

**Warren Shire**

# Local Flood Plan



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# WARREN SHIRE FLOOD EMERGENCY SUB PLAN

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**A Sub-Plan of the Warren Shire Council Local Emergency Management  
Plan (EMPLAN)**

**Volume 1 of the Warren Shire Local Flood Plan**



## AUTHORISATION

The Warren Shire Flood Emergency Sub Plan is a sub plan of the Warren 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)**.

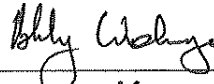
Recommended



NSW SES Warren Local Controller

Date: 25/7/2013

Approved



Chair, Local Emergency Management Committee

Date: 25/7/2013

# CONTENTS

<b>AUTHORISATION .....</b>	<b>i</b>
<b>CONTENTS .....</b>	<b>ii</b>
<b>LIST OF TABLES .....</b>	<b>iii</b>
<b>DISTRIBUTION LIST .....</b>	<b>iv</b>
<b>VERSION HISTORY.....</b>	<b>v</b>
<b>AMENDMENT LIST .....</b>	<b>v</b>
<b>LIST OF ABBREVIATIONS .....</b>	<b>vi</b>
<b>GLOSSARY.....</b>	<b>viii</b>
<b>PART 1 - INTRODUCTION .....</b>	<b>1</b>
1.1 Purpose.....	1
1.2 Authority.....	1
1.3 Area covered by the Plan.....	1
1.4 Description of Flooding and its Effects .....	1
1.5 Responsibilities .....	1
<b>PART 2 - PREPAREDNESS.....</b>	<b>15</b>
2.1 Maintenance of this Plan .....	15
2.2 Floodplain Risk Management .....	15
2.3 Development of Flood Intelligence.....	15
2.4 Development of Warning Systems .....	15
2.5 Public Education .....	16
2.6 Training.....	16
2.7 Resources.....	16
<b>PART 3 - RESPONSE.....</b>	<b>17</b>
3.1 Control Arrangements .....	17
3.2 Operational Management .....	17
3.3 Start of Response Operations.....	17
3.4 Response Strategies.....	18
3.5 Operations Centres.....	19
3.6 Liaison.....	19
3.7 End of response operations.....	20
3.8 Collating Situational Information.....	20
3.9 Provision of Flood Information and Warnings.....	21
3.10 Aircraft Management .....	24
3.11 Assistance for Animals.....	25
3.12 Communication Systems .....	25
3.13 Preliminary Deployments .....	25
3.14 Road and Traffic Control.....	25
3.15 Stranded Travellers.....	26
3.16 Managing Property Protection Operations .....	26
3.17 Managing Flood Rescue Operations .....	26
3.18 Managing Evacuation Operations.....	27

3.19 Managing Resupply Operations..... 33

**PART 4 - RECOVERY..... 35**

4.1 Recovery Coordination at the Local level ..... 35

4.2 Recovery Coordination at the Region and State level ..... 36

4.3 Arrangements for Debriefs / After Action Reviews ..... 36

**ATTACHMENT 1 - Resupply Flowchart ..... 37**

**ATTACHMENT 2 - Dam Failure Alert Notification Arrangements Flowchart ..... 38**

**ATTACHMENT 3 - Warren Shire Council LGA MAP ..... 39**

## LIST OF TABLES

**Table 1: Dam Failure Alert Levels..... 23**

## DISTRIBUTION LIST

Recipient	Number of copies
NSW SES Warren Local Controller	1
NSW SES Warren Unit	1
NSW SES Macquarie Region Headquarters	1
NSW SES State Headquarters	1
Warren Shire Council, Local Emergency Operations Controller	1
NSW Police Force, Darling River Local Area Command	1
Warren Shire Council, Local Emergency Management Committee Members	4
Warren Shire Council, Local Emergency Management Officer	1
Warren Shire Council, Local Emergency Operations Centre	1
Warren Shire Council, Mayor	1
Warren Shire Council, General Manager	1
Warren Shire Council, Technical Services Department	1
Fire and Rescue NSW, Warren	1
Rural Fire Service, Warren	1
Ambulance Service of NSW, Warren	1
Volunteer Rescue Association, Warren Rescue Squad	1
Office of Environment and Heritage	1
Evacuation Centres	1 each
Hospitals	1 each
Schools	1 each
Caravan Parks	1 each
Council Libraries	1 each
State Water Corporation, Burrendong Dam	1

## VERSION HISTORY

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

Description	Date
Warren Local Flood Plan	August 2002

## AMENDMENT LIST

Suggestions for amendments to this plan should be forwarded to:

The Warren Local Controller  
 NSW State Emergency Service  
 9 Readford Street, WARREN, NSW, 2824

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

Amendment Number	Description	Updated by	Date

*Document Issue: V28112012*

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## LIST OF ABBREVIATIONS

The following abbreviations have been used in this plan:

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



<b>PMF</b>	Probable Maximum Flood
<b>PMR</b>	Private Mobile Radio
<b>PMP</b>	Probable Maximum Precipitation
<b>RFA</b>	Rural Fire Service
<b>RMS</b>	Roads and Maritime Services
<b>SECON</b>	State Emergency Operations Controller
<b>SERCON</b>	State Emergency Recovery Controller
<b>NSW SES</b>	NSW State Emergency Service
<b>SEWS</b>	Standard Emergency Warning Signal
<b>VRA</b>	Volunteer Rescue Association
<b>WICEN</b>	Wireless Institute Civil Emergency Network

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## 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 a 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 Warren 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* and the *State Emergency Service Act 1989*. It has been approved by the NSW SES Local Controller and the NSW SES Region Controller as a NSW SES plan and endorsed by the Warren 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 Warren Shire Council area which includes: the town of Warren, the villages of Nevertire and Collie as well as numerous rural properties.
- 1.3.2 The council area and its principal rivers and creeks are shown in Attachment 3.
- 1.3.3 The Warren Shire Council area includes:
- a. The Macquarie River and its tributaries and effluent creeks from a point approximately 40 km upstream of Warren to a point approximately 170 km downstream.
  - b. The eastern bank of the Bogan River for approximately 40 km from a point about 10 km downstream from Dandaloo.
- 1.3.4 The council area is in the NSW SES Macquarie 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 Warren 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 Local Controller.** The NSW SES Local Controller is responsible for dealing with floods as detailed in the State Flood Plan, and will:

#### Preparedness

- a. Maintain a Local Headquarters at 9 Readford Street, Warren 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 Warren 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:
- i. 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.
- j. Provide an information service in relation to:
  - Flood heights and flood behaviour.
  - Road conditions and closures for internal use only.
  - Advice on methods of limiting property damage.
  - Confirmation of evacuation warnings and evacuation orders.
- k. Direct the conduct of flood rescue operations.
- l. Direct the evacuation of people and/or communities.
- m. Provide immediate welfare support for evacuated people.



- n. Coordinate the provision of emergency food and medical supplies to isolated people and/or communities.
- o. Coordinate operations to protect property, for example by:
  - Arranging resources for sandbagging operations.
  - Arranging resources for the lifting or moving household furniture.
  - Arranging resources for the lifting or moving commercial stock and equipment.
- p. Assist the Warren Shire Council to organise temporary repairs or improvements to levees.
- q. Arrange for support (for example, accommodation and meals) for emergency service organisation members and volunteers assisting them.
- r. Ensure that the managers of caravan parks are advised of flood warnings and the details of any evacuation order.
- s. If NSW SES resources are available, assist with emergency fodder supply operations conducted by Agriculture and Animal Services.
- t. If NSW SES resources are available, assist the NSW Police Force, RMS and Council with road closure and traffic control operations.
- u. Exercise financial delegations relating to the use of emergency orders as laid down in the NSW SES Controllers' Guide.
- v. Coordinate the collection of flood information for development of intelligence.
- w. Submit Situation Reports to the NSW SES Region Headquarters and agencies assisting within the council area. These will contain information on:
  - Current flood behaviour.
  - Road conditions and closures as provided by RMS, Council or NSW Police Force.
  - Current operational activities.
  - Likely future flood behaviour.
  - Likely future operational activities.
  - Probable resource needs.
- x. Keep the Local Emergency Operations Controller advised of the flood situation and the operational response.
- y. Issue the 'All Clear' when flood operations have been completed.

### Recovery

- z. Ensure that appropriate After Action Reviews are held after floods.

- aa. 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 Warren Unit Members:**

- a. Undertake training in flood and storm response operations.
- b. Assist with preparedness activities.
- c. Carry out flood response tasks. These may include:
  - The management of the NSW SES Local Operations Centre.
  - Assist in the collection of flood information for the development of intelligence to be incorporated in plans.
  - Flood rescue.
  - Evacuation.
  - Providing immediate welfare for evacuated people.
  - Delivery of warnings and information.
  - Resupply.
  - Sandbagging.
  - Assist in the lifting and/or moving household furniture and commercial stock.
  - Domestic Animal rescue.
  - Assisting with road closure and traffic control operations.
  - Assisting with emergency fodder supply operations.
- d. Participate and contribute to After Action Reviews.

**1.5.4 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.
    - Provide advice on dealing with dead and injured farm animals.
    - Provide financial, welfare and damage assessment assistance to flood affected rural persons and/or communities.
    - Operation of animal shelter compound facilities for domestic pets and companion animals of evacuees.

- b. Forestry Corporation NSW
    - Close and evacuate at risk camping grounds managed by Forestry Corporation NSW.
- 1.5.5 **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.
- 1.5.6 **Australian Government Bureau of Meteorology (The Bureau):**
- a. Provide Flood Watches for the Macquarie River Basin.
  - b. Provide Flood Warnings, incorporating height-time predictions, for Warren Town (AWRC no. 421014) gauge.
  - c. Provide severe weather warnings when flash flooding is likely to occur.
- 1.5.7 **Burrendong Dam (State Water):**
- a. Maintain and operate the Dam Failure Warning System for Burrendong Dam.
  - 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.
  - f. Close and evacuate at risk camping grounds/recreational areas managed by State Water.
  - g. Provide advice to the NSW SES Region Incident Controller on controlled releases and flood mitigation strategies for Burrendong Dam.
- 1.5.8 **Caravan Park Proprietor(s):**
- a. Prepare a Flood Management Plan for the Caravan Park.
  - b. Install flood depth indicators and road alignment markers within their caravan parks.
  - c. Ensure that owners and occupiers of caravans are aware that the caravan park is flood liable by:

- Handing a printed notice to occupiers taking up residence. The notice will indicate that the caravan park is liable to flooding and outline the evacuation and van relocation arrangements.
  - Displaying this notice prominently in each van.
- d. Ensure that owners and occupiers of caravans are aware that if they are expecting to be absent from their vans for extended periods, they must:
- Provide the manager with a key; in a sealed envelope; to the van.
  - Provide an emergency contact address and telephone number.
  - Inform the manager if a tow vehicle will be required to relocate the van during floods.
  - Leave any mobile van in a condition allowing it to be towed in an emergency (i.e.: tyres inflated, jacks wound up, personal effects secured and annexes and lines for water, sewer, electricity and gas readily detachable).
- e. Ensure that occupiers are informed of Flood Warnings and Flood Watches. At this time, occupiers should 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 van relocation.
- f. Ensure that owners and occupiers of caravans are aware of what they must do to facilitate evacuation and van relocation when flooding occurs. Owners of vans which are incapable of being relocated, should ensure they are securely anchored to their site to avoid being swept away.
- g. Coordinate the evacuation of people and the relocation of moveable vans when floods are rising and their return when flood waters have subsided. Vans will be towed back to the caravan park(s) by van owners or by vehicles and drivers arranged by the park managers.
- h. Inform the NSW SES of the progress of evacuation and/or van relocation operations and of any need for assistance in the conduct of these tasks.

#### 1.5.9 **Child Care Centres and Preschools:**

- a. 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 (or where required, arrange for children to be moved to a suitable location until normal centre closing time).
- b. Pass information on to parents and provide advice on expected or actual impacts of flooding.
- c. Assist with coordinating the evacuation of preschools and childcare centres when flooding or isolation is expected to occur.

### 1.5.10 Warren 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 a plant and equipment resource list for the council area.
- d. Contribute to the development and implementation of a public education program.

#### Response

- e. At the request of the NSW SES Local Incident Controller, deploy personnel and resources for flood related activities.
- f. Close and reopen council managed roads (and other roads nominated by agreement with the RMS) and advise the NSW SES Local Incident Controller, RMS Transport Management Centre (TMC) and the Police of their status.
- g. Provide information to the public on the status of roads using council's website and/or a 24Hr telephone service.
- h. Provide and maintain temporary sand dumps in urban and village areas in which flooding is expected in consultation with the NSW SES Local Incident Controller. The NSW SES Local Incident Controller will arrange for the deployment of sandbags and/or the unit sandbagging machine.
- i. Assist with the removal of caravans from caravan parks where required.
- j. Provide back-up radio communications where required.
- k. Arrange for the removal of waste bins from river side parks and ovals when flooding is predicted.
- l. In the event of evacuations, assist by making facilities available for domestic pets and companion animals of evacuees.
- m. Close and evacuate at risk camping grounds, sporting grounds and recreational areas managed by Council.

#### Recovery

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

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

- a. 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.
  - Provide advice to the NSW SES Local Incident Controller of any need to disconnect electricity, gas, water or wastewater services.
  - Assist the NSW SES Local Incident Controller 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 Local Incident Controller 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 Local Incident Controller and the relevant recovery committee coordinator of the timetable for restoration.
- b. Local Utility Service Distribution Providers (electricity, gas, water, waste water):
  - Provide advice to the NSW SES Local Incident Controller of any need to disconnect power/gas/water/waste water supplies or of any timetable for reconnection.
  - Advise the NSW SES Local Incident Controller 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.
  - Reconnect customers' electrical/ gas/ water/waste water installations, when certified safe to do so and as conditions allow.
  - Assist the NSW SES to identify infrastructure at risk of flooding for incorporation into planning and intelligence.

**1.5.12 Engineering Services Functional Area:**

- a. When requested by NSW SES:
  - Provide engineering advice regarding the integrity of damaged structures.
  - Assist the NSW SES Local Incident Controller with damage assessment.

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

**1.5.13 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.

**1.5.14 Fire and Rescue NSW:**

- a. When requested by NSW SES:
- Assist with the delivery of evacuation warnings and evacuation orders.
  - Assist with the conduct of evacuations.
  - Assist with the provision of 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.
- b. Deploy fire resources to appropriate locations if access is expected to be lost.

**1.5.15 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.

- Provide psychological counselling support to the community and emergency response workers impacted, via NSW Health Mental Health Division.
- Assist the NSW SES with the warning and evacuation of public hospitals, private hospitals and residential aged care facilities.
- Undertake vulnerable person assessment for Mental Health and Drug and Alcohol dependant persons, dialysis, frail and/or aged and oxygen dependant persons in the community, known to the health service.

**1.5.16 Local Emergency Operations Controller (LEOCON):**

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

**1.5.17 Local Emergency Management Officer:**

- a. Provide executive support to the Local Emergency Operations Controller and Local Emergency Management Committee in accordance with the NSW State Emergency Management Plan (EMPLAN).
- b. At the request of the NSW SES Local Incident Controller, advise appropriate agencies and officers of the start of response operations.

**1.5.18 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.

**1.5.19 NSW Police Force:**

- a. Assist the NSW SES Local Incident Controller with the delivery of evacuation warnings and evacuation orders.



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

#### 1.5.20 **NSW Rural Fire Service:**

- a. When requested by NSW SES:
  - Assist the NSW SES by providing personnel in rural areas and villages to:
  - Inform the NSW SES Local Incident Controller about current flood conditions and response needs in their own communities, and
  - Disseminate NSW SES flood information.
- b. Assist the NSW SES by providing 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. Assist the NSW SES with the provision of equipment for pumping flood water out of buildings and from low-lying areas.
- f. Assist the NSW SES with the removal of caravans.
- g. Assist the NSW SES by providing back-up radio communications where required.
- h. Assist the NSW SES with clean-up operations, including the hosing out of flood affected properties.
- i. Deploy fire resources to appropriate locations if access is expected to be lost.
- j. Provide fire protection for aircraft at established airbases managed by NSW SES.

#### 1.5.21 **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 on 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 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.
- c. **National Parks and Wildlife Service:**
- Close and evacuate at risk camping grounds managed by the National Parks and Wildlife Service.
- 1.5.22 **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.
- 1.5.23 **Rail Corporation New South Wales (Railcorp)** will close and reopen urban and metropolitan railway lines affected by flood waters and advise the NSW SES of their status.
- a. **Australian Rail Track Corporation (ARTC)** will close and reopen rural and regional railway lines affected by flood waters and advise the NSW SES of their status.
- b. **John Holland Rail** will close and reopen grain transport, mining transport and heavy haul railway lines affected by flood waters and advise the NSW SES of their status.
- 1.5.24 **Roads and Maritime Services (RMS)** will:
- Close and reopen highways, and other RMS managed roads/highways when affected by flood waters and advise the NSW SES of their status.
  - Facilitate the safe reliable access of emergency resources on RMS managed roads.
  - Assist the NSW SES with identification of road infrastructure at risk of flooding.
  - Manage traffic.
  - Assist the NSW SES with the communication of warnings and road closure information to the public through variable message signs and the RMS Website.

**1.5.25 School Administration Offices (including Public Schools, Private Schools and Department of Education & Communities Offices):**

- a. Liaise with the NSW SES Local Incident Controller 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 on to parents, 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.

**1.5.26 Service and Sporting Clubs:**

- a. When requested by NSW SES Local Incident Controller, assist with:
  - Delivery of evacuation warnings.
  - Conduct of evacuations.
  - Lifting and/or moving household furniture and commercial stock.
  - Sandbagging.
  - Relocation of caravans.

**1.5.27 Telecommunication Services Functional Area:**

- a. Assist the NSW SES Local Incident Controller to identify infrastructure at risk of flooding for incorporation into planning and intelligence.
- b. Coordinate additional telecommunications support to the NSW SES as required.
- c. Coordinate the restoration of telephone facilities damaged by flooding.

**1.5.28 Transport Services Functional Area:**

- a. When requested by NSW SES:
  - Assist with the coordination of transport for evacuation purposes.
  - Assist with the resupply of isolated communities and/or properties.

**1.5.29 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.

**1.5.30 Macquarie Cotton Growers Association**

- a. Distribute flood warnings and flood information provided by the NSW SES Local Controller (via faxstream).
- b. Inform the NSW SES Local Controller about flood conditions and response needs amongst members of the Association.

## PART 2 - PREPAREDNESS

### 2.1 MAINTENANCE OF THIS PLAN

- 2.1.1 The NSW SES 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 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 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 Local Controller, with the assistance of the Warren Shire Council, the NSW SES 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.
  - d. Provision of flood awareness material with council rate notices.
  - e. Targeting of specific high-risk areas/groups by door-to-door canvassing or pamphlet drops.

## **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 Local Unit. The NSW SES 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 Local Controller is responsible for maintaining the condition and state of readiness of NSW SES equipment and the NSW SES Local Headquarters.

## 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 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 Region Headquarters.
  - b. NSW SES Local Controller.
  - c. NSW SES Warren Unit.
  - d. Warren Shire Council Local Emergency Operations Controller (for transmission to the NSW Police Force Local Area Command Headquarters).
  - e. Warren Shire Council Local Emergency Management Officer (for transmission to appropriate council officers and departments).
  - f. Warren 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 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 Warren Operations Centre is located at 9 Readford Street, Warren NSW.
- 3.5.2 Supporting EOCs are located at the Warren Shire Council Emergency Operations Centre is located at the NSW SES Local Headquarters, 9 Readford Street, Warren.

### **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 Warren 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 Local Incident Controller,
  - b. Advise the NSW SES 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.
- 3.7.2 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 Local Headquarters collates information on the current situation in the Warren Shire Council LGA and incorporates in Situation Reports.
- 3.8.3 The NSW SES 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 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:
    - Reddenville Break on the Wombianna Road.
    - Marthaguy Creek at Collie.
    - Beleringar Creek Offtake.
    - Ewenmar Creek at the Five Mile Cowal on the Oxley Highway.
    - Sandy Creek Crossing on the Oxley Highway.

- Tiger Bay on the Oxley Highway.
  - 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. **NSW Office of Water**. This office advises flow rates and rates of rise for the Macquarie River. Daily river reports containing information on gauge heights and river flows are available from the website: <http://waterinfo.nsw.gov.au/>.
  - e. **NSW SES 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).
  - f. **Warren Shire Council**. The Warren Shire Council provides information on the status of the levee, levee stormwater floodgates, pumps, sewerage systems and water reticulation. It also provides regular reports on road conditions within the council area.
- 3.8.5 During flood operations sources of information on roads closed by flooding include:
- a. Warren Shire Council
  - b. Darling River Police Local Area Command
  - c. Roads and Maritime Services
  - d. NSW SES Region Headquarters
  - e. NSW SES 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 Local Headquarters provides advice to the NSW SES Region Headquarters on current and expected impacts of flooding in the Warren Shire Council LGA.
- 3.9.2 The NSW SES 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 Local Incident Controller will ensure that the NSW SES Region Incident Controller is regularly briefed on the progress of operations.

- 3.9.4 The NSW SES Local Incident Controller will ensure that the NSW SES Local Headquarters staff are regularly briefed so they can provide information in response to inquiries received in person or by other means such as phone, fax or email.
- 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 Region Headquarters.
- 3.9.8 **Bureau of Meteorology Flood Warnings.** The NSW SES Region Headquarters will send a copy of Bureau Flood Warnings to the NSW SES Warren Unit. On receipt the NSW SES Local Incident Controller will provide the NSW SES 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 Local Incident Controller will advise the NSW SES 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 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	<p>May be a structural anomaly.</p> <p>May be increased monitoring in response to a heavy rainfall event</p>	<p>Implements notification flowchart.</p> <p>Check operational readiness.</p>	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	<p>Implements notification flowchart.</p> <p>Warn downstream population at risk to prepare to evacuate</p>	NSW SES Evacuation Warning
Red	Failure imminent or occurred	<p>Implements notification flowchart.</p> <p>Evacuation of downstream populations</p>	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 Special arrangements apply in the case of severe flooding that may have the potential to cause the failure of Burrendong Dam. Details of these arrangements are maintained by the NSW SES.

- 3.9.18 **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.
- 3.9.19 **The Public Information and Inquiry Centre (PIIC)** (operated by the NSW Police Force) will answer calls from the public regarding registered evacuees.
- 3.9.20 **The Disaster Welfare Assistance line** is a central support and contact point for disaster affected people inquiring about welfare services advice and assistance.
- 3.9.21 **The RMS Transport Information Line** will provide advice to callers on the status of roads. The RMS website also lists road closure information.
- 3.9.22 **Warren Shire Council** will provide advice on the status of roads to the general public and the Roads and Maritime Service Transport Management Centre (TMC). The Council website also lists road closure information.
- 3.9.23 Collation and dissemination of road information is actioned as follows:
- a. As part of Situation Reports, the NSW SES Local Incident Controller provides road status reports for main roads in the council area to the NSW SES Region Headquarters.
  - b. The NSW SES Region Headquarters will include this information in 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 Region Headquarters, which may allocate aircraft to units if applicable.
- 3.10.3 NSW SES maintains the following information for the Warren Shire Council area:
- a. Locations of suitable helicopter landing points.
  - b. Locations of suitable airports and records detailing aircraft size and type that can land at airports.
  - 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 by mobile phone.

### **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 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 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 and Warren Shire Council maintains details of these roads.
- 3.14.2 The council closes and re-opens its own roads and, acting as an agent for the RMS, does the same for the Oxley Highway.
- 3.14.3 RMS closes and reopens the Mitchell Highway.
- 3.14.4 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.

- 3.14.5 Police, RMS or Council officers closing or re-opening roads or bridges affected by flooding are to advise the NSW SES Local Incident Controller. All such information must also be passed to Council for transmission to the RMS Transport Management Centre (TMC).
- 3.14.6 During flood events, the NSW SES 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).
- 3.14.7 When resources permit, the NSW SES may assist Council, RMS or the Police by erecting road closure signs and barriers.

### 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 maintains stocks of sandbags.
- 3.16.5 Property protection options are however very limited in the Warren Shire Council Area due to the large number of properties that can be affected.

### 3.17 MANAGING FLOOD RESCUE OPERATIONS

#### Strategy

- 3.17.1 Rescue of people from floods.

#### Actions

- 3.17.2 The NSW SES Local Incident Controller controls flood rescue in Warren 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 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 Local Incident Controller. Should the scale of evacuation operations be beyond the capabilities of local resources control may be escalated to the NSW SES Region Incident Controller.

#### Decision to evacuate

- 3.18.4 In most cases the decision to evacuate rests with the NSW SES 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 Region Incident Controller and the Local Emergency Operations Controller.

- 3.18.5 In events that require large scale evacuations, the decision to evacuate may be escalated to the Region or the State Incident Controller.
- 3.18.6 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

- 3.18.7 The NSW SES Local Incident Controller will mobilise the following to provide personnel for doorknock teams for designated Sectors/locations:
- a. NSW SES Warren Unit members,
  - b. RFS Warren Region members via the RFS Fire Control Officer,
  - c. Local Police Force officers
- 3.18.8 The NSW SES Region Incident Controller will mobilise any additional personnel required to assist with doorknock teams using:
- a. NSW SES members from the NSW SES Region and surrounding NSW SES Regions
  - b. FRNSW personnel arranged via the FRNSW Liaison Officer
  - c. RFS personnel arranged via the RFS Liaison Officer
- 3.18.9 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.
- 3.18.10 The NSW SES Local Incident Controller will arrange liaison officers for Sector Command Centres.
- 3.18.11 The NSW SES Region Operations Controller will mobilise the required number of buses for Sectors via the Transport Services Functional Area Coordination Centre.

### 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:
- a. Sector/Division Command Centres (where established).
  - b. Warren Shire Council Local Emergency Operations Centre.
  - c. Warren Shire Council.

- d. Darling River Police Local Area Command.
  - e. Warren Rural Fire Service Control Centre.
  - f. Radio Stations - 2DU/Zoo FM, 2WEB, 2CR (ABC) and 2PK.
  - g. Other local agencies and specified individuals.
- 3.18.15 The NSW SES Region Incident Controller will distribute Evacuation Warnings and Evacuation Orders to:
- a. The NSW SES State Operations Centre.
  - b. The NSW SES Local Incident Controller.
  - c. Affected communities via dial-out warning systems where installed or applicable.
  - d. Relevant media outlets and agencies.
- 3.18.16 Evacuation Warnings and Evacuation Orders may be delivered through:
- a. Radio and television stations.
  - b. Doorknocking by emergency service personnel.
  - c. Public address systems (fixed or mobile).
  - d. Telephony-based systems (including Emergency Alert).
  - e. Two-way Radio.
  - f. Direct access to Radio Station ABC Western Plains.
- 3.18.17 The Standard Emergency Warning Signal (SEWS) may be used to precede all Evacuation Orders broadcast on Radio Stations.
- 3.18.18 Sector Command Centres, where established, will distribute Evacuation Orders via Emergency Service personnel in doorknock teams to areas under threat of inundation.
- 3.18.19 Doorknock teams will work at the direction of:
- a. The Sector Commander if a Sector Command Centre is established;
  - b. The relevant Division Commander where a Sector Command Centre has not been established; or
  - c. The Local Incident Controller.
- 3.18.20 Field teams conducting doorknocks will record and report back the following information to their Sector Commander/Division Commander/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.
- 3.18.21 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:
- a. Move under local traffic arrangements from the relevant Sectors/Community via managed evacuation routes;
  - b. 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 Region Incident Controller will discuss the temporary closure of appropriate schools with the Regional Director, Western NSW Region, 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 Warren Shire Council LGA, school principals may close some schools affected by flooding in the early stages of flooding.
- 3.18.30 **Caravan parks.** When an evacuation order is given occupiers of non-movable vans should:
- a. Secure their vans by tying them down to prevent flotation.
  - b. Isolate power to their vans.

- c. Collect personal papers, medicines, a change of clothing, toiletries and bedclothes.
  - d. Lift the other contents of their vans as high as possible within the van.
  - e. Move to a designated evacuation centre in if they have their own transport, or move to the caravan office to await transport.
- 3.18.31 Where possible, vans that can be moved will be relocated by their owners. Park managers will arrange for the relocation of mobile vans whose owners do not have a vehicle. Council and NSW SES personnel will assist if required and may be able to provide additional vehicles.
- 3.18.32 Caravan park managers will ensure that their caravan park is capable of being evacuated within the allocated time.
- 3.18.33 Advise the NSW SES Local Incident Controller of:
- a. The number of people requiring transport.
  - b. Details of any medical evacuations required.
  - c. Whether additional assistance is required to effect the evacuation.
- 3.18.34 Check that no people remain in non-removable vans that are likely to be inundated.
- 3.18.35 Inform the NSW SES Local Incident Controller when the evacuation of the caravan park has been completed.
- 3.18.36 Provide the NSW SES Local Incident Controller with a register of people that have been evacuated.
- 3.18.37 **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.
- 3.18.38 **Transport and storage:** Transport and storage of furniture from flood threatened properties will be arranged as time and resources permit.
- 3.18.39 **Security:** The NSW Police Force will provide security for evacuated areas.
- 3.18.40 The NSW SES Local Incident Controller is to provide the following reports to the NSW SES Region Headquarters:
- a. Advice of commencement of the evacuation of each Sector;
  - b. Half-hourly progress reports (by Sectors) during evacuations; and
  - c. Advice of completion of the evacuation of each Sector.

## Shelter

- 3.18.41 **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 Local Incident Controller, but managed as soon as possible by Welfare Services.
- 3.18.42 The following locations may be suitable for use as flood evacuation centres:
- a. Warren College of Technical and Further Education (TAFE), Burton Street, Warren.
  - b. Warren Sporting and Cultural Centre, Victoria Park, Warren.
  - c. Collie Hotel, Collie.
  - d. Nevertire Hotel, Nevertire
- 3.18.43 **Registration:** The NSW Police Force will ensure that evacuees are registered on arrival at the designated evacuation centres.
- 3.18.44 **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

- 3.18.45 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.
- 3.18.46 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. The Warren Shire Council LEOCON,
  - g. The Warren 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).

- 3.18.47 Once it is considered safe to do so, the NSW SES Incident Controller will authorise the return of evacuees.
- 3.18.48 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 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 (SEOCN) 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 SEOCN, 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 Local Controller and Local Emergency Operations Controller (LEOCN) 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.

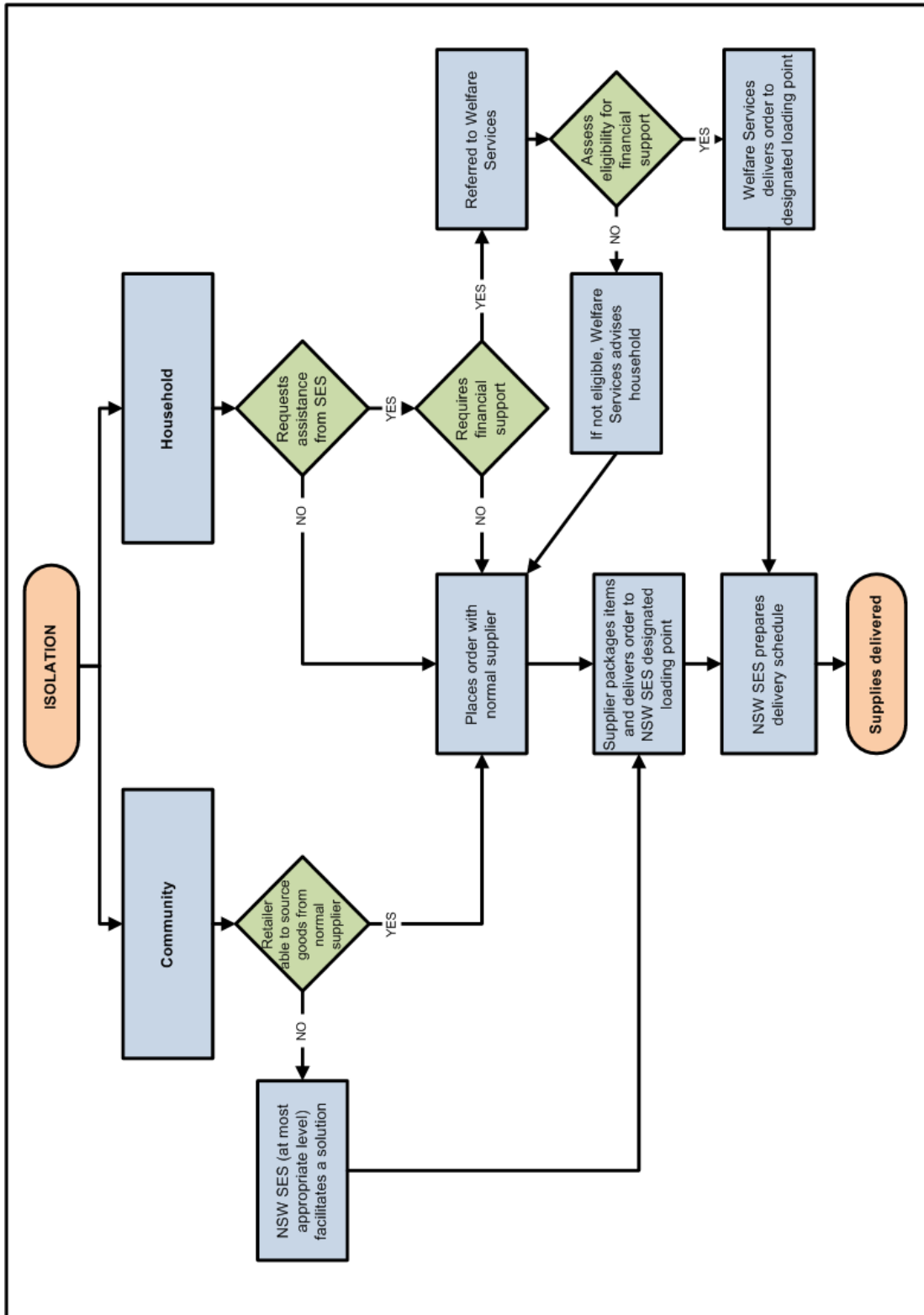
## **4.2 RECOVERY COORDINATION AT THE REGION AND STATE LEVEL**

- 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 SEOCAN 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**

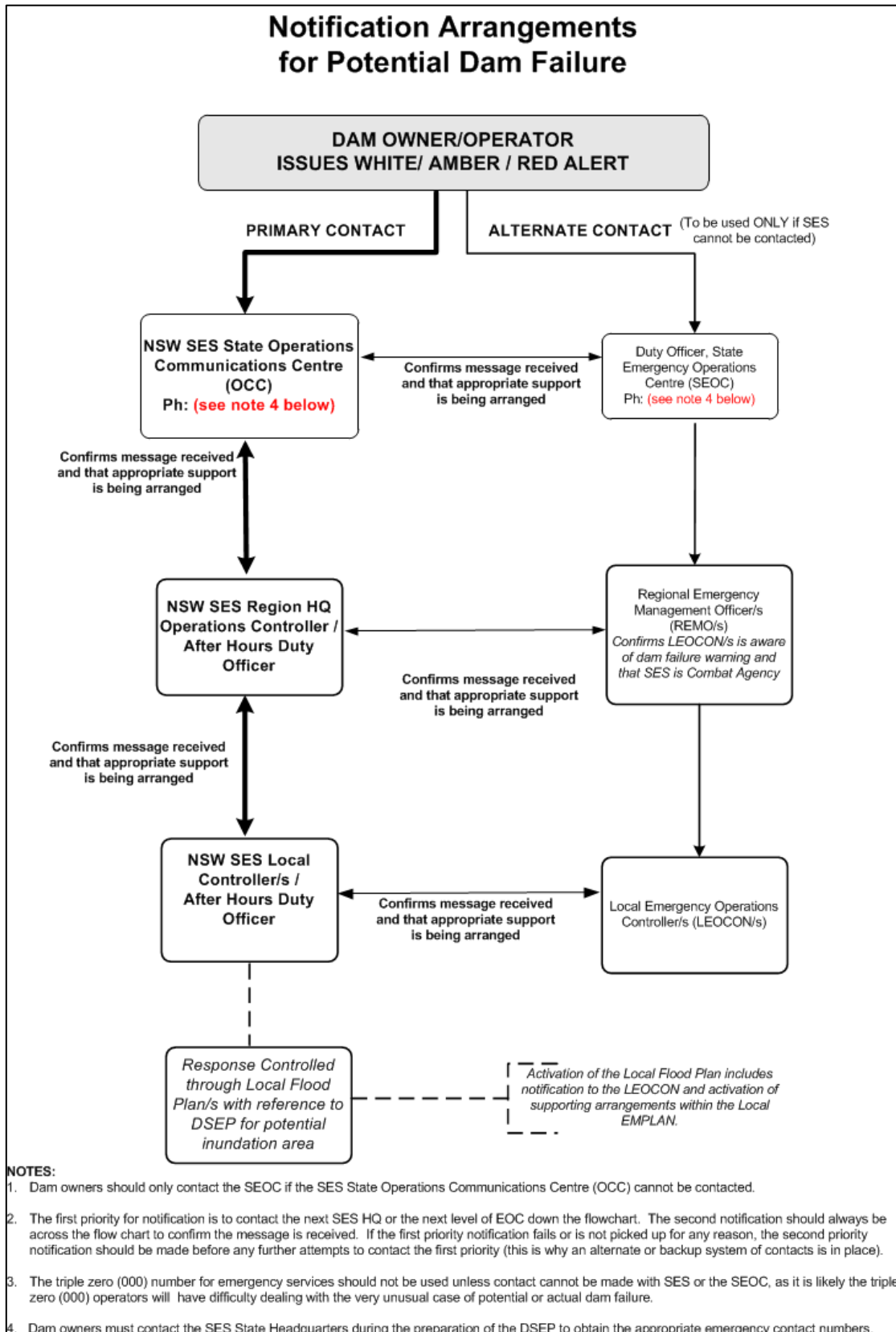
- 4.3.1 As soon as possible after flooding has abated, the NSW SES Local Controller will advise participating organisations of details of response operation after action review arrangements.
- 4.3.2 The NSW SES Local Controller will ensure that adequate arrangements are in place to record details of 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 Warren Shire Council Local Emergency Management Committee.

# ATTACHMENT 1 - RESUPPLY FLOWCHART

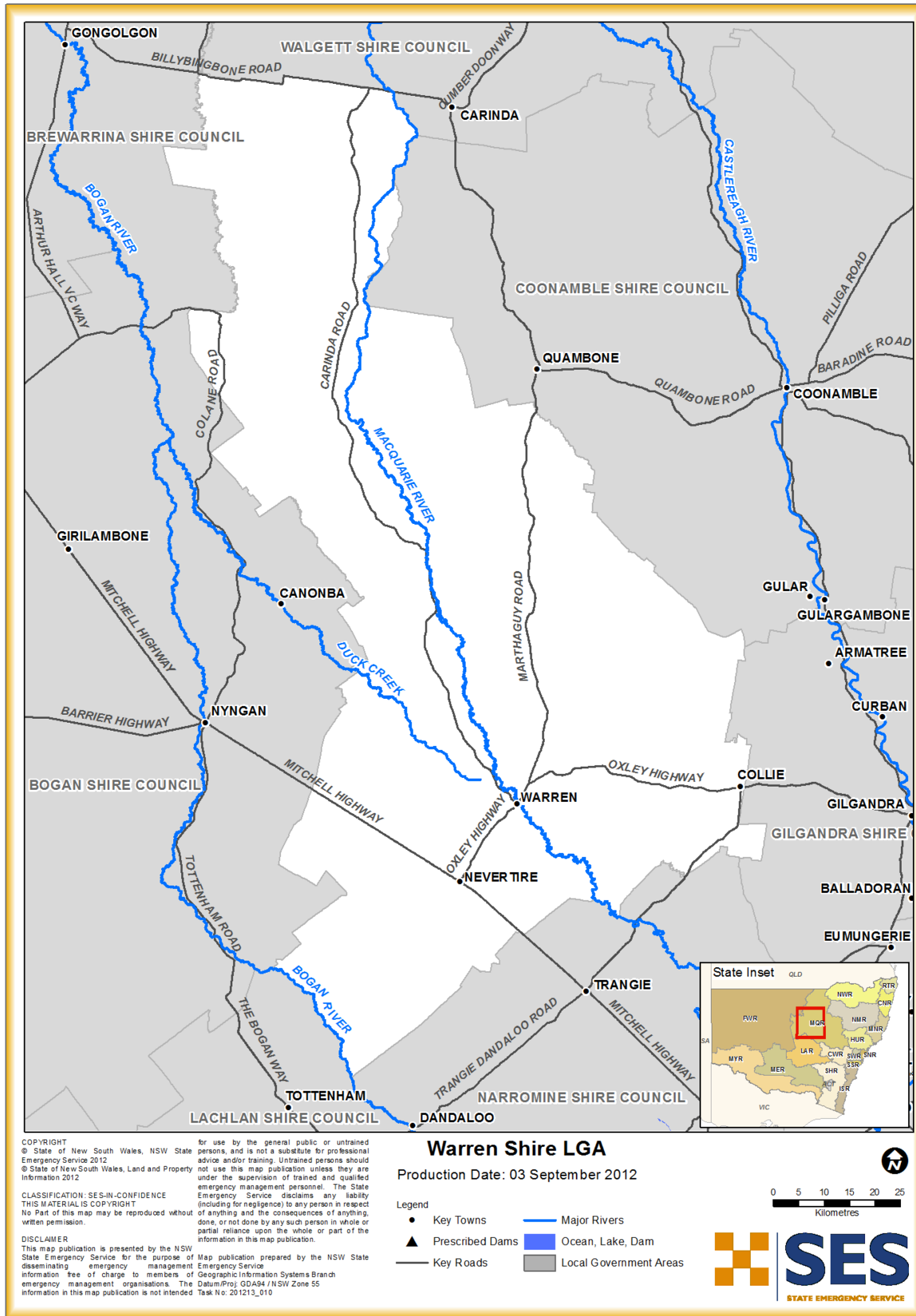


Please Note: The chart outlines the resupply process, but does not encompass all potential situations and outcomes.

# ATTACHMENT 2 - DAM FAILURE ALERT NOTIFICATION ARRANGEMENTS FLOWCHART



# ATTACHMENT 3 - WARREN SHIRE COUNCIL LGA MAP



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# HAZARD AND RISK IN WARREN SHIRE

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

Last Update: August 2002

## ANNEX A - THE FLOOD THREAT

### The Macquarie River Basin

1. Warren Shire is located within the Macquarie River Drainage Basin (Basin Number 421). The Macquarie River Basin extends in a north-westerly direction from the Great Dividing Range near Oberon, to the Barwon River between Brewarrina and Walgett. Waters entering the Macquarie River at its confluence with the Fish and Campbells Rivers are carried over 500 kilometres to the Barwon<sup>1</sup>. A map of the Macquarie River Basin is at Map 1.

### Flooding in the Macquarie River Basin

2. The following paragraphs (taken from the NSW Inland Rivers Floodplain Management Studies, Summary Report, Macquarie Valley by Sinclair Knight & Partners Pty. Ltd. Consulting Engineers, 1984) describe the Macquarie River Valley and the flood behaviour in the valley.
3. The Macquarie River is formed near Bathurst by the joining of the Fish and Campbells Rivers. These two (2) streams drain a high plateau area consisting largely of undulating to hilly terrain. The watercourses are confined within narrow steep valleys. The Macquarie River then passes through the undulating lowlands that form the Bathurst Plains area and it is here that the first substantial flood plain area is found.
4. From Bathurst to Burrendong Dam the river is once again confined to a very narrow and steep-sided valley. At the dam the Macquarie River is joined from the east by the Cudgegong River, which rises in uplands around Rylstone. Substantial areas of flat and undulating land exist surrounded by a hilly perimeter, and a relatively broad plain exists both upstream and downstream of Mudgee.
5. Below Wellington, the valley widens representing the flood plain that barely exists in the upper catchment. Upon entering the broader, flatter valley, the Macquarie River also changes; its cross section is now broader and shallower.
6. From Wellington to Dubbo flooding is more widespread but is still confined within a broad band extending along the Macquarie River, while downstream of Dubbo the flood plain broadens further. Upstream of Warren the first of the effluent streams provides an exit for floodwaters in the main river channel. The amount of flow reaching the town of Warren is only a fraction of the Dubbo flood peak, and the channel capacity at Warren is very much reduced.

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<sup>1</sup> New South Wales Inland Rivers Flood Plain Management Studies, Summary Report Macquarie Valley. Sinclair Knight & Partners Pty Ltd. 1984.

7. From then on, a maze of these effluent channels receives the floodwaters, and consequently hundreds of square kilometres of country can be inundated during major flooding.
8. Extensive flooding can be caused in this area not only by the sudden influx of high flows from the upper catchments, but also by large volumes of water being discharged into the Lower Macquarie over longer periods at lower flow rates.
9. Downstream of the Macquarie Marshes, a single channel is once again defined as the Macquarie River. However, the network of effluent streams results in the Upper Macquarie floodwaters finding their way to the Darling/ Barwon River system via the Bogan River, Marra and Marthaguy Creeks as well as the Macquarie River itself.
10. Whereas the flood peak of a coastal river increases downstream, the Macquarie is representative of tributaries in the Barwon/ Darling system in having a smaller downstream peak. This is not only a function of the attenuation and lag that occurs on a broad flood plain but is also due to the volume of floodwaters carried by the effluent streams that drain to the Bogan River.
11. The floods of February 1955 and March 1956 were extreme valley-wide events. According to the station with the oldest flood records, (Macquarie River at Dubbo) the 1955 flood level was the highest ever recorded and has a recurrence interval of over 100 years on the pre-Burrendong Dam frequency plot.
12. While the 1870 flood level was the second highest recorded flood at Dubbo, the March 1956 flood was ranked third. Thus, the 1955 and 1956 floods are the worst in living memory experienced in the Macquarie Basin. As well as enormous areas of valuable rural holdings being inundated, serious flooding was experienced in 1955 in the towns of Bathurst, Wellington, Dubbo, Narromine and Warren. In the last two towns the 1955 floodwaters overtopped levees that had never been breached previously and both towns were completely flooded. The town of Nyngan on the Bogan River was only saved by the construction of a temporary levee.
13. Where levees have been erected or floor level controls already adopted the local authorities have adopted the level of the worst recorded flood as their yardstick and invariably this has been the flood of 1955.
14. Following the completion of the Burrendong Dam in the mid 1960's the flow regime of the Macquarie River downstream of the dam has been changed. It is estimated that a post-Burrendong Dam flood of 1955 proportions would have a recurrence interval of more than 100 years.

### **Flooding in the Warren Shire Council Area**

15. The territory of the Warren Shire Council area is very flat and almost all of it must be regarded as liable to flooding. Most of the flooding that is of concern is caused by overbank flow from the Macquarie River and its effluents. However, floods also occur on the Bogan River in the far south-west of the Council area and along Marthaguy Creek. In severe events, thousands of square kilometres can be subjected to inundation and serious problems of access, supply and evacuation are the result along with problems associated with the management of livestock. This is especially



so in the northern parts of the Council area where floods can remain for weeks at a time. The following paragraphs (taken from the Guidelines for Floodplain Development, Macquarie River, Warren to Oxley Station by Water Resources Commission, NSW, August 1981) describe the flood problem in the Warren Shire Council area.

16. Flooding downstream of Warren occurs at a relatively early stage due to flows which originate primarily from Ewenmar Creek, but also from Mumblebone, Drungalear, Marra and Marebone breaks. All commence to flow at quite low levels.
17. Flood waters from the various breaks find their way into natural depressions, swamps and cowals which in total carry flows far greater than the main river channel. Under major flood conditions many of these depressions, swamps and cowals link up to form an almost continuous sheet of floodwater across the floodplain.
18. Flooding of the right bank floodplain commences about 6 kilometres downstream of Warren where floodwaters from Ewenmar Creek-Umangla Cowal begin to spread out on the property "Gillendoon". During quite small floods some of this water reaches Cowal Creek, a wide meandering channel extending downstream as far as the Drungalear Break. The bulk of the Ewenmar Creek floodwater originates from Reddenville Break which is located on the right bank of the Macquarie River approximately 12 kilometres upstream of Warren. Under major flood conditions floodwaters from Tiger Bay and Five Mile Cowals add to the flooding of the right bank flood plain.
19. Under lesser flood conditions the right bank floodwaters are confined to a relatively narrow strip between the river and Cowal Creek as far downstream as the Drungalear break, where a large volume of floodwater breaks to the northeast.
20. The other major break feeding the right bank floodplain, Marebone Break, is located near Marebone Weir, approximately 5 kilometres downstream of the Drungalear Break.
21. Downstream of the Marebone Break, at the Mt Harris – Gradgery Road, floodwaters start to spread on their way to the Macquarie Marshes which start at the downstream limit of the study area. The main carriers in this area are Bulgeraga Creek and Gum Cowal.
22. The bulk of the volume of right bank floodwaters enter the Marshes although some water is lost to Marthaguy Creek via Gum Cowal.
23. Downstream of Warren flooding of the left bank is due primarily to flows from the Mumblebone and Marra Breaks although significant flooding does occur due to flows from Birra Burra Creek, an effluent that leaves the Macquarie River about 12 kilometres downstream of Warren.
24. As with the flooding on the right bank, during small to moderate floods, floodwaters on the left bank are largely confined to a relatively narrow strip along the river as far downstream as Marebone Weir. Downstream of the Weir the bulk of the floodwater enters Middle and Marra Creeks which finally leave the Macquarie River system.

25. Other effluent streams leaving the Macquarie River on the left bank include Gunningbar Creek and Crooked Creek.

26. Prior to the development of irrigation in the area, flood damage was caused not so much by the physical effect of high velocities (flood velocities in general quite low), but by long periods of inundation which accompanied the often slow rates of rise and fall of floods. Under these conditions damage can be reduced as property owners have amply forewarning of the arrival of a flood and are able to move stock and machinery from flood prone areas.

### Weather Systems

27. Flooding within the Warren Shire Council area can occur at any time of year. In summer, low-pressure troughs extending southwards from northern Australia can cause intense short-period rainfall leading to flooding. Winter floods are more often the result of a number of troughs associated with southern depressions and crossing the region from west to east. These systems rarely produce high daily rainfalls but can bring substantial falls over longer periods. In general, it is these winter systems which are the more significant in terms of flood production, and there is a tendency towards a concentration of flooding in June, July and August. However, some of the most severe floods that have occurred within the Council area have been in the late summer months. The following chart depicts the frequency of major floods (ie 9 metres or greater) during the period 1 August 1916 to 30th November, 2000.

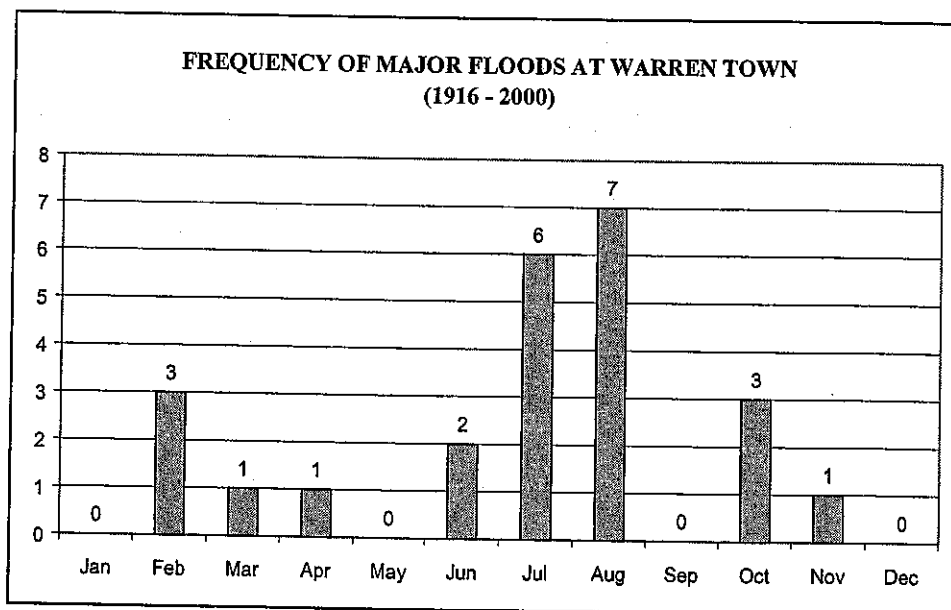


Figure 1 - Frequency of Major Floods at Warren Town Gauge

28. Most of the severe floods have resulted from sequences of rain events rather than from individual ones. The early events wet the catchment, and the later ones often generate the significant flooding. For example, the flood of 10 August 1990 (9.64 metres) was preceded by a flood of a similar magnitude (9.44 metres) less than a month before on 29 July 1990. Given the slow response time of the Macquarie River catchment downstream of Dubbo, floods can be superimposed upon one another when rainfall events occur in quick succession. Flooding can occur either as a result of

sudden high influxes of water from the upper catchment or as slowly-developing events with large discharge volumes coming in to the Council area at lower rates.

29. In addition to large-scale weather events from which flooding normally occurs on the Macquarie River and after considerable warning, more localised floods can result from sudden severe thunderstorms. Such thunderstorms occur mainly in summer and may produce significant flooding over small parts of the Council's territory and with very little warning.

### **Flood History**

30. There have been 47 floods recorded at the Warren Town gauge above the major flood classification of 9 metres since August 1886. The most serious floods experienced in the Warren Shire Council area occurred in 1870, 1950, 1955, 1956, 1990 and 2000.

31. The 1955 flood was the most severe, reaching a height of 10 metres on the Warren town gauge. The flood-producing rains on this occasion fell largely over the catchments of the Cudgegong and Talbragar rivers, with only minor falls over the upper Macquarie. The 1990 event was quite different, most of the rain falling over the Macquarie upstream of Bathurst and over the Bell River and Little River catchments. The Talbragar contributed virtually nothing to the flood on this occasion.

32. Inflow to Burrendong Dam (which did not exist in 1955) reached record levels in 1990. Peak releases were also at record levels, and the dam reached its highest storage level. This flood reached a gauge height of 9.64 metres at Warren, which represents the fifth highest flood event ever recorded there.

33. Floods differ not only in terms of heights reached and the contributions of particular tributaries, but also in terms of volume of discharge and duration. The 1950 and 1956 floods were larger in terms of total discharge and lasted for longer than the 1955 event but did not reach the same height. In accordance with seasonal differences in the nature of the major weather systems, it is the winter floods which have tended to be longer-lasting and of greater discharge.

### **Design Flood**

34. Warren Shire Council has adopted a design flood for the design of the levee system around Warren based on the flood of record plus one metre. This equates to approximately 11 metres on the Warren Town gauge.

### **Extreme Flooding**

35. An extreme flood could occur naturally. It is noteworthy that the flood of April 1990 at Nyngan was much more severe; in terms of peak, total flood discharge and gauge height; than any flood previously recorded in the 110 year history of that town. It exceeded the previous record height by nearly a metre and the previous highest flood volume by a factor of nearly five. Flooding which surpasses existing records by a substantial margin could occur within the Warren Shire as a result of extreme weather occurring upstream.

36. Another means by which an extreme flood could occur would be as the result of a failure of Burrendong Dam. This dam, one of the state's largest water storages, has been assessed as being at a very slight risk of failure in a flood event much larger than has ever been recorded in European times over its catchment area. Should failure occur, a flood of extreme proportions would be experienced on the Macquarie River. Considerable attenuation of the height of the flood wave would occur by the time the water from the dam reached the Warren Shire Council area. However, the flood would nevertheless be of great severity in rural areas and at Warren itself and much more serious than any flood event previously recorded. It must be stressed, however, that the risk of dam failure is extremely slight.

### **Flood Mitigation Systems**

37. Many rural dwellings in the Warren Shire are protected by low levees designed to keep out all but the more severe floods.

38. The town of Warren has been protected by levees for many years. However, those that were in place in 1955 were overtopped and the entire town was inundated. 500 people were evacuated.

39. Today, Warren is protected from flooding by a system of levees. Surrounding the southern section of the town is a 12 km long levee and surrounding the northern side a 4 km levee. The original levee construction was completed in 1963 at a general crest level of 197.2 metres AHD, which corresponded to the level of the 1955 flood (flood of record) plus 0.6 metres. The levee was raised by 0.5 metres during the 1990 floods. The current levee system is designed to protect the town from a flood of 11 metres. Problems of river scour remain and the possibility of levee failure in a severe flood cannot be discounted. Equally, it is not expected that the levees would be able to keep out a flood of extreme proportions.

40. A map of Warren showing the current levee is at Map 3.

## ANNEX B - EFFECTS OF FLOODING ON THE COMMUNITY

### Warren

1. Warren is a small rural town located on the Oxley Highway 545 kilometres north west of Sydney, 80 kilometres west of Gilgandra and 197 metres above sea level. Warren supports a vibrant rural community engaged in farming and grazing. The population of the town and district is seasonally adjusted due to the influx of contract and casual agricultural workers. The population of Warren is officially 1,909 according to the 1996 census but this is seasonally adjusted to around 2,400 during peak agricultural casual employment periods (November to May).
2. Warren is located on the Macquarie River and has been subjected to 47 floods above the major flood level since 1886. The town is protected by a system of levees. A twelve-kilometre levee surrounds the southern section of the town and a four kilometre levee protects the northern side. The levees have been designed to protect the town from a 1% AEP flood plus one-metre (11.00 metres on the Warren Town gauge).
3. The majority of the homes in the old municipal area, approximately 3 km radius outside of the levee, may start to become surrounded by water and isolated when the Macquarie River reaches 9.0 metres on the Warren Town gauge. Properties will be progressively inundated from this height and approximately 140 houses/ properties are flood affected.
4. All road access to and from Warren is usually lost when the river reaches 9.75 metres on the Warren Town gauge.
5. Road access to the Warren airport may be lost completely when the river reaches 10 metres on the Warren Town gauge.

### Rural Areas

6. The Warren area supports farming and grazing. Extensive irrigation development allows for the growing of winter and summer crops including cereals, legumes, oil seeds, cotton and pastures for grazing and fodder. Cotton growing is on the increase. The Warren Shire officially has a population of 3,290 (1996 census) but this is seasonally adjusted to 3,800 during the peak agricultural periods mentioned earlier.
7. The Macquarie Marshes wetland area is considered to start about 40 km downstream of Warren at Marebone Weir. This area extends to beyond the northern boundary of the Warren Shire area and covers approximately 150,000 hectares of the shire. All properties in this area will become affected and may be isolated during

moderate to major flooding. This is a fairly regular occurrence and landowners in this area are accordingly equipped to cope.

8. The majority of problems faced by the rural residents of the Warren Shire are related to road closures and isolation. A major proportion of rural roads in the shire are gravel, loam sheeted or black soil roads and these are subject to closure after heavy rainfall. Therefore, rural residents can be isolated even before flooding begins.

### **Collie**

9. Collie is a small village (Population 39) located on the Marthaguy Creek about 49 km east of Warren. A significant rain event over the Marthaguy Creek catchment above Gilgandra can result in over the bank flooding from Marthaguy Creek in Collie. This may cause a large part of the village to be inundated.

### **Nevertire**

10. The village of Nevertire (Population 103) is located near the intersection of the Mitchell and Oxley Highways about 19 kilometres south west of Warren. The village is not at risk of riverine flooding but it has been cut off by road from Warren in the past.

## **Transport Disruptions**

11. **Railway.** There is a rail line servicing Warren. This is a branch line off the main line from Dubbo. The rail service is restricted to general cargo and bulk grain. The rail line is closed by flood water when the Macquarie River reaches 9.7 metres at the Warren Town gauge. However, it may be closed prior to this height because of scouring and wash-outs.

12. **Air.** The Warren airport is located about three (3) kilometres south west of Warren on the Oxley Highway. The airport has sealed and unsealed runways capable of handling medium range transport aircraft up to and including the RAAF CC08 Caribou aircraft on the sealed strip and the C130 Hercules on the unsealed strip (during dry floods). The airport is not affected by flood water but road access from Warren is lost when the river reaches 10 metres on the Warren Town gauge.

13. **Road.** Vehicular access throughout much of the Warren Shire is restricted after heavy rains. Road access to and from Warren is lost when the Macquarie River reaches 9.75 metres on the Warren Town gauge. The main effects on roads and road closures are described in the following table:

Gauge Height	Effect on Roads
6.90	Reddenville Break running at 0.10 metres. If it runs for seven days, the Mt Harris - Gradgery road (SR23) will have water crossing it within six days of reaching this height.
7.10	Wambianna Road is closed by the Reddenville Break due to fast flowing water. This road is a major traffic route for locals travelling east towards Gin Gin and Dubbo. Alternative routes are via the Oxley Hwy (SH11) and Mitchell Hwy (SH7).
7.80	Water backing up from the Macquarie River through the Reddenville Break combined with local water in the Ewenmar Creek may close the Wambianna Road (SR66) 1 km east of Warren. This isolates about 20-30 rural properties in this area.
8.00	Water over various causeways of the Warren - Carinda road (RR333) between 45-70 km downstream of Warren. The road is usually still safe to negotiate at this height.
8.40	<p>Ellengerah Road; Warren - Gin Gin (SR64) on the southern side of the river is closed at various locations on the unsealed sections.</p> <p>Bundemar Road (SR68) closed at the Paringa floodway about 6.5 km from Warren. This is a local access road for rural property owners.</p>
9.00	<p>Significant flows in the Ewenmar Creek, combined with water coming out of the Macquarie River through the Reddenville Break can cause water to cross and close the Warren - Gilgandra road (Oxley Hwy, SH11) at the 5 Mile Cowal, 8 km from Warren. This closure is due to high velocity of the flow and not the depth.</p> <p>The industrial access road between Oxley Hwy (SH11) and Udora Road (SR73) is closed at the unsealed section. This stops industrial traffic to the Twynam Cotton Gin, saleyards and grain silos.</p> <p>Udora Road (SR73) is closed about 3 km from Warren isolating about 20 rural residential properties.</p> <p>Water over the Warren - Gilgandra Road (Oxley Hwy, SH11) between Tiger Bay; adjacent to town; and Ewenmar Creek. The road is not closed.</p> <p>If all of the above occurs, the only secure road access to and from Warren is via the Warren - Nevertire road (Oxley Hwy, SH11).</p> <p>No vehicle access to the Warren sewerage treatment works. This has no impact on the normal operation of the plant.</p>

Gauge Height	Effect on Roads
9.30	The Warren - Quambone Road (RR202) may close 8 km from Warren at the 5 Mile Cowal for safety reasons because the road is completely inundated and ill defined.
9.75	All roads to Warren closed except to high clearance emergency vehicles using the Warren - Nevertire Road (Oxley Hwy, SH11).
9.75 – 9.80	All road evacuation routes out of Warren are lost by this height.
10.00	Access to the airport is lost by this height.

**Figure 2 - Effect of Flooding on Roads**



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# **SES RESPONSE ARRANGEMENTS FOR WARREN SHIRE**

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

Last Update: August 2002

ANNEX C TO THE  
WARREN LOCAL FLOOD PLAN

## ANNEX C - GAUGES MONITORED BY WARREN SES LOCAL HEADQUARTERS

Station	Gauge No	Stream	Flood Classification			Type
			Min	Mod	Max	
Elong Elong		Talbragar River				Telemetric
Baroona		Macquarie River				Telemetric
Narromine		Macquarie River				Manual
Burrengeel	10064	Macquarie River				Manual
Gin Gin Weir	421031	Macquarie River				Telemetric
Collie	10097	Marthaguy Creek				Manual
Haddon Rig	10172	Marthaguy Creek				Manual
Reddenville Break		Macquarie River effluent				Manual
Warren Weir		Macquarie River				Telemetric
Warren (No1)	421063	Ewenmar Creek				Manual
Warren (No2) Gunningba Creek Offtake		Gunningba Creek				Manual
Warren (No3) Sandy Ck		Sandy Creek				Manual
Warren Town*	421014	Macquarie River	7.50	8.50	9.00	Manual
Oxley	421022	Macquarie River				Telemetric
Marebone D/S	421090	Macquarie River				Telemetric
Waitara	10404	Bogan River	4.80	4.86		Manual
Carinda Road	421097	Marra Creek				Manual
Oxley (Gum Cowal)	421152	Gum Cowal				Manual

Note:

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

ANNEX D  
WARREN LOCAL FLOOD PLAN

## ANNEX D - DISSEMINATION OF SES FLOOD BULLETINS

The Macquarie SES Division Headquarters distributes SES Flood Bulletins and other flood related information (including Flood Warnings) to the following regional media outlets:

**Television Stations:**

Station	Location
Prime TV	Dubbo
WIN TV	Dubbo
Capital TV	Dubbo
ABC TV	Sydney

**Radio Stations:**

Station	Location
2DU/Zoo FM	Dubbo
Star FM	Dubbo
2WEB	Bourke
2CR (ABC)	Orange
2PK	Parkes

**Newspapers:**

The Dubbo Liberal, Dubbo.  
The Warren Advocate, Warren.  
The Warren Weekly, Warren.

**Other Agencies:**

- Warren SES Unit
- RTA (Dubbo)
- NRMA (Dubbo)

ANNEX E TO THE  
WARREN LOCAL FLOOD PLAN

## ANNEX E - TEMPLATE EVACUATION WARNING MESSAGE FOR WARREN

**Date/Time of Issue:**

**Authorised By:**

The Bureau of Meteorology has predicted a flood level of [ ] metres at  
[ ] (*place*) at [ ] (*time*). This means that  
[ ] (*describe areas*) may be inundated.

It is recommended that you prepare to evacuate/for evacuation within the next [ ] hours. If you leave it later, the roads may be congested or closed.

To prepare for evacuation, you should:

- Raise belongings by placing them on tables, beds and benches. Put electrical items on top. Some items may be able to be placed in ceilings.
- Gather medicines, personal and financial documents and mementos together to take with you.
- Listen to radio stations [ ] for further information and to confirm this warning.
- If possible, check to see whether your neighbours need help.
- Make arrangements for care of pets or companion animals.

If evacuation is necessary:

- Turn off the electricity, gas and water.
- Take three days' supply of clothes with you.
- If you have a car, drive to the evacuation centre at [ ] (*specify route if appropriate*).
- If you don't have a car, walk to your evacuation centre. Special transport can also be provided on request if necessary, telephone [ ].
- So that you can be accounted for, it is important that you register at the evacuation centre.
- After registering, you may go to the house of a friend or relative. Alternatively, accommodation will be arranged for you.
- The Police will provide security for your property while you are away.

## ANNEX F - EVACUATION ARRANGEMENTS FOR THE WARREN SHIRE

### Situation

1. A number of residences and properties may need to be evacuated during significant flood events. In most floods, the evacuation task would only involve a small number of people living in rural areas or villages.
2. The biggest threat within the Warren Shire is the failure of the protective levee at Warren. The levee has a crest height of 11.00 metres and the IFL has been assessed to be 10.50 metres (in relation to the Warren Town gauge). An extreme flood could cause the levee to be breached or overtopped resulting in the complete evacuation of the town.

### Aim

3. The aim of this document is to detail the evacuation arrangements during flooding within the Warren Shire.

### Execution

#### General Outline

4. During floods, evacuations will be controlled by the Warren SES Local Controller (or, at the Local Controller's request, the LEOCON) and conducted in four (4) phases:
  - a. Phase 1 - Warning.
  - b. Phase 2 - Withdrawal.
  - c. Phase 3 - Shelter.
  - d. Phase 4 - Return.

#### The Decision to Evacuate

5. **Responsibility.** Responsibility for issuing any general evacuation order during flooding rests with the Warren SES Local Controller who exercises his/her authority in accordance with Section 22(1) of The State Emergency Service Act 1989. However, the decision to evacuate would be taken after consultation with the:

- a. Warren LEOCON;
- b. Warren LEMO;

- c. Manager Engineering Services, Warren Shire;
  - d. Mayor, Warren Shire; and
  - e. Macquarie SES Division Controller.
6. Where possible, evacuation will be carried out before inundation occurs.
7. **Self-Evacuation.** Some residents may make their own decision to evacuate earlier and move to alternative accommodation using their own transport. It is important that such evacuees inform the NSW Police or the SES of their evacuation and their temporary address.
8. **Evacuation Triggers.**
- a. **Levee Failure – Warren.** The most likely event to trigger the decision to undertake a large-scale evacuation in Warren would be evidence of a possible failure or overtopping of the levee. As the result of a recent levee audit, the IFL of the levee was set at 10.50 metres (in relation to the Warren Town gauge). Due to the loss of road access at 9.75 metres, the decision to execute a full or partial evacuation needs to be made before the town is isolated if it is anticipated that the Macquarie River will exceed 10.5 metres at the Warren Town gauge.
  - b. **Collie.** A significant rain event over the Marthaguy Creek catchment above Gilgandra can result in over the bank flooding from Marthaguy Creek in Collie. This may cause a large part of Collie to be inundated.
  - c. **Nevertire.** The village of Nevertire is not at risk of direct flooding and has not required evacuating in any of the previous flood events. It can, however, be isolated by road.
  - d. **Rural Properties.** Evacuations could occur at anytime after heavy rains that may result in localised flooding. In the past, several properties have required evacuating after the Macquarie River reached 9.0 metres at the Warren Town gauge.

### Phase 1 - Warning

9. **Evacuation Warnings.**
- a. **Collie.** Advice of heavy rainfalls over the catchment of Marthaguy Creek above Gilgandra will prompt the Warren SES Local Controller to ensure that the residents of Collie are prepared for significant creek rises and possible over the bank flooding necessitating partial or complete evacuations.
  - b. **Warren.** On the receipt of flood warnings predicting peak heights of 10.50 metres and above at the Warren Town gauge; the Warren SES Local Controller will consult with the aforementioned appointments to determine the level of the threat and the need to consider evacuations. As soon as

possible after the decision to evacuate is made, the Warren SES Local Controller will issue evacuation warnings to the 'at risk' residents.

**10. Evacuation Warning Message.** A template Evacuation Warning Message is at Annex F. Evacuation warnings are disseminated via:

- a. SES flood wardens,
- b. public address systems from Police and other emergency service vehicles,
- c. door-knocks by Police and other emergency service personnel,
- d. telephone,
- e. two-way radio,
- f. the radio and TV stations listed in Annex D, and/or
- g. SES Flood Bulletins.

## **Phase 2 – Withdrawal**

**11. Introduction.** Withdrawal involves the actual removal of the community/individuals from dangerous or potentially dangerous areas to safer areas.

**12. Control.** Evacuations will be controlled by the Warren SES Local Controller (or, at the Local Controller's request, the LEOCON) and conducted by SES (including flood wardens), Police, Warren Shire Council, Rural Fire Service, NSW Fire Brigade, VRA personnel and NSW Ambulance.

**13. Movement.** Evacuees are to be moved using their own transport where possible. The Warren SES Local Controller will arrange transport for those people without their own vehicles through the Transport Coordinator. Bus companies are listed in the Warren DISPLAN.

**14. Evacuation Routes.** As a leveed town, Warren is in a situation in which the normal evacuation routes are usually lost before the threat of levee failure or overtopping is apparent. At 9.75 metres, all roads in and out of Warren are closed except to high-clearance emergency vehicles using the Warren to Nevertire road (Oxley Highway – SH11). Road access to the airport is lost completely by 10 metres. Warren can become completely isolated by road when the Macquarie River reaches 9.75-9.80 metres on the Warren Town gauge whereas the IFL of the Warren levee is currently set at 10.50 metres.

**15. Large Scale Evacuations from Warren.** In the unlikely event that large-scale evacuations from Warren were required, evacuees would be staged through evacuation centres and moved to Dubbo by buses and/or fixed wing aircraft. Planning considerations for such an event are listed below:

- a. Opportunity should be given for voluntary evacuation before a general evacuation order is issued.

- b. All dwellings should be door-knocked and provided with appropriate information prior to evacuation.
  - c. Elderly and infirm people need to be given priority for evacuation.
  - d. Warren will be divided into sectors that can be evacuated sequentially in accordance with prearranged evacuation priorities.
  - e. Arrangements should be made for stay behind parties.
- 16. Evacuations from Collie or Nevertire.** Evacuees from the villages of Collie and/or Nevertire will be transported to Gilgandra or Dubbo.
- 17. Evacuations from Rural Areas.** Where practical, evacuees from rural areas will be transported to Warren before inundation occurs and before road access is lost.
- 18. Special Needs Groups.** Special needs groups are listed in the Warren DISPLAN.
- 19. Doorknocking.** Field teams conducting doorknocks will record and report back the following information back to the Operations Centre:
- 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.
- 20. Refusal to Evacuate.** Field teams should not waste time dealing with people who are reluctant or refuse to comply with the evacuation order. These cases should be referred to the LEOCON who will arrange for Police to visit them.
- 21. Security.** The NSW Police will provide security for evacuated premises.
- 22. Helicopter Landing Pads (LPs).** Within Warren Victoria Park and Carter Oval are suitable for use by medium lift helicopters.
- 23. Airport.** The Warren airport is located about three (3) kilometres south west of Warren on the Oxley Highway. The airport has sealed and unsealed runways and is capable of handling medium range transport aircraft up to and including the RAAF CC08 Caribou aircraft on the sealed strip and the C130 Hercules on the unsealed strip (during dry floods).



### Phase 3 - Shelter

**24. Evacuation Centres.** The purpose of evacuation centres is to meet the immediate needs of victims. Evacuees will be advised to go to or be taken to the nearest accessible evacuation centre, which will be initially established at the direction of the Warren SES Local Controller but managed as soon as possible by the Department of Community Services. Any of the following sites may be used as evacuation centres and/or assembly areas:

- a. Warren College of Technical and Further Education (TAFE), Burton Street, Warren.
- b. Warren Sporting and Cultural Centre, Victoria Park, Warren.
- c. Collie Hotel, Collie.
- d. Nevertire Hotel, Nevertire.

**25. Facilities Available.** Details of the capacities, contacts and facilities available at each of the above centres are listed in the Warren DISPLAN.

**26. Action on Arrival.** On arrival, evacuees will be:

- a. registered as a disaster victim;
- b. medically checked, if necessary; and
- c. provided with their immediate welfare needs.

**27. Registration.** NSW Police will ensure that all evacuees are registered on arrival at the designated evacuation centres and details of the registrations are to be sent to the Orana Police District Headquarters by the quickest means available.

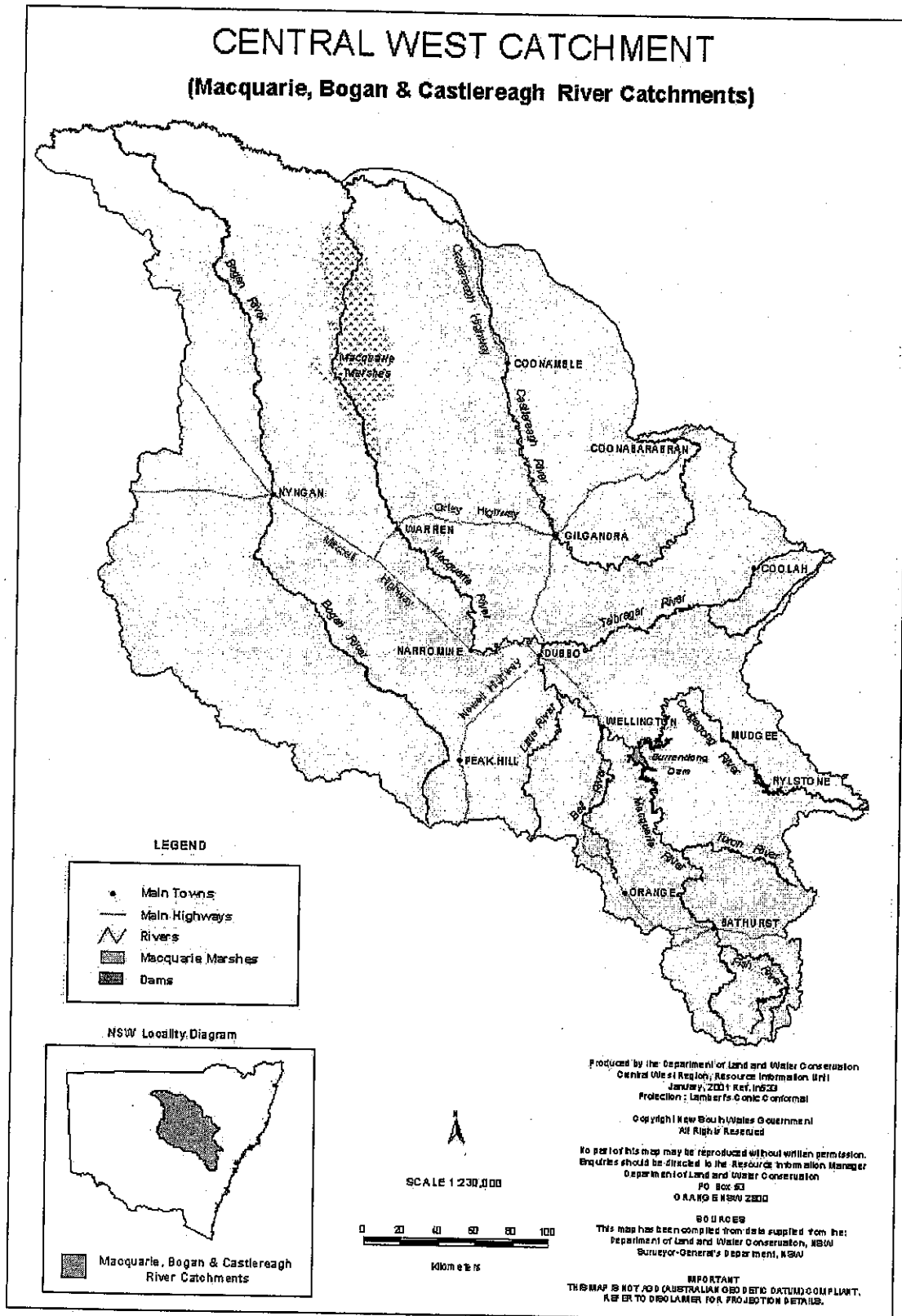
**28. Support Provided At Evacuation Centres.** The expected duration of the evacuation will dictate the need for and level of facilities and support at the evacuation centres. If evacuations are expected to be of a short duration, evacuees may be provided with short-term accommodation at the centres. However, if they are expected to last for longer than 24 hours, evacuees will be encouraged to go to alternative accommodation or stay with friends where possible. Alternatively, accommodation will be arranged for them in hotels, motels or by billeting.

### Phase 4 - Return

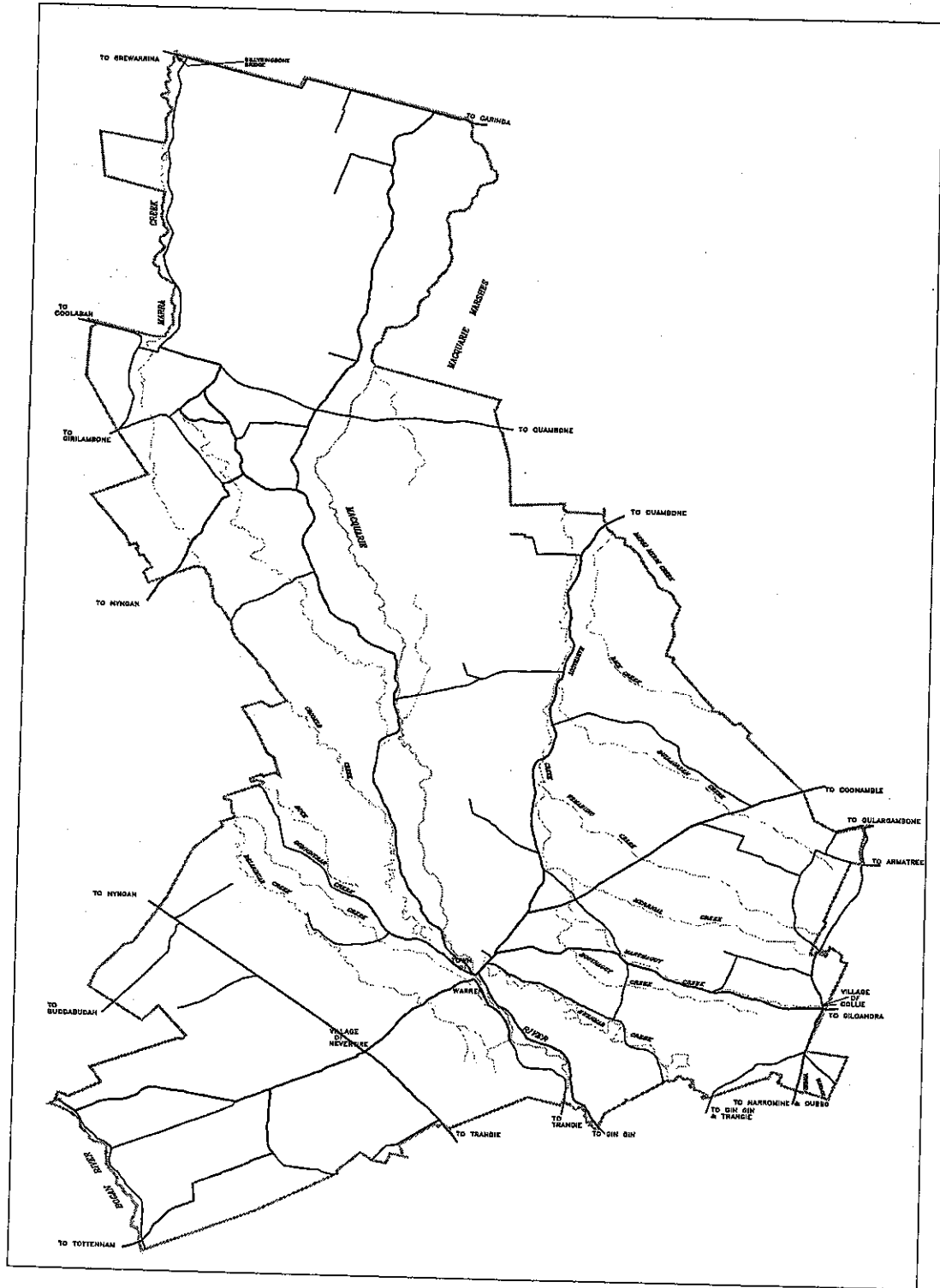
**29.** Once it is considered safe to do so, the Warren SES Local Controller will authorise the return of evacuees to their normal or alternative place of residence. This decision will be made after consulting with the LEOCON; Manager Engineering Services, Warren Shire Council; LEMO; Mayor, Warren Shire Council; DOCS and Macquarie SES Division Controller.

**30.** The return will be controlled by the Warren SES Local Controller and may be conducted, at his/her request, by DOCS (DWS).

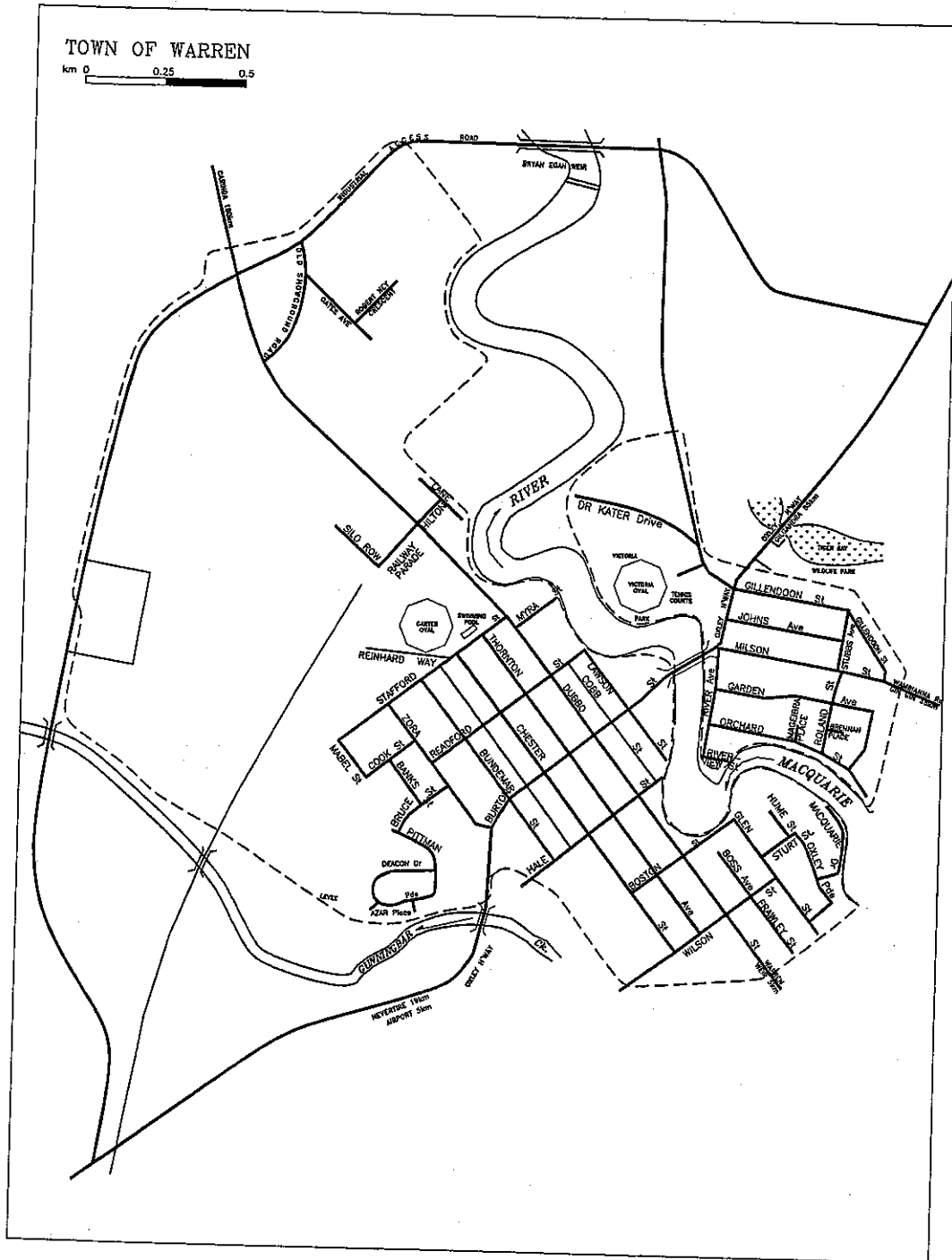
# MAP 1 – MACQUARIE RIVER BASIN



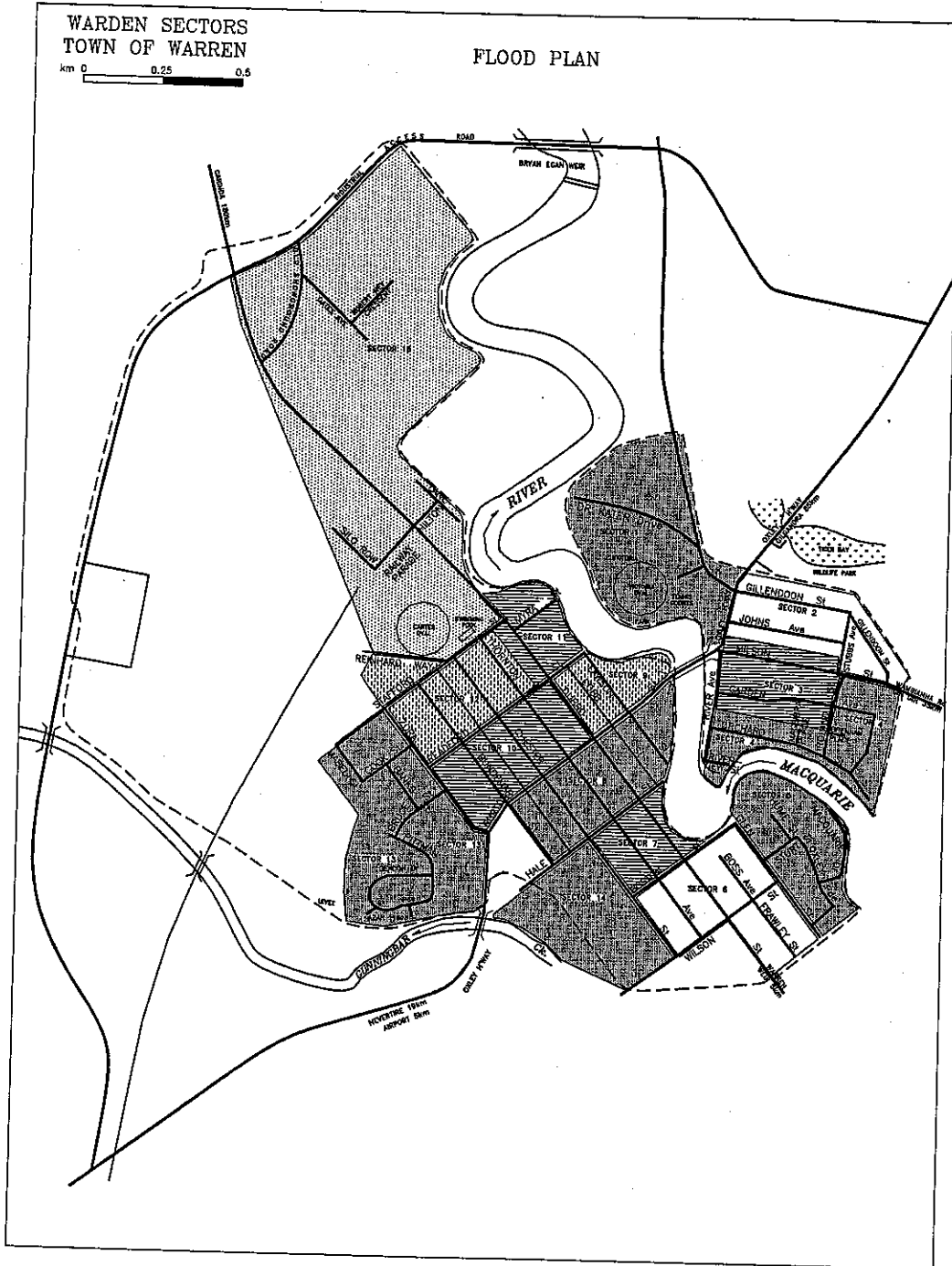
# MAP 2 – WARREN SHIRE COUNCIL AREA



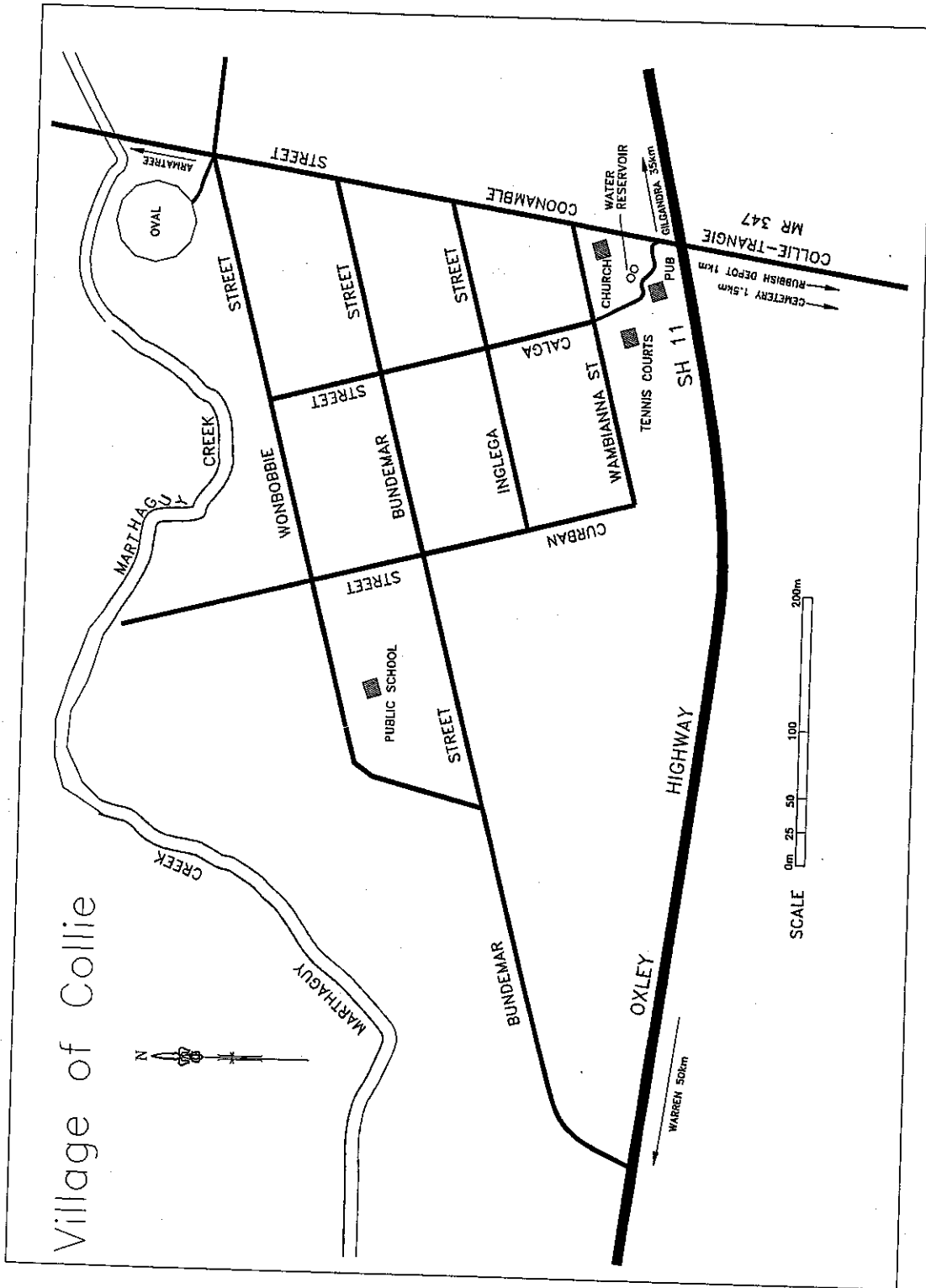
# MAP 3 – WARREN



# MAP 4 – WARREN WARDEN SECTORS



# MAP 5 - COLLIE



# MAP 6 - NEVERTIRE

