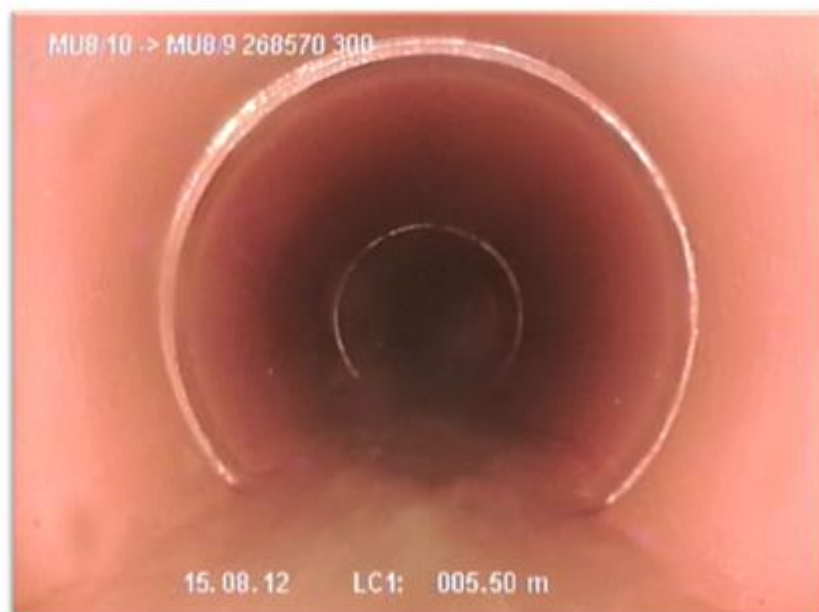




# CCTV INSPECTION STANDARD

Supplementary Information to the WSAA Conduit Inspection Reporting  
Code of Australia WSA 05-2013-3.1 Third Edition



**Western Water**  
**June 2013**



## Executive Summary

This CCTV Inspection Standard has been produced as a guide for use by technical personnel involved with the inspection via CCTV for gravity sewer mains within Western Water's service area.

The Conduit Inspection of sewer mains should be carried out in accordance with this CCTV Inspection Standard and the WSAA Conduit Inspection Reporting Code of Australia WSA 05-2013 Third Edition Version 3.1. The requirements set out in this CCTV Inspection Standard take precedence over those in WSA 05-2013.

Enquiries or suggestions relating to the information set out in this CCTV Inspection Standard are welcome and can be directed via email to [designstandards@westernwater.com.au](mailto:designstandards@westernwater.com.au).

Western Water will update this document as changes become necessary, and the most up to date version will be available on our website.

[www.westernwater.com.au/customerservice/Pages/Propertydevelopment.aspx#design](http://www.westernwater.com.au/customerservice/Pages/Propertydevelopment.aspx#design)

This edition applies to all CCTV works to be commenced on or after the publication date unless otherwise stated by Western Water.



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## Section 1: Scope and General

### 1.4 Abbreviations

Additional items:

WW	Western Water
GID No.	The unique asset identifier number on Western Water's Geographic Information System (GIS).
AVI	CCTV video format, Audio Video Interleaved (.avi)
MPG	CCTV video format, Moving Picture Experts Group (.mpg)
Superintendent	For Western Water Contracts Superintendent as defined by the Contract. For other Western Water Works shall be the Western Water representative. For other contracts shall be the Western Water Project Manager.

## Section 2: Requirements for the Conduct of Inspections

### 2.3 Planning the inspection

Replace Item (c) with:

(c) The size and material of conduits.

Replace Item (g) with:

(g) GID No.

Delete Item (f):

(f) Coordinates of maintenance holes or other nodes

Replace sentence 'Ideally this information ...inclusion in reports' with:

This information shall be provided digitally within an excel spreadsheet and shown on accompanying plans.

### 2.4 Preparation of sewers and maintenance structures

Additional sentence:

Refer to requirements in Contract Specification, or Superintendent CCTV Requirements Agreement Checklist form in Attachment A as completed by the Superintendent if Contract Specification is not adopted.



## 2.5 Camera and scanner

### 2.5.1 General

**Additional requirements:**

The equipment used within sewers shall be intrinsically safe, including all CCTV cameras.

## 2.6 Camera and scanner operation

### 2.6.3 Direction

**Additional requirements:**

The direction of CCTV inspection shall be from upstream to downstream, except where this is not possible.

## 2.8 Data display during video playback or digital image analysis

### 2.8.1 General

**Include the following items:**

(f) GID No.

## 2.12 Inspection report

### 2.12.1 General

**Replace Item (b) with:**

(b) A computerised operator's report detailing the observations complying with Clause 2.12.2.

## 2.12.2 Inspector's report

Replace section 'the file format for.....mpeg, bmp, etc' with:

All submissions shall be standalone and shall not require the use of Wincan or other specialised program to view the reports. The Wincan or other project file shall not be required.

### CCTV Inspections

The file format of inspection reports shall be submitted in pdf format as individual files for each asset. The filename for inspection reports shall be:

[GID No]\_[InspectionDate]\_[InspectionTime]\_[Street Name].pdf,  
123456\_YYYYMMDD\_HHMM\_Street Name.pdf  
(e.g. 123456\_20121229\_1400\_Yuille St.pdf)

The CCTV operator videos for each sewer inspection shall be provided as individual files in MPG (.mpg) or AVI (.avi) format with a filename of the following convention:

[GID No]\_[InspectionDate]\_[InspectionTime]\_[Street Name].mpg,  
123456\_YYYYMMDD\_HHMM\_Street Name.mpg  
(e.g. 123456\_20121229\_1400\_Yuille St.mpg)

[GID No]\_[InspectionDate]\_[InspectionTime]\_[Street Name].avi,  
123456\_YYYYMMDD\_HHMM\_Street Name.avi  
(e.g. 123456\_20121229\_1400\_Yuille St.avi)

### Laser Scanning

The file format of inspection reports shall be submitted in pdf format as individual files for each asset. The filename for laser scanning inspectors reports shall be:

[GID No]\_[L]\_[InspectionDate]\_[InspectionTime]\_[Street Name].pdf,  
123456\_L\_YYYYMMDD\_HHMM\_Street Name.pdf  
(e.g. 123456\_L\_20121229\_1400\_Yuille St.pdf)

The laser scanning inspector videos for each sewer inspection shall be provided as individual files in MPG (.mpg) or AVI (.avi) format with a filename of the following convention:

[GID No]\_[L]\_[InspectionDate]\_[InspectionTime]\_[Street Name].mpg,  
123456\_YYYYMMDD\_HHMM\_Street Name.mpg  
(e.g. 123456\_20121229\_1400\_Yuille St.mpg)

[GID No]\_[L]\_[InspectionDate]\_[InspectionTime]\_[Street Name].avi,  
123456\_YYYYMMDD\_HHMM\_Street Name.avi  
(e.g. 123456\_20121229\_1400\_Yuille St.avi)

The inspector shall also supply a digitised completed CCTV Report Summary as shown in Attachment B.

## 2.12.5 Video clips of camera inspection

Replace Section with:

Video clips or edited sections of the whole CCTV video are not required to be submitted.

Additional Clause 2.14:

## 2.14 Notifications

### 2.14.1 Loss of Equipment and Materials into Sewer

The Superintendent shall be notified immediately on loss of equipment or materials into the sewer.

The Contractor must not attempt to recover the equipment or continue inspections without receiving direction to do so by the Superintendent. The Contractor shall clearly identify the nature of equipment and materials that have been lost and identify the possible damage that they may cause to the sewerage system.

Failure by the Contractor to report loss of equipment or materials which leads to asset damage will result in the Contractor bearing liability for all costs arising.

In addition to the Superintendent the following personnel in Clause 2.14.3 must be notified within 24 hours.

### 2.14.2 Immediate Notification

The Contractor shall immediately notify the Superintendent relating to the finding of the following defects within a sewer. These items are detailed in Attachment C.

In addition to the Superintendent the following personnel in Clause 2.14.3 must be notified within 24 hours.

### 2.14.3 Notification Contact List

The Manager Field Services and Network Operations

Dean Barnett (0417 375 906 [dean.barnett@westernwater.com.au](mailto:dean.barnett@westernwater.com.au))

Wayne Baker (0412 439 345 [wayne.baker@westernwater.com.au](mailto:wayne.baker@westernwater.com.au))

To be notified for works in locality:

Sunbury Depot Ray Barassi (0409 418 180 [ray.barassi@westernwater.com.au](mailto:ray.barassi@westernwater.com.au))

Gisborne Depot Richard Borg (0417 137 204 [richard.borg@westernwater.com.au](mailto:richard.borg@westernwater.com.au))

Melton Depot Ron Mundy (0419 599 943 [ron.mundy@westernwater.com.au](mailto:ron.mundy@westernwater.com.au))

## Section 3: Inspection of Conduits – The Description and Encoding of Observations

### 3.4 Conduits – Header information

#### 3.4.1 Recording of information

Additional sentence:

Errors in asset data such as location of maintenance structures, connections, vents, material types, diameters, etc shall also be included in prominent text in the remarks section within the inspectors report.

#### 3.4.2 Mandatory information

Remove the following sections:

- (p) Video Storage Details.
- (q) Photograph Storage Details.
- (r) Any other information required by the Asset Owner.

Include the following sections

- (s) Unit pipe length.
- (t) Errors in asset data such as locations of manholes, connections, pipe materials, diameters etc.
- (u) Date that the conduit was pre-cleaned.
- (v) Errors in asset data such as location of maintenance structures, connections, vents, material types, diameters, etc. shall also be included in prominent text within the remarks section of the operators report.

#### 3.4.3 Optional information

Delete the following sections:

- (d) Errors in asset data such as location of maintenance structures, connections, vents, material types, diameters, etc.

Include the following sections:

- (h) Details of trees near the sewer line and distances from upstream and downstream manholes.

#### 3.4.4 Information to be provided by the Asset Owner

Delete the following sections:

- (l) Year the conduit was placed in operation.
- (m) The asset owners criticality classification of the conduit.

Include the following sections:

- (n) Direction of flow.



## 3.5 Encoding of Observations

### 3.5.4 Sub codes

#### 3.5.4.5 Longitudinal Location

The Reference Point is defined in Clause 2.7.



# Appendix A –Superintendent CCTV Requirements Agreement Checklist

Superintendent: \_\_\_\_\_

Superintendents Representative: \_\_\_\_\_

CCTV Contractor: \_\_\_\_\_

Please note the following document in conjunction with *Western Water’s CCTV Inspection Standard- Supplementary Information to the WSAA Conduit Inspection Reporting Code of Australia WSA 05-2013 Third Edition Version 3.1.*

**Purpose of Inspection**

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**Has the following Information been provided to the CCTV Contractor (Refer Clause 2.3, 2.4, 3.4.4)**

- Map of Asset
- Nearby Street Name
- Sewer Asset GID No.
- U/S and D/S Manhole Name
- Conduit Material
- Conduit Diameter
- Requested Direction of CCTV (If required)
- Laser profiling or Inclination assessment required?
- Pre Cleaning Requirements (detail below)

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Directions for Survey Abandonments (See below)

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Stakeholder Contact Numbers

WW CCTV Inspection Standard

**Contractor Checklist**

**Upon completion of the works, has the following been provided to the Superintendent:**

CCTV Files (DVD/Harddrive)

CCTV Report Summary (Attachment B)



## Appendix C –Items for Notification

Dean Barnett 0417 375 906  
Wayne Baker 0412 439 345

Melton Depot  
Ron Mundy 0419 599 943

Sunbury Depot  
Ray Barassi 0409 418 180

Gisborne Depot  
Richard Borg 0417 137 204



Rock Penetration



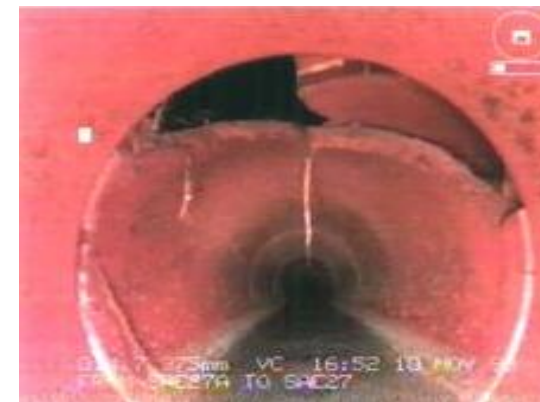
Corrosion



Non-standard Sewer works



Longitudinal Displacement



Sewer Collapse, Voids



Radial Displacement, Partial Pipe Collapse



Blockage Due to Tree Roots



Object Obstructions



Illegal Connections



Sewer Discoloration



Rock in Line



Object intrusions, (Fence posts, light poles etc)



Infiltration



High level due to siltation