

HCAA ADVISORY NOTE ON MECHANICAL SPLIT SYSTEM CONDENSATE

REVISION 2: AUGUST 2022



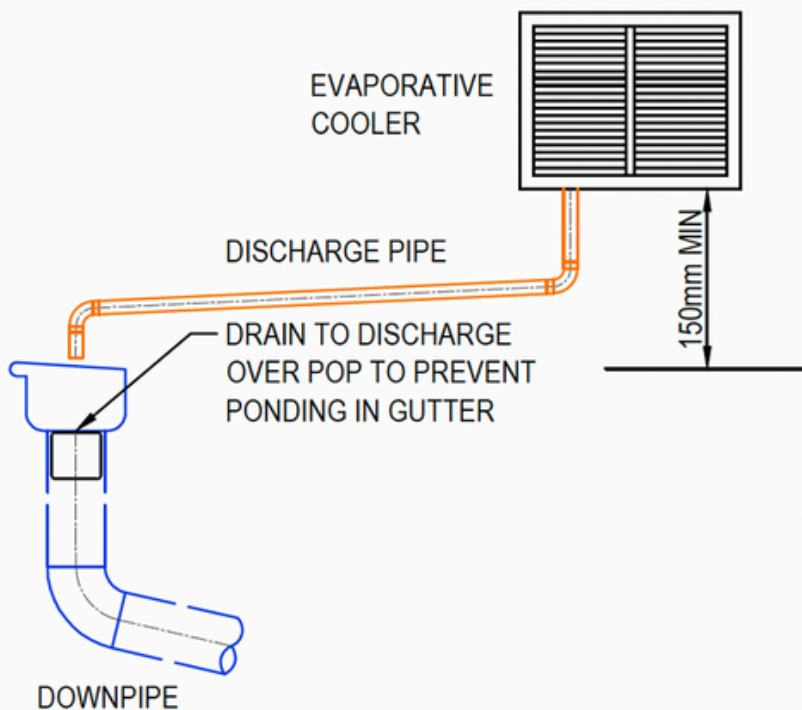
ADVISORY NOTE ON MECHANICAL SPLIT SYSTEM CONDENSATE

This advisory note specifies the requirements for the safe discharge of water from an evaporative cooler.

It applies to:

- A discharge pipe to a roof gutter pop outlet
- Discharge to a downpipe via a tundish
- A discharge drain to a stormwater drain system
- A discharge pipe to a sanitary drainage system via a tundish to a disconnecter gully
- A discharge pipe to a sanitary drainage system via a tundish to a floor waste gully
- A discharge pipe to a sanitary drainage system directly to a sanitary drain
- A discharge pipe to an absorption pit
- A discharge pipe over a tiled roof

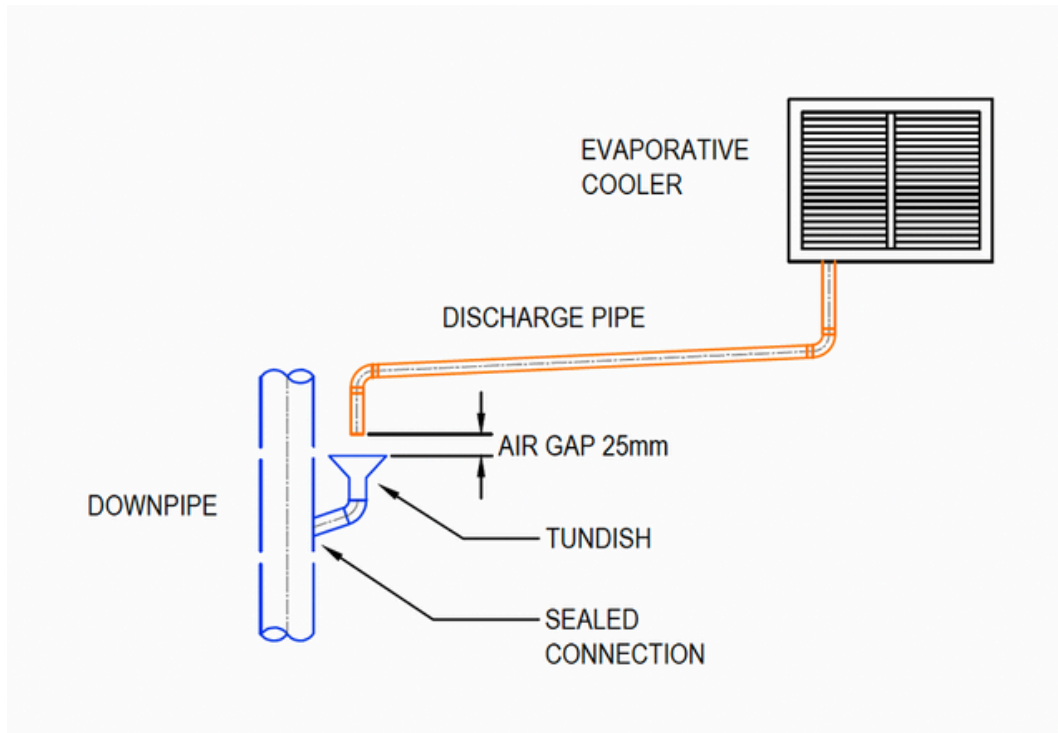
Figure 1: A discharge pipe to a roof gutter pop outlet



As shown in Figure 1, the condensate drains and bleed down drains are not permitted to discharge to a system that is used for the collection of water for drinking use.

The height requirements of a minimum of 150mm is measured from the base of the evaporative cooler to the end of the drain termination.

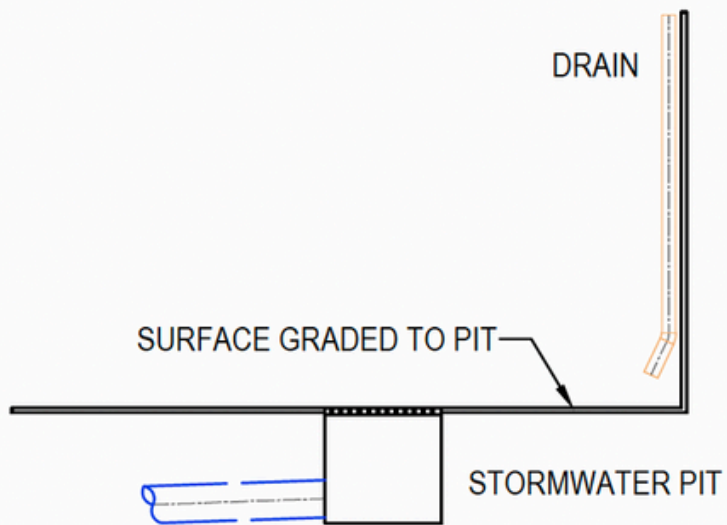
Figure 2: Discharge to a downpipe via a tundish



As shown in Figure 2, the condensate drains and bleed down drains are not permitted to discharge to a system that is used for the collection of water for drinking use.

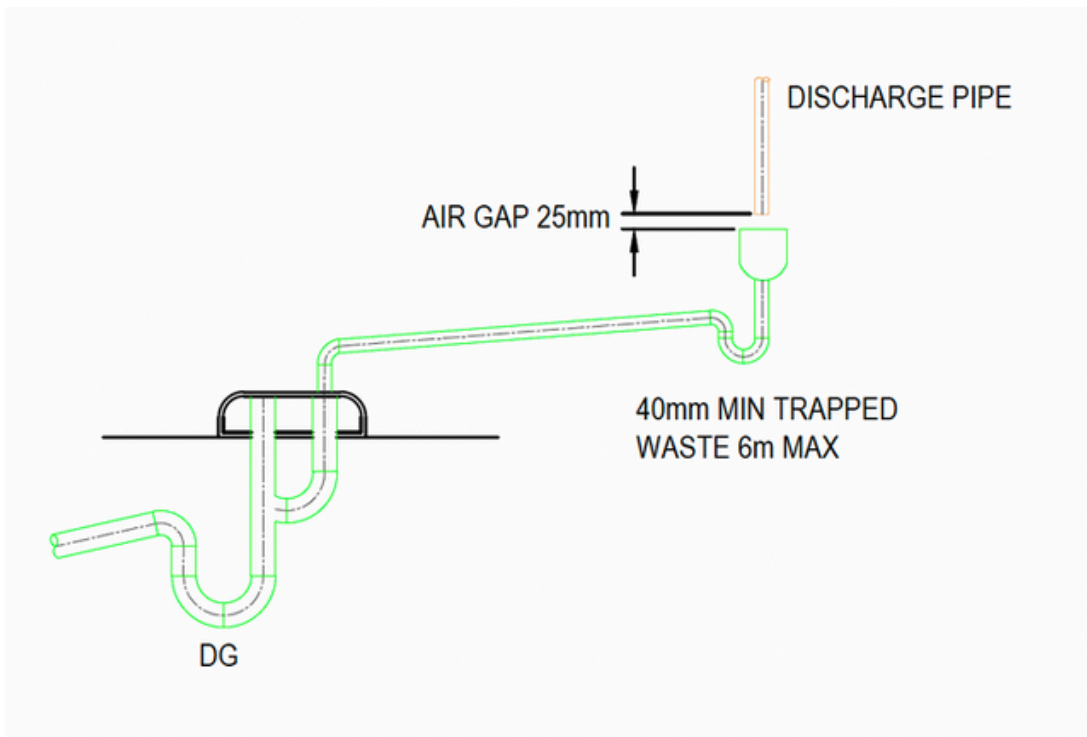
The termination of the discharge pipe over the top of the tundish must have an air gap of a minimum of 25mm.

Figure 3: A discharge drain to a stormwater drain system



As shown in Figure 3, the surface must be graded away from the building, so that ponding does not occur, and the discharge does not create a safety risk to pedestrians.

Figure 4: A discharge pipe to a sanitary drainage system via a tundish to a disconnector gully

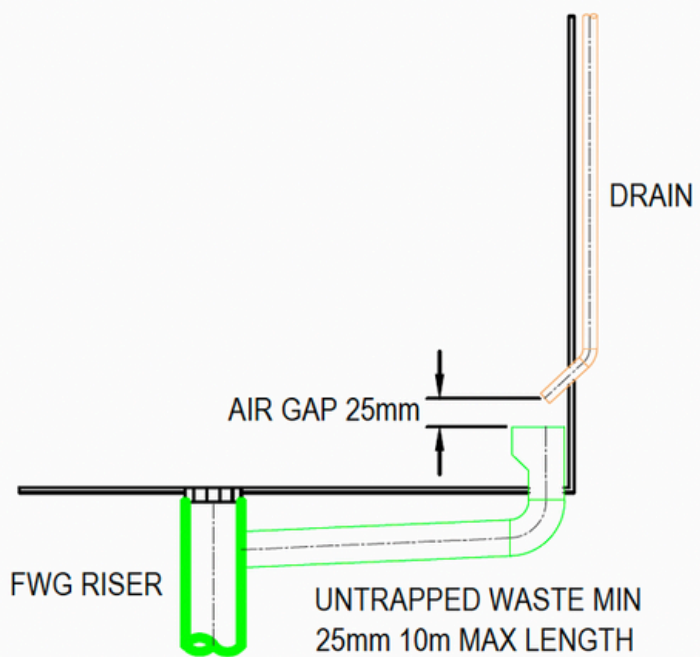


As shown in Figure 4, the termination of the discharge pipe over the top of the tundish must have an air gap of a minimum of 25mm.

The size of the pipe must be a minimum of 40mm to a disconnector gully of up to 6m.

This is in accordance with AS/NZS 3500.2: 2018, table 4.6.3, and Appendix B.

Figure 5: A discharge pipe to a sanitary drainage system via a tundish to a floor waste gully

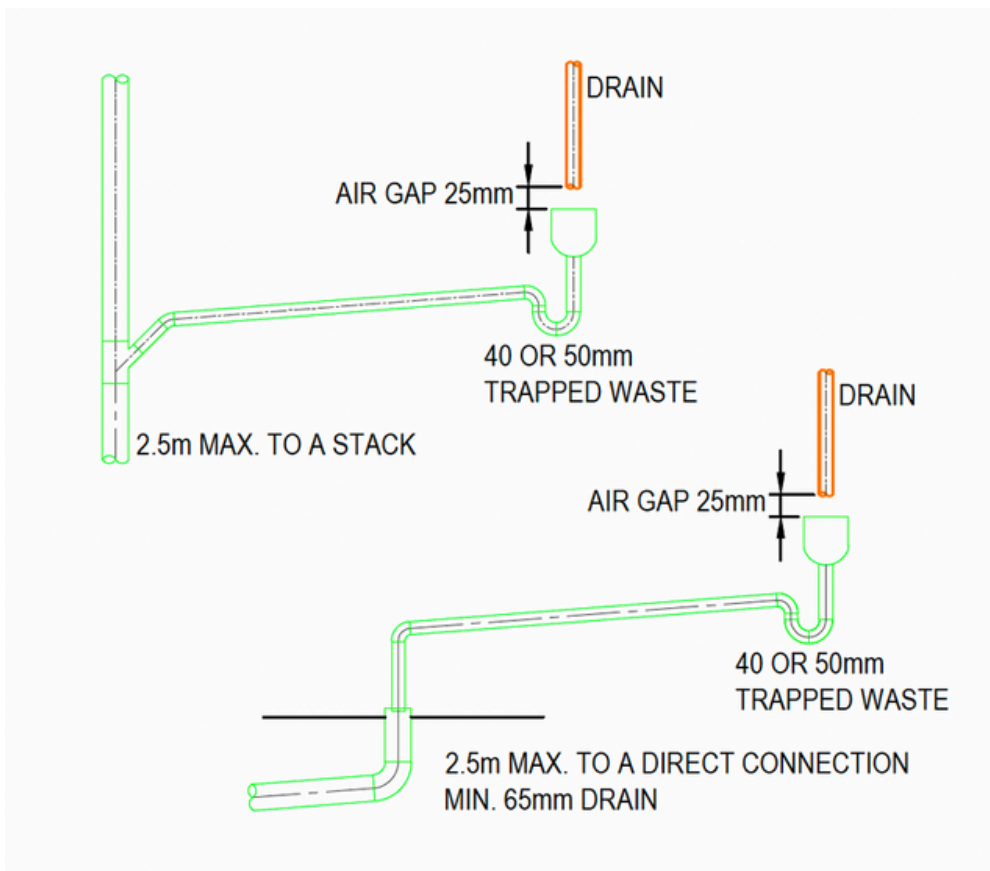


As shown in Figure 5, the termination of the discharge pipe over the top of the tundish must have an air gap of a minimum of 25mm.

The size of the pipe must be a minimum of 25mm with a maximum of up to 10m in length.

This is in accordance with AS/NZS 3500.2: 2018, clause 4.6.7.8, and 13.21.

Figure 6: A discharge pipe to a sanitary drainage system directly to a sanitary drain



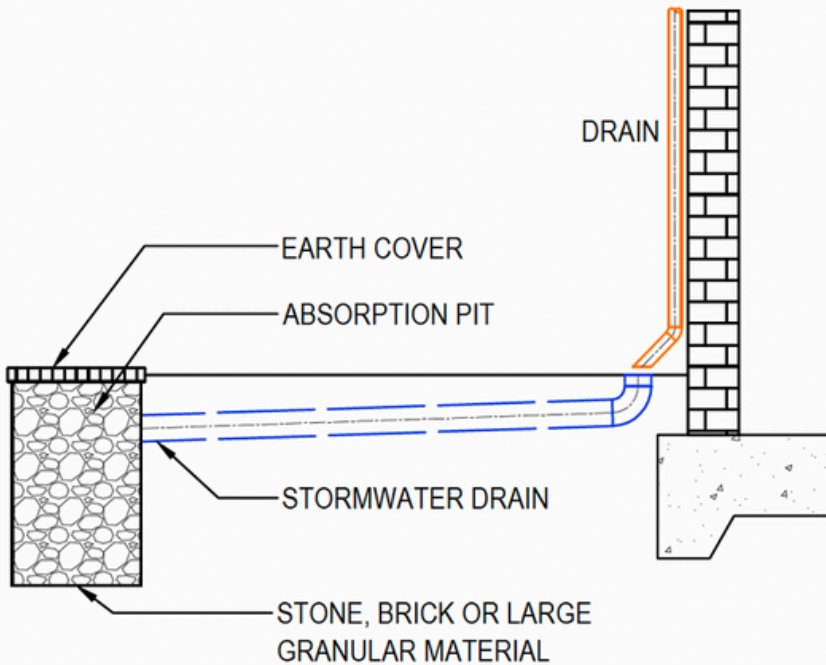
As shown in Figure 6, the termination of the discharge pipe over the top of the tundish must have an air gap of a minimum of 25mm.

a) The size of the pipe must be a minimum of 40mm for the connection of a tundish to a sanitary system, with a maximum distance of 2.5m to a stack.

b) The size of the pipe must be a minimum of 40mm for the connection of a tundish to a sanitary system, with a maximum distance of 2.5m to a 65mm drain.

This is in accordance with AS/NZS 3500.2: 2018, clause 13.2.1 and Appendix B.

Figure 7: A discharge pipe to an absorption pit

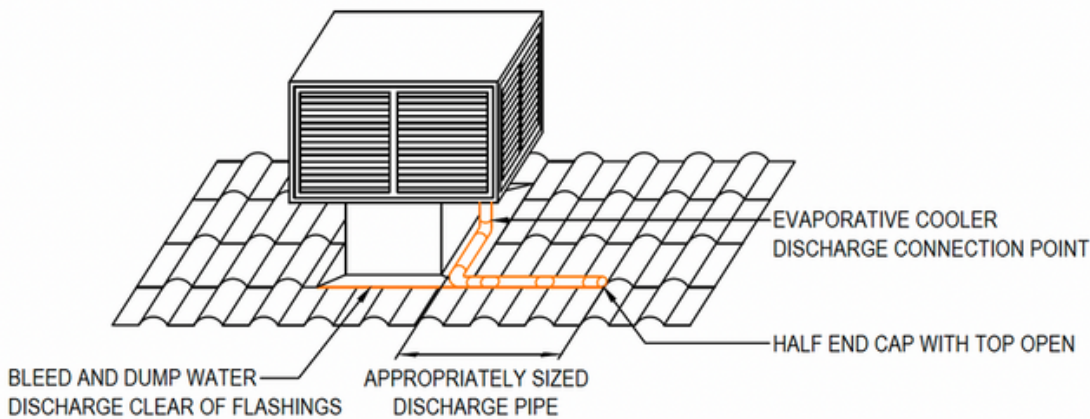


As shown in Figure 7, this scenario is only permitted where there is no sanitary drain or stormwater system available.

The pit can only be constructed in permeable (porous) ground.

It must be of a size appropriate to the volume of discharge and located so the discharge water will not cause building damage by changing moisture content.

Figure 8: A discharge pipe over a tiled roof



As shown in Figure 8, the discharge pipe from a roof-mounted evaporative cooler may only be directed onto a tiled roof via a spreader. The spreader is to be in the direction of the flow of water, be secured, appropriately sized, and discharged evenly over the roof tiles. It must also be clear of roof tile joints and any roof flashings.

The end of the spreader should be half capped (e.g., top half open) and the discharge pipes should not drain to a system that is used for the collection of water for drinking use. The spreader must also not be discharged over metal roofs.

Discharge Provisions

Discharge provisions for various types of systems are listed below:

System type	Discharge provision
Condensate as derived from the air by dehumidification process, applicable to indoor and outdoor plant including reverse cycle operation.	Connect to sewer, soakage pit, garden area or stormwater. For roof-mounted plant, gutters and downpipes can be used to drain condensate.
Evaporative process wastewater by dump cycle or bleed (saline condition).	Connect to sewer, soakage pit or saline tolerant garden area. Note: soakage pits must be of suitable capacity to service discharge.
Cooling tower wastewater (chemically treated).	Connect to sewer.
Pipework system wastewater by continuous or intermittent bleed and drain down, e.g. heating, chilled and condenser water.	Connect to sewer. Note: large discharges through process or drain down must be subject to applicable discharge rate conditions.

Hot-water ablution units (testing and drain).	Connect to sewer.
Demineralised, distilled, reverse osmosis or similar processed pipework systems.	Connect to sewer.
Compressed air condensate, steam reticulation/condensate blow down pipework systems.	Connect to sewer.
Water storage provisions for process or amenity, e.g. tanks, swimming pools or similar providing overflow or backwash.	Connect to sewer. Note: large discharges must be subject to applicable discharge rate conditions. Holding tank provisions may be necessary to regulate such discharges.

Diagram legend

	SANITARY DRAINAGE
	SANITARY VENT
	MECHANICAL DRAINAGE
	STORMWATER DRAINAGE

Related Documentation

- National Construction Code, Volume 3, Plumbing Code of Australia (PCA) 2019.
- HB276-2016 Residential heating, cooling, and air conditioning plant and equipment.

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These suggestions are the formal position of the HCAA in regards to this matter. These statements are provided in the public interest, and the HCAA may not have any specific jurisdiction on the related matter. A responsible person or authority is expected to take relevant advice into consideration as appropriate to their given circumstance. The HCAA has issued this document for use by competent personnel deemed by their local and state/territory-based engineering community and regulations. All data within this document is to be suitably verified by a suitably qualified person before use. The HCAA provides no warranty, no guarantee, or the like to the accuracy, validity or appropriateness of this data to your situation. Please be advised that you are using these documents at your own risk.

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