BUILDING
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PARTNERSHIP

Code of Practice for Three Waters Asset Data

Part 2 – Implementation

Quake Centre
Delivering Industry Solutions

Table 1 : List of versions and modifications made in Part-2 (Implementation) of COP for 3 Waters Asset Data

Version	Date	Prepared/Modified by	Approved by	Brief Description of Changes
1.0.	13/02/20	Pulith Kapugama / James Thorne / Purvi Pancholy	Greg Preston	
2.0.	24/07/20	James Thorne / Purvi Pancholy / Rachel Buer	Greg Preston	General revisions and added sections 2.5 to 2.7

Contents

2 Part 2 – Implementation

2.1 Introduction

Part 2 of the CoP provides guidance on how the document can be implemented by an organisation.

2.2 Implementation considerations

Implementation of the CoP combines the organisation's needs with those of the data software and the data standard.

Organisation needs and processes

This includes:

- Data required for the organisation to satisfy legislative requirements and deliver agreed levels of service
- Resources available/required to collect data
- Timing for adoption of the CoP (and NZAMS).

Data collection common practices

Need to consider:

- When data is typically collected? (Asset handover/ CCTV/ repair)
- How data is typically collected? (Survey/ handheld devices/ field checklists)

Software/system needs and processes

Need to consider:

- What changes, if any, are required to the software system to implement the required changes?
- Will any secondary processing be required to capture and present data in the CoP format?
- Can existing data standards of the organisation be mapped onto the CoP data standards to avoid unnecessary overhaul?
- What data cannot be captured as per CoP due to software restrictions?

The CoP attribute tables and code lists are available in electronic format to make implementation and integration with software systems easier.

Data standards

Need to consider:

- Which asset classes and attributes are appropriate for collection for the organisation?
- What value is gained from collecting data, balanced against the cost of collection?
- What other data is still required to be collected over and above what is included in the CoP?
- What existing organisation data is able to be mapped onto the CoP data standard?

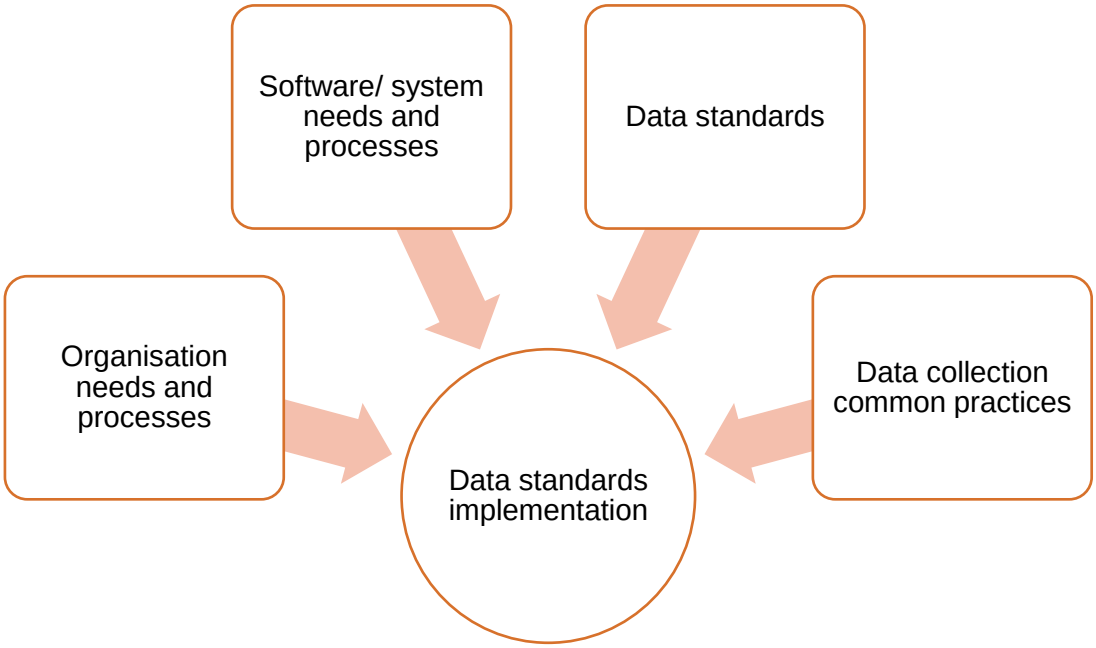

Figure 2-1 Data standards implementation considerations

2.3 Implementation flowchart

Figure 2-2 describes the process for implementing the CoP.

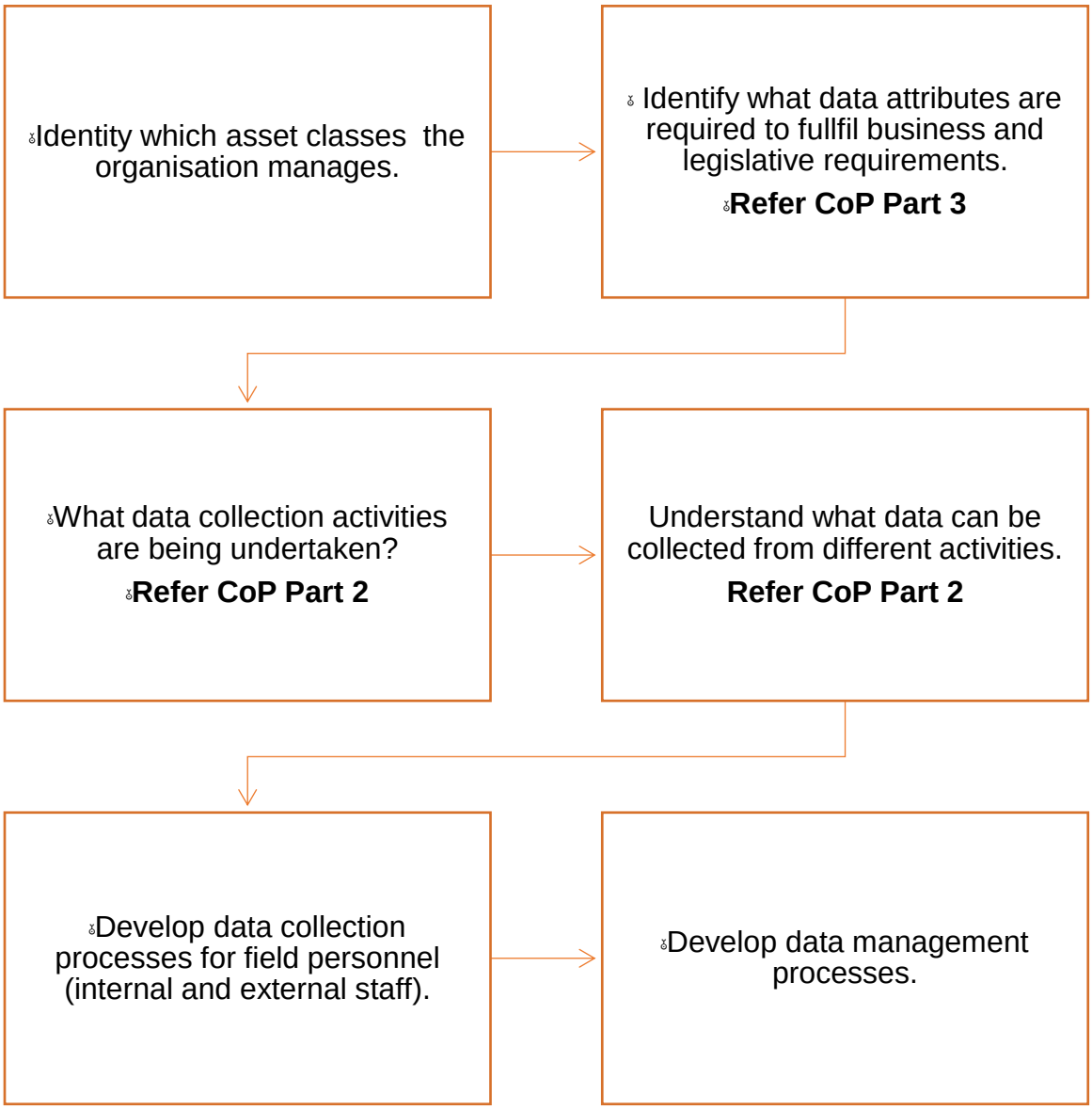

Figure 2-2 Data standards implementation flow chart

2.4 Data collection from events

The best time to collect data is at the time of construction and handover. However, data can also be collected during the life of an asset when an event or activity is undertaken on it.

Table 2 – 1 provides an example of the attribute data that is recommended to be collected on a pipe asset for the commonly occurring events of:

- Asset handover
- CCTV of asset
- Repair of asset.

The repair column in the table assumes a spot repair where data is collected based on what is uncovered at the repair location.

Table 2 – 1 Recommended collected data from events for pipe asset class

Attribute name	Handover	CCTV	Repair
Project Name	Yes	No	No
Project Type	Yes	No	No
Design Company	Yes	No	No
Plan Number	Yes	No	No
Construction Company	Yes	No	No
Vertical Reduced Datum	Yes	No	No
Origin Reduced Level	Yes	No	No
Coordinate System	Yes	No	No
Origin Coordinate Northing	Yes	No	No
Origin Coordinate Easting	Yes	No	No
Surveyed Date	Yes	No	No
Permit Number	Yes	No	No
Permit Expiry Date	Yes	No	No
Asset Class	Yes	Yes	Yes
Unique Identifier	Yes	Yes	Yes
Owner	Yes	No	No
Network Type	Yes	Yes	Yes
Status	Yes	Yes	Yes
Construction Date	Yes	No	No
Manufacturer	Yes	No	No
Date of Commission of the Asset	Yes	No	No
Maintenance Provider	Yes	No	No
Decommission Date	No	No	No

Attribute name	Handover	CCTV	Repair
Design Life	Yes	No	No
Cost	Yes	No	No
Operational Management Area	Yes	No	No
Warranty End Date of the Asset	Yes	No	No
Manufacturing Serial Number for the Asset	Yes	No	No
Manufacturer/Supplier Model for Asset	Yes	No	No
Related Complex Asset Unique ID	Yes	Yes	Yes
Purpose	Yes	Yes	Yes
Pipe Type	Yes	Yes	Yes
From Node	Yes	Yes	No
From Node Invert Level	Yes	No	No
From Node Invert Depth	Yes	Yes*	No
To Node	Yes	Yes	No
To Node Invert Level	Yes	No*	No
To Node Invert Depth	Yes	Yes*	No
Pipe Shape	Yes	Yes	Yes
Length	Yes	Yes	No
Node To Node Length	Yes	No	No
Internal Diameter	Yes	No	Yes
Nominal Diameter	Yes	Yes**	Yes
External Diameter	Yes	No	Yes
Pipe Height	Yes	Yes**	Yes
Pipe Width	Yes	Yes**	Yes
Material	Yes	Yes	Yes
Material subset	Yes	No***	No***
Drop Structure	Yes	Yes	No
Drop Invert Level	Yes	No*	No
Pipe Class	Yes	No	No
Joint Type	Yes	No	No
Installation Method	Yes	No	No
Pipe protection	Yes	No	Yes
Rehabilitation Method	No	Yes	Yes
Rehabilitation Installation Date	No	No	No
Pipe Above/Under Ground	Yes	Yes	Yes
User Comments	No	No	No

* Depth to invert may be measured if the CCTV operator is instructed to do this (an optional requirement under New Zealand Gravity Pipe Inspection Manual).

** Dimensions are typically estimated, rather than measured. Typically record one of Internal/Nominal/External Diameter and calculate the others.

*** Material subset identification can be ambiguous, so it is recommended to record the primary material only during these activities.

2.5 Mapping to the CoP

There may be existing data in an organisation that can be mapped to the CoP data standard rather than overhauling the existing data. For example, an organisation may classify a pipe in the water supply under their own “WS PIPE” asset class label. This can be mapped onto the CoP asset class “Pipe” and network type “Potable”.

The mapping process can be set up once initially, and then rerun every time that data is transmitted using the CoP data standard.

2.6 Requirements over and above the CoP

The CoP is presented as minimum viable standard for data collection for core as-constructed data. Organisation may have data requirements that are over and above what is in the CoP. The CoP does not preclude organisations from collecting and managing additional data, and they should continue to do so according to their requirements.

Some of this additional data may be for values that are not included in the CoP code lists. The CoP allows for custom codes to be used as necessary.

2.7 Updates and feedback

The CoP will be updated over time to ensure that it continues to meet the objectives in Part-1 (Development context and philosophy). Requests for changes to the data standards and CoP feedback can be sent to the Building Innovation Partnership.

2.8 References

Water New Zealand. (2019). *New Zealand Gravity Pipe Inspection Manual – draft,* (NZAMS 2017). Retrieved fromwaternz.org.nz January 2020.

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