

# FORM 1 S

## Design Certification List - Wastewater Agreements



<b>Job Description</b>	
<b>Location</b>	
<b>Developer / Owner</b>	
<b>Developer / Owner Contact Details</b>	
<b>Consultant</b>	
<b>Gippsland Water Drawing Numbers</b>	

**Notes:**

- 1 Where the word *Code* is referred to in this document it shall be taken as meaning the relevant National Code and Gippsland Water's corresponding Addendum.
- 2 The relevant National Code is the *Sewerage Code of Australia* WSA 02-1999 Part 1 (Design) unless stated otherwise.

### A General

#### A.1 Qualification of Consultants

A.1.1 Designers are suitably qualified to design works in accordance with the appropriate Australian Standards, Codes of Practice and Gippsland Water's Addendums and are on Gippsland Water's Accredited Consultants list.

Initial

\_\_\_\_\_

#### A.2 Consultation during design

A.2.1 Property owners have been consulted

\_\_\_\_\_

A.2.2 Councils and other authorities have been consulted

\_\_\_\_\_

A.2.3 Other developments have been consulted

\_\_\_\_\_

A.2.4 Signed Form 13 (Creation of Easement Document) has been signed by affected land owners outside of the subdivision

\_\_\_\_\_

#### A.3 Economic considerations

A.3.1 Most cost-effective design has been selected

\_\_\_\_\_

A.3.2 Alternatives have been discussed with Gippsland Water

\_\_\_\_\_

#### A.4 Objectives of Design

A.4.1 Lot control requirements and limitations of depths of connections have been met (Clause 2.1 c)

\_\_\_\_\_

- A.4.2 Future system expansion has been allowed for in accordance with the *Code* (Clause 1.2.2) \_\_\_\_\_
- A.4.3 Where the sewer will be extended in the future, the sewer has been designed to extend to the far boundary of the subdivision in accordance with the *Code* (Clause 1.2.3) \_\_\_\_\_

## **B Environmental Considerations**

### **B.1 Consideration of environment**

- B.1.1 Works have been designed with consideration for environmental issues in accordance with the *Code* (Clause 1.2.5) \_\_\_\_\_
- B.1.3 Environmental requirements are listed on design plans \_\_\_\_\_

### **B.2 Vegetation**

- B.2.1 Measures implemented for protection of vegetation \_\_\_\_\_
- B.2.2 Measures implemented for protection of habitat \_\_\_\_\_
- B.2.3 Measures implemented for restoration of slopes \_\_\_\_\_
- B.2.4 Permits for removal of vegetation have been obtained \_\_\_\_\_
- B.2.5 Measures implemented for proximity of trees and tree roots \_\_\_\_\_
- B.2.6 Revegetation program has been specified \_\_\_\_\_

## **C Design Requirements**

### **C.1 General**

- C.1.1 Offset from boundary allows access for construction and maintenance equipment in accordance with the *Code* (Clause 2.5.2) \_\_\_\_\_
- C.1.2 Sewers within private property have been designed in easements in accordance with the *Code* (Clause 2.7) \_\_\_\_\_
- C.1.3 Sewers in road reserves in new subdivisions are in accordance with the *Code* (Clause 2.5.1) and *Co-ordination of Streetworks Code of Practice* \_\_\_\_\_
- C.1.4 Sewers in road reserves in new subdivisions are in accordance with the *Code* (Clause 2.5.1) and *Co-ordination of Streetworks Code of Practice* \_\_\_\_\_

### **C.2 Curved sewers**

- C.2.1 Justification for the use of curved sewers is available in accordance with the *Code* (Clause 2.5.3) \_\_\_\_\_
- C.2.2 Curved sewers satisfy diameter requirements in accordance with the *Code* (Table 2.1) \_\_\_\_\_

### C.3 Surface obstructions

C.3.1 The alignment of the sewer has allowed for surface obstructions (Clause 2.6.1) \_\_\_\_\_

### C.4 Underground services

C.4.1 Location of all underground services has been determined in accordance with the *Code* (Clauses 2.6.2 & 2.6.3) \_\_\_\_\_

C.4.2 Depth of services has been determined where it may affect the sewer \_\_\_\_\_

C.4.3 Allowance has been made for effect of upstream works and services on the alignment and depth of future sewer extensions \_\_\_\_\_

C.4.4 All potentially dangerous services have been shown on the plans \_\_\_\_\_

### C.5 Tree roots

C.5.1 Allowance has been made for possible effects of tree roots on the sewer \_\_\_\_\_

## D Pipeline Materials

### D.1 Approved pipes

D.1.1 Pipe material has been selected in accordance with requirements of the *Code* (2.13.1 & Part 2 : Materials) \_\_\_\_\_

D.1.2 Approval has been gained from Gippsland Water for non-approved materials or products \_\_\_\_\_

D.1.3 UPVC or HDPE has not been specified where inadequately diluted trade waste may be discharged \_\_\_\_\_

### D.2 Jointing

D.2.1 Jointing methods have been selected to Gippsland Water requirements \_\_\_\_\_

D.2.2 Rubber rings have been selected in accordance with the *Code* \_\_\_\_\_

## E Lot Controls

### E.1 Lot categories

E.1.1 Lots have been correctly categorised as either *residential* or *industrial & commercial* \_\_\_\_\_

### E.2 Lot controls

E.2.1 Water seals (or boundary traps) have not been specified, as required under the *Code* (Clause 3.11) \_\_\_\_\_

E.2.2 Lot control computations have been calculated correctly \_\_\_\_\_

E.2.3 Other services and topography of the lot have been considered for lot controls \_\_\_\_\_

E.2.4 Depths of customer drains are in accordance with the *Code* (Clause 3.10) \_\_\_\_\_

E.2.5 All lots are serviced in accordance with the *Code* (Clause 3.6) \_\_\_\_\_

### **E.3 Partial lot control**

E.3.1 Gippsland Water has given approval for partial lot control \_\_\_\_\_

E.3.2 All lots with partial control are indicated clearly on the drawings in accordance with the *Code* (Clause 3.6.3) \_\_\_\_\_

## **F Hydraulic Requirements**

### **F.1 General**

F.1.1 Design accounts for full development of total catchment \_\_\_\_\_

F.1.2 Pipe capacities allow for Peak Wet Weather Flow \_\_\_\_\_

### **F.2 Diameter and grade - reticulation sewers**

F.2.1 Maximum and minimum connections from residential lots in accordance with the *Code* (Clause 2.8.4) \_\_\_\_\_

F.2.2 Maximum and minimum connections from industrial & commercial lots in accordance with the *Code* (Clause 2.8.4) \_\_\_\_\_

F.2.3 Loadings from large industrial & commercial lots have been determined individually where appropriate \_\_\_\_\_

F.2.4 Minimum grades are in accordance with the *Code* (Clause 2.8.3) \_\_\_\_\_

F.2.5 Minimum sewer diameter is in accordance with the *Code* (Clause 2.8.2) \_\_\_\_\_

### **F.3 Depth**

F.3.1 Minimum cover to top of pipe is in accordance with the *Code* (Clause 2.8.7) \_\_\_\_\_

F.3.2 Additional protection has been included in design, where required, in accordance with the *Code* (Clause 2.8.2) \_\_\_\_\_

### **F.4 Maintenance hole (MH) requirements**

F.4.1 Minimum fall through MHs is in accordance with the *Code* (Clause 2.8.5.1) \_\_\_\_\_

F.4.2 The depth differences between inlet and outlet levels of the MHs have been controlled to avoid excessively deep channels in accordance with the *Code* (Clause 2.8.7) \_\_\_\_\_

### **F.5 Crossing services**

F.5.1 Minimum vertical clearances where the sewer crosses other services are in accordance with the *Code* (Clause 2.6.3.2) \_\_\_\_\_

F.5.2 Construction method has been considered where the crossing of existing services is required \_\_\_\_\_

F.5.3 Sewers do not cross over water mains \_\_\_\_\_

F.5.4 Bored lines in proximity to other services are in accordance with clearance and safety requirements \_\_\_\_\_

F.5.5 Safety requirements have been noted on design plan \_\_\_\_\_

## **F.6 Pipeline tolerances**

F.6.1 Allowance has been made for the effect of construction tolerances on pipe grade over short lengths of pipe in accordance with the *Code* (Part 4 : Construction - Clause 12.2) \_\_\_\_\_

## **G Excavation by Boring**

### **G.1 General**

G.1.1 The type of ground is suitable for boring \_\_\_\_\_

G.1.2 There is adequate space available for boring shafts \_\_\_\_\_

G.1.3 Boring has been specified on the plans \_\_\_\_\_

### **G.2 Minimum grades**

G.2.1 Bore lengths greater than 10m have been designed in accordance with the *Code* (Clause 2.14.1.1) \_\_\_\_\_

### **G.3 Pipe encasement**

G.3.1 Pipe encasement specified for all road crossings and bore lengths greater than 10m in accordance with the *Code* (Clause 2.14.1.1) \_\_\_\_\_

### **G.4 Design allowance**

G.4.1 Horizontal and vertical tolerances are in accordance with the *Code* (Tables 2.6 & 2.7) \_\_\_\_\_

### **G.5 Boring under structures**

G.5.1 Gippsland Water has been consulted where boring under existing structures is required \_\_\_\_\_

## **H Maintenance Structures**

### **H.1 General**

H.1.1 Maintenance structures are provided in accordance with the *Code* (Clause 2.9.2 & Figures 2.4 to 2.10) \_\_\_\_\_

## H.2 Maintenance holes (MH)

- H.2.1 Types B & C MH base arrangements have not been specified \_\_\_\_\_
- H.2.2 Appropriate step irons and/or ladders have been specified in accordance with the *Code* (Clause 2.9.3.4) \_\_\_\_\_
- H.2.3 Where depth to invert of MHs exceeds 6 metres, ladders and landings have been specified in accordance with AS 1657 \_\_\_\_\_
- H.2.4 MH base layouts are in accordance with the *Code* (Clause 2.9.3.2) \_\_\_\_\_
- H.2.5 Correct MH diameter and type have been selected and detailed \_\_\_\_\_
- H.2.6 Concrete grade for cast insitu MSs construction is in accordance with the *Code* (Clause 2.9.3.6) and has been specified on the drawings \_\_\_\_\_
- H.2.7 Slope of MH covers is in accordance with the *Code* (Clause 2.9.3.7) \_\_\_\_\_
- H.2.8 Bolt down covers have been specified in accordance with the *Code* (Clause 2.9.3.8) \_\_\_\_\_

## H.3 Maintenance shafts (MS)

- H.3.1 Use of MS meet the limiting conditions stated in the *Code* (Clause 2.9.4.1) \_\_\_\_\_
- H.3.2 Design of MS is in accordance with the *Code* (Clause 2.9.4.2) \_\_\_\_\_

## H.4 Terminal maintenance shafts (TMS)

- H.4.1 TMS's have only been specified on DN150 or DN225 sewers \_\_\_\_\_
- H.4.2 TMS's have not been specified where the distance to the next downstream maintenance structure exceeds 75m \_\_\_\_\_
- H.4.3 TMS's have only been specified at the end of a sewer run \_\_\_\_\_

## H.5 Inspection shafts (IS)

- H.5.1 Inspection shafts have not been specified on reticulation sewers \_\_\_\_\_

## H.6 Verticals or near verticals

- H.6.1 Approval has been obtained from Gippsland Water for the use of verticals or near verticals \_\_\_\_\_

## H.7 Ends of pipe

- H.7.1 All sewers terminate at a maintenance structure. No dead ends have been specified \_\_\_\_\_

## H.8 Sewers from junctions

- H.8.1 Sewers run from junctions only occur for property connections \_\_\_\_\_

# I Property Connection Sewers

## I.1 General considerations

- I.1.1 Property connections have been located in accordance with the *Code* (Clauses 3.3.1 & 3.3.2) \_\_\_\_\_
- I.1.2 "Y" connections have been approved by Gippsland Water \_\_\_\_\_
- I.1.3 Type of property connections have been shown on the drawings \_\_\_\_\_
- I.1.4 Property connections are not designed for connection directly to trunk sewers (DN300 or larger) \_\_\_\_\_

## I.2 Diameter

- I.2.1 Diameter of property connections is in accordance with the *Code* (Clause 3.8) \_\_\_\_\_
- I.2.2 Diameter of property connections has been specified for connections larger than DN100 \_\_\_\_\_
- I.2.3 "Y" connections are DN150 minimum \_\_\_\_\_

## I.3 Level

- I.3.1 Minimum depths to invert levels for property connection fittings are in accordance with the *Code* (Clause 2.8.7) \_\_\_\_\_
- I.3.2 For vacant lots, the invert level of the property connection fitting (for Types 1, 2 & 4 connections) is at or below the lot control \_\_\_\_\_
- I.3.3 For development lots, the invert level of the property connection fitting (for Types 1, 2 & 4 connections) is at or below the lot control \_\_\_\_\_
- I.3.4 Property connection fitting level is not specified for Types 2A & 4A connections \_\_\_\_\_

# J Embedment, Support and Backfill

## J.1 Pipe embedment

- J.1.1 Allowance has been made for all load conditions \_\_\_\_\_
- J.1.2 Pipe embedment has been designed in accordance with the *Code* (Part 3 : SEW-100 & SEW-101) \_\_\_\_\_
- J.1.3 Pipelines have been designed to resist structural failure \_\_\_\_\_

## J.2 Pipe support

- J.2.1 Pipe support has been selected in accordance with the *Code* (Part 3 : SEW-101) \_\_\_\_\_

## J.3 Backfill

- J.3.1 Backfill has been selected in accordance with the *Code* (Part 3 SEW-100) \_\_\_\_\_

J.3.2 Extent of backfill other than Type B has been shown on the drawings \_\_\_\_\_

## **K Bulkheads and Trenchstops**

### **K.1 Bulkheads**

K.1.1 Bulkheads have been designed for use in accordance with the *Code* (Clauses 2.15.1 and 2.15.3) and are marked on the drawings \_\_\_\_\_

### **K.2 Trenchstops**

K.2.1 Trenchstops have been designed for use in accordance with the *Code* (Clauses 2.15.2 and 2.15.3) and are marked on the drawings \_\_\_\_\_

## **L Special Structures**

### **L.1 Water seals on branch sewers entering trunk sewers**

L.1.1 Gippsland Water has been consulted on the requirements for water seals on branch sewers entering trunk sewers (DN450 or larger) \_\_\_\_\_

L.1.2 Water seals have been designed in accordance with the *Code* (Clause 2.10.1) and any additional requirements requested by Gippsland Water \_\_\_\_\_

### **L.2 Venting**

L.2.1 Venting has been designed in accordance with the *Code* (Clause 2.11) and any additional requirements requested by Gippsland Water \_\_\_\_\_

### **L.3 Inverted syphons**

L.3.1 Gippsland Water has been consulted on the requirements for inverted syphons \_\_\_\_\_

L.3.2 Inverted syphons have been designed in accordance with the *Code* (Clause 2.12) and any additional requirements requested by Gippsland Water \_\_\_\_\_

## **M Design Drawing Specifications**

### **M.1 Design plan contents**

M.1.1 Design plans have been prepared in accordance with the Gippsland Water document *Specification of Drawings Produced for Gippsland Water* \_\_\_\_\_

M.1.2 Design drawings provided in accordance with the *Code* (Clause 5.1) \_\_\_\_\_

M.1.3 Drawing scale is in accordance with the *Code* (Clause 5.3.1) \_\_\_\_\_

M.1.4 Content of drawings are in accordance with the *Code* (Clause 5.2) \_\_\_\_\_

M.1.5 All plans include relevant notes \_\_\_\_\_

## **N Drafting Standards**

N.1.1 Drafting standards are in accordance with the *Code* (Clause 5.3)



- Detail plans in accordance with the *Code* (Supplementary Clause 5.3.3) \_\_\_\_\_
- Longitudinal plans in accordance with the *Code* (Supplementary Clause 5.3.4) \_\_\_\_\_
- Standard drawing borders in accordance with the *Code* (Sup. Clause 5.3.5) \_\_\_\_\_
- Drawing legend in accordance with the *Code* (Supplementary Clause 5.3.6) \_\_\_\_\_

## **O Documentation to be Submitted**

### **O.1 Design drawings**

- O.1.1 Two hard copies of final design drawings - A3 size only \_\_\_\_\_

### **O.2 Civil drawings**

- O.2.1 Road and drainage civil drawings for the development **only** if requested by Gippsland Water \_\_\_\_\_

### **O.3 Correspondence with council**

- O.3.1 Building set back if requested by Gippsland Water \_\_\_\_\_
- O.3.2 Approval of offsets and alignment if requested by Gippsland Water \_\_\_\_\_
- O.3.3 Name and position of contact officer if requested by Gippsland Water \_\_\_\_\_

### **O.4 Correspondence with other bodies**

- O.4.1 Vic Track \_\_\_\_\_
- O.4.2 Vic Roads \_\_\_\_\_
- O.4.3 Relevant Gas Company/Authority \_\_\_\_\_
- O.4.4 Telstra \_\_\_\_\_
- O.4.5 Optus Communications \_\_\_\_\_
- O.4.6 Electrical authorities/companies \_\_\_\_\_
- O.4.7 Aboriginal Affairs Victoria \_\_\_\_\_
- O.4.8 Ports Authority \_\_\_\_\_
- O.4.9 Council Planning \_\_\_\_\_
- O.4.10 Department of Environment, Land Water & Planning \_\_\_\_\_
- O.4.11 EPA Victoria \_\_\_\_\_
- O.4.12 Southern Rural Water \_\_\_\_\_
- O.4.13 West Gippsland Catchment Management Authority \_\_\_\_\_
- O.4.14 Community Groups if requested by Gippsland Water \_\_\_\_\_
- O.4.15 CFA \_\_\_\_\_

O.4.16 Other \_\_\_\_\_

### O.5 Design information

O.5.1 Information regarding fixture control where existing properties will be connected, includes but is not limited to:

Location of fittings \_\_\_\_\_

Position of fittings \_\_\_\_\_

Permanent obstructions (concrete driveways, trees, etc.) \_\_\_\_\_

Surface levels of corners of existing buildings \_\_\_\_\_

### Consultant’s Certification

As the Consultant’s nominated representative responsible for the design of the Works detailed in Gippsland Water Drawing No(s): \_\_\_\_\_

I certify that:

1 The design is in accordance with the National Code WSA 02-1999 *Sewerage Code of Australia* and the Gippsland Water document *Addendum to the Water Industry Technical Standards and Codes of Practice*.

2 The drawing specification is in accordance with all relevant Gippsland Water Specifications and relevant Australian Standards.  
Each item listed on Form 1 Design Certification List has been either initialled or marked **NA** or **AT** by the Responsible Design Representative, where:

- Initialling is my certification that the activity is completed and that it satisfies the requirements of Gippsland Water.
- Activities marked as **NA** are not applicable to this design.
- Activities marked as **AT** have an authorised attachment included.

\_\_\_\_\_  
Name  
(Design Consultant)

\_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature

<p><b>Have you attached.....</b></p> <p><input type="checkbox"/> Plan of subdivision</p> <p><input type="checkbox"/> Application for Deed of Agreement Form</p> <p><input type="checkbox"/> 2 sets of Design plans A3 size</p> <p><input type="checkbox"/> Estimate of construction costs</p> <p><input type="checkbox"/> Form 13 – Creation of Easement (if required)</p>
--