AUTHORITY SUPPLEMENT TO SEWERAGE CODE OF AUSTRALIA
MELBOURNE RETAIL WATER AGENCIES EDITION
WSA SEWERAGE CODE OF AUSTRALIA WSA 02-2002

Preamble

This supplement describes the Authority's requirements for sewer reticulation works additional to those in the Sewerage Code of Australia, Melbourne Retail Water Agencies Edition, Version 1.0, WSA-02-2002, (Code) and this supplementary document must be read in conjunction with the Code.

Innovation

The Code and this supporting documentation essentially provides "deemed-to comply" solutions for the creation of Authority reticulation sewer assets.

Alternative solutions, practices, equipment and methodologies will continue to evolve and offer opportunities to improve the creation of these assets. The Authority encourages employment of any innovation that offers enhanced productivity and serviceability.

Authority input should be sought if an innovative opportunity is being considered.

PART 0: GLOSSARY OF TERMS AND ABBREVIATIONS

I GLOSSARY

Add

Controlling Line	-	A controlling line is a sewer MH length that, if deepened, would necessitate extra depth for sewers two or more MH lengths downstream. Grades shown for controlling lines should be used only where significant savings can be achieved.
Feasibility Report	–	Same as a concept plan
Water Agency	–	Goulburn Valley Water
The Authority	–	Goulburn Valley Water
'agreement conditions'	-	means any conditions and requirements specified in the "Developer Construct Agreement", the "Final Feasibility Report" and any "Approved Drawings".

II ABBREVIATION

Add

GVW	Goulburn Valley Region Water Authority
CWW	City West Water
DIEL	ductile epoxy lined
DE	dead end

PART 1: PLANNING AND DESIGN

1. GENERAL

The Authority has no supplementary requirements in this section.

2. SYSTEM PLANNING

The Authority has no supplementary requirements in this section.

3. FLOW ESTIMATION

The Authority has no supplementary requirements in this section.

4. DETAILED DESIGN

4.2.5 Easements

The minimum easement width is to be 2.5m with a minimum clearance of 1.0 metre from outside of the pipe to easement/title boundary. All MH's are to be located within the easement.

4.3.2 Roads, reserves and open space

It is preferred that in industrial and commercial areas sewers are located within the road reserve or at the front of the property. Sewers are permitted to be constructed within easements in industrial and commercial land, only after approval from the Authority.

4.5.4 Minimum pipe sizes for maintenance purposes

The minimum diameter for reticulation sewers is 150mm, including commercial properties with a lot area less 20m x 40m. Each flat, unit or shop must be separately counted as one household for this purpose.

Sewers serving industrial lots and large commercial lots must have a minimum diameter of 225mm and a minimum grade, as shown in Table 4.3 (a)

Table 4.3(a) Minimum Grades for 225mm Industrial and Commercial Sewers

Lots	Controlling Lines	Non-Controlling Lines
1 to 4	225 at 1 in 100	225 at 1 in 80
5 to 15	225 at 1 in 150	225 at 1 in 120
15 to 30 units	225 at 1 in 200	225 at 1 in 250

5. PROPERTY CONNECTION

5.4 MAXIMUM DEPTH OF PROPERTY CONNECTIONS

The threaded access coupling is to be installed on a vertical stack to between 600mm and 1000mm of the finished surface level. See SEW-1155-M Type 2B branch.

5.7 Y - PROPERTY CONNECTIONS

Only permitted after approval from GVW and shall be provided with maintenance access.

6. MAINTENANCE STRUCTURES

6.1 Types Of Maintenance Structures

(b) Maintenance Shafts (MSs) – these are not permitted for use by GVW.

(c) Terminal Maintenance Shafts (TMSs) – these are not permitted for use by GVW.

6.3 Spacing Of Maintenance Shafts

Table 6.1 – MS and TMS are not permitted for use by GVW.

6.3.2 Maintenance structure spacing – Reticulation sewers

For reticulation sewers, the maximum spacing between any two consecutive maintenance structures shall be 100m.

Figure 6.1 and 6.2

- MS and TMS are not permitted for use by GVW.
- The maximum distance between maintenance structures GVW is:
  - 100m between successive MH's;
  - 50m between a MH and IS; and
  - 25m between a MH and DE, with a minimum grade of 1 in 60.

6.6.2 Types of MH Construction

GVW will only accept cast in-situ concrete and pre-cast concrete MHs. Construction of MHs from alternative materials, such as PE or other plastic materials, is not permitted without prior approval from GVW.

6.6.3 Design parameters for MHs

Precast concrete MHs are approved for use in all areas, as long as they are designed and selected to suit the local conditions and are no greater than 6m in depth.

6.7 Maintenance Shafts

Maintenance Shafts are not permitted for use by GVW.

MRWA 6.7.4 Inspection Shafts (ISs)

GVW permits the use of Inspection Shafts only when the distance to the downstream MH is less than 50m.

7. ANCILLIARY STRUCTURES

7.10 Flow Measuring Requirements

These devices are not required by GVW.

8. STRUCTURAL DESIGN

The Authority has no supplementary requirements in this section.

9. DESIGN REVIEW AND DRAWINGS

9.2.1 General

Design drawings shall also include the following information:

(e) GVW signature title block for endorsing design plans.

(f) Identification of GVW as the Water Authority.

PART 2: PRODUCTS AND MATERIALS

10. PRODUCTS AND MATERIALS OVERVIEW

10.6 Selection Guide for Pipeline Systems, Table 10.1 and 10.3

The guidelines for selecting suitable material for gravity sewer reticulation pipelines are:

- VC pipe can be used in all situations;
- For industrial and commercial areas only VC pipe material is to be used;
- VC pipe is to be used for all trunk mains; and
- Alternative materials, (which will be listed in the GVW Sewer Reticulation product list) can only be used within residential areas.

Residential areas are defined as those zoned Residential 1 or similar on local Council planning schemes. The consultant is to demonstrate that the area in the development is zoned residential and that no industrial or commercial discharges will pass through the sewers in the development in the future.

All trunk mains and pipework in the vicinity of sewage pump station and the upstream MH are to be either VC, DIEL or DICL (high alumina cement). This will enable industrial and commercial discharges to be made into the sewer system via VC pipework in the future.

uPVC must not be used in areas where there is not adequate dilution of industrial flows or trade wastes, including discharges from service stations.

Table 10.1 Principal Gravity Sewer Pipeline Systems

DIEL pipe is suitable for use by GVW as an alternative to DICL (High alumina cement). It is to be used on the inlet pipework of all SPS's.

Table 10.2 and 10.3

DICL with high alumina cement can be used on sewer rising mains only when the pipe will always remain full. If the pipe can drain regularly and therefore suffer from gas attack, then DICL pipe is not to be used.

Table 10.4 Principal Sewerage Pressure Pipeline Systems

General precautions – A sewer marking tape with tracing wire is to be placed 300mm above the pipeline on all pressure sewer pipelines, including sewer rising mains.

PART 3: CONSTRUCTION

11. GENERAL

The Authority has no supplementary requirements in this section.

12. QUALITY

The Authority has no supplementary requirements in this section.

13. GENERAL CONSTRUCTION

The Authority has no supplementary requirements in this section.

14. PRODUCTS AND MATERIALS

Unless otherwise specifically agreed, only products endorsed in the MRWA approved products list shall be used.

The MRWA approved products list is still under production, so in the meantime, use the draft CWW list.

15. EXCAVATION

15.9 Surplus Excavated Material

The consultant and constructor are responsible for the lawful disposal of surplus excavated material. This is to be undertaken with written approval from the local Council and property owner, where the material is being disposed.

16. BEDDING FOR PIPES AND MAINTENANCE STRUCTURES

The Authority has no supplementary requirements in this section.

17. PIPE LAYING AND JOINTING

17.11.2 Detectable marking tape

(f) all sewer rising mains.

18. MAINTENANCE HOLES

18.11 MH Drops

All MH drops are to be internal as per drawing SEW-1306-V.

19. MAINTENANCE SHAFTS (MS AND TMS) AND INSPECTION SHAFTS (IS)

19.1 General

MS and TMS are not permitted for use by GVW.

20. PIPE EMBEDMENT AND SUPPORT

The Authority has no supplementary requirements in this section.

21. FILL

Flooding compaction is not permitted as a method of compaction of backfill material.

See GVW Trench Fill Specification - Sewer

22. ACCEPTANCE TESTING

Table 22.6 Delete

22.7 CCTV Inspection

CCTV inspection is to be undertaken for all new sewers.

See GVW CCTV Sewer Inspection Procedure

23. TOLERANCES ON AS-CONSTRUCTED WORK

The Authority has no supplementary requirements in this section.

24. CONNECTION TO EXISTING SEWERS

The Authority has no supplementary requirements in this section.

25. RESTORATION

The Authority has no supplementary requirements in this section.

26. WORK AS CONSTRUCTED

The Authority has no supplementary requirements in this section.

PART 4: STANDARD DRAWINGS

SEW – 1153 – M, SEW-1154-M and SEW-1155-M – Property Connection details

Modifications required by GVW include;

- A 200mm x 200mm chase is to be recessed into the trench wall to support the jump up stack.
- A 12mm dia x 450mm long mild steel staple is to be provided every length of EW pipe, or at 1.20 metre intervals for uPVC.
- Marker tape is to be attached to the top of the sewer riser or cap.

Note: 20MPa concrete maybe used in lieu of 6% stabilised backfill.

SEW-1502, SEW-1314-V, SEW-1315-V, SEW-1316, SEW-1317,

Plans relating to Maintenance Shafts

MS are not permitted for use by GVW.

Additional Drawings

The following standard drawings have been included:

SEW-1306-G-(a) – Standard Detail of Turn Up at Point of Discharge for Sewer Rising Mains

SEW-1450-G-(a) – Pressure Pipelines Indicator Post

SEW-1450-G-(b) – Pressure Pipelines Indicator Post and Location Markers