

# **PART B**

# **Section 4** Environmental Hazards and Management

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#### **About Section 4**

This section applies to land that is subject to environmental hazards and conditions of salinity, bushfire or flooding.

Where contamination may be present, refer to State Environmental Planning Policy 55 (Remediation of Land).

# Design principles for environmental hazards and management

- P1 The design and construction of development should recognise, and be designed within the environmental hazards and constraints of the site.
- P2 Developments should minimise risks from salt damage and should not exacerbate the potential for increased salinity through appropriate construction methods, planting and other appropriate measures.

#### 4.1 Bushfire

The controls in this section apply to land that is bush fire prone land. Development in bush fire prone areas is subject to *Planning for Bush Fire Protection 2019* (or any later versions) and Australian Standard: 3959 Construction of Buildings in Bush Fire Prone Areas (AS: 3959).

Common requirements for building on bushfire prone land include:

- Use of non-combustible or fire retardant materials
- Design and layout to provide adequate asset protection zones
- Access for residents, fire fighters and emergency services
- Ensuring adequate dedicated water supply and pressure for fire fighting purposes
- Landscaping to limit fire spreading to buildings.

#### Explanatory Note(s):

Areas of Wagga Wagga are known to be affected by salinity. Further information including technical studies may be required with a development application to confirm the suitability of any proposal on affected land.

#### Complying with this DCP

The controls in the DCP support the Guiding Principles and Section Objectives. A Development Application should aim to satisfy the Guiding Principles, and the Objectives of the relevant sections. Equal emphasis must be given to both "numeric" and non-numeric controls relevant to a particular development. Where a proposed development has an unacceptable impact on neighbours or the surrounding environment compliance with controls will not necessarily guarantee approval of an application.

Where a variation is sought to controls, the application must document the reasons and extent of the variation, and how the variation meets the Guiding Principles and Section Objectives for the consideration of the Council.

Some applications are required to be referred to the Rural Fire Service as part of the assessment.

Further information is available at www.rfs.nsw.gov.au.

Where water is required for fire protection consultation should be undertaken with Riverina Water if arrangements are to be made with Riverina Water for the supply of water for any required fire protection purpose.



#### **Objectives**

- O1 Minimise risk to life, property and the environment from bush fire.
- O2 Ensure compliance with statutory obligations for development in bush fire prone areas.

#### **Controls**

- C1 Applications are to satisfy the relevant provisions of *Planning for Bush Fire Protection 2019* (or any later versions) and Australian Standard: 3959 Construction of Buildings in Bush Fire Prone Areas.
- Where required, a clear separation is to be provided between buildings and bushfire hazards in the form of a fuel-reduced Asset Protection Zone (APZ). In all cases the APZ is to be located wholly within the land zoned Residential. Refer to the requirements of Planning for Bush Fire Protection 2019.

# 4.2 Flooding

This section applies to land that is identified as flood prone. The section is based on the terminology and recommendations of the Wagga Wagga Floodplain Risk Management Study 2009.

The Study identifies flood risk precincts. These are described in the table below.

Flood risk precinct	Levee	Flood risk
Central Wagga	Protected by levee	Low
Central Wagga	Not protected by levee	High
North Wagga	Protected by levee	High
Gumly/Oura/Collingullie	N/A	High
Rural floodplain	N/A	Low
Rural floodplain	N/A	High
Eastern Industrial	N/A	Medium

### **Objectives**

- O1 Minimise the public and private costs of flood damage.
- O2 Minimise the risk of life during floods by encouraging construction and development that is "flood proofed" and compatible with the flood risk of the area.
- O3 Ensure that development and construction are compatible with the flood hazard.
- O4 Require compatibility with the Flood Plain Development Manual 2005 as relevant.

**Explanatory Note(s):** 

Where the word "freeboard" is used it means a minimum of 500mm above the relevant flood planning level.



## Controls - flood liable areas

- C1 Essential community services are not suitable for location in any of the flood risk precincts other than Central Wagga where they are to be above the Probable Maximum Flood (PMF) level. For the purposes of this Section, essential community services include:
  - Community, information and education facilities which may provide an important role in notifying the community of flood dangers or evacuation requirements during flood events.
  - Emergency services facilities.
  - · Health service facilities.
- C2 Critical utilities are to be located on land above the PMF level in all precincts. For the purposes of this Section critical utilities include:
  - · Child care centres.
  - Educational establishments.
  - Electricity generating works.
  - Liquid fuel depots.
  - · Offensive or hazardous industries.
  - Public utility undertakings (including generating works which are essential to evacuation during periods of flood, or if flood affected would unreasonably affect the ability of the community to return to normal activities after flood events).
  - · Research stations.
  - · Seniors living.
  - Telecommunications facilities and networks.

#### **Development within Central Business Area (Protected by levee)**

C3 Development in the Central Wagga precinct (being the area protected by levees) is to comply with the provisions of Table 4.2.1.

Table 4.2.1 Requirements for development in Wagga Central Business Area (Protected by levee)

Land use	Conditions
Utilities	<ul> <li>Floor levels</li> <li>Floor levels to be greater than the PMF level, plus freeboard</li> <li>Consider local drainage and ponding of stormwater within the levee</li> <li>Structural soundness</li> <li>Engineers report to certify that any new structure can withstand the forces of floodwater, debris and buoyancy up to and including the PMF</li> </ul>



	Management and Design
	<ul> <li>Parts of buildings below the 100yr flood level, plus freeboard to be constructed from flood compatible materials</li> </ul>
Residential	Floor levels
	Minimum floor height 225mm above ground level within the building footprint
Low impact	Floor levels
commercial development	Minimum floor height 225mm above ground level within the building footprint
	Consider local drainage and ponding of stormwater within the levee
Industrial and	Floor levels
high impact commercial development	Minimum floor height 225mm above ground level within the building footprint
development	<ul> <li>Consider local drainage and ponding of stormwater within the levee</li> </ul>
Recreation and	Floor levels
agriculture	Minimum floor height 225mm above ground level within the building footprint
	Consider local drainage and ponding of stormwater within the levee
Other	Floor levels
development	Minimum floor height 225mm above ground level within the building footprint
	Consider local drainage and ponding of stormwater within the levee

#### **Explanatory Note(s):**

#### **Development in Central Business Area (Not protected by levee)**

- C4 Industrial and high impact commercial uses are unsuitable for location in the central business area precinct not protected by the flood levee.
- C5 Seniors living housing is not suitable for the Central Business Area precinct.
- Residential development is only appropriate on lots greater than 80 ha and where it can be demonstrated that the development complies with the provisions of Clause 7.2 of the LEP.
- C7 Existing dwellings can be replaced but if in a "high hazard" area must be relocated to a location where the overall flood risk is less (being of lower hazard and/ or better access) if available on the property.
- C8 Development in the Central Business Area precinct is to comply with the provisions of Table 4.2.2.



# Table 4.2.2 Requirements for development in Central Business Area (Not protected by levee)

Area (Not protecte	
Uses	Conditions
Utilities	Floor levels are to be greater than the
	Probable Maximum Flood (PMF) level, plus freeboard
	New developments are to be consistent with flood hazard and evacuation needs  Structural soundness
	<ul> <li>Engineers report to certify that any new structure can withstand the forces of floodwater, debris and buoyancy up to and including the PMF</li> </ul>
	Fencing construction and materials are to allow flood waters to equalise on either side
	Flood affectation
	<ul> <li>Engineers Report or appropriate certification required to confirm that the development will not increase flood affectation elsewhere</li> </ul>
	<u>Evacuation</u>
	<ul> <li>A Flood Plan is required and is to make provision for evacuation of employees and storage of materials above the 100yr ARI flood level, plus freeboard</li> </ul>
	Flood evacuation access is not to be worse than for the old building being replaced
	<ul> <li>Habitable developments to be sited to provide best evacuation access where conditions allow</li> </ul>
	Management and design
	<ul> <li>Applications for non-habitable developments are to demonstrate that area is available to store goods above the 100yr ARI flood level, plus freeboard)</li> </ul>
	<ul> <li>Parts of building below the 100yr flood level, plus freeboard to be constructed from flood compatible materials</li> </ul>
	The depth of water for vehicular access shall not exceed 300mm.
Residential	Floor levels
	All new habitable development to have floor levels greater than the 100yr ARI flood level, plus freeboard
	Additions to existing habitable dwellings not to exceed 50m² at the same floor level unless 500mm above the 1:100yr ARI flood level
	House raising and flood proofing is encouraged for existing developments below the 100yr flood level
	New development is to be consistent with flood hazard and evacuation needs



#### Structural soundness

- Engineers report or suitable certification required confirming that any new structure can withstand the forces of floodwater, debris and buoyancy up to and including the 100yr ARI (excludes sheds less than 20m²)
- Fencing construction and materials are to allow flood waters to equalise on either side

#### Flood affectation

 Engineers report or suitable certification required confirming that the development will not increase flood affectation elsewhere

#### Evacuation

- A Flood Plan is required and is to make provision for evacuation of employees and storage of materials above the 100yr ARI flood level, plus freeboard
- Flood evacuation access is not to be worse than for the old building being replaced
- Habitable developments to be sited to provide best evacuation access where conditions allow

#### Management and design

- Developments are encouraged to provide a flood free area
- Parts of building below the 100yr flood level, plus freeboard to be constructed from flood compatible materials

# Low impact commercial development

#### Floor levels

- All new developments to have floor levels greater than the 20yr ARI flood event, plus freeboard
- New development is to be consistent with flood hazard and evacuation needs
- Chemicals and materials to be stored above the 100yr ARI flood level, plus freeboard

# Structural soundness

- Engineers report or suitable certification required confirming that any new structure can withstand the forces of floodwater, debris and buoyancy up to and including the 100yr ARI (excludes sheds less than 20m²)
- Fencing construction and materials are to allow flood waters to equalise on either side

#### Flood affectation

 Engineers report or suitable certification required confirming that the development will not increase flood affectation elsewhere

#### Evacuation

 A Flood Plan is required and is to make provision for evacuation of employees and storage of materials above the 100yr ARI flood level, plus freeboard



Flood evacuation access is not to be worse than for the old building being replaced Management and design Applications for non-habitable developments are to demonstrate that area is available to store goods above the 100yr ARI flood level, plus freeboard No external storage of materials below the 20yr ARI flood level which may cause pollution or be potentially hazardous during any flood Parts of building below the 100yr flood level (plus freeboard) to be constructed from flood compatible materials Industrial and Not suitable for development high impact commercial development Recreation and Floor levels agriculture Minimum floor height 225mm above ground level within the building footprint Farm sheds can be constructed at ground Garages and sheds to be located on highest practical section of property New development is to be consistent with flood hazard and evacuation needs Chemicals and materials to be stored above the 100yr ARI flood level, plus freeboard Structural soundness Engineers report or suitable certification required to certify that any new structure can withstand the forces of floodwater, debris and buoyancy up to and including the 100yr ARI (excludes sheds less than 20m2) Fencing construction and materials are to allow flood waters to equalise on either side Flood affectation Engineers report or suitable certification required to certify that the development will not increase flood affectation elsewhere Evacuation A Flood Plan is required and is to make provision for evacuation of employees and storage of materials above the 100yr ARI flood level, plus freeboard Flood evacuation access is not to be worse than for the old building being replaced Management and design Applications for non-habitable developments are to demonstrate that area is available to store goods above the 100yr ARI flood level,

#### **Explanatory Note(s):**

plus freeboard



	<ul> <li>Parts of building below the 100yr flood level, plus freeboard to be constructed from flood compatible materials</li> </ul>
Other	Floor levels
development	<ul> <li>Floor level to be 225mm above ground level within the building footprint</li> </ul>
	<ul> <li>Garages and sheds to be located on highest practical section of property</li> </ul>
	<ul> <li>New development is to be consistent with flood hazard and evacuation needs</li> </ul>
	<ul> <li>Chemicals and materials to be stored above the 100yr ARI flood level, plus freeboard</li> </ul>
	Structural soundness
	<ul> <li>Engineers report to certify that any new structure can withstand the forces of floodwater, debris and buoyancy up to and including the 100yr ARI (excludes sheds less than 20m²)</li> </ul>
	<ul> <li>Fencing construction and materials are to allow flood waters to equalise on either side</li> </ul>
	Flood affectation
	<ul> <li>Engineers report or suitable certification required confirming that the development will not increase flood affectation elsewhere</li> </ul>
	Management and design
	<ul> <li>Applications for non-habitable developments are to demonstrate that area is available to store goods above the 100yr ARI flood level, plus freeboard</li> </ul>
	<ul> <li>Parts of building below the 100yr flood level, plus freeboard to be constructed from flood compatible materials</li> </ul>

#### **Explanatory Note(s):**

# Development at North Wagga (Protected by levee)

- C9 Industrial and high impact commercial uses are unsuitable for location at North Wagga.
- C10 Seniors living housing is not suitable for North Wagga.
- C11 No new additional dwellings are to be built in North Wagga. Existing dwellings can be replaced in accordance with the provisions of table 4.2.3.
- C12 Where existing dwellings are to be replaced by a new dwelling the replacement habitable floorspace must be located 0.5m above the 1:100yr ARI flood level.
- C13 Additions to existing dwellings are to be limited to 50m² where the existing floor level is less than the flood planning level (1:100yr ARI flood level plus 0.5m.
- C14 Development in the North Wagga precinct (being the area protected by the levee) is to comply with the provisions of Table 4.2.3.

For the purpose of this chapter existing dwelling is defined as a dwelling that has been constructed in accordance with the original development approval for the dwelling – any subsequent development will ensure that the development is no longer "existing" development.



# Table 4.2.3 Requirements for development in North Wagga (Protected by Levee)

Uses	Conditions
Utilities	Floor levels
	Floor levels are to be greater than the PMF level, plus freeboard
	New developments are to be consistent with flood hazard and evacuation needs
	Structural soundness
	<ul> <li>Engineers report to certify that any new structure can withstand the forces of floodwater, debris and buoyancy up to and including the PMF</li> </ul>
	<ul> <li>Fencing construction and materials are to allow flood waters to equalise on either side</li> </ul>
	Flood affectation
	<ul> <li>Engineers report or suitable certification required to certify that the development will not increase flood affectation elsewhere</li> </ul>
	<u>Evacuation</u>
	<ul> <li>A Flood Plan is required and is to make provision for evacuation of residents and storage of materials above the 100yr ARI flood level, plus freeboard</li> </ul>
	<ul> <li>Flood evacuation access is not to be worse than for the old building being replaced</li> </ul>
	<ul> <li>Habitable developments to be sited to provide best evacuation access where conditions allow</li> </ul>
	Management and design
	<ul> <li>Applications for non-habitable developments are to demonstrate that area is available to store goods above the 100yr ARI flood level, plus freeboard</li> </ul>
	<ul> <li>Parts of building below the 100yr flood level, plus freeboard to be constructed from flood compatible materials</li> </ul>
Residential	Floor levels
residential	<ul> <li>Any new residential dwelling (replacements of old dwellings) or extensions, including habitable rooms, in excess of 50m<sup>2</sup> to have habitable floor levels 0.5m above the 1:100yr ARI flood level</li> </ul>
	<ul> <li>Additions to existing habitable dwellings not to exceed 50m<sup>2</sup> (where existing floor level is subject to flooding)</li> </ul>
	<ul> <li>House raising and flood proofing are flood planning principles that must be considered when lodging development applications for existing developments below the 100yr flood level</li> </ul>



 New development is to be consistent with flood hazard and evacuation needs

#### Structural soundness

- Engineers report to certify that any new structure can withstand the forces of floodwater, debris and buoyancy up to and including the 100yr ARI (excludes sheds less than 20m²)
- Fencing construction and materials are to allow flood waters to equalise on either side

#### Flood affectation

 Engineers report or suitable certification required to certify that the development will not increase flood affectation elsewhere

#### Management and design

- Developments are encouraged to provide a flood free area
- Parts of building below the 100yr flood level, plus freeboard to be constructed from flood compatible materials

# Low impact commercial development

#### Floor levels

- Minimum floor height 225mm above the ground level
- New development is to be consistent with flood hazard and evacuation needs

#### Structural soundness

- Engineers report to certify that any new structure can withstand the forces of floodwater, debris and buoyancy up to and including the 100yr ARI (excludes sheds less than 20m²)
- Fencing construction and materials are to allow flood waters to equalise on either side

#### Flood affectation

 Engineers report or suitable certification required to certify that the development will not increase flood affectation elsewhere

#### Management and design

- Applications for non-habitable developments are to demonstrate that area is available to store goods above the 100yr ARI flood level (plus freeboard)
- Parts of building below the 100yr flood level, plus freeboard to be constructed from flood compatible materials

# Recreation and agriculture

### Floor levels

- Minimum floor height 225mm above ground level within the building footprint
- Garages and sheds to be located on highest practical section of property
- New development is to be consistent with flood hazard and evacuation needs



 Chemicals and materials to be stored above the 100yr ARI flood level plus freeboard

#### Structural soundness

- Engineers report to certify that any new structure can withstand the forces of floodwater, debris and buoyancy up to and including the 100yr ARI (excludes sheds less than 20m²)
- Fencing construction and materials are to allow flood waters to equalise on either side

#### Flood affectation

 Engineers report or suitable certification required to certify that the development will not increase flood affectation elsewhere

#### Management and design

- Applications for non-habitable developments are to demonstrate that area is available to store goods above the 100yr ARI flood level, plus freeboard
- Parts of building below the 100yr flood level, plus freeboard to be constructed from flood compatible materials

# Other development

#### Floor levels

- Garages and sheds to be located on highest practical section of property
- New development is to be consistent with flood hazard and evacuation needs
- Chemicals and materials to be stored above the 100yr ARI flood level plus freeboard

#### Structural soundness

- Engineers report to certify that any new structure can withstand the forces of floodwater, debris and buoyancy up to and including the 100yr ARI (excludes sheds less than 20m²)
- Fencing construction and materials are to allow flood waters to equalise on either side

#### Flood affectation

 Engineers report or suitable certification required to certify that the development will not increase flood affectation elsewhere

#### Management and design

- Applications for non-habitable developments are to demonstrate that area is available to store goods above the 100yr ARI flood level, plus freeboard
- Parts of building below the 100yr flood level, plus freeboard to be constructed from flood compatible materials

#### Development at Gumly, Oura and Collingullie (Flood affected land)

C15 Seniors living housing is not suitable on flood prone land at Gumly, Oura or Collingullie.



- C16 Existing dwellings can be replaced, but if in a "high hazard" area must be relocated to a location where the overall flood risk is less (being of lower hazard and/or better access) if available on the property.
- C17 Additions to existing habitable dwellings shall be limited to 50m<sup>2</sup> where the existing floor level is subject to flooding.
- C18 Residential dwellings are not to be located in high hazard areas.
- C19 Development in the flood affected lands at Gumly, Oura and Collingullie is to comply with the provisions of Table 4.2.4.

Table 4.2.4 Requirements for development at Gumly, Oura and Collingullie

Collingullie	
Land use	Conditions
Critical utilities	<ul> <li>Floor levels</li> <li>Floor levels are to be greater than the PMF level, plus freeboard</li> <li>New developments are to be consistent with flood hazard and evacuation needs</li> <li>Structural soundness</li> <li>Engineers report to certify that any new structure can withstand the forces of floodwater, debris and buoyancy up to and including the PMF</li> <li>Fencing construction and materials are to allow flood waters to equalise on either side</li> <li>Flood affectation</li> <li>Engineers report or suitable certification</li> </ul>
	required to certify that the development will not increase flood affectation elsewhere  Evacuation  A Flood Plan is required and is to make provision for evacuation of employees and storage of materials above the 100yr ARI flood level, plus freeboard
	<ul> <li>Flood evacuation access is not to be worse than for the old building being replaced</li> <li>Habitable developments to be sited to provide best evacuation access where conditions allow</li> <li>Management and design</li> <li>Applications for non-habitable developments are to demonstrate that area is available to store goods above the 100yr ARI flood level, plus freeboard</li> <li>Parts of building below the 100yr flood level, plus freeboard to be constructed from flood compatible materials</li> </ul>



# Residential development

#### Floor levels

- All new habitable development to have floor levels greater than the 100yr ARI flood level, plus freeboard
- Additions to existing habitable dwellings not to exceed 50m<sup>2</sup> (where the existing floor level is subject to flooding)
- House raising and flood proofing is encouraged for existing developments below the 100yr flood level
- New development is to be consistent with flood hazard and evacuation needs

### Structural soundness

- Engineers report to certify that any new structure can withstand the forces of floodwater, debris and buoyancy up to and including the 100yr ARI (excludes sheds less than 20m²)
- Fencing construction and materials are to allow flood waters to equalise on either side

#### Flood affectation

 Engineers report or suitable certification required to certify that the development will not increase flood affectation elsewhere

#### Evacuation

- A Flood Plan is required and is to make provision for evacuation of employees and storage of materials above the 100yr ARI flood level, plus freeboard
- Flood evacuation access is not to be worse than for the building being replaced
- Habitable developments to be sited to provide best evacuation access where conditions allow

#### Management and design

- Developments are encouraged to provide a flood free area
- Parts of building below the 100yr flood level, plus freeboard to be constructed from flood compatible materials

# Low impact commercial development

### Floor levels

- All new developments to have floor levels greater than the 20yr ARI flood event, plus freeboard
- New development is to be consistent with flood hazard and evacuation needs
- Chemicals and materials to be stored above the 100yr ARI flood level, plus freeboard



#### Structural soundness

- Engineers report to certify that any new structure can withstand the forces of floodwater, debris and buoyancy up to and including the 100yr ARI (excludes sheds less than 20m<sup>2</sup>)
- Fencing construction and materials are to allow flood waters to equalise on either side

#### Flood affectation

 Engineers report or suitable certification required to certify that the development will not increase flood affectation elsewhere

### Evacuation

- A Flood Plan is required and is to make provision for evacuation of employees and storage of materials above the 100yr ARI flood level, plus freeboard
- Flood evacuation access is not to be worse than for the old building being replaced

#### Management and design

- Applications for non-habitable developments are to demonstrate that area is available to store goods above the 100yr ARI flood level, plus freeboard
- Parts of building below the 100yr flood level, plus freeboard to be constructed from flood compatible materials

# Recreation and agriculture

#### Floor levels

- Minimum floor height 225mm above ground level within the building footprint
- Farm sheds can be constructed at ground level
- Garages and sheds to be located on highest practical section of property
- New development is to be consistent with flood hazard and evacuation needs
- Chemicals and materials to be stored above the 100yr ARI flood level, plus freeboard

#### Structural soundness

- Engineers report to certify that any new structure can withstand the forces of floodwater, debris and buoyancy up to and including the 100yr ARI (excludes sheds less than 20m<sup>2</sup>)
- Fencing construction and materials are to allow flood waters to equalise on either side

#### Flood affectation

 Engineers report or suitable certification required to certify that the development will not increase flood affectation elsewhere



#### Evacuation

- A Flood Plan is required and is to make provision for evacuation of employees and storage of materials above the 100yr ARI flood level plus freeboard
- Flood evacuation access is not to be worse than for the old building being replaced

### Management and design

- Applications for non-habitable developments are to demonstrate that area is available to store goods above the 100yr ARI flood level, plus freeboard
- No external storage of materials below the 20yr ARI flood level which may cause pollution or be potentially hazardous during any flood
- Parts of building below the 100yr flood level, plus freeboard to be constructed from flood compatible materials

# Other development

#### Floor levels

- Minimum floor height 225mm above ground level within the building footprint
- Garages and sheds to be located on highest practical section of property
- New development is to be consistent with flood hazard and evacuation needs
- Chemicals and materials to be stored above the 100yr ARI flood level, plus freeboard

#### Flood affectation

 Engineers report or suitable certification required to certify that the development will not increase flood affectation elsewhere

#### Management and design

- Applications for non-habitable developments are to demonstrate that area is available to store goods above the 100yr ARI flood level, plus freeboard
- Parts of building below the 100yr flood level, plus freeboard to be constructed from flood compatible materials



### Development on the rural floodplain (High flood risk area)

- C20 Industrial and high impact commercial uses are unsuitable for development on the rural flood plain (high risk area).
- C21 Seniors living housing is not suitable on the rural flood plain (high flood risk area).
- C22 Existing dwellings can be replaced but if in a "high hazard" area must be relocated to a location where the overall flood risk is less (being of lower hazard and/or better access) if available on the property.
- C23 Additions to existing habitable dwellings are to be limited to 50m² where the existing floor level is subject to flooding.
- For new dwellings the depth of water for vehicular access is not to exceed 300mm during the 1 in 100 yr flood event.
- C25 Development on the rural flood plain (high risk area) is to comply with the provisions of Table 4.2.5.

Table 4.2.5 Requirements for development in the rural floodplain (High flood risk area)

Land use	Conditions
Utilities	<ul> <li>Floor levels</li> <li>Floor levels are to be greater than the PMF level, plus freeboard</li> <li>New developments are to be consistent with flood hazard and evacuation needs</li> </ul>
	Engineers report to certify that any new structure can withstand the forces of floodwater, debris and buoyancy up to and including the PMF
	Fencing construction and materials are to allow flood waters to equalise on either side     Flood affectation
	Engineers report or suitable certification required to certify that the development will not increase flood affectation elsewhere
	Evacuation
	<ul> <li>A Flood Plan is required and is to make provision for evacuation of employees and storage of materials above the 100yr ARI flood level, plus freeboard</li> </ul>
	Flood evacuation access is not to be worse than for the old building being replaced
	Habitable developments to be sited to provide best evacuation access where conditions allow



## Management and design Applications for non-habitable developments are to demonstrate that area is available to store goods above the 100yr ARI flood level, plus freeboard Parts of building below the 100yr flood level, plus freeboard to be constructed from flood compatible materials Residential Floor levels development All new habitable development to have floor levels greater than the 100yr ARI flood level, plus freeboard Additions to existing habitable dwellings not to exceed 50m<sup>2</sup> (where the existing floor level is subject to flooding) House raising and flood proofing is encouraged for existing developments below the 100yr flood level New development is to be consistent with flood hazard and evacuation needs Structural soundness Engineers report to certify that any new structure can withstand the forces of floodwater, debris and buoyancy up to and including the 100yr ARI (excludes sheds less than 20m<sup>2</sup>) Fencing construction and materials are to allow flood waters to equalise on either side Flood affectation Engineers report or suitable certification required to certify that the development will not increase flood affectation elsewhere Evacuation A Flood Plan is required and is to make provision for evacuation of employees and storage of materials above the 100yr ARI flood level, plus freeboard Flood evacuation access is not to be worse than for the old building being replaced Habitable developments to be sited to provide best evacuation access where conditions allow Management and design Developments are encouraged to provide a flood free area Parts of building below the 100yr flood level, plus freeboard to be constructed from flood compatible materials Low impact Floor levels commercial All new developments to have floor levels development greater than the 20yr ARI flood event, plus freeboard



- New development is to be consistent with flood hazard and evacuation needs
- Chemicals and materials to be stored above the 100yr ARI flood level, plus freeboard

#### Structural soundness

- Engineers report to certify that any new structure can withstand the forces of floodwater, debris and buoyancy up to and including the 100yr ARI (excludes sheds less than 20m<sup>2</sup>)
- Fencing construction and materials are to allow flood waters to equalise on either side

#### Flood affectation

 Engineers report or suitable certification required to certify that the development will not increase flood affectation elsewhere

#### Evacuation

- A Flood Plan is required and is to make provision for evacuation of employees and storage of materials above the 100yr ARI flood level, plus freeboard
- Flood evacuation access is not to be worse than for the old building being replaced

#### Management and design

- Applications for non-habitable developments are to demonstrate that area is available to store goods above the 100yr ARI flood level, plus freeboard
- Parts of building below the 100yr flood level, plus freeboard to be constructed from flood compatible materials

# Recreation and agriculture

#### Floor levels

- Minimum floor height 225mm above ground level within the building footprint
- Farm sheds can be constructed at ground level
- Garages and sheds to be located on highest practical section of property
- New development is to be consistent with flood hazard and evacuation needs
- Chemicals and materials to be stored above the 100yr ARI flood level plus freeboard

# Structural soundness

- Engineers report to certify that any new structure can withstand the forces of floodwater, debris and buoyancy up to and including the 100yr ARI (excludes sheds less than 20m²)
- Fencing construction and materials are to allow flood waters to equalise on either side



## Flood affectation

 Engineers report or suitable certification required to certify that the development will not increase flood affectation elsewhere

#### Evacuation

- A Flood Plan is required and is to make provision for evacuation of employees and storage of materials above the 100yr ARI flood level, plus freeboard
- Flood evacuation access is not to be worse than for the old building being replaced

#### Management and design

- Applications for non-habitable developments are to demonstrate that area is available to store goods above the 100yr ARI flood level, plus freeboard
- No external storage of materials below the 20yr ARI flood level which may cause pollution or be potentially hazardous during any flood
- Parts of building below the 100yr flood level, plus freeboard to be constructed from flood compatible materials

# Other development

#### Floor levels

- Minimum floor height 225mm above ground level within the building footprint
- Garages and sheds to be located on highest practical section of property
- New development is to be consistent with flood hazard and evacuation needs
- Chemicals and materials to be stored above the 100yr ARI flood level, plus freeboard

### Flood affectation

 Engineers report required to certify that the development will not increase flood affectation elsewhere

### Management and design

- Applications for non-habitable developments are to demonstrate that area is available to store goods above the 100yr ARI flood level, plus freeboard
- Parts of building below the 100yr flood level, plus freeboard to be constructed from flood compatible materials

#### Development on the rural floodplain (Low flood risk area)

- C26 Seniors living housing is not suitable on the rural flood plain (low flood risk area).
- C27 Existing dwellings can be replaced but if in a "high hazard" area must be relocated to a location where the overall flood risk is less (being of lower hazard and/ or better access) if available on the property.



- C28 Additions to existing habitable dwellings are to be limited to 50m<sup>2</sup> where the existing floor level is subject to flooding.
- C29 For new dwellings the depth of water for vehicular access is not to exceed 300mm during the 1 in 100 year flood event.
- C30 Development on the rural flood plain (low risk area) is to comply with the provisions of Table 4.2.6.

Table 4.2.6 Requirements for development on the rural flood plain (low risk)

(IOW HSK)	
Land use	Controls
Critical utilities	Floor levels
	Floor levels are to be greater than the PMF level, plus freeboard
	<ul> <li>New developments are to be consistent with flood hazard and evacuation needs</li> </ul>
	Structural soundness
	<ul> <li>Engineers report to certify that any new structure can withstand the forces of floodwater, debris and buoyancy up to and including the PMF</li> </ul>
	<ul> <li>Fencing construction and materials are to allow flood waters to equalise on either side</li> </ul>
	Flood affectation
	<ul> <li>Engineers report or suitable certification required to certify that the development will not increase flood affectation elsewhere</li> </ul>
	<u>Evacuation</u>
	<ul> <li>A Flood Plan is required and is to make provision for evacuation of employees and storage of materials above the 100yr ARI flood level, plus freeboard</li> </ul>
	<ul> <li>Flood evacuation access is not to be worse than for the old building being replaced</li> </ul>
	<ul> <li>Habitable developments to be sited to provide best evacuation access where conditions allow</li> </ul>
	Management and design
	<ul> <li>Applications for non-habitable developments are to demonstrate that area is available to store goods above the 100yr ARI flood level, plus freeboard</li> </ul>
	<ul> <li>Parts of building below the 100yr flood level, plus freeboard to be constructed from flood compatible materials</li> </ul>



# Residential development

#### Floor levels

- All new habitable development to have floor levels greater than the 100yr ARI flood level, plus freeboard
- Additions to existing habitable dwellings not to exceed 50m<sup>2</sup> (where the existing floor level is subject to flooding)
- House raising and flood proofing is encouraged for existing developments below the 100yr flood level
- New development is to be consistent with flood hazard and evacuation needs

#### Structural soundness

- Engineers report to certify that any new structure can withstand the forces of floodwater, debris and buoyancy up to and including the 100yr ARI (excludes sheds less than 20m²)
- Fencing construction and materials are to allow flood waters to equalise on either side

#### Flood affectation

 Engineers report or suitable certification required to certify that the development will not increase flood affectation elsewhere

#### Evacuation

- A Flood Plan is required and is to make provision for evacuation of employees and storage of materials above the 100yr ARI flood level, plus freeboard
- Flood evacuation access is not to be worse than for the old building being replaced
- Habitable developments to be sited to provide best evacuation access where conditions allow

### Management and design

- Developments are encouraged to provide a flood free area
- Parts of building below the 100yr flood level, plus freeboard to be constructed from flood compatible materials

# Low impact commercial development

#### Floor levels

- All new developments to have floor levels greater than the 20yr ARI flood event, plus freeboard
- New development is to be consistent with flood hazard and evacuation needs
- Chemicals and materials to be stored above the 100yr ARI flood level, plus freeboard



#### Structural soundness

- Engineers report to certify that any new structure can withstand the forces of floodwater, debris and buoyancy up to and including the 100yr ARI (excludes sheds less than 20m<sup>2</sup>)
- Fencing construction and materials are to allow flood waters to equalise on either side

#### Flood affectation

 Engineers report or suitable certification required to certify that the development will not increase flood affectation elsewhere

#### Evacuation

 A Flood Plan is required and is to make provision for evacuation of employees and storage of materials above the 100yr ARI flood level, plus freeboard

#### Management and design

- Applications for non-habitable developments are to demonstrate that area is available to store goods above the 100yr ARI flood level, plus freeboard
- Parts of building below the 100yr flood level, plus freeboard to be constructed from flood compatible materials

## Industrial and high impact commercial development

#### Floor levels

- All new developments to have floor levels greater than the 20yr ARI flood event, plus freeboard
- New development is to be consistent with flood hazard and evacuation needs
- Chemicals and materials to be stored above the 100yr ARI flood level plus freeboard

#### Structural soundness

- Engineers report to certify that any new structure can withstand the forces of floodwater, debris and buoyancy up to and including the 100yr ARI (excludes sheds less than 20m²)
- Fencing construction and materials are to allow flood waters to equalise on either side

#### Flood affectation

 Engineers report or suitable certification required to certify that the development will not increase flood affectation elsewhere

#### Evacuation

 A Flood Plan is required and is to make provision for evacuation of employees and storage of materials above the 100yr ARI flood level, plus freeboard



	Management and design
	<ul> <li>Applications for non-habitable developments are to demonstrate that area is available to store goods above the 100yr ARI flood level, plus freeboard</li> </ul>
	Parts of building below the 100yr flood level, plus freeboard to be constructed from flood compatible materials
Recreation and	Floor levels
agriculture	Minimum floor height 225mm above ground level within the building footprint
	Farm sheds can be constructed at ground level
	Garages and sheds to be located on highest practical section of property
	New development is to be consistent with flood hazard and evacuation needs
	Chemicals and materials to be stored above the 100yr ARI flood level, plus freeboard
	Structural soundness
	Engineers report to certify that any new structure can withstand the forces of floodwater, debris and buoyancy up to and including the 100yr ARI (excludes sheds less than 20m²)
	Fencing construction and materials are to allow flood waters to equalise on either side
	Flood affectation
	Engineers report or suitable certification required to certify that the development will not increase flood affectation elsewhere
	<u>Evacuation</u>
	<ul> <li>A Flood Plan is required and is to make provision for evacuation of employees and storage of materials above the 100yr ARI flood level, plus freeboard</li> </ul>
	Flood evacuation access is not to be worse than for the old building being replaced
	Management and design
	<ul> <li>Applications for non-habitable developments are to demonstrate that area is available to store goods above the 100yr ARI flood level, plus freeboard</li> </ul>
	Parts of building below the 100yr flood level, plus freeboard to be constructed from flood compatible materials
Other	Floor levels
development	Minimum floor height 225mm above ground level within the building footprint
	Garages and sheds to be located on highest practical section of property



- New development is to be consistent with flood hazard and evacuation needs
- Chemicals and materials to be stored above the 100yr ARI flood level plus freeboard

#### Flood affectation

 Engineers report required to certify that the development will not increase flood affectation elsewhere

#### Management and design

- Applications for non-habitable developments are to demonstrate that area is available to store goods above the 100yr ARI flood level, plus freeboard
- Parts of building below the 100yr flood level, plus freeboard to be constructed from flood compatible materials

# Development in the East Wagga Industrial Area (Medium flood risk)

C31 Development in the East Wagga Industrial area is to comply with the provisions of Table 4.2.7.

Table 4.2.7 Requirements for development in the East Wagga Industrial area (Medium flood risk)

Land use	Conditions
Critical utilities	Floor levels
	<ul> <li>Floor levels are to be greater than the PMF level, plus freeboard</li> </ul>
	New developments are to be consistent with flood hazard and evacuation needs
	Structural soundness
	Engineers report to certify that any new structure can withstand the forces of floodwater, debris and buoyancy up to and including the PMF
	Fencing construction and materials are to allow flood waters to equalise on either side
	Flood affectation
	<ul> <li>Engineers report or suitable certification required to certify that the development will not increase flood affectation elsewhere</li> </ul>
	<u>Evacuation</u>
	<ul> <li>A Flood Plan is required and is to make provision for evacuation of employees and storage of materials above the 100yr ARI flood level, plus freeboard</li> </ul>
	Flood evacuation access is not to be worse than for the old building being replaced
	Habitable developments to be sited to provide best evacuation access where conditions allow



# Management and design Applications for non-habitable developments are to demonstrate that area is available to store goods above the 100yr ARI flood level, plus freeboard Parts of building below the 100yr flood level, plus freeboard to be constructed from flood compatible materials Low Impact Floor levels Commercial All new developments to have floor levels greater than the 20y ARI flood level (plus freeboard). New developments to be consistent with flood hazard and evacuation needs. Structural soundness Engineers report to certify that any new structure can withstand the forces of floodwater, debris and buoyancy up to and including the 100y ARI (excluding sheds <20m<sup>2</sup>). Fencing to be constructed in a way, and of materials which permit flood waters to equalise on either side. Evacuation Encourage the development of a Flood Plan by owner including evacuation of employees and storage of material above 100y ARI flood level plus freeboard. Management and Design Applicant for new non habitable developments to demonstrate that area is available to store goods above the 100y ARI flood level (plus freeboard). Parts of building below the 100y flood level (plus freeboard) to be constructed from flood compatible materials. Industrial and Floor levels High Impact All new developments to have floor levels Commercial greater than the 20y ARI flood level (plus freeboard). New developments to be consistent with flood hazard and evacuation needs. Structural soundness Engineers report to certify that any new structure can withstand the forces of

<20m<sup>2</sup>).

floodwater, debris and buoyancy up to and including the 100y ARI (excluding sheds



 Fencing to be constructed in a way, and of materials which permit flood waters to equalise on either side.

#### Evacuation

 Encourage the development of a Flood Plan by owner including evacuation of employees and storage of material above 100y ARI flood level plus freeboard.

### Management and Design

- Applicant for new non habitable developments to demonstrate that area is available to store goods above the 100y ARI flood level (plus freeboard).
- Parts of building below the 100y flood level (plus freeboard) to be constructed from flood compatible materials.