



Inspection shaft, gully and trap risers

This technical note provides advice on the correct configuration of vertical risers used for inspection purposes as well as risers from gully and fixture traps. This is a requirement of the Plumbing Code of Australia's deemed-to-satisfy provisions listed in AS/NZS 3500.2021, part 2: Sanitary plumbing and drainage.

Inspection shaft risers

An inspection shaft shall be provided at the downstream end of a main drain, located wholly within the property served and at or near the point of connection to the main sewer. The branch from the junction in the main drain shall extend vertically upwards to form a shaft in accordance with AS/NZS 3500.2:2021, clause 4.4.3.1. This means the shaft cannot be bent or offset with fittings that will prevent inspection of the junction forming the connection of the main drain to the shaft.

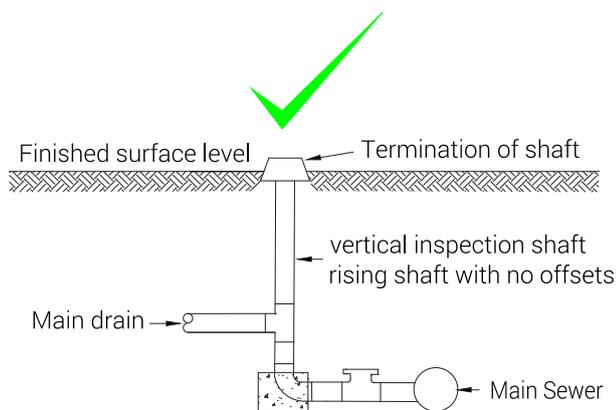


Diagram 1: Compliant inspection shaft rising shaft

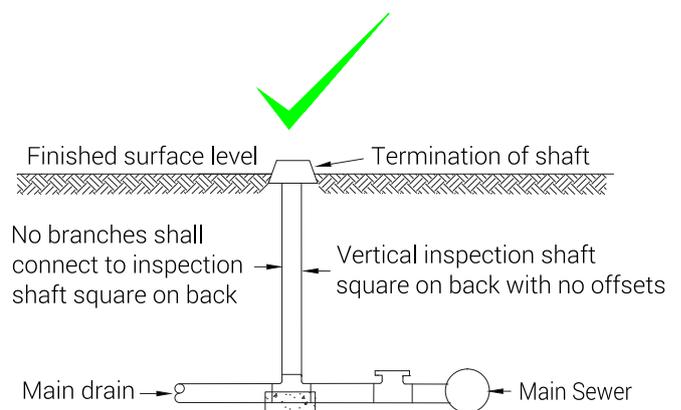


Diagram 2: Compliant inspection shaft square on back

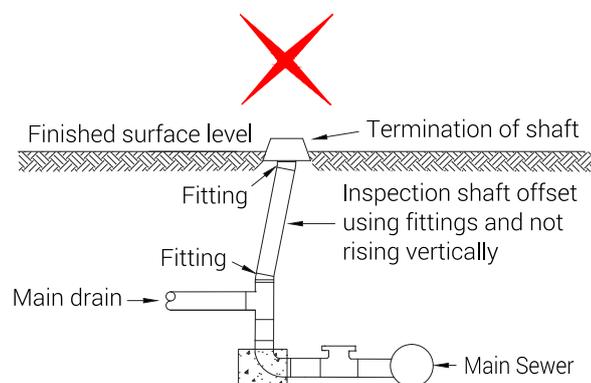


Diagram 3: Non-compliant inspection shaft rising shaft

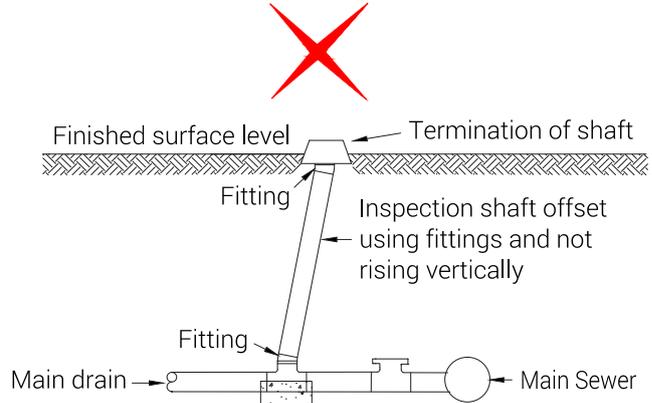


Diagram 4: Non-compliant inspection shaft square on back

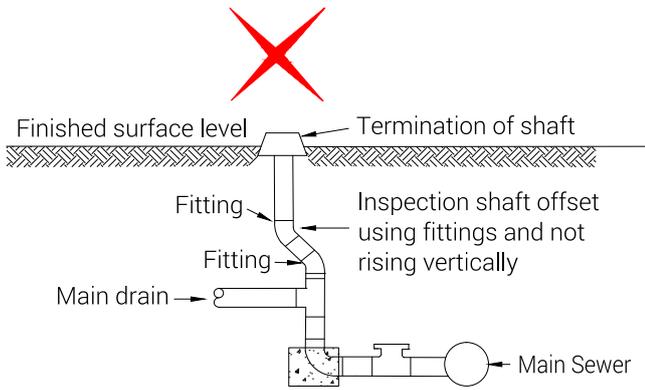


Diagram 5: Non-compliant inspection shaft rising shaft

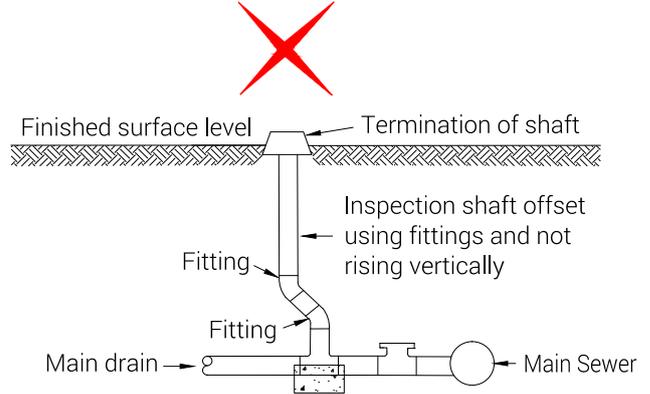


Diagram 6: Non-compliant inspection shaft square on back

Risers on disconnector and floor waste gullies

The conditions that apply to inspection shafts also apply to risers from overflow relief gullies, disconnector gullies and floor waste gullies. They shall extend vertically to the finished surface level without bends creating offsets and have sufficient annular space above and around the grate to enable both inspection of the water seal and to allow easy maintenance of the gully trap.

AS/NZS 3500.2:2021, clause 4.6.6.5(b)(ii) requires disconnector gully risers to be readily accessible for inspection and maintenance. As per figure 4.6.6.5(b), 600 mm minimum clearance is required above the top of the riser to enable necessary inspections and maintenance to be performed. The same principle applies to floor waste gully risers although a minimum vertical clearance of 450 mm is recommended.

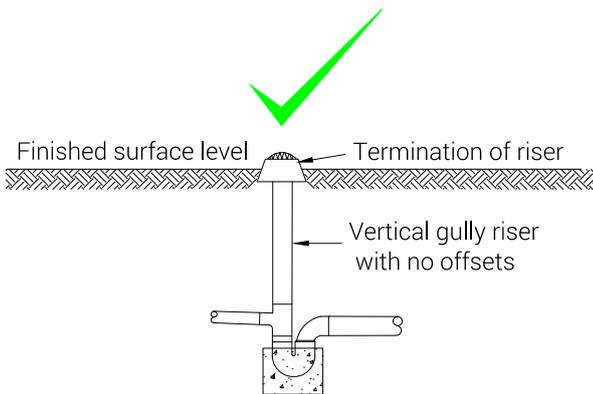


Diagram 7: Compliant disconnector gully

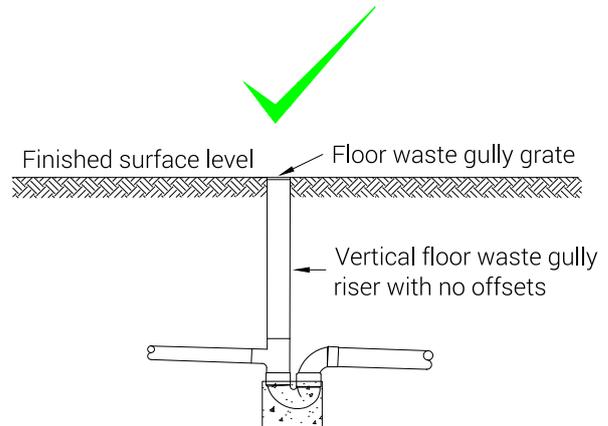


Diagram 8: Compliant floor waste gully

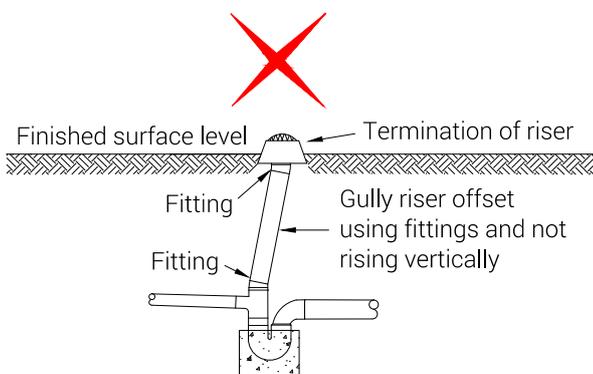


Diagram 9: Non-compliant disconnector gully

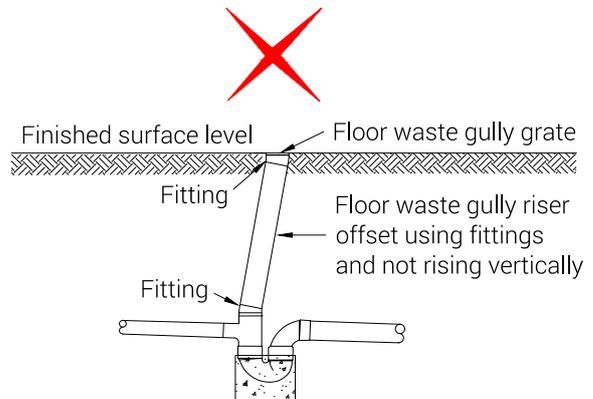


Diagram 10: Non-compliant floor waste gully

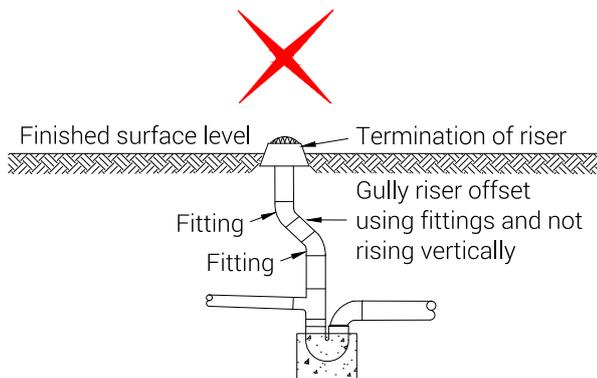


Diagram 11: Non-compliant disconnecter gully

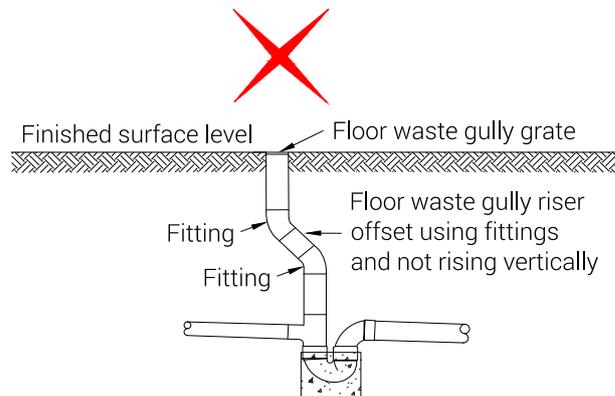


Diagram 12: Non-compliant floor waste gully

Risers on fixture traps

The conditions that apply to risers on overflow relief, disconnecter and floor waste gullies also apply to risers from fixture traps that are not accessible. The Plumbers Licensing and Plumbing Standards Regulations 2000 modifies AS/NZS 3500.2:2021, clause 6.5.1 under regulation 49(b) to enforce the following provisions for traps in these locations. This means fixture traps that are inaccessible shall not have offsets in their risers or a trap size that is greater than the diameter of the outlet for the fixture or appliance that the trap serves. This allows the full water seal to be viewed for cleaning and maintenance to remove odour producing build up.

Self-sealing devices and traps with loose coupling nuts must not be installed in the ground or concrete.

All other fixture traps shall be installed in accessible locations.

Inspection shaft installation notes

- ▶ An inspection chamber with an open channel or a WaterMark certified maintenance shaft may take the place of an inspection shaft.
- ▶ AS/NZS 3500.2:2021, clause 4.4.3.2 requires inspection shafts be sized as follows;
 - (a) the same size as the drain for drains up to DN 150;
 - (b) not smaller than DN 150 for drains larger than DN 150; or
 - (c) the same size as the jump-up where an inspection shaft is constructed by extending a jump-up, for example:
 - (i) Inspection shafts.
 - (ii) Inspection openings.
 - (iii) Inspection shaft connection points (ISC) that are installed by Water Services Providers.
- ▶ AS/NZS 3500.2:2021, clause 4.4.2.1 requires inspection shaft risers to comply as follows:
 - (a) They shall terminate at or near ground or finished surface level with a removable airtight inspection cap of the same diameter as the shaft or riser. For boundary trap risers, a low-level vent shall be installed in accordance with clause 3.9.2.3.
 - (b) The cap shall be suitably sealed into the shaft or riser.
 - (c) Where the inspection shaft or boundary trap riser is subject to vehicular traffic, the cap may be installed below finished surface level. Access shall be provided in accordance with the following:
 - (i) A heavy-duty trafficable cover shall be installed at finished surface level above and independent of the cap.
 - (ii) The cover shall be suitably supported so that no load can be transmitted onto the shaft.
 - (iii) The shaft shall be terminated immediately below the underside of the cover. It is suggested that 75 mm is a suitable clearance.
 - (d) Risers shall be installed vertically with no offsets.
- ▶ AS/NZS 3500.2:2021, clause 4.4.2.3 allows for alternative locations of inspection shafts if they terminate under cover or within a recess in commercial buildings that are constructed up to the boundary of the property.

Termination of risers

The minimum height between the top of a disconnecter or overflow gully riser, or the invert of the overflow pipe from an overflow relief gully, and the finished surface level shall be 75 mm, except where the gully riser is located in a path, paved area or hardstand such as asphalt or concrete where it shall be finished at a level so as to prevent the ingress of stormwater.

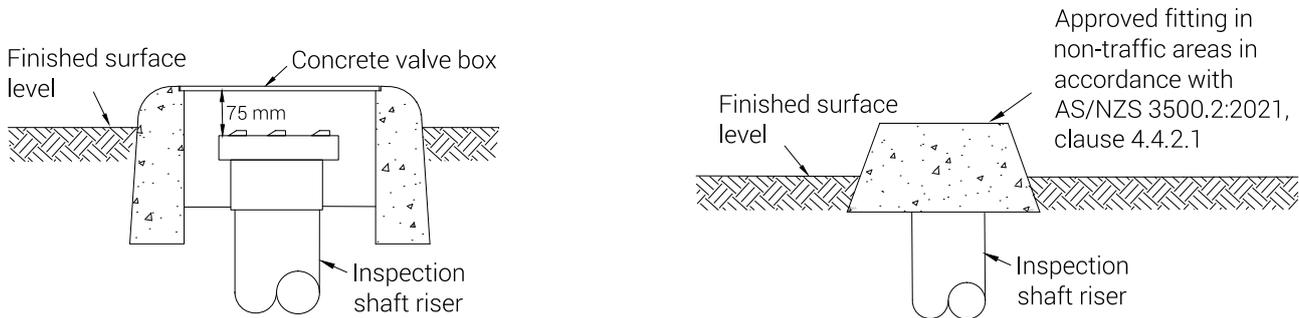


Diagram 13: Typical inspection shaft riser termination with valve box in non-traffic areas

Diagram 14: Typical inspection shaft riser termination using an approved fitting in non-traffic areas

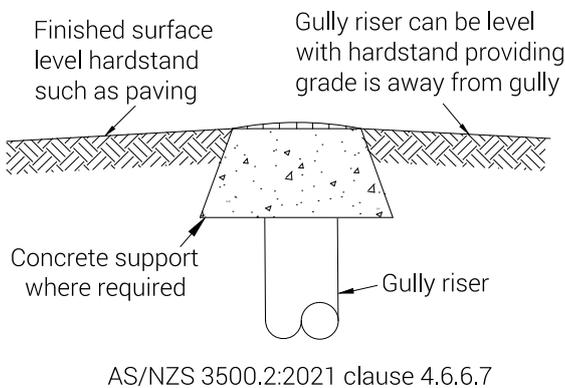


Diagram 15: Typical gully riser termination in paved non-traffic areas

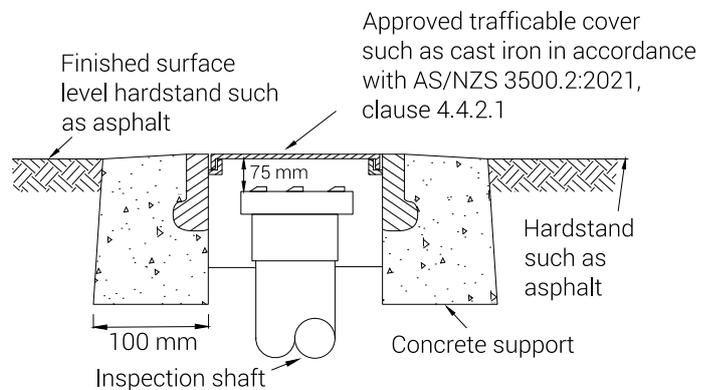


Diagram 16: Typical inspection shaft riser termination in areas subject to vehicular traffic

Notes

The technical note series is issued by the Plumbers Licensing Board to assist the plumbing industry to comply with the Plumbers Licensing and Plumbing Standards Regulations 2000 (the Regulations) applicable to plumbing work in Western Australia.

Each technical note is to be read in conjunction with Part 6 of the Regulations that currently adopt the Plumbing Code of Australia (PCA) and the deemed to satisfy provisions of AS/NZS 3500:2021, parts 0, 1, 2 and 4 but modified in certain matters to suit the State's building approach and other local conditions.

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