Partnering for Better Data Decision

TasWater

betterAIM
Better Asset & Information Management

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TasWater

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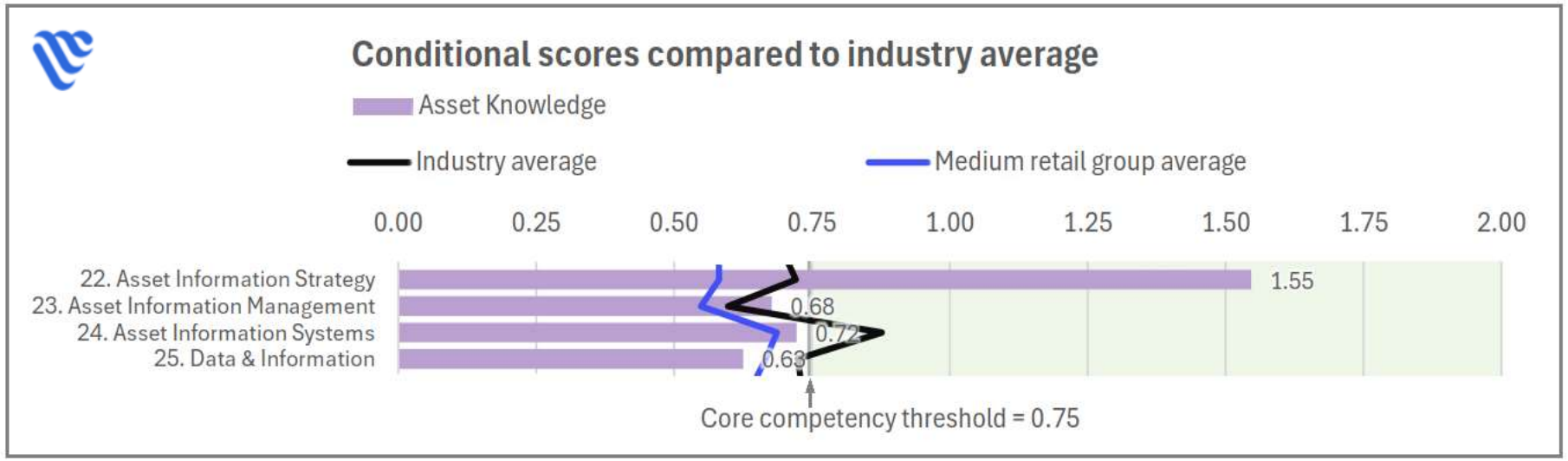
Agenda

- Background
- Project Overview/Purpose
- Project Objectives
- Setting up for success
- Adapting and adjusting
- Project findings and learnings
- Next Steps

Strategy

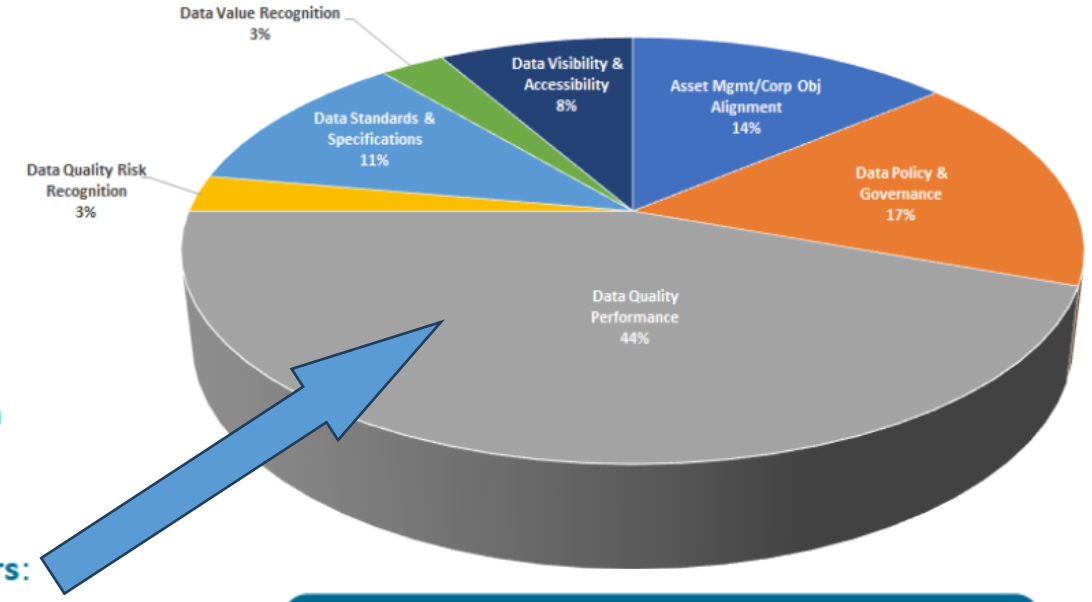
- Our **Asset Information Strategy** sets out a clear direction to improve asset data quality and governance
  - Single source of truth
  - Data that supports decisions,
  - Alignment across systems, and
  - Clear data ownership across the asset lifecycle.
- The 2024 AMCV Utility Benchmarking Report identified our asset data was below the core competency threshold



Extract from AMCV Utility Report 2024 - Industry Benchmarking

Roadmap

- In 2023 we engaged BetterAIM to produce an **Asset Information Improvement Roadmap**



- A staged approach was adopted, comprising three key

1. **Gap Analysis Assessment #1 – Current Status of Recommendations From Asset Information (AI) Strategies and Initiatives:**
2. **Gap Analysis Assessment #2 – Pulse Check of Asset Information (AI) Users:**
3. **Prioritising Roadmap actions**

❑ Asset Information-Led Strategic projects (7): High Value, Difficult to Implement

69 Improve asset classification, location hierarchy and attribution across portfolio

Data Quality Performance

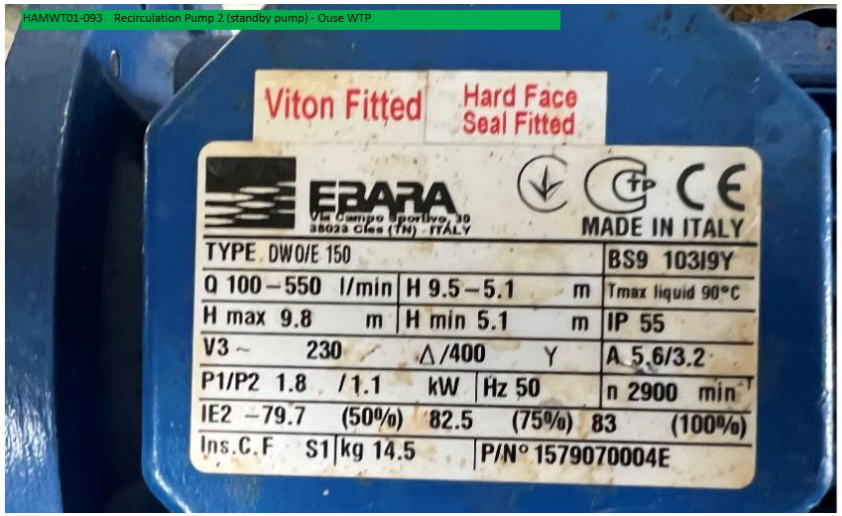
69 **Improve asset classification, location hierarchy and attribution across portfolio**

Finalise asset classification and location hierarchy and conduct site work to confirm assets in place. Assign asset attributes in a staged manner. Focus initially at process level on problematic facilities

By Dec 2024, $100K + BAU*

From Strategy to Delivery: Asset Data Improvement Program

- Focused on **treatment plants**:
  - 110 STPs
  - 60 WTPs
  - Around 12,000 individual assets



- **Aim** - to improve:
  - Location hierarchy
  - Asset naming and classification

  And to:
  - Create missing asset records, and validate and complete missing attribute information
  - Conduct a visual condition assessment

- Initially, we started validating and collecting the data ourselves, with promised help from the operations crews
- Accelerated the project by engaging external firms to assist with data collection

Project objectives – Asset Data Collection

- Accelerate the delivery of TasWater's Asset Data Improvement Plan through structured asset inspection and validation activities
- Improve the quality, accuracy and completeness of asset information across water and wastewater treatment facilities
- Validate asset existence, condition and hierarchy to support reliable asset management and planning decisions
- Standardise and streamline asset data capture processes aligned to TasWater data standards and systems
- Enable efficient digital data collection and integration into enterprise systems (e.g. Maximo) to reduce manual rework
- Provide accessible, timely and actionable insights through reporting and visualisation tools to support decision-making

Key Outputs – Asset Data Collection

- Data Collection and verification across 125 water and wastewater sites (deemed more critical)
  - 36 in South, 43 in North-West and 46 in the North
- Restructuring of the hierarchy to suit functional locations
- Update of the Maximo Location and Asset Descriptions to allow better navigation of the assets in Maximo
- Collection of asset attributes such as serial number, make, model, diameter, material, upstream and downstream points.
- Assessment of asset condition, defect logging and planning.

Key Outcomes

Assets Inspected

11,858

Assets Added

5659

Unable to identify

4354

Defects Identified

267

Hazards Identified

48

Average Condition

2.29

124 Facilities Inspected

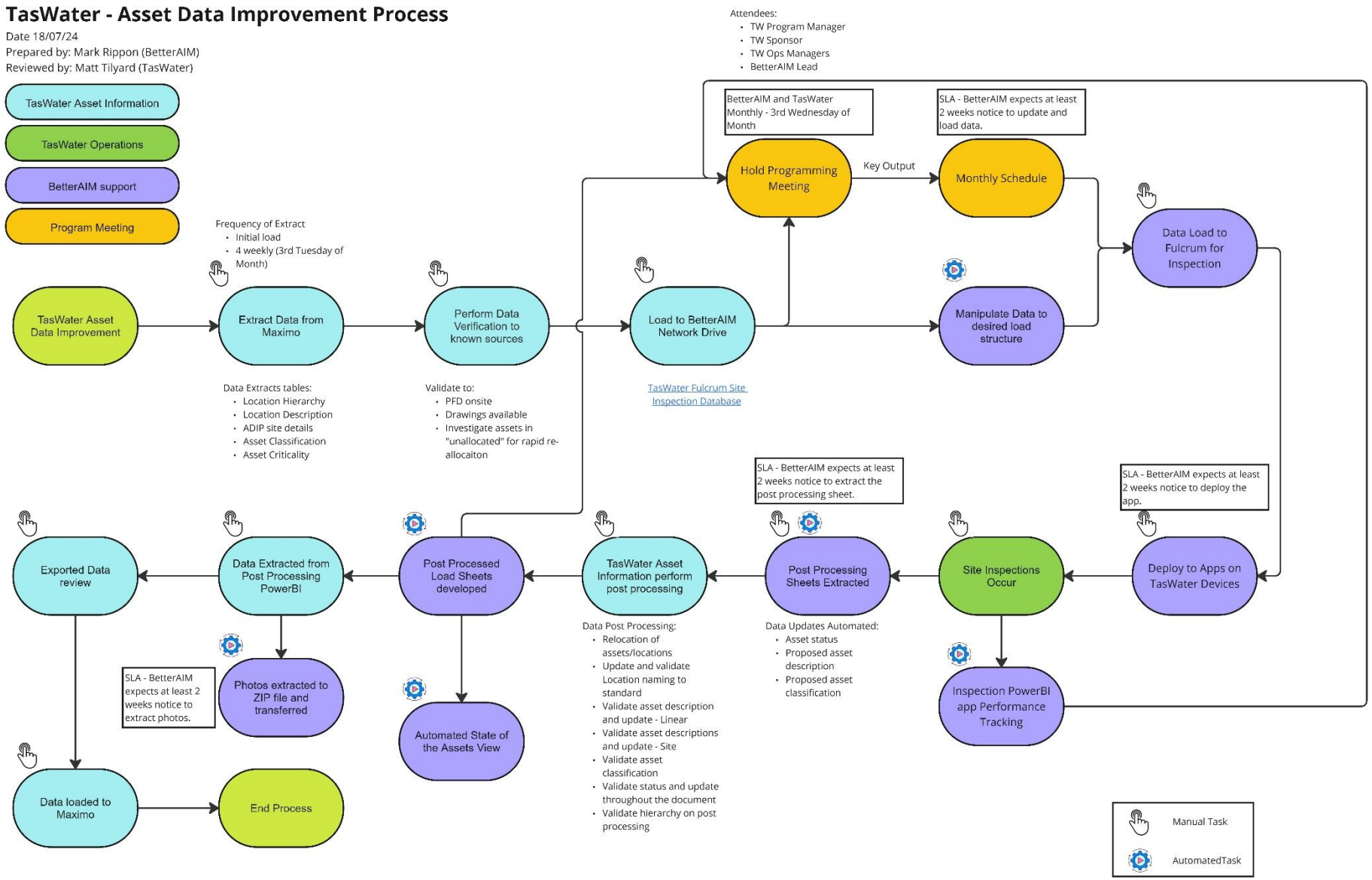
Setting up for Success

Data Collection Process

Developed a tiered approach to delivery

1. Defined processes for data capture and post processing
2. Developed responsibilities across the TasWater and BetterAIM
3. Loaded a consistent hierarchy, in alignment to TasWater Asset Data Standards
4. Defined a consistent asset condition assessment standard (WSAA and IPWEA aligned)
5. Engaged in onsite training of TasWater Asset Data, Operations and Other consultant resources
6. Data Post processing with export aligned to Maximo and MXLoader
7. Continual improvement and review

Data Collection Process



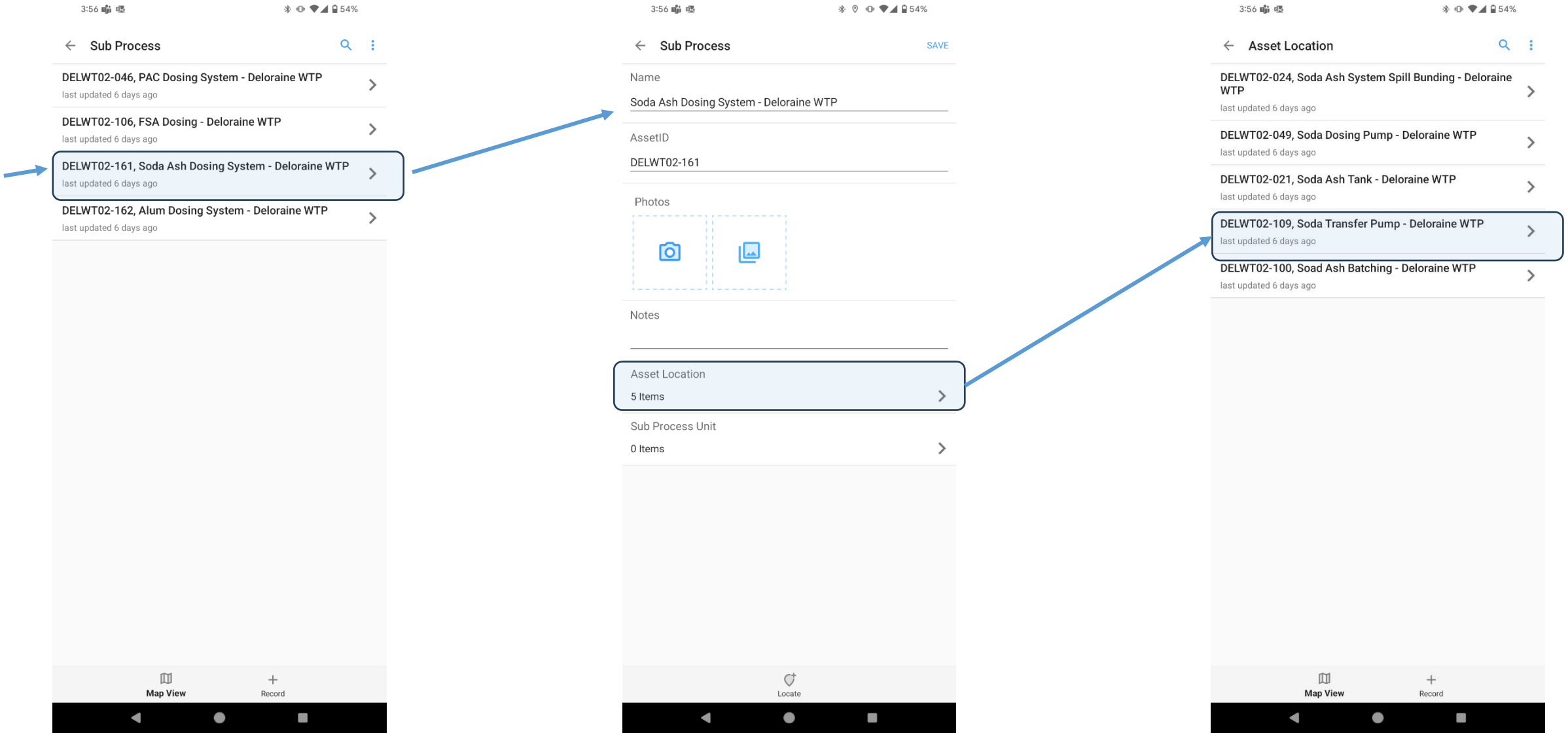
Who does What - RASCI

RASCI Matrix - TasWater Asset Data Improvement Program

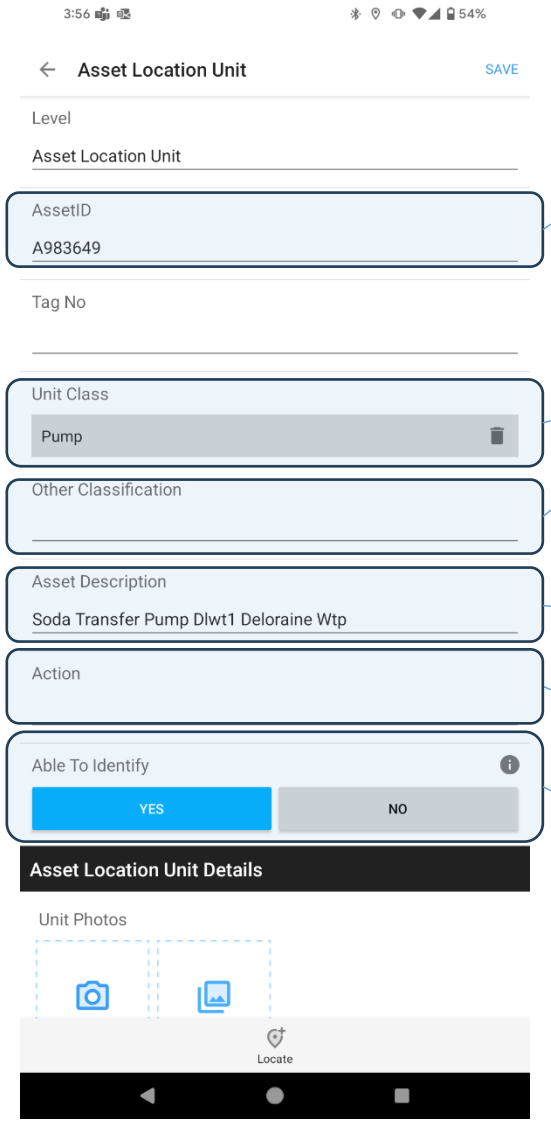
Review roles and responsibilities	**Responsible** Performs the tasks and is responsible for their execution	**Accountable** Has final responsibility for the correct completion of project tasks	**Consulted** Is asked for advice in advance of performing the tasks	**Supporting** Is informed in the interim about the decisions, progress, and results achieved	**Informed** Is informed in the interim about the decisions, progress, and results achieved
Asset Data Collection Program Management	Manager Asset Information (Matt Tilyard)	DM Asset Lifecycle Mgt. (John Gabbedy)	TasWater Operations (North and South)	BetterAIM (Mark Rippon)	GM SIS, GM Operations
Data Extract and Validation	Asset Data Governance Specialist (Isabelle Blackman)	Manager Asset Information (Matt Tilyard)	BetterAIM (Mark Rippon)	BetterAIM (Mark Rippon)	N/A
Asset Data automation and load to Fulcrum	BetterAIM (Data Team)	BetterAIM (Mark Rippon)	TasWater Asset Information	N/A	N/A
Site Inspection	TasWater Operations (North and South)	TasWater Operation Manager (M Hartwell, E Valdes)	TasWater Asset Information	BetterAIM (Mark Rippon)	BetterAIM (Data Team)
Asset Data Post Processing Extraction and Automation	BetterAIM (Data Team)	BetterAIM (Mark Rippon)	TasWater Asset Information	N/A	N/A
Asset Data Post Processing and Validation	Asset Data Governance Specialist (Isabelle Blackman)	Manager Asset Information (Matt Tilyard)	BetterAIM (Mark Rippon)	TasWater Operations (North and South)	N/A
Data Extraction and Load to Maximo	Asset Data Governance Specialist (Isabelle Blackman)	Manager Asset Information (Matt Tilyard)	BetterAIM (Mark Rippon)	TasWater Operations (North and South)	N/A
Photo processing	BetterAIM (Data Team)	BetterAIM (Mark Rippon)	TasWater Asset Information	N/A	N/A
PowerBI Portal Management	BetterAIM (Data Team)	BetterAIM (Mark Rippon)	TasWater Asset Information	N/A	N/A

The delivery application

Navigation


Sub Process
DELWT02-046, PAC Dosing System - Deloraine WTP
last updated 6 days ago
DELWT02-106, FSA Dosing - Deloraine WTP
last updated 6 days ago
DELWT02-161, Soda Ash Dosing System - Deloraine WTP
last updated 6 days ago
DELWT02-162, Alum Dosing System - Deloraine WTP
last updated 6 days ago
Map View
Record
Sub Process
SAVE
Name
Soda Ash Dosing System - Deloraine WTP
AssetID
DELWT02-161
Photos
Notes
Asset Location
5 Items
Sub Process Unit
0 Items
Locate
Asset Location
DELWT02-024, Soda Ash System Spill Bunding - Deloraine WTP
last updated 6 days ago
DELWT02-049, Soda Dosing Pump - Deloraine WTP
last updated 6 days ago
DELWT02-021, Soda Ash Tank - Deloraine WTP
last updated 6 days ago
DELWT02-109, Soda Transfer Pump - Deloraine WTP
last updated 6 days ago
DELWT02-100, Soad Ash Batching - Deloraine WTP
last updated 6 days ago
Map View
Record

Navigation – Asset Screen – Entering Data



Asset number from Maximo, if New Asset created in field, use "AXXX "

Unit Class – Classification of asset. I.e. Type of asset, a searchable list, If you can't find, use "Other classification" below

Free Text Asset Description, enough for Asset Info to understand. Will be named to standard.

→ Description standard for Assets
Unit type - Make – Model
i.e. Dosing Pump Grundfos DDA 30-4

If new asset, select "New Asset"

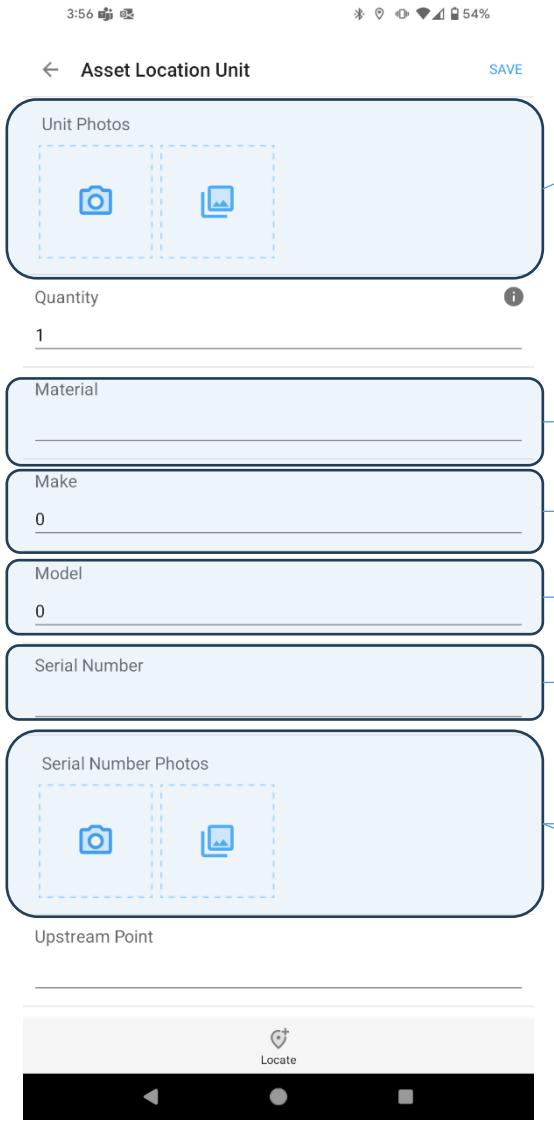
If can't find the asset, select "No"

→ By selecting "No", Fulcrum will ask you to put a reason in.
Please enter either:
- Asset doesn't exist

→ Note: iPad and iPhone allow the use of **speech to text**. This is highly effective to use.

If submerged, please select "Yes", and enter in the make, model, serial number **"unable to determine"**

Navigation – Asset Screen – Entering Data



Unit Photos – here you take a minimum of 2 photos
- Context (i.e. where the asset is)
- Close up of the asset

Material – This is typically reserved for tanks, pipework, valves.
The list is searchable and includes all TasWater's typical materials.

Free Text Make from Nameplate ("**unable to determine**" to be used)

Free Text Model number from Nameplate ("**unable to determine**" to be used)

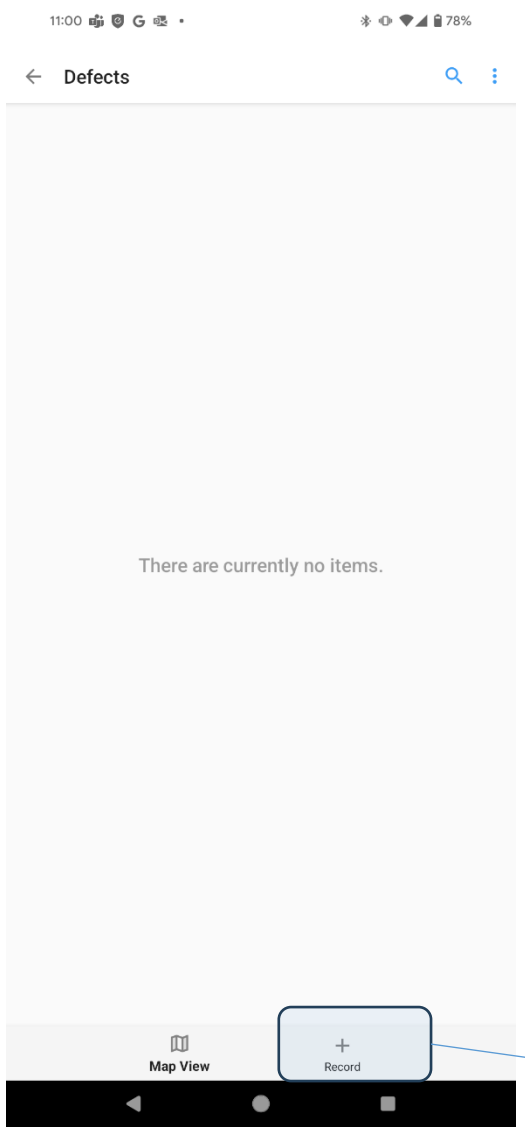
Free serial number from Nameplate ("**unable to determine**" to be used)

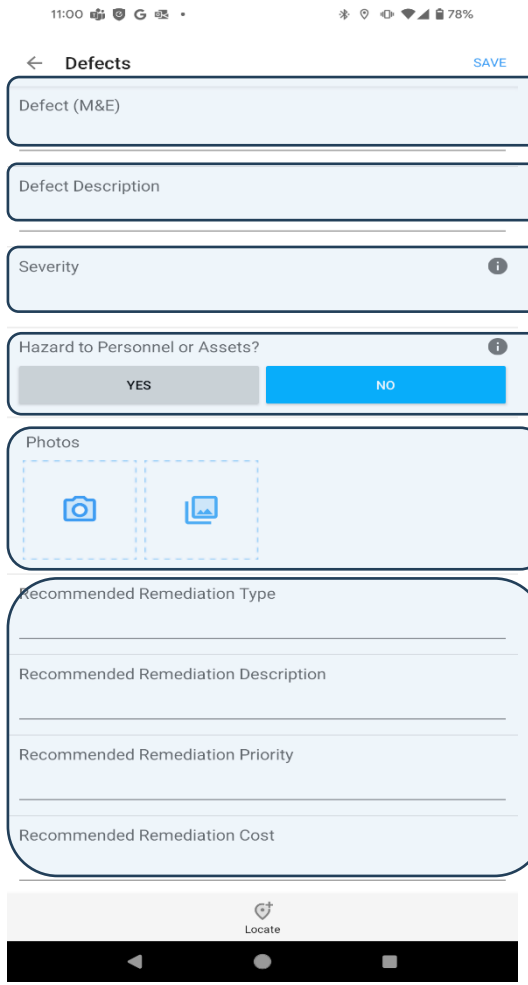
Serial Number Photo
Please make sure it's visible

Total minimum of 3 photos. But Fulcrum supports you to take as many photos as you need.

Note: Photos are not required at the Location level, although Fulcrum supports it.

Navigation – Defects





Pick list of typical defects

Free Text description field

How bad is the defect (Minor, Medium, Severe)

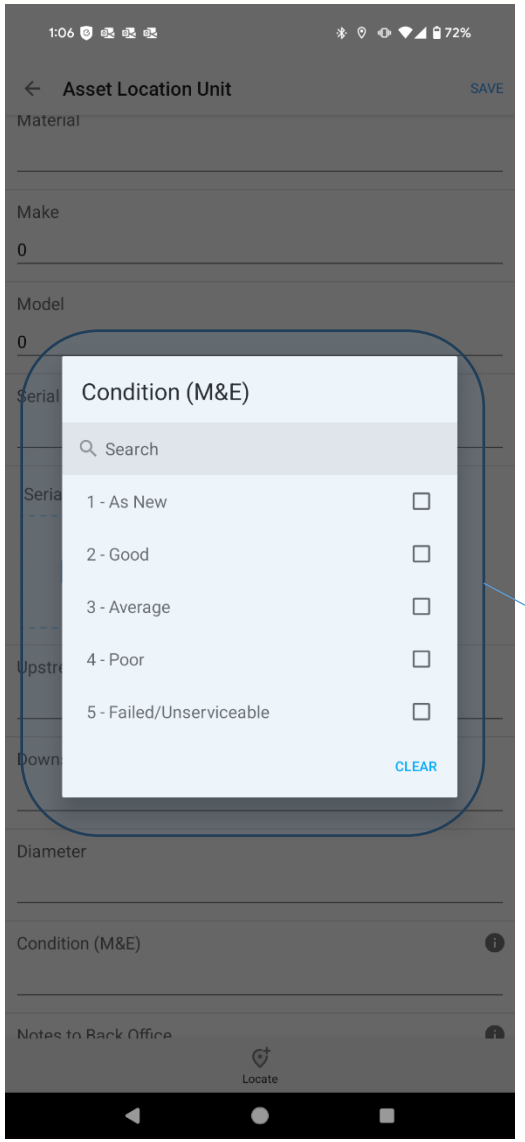
Is there a safety risk to people or assets?

Take as many photos as required to describe the defect

Your best efforts to describe how to fix it.
Type of remediation = pick list
Description = free text
Priority = pick list (how long can it wait)
Cost = your best estimate

To start a new defect.
I.e. damage, corrosion, poor performance, broken etc…

Navigation – Condition

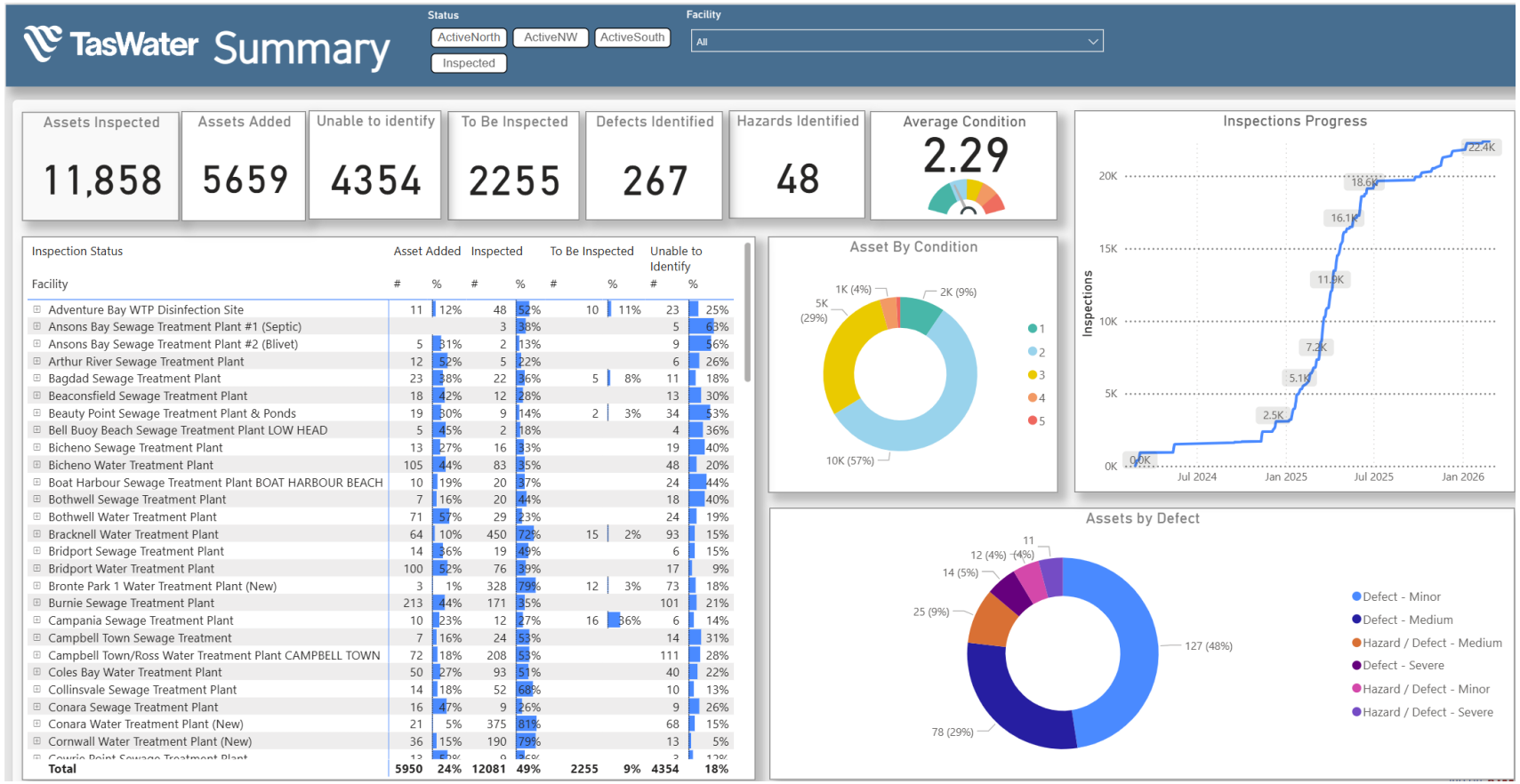


WSAA linked asset condition grading (this example M&E assets).

Rating	Condition	Description	Response	Estimated % Asset Useful Life Remaining
0	**Not rated**	Asset abandoned, or has been properly decommissioned, no longer exists (or should be removed from inaccurate plans), has not been condition rated (or assigned an extrapolated condition), or is unable to be rated due to serviceability issues.	Response will vary subject to circumstances e.g. an abandoned asset may experience vandalism, collapse etc., and pose a real danger that should be both monitored and managed.	Not applicable
1	**Very good**	Equipment in excellent physical condition, designed to meet current standards. Operable and well-maintained. Asset likely to perform adequately with routine maintenance. In the absence of any other information the asset will be at Condition Grade 1 at an age of less than 20% of the design useful life.	No immediate action required. Maintain standard programmed condition assessment and maintenance.	80% to 100%
2	**Good**	Acceptable physical condition but showing minor signs of wear. Deterioration has minimal impact on asset performance. Minimal short-term failure risk. Operational efficiency impacted. In the absence of any other information the asset will be at Condition Grade 2 at an age of between 20% and 50% of the design useful life.	No immediate action required other than planned maintenance. Maintain standard programmed condition assessment.	50% to 80%
3	**Fair or moderate**	Functionally sound equipment and components, but showing some wear with minor failures and some diminished efficiency. Minor components or isolated sections of the asset need replacement or repair but asset still functions safely at adequate level of service. For example, bearing and gland wear become evident and some corrosion present. In the absence of any other information the asset will be at Condition Grade 3 at an age of between 50% and 75% of the design useful life.	Take action as appropriate to address defects and replacement of components if necessary. Monitor with programmed condition assessment for rehabilitation and/or renewal in medium term. Continue or enhance planned maintenance program.	25% to 50%
4	**Poor**	Equipment and components function but require a high level of maintenance to remain operational. Likely to cause a marked deterioration in performance in short term. No immediate risk to health and safety but work required within two years to ensure asset remains safe. Substantial work required in short term, asset barely serviceable. Equipment is obsolete, spares and service components no longer available or difficult to obtain. Operating cost warrants renewal. In the absence of any other information the asset will be at Condition Grade 4 at an age of between 75% and 90% of the design useful life.	Take immediate action as appropriate to address the defects. Immediately undertake risk assessments and further investigate options. Schedule appropriate action – rehabilitation or renewal	10% to 25%
5	**Very poor**	Failed or failure imminent. Equipment and component effective life exceeded and excessive maintenance costs incurred. A high risk of breakdown with serious impact on performance. Health and safety hazards exist which present a possible risk to public safety or asset cannot be serviced/operated without risk to personnel. Item unable to be serviced due to technical obsolescence or inability to obtain required components. Major work or replacement required. In the absence of any other information the asset will be at Condition Grade 5 at an age of between 90% and 100% of the design useful life.	Take immediate action as appropriate to address the defects. Immediately undertake risk assessment and further investigate options. Schedule appropriate action – immediate rehabilitation or renewal. May require a higher priority and level of planned maintenance until rehabilitation or renewal is undertaken, particularly if a critical asset.	0% to 10%

Tracking our Progress

Approach – Data collection methodology – progress



Inspection Status	Asset Added		Inspected		To Be Inspected		Unable to Identify	
Facility	#	%	#	%	#	%	#	%
Adventure Bay WTP Disinfection Site	11	12%	48	52%	10	11%	23	25%
Ansons Bay Sewage Treatment Plant #1 (Septic)			3	38%			5	63%
Ansons Bay Sewage Treatment Plant #2 (Blivet)	5	31%	2	13%			9	56%
Arthur River Sewage Treatment Plant	12	52%	5	22%			6	26%
Bagdad Sewage Treatment Plant	23	38%	22	36%	5	8%	11	18%
Beaconsfield Sewage Treatment Plant	18	42%	12	28%			13	30%
Beauty Point Sewage Treatment Plant & Ponds	19	30%	9	14%	2	3%	34	53%
Bell Buoy Beach Sewage Treatment Plant LOW HEAD	5	45%	2	18%			4	36%
Bicheno Sewage Treatment Plant	13	27%	16	33%			19	40%
Bicheno Water Treatment Plant	105	44%	83	35%			48	20%
Boat Harbour Sewage Treatment Plant BOAT HARBOUR BEACH	10	19%	20	37%			24	44%
Bothwell Sewage Treatment Plant	7	16%	20	44%			18	40%
Bothwell Water Treatment Plant	71	57%	29	23%			24	19%
Bracknell Water Treatment Plant	64	10%	450	72%	15	2%	93	15%
Bridport Sewage Treatment Plant	14	36%	19	49%			6	15%
Bridport Water Treatment Plant	100	52%	76	39%			17	9%
Bronte Park 1 Water Treatment Plant (New)	3	1%	328	79%	12	3%	73	18%
Burnie Sewage Treatment Plant	213	44%	171	35%			101	21%
Campania Sewage Treatment Plant	10	23%	12	27%	16	36%	6	14%
Campbell Town Sewage Treatment	7	16%	24	53%			14	31%
Campbell Town/Ross Water Treatment Plant CAMPBELL TOWN	72	18%	208	53%			111	28%
Coles Bay Water Treatment Plant	50	27%	93	51%			40	22%
Collinsvale Sewage Treatment Plant	14	18%	52	68%			10	13%
Conara Sewage Treatment Plant	16	47%	9	26%			9	26%
Conara Water Treatment Plant (New)	21	5%	375	81%			68	15%
Cornwall Water Treatment Plant (New)	36	15%	190	79%			13	5%
Total	5950	24%	12081	49%	2255	9%	4354	18%

Live progress tracking to facilitate inspection timeliness and accuracy

Refresh intervals set:

- 9am,
- 12pm,
- 1pm,
- 2pm
- 3pm,
- 4pm,
- 5pm,
- 6pm

Approach – The live asset register

TasWater Assets

Status: ActiveNorth | ActiveNW | ActiveSouth | Inspected

Asset Hierarchy Filter

- Beaconsfield Sewage Treatment Plant
- Bridport Water Treatment Plant
- Cygnet Sewage Treatment Plant
- Deep Creek - Smithton Water Treatment Plan...
- Deloraine Water Treatment Plant
- Distillery Creek Water Treatment Plant WAVE...
- Dover Sewage Treatment Plant
- Exeter Sewage Lagoons Irrigation Scheme
- Forth River Water Treatment Plant FORTH
- Gawler River Water Treatment Plant ULVERST...
- George Town Sewage Treatment Plant BELL B...
- Huonville/Ranelagh Sewage Treatment Plant ...
- Kempton Sewage Treatment Plant

Text Search

backflow

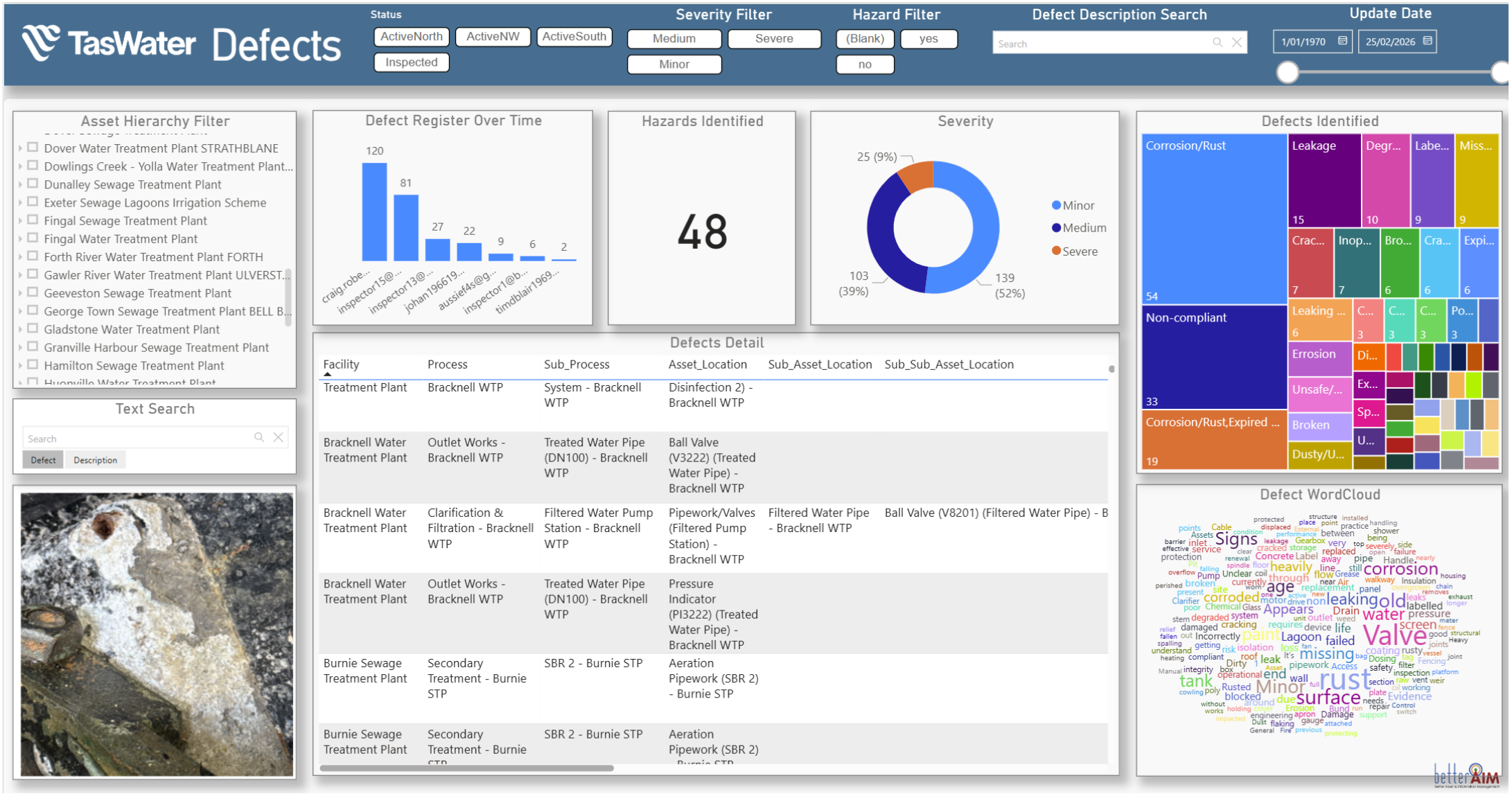
Asset ID | Asset Description

Unit Photo

Asset Detail

Facility	Process	Sub Process	Asset Location	Sub Asset Location	Unit Class	Asset ID	First Photo URL	Asset #	Asset Description
Beaconsfield Sewage Treatment Plant	Unallocated - Beaconsfield STP	RPZD - Beaconsfield STP			Back Flow Preventer RPZD	A950856		1	Rpzd - Backflow Prevention Device Bft1 Beaconsfield W Lagoons
Bridport Water Treatment Plant	Post Treatment - Bridport WTP	Sodium Fluoride Dosing - Bridport WTP	RPZD (Sodium Fluoride Dosing) - Bridport WTP		Back Flow Preventer RPZD	A953254		1	Dn20 Rpzd - Backflow Prevention Device Bpwt2 Bridpor Fluoride Station
Cygnet Sewage Treatment Plant	Support Systems - Cygnet STP	Service Water - Cygnet STP	RPZD - Cygnet STP (inlet screen)		Back Flow Preventer RPZD	A3384764		1	RPZD - Backflow Prevention Device Tyco 20mm Inlet Sc
			RPZD - Cygnet STP (potable supply)		Back Flow Preventer RPZD	A3384763		1	RPZD - Backflow Prevention Device Valvcheq 50mm
			RPZD - Cygnet STP (potable water supply)		Back Flow Preventer RPZD	A970560		1	Rpzd - Backflow Prevention
Deep Creek - Smithton Water Treatment Plant SMITHTON	Chemical Dosing - Smithton WTP	Sodium Fluoride Dosing - Smithton WTP	Backflow Prevention Device (Sodium Fluoride Dosing) - Smithton WTP		Back Flow Preventer RPZD	A726241		1	Fluoride Dosing Service Water Backflow Prevention Dev
Deloraine Water Treatment Plant	Unallocated - Deloraine WTP	RPZD - Deloraine WTP			Back Flow Preventer RPZD	A983597		1	Rpzd - Backflow Prevention Device 20mm Dlwt1 Delora - Chemical Room
						A983598		1	Rpzd - Backflow Prevention Device 20mm Dlwt1 Delora - Fluoride Room
Distillery Creek Water Treatment Plant WAVERLEY	Chemical Dosing - Distillery Creek WTP	Alum Dosing - Distillery Creek WTP	RPZD (Alum Dosing) - Distillery Creek WTP		Back Flow Preventer RPZD	A3384149		1	Rpzd - Backflow Prevention Device Dist Creek Alum Dos
		FSA Dosing - Distillery Creek WTP	Fluoride carrier water pipework		Back Flow Preventer RPZD				Fluoro carrier water backflow prevention device
		Poly Dosing - Distillery Creek WTP	RPZD (Poly Dosing) - Distillery Creek WTP		Back Flow Preventer RPZD	A3384148		1	Rpzd - Backflow Prevention Device Dist Creek Poly Dosi
Dover Sewage Treatment Plant	Lagoon Treatment - Dover STP	Discharge pump station			Back Flow Preventer RPZD	Axxx		1	Site water backflow device
	Support Systems - Dover STP	Service Water - Dover STP	Station Service Water Inlet - Dover STP	RPZD - Dover STP	Back Flow Preventer RPZD	A984090		1	Rpzd - Backflow Prevention Device Watts 50mm Dover Station Service Water Inlet
Exeter Sewage Lagoons Irrigation Scheme	Lagoon Treatment - Exeter STP	RPZD - Exeter STP			Back Flow Preventer RPZD	A987096		1	Rpzd - Backflow Prevention Device Tyco 25mm Ett1 Exe Lagoons
Forth River Water Treatment Plant FORTH	Chemical Dosing - Forth WTP	FSA Dosing - Forth WTP	Backflow Prevention (Fluoride Dosing) - Forth WTP		Back Flow Preventer RPZD	A753884		1	Fluoride Dosing System Backflow Prevention Backflow Prevention Device

Approach – Defect Tracking

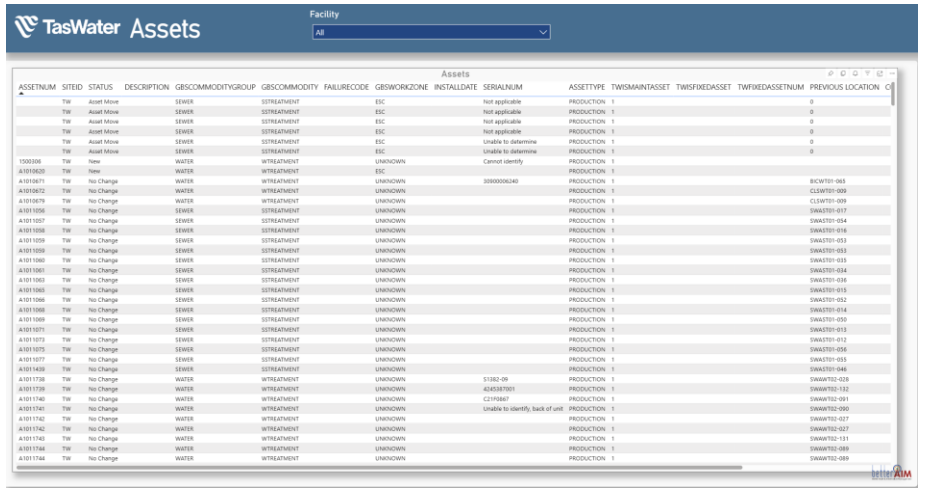


Approach – Data Post Processing

Fulcrum → Microsoft Excel → TasWater Assets

Live Data collection Database

Post Processing Database



Automated PowerBI data transformation

- Microsoft Excel → Assets Load Sheet
- Microsoft Excel → Asset Attributes Load Sheet
- Microsoft Excel → Locations Load Sheet
- Microsoft Excel → Locations Parent Change Load Sheet

Key Benefits

- Data delivered in **Maximo ready** MXLoader sheets - easy to integrate
- **Improved trust** in the data
- **Standardised hierarchy** across sites - easier navigation for operator
- Accurate **make and model data** - supports targeted maintenance planning, correct spares
- **Asset photos** linked to records - instant visual context in the field
- Visual **Asset Condition** has been captured across the facility
- Asset **Defects recorded** - supports renewal and repair planning
- **Improved understanding of site infrastructure**
- Supports **improved decision making**, planning, prioritisation, and risk management
- **Standards ready to scale** across other asset classes

Thank you for Listening.

Any Questions?

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Better Asset & Information Management

Come see BetterAIM at Booth 10 for a chance to win

Partnering for Better Data: How TasWater and BetterAIM Rapidly Transformed Asset Inspections

Mark Rippon [1]

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Matt Tilyard [2]

2. **TasWater, TAS, Australia**

Abstract TasWater's asset management transformation has focused on one of the most fundamental yet complex challenges in the sector: building confidence in asset data. Recognising that inconsistent, incomplete, and inaccessible data within Maximo limited operational efficiency and long-term planning, TasWater partnered with BetterAIM to design and implement a rapid, scalable digital inspection program.

Running from 2023 to 2025, the initiative integrates digital tools, structured governance, and on-the-ground capability development to deliver lasting value. The program combines BetterAIM's optimised mobile inspection application with real-time Power BI reporting and a tailored business process supported by training and a RASCI framework.

By extracting and restructuring existing Maximo data, the approach enabled inspectors to capture asset attributes, condition, and defects directly in the field, while maintaining full visibility of progress through live dashboards. Quality assurance and daily feedback loops ensured consistency, and automated post-processing enabled seamless integration back into Maximo.

To date, over 10,200 assets across 130 facilities have been inspected, resulting in significant improvements in data quality, structure, and trust. The enhanced dataset now supports lifecycle modelling, risk-based planning, and state-of-the-asset reporting.

The initiative demonstrates that digital inspections are not simply a data collection exercise, but a catalyst for organisational capability, improved decision-making, and asset management maturity.

Keywords Asset data, inspections, digital transformation, Maximo, asset management, condition assessment, utilities

1 Introduction

Confidence in asset data remains one of the most persistent challenges facing asset-intensive organisations. While systems such as Maximo are widely implemented, the quality, structure, and completeness of the data within them often limit their effectiveness. In practice, this results in reduced confidence in reporting, constrained decision-making, and inefficiencies in both operations and planning.

TasWater recognised that improving asset data was not simply a technical exercise, but a foundational requirement for advancing asset management maturity. Without trusted data, initiatives such as lifecycle modelling, risk-based planning, and predictive maintenance cannot be reliably implemented.

The challenge, however, was scale. TasWater operates a geographically dispersed portfolio of water and wastewater treatment facilities, each with varying levels of data quality and consistency. Traditional approaches to data improvement, such as manual audits or isolated system updates, were insufficient to address the breadth and complexity of the problem.

In response, TasWater partnered with BetterAIM to develop a structured, scalable approach to asset data improvement, centred on digital inspections, standardised processes, and real-time visibility. The objective was not only to improve data, but to embed capability and confidence across the organisation.

2 Framing the Data Challenge

At the outset of the program, several key challenges were identified.

Asset registers contained inconsistencies in hierarchy, naming conventions, and asset classification. In some cases, assets existed in the field but were not represented in the system. In others, assets remained in the system despite no longer existing. Attribute data was incomplete or unreliable, limiting its usefulness for planning and analysis.

These issues had direct operational consequences. Maintenance planning was based on incomplete information, defect identification lacked consistency, and reporting outputs could not be fully trusted. This created a cycle in which data was underutilised, reinforcing the perception that system data was unreliable.

Importantly, the issue was not a lack of systems or tools. Maximo was in place, and data structures existed. The challenge was the alignment between field reality and system representation, and the absence of a structured, repeatable process for maintaining that alignment.

3 Program Objectives and Approach

The program was designed to accelerate TasWater's Asset Data Improvement Plan through a structured inspection and validation process.

The primary objectives were to:

- Improve the quality, accuracy, and completeness of asset information
- Validate asset existence, condition, and hierarchy
- Standardise data capture aligned to TasWater standards
- Enable efficient digital collection and integration into Maximo
- Provide accessible, real-time insights to support decision-making

To achieve this, the program combined digital tools, defined processes, and clear governance. The approach was deliberately practical, focusing on enabling field teams to capture accurate data efficiently, while ensuring that outputs were structured for immediate use within enterprise systems.

4 Digital Inspection Framework and Delivery Model

The delivery model was deliberately designed to balance scale, consistency, and practicality. Rather than relying on ad hoc inspection activities or isolated audits, the program established a structured, tiered process that could be deployed consistently across TasWater's geographically dispersed portfolio.

The process commenced with the selection and prioritisation of sites, aligned to TasWater's Asset Data Improvement Plan. Existing asset data was extracted from Maximo and subjected to an initial review to identify gaps, inconsistencies, and structural issues. This step was critical in ensuring that inspections were not conducted in isolation, but were directly linked to improving the existing system of record.

The reviewed dataset was then configured and loaded into a mobile inspection environment, enabling field teams to operate from a pre-populated and structured baseline. This significantly improved efficiency in the field, as inspectors were not required to create data from scratch, but instead validate, update, and enhance existing records.

Inspections were undertaken using iPads configured with the Fulcrum application. The application was tailored specifically to TasWater's data standards, ensuring that all captured information aligned with enterprise requirements. This included enforced data fields, structured pick lists, and embedded logic to guide inspectors through the capture process.

A key strength of the approach was the level of detail embedded within the inspection interface. Inspectors were guided to capture not only asset existence, but also critical attributes such as make, model, serial number, material, and connectivity. Condition assessments were standardised using WSAA and IPWEA-aligned frameworks, ensuring consistency across asset classes and locations. Defect capture was structured to include severity, safety

implications, remediation requirements, and indicative cost, providing immediate value for planning and prioritisation.

Importantly, the process was supported by clear and practical field guidance. Standard naming conventions, classification structures, and data capture protocols were reinforced through training and embedded within the application itself. This ensured that data quality was not dependent on individual interpretation, but was driven by consistent standards.

The program also recognised the importance of building capability within the field workforce. On-site training was provided to TasWater staff and supporting resources, ensuring that inspectors understood both the technical requirements and the purpose of the data being collected. This significantly improved engagement and ownership of the process.

A defining feature of the delivery model was the integration of real-time progress tracking. Power BI dashboards provided live visibility of inspection progress, asset updates, and defect capture across all sites. Data refresh cycles throughout the day enabled active management of delivery, allowing issues to be identified and addressed immediately. This transformed inspections from a passive data collection activity into an actively managed operational program.

5 Data Processing and System Integration

The transition from field data capture to enterprise system integration was a critical component of the program. Without this step, improvements in data quality would remain isolated and fail to deliver value within operational systems.

Inspection data was transferred into a structured post-processing environment, where it underwent validation, standardisation, and transformation. This process ensured that all data aligned with TasWater's asset data standards and was suitable for integration into Maximo.

A key aspect of this stage was the automation of data preparation. Load sheets were generated for assets, attributes, and locations, structured specifically for Maximo ingestion. This included updates to existing records, creation of new assets, and removal or correction of redundant entries.

MXLoader was then used to upload the data into Maximo, significantly reducing the time between inspection and system availability. This automation eliminated the need for manual data entry, reducing the risk of error and ensuring that improvements were realised quickly.

The integration approach ensured that the inspection program directly enhanced the enterprise asset management system. Rather than creating parallel datasets or temporary improvements, the program embedded data quality improvements within the system used for day-to-day operations, planning, and reporting.

This alignment between field data and enterprise systems is a critical enabler of asset management maturity. It ensures that decisions are based on accurate, current, and trusted information.

6 Outcomes and Benefits

The program delivered significant and measurable improvements in both asset data quality and organisational capability.

Across approximately 130 water and wastewater facilities, more than 10,200 assets were inspected. This process resulted in the identification and creation of over 5,500 new assets, while approximately 4,000 redundant or incorrect assets were removed from the register. This represents a fundamental improvement in the accuracy and completeness of TasWater's asset base.

Beyond these quantitative outcomes, the program delivered substantial improvements in data structure and usability. Asset hierarchies were restructured to align with functional locations, improving navigation within Maximo and enabling more intuitive access to asset information. Naming conventions were standardised, reducing ambiguity and improving consistency across sites.

The enrichment of asset attributes has provided a stronger foundation for analysis and planning. Information such as make, model, material, and connectivity is now consistently captured, enabling more detailed lifecycle modelling and maintenance planning.

Condition assessments and defect records have been captured in a structured and consistent manner, providing a reliable basis for identifying risk and prioritising interventions. The visibility of asset condition across facilities has improved significantly, enabling a more proactive approach to maintenance and renewal.

Importantly, these improvements have restored confidence in asset data. This has enabled more informed decision-making across the organisation, supporting initiatives such as risk-based planning, state-of-the-asset reporting, and long-term investment planning.

Operationally, the program has reduced the lag between data capture and availability. The integration of real-time dashboards has improved transparency and accountability, enabling more effective management of inspection progress and data quality.

Collectively, these outcomes demonstrate that improving asset data is not an isolated exercise. It directly enables better operational performance, planning, and strategic decision-making.

7 Lessons Learned

The program has provided several important lessons for organisations undertaking similar initiatives.

A key insight is that asset data improvement must be treated as an operational program rather than a technical project. Success depends on the integration of people, processes, and systems, rather than the implementation of tools alone.

Co-design between asset management, operations, and data teams proved critical. Each group brings a different perspective, and alignment between them ensures that data is both accurate and useful. Without this alignment, data improvement efforts risk becoming disconnected from operational reality.

The importance of structured communication and training cannot be overstated. Field teams must understand not only how to capture data, but why it matters. This improves both data quality and engagement, and supports long-term sustainability of the process.

Rapid feedback loops were a significant enabler of success. The use of real-time dashboards and daily review cycles allowed issues to be identified and addressed immediately. This prevented the accumulation of errors and ensured that data quality was maintained throughout the program.

Finally, the program reinforced that digital inspections should be viewed as a capability, not a one-off activity. The true value lies in establishing a repeatable, scalable process that can be applied continuously across the asset lifecycle.

8 Scalability and Sector Implications

The approach developed through this program provides a clear and scalable model for other utilities facing similar challenges.

The combination of digital tools, structured processes, and governance can be adapted to a wide range of asset types and organisational contexts. The principles underpinning the approach are not technology-specific, making it applicable across different systems and platforms.

A key implication for the sector is the importance of aligning field data capture with enterprise systems. Many organisations invest heavily in digital platforms, but fail to ensure that the data within those systems reflects operational reality. This program demonstrates how that alignment can be achieved in a structured and efficient manner.

The program also highlights the importance of building trust in asset data as a foundation for asset management maturity. Without reliable data, more advanced capabilities such as predictive maintenance, optimisation, and risk-based planning cannot be effectively implemented.

The partnership between TasWater and BetterAIM demonstrates the value of combining internal knowledge with external expertise. This collaborative approach accelerates delivery, reduces risk, and enables organisations to achieve outcomes that would be difficult to deliver independently.

9 Conclusion

The TasWater asset inspection program demonstrates that improving asset data is not simply a technical challenge, but a fundamental operational one. It requires structured processes, capable tools, and strong collaboration across the organisation.

By focusing on practical delivery, real-time visibility, and seamless integration with enterprise systems, the program has transformed how asset data is captured, validated, and used. The result is not only a more accurate asset register, but a more capable organisation, able to make informed, evidence-based decisions with confidence.

The program also reinforces a broader insight for the sector. Digital transformation in asset management is not achieved through systems alone. It is achieved through the alignment of data, processes, and people into a cohesive and repeatable model of delivery.

Ultimately, better data enables better decisions. By establishing a scalable and sustainable approach to asset data improvement, TasWater has created a platform for ongoing asset management maturity, supporting more efficient, resilient, and value-driven service delivery into the future.