Commercial and Industrial Development

1. Application

This development type applies to the development and use of land for Industrial and Commercial Development.

Urban wetland at Docklands, Melbourne. Stormwater treatment incorporated into an effective water feature.

2. Objectives

- Integrate natural and/or existing site topographical features into the development design.
- Maximise use of natural and/or existing features.
- Minimise capital and maintenance costs for service infrastructure.
- Maximise amount of public open space.
- Maximise opportunity to direct stormwater runoff into the ground or waterbody (where safe, compatible and appropriate to the function of the area or waterbody).
- Maintain availability of water during restrictions
- Make more efficient use of water
- Assist maintenance of landscaping
- Water supply for fire protection
- Reduce flood risk
- Reduce peak discharges downstream
- Prevent erosion
- Improve water quality
- Improve aesthetics
- Improve amenity

3. Common Techniques

The following techniques are commonly used in water sensitive design strategies for industrial / commercial development. They are described in more detail in the relevant practice note.

Technique	*Practice Note Reference*
Rainwater tanks	Practice Note No.1
Infiltration Devices	Practice Note No.2
Paving	Practice Note No.3
Landscaping	Practice Note No.4
Drainage Design	Practice Note No.5
Wastewater reuse	Practice Note No.6
Rain gardens and Bioretention systems	Practice Note No.7
Vegetated swales and buffers	Practice Note No.8
Water efficient fittings & appliances	Practice Note No.9
Stormwater Ponds	Practice Note No.10
Wetland design, construction and maintenance	Practice Note No.11

4. Site strategy

Any combination of the techniques (i.e., rainwater tanks, porous paving, filtration/ infiltration devices, landscape practices) listed above can be very effective at achieving the objectives mentioned above. For maximum effectiveness, these measures need to be carefully designed as part of an overall strategy that considers local site conditions.

The figure below shows a possible overall strategy for industrial / commercial developments.
In addition to the features shown, water sensitive design industrial / commercial developments offer opportunities for:

- Maximising permeable areas.
- Integrating design of driveways and parking areas to maximise scope for retention of existing vegetation and for new plantings.
- Varying driveway widths to facilitate integrated stormwater management and substantial plantings.
- Integrating footpaths with driveways and to respond to natural features and stormwater management to create spaces that are easy to maintain and efficient to irrigate.
- Using porous paving for driveways and parking areas.
- Incorporating common trenching and closer alignment of service infrastructure to improve scope for reduced disturbance and trenching to retain existing vegetation and plant new vegetation.
- Using appropriate landscaping measures and practices that include the selection of species to reduce water demand.

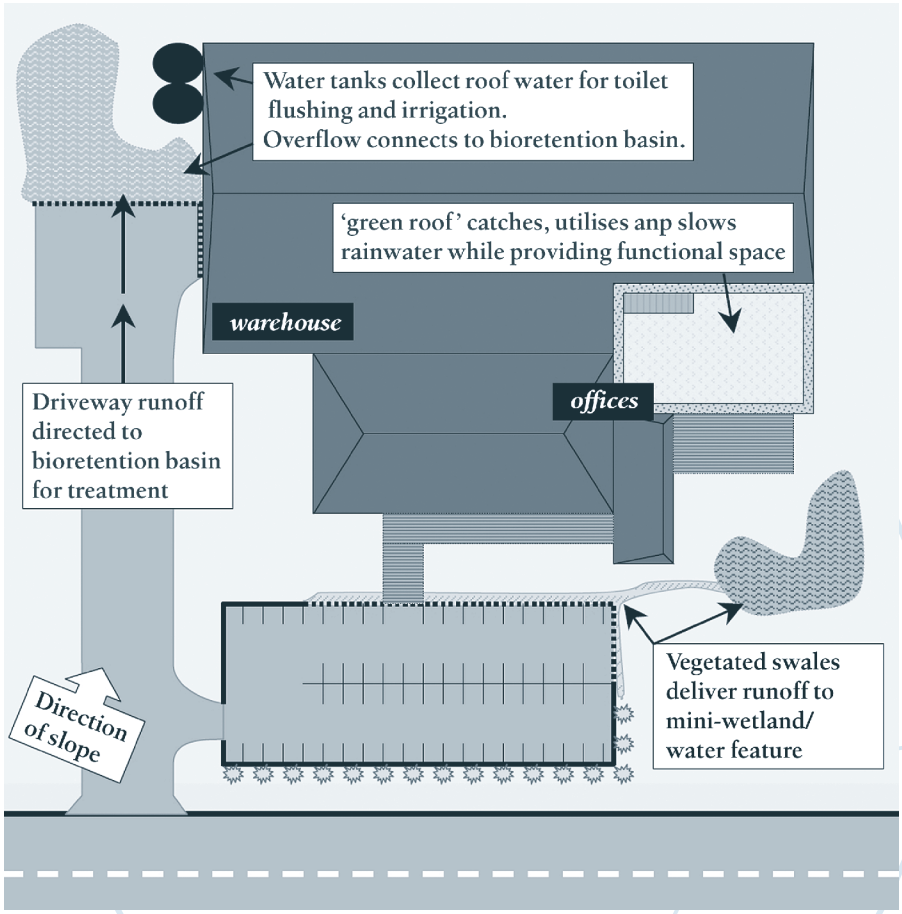

Diagram of a possible industrial site layout incorporating a mini-wetland landscape feature, green roof, vegetated swales delivering car park runoff to the mini-wetland, rainwater harvesting for non-potable uses and a bioretention rain garden to collect driveway runoff and water tank overflow. [source: Department of Primary Industries and Water]

Example of an overall stormwater strategy for an industrial / commercial development

Appendix A (Site Planning) provides more detail on how to prepare an integrated site plan that incorporates water sensitive design considerations.

water sensitive urban design

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