEM through sub-programme identifiers: SP12b, SP12c, SP16a and SP16b. Once identified, the associated DAP/IEM reference is manually picked up through referencing to the Table 40b information.

Through our audits, NI Water advised us that integration of modelling data into its project management software (X) and X system has continued. The expectation is that the integration would be ready for AIR25 and in place for PC27 business planning activities.

6. Documentation of a process for the population and QA checking of regulatory tables and the interdependencies between them. For example statement and numbers in Table 16 Line 31 should be cross-referenced to statements in the proforma for Development Output Nr 12 titled "Storm Water Separation".
7. Documentation of a process for testing of solution projects (modelled solutions) for risk of delivery and the associated value management/engineering considerations.
8. When set against the engineering process map [on file as "2024.04.09 - Engineering - Process Maps.pptx"], we did not find any statement of internal QA processes, version control and assurance in the draft "DAP Process Map v3.pptx document.
9. User manual to operationalise and to roll-out the new/improved processes, moving forward, in a structured manner. This can be developed as a "Go To" reference that links back to the overarching flow chart (in the high-level overview). Auditees suggest that this can be promoted as a series of slide-decks that is simple to understand for everyone involved with the PC27 business planning and the regulatory submission process.
10. NI Water's Report of what done/thought processes/workshops that informed the development of the new/improved PC27 processes. The report should be version controlled starting from version 1 to be refined with learning. The report should bring the processes together in one place and provide a vehicle to formalise the feedback and learning process from the use of the operationalised procedures.

## CONCLUSIONS

The new/improved processes being developed for PC27 business planning have attempted to explain the purpose of the improved processes that responds to the shortcomings of the PC21 capital submission processes and to outline the principles of new processes being put in place. The objective being to:

- ☐ facilitate the development and promotion of capital projects that are deliverable, buildable and optimised.

On the basis of the draft documentation of the processes reviewed through our AIR24 audits, we identified gaps in the new/improved processes being developed for PC27 business planning. These gaps can be addressed by acting on the recommendations outlined in this commentary.

## RECOMMENDATIONS

1. Develop a high level overview of the links between the individual processes (with an overarching flow chart) for top down/bottom-up check of effectiveness of the evolving new/improved processes consolidate the draft new/improved processes documented presented for the AIR24 audits.

2. Consider use of TOTEX hierarchy (and complexity/opportunity clustering) for maximum catchment/scheme benefit and delivery efficiency through refinement of the current conceptual design of the NI Water's Asset Needs Analyser, for PC27 planning.
3. Complete integration of DAP/IEM modelling data and outputs into X and X.
4. Develop audit evidence of the testing of draft new/improved processes to turn the processes into BAU activities.
5. Develop thresholds associated with the new solution categorisation proposed in response to the PC21 process issue on modelled schemes passed to Capital Delivery with significant buildability/deliverability challenges. Define maturity scale for the proposed solution categories.
6. Develop and document a process to check synergies and interdependencies between capital projects, development outputs and nominated outputs. This should cover examples such as the interdependencies between the stormwater discharge reduction plan topic, the trade review strategy, the ingress and infiltration strategy, the flow compliance strategy, the modelling & monitoring strategy and the storm separation strategy.
7. Develop and document a process for the population and QA checking of regulatory tables and the interdependencies between them. For example statement and numbers in Table 16 Line 31 should be cross-referenced to statements in the proforma for Development Output Nr 12 titled "Storm Water Separation".
8. Develop and document a process for testing of solution projects (modelled solutions) for risk of delivery and the associated value management/engineering considerations.
9. Add statements of internal QA processes, version control and assurance to the draft "X" document.
10. Update the draft process diagram on file as "X" to include the associated internal quality assurance procedures [version control, checking & approval and QA] and a feedback loop for design iteration (evolution of designs needing model refinements) between the modelling team and the capital delivery teams.
11. Introduce a process for the population and QA checking of regulatory tables and the interdependencies between them. For example statement and numbers in AIR Table 16 Line 31 should be cross-referenced to statements in the proforma for Development Output Nr 12 titled "Storm Water Separation".
12. Develop and document a user manual to operationalise and to roll-out the new/improved processes, moving forward, in a structured manner. This can be developed as a "Go To" reference that links back to the overarching flow chart (in the high-level overview).
13. Produce an NI Water's Report of what done/thought processes/workshops that informed the development of the new/improved PC27 processes. The report should bring the processes together in one place and provide a vehicle to formalise the feedback and learning process from the use of the operationalised procedures.
14. In the medium term, consider the features and attributes of the NI Water's wastewater model library's maintenance strategy to inform operational and investment decision making.

## References

1. NI Water, 2024. Notes of NI Water's PC21 process issues/shortcomings and responses to inform PC27 Business Planning processes. Internal PowerPoint slides on file as "X" dated 15.05.24.
2. MM, 2024. Audit findings from the Reporter's PC21 MTR review of scope certainty projects. Overview Report and Technical Commentaries dated 22.02.24
3. NI Water, 2024. Draft Slide Deck of Engineering Process Maps on file as "X" dated 09.04.24.
4. NI Water, 2024. Draft Slide of DAP Process Map on file as "X" [Post Audit Version] dated 29.05.24.
5. NI Water, 2024. Draft Slide Deck of Modelling and Capital Programme Integration Process Map on file as "X" dated 29.05.24.

6. NI Water, 2024. Draft Slide Deck of PC27 Prioritisation Plan on file as “X” dated 31.07.23.
7. NI Water, 2024. Draft Slide Deck of Interdependencies between Table 40 and Table 40b on file as “X” dated 31.07.23.
8. NI Water, 2024. Email Correspondence X/X titled “X” on file as “X” dated 28.05.24.

## Appendix C: Review of effectiveness of process/processes

### INTRODUCTION

Details of the findings of our AIR24 review and audit of processes used by NI Water to develop SP12 scope certainty projects, to identify interdependencies, to prioritise capital project schemes and to progress the highest priority projects through the construction phase using available capital budgets, are given in Appendix B.

Here we outline audit observations from our review of the effectiveness of the process/processes encountered through our reviews and audits.

We also present our conclusions on review of effectiveness with a recommendation for the development and testing of new/improved processes.

### OBSERVATIONS

We reviewed the effectiveness of the **current/looking back** and the draft new/improved **moving forward** processes provided for our AIR24 reviews and audits by NI Water. We discussed our audit observations with Company staff. From these discussions, the following points were established.

- ❑ The level of maturity of the new/improved **moving forward** processes is considered to be 'developing and evolving' on a maturity scale that ranges from 'under-developed' to 'developed'.
- ❑ The full benefits of the draft new/improved processes will manifest as the procedures mature from the current 'developing' state to the 'developed' state.
- ❑ The new/improved **moving forward** processes for the Company's PC27 Business Plan submission are in draft form - some live with updates, some conceptual with indication of timeline and milestones spanning the period 2024-25. We consider that these processes should be operationalised and incorporated into NI Water's BAU procedures in time for the development of PC27 Business Cases.

We identified a number of corrective actions to the pre-audit draft versions of the new/improved processes that can be completed within our AIR24 audit reporting programme. We can confirm that Auditees have addressed these actions for the AIR24 submission. We provided recommendations on additional corrective actions/observations that can be addressed after the AIR24 submission, in time for the AIR25 reviews.

In response to our audit challenge, NI Water Auditees advised us that testing of the new/improved processes would be embedded into BAU activities moving forward. User Acceptance Testing (UAT) would also be carried out to check correctness and accuracy of outputs. There is no set programme of testing – these are expected to milestone/UAT driven.

### CONCLUSIONS

The conclusions drawn from our review of the effectiveness of the **current/looking back** and the draft new/improved **moving forward** processes provided for our AIR24 reviews and audits by NI Water are summarised as follows.

- ❑ **Current/Looking Back** Processes. By combining the notes of NI Water's PC21 process issues/shortcomings with audit findings from the Reporter's PC21 MTR review of scope certainty project, we conclude that there is room for improvement and opportunities for process upgrades to the current PC21 processes for the development and promotion of capital projects that are deliverable, buildable, optimised and reliable.
- ❑ With respect to the **moving forward** processes, the notes of NI Water's responses to the PC21 process issues and shortcomings identified a range of measures that are being implemented (currently in draft form) to address the issues through the development of new/improved processes for PC27 business planning purposes. NI Water expects the draft processes provided for our AIR24 audits to evolve throughout the development of the PC27 Business Plan submission.
- ❑ We conclude that a complete assessment of the effectiveness of the new processes would not be possible until the on-going development and testing of the new/improved processes are completed with the appropriate audit evidence.

**RECOMMENDATION**

- ☐ Complete development and testing of new/improved processes with audit evidence in time for the AIR25 reviews.

## SUMMARY OF AUDIT FINDINGS

Table 47 – Delivery of PC21 Development Outputs

PREPARED BY	X	NI WATER AUDITEES
DATE	15 November 2024	Individual Owners of each of the 18No PC21 Development Outputs in Scope of Audit  X [Co-Ordinator/Programming], X [Table 47 Co-Ordinator] including the <i>Stormwater Separation Auditees/Consultees</i>

## 1. Overview

- NI Water's activities on its PC21 Development Outputs (DOs) [£60m worth of surveys, investigations, studies, tools development, trials and innovation] represent the work which the Company undertakes to develop its capability and introduce new techniques for the long term development of the services it provides to consumers and the cost of the services. **Delivery of the work aims to ensure that NI Water is able to identify and balance investment priorities and maximise the benefits delivered to consumers over the longer term.**
- We have reviewed NI Water's Table 47 submission and compared this to the information submitted in 'PC21\_Appendix\_4.3\_PC21\_Development\_Outputs' of the Company's business plan submission and presented in Annex T of the UR's PC21 final determination. We found that:
  - ☐ NI Water has updated its integrated programme for delivery of the PC21 DOs, as scoped, in alignment with the PC21 Mid Term Review Draft Determination.
  - ☐ DO reporting proformas are complete, with evidence of reported activities to date and planned next steps for delivery. The completed AIR24 DO proformas are aligned with the current PC27 Business Plan development programme.
  - ☐ **There are inconsistencies in the cost reporting methods used to derive forecast cost of delivering the DOs and the forecast cost of associated solution/solution projects.**
  - ☐ There is a need for NI Water to engage with the UR with proposals for some DOs that are considered to be ready for closure e.g. DO18 - Culmore DA KL554 - Skeoge Link Road. In its PC21 MTR consultation response to the UR, we note that NI Water has proposed closure of DO19 – LWWP Networks and DO20 – LWWP Wastewater Treatment Works.
- We have reviewed/examined/tested report of progress being made by NI Water towards the identification, costing and delivery of storm water separation schemes, by reference to all Development Objectives (DO) linked to the Storm Water Separation (SWS) deliverable of 21.87ha (or 218,724 m<sup>2</sup>).

Through our audits, we note that the impermeable surface water collection area removed from the sewer network reported since 2021 are:

- ☐ AIR21 [0m<sup>2</sup>], AIR22 [1,200m<sup>2</sup>], AIR23 [91,898m<sup>2</sup>] and AIR24 [137,676m<sup>2</sup>]. **We did not find any evidence of checking/verification of actual/estimated numbers reported through Table 16 Line 31 and referenced through Table 47.**

We also note that there are cost reporting gaps as we identified missing costs against 12 of the 15 schemes delivered to date.

4. We identified all DOs linked to storm water separation and noted the interdependencies between them. We also investigated the rationale for these dependencies. In addition, we assessed NI Water's proposed interventions with a view to evaluating if these are being progressed as a fully co-ordinated and integrated programme of work with wide-ranging benefits and savings.

We identified that there are seven DOs linked to the storm water separation deliverable namely: DO12 - Storm Water Separation, DO10 - Event Duration Monitors WwPS/CSOs, DO13 - Real Time Network Modelling, DO14 - Urban Drainage Modelling - Live Models for IOC, DO15 - Innovation Initiatives, DO16 - Urban Drainage Modelling - Studies to Inform PC27 - Top 271 Priority Drainage Areas and DO19 - LWWP Networks.

We also identified that the linkage features that characterise the interrelationships between the associated DOs include: the attributes of the Company's Storm Overview Reduction Plan, spill frequency information, data availability, sewer capacity and inter-DO knowledge sharing.

With respect to Storm Water Separation interventions and integration of programme of work, we identified that NI Water has introduced a new digital corporate system (called "Storm Water Separation App" or the App) to manage its Storm Water separation programme.

Through our audits, we found that:

- ☐ The development of a Company "Storm Water Separation " App has continued.
- ☐ The App has the potential to facilitate holistic treatment of any proposed interventions for stormwater separation. But further development and testing of the tool is required to validate its robustness for the development of an integrated programme.
- ☐ Further development of the App is expected to cover creation of an opportunity reference, X enhancement and development of a system to quantify savings (reduced pump times, reduced storage requirements and treatment). These features, in combination, have the potential to enable holistic treatment of any proposed interventions for stormwater separation.

## 2. Introduction

This is the Reporter's commentary for the enhanced audit of NI Water's AIR24 Table 47 submission. In addition to the overview section (Section 1), there four sections that provide details of the Table 47 audit scope and approach (Section 3) and audit findings (Section 4).

**Conclusions and recommendations for each scope item are outlined in the Appendices to this commentary:** Appendix A: Review AIR24 submission against Annex T of FD21, Appendix B: Review stormwater separation (SWS) deliverable and linked DOs and Appendix C: Benefits and savings from co-ordinated/integrated SWS programme.

We have used the following notation in this commentary: DO3 refers to the Section 3 DO [ref 3 in FD21 Annex T and titled "NI Water Alpha Ltd - WTWs Treatability Improvements"], DO4 is the Section 4 DO [ref 4 in FD21 Annex T and titled "DWD Recast & Emerging Issues Study"] and so on up until DO23 [ref 23 in FD21 Annex T and titled "Facilities H&S Compliance"].

## 3. Audit Scope and Approach

### 3.1 Scope

- a) Scope Item 1 – Review AIR24 submission against Annex T of FD21. The AIR24 Reporter letter requirement for this scope item is as follows.

- ☐ *"The Reporter should **review** the Company's submission and compare this to the information submitted in 'PC21\_Appendix\_4.3\_PC21\_Development\_Outputs' of its business plan submission and presented in Annex T of the final determination."*

- ❑ “The Reporter should **comment** on progress/delivery against the original proposals and **highlight** any areas where the Company’s plans have changed materially, in terms of the scope/extent of the work being undertaken, the timeline for delivery and the anticipated outputs.”

Details of the scope item 1 audit findings are given in Appendix A.

- b) Scope Item 2 – Review Stormwater Separation (SWS) Deliverable and linked DOs. The AIR24 Reporter letter requirement for this scope item is as follows.

“...on ‘Storm Water Separation’ (all development objectives linked to this deliverable); **comment** on progress being made towards the identification, costing and delivery of schemes against the revised target of 21.87Ha PC21 target. “

Details of the Scope item 2 audit findings are given in Appendix B.

- c) Scope Item 3 – Benefits and Savings from Co-ordinated/Integrated SWS programme. The AIR24 Reporter letter requirement for this scope item is as follows.

“...The Reporter shall also **identify** all development objectives linked to Storm Water Separation, **highlight** the interdependencies and comment on how any proposed interventions will be progressed as a fully co-ordinated and integrated programme of work with wide-ranging benefits and savings. “

Details of the Scope item 3 audit findings are given in Appendix C.

### 3.2 Approach

#### a) Introduction

Our audit approach is **evidence-based**, focussed on the UR’s scope outlined in Section 3.1. The approach is illustrated in Figure TC\_47\_1.

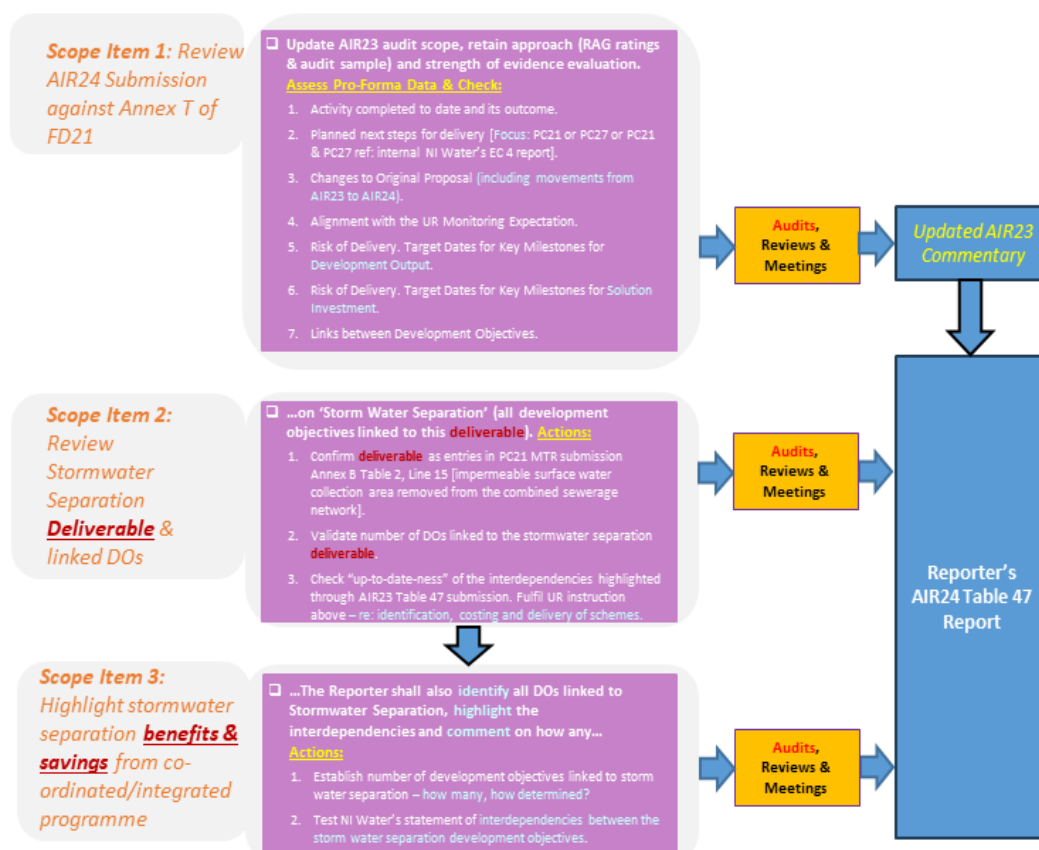


Figure TC\_47\_1: Illustration of Audit Approach

b) Scope Item 1 - Review AIR24 submission against Annex T of FD21

We reviewed of NI Water's draft proforma for each of the 18 DOs audited and completed the AIR24 version of the Table 47 Audit Templates to fulfil the UR's AIR24 specific requirements. We then followed up with audit meetings with each of the Company's Auditees and a representative of the NI Water's Table 47 DO reporting co-ordinating team.

Following the audits, we provided feedback to Auditees as post-audit corrective actions. We then engaged with the Auditees to close out post-audit actions (where appropriate) to the audit programme timescales and finalised the Audit Templates and associated commentaries.

c) Scope Item 2 - Review stormwater separation (SWS) deliverable and linked DOs.

In advance of our Scope item 2 audits, we created an indicative list of DOs linked to the storm water separation deliverable from our assessment of the AIR23 completed proformas and agreed this list with NI Water Auditees.

Through our audit engagements, we reviewed the current status of the Company's overarching storm separation delivery strategy promoted through its AIR23 submission – the "Infiltration and Ingress Management Strategy".

d) Scope Item 3 - Benefits and Savings from Co-ordinated/Integrated SWS programme

To fulfil the UR's requirement highlighted in Section 3.1 c), we identified all DOs linked to storm water separation and revealed interdependencies. We also looked into how proposed interventions are being progressed by the Company to ascertain if these are being advanced as a co-ordinated and integrated programme of work, with wide-ranging benefits and savings.

We then checked completed AIR24 proformas to ensure that reporting of the links are maintained. Details are given in Appendix C.

## 4. Audit Findings

### 4.1 Review AIR24 submission against Annex T of FD21

The Table 47 reporting proformas for the 18 audited DOs are complete, with supporting evidence. We note that there has been no change to the original FD21 Annex T proposals for 12 of the 18 DOs. Of the 18 DOs, 12 are on-track, 5 are delayed and one is reliant on outcome of a trial. We observed inconsistencies in the cost reporting methods used for the AIR24 reports of DO costs and the forecast cost of solution/solution projects. Details are given in Appendix A.

### 4.2 Review stormwater separation (SWS) deliverable and linked DOs

We note that NI Water has made reasonable progress on the extent of impermeable area removed by the end of Year 3 of the PC21 period against the revised target of 218,700m<sup>2</sup> (21.87ha). The increase in the area removed between AIR23 (91,898m<sup>2</sup>) and AIR24 (137,676m<sup>2</sup>) is about 50%. **But we note that there is no evidence of the checking/verification of actual/estimated impermeable area removed numbers.**

We note that of the 18 schemes associated with the storm water separation programme, 15 schemes have been delivered to date, with 14 of the 15 schemes delivered in Years 2-3 of the PC21 period. We also note that there are no reported costs against 12 of the 15 schemes delivered to date.

Details are given in Appendix B.

### 4.3 Benefits and Savings from Co-ordinated/Integrated SWS programme

We identified all DOs linked to storm water separation and highlighted the interdependencies between them.

We note that the linkage features that characterise the interrelationships between the associated DOs include: the Storm Overview Reduction Plan, spill frequency information, data availability, sewer capacity and inter-DO knowledge sharing.

We identified that NI Water has introduced a new digital corporate system to manage its Storm Water separation programme. The system is called: Storm Water Separation Web Mapping Application. It incorporates ESRI WebApp and Dashboard.

Details are given in Appendix C.

## References

1. NIAUR, 2024. Annual Information Return 2023-24 (AIR24) – Reporter Letter with Table 47 Audit Guidance on file as “2024-03-25 AIR24 Reporter Letter.PDF” dated 25.03.24.
2. NIAUR, 2024. Annual Information Return Reporting Requirements and Definitions Manual for AIR24. Tables & Commentaries. Chapter 47 Development Outputs Covering: Delivery of Development Outputs dated 25.03.24.
3. NI Water, 2023. Pre-Audit and Post-Audit versions of the AIR23 Completed Proformas for Table 47 Submission dated 07.07.23.

## Appendices

**Appendix A:** Review AIR24 submission against Annex T of FD21

**Appendix B:** Review stormwater separation (SWS) deliverable and linked DOs

**Appendix C:** Benefits and savings from co-ordinated/integrated SWS programme

## Appendix A: Audit Findings – Review of AIR24 submission against Annex T of FD21

### INTRODUCTION

The AIR24 Reporter letter guidance for Table 47 requires that:

- ☐ The Reporter **reviews** the Company's submission and **compare** this to the information submitted in 'PC21\_Appendix\_4.3\_PC21\_Development\_Outputs' of NI Water's business plan submission and presented in Annex T of the UR's PC21 final determination."
- ☐ The Reporter provide **comments** on **progress/delivery** against the original proposals and **highlight** any areas where the Company's plans have changed materially, in terms of the scope/extent of the work being undertaken, the timeline for delivery and the anticipated outputs.

Through its PC21 Mid-Term Review (MTR) submission to the UR in September 2023, NI Water included a summary of progress against each of the original 25 FD21 Annex T Development Outputs (DOs), with a note that the following seven DOs (prefixed with Annex T ID) have been completed.

1. ID 1- Consumer Engagement
2. ID 2-Consumer Protection/Care Register
3. ID 5-Refresh of DG2 Register
4. ID 9-WwPS/CSO Quality (UID) and WwPS (Capacity increase)
5. ID 11-Cranfield Catchment, Kilkeel Storm Separation
6. ID 24-Smart Meters; and
7. ID 25 – Addressing scope uncertainty for the Mid-Term Review.

This being the case, our Table 47 audits focussed on the remaining 18 DOs. Individual Development Outputs (DOs) are referenced as individual sections of the NI Water's AIR23 Table 47 returns for the 18 DOs set out in the PC21 final determination.

We have used the following notation in this commentary.

- ☐ DO3 refers to the Section 3 DO [ref 3 in FD21 Annex T and titled "NI Water Alpha Ltd - WTWs Treatability Improvements"], DO4 is the Section 4 DO [ref 4 in FD21 Annex T and titled "DWD Recast & Emerging Issues Study"] and so on up until DO23 [ref 23 in FD21 Annex T and titled "Facilities H&S Compliance"].

### COMPLETENESS OF INFORMATION

We applied audit testing to check completeness of NI Water's Table 47 information and movements from AIR23 to AIR24. This involved checking and validation of the completeness of NI Water's AIR24 proforma for each of the 18 DOs audited (and the supporting information), set against FD21 Annex T information. For this we carried out assessments through our audit template Questionnaire criteria A-G, under the following headings.

- A- Activity completed to date and its outcome
- B- Planned next steps for delivery
- C- Changes to Original Proposal (including movements from AIR23 to AIR24)
- D- Alignment with the UR Monitoring Expectation
- E- Risk of Delivery. Target Dates for Key Milestones for Development Objective
- F- Risk of Delivery. Target Dates for Key Milestones for Solution Investment
- G- Links between Development Objectives.

## FINDINGS

### Introduction

Our Table 47 DO audit findings are summarised in Table TC\_47\_1 appended to the following sections of this commentary. Details of our audit findings are documented in completed audit templates. Important points from the audit findings are noted in the following sections.

### Changes to the Original FT21 Annex T Proposals

We note that there has been no change to the original FD21 Annex T proposals for 12 of the 18 DOs. The remaining six DOs have had some changes with highlights provided in this report. For four of the six remaining DOs, there are material changes to the original Annex T proposals covering aspects such as scope, scope attributes, addition of anticipated project outcomes and timeline for delivery of outputs.

### Progress compared with Programme

Of the 18 DOs, 12 are on-track, 5 are delayed and one is reliant on outcome of a trial. DO reports through the completed proformas align with proposed/current PC27 Business Plan development programme. Late involvement of the new AIR Table 47 Co-ordinator delayed the process of closing out post-audit corrective actions.

**Material Exception:** In the completed proformas, we observed inconsistencies in the cost reporting methods used for the AIR24 reports of DO costs and the forecast cost of solution/solution projects.

### DO Focus – PC21 or PC27 or PC21 & PC27

Three DOs are being progressed to confirm PC21 solutions, two to inform PC27 solution costs and 13 are aimed at developing solution costs for PC21 and PC27 investment programmes.

### Completeness of Information

The Table 47 reporting proformas for the 18 audited DOs are complete, with supporting evidence. We resolved post-audit actions that resulted from our audit challenges.

## CONCLUSIONS AND RECOMMENDATIONS

### Conclusions

1. The Company has updated its integrated programme for delivery of the PC21 DOs, as scoped, in alignment with the PC21 Mid Term Review Draft Determination.
2. DO reporting proformas are complete, with evidence of reported activities to date and planned next steps for delivery. The completed AIR24 DO proformas are aligned with the current PC27 BP development programme.
3. We observed inconsistencies in the cost reporting methods used to derive forecast cost of delivering the DOs and the forecast cost of associated solution/solution projects.
4. There is a need for NI Water to engage with the UR with proposals to close some DOs that are considered by the Company to be ready for closure e.g. DO18 - Culmore DA KL554 - Skeoge Link Road.

### Recommendations

1. Engage with the UR with proposals to close out some DOs that are considered to be ready for closure e.g. DO18 - Culmore DA KL554 - Skeoge Link Road.
2. We suggest the following actions to address material observations, from our review of NI Water's AIR24 integrated DO delivery programme on file as "Master DO Programme v1 30-06-24.PDF". The Master Programme was provided to us post-audit on 1<sup>st</sup> July 2024.
  - ☐ Address mismatch of dates between the AIR24 Master Programme (Sep 26) and the proforma (Mar 27) for DO17 - Raw Water Trunk Main Rehabilitation.
  - ☐ Address mismatch of indicative/specific dates between the AIR24 Master Programme and the proforma with respect to 2 milestones, for DO19&20 - LWWP Networks & LWWP Wastewater Treatment Works proforma. The milestones are: "Preparation of business cases for developed solutions on a rolling programme" and "Beneficial use".

- ❑ Add missing milestone “Confirm Closure of DO18” from proforma to the Master Programme, for DO18 - Culmore DA KL554 - Skeoge Link Road.

**Table TC\_47\_A\_1: Summary of Table 47 Audit Findings**

DO Ref [Annex T Output ID]	Title	PC21 Capital Programme Sub-Prog Reference	DO to confirm solution spend in PC21 only or PC27 only or PC21 & PC27?	Progress vs Programme [On-Track/Delayed?]	Audit Finding - Completeness of Information	Forecast Cost Movements (nominal prices) from AIR23 to AIR24	Notable Comments
03	NI Water Alpha Ltd - WTWs Treatability Improvements	SP04a	PC21 & PC27	Delayed	Two post-audit corrective actions [1 material: the December 2025 PC27 BP milestone, 1 non-material: clarification of revised cost estimates]. <i>Actions addressed through the final, post-audit, AIR24 proforma.</i>	<b>DO:</b> £5.76m [AIR23] to £5.88m [AIR24]. <b>Solution:</b> £18.63m [AIR23] to £18.46m [AIR24].	<p>The purpose of this Development Output is to assess how 4 key Water Treatment Works (Dunore Point, Castor Bay, Ballinrees and Moyola) comply with regulatory standards and consider remedial actions for shortcomings found. Ballinrees upgrade works are programmed for completion in October 2024. Pilot studies for the three remaining Alpha sites are programmed for Castor Bay and Moyola in 2023-24 and for Dunore Point in 2024-25. The outputs of these pilot studies will then inform the long-term solution for the sites.</p> <p><b>AIR23 to AIR24 forecast cost movements. DO [increase], Solution [decrease]. Complete proforma with evidence. No change to original proposals in Annex T.</b></p> <p><i>Key Deliverable: Needs and Options Report [Treatability Reports and Associated Business Cases].</i></p>
04	DWD Recast & Emerging Issues Study	SP04z	PC27 only	On track	Two post-audit corrective actions [1 material: the December 2025 PC27 BP milestone, 1 non-material: clarification of revised cost estimates and omission of version number to programme reference]. <i>Actions addressed through the final, post-audit, AIR24 proforma.</i>	<b>DO:</b> £0.32m [AIR23] to £0.34m [AIR24]. <b>Forecast solution costs TBC.</b>	<p>We identified that no decision has been made on the transposition of the DW Recast Directive into new Drinking Water Regulations in Northern Ireland. NI Water has continued to monitor developments.</p> <p><b>AIR23 to AIR24 forecast cost movements. DO [increase], Solution [no change]. Complete proforma with evidence. No change to original proposals in Annex T.</b></p> <p><i>Key Deliverable: A report to estimate the capital and operational investment requirements for each new measure. Plus requirement for capture and analysis of sampling data.</i></p>
06	Targeted Mains Renewals in High Leakage Areas	SP08z	PC21 & PC27	On Track	Five post-audit corrective actions [1 material: provide a copy of the cost calculation spreadsheet, 4 non-material: clarification of the revised cost estimates, check consistency of the comments across the expenditure, reinstating text and clarification of the status of the PC21 MTR proposal. <i>Actions addressed through the</i>	<b>DO:</b> £0.04m [AIR23] to £0.04m [AIR24]. <b>Solution:</b> £12.91m [AIR23] to £12.76m [AIR24].	<p>The purpose of this Development Output is to develop a best practice methodology to target mains renewals to counter the Natural Rate of Rise of leakage. Work to date has involved the development of 3 batches of mains renewals comprising 80 schemes with an estimated costs of £6.2m to target leakage reduction. The Company's WIMM methodology will be updated and the updated methodology will be used as a BAU tool to target mains renewals for leakage during the remainder of PC21 and to inform the PC27 mains renewal programme.</p> <p><b>AIR23 to AIR24 forecast cost movements. DO [no change], Solution [decrease]. Complete proforma with evidence. No change to original proposals in Annex T.</b></p> <p><i>Key Deliverable: Report recommending new process and unconstrained recommendations register.</i></p>

DO Ref [Annex T Output ID]	Title	PC21 Capital Programme Sub-Prog Reference	DO to confirm solution spend in PC21 only or PC27 only or PC21 & PC27?	Progress vs Programme [On- Track/Delayed?]	Audit Finding - Completeness of Information	Forecast Cost Movements (nominal prices) from AIR23 to AIR24	Notable Comments
					final, post-audit, AIR24 proforma.		<i>Key Deliverables from NI Water's PC21 Development Output. Status Report at EC, November 2022</i>
07	Leakage Innovation	SP09z	PC27 only	On Track	Six post-audit corrective actions [1 material: provide a copy of the cost calculation spreadsheet, 5 non-material; clarification of the revised cost estimates, check consistency of the comments across the expenditure, reinstating text and clarification of context. <a href="#">Actions addressed through the final, post-audit, AIR24 proforma.</a>	<b>DO:</b> £4.43m [AIR23] to £4.38m [AIR24]. <b>Solution:</b> £0m [AIR23] to £0m [AIR24].	The purpose of this Development Output is to undertake trials on a number of new technologies to detect, locate and repair leaks. These include acoustic logging, satellite imagery and new equipment such as Ground Penetrating Radar and gas/drone equipment. Planned trials of new techniques have continued.  Reporting will follow completion of the trials to inform PC27 requirements as well as the level of investment in leakage innovations.  <b>AIR23 to AIR24 forecast cost movements. DO [decrease], Solution [no change]. Complete proforma with evidence. No change to original proposals in Annex T.</b>  <i>Key Deliverable: New Technology Assessment and Recommendations Report.</i>
08	Smart Networks – ITS Strategy	SP09z	PC21 & PC27	On Track	10 post-audit corrective actions [1 material; provide a copy of the cost calculation spreadsheet, 9 non-material; update text]. <a href="#">Actions addressed through the final, post-audit, AIR24 proforma.</a>	<b>DO:</b> £0.12m [AIR23] to £0.14m [AIR24]. <b>Solution:</b> £6.65m [AIR23] to £6.92m [AIR24].	The purpose of this Development Output is to test and establish new methodologies for improving interruptions to supply performance based on emerging best practice. As the programme of installations and pilots is rolled out, reports will be compiled and used to inform PC27 requirements and the level of investment in smart networks.  <b>AIR23 to AIR24 forecast cost movements. DO [increase], Solution [increase]. Complete proforma with evidence. No change to original proposals in Annex T.</b>  <i>Key Deliverable: New Technology Assessment and Recommendations Report.</i>
10	Event Duration Monitors WwPS/CSOs	SP12b	PC21 & PC27	On Track	Five post-audit corrective actions [2 material; mismatch in costs, no movement from AIR24, 3 non-material; typos, reinstating text]. <a href="#">Actions addressed through the final, post-audit, AIR24 proforma.</a>	<b>DO:</b> £3.39m [AIR23] to £2.88m [AIR24]. <b>Solution:</b> £31.14m [AIR23] to £29.49m [AIR24].	The purpose of this Development Output is to determine the priority, scope and scale of monitoring required and interaction with the Company's sewer network [DAP and IEM] models. The DO will also inform decisions being made on compliance with impending statutory requirements for near real-time reporting of EDM spills and provision of this information to NIEA and the general public by PC27. Installation rates are consistent with the programme agreed with NIEA.  The FD/MTR DD output target of 744 for EDM installations at WwPS/CSOs and WwTWs remains unchanged for PC21.  AIR23 to AIR24 forecast cost movements. DO [decrease], Solution [decrease]. Complete proforma with evidence. <b>Change to original proposals in Annex T.</b>  <i>Key Deliverable: Report recommending new process for environmental regulation and situational awareness responses.</i>

DO Ref [Annex T Output ID]	Title	PC21 Capital Programme Sub-Prog Reference	DO to confirm solution spend in PC21 only or PC27 only or PC21 & PC27?	Progress vs Programme [On- Track/Delayed?]	Audit Finding - Completeness of Information	Forecast Cost Movements (nominal prices) from AIR23 to AIR24	Notable Comments
12	Storm Water Separation	SP12g	PC21 & PC27	On Track?	19 post-audit corrective actions [2 material; provide a copy of the cost calculation spreadsheet, 17 material (and non-material); updating critical text to reflect change of strategy from I & I to the Storm Overflow Reduction Plan]. <a href="#">Actions addressed through the final AIR24 proforma.</a>	<b>DO:</b> £2.65m [AIR23] to £2.65m [AIR24].  <b>Solution:</b> £18.93m [AIR23] to £12.49m (NIAMP5) + £4.22m (LWWP) [AIR24].	<p>The purpose of the stormwater separation Development Output is to identify areas where stormwater could be separated from the combined sewerage system and to engage with the NIEA and other stakeholders on needs, options and priorities for delivery of this programme. The Company's overarching storm separation delivery strategy changed from Infiltration and Ingress (I&amp;I) Management Strategy (promoted through the Company's AIR23 submission) to Storm Overflow Reduction Plan (SORP).</p> <p>This new approach, which incorporates the development of a "Storm Water Separation" App, fulfils UR requirement for AIR24.</p> <p>AIR23 to AIR24 forecast cost movements. DO [no change], Solution [decrease]. Complete proforma with evidence. <b>Change to original proposals in Annex T.</b></p> <p><a href="#">Key Deliverable: Prioritised list of capital projects.</a></p>
13	Real Time Network Modelling	SP12z	PC21 & PC27	Delayed	8 post-audit corrective actions [5 material; scope & programme, scoping evidence, cost and cost reporting non-material; typos and text]. <a href="#">Actions addressed through the final AIR24 proforma.</a>	<b>DO:</b> £0.13m [AIR23] to £0.13m [AIR24].  <b>Solution:</b> £0.94m [AIR23] to £0.97m [AIR24].	<p>The purpose of this Development Output is to undertake trial studies to establish the optimum mechanisms to allow NI Water to transition towards real time network modelling in specific networks and to confirm the benefits of such an approach e.g. maximise sewer capacity, reduce pollution and blockages and facilitate targeted intervention. NI Water has appointed consultancy support, developed a strategy and identified a scoping trial catchment – the Newry DA.</p> <p>The Newry work involves the development a Newry 2024 Model Building for the Future (BTF) pilot. The pilot project uses network monitoring equipment including smart monitors, EDMs and Telemetry data to create a live 2024 model. The model would be used to assist in identifying areas of concern within the catchment such as capacity issues, I&amp;I features and storm separation opportunities.</p> <p>AIR23 to AIR24 forecast cost movements. DO [no change], Solution [increase]. Complete proforma with evidence. <b>Material change to the original project outcome in Annex T for reasons explained in the DO13 proforma.</b></p> <p><a href="#">Key Deliverable: New Technology Assessment and Recommendations Report.</a></p>
14	Urban Drainage Modelling - Live Models for IOC	SP20g	PC21 only	Reliant on outcome of a trial	Five post-audit corrective actions [2 material: the December 2025 PC27 BP milestone and explanation of AIR23-AIR24 cost movements, 3 non-material: text revisions]. <a href="#">Actions addressed in the final AIR24 proforma.</a>	<b>DO:</b> £0.6m [AIR23] to £0.6m [AIR24].  <b>Solution:</b> TBC [AIR23] to TBC [AIR24].	<p>The purpose of this Development Output is to develop and cost a methodology to use Real Time Network modelling and Artificial Intelligence to prevent incidents (e.g. flooding and pollution) and/or manage incidents and assets better. The aim of the project is to develop situational awareness dashboards and incident alert systems for IOC responses from Real time Network Modelling. On completion of the on-going trials, benefits will be analysed and a new technology assessment and recommendations report will inform PC27 needs.</p> <p>AIR23 to AIR24 forecast cost movements. DO [no change], Solution [no change]. Complete proforma with evidence. <b>Material change to the original Annex T scope for reasons explained in the DO14 proforma.</b></p> <p><a href="#">Key Deliverable: New Technology Assessment and Recommendations Report.</a></p>

DO Ref [Annex T Output ID]	Title	PC21 Capital Programme Sub-Prog Reference	DO to confirm solution spend in PC21 only or PC27 only or PC21 & PC27?	Progress vs Programme [On- Track/Delayed?]	Audit Finding - Completeness of Information	Forecast Cost Movements (nominal prices) from AIR23 to AIR24	Notable Comments
15	Innovation Initiatives	SP20g	PC21 only	On Track	Seven post-audit corrective actions [2 material: the December 2025 PC27 BP milestone and evidence-based justifications for the AIR23-AIR24 cost movements, 5 non- material: text revisions and provision of audit evidence]. <a href="#">Actions addressed in the final AIR24 proforma.</a>	<b>DO:</b> £2.84m [AIR23] to £2.89m [AIR24].  <b>Solution:</b> TBC [AIR23] to £2.87m [AIR24].	This Innovation Initiatives Development Output covers important areas identified by NI Water as being critical and linked to the Company's vision and values. Work completed to date has involved pilot studies and trials of innovative technologies to assess their benefits and potential integration into business as usual and inform PC27 business planning. There is linkage between the DO and DO13, DO14, DO16 & DO19 through inter-DO knowledge sharing of outputs/recommendations and via Head of Investment Management. In particular, with respect to the planning of trialling activities to ascertain the benefits and mechanisms that would enable NI Water to, for example, transition toward real time network modelling in specific wastewater collection networks.  <b>AIR23 to AIR24 forecast cost movements. DO [increase], Solution [cost attached to AIR24 report]. Complete proforma with evidence. No change to original proposals in Annex T. Aspects of programme delayed due to the research nature of the DO.</b>  <a href="#">Key Deliverable: New Technology Assessments, benefits measurement and Recommendation Reports.</a>
16	Urban Drainage Modelling - Studies to Inform PC27 - Top 271 Priority Drainage Areas	SP20g	PC21 & PC27	On Track	14 post-audit corrective actions [6 material; provide evidence to support statements made and costs, 8 non- material; update text]. <a href="#">Actions addressed in the final AIR24 proforma.</a>	<b>DO:</b> £9m [AIR23] to £9.78m [AIR24].  <b>Solution:</b> TBC [AIR23] to TBC [AIR24].	The purpose of this Development Output is to develop new and upgraded models and DAPs for the top priority 271 drainage areas across Northern Ireland. Progress of model build and documentation is reported through Table 40b commentary and Data Table. Work has continued on model development and refinements to the proposed model library maintenance methodology (currently being piloted) to inform PC27 investment planning decisions.  <b>AIR23 to AIR24 forecast cost movements. DO [increase], Solution [unchanged]. Complete proforma with evidence. No change to original proposals in Annex T. DO is largely PC27-driven.</b>  <a href="#">Key Deliverable: Hydraulic Models and Capital recommendations.</a>
17	Raw Water Trunk Main Rehabilitation	SP20 & 23c	PC21 & PC27	Initial delays, now 'On Track'	Four post-audit corrective actions [2 material; removal of FD21 Annex T reference from AIR24 proforma, provide evidence for the AIR23-AIR24 cost movements and evidence for March 24 OBR factors, 1 non- material; provide embedded document]. <a href="#">Actions addressed in the final AIR24 proforma.</a>	<b>DO:</b> £1.19m [AIR23] to £1.03m [AIR24].  <b>Solution:</b> £0m [AIR23] to £1.18m [AIR24].	The purpose of this Development Output is to test and examine high priority raw water mains to inform a prioritised list of costed interventions for PC27. The key output is the identification of prioritised interventions to maintain stable service in the raw water network and any emergency interventions required. A strategy document titled "JH333.191 Raw Water Supply Infrastructure Management Of Overview Studies Raw Water Investigation Strategy", has been prepared by WSP for NI Water, as part of the Company's PC27 Business Plan development.  AIR23 to AIR24 forecast cost movements. DO [decrease], Solution [increase]. Complete proforma with evidence. <b>Material change to the original scope in Annex T for reasons explained in the DO17 proforma.</b>  <a href="#">Key Deliverable: Recommendations Report and Capital project business cases and IPAC costings.</a>

DO Ref [Annex T Output ID]	Title	PC21 Capital Programme Sub-Prog Reference	DO to confirm solution spend in PC21 only or PC27 only or PC21 & PC27?	Progress vs Programme [On- Track/Delayed?]	Audit Finding - Completeness of Information	Forecast Cost Movements (nominal prices) from AIR23 to AIR24	Notable Comments
18	Culmore DA KL554 - Skeoge Link Road	SP24a	PC21 only	Initial delays, now 'On Track'	Four post-audit corrective actions [3 material: clarification of proposal to close DO in AIR24, explanation of AIR23-AIR24 cost movements and need to evidence completed DAP - enhanced DAP following the standard DAP deliverable, 1 non- material: text revisions]. <a href="#">Actions addressed in the final AIR24 proforma.</a>	<b>DO:</b> £0.38m [AIR23] to £0.58m [AIR24].  <b>Solution:</b> £8.16m [AIR23] to £17.19m [AIR24].	<p>The purpose of this Development Output is to provide a solution to convey flows from Skeoge Link Road development area (230ha of land, estimated 8,000 properties) to the treatment works at Culmore. The completed AIR24 proforma states that the Culmore DAP Needs and Options was completed in April 2024. But the post-audit version of the Table 40b Data Table states the "Current Actual or Projected Needs and Options Report Completion Date" as June 2024. In its PC21 MTR submission, NI Water states that this DO will continue until a determination is received.</p> <p>At audit, Auditees informed us that the Skeoge scheme is a first time service project and therefore, its design does not depend on the DAP model. Rather the DAP model was used to ensure that there is no downstream detriment coming from Skeoge. The Auditees also advised us that the DO is ready to be closed. We identified that there is no agreed protocol for closure of DOs deemed to have been completed by the Company at the end of any AIR report year.</p> <p>AIR23 to AIR24 forecast cost movements. DO [increase], Solution [increase]. Complete proforma with evidence. <b>No material change to the original scope in Annex T but it has been reinstated in the proforma. Additional anticipated project outcome added and cost increased with reason explained in the proforma.</b></p> <p><i><b>Key Deliverable:</b> Project business case and IPAC cost estimate.</i></p>
19	LWWP Networks	SP 12b & 12d	PC21 & PC27	On Track	Three post-audit corrective actions [2 material: the December 2025 PC27 BP milestone and explanation of AIR23-AIR24 cost movements, 1 non- material: text revisions]. <a href="#">Actions addressed in the final AIR24 proforma.</a>	<b>DO:</b> £17.5m [AIR23] to £17.4m [AIR24].  <b>Solution:</b> £696m [AIR23] to £696m [AIR24].	<p>The purpose of this Development Output is to develop optimum solutions to resolve the water quality, UID and DG5 issues following the completion of modelling, including IEM, and site-based investigations. NI Water states that beneficial use for the network schemes is on track.</p> <p>AIR23 to AIR24 forecast cost movements. DO [decrease], Solution [unchanged]. Complete proforma with evidence. <b>No change to original proposals in Annex T.</b></p> <p><i><b>Key Deliverable:</b> Recommendations Report and Capital project business cases and IPAC costings.</i></p>
20	LWWP Wastewater Treatment Works	SP16b	PC21 & PC27	On Track	Three post-audit corrective actions [2 material: the December 2025 PC27 BP milestone and explanation of AIR23-AIR24 cost movements, 1 non- material: text revisions]. <a href="#">Actions addressed in the final AIR24 proforma.</a>	<b>DO:</b> £12.5m [AIR23] to £11.6m [AIR24].  <b>Solution:</b> £1,215m [AIR23] to £1,215m [AIR24].	<p>The purpose of this Development Output is to develop the Straw Man solutions into final Strategic Drainage Investment Plan solutions to resolve water quality issues following the completion of modelling, including IEM, and site-based investigations. NI Water advised us that beneficial use for LWWP WwTW schemes is mostly on track and that due to increasing costs across the LWWP WwTWs, the upgrade of Greenisland WwTW and Carrickfergus WwTW have been deferred by 3 years. In its PC21 MTR submission, NI Water states that this DO will continue until a determination is received.</p> <p><b>AIR23 to AIR24 forecast cost movements. DO [decrease], Solution [unchanged]. Complete proforma with evidence. No change to original proposals in Annex T.</b></p>

DO Ref [Annex T Output ID]	Title	PC21 Capital Programme Sub-Prog Reference	DO to confirm solution spend in PC21 only or PC27 only or PC21 & PC27?	Progress vs Programme [On-Track/Delayed?]	Audit Finding - Completeness of Information	Forecast Cost Movements (nominal prices) from AIR23 to AIR24	Notable Comments
							<i>Key Deliverables from NI Water's PC21 Development Output. Status Report at EC, November 2022</i>
							<i>Key Deliverable: Recommendations Report and Capital project business cases and IPAC costings.</i>
21	AD - Asset Strategy Wastewater Asset Performance Modelling	SP20g	PC21 & PC27	Initial delays, now 'On Track'	3 post-audit corrective actions [1 material; justification of cost movements, 2 non-material; updating text]. <a href="#">Actions addressed in the final AIR24 proforma.</a>	<b>DO:</b> £0.71m [AIR23] to £0.73m [AIR24]. <b>Solution:</b> £0m [AIR23] to £0m [AIR24].	<p>The purpose of this Development Output is to develop risk-based asset performance modelling tools and assessments for wastewater assets to inform detailed interventions during PC21 and PC27. The DO facilitates enhanced investment planning and prioritisation of sewer base maintenance and rehabilitation programmes through adoption of a repeatable and robust, risk-based approach. The prioritisation tool is an asset information-based application which would allow a prioritised list of schemes/programmes to be generated, based on the total risk score. The work is being carried out in five phases namely: update sewage risk/consequent models, create a rising mains asset prioritisation system, develop siphon asset maintenance programme, develop CSO asset maintenance programme and develop an infiltration strategy.</p> <p><b>AIR23 to AIR24 forecast cost movements. DO [increased], Solution [unchanged]. Complete proforma with evidence. No change to original proposals in Annex T.</b></p> <p><i>Key Deliverable: Report recommending new process and prioritised, unconstrained recommendation register.</i></p>
22	AD - Asset Strategy - Water Asset Performance Modelling	SP20g	PC21 & PC27	On Track	Two material post-audit corrective actions [removal of FD21 Annex T reference from AIR24 proforma and need for evidence-based justifications for the AIR23-AIR24 cost movements] and one non-material action [minor typo]. <a href="#">Actions addressed in the final AIR24 proforma.</a>	<b>DO:</b> £4.8m [AIR23] to £4.8m [AIR24]. <b>Solution:</b> £0m [AIR23] to £0m [AIR24].	<p>The Development Output will develop best practice risk-based modelling tools to inform PC27 base maintenance interventions based on condition assessments for two classes of strategic water assets: trunk mains and service reservoirs. The outputs of this development output will be the assessments of the condition of NI Water's potable water strategic pipelines and service reservoirs, which will inform PC27 base maintenance needs.</p> <p>AIR23 to AIR24 forecast cost movements. DO [no change], Solution [no change]. Complete proforma with evidence. <b>Material change to the original scope in Annex T for reasons explained in the DO22 proforma.</b></p> <p><i>Key Deliverable: Report recommending new process and prioritised, unconstrained recommendations register.</i></p>
23	Facilities H&S Compliance	SP20e	PC21 & PC27	On Track	Two material post-audit corrective actions [alignment of 2 new milestones added for AIR24 with the December 2025 PC27 BP milestone and clarification of the AIR23-AIR24 cost movements]. <a href="#">Actions addressed in the final AIR24 proforma.</a>	<b>DO:</b> FM-£19.8m + H&S-£5m [AIR23] to FM-£19.2m + H&S-£7.5m [AIR24]. <b>Solution:</b> AIR23 & AIR24 - included in forecast cost of DO above.	<p>A new centralised Facilities Management team has been established under the Head of Future Workplace. A Planned Preventative Maintenance schedule has been established for 900 NIW sites and is being rolled out over PC21. The Corporate H&amp;S Strategy Action Plan 2018-2021 was updated to reflect more detailed and measurable actions to cover the period 2020-25. The new Corporate H&amp;S Strategy and Action Plan 2020 – 2025 was endorsed in June 2020 comprising 4 workstreams, categorised as either 'improvement' or 'compliance' or with prioritisation given to the latter. Costings and budget requirements to deliver the programme have been revised. Both Facilities and H&amp;S Outputs will be subject to annual programmes and budgets.</p>

DO Ref [Annex T Output ID]	Title	PC21 Capital Programme Sub-Prog Reference	DO to confirm solution spend in PC21 only or PC27 only or PC21 & PC27?	Progress vs Programme [On- Track/Delayed?]	Audit Finding - Completeness of Information	Forecast Cost Movements (nominal prices) from AIR23 to AIR24	Notable Comments  <i>Key Deliverables from NI Water's PC21 Development Output. Status Report at EC, November 2022</i>
							AIR23 to AIR24 forecast cost movements. DO [H&S - increased], Solution [included in forecast cost of DO]. Complete proforma with evidence. <b>No change to original proposals in Annex T.</b>  <i>Key Deliverable: Report and Audit showing compliance with minimum statutory H&amp;S obligations.</i>

### Notes to Table TC\_47\_1 Entries

- Columns 1-3: Taken from the PC21 FD Annex T for each of the 18 Development Outputs [DOs].
- Column 4: Information focus of individual DOs are taken from completed NI Water's AIR24 proformas – the entries are PC21 only or PC27 only or PC21 & PC27.
- Column 5: Our assessment of programme vs progress was based on a review of NI Water's integrated programme on file as "Master DO Programme v1 30-06-24.PDF" document and completed proformas.
- Column 6: Notes from our audit template questionnaire assessment of the application of audit testing.
- Column 7: Observations of forecast DO and Solution cost movements (nominal prices) from AIR23 to AIR24.
- Column 8: Notable comments derived from our evaluation of audit assessment outputs, discussion with NI Water Auditees and the audit documentation.



## Appendix B: Progress on Identification, Costing and Delivery of Schemes

### Introduction

The AIR24 Reporter letter guidance for Table 47 requires that:

- ☐ The Reporter provide comments on the **progress** being made by the Company towards the identification, costing and delivery of storm water separation schemes, by reference to all Development Objectives (DO) linked to the Storm Water separation (SWS) deliverable of 21.87ha.

Details our audit findings against the above Reporter letter requirement are given in the following sections.

### The PC21 Storm Water Separation Deliverable (the Deliverable)

We obtained details of the Deliverable from the Company's PC21 Mid-Term Review (MTR) Submission [Annex B, Table 2] submission.

The Deliverable is confirmed via the UR's "Sewerage Provision and Service Output Targets - MTR." Table of its PC21 Mid-Term Review's draft determination document, reproduced below as Table TC\_47\_B\_1.

Table TC\_47\_B\_1: the Deliverable's Service Output Target

Line Description		Units	PC15	PC21					
A	Consumer Service Sewerage		2019-20	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
15	Impermeable surface water collection area removed from the combined sewerage network (such as roads and pavements, roofs and hardstandings)	m <sup>2</sup>	36,454	36,454	36,454	36,454	36,454	36,454	36,454
				<b>PC21 Deliverable: 218,724 m<sup>2</sup> or 21.87ha</b>					

Performance against the service output target in Table TC\_47\_B\_1 is reported through Line 31 of Table 16 of the Annual Information Return.

We note that the impermeable surface water collection area removed from the sewer network reported since 2021 are:

- ☐ AIR21 [0m<sup>2</sup>], AIR22 [1,200m<sup>2</sup>], AIR23 [91,898m<sup>2</sup>] and AIR24 [137,676m<sup>2</sup>]. **We did not find any evidence of checking/verification of actual/estimated numbers reported through Table 16 Line 31 and referenced through Table 47.**

### Progress on Identification, Costing and Delivery of Schemes

We note that NI Water has made reasonable progress on the extent of impermeable area removed by the end of Year 3 of the PC21 period against the revised target of 218,700m<sup>2</sup> (21.87ha). The increase in the area removed between AIR23 (91,898m<sup>2</sup>) and AIR24 (137,676m<sup>2</sup>) is about 50%. **But we note that there is no evidence of the checking/verification of actual/estimated impermeable area removed numbers.**

There are two groups of identified schemes being delivered through the storm water separation programme -see Table TC\_47\_B\_2. These are:

- ☐ Six schemes set out in FD21 Annex T (with status updated for AIR24). Three of the six schemes are reported as delivered.
- ☐ 12 schemes reported as delivered by the end of the 2021-22 (AIR22), 2022-23 (AIR23) and 2023-24 (AIR24) report years.

We note that of the 18 schemes associated with the storm water separation programme, 15 schemes have been delivered to date, with 14 of the 15 schemes delivered in Years 2-3 of the PC21 period. Details are given in Table TC\_47\_B\_2.

As shown in Table TC\_47\_B\_2, there are no reported costs against 12 of the 15 schemes delivered to date. **We therefore suggest that NI Water provides cost of the 12 of the 15 schemes delivered to date without costs, to fulfil the UR's Reporter letter request on costs.**

Table TC\_47\_B\_2: Overview of Identified Schemes, Costs and Delivery Notes

Report Year	Source	Area Removed (m <sup>2</sup> )	Identified schemes associated with reported area removed – see notes to Table	Cost (£m)	Delivery Notes
AIR21	Table 16, Line 31	0	N/A	N/A	Zero schemes delivered
AIR22	Table 16, Line 31	1,200	1 scheme	N/A	1 scheme delivered, no cost report
AIR23	Table 16, Line 31	91,898	4 schemes	N/A	4 schemes delivered, no cost report
AIR24	Table 16, Line 31	137,676	7 schemes	N/A	7 schemes delivered, no cost report
Schemes set out in FD21 Annex T (status updated for AIR24)	Table 47, Section 12	38,800	3 schemes	4.84	3 of 6 schemes delivered to date, with a cost report.
<b>Total</b>		<b>268,774</b>	<b>15 schemes delivered to date</b> <b>Cumulative area removed by AIR24 (268,774m<sup>2</sup>) &gt; Cumulative PC21 Target of 218,700m<sup>2</sup>, a difference of 50,074m<sup>2</sup>.</b>		

#### Notes to Table TC\_47\_B\_2:

- 2020-21 (AIR21): zero schemes.
- 2021-22 (AIR22): KS874: X, X, X.
- 2022-23 (AIR23): a) KG198: X, b) KR662: X, c) KI651: X and d) KB552 X.
- 2023-24 (AIR24): a) KR588 X, b) KI629 X, c) KI653 X, d) KB552 X, e) KN676 X, f) KI674 X and g) KB562 X.
- Schemes set out in FD21 Annex T (updated for AIR24) - a) X, b) X and c) X.

#### Conclusions

- We did not find any evidence of checking/verification of actual/estimated impermeable area removed numbers reported through Table 16 Line 31 and referenced through Table 47.
- Cost reporting gaps – we identified missing costs against 12 of the 15 schemes delivered to date.

#### Recommendations

- Prepare evidence of checking/verification of actual/estimated numbers of the “impermeable surface water collection area removed from the combined sewerage network” shown in the “Storm Water Separation App” or the App and reported through Table 16 Line 31.
- Provide cost of scheme delivered information for the 12 of the 15 stormwater separation schemes reported as delivered to date without costs.

#### References

- NI Water, 2024. Completed AIR24 Proforma for Table 47, Section 12 – Storm Water Separation.
- NI Water, 2021-24. Annual Information Return – Table 16 Line 31 Commentaries for AIR21, AIR22, AIR23 and AIR24.

## Appendix C: Benefits and Savings from Co-ordinated/Integrated Programme

### Introduction

The AIR24 Reporter letter guidance for Table 47 requires that:

- ☐ The Reporter **identifies** all Development Objectives (DOs) linked to Storm Water Separation and **highlight** the **interdependencies**.
- ☐ The Reporter provide **comments** on how any proposed interventions will be progressed as a **fully co-ordinated and integrated programme** of work with wide-ranging benefits and savings.

We have grouped the attributes and features of the above requirements into three parts:

- a) Part A (Overarching storm separation delivery strategy)
- b) Part B (interdependencies of DOs linked to storm separation) and
- c) Part C (storm water separation interventions and programme of work).

Details our audit findings set against the Part A, Part B and Part C requirements are outlined in the following sections.

### PART A [Overarching storm separation delivery strategy]

We note that over the 2023-24 (AIR24) report year, NI Water has changed its overarching storm separation delivery strategy from the Infiltration and Ingress (I&I) Management Strategy promoted through its AIR23 submission to a **Storm Overflow Reduction Plan**.

We consider that the new approach fulfils UR requirements for AIR24.

### PART B [interdependencies of DOs linked to storm separation]

To fulfil the UR's requirement highlighted above on interdependencies, we assessed interrelationships between the linked DOs. Through our audits, we established the list of DOs linked to the Stormwater Separation Deliverable in Table TC\_47\_C\_1. A statement of the Deliverable is given in Appendix B, Table TC\_47\_B\_1.

An illustration of the links highlighted through the contents of Table TC\_47\_B\_1 is shown in Figure TC\_47\_C\_1 below. DO Section 14 is linked to DO Section 13. But DO Section 13 is linked to DO Section 15, So, DO Section 15 is also linked to DO Section 14.

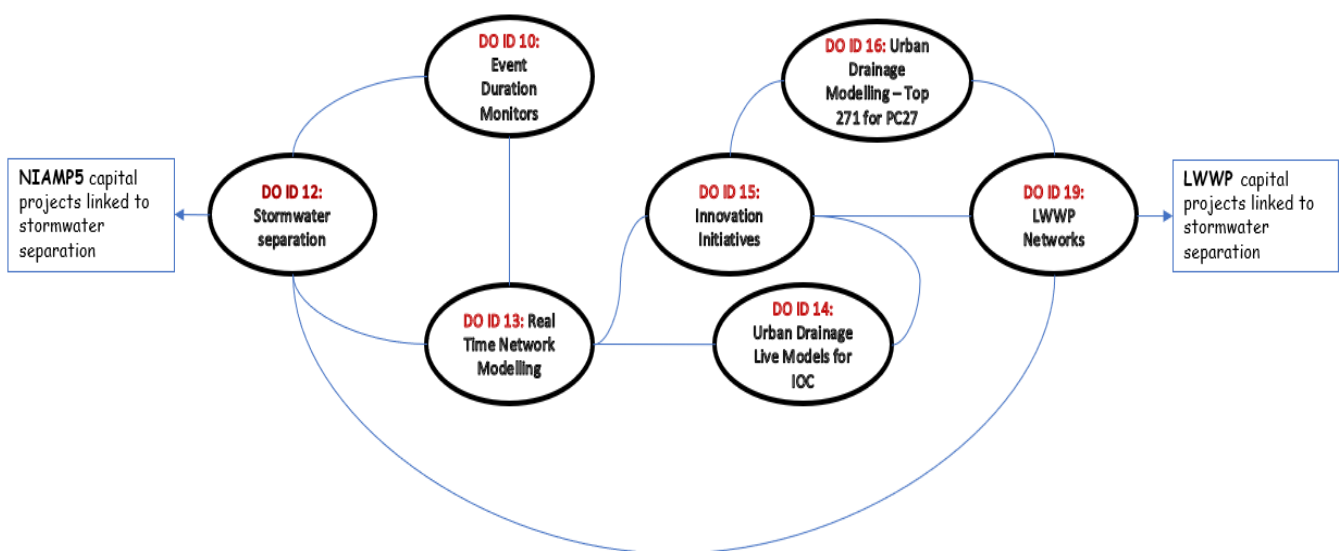


Figure TC\_47\_C\_1: Illustration of DOs Linked to the Deliverable

**Table TC\_47\_B\_1: List of DOs Linked to the Deliverable**

DO Ref [Annex T Output ID]	Title	PC21 Capital Programme Sub-Prog Reference	Comment
10	Event Duration Monitors WwPS/CSOs	SP12b	<p>Linked to DO Section 12 Storm Water Separation and identified explicitly in NI Water's completed AIR24 proforma [Section 10]. Section 10 is also linked to Section 13. Section 13 is in turn linked to DO Section 12 Storm Water separation.</p> <p>The linkage between this DO and the "Storm Water Separation" DO12 is twofold. Firstly, in terms of identifying storm overflows which spill frequently and therefore may benefit from storm separation. Secondly, NI Water can use data from EDMs to better understand the impact of storm separation.</p> <p>The availability of EDM/Telemetry data fits with the wider Storm Overflow Reduction Plan and the associated strategies.</p>
12	Storm Water Separation	SP12g	<p><b>Linked to DO Section 10 Event Duration Monitors WWPS/CSOs and DO section 13 Real Time Network modelling. Section 13 is in turn linked to Section 15 Innovation Initiatives.</b></p> <p><b>The stormwater separation deliverable associated with DO is the cumulative PC21 stormwater separation deliverable target of impermeable surface water collection area removed from the combined sewerage network of 21.87ha. The linked DOs are: DO10 [Event Duration Monitors], DO13 [Real Time Network Modelling], DO14 [Urban Drainage Live Models for IOC], DP15 [Innovation Initiatives], DO16 [Urban Drainage Modelling - Top 271 for PC27] and DO19 [LWWP Networks]. An update on schemes set out in the PC21 Annex T is given in the Company's AIR24 proforma for this DO and the AIR24 Table 16, Line 31.</b></p>
13	Real Time Network Modelling	SP12z	<p>Linked to DO Section 12 Storm Water separation and DO Section 10 EDMs (see above) and identified explicitly in NI Water's completed AIR24 proforma [Section 13]. Also linked to DO Section 15 Innovation Initiatives.</p> <p>This DO is linked to DO12. The linkage between this DO and the "Storm Water Separation" DO12 is through use of EDM/telemetry data for the development of "live models".</p> <p>Live model development would enable NI Water to develop improved understanding of capacity issues, identify storm separation opportunities and provide insights into likely benefits.</p>
14	Urban Drainage Modelling - Live Models for IOC	SP20g	<p>Linked to DO Section 13 Real Time Network Modelling and identified explicitly in NI Water's completed AIR24 proforma [Section 14]. Section 13 is in turn linked to DO Section 12 Storm Water separation and DO Section 10 EDMs.</p> <p>This DO is linked to DO12. The linkage between this DO and the "Storm Water Separation" DO12 is through use of EDM/telemetry data for the development of "live models" for IOC.</p>
15	Innovation Initiatives	SP20g	<p>Linked to DO Section 13 Real Time Network Modelling and identified explicitly in NI Water's completed AIR24 proforma [Section 15]. Section 13 is in turn linked to DO Section 12 Storm Water separation and DO</p>

DO Ref [Annex T Output ID]	Title	PC21 Capital Programme Sub-Prog Reference	Comment
			<p>Section 10 EDMs. Also linked to Section 16 Urban Drainage Modelling and Section 19 LWWP Networks.</p> <p>DO 15 is linked to DO13 which is in turn linked to DO12 Storm Water separation and DO 10 EDMs. It is also linked to DO 6 Urban Drainage Modelling and DO 19 LWWP Networks.</p>
16	Urban Drainage Modelling - Studies to Inform PC27 - Top 271 Priority Drainage Areas	SP20g	<p>Linkage to DO Section 19 LWWP Networks and identified explicitly in NI Water's completed AIR24 proforma [Section 16]. Section 19 is in turn linked to LWWP sample MTR capital projects.</p> <p>This DO is linked to DO12. The linkage between this DO and the "Storm Water Separation" DO12 is through use of verified DAP models and inter-DO knowledge sharing. These models are important for showing areas of potential storm separation opportunities and to highlight improved understanding of the significance of impermeable area removals on sewer network capacity with/without storm separation.</p>
19	LWWP Networks	SP 12b & 12d	<p>Linked to Section 12 DO Stormwater Separation and DO Section 16 Urban Drainage Modelling - Studies to Inform PC27 - Top 271 Priority Drainage Areas.</p> <p>This DO is linked to DO12. The linkage between this DO and the "Storm Water Separation" DO12 is alignment with the stormwater reduction strategy and the Storm Overflow Reduction Plan.</p>

## Conclusion

There are 7 Development Objectives (DOs) linked to the Storm water separation deliverable. The DOs are:

- ☐ DO12: Storm Water Separation
- ☐ DO10: Event Duration Monitors WwPS/CSOs
- ☐ DO13: Real Time Network Modelling
- ☐ DO14: Urban Drainage Modelling - Live Models for IOC
- ☐ DO15: Innovation Initiatives
- ☐ DO16: Urban Drainage Modelling - Studies to Inform PC27 - Top 271 Priority Drainage Areas
- ☐ DO19: LWWP Networks.

Linkage features that characterise the interrelationships between the associated DOs include: the Storm Overview Reduction Plan, spill frequency information, data availability, sewer capacity and inter-DO knowledge sharing.

## PART C [storm water separation interventions and integration of programme of work]

We identified that NI Water has introduced a new digital corporate system to manage its Storm Water separation programme. The system is called:

- ☐ Storm Water Separation Web Mapping Application. It incorporates ESRI WebApp and Dashboard. We refer to the system as the "Storm Water Separation App" or the App.

The App is used to record and track storm water separation opportunities from initiation to benefit realisation. It also records opportunities which have been investigated but not progressed. To fulfil the UR's requirement

highlighted above on how any proposed interventions will be progressed as a **fully co-ordinated and integrated programme** of work with wide-ranging benefits and savings, we discussed the App functionalities with Auditees, through our audits. We note that there is a milestone associated with the delivery of the App as an on-going activity in the period 2021-27 and the expectation is that the tool would be used to inform the PC27 Business Plan.

## Conclusions

1. The development of a Company "Storm Water Separation " App has continued. Through our audits, NI Water advised us that benefit information derived from model outputs e.g. reduction in predicted flooding and increase in network capacity for development and reductions in spill frequency, would be captured through the App.
2. We therefore note that the "Storm Water Separation " App has the potential to facilitate holistic treatment of any proposed interventions for stormwater separation. But further development and testing of the tool is required to validate its robustness for the development of an integrated programme.
3. We have seen evidence that the proposed interventions for stormwater separation are being progressed holistically through the development and refinement of the Company's "Storm Water Separation " App.
4. Further development of the Company's "Storm Water Separation " App to **include creation of an opportunity reference, CPMR enhancement and development of a system to quantify savings (reduced pump times, reduced storage requirements and treatment) has the potential to enable holistic treatment of any proposed interventions for stormwater separation.**

## Recommendations

1. Prepare evidence of checking/verification of actual/estimated numbers of shown in the "Storm Water Separation App" or the App and reported through Table 16 Line 31.
2. Prepare basic evidence to demonstrate use of the "Storm Water Separation App" to promote holistic processing of proposed interventions for stormwater separation. Enhance the basic evidence to demonstrate how the App can be used to develop fully co-ordinated and integrated programme of work with wide-ranging benefits and savings.

## References

1. NI Water, 2024. Completed Post-Audit Table 47 Proformas for AIR24 Submission.
2. NI Water, 2023. PC21 Mid-Term Review Submission on file as "NI Water PC21 Mid Term Review submission - Sept 2023.PDF". Annex A - PC21 Development Output progress summary.
3. NI Water, 2023. PC21 Mid-Term Review Submission on file as "NI Water PC21 Mid Term Review submission - Sept 2023.PDF". Annex B - PC21 Monitoring Plan - Revised Outputs Tables for MTR.

