

## Southern Floodplain Risk Management Committee

**Meeting Date:** Wednesday, 31 March, 2021  
**Location:** Council Chambers, City Administrative Centre, Bridge Road, Nowra  
**Time:** 4.00pm

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### Agenda

1. **Apologies**
2. **Confirmation of Minutes**
  - Southern Floodplain Risk Management Committee - 25 November 2020 ..... 1
3. **Declarations of Interest**
4. **Presentations**
  - SFM21.1 Floodplain Risk Management Presentation  
*Department of Planning, Industry & Environment*
  - SFM21.2 Draft Millards Creek Flood Study Presentation  
*Water Modelling Solutions*
5. **Reports**
  - SFM21.3 Draft Millards Creek Flood Study..... 7
6. **General Business**

**Membership**

Clr White – Chairperson  
All Councillors  
Chief Executive Officer (or nominee)

Community representatives:-

Michael Brungs  
Adam Crossley  
Holly Gunton  
David Laidlaw

Government Agency representatives:-

Local Aboriginal Land Council  
NSW State Emergency Services  
Department of Planning, Environment and Industry (DPIE)  
Other relevant Government Agency representatives

Quorum – 3 (provided that a minimum of the Chairperson & two Community Representatives are present)

**Purpose:**

The principal objective of the Southern Floodplain Risk Management Committee is to assist Shoalhaven City Council in the development and implementation of one or more floodplain risk management plans for the southern area of the Council. This will need to be in accordance with the NSW Floodplain Development Manual. The southern area applies to the following catchments:

- Lake Conjola;
- Narrawallee;
- Mollymook;
- Ulladulla;
- Burrill Lake;
- Lake Tabourie; and
- Willinga Lake

**Role:**

1. To assist the Council in the development and implementation of the floodplain management plan for the areas listed under 'Purpose' (see above);
2. To assist the Council monitoring and assessing the effectiveness of the management plans during and after its implementation; and
3. To assist the Council providing input into known flood behaviour as part of the flood study.

## MINUTES OF THE SOUTHERN FLOODPLAIN RISK MANAGEMENT COMMITTEE

**Meeting Date:** Wednesday, 25 November 2020  
**Location:** City Administrative Centre, Bridge Road, Nowra  
**Time:** 4.00pm

The following members were present:

Clr John Wells  
Clr Amanda Findley  
Clr Patricia White – Chairperson

<u>North</u> (remotely)	<u>Central</u> (remotely)	<u>Southern</u> (remotely)
John Gould	Zachariah Cleary	Michael Brungs
David Brawn	Peter Foggitt	Adam Crossley
Mark Kielly	Janis Natt	Holly Gunton
Plaxy Rowe		David Laidlaw
Len White		
Phil Guy		

Stephen Dunshea - Chief Executive Officer (remotely)  
Kelie Clarke - Environmental Services Manager

Also present:

John Murtagh – Department of Planning, Industry and Environment (remotely)  
John Bucinkas – Department of Planning, Industry and Environment (remotely)  
Joanne Allen – Nowra Commander SES (remotely)  
William McInnes – Flood Planning Ulladulla SES (remotely)  
Phil Costello – Director City Development  
Mark Stone – Floodplain & Stormwater Quality Engineer  
Tanvir Ahmed – Floodplain Engineer  
Colin Wood – Manager Building & Compliance (remotely) from 4.25pm

### Election of Chairperson

**RESOLVED** (Clr Wells / Michael Brungs)

That Councillor White be appointed as the Acting Chairperson for this meeting..

CARRIED

### Apologies / Leave of Absence

Apologies were received from Tracy Provest and Rod Feltham (SES representatives).

## Declarations of Interest

Nil

Clr Findley welcomed Committee members and gave an Acknowledgement to Country.

## PRESENTATIONS

### NFM20.1 Terms of Reference

HPERM Ref:  
D20/519228

Kelie Clarke, Environmental Services Manager, summarised the main points of the Terms of Reference (<http://doc.intranet/displaydoc.aspx?record=POL20/59>).

Clr Wells proposed that the Committee recommend to Council that Currarong Creek be added as an area to the Terms of Reference for the North Floodplain Risk Management Committee. Following the meeting it was found that Currarong Creek is already included in the Central FRMC Terms of Reference.

### RESOLVED (Clr Wells / Plaxy Rowe)

That the Committees receive the Terms of Reference for information.

CARRIED

### NFM20.2 Overview of NSW Floodplain Development Manual and Purpose of Floodplain Risk Management Committees

HPERM Ref:  
D20/519208

John Murtagh, Senior Natural Resource Officer, Biodiversity and Conservation, Department of Planning, Industry and Environment (DPIE), provided an overview presentation (attached to these Minutes).

SCC has 13 adopted Floodplain Risk Management (FRM) plans which identify risk and management options across the City. Other ongoing elements in the FRM program are the:

- Lower Shoalhaven River Flood Mitigation Maintenance (North)
- Lower Shoalhaven River FRMP Review (North)
- Currarong Creek Flood Study (North)
- St Georges Basin FRMP Review (Central)
- Millards Creek Flood Study (South)

John set out the purpose of the Floodplain Development Manual and explained the chance and probability measures used to determine flood risk.

He described the function of the Committees in overseeing the FRM process. This process starts with data leading to an individual Flood Study, which determines whether the data discloses any significant risk that requires management. If so, a Floodplain Risk Management Study is conducted. Once all available measures have been analysed, the selection is made of those that Council should include in its FRM Plan. As Council continues to implement the plan, circumstances will change, and consequently the flood risk changes; thus the process resumes from the beginning.

The Committees are important as a forum to contribute ideas, professional expertise, experience, and local knowledge. Its role is advisory – Council makes the decisions, and adopts and implements the Plan. Committees meet on an as needs basis, typically at decision points in the process such as:

- input to or review the consultant brief.

- review model results.
- advise on options to be assessed
- review draft reports and plans
- recommend exhibition
- recommend Adoption by Council

The Committee Handbook is available at:

<https://doc.shoalhaven.nsw.gov.au/DisplayDoc.aspx?record=D19/336266>

Technical working groups may be convened with membership based on expertise.

### **RESOLVED** (By consent)

That the Committees receive the Overview of NSW Floodplain Development Manual and Purpose of Floodplain Risk Management Committees for information.

CARRIED

## **REPORTS**

### **NFM20.3 Floodplain Management Program and Projects Update**

**HPERM Ref:  
D20/505916**

Tanvir Ahmed – Floodplain Engineer, presented a summary of Council’s Floodplain Management Program.

#### *Flood Study and Flood Risk Management Study and Plan*

Two Flood Studies (Millards Creek & Currarong Creek) and two Floodplain Risk Management Studies and Plans (Lower Shoalhaven River & St Georges Basin) are in progress – see below.

#### *Shoalhaven Flood Alert Network*

Council currently manages 21 water level gauges and 46 rainfall gauges, feeding data to BoM. Some locations also have gauges owned by Manly Hydraulics Laboratory (MHL) and used by Council.

#### *SMART Management Water Program*

The Illawarra Shoalhaven Joint Organisation (ISJO) grant-funded research project in collaboration with the University of Wollongong (UoW) to utilise smart technology to better manage water quality, flood mitigation and entrance management is ongoing.

#### *Management of Flood Mitigation Assets*

Council manages levees (23km), flood mitigation drains (48.3km, 50 channels) and flood gates to control flood and tidal inundation.

#### *Shoalhaven River Flood Levee Rehabilitation Project*

Council conducted a levee audit after the August 2015 flood event. The identified flood damage has been repaired, funded by the NDRRA and Council.

A visual audit of the Riverview Road and Terara levee following the February and August 2020 flood events, recently undertaken by Public Works, identified some damage. Council will apply for NDRRA funding to undertake repairs.

Some flood damage has also been identified on a levee on Comerong Island. Council will apply for NDRRA funding to undertake repairs. Council is also seeking to engage Public Works to audit all other levees in the Lower Shoalhaven River.

#### *Development Applications, Planning Proposal and Council Projects*

Council’s Flood Engineers provide professional advice on DAs, planning proposals and Council

infrastructure projects in flood prone land. Within the 2020/21 financial year over 150 application referrals have been completed.

*Flood Certificates*

Council issues flood certificates (site specific detailed flood information) in 12 catchments within the LGA. This information assists with development applications and planning proposals in flood prone land.

Kelie Clarke, Environmental Services Manager, advised that the automation of flood certificates has been a new inhouse project which now offers better support for applicants.

Clr Wells asked what measures Council has to resolve drain issues. Mark Stone – Floodplain & Stormwater Quality Engineer advised that they are inspected and maintained by Works & Services, and that the flood levee network is audited after a flood event, to identify and repair any damage. He confirmed the levees were not breached during the last flood event, despite some damage.

John Murtagh sought clarification on the Nowra Bridge and Terara flood gauges not appearing on the BoM website. Staff advised these had been present when checked recently but will confirm.

**RESOLVED** (By consent)

That the Committees receive the Floodplain Management Program and Projects report for information.

CARRIED

**NFM20.4 Lower Shoalhaven River Floodplain Risk Management Study and Plan Update**

**HPERM Ref: D20/488282**

Mark Stone – Floodplain & Stormwater Quality Engineer presented the FRM Studies and Plans for the Lower Shoalhaven River and St Georges Basin together. (Presentation attached to these Minutes.)

The consultant, Cardno, was engaged in 2018. To date the initial community consultation and data analysis have been completed; Shoalhaven Heads Entrance modelling and comparison of flood frequency analysis (FFA) with Australian Rainfall & Runoff (ARR) are ongoing.

Issues are the complex nature of the catchment, and that there are not many rainfall or flow gauges in these catchments. Another issue is the consultant's sometimes unsatisfactory progress.

The change in Study type from FMRS&P to Flood Study has been extended to November 2021.

The agreement with Cardno is an operational matter. The Committee were advised that Council is pursuing provisions to cover any costs if the deadline is exceeded. It is acknowledged that some delays caused by the bushfires and COVID-19 are beyond all partners' control.

The Draft Flood Study, due April/May 2021, may not be ready in time for the next FRM Committee meeting. Cardno will be asked to give a presentation.

It was confirmed that, in relation to St Georges Basin, the study will take into consideration scenarios of ocean inundation. The CMP will use information from the flood study on coastal inundation in the Sussex Inlet / St Georges Basin area.

John Murtagh advised that many factors determine how much penetration will occur into a tidal inlet, such as swell. DPIE actively consider these factors when undertaking flood studies in tidal areas.

Clr White noted the need to educate the community on the possibility of flooding from the sea, in the absence of rain.

Len White asked whether impact of e.g. wombat activity is considered. Staff confirmed that surveys are conducted on the surface for erosion impacts. The roughness factor is considered that affects speed of water flow. However, flood studies do not look at erosion, but are based on the current

best capture of topography at the time.

John Gould noted the community will want to know the currency of the data, and how long it will remain relevant. It was clarified that outcomes remain current until there is a significant change to the catchment such as development, topography, or design standards. Generally it is reviewed every 5-10 years.

**RESOLVED** (By consent)

That the Committees receive the Lower Shoalhaven River Floodplain Risk Management Study and Plan report for information.

CARRIED

**NFM20.5 St Georges Basin Floodplain Risk Management Study and Plan Update**

**HPERM Ref:  
D20/519480**

This item was addressed in conjunction with NFM20.4 - Lower Shoalhaven River Floodplain Risk Management Study and Plan Update.

**RESOLVED** (Clr Wells / John Gould)

That:

1. The Committees receive the St Georges Basin Floodplain Risk Management Study and Plan report for information.
2. The Northern and Central Floodplain Risk Management Committees make a determination at their next meeting in the new year as to whether the Lower Shoalhaven River and St Georges Basin Floodplain Risk Management Study & Plan (FRMS&P) are completed in full or whether a Flood Study only is completed.

CARRIED

**NFM20.6 Currarong Creek Flood Study Update**

**HPERM Ref:  
D20/519493**

Tanvir Ahmed presented the Flood Studies for Currarong Creek and Millards Creek together. (Presentation attached to these Minutes.)

The consultant, Water Modelling Solutions (WMS), was engaged 2018. In Council's comments have been provided and awaiting feedback. Once completed, the Flood Studies will be presented to the Southern Committee in February, then placed on public exhibition. The draft may not be ready this year for review over the seasonal break. The final report is due April/May 2021.

Funding for both studies was \$100,000.

**RESOLVED** (By consent)

That the Committee receive the Currarong Creek Flood Study report for information.

CARRIED

**NFM20.7 Millards Creek Flood Study Update**

**HPERM Ref:  
D20/519465**

This item was addressed in conjunction with NFM20.6 - Currarong Creek Flood Study Update.

**RESOLVED** (By consent)

That the Committee receive the Millards Creek Flood Study report for information.

CARRIED

**GENERAL BUSINESS**

A package of information and weblinks will be circulated to members.

John Murtagh offered to conduct a “Floodplain 101” session prior to the next meeting.

There being no further business, the meeting concluded, the time being 5.50pm.

Clr Patricia White  
CHAIRPERSON

## **SFM21.3 Draft Millards Creek Flood Study**

**HPERM Ref:** D21/93006

**Department:** Environmental Services

**Approver:** Phil Costello, Director - City Development

### **Reason for Report**

To provide the Southern Floodplain Risk Management Committee (FRMC) with an update on the Millards Creek Flood Study and seek endorsement from the FRMC to commence community engagement of the Draft Flood Study report.

### **Recommendation**

The Committee receive the Draft Millards Creek Flood Study report for information and endorse the commencement of community engagement for the Draft Flood Study.

### **Options**

1. The Committee receive the Draft Millards Creek Flood Study report for information and endorse the commencement of community engagement for the Draft Flood Study.

Implications: Nil.

2. The Committee could choose to provide an alternative recommendation for consideration by Council.

Implications: This option could delay the progress of the project, result in additional project costs and/or prevent the completion of a Flood Study within the project timeframe.

### **Background**

The Millards Creek catchment and associated tributaries are located in Ulladulla, and discharges to the Tasman Sea through the Ulladulla Harbour.

The objective of this study is to improve understanding of flood behaviour and impacts, and better inform management of flood risk in the study area in consideration of the available information. The study will also provide a sound technical basis for any further studies if this is found to be required. The scope of this flood study includes investigating both riverine and overland flooding within the Millards Creek catchment.

The need for an updated Flood Study for the Millards Creek catchment was identified as part of Council's floodplain programme. The study outputs will inform decision making for investing in the floodplain, managing flood risk through prevention, preparedness, response and recovery activities, and informing and educating the community on flood risk and response to floods.

### **Current Status of the Project**

The Draft Millards Creek Flood Study report has been completed by Water Modelling Solutions (WMS). This Draft Flood Study report is provided to members as a link in the email notification regarding the agenda.

WMS will provide a presentation to the Southern FRMC on the Millards Creek Flood Study development and outcomes.

The Draft Millards Creek Flood Study report has been reviewed by Council Flood Engineers, the NSW Department of Planning, Industry and Environment (DPIE) and the NSW State Emergency Service (SES).

The next step in the project programme is community engagement for the Draft Flood Study report.

**Overland Flooding Policy and Development Control Plan Amendments**

The Draft Millards Creek Flood Study includes modelling for both riverine flooding along Millards Creek and its main Tributaries and overland flooding where floodwaters will be concentrated along roads and within natural depressions, including through existing urban areas. Overland flooding has occurred during historic rainfall events over the Millards Creek catchment. The modelling of riverine and overland flooding is discussed in the Draft Millards Creek Flood Study report in more detail.

The Draft Millards Creek Flood Study identifies the main locations in which overland flooding will occur in the catchment.

The image below presents Riverine and Overland Flood Planning Areas for the Projected 2050 Scenario. The Flood Planning Area is any land being flood affected in the 1% Annual Exceedance Probability (AEP) flood event plus freeboard.



Figure 1 Millards Creek Catchment – Riverine and Overland Flood Planning Area (Source: Draft Millards Creek Flood Study).

SFM21.3

Council does not currently have a policy with regard to flood specific development controls that apply to locations mapped with overland flooding.

It is noted that the Currarong Creek Flood Study which is in progress has also investigated both riverine and overland flooding. The Lake Wollumboola Flood Study completed in 2015 also investigated overland flooding within Culburra Beach. Future flood studies are also likely to investigate overland flooding in other Shoalhaven communities.

The inclusion of overland flooding in the Draft Millards Creek Flood Study provides an opportunity for Council to develop a policy on overland flooding and associated minor amendments to *Development Control Plan (DCP) Chapter G9: Development on Flood Prone Land*, to provide appropriate flood specific development controls for new and redeveloped buildings located in areas that have been identified as comprising overland flooding.

DCP Chapter G9 identifies flood specific development controls for the Shoalhaven LGA. This includes the provision of a 0.5m freeboard above the 1% AEP peak flood level to determine the associated Flood Planning Level for habitable floor levels. This freeboard is commonly used for riverine flooding throughout NSW.

Due to the shallower flood depth and generally lower flood hazard as defined using a velocity x depth product in areas mapped as having overland flooding, it is considered that a lower freeboard of 0.3m would be appropriate in these areas to determine the Flood Planning Level. Using a 0.3m freeboard to determine the Flood Planning Level (used to define minimum habitable floor levels) for areas with overland flooding has the benefits of reducing flood damages to new and redeveloped buildings in these areas, but also does not burden property owners with alternative and potentially more expensive construction techniques.

If Council adopts an overland flooding policy, it would be proposed to undertake some minor housekeeping amendments to *DCP Chapter G9: Development on Flood Prone Land*. This would include an additional section for Millards Creek in the Site Specific Flood Related Development Controls in Section 5.4 of this DCP Chapter. The Millards Creek site specific flood related development controls could include the following:

- The current provisions in DCP Chapter G9 would apply to all areas mapped as Riverine Flood Planning Area in the Millards Creek catchment.
- A reduced freeboard of 0.3m could be applied to the 1% AEP event peak flood level to determine the Flood Planning Level in areas mapped as Overland Flood Planning Area. With the exception of the reduced freeboard, all current provisions in DCP Chapter G9 could apply to Overland Flood Planning Areas.

The housekeeping amendments for DCP Chapter G9 could also include Site Specific Flood Related Development Controls for the Millards Creek catchment and other minor housekeeping amendments as required. These DCP Chapter G9 amendments would undergo public exhibition and then be reported to Councils Development & Environment Committee for consideration following the adoption of the Millards Creek and Currarong Creek Flood Studies.

Any potential amendments to DCP Chapter G9 could undergo community engagement at the same time as the Draft Millards Creek Flood Study. It is however important that the Southern FRMC are aware of the overland flooding component of the Draft Flood Study so feedback can be provided on this as required.

### **Community Engagement**

The first round of community consultation was undertaken between December 2018 and January 2019. A project website was published by Council's Get Involve Page to inform the community about the Flood Study. This page was designed to get feedback from community about their flooding experience within the catchment.

Council is seeking endorsement from the Southern FRMC to undertake community exhibition of the Draft Millards Creek Flood Study. The community exhibition phase has been scheduled to commence in early April 2021 (pending endorsement from the FRMC) and would have a duration of four weeks.

The following forms of community engagement are proposed.

- Media release to inform the community of the community engagement period.
- Mail out to all property owners and residents within the study area of the Flood Study.
- An online questionnaire will be available through the projects Get Involved website to seek feedback from the community.
- Flood engineers from the consultant undertaking the study, along with engineers from Council will be available at a drop-in session to provide further information and discussion on the Draft Flood Study.

### **Financial Implications**

The Millards Creek Flood Study is 2/3 funded by DPIE and 1/3 funded by Council. There have been no increases in project cost beyond the original approved funding. Any potential delays to the community engagement period could however prevent the project being completed and adopted by Council prior to the end of the DPIE milestone funding term and this could result in increased project costs.

### **Policy Implications**

Council does not currently have a policy with regard to flood specific development controls that apply to locations mapped with overland flooding.

The inclusion of overland flooding in the Draft Millards Creek Flood Study provides an opportunity for Council to develop a policy on overland flooding and associated minor amendments to *Development Control Plan (DCP) Chapter G9: Development on Flood Prone Land*, to provide appropriate flood specific development controls for new and redeveloped buildings located in areas that have been identified as comprising overland flooding.