



Surf Coast Shire Municipal Flood Emergency Plan

A Sub-Plan of the Municipal Emergency
Management Plan

For Surf Coast Shire Council and
VICSES Unit(s) Lorne, Torquay and Winchelsea

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Distribution List

Copy No.	Issue To:		Date
	Name	Organisation / Group	
1		Municipal Emergency Management Planning Committee	
2		Municipal Emergency Resource Officer (MERO)	
3		Deputy Municipal Emergency Resource Officer (D/MERO)	
4		Municipal Emergency Response Coordinator (MERC) (Torquay Police Station)	
5		Deputy Municipal Emergency Response Coordinator (MERC) (Winchelsea Police Station)	
6		Deputy Municipal Emergency Response Coordinator (MERC) (Lorne Police Station)	
7		Municipal Recovery Manager (MRM)	
8		Surf Coast Shire	
9		Surf Coast Shire Website	
10		Surf Coast Shire Intranet – EM Resources	
11		Ambulance Victoria – EM Branch	
12		Ambulance Victoria (Barwon South West – Geelong)	
13		Barwon Water	
14		Bureau of Meteorology (Flood Warning)	
15		CFA District Catchment Officer	
16		CFA District 7 Headquarters Geelong	
17		Corangamite Catchment Management Authority (CCMA)	
18		Department of Education and Early Childhood Development (DEECD)	
19		Department of Health	
20		DHS – Barwon South West Region – Geelong	
21		DEPI – Anglesea	
22		DEPI – COLAC	
23		Parks Victoria	
24		PowerCor	
25		Victoria Police – Regional Emergency Response Coordinator (RERC)	
26		Victoria Police – Anglesea	
27		Victoria Police – Lorne	
28		Victoria Police – Torquay	
29		Victoria Police – Winchelsea	
30		VicRoads South West Region – Geelong	
31		VICSES – South West Region – Geelong	
32		VICSES – Lorne	
33		VICSES – Torquay	
34		VICSES – Winchelsea	
35		Visitor Information Centres	

Document Transmittal Form / Amendment Certificate

This Municipal Flood Emergency Plan (MFEP) will be amended, maintained and distributed as required by VICSES in consultation with the Surf Coast Shire Council.

Suggestions for amendments to this Plan should be forwarded to VICSES Regional Office – Geelong.

Amendments listed below have been included in this Plan and promulgated to all registered copyholders.

Amendment Number	Date of Amendment	Amendment Entered By	Summary of Amendment
1	28/07/11	V ENTICOTT	
2	14/09/11	V ENTICOTT	Updated in line with SES draft template version 2.1
3	20/03/12	V ENTICOTT	
4	20/01/2014	I CARLTON	Updated in line with SES draft template version 2.2
5	12/06/2014	I CARLTON	Version 1 Release

This Plan will be maintained on the Surf Coast Shire Council website.

List of Abbreviations & Acronyms

The following abbreviations and acronyms are used in the Plan:

AEP	Annual Exceedance Probability
AHD	Australian Height Datum (the height of a location above mean sea level in metres)
AIIMS	Australasian Inter-service Incident Management System
AoCC	Area of Operations Control Centre / Command Centre
ARI	Average Recurrence Interval
ARMCANZ	Agricultural & Resource Management Council of Australia & New Zealand
AV	Ambulance Victoria
BoM	Bureau of Meteorology
CEO	Chief Executive Officer
CERA	Community Emergency Risk Assessment
CFA	Country Fire Authority
CMA	Catchment Management Authority
RERC	Regional Emergency Response Coordinator
RERCC	Regional Emergency Response Coordination Centre
DHS	Department of Human Services
DH	Department of Health
DoI	Department of Infrastructure
DEPI	Department of Environment and Primary Industries
EMMV	Emergency Management Manual Victoria
EMT	Emergency Management Team
EO	Executive Officer
FO	Floodway Overlay
FWS	Flood Warning System
FZ	Floodway Zone
IC	Incident Controller
ICC	Incident Control Centre
IMT	Incident Management Team
IMS	Incident Management System
EMLO	Emergency Management Liaison Officer
LSIO	Land Subject to Inundation Overlay
MECC	Municipal Emergency Coordination Centre
MEMP	Municipal Emergency Management Plan
MEMPC	Municipal Emergency Management Planning Committee
MERC	Municipal Emergency Response Coordinator
MERO	Municipal Emergency Resource Officer
MFB	Metropolitan Fire and Emergency Services Board
MRM	Municipal Recovery Manager
PMF	Probable Maximum Flood
RCC	Regional Control Centre
RDO	Regional Duty Officer
SBO	Special Building Overlay
SCC	State Control Centre
SEWS	Standard Emergency Warning System
SHERP	State Health Emergency Response Plan
SOP	Standard Operating Procedure
VICPOL	Victoria Police
VICSES	Victoria State Emergency Service

Part 1. INTRODUCTION

1.1 Municipal Endorsement

This Municipal Flood Emergency Plan (MFEP) has been prepared by the Surf Coast Shire Municipal Flood Planning Committee and with the authority of the Surf Coast Shire Council pursuant to Section 20 Part 4 of the *Emergency Management Act 1986* (as amended).

This MFEP is a sub plan to the Surf Coast Shire Municipal Emergency Management Plan (MEMP), is consistent with the Emergency Management Manual Victoria (EMMV) and the Victorian Flood Management Strategy (DNRE, 1998a), and takes into account the outcomes of the Community Emergency Risk Assessment (CERA) process undertaken by the Municipal Emergency Management Planning Committee (MEMPC).

The Municipal Flood Emergency Plan links with the Regional Flood Emergency Management Plan and the State Flood Emergency Management Plan.

This Municipal Flood Emergency Plan is a result of the cooperative efforts of the Surf Coast Shire Flood Planning Committee and its member agencies.

This Plan is endorsed by the Municipal Emergency Management Planning Committee as a sub-plan to the Municipal Emergency Management Plan.

Endorsement

	
Rowan Mackenzie Chair, Municipal Emergency Management Planning Committee	Date 5/8/14.
	
Matt Maywald Regional Manager, South West Region VICSES	Date 5/8/14

1.2 The Municipality

The Municipality ranges from inland agricultural land (undulating) south over the Otway Ranges to the coastal fringe of the Great Ocean Road. The major River and Creek systems that are subject to periodic flooding are along the coast, with the exception of the inland catchment of the Barwon River. The coastal river and creeks consist of sand blocked estuarine systems that are occasionally opened naturally, but in general need to be manually opened. The other listed Rivers and Creeks can be subject to flash flooding.

There are a number of Barwon Water storage dams throughout the municipality. There are also two large dry lakes – Lake Modewarre and Lake Murdeduke.

A specific outline of the Surf Coast Shire in terms of its location, demography and other general matters is provided in the MEMP. An outline of the flood threat is provided in Appendix A of the Plan.

1.3 Purpose and scope of this Flood Emergency Plan

The purpose of this MFEP is to detail arrangements agreed for the planning, preparedness / prevention, response and recovery from flood incidents within the Surf Coast Shire.

As such, the scope of the Plan is to:

- Identify the flood risk to Surf Coast Shire;
- Support the implementation of measures to minimise the causes and impacts of flood incidents within the Surf Coast Shire;
- Detail response and recovery arrangements including preparedness, Incident Management, Command and Control;
- Identify linkages with local, regional and state emergency and wider planning arrangements with specific emphasis on those relevant to flood.

1.4 Municipal Flood Planning Committee (MFPC)

Membership of the Surf Coast Shire Flood Planning Committee (MFPC) will comprise of the following representatives from the following agencies and organisations:

- VICSES (i.e. Unit Controller & Regional Officer – Emergency Management) (**Chair**)
- Surf Coast Shire Council
- Victoria Police (i.e. Municipal Emergency Response Co-ordinator) (MERC)
- Corangamite Catchment Management Authority (CCMA)
- Department of Health (DH) as required
- Department of Human Services (DHS) as required
- Department of Environment and Primary Industry (DEPI) as required
- Barwon Water
- Country Fire Authority (CFA) as required
- Bureau of Meteorology (BoM) as required
- Local community representatives
- Other agencies as required

1.5 Responsibility for planning, review and maintenance of this Plan

This Municipal Flood Emergency Plan must be maintained in order to remain effective. VICSES through the Flood Planning Committee has responsibility for preparing, reviewing, maintaining and distributing this plan. The MFPC will meet at least once per year.

The plans should be reviewed:

- Following any new flood study;
- Change in non-structural and/or structural flood mitigation measures;
- After the occurrence of a moderate and above flood event within the Municipality to review and where necessary amend arrangements and information contained in this Plan.

1.6 Endorsement of the Plan

The Municipal Flood Emergency Plan (MFEP) will be circulated to the MFPC members seeking acceptance of the draft.

Upon acceptance, the plan is forwarded to the Municipal Emergency Management Planning Committee for endorsement with the recommendation to include the MFEP as a sub plan of the MEMP.

Part 2. PREVENTION / PREPAREDNESS ARRANGEMENTS

2.1 Community awareness for all types of flooding

Details of this MFEP will be released to the community through local media, the FloodSafe program, websites (VICSES and the Municipality) upon formal adoption by Surf Coast Shire Council.

VICSES with the support of Surf Coast Shire Council and Corangamite Catchment Management Authority will coordinate community education programs for flooding within the council area e.g. FloodSafe / StormSafe.

There have been a number of Local Flood Guides developed for communities within Victoria, the following are applicable to the Surf Coast Shire:

- Aireys Inlet (Draft)

There have been a number of Caravan Park Flood Emergency Plans developed for caravan parks within Victoria, the following are applicable to the Surf Coast Shire:

- Cumberland River Holiday Park

2.2 Structural flood mitigation measures

There are no structural flood mitigation measures on river or streams within the Surf Coast Shire.

Corangamite Catchment Management Authority does not manage any levees and is not aware of any within Surf Coast Shire. There is currently a State wide review of levees being led by West Gippsland CMA.

2.3 Non-structural Flood Mitigation Measures

2.3.1 Exercising the Plan

Arrangements for exercising this Plan will be at the discretion of the MEMPC. This Plan should be regularly exercised, preferably on an annual basis. Refer to section 4.7 of the EMMV for guidance.

2.3.2 Flood Warning

Arrangements for flood warning are contained within the State Flood Emergency Plan and the EMMV (Part 3.7) and on the Bureau of Meteorology (BoM) website.

Specific details of local flood warning system arrangements are provided in Appendix E.

2.3.3 Flood Wardens

Flood Wardens provide a means of gathering information in real time on flood behaviour along a stream system, and a network for the distribution of community information and warnings to the community along the stream system.

Surf Coast Shire **does not** have any identified flood wardens, however staff from Surf Coast Shire undertake intelligence gathering before and during flood incidents..

Part 3. RESPONSE ARRANGEMENTS

3.1 Introduction

3.1.1 Activation of response

Flood response arrangements may be activated by the Regional Duty Officer (RDO) VICSES South West Region or Incident Controller or Surf Coast Shire Council delegated representative.

The Incident Controller / RDO VICSES will activate agencies as required and documented in the State or Regional Flood Emergency Plans.

3.1.2 Responsibilities

There are a number of agencies with specific roles that will act in support of VICSES and provide support to the community in the event of a serious flood within the Surf Coast Shire. These agencies will be engaged through the Emergency Management Team (EMT).

The general roles and responsibilities of supporting agencies are as agreed within the Surf Coast Shire MEMP, EMMV (Part 7 'Emergency Management Agency Roles'), State Flood Emergency Plan and Regional Flood Emergency Plan.

3.1.3 Municipal Emergency Coordination Centre (MECC)

Liaison with the MECC will be through the established Division / Sector Command and through Municipal involvement in the Incident EMT, in particular the Municipal Emergency Response Coordinator (MERC). The VICSES RDO / ICC will liaise with the MECC directly if no Division / Sector Command is established.

The function, location, establishment and operation of the MECC will be as detailed in the Surf Coast Shire MEMP.

3.1.4 Escalation

Most flood incidents are of local concern and an appropriate response can usually be coordinated using local resources. However, when these resources are exhausted, the State's arrangements provide for further resources to be made available, firstly from neighbouring Municipalities (on a regional basis) and then on a state-wide basis.

Resourcing and event escalation arrangements are described in the EMMV ('State Emergency Response Plan' – section 3.5).

3.2 Strategic Control Priorities

To provide guidance to the Incident Management Team (IMT), the following strategic control priorities shall form the basis of incident action planning processes:

1. Protection and preservation of life is paramount – this includes:
 - a. Safety of emergency services personnel, and;
 - b. Safety of community members including vulnerable community members and visitors / tourist located within the incident area, and
 - c. Safety and welfare of displaced community members.

-
2. Issuing of community information and community warnings detailing incident information that is timely, relevant and tailored to assist community members make informed decisions about their safety.
 3. Protection of critical and community assets that support community resilience;
 4. Protection of residential property as a place of primary residence;
 5. Protection of assets supporting individual livelihoods and economic production that supports individual and community financial sustainability.
 6. Protection of environmental and conservation assets that considers the cultural, biodiversity and social values of the environment.
 7. Effective transition to recovery.

Circumstances may arise where the Incident Controller is required to vary these priorities, with the exception being that the protection of life should remain the highest. This shall be done in consultation with the State Controller and relevant stakeholders based on sound incident predictions and risk assessments.

3.3 Command, Control & Coordination

The Command, Control and Coordination arrangements in this Municipal Flood Emergency Plan must be consistent with those detailed in State and Regional Flood Emergency Plans. For further information, refer to sections 3.4, 3.5 & 3.6 of the EMMV.

The specific details of the Command, Control and Coordination arrangements for this plan are to be provided in Appendix C.

3.3.1 Control

Functions 5(a) and 5(c) at Part 2 of the Victoria State Emergency Service Act 1986 (as amended) detail the authority for VICSES to plan for and respond to flood.

Part 7.1 of the EMMV prepared under the *Emergency Management Act 1986* (as amended), identifies VICSES as the Control Agency for flood. It identifies DEPI as the Control Agency responsible for “dam safety, water and sewerage asset related incidents” and other emergencies.

All flood response activities within the Surf Coast Shire including those arising from a dam failure or retarding basin / levee bank failure incident will therefore be under the control of the appointed Incident Controller, or his / her delegated representative.

3.3.2 Incident Controller (IC)

An Incident Controller (IC) will be appointed by the VICSES (as the Control Agency) to command and control available resources in response to a flood event on the advice of the Bureau of Meteorology (or other reliable source) that a flood event will occur or is occurring. The Incident Controller responsibilities are as defined in Part 3.5 of the EMMV.

3.3.3 Incident Control Centre (ICC)

As required, the Incident Controller will establish an Incident Control Centre (ICC) from which to initiate incident response command and control functions. The decision as to if and when the ICC should be activated, rests with the Control Agency (i.e. VICSES).

Predetermined Incident Control Centre locations are listed in the South West Regional Flood Emergency Plan.

3.3.4 Divisions and Sectors

To ensure that effective Command and Control are in place, the Incident Controller may establish Divisions and Sectors depending upon the complexity of the event and resource capacities.

The following Divisions and Sectors may be established to assist with the management of flooding within the Municipality:

Division	Sector
Surf Coast Division	Nil

Pre-determined Division Command locations are:

- Torquay CFA, Grossmans Road, Torquay

Pre-determined Sector Command locations are:

- Nil

3.3.5 Incident Management Team (IMT)

The Incident Controller will form an Incident Management Team (IMT).

Refer to 3.5 of the EMMV for guidance on IMTs and Incident Management Systems (IMs).

3.3.6 Emergency Management Team (EMT)

The Incident Controller will establish a multi-agency Emergency Management Team (EMT) to assist the flood response. The EMT will consist of key personnel (with appropriate authority) from stakeholder agencies and relevant organisations who need to be informed of strategic issues related to incident control and who are able to provide high level strategic guidance and policy advice to the Incident Controller for consideration in developing incident management strategies.

Organisations, including Surf Coast Shire Council, required within the EMT will provide an Emergency Management Liaison Officer (EMLO) to the ICC if and as required as well as other staff and/or resources identified as being necessary, within the capacity of the organisation.

Refer to 3.5 of the EMMV for guidance on EMTs.

3.3.7 On receipt of a Flood Watch / Severe Weather Warning

Incident Controller or VICSES RDO (until an incident controller is appointed) will undertake actions as defined within the flood intelligence cards (Appendix C). General considerations by the Incident Controller / VICSES RDO will be as follows:

- Review flood intelligence to assess likely flood consequences.
- Monitor weather and flood information – www.bom.gov.au
- Assess Command and Control requirements.
- Review local resources and consider needs for further resources regarding personnel, property protection, flood rescue and air support.
- Notify and brief appropriate officers. This includes Regional Control Centre (RCC) (if established), State Control Centre (SCC) (if established), Council, other emergency services through the EMT.
- Assess ICC readiness (including staffing of IMT and EMT) and open if required.

- Ensure flood bulletins and community information are prepared and issued to the community.
- Monitor watercourses and undertake reconnaissance of low-lying areas.
- Develop media and community information management strategy.
- Ensure flood mitigation works are being checked by owners.
- Develop and issue incident action plan, if required.
- Develop and issue situation report, if required.

3.3.8 On receipt of the first and subsequent Flood Warnings

Incident Controller / VICSES RDO (until an incident controller is appointed) will undertake actions as defined within the flood intelligence cards (Appendix C). General considerations by the Incident Controller / VICSES RDO will be as follows:

- Develop an appreciation of current flood levels and predicted levels. Are floodwaters, rising, peaking or falling?
- Review flood intelligence to assess likely flood consequences. Consider:
 - What areas may be at risk of inundation
 - What areas maybe at risk of isolation
 - What areas maybe at risk of indirect affects as a consequence of power, gas, water, telephone, sewerage, health, transport or emergency service infrastructure interruption
 - The characteristics of the populations at risk
- Determine what the at-risk community need to know and do as the flood develops.
- Warn the at-risk community including ensuring that an appropriate warning and community information strategy is implemented including details of:
 - The current flood situation
 - Flood predictions
 - What the consequences of predicted levels may be
 - Public safety advice
 - Who to contact for further information
 - Who to contact for emergency assistance
- Liaise with relevant asset owners as appropriate (i.e. water and power utilities)
- Implement response strategies as required based upon flood consequence assessment.
- Continue to monitor the flood situation – www.bom.gov.au/vic/flood/
- Continue to conduct reconnaissance of low-lying areas

3.4 Community information and warnings

Guidelines for the distribution of community information and warnings are contained in the State Flood Emergency Plan.

Community information and warnings communication methods available include:

- Emergency alert;
- Phone messages (including SMS);
- Radio and television;
- Two-way radio;
- Mobile and fixed public address systems;
- Sirens;
- Verbal messages (i.e. doorknocking);
- Agency websites;
- VICSES Flood Storm Information Line;
- Variable Message Signs (i.e. road signs);

-
- Community meetings;
 - Newspapers;
 - Email;
 - Telephone trees;
 - Community Flood Wardens;
 - Fax stream;
 - Newsletters;
 - Letter drops;
 - Social media and/or social networking sites (i.e. Twitter and/or Facebook).

Refer to Appendix C and E for the specific details of how community information and warnings are to be provided.

The release of flood bulletins and information with regard to response activities at the time of a flood event is the responsibility of VICSES, as the Control Agency.

Council has the responsibility to assist VICSES to warn individuals within the community including activation of flood warning systems, where they exist. Responsibility for public information, including media briefings, rest with VICSES as the Control Agency.

Other agencies such as CFA, DEPI and VICPOL may be requested to assist VICSES with the communication of community flood warnings.

In cases where severe flash flooding is predicted, dam failure is likely or flooding necessitating evacuation of communities is predicted, the Incident Controller may consider the use of the Emergency Alert System and Standard Emergency Warning System (SEWS).

The Department of Health will coordinate information regarding public health and safety precautions.

3.5 Media communication

The Incident Controller through the Information Unit established at the ICC will manage media communication. If the ICC is not established the RDO will manage all media communication.

3.6 Impact assessment

An impact assessment can be conducted in accordance with Part 3 of the EMMV to assess and record the extent and nature of damage caused by flooding. This information may then be used to provide the basis for further needs assessment and recovery planning by DHS and recovery agencies.

3.7 Preliminary deployments

When flooding is expected to be severe enough to cut access to towns, suburbs and / or communities the Incident Controller will consult with relevant agencies to ensure that resources are in place if required to provide emergency response. These resources might include emergency service personnel, food items and non-food items such as medical supplies, shelter, assembly areas, relief centres etc.

3.8 Response to flash flooding

Emergency management response to flash flooding should be consistent with the guideline for the emergency management of flash flooding contained within the State Flood Emergency Plan.

When conducting pre-event planning for flash floods the following steps should be followed, and in the order as given:

1. Determine if there are barriers to evacuation by considering warning time, safe routes, resources available and etc;
2. If evacuation is possible, then evacuation should be the adopted strategy and it must be supported by a public information capability and a rescue contingency plan;
3. Where it is likely people will become trapped by floodwaters due to limited evacuation options, safety advice needs to be provided to people at risk advising them not to attempt to flee by entering floodwater if they become trapped, and that it may be safer to seek the highest point within the building and to telephone 000 if they require rescue. This advice needs to be provided even when evacuation may be possible, due the likelihood that not all community members will evacuate.
4. For buildings known to be structurally unsuitable an earlier evacuation trigger will need to be established (return to step 1 of this cycle).
5. If an earlier evacuation is not possible then specific preparations must be made to rescue occupants trapped in structurally unsuitable buildings either pre-emptively or as those people call for help.

During a flash flood it will often be difficult, due the rapid development of flooding, to establish evacuation (relief) centres ahead of actually triggering the evacuation as is normal practice but this is insufficient justification for not adopting evacuation.

Refer to Appendix C for response arrangements for flash flood events.

3.9 Evacuation

The decision to recommend or warn people to prepare to evacuate or to evacuate immediately rests with the Incident Controller.

Once the decision is made VICPOL are responsible for the management of the evacuation process where possible. VICSES and other agencies will assist where practical. VICSES is responsible for the development and communication of evacuation warnings.

VICPOL and/or Australian Red Cross may take on the responsibility of registering people affected by a flood emergency including those who have been evacuated.

Refer to Part 3.8 of the EMMV and the Evacuation Guidelines for guidance of evacuations for flood emergencies.

Refer to Appendix D of this Plan for detailed evacuation arrangements for Surf Coast Shire.

3.10 Flood rescue

VICSES may conduct flood rescues. Appropriately trained and equipped VICSES units or other agencies that have appropriate training, equipment and support may carry out rescues.

Rescue operations may be undertaken where voluntary evacuation is not possible, has failed or is considered too dangerous for an at-risk person or community. An assessment of available flood rescue resources (if not already done prior to the event) should be undertaken prior to the commencement of rescue operations.

Rescue is considered a high-risk strategy to both rescuers and persons requiring rescue and should not be regarded as a preferred emergency management strategy. Rescuers should always undertake a dynamic risk assessment before attempting to undertake a flood rescue.

Resources available for use for rescues to be carried out within Surf Coast Shire are detailed in Appendix D.

3.11 Aircraft management

Aircraft can be used for a variety of purposes during flood operations including evacuation, resupply, reconnaissance, intelligence gathering and emergency travel.

Air support operations will be conducted under the control of the Incident Controller.

The Incident Controller may request aircraft support through the State Air Desk located at the State Control Centre who will establish priorities.

Suitable airbase facilities are located at:

- Lorne – Pt Grey and William Street at Stribling Reserve
- Avalon Airport
- Barwon Heads Airport

3.12 Resupply

Communities, neighbourhoods or households can become isolated during floods as a consequence of road closures or damage to roads, bridges and causeways. Under such circumstances, the need may arise to resupply isolated communities / properties with essential items.

When predictions / intelligence indicates that communities, neighbourhoods and / or households may become isolated, VICSES will advise businesses and / or households that they should stock up on essential items.

After the impact, VICSES can support isolated communities through assisting with the transport of essential items to isolated communities and assisting with logistics functions.

Resupply operations are to be included as part of the emergency relief arrangements with VICSES working with the relief agencies to service communities that are isolated.

3.13 Essential community infrastructure and property protection

Essential community infrastructure and property (e.g. residences, business, roads, power supply etc.) may be affected in the event of a flood.

The Surf Coast Shire Council maintains a small stock of sand bags, and back-up supplies are available through the VICSES Regional Headquarters. The Incident Controller will determine the priorities related to the use of sandbags, which will be consistent with strategic priorities.

If VICSES sandbags are becoming limited in supply, then priority will be given to the protection of essential community infrastructure. Other high priorities may include for example the protection of historical buildings.

As a guide, 10-15 sandbags is a reasonable number to supply to residents to allow for coverage of doorways, etc. Further sandbags could be provided on a case by case basis having understanding of individual issues and local priorities.

Property may be protected by:

- Sandbagging to minimise entry of water into buildings
- Encouraging business and households to lift or move contents
- Construction of temporary levees in consultation with the CMA, LGA, and VICPOL and within appropriate approval frameworks.

The Incident Controller will ensure that owners of Essential Community Infrastructure are kept advised of the flood situation. Essential Community Infrastructure providers must keep the Incident Controller informed of their status and ongoing ability to provide services.

Refer to Appendix D for further specific details of essential infrastructure requiring protection and location of sandbag collection point(s).

3.14 Disruption to services

Disruption to services other than essential community infrastructure and property can occur in flood events. Refer to Appendix D for specific details of likely disruption to services and proposed arrangements to respond to service disruptions in Surf Coast Shire.

3.15 Road closures

Surf Coast Shire Council will carry out its formal functions of road closures including observation and placement of warnings signs, road blocks etc. to its designated local and regional roads, bridges, walks and bike trails, bridges, walking and bike trails.

Surf Coast Shire Council may also liaise with and advise VicRoads as to the need or advisability of erecting warning signs and / or of closing roads and bridges under its jurisdiction. VicRoads are responsible for designated main roads and highways and Council's are responsible for the designated local and regional road network.

VicRoads and Surf Coast Shire Council will communicate information regarding road closures.

3.16 Dam failure

DEPI is the Control Agency for dam safety incidents (e.g. breach, failure or potential breach / failure of a dam), however VICSES is the Control Agency for any flooding that may result.

Major dams with potential to cause significant structural and community damage within the Municipality are contained in Appendix A.

3.17 Waste water related public health issues and critical sewerage assets

Inundation of sewerage assets including septic tanks and sewerage pump stations may result in water quality problems within the municipality. Where this is likely to occur or has occurred the responsible agency for the critical sewerage asset should undertake the following:

- Advise VICSES of the security of critical sewerage assets to assist preparedness and response activities in the event of flood;
- Maintain or improve the security of critical sewerage assets;
- Check and correct where possible the operation of critical sewerage assets in times of flood; and
- Advise the ICC in the event of inundation of critical sewerage assets

It is the responsibility of the Surf Coast Shire Council Environmental Health Officer to inspect and report to the MERO and the ICC on any water quality issues relating to flooding.

3.18 After action review

VICSES will coordinate the after action review arrangements of flood operations as soon as practical following an event.

All agencies involved in the flood incident should be represented at the after action review.

Part 4. EMERGENCY RELIEF AND RECOVERY ARRANGEMENTS

4.1 General

Arrangements for recovery from a flood incident within the Surf Coast Shire will be as detailed in the Surf Coast Shire MEMP and the Surf Coast Shire Emergency Relief & Recovery Plan.

4.2 Emergency relief

The decision to recommend the opening of an emergency relief centre rests with the Incident Controller. Incident Controllers are responsible for ensuring that relief arrangements have been considered and implemented where required under the State Emergency Relief and Recovery Plan (Part 4 of the EMMV).

The range and type of emergency relief services to be provided in response to a flood event will be dependent upon the size, impact, and scale of the flood. Refer Part 4.4 of the EMMV for details of the range of emergency relief services that may be provided.

Suitable relief facilities identified for use during floods are detailed in the MEMP Appendix: Emergency Facilities.

4.3 Animal welfare

Matters relating to the welfare of livestock, companion animals and wildlife (including feeding and rescue) are to be referred to DEPI.

Requests for emergency supply and / or delivery of fodder to stranded livestock rescue are passed to DEPI.

4.4 Transition from response to recovery

VICSES as the Control Agency is responsible for ensuring effective transition from response to recovery. This transition will be conducted in accordance with existing arrangements as detailed in Part 3 Section 3.10 of the EMMV.

APPENDIX A – FLOOD THREATS FOR SURF COAST SHIRE

This Appendix is to provide a broad overview of flood risk within the Municipality. Detailed flood risk information for individual communities should be detailed in Appendix C.

General

The Shire is located in south western Victoria between 10 and 60 kilometres south west of Geelong. The southern part of the Shire consists of a linear pattern of coastal townships including Torquay, Jan Juc, Anglesea, Aireys Inlet, Fairhaven and Lorne. With the exception of Torquay and Jan Juc, these townships are sited on the coastal edge of the Otway Ranges and are surrounded by large areas of national and state park, restricting the potential for outward growth.

North of the ranges is a large rural farming communities with population centres at Winchelsea, Moriac and Deans Marsh. The Shire covers an area of 1,560 square kilometres. Early development in the Shire dates from the 1850s, with the establishment of a township at Winchelsea. Various settlements along the coast originated in the 1880s and 1890s, established primarily as timber-getting and fishing centres. Access to these settlements was difficult until the opening of the Great Ocean Road in the 1920s.

Surf Coast Shire comprises of the following townships: Aireys Inlet, Anglesea, Bambra, Barrabool, Bellbrae, Bells Beach, Benwerrin, Big Hill, Birregurra, Boonah, Breamlea, Buckley, Connewarre, Deans Marsh, Eastern View, Fairhaven, Freshwater Creek, Gherang, Gnarwarre, Inverleigh, Jan Juc, Lorne, Modewarre, Moggs Creek, Moriac, Mount Duneed, Mount Moriac, Ombersley, Paraparap, Pennyroyal, Torquay, Wensleydale, Winchelsea, Winchelsea South and Wurdiboluc.

There are approximately 25 named waterways, including rivers, creeks and water bodies within Surf Coast Shire. The main waterway within the Shire is the Barwon River which begins within the Colac Otway Shire to the west and traverses its way through the Surf Coast Shire to the north and into Golden Plains Shire and then onto through the City of Greater Geelong before it discharges into Bass Strait.

There are many waterways that begin and end within the Shire, either discharging into Bass Strait or flowing into other waterways. The waterways within the Otway Ranges are short in distance and may be susceptible to flash flooding or short duration floods.

Historic Floods

Year	Incident
2012	4 June 2012, emergency opening of Painkalac Creek Aireys Inlet to prevent flooding to local houses.
2009	4 October 2009, emergency opening of Painkalac Creek Aireys Inlet to prevent flooding to local houses.
2007	In November 2007 Cumberland River Caravan Park evacuated due to flash flooding.
1995	In November 1995, severe rainfalls in the Otway's produced extensive flooding in the Barwon River with substantial stock losses, local erosion and one house flooded. Flooding in the Thompson Creek catchment also caused widespread disruption.
1952	During the 1952 flood, a near emergency occurred when an Army Duck with a sick elderly lady and a pregnant woman on board was jammed against a bridge on the Birregurra – Deans Marsh Road just out of Birregurra
1951-2	Floods during 1951 and 1952 caused substantial loss to private property as well as damage to bridges within the Shire.
1882	During a disastrous flood in the Barwon River during October 1882, lives were lost by drowning while rescuing sheep at Ripple Vale.

Description of major waterways and drains

Note that any intelligence in these tables MUST have regard for changes within catchments that modify likely flood behaviour.

Waterway or Drain	Description
Rivers	
Anglesea River	The Anglesea River rises in the Otway Ranges and enters Bass Strait, after making its way through the town of Anglesea. The river is the main attraction of the town with the river and reserve being used for commercial and recreational use such as fishing, swimming, canoeing and walking.
Barwon River	<p>The Barwon River starts near Gerangamete Flats at an elevation of 136m and traverses through the municipalities of Colac Otway Shire, Surf Coast Shire, Golden Plains Sire and the City of Greater Geelong.</p> <p>The Barwon River drops around 137m over its 145km length, it also flows into Lake Connewarre, before it flows into Bass Strait at Barwon Heads.</p> <p>The following 15 creeks and rivers flow into the Barwon River (ordered by descending elevation):</p> <ul style="list-style-type: none"> • Boundary Creek (122m) • Barwon River (West Branch) (119m) • Barwon River (East Branch) (119m) • Matthews Creek (112m) • Atkin Creek (109m) • Deans Marsh Creek (106m) • Birregurra Creek (102m) • Yan Yan Gurt Creek (99m) • Brickmakers Creek (97m) • Retreat Creek (96m) • Scrubby Creek (90m) • Warrambine Creek (63m) • Leigh River (60m) • Sandy Creek (51m) • Moorabool River (13m)
Cumberland River	<p>The Cumberland River starts below Mount Defiance at an elevation of 183m and flows into Bass Strait; the river drops around 183m over its 7.59km length and passes through the Cumberland River Holiday Park.</p> <p>The Garvey Creek also flows into the Cumberland River.</p>
Erskine River	The Erskine River arises in the Otway Ranges and enters Bass Strait, after making its way through the town of Lorne and enters Bass Strait to the east of Cape Otway.
St George River	The Saint George River starts below Mount Cowley at an elevation of 585m and flows into Bass Strait at Loutit Bay, it drops around 585m over its 13.6km length and the following creeks and rivers flow into the Saint George River: Cora Lynn Creek, Henderson Creek and Small Creek.
Creeks	
Deans Marsh Creek	Deans Marsh Creek starts below Diamond Hill at an elevation of 376m and ends at an elevation of 106m, it passes the township of Deans Marsh and flows into the Barwon River near the township of Birregurra, it drops around 270m over its 19.9km length.
Grassy Creek	Grass Creek starts near Boonah at an elevation of 413m and flows into Bass Strait at Loutit Bay, it drops around 411m over its 8.92km length.
Jan Juc Creek	Jan Juc Creek starts to the west of the township of Jan Juc in semi-rural land and meanders its way through and flows into Bass Strait.
Merrijig Creek	Merrijig Creek starts in semi-rural land and meanders its way through farms and open country before it flows in Thompsons Creek.
Moggs Creek	Moggs Creek arises in the Otway Ranges and enters Bass Strait, after making its way through the township Moggs Creek and enters Bass Strait.
Painkalac Creek	Painkalac Creek runs through the township of Aireys Inlet, upstream of the creek is the Barwon Water Potable Water Supply Storage Dam – Painkalac Dam.
Penny Royal Creek	Penny Royal Creek starts near Benwerrin in the Otway Ranges and flows into the Deans Marsh Creek west of the Deans Marsh township.

Waterway or Drain	Description
Thompson Creek	Thompson Creek starts near Gherang at an elevation of 129m and flows into Bass Strait at Breamlea it drops around 127m over its 40.9km length. Surf Coast Shire Council manages Rice Reserve and Dans Reserve which are along Thompson Creek.
Spring Creek	Spring Creek starts to the west of the township of Bellbrae in semi-rural land and meanders its way through semi-rural land and the townships of Bellbrae and Torquay before it flows into Bass Strait.
Lakes	
Lake Modewarre	Lake Modewarre, when full, covers an area of around 540 hectares and is located in VIC.
Lake Murdeduke	Is situated in the north western part of the Shire approximately 20km NW of the township of Winchelsea. Council is the waterway manager and owns some land along with Parks Victoria adjoining the Lake.

Dam failure

Flooding resulting from failure of the following dams is likely to cause significant structural and community damage within the Surf Coast Shire.

The following supporting documentation is provided:

Location	Owner	Dam Height	Dam Capacity	Comments
Wurdiboluc Reservoir	Barwon Water	11m	38,056 ML	Off-stream storage with private level / outflow monitoring equipment installed onsite. Dam break inundation mapping provided to Surf Coast Shire Council.
Allen Reservoir (Lorne)	Barwon Water	8m	222 ML	On-stream storage on St George River with private level / outflow monitoring equipment installed onsite. Dam break inundation mapping provided to Surf Coast Shire Council.
Painkalac Reservoir (Aireys Inlet)	Barwon Water	10m	532 ML	On-stream storage on Painkalac Creek with private level/ flow monitoring equipment installed onsite and upstream. Dam break inundation mapping provided to Surf Coast Shire Council.
580 Winchelsea – Deans Marsh Road, Winchelsea	Private	6m	106 ML	Private dam registered with DEPI and Southern Rural Water
Dam 2 Mathisons Road, Winchelsea	Private	6m	85.6 ML	Private dam registered with DEPI and Southern Rural Water
Dam 3 Dicksons Road, Winchelsea South	Private	7.7m	142.8 ML	Private dam registered with DEPI and Southern Rural Water
Dam 1 Wurdale Road, Winchelsea South	Private	12m	93.3 ML	Private dam registered with DEPI and Southern Rural Water
Dam 2 Wurdale Road, Winchelsea South	Private	13m	123.5 ML	Private dam registered with DEPI and Southern Rural Water

While DEPI is the Control Agency for dam safety incidents, VICSES is the Control Agency for any flooding that may result.

APPENDIX B – TYPICAL FLOOD PEAK TRAVEL TIMES

Ricketts Marsh Gauge Heights and Triggers

Flood Event	ARI (yrs)	Adopted Flow		Inverleigh Gauge	Property Affected
		(MI/day)	(m3/sec)		
					zero gauge = 96.82 m AHD
		2,130	25	3.00	Minor Flood Warning level (BoM)
16-Jan-2011	< 2	2,910	34	3.67	
		4,400	51	4.80	Moderate Flood Warning level (BoM)
				4.80	Conns Lane closed
Nov-1978	6,530	76	5.89		
Apr-2001	8,300	96	6.42		
		8,690	101	6.50	Major Flood Warning level (BoM)
	5	9,150	106	6.59	
Jun-1978	9,870	114	6.68		
	10	10,100	117	6.71	
Nov-1995	24	11,300	131	6.82	
	25	11,600	134	6.84	
	50	13,300	154	6.93	
Oct-1976	80	14,500	168	6.99	
	100	15,000	174	7.02	

Flood peak travel times	
Ricketts Marsh to Kildeans Road	14 hours
Kildeans Road to Winchelsea	6 - 7 hours
Winchelsea to Inverleigh Gauge	10 - 12 hours
Inverleigh to Leigh River junction (Inverleigh Town)	4 - 6 hours
Leigh River junction to Pollocksford Bridge	4 - 6 hours

Winchelsea Gauge Heights and Triggers

Flood Event	ARI (yrs)	Adopted Flow		Inverleigh Gauge	Property Affected
		(MI/day)	(m3/sec)		
					Staff zero = 72.9 m AHD
16-Jan-2011	1	3,620	42	3.80	
	2	8,640	100	4.68	
Apr-2001	9,940	115	4.85		
	5	15,100	175	5.40	
				6.00	Minor Flood Warning level (local)
				6.00	114 Trebeck Court (river flats - horses)
	10	23,300	270	6.03	
				6.70	Dicksons Road (250m west of Barwon Terrace) begins to flood
	20	34,600	400	6.72	
				7.20	Moderate Flood Warning level (local)
				7.20	Hotel Carpark/ entrance
Jun-1978	40	44,900	520	7.23	
	50	54,400	630	7.64	
				7.80	Major Flood Warning level (local)
				7.80	1, 4-6, 8 Armytage Road (Residential Properties)
				7.90	240 Barwon Park Road (Dwellings / sheds)

Flood Event	ARI (yrs)	Adopted Flow		Inverleigh Gauge	Property Affected
		(MI/day)	(m3/sec)		
					along river)
Nov-1995	70	61,500	711	7.91	Mid Barwon flood
Oct-1976	63,900	740	8.00	Upper Barwon flood	
	100	77,800	900	8.47	

Inverleigh Gauge Heights and Triggers

Flood Event	ARI (yrs)	Adopted Flow		Inverleigh Gauge	Property Affected
		(MI/day)	(m3/sec)		
16-Jan-2011	< 1	3,100	36	1.80	Note: The river flats on the south side of Inverleigh Township are affected by floods on the Barwon. This would include parts of the Leigh River that would backup to the Hamilton Hwy.
Nov-1978	2	7,450	86	2.56	
	2	7,800	90	2.60	
Apr-2001		12,800	148	3.17	
	5	14,300	165	3.31	
	10	21,200	245	3.83	
		23,900	277	4.00	Minor Flood Warning level (local)
				4.00	Road at 37 Rawson Road begins to flood
				4.00	River Road west of Weatherboard Rd begins to flood
Sep-1970	16	27,500	318	4.21	
	20	30,700	355	4.38	
				4.40	Inverleigh - Winchelsea Road begins to flood both sides of bridge
		32,900	381	4.50	Moderate Flood Warning level (local)
				4.50	River Road near Railway Street begins to flood
				4.70	River Road near Jubilee Street begins to flood
Jun-1978	40	44,600	516	5.06	
		45,500	527	5.10	Major Flood Warning level (local)
Oct-1976	48	47,500	550	5.18	
	50	48,800	565	5.24	
				5.30	Inverleigh - Winchelsea Road Bridge goes under
Nov-1995	70	57,900	670	5.59	Largest flood since 1965 after West Barwon Dam was constructed.
				5.70	Fuller Road south of Day Road begins to flood
	100	69,100	800	5.98	

Painkalic Creek Travel Times

From	To	(hrs)	Comment
Start of Rain	Gt Ocean Rd	11	for 12 hr storm
Start of Rain	Gt Ocean Rd	15	for 24 hr storm
Start of Rain	Gt Ocean Rd	22	for 36 hr storm
Start of Rain	Gt Ocean Rd	22	for > 36hr storm

From	To	(hrs)	Comment
Note:	Travel time for peak Q is always less than the storm duration.		
	Assumes rainfall over all of catchment with average catchment wetness.		
	Dam assumed 80% full at start of rain (i.e. 29.78m).		
	Travel times for larger storm events (i.e. between 20 to 100 yr ARI events)		

Anglesea River Travel Times

From	To	(hrs)	Comment
Start of Rain	Gt Ocean Rd	24	for 12 hr storm
Start of Rain	Gt Ocean Rd	28	for 24 hr storm
Start of Rain	Gt Ocean Rd	32	for 36 hr storm
Start of Rain	Gt Ocean Rd	34	for 48 hr storm
Start of Rain	Gt Ocean Rd	48	for 72 hr storm
Note:	Travel time for peak Q is less than the storm duration when rainfall > 30 hours.		
	Assumes rainfall over all of catchment with average catchment wetness.		
	Travel times for larger storm events (i.e. between 20 to 100 yr ARI events)		
	Travel times shown taken from 50 yr ARI Event RORB Design runs		

Cumberland River

The catchment area is 38.4 sq kms about 60% of Painkalac Creek catchment. No detail modelling of the catchment has been done.

Painkalac Creek

Based on the Painkalac modelling, the best estimate of travel time for peak at GOR is 9 to 18 hours from start of rain, depending on the storm duration.

APPENDIX C – [ENTER NAME OF COMMUNITY] FLOOD EMERGENCY PLAN

Note: This section of the plan is to be completed in more detail once known.

Overview of flooding consequences

Provide a general overview of flooding consequence.

- What areas are affected
- Caravan parks likely to be affected
- How many properties
- How much warning time
- Impacts on essential community infrastructure
- Isolation risks
- Major road closures
- Locations where evacuation difficulties may occur for example low flood islands

Flood mitigation

Provide a broad overview of any flood mitigation systems/measures:

Where do levees and retarding basins exist? What communities do they protect? Who manages them? What are their design heights relative to gauge? What are their crest heights relative to gauge? Location of any spillways? Details of any levee closure points such as railway crossing etc., which may need to be sandbagged.

Flood impacts and required actions

Populate the following tables using all available information. Typically, this includes:

- Deliverables from flood, drainage and other studies;
- Flood inundation maps (including LSIO, SBO and FZ delineations from the Planning Scheme);
- Hydraulic modelling / flood inundation animations;
- Past flood experience – gleaned from Council files, records and reports of previous floods including nature and severity of floods (i.e. flash floods, riverine floods, major floods etc), newspaper accounts, post-event funding submissions, etc;
- Community or agency flood awareness material (particularly in relation to FloodSafe or StormSafe material – make sure information / intelligence is shared and consistent);
- Community and agency knowledge;
- Any known or possible community infrastructure impacts including:
 - Any sewer pumps likely to be inundated;
 - Any groundwater wells likely to be inundated;
 - Water treatment plants and water storage areas to be affected;
- Pumps and other service equipment etc. likely to be inundated;

-
- Look to agencies – BoM FW directives, Council's MEMP, Corangamite CMA FW directive and associated information, etc, etc.

NOTE – intelligence MUST have regard for changes within catchments that modify likely flood behaviour (e.g. Mitigation works that reduce the severity of a flood risk)

This intelligence can be presented in a number of ways – on the y axis of a hydrograph, against a graphic of a staff gauge, etc. At this stage, tables as follows are considered best but other presentation may be added provided they do not lead to confusion or result in critical information being overlooked

CMAs can assist with population of the following three tables – in terms of consequences, flows, levels and AEPs. VICSES to complete actions column

Note – In Flash Flood areas without gauges, it will only be possible to provide a general description of likely flood impacts.

Command, Control and Coordination

To be determined for each town.

Gauge Location: Barwon River at Ricketts Marsh

River Height (m) and or River Flow (ML/d)	Annual Exceedance Probability
3.00m	Minor Flood Level
4.3m	Moderate Flood Level
6.50m	Major Flood Level

Note: flood intelligence records are approximations. This is because no two floods at a location, even if they peak at the same height, will have identical impacts. Flood intelligence cards detail the relationship between flood magnitude and flood consequences. More details about flood intelligence and its use can be found in the Australian Emergency Management Manuals flood series.

APPENDIX D – FLOOD EVACUATION ARRANGEMENTS

Note: This section of the plan is to be completed in more detail once known.

Phase 1 – Decision to evacuate

The Incident Controller may make the decision to evacuate an at-risk community under the following circumstances:

- Properties are likely to become inundated;
- Properties are likely to become isolated and occupants are not suitable for isolated conditions;
- Public health is at threat as a consequence of flooding and evacuation is considered the most effective risk treatment. This is the role of the Health Commander of the incident to assess and manage. Refer to the State Health Emergency Response Plan (SHERP) for details);
- Essential services have been damaged and are not available to a community and evacuation is considered the most effective risk treatment.

The following should be considered when planning for evacuation:

- Anticipated flood consequences and their timing and reliability of predictions;
- Size and location of the community to be evacuated;
- Likely duration of evacuation;
- Forecast weather;
- Flood Models;
- Predicted timing of flood consequences;
- Time required to conduct the evacuation;
- Time available to conduct the evacuation;
- Evacuation priorities and evacuation planning arrangements;
- Access and egress routes available and their potential flood liability;
- Current and likely future status of essential infrastructure;
- Resources required to conduct the evacuation;
- Resources available to conduct the evacuation;
- Shelter including Emergency Relief Centres, Assembly Areas etc.;
- Vulnerable people and facilities;
- Transportation;
- Registration
- People of CALD background and transient populations;
- Safety of emergency service personnel;
- Different stages of an evacuation process.

The decision to evacuate is to be made in consultation with the MERO, MERC, DHS, Health Commander and other key agencies and expert advice (CMA's and Flood Intelligence specialists).

The table below details triggers for evacuation, if these heights are predicted or are likely to occur evacuation should be considered

Sector	Gauge	Trigger

The table below details time required to evacuate established areas.

Sector	Likely time required for evacuation (including resource assumptions)

Phase 2 – Warning

Warnings may include a warning to prepare to evacuate and a warning to evacuate immediately. Once the decision to evacuate has been made, the at-risk community will be warned to evacuate. Evacuation warnings can be disseminated via methods listed in part 3 of this plan.

Evacuation warning messages will be developed and issued by VICSES in consultation with the MERO, MERC, DHS and other key agencies and expert advice (e.g. Corangamite CMA and Flood Intelligence specialists).

Phase 3 – Withdrawal

Withdrawal will be controlled by VICPOL. VICSES will provide advice regarding most appropriate evacuation routes and locations for at-risk communities to evacuate to, etc.

VICSES, CFA, AV and Local Government will provide resources where available to support VICPOL / VICROADS with route control and may assist VICPOL in arranging evacuation transportation.

VICPOL will control security of evacuated areas.

Evacuees will be encouraged to move using their own transport where possible. Transport for those without vehicles or other means will be arranged in consultation between the Incident Controller, VICPOL and the MERO.

Possible Evacuation Routes to be used:

Sector	Evacuation Route	Evacuation route closure point and gauge height of closure

Landing zones for helicopters are located at:

- Lorne – Pt Grey and William Street at Stribling Reserve
- Avalon Airport
- Barwon Heads Airport

Special needs groups will be / are identified in Council's 'residents at risk' register. This can be done through community network organisations. Further information on Council's 'residents at risk' register can be obtained from the MEMP.

Phase 4 – Shelter

Emergency Relief Centres and / or assembly areas which cater for people's basic needs for floods may be established to meet the immediate needs of people affected by flooding. For a detailed list of these facilities, see MEMP Appendix: Emergency Facilities.

VICPOL in consultation with VICSES will liaise with Local Government and DHS (where regional coordination is required) via the relevant control centre to plan for the opening and operation of relief centres. This can best be achieved through the Emergency Management Team (EMT).

Animal Shelter

Animal shelter compounds will be established for domestic pets and companion animals of evacuees. These facilities may be located at locations detailed below and coordinated by Surf Coast Shire.

Sector	Animal Shelter (include address)	Comments

Caravans

Caravans may be evacuated to the following locations:

Sector	Caravan evacuation location (include address)	Comments
	Cumberland River Holiday Park 2680 Great Ocean Rd, Lorne VIC 3232 Phone:(03) 5289 1790	Caravans & camper trailers on the lower ground may need to be moved to known higher ground within the Holiday Park. Caravan Park Flood Emergency Plan has been developed for Caravan Park.
	Lorne Foreshore Caravan Park 2 Great Ocean Road, Lorne Phone: (03) 5289 1382	Caravans & camper trailers on the lower ground may need to be moved to known higher ground within the Holiday Park.

Phase 5 – Return

Return will be consistent with the Strategic Plan for the Return of Community.

The Incident Controller in consultation with VICPOL will determine when it is safe for evacuees to return to their properties and will arrange for the notification of the community.

VICPOL will manage the return of evacuated people with the assistance of other agencies as required.

Considerations for deciding whether to evacuate include:

- Current flood situation;

- Status of flood mitigation systems;
- Size and location of the community;
- Access and egress routes available and their status;
- Resources required to coordinate the return;
- Special needs groups;
- Forecast weather;
- Transportation particularly for people without access to transport

Disruption to services

Disruption to a range of services can occur in the event of a flood. This may include road closures affecting school bus routes, water treatment plant affecting potable water supplies etc.

Service	Impact	Trigger Point for action	Strategy/Temporary Measures

Essential community infrastructure and property protection

Essential community infrastructure and properties (e.g. residences, businesses, roads, power supply etc.) that require protection are:

Facility	Impact	Trigger Point for action	Strategy/Temporary Measures

Surf Coast Shire Council will establish a sandbag collection point at:

- Surf Coast Shire Council Depot, 130 Messmate Road, Torquay

Rescue

The following resources are available within Surf Coast Shire to assist with rescue operations:

- Aircraft available through the State Aircraft Unit
- Boats available through VICSES RDO.
- VICPOL resources available via the RERC.

Known high-risk areas/communities (i.e. low-lying islands) where rescues might be required include:

- Cumberland River Holiday Park (flash flood events)
- Erskine River Caravan Park (flash flood events)

APPENDIX E – FLOOD WARNING SYSTEMS

Flood Warning

Flood Warning products and Flood Class Levels can be found on the BoM website. Flood Warning Products include Severe Thunderstorm Warnings, Severe Weather Warnings, Flood Watches and Flood Warnings.

Flood Bulletins

VICSES distributes flood emergency information to the media through “Flood Bulletins”. Flood Bulletins provide BoM Flood Warning information as well as information regarding possible flood consequences and safety advice, not contained in BoM Flood Warning products. VICSES uses the title Flood bulletin to ensure emphasis is placed upon BoM Flood Warning product titles.

The relevant VICSES Region Headquarters or the established ICC will normally be responsible for drafting, authorizing and issuing issue Flood Bulletins, using the One Source, One Message system.

Flood Bulletins should refer to the warning title within the Bulletin header, for example Flood Bulletin for Major Flood Warning on Yarra River.

Flood Bulletins should follow the following structure

- What is the current flood situation;
- What is the predicted flood situation;
- What are the likely flood consequences;
- What should the community do in response to flood warnings;
- Where to seek further information;
- Who to call if emergency assistance is required.

It is important that the description of the predicted flood situation is consistent with and reflects the relevant BoM Flood Warning.

Flood Bulletins should be focused on specific gauge (or in the absence of gauges, catchment) reference areas, that is the area in which flood consequences specifically relate to the relevant flood gauge.

Flood Bulletins should be prepared and issued after receipt of each Flood Watch and Flood Warning from the BoM, or after Severe Weather or Thunderstorm Warnings indicating potential for severe flash flooding.

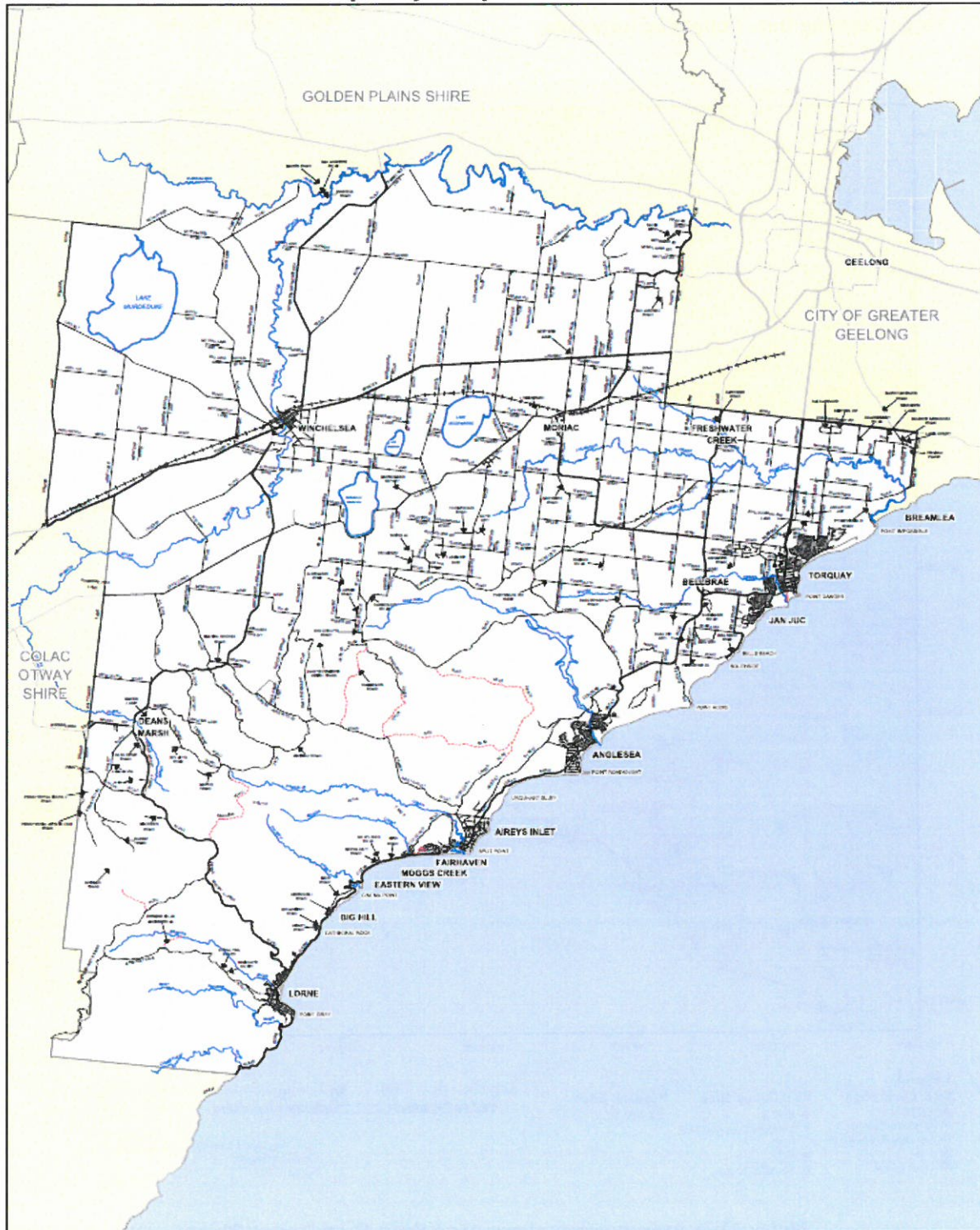
To ensure flood bulletins are released in a timely manner, standardised flood bulletins may be drafted based on different scenarios, prior to events occurring. The standardised flood bulletins can then be adapted to the specifics of the event occurring or predicted to occur.

Local Flood Warning System Arrangements

There are no specific local flood warning systems or arrangements currently in place within the Municipality.

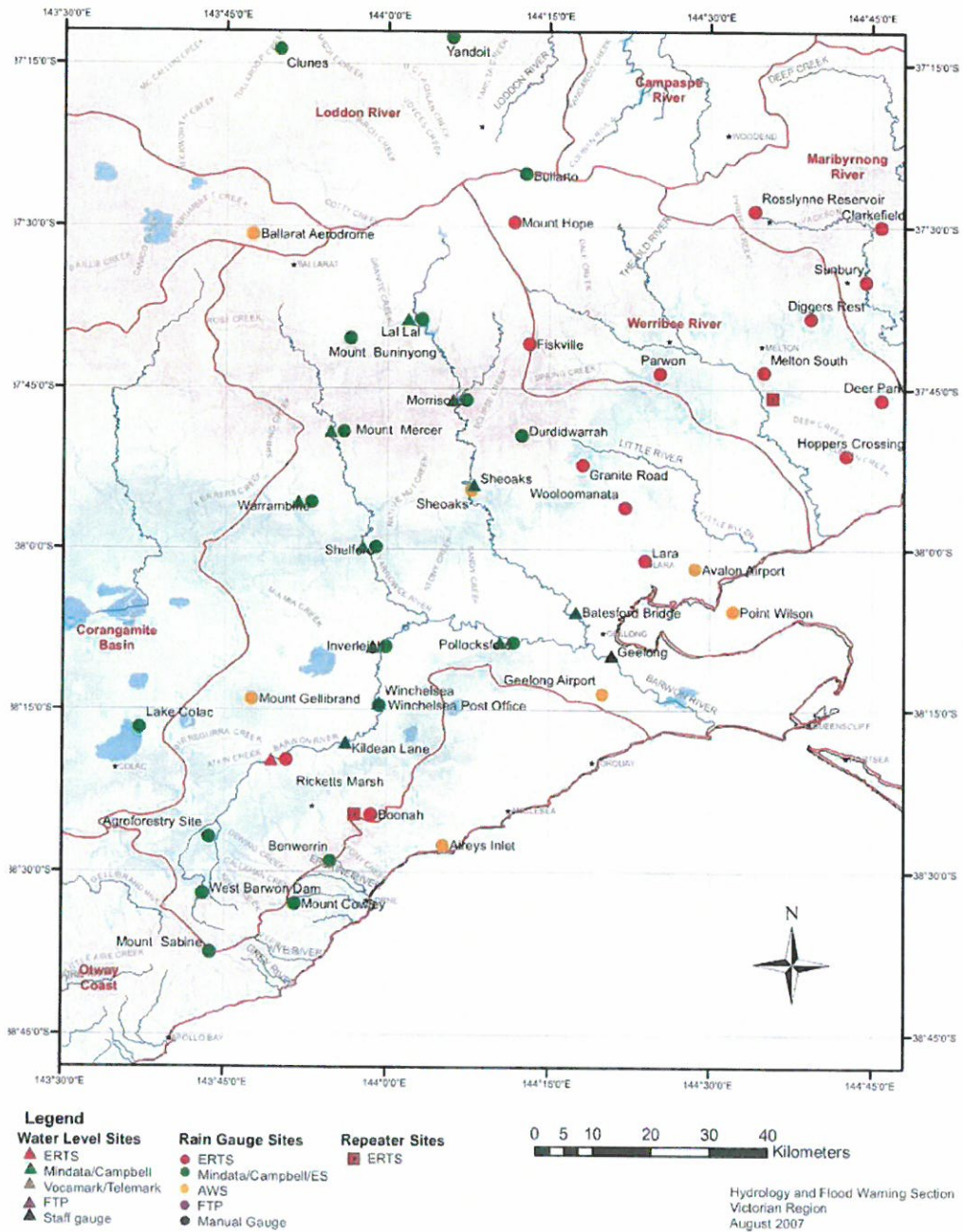
APPENDIX F – MAPS

Surf Coast Shire municipality map



Barwon River Catchment Map

Barwon, Moorabool and Leigh Rivers Flood Warning Data Collection Networks



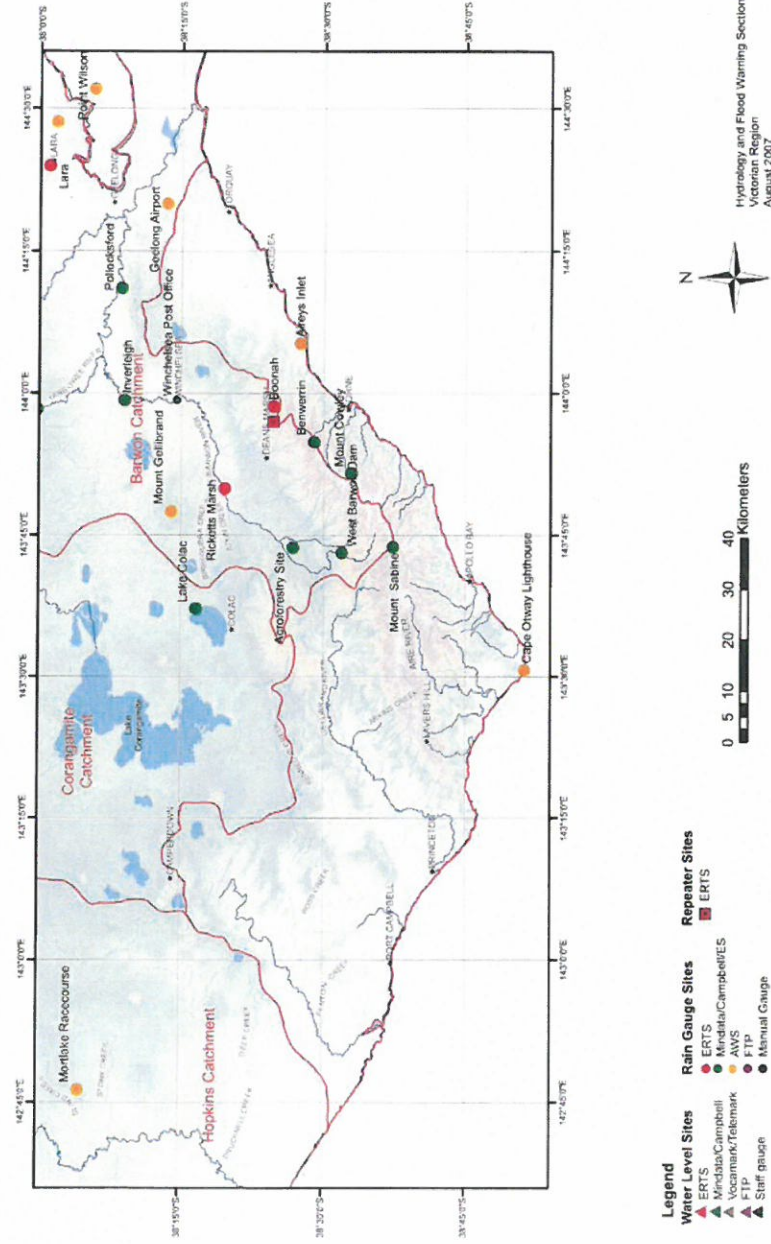
Note: This map covers more area than Surf Coast Shire.

AWS – Automatic Weather Station
ERTS - Event Reporting Radio Telemetry System

Otway Coast Catchment Map

Otway Coast

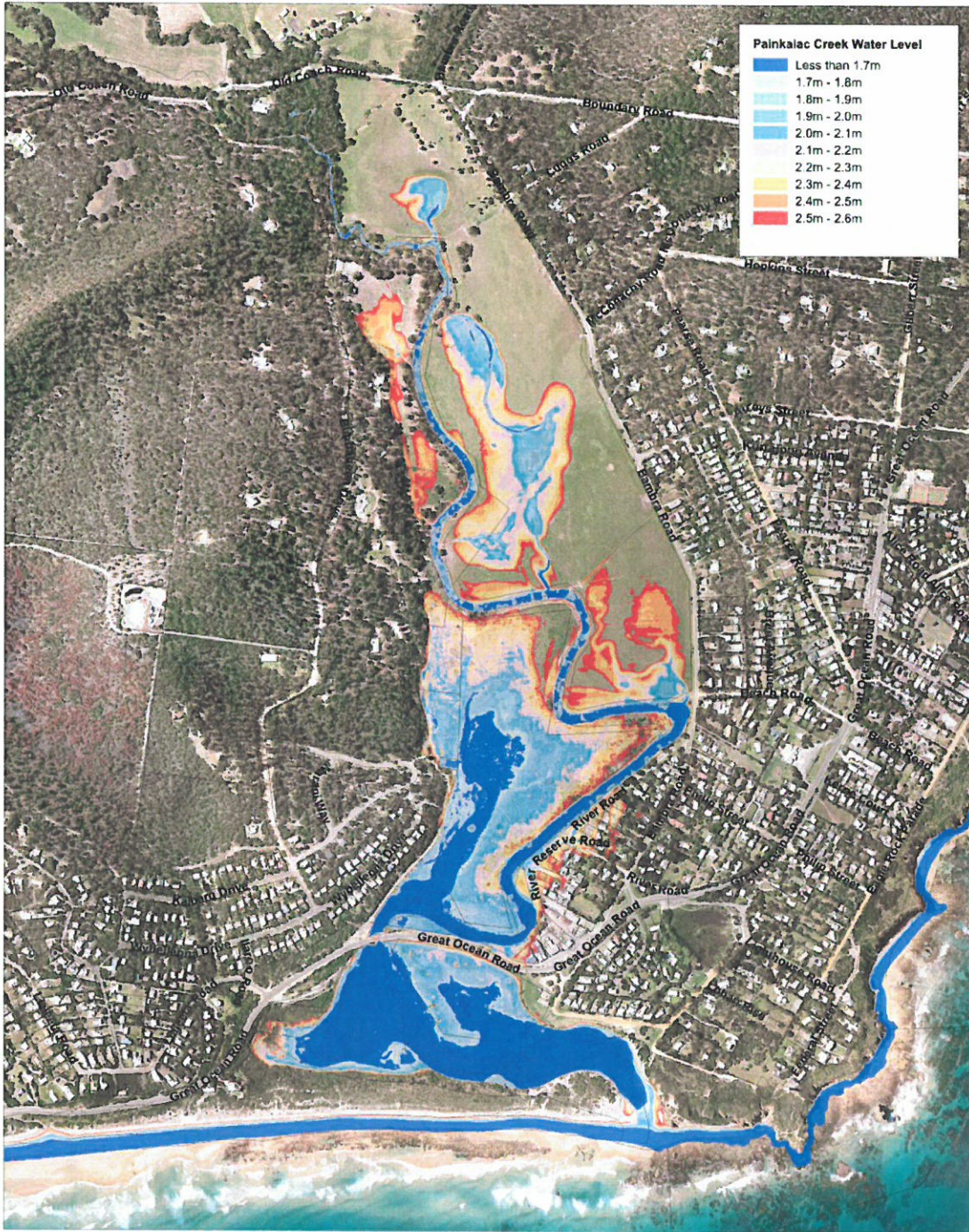
Flood Warning Data Collection Network



Note: This map covers more area than Surf Coast Shire.

AWS – Automatic Weather Station
ERTS - Event Reporting Radio Telemetry System

Inundation Map – Painkalac Creek



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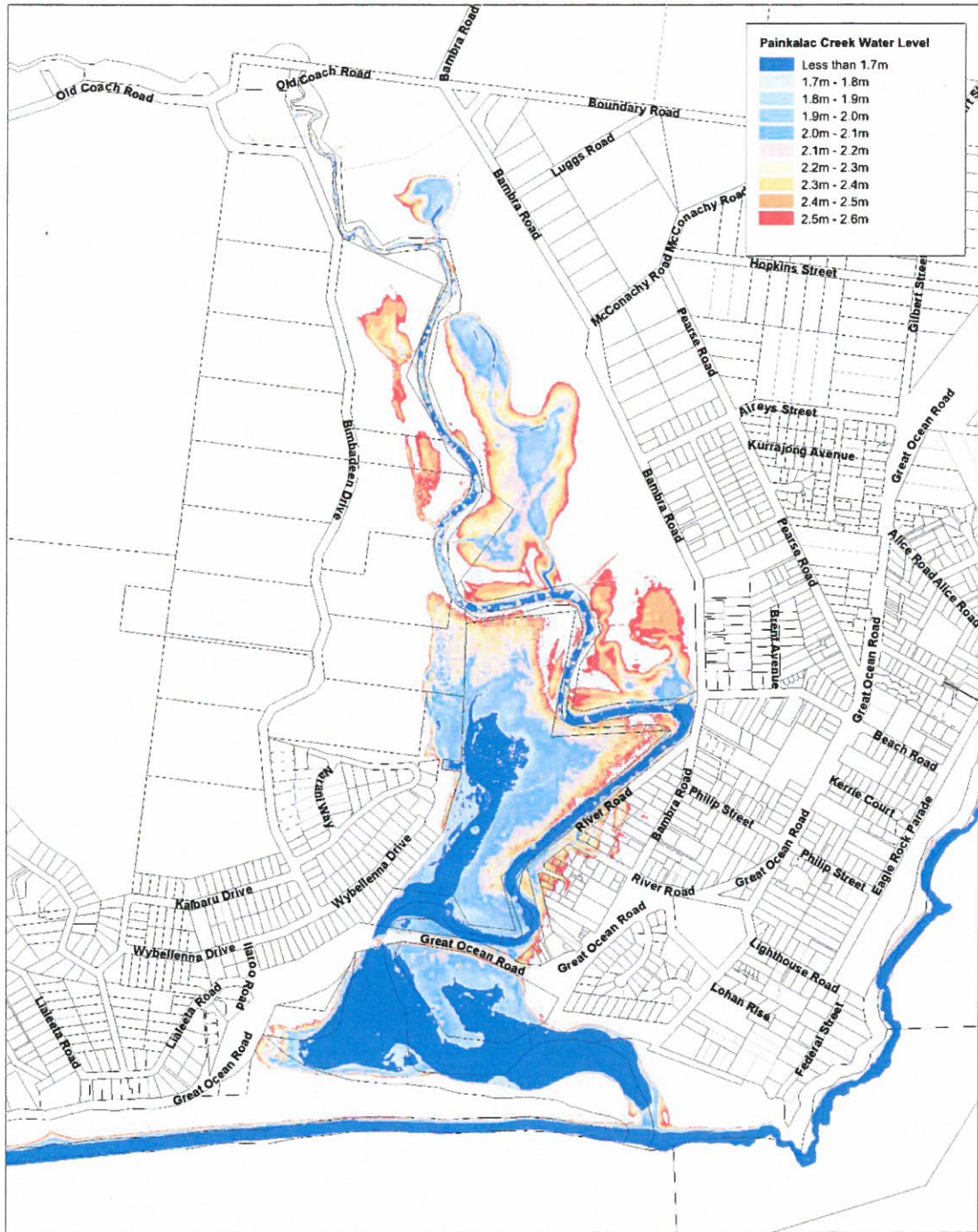
Painkalac Creek Flood Levels



Scale 1: 7,500
10/01/2012
Page Size (A3)



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Painkalac Creek Flood Levels



Scale 1: 7,500

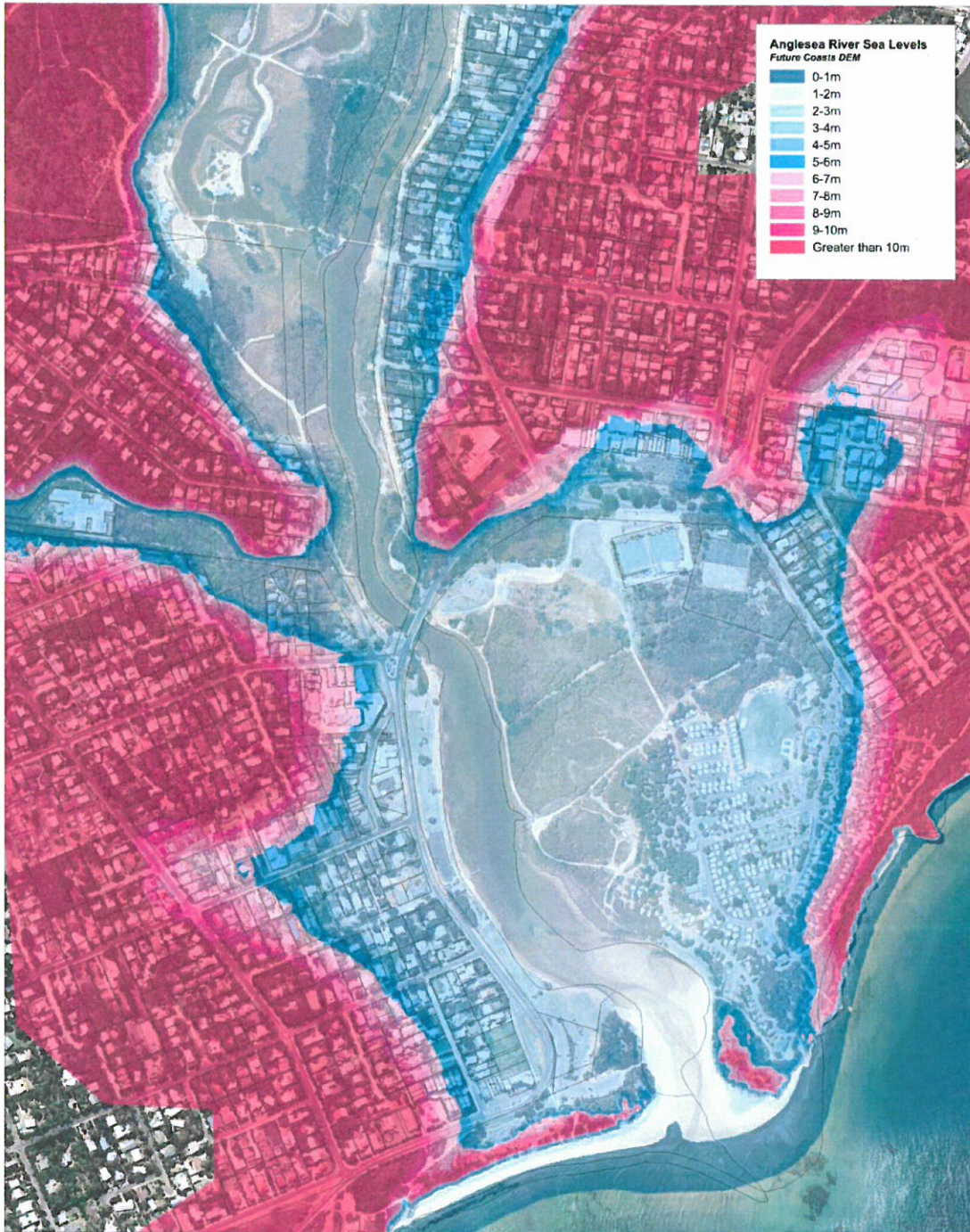
10/01/2012

Page Size (A3)



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Inundation Map – Anglesea River#

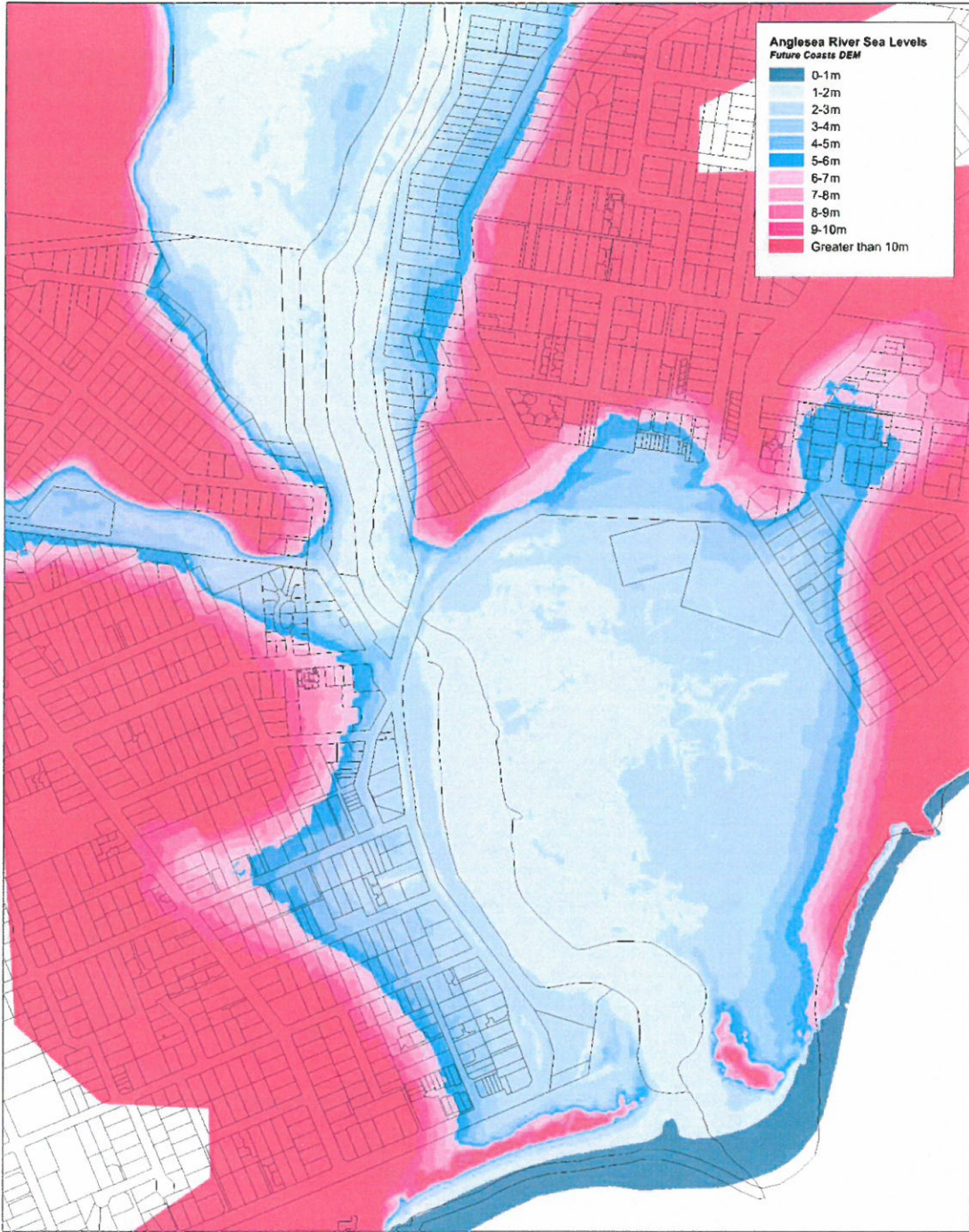


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**Anglesea River Sea Levels
Future Coasts DEM**

Scale 1: 5,000
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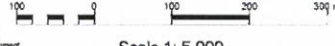


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**Anglesea River Sea Levels
Future Coasts DEM**

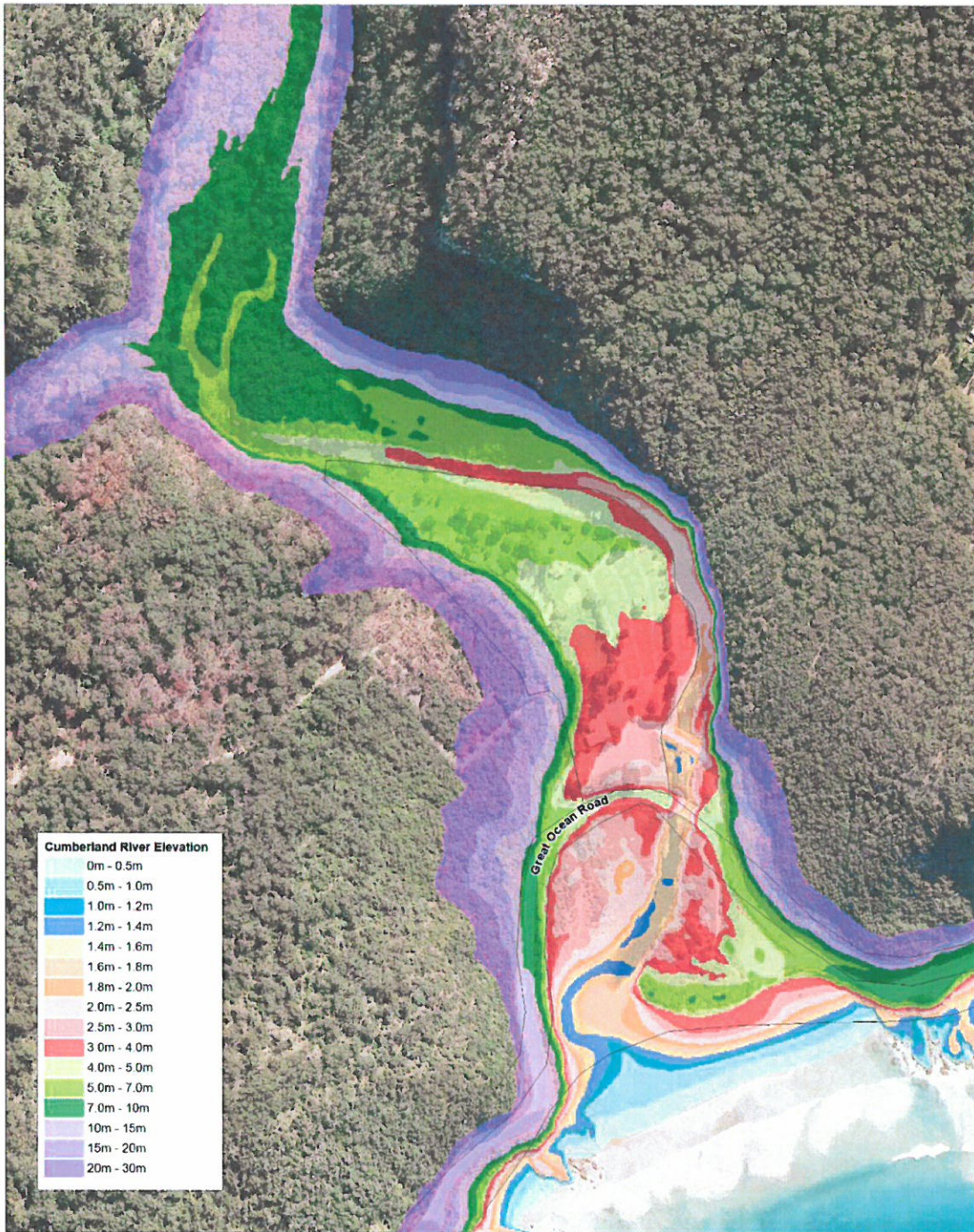


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Inundation Map – Cumberland River#



Cumberland River Elevation	
0m - 0.5m	
0.5m - 1.0m	
1.0m - 1.2m	
1.2m - 1.4m	
1.4m - 1.6m	
1.6m - 1.8m	
1.8m - 2.0m	
2.0m - 2.5m	
2.5m - 3.0m	
3.0m - 4.0m	
4.0m - 5.0m	
5.0m - 7.0m	
7.0m - 10m	
10m - 15m	
15m - 20m	
20m - 30m	



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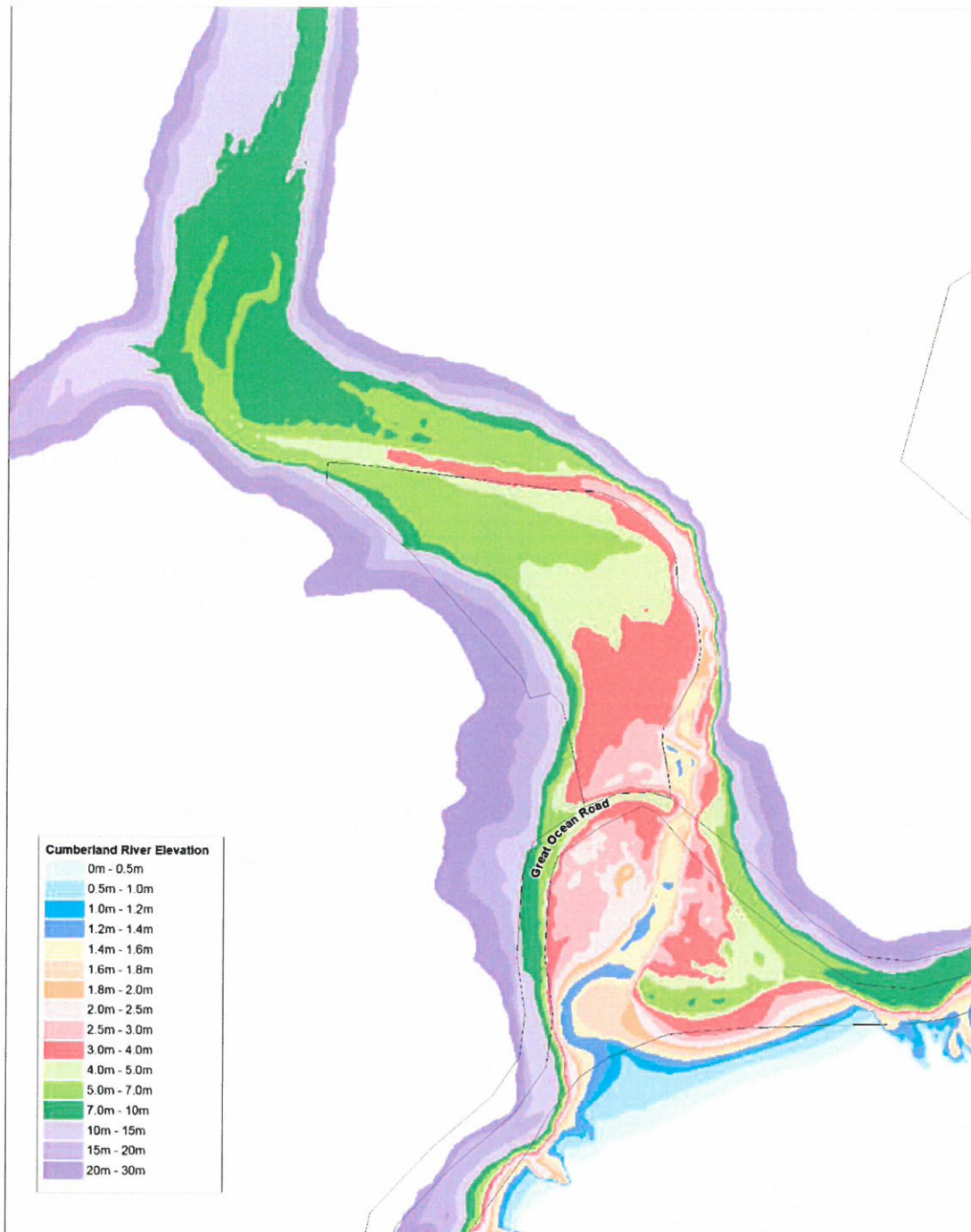
Cumberland River Elevation Future Coasts



Scale 1: 2,500
 19/07/2013
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**Cumberland River Elevation
Future Coasts**



Scale 1: 2,500

19/07/2013

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