

## MAINTENANCE HOLES

For the purposes of clarity, throughout this document the assets generally known as manholes are referred to here as maintenance holes, consistent with the Water Services Association of Australia (WSAA) Gravity Sewerage Code of Australia WSA 02-2014 Version 3.1.

### 1. PURPOSE

To outline East Gippsland Water's (EGW) standard requirements for maintenance holes, where the requirements vary from or require further clarification to the Water Services Association of Australia (WSAA) Gravity Sewerage Code of Australia WSA 02-2014 Version 3.1 (WSA 02-2014); relevant clauses are shown in italics. The standard requirements outlined in this document shall be adopted for all maintenance holes unless approved otherwise in writing by EGW.

### 2. APPROVAL

Executive Manager Infrastructure

### 3. REQUIREMENTS

Maintenance holes shall meet the following requirements:

1. No step irons or ladders are to be installed in maintenance holes to minimise safety risks such as unauthorised or unplanned entry (*clause 7.6.9*). Access to all maintenance holes shall be in accordance with Confined Space Entry Regulations.
  - For ease of construction, EGW permits the temporary installation of plastic step irons which must be removed prior to commissioning. Any holes created as a result of the removal of the step irons must be filled by either a cement render or appropriate epoxy approved by EGW.
2. Maintenance holes shall be Type C2 maintenance holes with straight back taper in accordance with WSAA Sewerage Code of Australia WSA02-2002 drawing SEW-1301.
3. Concrete maintenance holes shall be cast in situ as specified by WSA 02-2014. Alternatives to this method, such as pre-cast or plastic maintenance holes, may only be used upon prior written approval from EGW (*clause 7.6.2*).
  - For any approved maintenance holes that are pre-cast or an alternative material, all joints shall include provision to protect against root intrusion. Details of any root-inhibitors, mastics, rubber rings shall be detailed adequately on the approved design plans.
4. The minimum internal maintenance hole diameter shall be 1050mm for sewers of DN225 or less (*clause 7.6.7*). Maintenance holes for sewers greater than DN225 shall be in accordance with WSA02-2014 clause 7.6.7.
5. Cast iron concrete infill covers (Gatic or approved equivalent) are to be installed. Covers shall be Class B in non-trafficable areas and Class D in trafficable areas (*clause 7.9.1*). Standard access cover clear opening dimensions shall be 750mm x 750mm (or 600mm in diameter) (*clauses 4.13.2 and 4.15.6*).
6. The minimum maintenance hole depth shall be 1.1m, but may be reduced to 0.9m where specifically approved by EGW (*additional requirement*).
7. In paved areas, maintenance hole covers should be flush with the surface but in rural and non-trafficable areas, maintenance hole covers should sit 75mm above the natural surface level. The ground around the maintenance hole shall be built up and

- graded to tie into the surrounding natural/finished surface level. Careful provision shall be made to allow a safe access foot print for temporary hoist equipment to allow confined space access (*clause 7.9.1*).
8. All new maintenance holes in public land shall be accessible to a four wheel drive vehicle with a trailer. EGW reserves the right to request provision for suitable access on a case by case basis (*clauses 5.2.4 and 7.3.1*).
  9. Maintenance hole and maintenance shafts should not be separated by a distance greater than 90m for sewers  $\leq$ DN450mm or 120m for sewers  $>$ DN450mm (*clause 7.3.2*).
  10. There shall not be more than one maintenance shaft between any two maintenance holes (for more information on maintenance shafts refer to Technical Bulletin 006) (*clause 7.3.2*).
  11. Maintenance shafts may only be installed in lieu of maintenance holes upon written approval from EGW (*clauses 7.7.1 and 7.7.2*).
  12. If a change of direction in sewer alignment of more than 30° is required, a maintenance hole shall be installed. Maximum allowable deflections through any given maintenance hole shall be in accordance with Table 5.2 of WSA 02-2014 (*clause 5.3.6 and 5.3.7*).
  13. For reticulation and property sewer connections to maintenance holes at a higher level than the base of the maintenance hole, an internal drop shall be used. For any internal drops installed a rear access bend shall be used to permit rodding of the sewer upstream of the bend (*clause 7.6.6*).
  14. To prevent infiltration, EGW requires that the maintenance hole neck be brought to the finished surface level. For maintenance holes where modifications are being made to the asset and the top ring is separate from the neck; EGW requires the top ring and neck to be securely attached and sealed to prevent infiltration.

Note:

Prior approval from EGW is required for any works on EGW assets (e.g. raising or lowering of maintenance holes).

*Where alternatives to EGW's preferred engineering code and the suite of Technical Bulletins exist, these will be assessed and may be approved in writing by EGW on a case by case basis, with each variation documented. All codes and specifications will be consistently enforced across all works.*

#### 4. REFERENCES

- WSAA Gravity Sewerage Code of Australia WSA 02-2014 Version 3.1.
- WSAA Sewerage Code of Australia WSA02-2002 for drawings.

For further information contact the EGW Infrastructure Team.

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#### 5. REVIEW

This Technical Bulletin will be reviewed two yearly unless otherwise required.