

# Structures Inventory Procedure

ETP-09-01

## Applicability

ARTC Network Wide SMS

## Publication Requirement

Internal / External

## Primary Source

ETG-09-01

## Document Status

Version #	Date Reviewed	Prepared by	Reviewed by	Endorsed	Approved
1.1	23 Aug 23	National Bridges & Structures Engineer	Stakeholders	Manager Track and Civil Standards	Head of Engineering Standards 05/10/2023

## Amendment Record

Amendment Version #	Date Reviewed	Clause	Description of Amendment
1.0	20 Mar 23		Document renumbered from ETG-09-01, additional requirements added for name plate and Fig 1 replaced with ballast top concrete bridge sketch
1.1	23 Aug 23		Words 'name plate' replacement with 'structures identification (ID)', type of ID for each structure type clarified, plaque modified and structures sketches updated to include track directions and naming conventions.

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**Mandatory requirements also exist in other documents.**

**Where alternative interpretations occur, the Manager Track & Civil Standards shall be informed so the ambiguity can be removed. Pending removal of the ambiguity the interpretation with the safest outcome shall be adopted.**

## 1 General

This document forms an integral part of Section 9 of the ARTC Track and Civil Code of Practice ETS-09-00 and details the requirements for inventory information associated with Structures listed in Table 9.1 of the ETS-09-00.

Inventory is a set of descriptive data that defines structural assets and is used in the management of structures.

Typical rail structures assets and elements are defined in AS (AS/NZS) 5100 'Bridge Design' and AS 7636 'Railway Structures' codes.

## 2 Structure Identification

All bridges and structures shall have a structure's identification(s) (ID) and located as follows:

1. Underbridges:
  - a. Concrete span bridge - an engraved brass plaque shall be fabricated and fitted to the outside of the ballast or derailment kerb at approximately 1.0 m from the edge of Abutment 1 breast wall.
  - b. Steel span bridge – an aluminium plaque shall be fabricated and fixed on the external main girder's web at approximately 1.0 m from the edge of Abutment 1 breast wall.
  - c. The kilometrage at Abutment 1 is the identifying kilometrage for that structure. The kilometrage at Abutment 2 is the kilometrage of Abutment 1 plus length of bridge.
  - d. For underbridge less than 10 m long, the ID plate may be installed at Abutment 1 only.
  - e. Where any adjoining bridge or structure is likely to obscure ID plate then it shall be located on opposite side.
2. Overbridges: an engraved plaque fixed on the abutment or pier adjacent to the furthest Down track facing the direction of decreasing kilometrage.
3. Footbridges: as for overbridges.
4. Culverts: an engraved plaque or painted on the city end Down side headwall or wingwall. Where culverts are not visible from track level then ID is defined by white painted suitable post. The post is located directly above the culvert, at least 1m above ground level and about 3m from track centerline. It shall be clearly visible from track.
5. Tunnels: an engraved plaque on the Down side of the Portal 1, and another one on the Up side of the Portal 2.

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6. Miscellaneous Structures: ID painted on structure, if practical, on the Downside of the track facing the direction of decreasing kilometrage.

The above requirement is not to be applied retrospectively.

The following information shall be provided for the ID:

- Responsible authority e.g. ARTC
- Kilometrage
- Year of construction

The ID plate shall comprise of a 450 mm wide X 340 mm high aluminium plate for steel span and brass plate for all other structures with the required information engraved on a raised surface in accordance with Figure 2.1 below. Each letter or number of the text shall be as stated in Figure 2.1 and suitably wide. The fixing shall be by 4 off brass or zinc plated 6 to 10mm diameter Ramset or other non-removable theft resistance fasteners.

The ID plate shall be coated with a clear anti-graffiti coating if required by Project Manager.

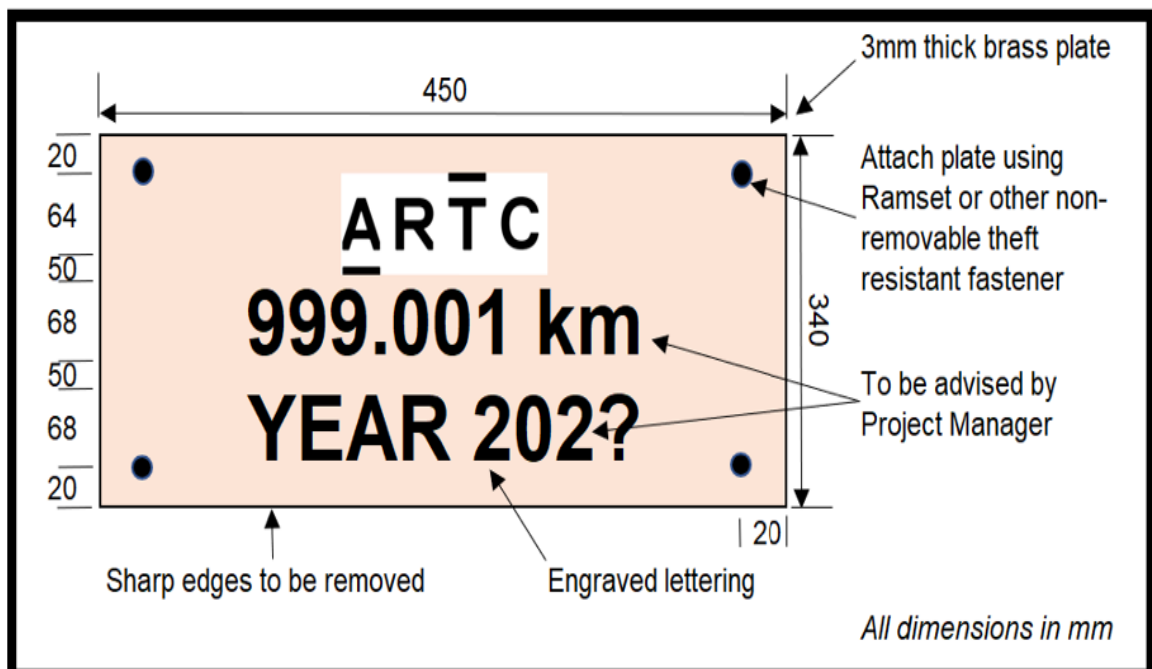


Figure 2.1 Structure ID Plaque details

### 3 Span Length

The length of each span is measured as follows:

#### 3.1 Single Span Bridge

The overall length of superstructure between abutment ballast walls/logs.

#### 3.2 Multiple Span Bridge

- For end spans the distance between the end of the superstructure at the abutment and the centreline of the first intermediate support (eg a pier or trestle).
- For intermediate spans the distance between the centreline of the supports at each end of the span.

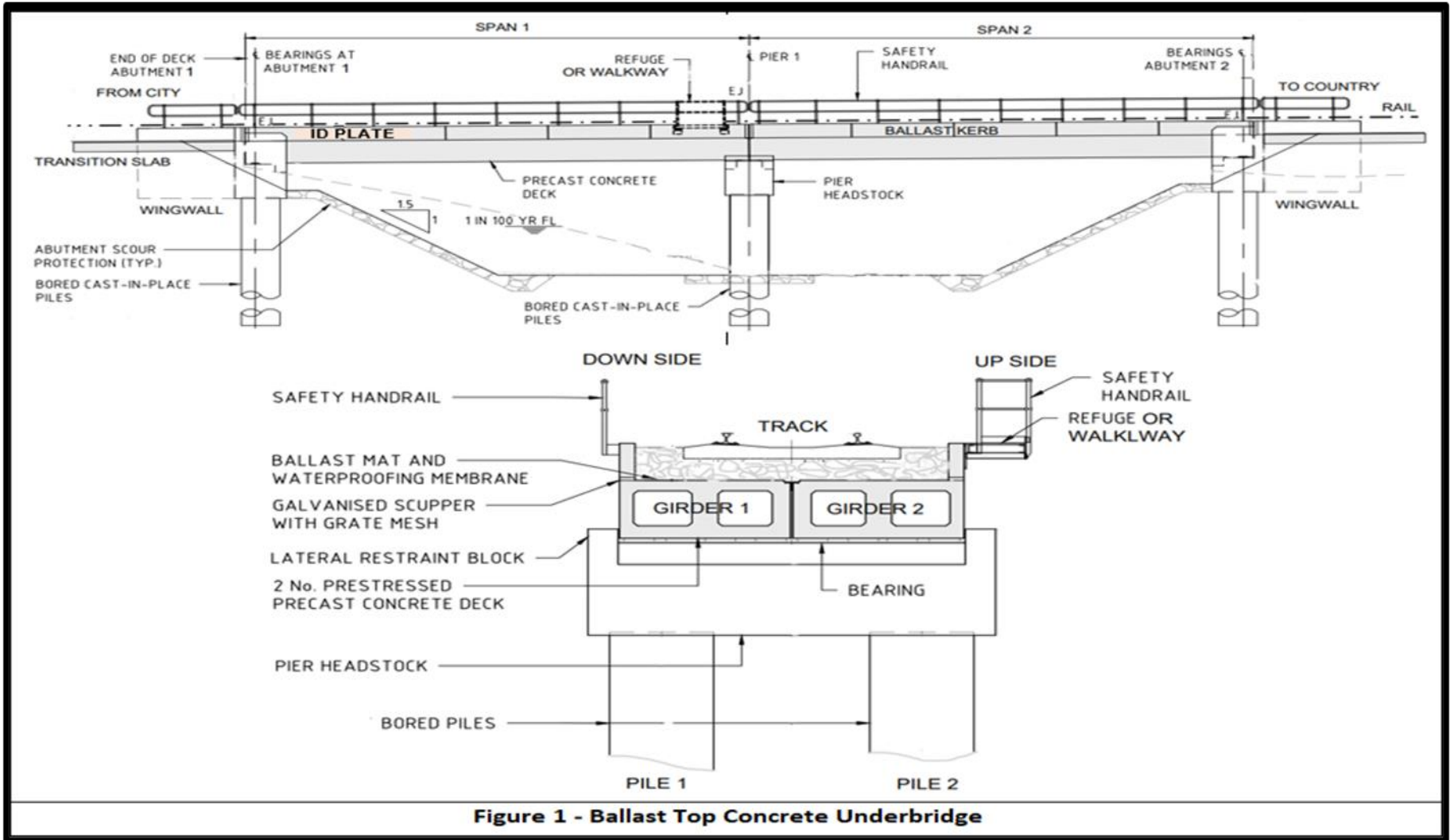
**3.3 Culvert**

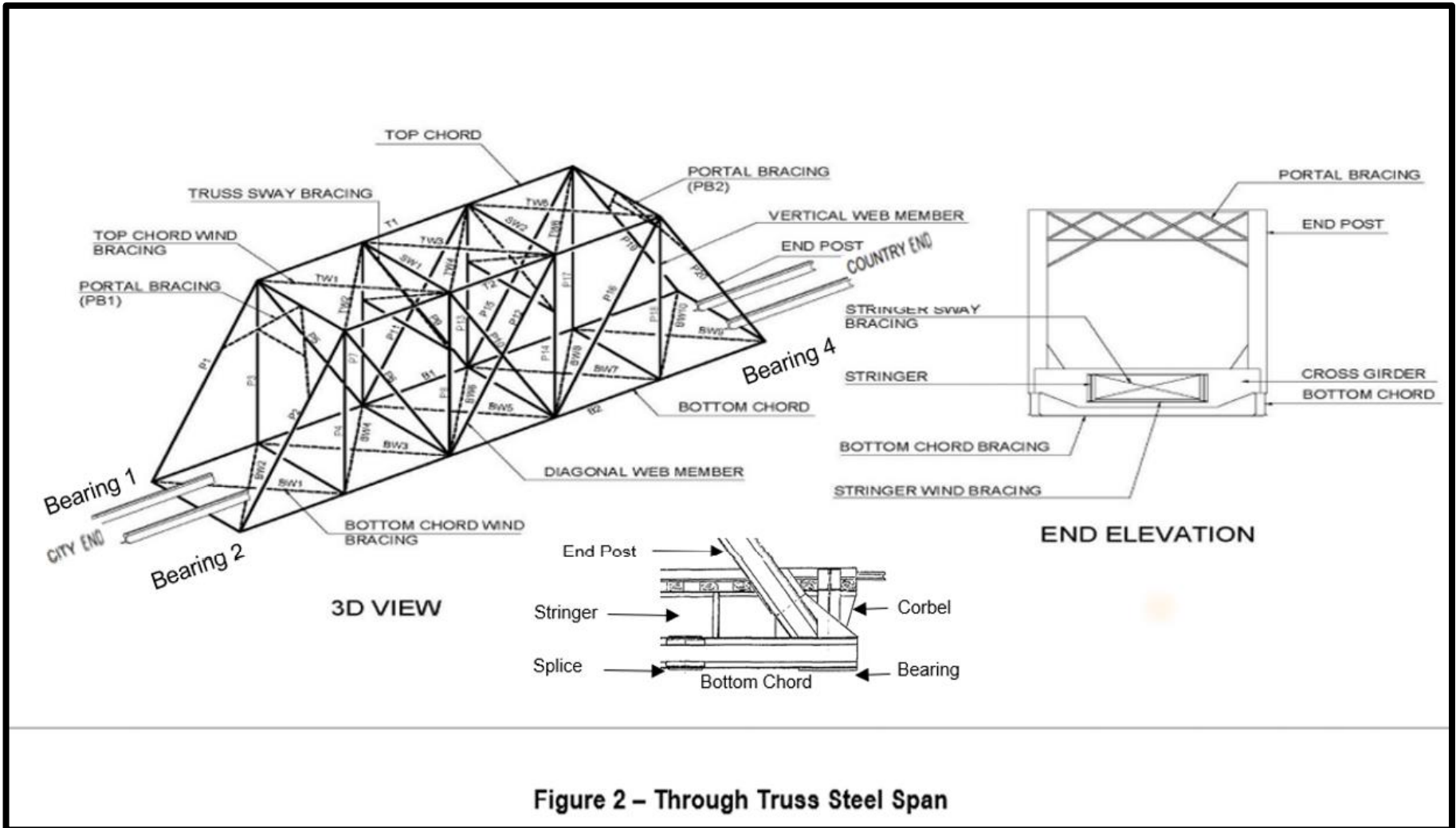
The maximum internal width (or diameter) of individual openings.

**3.4 Tunnel**

The length between the facing wall of each portal.

Appendix 1 – Sketches of Typical Bridges & Spans





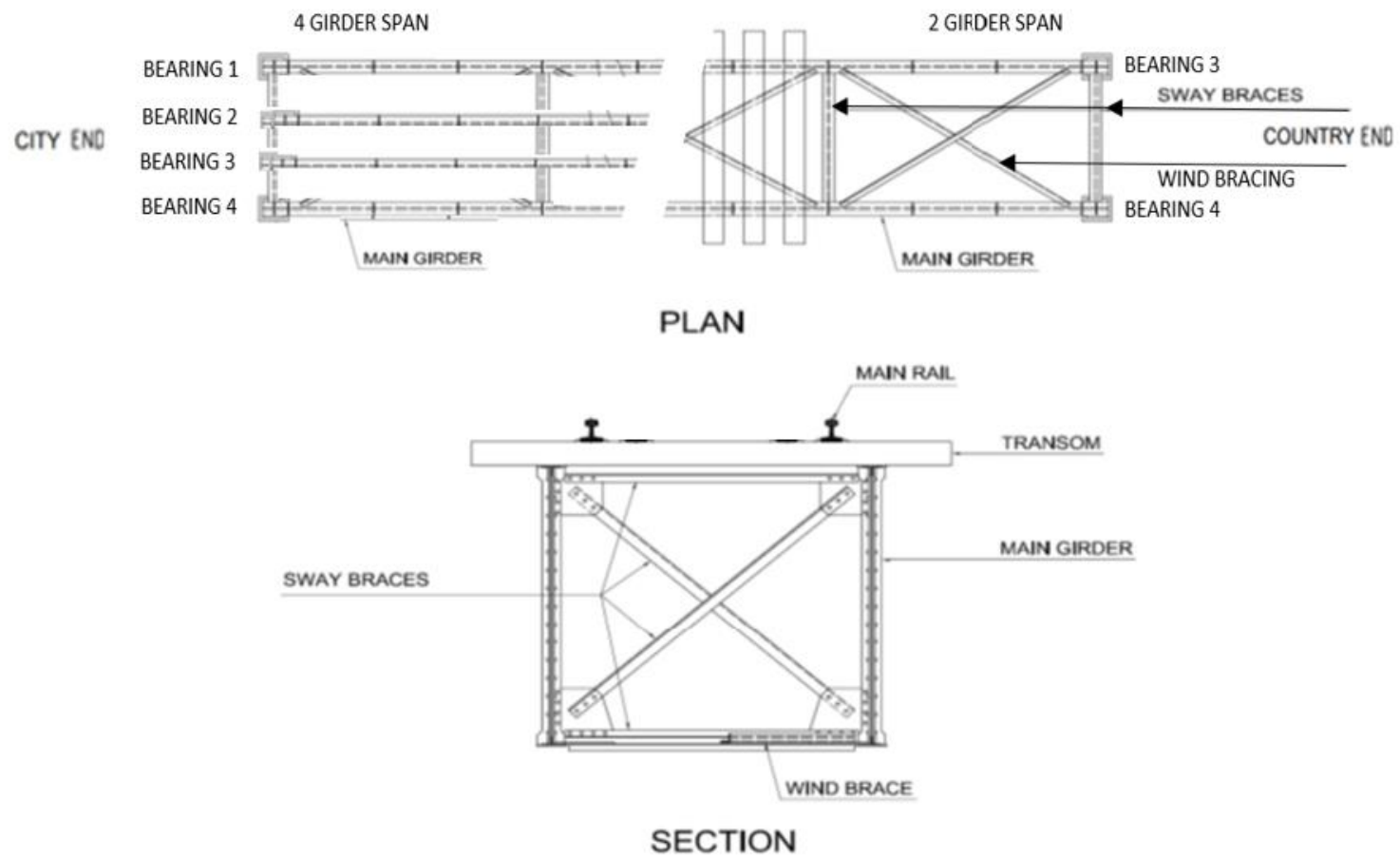


Figure 3 – Riveted Plate Web Girder Span



