



Box Hill Scheme

LICENCE PLAN AUDIT **REPORT**

Altogether (formerly Flow Systems)

May 2021

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Executive Summary

Audit scope

This report presents the findings of the licence plan audit of Flow Systems Operations Pty Ltd for the Box Hill scheme, conducted in April 2021, consistent with the audit requirements set out in IPART's *Audit Guideline, Water Industry Competition Act 2006 (NSW)* (July 2020).

The audit scope includes the adequacy and currency of the Box Hill Scheme Licence Plans.

The licence plans subject to audit are the:

- Box Hill Water Scheme Management Plan
- Recycled Water Quality Plan

Audit findings

Flow Systems (now called Altogether) have a Recycled Water Quality Plan (RWQP) that details how the AGWR Framework elements, components and actions are met. The Plans' structure is simple yet comprehensively documents how Flow Systems meets the requirements of the AGWR Framework. Documents specific to individual schemes are referenced in the Scheme Management Plan. As the overarching water quality plan (RWQP) were audited in November 2020 for the Cooranbong Licence plan audit, the scope of the Box Hill audit was reduced to:

- Audit scheme specific documentation referenced in the RWQP, including the scheme management plans and relevant supporting documentation
- Confirmation of the process flow diagram on site
- Assess progress of the recommendations relating to the Stage 2 audit of the overarching documentation.

A summary of compliance for the Box Hill Water Quality Plans (recycled) is shown in Table i-i.

The Licence Plans as a whole are considered adequate, with a few deficiencies noted in relation to scheme descriptions and updating of documentation following scheme expansion. These are considered non-material. Recommendations have been included to address these shortcomings.

Table i-i. Summary of compliance with Box Hill Scheme Water Quality Licence Plans

Requirement	Licence Plan	Compliance
WIC Regulation Schedule 1 clause 7(1) (b)	Water quality plan (recycled)	Non-compliant non material

Recommendations

Two audit recommendations were made for the Box Hill Water Quality Licence Plans:

- Recommendation RW 2.1: Review and updated the Box Hill process flow diagram to accurately reflect current arrangements.
- Recommendation RW 5.1: Review and update the Box Hill DIZ Standard operating procedure reference to the automatic control valve to commence irrigating.

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1 Introduction

1.1 Objectives

This report presents the findings of the licence plan audit of Flow Systems Operations Pty Ltd for the Box Hill scheme, consistent with audit requirements set out in IPART's *Audit Guideline, Water Industry Competition Act 2006 (NSW)* (July 2020).

1.2 Licensee's infrastructure, systems and procedures

On 12 January 2021 Flow Systems changed its name to Altogether. We refer to Flow Systems as the service provider throughout this report as it was Flow Systems' licence plans that were audited.

Flow Systems operations and obligations are managed through an integrated Business Management System (BMS), independently certified to:

- AS/NZS ISO 9001 Quality Management Systems
- AS/NZS ISO 14001 Environmental Management System
- AS/NZS 4801 Work Health and Safety Management Systems
- OHSAS 18001:2007 Occupational Health and Safety Management Systems.

The BMS is managed through a SharePoint site. As Flow Systems operate a number of schemes under the *Water Industry Competition Act 2006 (NSW)* it has a cross-functional approach to its systems and procedures. It has overarching documents including its:

- Recycled Water Quality Plan
- Infrastructure Operating Plan
- Incident Management Plan
- Asset Management Plan
- Monitoring and Sampling Plan

These are supported by both utility-wide and scheme-specific documentation. The documents that detail how Flow Systems meets their licence plan requirements are called up in these plans. We have recorded the documents we audited as part of these plans in Appendix A.

2 Audit method

2.1 Audit scope

The audit scope includes the adequacy and currency of the Box Hill Licence Plans.

The licence plans subject to audit were the:

- Box Hill Scheme Management Plan
- Recycled Water Quality Plan

Verification of onsite infrastructure to test the accuracy of the process flow diagram was conducted as part of this audit.

The following informed the audit criteria:

- Audit Guideline, Water Industry Competition Act 2006 (NSW) (IPART July 2020)
- Water Industry Competition Regulation requirements
- AS/NZS 19011:2019 Guidelines for Auditing Management Systems.

Table 2-1. Summary of licence plan audit requirements

Requirement	Details
Audit Guidelines	<p>Water Quality Plan audit</p> <p>Audits the adequacy of a licensee’s Water Quality Plan, and its compliance with legislative requirements, in accordance with the requirements of Schedule 1 clause 7(1) of the WIC Regulation.</p> <p>A licensee’s Water Quality Plan for drinking water or non-potable water must be consistent with the actions outlined in the 12 framework elements of the ADWG (for drinking water) and the AGWR (for non-potable water).</p>
WIC Regulation Schedule 1 clause 7(1)	<p>7 Water quality plans</p> <p>(1) Before commencing to operate water infrastructure commercially, the licensed network operator for the infrastructure must prepare, and forward to IPART, a water quality plan, in relation to the water supplied from the infrastructure, that specifies:</p> <p>(a) if the water so supplied is drinking water, how the 12 elements of the framework for the management of drinking water quality, as detailed in the Australian Drinking Water Guidelines, have been addressed and will be implemented, and</p> <p>(b) if the water so supplied is non-potable water, how the 12 elements of the framework for the management of recycled water quality and use, as detailed in the Australian Guidelines for Water Recycling, have been addressed and will be implemented and, having regard to those guidelines, the purposes for which the water may be used and the purposes for which the water may not be used.</p>

As the overarching water quality plan (RWQP) was audited in November 2020 for the Cooranbong Licence plan audit, the scope of the Box Hill audit was reduced to:

- Audit scheme specific documentation referenced in the RWQP, including the scheme management plans and relevant supporting documentation (see Table 2-2)
- Confirmation of the process flow diagram on site
- Assess progress of the recommendations relating to the audit of the overarching documentation that relates to the Box Hill scheme.

A summary of the elements and documents to be audited are shown in Table 2-2 for the RWQMP.

Table 2-2. Recycled water licence plan audit reduced scope summary

Elements	Component	Scope	System documents
1	Commitment to responsible use	1.1 Responsible use of recycled water	×

Elements	Component	Scope	System documents
and management of recycled water quality	1.2	Regulatory and Formal Requirements	✓ WICA Responsibilities and Authorities Matrix
	1.3	Partnerships and engagement of stakeholders (including the public)	✓ Stakeholder and emergency contact list
	1.4	Recycled water policy	×
2 Assessment of the recycled water system	2.1	Source of recycled water, intended uses, receiving environments and routes of exposure	✓ Risk assessment documentation System description Process flow diagram
	2.2	Recycled water system analysis	✓
	2.3	Assessment of Water Quality Data	✓
	2.4	Hazard Identification and Risk Assessment	✓
3 Preventive measures for recycled water management	3.1	Preventative Measures and Multiple Barriers	✓ Scheme risk register
	3.2	Critical control points	✓ Critical control point documentation
4 Operational procedures and process control	4.1	Operational procedures	✓ O&M Manual Operational procedures
	4.2	Operational monitoring	✓ Scheme specific monitoring and sampling programme
	4.3	Operational corrections	✓ Critical control point documentation Scheme - Out of Specification Corrective Action Work Instruction
	4.4	Equipment capability and maintenance	✓ O&M Manual
	4.5	Materials and chemicals	✓ O&M Manual
5 Verification of recycled water quality and environmental performance	5.1	Recycled water quality monitoring	✓ Scheme specific monitoring and sampling programme
	5.2	Application site and receiving environment monitoring	✓ Irrigation Management Plans
	5.3	Documentation and reliability	✓ Scheme specific monitoring and sampling programme
	5.4	Consumer satisfaction	×

Elements	Component	Scope	System documents		
	5.5	Short-term evaluation of results	×		
	5.6	Corrective responses	×		
6	Management of incidents and emergencies	6.1	Communication	✓	Stakeholder and emergency contact list
		6.2	Incident and emergency response protocols	✓	Scheme notification forms Scheme - Out of Specification Corrective Action Work Instruction Scheme emergency manual
7	Operator, contractor and end user awareness and training	7.1	Operator, contractor and end user awareness and involvement	×	
		7.2	Operator, contractor and end user training	×	
8	Community Involvement and awareness	8.1	Consultation with users of recycled water and the community	×	
		8.2	Communication and education	×	
9	Validation, research and development	9.1	Validation of processes	×	
		9.2	Design of equipment	×	
		9.3	Investigative studies and research monitoring	×	
10	Documentation and reporting	10.1	Management of documentation and records	×	
		10.2	Reporting	×	
11	Evaluation and audit	11.1	Long-term evaluation of results	×	
		11.2	Audit of recycled Water Quality management	×	
12	Review and continual improvement	12.1	Review by senior managers	×	
		12.2	Recycled water quality management improvement plan	×	

2.1.1 Audit standards

In conducting this audit, we adopted the audit standard *AS/NZS ISO 19011:2019 Guidelines for auditing management systems*. This standard ensures that the audit is conducted in accordance with an established and recognised audit protocol.

Regard was also given to the following standards/guidelines, especially where these provide specific detail that are appropriate to this audit:

- Audit Guideline, *Water Industry Competition Act 2006* (NSW) (IPART July 2020)
- ASAE 3100 (2017) Compliance Engagements issued by the Auditing and Assurance Standards Board
- ISO/IEC 17021-1:2015 Conformity Assessment – Requirements for bodies providing audit and certification of management systems (contains principles and requirements for the competence, consistency and impartiality of the audit and certification of management systems of all types).

2.2 Audit steps

A summary of audit steps is shown in Table 2-3.

Table 2-3. Audit steps

Step	Item	Details
Step 1	Initiation	Licensee initiates audit via WILMA (Water Industry Licence Management Application)
	Engagement of approved auditor	Licensee engages approved auditor to undertake audit
	Audit proposal	Auditor develops audit proposal and provides it to licensee for submission to IPART via WILMA
		Licensee submits the audit proposal to IPART for approval via WILMA IPART reviews proposal IPART approves audit proposal
Step 2	Opening meeting	Auditor conducts opening meeting
	Audit interviews	Auditor undertakes interviews
Step 3	Draft audit report	Auditor prepares draft audit report and submits it via WILMA
		Licensee and IPART review draft audit report Opportunity for comment on the draft audit report
	Final audit report	Auditor finalises audit report
	Final audit report submission	Auditor submits final report to IPART via WILMA
Step 4	Non-compliance matters	Non-compliance matters will be addressed in accordance with IPART's Compliance and Enforcement Policy

Source: Audit Guideline, *Water Industry Competition Act 2006* (NSW) (IPART, July 2020)

2.3 Audit grades

The audit grade definitions used in assessing the auditee's performance against the requirements are set out in Table 2-4.

Table 2-4. Audit grades

Grade	Detail
Compliant	Sufficient evidence is available to confirm that the requirements have been met.
Non-compliant (non-material)	Sufficient evidence is not available to confirm that the requirements have been met and the deficiency does not adversely impact the ability of the licensee to achieve defined objectives or assure controlled processes, products or outcomes.
Non-compliant (material)	Sufficient evidence is not available to confirm the requirements have been met and the deficiency does adversely impact the ability of the licensee to achieve defined objectives or assure controlled processes, products or outcomes.
No requirement	There is no requirement for the licensee to meet this criterion within the audit period.

Source: Audit Guideline, *Water Industry Competition Act 2006* (NSW) (IPART, July 2020)

2.4 Audit team

The audit team qualifications are shown in Table 2-5.

Table 2-5. Audit team

Team Member	Details
Dr Annalisa Contos Lead Auditor	<p>Dr Annalisa Contos holds the following auditor qualifications:</p> <ol style="list-style-type: none"> 1. A registered Exemplar Global lead auditor (Certificate No. 113465): <ol style="list-style-type: none"> a. Exemplar Global -DW (Drinking Water) b. Exemplar Global -RW (Recycled Water) c. Exemplar Global TL-AU (Lead Auditor) 2. NSW IPART (Independent Pricing and Regulatory Tribunal) qualified: <ol style="list-style-type: none"> a. Lead Auditor and Area Specialist Drinking Water Quality b. Lead Auditor and Area Specialist Licence and Regulatory Compliance c. Lead Auditor and Area Specialist Infrastructure Performance d. Lead Auditor and Area Specialist Recycled Water Quality e. Lead Auditor and Area Specialist Sewage Management f. Area Specialist Environmental Management

Team Member	Details
David Bartley Auditor	David Bartley holds the following auditor qualifications: <ol style="list-style-type: none"> 1. A registered Exemplar Global lead auditor (Certificate No. 206802): <ol style="list-style-type: none"> a. Exemplar Global -DW (Drinking Water) b. Exemplar Global -RW (Recycled Water) c. Exemplar Global TL-AU (Lead Auditor) 2. NSW IPART (Independent Pricing and Regulatory Tribunal) qualified: <ol style="list-style-type: none"> a. Area Specialist Infrastructure Performance b. Area Specialist Recycled Water Quality c. Area Specialist Sewage Management d. Area Specialist Environmental Management
Natalie Crawford Peer review	Natalie Crawford holds the following auditor qualifications: <ol style="list-style-type: none"> 1. A registered Exemplar Global lead auditor (Certificate No. 130608): <ol style="list-style-type: none"> a. Exemplar Global -DW (Drinking Water) b. Exemplar Global -RW (Recycled Water) c. Exemplar Global TL-AU (Lead Auditor) 2. NSW IPART (Independent Pricing and Regulatory Tribunal) qualified: <ol style="list-style-type: none"> a. Auditor Licence and regulatory compliance b. Drinking Water Quality Auditor and Area Specialist c. Recycled Water Quality Auditor and Area Specialist d. Environmental management Auditor and Area Specialist
Steven Contos Peer Review	Steven Contos holds the following auditor qualifications <ol style="list-style-type: none"> 1. A registered Exemplar Global auditor (Certificate No. 122777): <ol style="list-style-type: none"> a. Exemplar Global -DW (Drinking Water) b. Exemplar Global -RW (Recycled Water) c. Exemplar Global -AU (Auditor)

2.5 Quality assurance process

Checks of information received were conducted and included aspects such as veracity of information, coverage of the subject area being audited and document adequacy. Professional scepticism (as per ASAE 3100) was applied as part of the document review. The quality assurance approach to this audit involved independent peer review from a qualified auditor (Steven Contos) who was not part of the audit, and review by the lead auditor.

3 Audit plan

The audit is shown in Table 3-1 for Box Hill Licence Plan audit.

Table 3-1 Box Hill Scheme Management Plan licence plan audit plan

Task	Details	Timeline
Task 1 Audit Preparation	Develop audit plan	1 December 2020
	Data request, Project management	11 January 2021
Task 2 Desktop Audit	Licence Plan provided to Auditor and IPART Information review and desktop audit	15 March 2021
Task 3 Audit Interviews/site visit	Site visit (verify PFD)	19 April 2021
	Interviews and close out meeting	23 April 2021
Task 4 Reporting	Draft report to Flow Systems and IPART	7 May 2021
	Comments received	21 May 2021
	Final Report	28 May 2021

4 Audit findings

4.1 Recycled water quality plan

A summary of the water quality plan audit requirements and the compliance grade is shown in Table 4-1.

Table 4-1. Recycled water quality plan audit requirements

Ref	Requirement	Compliance
WIC Regulation Schedule 1 clause 7(1)	<p>7 Water quality plans</p> <p>(1) Before commencing to operate water infrastructure commercially, the licensed network operator for the infrastructure must prepare, and forward to IPART, a water quality plan, in relation to the water supplied from the infrastructure, that specifies:</p> <p>(b) if the water so supplied is non-potable water, how the 12 elements of the framework for the management of recycled water quality and use, as detailed in the Australian Guidelines for Water Recycling, have been addressed and will be implemented and, having regard to those guidelines, the purposes for which the water may be used and the purposes for which the water may not be used.</p>	Non-compliant (non-material)

4.1.1 Summary of findings

Flow Systems have a Recycled Water Quality Plan (RWQP) that addresses the AGWR Framework elements, components and actions. A table is included for each component, that details how the requirement of each action is met (*Discussion* column). Evidence to

meet the requirements is detailed for Documents, Records and Responsibility/Monitoring. This approach clearly and comprehensively documents how Flow System meets the requirements of the AGWR Framework. Documents specific to individual scheme are referenced in the Scheme Management Plan.

The overarching RWQP was audited as part of the Cooranbong Licence Plan Audit (November 2020). The adequacy of information specific to the Box Hill Water scheme is discussed below.

The Licence Plan as a whole is considered adequate, with a few deficiencies noted in relation to document errors and processes relating to the updating of documentation following scheme expansion. These are considered non-material. Recommendations have been included to address these shortcomings.

4.1.2 Detailed findings

Adequacy of the overarching RWQP is discussed in the Cooranbong Licence Plan Audit (November 2020). The adequacy of information specific to the Box Hill scheme is discussed in Table 4-2 for each relevant AGWR Framework element. A sample of documents referenced as evidence (in both the RWQP and Box Hill Scheme Management Plan) were tested as part of the audit process. A summary of audit evidence is included in Appendix A.

Version 14.3 of the RWQP was audited for the Box Hill Scheme. While the overarching RWQP was not reaudited, we checked that the scheme specific requirements set out in the RWQP are met. Elements with recommendations or opportunities for improvement from the Cooranbong Audit are also included in Table 4-2.

The current documents are being progressively updated to be rebranded as Altogether and a number of these were issued during the period of this audit. These updates should continue to ensure they consistently reflect the new company name.

Table 4-2. Audit findings against the AGWR Framework – reduced scope

Element	Component	Audit findings	Evidence
Element 1 Commitment to responsible use and management of recycled water quality	Regulatory and formal requirements	The scheme specific documentation referenced in the RWQP for this component is adequate. Scheme governance is documented in the WIC Responsibilities and Authorities matrix. Responsibilities appear to be appropriate to the included areas.	RWQP Section 1.2 WICA Responsibilities and Authorities Matrix FS-WAT-AUS-FM-OPS-1316
	Partnerships and engagement of stakeholders	The scheme specific documentation referenced in the RWQP for this component is adequate. Stakeholders specific to the Box Hill scheme are listed in the scheme specific Stakeholder and Emergency Contact List. Public and environmental health stakeholders listed are appropriate and include IPART, NSW Health, NSW Department of Planning, Industry and Environment, NSW Environment Protection Authority and The Hills Shire Council.	RWQP Section 1.3 Box Hill Stakeholder and Emergency Contact List BH-WAT-NSW-RG-INC-3352
Element 2 Assessment of the	Intended uses and source of recycled water	The scheme specific documentation referenced in the RWQP for this component is adequate. Intended uses are documented in Table 7-2 of the Box Hill Scheme Management Plan with a	RWQP Section 2.1 Box Hill Scheme Management Plan BH-WAT-NSW-PL-OPS-1345

Element	Component	Audit findings	Evidence
recycled water system		reference to the Flow WICA Licences - Authorised Purposes Matrix. The approved end uses for Box Hill in the authorised purposes matrix are consistent with the approved end users in the licence.	Flow WICA Licences - Authorised Purposes Matrix FS-WAT-NSW-RG-OPS-2918 Network Operating Licence, 16_037 Flow Systems Operations, dated 12 May 2016.
	Recycled water system analysis Assessment of water quality data	<p>Minor deficiencies in the process flow diagram were identified in scheme specific documentation referenced in the RWQP for this component.</p> <p>Scheme characteristics are documented in the Box Hill Scheme Management Plan. Consistent with this requirement, scheme characteristics including connections, source, treatment processes and distribution are included in Table 2-3 Recycled Water system overview description in the Box Hill Scheme Management Plan.</p> <p>A process flow diagram was provided for the recycled water scheme consistent with requirements of the AGWR to outline steps and processes from source to application. The process flow diagram was verified onsite during the audit. The process flow diagram was generally correct, with a few errors identified:</p> <ul style="list-style-type: none"> • Flow Balance Tanks are not numbered • Glycerine dosing is shown as Carbon which is generic • Not all flow meters are shown <p>Assessment of water quality data was used to inform the risk assessment. The risk assessment workshop briefing pack was sighted as evidence during the Cooranbong audit and considered adequate as evidence of this requirement.</p> <p>Recommendation RW 2.1: Review and update the Box Hill process flow diagram to accurately reflect current arrangements.</p>	<p>RWQP Section 2.2 and 2.3</p> <p>Box Hill Scheme Management Plan Section 7.3</p> <p>Box Hill Water Process Flow Diagram Recycled Water & Sewerage BH-WAT-NSW-DR-OPS-2620</p> <p>Risk Assessment Protocol for Water Products and Services FS-WAT-NSW-PR-OPS-2466</p>

Element	Component	Audit findings	Evidence
	Hazard identification and risk assessment	<p>The scheme specific documentation referenced in the RWQP for this component is adequate.</p> <p>Briefing material for the Box Hill Risk Assessment provided as evidence during the Cooranbong Audit was consistent with the Risk Assessment Protocol for Water Products and Services.</p> <p>The risk register is satisfactory in terms of risks considered, control measures and assessment of uncertainty.</p>	<p>RWQP Section 2.4</p> <p>Box Hill Scheme Risk Register BH-WAT-NSW-RG-OPS-2486</p>
Element 3 Preventive measures for recycled water management	Preventive measures and multiple barriers	<p>The scheme specific documentation referenced in the RWQP for this component is adequate.</p> <p>General controls are included in Attachment B of the RWQP and all controls included in the scheme risk register. The Box Hill Scheme Risk Register was provided as evidence for this component.</p> <p>Controls are included from source to end use for each hazardous event and categorised as either preventive, detective or reactive controls. The sample of controls reviewed are consistent with the AGWR. Additional control measures were identified in the risk assessment and documented in the 'Specific actions and ALARP considerations' column of the risk register.</p>	<p>RWQP Section 3.1</p> <p>Box Hill Scheme Risk Register BH-WAT-NSW-RG-OPS-2486</p>
	Critical control points	<p>The scheme specific documentation referenced in the RWQP for this component is adequate.</p> <p>Critical control points are identified as part of the risk assessment process. Documentation of this assessment was confirmed in the Box Hill Scheme Risk Register where CCPs and QCPs are recorded in the "CCP / QCP?" column.</p> <p>Critical control points for Box Hill are documented in the Box Hill Control Points Table. Critical control points in this table are consistent against those assessed in the risk register.</p>	<p>RWQP Section 3.2</p> <p>Box Hill Scheme Risk Register BH-WAT-NSW-RG-OPS-2486</p> <p>Box Hill Control Points Table BH-WAT-NSW-PL-OPS-2671Box Hill LW</p> <p>Log Reduction Values BH-WAT-NSW-PL-OPS-2683</p> <p>Email to NSW Health 'Change Notice - CCP and Log Reduction'</p>

Element	Component	Audit findings	Evidence
		<p>Proposed revisions to critical control points and log reduction value were provided during the audit. The UV disinfection critical limit for UVT decreased from < 55 to < 47 mJ/cm². Limit changes are appropriate to achieve the claimed 1.0 LRV reduction for viruses in accordance with the USEPA Ultraviolet Disinfection Guidance Manual (2006). Log reduction values achieved for UV disinfection were reduced from 4 to 3.5 for protozoa and bacteria. The basis for these changes is adequately documented in the Table 2 Change Assessment of the Change Notice Form. Evidence was provided of consultation with NSW Health, in the form of an email where updated documentation and a change notice form was provided. Changes to the critical control point and log reduction value documentation for Box Hill are adequate.</p> <p>Critical control points values are consistent across the Control Point Tables and the Log Reduction Value documents.</p> <p>The references used in the CCP justification column are considered appropriate. It was confirmed that the CCP limits (current at the time of the site visit; version 3) were consistent with those in SCADA and in the UV disinfection local controller. It was not reviewed if proposed updated CCP limit were consistent with SCADA.</p>	Change Notice Form: Control Point and Log Reduction Review for Box Hill, Cooranbong, Huntlee and Pitt Town
Element 4	Operational procedures and process control	<p>The scheme specific documentation referenced in the RWQP for this component is adequate.</p> <p>The RWQP states that schemes will be operated in accordance with the scheme operations and maintenance manual. A finalised Operations and Maintenance (O&M) Manual – Box Hill LWC Operation and Maintenance Manual was provided as evidence (Version 2, dated March 2020).</p>	<p>RWQP Section 4.1</p> <p>Box Hill LWC Operations and Maintenance (O&M) Manual – BH-WAT-NSW-MN-OPS-2714</p> <p>Register of Operational Procedures FS-WAT-NSW-RG-OPS-2725</p>

Element	Component	Audit findings	Evidence
		SOPs and Work Instructions are documented in the register of operational procedures. The procedures identified for Box Hill in the register are appropriate.	
	Operational monitoring	<p>The scheme specific documentation referenced in the RWQP for this component is adequate.</p> <p>Operational monitoring requirements are detailed in the Monitoring and Sampling Plan. The Box Hill Monitoring and Sampling program was provided and sample items were cross checked against the sampling plan; the items checked were found to be consistent. Sample point labelling in the plant was consistent with the sampling plan.</p>	<p>RWQP Section 4.2</p> <p>Monitoring and sampling plan FS-WAT-AUS-PL-OPS-1288</p> <p>Box Hill Monitoring and Sampling Program BH-WAT-NSW-PL-OPS-1713</p>
	Operational corrections	<p>The scheme specific documentation referenced in the RWQP for this component is adequate. Discussions on corrective actions are also included in Element 6 in the Incident and Emergency Response Protocols section.</p> <p>Critical control points summary corrective actions are included in the control point tables. The Box Hill Control Points Table procedures for shutdown and off specification water diversion are appropriate.</p> <p>Deviations for other operational monitoring activities are described in the Operational Monitoring Corrective Actions Procedure.</p> <p>The Box Hill LWC Restart After Extended Shutdown Procedure appropriately describes the process for restarting the Local Water Centre (LWC) after an extended shutdown.</p>	<p>RWQP Section 4.3</p> <p>Box Hill Control Points Table BH-WAT-NSW-PL-OPS-2671</p> <p>Box Hill LW</p> <p>Box Hill LWC Operations and Maintenance (O&M) Manual – BH-WAT-NSW-MN-OPS-2714</p>
	Equipment capability and maintenance	The scheme specific documentation referenced in the RWQP for this component is adequate. The Box Hill Operations and Maintenance Manual refers to Flow's Computerised Maintenance Management System (CMMS) for maintenance schedules. A register	<p>RWQP Section 4.4</p> <p>Box Hill LWC Operations and Maintenance (O&M) Manual – BH-WAT-NSW-MN-OPS-2714</p>

Element	Component	Audit findings	Evidence
		of calibrations and control point inspections was provided as evidence of scheduling. Scheduling included annual, quarterly and weekly calibrations and checklist. An example of the Annual Control Point Checklist for Box Hill was provided as evidence of the parameters checked, which included calibrations and checks of CCP equipment included for pH, turbidity, chlorine and UVT.	PPM Schedules Calibration and Control Points Land Housing from RAM Work Order Number 032920, Local Water Centre Box Hill, Annual Instrument Calibration and completed calibration certificates, Completed date: 16/06/2020
	Materials and chemicals	The scheme specific documentation referenced in the RWQP for this component is adequate. Signage and labelling of chemical dosing points was noted during the site audit of Box Hill. The Box Hill Operations and Maintenance Manual specifies details of chemical dosing in the treatment process. Evaluating Products Materials and Chemical Procedure includes a requirement for materials that come into contact with recycled water to be AS/NZS 4020 compliant. No scheme specific documentation was audited in relation to material usage for Box Hill.	RWQP Section 4.5 Scheme management plan Box Hill LWC Operations and Maintenance (O&M) Manual – BH-WAT-NSW-MN-OPS-2714
Element 5 Verification of recycled water quality and environmental performance	Recycled water quality monitoring Documentation and reliability	The scheme specific documentation referenced in the RWQP for this component is adequate. Characteristics to be monitored are included within the overarching Monitoring and Sampling Plan. A check was carried out against the verification requirements in the Monitoring and Sampling Plan against the Box Hill Monitoring and Sampling Program; with the documents found to be consistent. The Monitoring and Sampling Plan and Box Hill Monitoring and Sampling Program is adequate for verification monitoring against the requirements of the AGWR.	RWQP Section 5.1 and 5.3 Monitoring and sampling plan FS-WAT-AUS-PL-OPS-1288 Box Hill Monitoring and Sampling Program BH-WAT-NSW-PL-OPS-1713

Element	Component	Audit findings	Evidence
	Application site and receiving environment	<p>The Box Hill DIZ Standard operating procedure was reviewed and refers to opening GV01 to commence irrigation. This valve is underground and not labelled or otherwise identified in the procedure. Flow Systems have since advised that “This is a network valve which is normally open. It is no longer operated as part of the DIZ as there is an automatic control valve (AV1301) and manual valve in the cage which are operated instead.”</p> <p>Recommendation RW 5.1: Review and update the Box Hill DIZ Standard operating procedure reference to the automatic control valve to commence irrigating.</p>	<p>Box Hill Scheme Management Plan Recycled water irrigation monitoring plan (RWIMP) AG-WAT-NSW-PL-OPS-2299 Box Hill DIZ Standard operating procedure BH-WAT-NSW-PR-INC-3594</p>
Element 6 Management of incidents and emergencies	Communication	<p>The scheme specific documentation referenced in the RWQP for this component is adequate.</p> <p>The Box Hill Scheme Management Plan references the Box Hill stakeholder and emergency contact list and Figure 8-1 sets out how incidents and emergencies are generally managed. Flow Systems has regulatory reporting obligations for incidents.</p> <p>Key stakeholders for Box Hill relevant to the recycled water supply include IPART, NSW Health, NSW Department of Planning, Industry and Environment, NSW Environment Protection Authority, Sydney Water and The Hills Shire Council. The stakeholders listed are appropriate to the scheme.</p>	<p>RWQP Section 6.1 Box Hill Stakeholder and Emergency Contact List BH-WAT-NSW-RG-INC-3352</p>
	Incident and emergency response protocols	<p>The scheme specific documentation referenced in the RWQP for this component is adequate.</p> <p>The RWQP refers to the Water Operations Incident Management, Reporting and Investigation Procedure and the Incident Notification and Response Protocol with NSW Health. These documents refer to scheme specific WICA Form A and B (which are the IPART Form A and B pre filled with relevant contact details). Scheme specific notification forms for Box Hill (WICA Form A and B) were provided</p>	<p>RWQP Section 6.2 WICA Form A – Incident Initial Notification Box Hill WICA Form B – Incident Initial Notification Box Hill</p>

Element	Component	Audit findings	Evidence
		as evidence. The Incident Notification and Response Protocol with NSW Health references these forms and describes when they should be used.	Box Hill Recycled Water Out of Specification Work Instruction BH-WAT-NSW-PR-OPS-3492 Incident Notification and Response Protocol with NSW Health for Supply of Sewerage, Recycled Water and Drinking Water Services AG-WAT-AUS-PR-INC-1277
Element 8 Community involvement and awareness	Consultation with users of recycled water and the community Communication and education	The Cooranbong Water Quality Plan Licence audit identified an opportunity for improvement to include further information in RWQP Component 8.1 on the assessment process used in developing the customer communication program. OFI RW 8.1: Include further information in the RWQP documenting the assessment requirements for developing the consultation program.	RWQP Section 8.1 and 8.2
Element 9 Validation, research and development	Validation of processes Design of equipment Investigative studies and research monitoring	The Cooranbong Water Quality Plan Licence audit assessed that the process for validation, research and development is adequately described in Section 9.1, 9.2 and 9.3 of the RWQP. An opportunity for improvement exists in the process for revalidation of equipment which occurs on system change. Processes to evaluate system change are assessed using the System Change Checklist and the WICA Change checklist. An observation was noted that while the WICA Change checklist refers to change that would require significant change to a licence plan, the reference to the requirements for when revalidation should occur could be more explicit. OFI RW 9.1: Detail more explicit requirements for when revalidation will need to occur in the RWQP.	RWQP Section 9.1, 9.2 and 9.3 WICA Change checklist FS-WAT-NSW-FM-GOV-2690
Element 10 Documentatio	Reporting	The Cooranbong Water Quality Plan Licence audit identified a deficiency in the process as described in Section 10.2 with the	RWQP Section 10.2

Element	Component	Audit findings	Evidence
n and reporting		<p>RWQP being silent on annual reporting to end users. The RWQP has been updated to include that the annual report will be made available via the Flow website and be produced in concurrence with the annual IPART compliance report. This component is considered adequate.</p> <p>There is no procedure listed that describes the activities required to develop the reports. While there is no explicit requirement for this, we are unable to confirm that the Annual report contents would meet the requirements of this clause as the implementation of the licence plan is outside the scope of this audit. An area for improvement is to include further details on IPART compliance reporting regulations, such as reference to the Network Operator Reporting Manual and Retail Supplier's Reporting Manual.</p> <p>OFI RW 10.1: Develop procedures that describe the activities required to develop external reports and reference these in the RWQP.</p>	
Element 11 Evaluation and audit	Long-term evaluation of results	<p>The Cooranbong Water Quality Plan Licence audit identified a deficiency in the process described in Section 11.1 of the RWQP. The RWQP was silent on the assessment of recycled water quality performance as part of an annual review reporting process.</p> <p>Section 11.1 of the RWQP has been updated to include that an annual review of long-term water quality performance will be conducted at the same time as annual reporting and that this will be recorded in review meeting minutes and the risk review briefing pack.</p> <p>This component is now considered adequate following completion of the identified recommendation.</p>	RWQP Section 11.1

Element	Component	Audit findings	Evidence
	Audit of recycled water quality management	<p>The Cooranbong Water Quality Plan Licence audit identified an opportunity for improvement in the Audit Procedure. Internal audits are conducted at a minimum annually. The internal audit program did not explicitly specify audits of recycled water quality data. It was confirmed in interviews that quality audits included recycled water. The Internal Audit Program for 2020-21 was provided as evidence of this process.</p> <p>OFI RW 11.1.1: Clarify that review of recycled water quality data is covered under the internal audit objective for 'quality'.</p>	<p>RWQP Section 11.2 Audit Procedure FS-ALL-AUS-PR-GOV-1364</p>

4.1.3 Summary of recommendations

A summary of recommendations for the Box Hill recycled water quality plan is detailed below:

- Recommendation RW 2.1: Review and update the Box Hill process flow diagram to accurately reflect current arrangements.
- Recommendation RW 5.1: Review and update the Box Hill DIZ Standard operating procedure reference to the automatic control valve to commence irrigating.

4.1.4 Summary of opportunities for improvement

A summary of opportunities for improvement for the Box Hill recycled water quality plan are detailed below:

- OFI RW 8.1: Include further information in the RWQP documenting the assessment requirements for developing the consultation program
- OFI RW 9.1: Details more explicit requirements for when revalidation will need to occur in the RWQP
- OFI RW 10.1: Develop procedures that describe the activities required to develop external reports and reference these in the RWQP.
- OFI RW 11.1.1: Clarify that review of recycled water quality data is covered under the internal audit objective for 'quality'

Appendix A Audit evidence

Document name and number	Version	Date
Recycled Water Quality Plan	13	11/03/2021
Box Hill Scheme Management Plan BH-WAT-NSW-PL-OPS-1345	13	11/03/2021
Box Hill Recycled Water Out of Specification Work Instruction BH-WAT-NSW-PR-OPS-3492	1.0	10/03/2021
Box Hill Control Points Table BH-WAT-NSW-PL-OPS-2671	3.1	12/04/2021
Box Hill LW Log Reduction Values BH-WAT-NSW-PL-OPS-2683	3.1	12/04/2021
Box Hill Process Flow Diagram Recycled Water & Sewerage BH-WAT-NSW-DR-OPS-2620	3	01/03/2021
Box Hill LWC Operations and Maintenance (O&M) Manual – BH-WAT-NSW-MN-OPS-2714	2.0	21/12/2020
Box Hill Monitoring and Sampling Program BH-WAT-NSW-PL-OPS-1713	1.5	21/10/2020
Box Hill Scheme Risk Register BH-WAT-NSW-RG-OPS-2486	3.3	20/10/2020
Box Hill Stakeholder and Emergency Contact List BH-WAT-NSW-RG-INC-3352	1	8/10/2020
Box Hill Incident & Emergency Manual Table of Contents BH-WAT-NSW-MN-INC-3371	1.0	14/10/2020
Box Hill DIZ Standard operating procedure BH-WAT-NSW-PR-INC-3594	1	15/03/2021
Change Notice Form: Control Point and Log Reduction Review for Box Hill, Cooranbong, Huntlee and Pitt Town	1.0	13/04/2021
Email to NSW Health 'Change Notice - CCP and Log Reduction'		13/04/2021
Flow WICA Licences - Authorised Purposes Matrix FS-WAT-NSW-RG-OPS-2918	3	08/03/2021
Irrigation plan for the Gables, Box Hill BH-WAT-NSW-PL-INC-3669	1.0	4/03/2021
Incident Management Plan (IMP)	9	25/01/2021
Monitoring and sampling plan FS-WAT-AUS-PL-OPS-1288	13.1	16/12/2020
Monitoring and sampling program FS-WAT-NSW_PL-OPS-2701	1.5	21/10/2020
Recycled water irrigation monitoring plan (RWIMP) AG-WAT-NSW-PL-OPS-2299	5	3/03/2021
Risk assessment protocol for water and product services FS-WAT-NSW-PR-OPS-2466	3	16/8/2020
Register of Operational Procedures FS-WAT-NSW-RG-OPS-2725	3.1	2/2/2021
Responsibilities and Authorities Matrix FS-WAT-AUS-FM-OPS-1316	6.2	7/10/2020
WICA Form A – Incident Initial Notification Box Hill	3.0	11/03/2021
WICA Form B – Incident Initial Notification Box Hill	3.0	11/03/2021
Incident Notification and Response Protocol with NSW Health for Supply of Sewerage, Recycled Water and Drinking Water Services AG-WAT-AUS-PR-INC-1277	9.0	26/02/2021