

Parkes Shire

Local Flood Plan



PARKES SHIRE FLOOD EMERGENCY SUB PLAN

A Sub-Plan of the Parkes Shire Local Emergency Management Plan (EMPLAN)

Volume 1 of the Parkes Shire Local Flood Plan



AUTHORISATION

The Parkes Shire Flood Emergency Sub Plan is a sub plan of the Parkes 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 authorised by the Local Emergency Management Committee in accordance with the provisions of the **State Emergency and Rescue Management Act 1989 (NSW)**.

Recommended



NSW SES Parkes Shire Council Local Controller

Date: 26 February 2014

Approved



Steve Barry
Chair, Local Emergency Management Committee

Date: 26 February 2014

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DISTRIBUTION LIST

Recipient	Number of copies
NSW SES Parkes Local Controller	1
NSW SES Parkes, Peak Hill and Trundle Unit Controllers	1
NSW SES Parkes, Peak Hill and Trundle Units	1
NSW SES Lachlan Region Headquarters	1
NSW SES State Headquarters	1
Parkes Shire Council, Local Emergency Operations Controller	1
NSW Police Force, Lachlan Local Area Command	1
Parkes Shire Council, Local Emergency Management Committee Members	4
Parkes Shire Council, Local Emergency Management Officer	1
Parkes Shire Council, Local Emergency Operations Centre	1
Parkes Shire Council, Mayor	1
Parkes Shire Council, General Manager	1
Parkes Shire Council, Technical Services Department	1
Fire and Rescue NSW, Parkes and Peak Hill	1
NSW Rural Fire Service, Mid Lachlan Valley Team	1
Ambulance Service of NSW, Parkes and Peak Hill	1
Office of Environment and Heritage	1
Evacuation Centres	1 each
Hospitals	1 each
Schools	1 each
Council Libraries	1 each
NorthParkes Mines, NorthParkes Tailings Dam	1
Total	

VERSION HISTORY

The following table lists all previously endorsed versions of this plan.

Description	Date
Parkes Shire Local Flood Plan	January 2008

AMENDMENT LIST

Suggestions for amendments to this plan should be forwarded to:

The Parkes Shire Local Controller
 NSW State Emergency Service
 C/- Lachlan Region Headquarters
 55 Matthews Street
 PARKES, NSW, 2870

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

Amendment Number	Description	Updated by	Date

Document Issue: V28112012

LIST OF ABBREVIATIONS

The following abbreviations have been used in this plan:

AEP	Annual Exceedance Probability
AHD	Australian Height Datum
AIIMS	Australasian Inter-service Incident Management System
ARI	Average Recurrence Interval (Years)
ALERT	Automated Local Evaluation in Real Time
AWRC	Australian Water Resources Council
BUREAU	Australian Government Bureau of Meteorology
CBR	Chemical, Biological or Radiation
DCF	Dam Crest Flood
DSC	Dams Safety Committee
DSEP	Dam Safety Emergency Plan
DVR	Disaster Victim Registration
EMPLAN	Emergency Management Plan
FRNSW	Fire and Rescue NSW
GIS	Geographic Information System
GRN	Government Radio Network
IAP	Incident Action Plan
IFF	Imminent Failure Flood
LEMC	Local Emergency Management Committee
LEOCON	Local Emergency Operations Controller
LGA	Local Government Area
MHL	Manly Hydraulics Laboratory
NOW	NSW Office of Water

NSW SES	NSW State Emergency Service
OEH	Office of Environment and Heritage (previously DECCW)
PMF	Probable Maximum Flood
PMR	Private Mobile Radio
PMP	Probable Maximum Precipitation
RMS	Roads and Maritime Services
RFS	Rural Fire Service
SECON	State Emergency Operations Controller
SERCON	State Emergency Recovery Controller
SEWS	Standard Emergency Warning Signal
VRA	Volunteer Rescue Association
WICEN	Wireless Institute Civil Emergency Network

GLOSSARY

Annual Exceedance Probability (AEP). The chance of a flood of a given or larger size occurring in any one year, usually expressed as a percentage. For example, if a peak flood level (height) has an AEP of 5%, there is a 5% chance (that is, a one-in-20 chance) of such a level or higher occurring in any one year (see also Average Recurrence Interval).

Assistance Animal. A guide dog, a hearing assistance dog or any other animal trained to assist a person to alleviate the effect of a disability (Refer to Section 9 of the Disability Discrimination Act 1992).

Australian Height Datum (AHD). A common national surface level datum approximately corresponding to mean sea level.

Average Recurrence Interval (ARI). The long-term **average** number of years between the occurrence of a flood as big as, or larger than, the selected event. For example, floods reaching a height as great as, or greater than, the 20 year ARI flood event will occur **on average** once every 20 years.

Catchment (river basin). The land area draining through the main stream, as well as tributary streams, to a particular site. It always relates to an area above a specific location.

Coastal Erosion. The loss of land along the shoreline predominantly by the offshore movement of sand during storms.

Dambreak Study. A Dambreak Study is undertaken to determine the likely downstream inundation areas in case of a dam failure. Modelling is undertaken for a range of dam breach possibilities and design floods. The dambreak study includes information such as the extent of flooding, flood travel times and flood water velocities. The study can assist dam owners, regulators, and emergency agencies in the preparations of evacuation plans, dam break and other flood warning systems, and hazard classification of affected areas.

Dam Failure. The uncontrolled release of a water storage. The failure may consist of the collapse of the dam or some part of it, or excessive seepage or discharges. The most likely causes of dam failure are:

- **Flood Induced Dam Failure:** Dam failure caused by flood, either due to overtopping erosion or by subsequent structural failure.

- **Sunny Day Dam Failure:** Dam Failure as a result of factors other than flood i.e. other than flood flow into the reservoir. Causes of "Sunny Day" dam failure can include internal erosion, landslide, piping, earthquake or sabotage.

Dam Safety Emergency Plan (DSEP). A DSEP outlines the required actions of owners and their personnel at dams in response to a range of possible emergency situations. The NSW Dam Safety Committee requires a quality controlled DSEP, with associated dambreak warning procedures to be prepared for prescribed dams where persons may be at risk downstream, if the dam failed.

Design flood (or flood standard). A flood of specified magnitude that is adopted for planning purposes. Selections should be based on an understanding of flood behaviour and the associated flood risk, and take account of social, economic and environmental considerations. There may be several design floods for an individual area.

Emergency Alert. A national telephony based alerting system available for use by emergency service agencies to send SMS and voice messages to landlines and/or mobile telephones (by billing address) in times of emergency.

EMPLAN (Emergency Management Plan). The object of an EMPLAN is to ensure the coordinated response by all agencies having responsibilities and functions in emergencies.

Essential services. Those services, often provided by local government authorities, that are considered essential to the life of organised communities. Such services include power, lighting, water, gas, sewerage and sanitation clearance.

Evacuation. The temporary movement of people from a dangerous or potentially dangerous place to a safe location, and their eventual return. It is a safety strategy which uses distance to separate people from the danger created by the hazard.

Evacuation Order. Notification to the community, authorised by the NSW SES, when the intent of an Incident Controller is to instruct a community to immediately evacuate in response to an imminent threat.

Evacuation Warning. Notification to the community, authorised by the NSW SES, when the intent of an Incident Controller is to warn a community of the need to prepare for a possible evacuation

Flash flooding. Flooding which is sudden and often unexpected because it is caused by sudden local or nearby heavy rainfall. It is sometimes defined as flooding which occurs within six hours of the rain that causes it.

Flood. 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 overtopping coastline defences, including Tsunami.

Flood classifications. Locally defined flood levels used in flood warnings to give an indication of the severity of flooding (minor, moderate or major) expected. These levels are used by the State Emergency Service and the Australian Government Bureau of Meteorology in flood bulletins and flood warnings.

Flood intelligence. The product of collecting, collating, analysing and interpreting flood-related data to produce meaningful information (intelligence) to allow for the timely preparation, planning and warning for and response to a flood.

Flood fringe. The remaining area of flood prone land after floodway and flood storage have been defined.

Flood liable land (also referred to as flood prone land). Land susceptible to flooding by the Probable Maximum Flood (PMF) event. This term also describes the maximum extent of a **floodplain** which is an area of a river valley, adjacent to the river channel, which is subject to inundation in floods up to this event.

Flood of record. Maximum observed historical flood.

Floodplain Management Plan. A plan developed in accordance with the principles and guidelines in the New South Wales Floodplain Development Manual. Such a plan usually includes both written and diagrammatic information describing how particular areas of flood prone land can be used and managed to achieve defined objectives.

Flood Plan. A response strategy plan that deals specifically with flooding and is a sub-plan of an Emergency Management Plan. Flood plans describe agreed roles, responsibilities, functions, strategies and management arrangements for the conduct of flood operations and for preparing for them. A flood plan contains information and arrangements for all floods whereas an IAP is for a specific flood/event.

Flood Rescue. The rescue or retrieval of persons trapped by floodwaters.

Flood storage areas. Those parts of the floodplain that are important for the temporary storage of floodwaters during the passage of a flood. The extent and behaviour of flood storage areas may change with flood severity, and loss of flood storage can increase the severity of flood impacts by reducing natural flood attenuation.

Floodway. An area where a significant volume of water flows during floods. Such areas are often aligned with obvious naturally-defined channels and are areas that, if partially blocked, would cause a significant redistribution of flood flow which may in turn adversely affect other areas. They are often, but not necessarily, the areas of deeper flow or the areas where higher velocities occur.

Flood Watch. A Flood Watch is a notification of the potential for a flood to occur as a result of a developing weather situation and consists of short generalised statements about the developing weather including forecast rainfall totals, description of catchment conditions and indicates streams at risk. The Bureau will also attempt to estimate the magnitude of likely flooding in terms of the adopted flood classifications. Flood Watches are normally issued 24 to 36 hours in advance of likely flooding. Flood watches are issued on a catchment wide basis.

Flood Warning. A Flood Warning is a gauge specific forecast of actual or imminent flooding. Flood Warnings specify the river valley, the locations expected to be flooded, the likely severity of flooding and when it will occur.

Functional Area. A category of services involved in the preparations for an emergency, including the following:

- Agriculture and Animal Services;
- Energy and Utility Services;
- Engineering Services;
- Environmental Services;
- Health Services;
- Public Information Services;
- Telecommunication Services;
- Transport Services; and
- Welfare Services.

Geographic Information System (GIS). A geographic information system (GIS) integrates hardware, software, and data for capturing, managing, analysing, and displaying all forms of geographically referenced information.

Incident Action Plan (IAP). An action plan for managing a specific event. Information from the Local Flood Plan is used to develop the flood IAP.

Indirect Effect. Indirect effects are generally a consequence of infrastructure damage or interruption of services and can affect communities distant from the actual flood footprint i.e. floodplain. Indirect effects can also refer to indirect losses due to disruption of economic activity, both in areas which are inundated or isolated. Indirect effects are one of the three primary sources of risk in the context of flooding (the other two are inundation and isolation).

Inundation. See definition for Flood.

Isolation. Properties and/or communities where flooding cuts access to essential services or means of supply. Isolation is one of the three primary sources of risk in the context of flooding (the other two are inundation and indirect effects).

Local overland flooding. Inundation by local runoff rather than overbank discharge from a stream, river, estuary, lake or dam.

Major flooding. Flooding which causes inundation of extensive rural areas, with properties, villages and towns isolated and/or appreciable urban areas flooded.

Minor flooding. Flooding which causes inconvenience such as closing of minor roads and the submergence of low-level bridges. The lower limit of this class of flooding, on the reference gauge, is the initial flood level at which landholders and/or townspeople begin to be affected in a significant manner that necessitates the issuing of a public flood warning by the Australian Government Bureau of Meteorology.

Moderate flooding. Flooding which inundates low-lying areas, requiring removal of stock and/or evacuation of some houses. Main traffic routes may be covered.

Peak height. The highest level reached, at a nominated gauging station, during a particular flood event.

Prescribed Dam. "Prescribed" dams are those listed in Schedule 1 of the Dams Safety Act 1978. The NSW Dam Safety Committee will prescribe those dams with the potential for a failure which could have a significant adverse effect on community interests.

Probable Maximum Flood (PMF). The largest flood that could conceivably be expected to occur at a particular location, usually estimated from probable maximum precipitation. The PMF defines the maximum extent of flood prone land, that is, the floodplain. It is difficult to define a meaningful Annual Exceedance Probability for the PMF, but it is commonly assumed to be of the order of 10^4 to 10^7 (once in 10,000 to 10,000,000 years).

Runoff. The amount of rainfall which ends up as stream flow, also known as ‘rainfall excess’ since it is the amount remaining after accounting for other processes such as evaporation and infiltration.

Stage height. A level reached, at a nominated gauging station, during the development of a particular flood event.

Stream gauging station. A place on a river or stream at which the stage height is routinely measured, either daily or continuously, and where the discharge is measured from time to time so as to develop a relationship between stage and discharge or rating curve.

PART 1 - INTRODUCTION

1.1 PURPOSE

- 1.1.1 This plan covers preparedness measures, the conduct of response operations and the coordination of immediate recovery measures from flooding within the Parkes Shire Council area. It covers operations for all levels of flooding within the council area.

1.2 AUTHORITY

- 1.2.1 This plan is issued under the authority of the *State Emergency and Rescue Management Act 1989* (NSW) and the *State Emergency Service Act 1989* (NSW). It has been approved by the NSW SES Parkes Local Controller and the NSW SES Lachlan Region Controller as a NSW SES plan and endorsed by the Parkes Shire Council Local Emergency Management Committee as a sub plan of the Local EMPLAN.

1.3 AREA COVERED BY THE PLAN

- 1.3.1 The area covered by the plan is the Parkes Shire Council area which includes the towns and villages of Parkes, Peak Hill, Trundle, Tullamore, Bogan Gate, Alectown and Cookamidgera and the intervening rural areas.
- 1.3.2 The council area and its principal rivers and creeks are shown in Attachment 3. This area includes;
- a. The Goobang Creek system and its major tributary Billabong Creek.
 - b. The upper reaches of the Bogan River system and its tributaries, Genaren, Sandy and Bullock Creeks.
 - c. The Gunningbland and Yarrbandai Creek systems.
- 1.3.3 The council area is in the NSW SES Lachlan Region and for emergency management purposes is part of the Central West Emergency Management Region.

1.4 DESCRIPTION OF FLOODING AND ITS EFFECTS

- 1.4.1 The NSW SES maintains information on the nature of flooding and effects of flooding on the community in the Parkes Shire Council area.

1.5 RESPONSIBILITIES

- 1.5.1 The general responsibilities of emergency service organisations and supporting services (functional areas) are listed in the Local and State Emergency Management Plans (EMPLAN). Some specific responsibilities are

expanded upon in the following paragraphs. The extent of their implementation will depend on the severity of the flooding.

- 1.5.2 **NSW SES Parkes Local Controller.** The NSW SES Parkes Local Controller is responsible for dealing with floods as detailed in the State Flood Plan, and will;

Preparedness

- a. Maintain a Local Headquarters at Cnr Clarke and Alluvial Streets, Parkes in accordance with the NSW SES Controllers' Guide and the NSW SES Operations Manual.
- b. Ensure that NSW SES members are trained to undertake operations in accordance with current policy as laid down in the NSW SES Controllers' Guide and the NSW SES Operations Manual.
- c. Coordinate the development and operation of a flood warning service for the community.
- d. Participate in floodplain risk management initiatives organised by the Parkes Shire Council.
- e. Coordinate a public education program.
- f. Identify and monitor people and/or communities at risk of flooding.
- g. Ensure that the currency of this plan is maintained.

Response

- h. Appoint an appropriate Local Incident Controller to undertake response roles. The Incident Controller will;
 - Control flood and storm response operations. This includes;
 - ◆ Directing the activities of the NSW SES units operating within the council area.
 - ◆ Coordinating the activities of supporting agencies and organisations and ensuring that liaison is established with them.
 - ◆ Contribute to preparation of Region IAP.
 - Provide an information service in relation to:
 - ◆ Flood heights and flood behaviour.
 - ◆ Road conditions and closures.
 - ◆ Advice on methods of limiting property damage.
 - ◆ Confirmation of evacuation warnings and evacuation orders.
 - Direct the conduct of flood rescue operations.
 - Direct the evacuation of people and/or communities.
 - Provide immediate welfare support for evacuated people.

- Coordinate the provision of emergency food and medical supplies to isolated people and/or communities.
- Coordinate operations to protect property, for example by;
 - ◆ Arranging resources for sandbagging operations.
 - ◆ Lifting or moving household furniture.
 - ◆ Lifting or moving commercial stock and equipment.
- Arrange for support (for example, accommodation and meals) for emergency service organisation members and volunteers assisting them.
- Ensure that the managers of caravan parks are advised of flood warnings and the details of any evacuation order.
- If NSW SES resources are available, assist with emergency fodder supply operations conducted by Agriculture and Animal Services.
- If NSW SES resources are available, assist the NSW Police Force, RMS and Council with road closure and traffic control operations.
- Exercise financial delegations relating to the use of emergency orders as laid down in the NSW SES Controllers' Guide.
- Coordinate the collection of flood information for development of intelligence.
- Submit Situation Reports to the NSW SES Lachlan Region Headquarters and agencies assisting within the council area. These will contain information on;
 - ◆ Road conditions and closures.
 - ◆ Current flood behaviour.
 - ◆ Current operational activities.
 - ◆ Likely future flood behaviour.
 - ◆ Likely future operational activities.
 - ◆ Probable resource needs.
- Keep the Local Emergency Operations Controller advised of the flood situation and the operational response.
- Issue the 'All Clear' when flood operations have been completed.

Recovery

- i. Ensure that appropriate After Action Reviews are held after floods.
- j. Provide appropriate representation to the recovery committee for the duration of the response phase of an event and as agreed during the recovery phase.

1.5.3 NSW SES Parkes, Peak Hill and Trundle Unit Controller(s):

- a. Assist the NSW SES Parkes Local Controller with flood preparedness activities, including;
 - Flood planning.
 - Training of unit members.
 - The development of flood intelligence.
 - The development of warning services.
 - Floodplain risk management initiatives.
 - Public education.
- b. Conduct flood operations within the Parkes Shire Council area as directed by the NSW SES Parkes Local Incident Controller.
- c. Submit Situation Reports to the NSW SES Parkes Local Headquarters, the NSW SES Lachlan Region Headquarters and agencies assisting within the local area.

1.5.4 NSW SES Parkes, Peak Hill and Trundle Unit Members:

- a. Carry out flood response tasks. These may include;
 - The management of the NSW SES Parkes Local and Unit Headquarters Operations Centres.
 - Assist in the collection of flood information for the development of intelligence.
 - Flood rescue.
 - Evacuation.
 - Providing immediate welfare for evacuated people.
 - Delivery of warnings and information.
 - Resupply.
 - Levee monitoring.
 - Sandbagging.
 - Lifting and/or moving household furniture and commercial stock.
 - Animal rescue.
 - Assisting in repairing or improving levees.
 - Assisting with road closure and traffic control operations.
 - Assisting with emergency fodder supply operations.
- b. Assist with preparedness activities.
- c. Undertake training in flood and storm response operations.

1.5.5 Agriculture and Animal Services Functional Area:

- a. When requested by NSW SES;
 - Activate the Agriculture and Animal Services Supporting Plan as required and coordinate the provision of required services which may include:
 - Supply and delivery of emergency fodder.
 - Coordinate the management of livestock and farm animals.
 - Advice on dealing with dead and injured farm animals.
 - Financial, welfare and damage assessment assistance to flood affected farmers.
 - Operation of animal shelter compound facilities for the domestic pets and companion animals of evacuees.
- b. Forestry Corporation of NSW:
 - Close and evacuate at risk camping grounds in Forestry Corporation of NSW managed areas.

1.5.6 The Ambulance Service of NSW:

- a. Assist with the evacuation of at risk communities (in particular elderly and/or infirm people).
- b. Deploy ambulance resources to appropriate locations if access is expected to be lost.
- c. Assist the NSW SES with flood rescue operations.

1.5.7 Australian Government Bureau of Meteorology (The Bureau):

- a. Provide Flood Watches for the Lachlan River Basin and Macquarie-Bogan River Basins.
- b. Provide Flood Warnings, incorporating height-time predictions, for Bogan River, Peak Hill Gauge (421076).
- c. Provide severe weather warnings when flash flooding is likely to occur.

1.5.8 Child Care Centres and Preschools:

- a. Childcare Centres are to be contacted by the NSW SES in the event of possible flooding or isolation.
- b. When notified the child care centres and preschools should:
 - Liaise with the NSW SES and arrange for the early release of children whose travel arrangements are likely to be disrupted by flooding and/or road closures.
 - Assist with coordinating the evacuation of preschools and child care centres.

1.5.9 **Energy and Utility Services Functional Area:**

- a. When requested by NSW SES;
 - Implement the Energy and Utilities Services Functional Area Supporting Plan.
 - Where required, coordinate energy and utility services emergency management planning, preparation, response and recovery, including the restoration of services following a flood event.
 - Coordinate advice to the NSW SES of any need to disconnect electricity, gas, water or wastewater services.
 - Assist the NSW SES to identify infrastructure at risk of flooding for incorporation into planning and intelligence.
 - Identify interdependencies between flooding and utility services due to secondary impacts of flooding and advise the NSW SES.
 - Assist the NSW SES with advisory notices relating to hazards from utility services during flooding.
 - Coordinate with utilities on restoration of services, including advisory notices relating to estimated time for restoration and mandatory safety checks prior to reconnection. Advise the NSW SES and the relevant recovery committee and coordinator of the timetable for restoration.
- b. Local Providers (electricity, gas, water, waste water):
 - Provide advice to the NSW SES Parkes Local Controller of any need to disconnect power/gas/water/waste water supplies or of any timetable for reconnection.
 - Advise the NSW SES of any hazards from utility services during flooding.
 - Advise the public with regard to electrical hazards during flooding and to the availability or otherwise of the electricity supply.
 - Clear or make safe any hazard caused by power lines or electrical reticulation equipment.
 - Inspect, test and reconnect customers' electrical/ gas/ water/waste water installations as conditions allow.
 - Assist the NSW SES to identify infrastructure at risk of flooding for incorporation into planning and intelligence.

1.5.10 **Engineering Services Functional Area:**

- a. When requested by NSW SES;
 - Provide engineering advice regarding the integrity of damaged structures.

- Assist the NSW SES with damage assessment.
- Acquire and/or provide specialist technical engineering expertise.
- Assist the NSW SES and councils with the assessment and operation of flood protection levees when requested.
- Assist with property protection, including the construction or repair of levees.
- Coordinate the restoration of critical public facilities.
- Establish recovery centre facilities.

1.5.11 Environmental Services Functional Area:

- a. When requested by NSW SES;
- Implement the Environmental Services Functional Area (Enviroplan) Supporting Plan if required.
 - Activate the Hazmat/CBR Emergency Sub Plan if required.

1.5.12 Fire and Rescue NSW, Parkes and Peak Hill:

- a. When requested by NSW SES;
- Assist the NSW SES with the delivery of evacuation warnings and evacuation orders.
 - Assist the NSW SES with the conduct of evacuations.
 - Provide equipment for pumping flood water out of buildings and from low-lying areas.
 - Assist with clean-up operations, including the hosing out of flood affected properties.
 - Deploy fire resources to appropriate locations if access is expected to be lost.

1.5.13 Health Services Functional Area:

- a. When requested by NSW SES;
- Activate Healthplan if required.
 - Ensure that appropriate business continuity plans are developed for essential health infrastructure and are activated during floods.
 - Provide medical support to the NSW SES.
 - Establish health surveillance in affected areas.
 - Assess potential public health risks that either acutely endanger the health of human populations or are thought to have longer term consequences.
 - Provide environmental health advice.

- Provide public health warnings and advice to affected communities.
- Assist the NSW SES with the warning and evacuation of hospitals.

1.5.14 NSW Office of Water:

- a. Collect and maintain flood data including data relating to flood heights, velocities and discharges.
- b. Provide the Bureau of Meteorology and NSW SES real-time or near real-time access to river height gauges and height data for the development of official flood warnings.
- c. Provide flow rating charts for river height gauges.
- d. Manage (with technical support from OEH) the approval process under the Water Act 1912 and Water Management Act 2000 for flood control works (earthworks, embankments and levees which can affect the distribution of floodwaters) including;
 - Assessment and approval of flood control works (including flood mitigation works) in rural areas designated under the Acts.
 - Use of floodplain management plans prepared by OEH in rural areas designated under the Acts to assess flood control work approvals.
 - Giving the NSW SES access to relevant studies regarding flooding and studies supporting floodplain management plans prepared by OEH including flood studies, floodplain risk management studies and flood behaviour investigations.

1.5.15 NSW Police Force, Lachlan Local Area Command (LAC):

- a. Assist the NSW SES with the delivery of evacuation warnings and evacuation orders.
- b. Assist the NSW SES with the conduct of evacuation operations.
- c. Conduct road and traffic control operations in conjunction with council and/or RMS.
- d. Coordinate the registration of evacuees.
- e. Secure evacuated areas.

1.5.16 NSW Rural Fire Service (RFS Mid Lachlan Valley Team):

- a. Provide personnel in rural areas and villages to;
 - Inform the NSW SES Parkes Local Controller about flood conditions and response needs in their own communities.
 - Disseminate flood information.
- b. Provide personnel and high-clearance vehicles for flood related activities.

- c. Assist the NSW SES with the delivery of evacuation warnings and evacuation orders.
- d. Assist the NSW SES with the conduct of evacuations.
- e. Provide equipment for pumping flood water out of buildings and from low-lying areas.
- f. Assist with the removal of caravans.
- g. Provide back-up radio communications.
- h. Assist with clean-up operations, including the hosing of flood affected properties.
- i. Deploy fire resources to appropriate locations if access is expected to be lost.

1.5.17 Office of Environment and Heritage:

- a. Provide specialist policy, engineering and scientific advice to councils and the NSW SES on flood related matters including assistance with;
 - The identification of flood problems.
 - The preparation of Floodplain Risk Management Plans and associated studies.
 - The implementation of floodplain risk management plans. This involves floodplain management projects which include flood mitigation works, flood warning, strategic land use planning and upgrade of evacuation routes.
 - The exercising of Local Flood Plans.
- b. Provide specialist advice flood related matters as follows:
 - Provide the NSW SES with access to relevant studies regarding flooding, including Flood Studies and Floodplain Risk Management Studies.
 - Coordinate the collection of post event flood data, in consultation with the NSW SES.
 - Provide advice to the NSW SES about conditions which may lead to coastal flooding or retarded river drainage near the coast.
 - Collect and maintain flood data relating to flood heights, velocities and discharges in coastal areas of NSW (through a contract with MHL as discussed separately).
 - Provide data to the Bureau of Meteorology and NSW SES real-time or near real-time access to river height gauges and height data for the development of official flood warnings (through a contract with MHL as described in the Response section of this plan).

- c. **National Parks and Wildlife Service:**
 - Close and evacuate at risk camping grounds in National Parks managed areas.
- 1.5.18 **Northparkes Mine:**
 - a. When requested by NSW SES;
 - Assist the NSW SES with flood operations, where equipment and training are suitable at the direction of the NSW SES Local Incident Controller.
- 1.5.19 **Public Information Services Functional Area:**
 - a. When requested by NSW SES;
 - Assist the NSW SES in the establishment and operation of a Joint Media Information Centre.
- 1.5.20 **The Central West Transport Services Functional Area Coordinator (TSFAC):**
 - a. The TSFAC will assist the NSW SES, emergency services and other functional areas through the provision of transport services, including:
 - The movement of emergency equipment and personnel.
 - The movement of emergency supplies and goods including water, fuel and food.
 - The evacuation of people and animals.
 - Assistance for medical transport.
 - Transportation of animals and infectious materials/dangerous goods.
 - Maintaining and operating a transport route advisory service to the NSW SES, emergency service organisations, other functional areas and members of the community.
- 1.5.21 **NSW Train Link:**
 - a. Operate NSW regional and interstate rail services through the Parkes LGA including the closing and reopening of railway lines affected by flood waters and advise the NSW SES.
 - b. Assist the NSW SES with the movement or evacuation of people during flood response operations if required.
 - c. Convey flood information and flood warnings to passengers and travellers on NSW trains.
 - d. Cooperate with, and assist the NSW SES Local Controller in relation to public safety during flood emergencies.
 - e. Cooperate with the Central West Transport Services Functional Area Coordinator.

1.5.22 Roads and Maritime Services will:

- a. Manage traffic on state roads and state highways and waterways affected by flood waters and advise the NSW SES of their status including the Newell Highway.
- b. Facilitate the safe reliable access of emergency resources on RMS managed roads.
- c. Assist the NSW SES with identification of road infrastructure at risk of flooding.
- d. Assist in traffic management associated with evacuations where necessary.
- e. Enter state road closure information into the Live Traffic site.
- f. Assist the NSW SES and local councils with the communication of warnings and information provision to the public through variable message signs.
- g. Cooperate with the Central West Transport Services Functional Area Coordinator

1.5.23 School Administration Offices including Catholic Education Office (Wilcannia Forbes Diocese), Department of Education and Communities (Western Region, Dubbo) and Private Schools:

- a. Liaise with the NSW SES and arrange for the early release of students whose travel arrangements are likely to be disrupted by flooding and/or road closures (or where required, for students to be moved to a suitable location until normal school closing time).
- b. Pass information to school bus drivers/companies and/or other schools on expected or actual impacts of flooding.
- c. Assist with coordinating the evacuation of schools when flooding or isolation is expected to occur.
- d. Provide space in schools for evacuation centres where necessary.

1.5.24 Telecommunication Services Functional Area:

- a. When requested by NSW SES;
 - Coordinate the restoration of telephone facilities damaged by flooding.
 - Coordinate additional telecommunications support for the NSW SES Headquarters as required.
 - Assist the NSW SES to identify infrastructure at risk of flooding for incorporation into planning and intelligence.

1.5.25 Welfare Services Functional Area:

- a. When requested by NSW SES;
 - Establish and manage evacuation centres, and provide disaster welfare services from recovery centres.
 - Administer the Personal Hardship and Distress component of the NSW Disaster Relief Scheme established to provide financial assistance to people affected by emergencies.

1.5.26 Parkes Shire Council Local Emergency Operations Controller (LEOCON):

- a. Monitor flood operations.
- b. Coordinate support to the NSW SES Parkes Shire Local Controller if requested to do so.

1.5.27 Parkes Shire Council Local Emergency Management Officer:

- a. Provide executive support to the LEMC and LEOCON in accordance with the Parkes Shire Council Local Emergency Management Plan.
- b. At the request of the NSW SES Parkes Local Controller, advise appropriate agencies and officers of the start of response operations.

1.5.28 Parkes Shire Council:

Preparedness

- a. Establish and maintain floodplain risk management committees and ensure that key agencies are represented on such committees.
- b. Provide levee studies, flood studies, and floodplain management studies to the NSW SES.
- c. Maintain Dam Safety Emergency Plans for the Lake Endeavour and Beargamil dams and provide copies to the NSW SES.
- d. Provide information on the consequences of dam failure to the NSW SES for incorporation into planning and flood intelligence.
- e. Maintain a plant and equipment resource list for the council area.
- f. Contribute to the development and implementation of a public education program.

Response

- g. At the request of the NSW SES Local Controller, deploy personnel and resources for flood related activities.
- h. Close and reopen council roads (and other roads nominated by agreement with the RMS) and advise the NSW SES Parkes Local Controller and the Police.
- i. Provide information on the status of roads.

- j. Provide filled sandbags to urban and village areas in which flooding is expected.
- k. Provide back-up radio communications.
- l. In the event of evacuations, assist with making facilities available for the domestic pets and companion animals of evacuees.

Recovery

- m. Provide for the management of health hazards associated with flooding. This includes removing debris and waste.
- n. Ensure premises are fit and safe for reoccupation and assess any need for demolition.
- o. Arrange for storage of evacuees' furniture as required.

1.5.29 Owners of Prescribed Dams within or upstream of Parkes Shire:

Dam	Owner
Beargamil	Parkes Shire Council
Lake Endeavour	Parkes Shire Council
NorthParkes Tailings	NorthParkes Mines
NorthParkes Tailings Dam No. 2	NorthParkes Mines
NorthParkes E27-Estcourt Tailings	NorthParkes Mines

- a. Maintain and operate the Dam Failure Warning System for their Dam(s).
- b. Contribute to the development and implementation of a public education program on flooding within the council area.
- c. Consult with NSW SES on the determination of dam failure alert levels and notification arrangements when developing Dam Safety Emergency Plans.
- d. Maintain a Dam Safety Emergency Plan and provide copies to the NSW SES.
- e. Provide information on the consequences of dam failure to the NSW SES for incorporation into planning and flood intelligence.

PART 2 - PREPAREDNESS

2.1 MAINTENANCE OF THIS PLAN

- 2.1.1 The NSW SES Parkes Local Controller will maintain the currency of this plan by;
- a. Ensuring that all agencies, organisations and officers mentioned in it are aware of their roles and responsibilities.
 - b. Conducting exercises to test arrangements.
 - c. Reviewing the contents of the plan;
 - After each flood operation.
 - When significant changes in land-use or community characteristics occur.
 - When new information from flood studies become available.
 - When flood control or mitigation works are implemented or altered.
 - When there are changes that alter agreed plan arrangements.
- 2.1.2 The plan is to be reviewed no less frequently than every five years.

2.2 FLOODPLAIN RISK MANAGEMENT

- 2.2.1 The NSW SES Parkes Local Controller will ensure that;
- a. NSW SES participates in local floodplain risk management committee activities when those committees are formed, in accordance with the protocols outlined in the NSW SES Controllers' Guide.
 - b. The NSW SES Lachlan Region Headquarters is informed of involvement in floodplain risk management activities.

2.3 DEVELOPMENT OF FLOOD INTELLIGENCE

- 2.3.1 Flood intelligence describes flood behaviour and its effects on the community.
- 2.3.2 The NSW SES maintains a centralised flood intelligence system.

2.4 DEVELOPMENT OF WARNING SYSTEMS

- 2.4.1 The NSW SES may establish a total flood warning system for areas affected by flooding. This requires;
- a. An identification of the potential clients of flood warning information at different levels of flooding (i.e. who would be affected in floods of differing severities).

- b. Available information about the estimated impacts of flooding at different heights.
- c. Identification of required actions and the amounts of time needed to carry them out.
- d. Appropriate means of disseminating warnings to different clients and at different flood levels.

2.5 PUBLIC EDUCATION

2.5.1 The NSW SES Parkes Local Controller, with the assistance of the Parkes Shire Council, the NSW SES Lachlan Region Headquarters and NSW SES State Headquarters, is responsible for ensuring that the residents of the council area are aware of the flood threat in their vicinity and how to protect themselves from it.

2.5.2 Specific strategies to be employed include;

- a. Dissemination of flood-related brochures and booklets in flood liable areas.
- b. Talks and displays orientated to community organisations, businesses and schools.
- c. Publicity given to this plan and to flood-orientated NSW SES activities through local media outlets, including articles in local newspapers about the flood threat and appropriate responses.

2.6 TRAINING

2.6.1 Throughout this document there are references to functions that must be carried out by the members of the NSW SES Parkes, Peak Hill and Trundle Units. The NSW SES Parkes Shire Local Controller is responsible for ensuring that the members are;

- a. Familiar with the contents of this plan.
- b. Trained in the skills necessary to carry out the tasks allocated to the NSW SES.

2.7 RESOURCES

2.7.1 The NSW SES Parkes Local Controller is responsible for maintaining the condition and state of readiness of NSW SES equipment and the NSW SES Parkes Local Headquarters.

2.7.2 The NSW SES Parkes, Peak Hill and Trundle Unit Controllers have similar responsibilities in relation to the Parkes, Peak Hill and Trundle Unit Headquarters and equipment.

PART 3 - RESPONSE

CONTROL

3.1 CONTROL ARRANGEMENTS

- 3.1.1 The NSW SES is the legislated Combat Agency for floods and is responsible for the control of flood operations. This includes the coordination of other agencies and organisations for flood management tasks.
- 3.1.2 The Local EMPLAN will operate to provide support as requested by the NSW SES Local Incident Controller.

3.2 OPERATIONAL MANAGEMENT

- 3.2.1 NSW SES utilises the Australasian Inter-service Incident Management System (AIIMS), which is based on three principles:
 - a. functional management;
 - b. management by objectives; and
 - c. span of control.
- 3.2.2 AIIMS provides for different incident levels based on the complexity of management.
- 3.2.3 The Local Government Area may be divided into sectors and divisions to manage the flood event (divisions are usually a group of sectors).
- 3.2.4 Sectors and divisions may be based on floodplain classifications, geographical, physical or functional boundaries. A town, city or suburb may be one sector or split into several sectors and divisions.

3.3 START OF RESPONSE OPERATIONS

- 3.3.1 This plan is always active to ensure that preparedness actions detailed in this plan are completed.
- 3.3.2 Response operations will begin:
 - a. On receipt of a Bureau of Meteorology Preliminary Flood Warning, Flood Warning, Flood Watch, Severe Thunderstorm Warning or a Severe Weather Warning for flash flooding.
 - b. On receipt of a dam failure alert.
 - c. When other evidence leads to an expectation of flooding within the council area.

- 3.3.3 Contact with the Bureau of Meteorology to discuss the development of flood warnings will normally be through the NSW SES Lachlan Region Headquarters and/or NSW SES State Headquarters.
- 3.3.4 The following persons and organisations will be advised of the start of response operations regardless of the location and severity of the flooding anticipated:
- a. NSW SES Lachlan Region Headquarters.
 - b. NSW SES Parkes, Peak Hill and Trundle Controllers.
 - c. NSW SES Parkes, Peak Hill and Trundle Units.
 - d. Parkes Shire Council Local Emergency Operations Controller (for transmission to the NSW Police Force Local Area Command Headquarters).
 - e. Parkes Shire Council Local Emergency Management Officer (for transmission to appropriate council officers and departments).
 - f. Parkes Shire Council Mayor.
 - g. Other agencies listed in this plan will be advised by the Local Emergency Management Officer on the request of the NSW SES Parkes Local Incident Controller and as appropriate to the location and nature of the threat.

3.4 RESPONSE STRATEGIES

- 3.4.1 The main response strategies for NSW SES flood operations include;
- a. Information provision and warning
 - Provision of warnings, information and advice to communities.
 - Inform the community regarding the potential impacts of a flood and what actions to undertake in preparation for flooding.
 - Provide timely and accurate information to the community.
 - b. Property protection
 - Protect the property of residents and businesses at risk of flood damage.
 - Assistance with property protection by way of sandbagging and the lifting or transporting of furniture, personal effects, commercial stock and caravans.
 - Assistance with the protection of essential infrastructure.
 - c. Evacuation
 - The temporary movement of people from a dangerous or potentially dangerous place to a safe location, and their eventual return. It is a

safety strategy which uses distance to separate people from the danger created by the hazard.

- d. Rescue
 - The rescue or retrieval of persons trapped by floodwaters.
 - e. Resupply
 - Minimise disruption upon the community by resupplying towns and villages which have become isolated as a consequence of flooding.
 - Ensure supplies are maintained to property owners by coordinating the resupply of properties which have become isolated as a consequence of flooding.
- 3.4.2 The NSW SES Local Incident Controller will select the appropriate response strategy to deal with the expected impact of the flood in each sector and/or community. The impact may vary so a number of different strategies may need to be selected and implemented across the whole operational area. The available strategies for each sector and/or community are maintained by the NSW SES.
- 3.4.3 Supporting strategies may include;
- a. Protect the community from incidents involving fire and hazardous materials.
 - b. Maintain the welfare of communities and individuals affected by the impact of a flood.
 - c. Minimise disruption to the community by ensuring supply of essential energy and utility services.
 - d. Ensure coordinated health services are available to and accessible by the flood affected communities.
 - e. Maintain the welfare of animals affected by the impact of a flood.

3.5 OPERATIONS CENTRES

- 3.5.1 The NSW SES Parkes Operations Centre is located at Cnr Clarke and Alluvial Streets, Parkes.
- 3.5.2 NSW SES Unit Operations Centres are located at;
- a. Derribong Street, Peak Hill.
 - b. Railway Parade, Trundle.
- 3.5.3 Supporting EOCs are located at;
- a. The Parkes Shire Council Emergency Operations Centre is located at The Coventry Room, Parkes Shire Offices, Bogan Street, Parkes.

3.6 LIAISON

- 3.6.1 Any agency with responsibilities identified in this plan may be requested by the NSW SES to provide liaison (including a liaison officer where necessary) to the NSW SES Parkes Operations Centre.
- 3.6.2 Liaison officers are to;
 - a. have the authority to deploy the resources of their parent organisations at the request of the NSW SES Parkes Local Incident Controller;
 - b. advise the NSW SES Parkes Local Incident Controller on resource availability for their service, and;
 - c. be able to provide communications to their own organisations.

3.7 END OF RESPONSE OPERATIONS

- 3.7.1 When the immediate danger to life and property has passed the NSW SES Region Incident Controller or the NSW SES Local Incident Controller will issue an 'All Clear' message signifying that response operations have been completed. The message will be distributed through the same media outlets as earlier evacuation messages. The relevant Controller will also advise details of recovery coordination arrangements, arrangements made for clean-up operations prior to evacuees being allowed to return to their homes, and stand-down instructions for agencies not required for recovery operations.

PLANNING

3.8 COLLATING SITUATIONAL INFORMATION

Strategy

- 3.8.1 The NSW SES maintains and records situational awareness of current impacts and response activities.

Actions

- 3.8.2 The NSW SES Parkes Local Headquarters collates information on the current situation in the Parkes Shire Council LGA and incorporates in Situation Reports.
- 3.8.3 The NSW SES Lachlan Region Headquarters collates Region-wide information for inclusion in Region NSW SES Situation Reports.
- 3.8.4 Sources of situational information during times of flooding are;
 - a. **Agency Situation Reports.** Agencies and functional areas provide regular situation reports (SITREPs) to the NSW SES.

- b. **Active Reconnaissance.** The NSW SES Parkes Local Incident Controller is responsible for coordinating the reconnaissance of impact areas, recording and communicating observations. Reconnaissance can be performed on the ground and using remote sensing (more commonly aerial). The NSW SES monitors the following problem areas:
 - Rural properties east of Parkes township along Billabong/Goobang Creek can become isolated and Eugowra Road can be inundated to 4m at the causeway.
 - The Bogan River at Peak Hill can isolate rural properties north and west of town and close local roads to all traffic.
 - The Gunningbland Creek at Bogan Gate can close the Trundle-Bogan Gate Road and isolate Bogan Gate from Trundle.
 - Tichborne rural properties can be isolated and four properties being inundated in severe events. The Newell Highway can be closed to all traffic for periods up 24 hours.
 - Trundle township homes along the un-named watercourse through the centre of town and the Golf Club can be inundated in severe events and local roads can be closed to traffic. Rural properties west of Trundle become isolated in severe events.
 - Tullamore can be isolated from all neighbouring towns for periods up to 24 hours during a severe event.
- c. The **Bureau of Meteorology's Flood Warning Centre** provides river height and rainfall information, data is available on the website <http://www.bom.gov.au/nsw/flood/>.
- d. **Manly Hydraulics Laboratory (a business unit within NSW Public Works)** automated river watch system funded by the Office of Environment and Heritage. This system provides river height and rainfall readings for a number of gauges in the Parkes Shire Council area. Recent data from this system is available on the Manly Hydraulic Laboratory website <http://www.mhl.nsw.gov.au>. A history of area floods is also available upon request via the website.
- e. **NSW Office of Water.** This office advises flow rates and rates of rise for the Bogan River. Daily river reports containing information on gauge heights and river flows are available from the website <http://waterinfo.nsw.gov.au/>
- f. **Lake Endeavour Dam Failure Warning System.** This system provides information on Lake Endeavour Dam.
- g. **NSW SES Lachlan Region Headquarters.** The Region Headquarters provides information on flooding and its consequences, including those in nearby council areas (this information is documented in Bulletins and Situation Reports).

- h. **Parkes Shire Council.** Provides information on road closure locations.
- 3.8.5 During flood operations sources of information on roads closed by flooding include;
 - a. Parkes Shire Council (<http://www.parkes.nsw.gov.au> and/or 02 6861 2333)
 - b. Lachlan Police Local Area Command.
 - c. Roads and Maritime Services (<http://livetraffic.rta.nsw.gov.au>).
 - d. NSW SES Lachlan Region Headquarters.
 - e. NSW SES Parkes Local Headquarters.
- 3.8.6 Situational information relating to consequences of flooding should be used to verify and validate NSW SES Flood Intelligence records.

3.9 PROVISION OF FLOOD INFORMATION AND WARNINGS

Strategy

- 3.9.1 The NSW SES Parkes Local Headquarters provides advice to the NSW SES Lachlan Region Headquarters on current and expected impacts of flooding in the Parkes Shire Council LGA.
- 3.9.2 The NSW SES Lachlan Region Headquarters issues NSW SES Flood Bulletins, NSW SES Livestock and Equipment Warnings, Evacuation Warnings and Evacuation Orders to media outlets and agencies on behalf of all NSW SES units in the Region.

Actions

- 3.9.3 The NSW SES Parkes Local Incident Controller will ensure that the NSW SES Lachlan Region Incident Controller is regularly briefed on the progress of operations.
- 3.9.4 NSW SES Parkes Local Headquarters operations staff will be briefed regularly so that they can provide information in response to inquiries received in person or by other means such as phone or fax.
- 3.9.5 **Bureau of Meteorology Severe Thunderstorm Warning.** These are issued direct to the media by the Bureau when severe thunderstorms are expected to produce dangerous or damaging conditions, including flash flooding. Severe thunderstorms are usually smaller in scale than events covered by Flood Watches and Severe Weather Warnings.
- 3.9.6 **Bureau of Meteorology Severe Weather Warnings for Flash Flooding.** These are issued direct to the media by the Bureau and provide a warning of the possibility for flash flooding as a result of intense rainfall. These warnings are issued when severe weather is expected to affect land based communities with 6 to 24 hours. Severe Weather Warnings may also include other conditions such as Damaging Winds.

- 3.9.7 **Bureau of Meteorology Flood Watches.** Flood Watches are issued by the Bureau to advise people of the potential for flooding in a catchment area based on predicted or actual rainfall. Flood Watches will be included in NSW SES Flood Bulletins issued by the NSW SES Lachlan Region Headquarters.
- 3.9.8 **Bureau of Meteorology Flood Warnings.** The NSW SES Lachlan Region Headquarters will send a copy of Bureau Flood Warnings to the NSW SES Parkes Unit. On receipt the NSW SES Local Incident Controller will provide the NSW SES Lachlan Region Headquarters with information on the estimated impacts of flooding at the predicted heights for inclusion in NSW SES Region Flood Bulletins.
- 3.9.9 **NSW SES Livestock and Equipment Warnings.** Following heavy rain or when there are indications of significant creek or river rises (even to levels below Minor Flood heights), the NSW SES Parkes Local Incident Controller will advise the NSW SES Lachlan Region Headquarters which will issue NSW SES Livestock and Equipment Warnings.
- 3.9.10 **NSW SES Local Flood Advices.** The NSW SES Local Incident Controller may issue Local Flood Advices for locations not covered by Bureau Flood Warnings. They may be provided verbally in response to phone inquiries but will normally be incorporated into NSW SES Region Flood Bulletins.
- 3.9.11 **NSW SES Flood Bulletins.** The NSW SES Lachlan Region Headquarters will regularly issue NSW SES Flood Bulletins which describe information on the estimated impacts of flooding at the predicted heights (using information from Bureau Flood Warnings and NSW SES Local Flood Advices) to NSW SES units, media outlets and agencies on behalf of all NSW SES units in the Region.
- 3.9.12 **NSW SES Evacuation Warnings and Evacuation Orders.** These are usually issued to the media by the NSW SES Region Incident Controller on behalf of the NSW SES Local Incident Controller.
- 3.9.13 **Dam Failure Alerts.** Dam failure alerts are issued to NSW SES by the dam owner, in accordance with arrangements in the Dam Safety Emergency Plan (DSEP), the system involves the Dam Owner notifying NSW SES State Headquarters Operations Communications Centre, who in turn distribute the warning to the NSW SES Region Headquarters and NSW SES Unit Headquarters.
- 3.9.14 A flow chart illustrating the notification arrangements for potential dam failure is shown in Attachment 2.
- 3.9.15 Dam failure alert levels are set in consultation with the NSW SES and are used to trigger appropriate response actions. The conditions that define each of the alert levels are listed in the relevant DSEP. Responses escalate as the alert level migrates from white to amber to red. Table 1 briefly outlines example defining conditions and appropriate NSW SES responses associated with each alert.

Alert Level	Example Defining Condition	NSW SES Response	NSW SES Warning Product
White	May be a structural anomaly. May be increased monitoring in response to a heavy rainfall event	Implements notification flowchart. Check operational readiness.	This is a preliminary alert to assist the NSW SES in its preparation. This is not a public alert.
Amber	Failure possible if storage level continues to rise or structural anomaly not fixed	Implements notification flowchart. Warn downstream population at risk to prepare to evacuate	NSW SES Evacuation Warning
Red	Failure imminent or occurred	Implements notification flowchart. Evacuation of downstream populations	NSW SES Evacuation Order

Table 1: Dam Failure Alert Levels

Note: Some DSEPs will have alert levels that proceed directly from White to Red. This is the case if adequate time does not exist between the three alert levels to evacuate the downstream population at risk. The decision to omit the Amber Alert level, and the general setting of Alert levels should be undertaken in consultation with the NSW SES.

- 3.9.16 The NSW SES / Dam Owner will disseminate warnings to the population at risk of dam failure (these arrangements are specific to each dam, are negotiated between the Dam Owner and NSW SES, and are documented in the DSEP).
- 3.9.17 **Standard Emergency Warning Signal (SEWS).** This signal may be played over radio and television stations to alert communities to Evacuation Warnings, Evacuation Orders, Special Warnings or Dam-Failure Warnings. Approval to use the signal is associated with who approves the warning/order message.
- 3.9.18 **The Public Information and Inquiry Centre (PIIC)** (operated by the NSW Police Force) will answer calls from the public regarding registered evacuees.
- 3.9.19 **The Disaster Welfare Assistance line** is a central support and contact point for disaster affected people inquiring about welfare services advice and assistance.
- 3.9.20 **The RMS Transport Information Line** will provide advice to callers on the status of roads. The RMS website also lists road closure information.
- 3.9.21 **Parkes Shire Council** will provide information on the status of roads.

- 3.9.22 Collation and dissemination of road information is actioned as follows:
- a. As part of Situation Reports, the NSW SES Parkes Local Incident Controller provides road status reports for main roads in the council area to the NSW SES Lachlan Region Headquarters.
 - b. The NSW SES Lachlan Region Headquarters distributes information on main roads to NSW SES units, media outlets and agencies as part of NSW SES Flood Bulletins.

OPERATIONS

3.10 AIRCRAFT MANAGEMENT

- 3.10.1 Aircraft can be used for a variety of purposes during flood operations including evacuation, rescue, resupply, reconnaissance and emergency travel.
- 3.10.2 Air support operations will be conducted under the control of the NSW SES Lachlan Region Headquarters, which may allocate aircraft to units if applicable.
- 3.10.3 NSW SES maintains the following information for the Parkes Shire Council area:
- a. Locations of suitable helicopter landing points. Suitable landing points are located at;
 - Parkes Airport.
 - Bogan Gate, Parkes, Peak Hill, Trundle and Tullamore show grounds.
 - b. Locations of suitable airports and records detailing aircraft size and type that can land at airports. Access to the Parkes airport remains and is capable of handling fixed and rotary wing aircraft.
 - c. Intelligence on when access to these locations is expected to be lost.

3.11 ASSISTANCE FOR ANIMALS

- 3.11.1 Matters relating to the welfare of livestock, companion animals and wildlife are to be referred to Agriculture and Animal Services.
- 3.11.2 Requests for emergency supply and/or delivery of fodder to stranded livestock, or for livestock rescue, are to be referred to Agriculture and Animal Services.
- 3.11.3 Requests for animal rescue should be referred to the NSW SES.

3.12 COMMUNICATION SYSTEMS

- 3.12.1 The primary means of communications between fixed locations is by telephone, email and facsimile.
- 3.12.2 The primary means of communication to and between deployed NSW SES resources is by GRN.
- 3.12.3 All liaison officers will provide their own communication links back to their parent agencies.
- 3.12.4 All other organisations will provide communications as necessary to their deployed field teams.
- 3.12.5 Back-up communications are provided as follows:
 - a. Parkes Shire Council UHF network.

3.13 PRELIMINARY DEPLOYMENTS

- 3.13.1 When flooding is expected to be severe enough to cut road access to towns, within towns and/or rural communities, the NSW SES Parkes Local Incident Controller will ensure that resources are in place for the distribution of foodstuffs and medical supplies to the areas that could become isolated.
- 3.13.2 When access between locations is expected to be cut, the NSW SES Parkes Local Incident Controller will advise appropriate agencies so that resources (including sandbags, fire fighting appliances, ambulances, etc.) are deployed to ensure that operational capability is maintained.

3.14 ROAD AND TRAFFIC CONTROL

- 3.14.1 A number of roads within the council area are affected by flooding. NSW SES maintains details of these roads.
- 3.14.2 The council closes and re-opens its own roads.
- 3.14.3 The NSW Police Force has the authority to close and re-open roads but will normally only do so (if the Council or the RMS have not already acted) if public safety requires such action.
- 3.14.4 When resources permit, the NSW SES assists Council, RMS or the Police by erecting road closure signs and barriers.
- 3.14.5 In flood events, the NSW SES Parkes Local Incident Controller may direct the imposition of traffic control measures. The entry into flood affected areas will be controlled in accordance with the provisions of the State Emergency Service Act, 1989 (Part 5, Sections 19, 20, 21 and 22) and the State Emergency Rescue Management Act, 1989 (Part 4, Sections 60KA, 60L and 61).

- 3.14.6 Police, RMS or Council officers closing or re-opening roads or bridges affected by flooding are to advise the NSW SES Parkes Local Headquarters, which will then provide a road information service to local emergency services, the public and the NSW SES Lachlan Region Headquarters. All such information will also be passed to the Police, RMS and the Council.

3.15 STRANDED TRAVELLERS

- 3.15.1 Flood waters can strand travellers. Travellers seeking assistance will be referred to the Welfare Services Functional Area for the arrangement of emergency accommodation.

3.16 MANAGING PROPERTY PROTECTION OPERATIONS

Strategy

- 3.16.1 Protect the property of residents and businesses at risk of flood damage.

Actions

- 3.16.2 The NSW SES is the responsible agency for the coordination of operations to protect property.
- 3.16.3 Property may be protected from floods by;
- a. Lifting or moving of household furniture.
 - b. Lifting or moving commercial stock and equipment.
 - c. Sandbagging to minimise entry of water into buildings.
- 3.16.4 The NSW SES Parkes unit maintains a small stock of sandbags and back-up supplies are available through the NSW SES Lachlan Region Headquarters.
- 3.16.5 Motorised sandbag-filling machines are available through the NSW SES Lachlan Region Headquarters and are currently pre-deployed at the NSW SES Condobolin, Cowra and Forbes Local Units. Alternatively, local concrete trucks may be used.

3.17 MANAGING FLOOD RESCUE OPERATIONS

Strategy

- 3.17.1 Rescue of people from floods.

Actions

- 3.17.2 The NSW SES Parkes Local Incident Controller controls flood rescue in Parkes Shire Council local government area.
- 3.17.3 Flood rescues, may be carried out by accredited units in accordance with appropriate standards.

- 3.17.4 Additional flood boats and crews can be requested through the NSW SES Lachlan Region Headquarters.
- 3.17.5 There may be some residual population which did not evacuate during the early stages of flooding and which require rescue.

3.18 MANAGING EVACUATION OPERATIONS

Strategy

- 3.18.1 When there is a risk to public safety, evacuation is the primary strategy. Circumstances may include;
 - a. Evacuation of people when their homes or businesses are likely to flood.
 - b. Evacuation of people who are unsuited to living in isolated circumstances, due to flood water closing access.
 - c. Evacuation of people where essential energy and utility services are likely to fail, have failed or where buildings have been made uninhabitable.

Actions

- 3.18.2 The evacuation operation will have the following stages:
 - a. Decision to evacuate.
 - b. Mobilisation (mobilisation may begin prior to the decision to evacuate).
 - c. Evacuation Warning delivery.
 - d. Evacuation Order delivery.
 - e. Withdrawal.
 - f. Shelter.
 - g. Return.
- 3.18.3 During floods evacuations will be controlled by the NSW SES. Small-scale evacuations will be controlled by the NSW SES Parkes Shire Local Incident Controller. Should the scale of evacuation operations be beyond the capabilities of local resources control may be escalated to the NSW SES Lachlan Region Incident Controller.

Decision to evacuate

- 3.18.4 In most cases the decision to evacuate rests with the NSW SES Parkes Shire Local Incident Controller who exercises his/her authority in accordance with Section 22(1) of The State Emergency Service Act 1989. However, the decision to evacuate will usually be made after consultation with the NSW SES Lachlan Region Incident Controller and the Local Emergency Operations Controller.

- 3.18.5 The only area for evacuation where any notice is possible in the Parkes Shire is the Tichborne precinct on the Billabong Creek approximately 10 km south of Parkes.
- 3.18.6 In events that require large scale evacuations, the decision to evacuate may be escalated to the Region or the State Incident Controller.
- 3.18.7 Some people will make their own decision to evacuate earlier and move to alternate accommodation, using their own transport. This is referred to as self-motivated evacuation.

Mobilisation

- 3.18.8 The NSW SES Local Incident Controller will mobilise the following to provide personnel for doorknock teams for designated Sectors/locations;
 - a. NSW SES Parkes Unit members.
 - b. RFS Mid Lachlan Valley Team District members via the RFS Fire Control Officer.
 - c. Local Police Force officers.
- 3.18.9 The NSW SES Lachlan Region Incident Controller will mobilise any additional personnel required to assist with doorknock teams using;
 - a. NSW SES members from the NSW SES Lachlan Region and surrounding NSW SES Regions.
 - b. FRNSW personnel arranged via the FRNSW Liaison Officer located at NSW SES Lachlan Region Headquarters.
 - c. RFS personnel arranged via the RFS Liaison Officer located at NSW SES Lachlan Region Headquarters.
- 3.18.10 The NSW SES Local Incident Controller will request the Chairperson of the LEMC to provide Council personnel to assist with traffic coordination within Sector(s)/Community.
- 3.18.11 The NSW SES Local Incident Controller will arrange liaison officers for Sector Command Centres.

Delivery of Evacuation Warnings and Evacuation Orders

- 3.18.12 The NSW SES will advise the community of the requirements to evacuate. The NSW SES will issue an **Evacuation Warning** when the intent of an NSW SES Incident Controller is to warn the community of the need to prepare for a possible evacuation.
- 3.18.13 The NSW SES will issue an **Evacuation Order** when the intent of the NSW SES Incident Controller is to instruct a community to immediately evacuate in response to an imminent threat.

- 3.18.14 The NSW SES Local Incident Controller will distribute Evacuation Warnings and Evacuation Orders to:
- Sector/Division Command Centres (where established).
 - Parkes Shire Council Local Emergency Operations Centre.
 - Parkes Shire Council.
 - Lachlan Police Local Area Command.
 - Mid Lachlan Valley Team Rural Fire Service Control Centre.
 - Radio Stations.
 - Other local agencies and specified individuals.
- 3.18.15 The NSW SES Lachlan Region Incident Controller will distribute Evacuation Warnings and Evacuation Orders to;
- The NSW SES State Operations Centre.
 - The NSW SES Parkes Local Incident Controller.
 - Affected communities via dial-out warning systems where installed or applicable.
 - Relevant media outlets and agencies.
- 3.18.16 Evacuation Warnings and Evacuation Orders may be delivered through;
- Radio and television stations.
 - Doorknocking by emergency service personnel.
 - Public address systems (fixed or mobile).
 - Telephony-based systems (including Emergency Alert).
 - Two-way Radio.

Table 2: Local radio stations and frequency

Station	Location	Frequency	Modulation
ABC	Orange	549	AM
2PK	Parkes	1404	AM
ROCK-FM	Parkes	95.5	FM
2LVR	Forbes	97.9	FM
ZOO-FM	Dubbo	92.7	FM
Star FM	Orange	105.9	FM

- 3.18.17 The Standard Emergency Warning Signal (SEWS) may be used to precede all Evacuation Orders broadcast on Radio Stations.
- 3.18.18 Doorknock teams will work at the direction of the Local Incident Controller.
- 3.18.19 Field teams conducting doorknocks will record and report back the following information to the Local Incident Controller:

- a. Addresses and locations of houses doorknocked and/or evacuated.
 - b. The number of occupants.
 - c. Details of support required (such as transport, medical evacuation, assistance to secure house and/or property and raise or move belongings).
 - d. Details of residents who refuse to comply with the Evacuation Order.
- 3.18.20 Details collected by the field teams will be passed on to the Bogan Gates, Parkes, Peak Hill, Trundle or Tullamore Police Station as required.
- 3.18.21 Refusal to evacuate. Field teams cannot afford to waste time dealing with people who are reluctant or refuse to comply with any Evacuation Order. These cases are to be referred to the NSW Police Force.

Withdrawal

- 3.18.22 Evacuations will generally be carried out in stages starting from the lowest areas, low flood islands and low trapped perimeters; and progressively from higher areas.
- 3.18.23 The most desirable method of evacuation is via road using private transport. This may be supplemented by buses for car-less people. However, other means of evacuation may also be used if available and as necessary (e.g. by foot, rail, air).
- 3.18.24 Evacuees who require emergency accommodation or disaster welfare assistance will be directed to designated evacuation centres. Evacuees who have made their own accommodation arrangements will not be directed to evacuation centres. It is not possible to determine in advance how many will fall into this category.
- 3.18.25 Evacuees will continue along the suburban/regional/rural road network to allocated Evacuation Centres.
- 3.18.26 **Health Services.** The Health Services Functional Area will coordinate the evacuation of hospitals, health centres and aged care facilities (including nursing homes).
- 3.18.27 **Schools.** School administration offices (Department of Education and Communities, Catholic Education Office and Private Schools) will coordinate the evacuation of schools if not already closed.

- 3.18.28 If there is sufficient time between the start of response operations and the evacuation of communities, the NSW SES Lachlan Region Incident Controller will discuss the temporary closure of appropriate schools with the Department of Education and Communities. This will enable pupils to stay at home or be returned home so they can be evacuated (if required) with their families.
- 3.18.29 Note that in the Parkes Shire Council LGA, school principals may close some schools affected by flooding in the early stages of flooding.
- 3.18.30 **Assistance Animals, Pets and Companion Animals of Evacuees:** Assistance animals (guide dogs, hearing assistance animals, etc.) will remain in the care of their owners throughout the evacuation. This includes transport and access into evacuation centres etc. Due to safety restrictions, it may not be possible to allow companion animals to accompany their owners when being transported via aircraft or flood rescue boats. Agriculture and Animal Services will make separate arrangements for the evacuation and care of companion animals.
- 3.18.31 **Transport and storage:** Transport and storage of furniture from flood threatened properties will be arranged as time and resources permit.
- 3.18.32 **Security:** The NSW Police Force will provide security for evacuated areas.
- 3.18.33 The NSW SES Local Incident Controller is to provide the following reports to the NSW SES Lachlan Region Headquarters:
- a. Advice of commencement of the evacuation of each Sector;
 - b. Progress reports (by Sectors) during evacuations;
 - c. Advice of completion of the evacuation of each Sector.

Shelter

- 3.18.34 **Evacuation centres / assembly areas.** The usual purpose of evacuation centres or assembly areas is to meet the immediate needs of disaster affected people following evacuation from an emergency situation, not to provide them with accommodation. Evacuees will be advised to go to or be taken to the nearest accessible evacuation centre, which may initially be established at the direction of the NSW SES Parkes Local Incident Controller, but managed as soon as possible by Welfare Services.
- 3.18.35 The following locations are suitable for use as flood evacuation centres:
- a. Parkes Services Club
 - b. Parkes Leagues Club
 - c. Parkes Showground
 - d. Parkes Airport (for air evacuation only)
 - e. Peak Hill Services Club
 - f. Trundle Services Club

- g. Tullamore Memorial Hall.
- 3.18.36 **Registration:** The NSW Police Force will ensure that evacuees are registered on arrival at the designated evacuation centres.
- 3.18.37 **Animal shelter compounds:** Animal shelter compounds will be set up for the domestic pets and companion animals of evacuees if required. Facilities will be managed by Agriculture and Animal Services.

Return

- 3.18.38 The NSW SES Local Incident Controller will advise when return to evacuated areas is safe after flood waters have receded and reliable access is available.
- 3.18.39 The NSW SES Local Incident Controller will determine when it is safe for evacuees to return to their homes in consultation with;
 - a. The Recovery Coordinating Committee (if established).
 - b. Welfare Services Functional Area Coordinator (welfare of evacuees).
 - c. Engineering Services Functional Area Co-coordinator (electrical safety of buildings, structural integrity of levees/dams).
 - d. Health Service Functional Area Coordinator (public health).
 - e. Transport Services Functional Areas Coordinator (arrangement of transport).
 - f. Parkes Shire Council LEOCON.
 - g. Parkes Shire Council.
 - h. NSW SES Region Incident Controller.
 - i. Other appropriate agencies/functional areas as required (mitigation and advice regarding identified risks resulting from the flood event).
- 3.18.40 Once it is considered safe to do so, the NSW SES Incident Controller will authorise the return of evacuees.
- 3.18.41 The return will be controlled by the NSW SES Local Incident Controller and may be conducted, at their request, by the Recovery Coordinator.

3.19 MANAGING RESUPPLY OPERATIONS

- 3.19.1 The NSW SES is responsible for the coordination of the resupply of isolated communities and properties.
- 3.19.2 If isolation is expected to occur, residents should be encouraged to consider their needs and suitability for an unknown period of isolation.
- 3.19.3 If properties/communities are going to remain in locations expected to become isolated, households/retailers should be encouraged to stock up on essential supplies.

- 3.19.4 Where practicable, once supplies are delivered to the NSW SES designated loading point, the NSW SES Local Incident Controller will arrange for the delivery of essential foodstuffs, fuels or urgent medical supplies required by an isolated property or community.
- 3.19.5 All reasonable effects will be made to deliver supplies, however where necessary the NSW SES will prioritise the delivery of items.

Resupply of Isolated Towns and Villages

Strategy

- 3.19.6 Minimise disruption upon the community by resupplying towns and villages which have become isolated as a consequence of flooding.

Actions

- 3.19.7 The NSW SES is responsible for the coordination of the resupply of isolated communities.
- 3.19.8 If flood predictions indicate that areas are likely to become isolated, the NSW SES Local Incident Controller should advise retailers that they should stock up.
- 3.19.9 When isolation occurs, retailers will be expected to place orders with suppliers where they have a line of credit and to instruct those suppliers to package their goods and deliver them to loading points designated by the NSW SES.
- 3.19.10 The NSW SES is prepared to deliver mail to isolated communities but may not be able to do so according to normal Australia Post timetables.
- 3.19.11 The NSW SES will assist hospitals with resupply of linen and other consumables where able.

Resupply of Isolated Properties

Strategy

- 3.19.12 Ensure supplies are maintained to properties by coordinating the resupply of properties which have become isolated as a consequence of flooding.

Actions

- 3.19.13 The resupply of isolated properties is a common requirement during floods and coordination can be difficult because requests can emanate from a variety of sources. Isolated properties may call their suppliers direct, place their orders through their own social networks or contact the NSW SES.
- 3.19.14 The principles to be applied when planning for the resupply of isolated properties are:
 - a. The NSW SES will coordinate resupply and establish a schedule.

- b. Some isolated households will not have the ability to purchase essential grocery items due to financial hardship. If an isolated household seeks resupply from the NSW SES and claims to be, or is considered to be, in dire circumstances, he/she is to be referred to Welfare Services for assessment of eligibility. Where financial eligibility criteria are met, Welfare Services will assist with the purchase of essential grocery items. Welfare Services will deliver the essential grocery items to the NSW SES designated loading point for transport.
 - c. Local suppliers will liaise with the NSW SES regarding delivery of resupply items to the designated loading point.
 - d. Local suppliers are responsible for packaging resupply items for delivery.
- 3.19.15 A flowchart illustrating the Resupply process is shown in Attachment 1. Please note that the flowchart outlines the resupply process but does not encompass all potential situations and/or outcomes.

PART 4 - RECOVERY

4.1 RECOVERY COORDINATION AT THE LOCAL LEVEL

- 4.1.1 The NSW SES Parkes Local Controller will ensure that planning for long-term recovery operations begins at the earliest opportunity, initially through briefing the Local Emergency Management Committee (LEMC). As soon as possible the LEMC will meet to discuss recovery implications including the need for a Local Recovery Committee. The LEMC will consider any impact assessment in determining the need for recovery arrangements. This is conveyed in the first instance to the State Emergency Operations Controller (SECON) for confirmation with the State Emergency Recovery Controller (SERCON).
- 4.1.2 Once the need for recovery has been identified, the SERCON, in consultation with the SECON, may recommend the appointment of a Local Recovery Coordinator and nominate an appropriate candidate to the Minister for Police and Emergency Services.
- 4.1.3 The SERCON may send a representative to the LEMC and subsequent recovery meetings to provide expert recovery advice and guidance.
- 4.1.4 The NSW SES Parkes Local Controller and Local Emergency Operations Controller (LECON) attend recovery meetings to provide an overview of the emergency response operation.
- 4.1.5 The NSW SES Region Incident Controller, the Regional Emergency Management Officer and appropriate Regional Functional Area Coordinators will be invited to the initial local meeting and to subsequent meetings as required.
- 4.1.6 The recovery committee will;
 - a. Develop and maintain a Recovery Action Plan with an agreed exit strategy.
 - b. Monitor and coordinate the activities of agencies with responsibility for the delivery of services during recovery.
 - c. Ensure that relevant stakeholders, especially the communities affected, are involved in the development and implementation of recovery objectives and strategies and are informed of progress made.
 - d. Provide the SERCON with an end of recovery report.
 - e. Ensure the recovery is in line with the National Principles of Disaster Recovery and the NSW tenets.

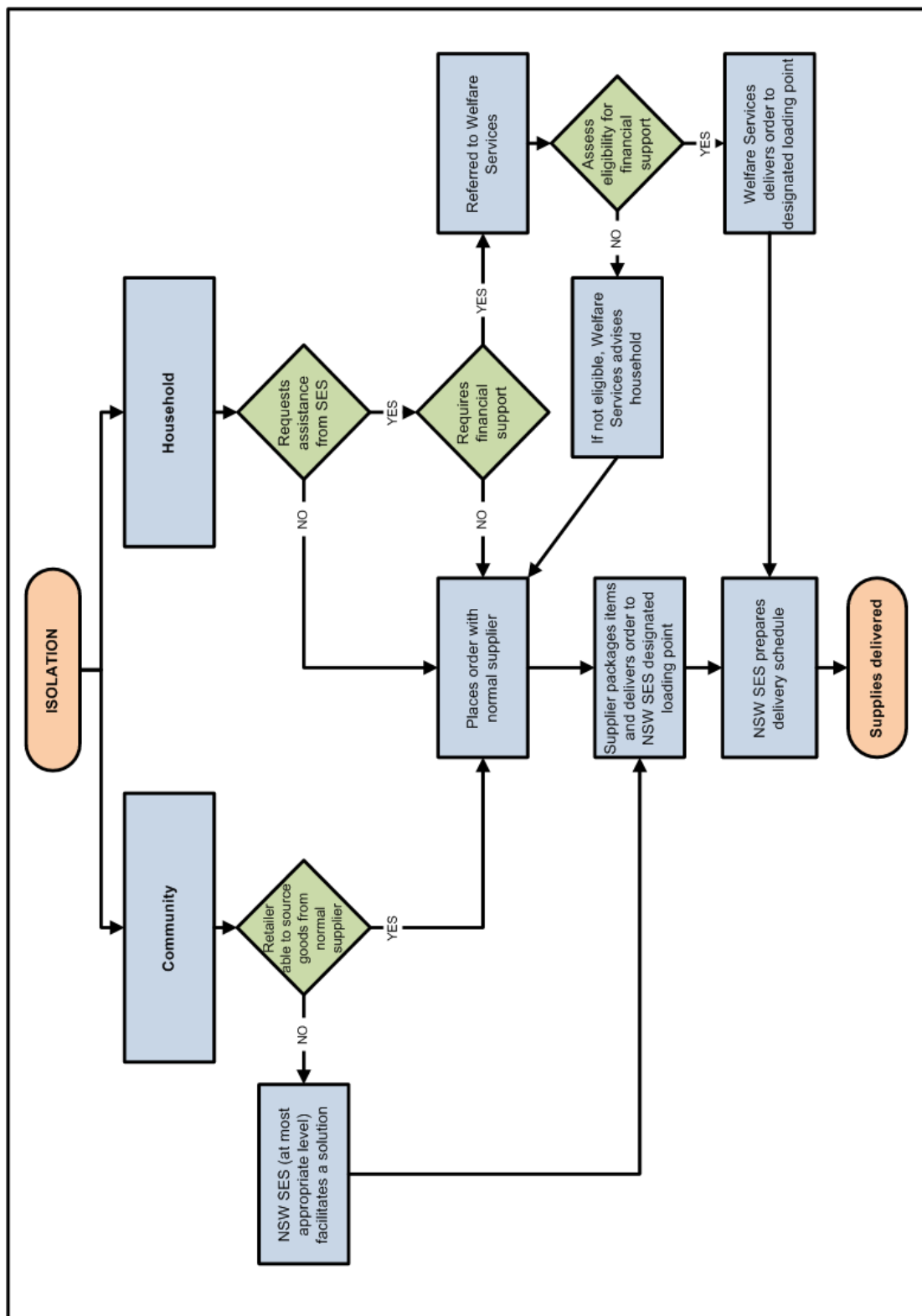
4.2 RECOVERY COORDINATION AT THE REGION AND STATE LEVEL

- 4.2.1 In the event that an emergency affects several local areas, a Region Emergency Management Committee (REMC) will meet to discuss recovery implications including the need for a Region Recovery Committee. This is conveyed in the first instance to the SEOCON for confirmation with the SERCON.
- 4.2.2 In the event of an emergency which affects multiple regions, or is of state or national consequence, or where complex, long term recovery and reconstruction is required, it may be necessary to establish a State Recovery Committee and the appointment of a State Recovery Coordinator.

4.3 ARRANGEMENTS FOR DEBRIEFS / AFTER ACTION REVIEWS

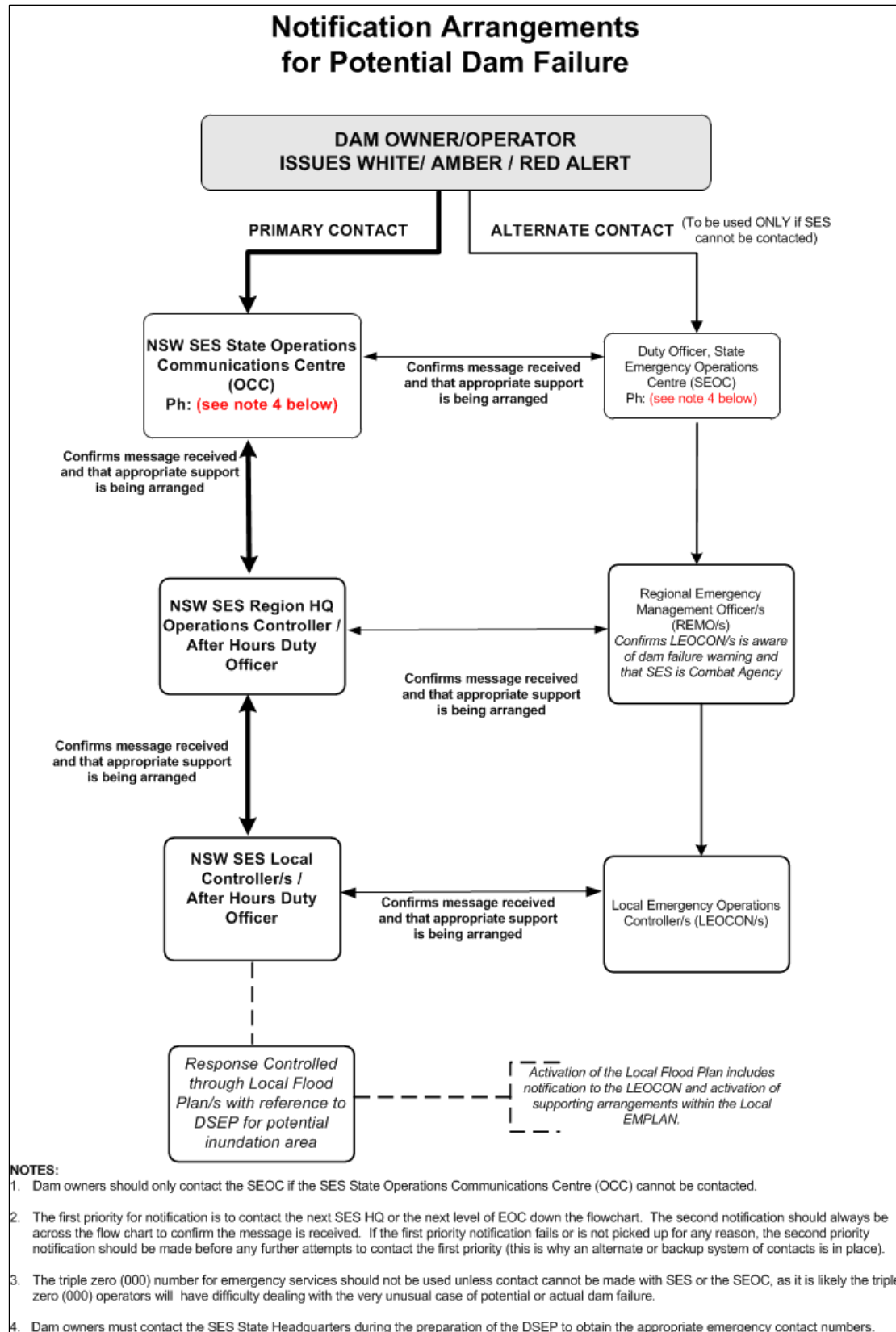
- 4.3.1 As soon as possible after flooding has abated, the NSW SES Parkes Local Controller will advise participating organisations of details of response operation after action review arrangements.
- 4.3.2 The NSW SES Parkes Local Controller will ensure that adequate arrangements are in place to record details of the after action review and each item requiring further action is delegated to an organisation or individual to implement.
- 4.3.3 Follow-up to ensure the satisfactory completion of these actions will be undertaken by the Parkes Shire Council Local Emergency Management Committee.

ATTACHMENT 1 - RESUPPLY FLOWCHART



Please Note: The chart outlines the resupply process, but does not encompass all potential situations and outcomes.

ATTACHMENT 2 - DAM FAILURE ALERT NOTIFICATION ARRANGEMENTS FLOWCHART



ATTACHMENT 3 - PARKES SHIRE COUNCIL LGA MAP



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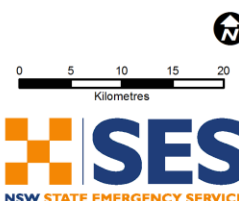
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PARKES SHIRE LGA

- Legend**
- Major Towns
 - ▲ Prescribed Dams
 - Key Roads
 - Key Rivers/ Creeks
 - Ocean, Lake, Dam
 - Local Government Areas



HAZARD AND RISK IN PARKES SHIRE

Volume 2 of the Parkes Shire Local Flood Plan

Last Update: August 2017

AUTHORISATION

The Hazard and Risk in Parkes 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



Manager Emergency Risk Management

Date: 2-8-17

Approved



NSW SES Lachlan Region Controller

Date: 31.07.17

Tabled at LEMC

Date: 23 August 2017

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VERSION LIST

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

Description	Date
Parkes Shire Local Flood Plan - Annex A and B	January 2008
Volume 2 - Hazard and Risk in Parkes Shire	August 2016

AMENDMENT LIST

Suggestions for amendments to this Volume should be forwarded to:

The Parkes Unit Local Controller

NSW State Emergency Service

Cnr Clark & Alluvial Streets

Parkes, NSW, 2870

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

Amendment Number	Description	Updated by	Date
1	Section 1.3 Storage Dams – Amendments to the North Parkes Tailings Dams table.	Maria De Deuge	2 Jun 2018

Document Issue: Version 3-02052016

1 THE FLOOD THREAT

1.1 OVERVIEW

- a. Parkes Shire Local Government Area (LGA) is located on the headwaters of the Bogan River which is a tributary of the Macquarie River (Basin No 421) and the Goobang (Billabong) Creek which is a tributary of the Lachlan River (Basin No 412) (1).
- b. Parkes is the major town with a number of smaller towns including Bogan Gate, Peak Hill, Trundle and Tullamore in the LGA.

1.2 LANDFORMS AND RIVER SYSTEMS

Lachlan River Valley

- a. The Lachlan River Valley is located in central western New South Wales, lying between the Macquarie and Murrumbidgee River Valleys. The valley covers an area of 84,700 square kilometres as a long and narrow basin. The Lachlan River rises on the Breadalbane Plain to the east of Gunning and flows initially westwards. Near Gunning the river veers northwards for some 120 kilometres until it is joined by a major tributary, the Crookwell River, which rises near Crookwell in the south-east of the valley. The river then flows northward for about 64 kilometres before entering the storage of Wyangala Dam. Another major tributary, the Abercrombie River, enters the Wyangala Dam storage after draining rugged sections of the Divide in the east of the valley (2).
- b. Below Wyangala Dam, the Lachlan River veers north-west. It is joined from the south by Hovell's Creek and the Boorowa River (Hilltops LGA) before it reaches Cowra (Cowra LGA). Downstream of Cowra the river enters a broadening valley and is met by two major tributaries, the Belubula River and Mandagery Creek (the southern and western boundaries of Cabonne LGA respectively), both of which drain the high country along the northern boundary. The river then flows to Forbes (Forbes LGA) where it is joined by the Goobang Creek and assumes a more westerly course to Condobolin (Lachlan LGA). On this reach the course is characterised by extensive meanders and swampy depressions. South of this section is Lake Cowal (Bland LGA) which is fed by a catchment of about 9,800 square kilometres which, during wet years, fills and overflows down its escape to the Lachlan and branch system (2).
- c. About 60 kilometres downstream from Condobolin the river turns south westerly and flows through flat country for about 800 kilometres before joining the Murrumbidgee River approximately 35 kilometres downstream of Maude (Hay LGA) (3).

Lachlan Catchment East of Parkes

- a. The Goobang Creek system comprising of the Back Goobang, Beargamil, Billabong, Bindogandri, Crooked, Flagstone and Ridgey Creeks drains the area north, east and south of Parkes. The Goobang Creek is also known as Billabong Creek where it flows through the old Parkes Municipal area (1).
- b. The Gunningbland and Milpose Creeks drain the area north west of Parkes and flow through the Gunning Range at Bogan Gate (Parkes LGA) (1).

Lachlan Catchment West of Parkes

- a. The creek systems which drain this area are Yarrabundry, Yarrabandai, Gillonbine and Gunningbland Creeks (1).

Macquarie-Bogan River Valley

- a. The Bogan River starts in the Hervey Range near Peak Hill and flows north-west to Nyngan. The western side of the catchment is drained by four major tributaries: Bullock Creek near Tottenham and Bulbodney, Pangee and Whitbarrow Creeks to the west of Nyngan. The eastern catchment between the Bogan and Macquarie Rivers is ill-defined and has only one major tributary, Mulla Cowal near Nyngan (outside of the Parkes LGA), with a catchment area of 1,000 square kilometres. The total catchment area of the Bogan River upstream of Nyngan is approximately 18,000 square kilometres. Unlike the other main rivers of inland New South Wales, the Bogan does not rise in the well-watered highland areas, so it's flow is low and erratic (4).
- b. The Parkes Shire LGA only covers a small part in the south of this catchment which includes the network of tributaries which drain the western side of the upper catchment west of Peak Hill. These include Burradona, Burrill, Ten Mile, Cookopie, Genaren, Sandy, Kadungle and Bullock Creeks (1). The river forms the northern boundary of the Parkes / Narromine LGAs from about 7 kilometres northwest of Peak Hill to a point about 12 kilometres southeast of the rural locality of Dandaloo.

1.3 STORAGE DAMS

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

Table 1: Prescribed Dams in Parkes LGA; summary of information about each storage.

Lake Endeavour Dam (1)	
Owner / Operator	Parkes Shire Council
Description of Dam	<p>Lake Endeavour Dam was built in 1940 and has a capacity of 2,400ML at FSL.</p> <p>It is an earth fill dam with concrete core wall. It has a concrete spillway. The dam is the main water supply for Parkes and Peak Hill.</p> <p>(5).</p> <p>The dam was upgraded in 2015 to strengthen the Dam embankment and spillway training wall to ensure long term stability and integrity. As at August 2016 the dam is still undergoing an assessment on the revised alert trigger levels.</p>
Location	This dam located 25 Kilometres east of Parkes on Billabong Creek (5).
Communities Downstream	<p>Downstream of the dam there are a number of houses near Billabong Creek.</p> <p>73 houses potentially affected downstream in PMF dam failure (along Billabong Creek)</p>
Monitoring System	There is a SCADA monitoring system installed at the dam to monitor water levels and the security system (5).
Warning System	The dam has an early warning system which notifies Council & SES via SMS messages of protection, orange and red alert levels (5). It also has an early warning system available online: https://adms.ajenti.com.au/
Other	Flow times are short. It is estimated the first house will be flooded above floor level in about 16 minutes of a dam failure (6). Further inundation will occur particularly to properties within the first 16 kilometres of the dam (5).

Beargamil Dam	
Owner / Operator	Parkes Shire Council
Description of Dam	Beargamil Dam, built in 1924 is located on Beargamil Creek and has a capacity of 480ML. Construction of the dam created Lake Metcalfe. This dam also feeds into the Parkes and Peak Hill water supply.
Location	The dam is located about 19 kilometres northeast of Parkes and 4.5 kilometres northwest of Endeavour Dam
Communities Downstream	Not known. Flows into Beargamil Creek, east of Parkes.
Monitoring System	Not known
Warning System	Not known
Other	Not known

North Parkes Tailings Dams (7)	
Owner / Operator	Northparkes Mines
Description of Dam	Rosedale Tailings Storage Facility (TSF) contains 3 off stream mine tailings dams, Caloola Ponds (North, South, East). Storage capacities are 462,500, 628,100 and 416,600 m ³ , which is estimated to be sufficient to retain water volumes pumped out of the TSF in a 1% AEP 72 hour storm event. However this assumes full capacity of Caloola Ponds is available, when historically, Caloola Ponds has been used to store excess water temporarily
Location	Located to the west of Bogan Road, approximately 30km north west of Parkes.
Communities Downstream	Peak Hill
Monitoring System	A comprehensive monitoring program (including inspections and piezo monitoring) has been developed for the TSF to detect potential problems early and ensure remedial actions are taken to reduce the likelihood of failures.
Warning System	Not known
Other	Not known

1.4 WEATHER SYSTEMS AND FLOODING

- a. The Parkes Shire LGA has an average annual rainfall of 588 millimetres with the higher eastern area of the shire receiving slightly more rainfall than the plains to the west. In (one) significant rainfall event rain exceeding 155 millimetres in a 24 hour period has been recorded (1).
- b. The rainfall is slightly more dominant in Autumn through Spring, however flooding can occur in any season. In summer, low pressure troughs moving southward from the northern parts of the continent can cause intense short-periods of rainfall leading to flooding. Winter floods are historically from a sequence of troughs moving from the southwest, these produce substantial rain over an extended period (1).
- c. Thunderstorms between November and March have produced extensive rainfall over short periods resulting in flash flooding as town drains, culverts and smaller creeks fail to contain the volume of water in them (1).

1.5 CHARACTERISTICS OF FLOODING

- a. The characteristics and extent of flooding in the Lachlan River Basin is best considered in three distinct areas, they are (1):

- i. The Lachlan catchment east of the Gunning Range. This area has no direct relevance to this plan.
 - ii. The Lachlan catchment west of the Gunning Range. This includes the central and southern parts of the Parkes LGA.
 - iii. The Bogan catchment. The headwaters of this catchment are in the northern part of the Parkes LGA west of Peak Hill.
- b. In the Lachlan River catchment, floods generally rise quickly, are contained within the creek lines and adjacent low lying flats, and fall relatively quickly. The exception is on Goobang (Billabong) Creek downstream of Tichborne (10 kilometres south of Parkes) where the flood plain is up to one kilometre wide and extensive and prolonged flooding starts to occur by the time the creek reaches the Goobang Range (1).
 - c. Flooding in Parkes is limited to local urban stormwater surcharges and response actions usually only require minor sandbagging and/or pumping operations (1).
 - d. Flooding on Yarrabundry, Yarrabandai, Gillonbine and Gunningbland Creeks to the west of Parkes (and Gunningbland Range) can result in the development of flood runners in usually dry watercourses. This results in some extensive areas of inundation. In the case of Gunningbland Creek flows generally west southwest, with the drainage of these flood waters is inhibited by the Bogan Gate-Condobolin Road and Railway Line (1).
 - e. In the southern part of the Macquarie-Bogan catchment flood waters are generally limited to the adjacent river flats however from a line north of the Peak Hill-Tullamore Road (MR348) flood waters from the Bogan River, Sandy and Kadungle Creeks break out in to a series of flood runners that cover an extensive area (1).

1.6 FLOOD HISTORY

- a. Records show a history of flooding, in what is now the Parkes Shire LGA, at Trundle and Bogan Gate with the most significant in 1930, 1952, 1973, 1976, 1990, 1992, 1998, 2005 (1), 2012 (7) and 2016.
- b. Flooding in these years resulted in houses in one or both these communities being inundated (1). Above floor inundation was reported in Trundle for both 2005 and 2012 floods.
- c. The Bogan catchment below Peak Hill also had a significant flood event in 1978 (1).
- d. Rural properties Rosehill, Montana and Pine Park south west of Tullamore towards Fifield were flooded during the 2005 storm event with Rosehill and Pine Park recording one metre of water through the homesteads (1).

- e. Parkes township was isolated by floodwaters and flash flooding after 106 millimetres of rain fell in 24 hours on 3rd December 2010 (5).
- f. In July 2016, the Bogan River at Peak Hill peaked at 3.81 metres with minor flooding, resulting in a number of local road closures.
- g. In September 2016, a large number of roads were impacted by overland and flash flooding including Narromine-Tullamore Road, Bogan Gate-Trundle Road, Bogan Way, Peak Hill-Tullamore Road, Eugowra Road, Henry Parkes (Orange) Road, Newell Highway and 202 local roads. Trundle was isolated for a few days which included 339 dwellings and 250 campers. The power and sewerage in Parkes was also impacted for 24-48 hours, as a consequence of the rainfall (8). Rural inundation was experienced across the LGA (9).

1.7 FLOOD MITIGATION SYSTEMS

- a. There are no known specific flood mitigation systems within the Parkes LGA.

1.8 EXTREME FLOODING

- a. Trundle becomes isolated in the 1% AEP event and almost the entire town is flooded in the PMF event (10).
- b. In extreme flood events residences at Tichborne (10 kilometres south of Parkes on the Newell Highway (HW17)), Bogan Gate and rural properties west of Tullamore may become flooded. Trundle can be isolated for periods in excess of one week and Tullamore and Bogan Gate isolated for shorter periods of one to three days (1).

2 EFFECTS ON THE COMMUNITY

2.1 COMMUNITY PROFILE

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

Census Description	Parkes (LGA)	Parkes	Peak Hill	Trundle	Tullamore
Total Persons	14,592	10,946	1,152	665	663
Aged 0-4 yrs	1,040	807	70	46	52
Aged 5-14 yrs	2,238	1,718	140	93	96
Aged 65 + yrs	2,640	1,925	258	153	147
Of Indigenous Origin	1,212	792	247	46	43
Who do not speak English well	30	29	0	3	0
Have a need for assistance (profound/severe disability)	907	676	88	52	36
Living alone (Total)	1,557	1,164	160	89	60
Living alone (Aged 65+)	713	532	72	46	26
Residing in caravans, cabins or houseboats or improvised dwellings	68	62	9	3	3
Occupied Private Dwellings (Households)	5,402	4,025	459	269	254
No Motor Vehicle	494	386	58	27	14
Caravan, cabin, houseboat or improvised dwell	37	31	4	0	3
Rented via State or Housing Authority	255	240	16	3	3
Rented via Housing Co-Op or Community Church Group	75	44	25	10	0
No Internet Connection	1,735	1,252	196	108	81
Unoccupied Private Dwellings	731	349	121	63	77
Average persons per occup dwelling	2.5	2.5	2.2	2.5	2.7
Average vehicles per occup dwelling	1.7	1.6	1.6	1.8	2.1

SPECIFIC RISK AREAS - FLOOD

Lachlan River Valley

2.2 PARKES AND TICHBORNE

2.2.1 Community Overview

- a. Parkes is located in mid-western NSW, on the Newell Highway (HW17). It is the major town servicing the Parkes Shire LGA. The town is surrounded by farmland where wheat and wool are the main products. Parkes has an urban population of 10,026 as at 2011 with an indigenous population of 765 (11). Demographics are summarised in table 2.
- b. Tichborne is a small village 10 kilometres to the south of Parkes, it has a population of approximately 380 and 160 dwellings (11).

2.2.2 Characteristics of flooding

- a. Flooding in Parkes township is limited to local urban stormwater surcharges (1).
- b. Flooding in Tichborne generally occurs due to Goobang Creek flooding.

2.2.3 Flood Behaviour

- a. Flooding on Goobang Creek downstream of Tichborne, the floodplain is up to a kilometre wide and extensive and prolonged flooding can occur.
- b. Heavy rain in the upper reaches of the Goobang Creek can result in major flooding in Tichborne for example in 2010 (7).

2.2.4 Classification of Floodplain

- a. No information is currently available.

2.2.5 Inundation

- a. Historically, floods in Parkes has required minor sandbagging and/or pumping operations, with no significant inundation recorded (1).
- b. In Tichborne, up to six properties along the Goobang (Billabong) Creek either side of the Newell Highway (HW17), Warregal Road and Watts Lane can be inundated or isolated for up to 24 hours (1).

2.2.6 Isolation

- a. The primary threat posed by creeks in the area is road closures and some short term property isolation. This can result from either prolonged spells of wet weather or rainfall after lengthy dry periods (1). For example, Parkes township was isolated by

floodwaters and flash flooding after 106 millimetres of rain fell in 24 hours on 3rd December 2010 (5).

2.2.7 Flood Mitigation Systems

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

2.2.8 Dams

- a. Lake Endeavour Dam is located 25 kilometres east of Parkes on Billabong Creek. Beargamil Dam is located 19 kilometres to the northeast of Parkes. Failure of either dam is unlikely to impact on Parkes or Tichborne.

2.2.9 At Risk Facilities

- a. The facilities that are at risk of flooding and/or isolation within the Parkes 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. Parkes hosts the annual Elvis Festival over the second weekend in January and visitor numbers may exceed 20,000 for the event (12).

2.3 TRUNDLE AND BOGAN GATE

2.3.1 Community Overview

- a. Trundle is a rural community situated 60 kilometres north-west of Parkes with a population of 666 and a median age of 45 and an indigenous population of 50 (11).
- b. Bogan Gate is a small rural community with a population of 307 (11). It lies about 36 kilometres west of Parkes and 24 kilometres southeast of Trundle. It is situated adjacent to the main Sydney – Broken Hill railway.

2.3.2 Characteristics of Flooding

- a. Trundle township experiences frequent flooding from Yarrabandai and Goobang Creeks and residents are isolated during floods for up to one week and access to Trundle Hospital (located in Brookview Street) is lost for several days (10).
- b. Bogan Gate experiences flash flooding from local creeks, including Gunningbland Creek.

2.3.3 Flood Behaviour

- a. Trundle experiences frequent flooding resulting from rainfall runoff generated from the catchment areas of Yarrabandai and Goobang Creeks. Yarrabandai Creek is located to the north and Goobang Creek to the south, which bisect the town during floods. These creeks join in bushland just southwest of the town (10).
- b. During an average storm event, the residential and commercial areas are affected due to the short-term closure of roads. Larger events lead to the entire town becoming isolated for up to several days and access to Trundle Hospital is also cut. Each flood event usually results in a consistent pattern of inundation (10).
- c. There are several causways in the Trundle township that have historically caused flash flooding in and around Forbes Street, Mentone Street, North Street, Brookview Street and Parkes Street (8).

2.3.4 Classification of Floodplain

- a. Trundle becomes a low flood island in extreme floods, and is a high flood island at a 1% AEP flood when the Bogan Way north and south, Fifield Road, Condobolin Road, Middle Trundle Road and Ascot Road are all cut (7).

2.3.5 Inundation

- a. In Trundle, up to 13 homes can be inundated in Forbes Street (The Bogan Way), Parkes, Brookview, Hutton, Mentone, Long, North and Austral Streets adjacent to Yarrabandai Creek. The Services and Golf Clubs have also been inundated by up to

1.5 metres of water in 2005 and the Hospital and Aged Care Home (Multi-purpose Service Facility) for periods of 24-36 hours (1).

- b. Bogan Gate residences may become flooded in an extreme event (7).

2.3.6 Isolation

- a. Trundle becomes isolated in floods less than the 1% AEP event and the 2005 flood event is considered to be similar to the 1% AEP flood (10). In 2016, the town was isolated for a few days. Isolation may be in excess of one week for larger floods (7).
- b. In Bogan Gate, six properties on and near The Common next to the Gunningbland creek, north of Leafy Tank Road, Footshill Lane and The Bogan Way, were isolated in 1990 with residents requiring emergency accommodation for three days (1). Isolation generally occurs for one to three days (7).
- c. Road closures shown in Section 2.6 combined with those in the Bogan River Catchment area can mean that Trundle can be isolated for periods up to one week and Bogan Gate for 24-36 hours.

2.3.7 Flood Mitigation Systems

- a. There is a private levee constructed by one resident of Mentone Street on the northern side of the street in Trundle. It protects one residential dwelling. This levee was overtopped in March 2012 and required pumping of floodwaters out of the protected area (7).

2.3.8 Dams

- a. There are no prescribed dams near Trundle or Bogan Gate.

2.3.9 At Risk Facilities

- a. The facilities that are at risk of flooding and/or isolation within the Parkes 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. Trundle Abba Festival is held on the 1st Saturday in May annually. This event takes the population of Trundle from 665 to 5000 for several days (8) (13). In addition the Bushtucker Day is held annually in September, bringing a large number of tourists and campers (14).

2.4 COOKAMIDGERA

2.4.1 Community Overview

- a. Cookamidgera is a locality of around 215 people (11), located approximately 13 kilometres to the south east of Parkes.

2.4.2 Characteristics of Flooding

- a. Cookamidgera can be flooded as a result of runoff from the Cooka Hills to the east, as well as local flooding from rainfall and flash flooding of Bartleys Creek through the town (mainly urban runoff).

2.4.3 Flood Behaviour

- a. Flooding can occur quickly and can be quite fast and deep, particularly along Trigg Hill Road. This area is ungauged.

2.4.4 Classification of Floodplain

- a. Insufficient information available.

2.4.5 Inundation

- a. At least one property on the intersection of Mullins Street and Flagstone Street is at risk of inundation (14).

2.4.6 Isolation

- a. Cookamidgera can become isolated when Trigg Hill Road is cut at the causeway (Quart Pot Creek) between Eugowra Road and Cookamidgera; as well as when Cookamidgera Road and Cooka Hills Road are cut from local rainfall (14).
- b. Haynes Street is at risk of being cut temporarily and the northern side of the Flagstone Street is also at risk of being cut at the culvert near the Cooka Hills Road intersection (14). This can further isolate rural residents to the north (approximately 15 properties) and east (<20 residents) of the town (14).

2.4.7 Flood Mitigation Systems

- a. No known flood mitigation systems.

2.4.8 Dams

- a. There are no prescribed dams near Cookamidgera.

2.4.9 At Risk Facilities

- a. The facilities that are at risk of flooding and/or isolation within the Parkes 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.

Macquarie-Bogan River Valley

2.5 PEAK HILL AND RURAL LOCALITIES

2.5.1 Community Overview

- a. The main population centre in the Bogan River Valley within the Parkes Shire LGA is Peak Hill which is located about 50 kilometres north of Parkes on the Newell Highway (HW17).
- b. The population of Peak Hill is 1150, with an Indigenous population of 21% (243) (11).

2.5.2 Characteristics of Flooding

- a. Flooding of the Bogan River in Parkes LGA is typically riverine and overland flooding impacting low lying farming areas and road crossings.

2.5.3 Flood Behaviour

- a. Flooding around Peak Hill is caused by the Bogan River, and its smaller tributaries including Goonumba Creek, Deception Creek, Stanfords Creek, Stockroute Creek and Hallinans Creek.
- b. The Bogan River water level is monitored with river gauges at Peak Hill near the Bogan Weir (421076).

2.5.4 Classification of Floodplain

- a. No information is currently available.

2.5.5 Inundation

- a. The rural community and properties along the Bogan River and its tributary creeks may be impacted by floodwaters when the Bogan River exceeds minor flood level on the Peak Hill gauge (Gauge No 421076).
- b. There are no recorded inundation consequences in the township of Peak Hill itself, as is not situated on the Bogan River; however, the rural properties Rosehill, Montana and Pine Park south west of Tullamore towards Fifield are susceptible to over floor flooding for example in the 2005 storm event (1).

2.5.6 Isolation

- a. Tullamore Road, (between Tullamore and Peak Hill) is likely to be cut before the minor flood level, at around 1.1 metres on the Peak Hill gauge (421076).
- b. Minor flooding (2.5 metres) causes low level road crossings to flood and may result in road closures of Kitto's Bridge, Mungery West (off Bulgandramine Road over the Bogan River). Adavale Lane, Goonumbra (near the Limestone State Forest) may also be flooded where it crosses the Bogan River (15).

- c. Major flooding (6m on Peak Hill gauge) causes all river roads to close, isolating a number of rural properties around Peak Hill (16). Rural properties, particularly those in the north and west of the shire are isolated for short periods, no further details have been recorded of resupply or other assistance (1).
- d. A list of roads at risk of flooding is provided in section 2.6.

2.5.7 Flood Mitigation Systems

- a. No known flood mitigation systems have been identified in the Bogan River valley.

2.5.8 Dams

- a. Northparkes Mine tailing dams are located in this catchment and are prescribed dams. They are located off stream to the west of Peak Hill.
- b. Bogan Weir (412005), is located on the Bogan River at Peak Hill. It is not a prescribed dam.

2.5.9 At Risk Facilities

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

2.5.10 Other Considerations

- a. No other considerations have been identified.
- b. It is acknowledged that rural properties, particularly those in the north and west of the shire are isolated for short periods and except for those properties already identified, no further details have been recorded of resupply or other assistance (1).

ROAD CLOSURES AND ISOLATED COMMUNITIES

2.6 ROAD CLOSURES

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

Table 3: Roads liable to flooding in Parkes LGA (1).

Road	Closure location	Consequence of closure	Alternate Route	Indicative gauge height
Lachlan River Valley East of Parkes				
Henry Parkes Way (MR61)	Can be closed by long shallow sheet flooding from the tributary streams of the Billabong and Bindogandri Creeks.	Flooding usually lasts no longer than two-three hours. Cuts direct access between Parkes and Orange		n/a
Renshaw McGirr Way, Parkes (MR233)	Goobang Creek and Olieview Road	Can be cut for up to three hours. Cuts direct access between Parkes and Wellington		n/a
Eugowra Road, Parkes (MR238)	Low level crossing over Goobang (Billabong Creek) on the south eastern side of Parkes.	Can be cut for up to two days. Permanent alternate route available between Eugowra and Parkes	Permanently marked detour via Military Road	n/a
The Newell Highway (HW17)	Alectown (Burrandong Creek)	Can be cut for a few hours to 24 hours		n/a
Lachlan River Valley West of Parkes				
The Newell Highway (HW17)	Goobang (Billabong) Creek at Tichborne; 15 kilometres south of Tichborne at Crooked Creek	Can be cut for up to 24 hours- a few days by flooding cutting access between Forbes and Parkes		n/a
Henry Parkes Way (MR61)	Ridgey Creek and Brolgan Creek	Can be cut for up to four hours (there have been reports of water across the road at Brolgan Creek, 18kilometres west of Parkes, for up to three days) restricting access between Parkes and Condobolin		n/a

Road	Closure location	Consequence of closure	Alternate Route	Indicative gauge height
The Bogan Way (MR350)	Goobang (Billabong) Creek and the Crooked Creek	Can be cut for up to several days restricting access between Bogan Gate and Forbes		n/a
Middle Trundle Road, Back Trundle Road, Ascot Road, Boorr Hill (Capell) Road, Scotson Lane, Ravenswood Lane, Woodview Road, Carlisle-Trundle Road, Condobolin-Trundle Road, Fifield-Trundle Road	Various locations along Yarrabandai Creek & Yarrabundry Creek	Can be cut up to seven days isolating Trundle from surrounding villages and towns - Isolates rural properties near Trundle for 36-48 hours.	No	n/a
Henry Parkes Way (MR61)	Gunningbland Creek approx. 6 kilometres west of Bogan Gate. Can be cut for up to four days by the Gunningbland Creek	Restricts access between Bogan Gate and Condobolin		n/a
Henry Parkes Way (MR61)	Approx. 3 kilometres East of Bogan Gate. Can be cut for up to four days by the Gunningbland Creek	Restricts access between Bogan Gate and Parkes		n/a
The Bogan Way (MR350)	Approx. 1.5 kilometres North of Bogan Gate. Can be cut for up to four days by the Gunningbland Creek.	Restricts access between Bogan Gate and Trundle		n/a
Bogan River Valley				
Tullamore Road (MR348)	Bogan River and/or Ten Mile Creek. Can be cut by the Bogan River and/or Ten Mile Creek for a period of up to four days. This road can also be cut by Genaren,	Restricts direct access between Tullamore and Peak Hill	Detour via Minerong Road is available except during major flooding.	

Road	Closure location	Consequence of closure	Alternate Route	Indicative gauge height
	Sandy and Kadungle Creeks for up to 24 hours			
The Bogan Way, Kadungle (MR350)	Kadungle Creek	Can be cut for up to 24 hours restricting direct access between Trundle and Tullamore	No	
Bruie Plains Road, Trundle	Genaren Creek. Can be cut by the Genaren Creek and Yarren Creek	Access between Trundle and Bruie Plains and Peak Hill can be cut for 24hrs (8)	No	
The McGrane Way (aka Narromine Road) MR354	Can be cut at a number of places, including the leg of Mutton Creek, the Bogan River and some of the Genaren Creek tributaries	Access is closed for several days between Narromine and Tullamore. Closed to heavy vehicles for months in 2016. (8)	No	
The Bogan Way (Tullamore-Tottenham Road) (MR57) / The McGrane Way	Bullock Creek about 3 kilometres north of Tullamore. Can be cut at the western approach to the Bullock Creek bridge for up to 24 hours.	Restricts access between Tullamore and Tottenham	No	
Numalla Road (Tullamore-Peakhill Road)	Sandy Creek about 20km north east of Trundle	Can be cut for 24hrs	No	

- b. In July 2016 the following roads were closed due to local rainfalls of 53 millimetres in the Parkes Shire Council LGA (which peaked at 3.81 metres at Peak Hill on 21 July 2016).
- i. Narromine to Tullamore (also referred to as The McGrane Way and Narromine Road) (MR354)
 - ii. Tullamore to Peak Hill (Tullamore Road) (MR348)
 - iii. Bulgandramine Road, Peak Hill at Stockroute Creek (SR1162)
 - iv. Railway Parade, Peak Hill at Fiddlers Creek (SR82A)
 - v. Mingerong Road, Peak Hill at the Bogan River (SR129)
 - vi. Renshaw McGirr Way, Parkes at Olievie Road (SR26)
 - vii. Taweni Road, Parkes at Deception Creek
 - viii. Terrill Road, Parkes near Jubilee Farm (SR19-21)

- ix. Kamandra Lane, Parkes at Goobang Creek (SR17)
- x. Bruie Plains Road, Trundle at Genaren Creek (SR1158)
- xi. Eugowra Road, Parkes at Bartleys Creek (U980)
- xii. Back Yamma Road, Parkes near Parkesborough Road (SR2)
- xiii. The Welcome Road, Parkes near Parkesborough Road (SR8)
- xiv. Coopers Road, Parkes (SR47)
- xv. Coobang Road, Parkes at Goobang Creek (SR27)
- xvi. Ben Hall Road, Parkes (SR17)
- xvii. Gobondery Road, Tullamore at Bullock Creek (SR168)
- xviii. Parkes to Cookamidgera Road (Cookamidgera Road), Cookamidgera (SR1B)
- xix. Warregal Road, Tichborne (SR42)

2.7 SUMMARY OF ISOLATED COMMUNITIES AND PROPERTIES

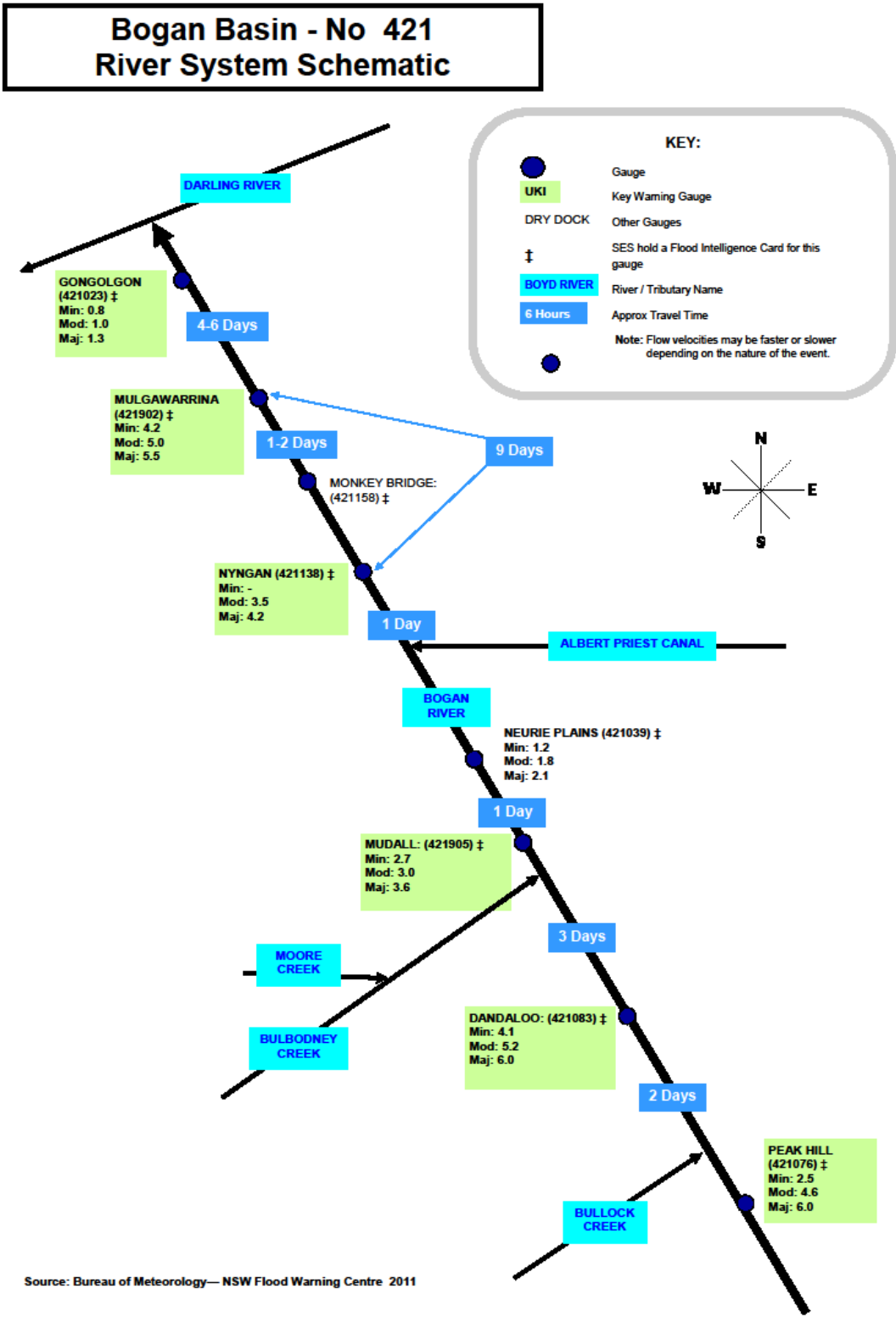
- a. Details of isolated communities is summarised in table 4.

Table 4: Potential Periods of Isolation for communities in the Parkes LGA during a Major flood.

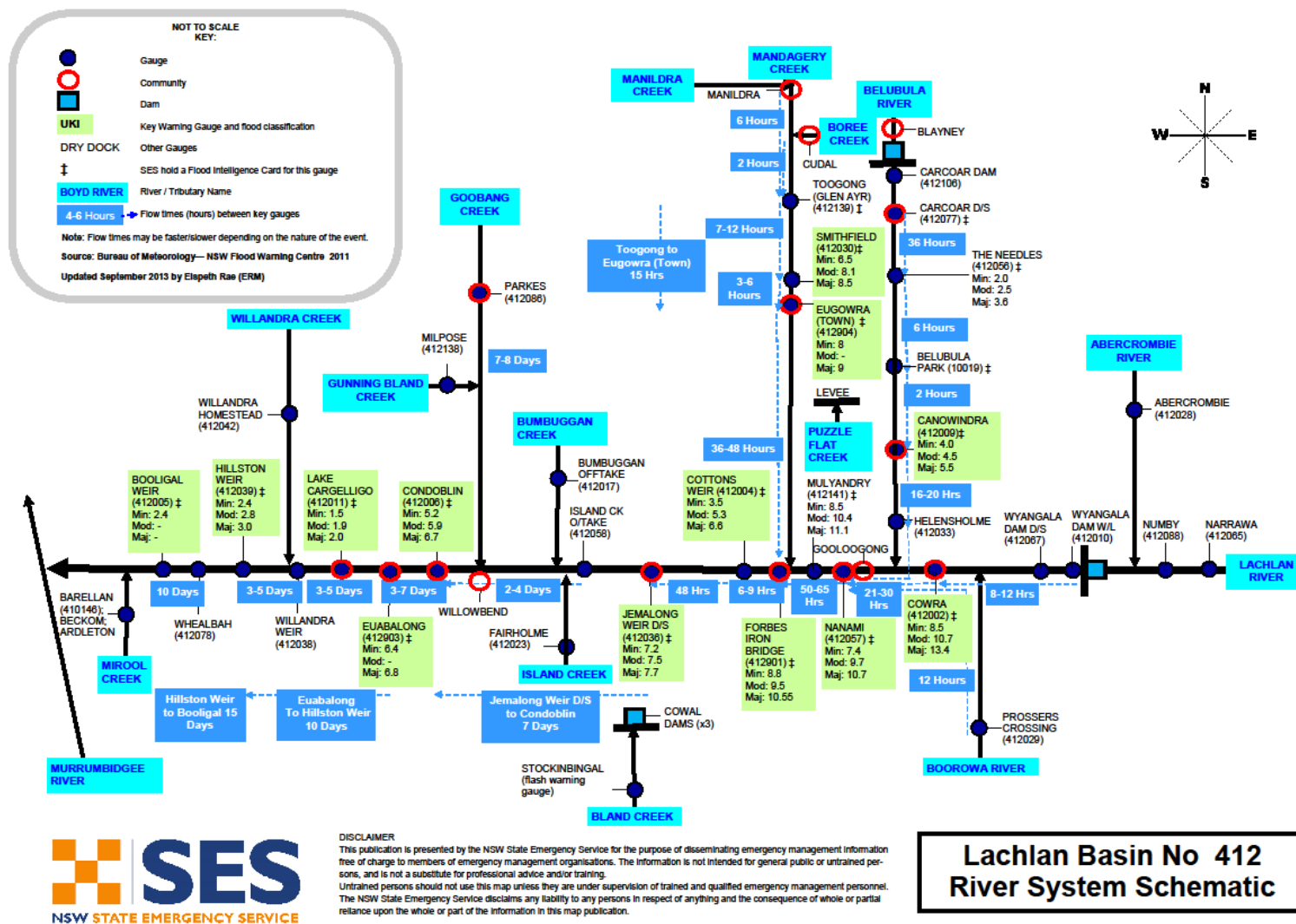
Town / Area (River Basin)	Population/ Dwellings	Flood Affect Classification	Approximate period isolation	Days								NOTES
				1	2	3	4	5	6	7	8	
Trundle	666 persons / 337 dwellings	High Flood island at 1% AEP, Low Flood Island in extreme	6 – 7 days									Resupply by rotary aircraft as roads closed and no suitable airstrip in town vicinity
Bogan Gate	307 persons /160 dwellings	High Flood island	1 – 2 days									Resupply by rotary aircraft

Note: Periods of isolation are a guide only. Liaison with the Local Controller and communities/residents involved is essential during periods of potential and actual isolation.

ANNEX 1A: MACQUARIE -BOGAN RIVER BASIN SCHEMATIC



ANNEX 1B: LACHLAN RIVER BASIN SCHEMATIC

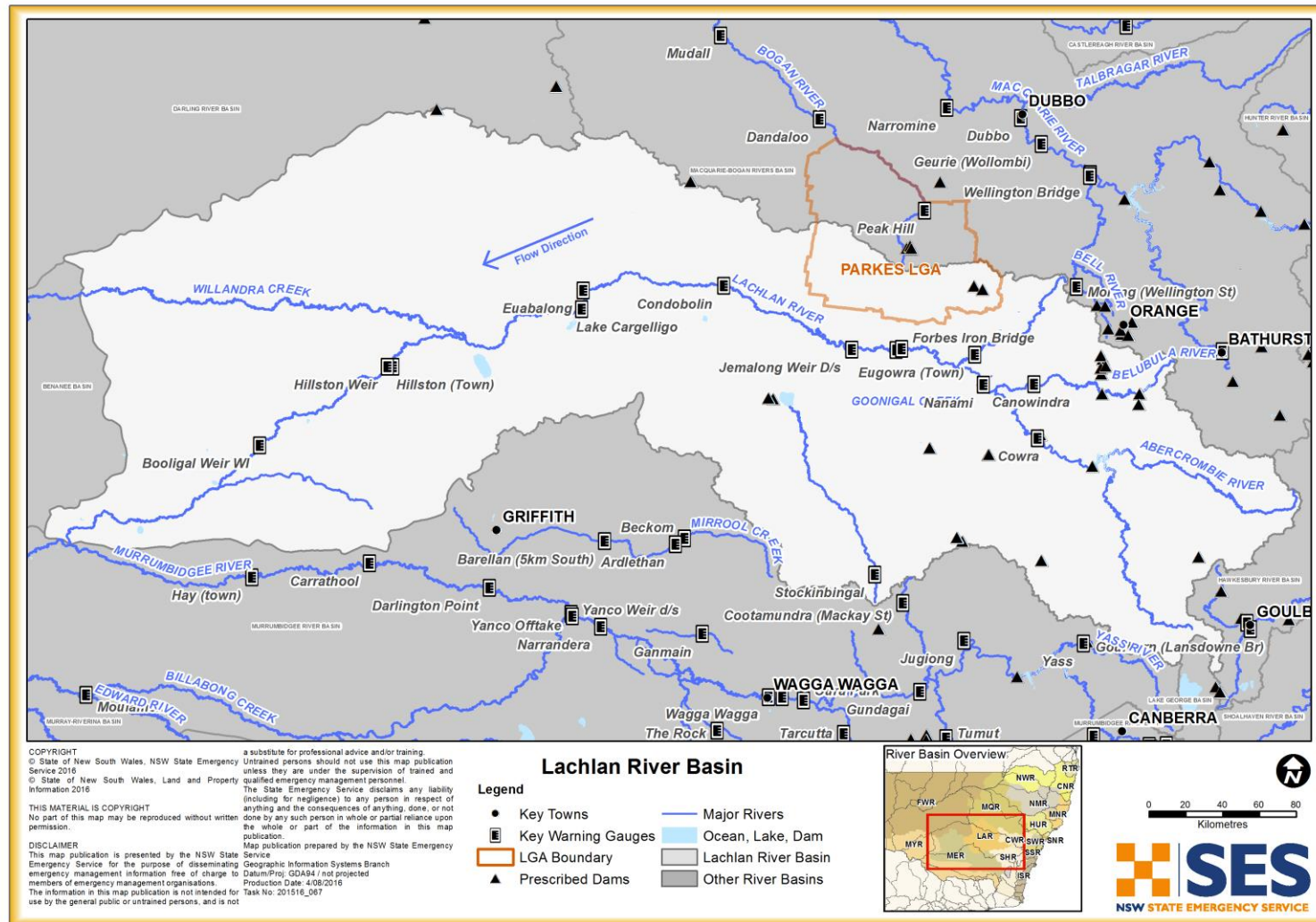


ANNEX 2: FACILITIES AT RISK OF FLOODING AND/OR ISOLATION

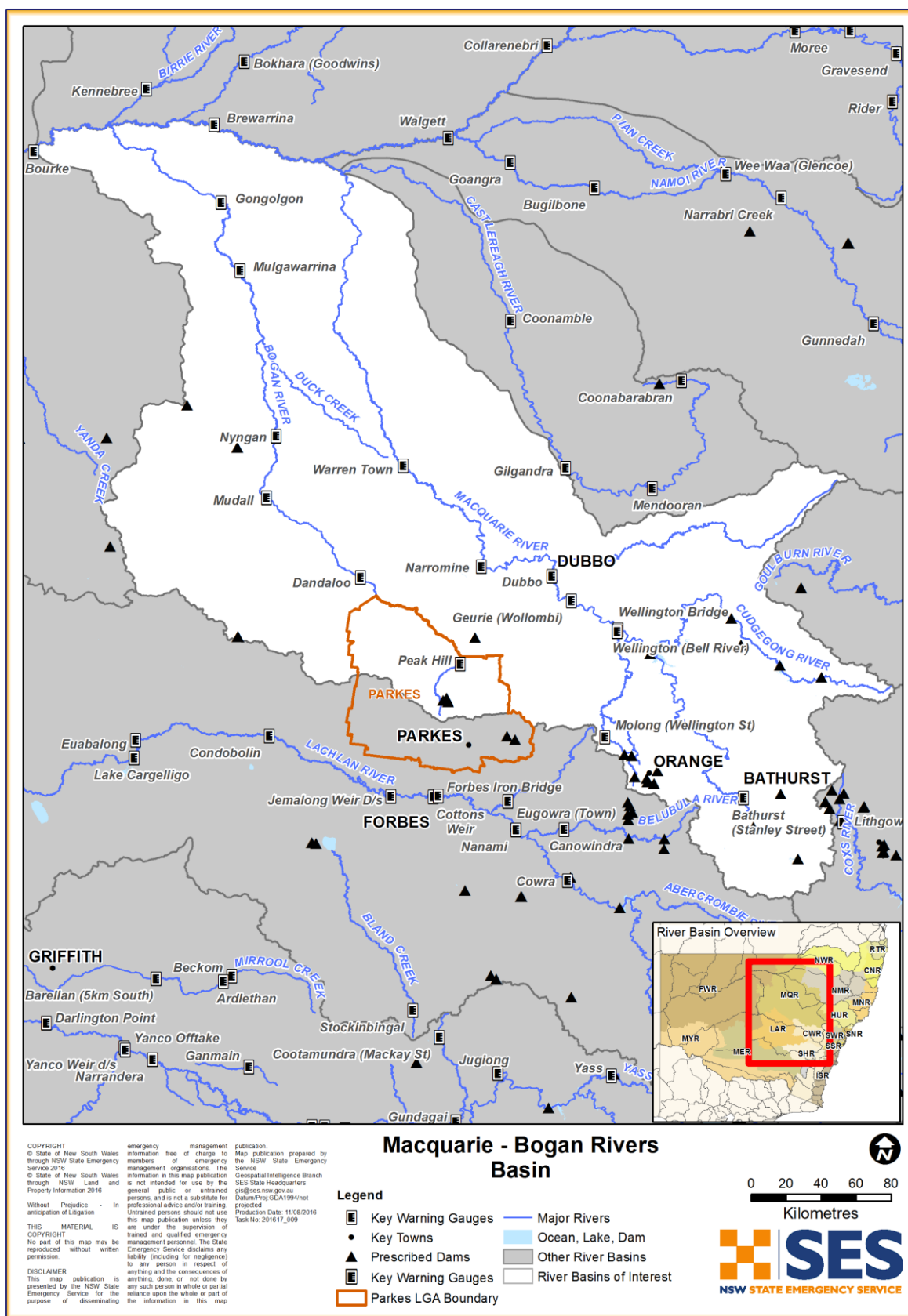
Lachlan Valley

Facility Name	Street	Suburb	Comment
Schools			
Trundle Central school	Croft Street	Trundle	
St Patricks Primary School	1 Austin Street	Trundle	
Child Care Centres			
Trundle Child Care Centre/Pre-school	15 Forbes Street	Trundle	
Facilities for the aged and/or infirm			
Trundle Multi-Purpose Service (hospital and aged care)	Brookview Street	Trundle	A 1% AEP flood can isolate the town and higher floodwater depths can inundate the Multi-Purpose Service buildings
Utilities and infrastructure			With the exception of unformed road, drainage culverts and the east-west rail line there is no record of any significant infrastructure damage (1).
Camping Ground / Caravan Parks			
Trundle Showground	Austral Street	Trundle	Isolated due to local flash flooding

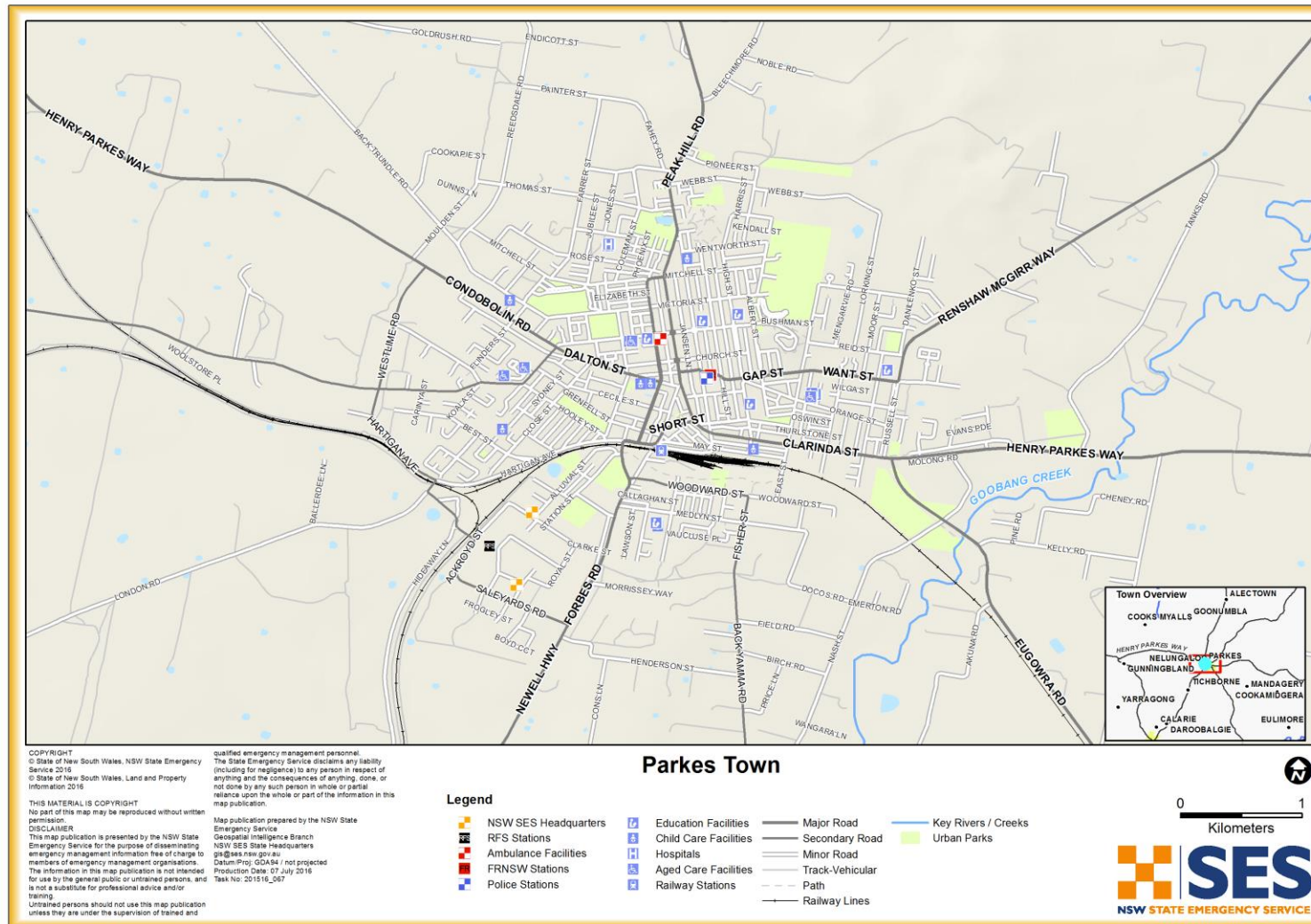
MAP 1: LACHLAN RIVERBASIN



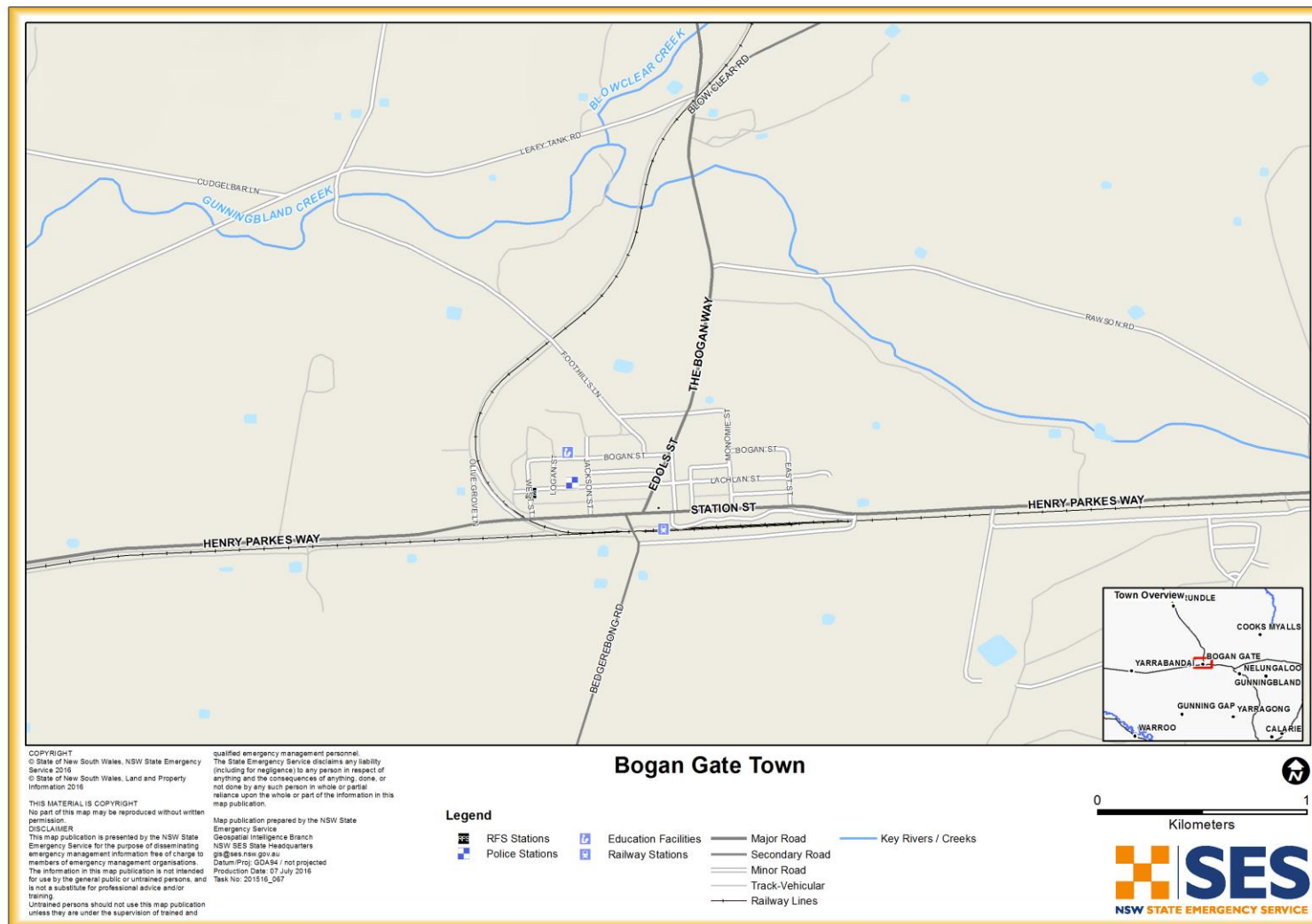
MAP 2: MACQUARIE RIVERBASIN



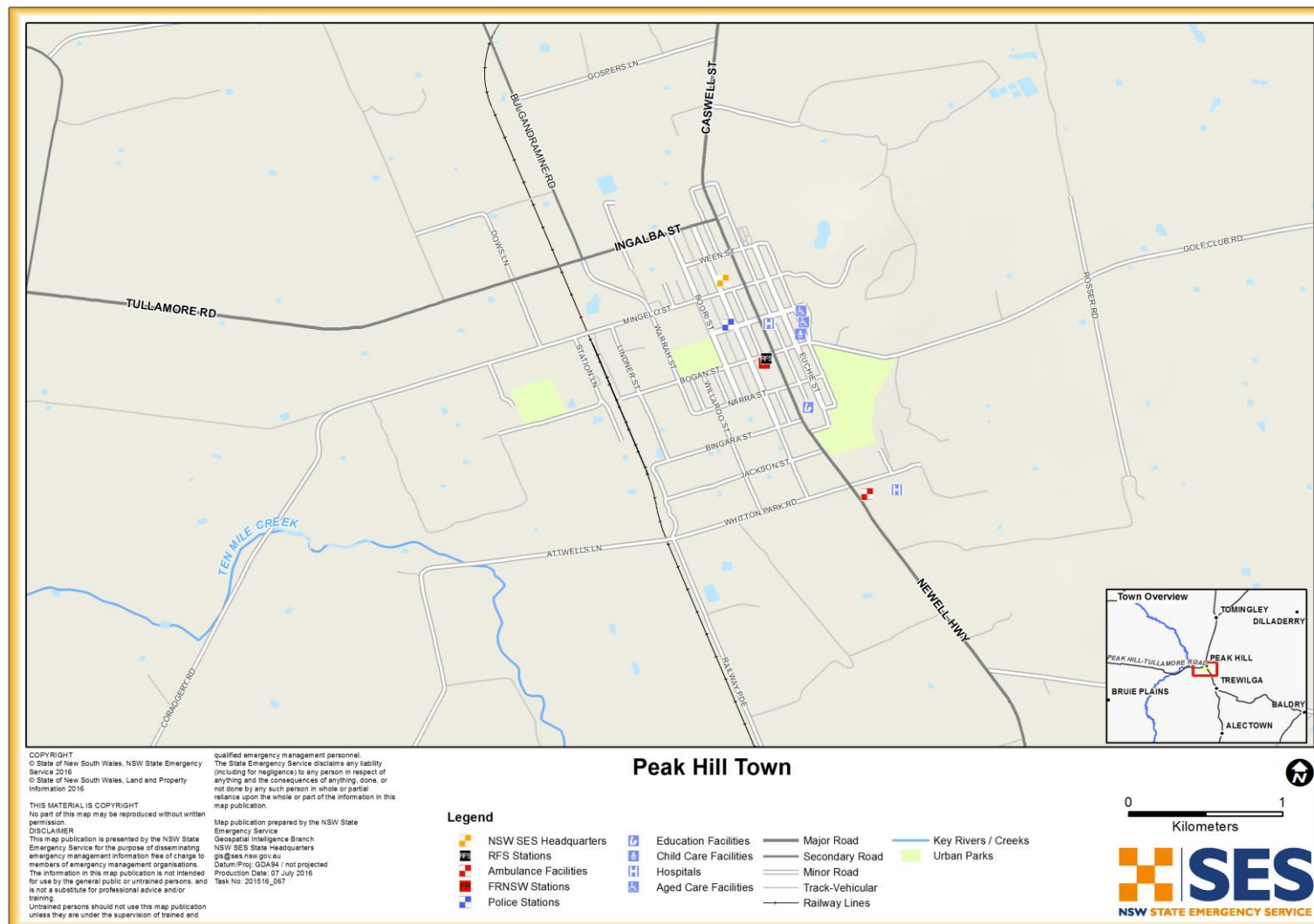
MAP 3: PARKES TOWN MAP



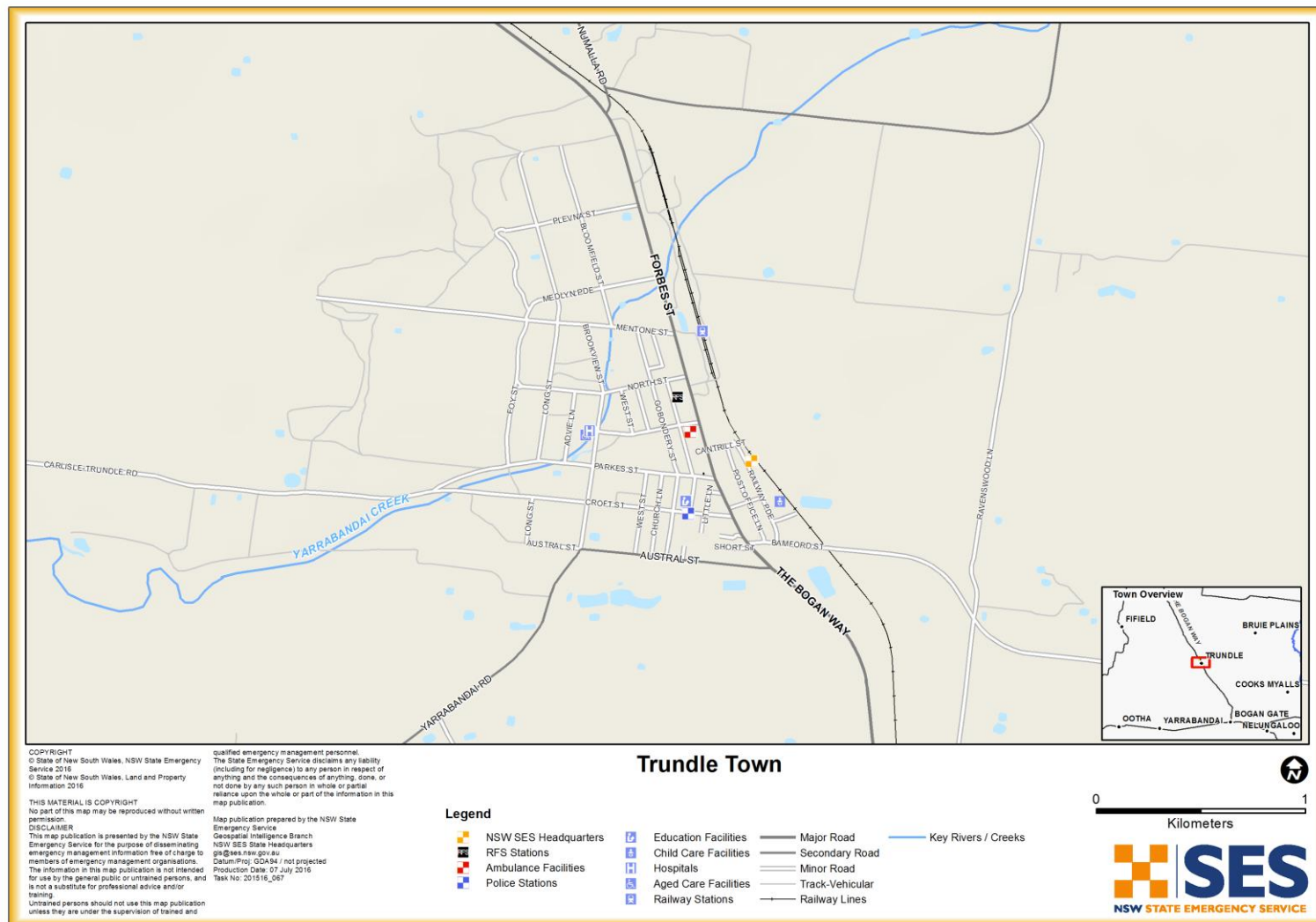
MAP 4: BOGAN GATE TOWN MAP



MAP 5: PEAK HILL TOWN MAP



MAP 6: TRUNDLE TOWN MAP



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SES RESPONSE ARRANGEMENTS FOR PARKES SHIRE

Volume 3 of the Parkes Shire Local Flood Plan

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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

- *Arrangements for the Evacuation of flood liable Caravan Parks within the LGA.*
- *Specific arrangements for individual parks likely to be affected by flooding.*

VERSION LIST

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

[illegible]

AMENDMENT LIST

Suggestions for amendments to this Volume should be forwarded to:

The Parkes Unit Local Controller

NSW State Emergency Service

Cnr Clark & Alluvial Streets

PARKES, NSW 2870

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

[illegible]

PARKES SHIRE: FLOOD WARNING SYSTEMS AND ARRANGEMENTS

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

Last Update: September 2018

AUTHORISATION

Parkes 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



NSW SES Lachlan Region Controller

Date: 10 September 2018

Tabled at LEMC

28 November 2018

Document Issue: 3.1-07042014

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TABLE 1: GAUGES MONITORED BY THE NSW SES PARKES SHIRE LOCAL HEADQUARTERS.....3

1. GAUGES MONITORED BY THE NSW SES PARKES LOCAL HEADQUARTERS

Table 1: Gauges monitored by the NSW SES Parkes Shire Local Headquarters

Gauge Name	Type	AWRC No.	Bureau Gauge No.	Stream	Flood level classification in metres			Special Reading Arrangements	Owner
					MIN	MOD	MAJ		
Dandaloo*(‡)	Automatic	551002	421083	Bogan River	4.1	5.2	6.0		WaterNSW
Peak Hill*(‡)	Automatic	551001	421076	Bogan River	2.5	4.6	6.0		WaterNSW
Parkes	Manual	412086	na	Goobang Creek	na	na	na	Parkes Unit monitor gauge	DLWC
Tichborne Fields	Manual	10380	na	Goobang Creek	na	na	na	Parkes Unit monitor gauge	COU

Notes: The Bureau of Meteorology provides flood warnings for the gauges marked with an asterisk (*).

NSW SES Local Flood Advices are provided for the gauges marked with a single cross (†).

The NSW SES holds a Flood Intelligence Card for the gauges marked with a double cross (‡).

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
Southern Cross	Orange
WIN	Orange
ABC	Orange

Radio Stations:

Station	Location	Frequency	Modulation
2CR (ABC)	Orange	549	AM
Easy Listening Ten-89	Orange	1089	AM
2LF	Cowra	1350	AM
2PK	Parkes	1404	AM
Star FM	Orange	105.9	FM
2MCE-FM	Orange	94.7	FM
ROCK-FM	Parkes	95.5	FM
2GZ-FM	Orange	105.1	FM
Star FM	Cowra	93.9	FM
ZOO-FM	Dubbo	92.7	FM
2LVR	Forbes	97.9	FM

Newspapers:

Name	Location
Parkes Champion Post	Parkes

Other Agencies:

Agencies as listed in Volume 1 of this Local Flood Plan.

PARKES SHIRE: NSW SES LOCALITY RESPONSE ARRANGEMENTS

**Chapter 2 of Volume 3 (NSW SES Response Arrangements for Parkes
Shire) of the Parkes Shire Local Flood Plan**

Last Update: September 2018

AUTHORISATION

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



Approved

NSW SES Lachlan Region Controller

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SECTOR OVERVIEW

Table 1: Overview of Sectors in the Parkes Shire LGA.

Sector Name	Community	Sector Basis	Total properties	Properties potentially at risk
Sector 1	Parkes	Nil classification	4,904	6 inundation
Sector 2	Tichborne	Nil classification	30	6 inundation
Sector 3	Trundle	High Flood Island	370	13 inundations, 370 isolation
Sector 4	Cookamidgera	Nil classification	70	1 inundations, 70 isolations
Sector 5	Peak Hill	Nil classification	600	3 inundations

1. PARKES SECTOR / COMMUNITY

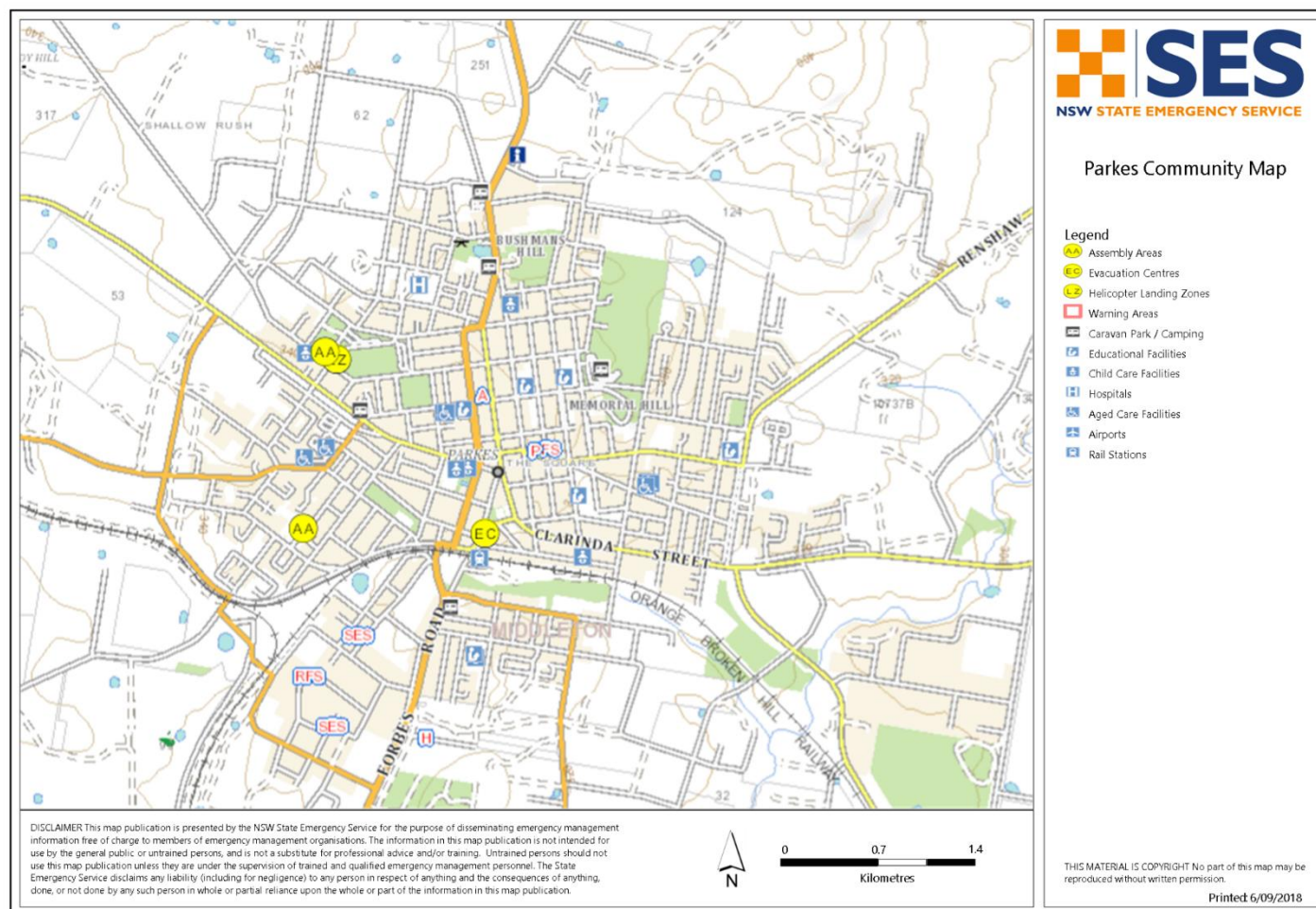
1.1. PARKES RESPONSE ARRANGEMENTS

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

Sector Description	Parkes is located in mid-western NSW, on the Newell Highway (HW17). It is the major town servicing the Parkes Shire LGA. The town is surrounded by farmland where wheat and wool are the main products. Parkes has an urban population of 10,026 as at 2011 with an indigenous population of 765 (11).				
Hazard	Local urban stormwater surcharges				
Flood Affect Classification	Nil classification				
At risk properties	6	Total number of properties within Sector/Community			4,904
Sector Control	Parkes Local Controller will discuss operational requirements with the effected residents within the community and action accordingly.				
Key Warning Gauge Name	Name	AWRC No.	Min (m)	Mod (m)	Maj (m)
	Parkes	412086			
General Strategy	Initiate sandbagging and/or pumping operations as required with no significant inundation recorded.				
Key Risks / Consequences	Flash Flooding and storm water surcharges at the intersections of; <ul style="list-style-type: none">• Newell Highway and Grenfell Street• Newell Highway and Welcome Street• Clarinda Street and Church Streets• Bushman Street and Currajong Flooding has also been reported along Pioneer Street.				
Information and Warnings	NSW SES Flood Bulletins will localise the consequences of the Bureau products on the sector. NSW SES Lachlan Region will issue timely, relevant and tailored information to the public in the following formats: NSW SES Bulletins Equipment, Livestock and Aquaculture Warnings Media briefing Interagency Local Emergency Management Committee (LEMC) briefings Bureau products, such as Flood Watches and Flood Warnings, will include NSW SES safety advice. Warnings are also provided on the unit Facebook page and other media as listed in Volume 3 Chapter 1.				
Property Protection	<i>Specific property protection measures:</i> The NSW SES Parkes Unit maintain stocks of sandbags with back-up supplies being held at the NSW SES Lachlan Region Headquarters. The supply of emergency stores such as sandbags will be processed through the NSW SES Lachlan Region Headquarters. A motorised sandbagging machine is also available for use at the NSW SES Parkes Unit Headquarters.				

	<p>Assistance with property protection:</p> <p>Assistance with sandbagging is provided by the NSW SES Parkes Unit on request from residents.</p> <p>Protection of essential infrastructure:</p> <p>Nil</p>
Evacuation and/or Isolation Triggers	<p>Nil requirement,</p> <p>Evacuation would only occur if Lake Endeavour Dam fails.</p>
Evacuation Triggers	<p>Evacuation will be considered when:</p> <ul style="list-style-type: none"> ▪ Notification of dam failure
Sequencing of evacuation	<p>On notification of possible dam failure evacuations would occur;</p> <ul style="list-style-type: none"> ▪ Activate Lake Endeavour Emergency Plan ▪ 73 houses potentially affected downstream in PMF dam failure (along Billabong Creek) ▪ Flow times are short. It is estimated the first house will be flooded above floor level in about 16 minutes of a dam failure. <p>Further inundation will occur particularly to properties within the first 16 kilometres of the dam.</p>
Evacuation Routes	<ul style="list-style-type: none"> • Henry Parkes Way to Manildra (Dam Failure)
Evacuation Route Closure	<ul style="list-style-type: none"> • Henry Parkes Way towards Parkes (Dam Failure)
Method of Evacuation	<p>Self-evacuation is the predominant means of evacuation, using private vehicles, to family and friends.</p>
Evacuation Centre/Assembly Point	<ul style="list-style-type: none"> ▪ Parkes Showground ▪ Parkes Police and Citizens and Youth Club (PCYC) ▪ Parkes Services and Citizens Club
Large scale evacuations	<p>A large scale evacuation in Parkes is not likely.</p>
Rescue	<p>Insufficient information available</p>
Resupply	<p>Table 2, in Volume 2 provides information about isolated communities in the Parkes Shire 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>
Aircraft Management	<p>Helicopter Landing Points:</p> <p>Suitable landing points are located at:</p> <ul style="list-style-type: none"> ▪ Parkes Showground <p>Airports:</p> <p>Access to the Parkes airport remains and is capable of handling fixed and rotary wing aircraft.</p>
Other	<p>Parkes hosts the annual Elvis Festival over the second weekend in January and visitor numbers may exceed 20,000 for the event</p>

1.2. PARKES SECTOR/COMMUNITY MAP



2. TICHBORNE SECTOR / COMMUNITY

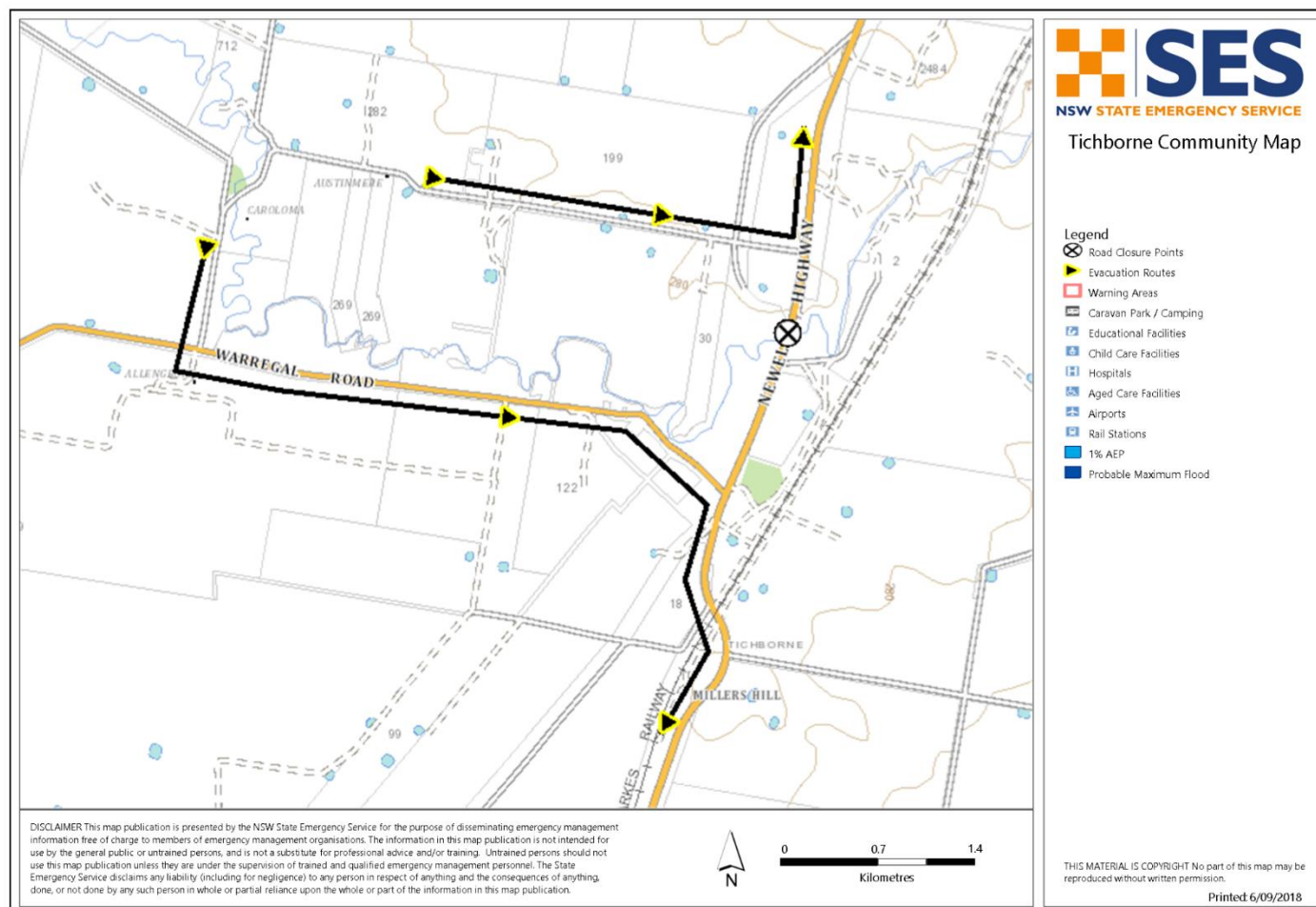
2.1. TICHBORNE RESPONSE ARRANGEMENTS

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

Sector Description	Tichborne is a small village 10 Kilometres to the south of Parkes, it has a population of approximately 78.				
Hazard	Flooding generally occurs due to Goobang Creek flooding.				
Flood Affect Classification	Nil Classification				
At risk properties	6	Total number of properties within Sector/Community			30
Sector Control	Parkes Local Controller will discuss operational requirements with the effected residents within the community and action accordingly.				
Key Warning Gauge Name	Name	AWRC No.	Min (m)	Mod (m)	Maj (m)
	Tichborne	10380			
General Strategy	If the Newell Highway becomes closed there is minimal access to support the community therefore all RFA's will be tasked to Forbes Unit until access is available				
Key Risks / Consequences	Possible inundation and isolation of residential properties and closure of the Newell Highway.				
Property Protection	Specific property protection measures: Minor sandbagging and/or pumping operations				
	Assistance with property protection: As required				
	Protection of essential infrastructure: Nil				
Evacuation and/or Isolation Triggers	In Tichborne up to six properties along the Goobang (Billabong) Creek either side of the Newell Highway (HW17) and Watts Lane can be inundated or isolated for up to 24 hours.				
Evacuation Triggers	Insufficient information available				
Sequencing of evacuation	Insufficient information available				
Evacuation Routes	Newell Highway via Forbes				
Evacuation Route Closure	Newell Highway at Billabong Creek Bridge, Tichborne towards Parkes				
Method of Evacuation	Self-evacuation is the predominant means of evacuation, using private vehicles, to family and friends.				
Evacuation Centre/Assembly Point	Insufficient information available				

Large scale evacuations	A large scale evacuation in Tichborne is not likely
Rescue	Insufficient information available
Resupply	<p>Table 2, in Volume 2 provides information about isolated communities in the Parkes Shire 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>
Aircraft Management	<p><i>Helicopter Landing Points:</i></p> <p>Suitable landing points are located at:</p> <ul style="list-style-type: none"> ▪ To be defined at the time (rural area)
	<p><i>Airports:</i></p> <p>Access to the Parkes airport remains and is capable of handling fixed and rotary wing aircraft.</p>
Other	Nil

2.2. TICHBORNE SECTOR/COMMUNITY MAP



3. TRUNDLE SECTOR / COMMUNITY

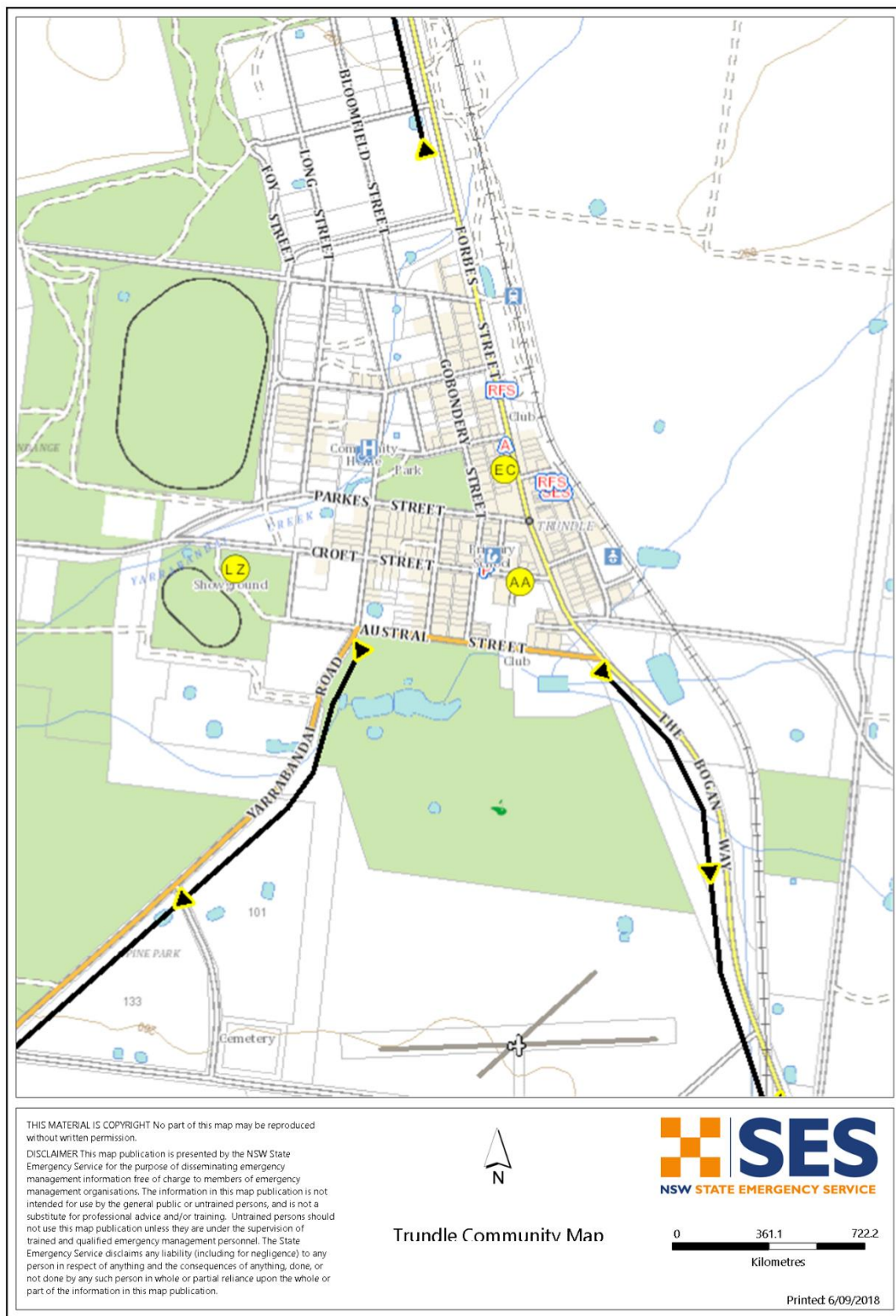
3.1. TRUNDLE RESPONSE ARRANGEMENTS

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

Sector Description	Trundle is a rural community situated 60 kilometres north-west of Parkes with a population of 687.				
Hazard	Frequent flooding from Yarrabandai and Goobang Creeks				
Flood Affect Classification	High Flood Island at 1% AEP				
At risk properties	13	Total number of properties within Sector/Community			370
Sector Control	Trundle Unit Controller will discuss operational requirements with the effected residents within the community and action accordingly.				
Key Warning Gauge Name	Name	AWRC No.	Min (m)	Mod (m)	Maj (m)
	This area is ungauged				
General Strategy	Initiate sandbagging and/or pumping operations as required.				
Key Risks / Consequences	<p>Trundle township experiences frequent flooding from Yarrabandai and Goobang Creeks and residents are isolated during floods for up to one week and access to Trundle Hospital (located in Brookview Street) is lost for several days.</p> <p>In Trundle, up to 13 homes can be inundated in Forbes Street (The Bogan Way), Parkes, Brookview, Hutton, Mentone, Long, North and Austral Streets adjacent to Yarrabandai Creek.</p> <p>The Services and Golf Clubs have also been inundated by up to 1.5 metres of water in 2005.</p> <p>The Hospital and Aged Care Home (Multi-purpose Service Facility) can become isolated for periods of 24-36 hours.</p>				
Information and Warnings	<p>NSW SES Flood Bulletins will localise the consequences of the Bureau products on the sector. NSW SES Lachlan Region will issue timely, relevant and tailored information to the public in the following formats:</p> <p>NSW SES Bulletins</p> <p>Equipment, Livestock and Aquaculture Warnings</p> <p>Media briefing</p> <p>Interagency Local Emergency Management Committee (LEMC) briefings</p> <p>Bureau products, such as Flood Watches and Flood Warnings, will include NSW SES safety advice.</p> <p>Warnings are also provided on the unit Facebook page and other media as listed in Volume 3 Chapter 1.</p>				
Property Protection	<p><i>Specific property protection measures:</i></p> <p>There is a private levee constructed by one resident of Mentone Street on the North side of Trundle, this levee overtopped in March 2012 and required pumping.</p> <p><i>Assistance with property protection:</i></p> <p>Sandbagging and/or pumping as required.</p>				

	<p>Protection of essential infrastructure:</p> <p>Unit Controller to coordinate response arrangements with Hospital and Aged Care Home (Multi-purpose Service Facility).</p>
Evacuation and/or Isolation Triggers	<ul style="list-style-type: none"> Isolation of Hospital and Aged Care Home (Multi-purpose Service Facility). Isolation of the community due to the Bogan Way north and south, Fifield Road, Condobolin Road, Middle Trundle Road, Capell Road and Ascot Road closures.
Sequencing of evacuation	<ul style="list-style-type: none"> Relocation of high risk patients from the hospital and the relocation of the elderly or effected residence to family or friends outside the flood areas prior to isolation
Evacuation Routes	<ul style="list-style-type: none"> The Bogan Way either north or south Yarrabandai Road Fifield Road
Evacuation Route Closure	<ul style="list-style-type: none"> Bogan Way north and south, Fifield Road, Condobolin Road, Middle Trundle Road, Capell Road and Ascot Road in multiple locations.
Method of Evacuation	<p>Self-evacuation is the predominant means of evacuation, using private vehicles, to family and friends.</p>
Evacuation Centre/Assembly Point	<ul style="list-style-type: none"> Trundle Memorial Hall Trundle Central School
Large scale evacuations	<p>Large scale evacuations are unlikely to occur in trundle</p>
Rescue	<p>Insignificant information available</p>
Resupply	<p>Table 2, in Volume 2 provides information about isolated communities in the Parkes Shire 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>
Aircraft Management	<p>Helicopter Landing Points:</p> <p>Suitable landing points are located at:</p> <ul style="list-style-type: none"> Trundle Showground
	<p>Airports:</p> <ul style="list-style-type: none"> Closest airport is at Parkes
Other	<p>Trundle Abba Festival is held on the 1st Saturday in May annually and the Trundle Bush Tucker Day is held on the 1st September annually, both events can double even triple the population of Trundle for up to 3 days.</p>

3.2. TRUNDLE SECTOR/COMMUNITY MAP



4. COOKAMIDGERA SECTOR / COMMUNITY

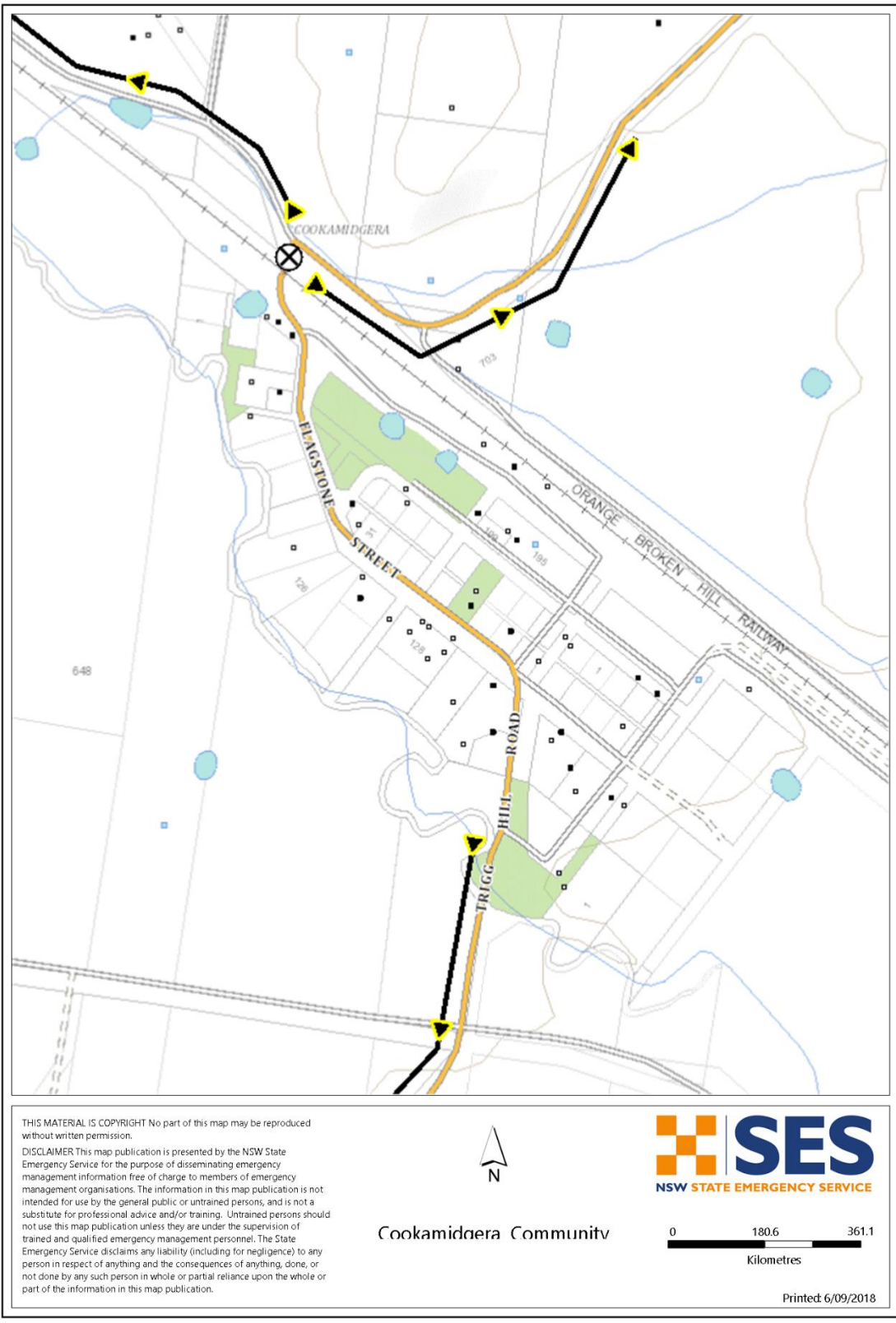
4.1. COOKAMIDGERA RESPONSE ARRANGEMENTS

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

Sector Description	Cookamidgera is a small village with a population of 164 and is situated 13 kilometres southeast of Parkes.				
Hazard	Cookamidgera can be flooded as a result of runoff from the Cooka Hills to the east, as well as local flooding from rainfall and flash flooding of Bartleys Creek through the town (mainly urban runoff).				
Flood Affect Classification	Nil Classification				
At risk properties	1	Total number of properties within Sector/Community			70
Sector Control	Parkes Local Controller will discuss operational requirements with the effected residents within the community and action accordingly.				
Key Warning Gauge Name	Name	AWRC No.	Min (m)	Mod (m)	Maj (m)
	This area is ungauged				
General Strategy	Local controller Parkes unit will place sand and sandbag supplies for locals as the community become isolated during flood events.				
Key Risks / Consequences	Flooding can occur quickly and can be fast and deep, particularly along Trigg Hill Road One property on the intersection of Mullins Street and Flagstone Street is at risk of inundation.				
Information and Warnings	NSW SES Flood Bulletins will localise the consequences of the Bureau products on the sector. NSW SES Lachlan Region will issue timely, relevant and tailored information to the public in the following formats: NSW SES Bulletins Equipment, Livestock and Aquaculture Warnings Media briefing Interagency Local Emergency Management Committee (LEMC) briefings Bureau products, such as Flood Watches and Flood Warnings, will include NSW SES safety advice. Warnings are also provided on the unit Facebook page and other media as listed in Volume 3 Chapter 1.				
Property Protection	Specific property protection measures: Sandbagging				
	Assistance with property protection: Sandbagging occurs with local residents initiating activities if the Parkes Unit are unable to gain access to the community				
	Protection of essential infrastructure: Nil				
Evacuation and/or Isolation Triggers	Insufficient information available				

Sequencing of evacuation	Insufficient information available
Evacuation Routes	<ul style="list-style-type: none"> • Cookamidgera Road • Trigg Hill Road • Cooka Hills Road
Evacuation Route Closure	<ul style="list-style-type: none"> • Trigg Hill Road is cut at the causeway (Quart Pot Creek) between Eugowra Road and Cookamidgera • Cookamidgera Road and Cooka Hills Roads are often cut by local rainfall • Hays street is at risk of being cut temporarily • The northern side of Flagstaff Street is at risk at the culvert near the Cooka Hills Road intersection.
Method of Evacuation	Self-evacuation is the predominant means of evacuation, using private vehicles, to family and friends.
Evacuation Centre/Assembly Point	Nil
Large scale evacuations	A large scale evacuation is unlikely to occur in Cookamidgera
Rescue	Insufficient information available
Resupply	<p>Table 2, in Volume 2 provides information about isolated communities in the Parkes Shire 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>
Aircraft Management	<p>Helicopter Landing Points:</p> <p>Suitable landing points are located at:</p> <ul style="list-style-type: none"> ▪ To be determined on the day
	<p>Airports:</p> <ul style="list-style-type: none"> ▪ Closest Airport is at Parkes
Other	Nil

4.2. COOKAMIDGERA SECTOR/COMMUNITY MAP



5. PEAK HILL AND RURAL COMMUNITIES

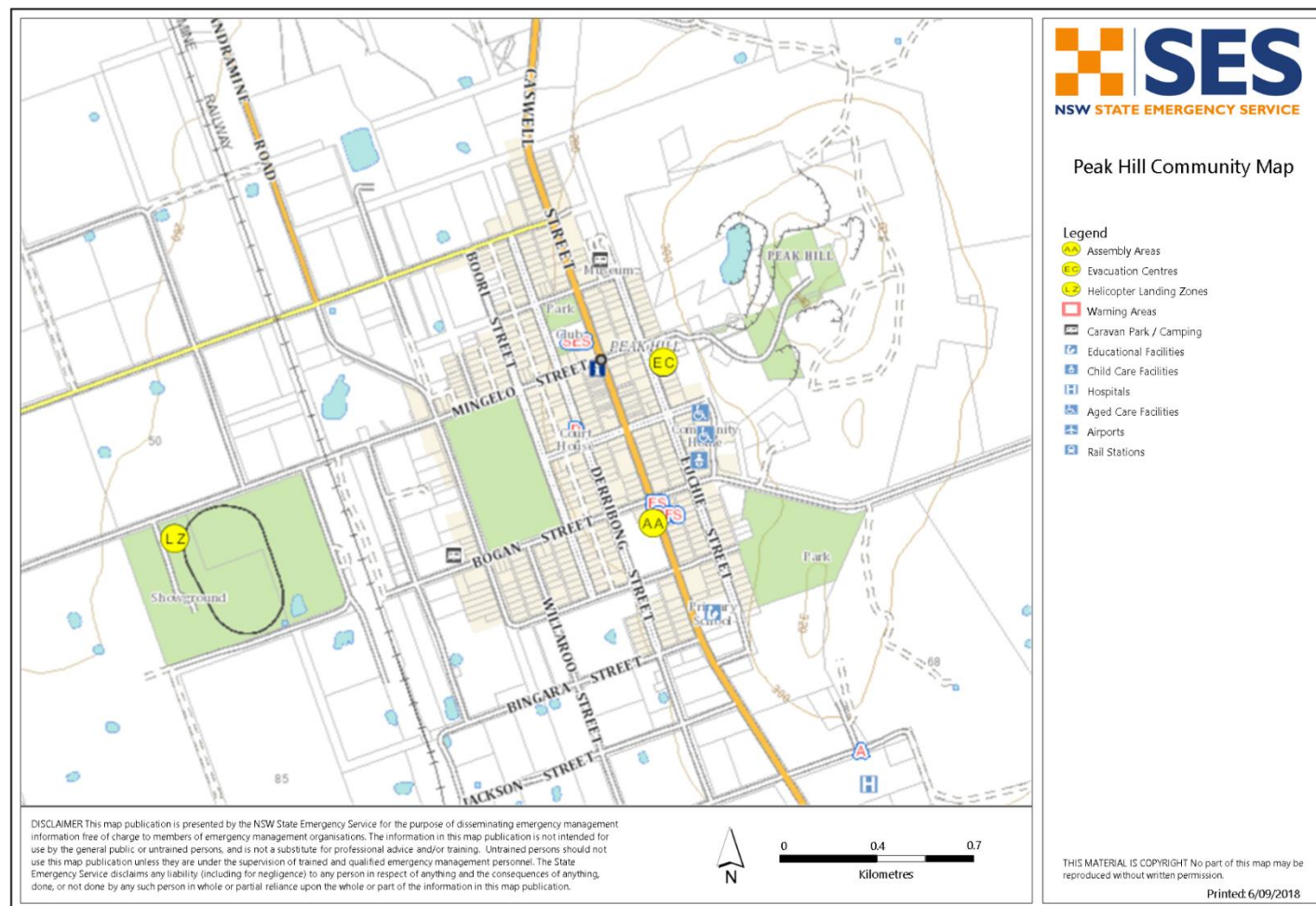
5.1. PEAK HILL AND RURAL COMMUNITIES RESPONSE ARRANGEMENTS

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

Sector Description	Peak Hill is located about 50 kilometres north of Parkes on the Newell Highway. The population of Peak Hill is				
Hazard	Flooding around Peak Hill is caused by the Bogan River, and its smaller tributaries including Goonumba Creek, Deception Creek, Stanfords Creek, Stockroute Creek and Hallinans Creek.				
Flood Affect Classification	Nil Classification				
At risk properties	3	Total number of properties within Sector/Community			600
Sector Control	Peak Hill Unit Controller will discuss operational requirements with the effected residents within the community and action accordingly.				
Key Warning Gauge Name	Name	AWRC No.	Min (m)	Mod (m)	Maj (m)
	Peak Hill	421076	2.50	4.60	6.00
General Strategy	Flooding around Peak Hill is typical riverine and overland flooding impacting low lying farming areas and road crossings.				
Key Risks / Consequences	Rural communities and properties along the Bogan River and its tributary creeks may be impacted by floodwaters when the Bogan River exceeds minor flood levels. There are no recorded inundation consequences in the township of Peak Hill itself as it is not situated on the Bogan River. Three rural properties, “Rosehill”, “Montana” and “Pine Park” south west of Tullamore towards Fifield are susceptible to over floor flooding.				
Information and Warnings	NSW SES Flood Bulletins will localise the consequences of the Bureau products on the sector. NSW SES Lachlan Region will issue timely, relevant and tailored information to the public in the following formats: NSW SES Bulletins Equipment, Livestock and Aquaculture Warnings Media briefing Interagency Local Emergency Management Committee (LEMC) briefings Bureau products, such as Flood Watches and Flood Warnings, will include NSW SES safety advice. Warnings are also provided on the unit Facebook page and other media as listed in Volume 3 Chapter 1.				
Property Protection	Specific property protection measures: Insufficient information available				
	Assistance with property protection: Insufficient information available				
	Protection of essential infrastructure: Insufficient information available				

Evacuation and/or Isolation Triggers	Insufficient information available
Sequencing of evacuation	Insufficient information available
Evacuation Routes	Insufficient information available
Evacuation Route Closure	<p>Tullamore Road between Tullamore and Peak Hill, is likely to be cut before the minor flood level, at around 1.1 metres on the Peak Hill gauge.</p> <p>Minor flooding causes low level road crossings to flood and may result in road closures at:</p> <ul style="list-style-type: none"> • Kitto's Bridge, • Mungery West (off Bulgandramine Road over the Bogan River). • Adavale Lane, Goonumbla (near the Limestone State Forest) may also be flooded where it crosses the Bogan River
Method of Evacuation	Self-evacuation is the predominant means of evacuation, using private vehicles, to family and friends.
Evacuation Centre/Assembly Point	<ul style="list-style-type: none"> ▪ Peak Hill Masonic Hall ▪ Peak Hill Central School
Large scale evacuations	A large scale evacuation would be unlikely for Peak Hill
Rescue	Insufficient information available
Resupply	Table 2, in Volume 2 provides information about isolated communities in the Parkes Shire area and potential periods of isolation.
Aircraft Management	<p>Helicopter Landing Points:</p> <p>Suitable landing points are located at:</p> <ul style="list-style-type: none"> ▪ Peak Hill Showground
	<p>Airports:</p> <ul style="list-style-type: none"> ▪ Closest Airport is Parkes
Other	Nil

5.2. PEAK HILL SECTOR/COMMUNITY MAP



PARKES SHIRE NSW SES CARAVAN PARK ARRANGEMENTS

**Chapter 4 of Volume 3 (NSW SES Response Arrangements for Parkes
Shire) of the Parkes Shire Local Flood Plan**

Last Update: September 2018

AUTHORISATION

The Parkes Shire NSW SES Caravan Park Arrangements have been prepared by the NSW State Emergency Service (NSW SES) as part of a comprehensive planning process.



Approved

NSW SES Lachlan Region Controller

Date: 10 September 2018

Tabled at LEMC

28 November 2018

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1 ARRANGEMENTS FOR THE EVACUATION OF CARAVAN PARKS AND THE RELOCATION OF MOVABLE DWELLINGS

1.1 GENERAL

1.1.1 The following caravan parks are flood liable:

- a. Trundle Showground

1.1.2 For more information on individual caravan parks see Table 1 at the end of this Chapter.

1.2 ADVISING PROCEDURES

1.2.1 Caravan Park proprietors will ensure that the owners and occupiers of movable dwellings are:

- a. Made aware that the caravan park is flood liable by:
 - Providing a written notice to occupiers taking up residence. The notice will indicate that the caravan park is liable to flooding and designate the location of flood liable land within the park (1).
 - Displaying this notice and the emergency arrangements for the Caravan Park prominently in the park.
- b. Made aware that if they are expecting to be absent for extended periods, they should:
 - Provide the manager of the caravan park with a contact address and telephone number in case of an emergency.
 - 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).
- c. Informed of Flood Warning Information. At this time, occupiers will be advised to:
 - Ensure that they have spare batteries for their radios.
 - Listen to a local radio station for updated flood information.
 - Prepare for evacuation and movable dwelling relocation.

1.2.2 The NSW SES Parkes Shire Local Controller will ensure that the managers of caravan parks are advised of Flood Information (described in Volume 1 of the Parkes Shire Local Flood Plan).

1.3 EVACUATION OF OCCUPANTS AND RELOCATION OF MOVEABLE DWELLINGS

1.3.1 When an evacuation order is given caravan park occupants should follow the flood evacuation procedures for the park under the direction of the caravan park management. This should include advice to:

- a. Isolate power to moveable dwellings.
- b. Collect personal papers, medicines, a change of clothing, toiletries and bedclothes.
- c. Lift the other contents in any remaining dwellings as high as possible.
- d. Move to friends, relatives or a designated evacuation centre if they have their own transport, or move to the caravan office to await transport.
- e. If undertaking self-managed evacuation, register their movements with the caravan park management upon leaving the park.

1.3.2 Where possible, movable dwellings that can be moved will be relocated by their owners. Park managers will arrange for the relocation of movable dwellings as required. Council and NSW SES personnel may assist if required. Vans are to be moved to the locations outlined in Tables 1 and 2 at the end of this Chapter.

1.3.3 Caravan park managers will:

- a. Secure any movable dwellings that are not able to be relocated to prevent floatation.
- b. Ensure that their caravan park is capable of being evacuated in a timely and safe manner.
- c. Advise the NSW SES Parkes Shire Local Controller of:
 - The number of people requiring transport.
 - Details of any medical evacuations required.
 - Whether additional assistance is required to effect the evacuation.
- d. Check that all residents and visitors are accounted for.
- e. Inform the NSW SES Parkes Shire Local Controller when the evacuation of the caravan park has been completed.
- f. Provide the NSW SES Parkes Shire Local Controller with a register of people that have been evacuated.

1.4 RETURN OF OCCUPANTS AND MOVEABLE DWELLINGS

1.4.1 The NSW SES Parkes Shire Local Controller, using council resources as necessary, will advise when it is safe for the caravan parks to be re-occupied.

1.4.2 Moveable dwellings will be returned back to the caravan park(s) by owners or by vehicles and drivers arranged by the park managers.

1.4.3 Council and NSW SES personnel may assist by request where resources are available.

Table 1: Caravan Parks at risk of Inundation and/or Isolation from Flooding.

Name	Address/Location description	Town/Sector	Number of sites	Risk	Evacuation route	Evacuation route closure	Moveable dwelling relocation location	Evacuation centre	Notes
Trundle Showground	Austral St, Trundle	Trundle	na	Isolated due to local flash flooding	na	na	na	na	

LIST OF REFERENCES

1. **NSW Government.** *Local Government (Manufactured Home Estates, Caravan Parks, Camping Grounds and Moveable Dwellings) Regulation 2005 Part 3 Division 3 Subdivision 7 Clause 123.* 2005.