

## LIVERPOOL PLAINS SHIRE COUNCIL

# DEVELOPMENT

# **CONTROL PLAN**

# **2012**

# **Draft Amendment No. 5**



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## Section 1: Introduction

### 1.1 Name of Plan

This plan is known as the Liverpool Plains Development Control Plan (DCP) 2012.

The DCP is a development control plan prepared under Section 3.43 of the Environmental Planning and Assessment Act (EP&A Act) and Environmental Planning and Assessment Regulation. Section 3.43(5) in the EP&A Act provides that, in the event of any inconsistency between this DCP and the provisions in an environmental planning instrument (such as a State Environmental Planning Policy, Regional Environmental Plan or Local Environmental Plan) the environmental planning instrument shall prevail.

For the purposes of interpreting certain clauses in the Liverpool Plains LEP, reference in Section 4.15(1)(a)(iii) of the EP&A Act requires Council (or any other consent authority) to consider this DCP when determining development applications (DAs) that are covered by this DCP.

### 1.2 Land to which this plan applies

This plan applies to all land within the Liverpool Plains Shire Local Government Area.

### 1.3 Date of Commencement

This plan commenced on (May 2012), with the following adopted amendments:

- Amendment No. 1—23 July 2014
- Amendment No. 2— 25 November 2015
- Amendment No. 3— 6 September 2017
- Amendment No. 4— 26 February 2020
- Amendment No. 5—\*\*\* March 2021

### 1.4 Relationship to other plans and policies

This plan repeals all other Development Control Plans and Section 94 Contributions Plans as previously in force relating to the former local government areas of:

Quirindi Shire Council, Parry Shire Council, Murrurundi Shire Council, and Gunnedah Shire Council

Interim Liverpool Plains Shire Draft Development Control Plan and Development Contribution Plan 2011 as applying to land within the Liverpool Plains Shire Local Government Area.

This plan also repeals the following Liverpool Plains Shire Council internal policies and codes:

Dwelling RelocationAvailability of Building PlansTemporary AccommodationOccupation of CaravansBuilding AlignmentPublic Notification of Development ApplicationsAwnings PolicyLocal Approvals PolicyBuilding SetbacksDevelopment Applications & Complying Development<br/>Certificates by Senior Staff Members or Councillors

#### 1.5 Aims of this Plan

The aims of this plan are as follows:

- Define development standards which deliver the outcomes desired by the community and Council;
- Provide clear and concise development guidelines for various forms of development;
- Encourage innovation in design and development by not over-specifying development controls; and
- Provide certainty in development outcomes for developers and the community.

#### 1.6 Definitions

Definitions used in this DCP are derived from and are included in the Environmental *Planning and Assessment Act, Liverpool Plains Local Environmental Plan 2011* and relevant Documents as cited in the plan.

#### Section 2: Submitting an application

#### 2.1 The Development Application Process

In assessing a development application, Council must take into consideration the following matters:

- The Environmental Planning and Assessment Act 1979 and Regulation 2000, in particular Section 4.15 of the Act;
- Any relevant State Environmental Planning Policy (SEPP) including, but not limited to:
  - SEPP—Koala Habitat Protection
  - SEPP No. 55 Remediation of Land
  - SEPP No. 64 Advertising and Signage
  - SEPP No. 65 Design Quality of Residential Flat Development
  - SEPP (Housing for Seniors or People with a Disability) 2004
  - SEPP (BASIX) 2004
  - SEPP (Primary Production and Rural Development) 2019
  - SEPP (Infrastructure) 2007
- Liverpool Plains Local Environmental Plan 2011;
- Local Government Act 1993 and Regulations;
- National Construction Code/Building Code of Australia
- The requirements of Liverpool Plains Development Control Plan;
- Any relevant Acts of parliament;
- Any directions of the Minister for Planning;
- Any submissions received from the public following notification of the application; and
- Any submissions / comments received from Government agencies.

#### 2.1.1 Overview

Development Applications (DAs) are applications made to Council for development which may include building works, subdivision, change of use of a property, demolition, advertising structures, alterations and additions to existing buildings. Development applications are not required for development which is considered exempt or complying development.

Development Applications must be accompanied by certain information to enable Council to fully assess the potential impacts of a proposed development on the natural and built environment.

The *Environmental Planning and Assessment Act 1979* and *Regulation 2000* describe the requirements for lodging and processing a development application.

#### 2.1.2 Pre-lodgement

In circumstances where a large or complex development is proposed, Council recommends that the proponent (the applicant) request a pre-lodgement meeting with Planning Officers to discuss the proposal. This meeting will provide both the proponent and the officers with an opportunity to address any potential issues with the proposal early in the development stage.

Council Planning Officers cannot guarantee a favourable outcome for any development application at pre-lodgement stage, and such outcomes can only be determined following completion of the assessment process.

#### 2.1.3 Information to accompany a Development Application

Schedule 1 of the Environmental Planning and Assessment Regulation 2000 describes the information required in support of an application. Such information includes:

- A completed application form;
- Architectural drawings that show the existing / proposed works;
- A site plan and/or site analysis plan (for larger developments);
- A Statement of Environmental Effects explaining the proposal, the site and its context, the likely impacts of the proposal and details of any measures proposed to minimise these impacts;
- An Environmental Impact Statement (in the case of designated development); and
- A4 notification plan;

A development application might also include other information depending on what is proposed, such as:

- A Species Impact Statement (in the case of land that is, or is part of, critical habitat or development that is likely to significantly affect threatened species, populations or ecological communities or their habitats);
- BASIX Certificate;
- Bushfire Report;
- Heritage Impact Statement;
- Stormwater Drainage plan;
- Landscape Plan;
- Traffic Study;
- Schedule of Colours and Finishes;
- Aboriginal Heritage Assessment;
- Flora and Fauna Assessment;
- Photographs;
- Waste Management Plan;
- Shadow Diagrams;
- Sediment and Erosion Control plan;
- List of existing and proposed fire safety measures;
- Preliminary site contamination assessment;
- Engineering report for flood affected land;
- Acoustic assessment; and
- Social Impact Assessment.

These items are listed in checklists available from Council, or, on Council's website.

#### 2.1.4 Applications for Modifications to Development Consent

An application for a modification to a development consent under Section 4.55 of the Environmental Planning and Assessment Act 1979 must be accompanied by the following information (as a minimum):

- A completed application form;
- A statement outlining the proposed modification/s and identifying the relevant conditions of consent that are to be amended;
- Plans highlighting the proposed modifications (coloured or clouded);
- A statement addressing the potential impacts of the proposed modification/s; and
- Proposed wording of amended conditions.

#### 2.2 Notification & Advertising

Please refer to Council's adopted Community Engagement and Participation Plan.

## Section 3: Development Specifications and Standards

#### 3.1 Residential Development – General Housing and Ancillary Structures

#### 3.1.1 Building setbacks and maximum sizes of ancillary storage structures

The objectives of Section 3.1.1 are as follows:

- To achieve a balance between:
  - Providing a space for the legitimate garaging, storage and other domestic needs of residents; and,
  - Minimising the adverse impacts buildings may have on the amenity (e.g. peace and quiet), appearance and character of residential neighbourhoods, and on neighbours.
- To protect the landscape or scenic qualities of a particular locality; and,
- To ensure that buildings are sited to minimise unnecessary disturbances to the natural environment.

Zone	Street Frontage	Side/Rear Boundary	Size of Out- buildings*
RU1 (Primary Production)	20m	10m	Not speci- fied
RU5 (Village <1000m <sup>2</sup> )	6m	BCA Requirements	120m <sup>2</sup>
RU5 (Village >1000m <sup>2</sup> )	6m	BCA Requirements	140m <sup>2</sup>
R1 (Residential <800m <sup>2</sup> ) Dwelling - 4.5m Garage: • If the dwelling house has a setback from the primary road boundary of 4.5m or more— be at least 1m behind the building line of the dwelling house; or • If the dwelling house has a setback from the primary road boundary of less than 4.5m— be at least 5.5m from that boundary.		BCA Requirements	100m <sup>2</sup>
R1 (Residential >800m²Dwelling - 4.5m Garage:Garage:• If the dwelling house has a setback from the primary road boundary of 4.5m or more— be at least 1m behind the building line of the dwelling house; or• If the dwelling house has a setback from the primary road boundary of less than 4.5m— be at least 5.5m from that boundary.		BCA Requirements	130m <sup>2</sup>

Zone	Street Frontage	Side/Rear Boundary	Size of Out- buildings*
R1 (Residential > 2000m <sup>2</sup> )	<ul> <li>Dwelling - 4.5m</li> <li>Garage:</li> <li>If the dwelling house has a setback from the primary road boundary of 4.5m or more—be at least 1m behind the building line of the dwelling house; or</li> <li>If the dwelling house has a setback from the primary road boundary of less than 4.5m—be at least 5.5m from that boundary.</li> </ul>	BCA Requirements	150m <sup>2</sup>
R5 (Large Lot Residential < 2Ha)	15m	10m	120m <sup>2</sup>
R5 (Large Lot Residential > 2Ha— < 40Ha)	20m	10m	180m <sup>2</sup>
R5 (Large Lot Residential >40Ha)	20m	10m	240m <sup>2</sup>

- Note 1: The lot sizes mentioned above are based on the minimum lot size prescribed by the LEP, not the current size of the subject land.
- Note 2: This aggregate area includes both enclosed and unenclosed, attached and detached structures including lean-to garages and carports but not patios, outdoor living areas, gazebos and the like.
- Note 3: Concession for corner allotments, cul-de-sacs and irregular shaped allotments where the garage faces a secondary or alternate frontage and car parking can occur on the driveway and wholly on-site, a 4.5m setback is permissible between the garage side wall and the primary street frontage.
- Note 4: Consideration for larger outbuildings may be undertaken by Council upon lodgement of information regarding the proposed use of the structure. Under no circumstances shall outbuildings in residential areas accommodate a commercial land use without the prior consent of Council.

#### 3.1.2 Building Height

Building heights shall be in accordance with the below table:

Zone	Max. Height Dwelling and Attached Outbuilding (above existing ground level)	Max. Height for Detached Outbuilding (above existing ground level)
R1 and RU5	8.5m	5m
R5 <4,000m <sup>2</sup>	8.5m	5m
RU1, RU3 & R5 >4000m <sup>2</sup>	10m	5m - if not farm building or shed 10m - if farm building or shed

#### 3.1.3 Site Coverage

Stormwater runoff must not exceed infrastructure capacity. The maximum site coverage for all buildings is set out in the following table:

Zone	Cumulative Site Coverage
RU1 (Primary Production)	Not Specified
RU5 (Village)	40%
R1 (General Residential)	60%
R5 (Large Lot Residential <2Ha)	25%
R5 (Large Lot Residential >2Ha—40 Ha	25%
R5 (Large Lot Residential >40ha)	25%

#### 3.1.4 Off-Street Parking

Provision for the parking of two (2) vehicles behind the building line.

#### 3.1.5 Utilities

- Buildings and structures are to be located clear of utility infrastructure.
- For sewer mains, structures are to be located a minimum of one metre plus the equivalent invert depth from the centreline of the main. See Council Policy for further detail.
- Details of water supply are to be provided.
- If available, connect to reticulated supply;
- Where low flow supply is available, connection shall be in accordance with Council's Policy;
- Where no reticulated water supply is available, a minimum tank storage of 60,000 litres is required. Additionally, water for firefighting purposes is to be provided in accordance with *Planning for Bushfire Protection* (where applicable).

#### 3.1.6 Privacy

- Single storey development with setbacks do not require specific privacy controls.
- Development of more than one storey should locate and size windows to habitable rooms to avoid facing onto windows, balconies or courtyards of adjoining dwellings.

#### 3.1.7 Design

• No windowless facades at the street frontage(s).

#### 3.1.8 Fencing

- Street fencing shall be open or combination of open panels and masonry columns to a maximum height of 1.8 metres.
- Where a street fence is proposed, the section of side boundary fencing located in front of the building setback shall be open or combination of open panels and masonry columns to match front fence.
- Street fencing details are required with the DA for the dwelling.

#### 3.1.9 Temporary Accommodation (during dwelling construction)

- Not permitted in R1 (General Residential) and RU5 (Village) zones.
- Written evidence that finance is available for erection of the proposed permanent dwelling within a period not exceeding 12 months.
- Maximum period of occupation is 12 months.
- Cannot be situated in front of the proposed dwelling.
- Footings of the main dwelling must be constructed and inspected before occupation of the temporary accommodation.
- Occupation of the temporary accommodation by the owner and immediate family only.

#### 3.1.10 Outbuildings, Carports and Detached Garages

- Where the development is visible from a public place and the property is zoned R1, RU5 or R5 with a lot size of <4,000m<sup>2</sup>, an outbuilding, carport or detached garage must not be located:
  - Within the building setback or in front of the main dwelling.
  - If in front of main dwelling, must be of the same construction, matching roof pitch and appear like part of a habitable dwelling.
- Amenities in ancillary structures/buildings to a dwelling are restricted to one (1) toilet, one (1) hand basin and one (1) shower.
- Development consent is required to convert a shed or outbuilding for use as a dwelling and must comply with the applicable requirements under the National Construction Code/Building Code of Australia and BASIX.

#### 3.1.11 Relocated Dwellings

- Dwelling not to be moved onto site before development consent issued and no work is to commence on the re-erection of the dwelling until the Construction Certificate is approved by Council or the Principal Certifier.
- The DA must include:
  - A comprehensive report prepared by an accredited Building Surveyor or Structural Engineer certifying the soundness of the building; and
  - OPhotographic evidence of the dwelling supported by a description of its condition.
- Details of the proposed potable water supply system to include:
  - Storage of a minimum 45,000 litres with an additional support allocated for Fire Fighting purposes in accordance with the requirements under *Planning for Bushfire Protection* (where applicable).
  - Details of proposed sanitary facilities within an approved building to be connect ed to an on-site Sewerage Management System.
  - Lodgement of a Bond of \$2,500.00 to be held by Council until an Occupation Certificate is issued for the dwelling.
  - Details of proposed reticulated electricity supply or other alternative arrangements.

#### 3.1.12 Caravans

Council may permit the occupation of a caravan in conjunction with the erection of a dwelling, subject to the following conditions:

- Applications must be made in writing and approvals received in writing prior to occupation.
- Occupation must not commence until the residential dwelling building has been erected to floor level.
- Occupation of the caravan shall be subject to the provision of the following facilities:
  - Electricity and Communications;
  - A permanent water closet connected to the dwelling system;
  - A suitable potable water supply;
  - Suitable cooking facilities;
  - Washing and laundry facilities;
  - Fire protection in terms of water supply, access and asset protection zones.
- Occupation of the caravan shall be restricted to the intended occupants of the dwelling.
- The immediate area surrounding the caravan must be kept clear of refuse;
- Approval will apply for six months from the agreed date of commencement.
- Occupation of the caravan will cease upon completion of the dwelling or the approval expiry.

#### 3.1.13 Access

- All weather 2WD access is required to the dwelling.
- Dimensions to meet Australian Standard AS2890.1 Parking Facilities.
- All parking and maneuvering areas to be hardstand (pavers or concrete).
- Onsite turning areas must be provided onsite where fronting a main road.

#### 3.1.14 Ridgelines

- Development shall protect key landscape features, being the dominant ridgelines and slopes and the intermediate ridges forming a visual backdrop to existing and future urban localities and places of special landscape amenity.
- Development should not be visually intrusive or degrade the environmental value, landscape integrity or visual amenity of land.
- The development roof lines must not project above the ridgeline where visible from any public road or place.
- Dwellings and associated buildings shall be constructed from low reflectivity building materials and incorporate colours which are visually unobtrusive in relation to the surrounding environment.

#### 3.1.15 Slope

- Development on slopes >20% is not permitted.
- Development on slopes >15% requires detailed geotechnical investigation (including slope stability analysis) and design to demonstrate good hillside development practice.
- Engineer's certification to accompany development application.
- Cut/fill is limited to 1 metre.
- Details of sub-surface drainage is to be provided with no discharge to slopes.

#### 3.1.16 Pools and Spas

- A Development Application is required for all pools and spas (whether temporary or otherwise) which have a depth greater than 300mm.
- Pools and spas require fencing in accordance with the Swimming Pools Act 1992.
- Pools and spas are to be positioned, including fencing, behind the building line where visible from a public place.
- Where visible from a public place or road, details of screening are to be supplied.
- Any associated retaining walls or decks are not to exceed 1.0 metres above natural surface level.
- Pool pump enclosure to be placed greater than 15 metres from a habitable room in a dwelling on adjoining property or within a sound-proof enclosure. This clause does not apply to swimming pools on lots greater than 4,000m<sup>2</sup> in Zone RU1 and R5.

#### 3.1.17 Water tanks

- Located behind the street setback of the existing dwelling (unless placed belowground).
- Maximum height of 3.2 metres.
- Suitably screened where visible from a public place or street.

#### 3.1.18 Replacement Dwellings

A Development Application for a replacement dwelling (pursuant to the provisions of Clause 4.2A(5) of the *Liverpool Plains Local Environmental Plan* 2011) shall be accompanied by the following information:

- Photographs of the existing dwelling demonstrating that is it an a habitable state;
- Documentation, if available, from the property owner regarding the date of construction and application planning provisions in for at the time (if any).

Where consent is sought for the construction of a replacement dwelling, the application will be assessed by Council on the assumption that the existing dwelling will be demolished prior to the issue of a Final Occupation Certificate for the new dwelling. As such, conditions shall be included as part of the determination documentation.

#### 3.1.19 Shipping Containers for Houses, Pools and Garages

Dwellings and/or structures constructed from shipping containers must comply with the development controls contained under Section 3.1 and must also:

- Feature innovative architectural elements, such as pop-outs, decks, verandahs, courtyards and variations in roof pitch;
- Incorporate windows, openings and materials that enhance the appearance of the structure; and,
- Be painted and/or clad in materials to complement the surrounds.

#### 3.1.20 Detached Studios

- Detached studios may be used for purposes such as a bedroom, as artist's work space, a home office, a hobby room, a rumpus room, a teenager's 'retreat', or similar habitable room.
- Detached Studios shall comprise a single room or may include a single room and shower/ toilet facility. No kitchen or laundry facilities will be permitted.

#### 3.1.20 Detached Studios (continued...)

- Permitted facilities within detached studios are dependent on the proposed use and are limited to:
  - shower/ toilet facility;
  - a sink (free-standing or in a bench-top) with a hot and cold water supply for washing hands and/or cleaning art/ hobby equipment only; and
  - other facilities which are appropriate for the proposed use and do not provide for separate occupancy.
- DA must be accompanied with a floor plan showing all proposed facilities as well as a statement of use.
- Council will include a condition in the development consent stating that the detached studio is not permitted to be used, or to be adapted for use, as a separate occupancy.

#### 3.1.21 Water Sensitive Urban Design

- New developments where reticulated water and sewer are available shall incorporate water sensitive urban design measures, including but not limited to:
  - OPotable water conservation via water efficient fittings and appliances, water efficient landscaping, rainwater tanks and potable water substitution with treated stormwater or recycled stormwater.
  - ◊ A greywater treatment device is a form of on-site wastewater treatment and is subject to a Section 68 approval from Council under the Local Government Act 1993 and Part 2 Division 4 Local Government (General) Regulation (2005).

#### 3.2 Residential Dual Occupancy

#### 3.2.1 Building Setbacks

	Single Storey		2 Storey	
Zone	Street Frontage	Side/Rear Boundary	Street Frontage	Side/Rear Boundary
RU5 (Village)	6m	3m	6m	5m
R1 (General Residential)	4.5m 5.5m to garage	1m (675mm*)	4.5m 5.5m to garage	2m (1,125mm*)
R5 (Large Lot Residential)	15m	10m	15m	15m

The following table describes the required setbacks in relation to the relevant zone: \*Roof eaves, sunhoods, gutters, downpipes, chimney flues, light fittings, electricity and gas meters and aerials.

- In Zone R1, where a lot has frontage to more than one street, the setback to the secondary frontage is permitted at 2 metres for part of the dwelling, comprising a maximum of 20% of the overall length of the building, and must contain a living room area window or entry door, and must protrude from the main wall by at least 1.5 metres. In all other circumstances, there will be no concession to the secondary frontage.
- No continuous section of wall built on a side boundary shall exceed 50% of the length of the boundary up to a maximum of 10m.

#### 3.2.2 Building Height

Measured from natural ground level to:

- Topmost ceiling: maximum 7.2m
- Top of the ridge: maximum 10m

#### 3.2.3 Site Coverage

• Residential zones: Maximum site coverage of 75% (includes all hardstand areas).

#### 3.2.4 Solar Access

• Shadow diagram are required for developments of ≥ 2 storeys and need to demonstrate habitable rooms of adjoining dwellings and major part of their landscaped open space to retain a minimum of 4hrs sunlight between 9am-3pm on 21st June (winter solstice).

#### 3.2.5 Parking

• Parking allowances are to meet the following requirements:

Number of Beds In Dwelling	Parking Spaces Per Dwelling
1	1
2	1
3	2
4 or more	2

- Rooms capable of occupation as a bedroom (e.g. study) are treated as a bedroom for the purpose of calculating parking requirements.
- One (1) visitor space must be provided on site where on-street parking within the property's street frontage is not available.

#### 3.2.6 Access

- Dimensions to meet AS2890.1 Parking Facilities.
- All weather 2WD access is required to the dwelling.
- All parking and manoeuvring areas to be hardstand (pavers or concrete).
- Onsite turning areas must be provided where fronting a road classification of collector or greater.

#### 3.2.7 Utilities

- Servicing strategy required to demonstrate the availability and feasibility of providing water, sewer and stormwater services appropriate for the scale of development.
- Buildings and structures are to be located clear of utility infrastructure.
- For sewer mains, structures are to be located a minimum of one metre plus the equivalent invert depth from the centreline of the main.
- Stormwater arrangements shall be designed to a gravity system. Alternatives are not acceptable.
- Details of any stormwater detention systems shall be provided.

#### 3.2.8 Private Open Space

• Private open space (POS) must be provided in accordance with the following table in relation to its position relative to the dwelling for solar access:

Private Open Space Location	Minimum Amount	Minimum Dimension
North	35m <sup>2</sup>	5m
East	50m <sup>2</sup>	6m
South	60m <sup>2</sup>	6m
West	45m <sup>2</sup>	6m

• Must be directly accessible from a living area.

 Area calculation does not contain intrusions e.g. drying areas, electricity substation, water tanks, hot water systems, retaining walls.

#### 3.2.9 Design

- For corner lots, dwellings shall be designed to present to and have vehicle access from alternate frontages, unless one street is a collector road or greater, where both shall be accessed from the lesser street classification.
- Garage/s shall not exceed 60% of the street elevation
- Development of more than one storey shall located and size windows to habitable rooms to avoid facing onto windows, balconies or courtyards of adjoining dwellings.

#### 3.2.10 Fencing

- Street fencing shall be open or a combination of open panels and masonry columns to a maximum height of 1.8 metres.
- Where a street fence is proposed, the section of side boundary fencing located in front of the building setback shall be open or combination of open panels and masonry columns to match front fence.
- Street fencing details are to be provided with the DA.

#### 3.2.11 Landscaping

• Minimum of 125m<sup>2</sup> of landscaping for each dwelling.

#### 3.2.12 Density

- Minimum area per dwelling is 300m<sup>2</sup> in the R1 (General Residential) Zone.
- Minimum area per dwelling is 300m<sup>2</sup> in the RU5 (Village) Zone (sewered).
- Minimum are per dwelling is 1000m<sup>2</sup> in the RU5 (Village) Zone (un-sewered).

#### 3.2.13 Future Subdivision

• Dual occupancy development must consider potential future subdivision and locate buildings with adequate access to and clearance from utilities.

#### 3.2.14 Water Tanks

• Water storage tanks are to be located below ground or behind the buildings in the development.

#### 3.2.15 Dual Occupancy (attached)

- For dual occupancy (attached) development in the RU1 zone, the general criteria (such as landscaping, visitor parking etc) will not apply;
- Details of the method of effluent disposal and the capacity and suitability of any existing onsite sewerage management system being relied on shall be provided;
- Location of the area suitable for the parking of vehicles associated with the dual occupancy shall be indicated;
- The two (2) dwellings are to be physically attached via a covered walkway, breezeway or the like. A maximum separation of 6 meters between the dwellings is permitted.

#### 3.2.16 Letter Boxes

- Letterboxes are to be provided at the front property boundary in accordance with Australia Post specifications;
- Strata developments require an additional letterbox for the Owners Corporation.

#### 3.2.17 Water Sensitive Urban Design

- New developments where reticulated water and sewer are available shall incorporate water sensitive urban design measures, including but not limited to:
  - OPotable water conservation via water efficient fittings and appliances, water efficient landscaping, rainwater tanks and potable water substitution with treated stormwater or recycled stormwater.
  - ◊ A greywater treatment device is a form of on-site wastewater treatment and is subject to a Section 68 approval from Council under the Local Government Act 1993 and Part 2 Division 4 Local Government (General) Regulation (2005).

#### 3.3 Residential Multi-Dwelling Development

#### 3.3.1 Building Setbacks

The following table describes the required setbacks in relation to the relevant zone:

	Single Storey		2 Storeys	
Zone	Street Frontage	Side/Rear Boundary	Street Frontage	Side/Rear Boundary
R1 (General Residential)	<ul> <li>Dwelling - 4.5m</li> <li>Garage:</li> <li>If the dwelling house has a setback from the boundary of 4.5m or more—be at least 1m behind the building line of the dwelling house; or</li> <li>If the dwelling house has a setback from the primary road boundary of less than 4.5m—be at least 5.5m from that boundary.</li> </ul>	1m (675mm*)	<ul> <li>Dwelling - 4.5m</li> <li>Garage:</li> <li>If the dwelling house has a setback from the boundary of 4.5m or more—be at least 1m behind the building line of the dwelling house; or</li> <li>If the dwelling house has a setback from the primary road boundary of less than 4.5m—be at least 5.5m from that boundary.</li> </ul>	2m (1,125mm <sup>*</sup> )

\*Roof eaves, sunhoods, gutters, downpipes, chimney flues, light fittings, electricity and gas meters and aerials.

• No concession to secondary frontage.

#### 3.3.2 Building Height

Measured from natural ground level to:

- Topmost ceiling: maximum 7.2m.
- Top of the ridge: maximum 10m.

#### 3.3.3 Site Coverage

• Residential zones: Maximum site coverage of 75% (includes all hardstand areas).

#### 3.3.4 Solar Access

• Shadow diagram are required for developments of ≥ 2 storeys and need to demonstrate habitable rooms of adjoining dwellings and major part of their landscaped open space to retain a minimum of 4hrs sunlight between 9am-3pm on 21st June (winter solstice).

#### 3.3.5 Parking

Number of Beds in Dwelling	Parking Spaces Per Dwelling	Visitor Spaces
1	1 (enclosed*)	1 per 5 dwellings**
2	1 (enclosed*)	
3	2 (both enclosed*)	1 per 3 dwellings**
4 or more	2 (both enclosed*)	1 per 2 dwellings**

Parking allowances are to meet the following requirements:

\* Secure enclosure refers to garage, not carport \*\* Minimum requirement

 Rooms capable of occupation as a bedroom (e.g. study) are treated as a bedroom for the purpose of calculating parking requirements.

#### 3.3.6 Access

- Dimensions to meet AS2890.1 Parking Facilities.
- Stack parking is not deemed to satisfy parking requirements.
- All parking and manoeuvring areas to be hardstand (pavers or concrete).
- Developments requiring 4 or more car spaces are to provide adequate turning dimensions to allow all vehicles to enter and leave the site in a forward direction.

#### 3.3.7 Utilities

- Servicing strategy required to demonstrate the availability and feasibility of providing water, sewer and stormwater services appropriate for the scale of development.
- Buildings and structures are to be located clear of utility infrastructure.
- For sewer mains, structures are to be located a minimum of one metre plus the equivalent invert depth from the centreline of the main.
- Stormwater arrangements shall be designed to a gravity system. Alternatives are not acceptable.
- Details of any stormwater detention systems shall be provided

#### 3.3.8 Storage

- A minimum of 5m<sup>3</sup> dedicated storage area per dwelling in addition to the standard internal storage provision (e.g. wardrobes, kitchen cupboards, pantry, linen press).
- Storage locations to be included in landscape plan.

#### 3.3.9 Outdoor Lighting

 Must provide certification of compliance with AS4282 Control of Obtrusive Effects of Outdoor Lighting if >10 dwellings proposed.

#### 3.3.10 Private Open Space

• Private open space (POS) must be provided for units on ground level in accordance with the following table in relation to its position relative to the dwelling for solar access:

Private Open Space Location	Minimum Amount	Minimum Dimension
North	35m <sup>2</sup>	4m
East	50m <sup>2</sup>	4m
South	60m <sup>2</sup>	4m
West	45m <sup>2</sup>	4m

- Must be directly accessible from a living area and may partially or wholly include a deck, alfresco area, balcony or similar area located on ground level
- Area calculation does not contain intrusions e.g. drying areas, electricity substation, water tanks, hot water systems, retaining walls
- If located on street side of dwelling, details of fencing must be supplied.

#### 3.3.11 Design

- For corner lots, dwellings shall be designed to present to and have vehicle access from alternate frontages, unless one street is a collector road or greater, where both shall be accessed from the lesser street classification.
- Garage/s shall not exceed 60% of the street elevation.
- No continuous section of wall built on a side boundary shall exceed 50% of the length of the boundary up to a maximum of 10m.
- Development of more than one storey must locate and size windows to habitable rooms to avoid facing onto windows, balconies or courtyards of adjoining dwellings.

#### 3.3.12 Adaptability

• Development of 5 or more units must provide 1 in 5 units capable of conversion to adaptable housing in accordance with AS4299, Class C level.

#### 3.3.13 Fencing

- Street fencing shall be open or a combination of open panels and masonry columns to a maximum height of 1.8 metres.
- Where a street fence is proposed, the section of side boundary fencing located in front of the building setback shall be open or combination of open panels and masonry columns to match front fence.
- Street fencing details are required with DA for dwelling.

#### 3.3.14 Landscaping

- Landscaping shall be provided on the basis of 100m<sup>2</sup> per dwelling for the development site.
- Location and grouping of plant types shall be multi-functional providing privacy, security, shading and recreation functions.
- Landscaping shall comprise only drought and frost tolerant species.
- Landscaping shall allow solar access to windows, solar collectors, living areas and drying areas in winter and shade to buildings and outdoor spaces in summer.
- Minimum width of 2m required for all landscaped areas.

#### 3.3.15 Facilities

- Screened garbage storage required inside front property boundary, at the rear of each unit or within garages.
- Letterboxes provided at the front property boundary in accordance with Australia Post requirements. Strata developments require an additional letter box for the Body Corporate.
- Clothes drying facilities required free of access ways. Clothes lines and hoists shall be located at the rear of development and adequately screened from adjoining roads.

#### 3.3.16 Density

- Minimum area per dwelling is 300m<sup>2</sup> in the R1 (General Residential) Zone.
- Minimum area per dwelling is 300m<sup>2</sup> in the RU5 (Village) Zone (sewered).

#### 3.3.17 Future Subdivision

 Multi-dwelling development must consider potential subdivision and locate buildings with adequate access to an clearance from utilities and future property boundaries (If required by the Building Code of Australia).

#### 3.3.18 Water Tanks

• Water storage tanks are to be located below ground or behind the buildings in the development.

#### 3.3.19 Residential Flat Buildings

• For Residential Flat Buildings, the development must be consistent with the planning and design standards in the Apartment Design Guide and SEPP 65 (*State Environmental Planning Policy No 65 - Design Quality of Residential Apartment Development*).

#### 3.4 Subdivision

#### 3.4.1 Lot Size

- "Lot size map" and Clause 4.1 of Liverpool Plains LEP 2011 prescribe the minimum lot sizes for all new allotments.
- Minimum lot sizes do not apply to Strata and Community Title Subdivisions.
- Residential lots must be able to accommodate a rectangle suitable for building purposes measuring 10m x 15m behind the street setback (note there is no concession to a second street frontage for setbacks).
- Easements are not to encumber more than 10% of the total area of the lot where the Lot Size Map specifies a minimum lot size of up to and including 2,000m<sup>2</sup>.

#### 3.4.2 Servicing Strategy

- All development applications shall provide a servicing strategy (water, sewer, stormwater, telecommunications and electricity) to demonstrate that it is feasible for the subdivision to be serviced in accordance with the requirements of Council's *Engineering Guidelines for Subdivision and Developments*.
- The strategy shall include evidence that the developer has consulted with the Council in relation to the availability and capacity of the existing water and sewer networks consistent with the likely future use of the land.
- For new estates this shall include nomination of a maximum number of equivalent tenements that will be serviced by the infrastructure.

#### 3.4.3 Sewer

- The servicing strategy shall identify the method of providing sewer to the proposed lots in accordance with the Council's *Engineering Guidelines for Subdivision and Development*.
- Residential lots are to be serviced by gravity sewer. Detail of any lot filling required to achieve minimum grade shall be provided.
- The area within proposed lots shall be capable of being serviced by gravity sewer (unless located within an estate where an alternate sewer system is established).
- Reticulated sewer is required where the Lot Size Map specifies a minimum lot size of up to and including 4000m<sup>2</sup>.
- On-site sewage management facilities will be required when developing lots where the Lot Size Map specifies a minimum area of >4,000m<sup>2</sup>.

#### 3.4.4 Stormwater Drainage

- The servicing strategy shall include consideration of flows up to the 1:100 ARI for existing natural flow, existing developed flow and post developed flow.
- Minor flows are to be designed to a 1:5 year ARI.
- Location of major flows are to be defined to a designated overland flow path up to a 1:100 ARI flood event and are to be dedicated as a drainage reserve or easement.
- Measures to control stormwater flow and water quality are required.
- Where drainage is required to the rear of the lot inter-allotment drainage shall be accommodated via the provision of drainage easements in the favour of the beneficiary.
- Lot layout and easements are to be established so that no future development will rely upon pump-out, infiltration systems or any other method other than connection to the gravity piped system.

#### 3.4.5 Water

- The Servicing Strategy shall identify the method of providing water to the proposed lots in accordance with the Council's *Engineering Guidelines for Subdivision and Development*.
- Reticulated water (public utility supply) will not be available to development in areas outside of those areas modelled in the latest water servicing strategy.
- On-site water storage requirements will be applied when future development occurs on lots where the Lot Size Map specifies a minimum area of 20 hectares or greater.

#### 3.4.6 Telecommunications

- Telecommunications are to be for each lot in a subdivision in accordance with the requirements of the provider.
- In the circumstances of a boundary adjustment, telecommunications are to be provided for any allotments without an existing dwelling.

#### 3.4.7 Electricity

- The subdivision is to be serviced by underground electricity where the Lot Size Map specifies a minimum lot size of up to and including 4.9 hectares.
- For subdivision of land where the Lot Size Map specifies a minimum lot size of greater than 4.9 hectares and less than 200 hectares, electricity supply is required and may be overhead.

#### 3.4.8 Battle-axe shaped lots

- In Zones R1 and RU5, access handles shall be of a minimum width of 4.5 metres, of which 3 metres is to be constructed and sealed with reinforced concrete, asphaltic concrete or interlocking pavers at the time of subdivision.
- In all other zones, the standard for construction of access handles shall be a minimum width of 4.5 metres, constructed with dust suppressing base course of adequate depth to suit design traffic at the time of subdivision.
- The topography of the site may require installation of kerbing to manage overland stormwater.
- Only 1 Torrens title in 20 is to use a battle-axe handle access. Where there are 2 battle axe allotments in proximity, the access handles shall be located not less than 12 metres apart.

#### 3.4.9 Industrial lots

- Industrial lots shall have a minimum street frontage and square width of 24m and an area of 1,000m<sup>2</sup>.
- Industrial subdivision cannot be serviced by cul-de-sac road formation.

#### 3.4.10 Road Network Design

- The road hierarchy shall be defined.
- Residential subdivision must incorporate appropriate facilities and opportunities for pedestrian and bicycle movement.
- The alignment, width and design standard for all roads shall be in accordance with the expected traffic volume, type of traffic and desired speed in accordance with the Council's *Engineering Guidelines for Subdivisions and Development*.
- Kerb and gutter is required for subdivision where the Lot Size Map specifies a minimum lot size of up to and including 2000m<sup>2</sup>.
- The road pavement requirement will be determined based on vehicle loading (both current and future) and with consideration to the existing development and character of the locality.
- Generally, sealed pavement will be required where the Lot Size Map specifies a minimum lot size of up to and including 20 hectares.
- A road within a residential subdivision servicing 15 lots or more must include a constructed pedestrian footpath.
- Subdivision layouts shall make provision for road connection to adjoining undeveloped land.
- Subdivision design shall ensure that individual allotments are within 400 metres walking distance of a collector road.
- Roads to be designed having regard to topographic contours to minimise cut and fill.

#### 3.4.11 Road Widening

- Urban residential infill subdivision with frontage to lanes/roads are to provide adequate dedicated space for future road upgrade works. Specifically, allotments within the following residential streets in Quirindi have been identified:
  - Ouke Street
  - b Loder Street
  - ◊ Gurton Street
  - ♦ Fitzroy Street
  - ◊ Nichol Avenue
  - ◊ Simpson Street
  - Lennox Street
  - Oritton Avenue
- Appendix B contains mapping which identifies relevant portions of the above mentioned streets identified as requiring road widening. The maps also identify allotments which may require road widening in the future.

#### LPSC Policy for Road Widening Acquisitions:

- Council procedure for the acquisition of land for road widening is as follows:
  - ◊ Council identifies land required for road widening purposes;
  - Council will request permission to enter the land by forwarding a Permit to Enter to affected landholders, so that surveying and construction of the road realignment can be undertaken;
  - Council determines the land that may need to be acquired under the Roads Act;
  - Council seeks written permission for the land acquisition from landowners and stakeholders; and,

- Compensation arrangements for the land acquisition are negotiated..
- ♦ In accordance with the Just Terms Compensation Act
- If Landowner and Stakeholders agree to land acquisition:
  - Written agreement for the compensation arrangement is signed by all stakeholders (construction work will be undertaken at this stage).
- At the completion of the construction work:
  - New survey plans will be prepared for registration with LPI;
  - Council will obtain signatures/seals of landowners and mortgagors/lessees on linen plans and Subdivision Certificate;
  - Council will lodge linen plans with LPI; and
  - Council will proceed with compensation arrangements.
- If Landowner and Stakeholders do not agree to land acquisitions:
  - Council will prepare a report to seek approval for the acquisition to proceed as a Compulsory Acquisition;
  - After Council resolves to acquire the land, an application for Compulsory Acquisition is lodged with the Department of Local Government (DLG);
  - Upon receipt of the Minister's consent for acquisition, new survey plans are prepared for registration with LPI;
  - ♦ A valuation is sought for Just Terms Compensation;
  - The acquisition is gazetted; and
  - Council will proceed with compensation arrangements.

#### 3.4.12 Staged Subdivision

 Where subdivision is proposed to be carried out in a number of stages, these shall be identified, and information supplied as to the manner in which staging of all infrastructure will occur (roads, water, sewer and stormwater drainage).

#### 3.4.13 Cul-de-sac

- Radius of a cul-de-sac bowl in a residential subdivision shall not be less than 12.5 metres.
- Design must accommodate stormwater drainage overland flow paths.
- Alternate cul-de-sac configuration is not permitted, e.g. "hammer-head" or "Y" shapes.

#### 3.4.14 Landscaping

- Subdivision involving new road construction shall include street tree planting of suitable species.
- Landscape plans shall be provided for all dual use drainage reserves to enhance recreational opportunities and visual amenity without compromising drainage function.

#### 3.4.15 Site Access

- Public road access is required to all lots.
- Commercial or industrial subdivision shall include provision of a kerb layback which is:
  - Located at either end of the property frontage;
  - Not closer than 6m to an intersecting road or break in a traffic island;
  - ◊ Located so that sight distance is adequate; and

*Note:* No direct access to arterial or sub-arterial roads shall be permitted where alternatives are available.

#### 3.4.16 Lot Orientation

- Where residential subdivision involves a road running north-south, allotments are to be designed to provide solar access for future development.
- Orientation shall minimise potential overshadowing impacts of existing and future buildings.

#### 3.4.17 Open Space

- Open space provision within residential subdivision will be determined on a site specific basis.
- Where required, subdivision design incorporating the provision of open space may be achieved through the application of the following criteria:
  - Minimum area of 0.5ha;
  - Buffered from main roads and identified hazards for improved safety;
  - ♦ Safely accessible by pedestrian and cycleway links;
  - Connectivity maximised between open space;
  - Walkable access to highest number of the population;
  - ◊ High passive surveillance opportunities;
  - Minimum slope; and
- Provide complimentary uses of open space (drainage, conservation, cycleways etc.) that ensures ongoing usability.

#### 3.4.18 Vegetation & Biodiversity

• The design of the subdivision shall accommodate the retention of any significant trees and vegetation, and demonstrate the 'avoid, minimize, offset' hierarchy to biodiversity and areas of High Environmental Value.

#### 3.4.19 Garbage Collection

- Road design must accommodate the legal movement of garbage collection vehicles.
- Allotments are to allow for placement of garbage receptacles for collection within the alignment of that lot.
- Temporary turning facilities shall be provided to facilitate garbage collection services.

#### 3.4.20 Community Title Subdivision

• Community title subdivision must include community facilities that are shared between the residents of the development. It is not appropriate that this form of development be used as an alternative to strata title where the only shared component is a driveway.

#### 3.4.21 Contamination

• All subdivision development applications are to include consideration of potential land contamination.

#### 3.5 Commercial & Retail Development

#### 3.5.1 Building Setbacks

- No minimum setbacks are specified.
- Side and rear setbacks must meet BCA requirements.

#### 3.5.2 Building Height

• No height restrictions.

#### 3.5.3 Traffic and Access

- The verge for the frontage of the development is to be constructed of hard stand materials to facilitate safe, low maintenance pedestrian access, e.g., paving, concrete etc.
- Details to accompany the development application.
  - All vehicles must be able to enter and exit the site in a forward direction.
  - Design must demonstrate no conflict between pedestrian, customer vehicles and delivery vehicles.
  - Wearing surfaces for access driveways, parking areas, loading/unloading facilities and associated vehicle manoeuvring areas relative to the design vehicle.
  - Unsealed vehicle movement areas are not acceptable due to environmental management impacts. However, Council will consider alternative treatments (e.g. crushed gravel) where it can be demonstrated that the proposed land use (and associated development works) will not be of a scale that generates a high number of daily vehicle movements and will not result in adverse environmental impacts.
  - ♦ Loading bay(s) must be sited to avoid use for other purposes such as customer parking or materials storage and be line-marked and sign posted.
- Site access not permitted:
  - Close to traffic signals, intersection or roundabouts with inadequate sight distances;
  - ♦ Opposite other large developments without a median island;
  - $\diamond$   $\;$  Where there is heavy and constant pedestrian movement on the footpath; and
  - Where right turning traffic entering the site may obstruct through traffic.
- Separate, signposted entrance and exit driveways are required for developments requiring more than 50 parking spaces or where development generates a high turnover of traffic.
- The number of access points from a site to any one street frontage is limited to 1 ingress and 1 egress.
- Driveways must be provided in accordance with AS 2890.1 Parking Facilities.

#### 3.5.4 Off-street parking

• Parking is to be provided in accordance with the provisions specified in Appendix C.

#### 3.5.4.1 Economic Development Considerations

The intent of this clause is to provide flexibility in the application of car parking requirements where a proposed development is in the economic interest of the community. Application of this clause is considered appropriate in situations where:

- The building subject of the application:
  - Is located in an appropriate zone in accordance with the provisions of the *Liver*pool Plains Local Environmental Plan 2011;
  - Has been previously utilised for business or commercial purposes;
  - Has been vacant / unoccupied for such purposes for not more than a 12 month consecutive period; or,
- Council's Business Advisory Committee is of the opinion that the development will significantly contribute to the long term economic development of the Shire but it is unreasonable for Council to require sealing of existing onsite car parking and/or provision of additional onsite car parking due to the historical configuration of the premises or other extenuating circumstances. Note: this hardship clause is only available in the context of existing premises within an appropriate zone wherein Council is satisfied that long term traffic issues or transport hazards will not be created as a result of the development; or,
- A financial contribution is made for parking in lieu of onsite provision in accordance with any adopted Contributions Plan in force at the time of making of the application pursuant to Section 7.11 of the *Environmental Planning and Assessment Act* 1979.

#### 3.5.5 Utilities and Services

- Servicing strategy required to demonstrate the availability and feasibility of providing water, sewer and stormwater services appropriate for the scale and nature of development. Evidence of consultation with the Water Supply Authority and Roads Authority is to be provided.
- Applications must demonstrate adequate provision for storage and handling of solid wastes.
- Liquid Trade Waste Application and facilities are required where liquid wastes (excluding domestic waste from a hand wash basin, shower, bath or toilet) are to be discharged to Council's sewerage system.
- Buildings and structures are to be located clear of utility infrastructure.
- For sewer mains, structures are to be located a minimum of one metre plus the equivalent invert depth, whichever is greater, from the centreline of the main.

#### 3.5.6 Design

- Building facades shall be articulated by use of colour, arrangement of elements or by varying materials.
- Large expansive blank walls not permitted unless abutting a building on an adjoining allotment.
- Plans must show the location of all external infrastructure (including air conditioning units, plant rooms, ducting) and demonstrate how it will be screened from view from a public place or road.
- Development on corner sites shall incorporate splays, curves, building entries and other architectural elements to reinforce the corner as a land mark feature of the street.

#### 3.5.7 Outdoor Lighting

 Demonstrate compliance with AS/NZS 11583.1 Pedestrian Area (Category P) Lighting and AS4282 Control of Obtrusive Effects of Outdoor Lighting.

#### 3.5.8 Outdoor Signage

- A single business premises is permitted to have:
  - ◊ One under awning sign,
  - ◊ One top hamper sign, and
  - One fascia sign, that does not project above or beyond that to which it is attached.
     One of which may be illuminated, but not flashing, moving or floodlit.
- Design and location of signage must be shown on plans with DA.
- Where there is potential for light spill from signage to adjoining properties, all illuminated signage shall be fitted with a timer switch to dim or turn off the light by 11pm each night.
- Where applicable, signage must comply with SEPP 64 Advertising and Signage Schedule 1 Assessment Criteria.
- Where adequate area is available within the property boundaries, a business premises is also permitted to have one pole supported sign.

#### **3.5.9** Post supported verandahs and balconies

- Set back a minimum of 600 mm from the rear of the kerb.
- Must complement the style, materials and character of the building being altered.
- Public liability insurance to Council requirements, and a Council license is required for verandah or balcony awnings over the public footpath.
- Not to interfere with operation of, or access to, utility infrastructure.

#### 3.5.10 Landscaping

- Landscaping or shade structures shall be provided in outdoor car parking areas where >10 spaces are required, to provide shading and soften the visual impact of large hard surfaces.
- Edging to be provided to retain mulch and protect the landscaping from damage from vehicles.
- Landscaping shall comprise only low maintenance, drought and frost tolerant species.

#### 3.5.11 Health Consulting Rooms

- Development must preserve the existing amenity of residential areas.
- A proposed site for a "medical centre" should be within 400m of a Hospital or adjoining a B1 Neighbourhood Centre.

#### 3.6 Industrial Development

#### 3.6.1 Building Setbacks

- Street setback must be a minimum of 5m.
- No concession for secondary frontage.
- Street setback must be landscaped.
- Side and rear setbacks to meet BCA requirements.

#### 3.6.2 Traffic and Access

- The Traffic Assessment is required to demonstrate the adequacy of:
  - A Road network,
  - ♦ Geometric design for intersections, including pavement impacts,
  - ◊ Site access,
  - ♦ Loading/unloading facilities,
  - ◊ Safe on-site manoeuvring for largest design vehicle, and
  - Wearing surfaces for access driveways, parking areas, loading/unloading facilities and associated vehicle manoeuvring areas relative to the design vehicle.
- Unsealed vehicle movement areas are not acceptable due to environmental management impacts.
- Council's intent for the provision requiring sealing of all movement areas on industrial development sites is to mitigate environmental impacts resulting from a large number of vehicles on unsealed roads and internal manoeuvring areas, such as dust, stormwater management, runoff and erosion. However, where it can be demonstrated that the proposed land use (and associated development works) will not be of a scale that generates a high number of daily vehicle movements, alternative treatments (e.g. crushed gravel) will be considered by Council Officers.
- All vehicles must be able to enter and exit the site in forward direction.
- Separate signposted entrance and exit driveways are required for developments requiring more than 50 parking spaces or where development generates a high turnover of traffic.
- The number of access points from a site to any one street frontage is limited to 1 ingress and 1 egress.
- Driveways must be provided in accordance with AS2890.1 Parking Facilities and Council's Engineering Guidelines for Development and Subdivision Works.

# Industrial

#### 3.6.3 Utilities and Services

- Servicing strategy required to demonstrate the availability and feasibility of providing water, sewer and stormwater services appropriate for the scale and nature of development.
- Applications must demonstrate adequate provision for storage and handling of solid wastes.
- Liquid Trade Waste Application and facilities are required where liquid wastes (excluding domestic waste from a hand wash basin, shower, bath or toilet) are to be discharged to Council's sewerage system.
- Onsite stormwater capture and reuse shall be provided for maintenance of landscaping. Storage tanks shall be appropriately located and screened. NB reuse facilities shall not form part of stormwater calculations.
- Buildings and structures are to be located clear of utility infrastructure.
- For sewer mains, structures are to be located a minimum of one metre plus the equivalent invert depth from the centreline of the main.

#### 3.6.4 Design

- Building elevations to the street frontage or where visible from a public road, reserve, railway or adjoining residential area are to incorporate variations in façade treatments, roof lines and building materials.
- Low scale building elements such as display areas, offices, staff amenities are to be located at the front of premises.
- Roofing materials should be non-reflective where roof pitch is greater than 17 degrees or visible from a public road.

#### 3.6.5 Fencing

- Open work or storage areas visible from a public place or street must be fenced by masonry materials or pre-coloured metal cladding of minimum 2m height. Fencing to be located behind the building setback.
- Security fencing must be also located behind the building setback area except when of a
  decorative nature to be integrated in the landscaped area.

#### 3.6.6 Outdoor Lighting

• Must comply with AS4282 Control of Obtrusive Effects of Outdoor Lighting.

#### 3.6.7 Outdoor Signage

- Single occupant industrial site:
  - One free standing advertisement within the 5m landscaped setback; and
  - One advertisement integrated within the facade of the building, but no higher than the building roof line.
- Multiple unit industrial site:
  - One index board near site entrance or within the 5m landscaped setback; and
  - One advertisement integrated within the facade of each unit, but no higher than the building roof line.
- Signage must comply with SEPP 64 Advertising and Signage Schedule 1 Assessment Criteria.

#### 3.6.8 Loading and unloading facilities

- Adequate space and facilities are required to be provided wholly within the site.
- Loading and delivery bays must be designed to allow vehicles to enter and exit the site in a forward direction.
- Loading bay(s) must be sited to avoid use for other purposes such as customer parking or materials storage and be line-marked and signposted.

#### 3.6.9 Noise

- Windows, doors and other wall openings shall be arranged to minimise noise impacts on residences where proposed within 400m of a residential zone.
- External plant (generators, air conditioning plant etc.) shall be enclosed to minimise noise nuisance where adjoining residential area.

#### 3.6.10 Landscaping

- Landscaping is required:
  - In the front 5m of street setback;
  - To side and rear setbacks where visible from public place or adjoining residential area; and
  - To areas adjacent to building entrances and customer access points.
- Landscaping or shade structures shall be provided in outdoor car parking areas where >10 spaces are required, to provide shading and soften the visual impact of large hard surfaces.
- Landscaping shall comprise only low maintenance, drought and frost tolerant species.

#### 3.6.11 Parking

Land Use	Parking	
Industrial Retail	1 per 45m <sup>2</sup> GFA	
Industrial	1 per 75m <sup>2</sup> GFA OR 1 space per 2 employees WHICHEVER IS THE GREATER	
Transport / Truck Depot	Space for each vehicle present at peak time onsite and driver parking	
Vehicle Body Repair Workshop or Repair Station	1 per 40m <sup>2</sup> GFA OR 3 spaces per workshop bay WHICHEVER IS THE GREATER	
Warehouses	1 per 300m <sup>2</sup> GFA OR 1 space per employee WHICHEVER IS THE GREATER	
Other	Based on predicted peak vehicle use.	

A portion of customer parking is to be provided convenient to the public entrance.

#### 3.6.12 Restricted Premises (Brothels)

- A Restricted Premises must be sited so that arrivals/departures of staff and clients late at night will not cause the disruption to the amenity of the neighbourhood.
  - Restricted Premises must be located at least 150m from any of the following:
    - ♦ Existing Dwelling;
    - Residential zone;
    - ◊ Place of worship;
    - Any place designated for and utilised by children (e.g. child care centre, community facilities, educational establishment, entertainment facility, recreation area/facility);
    - ♦ Any other sex service premises.
- Any advertising shall be discrete.
- Adequate car parking shall be provided for staff and clients.

#### 3.7 Intensive Agriculture

The development of any form of intensive agriculture shall have due regard to the applicable NSW Government Department of Primary Industries (DPI) Guidelines with regard to industry-specific farm management practices.

# **Section 4: General Development Specifications**

# 4.1 Other types of Development Controls

# 4.1.1 Development on Flood Affected Land

• The flood planning level adopted in the *Liverpool Plains Local Environmental Plan 2011* is defined as the level of a 1:100 ARI (average recurrent interval) flood event plus 0.5 metres freeboard.

# 4.1.1.1 General Requirements

- Development should be consistent with the principles and standards of the *Flood Plain Management Manual* (FPMM) and have regard to Council's adopted Flood Studies.
- Development must ensure safety to life and property.
- Development on flood affected land must be structurally capable of withstanding the effects of flowing floodwaters including debris and buoyancy forces.
- Development must not increase the risk or implications of flooding to existing areas.
- Development on flood affected land must incorporate the Flood Proofing Guidelines (see Appendix D).

# 4.1.1.2 Is land flood affected?

- Council has adopted the 1% ARI (plus 0.5 metres freeboard) as its Flood Planning Level. Land below the Flood Planning Level is referred to as "flood affected land". Flood affected land as shown on the Flood Planning Maps (Appendix A) is defined as the most current information available to Council and may be derived and interpreted from a combination of the following:
  - 1. Flood Studies identifying the 1% flood undertaken in accordance with the Floodplain Development Manual, prepared by the NSW Government (as applicable at the time the Study was conducted).
  - 2. Modelling undertaken for specific sites which identifies the 1% flood.
  - 3. Historic flood inundation records held by Council as the highest known flood.
  - 4. Information contained within an environmental planning instrument or policy.
  - 5. Specific flood mapping for the site.

# 4.1.1.3 Access

• If flood free access is not possible, the development must be able to achieve safe wading criteria as specified in Figure L1 of the FPMM (see Appendix D).

# 4.1.1.4 Residential development

- Floor levels of all habitable rooms, or rooms with connection to sewer infrastructure shall not be less than 500mm (freeboard) above the 1% ARI flood level.
- Upon completion and prior to the occupation (where relevant) a certificate by a registered surveyor showing the finished ground and floor levels conform to approved to approved design levels shall be submitted to Council.
- Additions to existing buildings will only be permitted, with limitations, as follows:
  - Where the floor level of the proposed addition is located below the flood standard the maximum increase in floor area is not to exceed 10% of the floor area of the existing dwelling; or
  - ♦ Where the floor level of the proposed addition is located above standards the maximum increase in habitable floor space shall not exceed 100m<sup>2</sup>.
- Where additions are below the 500mm "freeboard", Council must be satisfied that the addition will not increase risk to inhabitant in the event of a flood.
- Rebuilding part of a dwelling may be permitted provided the building maintains the same dimensions which result in the same impact on flood behaviour.

# 4.1.1.5 Non-residential rural buildings

• Where it is not practical to locate floor levels above the 1% flood level, materials used in construction must be capable of withstanding inundation by floodwaters.

# 4.1.1.6 Industrial and Commercial Development

- Variation to the design flood planning level may be approved where Council considers strict adherence to the designed floor level is unreasonable or unnecessary.
- Council may require that all electrical installations and wiring be above the flood standard and that building materials and services are in accordance with the Flood Proofing Guidelines.

# 4.1.1.7 Subdivision

• Residential subdivision will not be permitted where any lot to be created will be fully inundated by a 1% ARI event and the creation of such lot will create the potential for increased intensity of development of flood liable land.

# 4.1.1.8 On-site sewage management

- On-site sewage management facilities must be sited and designed to withstand flooding conditions (including consideration of structural adequacy, avoidance of inundation and flushing/leaking into flowing flood waters).
- Tank and trench style of systems are not permitted on land affected by the Flood Planning Level. All sewer fixtures must be located above the 1% Flood.

- Survey plan prepared by a registered surveyor is required, showing the contour levels of natural surface, any existing fill and the designed contour levels for the finished work.
- A report certified by a consulting engineer is required to detail the impact of the proposed fill on adjoining properties and, where levee banks are proposed and the methods of internal drainage.
- Applications shall be accompanied by a construction management plan to show:
  - ♦ Source of fill, including contamination assessment,
  - ♦ An assessment of the impact of haulage vehicles on the road,
  - ◊ Precondition report of all haulage routes
  - Details of the method of compaction of fill and associated impacts: control of dust, sedimentation, water quality impacts, noise and vibration,
  - ♦ Contingency for containment of fill in the event of a flood during placement.

# 4.1.2 Outdoor Signage

- Where there is potential for light spill to adjoining properties, all illuminated signage shall be fitted with a timer switch to dim or turn off by 11pm each night.
- Signage must comply with SEPP 64 Advertising and Signage Schedule 1 Assessment Criteria.
- Advertising in rural zones may only:
  - Advertise a facility, activity or service located on the land; or
  - Place of scientific, historical or scenic interest within the area.
  - Cannot include names of proprietary products or services or sponsoring businesses.
  - Each sign must be sited a minimum distance of 1km from each other.
- External illumination to signs must be top mounted and directed downwards.
- The following types of signs are not acceptable:
  - Portable signs on public footways and road reserves including A Frame and Sandwich Boards;
  - Electronic trailer mounted road signs used for promotional or advertising purposes;
  - Outdoor furniture (including chairs, bollards and umbrellas) advertising products such as coffee, alcohol or soft drink;
  - A roof sign or wall sign projecting above the roof or wall to which it is affixed;
  - ♦ Flashing or intermittently illuminated signs;
  - Advertisements on parked motor vehicles or trailers (whether or not registered) for which the principal purpose is for advertising;
  - ◊ Signs fixed to trees, lights, telephone or power pole
  - Signs which could reduce road safety by adversely interfering with the operation of traffic lights or authorized road signs;
  - Any sign which would in the opinion of Council, be unsightly, objectionable or injurious to the amenity of the locality, any natural landscape, public reserve or public place;
  - Numerous small signs and advertisements carrying duplicate information; and
  - Overhead banners and bunting, except in the form of temporary advertisement.

# 4.1.3 Outdoor Lighting

- All developments shall demonstrate compliance with AS4282 Control of Obtrusive Effects of Outdoor Lighting.
- Sweeping lasers or searchlights or similar high intensity light for outdoor advertising or entertainment, when projected above the horizontal is prohibited.
- Illuminated advertising signs should be extinguished outside of operating hours, or 11pm, whichever is earlier.

# 4.1.4 Parking

- Parking must be provided as per the requirements stated in the relevant Section.
- Where calculation of parking spaces required results in a fraction of a space, the total required number of spaces will be the next highest whole number.
- Parking and traffic requirements will be based on consideration of:
  - ♦ Likely peak usage times;
  - ♦ The availability of public transport;
  - Likely demand for off street parking generated by the development;
  - ♦ Existing traffic volumes on the surrounding street network; and
  - ♦ Efficiency of existing parking provision in the location.
- Comply with AS2890.1 Parking Facilities.
- Where existing premises are being redeveloped or their use changed, the following method of calculation shall apply:-
  - 1. Determine the parking requirements of the previous or existing premises in accordance with the relevant Section;
  - 2. Determine the parking requirement of the proposed development in accordance with the relevant Section;
  - 3. Subtract the number of spaces determined in (a) from the number of spaces calculated in (b);
  - 4. The difference calculated in (c) represents the total number of parking spaces to be provided either in addition to the existing on-site car parking or as a cash-in-lieu contribution to Council where applicable.

# 4.1.5 Landscaping

- Location and grouping of plant types shall be multi-functional providing privacy, security, shading and recreation functions.
- Landscaping or shade structures shall be provided in outdoor car parking areas where >10 spaces are required, to provide shading and soften the visual impact of large hard surfaces.
- Landscaping shall comprise low maintenance, drought and frost tolerant species.

# 4.1.6 Heritage Conservation

It is recommended that the historical character of the Federation and Inter-War character of the Quirindi and Werris Creek CBDs should be appropriately conserved and enhanced by:

- Preserving individual buildings of significance,
- Preserving intact early building components on all existing buildings (including windows shopfronts, awning supports, verandahs and historic signage) and repairing/restoring them as necessary.

It is also recommended that missing components or decorative detail should be reinstated as part of any refurbishment work or repair. This includes reinstating verandahs in accordance with known previous designs identified in historic photographs.

# 4.1.6.1 Alterations

- Alterations to existing historical facades (above awning level) should not be permitted where the façade is part of a homogeneous or symmetrical group. If previously painted these building groups should be painted in uniform colour schemes. Unpainted face brickwork should not be painted.
- Original façade elements (above awning level) such as parapets and ornamental detailing should be retained. Where it can be ascertained that known detail has been removed this should be reinstated where possible.

# 4.1.6.2 Building height and alignment

- It is generally recommended that permissible heights (maximum and minimum) should be related to the prevailing height of existing buildings.
- Consistency of building alignment is one of the major characteristics of traditional town centre development. It is recommended that new developments and additions to existing structures match the street alignment of adjoining buildings.
- Corner buildings should be generally built to the street-front alignment and no further back than adjoining buildings.

# 4.1.6.3 Building form

 The form of any new development (including additions to existing buildings) should seek to relate appropriately to its context while maintaining its own particular architectural character. Existing building forms found throughout the area are relatively simple in character, with roof or parapet elements and façade detailing used to give visual interest. It is encouraged that new developments should follow established forms.

# 4.1.6.4 Roofs

A number of recommendations are made in relation to roofs:

- Form, pitch and eaves height The form, pitch and eaves/gutter (or parapet) height of new roofs should sympathetically relate to adjacent buildings. Roofs that are not visible from adjacent or public areas may vary from existing forms.
- **Parapets** Parapets should be used where appropriate to the existing context. Parapets on new buildings should be designed to reflect the general character of surrounding buildings.
- **Roof cladding materials** Cladding materials for new roofs should match or sympathetically relate to adjacent buildings. Recommended materials include:
  - Corrugated steel. This can be either clear galvanised iron or clear zincalume. Colorbond colours should be restricted to light or mid grey. Red Colorbond can be used on hipped roofs where it can be demonstrated that a red finish was used previously. Existing corrugated galvanised iron roofs may be painted with silver or grey finishes.
  - ◊ Terracotta tiles

*Note:* Square profile steel decking and coloured cement roof tiles should not be used on roofs visible to street frontages and public areas.

# 4.1.6.5 Facades

Facades of new buildings, or additions to existing structures, should seek to relate to the form and character of surrounding buildings. Alterations to existing buildings should seek to match the detailing of the original structure. Details to be considered include the following:

- **Proportion** The position, proportional spacing and visual impact of major vertical and horizontal elements, including blade/party walls, attached piers, changes on the line of the façade, string courses and cornices, eaves and rooflines, should seek to match or otherwise relate sympathetically to nearby buildings.
- Windows and doors The size, proportion and placement of windows and doors should relate both to the size and architectural character of the new building and its immediate context.
- **Materials** Building materials for new structures should relate sympathetically to adjoining buildings. Building facades should be constructed as follows:
  - ◊ Rendered or painted masonry, including brick or reinforced concrete,
  - ♦ Face brickwork compatible with the finishes and tonings of historical brickwork,
  - Timber-framed parapet clad in flat panelling such as Hardiboard.
- Ribbed metal cladding, perforated screens or other similar sheet cladding should be avoided.
- Ornamentation Surface ornamentation on historical facades should be restored if damaged or missing. This includes existing tiling to the front wall of shops below awning height. Subtle surface decoration may be used on new buildings to break up blank facades and relate to neighbouring structures.
- **Shop blinds** External canvas blinds should be retained. If replacements are required these should reflect historical colour, materials and pattern.
- **Shop-fronts** Original or early shop-fronts should be conserved where possible. Significant features such as windows, framing, tiled entrances, shop-front tiling, doors etc. should be repaired or restored as necessary. Existing shop-fronts should not be bricked up or fitted with roller shutters.

# 4.2 Environmental Controls

# 4.2.1 Environmental Effects

The application documentation shall identify any potential environmental impacts of the development and demonstrate how they will be mitigated. These impacts may relate to:

- Traffic
- Flood liability
- Slope
- Construction impacts
- Solid and Liquid Waste
- Air quality (odour and pollution)
- Noise emissions
- Water quality
- Sustainability

# 4.2.2 Erosion and Sediment Control

- Runoff shall be managed to prevent any land degradation including offsite sedimentation.
- Reference shall be made to the NSW Governments Managing urban stormwater: soils and construction, Volume 1 (available from LandCom), commonly referred to as "The Blue Book".
- Cut and fill will be minimised and the site stabilised during and after construction.
- Arrangements in place to prompt revegetation of earthworks to minimise erosion.

# 4.2.3 Land Use Buffers

- Buffers are an important tool to reduce land use conflicts where competing or conflicting uses are proposed. People intending to develop within a rural area or within the rural/residential interface should contact Council to find out about the buffer requirements specific to their locality, site and the land use proposed.
- There are several statutory and recommended buffers that can apply to a specific sites and situations. These include:
  - ◊ Bushfire protection buffers
  - Airport buffers
  - Over line buffers
  - ♦ Rifle range buffers
  - A Railway line buffers
  - ◊ Cultural heritage buffers
- Development needs to comply with the recommended buffers in the NSW DPI *Living and Working in Rural Areas Handbook* unless it can be demonstrated to Council Officers that the proposed development will not result in adverse impacts.
- With regard to Aboriginal cultural heritage issues, including significant sites, places and landscapes, it is recommended that you consult with the local Aboriginal Land Council.
- Buffer zones and management options will vary according to the significance of a site, its locality, the topography of the land and its relationship to a range of other geographic and culturally relevant factors.

# 4.2.4 On-site Wastewater Management Systems

If on-site sewage management is determined to be the best long-term option for an area certain development standards will apply to relevant applications, including, but not limited to:

- Minimum Lot Size
- Climate
- Soil
- Geography
- Environmental sensitivity
- Potential risks to public health.

Reference should be made to the guide *On-site Sewage Management for Single Households* (*Environment & Health Protection Guidelines*), for additional guidance with regard on on-site sewage management.

# 4.2.5 Waste Management

General waste storage and collection arrangements shall be specified.

# 4.2.6 Stormwater Management

Reference should be made to Council's Engineering Guidelines for Subdivision and Development.

# 4.2.7 Noise

Where relevant, applications are to contain information about likely noise generation and the method of mitigation.

# 4.2.8 Geology

The design process must give consideration to the potential impact of erosive soils, saline soils, soils of low wet strength, highly reactive soils and steep slopes and document how these constraints are addressed.

# 4.2.9 Vegetation Management & Biodiversity

- The clearing of native vegetation associated with a proposed development requires development consent is also subject to consent as a part of a DA. The DA submission must include suitable documentation to assess biodiversity impacts, including but not limited to;
  - A scaled and accurate site plan (preferably using aerial imagery) showing the proposed development, existing buildings and structures, any existing or proposed effluent disposal areas, the extent of the area to be disturbed, including any access tracks or driveways, the extent and type of vegetation that is proposed to be removed and any other environmental constraints;
  - A description of the vegetation to be cleared (i.e. type and condition of the vegetation to be cleared), photographs of the vegetation and a statement addressing the biodiversity impact of the proposed development;
  - Council may require the submission of a report by a suitably qualified professional (e.g. ecologist) to verify the species and condition of the vegetation to be cleared;

# 4.2.9 Vegetation Management & Biodiversity (continued...)

- Evidence to demonstrate whether the proposed clearing will or will not exceed the Biodiversity Offsets Scheme Threshold. Additionally, if the proposed clearing does not exceed the Biodiversity Offset Scheme threshold, a test of significance is to be provided.
- The applicant will be notified of Council's decision as part of any consent for the development. The consent may have specific conditions regarding remedial actions or mitigation measures.
- A Biodiversity Development Assessment Report (BDAR) must be submitted with a DA where the development involves the clearing of vegetation and:
  - ♦ The extent of clearing exceeds the Biodiversity Offsets Scheme Threshold; or,
  - ♦ The vegetation to be cleared is identified on the Biodiversity Values Map; or,
  - The development is likely to have a significant impact on listed threatened species or threatened ecological communities, or their habitats, as prescribed under the *Biodiversity Conservation Act 2016*.

The BDAR must be prepared in accordance with the NSW Office of Environment and Heritage's Guidelines.

- If clearing specified vegetation in non-rural areas, either an approval from the NSW Native Vegetation Panel or a clearing permit from Council may be required in accordance with the provisions under *State Environmental Planning Policy* (*Vegetation in Non-Rural Areas*) 2017.
- The controls under Section 4.2.9 are additional to any other controls under this DCP.

# 4.3 Quirindi North Residential Area

The following chapter provides site specific controls for development within the Quirindi North Residential Area (QNRA) as shown on the Structure Plan map as the 'subject area'. These controls are in addition to those in the preceding chapters.

Character Statement:

- Development that enhances the rural residential character of living within picturesque natural environment.
- Development that will not dominate the landscape.

# 4.3.1 Vegetation

# 4.3.1.1 Setbacks to identified vegetation

- Any building or structure must be located outside the following buffers:
  - 10m setback from identified vegetation, including but not limited to: Sclerolaena Eucalyptus albens (White Box), Austrostipa aristiglumis (plains grass), Blechnum cartilagineum (gristle/soft water fern), Cullen tenax (emu foot), Oxalis perennans (Oxalis), Dichanthium sericeum (shorthair plumegrass), Austrostipa bigeniculata (Yangabil), Wahlenbergia luteola (Bluebell) & Mentha satureioides (Native Pennyroyal)
  - 10m setback from each side of the identified watercourses (riparian buffer zones)\*

\* note any works within 40m of a watercourse may require a controlled activity approval under the *Water Management Act 2000.* Refer also to the NSW Department of Primary Industries—Water Guidelines for Controlled Activities & Guidelines for Riparian Corridors on Waterfront Land.

# 4.3.1.2 Grazing controls

• Livestock are to be excluded from identified vegetation and riparian buffer zones.

# 4.3.1.3 Clearing

- Trees located in the QNRA are not to be harmed or removed unless consent is obtained from Council.
- Development applications for clearing within the subject area will be assessed using the following criteria:
  - Minimise footprint of development to reduce the impact on ground cover;
  - Adequate justification including consideration of alternative locations of the development to avoid clearing; and,
  - Offset planting at a ratio of 2:1 of the same species as those to be removed.
- The following trees are not permitted to be removed in the QNRA:
  - Trees of the species *Eucalyptus albens* Benth, or *Angophera floribunda* (Smith)
     Sweet, and
  - With a diameter at 1.3m high exceeding 50cm
- Dead trees and fallen branches with hollows are to be retained onsite for the ongoing provision of habitat.

# 4.3.2 Biodiversity values

Future development must consider the potential impact of the proposal on the *White Box—Yellow Box—Blakely's Red Gum Woodland* Endangered Ecological Community and Koala feed tree species listed under SEPP—Koala Habitat Protection and ensure that the proposal will avoid or minimise impacts.

# 4.3.4 Bushfire Protection

• Bushfire protection of new buildings is to be achieved by increased construction standards (BAL ratings) as per *Planning for Bushfire Protection* to prevent vegetation clearing.

# 4.3.5 Roadside Vegetation

• Roadside vegetation along Brady's Lane and Bells Gate Road should be retained to enable regeneration and to conserve White Box Grassy woodlands in the QNRA.

# 4.3.6 Infrastructure

# 4.3.6.1 Sewer

- Onsite Sewage Management Systems (OSMS) are required to be used for development within the subject area.
- OSMS must adhere to minimum buffer distances to any existing groundwater bores, as specified under the *Environment & Health Protection Guideline (1998)*, and any relevant water sharing plan under the *Water Management Act 2000*.

# 4.3.6.2 Water

- Reticulated low-flow water infrastructure is required to be extended to all new lots within the subject area.
- Financial contributions will be required to be made for water connections. Headworks charges will also apply.

# 4.3.6.3 Roads

- Roads are to facilitate connection with adjoining lots.
- Future subdivisions that increase rural residential development should be designed to enable consolidation of access to Werris Creek Road where possible to reduce road safety and traffic impacts.
- Development for the construction of farm buildings in the R5 Large Lot Residential zone must have access designed and constructed for the largest vehicle requiring access to the site.
- Financial contributions will be required to be made for the sealing of roads in the QNRA.

# 4.3.7 Site Coverage

• Cumulative Site Coverage in the E4 zone is 0.5ha per lot.

# 4.3.8 Aboriginal heritage

• Future development on Lot 12 in DP 878120 must avoid harm\* to the two (2) modified trees located on the subject land (see Table below). If harm cannot be avoided, the proponent must obtain any required permits and approvals from the appropriate regulatory authority. \*Harm is defined under the *National Parks and Wildlife Act 1974*.

Site Name	Coordinates (GDA 56) (Centre point)	Site type	Artefact Count	Site Dimensions (m)
Bellsgate-ST1	279762E 6514421N	Modified Tree	NA	5x5
Bellsgate-ST2	279303E 6514782N	Modified Tree	NA	5x5

 Applications for development in the QNRA shall be supported with evidence that a due diligence process has been followed in order to determine whether the proposal may harm Aboriginal objects.

# 4.3.9 Setbacks

- Setbacks in the E4 zone will respond to avoiding vegetation clearing.
- Setbacks must minimize the dominance of buildings on the visual landscape.

# 4.3.10 Rail Noise

# 4.3.10.1 Buffers

No sensitive land uses\* shall not be constructed within 80m from the railway line unless an
independent acoustic assessment is carried out to demonstrate that rail noise and vibration
will not have significant impacts. The acoustic assessment must be prepared by a suitably
qualified professional in accordance with the applicable legislative requirements, guidelines
and best practice standards.

\*Sensitive land uses include: a building for residential use, a place of public worship, hospitals, educational establishments or child care centres.

### 4.3.10.2 Attenuation Measures

- The required façade attenuation measures and standard construction categories for residential development in the QNRA are divided into 'Zone A' and 'Zone B':
  - Zone A lots that do not comply with *Development Near Rail Corridors & Busy Roads* (DNRCBR) Guidelines given Category 1 construction and no further acoustic treatment. Residential development in this zone will require doors and windows to be closed and mechanical ventilation to the provided;
  - ♦ *Zone B* lots that comply with DNRCBR Guidelines. Category 1 construction can be carried out with no additional allowances.
- The below Table identifies the required attenuation measures and the boundaries of the acoustic zones are illustrated in the map overleaf.

Zone	Descriptor	Description of the Zone (dB(A))	Ventilation for Noise Treatment Areas	Standard Construction Category <sup>2,3</sup>
Zone A	External LAeq, 9 hour (night time)	40-57	Required <sup>1</sup>	Category-1 <sup>4</sup>
Zone B	External LAeq, 9 hour (night-time)	30-40	Not Required	Category-1

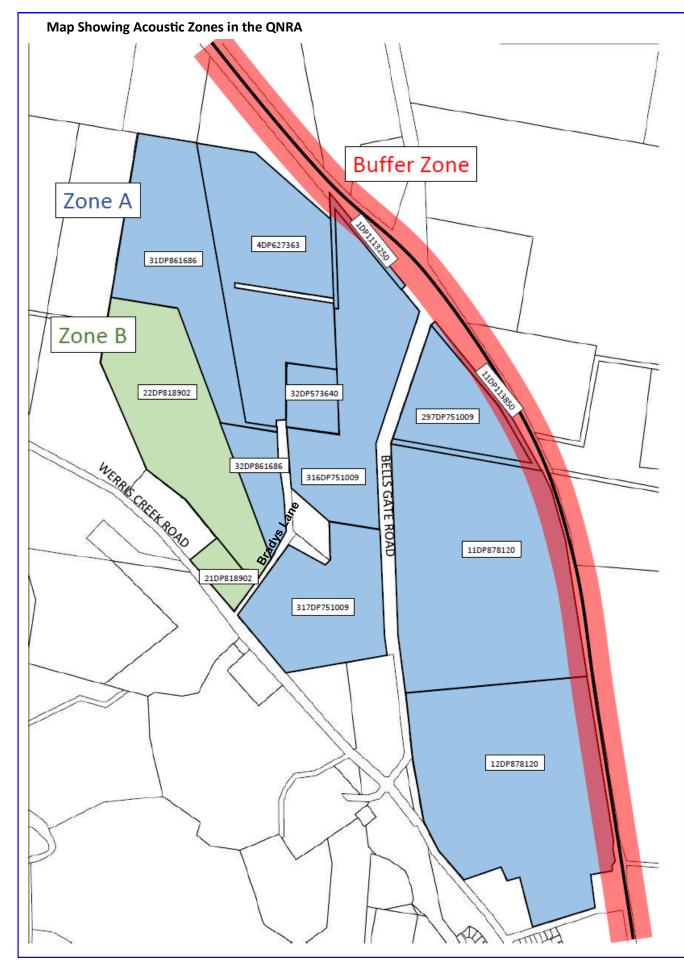
<sup>1</sup>Assuming that windows and doors are to be closed for noise reduction, ventilation will need to be supplied to internal areas of the building that require noise treatment in accordance with the Building Code of Australia. Non-sleeping areas may not require ventilation if an open window is providing enough attenuation to meet internal daytime levels (L<sub>Aeq, 9 hour</sub>). Further acoustic assessment for an individual development proposal is required to support applications without ventilation requirements in this Acoustic Zone.

<sup>2</sup>Construction on a concrete slab as defined in 'Appendix C' of the DNRCBR.

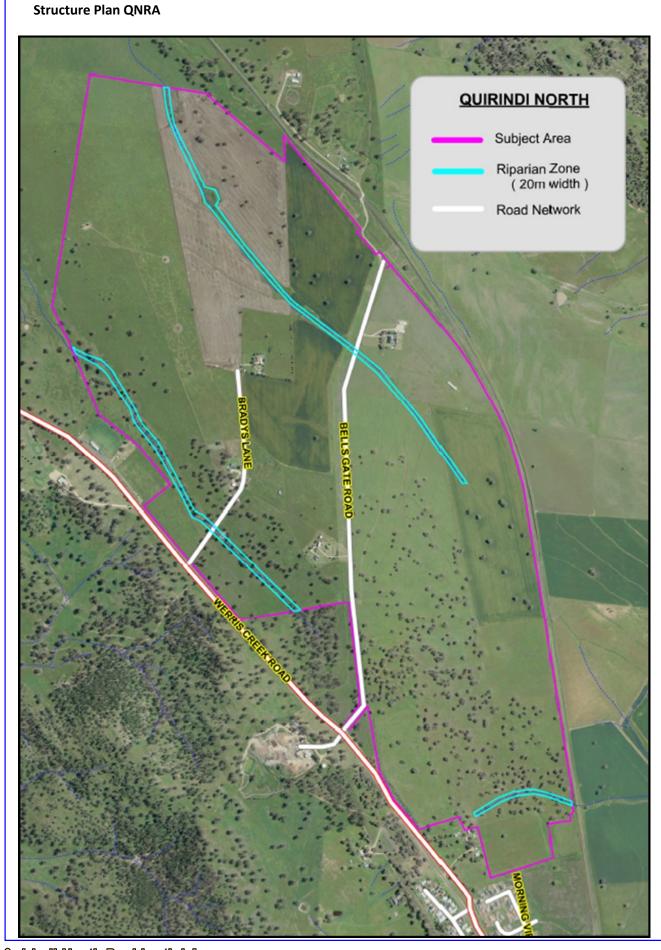
<sup>3</sup>Care must be taken to ensure that a good seal is achieved at the edges of acoustically treated walls and ceilings. Particular care should be taken around gaps such as penetration holes cut for pipes, ducts and conduits.

<sup>4</sup>It is recommended to locate sensitive rooms on the furthest side of the building from the rail corridor.

 Independent acoustic reports, prepared in accordance with the DNRCBR Guidelines, shall be submitted with Development Applications that seek alternatives to the standards described under this Part.



Quirindi North Residential Area



Quirindi North Residential Area

# **Section 5: Developer Contributions Plans**

# 5.1 Liverpool Plains Development Contributions Plan

As a consequence of development it is likely that an increase in the demand for public amenities and services (such as cycleways, community facilities, local open space etc.) will occur. Therefore, there may be a requirement under Section 7.11/7.12 of the *Environmental Planning and Assessment Act 1979* for contributions to be made as a condition of the development consent in accordance with the Liverpool Plains Contributions Plan.

Council requires developers to contribute towards the augmentation of water, sewerage and stormwater works to meet the additional demands of the new development. In this regard, approval must be sought from Council under the Water Management Act 2000 (water, sewer) and *Local Government Act 1993 (stormwater)* to determine the required contributions. Full details of these requirements are provided in Council's adopted Developer Service Plan.

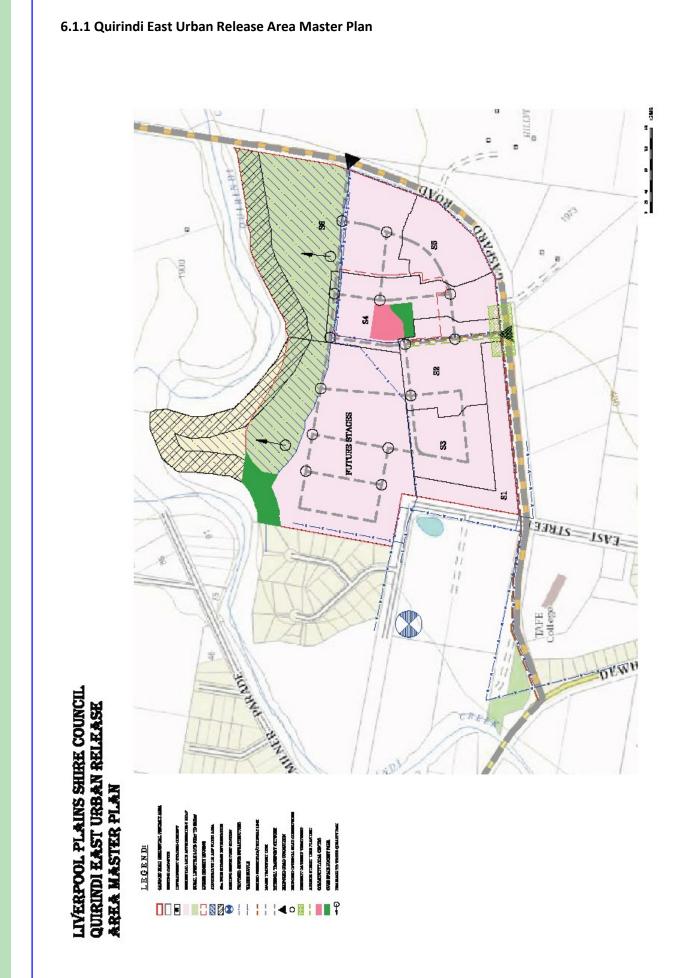
Rates are reviewed annually in Council's Community Strategic Plan and can be viewed on Council's website.

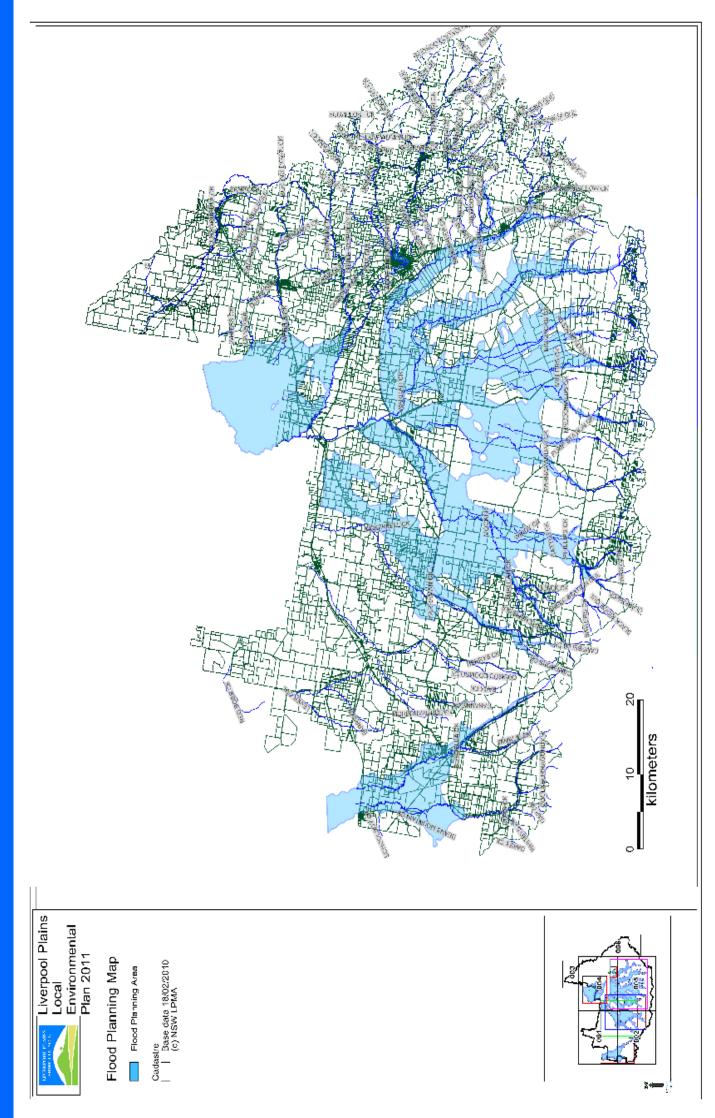
# **Section 6: Site Specific Requirements**

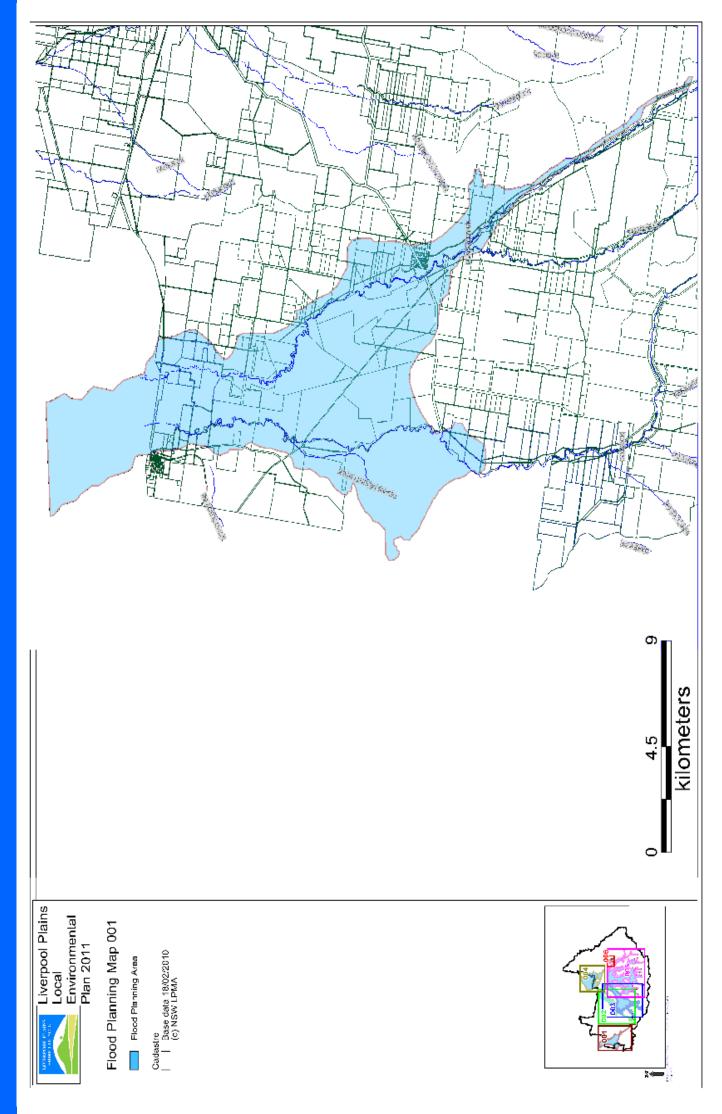
# 6.1 Quirindi East Urban Release Area

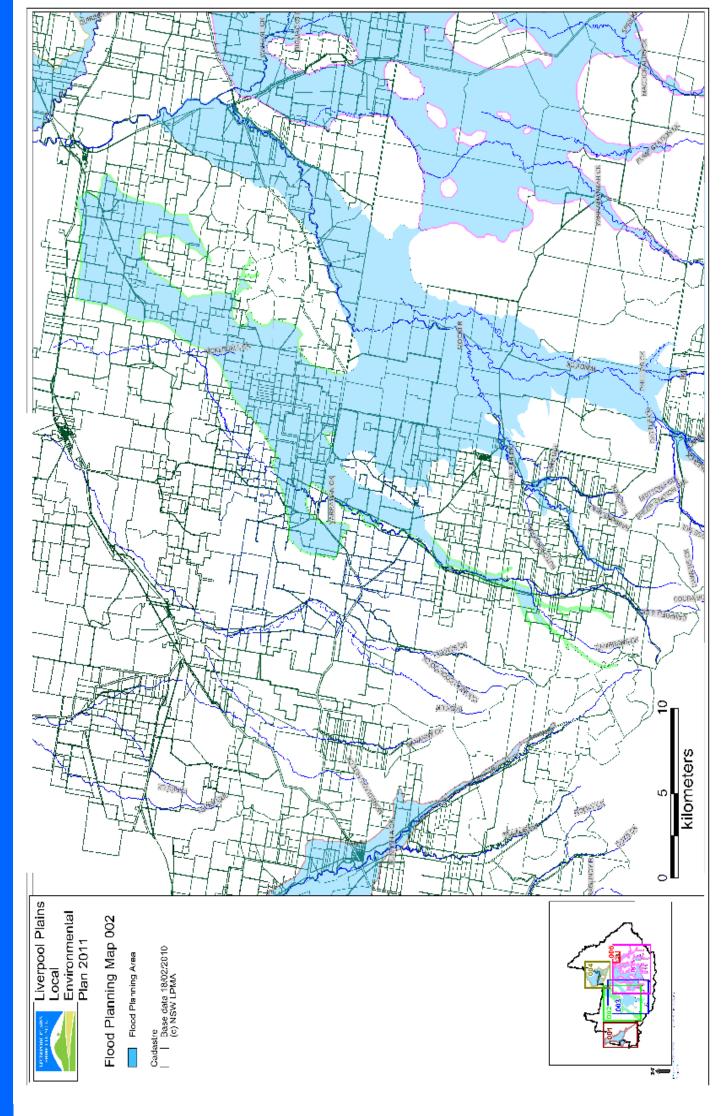
- Part 6 of the *Liverpool Plains Local Environmental Plan 2011* provides for specific controls for the management of designated urban release areas.
- Staging of development within the Quirindi East residential precinct must occur in accordance with the *Quirindi East Residential Master Plan,* overleaf.
- Subdivision within the Quirindi East precinct is to provide for the following in accordance with the *Quirindi East Residential Master Plan*:
  - Transport movement hierarchy;
  - Overall landscaping strategy;
  - Network of passive and active recreational areas;
  - Stormwater and water quality management systems;
  - Development of flood-prone lands;
  - Higher density living around open space areas;
  - Neighbourhood commercial and retail uses; and
  - Public facilities and services, including provision of traffic management facilities and parking.
  - Development within the Quirindi East residential precinct must be carried out in accordance with Sections 3 and 4 of this DCP.

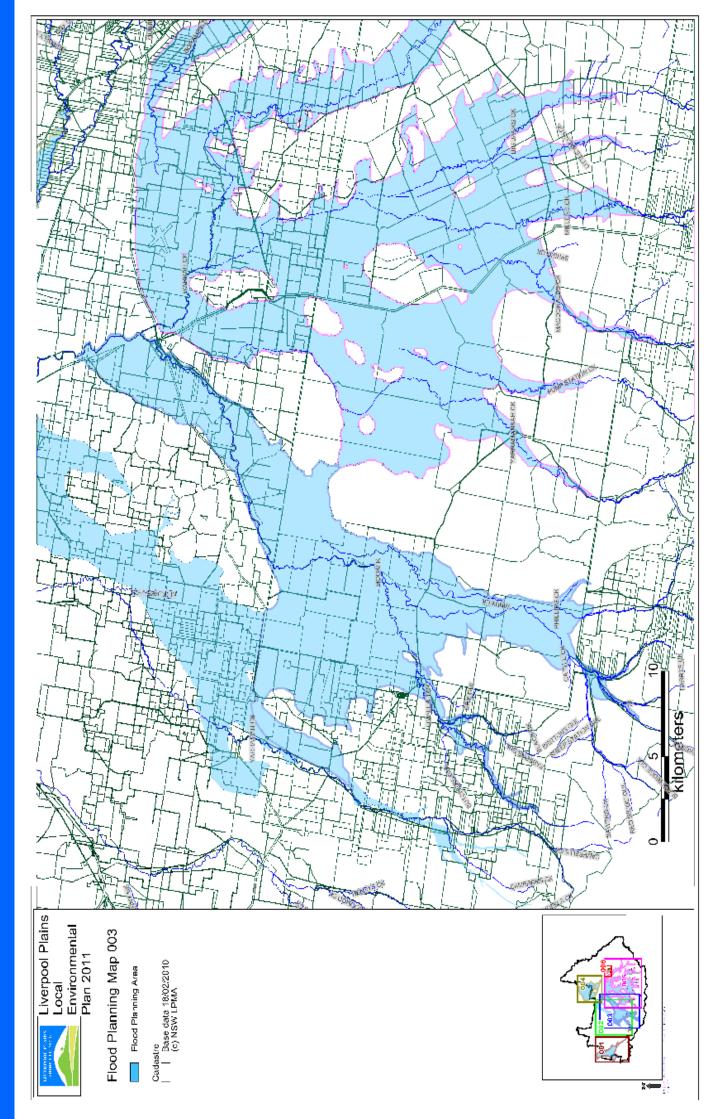


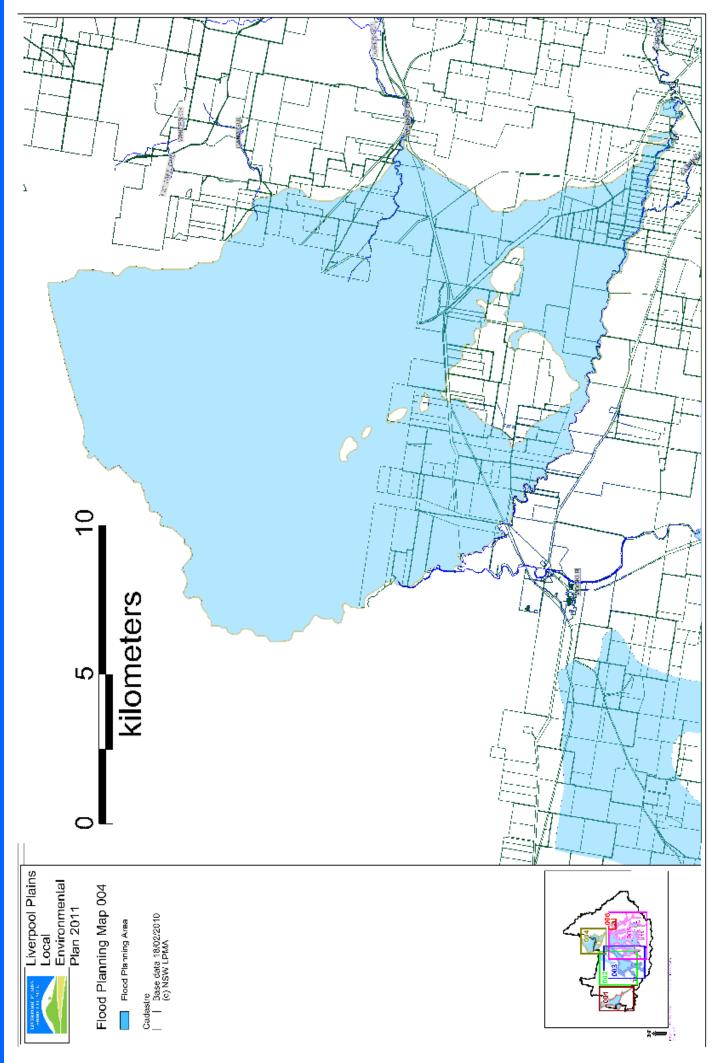


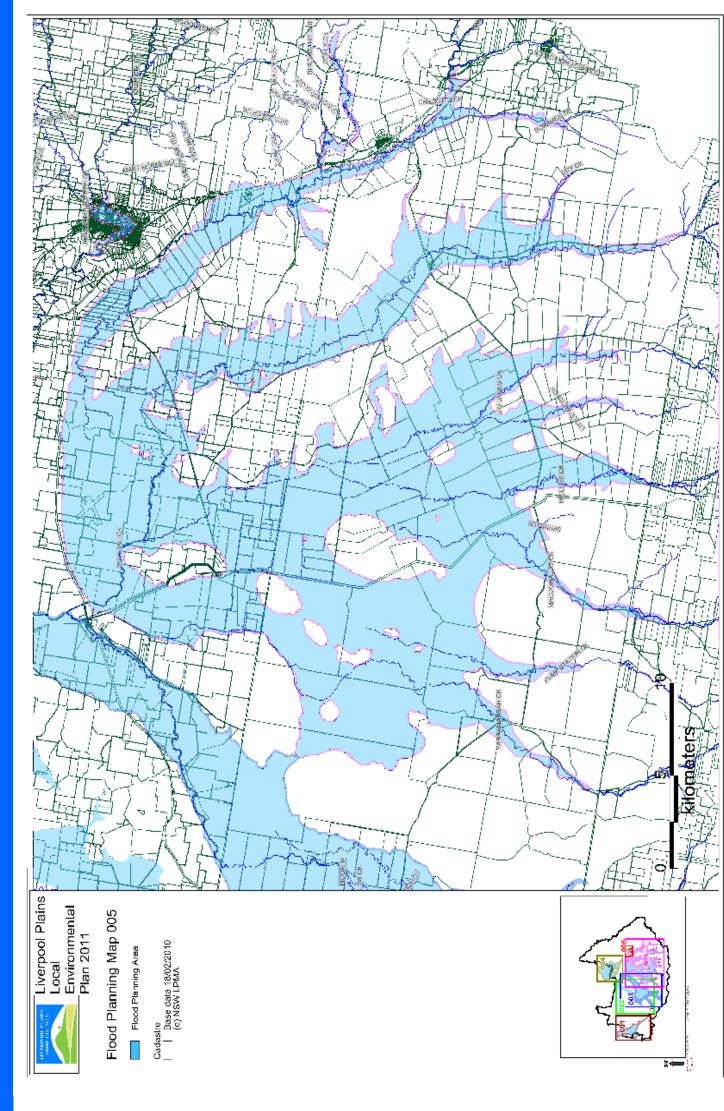


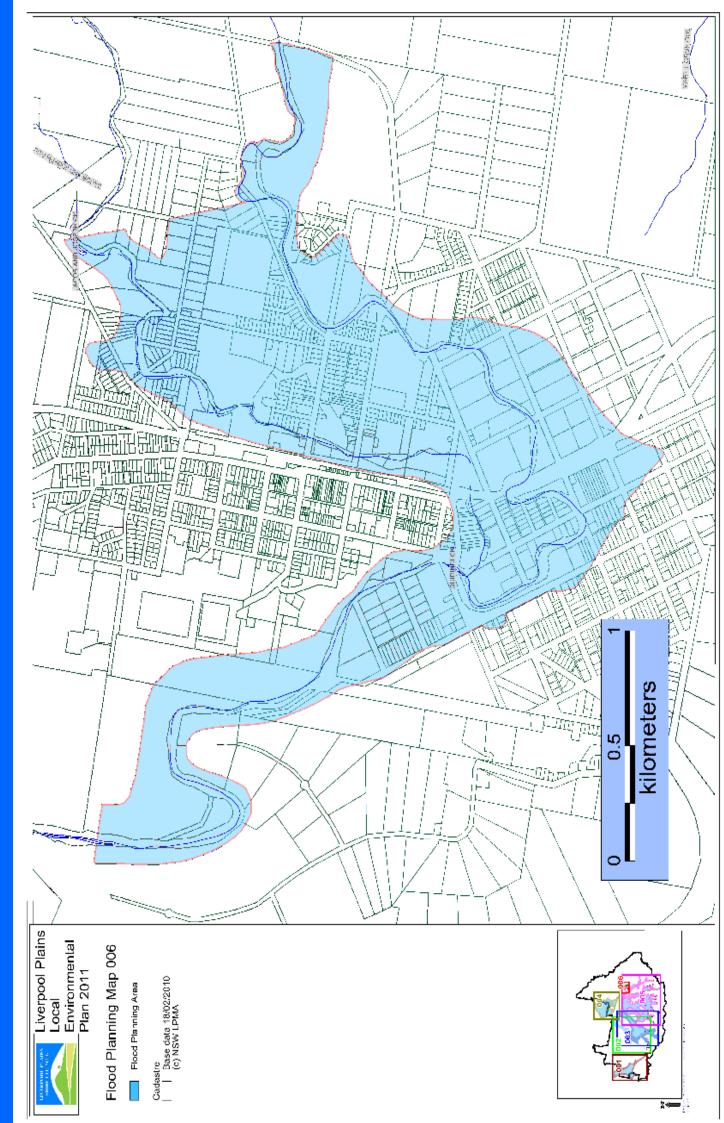
















# Schedule of Parking Requirements:

Land Use	Parking	Comments
Bed & Breakfast Accommodation	1 space per guest room PLUS 1 space per resident manager	
Bulky Goods Premises Industrial Retail Premises Vehicle sales or hire premises	1 space per 50m <sup>2</sup> GFA 0.75 spaces per 100m <sup>2</sup> of site area	Parking must be provided to satisfy the peak cumulative parking requirements of the development as a whole. A comparison survey of similar development should be provided with the development application. Calculations will be refined according to the specific characteristics of the proposed development. Customer parking spaces should be readily accessible and should not be used for the display of vehicles or other merchandise or for loading/unloading trucks. Where vehicle servicing facilities are provided, additional on-site car parking must be provided in accordance with the rate required in this Plan for a
Business Premises	1 space per 40m <sup>2</sup> gross floor area	"Vehicle Repair Station". Provision should be made for the movement an on -site loading and unloading of service vehicles as appropriate.
Camp or Caravan Site	1 space per site PLUS 1 space per 10 sites for visitor parking	The visitor parking area should be appropriately located and signposted.
Child Care Centre	1 space for every 5 children based on the maximum number of children at the centre.	This calculation includes staff parking.
Drive In Take Away Food Shop	1 space per 10m <sup>2</sup> GFA PLUS 1 space per 5 seats	An exclusive area for queuing of cars for a drive through facility is required (queue length of 5 to 12 cars measured from pick-up point). There should also be a minimum of 4 car spaces for cars queued from ordering point.

Land Use	Parking	Comments
Dual Occupancy	1 enclosed space per dwelling for dwellings with 1 or 2 bedrooms and 2 enclosed spaces per dwelling for dwellings having 3 or more bedrooms	include rooms capable of being occupied as a
Dwelling House	2 spaces per dwelling	These spaces shall be located behind the building line as set by Council.
Educational Establishment	1 space per 2 staff PLUS 1 space per 30 students over 17 years for high schools and 1 space per 5 students for higher education establishments	Where required by Council, provision shall be made for the access and parking of buses.
Group Homes	1 space per employee	The provisions of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 apply to this type of development.
Health consulting room	3 spaces per practitioner PLUS 1 space per employee	The 3 spaces per practitioner include 2 patient parks. If it can be shown that not all surgeries will be in concurrent operation, consideration may be given to reducing the parking provision for patients. Parking areas for patients are to be located at the front of the development or in a location which will encourage patients to use the parking area rather than the adjoining street.
Home Activity	1 space in addition to dwelling requirements	This requirement may be either waived or increased by Council depending on the characteristics of the home activity and the number of persons involved.
Hotel	1 space per hotel unit PLUS 1 space per 6.5m <sup>2</sup> licensed public floor Area	Proposed hotel development will be compared to similar existing developments noting the existing supply of, and demand for parking in the area and of the peak parking periods of individual facilities within the hotel. If a function room/nightclub is included, parking will be required to meet peak demands.

Land Use	Parking	Comments
Hostel for Seniors (a) Self-contained units (subsidised)	1 space per 10 units (residents) PLUS	This parking provision is only to be used where it can be clearly demonstrated that low car ownership levels will prevail.
	1 space per 10 units (visitors)	
(b) Self-contained units (resident funded	2 spaces per 3 units (residents)	Resident funded developments tend to have a higher per unit cost and attract residents with higher financial resources. More importantly, car
developments)	PLUS	ownership levels are likely to be higher than in
	1 space per 5 units (visitors)	subsidised developments.
(c) Hostel, Nursing and Convalescent	1 space per 10 beds (visitor parking)	
Home	PLUS	
	1 space per 2 employees	
	PLUS	
	1 space per ambulance	
Housing for Aged or Disabled Self	1 space per 2 dwellings	
Contained	PLUS	
Dwellings 1 space per 5 units for visitors		
Industry (includes light industry and	1 space per 75m <sup>2</sup> GFA	This requirement may increase when retailing is nermitted on-site or the office space component is
heavy industry)	OR	I present at any one time excluding those vehicles i
	1 space per 2 employees	
	WHICHEVER IS GREATER	
Manufactured	1 space per site	The visitor parking area should be appropriately
Home Estate	PLUS	located and signposted.
	1 space per 10 sites for visitor parking	
		The 3 spaces per practitioner include 2 patient parks.
	OR	puritor
	3 spaces per practitioner	
	PLUS 1 space per employee WHICHEVER IS GREATER	

Land Use	Parking	Comments
Motel (including serviced apartments) Parking for back- packers' and bed and breakfast accommodation will be assessed according to parking demand and overall availability of existing parking	1 space per accommodation unit PLUS 1 space per 2 employees	If a restaurant and/or function room is to be included, additional parking will be required at the adopted rate for such facilities. Council is willing to review this requirement if it can be demonstrated that the time of peak demand for parking at each facility does not coincide or if the facilities will primarily serve motel customers.
Multi Dwelling Housing	<ol> <li>1 enclosed space per 1 bedroom dwelling</li> <li>PLUS</li> <li>1 visitor space per 5 dwellings (or part) 2 spaces (1 enclosed) per 2 bedroom</li> </ol>	Turning facilities should be provided on site so that vehicles always leave the site in a forward direction across the footpath. Of the resident parking spaces, one space per unit should be dedicated to specific units. Visitor parking spaces must be clearly designated and readily accessible. Appropriate signposting should be provided at the entrance to the site.
	PLUS 1 visitor space per 3 dwellings (or part) 2 enclosed spaces per 3 or more bedroom dwelling PLUS 1 visitor space per 2 dwellings (or part)	
Places of Public Worship	1 space per 10 seats OR 1 space per 15m <sup>2</sup> of main assembly area WHICHEVER IS GREATER	

	Land Use		Parking	Comments
Recre Facili	eational ity			Where various facilities are provided within one development, Council may consider relaxing the
a)	Squash Courts	a)	3 spaces per court	parking requirements where peak usage times do
b)	Tennis Courts	b)	3 spaces per court	not coincide or where dual and complementary usage of the common off street parking area is
c)	Bowling Alleys	c)	3 spaces per alley	anticipated.
d)	Bowling Greens	d)	30 spaces for first green PLUS 15 spaces for each additional green	
e)	Gymnasium	e)	1 space per 25m <sup>2</sup> ac- tual floor space avail- able for gymnastic activities	
f)	Golf Course	f)	4 spaces per hole	
		or lic loung	ace per 6.5m <sup>2</sup> of public censed floor area (bar, ge, dining room, games a, etc.)	Parking must be provided to satisfy the peak cumulative parking requirements of the development as a whole. Council may consider relaxing this requirement depending on the characteristics of the proposed development. For the purpose, a comparison survey of clubs in similar localities should be provided with the development application.
Restaurants and 1 sp Function Centres		1 spa	ice per 6.5m <sup>2</sup> GFA	The parking requirement may be reduced where the development is located in a business zone in proximity to a public off-street parking area and it can be demonstrated that peak demand for the restaurant will not coincide with peak demand for the public parking area. Consideration will also be given to reducing the rate for certain development (e.g. coffee shops, cages, milk bars, etc.) which primarily operate on during 9.00am to 5.00pm on weekdays and Saturday mornings, where peak demand for the restaurant will be ancillary to the parking demand generated by surrounding business premises or shops. A food outlet which provides no seating will be assessed as a "shop".
inclu	il Plant Nursery ding landscape garden supplies		ace per 130m <sup>2</sup> gross ay area	Adequate on-site loading/unloading facilities for service vehicles must be provided for all retail development. Separate driveways and circulation systems should be provided for service and customer vehicles wherever possible.

Land Has	Daultina	Comments
Land Use	Parking	Comments
Retail premises (not in- cluding Industrial Retail Premises) Major Retail Premises, Neighbourhood Shops, Food and Drink Premises (a) shops <1000m2 GFA (b) shops >1000m2 GFA (c) Video stores (d) Major Retail Premises	<ul> <li>(a) 1 space per 25m<sup>2</sup> GLFA</li> <li>(b) 1 space per 16m<sup>2</sup> GLFA</li> <li>(c) 1 space per 16m<sup>2</sup> GLFA</li> <li>(d) Refer to RTA Guidelines</li> </ul>	Where it can be demonstrated that the time of peak demand for parking associated with the proposed shopping centre and the existing adjacent land uses do no coincide, or where common usage reduces total demand, a lower level of parking provision might apply. If the proposed development is an extension of an existing retail development, additional parking demand could be less than proportional to the increase in floor area. A lower level of parking provision may apply where it can be demonstrated that the times of peak demand for parking coincide or where common usage reduces total demand. Council may also rely on the RTA's Guide for Traffic Generating Developments for calculation of parking for specifically identified developments, such as drive-in take away "fast food" outlets.
Roadside stall	Minimum of 4 off-street parking spaces	
Service Station	6 spaces per work bay PLUS 1 space per 20m <sup>2</sup> GFA of a convenience store PLUS 1 space per 6.5m <sup>2</sup> GFA OR 1 space per 3 seats if a restaurant facility is provided WHICHEVER IS THE GREATER	The additional requirements should be cumulative but may be reduced where it can be demonstrated that the times of peak demand for the various facilities do not coincide. All parking should be clearly designated and located so as not to obstruct the normal sale of petrol and should minimise the potential for vehicular/pedestrian conflict. Consideration should be given to providing adequate manoeuvring space for caravans and B-Doubles.

Land Use	Parking	Comments
Transport Depot/ Truck Depot	Space for each vehicle present at the time of peak vehicle accumulation on the site.	
Vehicle Repair Station	1 space per 40m <sup>2</sup> GFA OR	
	3 spaces per workshop bay WHICHEVER IS GREATER	
Veterinary Hospital	3 spaces per practitioner PLUS 1 space per employee	If it can be shown that not all surgeries will be in concurrent operation, consideration may be given to reducing the parking provision for clients. Parking areas for clients are to be located at the front of the development or in a location which will encourage them to use the parking area rather than the adjoining street.
Warehouses or Distribution Centre Freight Transport Facility	1 space per 300m <sup>2</sup> GFA OR 1 space per employee WHICHEVER IS GREATER	Adequate provision should be made for the manoeuvring, loading and unloading of vehicles on site.

Where there are no specifies rates listed above, refer to the RTA's *Guide for Traffic Generating Developments* or demonstrate requirement for parking will be met based on a Traffic Assessment Report, prepared by a suitably qualified consultant.

### FLOOD PROOFING CODE

Adequate flood proofing of buildings in flood liable areas is an effective and equitable means of reducing flood damage to the structure or buildings. It is essential that flood proofing be a condition of both compatible and conditional developments in flood liable areas.

### Construction Methods and Materials

Construction methods and materials are graded into four classes according to their resistance to floodwaters.

Suitable – the materials or products which are relatively unaffected by submersion and unmitigated flood exposure and are the best available for the particular application.

Mild effects – where the most suitable materials or products are unavailable or economic consideration prohibit their use, these materials or products are considered the next best choice to minimise the damage caused by flooding.

Marked effects – as for "2<sup>nd</sup> preference" but considered to be more liable to damage under flood conditions.

Severe effects – the materials or products listed here are seriously affected by floodwaters and in general have to be replaced if submerged.

### Electrical and Mechanical Equipment

For dwellings constructed on land to which this Policy applies, the electrical and mechanical materials, equipment and installation should conform to the following requirements.

Main power supply - Subject to the approval of the relevant power authority, incoming electricity mains, service equipment and meters shall be located 1m above the flood planning level. Means shall be available to easily disconnect the building from the main power supply.

Wiring - All wiring, power outlets, switches, etc, should, to the maximum extent possible, be located 1m above the flood planning level. All electrical wiring installed below the flood planning level should be suitable for continuous submergence in water and should contain no fibrous components. Only submersible-type splices should be used below the flood planning level. All conduits located below the relevant flood level should be so installed that they will be self-draining if subjected to flooding. Equipment - All equipment installed below or partially below the flood planning level should be capable of disconnection by a single plug and socket assembly.

Reconnection - Should any electrical device and/or part of the wiring be flooded it should be thoroughly cleaned or replaced and checked by an approved electrical contractor before reconnection.

### Heating and Air Conditioning Systems

Heating and air conditioning systems should, to the maximum extent possible, be installed in areas and spaces above the flood planning level. When this is not feasible every precaution should be taken to minimise the damage caused by submersion according to the following guidelines.

Fuel - Heating systems using gas or oil as a fuel should have a manually operated valve located in the fuel supply line to enable fuel cut-off.

Installation - The heating equipment and fuel storage tanks should be mounted on and securely anchored to a foundation pad of sufficient mass to overcome buoyancy and prevent movement that could damage the fuel supply line. All storage tanks should be vented to an elevation of 600 millimetres above the flood planning level.

Ducting - All ductwork located below the flood planning level should be provided with openings for drainage and cleaning. Self-draining may be achieved by constructing the ductwork on a suitable grade. Where ductwork must pass through a watertight wall or floor below the relevant flood level, the ductwork should be protected by a closure assembly operated from above the flood planning level.

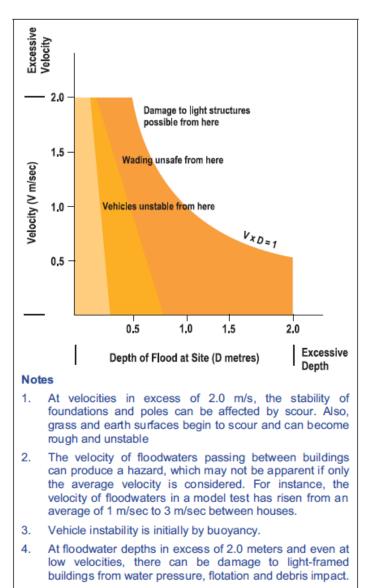
Services - All sewer connections to buildings on flood prone land are to be fitted with reflux valves to prevent backflow of sewage in a flood event. Appendix D - Flood Proofing Code

anadoad affanta		<ul> <li>g boarding,</li> <li>timber floor (18g boarding,</li> <li>timber close to ground surrounding base marine plywood) with ends</li> <li>timber flooring with calings or soffit linings only epoxy sealed on joints</li> <li>timber flooring with seal on top only and provision of side clearance for board swelling</li> </ul>	ous formed       - asphalt tiles with asphaltic       - carpeting, glue-down type or fixed with smooth adheatves         immed-in-       - loose fit mylon or accylic       - chipboard (particle board)         immed-in-       - loose fit mylon or accylic       - chipboard (particle board)         in chemical-       - undertay       - cinpoard (particle board)         in chemical-set       - conk       - conk         immed-in-       - linoleum       - conk         introleum       - innoleum       - endision cerments         immed-incal-set       - vinyl streets or tiles coated on cork or wood backings         iffue asphaltic       - fibre matting (sea- grass matting)         iffue acid and grout       - fibre matting (sea- grass matting)	ickwark or • brick or blockwork veneer • inaccessible cavities construction with inspection • large window openings openings	with • traditional timber roof • inaccessible flat roof • construction • construction • construction • ungalvanised steelwork lintels, arch bars, the rods, beams, etc. • unsecured roof tiles
rence	suitable mild effects	<ul> <li>concrete slab-on ground</li> <li>timber floor (&amp;g boarding, monolith construction</li> <li>timber floor (&amp;g boarding, marine plywood) full epoxy note: clay filling is not permitted</li> <li>tesaled joints</li> <li>sealed joints</li> <li>to an struction, which could be inundated</li> <li>suspension reinforced</li> <li>concrete slab</li> </ul>	<ul> <li>clay tiles</li> <li>concrete, precast or in situ</li> <li>concrete lies</li> <li>concrete lies</li> <li>concrete lies</li> <li>concrete lies</li> <li>concrete lies</li> <li>concrete lies</li> <li>commodiatex formed-in-place</li> <li>mastic flooring, formed-in-place</li> <li>mastic flooring, formed-in-place</li> <li>nubber sheets or tiles with</li> <li>sillcone floors formed-in-set adhesive</li> <li>vinyl sheets or tiles with</li> <li>vinyl sheets or tiles with</li> <li>vinyl sheets or tiles with</li> <li>or vinyl sheets or tiles with</li> <li>or vinyl sheets or tiles with</li> <li>sillcone floors formed-in-set adhesive</li> <li>sillcone floors formed-in-set adhesive</li> <li>sillcone floors formed-in-set adhesive</li> <li>vinyl sheets or tiles with</li> <li>or vinyl-set strees</li> <li>sillcone floors formed-in-set adhesive</li> <li>sillcone floors formed-in-set adhesive</li> <li>sillcone floors formed-in-set adhesive</li> <li>sillcone floors formed-in-set adhesive</li> <li>vinyl sheets or tiles with</li> <li>or set rubs</li> <li>set adhesive</li> <li>set adhesive&lt;</li></ul>	solid brickwork, blockwork,     two skins of brickwork or reinforced, concrete or mass blockwork with inspection concrete	reinfarced concrete     imber trusses with     construction     galvanised fittings     construction     construction
component		floor structure	floor covering	wall structure (up to the DFL)	roofing structure (for situations where DFL is about the ceiling

component	order of preference			
	suitable	mild effects	marked effects	severe effects
doors	<ul> <li>solid panel with water proof adhesives</li> <li>flush door with marine ply filled with closed cell foam</li> <li>pelinibid metal construction</li> <li>aluminum or galvanised</li> <li>steel frame</li> </ul>	<ul> <li>flush panel or single panel with marine plywood and water proof adheatve</li> <li>tãg lines door, framed ledged and braced</li> <li>painted steel</li> <li>timber frame fully epoxy sealed before assembly</li> </ul>	<ul> <li>fly-wire doors</li> <li>standard timber frame</li> </ul>	<ul> <li>hollow core ply with pva adhesives and honeycomb paper core</li> </ul>
wall and ceilings	<ul> <li>asbestos-cement board</li> <li>brick, face or glazed</li> <li>clay tile glazed in waterproof mortar</li> <li>concrete</li> <li>concrete block</li> <li>steel and waterproof applications</li> <li>steel and waterproof glass</li> <li>glass</li> <li>plastic sheeting or wall with waterproof adhesive</li> </ul>	<ul> <li>brick, common</li> <li>plastic wall tiles</li> <li>metals, non ferrous</li> <li>rubber mouldings and trim</li> <li>wood, solid or exterior grade</li> <li>plywood fully sealed</li> </ul>	<ul> <li>chipboard exterior grade</li> <li>hardboard exterior grade</li> <li>wood, solid (boards or timber) with allowance for swelling</li> <li>wood, plywood exterior grade</li> <li>fibrous plaster board</li> </ul>	<ul> <li>chipboard</li> <li>fibreboard panels</li> <li>mineral fibreboard</li> <li>paperboard</li> <li>paster-board, gypsum plaster</li> <li>vall coverings (paper, burtap cloth types)</li> <li>wood, standard plywood strawboard</li> </ul>
insulation	foam or closed cell types	<ul> <li>reflective insulation</li> </ul>	<ul> <li>bat or blanket types</li> </ul>	<ul> <li>open cell fibre types</li> </ul>
windows	<ul> <li>aluminum frame with stainless steel or brass rollers</li> </ul>	<ul> <li>epoxy sealed timber waterproof glues with stainless steel or brass fittings</li> <li>galvanised or painted steel</li> </ul>		<ul> <li>timber with pva glues mild steel fittings</li> </ul>
nails, bolls, hinges and fittings	<ul> <li>brass, nylon or stainless steel</li> <li>removable pin hinges</li> </ul>	<ul> <li>galvanised steel</li> <li>aluminum</li> </ul>		<ul> <li>mild steel</li> </ul>

# Flood Compatible Materials

Building Component	Flood Compatible Material
Flooring And Sub Floor Structure	pier and beam construction, or
	suspended reinforced concrete slab
Floor Covering	clay tiles concrete, precast or in situ
	concrete tiles
	epoxy, formed-in-place
	mastic flooring, formed-in-place
	rubber sheets or tiles with chemical set adhesives
	silicone floors formed-in-place
	vinyl sheets or tiles with chemical-set adhesive
	ceramic tiles, fixed with mortar or chemical set adhesive
	asphalt tiles, fixed with water resistant adhesive
	removable rubber-backed carpet
Wall Structure	solid brickwork, blockwork, reinforced, concrete
Doors	solid panel with water proof adhesives
	flush door with marine ply filled with closed cell foam
	painted material construction
	aluminium or galvanised steel frame
Wall And Ceiling Linings	brick, face or glazed
	clay tile glazed in waterproof mortar
	concrete
	concrete block
	steel with waterproof applications
	stone, natural solid or veneer, waterproof grout
	glass blocks
	glass
	plastic sheeting or wall with waterproof adhesive or mass concrete
Insulation	foam or closed cell types
Windows	aluminium frame
Nails, Bolts, Hinges And Fittings	galvanised with stainless steel
	removable pin or brass rollers hinges



Derived from laboratory testing and flood conditions which caused damage.

FIGURE L1 - Velocity & Depth Relationships