

## 8.2.10 Water Resource Catchments Overlay Code



### 8.2.10.1 Application

This code applies to development:

- (1) within the Water Resource Catchments Overlay as identified on the overlay maps contained in **Schedule 2 Mapping**; and
- (2) identified as requiring assessment against the Water Resource Catchments Overlay Code by the tables of assessment in **Part 5 Tables of Assessment**.

### 8.2.10.2 Purpose and Overall Outcomes

- (1) The purpose of the Water Resource Catchments Overlay Code is to:
  - (a) protect the quality of water that is used for human consumption and urban purposes within the Water Supply Buffer Area and Water Resource Catchment Area as shown in the **Water Resource Catchments Overlay Map - Catchment Area OM-10-A** and **Water Resource Catchments Overlay Map - Streams and Dams OM-10-B**; and
  - (b) ensure development is appropriately sited, designed and managed to maintain or improve water quality, flow regimes, environmental values and the physical integrity of natural processes to protect drinking water supply.
- (2) The purpose of the code will be achieved through the following overall outcomes:
  - (a) Development:
    - (i) maintains or improves the quality of surface water and groundwater entering Urban Water Supply Storage areas;
    - (ii) does not increase the peak discharges or run-off volumes with the quantity of surface water generated from development;
    - (iii) does not compromise the drinking water supply environmental values identified in the Environmental Protection Policy (Water) 2009; and
    - (iv) protects the physical integrity of waterways, wetlands, lakes, springs, riparian areas and natural ecosystems that contribute to maintaining healthy functioning catchments.

### 8.2.10.3 Assessment Benchmarks

Table 8.2.10.3.1 — Water Resource Catchments Overlay Code - for Accepted and Assessable Development

Performance Outcomes	Acceptable Outcomes
<b>Wastewater and Sewage</b>	
<p><b>PO1</b> Development requiring sewage-treatment facilities and disposal areas protects water quality entering waterways and Urban Water Supply Storage areas by maintaining an adequate separation distance from waterways.</p> <p><i>Editor's note: refer to Water Resource Catchments Overlay Map - Streams and Dams OM-10-B for the location of waterways and Urban Water Supply Storage areas and refer to Flood Hazard Overlay Map - Hazard Area OM-06-A for an indication of areas with potential flood inundation.</i></p>	<p><b>AO1.1</b> Development does not generate wastewater.</p> <p><b>OR</b></p> <p><b>AO1.2</b> Development is connected to reticulated sewer and does not involve an on-site sewerage treatment facility.</p> <p><b>OR</b></p> <p><b>AO1.3</b> Development involves (or will involve in the case of reconfiguring a lot) a sewage-treatment facility and disposal area that complies with the following: (1) where involving a <i>Low density residential activity</i> or a <i>tourist accommodation site</i>, separation distances and locational criteria are in accordance with <b>Table 8.2.10.3.3 - Minimum Horizontal Separation Distances and Locational Criteria for Residential and Tourist Accommodation</b>; and (2) for all other development, separation distances and locational criteria are in accordance with <b>Table 8.2.10.3.4 — Separation Distance and Other Locational Criteria</b>.</p> <p><i>Note - Where another setback distance or locational criteria is identified within this code, the higher standard applies.</i></p> <p><i>Editor's Note: Development involving reconfiguring a lot must demonstrate that the above requirements can be achieved.</i></p>
<p><b>PO2</b> Where a site is being used for a <i>dairy</i>, development maintains or improves the quality of surface water by adopting measures that prevent livestock from entering a waterbody.</p>	<p><b>AO2</b> Development fences all livestock from waterbodies on a site is being used for a <i>dairy</i>.</p>
<b>Hazardous Materials</b>	
<p><b>PO3</b> Dangerous goods, hazardous substances or environmentally hazardous materials are stored and handled in a manner that minimises the potential for contamination of surface and groundwater in the event of a leak or spill.</p>	<p><b>AO3.1</b> The storage or handling of dangerous goods, hazardous substances or environmentally hazardous materials involves an aggregate quantity equal to or less than 200L or 200kg.</p> <p><b>OR</b></p> <p><b>AO3.2</b> The storage or handling of dangerous goods, hazardous substances or environmentally hazardous materials with an aggregate quantity greater than</p>

Performance Outcomes	Acceptable Outcomes
	<p>200L or 200kg and less than 1000L or 1000kg maintains the following separation distances:</p> <ul style="list-style-type: none"> <li>(1) 50m to a stream order 1 to 3;</li> <li>(2) 100m to a stream order 4 to 7; and</li> <li>(3) 800m to an Urban Water Supply Storage area.</li> </ul> <p><b>OR</b></p> <p><b>AO3.3</b> The storage of dangerous goods, hazardous substances or environmentally hazardous materials (other than petroleum products) in aggregate quantities greater than 1000L or 1000kg is not undertaken unless a site-specific risk assessment presents minimal risk to drinking water quality.</p> <p><i>Editor's note: refer to Water Resource Catchments Overlay Map - Streams and Dams OM-10-B for the location of Stream Orders 1 to 3, Stream Orders 4 to 7 and Urban Water Supply Storage areas.</i></p> <hr/> <p><b>AO3.4</b> Dangerous goods, hazardous substances or environmentally hazardous materials with an aggregate quantity greater than 200L or 200kg and less than 1000L or 1000kg are located and stored in the following manner:</p> <ul style="list-style-type: none"> <li>(1) undercover in a building or similar structure;</li> <li>(2) in or on a dedicated impervious secondary containment store or device that permits full recovery of spills; and</li> <li>(3) in accordance with AS 1940:2004 The Storage and Handling of Flammable and Combustible Liquids.</li> </ul> <p><i>Editor's note: refer to Flood Hazard Overlay Map - Hazard Area OM-06-A for an indication of areas with potential flood inundation.</i></p>

**Table 8.2.10.3.2 - Water Resource Catchments Overlay Code - for Assessable Development**

Performance Outcomes	Acceptable Outcomes
<b>Wastewater (Other than Sewage)</b>	
<p><b>PO1</b> Development involving wastewater (other than sewage) does not discharge wastewater unless the drinking water supply environmental values are not compromised.</p> <p><i>Note: Drinking water supply environmental values are contained within Schedule 1 of the Environmental Protection Policy (Water) 2009.</i></p>	<p><b>AO1</b> Development involving wastewater (other than sewage) collects and contains wastewater on-site, and is:</p> <ul style="list-style-type: none"> <li>(1) lawfully disposed to sewer; or</li> <li>(2) transferred off-site for treatment/disposal to an appropriately licensed facility; or</li> <li>(3) reused on-site in a closed-cycle irrigation scheme, industrial processes, washing/cleaning or other purpose; or</li> <li>(4) treated to meet the drinking water supply environmental values prior to release.</li> </ul>

Performance Outcomes	Acceptable Outcomes
	<p><b>Note:</b> Where development involves the release of wastewater (other than sewage), a Wastewater Management Plan (WWMP) is to be prepared by a suitably qualified person. Plans are to provide an assessment of all risks and associated mitigation strategies for preventing adverse impact on the quality of drinking water and may require a water quality monitoring program.</p>
<p><b>PO2</b> Where treated wastewater (not involving sewage) is irrigated to land, it: (1) is confined to a dedicated area of land on-site; (2) is suitably located and sized; and (3) uses irrigation practices that will not harm groundwater and on-site surface water quality.</p> <p><b>Note:</b> Developments involving the irrigation of wastewater may need to provide a MEDLI Modelling Report demonstrating the nominated land area for wastewater irrigation is suitably located and sized to accommodate design wastewater loads, storages are suitably sized to accommodate design wastewater loads, and proposed irrigation practices will not damage water quality. It is recommended the modelling exercise incorporate scenarios based on both a 10-year and 20-year planning horizon and incorporate a minimum of three irrigation concepts.</p>	<p><b>AO2</b> No Acceptable Outcome is prescribed.</p>
<b>Solid Waste</b>	
<p><b>PO3</b> Solid wastes generated by the development are managed, stored and disposed of in a manner that does not adversely impact on the quality of any surface water or groundwater.</p>	<p><b>PO3.1</b> Development being an <i>Intensive animal industry</i> ensures: (1) the stockpiling of waste litter, manure and other organics is undertaken as follows:     (a) on surfaces constructed with permanent impervious underlay to minimise leaching (groundsheets will only be accepted where stockpiling is temporary);     (b) located outside of an effluent irrigation area;     (c) located 3m above the seasonal high-water table and away from recharge areas;     (d) sized to accommodate the proposed disposal timeframes;     (e) designed with run-off diversion drainage upstream to prevent uncontaminated stormwater movement into the area;     (f) bunded to capture contaminated run-off for appropriate treatment and disposal; and     (g) covered, desirably within a shed but otherwise with weatherproof material; (2) the reuse of waste litter, manure and other organics as soil conditioners or fertilizers is not undertaken on-site; (3) composting activities are not undertaken on-site; and (4) carcasses are not buried on-site except as required in accordance with any emergency animal disease directive by a biosecurity agency.</p>
	<p><b>PO3.2</b> For all other development, no Acceptable Outcome is prescribed.</p>

Performance Outcomes	Acceptable Outcomes
<b>Sewage Treatment and Disposal</b>	
<p><b>PO4</b> Sewage treatment systems are designed, constructed and managed in ways that do not compromise the environmental values for the supply of drinking water.</p> <p><i>Note: Drinking water supply environmental values are contained within Schedule 1 of the Environmental Protection Policy (Water) 2009.</i></p>	<p><b>AO4</b> No Acceptable Outcome is prescribed.</p>
<b>Stormwater Quality and Hydrology</b>	
<p><b>PO5</b> Development manages stormwater at the construction phase to protect the quality of water entering waterways and the Urban Water Supply Storage area.</p> <p><i>Note: Drinking water supply environmental values are contained within Schedule 1 of the Environmental Protection Policy (Water) 2009.</i></p> <p><i>Editor's note: refer to Water Resource Catchments Overlay Map - Streams and Dams OM-10-B for the location of waterways and Urban Water Supply Storage areas.</i></p>	<p><b>AO5.1</b> An erosion and sediment control program (ESCP) demonstrates that stormwater will achieve the design objectives listed in <b>Table 8.2.10.3.5 - Construction phase – Stormwater Management Design Objectives</b> during the construction stage.</p> <p><b>OR</b></p> <p><b>AO5.2</b> The ESCP demonstrates how stormwater quality will be managed so that target contaminants are treated to a design objective at least equivalent to <b>Table 9.4.2.3.2 - Construction Phase – Stormwater Management Design Objectives</b>.</p>
<p><b>PO6</b> Development avoids or minimises changes to the existing surface water natural hydrological regime so that:</p> <p>(1) there is no change to the reference high-flow and low-flow duration frequency curves, low-flow spells frequency curve and mean annual flow to and from waterways as a result of the development;</p> <p>(2) the collection and re-use of stormwater occurs so there is no increase to the velocity or volume of stormwater flows entering a waterway.</p>	<p><b>AO6</b> No Acceptable Outcome is prescribed.</p>
<p><b>PO7</b> The design and location of artificial waterways:</p> <p>(1) use natural channel design principles to minimise erosion, flooding and maintenance while maximising ecological and aesthetic values of waterways;</p> <p>(2) are compatible with any existing natural waterways; and</p> <p>(3) are designed to ensure surface water hydrological regimes are maintained.</p>	<p><b>AO7</b> No Acceptable Outcome is prescribed.</p>
<b>Hazardous Materials (Petroleum Products)</b>	

Performance Outcomes	Acceptable Outcomes
<p><b>PO8</b> Petroleum products are stored and handled in a manner that minimises the potential for contamination of surface and groundwater in the event of a leak or spill.</p>	<p><b>AO8.1</b> The storage of petroleum products in bulk (greater than 1000L) aboveground uses self-bunded vessels that meet <i>Australian Standard AS 1692 Steel Tanks for Flammable and Combustible Liquids</i>.</p> <p><b>OR</b></p> <p><b>AO8.2</b> The storage of petroleum products in bulk (equal to or greater than 100L) aboveground uses single-skin vessels installed within a bunded compound that: (1) is sufficiently impervious (permeability should be &lt;10<sup>-9</sup> m/s) to retain and recover spillage; and (2) has a net capacity of at least 100% of the bunded vessel or aggregate quantity of vessels where operated as a single unit.</p> <p><b>OR</b></p> <p><b>AO8.3</b> Petroleum products belowground (greater than 200L) are stored in vessels that are non-corrodible, double walled with an interstitial space between, and meet the requirements of Australian Standard AS 1692: <i>Steel Tanks for Flammable and Combustible Liquids</i> and/or UL 1316 <i>Glass fibre reinforced plastic underground storage tanks for petroleum products, alcohols and alcohol gasoline mixture</i>.</p>
<b>Reconfiguring a Lot</b>	
<p><b>PO9</b> Where involving reconfiguring a lot for the creation of new lots, all lots requiring an on-site wastewater treatment system do not compromise the environmental values of drinking water supply.</p> <p><i>Note - A wastewater site analysis is to be prepared by a suitably qualified professional demonstrating the opposite.</i></p>	<p><b>AO9</b> Any new lot can accommodate an area for on-site wastewater treatment and disposal complying with the separation distances and other locational criteria specified in <b>Table 8.2.10.3.4 — Separation Distance and Other Locational Criteria</b>.</p>

**Table 8.2.10.3.3 - Minimum Horizontal Separation Distances and Locational Criteria for Residential and Tourist Accommodation**

Feature	Stream Order 1 to 3*	Stream Order 4 to 7*	Water supply well, bore &/or dam	Nearest cut embankment or other point where effluent might surface	Upper flood margin level of an Urban Water Supply Storage*	Flood immunity <sup>^</sup>	Maximum Slope#
Development involving Primary treated effluent disposal	50m	100m	50m	30m	400m	AEP 1%	Located on a slope less than 15.1%
Development involving Secondary treated effluent disposal	30m	30m	30m	-	30m		
Development involving Advanced Secondary treated effluent disposal	10m	10m	10m	-	10m		

\*Refer to **Water Resource Catchments Overlay Map - Streams and Dams OM-10-B** for the location of Stream Orders 1 to 3, Stream Orders 4 to 7 and Urban Water Supply Storage areas

<sup>^</sup>Refer to **Flood Hazard Overlay Map - Hazard Area OM-06-A** for an indication of areas with potential flood inundation.

#Refer to **Landslide Hazard and Steep Slope Overlay Map - Steep Slope OM-07-A** for an indication of areas with a slope 15.1% or greater.

**Table 8.2.10.3.4 — Separation Distance and Other Locational Criteria**

Development type and activities	Stream Order 1 to 3*	Stream Order 4 to 7*	Urban Water Supply Storage Areas*	Flood immunity <sup>^</sup>	Maximum Slope#
Intensive animal industry	50m	100m	800m	AEP 1%	Located on a slope less than 15.1%
Aquaculture	Case-by-case basis	Case-by-case basis	N/A	N/A	
All other agricultural or forestry land uses	50m	100m	400m	Buildings – AEP 1% Other areas – AEP 20%	
Extractive industry	50m	100m	400m	AEP 1%	
Industry - Medium Impact, High Impact, Special, Marine	100m	100m	800m	AEP 1%	
Motor sport facility	50m	100m	400m	Buildings – AEP 1%	
Outdoor sport and recreation				Other infrastructure (e.g. trails) – AEP 20%	
Major sport, recreation and entertainment facility					
Service station	50m	100m	800m	AEP 1%	
All other development types	50m	100m	400m	AEP 1%	

\*Refer to **Water Resource Catchments Overlay Map - Streams and Dams OM-10-B** for the location of Stream Orders 1 to 3, Stream orders 4 to 7 and Urban Water Supply Storage areas

<sup>^</sup>Refer to **Flood Hazard Overlay Map - Hazard Area OM-06-A** for an indication of areas with potential flood inundation.

#Refer to **Landslide Hazard and Steep Slope Overlay Map - Steep Slope OM-07-A** for an indication of areas with a slope 15.1% or greater.

**Table 8.2.10.3.5 - Construction Phase – Stormwater Management Design Objectives**

Issue	Desired Outcomes
<p>Drainage control</p> <p><b>Note</b> - Refer to IECA 2008 Best Practice Erosion and Sediment Control (as amended) for details on the application of the Construction Phase requirements.</p>	<ul style="list-style-type: none"> <li>(1) Manage stormwater flows around or through areas of exposed soil to avoid contamination.</li> <li>(2) Manage sheet flows in order to avoid or minimise the generation of rill or gully erosion.</li> <li>(3) Provide stable concentrated flow paths to achieve the construction phase stormwater management design objectives for temporary drainage works as specified in <b>Table 8.2.10.3.6 - Construction phase – stormwater management design objectives for temporary drainage works</b>.</li> <li>(4) Provide emergency spillways for sediment basins to achieve the construction phase stormwater management design objectives of:               <ul style="list-style-type: none"> <li>(a) 10% AEP where the design life is less than 3 months;</li> <li>(b) 5% AEP where the design life is 3-12 months;</li> <li>(c) 2% AEP where the design life is greater than 12 months.</li> </ul> </li> </ul>
<p>Erosion control</p> <p><b>Note</b> - Refer to IECA 2008 Best Practice Erosion and Sediment Control (as amended) for details on the application of the Construction Phase requirements.</p>	<ul style="list-style-type: none"> <li>(1) Stage clearing and construction works to minimise the area of exposed soil at any one time.</li> <li>(2) Effectively cover or stabilise exposed soils prior to predicted rainfall.</li> <li>(3) Prior to completion of works for the development, and prior to removal of sediment controls, all site surfaces must be effectively stabilised<sup>1</sup> using methods which will achieve effective short-term stabilisation.</li> </ul>
<p>Sediment control</p>	<ul style="list-style-type: none"> <li>(1) Direct runoff from exposed site soils to sediment controls that are appropriate to the extent of disturbance and level of erosion risk.</li> <li>(2) All exposed areas greater than 2500 metres<sup>2</sup> must be provided with sediment controls which are designed, implemented and maintained to a standard which would achieve at least 80% of the average annual runoff volume of the contributing catchment treated (i.e. 80% hydrological effectiveness) to 50mg/L Total Suspended Solids (TSS) or less, and pH in the range (6.5–8.5).</li> </ul>
<p>Litter, hydrocarbons and other contaminants</p>	<ul style="list-style-type: none"> <li>(1) Remove gross pollutants and litter.</li> <li>(2) Avoid the release of oil or visible sheen to released waters.</li> <li>(3) Dispose of waste containing contaminants at authorised facilities.</li> </ul>
<p>Waterway stability and flood flow management</p>	<ul style="list-style-type: none"> <li>(1) Measures are either installed prior to land disturbance and are integrated with erosion and sediment controls, or equivalent alternative measures are implemented during construction.</li> <li>(2) Earthworks and the implementation of erosion and sediment controls are undertaken in ways which ensure flooding characteristics (including stormwater quantity characteristics) external to the development site are not worsened during construction.</li> </ul>

**Note** - Drainage, erosion and sediment controls should be appropriate to the risk posed by the activity for the relevant climatic region e.g. considering the potential soil loss rate, monthly erosivity or average monthly rainfall.

**Note** - An effectively stabilised surface is defined as one that does not, or is not likely to result in visible evidence of soil loss caused by sheet, rill or gully erosion or lead to sedimentation water contamination.



**Table 8.2.10.3.6 - Construction phase – stormwater management design objectives for temporary drainage works**

Temporary drainage works	Anticipated operation design life and minimum design storm event		
	< 12 months	12–24 months	> 24 months
Drainage structure	1 in 2 year ARI 39% AEP	1 in 5 year ARI 18% AEP	1 in 10 year ARI 10% AEP
Where located immediately up-slope of an occupied property that would be adversely affected by the failure or overtopping of the structure	1 in 10 year ARI 10% AEP		
Culvert crossing	1 in 1 year ARI 63% AEP		