

**Weddin Shire**

# Local Flood Emergency Sub Plan



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# **WEDDIN SHIRE FLOOD EMERGENCY SUB PLAN**

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**A Sub Plan of the Local Emergency Management Plan (EMPLAN)**

**Volume 1 of the Weddin Shire Flood Emergency Sub Plan**

**Endorsed by the Weddin Shire Local Emergency Management Committee**

**12 December 2023  
Version 3.0**

# AUTHORISATION

The Weddin Shire Flood Emergency Sub Plan is a sub plan of the Weddin Shire Local Emergency Management Plan (EMPLAN). It has been prepared in accordance with the provisions of the **State Emergency Service Act 1989 (NSW)** and is endorsed by the Local Emergency Management Committee in accordance with the provisions of the **State Emergency and Rescue Management Act 1989 (NSW)**.

## Authorised

Signature:



\_\_\_\_\_  
*NSW SES Local/Unit Commander*

Print Name:

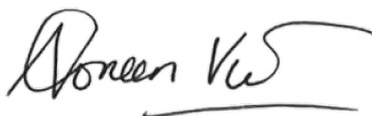
Benjamin Lavender  
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Date:

12 December 2023  
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## Endorsed

Signature:



\_\_\_\_\_  
*Chair, Local Emergency Management Committee*

Print Name:

Ms Noreen Vu  
\_\_\_\_\_

Date:

12 December 2023  
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## VERSION HISTORY

Version Number	Description	Date
1.0	Weddin Shire Local Flood Plan	June 2009
2.0	Weddin Shire Local Flood Plan	May 2015

## AMENDMENT LIST

Suggestions for amendments to this plan should be forwarded to:

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Amendments in the list below have been entered in this plan.

Amendment Number	Description	Updated by	Date

## DISTRIBUTION LIST

Available for general use and distribution on the NSW State Emergency Service website  
[www.ses.nsw.gov.au](http://www.ses.nsw.gov.au)

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# 1 OUTLINE AND SCOPE

## 1.1 PURPOSE

- 1.1.1 The purpose of this plan is to set out the multi-agency arrangements for the emergency management of flooding in the Weddin Shire Local Government Area (LGA).

## 1.2 AUTHORITY

- 1.2.1 This plan is written and issued under the authority of the [State Emergency and Rescue Management Act 1989 \(NSW\)](#) ('SERM Act'), the [State Emergency Service Act 1989 \(NSW\)](#) ('SES Act') and the NSW State Emergency Management Plan (EMPLAN).
- 1.2.2 This plan is a sub plan to the Weddin Shire Local Emergency Management Plan (EMPLAN) and is endorsed by the Local Emergency Management Committee (LEMC).

## 1.3 ACTIVATION

- 1.3.1 This plan does not require activation. The arrangements set out in this plan are always active.
- 1.3.2 The Weddin Shire Emergency Management Plan (EMPLAN) is active at all times in anticipation of the need to coordinate support and resources requested by combat agencies, including the NSW State Emergency Service (NSW SES).

## 1.4 SCOPE

- 1.4.1 The area covered by this plan is the Weddin Shire LGA. The Weddin Shire LGA and its principal towns, villages, rivers and creeks are shown in Appendix A.
- 1.4.2 The council area is in the NSW SES Southern Zone and for emergency management purposes, is part of the South Eastern Emergency Management Region.
- 1.4.3 The plan sets out the Weddin Shire level emergency management arrangements for prevention, preparation, response and initial recovery for flooding in the Weddin Shire LGA. Hazard and Risk information can be found in Volume 2 of this document, and NSW SES Response Arrangements can be found in Volume 3.
- 1.4.4 In this plan a flood is defined as a relatively high-water level which overtops the natural or artificial banks in any part of a stream, river, estuary, lake or dam, and/or local overland flooding associated with drainage before entering a watercourse, and/or coastal inundation resulting from super-elevated sea levels and/or waves (including tsunami) overtopping coastline defences.
- 1.4.5 This plan outlines the local level arrangements for the management of downstream consequences of flooding due to dam failure, however it does not cover the management of flooding of an underground mine by inrush or other cause, which should be covered by the Mine Emergency Sub Plan for the respective mine.

## **1.5 GOALS**

1.5.1 The primary goals for flood emergency management in NSW are:

- a. Protection and preservation of life.
- b. Establishment and operation of flood warning systems.
- c. Issuing of community information and community warnings.
- d. Coordination of evacuation and welfare of affected communities.
- e. Protection of critical infrastructure and community assets essential to community survival during an emergency incident.
- f. Protection of residential property.
- g. Protection of assets and infrastructure that support individual and community financial sustainability and aid assisting a community to recover from an incident.
- h. Protection of the environment and conservation values considering the cultural, biodiversity and social values of the environment.

## **1.6 KEY PRINCIPLES**

1.6.1 The protection and preservation of human life (including the lives of responders and the community) is the highest priority.

1.6.2 Evacuation is the primary response strategy for people impacted by flooding.

## **1.7 ROLES AND RESPONSIBILITIES**

1.7.1 General responsibilities of emergency service organisations and functional areas are set out in the NSW State EMPLAN and NSW State Flood Sub Plan.

1.7.2 Specific roles and responsibilities for agencies, functional areas and organisations in relation to flooding within Weddin Shire are detailed within this plan, Appendix B and Appendix C.

1.7.3 Any agency with agreed responsibilities in this plan that are temporarily unable or no longer able to fulfil their responsibilities in response operations must, as soon as possible, notify:

- a. The NSW SES Incident Controller (for local or zone level responsibilities during response operations).
- b. The NSW SES Zone Duty Commander (for regional level responsibilities outside of response operations).

## **1.8 PLAN MAINTENANCE AND REVIEW**

1.8.1 NSW SES will maintain the currency of this plan by:

- a. Ensuring that all supporting emergency services and functional areas, organisations and officers mentioned in it are aware of their roles and responsibilities.
- b. Conduct a minimum of one exercise every five years or within two years of the plan being reviewed.



- c. Reviewing the contents of the plan:
  - When there are changes which alter agreed plan arrangements.
  - When changes to land use strategic plans and policies increase the population at risk.
  - After a flood including recommendations from after action reviews, reports, or inquiries.
  - As determined by the NSW SES Commissioner.
- d. The plan is to be reviewed no less frequently than every five years or after a significant flood event.

## 1.9 SUPPLEMENTARY DOCUMENTS

- 1.9.1 Supplementary and supporting material of the Local Flood Emergency Sub Plan is maintained on the NSW SES website at: <https://www.ses.nsw.gov.au/about-us/flood-storm-and-tsunami-plans/> including:
- a. Flood Plan Glossary.
  - b. NSW SES Dam Failure Notification Flowchart.
  - c. NSW SES Resupply Flowchart.

## 2 OVERVIEW OF NSW FLOOD HAZARD AND RISK

### 2.1 THE FLOOD THREAT

- 2.1.1 NSW SES maintains information on the nature of flooding and effects of flooding on the community in the Weddin Shire LGA. This is outlined in Volume 2 – Hazard and Risk in Weddin Shire.
- 2.1.2 Declared dams in or upstream of the Weddin Shire Local Government Area.

Dam Name	Owner	High Risk Dam
Company Dam	Weddin Shire Council	No
Broula King gold Mine Tailings Dam	Broula King Joint Venture Pty Ltd	No
Broula King gold Mine Tailings 2 Dam	Broula King Joint Venture Pty Ltd	No

## 3 PREVENTION/ MITIGATION

### 3.1 INTRODUCTION

- 3.1.1 The Floodplain Risk Management Manual outlines the NSW Government’s Flood Prone Land Policy which details the framework for managing flood prone land in New South Wales. Incorporation of floodplain risk management into land use planning is one of the key means to limit the exposure to flood risks to our communities and help build long term resilience to future flood events.

## 3.2 LAND USE PLANNING

3.2.1 **Strategy:** Effective land use planning is a key focus for minimising the impacts of flooding. NSW SES will work with land use planning and consent authorities to inform and influence the consideration of the risks arising from flood, storm and tsunami to prevent the creation of intolerable impacts of these hazards on the community.

**Actions:**

- a. NSW SES will provide strategic input about land use planning matters which have or will create significant flood risk to life and/or property due to flooding.
- b. NSW SES will provide responses to land use planning proposal referrals that have or will create significant flood risk to life and/or property due to flooding.

## 3.3 FLOODPLAIN RISK MANAGEMENT

3.3.1 **Strategy:** Advocate for consideration of emergency management in decision making to reduce risks to the existing community and minimise the growth in future, continuing and residual risk due to development through input to the floodplain management program.

**Actions:**

- a. NSW SES will provide coordinated and consistent emergency management advice to councils and other agencies in relation to the management of land that is subject to flooding.
- b. NSW SES will provide advice, support, technical resources and training for NSW SES representatives to contribute effectively on local Floodplain Risk Management Committees.

# 4 PREPARATION

## 4.1 INTRODUCTION

4.1.1 Preparation includes arrangements or plans to deal with an emergency or the effects of an emergency.

## 4.2 FLOOD EMERGENCY PLANNING

4.2.1 **Strategy:** NSW SES develop, review and maintain Flood Emergency Sub Plans.

**Actions:**

- a. Develop and review this NSW SES Local Flood Emergency Sub Plan as required. Local Flood Emergency Sub Plans outline the specific arrangements for management of flood events within an LGA and may include cross boundary arrangements.
- b. Review plans as per [Section 1.8](#).

4.2.2 Local EMPLAN Consequence Management Guides (CMG's) for flood are not required for communities covered by NSW SES Local Flood Emergency Sub Plans

however may be utilised in place of Local Flood Emergency Sub Plan if agreed to by NSW SES.

### **4.3 FLOOD INTELLIGENCE SYSTEMS**

4.3.1 **Strategy:** NSW SES develop and maintain a flood intelligence system to identify flood behaviour, its impact on the community and required response actions.

**Actions:**

- a. Gather and assess flood information for the full range of flood types and severities.
- b. Collect, collate, and assess information on the characteristics of communities at risk and the potential effects of flooding on communities at risk.
- c. Share flood intelligence information with supporting agencies.

### **4.4 DEVELOPMENT OF WARNING SYSTEMS**

4.4.1 **Strategy:** Develop, maintain and prepare systems for the provision of flood warnings and associated warning services.

**Actions:**

- a. All levels of government work in partnership to develop and maintain flood warning infrastructure.
- b. NSW SES maintains a list of the requirements for flood warnings for flood gauges in NSW (including flood classifications, warning times required and key statistics) and can be found in the supplementary document to the NSW State Flood Plan (see Section 1.9). Gauges of relevance within the Weddin Shire LGA are also listed in Volume 3 of this plan.
- c. NSW SES will recommend new warning services and changes to warning alert levels for gauges to the NSW and ACT Flood Warning Consultative Committee.
- d. The State Government, in partnership with Local Government, is responsible for developing and maintaining flash flood warning systems for local catchments where required.
- e. Dam Owners will provide Dam Emergency Plans (where required) and consult with NSW SES on alert levels and messaging. Alert level definitions are listed in Dam Emergency Plans.
- f. NSW SES maintains a dedicated dam failure hotline and procedures to ensure priority dissemination of dam failure warnings.
- g. NSW SES develops and maintains warning and flood information products by:
  - Utilising flood intelligence data.
  - Developing warning and flood information products.
  - Continuously reviewing warning and flood information products.
  - Consulting with affected communities, key stakeholders, Dam Safety NSW and the NSW and ACT Flood Warning Consultative Committee and maintains Operational Readiness.

- Participating in the development of public information and warning systems.
- h. Gauge owners adequately maintain flood warning gauges and systems, including those identified in the 'Service Level Specification' maintained by the Bureau of Meteorology (Bureau) and those identified in the 'Provision and Requirements for Flood Warning in New South Wales' maintained by NSW SES.

## 4.5 BRIEFING, TRAINING AND EXERCISING

4.5.1 **Strategy:** Ensure NSW SES, supporting agencies, functional areas and the community are prepared and familiar with the strategies and arrangements within the Flood Emergency Sub Plan and supporting documents.

**Actions:**

- a. NSW SES will consult stakeholders throughout the development of plans.
- b. NSW SES will inform stakeholders of content changes after revisions.
- c. NSW SES will ensure their facilities and resources are maintained and operationally ready.
- d. NSW SES will train personnel for their expected flood operation roles.
- e. NSW SES will regularly brief stakeholders on the exercise arrangements contained in the NSW Flood Emergency Sub Plan.

## 4.6 COMMUNITY RESILIENCE TO FLOODING

4.6.1 **Strategy:** NSW SES provides and maintains a flexible volunteer workforce to support community resilience.

**Actions:**

- a. Ensure ongoing recruitment and training of a diverse range of volunteers.
- b. Ensure pre-planning to facilitate the management of spontaneous volunteers and community members during a flood.

4.6.2 **Strategy:** NSW SES works with individuals, communities, businesses and government agencies to build flood resilience.

**Actions:**

- a. Partners with and engage communities to understand and manage the risks associated with floods, including providing business continuity guidance (NSW SES Business FloodSafe), family preparedness (NSW SES Home FloodSafe) and other engagement strategies.
- b. NSW SES will collate, assess and disseminate flood information to the community.
- c. Collaborate with individuals, businesses, government agencies and communities when developing flood intelligence, preparedness and response information.
- d. Plan for floods collaboratively with communities through community and stakeholder participation and engagement.

- e. Collaborate with community sector and recognise the needs of individuals within communities who have an increased susceptibility during floods.

## 5 RESPONSE

### 5.1 INTRODUCTION

5.1.1 Flood response operations will begin:

- a. On receipt of a Bureau Severe Weather Warning or Thunderstorm Warning that includes heavy rain or storm surge; or
- b. On the receipt of a Bureau Flood Watch or Flood Warning; or
- c. On receipt warnings for flash flood; or
- d. On receipt of a dam failure alert; or
- e. When other evidence leads to an expectation of flooding.

### 5.2 INCIDENT MANAGEMENT ARRANGEMENTS

5.2.1 **Strategy:** Maintain effective control of flood operations across NSW.

**Actions:**

- a. NSW SES uses the Australasian Inter-service Incident Management System (AIIMS) to manage the flood response.
- b. Control of flood response will be at the lowest effective level and may be scaled to suit the incident.
- c. The NSW SES State Controller (or delegate) will appoint Incident Controllers and establish Incident Control Centres (see NSW SES facilities on map in Appendix A).
- d. The NSW SES Incident Controller, in consultation with participating supporting emergency services and functional areas will determine the appropriate breakdown of an Area of Operations into Divisions and/or Sectors in accordance with the principles of AIIMS.

5.2.2 **Strategy:** Maintain Incident Control Centre(s).

**Actions:**

- a. NSW SES will operate Incident Control Centre(s) as required.
- b. The NSW SES Incident Control Centre(s) will:
  - Control resources from NSW SES and coordinate resources of supporting emergency services and functional areas.
  - Manage incident tasking and ensure they are actioned in a timely manner.
  - Undertake response planning and determine future resourcing requirements.

- Coordinate information flow, including warnings, public information and social media.

5.2.3 **Strategy:** Provide effective liaison between NSW SES and supporting agencies or functional areas in accordance with the local EMPLAN.

**Actions:**

- Supporting emergency services and functional areas should provide Liaison Officers to NSW SES Incident Control Centre(s) and/or Emergency Operation Centres as required.
- NSW SES will provide Liaison Officer(s) to Emergency Operations Centres as required.
- Where possible Emergency Operation Centres are to be co-located with NSW SES Incident Control Centres for Flood Emergency Response.

5.2.4 **Strategy:** Coordinate resources and logistics support to ensure operational effectiveness.

**Actions:**

- The NSW SES Incident Controller will notify agencies of potential access issues between locations, for the consideration of pre-deploying of resources.
- NSW SES may request resources and logistics support directly from a supporting emergency service or functional area.
- Wherever possible, supporting organisations are to provide their own logistic support in consultation with NSW SES where appropriate.
- The NSW SES Incident Controller will control air support operations and may utilise supporting agencies in the management of aircraft.

### 5.3 USE OF INFORMATION AND COLLECTION OF INTELLIGENCE

5.3.1 **Strategy:** Ensure flood information is effectively utilised, communicated and collected during and post a flood.

**Actions:**

- Information relating to the consequences of flooding, response strategies, situational awareness and operational updates will be distributed by NSW SES to supporting emergency services and functional areas listed under this plan.
- All supporting emergency services and functional areas and Council will accurately record and report information relevant to their activities and any real time flood information (including road closure information) to the NSW SES Incident Controller. This may be in the form of a combined Emergency Operations Centre (EOC) report, or direct from agencies where an EOC has not been established.
- NSW SES may establish and operate a Joint Intelligence Unit to coordinate the collection, collation, interpretation, mapping, actioning and dissemination of information.

- d. Reconnaissance, mapping, damage assessments, intelligence validation and post flood evaluation will be coordinated by NSW SES. This may occur post impact and continue into the recovery phase.
- e. NSW SES may request the Engineering Services Functional Area to assist with the gathering of flood intelligence including (not limited to) maximum flood extents, peak flood heights, recording major flood damage at key high velocity locations and preparation of the after-flood report.

5.3.2 **Strategy:** Ensure flood intelligence is incorporated into operational decision-making.

**Action:** NSW SES will use flood intelligence, official forecasts, warnings, and flood scenario products to undertake an assessment of the predicted impact of a flood and to inform operational decision-making.

## 5.4 PROVISION OF INFORMATION AND WARNINGS TO THE COMMUNITY

5.4.1 **Strategy:** Timely and effective warnings are distributed to the community.

### **Actions:**

- a. The Bureau issues public weather and flood warning products before and during a flood. These may include:
  - Severe Thunderstorm Warnings – Detailed - issued for all capital cities and surrounding areas when individual severe thunderstorms are within range of the capital city radars.
  - Severe Thunderstorm Warnings - Broad-based - issued for the entire Australian state or territories affected highlighting broad areas where severe storms may occur within the next 3 hours.
  - Severe Weather Warnings with reference to heavy rainfall and/or storm surge.
  - Flood Watches.
  - Flood Warnings.
- b. Dam Owners will utilise the Dam Emergency Plan to provide warnings and information to NSW SES and communities (where appropriate).
- c. NSW SES Incident Controllers will issue the following NSW SES Flood Warnings aligning to the Australian Warning System:
  - Advice.
  - Watch and Act
  - Emergency Warning
- d. NSW SES liaises with the Bureau to discuss the development of flood warnings as required.
- e. NSW SES provides alerts and deliver flood information to affected communities using a combination of public information.

- f. NSW SES may request supporting agencies redistribute NSW SES alerts and information, including through the provision of doorknocking teams.
- g. Road closure information will be provided to the community through the following agencies/methods:
  - Local Government websites.
  - Weddin Shire Council Website
  - Transport for NSW 'Live Traffic' website: [www.livetraffic.com](http://www.livetraffic.com) or 'Transport Info Line': 131 500. VMS messaging on roadways may also be used to advise motorists.
  - Addition to OneRoad portal
- h. The Public Information and Inquiry Centre will be established by NSW Police Force where required to provide information regarding evacuees and emergency information. Contact details will be broadcast once the centre is established.
- i. The Disaster Welfare Assistance Line will be established by Disaster Welfare Services Functional Area where required to provide information on welfare services and assistance. Assistance line contact details will be broadcast once Disaster Welfare services commence.

## 5.5 PROTECTION OF PROPERTY

5.5.1 **Strategy:** Coordinate the protection of property from destruction or damage arising from floods.

**Action:** NSW SES, supporting agencies, and community volunteers will assist the community (where resources are available, feasible and safe to do so) in:

- a. The protection of properties including critical infrastructure through flood protection systems (e.g. sandbagging) to minimise entry of water into buildings.
- b. The raising or moving of household furniture and commercial stock/equipment.

## 5.6 ROAD AND TRAFFIC CONTROL

5.6.1 **Strategy:** Coordinate the closing and re-opening of flood affected roads.

**Actions:**

- a. Weddin Shire Council will coordinate the closure and reopening of council managed roads once inspections have been carried out by the relevant authority.
- b. Transport for NSW will coordinate the closure and reopening of the state road network.
- c. NSW Police Force may close and re-open roads but will normally only do so (if the Weddin Shire Council or Transport for NSW have not already acted and if public safety requires such action).



- d. NSW SES will assist with erecting road closure signs and barriers when time and resources permit.

5.6.2 **Strategy:** Coordinate traffic control measures in flood affected areas.

- a. The NSW SES Incident Controller may direct the imposition of traffic control measures into flood affected areas in accordance with the provisions of the *State Emergency Service Act, 1989* and the *State Emergency Rescue Management Act, 1989*.
- b. The NSW SES Incident Controller may request the Local Emergency Operations Controller provide suitable personnel to assist with traffic coordination.

## 5.7 PROTECTION OF ESSENTIAL SERVICES

5.7.1 Arrangements for the protection of local assets are outlined in Volume 3 of this NSW SES local Flood Emergency Sub Plan. In addition, Local and Region EMPLAN's contain infrastructure inventories.

5.7.2 **Strategy:** Minimise disruption to the community by ensuring protection of infrastructure and supply of essential energy, utility services and lifelines.

### **Actions:**

- a. The Transport Services Functional Area is to coordinate the provision of information about the assessment and restoration of transport network infrastructure.
- b. The Energy and Utility Services Functional Area is to coordinate the assessment and restoration of essential energy and utility services (not including telecommunications).
- c. The Telecommunications Services Functional Area is to coordinate the assessment and restoration of telecommunications and the Public Safety Network.
- d. The Engineering Services Functional Area is to:
  - Coordinate the assessment and restoration of critical public buildings for example hospitals.
  - Assessment and operation of flood protection levees.
  - Protection of property.
  - Construction and repair of levees.
  - Dam safety assessment and dam stability.
  - Water supply and sewerage operations.
  - Other critical infrastructure.
- e. The Functional Areas and Council will keep NSW SES informed of the status of utilities and infrastructure.

## 5.8 EVACUATION

5.8.1 Evacuation is NSW SES' primary response strategy for managing the population at risk of flooding.

5.8.2 Community specific evacuation arrangements are located in Volume 3 of this Plan.

5.8.3 **Strategy:** Conduct planning to ensure all evacuation constraints are considered.

**Actions:**

- a. Evacuations will take place when there is a risk to public safety. Circumstances may include:
  - Evacuation of people when their homes or businesses are likely to flood.
  - Evacuation of people who are unsuited to living in isolated circumstances, due to flood water closing access.
  - Evacuation of people where essential energy and/or utility services are likely to fail or where buildings have been or may be made uninhabitable.
- b. NSW SES will consider the following in evacuation decisions:
  - Duration of evacuation.
  - Characteristics of the community.
  - Numbers requiring evacuation.
  - Availability of evacuation routes and transport.
  - The ability for existing levees or other flood protection works to fulfil their intended function.
  - Time available for evacuation.
  - Evacuee management requirements.
  - Resources and delivery of evacuation information.
  - Length of isolation.
- c. NSW SES Incident Controllers, planning and intelligence officers will carefully consider the risks involved in conducting evacuations.
- d. All evacuation decisions will be made as per the current NSW SES policies and procedures, and consistent with the NSW Evacuation Management Guidelines.
- e. Potential Evacuation Centres are located in Volume 3 / Local EMPLAN.
- f. NSW Police Force will coordinate the provision of overall security for evacuated areas.

5.8.4 **Strategy:** Evacuate people pre-emptively from dangerous or potentially dangerous places and or locations created by the flood hazard to safe locations away from the hazard.

- a. NSW SES will control and coordinate the evacuation of affected communities.
- b. The NSW SES Commissioner (or delegate) will warn communities to prepare for a possible evacuation, where circumstances allow such lead time.
- c. The NSW SES Commissioner (or delegate) will order any necessary evacuations and provide information to the community about when and how to evacuate.

- d. Support to evacuation operations may be requested from other emergency services and supporting agencies using arrangements in the local EMPLAN and supporting plans.
- e. The Health Services Functional Area will coordinate the evacuation of hospitals, health centres and aged care facilities (including nursing homes) in consultation with NSW SES and the Welfare Services Functional Area.
- f. School administration offices (Government and Private) will coordinate the evacuation of schools in consultation with NSW SES and Welfare Services, if not already closed.
- g. Caravan Park proprietors will inform the NSW SES Incident Controller when caravan park evacuations have been completed.
- h. People who are reluctant or refuse to comply with any Emergency Warning will be referred to NSW Police Force.

## **5.9 EVACUEE MANAGEMENT AND WELFARE**

5.9.1 Research and experience in flood operations shows that most evacuees go to family, friends and commercial accommodation outside the impact area.

5.9.2 **Strategy:** Maintain the welfare of communities and individuals affected by the impact of a flood.

### **Actions:**

- a. NSW SES will provide initial welfare for evacuees where required but will hand the responsibility over to the Welfare Services Functional Area as soon as possible. NSW SES will brief the Welfare Services Functional Area at the earliest opportunity regarding the level of assistance required.
- b. The Welfare Services Functional Area will manage evacuation centres for affected residents and travellers in accordance with the Welfare Services Functional Area Supporting Plan.
- c. Schools Administration (Government and Private) will manage the safety of students directly affected by flooding and will work with NSW SES in the temporary closure of schools and will coordinate with NSW SES, Transport and Welfare Services Functional Areas in the management of school evacuees.
- d. Disaster Victim Registration will be controlled and coordinated by NSW Police Force with the assistance of NSW SES and the Welfare Services Functional Area.
- e. NSW SES will provide details of all residents assisted in evacuations to the Welfare Services Functional Area as early as possible.
- f. Where the expected remaining number of evacuees and the duration of evacuation is assessed to be beyond the capability and capacity of the established evacuation centre arrangements the State Emergency Operations Controller (SEOCN) may establish Major Evacuation Centres or Mass Care facilities.
- g. The decision to establish Major Evacuation Centres or Mass Care Facilities will be made by NSW SES and SEOCN in consultation with members of the State Emergency Management Committee (SEMC).

5.9.3 **Strategy:** Coordinate available and accessible health services for flood affected communities.

**Action:** The provision of environmental health advice, assessment of public health risks and coordination of immediate mental health support will be provided by the Health Services Functional Area.

5.9.4 **Strategy:** Maintain the welfare of animals impacted by a flood.

**Actions:**

- a. The Agriculture and Animal Services Functional Area will coordinate the welfare of livestock, pets, companion animals and wildlife including support to primary producers, animal holding establishments and community members.
- b. The Agriculture and Animal Services Functional Area role will coordinate the evacuation, emergency care of animals and assessment, humane destruction and disposal of affected animals, and supply of emergency fodder, water and aerial support where necessary.

## 5.10 FLOOD RESCUE

5.10.1 **Strategy:** Control and coordinate flood rescue of people and domestic animals.

**Actions:**

- a. NSW SES will perform flood rescue, where training and equipment is suitable and where a risk assessment has indicated that the risk to rescuers is acceptable.
- b. Flood rescue operations will be conducted in accordance with the State Rescue Board NSW State Rescue Policy which sets out the framework, governance, responsibilities and requirements for the management and conduct of flood rescue in NSW.
- c. NSW SES may request other supporting emergency services to undertake flood rescues on behalf of NSW SES. Agencies must be authorised/accredited to undertake flood rescue operations in accordance with State Rescue Board requirements, as prescribed by NSW SES. Supporting emergency services must supply information regarding rescues performed to NSW SES. Notification arrangements with NSW Police Force are outlined in the State Rescue Board NSW State Rescue Policy.
- d. Rescue agencies will conduct rescue of domestic small and large animals as per the State Rescue Board NSW State Rescue Policy (and may include large animal rescue of family horses and cows at a residence or property). The rescue of livestock (which includes commercial animals found on farming and breeding enterprises) will be coordinated through the Animal and Agriculture Services Functional Area.

## 5.11 RESUPPLY

5.11.1 **Strategy:** Coordinate resupply to towns and villages isolated by flooding to minimise disruption to the community.

**Actions:**

- a. NSW SES will advise communities and businesses if flood predictions indicate that areas are likely to become isolated, and indicative timeframes where possible.
- b. Retailers should be advised to ensure sufficient stock is available for the duration of the flood.
- c. When isolation occurs, NSW SES will establish loading points where retailers can instruct suppliers to deliver goods.
- d. NSW SES will endeavour to support the delivery of mail to isolated communities but may not be able to do so according to normal Australia Post timetables.
- e. NSW SES will assist hospitals with resupply of linen and other consumables where able.
- f. NSW SES may request resupply assistance from supporting agencies.
- g. NSW SES may conduct resupply operations as per the designated resupply plan for the event.
- h. Where additional supplies are required, Engineering Services Functional Area will be requested to coordinate the supply of goods and services in response to and recovery from the emergency.

5.11.2 **Strategy:** Coordinate resupply to rural properties isolated by flooding.

**Actions:**

- a. When requested, NSW SES will establish a resupply schedule and coordinate the resupply for isolated rural properties.
- b. NSW SES will provide local suppliers with designated loading points. Resupply items are to be packaged by the supplier.
- c. Isolated households unable to afford resupply items will be referred to the Welfare Services Functional Area for assistance.

## 5.12 RETURN

5.12.1 **Strategy:** Coordinate the return of communities to flood affected areas when the immediate danger to life and property has passed.

**Actions:**

- a. The NSW SES Incident Controller will determine when it is safe to progressively return in consultation with the relevant Emergency Operations Controller and supporting agencies considering the ongoing risk to public safety.
- b. The NSW SES Incident Controller will specify the level of access to affected communities as the following:
  - Not suitable for access; or
  - Limited access by emergency services and response agencies; or
  - Limited access by residents and/or business operators; or
  - Full access.

- c. The NSW SES Incident Controller will issue an Advice Warning advising “Reduced Threat: Return with Caution” when the immediate danger to life and property has passed for areas.
- d. NSW SES will facilitate the return of evacuees to their homes.

## **5.13 END OF RESPONSE OPERATIONS**

5.13.1 **Strategy:** Conclude response operations.

**Actions:**

- a. Response operations will conclude when:
  - There is a reduced likelihood of additional flooding within the Area of Operation and flood waters have receded.
  - All requests for assistance related to the flood have been completed.
  - The need for warning and evacuation no longer exists.
  - There is no further likelihood of rescuing people.
  - Resupply is no longer required (resupply operations may occur concurrently with the recovery phase).
  - Response to fire and hazardous material incidents have concluded (not including subsequent clean-up of contaminated sites).
  - All affected areas have had an ‘Reduced threat: Return with Caution’ issued.

## **5.14 POST IMPACT ACTIONS**

5.14.1 **Strategy:** Learnings from the event are used to inform recovery and future events.

**Actions:**

- a. NSW SES will continue to engage with communities after significant floods through convening one or more community forums, workshops or other opportunities to provide communities a chance to provide feedback, address any concerns and provide input into the recovery process. These will typically include other agencies such as the Bureau, the Welfare Services Functional Area and Weddin Shire Council representatives.
- b. NSW SES will conduct After Action Reviews, at the conclusion of response operations, which will involve all stakeholders. Findings will be shared and incorporated into improved disaster resilience planning.
- c. NSW SES will provide information and data throughout the emergency response to inform community recovery. A report will be developed at the request of the SERCON at the conclusion of the response within an area. Should a response summary report be required it will include the following:
  - The emergency action plan in place at conclusion of the response emphasising any continuing activities including community meetings/ engagement activities.

- Resources allocated to the emergency response and associated exit strategies.
- Details of any areas or situations with potential to re-escalate the emergency.
- A recommendation for the conclusion of NSW SES as lead agency to transition to NSW Reconstruction Authority as the lead agency for recovery.
- Any actions that are incomplete or outstanding.
- Damage assessment data and Information obtained throughout the response phase which will further support the long-term recovery of communities.

d. NSW SES will undertake/coordinate a comprehensive review of intelligence and plans following significant flood events.

5.14.2 **Strategy:** Participate in post flood data collection analysis.

**Actions:** NSW SES works with relevant stakeholders and Weddin Shire Council on post flood data collection analysis including review of flood intelligence where necessary.

## 6 RECOVERY OPERATIONS

### 6.1 INTRODUCTION

6.1.1 Recovery is the process of returning an affected community to its proper level of functioning after an emergency. It will generally commence simultaneously with the Response phase.

6.1.2 Recovery operations will be initiated and conducted as outlined in the NSW State EMPLAN and as further detailed in the NSW Recovery Supporting Plan.

### 6.2 NSW SES RECOVERY ROLE

6.2.1 **Strategy:** NSW SES will support recovery operations and established Recovery Committees.

6.2.2 **Actions:**

- a. NSW SES will provide representation to Recovery Committees as required and may have an ongoing role in the Recovery phase.
- b. NSW SES roles on Recovery Committees may include providing information about any continuing response, guidance on mitigation strategies and general advice and assistance to the committee as a subject matter specialist and or expert.
- c. NSW SES will provide information to NSW Reconstruction Authority to support applications to Treasury for Natural Disaster Relief and Recovery Arrangements.

- d. NSW SES, in conjunction with a Recovery Committee, will provide a service to support the information needs of a community immediately following a flood.
- e. NSW SES and where required supporting agencies will assist with clean-up operations after floods, where possible when resources and personnel permit.
- f. NSW SES may coordinate immediate relief in collaboration with SEOCAN and State Emergency Recovery Controller (SERCON).

## 7 ABBREVIATIONS

For a full list of abbreviations refer to the NSW State Flood Plan – Abbreviations.

## 8 GLOSSARY

Common emergency service terminology can be found within the Australian Disaster Resilience Glossary.

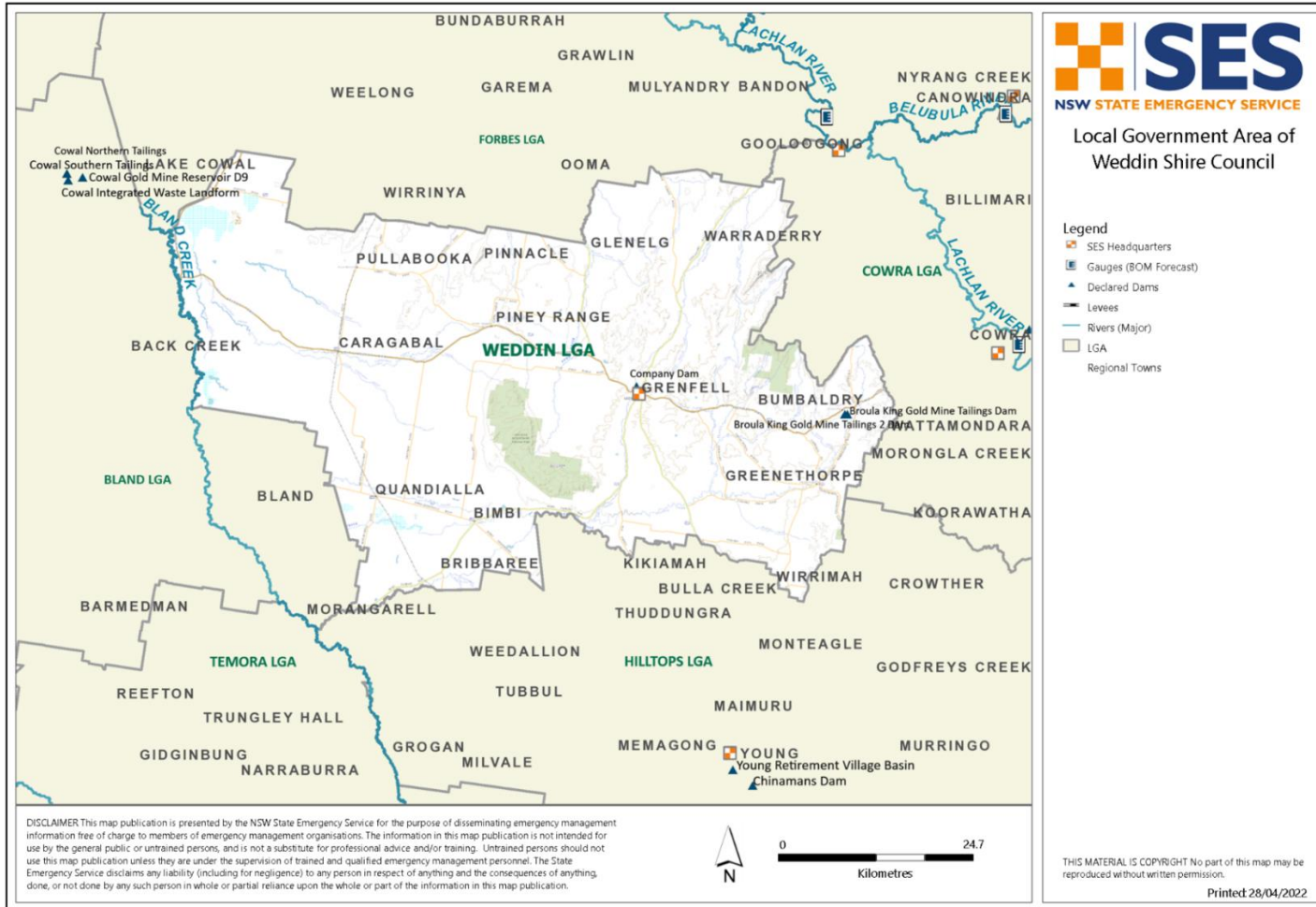
Readers should refer to EMPLAN Annex 9 – Definitions.

Refer to the NSW State Flood Plan for a complete glossary of terminology used throughout this plan and within NSW SES Flood Plans.

**For a full list of definitions refer to the Supporting Document - State Flood Plan Glossary**  
<https://www.ses.nsw.gov.au/media/2650/glossary.pdf>



# 9 Appendix A – Map of Weddin Shire Council Area



## 10 Appendix B – Roles and Responsibilities

AGENCY	RESPONSIBILITIES
NSW State Emergency Service	NSW SES is the designated Combat Agency for floods, storms and tsunami and controls response operations. NSW SES roles and responsibilities in relation to floods are outlined in the <a href="#">NSW State Flood Plan</a> .

AGENCY	RESPONSIBILITIES
Agriculture and Animal Services Functional Area	The roles and responsibilities for Agriculture and Animal Services are outlined in the Agriculture and Animal Services Supporting Plan and NSW State Flood Plan.
Australian Government Bureau of Meteorology	The roles and responsibilities for the Australian Government Bureau of Meteorology (Bureau) are outlined in the NSW State Flood Plan.
Caravan Park Proprietor(s)	<ul style="list-style-type: none"> <li>• Prepare a flood emergency plan for the caravan park.</li> <li>• Ensure that owners and occupiers of movable dwellings are aware that the caravan park is flood liable by providing a written notice to occupiers taking up residence and displaying this notice and emergency management arrangement within the park.</li> <li>• Ensure that owners and occupiers of movable dwellings are aware that if they are expecting to be absent for extended periods, they should:             <ul style="list-style-type: none"> <li>– Provide the manager of the caravan park with a contact address and telephone number in case of an emergency.</li> <li>– Leave any movable dwelling in a condition allowing it to be relocated in an emergency (i.e.: should ensure that the wheels, axles and draw bar of the caravans are not removed and are maintained in proper working order).</li> </ul> </li> <li>• Ensure that occupiers are informed of Flood Information. At this time, occupiers should be advised to:             <ul style="list-style-type: none"> <li>– Ensure that they have spare batteries for their radios.</li> <li>– Listen to a local radio station for updated flood information.</li> <li>– Prepare for evacuation and movable dwelling (cabins) relocation.</li> </ul> </li> <li>• Ensure that owners and occupiers of caravans are aware of what they must do to facilitate evacuation and movable dwelling relocation when flooding occurs.</li> <li>• Coordinate the evacuation of people and the relocation of movable dwellings when floods are rising and their return when flood waters have subsided. Movable dwellings will be relocated back to the caravan park(s) by owners or by vehicles and drivers arranged by the park managers.</li> </ul>

AGENCY	RESPONSIBILITIES
	<ul style="list-style-type: none"> <li>• Secure any movable dwellings that are not able to be relocated to prevent floatation.</li> <li>• Inform NSW SES of the progress of evacuation and/or movable dwellings relocation operations and of any need for assistance in the conduct of these tasks.</li> </ul>
<b>Childcare Centres and Preschools</b>	<ul style="list-style-type: none"> <li>• When notified of possible flooding or isolation, childcare centres and preschools should: <ul style="list-style-type: none"> <li>– Liaise with NSW SES and arrange for the early release of children whose travel arrangements are likely to be disrupted by flooding and/or road closures.</li> <li>– Assist with coordinating the evacuation of preschools and childcare centres.</li> </ul> </li> </ul>
<b>Dams Safety NSW</b>	The roles and responsibilities for Dams Safety NSW (formerly NSW Dam Safety Committee) are outlined in the NSW State Flood Plan.
<b>Department of Defence</b>	Arrangements for Defence Assistance to the Civil Community are detailed within the State EMPLAN (section 448).
<b>Energy and Utilities Services Functional Area</b>	<p>The roles and responsibilities for Energy and Utilities Services are outlined in the Energy and Utility Services Supporting Plan (EUSPLAN).</p> <p>Roles and responsibilities in addition to the supporting plan are:</p> <ul style="list-style-type: none"> <li>• Assist NSW SES with identification of infrastructure at risk of flood damage where resources are available.</li> <li>• Facilitate local utility service distribution providers (electricity, gas, water, wastewater) to: <ul style="list-style-type: none"> <li>– Provide advice to NSW SES of any need to disconnect power/gas/water/wastewater supplies or of any timetable for reconnection.</li> <li>– Advise NSW SES of any hazards from utility services during flooding and coastal erosion/inundation.</li> <li>– Advise the public regarding electrical hazards during flooding and coastal erosion/inundation, and to the availability or otherwise of the electricity supply.</li> <li>– Clear or make safe any hazard caused by power lines or electricity distribution equipment.</li> <li>– Reconnect customers’ electrical/ gas/ water/wastewater installations, when certified safe to do so and as conditions allow.</li> <li>– Assist NSW SES to identify infrastructure at risk of flooding for incorporation into planning and intelligence.</li> </ul> </li> </ul>
<b>Engineering Services Functional Area</b>	The roles and responsibilities for Engineering Services functional Area are outlined in the Engineering Services Supporting Plan and NSW State Flood Plan.

<b>AGENCY</b>	<b>RESPONSIBILITIES</b>
<b>Environmental Services Functional Area</b>	The roles and responsibilities for Environmental Services are outlined in the Environmental Services (ENVIROPLAN) Supporting Plan.
<b>Floodplain Management Australia</b>	The roles and responsibilities for Floodplain Management Australia are outlined in the NSW State Flood Plan.
<b>Fire and Rescue NSW</b>	The roles and responsibilities for Fire and Rescue NSW are outlined in the NSW State Flood Plan.
<b>Forestry Corporation of NSW</b>	The roles and responsibilities for Forestry Corporation of NSW are outlined in the NSW State Flood Plan.
<b>Health Services Functional Area</b>	The roles and responsibilities for Health Services Functional Area are outlined in the Health Services (HEALTHPLAN) Supporting Plan and NSW State Flood Plan.
<b>Local Emergency Operations Controller (LEOCON)</b>	<ul style="list-style-type: none"> <li>• Monitor flood operations.</li> <li>• If requested, coordinate support for the NSW SES Incident Controller.</li> </ul>
<b>Local Emergency Management Officer (LEMO)</b>	<ul style="list-style-type: none"> <li>• If requested by the NSW SES Incident Controller, advise appropriate agencies and officers of the start of response operations.</li> </ul>
<b>Manly Hydraulics Laboratory (MHL)</b>	The roles and responsibilities for Manly Hydraulic Laboratory are outlined in the NSW State Flood Plan.
<b>Marine Rescue NSW</b>	The roles and responsibilities for Marine Rescue NSW are outlined in the NSW State Flood Plan.
<b>NSW Ambulance</b>	The roles and responsibilities for NSW Ambulance are outlined in the Health Services (HEALTHPLAN) Supporting Plan and NSW State Flood Plan.
<b>NSW Department of Education, Association of Independent Schools of NSW, and National Catholic Education Commission</b>	The roles and responsibilities for NSW Department of Education, Association of Independent Schools of NSW, and National Catholic Education Commission are outlined in the NSW State Flood Plan.
<b>NSW Department of Planning and Environment (Environment and Heritage Group)</b>	The roles and responsibilities for NSW Department of Planning and Environment (Environment and Heritage Group) are outlined in the NSW State Flood Plan (referred to as DPIE EES).
<b>NSW Department of Planning and Environment (Water)</b>	The roles and responsibilities for NSW Department of Planning and Environment (Water) are outlined in the NSW State Flood Plan.
<b>NSW Food Authority</b>	The roles and responsibilities for NSW Food Authority are outlined in the Food Safety Emergency Sub Plan.
<b>NSW National Parks and Wildlife Services</b>	The roles and responsibilities for NSW National Parks and Wildlife Services are outlined in the NSW State Flood Plan.

<b>AGENCY</b>	<b>RESPONSIBILITIES</b>
<b>NSW Police Force</b>	The roles and responsibilities for NSW Police Force are outlined in the NSW State Flood Plan.
<b>NSW Reconstruction Authority</b>	The roles and responsibilities for NSW Reconstruction Authority are outlined in the NSW State Flood Plan.
<b>NSW Rural Fire Service</b>	The roles and responsibilities for NSW Rural Fire Service are outlined in the NSW State Flood Plan.
<b>Owners of Declared Dams within or upstream of the LGA</b>	The roles and responsibilities for owners of declared dams are outlined in the NSW State Flood Plan.
<b>Public Information Services Functional Area</b>	The roles and responsibilities for Public Information Services Functional Area are outlined in the Public Information Services Supporting Plan and NSW State Flood Plan.
<b>State Emergency Operations Controller (SEOC)</b>	The roles and responsibilities for the SEOC are outlined in the NSW State Flood Plan.
<b>Surf Life Saving NSW</b>	The roles and responsibilities for Surf Life Saving NSW are outlined in the NSW State Flood Plan.
<b>Telecommunications Services Functional Area</b>	The roles and responsibilities for Telecommunications Services Functional Area are outlined in the Telecommunications Services (TELCOPLAN) Supporting Plan.
<b>Transport for NSW</b>	<ul style="list-style-type: none"> <li>• Transport for NSW coordinates information on road conditions for emergency services access.</li> <li>• Transport for NSW coordinates the management of the road network across all modes of transport.</li> <li>• Transport for NSW in conjunction will assist NSW SES with the evacuation of at-risk communities by maintaining access and egress routes.</li> <li>• Assist NSW SES with the communication of flood warnings and information provision to the public through Live Traffic and Social Media according to the VMS protocols and procedures.</li> <li>• Assist NSW SES with identification of road infrastructure at risk of flooding.</li> </ul>
<b>Transport Services Functional Area</b>	The roles and responsibilities for Transport Services Functional Area are outlined in the Transport Services Functional Area Supporting Plan and NSW State Flood Plan.
<b>VRA Rescue NSW</b>	The roles and responsibilities for VRA Rescue NSW are outlined in the NSW State Flood Plan.
<b>Water NSW</b>	The roles and responsibilities for Water NSW are outlined in the NSW State Flood Plan.
<b>Weddin Shire Council</b>	<b>Preparedness</b>

AGENCY	RESPONSIBILITIES
	<ul style="list-style-type: none"> <li>• Establish and maintain floodplain and coastal risk management committees and ensure that key agencies are represented.</li> <li>• Develop and implement floodplain risk management plans in accordance with the NSW Government’s Flood Prone Land Policy and the Floodplain Risk Management Manual.</li> <li>• Provide levee studies, flood studies and floodplain management studies to NSW SES.</li> <li>• Maintain Dam Emergency Plans for the Company Dam and provide copies to NSW SES.</li> <li>• Provide information on the consequences of dam failure to NSW SES for incorporation into planning and flood intelligence.</li> <li>• Maintain council-owned flood warning networks and flood mitigation works.</li> <li>• Participate in NSW SES-led flood emergency planning meetings, to assist in the preparation of Flood Sub Plans.</li> <li>• Maintain a plant and equipment resource list for the council area.</li> <li>• Contribute to community engagement activities.</li> </ul> <p><b>Response</b></p> <ul style="list-style-type: none"> <li>• Subject to the availability of council resources, assist NSW SES with flood operations including: <ul style="list-style-type: none"> <li>– Traffic management on council managed roads.</li> <li>– Provision of assistance to NSW SES (plant, equipment and personnel where able and requested).</li> <li>– Property protection tasks including sandbagging.</li> <li>– Assist with the removal of caravans from caravan parks.</li> <li>– Warning and/or evacuation of residents and other people in flood liable areas.</li> <li>– Provision of back-up radio communications.</li> <li>– Resupply of isolated properties.</li> <li>– Technical advice on the impacts of flooding.</li> <li>– Close and reopen council roads (and other roads nominated by agreement with Transport for NSW) and advise NSW SES, NSW Police Force and people who contact the council for road information.</li> <li>– Assist NSW SES to provide filled sandbags and filling facilities to residents and business in areas which flooding is expected.</li> </ul> </li> <li>• Assist with making facilities available for domestic pets and companion animals of evacuees during evacuations.</li> </ul>

AGENCY	RESPONSIBILITIES
	<ul style="list-style-type: none"> <li>• Operate flood mitigation works including critical structures such as detention basins and levees and advise NSW SES regarding their operation.</li> <li>• Manage and protect council-owned infrastructure facilities during floods.</li> <li>• Provide advice to NSW SES and the Health Services Functional Area during floods about key council managed infrastructure such as sewerage treatment and water supply.</li> <li>• Advise the Environmental Protection Authority of any sewerage overflow caused by flooding.</li> <li>• Work with NSW SES and NSW Department of Planning and Environment to collect flood related data during and after flood events.</li> </ul> <p><b>Recovery</b></p> <ul style="list-style-type: none"> <li>• Provide for the management of health hazards associated with flooding including removing debris and waste.</li> <li>• Ensure premises are fit and safe for reoccupation and assess any need for demolition.</li> <li>• Provide services, assistance and advice to State Government in accordance with the State Recovery Plan.</li> </ul>
<b>Welfare Services Functional Area</b>	The roles and responsibilities for Welfare Services Functional Area are outlined in the Welfare Services Functional Area Supporting Plan and NSW State Flood Plan.

## 11 Appendix C – Community Specific Roles and Responsibilities

<b>Community Members</b>	<p><b>Preparedness</b></p> <ul style="list-style-type: none"> <li>• Understand the potential risk and impact of flooding.</li> <li>• Prepare homes and property to reduce the impact of flooding.</li> <li>• Understand warnings and other triggers for action and the safest actions to take in a flood.</li> <li>• Households, institutions and businesses develop plans to manage flood risks, sharing and practicing this with family, friends, employees and neighbours.</li> <li>• Have an emergency kit.</li> <li>• Be involved in local emergency planning processes.</li> </ul> <p><b>Recovery</b></p> <ul style="list-style-type: none"> <li>• Assist with community clean-up if required and able to do so.</li> <li>• Participate in After Action Reviews if required.</li> </ul>
<b>Private Companies or other Organisations</b>	<p>Stevens Sand and Gravel  Address: Memory St, Grenfell NSW 2810  Phone: (02) 6343 1311</p> <ul style="list-style-type: none"> <li>• Assist with the provision of; <ul style="list-style-type: none"> <li>- Sand and sandbagging.</li> </ul> </li> </ul>
<b>Service and Sporting Clubs</b>	<p>Grenfell Bowling Club</p> <ul style="list-style-type: none"> <li>• Assist with; <ul style="list-style-type: none"> <li>- Catering</li> </ul> </li> </ul>
<b>Communication</b>	<ul style="list-style-type: none"> <li>• NSW SES Facebook</li> <li>• Weddin Shire Council Facebook</li> <li>• Weddin Shire Council Website</li> <li>• Addition to OneRoad portal</li> <li>• Roccoy FM</li> </ul>



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# HAZARD AND RISK IN WEDDIN SHIRE

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**Volume 2 of the Weddin Shire Local Flood Plan**

**Last Update: August 2017**

## AUTHORISATION

The Hazard and Risk in Weddin Shire has been prepared by the NSW State Emergency Service (NSW SES) as part of a comprehensive planning process. The information contained herein has been compiled from the latest available technical studies.

Approved



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Manager Emergency Risk Management

Date: 2-8-17

Approved



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NSW SES Lachlan Region Controller

Date: 31.07.17

Tabled at LEMC

Date: 30 August 2017

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## VERSION LIST

The following table lists all previously approved versions of this Volume.

Description	Date
Weddin Shire Local Flood Plan – Annexes A and B	June 2009
Weddin Shire Local Flood Plan Volume 2	August 2016

## AMENDMENT LIST

Suggestions for amendments to this Volume should be forwarded to:

The Grenfell Local Controller

NSW State Emergency Service

55 Matthews Street, PARKES NSW 2870

Amendments promulgated in the amendments list below have been entered in this Volume.

Amendment Number	Description	Updated by	Date

*Document Issue: Version 3-02052016*

# 1 THE FLOOD THREAT

## 1.1 OVERVIEW

- a. Weddin Shire Local Government Area (LGA) is located in Central West NSW and includes the township of Grenfell and villages of Bimbi, Caragabal, Greenethorpe and Quandialla.

## 1.2 LANDFORMS AND RIVER SYSTEMS

- a. Weddin Shire LGA lies within the Lachlan River basin however the Lachlan River does not traverse the LGA. Instead, it lies to the north in the adjoining Forbes and Cowra Shires.

### Lachlan River Valley

- b. Grenfell is drained by several streams which have their headwaters in the foothills to the north of the town and flow in a generally south to south-westerly direction through the urban areas, eventually discharging to Burrangong Creek, which in turn discharges to Bland Creek (1).
- c. Burrangong Creek forms part of the LGA's boundary to the south east. Bland Creek forms part of the LGA's boundary to the north west. The major tributaries within the LGA include Caragabal Creek, Wah Way Creek, Sandhill Plain Creek, Clearys Creek, Back Creek, Tyagong Creek, Makers Creek, Ironpot Creek, Bungalong Creek, Murrays Creek, Brundah Creek, Keewong Creek and Kellys Creek (1).
- d. Approximately north of the Mid-Western Highway the creeks flow northward towards Goobang Creek, which flows into the Lachlan River at Jemalong (in Forbes LGA). Tributaries include Back Creek, Pinnacle Creek, Bald Hills Creek, Spring Creek, Stump Hole Creek, Red Creek and Back Creek which flow into Ooma Creek. Mulyandry Creek, Warraderry Creek, Native Dog Creek and Peaks Creek flow northward in the LGA to contribute to the flows of Goonigal Creek which then flows into Lachlan River downstream of Gooloogong (1).
- e. There are nine drainage lines running through the town of Grenfell. These drainage lines have been given the following names and are described in detail below (1):
  - i. The Company Dam Tributary (upstream of Company Dam)
  - ii. The Company Dam Overflow (downstream of the dam)
  - iii. Star Gully
  - iv. Star Gully Tributary
  - v. Gooloogong Tributary

- vi. Emu Creek
- vii. Emu Creek Tributary
- viii. O'Brien Tributary
- ix. Southern Tributary.

**Company Dam Tributary and Overflow**

- f. Company Dam Tributary is located on the western side of town about one kilometre north of Grenfell and has a catchment area of about 3.1 square kilometres at the dam. The dam was constructed in 1867 and is an earth fill dam of 200 metres embankment length and retains a volume of 95 Megalitres at full supply level (1).
- g. Downstream of the dam, the Company Dam Overflow runs in a southerly direction for a distance of about 1.25 kilometres crossing North Street, Melyra Street and the Mid-Western Highway - also known as Grafton Street, before joining the right (northern) bank of Emu Creek just upstream of Camp Street. The total catchment area of Company Dam Overflow at the junction, including the area draining to the dam, amounts to 4.1 square kilometres (1).

**Star Gully and Star Gully Tributary**

- h. These catchments are located on the eastern side of town. Star Gully rises in the foothills to the north-east of Star Street and crosses Star Street and Sullivan Street in before entering the channel running westwards along the northern side of North Street. Flows from the local sub-catchment to the east of Warraderry Street join Star Gully via a culvert. The combined flows are then conveyed westwards through culverts opposite Warraderry Street and further downstream at Parkes Street (1).
- i. On the eastern side of Gooloogong Road, flows from the sub catchment to the north of town are conveyed by a tributary denoted the Star Gully Tributary and join the Star Gully channel. This tributary flows westwards across Parkes Street before turning southwards and flowing over a weir to join the main arm of Star Gully. The combined flow then runs under the Gooloogong Road and joins the Gooloogong Tributary (1).
- j. The total catchment area of Star Gully at the junction with the Gooloogong Tributary amounts to 3.85 square kilometres (1).

**Gooloogong Tributary**

- k. This tributary drains the area to the north of town centred on the Gooloogong Road. The main drainage line runs southwards on the western side of the road to a small dam located in the golf course and continues across rural lands and crosses the stock route to join Star Gully at the intersection of North Street and Forbes Street.
- l. The catchment area of the Gooloogong Road Tributary at the junction with Star Gully amounts to 2.8 square kilometres.

**Emu Creek and Emu Creek Tributary**

- m. Emu Creek is assumed to commence at North Street immediately downstream of the junction of Star Gully and Gooloogong Road Tributary (1).
- n. Emu Creek runs in a south-westerly direction across town, crossing Forbes Street in a culvert and further downstream crosses Melyra Street and Dalton Street (1).
- o. Flows heading westwards along the southern side of Melyra Street in a box culvert join Emu Creek immediately downstream of the culverts running beneath the road (1).
- p. Further downstream, flows from Emu Creek are conveyed beneath Alexandra Street and the Mid-Western Highway, before joining the Company Dam Overflow on the upstream side of Camp Street (1).
- q. The total catchment area upstream of this junction is 13.1 square kilometres (1).
- r. Emu Creek continues beneath Brundah Street and as a causeway across Bradley Street. Emu Creek Tributary which drains the rural lands on the western side of town joins the main stream about 500 metres downstream of Bradley Street. This tributary crosses the Mid-Western Highway and Manganese Road and has a catchment area of 2.3 square kilometres at the junction (1).
- s. Emu Creek continues southwards for a further 0.8 kilometres, running on the western side of the Sewage Treatment Plant to cross Holy Camp Road (1).
- t. The total catchment area of Emu Creek and its tributaries at this point is 15.9 square kilometres (excluding the Southern Tributary described below) (1).

**O'Brien Tributary**

- u. This catchment rises in the rural areas on the eastern side of Warraderry Street, where the catchment area amounts to one square kilometre (1).
- v. West of Warraderry Street, flows are conveyed in an underground drainage system which runs in a north-westerly direction across the intersection of East and Camp Streets and continues across Short and Nash Streets, running along the southern side of Melyra Street to outfall into Emu Creek. The O'Brien Street Tributary has a catchment area of about 1.6 square kilometres at this location (1).

**The Southern Tributary**

- w. The Southern Tributary rises in the foothills on the eastern side of the Koorawatha-Grenfell railway. Flows from a portion of the catchment are deflected northwards by the railway embankment and eventually are discharged to the western side of the railway by a piped culvert. These discharges flow across Lawson Park and under Henry Lawson Way. Two other culverts convey flows from the remainder of the catchment beneath Henry Lawson Way (1).



- x. The Southern Tributary flows westwards across rural lands, crossing West Street South, Berrys Road and Bimbi Road, and across an unsealed road near the Sewage Treatment Plant, before turning southwards and crossing Holy Camp Road east of the Emu Creek culvert (1).
- y. The total catchment area of the Southern Tributary at Holy Camp Road is four square kilometres (1).

### 1.3 STORAGE DAMS

- a. Dam locations are shown on the Lachlan River Basin Map.

**Table 1: Prescribed Dams in Weddin Shire LGA; summary of information about each storage.**

<b>Company Dam (2)</b>	
Owner / Operator	Weddin Shire Council
Description of Dam	Company Dam consists of a homogeneous earth fill embankment, approximately 5 metres high with a crest 120 metres long and 8 to 9 metres wide. The upstream and downstream slopes are covered in vegetation. The storage capacity at Full Supply Level (FSL) is about 95ML and it has a catchment area of 3.5 square kilometres. A spillway is located on the right (western) abutment and consists of a concrete basin, approximately 27 metres wide. A fuse plug has been constructed on the eastern end of the dam (2).
Location	Company Dam is located on a tributary of Emu Creek approximately 1 kilometre north west of Grenfell.
Communities Downstream	Grenfell township. Several houses in the vicinity of the intersection of Bradley and North Streets may be flooded from overflow.
Monitoring System	There is no monitoring network or instrumentation for Company Dam. There is a seepage weir below the dam, which is monitored by Council during periods of inclement weather, and the dam is assessed for leakages (2)
Warning System	The dam utilises red alert to trigger warning of residents downstream.
Other	Travel times following dam failure are in the order of minutes before floodwaters reach properties in Grenfell township (2)

- b. The LGA has three other prescribed dams:
  - i. Broula King Gold Mine Tailings – owned by Broula King Joint Venture P/L; Located on Tyagong Creek at Bumbaldry; storage capacity of 25 Megalitres.
  - ii. Broula King Gold Mine Tailings 2 – owned by Broula King Joint Venture P/L; Located on Tyagong Creek at Bumbaldry; storage capacity of 25 Megalitres.
  - iii. Warraderry Street Detention Basin- owned by Weddin Shire Council, located to the east of Grenfell adjacent to the Community Home on Sullivan Street.

## 1.4 WEATHER SYSTEMS AND FLOODING

- a. High rainfalls over the Lachlan River Valley are usually generated from either of two meteorological conditions.
  - i. In warmer months of the year, spring and summer, heavy falls occur over the upper catchment areas when a depression forms to the north of the valley. These depressions result in a moist northerly airstream west of the Divide, usually forming in a trough extending from the north of the continent southwards. In the vicinity of the depression intense short-period rainfalls may occur (3).
  - ii. In the cooler months of the year, autumn and winter, high monthly rainfalls may result when a series of well-developed troughs associated with southern depressions cross the region causing several substantial falls in one month (4).
- b. It is the latter of the above two meteorological conditions that usually has greater influence on flooding within the Lachlan River Valley. By nature of its direction of movement, from west to east, the depression usually results in significant rainfall over the entire valley, saturating the downstream catchments and creating increased river flows before the occurrence of the intense rainfall over the upper catchment areas. As a result the Lachlan River and its tributaries will be already experiencing substantially higher flows when the discharges from the upper catchments pass through Wyangala Dam (3).

## 1.5 CHARACTERISTICS OF FLOODING

- a. With the exception of a dam failure, all flooding in the area covered by this plan is flash flooding. The Bureau provides warnings of extreme weather conditions that can cause a rapid rise in creek levels and any flooding and inundation is normally of short duration (4).
- b. There are no river level gauges in the Weddin Shire, however there is a rainfall gauge in Grenfell (Gauge No. 073014) which is read daily at 0900 hours. Rainfall gauges nearby are located at Cowra to the east, West Wyalong to the west, Forbes to the north and Young to the south.

## 1.6 FLOOD HISTORY

### Grenfell

- a. A major storm event occurred on 21 April 1990 in Grenfell with the inundation of the Emu Creek Floodplain, with flows extending into residential areas bordering the creeks (1). A total of 202 millimeters was reported to have occurred in the week prior to the flood (1). The flood lasted for a duration of two hours, the rainfall burst

- may have lasted for up to one hour and may therefore have been in excess of a 100 year ARI rainfall event (1).
- b. The north ends of Sullivan and Warraderry Streets were flooded due to surcharging of the stream denoted the Star Gully. This drainage line is of limited capacity and flooding extended into North Street, which became a floodway for flows surcharging the channel (1).
    - i. Floodwaters from the stream denoted the O'Brien Tributary flowed through the allotments on the eastern side of Warraderry Street. Some of the floodwaters overtopped the crown of the road and continued westwards to the intersection of Camp Street and East Street. It is possible that a portion of the flow travelled northwards along Warraderry Street to Melyra Street and then westwards along that street.
    - ii. The flow travelling overland along the O'Brien Gully, which could not enter the covered channel due to a lack of inlet capacity, continued across Short Street and into Melyra Street and George Street. The indoor cricket centre and several properties in Melyra Street were also flooded.
    - iii. Flooding was also reported due to surcharging of Emu Creek in the Mid-Western Highway Area.
    - iv. The stream denoted the "Company Dam Overflow" also overflowed and several houses in the vicinity of the intersection of Bradley and North Streets were evacuated. The Company Dam would have been filled by runoff from the previous days' rainfalls and would not have significantly attenuated peak flows from the catchment.
  - c. Several low lying allotments were flooded in the November 2010 storm (which resulted from 160 millimetres of rain over a 48 hour period) (1). This included the Gooloogong Tributary at Bourks Street. Surcharge of the creek occurred in November 2010, because of obstructions in the channel and partial blockage of the culvert from sediment build-up. The resulting overland flows damaged a residential property on the downstream side of the road (1).
  - d. In September 2016, one dwelling in East Street (near the corner of North Street) was flooded by over 150 millimetres deep water; with an additional two dwellings on East Street either side of this house threatened with floodwater. The floodwater came down the laneway between East Street. In 2016, a block of units flooded on Tyagong Street near Grafton Street. In addition a number of yards flooded in this area (5).

#### **Bimbi**

- e. April 1990 – 35 people had to be evacuated due to inundation. Bimbi – Caragabal Road was inundated with water and was impassable. 50 head of cattle and 250

sheep were trapped between the Burrangong Creek and Bimbi Road (6). Rising flood waters in the Burrangong Creek resulted in the evacuation of the Bimbi town residents. Sandbagging occurred in the Bimbi area to provide protection to properties (4). Rising floodwaters in the Dick's Bridge area (Emu Creek) resulted in the Bimbi Road becoming impassable for high clearance vehicles and hampered evacuation of the Bimbi town (4). Following this event significant road works have been undertaken including replacing and raising the bridge across Burrangong Creek.

- f. September 2016 – Four homes were inundated by up to 300 millimetres. Flood waters are reported to have been strong and fast flowing, with a sheet of water flowing across the paddocks into the village quickly. The Newell Highway, Henry Lawson Way, New Forbes Road, Mid Western Highway, Bimbi-Quandialla Road, Quandialla-Caragabal Road, Gooloogong Road and Mary Gilmore Way were flooded for up to two weeks; however no isolation occurred in this event (5).

#### **Caragabal**

- g. April 1990 (6) – two properties were evacuated when the Barbingal Creek bursts its bank caused by the back-up of water from the flooded Bland Creek preventing local floodwaters from clearing the Caragabal area (4). Floodwaters were reported to have inundated the Caragabal School and highway. Homesteads on the Pullabooka Road were isolated and property protection was required (4).
- h. In September 2016, a dwelling on Quandialla-Caragabal Road was threatened with floodwater, requiring evacuation as well as the school (5).
- i. Other significant floods are reported to have occurred in the wet year 1931, but there is no quantitative data available for those events (4).

## **1.7 FLOOD MITIGATION SYSTEMS**

- a. Warraderry Street Detention Basin is located in the north-east of Grenfell, which is also a prescribed dam. It is adjacent to the Community Home on Sullivan Street. No dam failure information is currently available.

## **1.8 EXTREME FLOODING**

- a. It is possible for events exceeding the magnitude of flooding experienced in recorded history, however such flooding occurs very rarely. These events would inundate a significant amount of residences, streets and facilities.
- b. A flood of a particular Annual Exceedance Probability (AEP) has that percentage chance each year of being reached or exceeded at the specified gauge location. The lower the AEP, the higher and more severe the flood and the longer the ARI. The 'extreme flood' would be very rare. The values given are estimates for the worst

flood possible. Such a flood might be expected to occur only once every 10,000-1,000,000 years. Floods of these magnitudes are still possible within our lifetime.

- c. For planning to be capable of being effective in all circumstances, it must take into account the worst floods that could occur. Information about the full range of possible flooding is obtained from studies. The greatest depth of rainfall possible over a given area in a nominated time period (e.g. 24 hours or 72 hours) is called the Probable Maximum Precipitation (PMP). The highest possible flood level is called the probable maximum flood (PMF).
- d. Rainfall heavy enough to support the idea of PMP has been observed in various places around the world including Australia (Wollongong 1984 – 440 millimetres in six hours over a 100 square kilometre area). Flood records from around the world demonstrate that PMF events have occurred.
- e. A PMF would see at least 154 residential, 46 commercial and 12 public building inundated above floor in Grenfell and the town would be cut in two. This would also cause disruption of transport networks, including the Mid-Western Highway (1).

## 2 EFFECTS ON THE COMMUNITY

### 2.1 COMMUNITY PROFILE

Table 2: Census of Housing and Population data (2011)

Census Description	Weddin LGA	Grenfell	Bimbi	Caragabal	Quandialla
<b>Total Persons</b>	<b>3,665</b>	<b>2,578</b>	<b>166</b>	<b>200</b>	<b>312</b>
Aged 0-15 yrs	683	463	78	110	179
Aged 65 + yrs	865	700	19	14	43
Of Indigenous Origin	67	32	4	0	3
Who do not speak English well	0	0			
Have a need for assistance (profound/severe disability)	257	195	10	4	17
Living alone (Total)	437	362	-	-	-
Living alone (Aged 65+)	229	208	-	-	-
Residing in caravans, cabins or houseboats or improvised dwellings	10	4	-	-	-
<b>Occupied Private Dwellings (Households)</b>	<b>1,503</b>	<b>1,089</b>	<b>78</b>	<b>110</b>	<b>179</b>
No Motor Vehicle	96	89			
Caravan, cabin, houseboat or improvised dwell	6	0	0	0	3
Rented via State or Housing Authority	21	19	-	-	-
Rented via Housing Co-Op or Community Church Group	28	26	-	-	-
No Internet Connection	467	372	-	-	-
<b>Unoccupied Private Dwellings</b>	<b>286</b>	<b>123</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Average persons per occup dwelling</b>	<b>2.3</b>	<b>2.3</b>	<b>2.6</b>	<b>2.7</b>	<b>2.5</b>
<b>Average vehicles per occup dwelling</b>	<b>1.9</b>	<b>1.7</b>	<b>-</b>	<b>-</b>	<b>-</b>

## SPECIFIC RISK AREAS - FLOOD

### 2.2 GRENFELL

#### 2.2.1 Community Overview

- a. Grenfell is the main town in the Weddin Shire LGA, servicing surrounding rural communities. It is located on the Mid-Western Highway (HW6) about 55 kilometres west of Cowra. It is situated beside Emu Creek which rises in the hills to the north of the town.
- b. The population is about 2583 persons. Its demographic characteristics are summarised in table 2 (7).

#### 2.2.2 Characteristics of flooding

- a. Emu Creek and other local unnamed town creeks rise rapidly and flood low lying areas and generally dissipate very quickly (4).

#### 2.2.3 Flood Behaviour

- a. The north ends of Sullivan and Warraderry Streets are at risk of inundation due to surcharging of Star Gully. The grassed drainage swale conveying flows on this tributary is of limited capacity and flooding extends into Warraderry Street, as well as North Street which becomes a floodway for flows surcharging the swale (1).
- b. Floodwaters from the O'Brien Tributary flow through the residential allotments on the eastern side of Warraderry Road, in particular the Oliver Court development. Floodwaters overtop the crown of the road and continue westwards and northwards to the intersection of Camp Street and East Street. The piped drainage system which conveys flows from the O'Brien Tributary downstream of Camp Street is of limited capacity and most of the flow is conveyed through Emu Creek residential and commercial areas as shallow overland flow to Melyra Street, eventually discharging westwards along that street to Emu Creek (1).
- c. Flooding also occurs in the Mid-Western Highway area due to surcharging of the Emu Creek and Company Dam overflow crossings. Breakouts from the creek occur at North Street with flow travelling southwards as overland flow towards Melyra Street (1). A backwater area develops upstream of Melyra Street during the 1% AEP flood (1).
- d. Other areas more remote from the creeks are affected by surcharges of the local stormwater drainage system, which mainly comprises table drains along road reserves, as well as short sections of pipelines leading to the creeks (1).

- e. Generally if it rains heavily on the eastern side of the town, the Service Station on Warraderry Street is usually inundated (5). If it rains in the north, the Grafton Street causeway (near Alexandra Street) area floods (5).

#### **2.2.4 Classification of Floodplain**

- a. South and east of Grenfell bowling club has rising road access up to a PMF (1).
- b. North and West of the bowling club, the properties have overland escape routes (1).

#### **2.2.5 Inundation**

- a. There are no warning gauges for the Grenfell community.
- b. During major floods inundation of commercial properties upstream of the highway would be expected (1). Residential properties in the low lying area at the intersection of the Warraderry Street and North Street may be flooded from Star Gully (1).
- c. The flood in 2010 resulted in 12 residential allotments being inundated, following rainfall total of approximately 160 millimetres over 48 hours (8).
- d. In September 2016, one dwelling in East Street (near the corner of North Street) was flooded by over 150 millimetres deep water; with an additional two dwellings on East Street either side of this house threatened with floodwater. The floodwater came down the laneway between East Street. In 2016, a block of units flooded on Tyagong Street near Grafton Street. In addition a number of yards generally flood in this area (5).
- e. Noting that gauge heights are not available, properties which may be inundated above floor in design floods in Grenfell include those located on Bradley Street, Brundah Street, Camp Street, Dalton Street, Davies Place, East Street, Grafton Street, Manganese Road, Melyra Street, Memory Street, North Street, South Street, Star Street, northern Sullivan Street, Tyagong Road, Warraderry Street (1):
  - i. 8 residential, 1 commercial and 2 public in a 5% AEP event.
  - ii. 14 residential, 6 commercial and 2 public in 2% AEP event.
  - iii. 28 residential, 6 commercial and 4 public in 1% AEP event.
  - iv. 154 residential, 46 commercial and 12 public in a PMF.

#### **2.2.6 Isolation**

- a. Grenfell does not become isolated, as access remains to the east.

#### **2.2.7 Flood Mitigation Systems**

- a. Warraderry Street Detention Basin is located in the north-east of the township, which is also a prescribed dam. No dam failure information is currently available.



### **2.2.8 Dams**

- a. Failure of Company Dam, in Grenfell failure with a PMF would result in 82 houses flooded (2). Road inundation and closures would include the Mid-Western Highway (HW6) at the east and west of town as well as those streets adjacent to the drainage systems south and west of Grenfell. Refer to section 1.3 for further information.

### **2.2.9 At Risk Facilities**

- a. The facilities that are at risk of flooding and/or isolation within the Weddin Shire LGA including schools, child care centres, hospitals, aged and infirm, infrastructure and caravan parks are shown in Annex 2.

### **2.2.10 Other Considerations**

- a. Grenfell hosts the Henry Lawson Festival in mid-June, annually. It is estimated that about 8,000 persons attend the street parade on the Saturday of the festival (9).

## **2.3 BIMBI**

### **2.3.1 Community Overview**

- a. Bimbi is a village located about 33 km south west of Grenfell along the Mary Gilmour Way. The town has a population of around 150 persons with demographics summarised in table 2 (10).

### **2.3.2 Characteristics of flooding**

- a. The village is subject to flash flooding from Burrangong Creek which historically has lasted a few hours (4). The village experiences significant amounts of runoff from the Weddin Range to the north east (5).

### **2.3.3 Flood Behaviour**

- a. No information is currently available.

### **2.3.4 Classification of Floodplain**

- a. No information is currently available.

### **2.3.5 Inundation**

- a. Bimbi is located within 100 metres of the Burrangong Creek which in extreme floods can inundate a majority of the houses up to a depth of 0.3 metres. In the April, 1990 storm event the town was evacuated (4) and in September 2016, four homes were flooded (5).

### **2.3.6 Isolation**

- a. Bimbi would have the potential to be isolated in severe floods if overland flooding coincides with creek flooding; this includes the closure of Mary Gilmore Way (which can exceed 40 centimetres), Thuddungra Road, Quandialla Road (sheets of water over long distances) and Nowlands Road (5).

### **2.3.7 Flood Mitigation Systems**

- a. No known flood mitigation systems have been identified.

### **2.3.8 Dams**

- a. No known effects have been identified for dam failure.

### **2.3.9 At Risk Facilities**

- a. The facilities that are at risk of flooding and/or isolation within the Weddin Shire LGA including schools, child care centres, hospitals, aged and infirm, infrastructure and caravan parks are shown in Annex 2.

### **2.3.10 Other Considerations**

- a. No other considerations have been identified.

## 2.4 QUANDIALLA

### 2.4.1 Community Overview

- a. Quandialla is a rural village located about 65 kilometres south west of Grenfell along the Mary Gilmour Way. It has a population of about 350 persons (7).

### 2.4.2 Characteristics of Flooding

- a. Flood waters in Quandialla may persist for a days to weeks due to the flat terrain (1).
- b. Some roads become impassable and movement in and out of the village could be houses. Water restricted to high clearance vehicles (4).
- c. Flooding in Quandialla is “flash flooding” in nature from Wah Way Creek and Back Creek as well as large drains throughout the town including local roads acting as flood conveyance and can also lead to flood water backing up the roads into levels generally rise to their peaks between one and three hours depending on location within the catchment and the duration of the storm (1).

### 2.4.3 Flood Behaviour

- a. Wah Way Creek runs to the north of the town. A swamp area lies to the south, on Morang Road.

### 2.4.4 Classification of Floodplain

- a. No information is currently available.

### 2.4.5 Inundation

- a. In September 2016, flooding threatened a rural property on Quandialla Road on Back Creek as well as a dwelling on Grahams Lane (5).

### 2.4.6 Isolation

- a. Rural properties Quandialla Road, Holy Camp Road, Mary Gilmore Way and Eualdrie Road are at risk of isolation (with water surrounding the houses) (5).

### 2.4.7 Flood Mitigation Systems

- a. No known flood mitigation systems have been identified.

### 2.4.8 Dams

- a. No known effects have been identified for dam failure.

#### **2.4.9 At Risk Facilities**

- a. The facilities that are at risk of flooding and/or isolation within the Weddin Shire LGA including schools, child care centres, hospitals, aged and infirm, infrastructure and caravan parks are shown in Annex 2.

#### **2.4.10 Other Considerations**

- a. No other considerations have been identified.

## 2.5 CARAGABAL

### 2.5.1 Community Overview

- a. Caragabal is a rural village about 44 km west of Grenfell on the Mid-Western Highway (HW6). It has a population of 214 persons with demographics summarised in table 2 (7).

### 2.5.2 Characteristics of Flooding

- a. Caragabal Creek lies to the south and enters the town from the east via a culvert under the railway line. The railway line dams the water to such an extent that it floods the creek crossing on the Quandialla/Caragabal Road to a depth of up to three metres (4).
- b. Flooding on the streams is “flash flooding” in nature, with water levels rising to their peaks between one and three hours depending on location within the catchment and the duration of the storm (1).

### 2.5.3 Flood Behaviour

- a. Caragabal Creek runs along the southern perimeter of the town.

### 2.5.4 Classification of Floodplain

- a. No information is currently available.

### 2.5.5 Inundation

- a. Four houses are known to be liable to inundation, adjacent to Caragabal Creek (4).
- b. In September 2016, a dwelling on Quandialla-Caragabal Road was threatened with floodwater, requiring evacuation as well as the school (5), which was inundated in 1990. Homesteads on the Pullabooka Road were isolated in 1990 and property protection was required (4).

### 2.5.6 Isolation

- a. No known risk of isolation was identified.

### 2.5.7 Flood Mitigation Systems

- a. No known flood mitigation systems have been identified.

### 2.5.8 Dams

- a. No known effects have been identified for dam failure.

### **2.5.9 At Risk Facilities**

- a. The facilities that are at risk of flooding and/or isolation within the Weddin Shire LGA including schools, child care centres, hospitals, aged and infirm, infrastructure and caravan parks are shown in Annex 2, including Caragabal School.

### **2.5.10 Other Considerations**

- a. No other considerations have been identified.

## 2.7 GREENETHORPE

### 2.7.1 Community Overview

- a. Greenethorpe is a small village between Cowra, Young and Grenfell. It has a population about 120, with another 100 people on nearby farming properties (11).

### 2.7.2 Characteristics of Flooding

- a. Flooding on Tyagong Creek is “flash flooding” in nature, with water levels rising to their peaks between one and three hours depending on location within the catchment and the duration of the storm (1).

### 2.7.3 Flood Behaviour

- a. Tyagong Creek is located at the northern perimeter of the town.

### 2.7.4 Classification of Floodplain

- a. No information is currently available.

### 2.7.5 Inundation

- a. No information is currently available.

### 2.7.6 Isolation

- a. No known risk of isolation was identified.

### 2.7.7 Flood Mitigation Systems

- a. No flood mitigation systems have been identified.

### 2.7.8 Dams

- a. Broula King Gold Mine Tailings Dams 1 and 2, Bumbaldry are prescribed dams located 10 kilometres the north north-east of Grenfell. It is a mine-tailings dam, located off stream immediately west of Tyagong Creek. Consequence of dam failure is not known.

### 2.7.9 At Risk Facilities

- a. No at risk facilities were identified.

### 2.7.10 Other Considerations

- a. Tour de Greenethorpe is an annual bicycling event that occurs in September, with approximately 150 cyclists and additional number of supporting volunteers (11).



## 3 ROAD CLOSURES AND ISOLATED COMMUNITIES

### 3.1 ROAD CLOSURES

- a. Table 3 lists roads liable to flooding in the Weddin Shire LGA.

**Table 3: Roads liable to flooding in Weddin Shire LGA.**

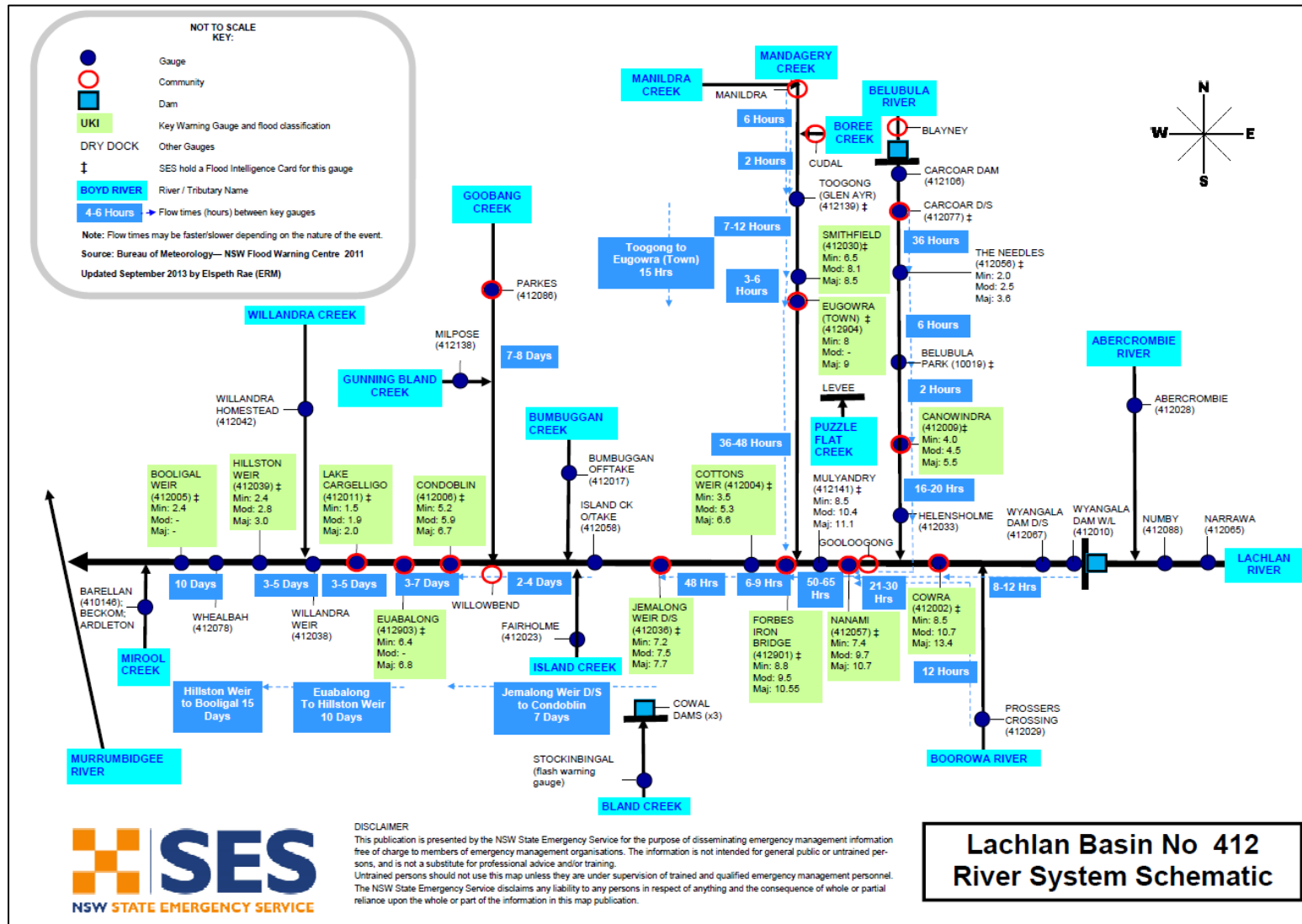
Road	Closure location	Consequence of closure	Alternate Route	Indicative gauge height
Newell Highway	Lignum Creek	Restricts access between Grenfell and West Wyalong	n/a	Local rainfall - there are no warning gauges in the area
Henry Lawson Way	Muddy Lagoon	Restricts access between Grenfell and Forbes	No	Local rainfall - there are no warning gauges in the area
Gooloogong Road	Goonidans Creek	Restricts access between Grenfell and Gooloogong	No	Local rainfall - there are no warning gauges in the area
Mary Gilmore Way	Knights Crossing	Restricts access between Grenfell and Bimbi	n/a	Local rainfall - there are no warning gauges in the area
New Forbes Road	Forbes (outside LGA)	Restricts access between Grenfell and Forbes	No	Local rainfall - there are no warning gauges in the area
Mid-Western Highway, Grenfell	Between Brundah & George Streets, and Warraderry & Weddin Streets, Grenfell over Emu Creek	Mid-Western Highway closed for a short time. Diversion route for Forbes Shire flooding – need to monitor	n/a	For effectively a 1% flood event. (n.b. no gauge)
Mid-Western Highway, Caragabal	Caragabal Creek (approximately 8km east of Caragabal)	Restricts access between Caragabal and Grenfell	n/a	Local rainfall - there are no warning gauges in the area.
Bimbi-Caragabal Road	Wah Way Creek and Wentworth Gully	Prohibits back route between Bimbi and Caragabal	n/a	Local rainfall - there are no warning gauges in the area.

Road	Closure location	Consequence of closure	Alternate Route	Indicative gauge height
Bimbi-Quandialla Road, Bimbi	Bimbi over Eurabba Creek	Restricts access between Bimbi and Quandialla	n/a	Local rainfall - there are no warning gauges in the area.
Pullabooka Road, Caragabal	Sandhill Plain Creek	Restricts access between Caragabal and Pullabooka.	n/a	Local rainfall - there are no warning gauges in the area.
Star Street, Grenfell	Star Gully near Sullivan Street Intersection.	These are local town roads and impact local residents only	Other local streets	Local rainfall - there are no warning gauges in the area.
North Street, Grenfell	Between Cross & Sullivan Streets over the creek	These are local town roads and impact local residents only	Other local streets	Local rainfall - there are no warning gauges in the area.
Warraderry Street, Grenfell	At North Street and between Campbell Street & Cowra Road (Mid-Western Highway).	These are local town roads and impact local residents only	Other local streets	Local rainfall - there are no warning gauges in the area.
Melyra Street, Grenfell	Between Bogalong & Dalton Streets at the creek	These are local town roads and impact local residents only	Other local streets including Forbes Street	Local rainfall - there are no warning gauges in the area.
Camp Street, Grenfell	Between Brundah & West Streets over Emu Creek	These are local town roads and impact local residents only	Other local streets	Local rainfall - there are no warning gauges in the area.
Holy Camp Road, Grenfell	Between Berry's Road & Abbotts Lane, over Emu Creek	Restricts access to local residents along Holy Camp Road	Via Stock Route Road	Local rainfall - there are no warning gauges in the area.

### 3.2 SUMMARY OF ISOLATED COMMUNITIES AND PROPERTIES

- a. There is no current information regarding isolated communities.

# ANNEX 1: LACHLAN RIVER BASIN SCHEMATIC

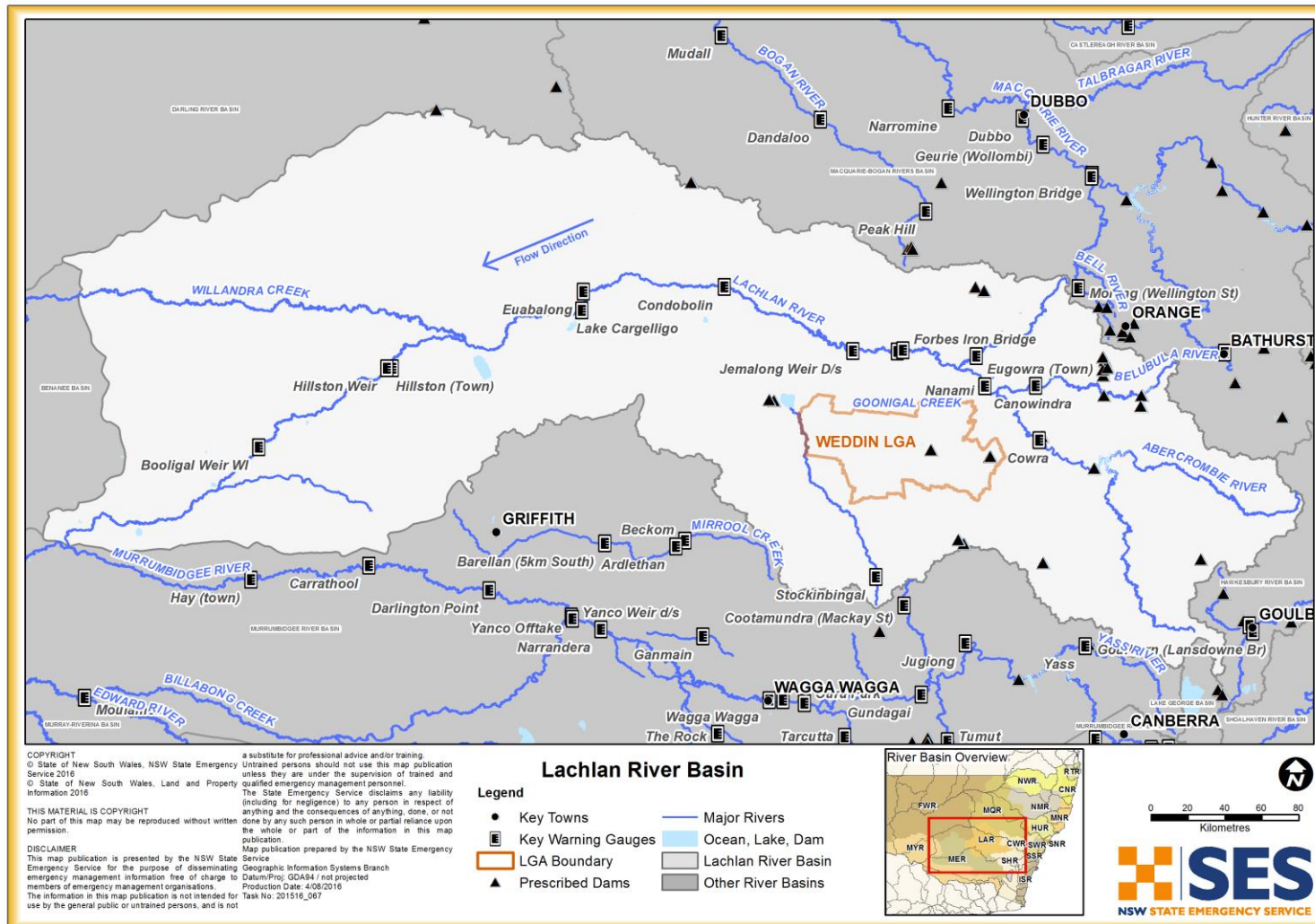


## ANNEX 2: FACILITIES AT RISK OF FLOODING AND/OR ISOLATION

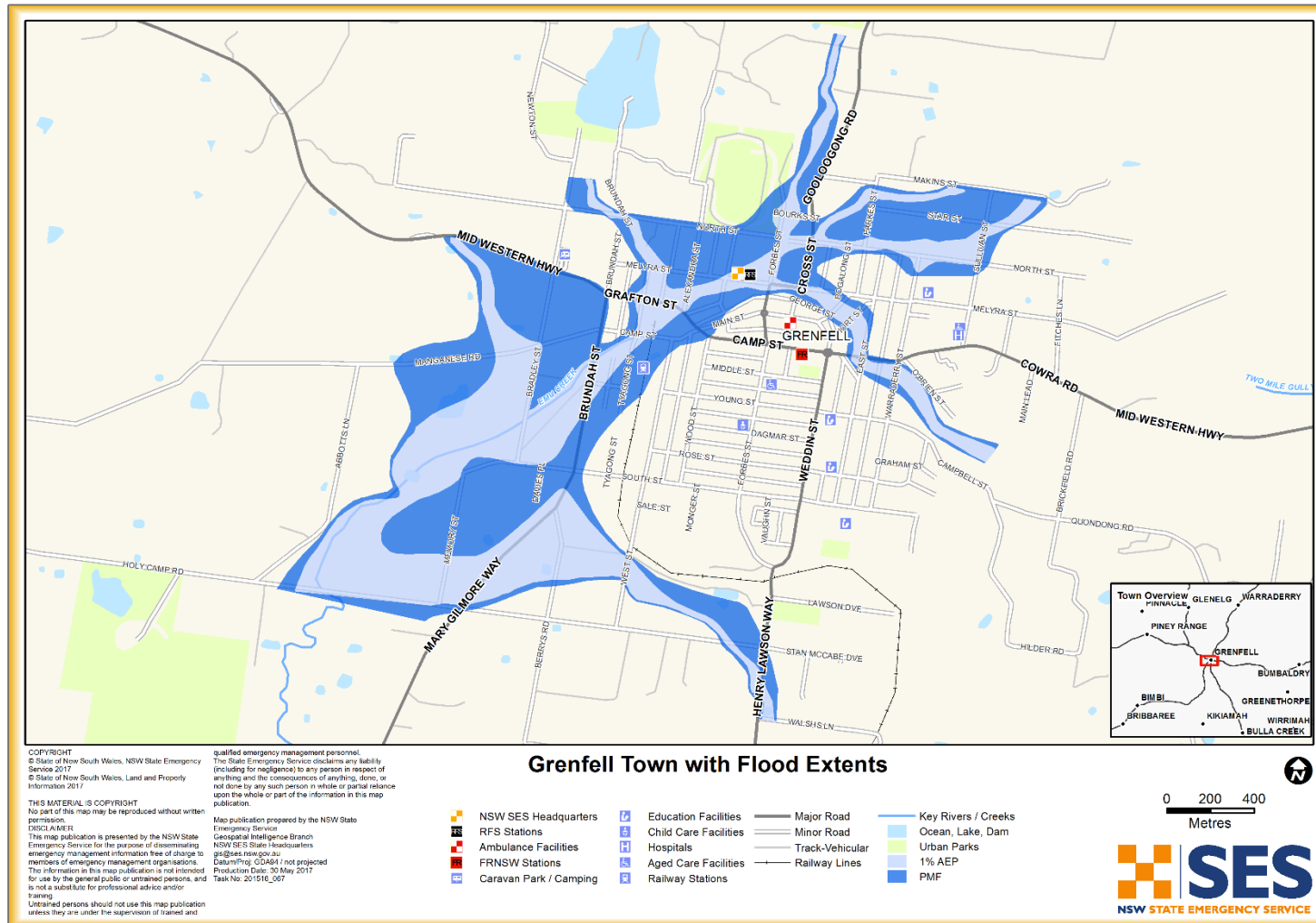
### Lachlan River Valley

Facility Name	Street	Suburb	Comment
<b>Schools</b>	n/a		
Caragabal School	Mid Western Highway	Caragabal	In 2016, flooding threatened the school.
<b>Child Care Centres</b>	n/a		
<b>Facilities for the aged and/or infirm</b>	n/a		
<b>Utilities and infrastructure</b>	n/a		
Grenfell Sewage Treatment Plant		Grenfell	Within the modelled flood extent available
<b>Camping Ground / Caravan Parks</b>	n/a		

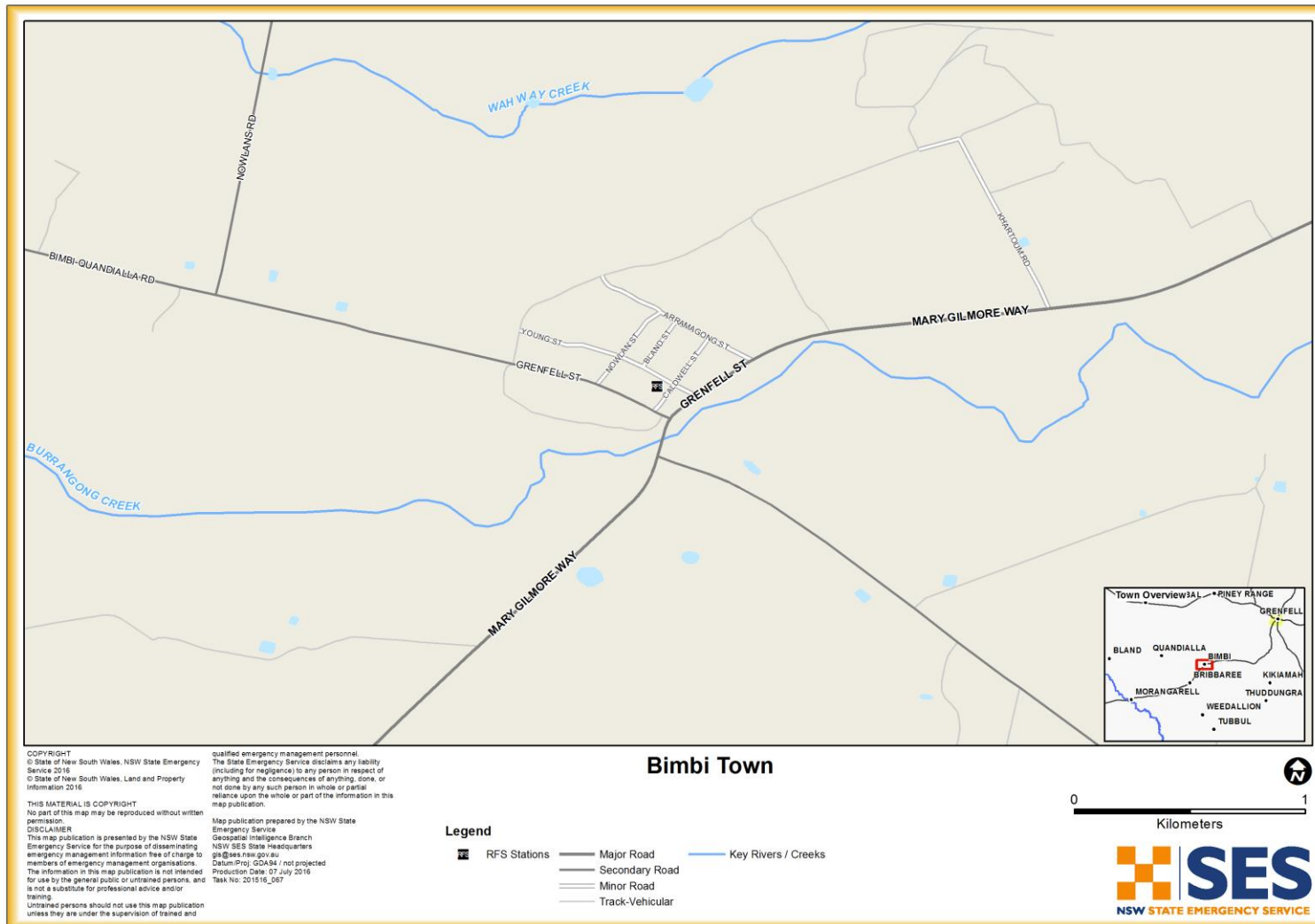
# MAP 1: LACHLAN RIVER BASIN



# MAP 2: GRENFELL TOWN MAP

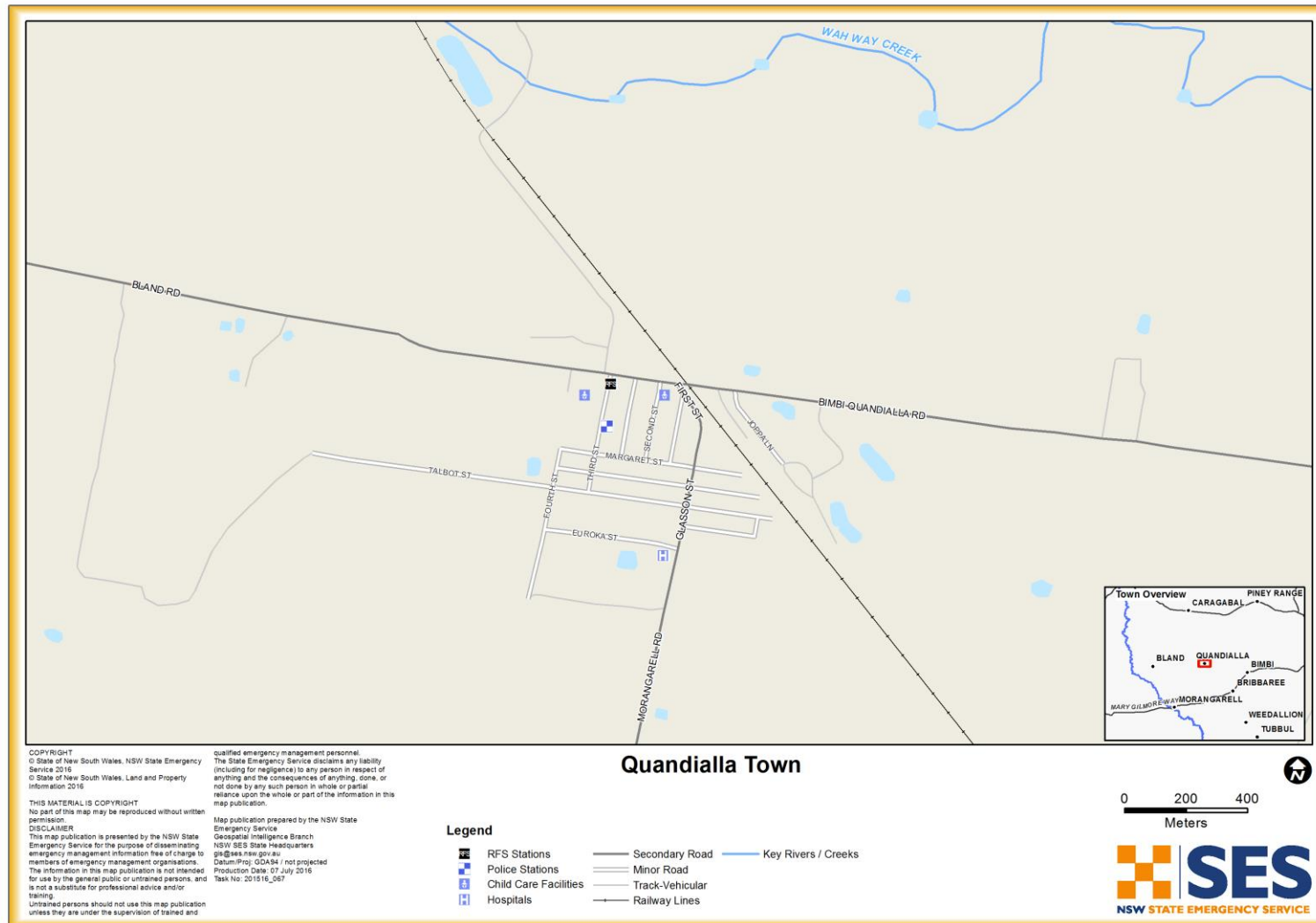


### MAP 3: BIMBI TOWN MAP



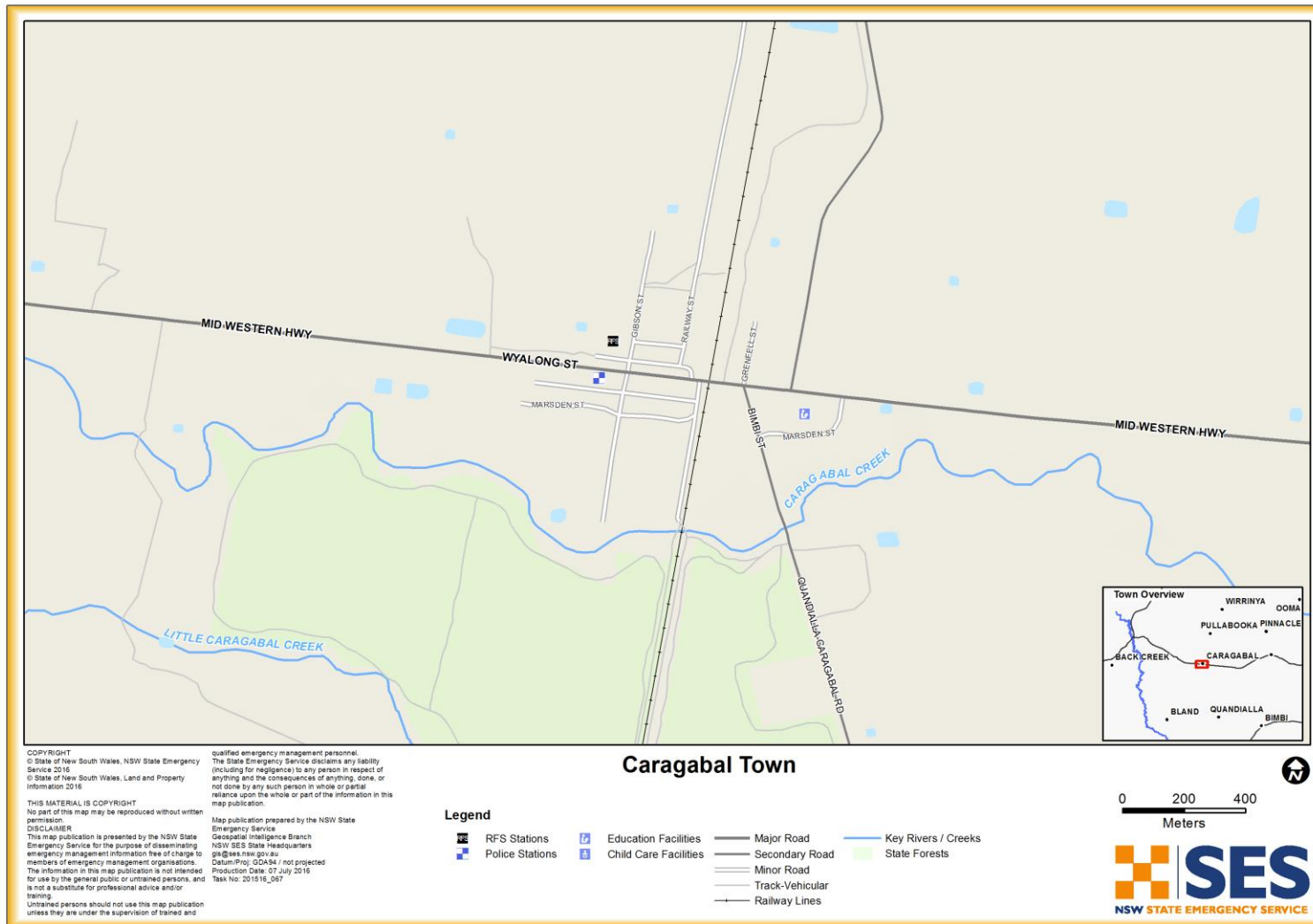


# MAP 4: QUANDIALLA TOWN MAP





# MAP 5: CARAGABAL TOWN MAP



## LIST OF REFERENCES

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9. **Weddin Shire Council Economic Development & Tourism Officer.** *Henry Lawson Festival Visitor Numbers.* [Email] Grenfell : s.n., 2016.
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# **SES RESPONSE ARRANGEMENTS FOR WEDDIN SHIRE**

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**Volume 3 of the Weddin Shire Local Flood Plan**

# CONTENTS

## **Chapter 1: Flood Warning Systems and Arrangements**

- *Dissemination options for NSW SES flood information and warning products.*
- *Gauges monitored by the NSW SES within the LGA.*

## **Chapter 2: SES Locality Response Arrangements**

- *NSW SES flood response arrangements by individual sector within the LGA.*

## **Chapter 3: SES Dam Failure Arrangements**

- *Not Applicable*

## **Chapter 4: SES Caravan Park Arrangements**

- *Not Applicable*



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# WEDDIN SHIRE: FLOOD WARNING SYSTEMS AND ARRANGEMENTS

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**Volume 3, Chapter 1 of the Weddin Shire Local Flood Plan  
(NSW SES Response Arrangements for Weddin Shire)**

**Last Update: September 2017**

## AUTHORISATION

Weddin Shire: Flood Warning Systems and Arrangements has been prepared by the NSW State Emergency Service (NSW SES) as part of a comprehensive planning process.

Approved



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Manager Emergency Risk Management

Date: 11/9/17

Approved



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NSW SES Lachlan Region Controller

Date: 12.09.2017

Tabled at LEMC

Date: 28 November 2017

*Document Issue: 3.1-07042014*

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2. DISSEMINATION OPTIONS FOR NSW SES FLOOD INFORMATION AND WARNING PRODUCTS .....	4



## **1. GAUGES MONITORED BY THE NSW SES WEDDIN LOCAL HEADQUARTERS**

There are no gauges monitored by the NSW SES Weddin Local Headquarters.

## 2. DISSEMINATION OPTIONS FOR NSW SES FLOOD INFORMATION AND WARNING PRODUCTS

The NSW SES Lachlan Region Headquarters distributes NSW SES Flood Bulletins, NSW SES Evacuation Warnings and NSW SES Evacuation Orders to the following regional media outlets and agencies:

### Television Stations:

Station	Location
Prime	Orange
WIN	Orange
ABC	Sydney
Southern Cross Ten	Orange/Wagga Wagga

### Radio Stations:

Station	Location	Frequency	Modulation
2LF	Young	1350	AM
2WG	Wagga Wagga	1152	AM
2PK	Parkes	1044	AM
2CR / ABC	Orange	549	AM
Star FM	Young	93.9	FM
Triple J		90.7 & 101.9	FM
Star FM	Orange	105.9	FM
Rock FM	Parkes	95.5	FM

### Newspapers:

Name	Location
Grenfell Record	Grenfell
Young Witness	Young
Cowra Guardian	Cowra

### Other Agencies:

As listed in Volume 1 of this local flood plan.

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# **WEDDIN SHIRE: NSW SES LOCALITY RESPONSE ARRANGEMENTS**

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**Volume 3, Chapter 2 of the Weddin Shire Local Flood Plan**

**(NSW SES Response Arrangements for Weddin Shire)**

**Last Update: September 2017**

## AUTHORISATION

NSW SES Locality Response Arrangements in Weddin Shire has been prepared by the NSW State Emergency Service (NSW SES) as part of a comprehensive planning process.

Approved



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Manager Emergency Risk Management

Date: 11/9/17

Approved



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NSW SES Lachlan Region Controller

Date: 12.09.2017

Tabled at LEMC

Date: 28 November 2017

*Document Issue: V3.2-07042014*

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## SECTOR OVERVIEW

Table 1: Overview of Sectors in the Weddin LGA.

Sector Name	Community	Sector Basis	Total properties	Properties potentially at risk
Sector 1	Grenfell	Community	1089	212
Sector 2	Bimbi, Quandialla and Caragabal	Communities	367	At least 4

## 1. SECTOR 1 - GRENFELL

### 1.1. GRENFELL RESPONSE ARRANGEMENTS

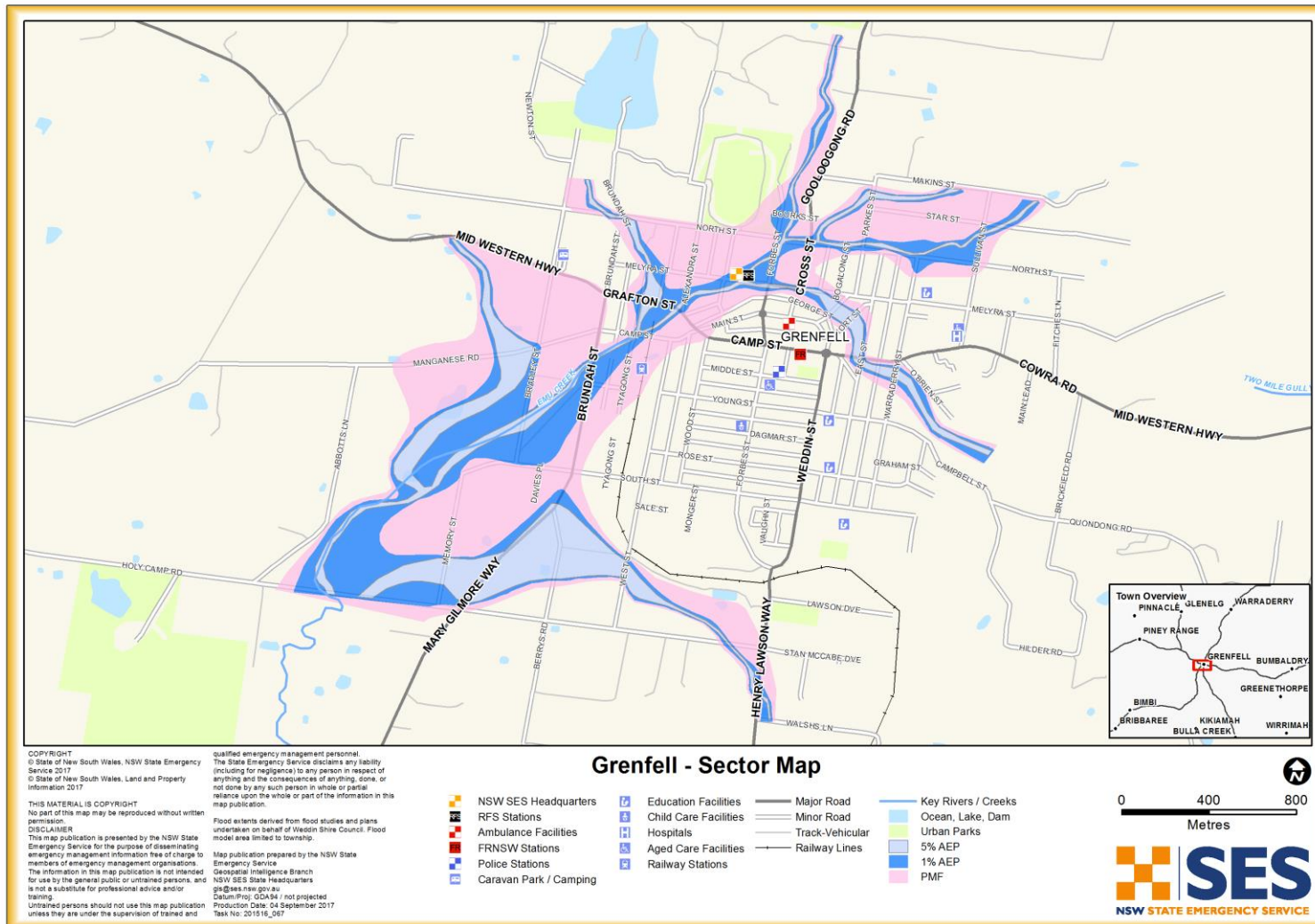
Refer to Volume 2: Hazard and Risk in Weddin Shire for more information about this Sector.

<b>Sector Description</b>	This sector covers the community of Grenfell. Please refer to volume 2 of this Local Flood Plan for further information on this community.				
<b>Hazard</b>	Flash flooding of Emu Creek.				
<b>Flood Affect Classification</b>	South and east of Grenfell bowling club has rising road access up to a PMF. North and West of the bowling club, the properties have overland escape routes				
<b>At risk properties</b>	154 residential, 46 commercial and 12 public in a PMF.	<b>Total number of properties within Sector/Community</b>	1089		
<b>Sector Control</b>					
<b>Key Warning Gauge Name</b>	<b>Name</b>	<b>AWRC No.</b>	<b>Min (m)</b>	<b>Mod (m)</b>	<b>Maj (m)</b>
	No key warning gauge				
<b>General Strategy</b>	No information currently available				
<b>Key Risks / Consequences</b>	No information currently available				
<b>Information and Warnings</b>	No information currently available				
<b>Property Protection</b>	<i>Specific property protection measures:</i> No information currently available				
	<i>Assistance with property protection:</i> No information currently available				
	<i>Protection of essential infrastructure:</i> No information currently available				
<b>Evacuation and/or Isolation Triggers</b>	No information currently available				
<b>Evacuation Triggers</b>	No information currently available				
<b>Sequencing of evacuation</b>	No information currently available				
<b>Evacuation Routes</b>	No information currently available				
<b>Evacuation Route Closure</b>	No information currently available				
<b>Method of Evacuation</b>	No information currently available				

<b>Evacuation Centre/Assembly Point</b>	No information currently available
<b>Large scale evacuations</b>	No information currently available
<b>Rescue</b>	No information currently available
<b>Resupply</b>	<p>Table 2, in Volume 2 provides information about isolated communities in the Weddin Shire Council area and potential periods of isolation.</p> <p>A flowchart illustrating the Resupply process is shown in Volume 1 of the Local Flood Plan, Attachment 1</p>
<b>Aircraft Management</b>	<p><i>Helicopter Landing Points:</i></p> <p>No information currently available</p>
	<p><i>Airports:</i></p> <p>No information currently available</p>
<b>Other</b>	



## 1.2. SECTOR 1 – GRENFELL MAP



## 2. SECTOR 2 - BIMBI, QUANDIALLA AND CARAGABAL

### 2.1. BIMBI, QUANDIALLA AND CARAGABAL RESPONSE ARRANGEMENTS

Refer to Volume 2: Hazard and Risk in Weddin Shire for more information about this Sector.

<b>Sector Description</b>	This sector covers the small rural communities of Bimbi and Quandialla. Please refer to volume 2 of this Local Flood Plan for further information on these communities.				
<b>Hazard</b>	Flash flooding of Burrangong Creek in Bimbi; Wah Way Creek in Quandialla and Caragabal Creek in Caragabal.				
<b>Flood Affect Classification</b>	Insufficient information available.				
<b>At risk properties</b>	Unknown in Bimbi Unknown in Quandialla 4 in Caragabal	<b>Total number of properties within Sector/Community</b>	78 in Bimbi 179 in Quandialla 110 in Caragabal		
<b>Sector Control</b>					
<b>Key Warning Gauge Name</b>	<b>Name</b>	<b>AWRC No.</b>	<b>Min (m)</b>	<b>Mod (m)</b>	<b>Maj (m)</b>
	No key warning gauge				
<b>General Strategy</b>	No information currently available				
<b>Key Risks / Consequences</b>	No information currently available				
<b>Information and Warnings</b>	No information currently available				
<b>Property Protection</b>	<i>Specific property protection measures:</i> No information currently available				
	<i>Assistance with property protection:</i> No information currently available				
	<i>Protection of essential infrastructure:</i> No information currently available				
<b>Evacuation and/or Isolation Triggers</b>	No information currently available				
<b>Evacuation Triggers</b>	No information currently available				
<b>Sequencing of evacuation</b>	No information currently available				
<b>Evacuation Routes</b>	No information currently available				
<b>Evacuation Route Closure</b>	No information currently available				
<b>Method of Evacuation</b>	No information currently available				

<b>Evacuation Centre/Assembly Point</b>	No information currently available
<b>Large scale evacuations</b>	No information currently available
<b>Rescue</b>	No information currently available
<b>Resupply</b>	<p>Table 2, in Volume 2 provides information about isolated communities in the Weddin Shire Council area and potential periods of isolation.</p> <p>A flowchart illustrating the Resupply process is shown in Volume 1 of the Local Flood Plan, Attachment 1</p>
<b>Aircraft Management</b>	<p><i>Helicopter Landing Points:</i></p> <p>No information currently available</p>
	<p><i>Airports:</i></p> <p>No information currently available</p>
<b>Other</b>	

## 2.2. SECTOR 2 – BIMBI, QUANDIALLA AND CARAGABAL MAP

