**Government of South Australia**
Stormwater Management Authority

## Introduction

Developing accurate hydraulic models of stormwater systems requires access to current, accurate and complete stormwater asset data.

## Using this Circular

### Scope and Purpose

This circular outlines the minimum required attributes for stormwater asset data necessary to inform hydraulic models, as may be required in the preparation of a stormwater management plan (SMP).

## Required Attributes

The minimum required attributes for stormwater asset data sets are set out in Table 1 by asset type. The third column of Table 1 also proposes a method of estimating or assuming values for missing parameters. These methods and assumptions are not limiting and are intended as a guide only. They do not obviate the need for skill and professional judgement to be applied in the development of hydraulic models.

Stormwater assets intended primarily for water quality treatment, such as wetlands and 'raingardens', are often highly localised to site conditions. Estimating missing attributes for these types of assets generally requires field inspection or measurement if reference to the design documentation is not possible.

## Other References

*Institute of Public Works Engineering Australasia (IPWEA), Condition assessment and asset performance guideline. Practice note 5: Stormwater drainage.*

## Further Information

For more information contact:

Stormwater Management Authority
Level 5, 81-95 Waymouth Street, Adelaide
c/- GPO Box 1234, Adelaide, SA, 5001
Telephone: (08) 8124 4787
Email: sma@sa.gov.au

**Table 1 Minimum required attributes for stormwater asset data by type.**

| Asset type | Required attribute(s) | Method of estimation or assumption for missing parameter |
|---|---|---|
| **Pipe** | Depth to invert (downstream) | Assume 0.6 m cover |
| | Depth to invert (upstream) | Assume 0.6 m cover |
| | Direction of flow[1] | Deduce from surface gradient |
| | Gradient[1] | Assume surface gradient |
| | Pipe diameter | Professional judgement, or use downstream pipe size |
| | Segment length | Measure from plan/aerial imagery |
| **Inlet pit** | Pit opening width | Assume standard double pit |
| | Pit depth | Assume depth to invert for downstream pipe, or 1.0 m |
| | Grating/inlet type | Assume standard inlet-no grating |
| | Inlet pit connection pipe | Assume 375 mm diameter at pit depth |
| **Channel or open drain** | Bottom width | Measure from plan/aerial imagery |
| | Channel depth | Field inspection |
| | Left bank side slope | Deduce from plan/aerial imagery or field inspection |
| | Right bank side slope | Deduce from plan/aerial imagery or field inspection |
| | Segment length | Measure from plan/aerial imagery |
| | Top width | Measure from plan/aerial imagery |
| **Culvert** | Culvert depth | Professional judgement, or use downstream culvert depth |
| | Culvert width | Professional judgement, or use downstream culvert width |
| | Depth to invert (downstream) | Assume 0.6 m cover |
| | Depth to invert (upstream) | Assume 0.6 m cover |
| | Segment length | Measure from plan/aerial imagery |
| **Gross pollutant trap (GPT)** | Manufacturer | Design documentation or field inspection required to determine type of GPT |
| | Model | |
| **Detention basin** | Depth (from top of bank) | Field inspection |
| | Base area | Measure from plan/aerial imagery or field inspection |
| | Top area | Measure from plan/aerial imagery or field inspection |
| | Volume | Deduce from depth and area |
| | Inlet pipe size | Assume upstream pipe/culvert size or field inspection |
| | Inlet depth | Field inspection |
| | Outlet pipe size | Field inspection |
| | Outlet depth | Field inspection |
| | Overflow size | Measure from plan/aerial imagery or field inspection |

Note:

1.  Required if invert depths not provided at both ends of the pipe segment.