Road Structures Validation - Work Instruction

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Task

As part of the roll-out of the AWM system, the structures within the system must be reviewed and validated to ensure that:

1. An accurate picture of the total structure asset base on the network and their locations
2. That the basic details of the structures are correct

Provincial staff will review the structures within their province to confirm the overall inventory and quality of the data.

The task has the following parts to it:

- Picking up any missing assets that should be in AWM.
- Identifying any assets which have been loaded in AWM as the wrong class of asset (bridge loaded as a causeway for example).
- Confirming the location of the individual assets based on aerials/local knowledge.
- Reviewing the basic information for the asset and ensuring that it is correct.

To complete this task, you will be required to do a mix of the following:

- Add new assets – any missing assets.
- Move an asset on the map – assets in the wrong place should be shifted to the correct place.
- Update the shape of the asset on the map – if the shape displayed on the map doesn't match the visible asset on the aerial, it should be updated to match.
- Update an asset record's data – structures with incorrect or unknown data should have this data corrected.
- Raise a Data Fix Request for assets that are in the database as the wrong class (Bridge when they should be causeway for example)

For those assets that have been field inspected in ODK only a minimum number of asset record fields should be reviewed.

For other assets as much information as can be remembered should be loaded against the record – bearing in mind that this desktop review is only the first stage and there will be an opportunity to get better data in the field using AWM Mobile later.

To assist in the task, a map layer package "Structures Review" has been created.

Missing assets

If there is a creek, river, or other site that should have a structure where it is missing in AWM, you will need to add a new record of the appropriate structure type.

There is a minimum amount of data that must be loaded against the asset that varies by the class of the asset – see **Minimum Data Requirements**.

Wrong class of asset

If an asset has been loaded into AWM as the wrong class (a bridge loaded in as a causeway for example), you will need to raise a data fix request to get the AMB team to update the system with a new record of the appropriate class and delete to history the old record (this way it allows the AMB team to manage the changes in links to the ODK data that is in the process of being imported).

Confirming the location of the asset

The location of the asset should be against the satellite aerials (or alternative base-map layer if the quality of the imagery in the default satellite imagery is poor). This should allow you in most cases to both:

1. Move the asset to the appropriate place based on the aerials

2. Adjust the shape of the asset to match dimensions that can be seen in the aerials – note that for river crossings, major culverts and tunnels this will be an estimated shape given their nature.

Confirm basic data for the asset

The following basic (and generally common across all structure assets) fields should be checked and the data validated:

- Name
- Local Name
- Carried Function
- Crossed Function
- Road Lanes (if Carried = Road)
- Obstacle Name (if Crossed is a waterway) – if not in the drop down list use the next field
- Name Not In List – use this field for river/creek name if it doesn't appear in the drop down list for Obstacle Name
- [**Bridges**] Spans – the number of spans, enter -1 if not known

While you are required to validate the data listed above, see **Minimum Data Requirements** for the different asset types, as some records may require more information to be entered to allow you to save it (follow the guide for what to do for different field types listed in **Minimum Data Requirements**).

Assets that have been validated in the field using ODK follow a slightly different process – see the **ODK Data** section below.

ODK Data

Note that the ODK data for the structures that have been inspected to date is in the process of being loaded into the database over the next week (as at 26/11/2024) – this data will be available through the Hierarchy blade on the record.

For these assets, the Confirm basic data step can be ignored as the ODK data will be transferred from the import table to the main record. The other steps of ensuring their location and class should be undertaken, however.

Minimum data requirements

At a minimum the following data will need to be populated when creating new or updating an existing structure to be able to save the record.

In all cases, if you are unsure, follow the following process:

Drop-down/lookup lists – Unknown if you're not sure, otherwise populate

Number fields – If they should always be positive numbers (such as number of spans) enter -1 if you are unsure, otherwise populate – entering -1 means it's immediately obvious that this isn't a real value.

Date fields – construction dates for major structures – if unknown, enter 1/1/1800, if the year is known, then enter 1/1/year, otherwise the known date

Text fields – if required and not known (a culvert's name for example), simply enter Unknown

Bridges

- Bridge Type
- Name
- Local name – if it has one
- Carried Function
- Crossed Function
- Road Lanes (if Carried = Road)
- Waterway Name (if Crossed is a waterway) – if not in the drop down list use the next field
- Name Not In List – use this field for river/creek name if it doesn't appear in the drop down list for Waterway Name
- Span Count = -1 if you don't know, otherwise enter the number of spans
- Span Arrangement = Unknown, unless you have good data in which case load the spans in the format span number/length in m; span number/length in metres – e.g. 3 span bridge might be 1/8.3m; 2/7.1m; 3/6.4m
- Superstructure Cross Section
- Superstructure Long Section
- Beam Type
- Deck Type
- Parapet Type
- Surface Thickness (if Carried = Road) = suggest entering -1 here unless you really know what thickness of asphalt is sitting on top of the deck
- Abutment Type
- Abutment Material
- Abutment Cap
- Abutment Bearing
- Pier Type
- Install Date – see note on dates above, use 1/1/1800 if unknown.

Major Culverts

- Name (if it has one)
- Local Name (again if it has one)
- Carried Function
- Crossed Function
- Road Lanes (if Carried = Road)
- Waterway Name (if Crossed is a waterway) – if not in the drop down list use the next field
- Name Not In List – use this field for river/creek name if it doesn't appear in the drop down list for Waterway

Name
- Single or Multi
- Culvert Pipe Shape
- Culvert Material
- Has Headwall (Yes/No)
- Grate
- Construction Date – see note on dates above, use 1/1/1800 if unknown
- Horizontal Pipe Length – if unknown use -1

Causeways

- Name (if it has one)
- Local Name (again if it has one)
- Carried Function
- Crossed Function
- Road Lanes (if Carried = Road)
- Waterway Name (if Crossed is a waterway) – if not in the drop down list use the next field
- Name Not In List – use this field for river/creek name if it doesn't appear in the drop down list for Waterway Name
- Single or Multi
- Culvert Pipe Shape
- Culvert Material
- Has Headwall (Yes/No)
- Grate
- Construction Date – see note on dates above, use 1/1/1800 if unknown
- Horizontal Pipe Length – if unknown use -1
- Construction Date – see note on dates above, use 1/1/1800 if unknown
- Causeway Material
- Number of pipes – enter -1 here if uncertain as to actual number, 0 if there are no pipes in the causeway
    - If Number of Pipes is 1 or more, the following will be required
        - Culvert Pipe Shape
        - Culvert Material
        - Grate

River Crossings

- Name (if it has one)
- Local Name (again if it has one)
- Crossed Function
- Obstacle Name (if Crossed is a waterway) – if not in the drop down list use the next field
- Name Not In List – use this field for river/creek name if it doesn't appear in the drop down list for Obstacle Name
- Unsafe to cross – if uncertain leave blank otherwise populate

Tunnels

- Tunnel Type
- Tunnel Name
- Local Name (if it has one)
- Road Lanes – if Allows Vehicles = Yes
- Number of walkways – if Allows Pedestrians = Yes
- Tunnel Construction
- Type of Structural Lining

- Tunnel Shape
- Tunnel Diameter if Shape = Round (enter -1 if not known)
- Tunnel Height – if shape not round (enter -1 if not known)
- Tunnel Width = if shape not round (enter -1 if not known)
- If Allows vehicle = Yes then the following will be required (again, enter -1 if not known):
    - Ceiling Height
    - Maximum Trafficable Height
    - Kerb to Kerb
- Viable Detour

Tracking the task

Progress of this task will be tracked using some automated reporting based on the field “Data Status” that can be found on all structure records.

As part of the process of reviewing each structure, once reviewed, the data status field should be set from “Requires Validation” to “Desktop Validated”.

The layers provided in the Structures Review map package are set up to change colour to black when they are completed – you can use this to track where you are up to in the process of validating the data.