AGENDA

Floodplain Risk Management Committee

Thursday, 01 August 2024

11:00 AM

Dragon Room
Georges River Council Civic Centre
Hurstville

GEORGES RIVER COUNCIL

FLOODPLAIN RISK MANAGEMENT COMMITTEE MEETING

ORDER OF BUSINESS

OPENING

ACKNOWLEDGEMENT OF COUNTRY

Council acknowledges the Bidjigal people of the Eora Nation, who are the Traditional Custodians of all lands, waters and sky in the Georges River area. I pay my respect to Elders past and present and extend that respect to all Aboriginal and Torres Strait Islander peoples who live, work and meet on these lands.

APOLOGIES / LEAVE OF ABSENCE

REQUEST TO JOIN VIA AUDIO VISUAL LINK

NOTICE OF WEBCASTING

DISCLOSURES OF INTEREST

CONFIRMATION OF MINUTES OF PREVIOUS MEETINGS

COMMITTEE REPORTS

CONFIRMATION OF MINUTES OF PREVIOUS MEETINGS

Item: **FRMCC005-24 Confirmation of the Minutes of the Floodplain Risk Management Committee Meeting held on 20 February 2024**

Author: PA to Manager Strategic Placemaking

Directorate: Assets and Infrastructure

Matter Type: Previous Minutes

RECOMMENDATION:

That the Minutes of the Floodplain Risk Management Committee Meeting held on 20 February 2024, be confirmed.

ATTACHMENTS

Attachment ⇩1 Minutes of the Floodplain Risk Management Committee Meeting held on 20 February 2024

MINUTES

Floodplain Risk Management Committee

Tuesday, 20 February 2024

3:00 PM

Waratah Room
Ground Floor
Civic Centre

GEORGES RIVER COUNCIL

PRESENT – COMMITTEE MEMBERS

Councillor Nick Smerdely (Chairperson)
Mr David Grasby (Sydney Water, Senior Planner) - Online
Ms Angela Halcrow (OEH, Senior Natural Resource Officer) - Online
Mr Sadeq Zaman (OEH, Floodplain Engineer) - Online
Ms Shelly Stingmore (SES, Coordinator Planning Strategic Risk Metro Zone) - Online
Mr Nicholas Sharpe (SES, Planning and Research Officer) - Online
Mr Erin Sellers (Community Representative) - Online
Mr Aaron Biffin (Bayside Council, Stormwater & Floodplain Engineer) – Online
Mr Andrew Latta (GRC, Director Assets and Infrastructure)
Ms Hayley Barnes (GRC, Manager Strategic Placemaking)
Mr Tom Heath (GRC, Manager City Technical Services)
Ms Catherine McMahon (GRC, Manager Strategic Planning) – Online
Mr Seenithamby Paramanandarajah (GRC, Coordinator Asset Management) – Online
Mr Pulak Saha (GRC, Senior Assets Engineer - Stormwater)

PRESENT – NON COMMITTEE MEMBERS

Mr Isaac Kim (KBR)
Mr Sam Drysdale (KBR)
Ms Priyani Jayaweera (GRC, Principal Development Engineer)
Mr Rabi Pokharel (GRC, Stormwater Assets Engineer) - Online
Mr Firoz Ahmed (GRC, Senior Development Engineer)
Mr Connor Peters (Sydney Water, Graduate Environmental Engineer) – Online
Mr Hans Kludass (GRC, Manager City Operational Services) - Online

PRESENT - ADMINISTRATIVE SUPPORT STAFF

Ms Marisa Severino (Executive Services Officer – Minutes)
Ms Stephanie Liu (Personal Assistant to Manager Strategic Placemaking – Minutes)
Ms Nickie Paraskevopoulos (GRC, Executive Assistant to Director, Business Corporate Services)
Ms Mitchel Spinola (GRC, Personal Assistant to Manager City Operational Services) – Online
Ms Rachelle McGrath (GRC, Executive Assistant to Director, Assets and Infrastructure) - Online
Mr Garuthman De Silva (IMT Services – Technical)
Ms Sandra Vazzoler (IMT Services – Technical)
Mr Earl Santos (IMT Services – Technical)

CONFIRMATION OF QUORUM

The Chair, Councillor Nick Smerdley confirmed there was a quorum.

OPENING

The Chair, Councillor Nick Smerdley opened the meeting at 3:10pm.

ACKNOWLEDGEMENT OF COUNTRY

The Chair, Councillor Nick Smerdley acknowledged the Bidjigal people of the Eora Nation, who are the Traditional Custodians of all lands, waters and sky in the Georges River area. I pay my respect to Elders past and present and extend that respect to all Aboriginal and Torres Strait Islander peoples who live, work and meet on these lands.

APOLOGIES/LEAVE OF ABSENCE

Mr Liam Frayne (GRC, Manager Development and Building)
Mr Peter Cinque (SES, Senior Manager Emergency Risk Management) – Apology
Mr Hooman Khakzad (Canterbury Bankstown Council) – Apology
Mr Kumar Satkumaran (Canterbury Bankstown Council, Coordinator Asset Planning Roads and Stormwater) - Apology

Motion: Mr Erin Sellers, Mr Sadeq Zaman

Record of Voting

On being PUT to the meeting, voting on this Motion was UNANIMOUS. The Motion was CARRIED.

DISCLOSURES OF INTEREST

There were no disclosures of interest made.

CONFIRMATION OF MINUTES OF PREVIOUS MEETINGS

FRMCC001-24 Confirmation of the Minutes of the Floodplain Risk Management Committee Meeting held on 26 September 2023
(Report by Senior Assets Engineer - Stormwater)

RECOMMENDATION: Mr Erin Sellers, Mr Sadeq Zaman

That the Minutes of the Floodplain Risk Management Committee Meeting held on 26 September 2023, be confirmed, noting the changes to the Minutes (as previously published), to include information as required by the Code of Meeting Practice 2022 and the former Floodplain Risk Management Committee Terms of Reference.

Record of Voting

For the Motion: Chair Smerdely, Ms Shelly Stingmore, Mr Erin Sellers, Mr Sadeq Zaman, Mr Aaron Biffin

On being PUT to the meeting, voting on this Motion was UNANIMOUS. The Motion was CARRIED.

COMMITTEE REPORTS

FRMCC002-24 Update on Blakehurst and Kogarah Bay Wards Flood Study
(Report by Senior Assets Engineer - Stormwater)

RECOMMENDATION: Mr Erin Sellers, Mr Sadeq Zaman

That the Floodplain Risk Management Committee receive and note the verbal presentation from KBR (Council's Flooding Consultant) on the current progress of the Blakehurst and Kogarah Bay Ward Flood Study.

Question Without Notice was put to the Committee: "Did you consult with the sporting and recreation groups in the catchment to gather historical flood information?"

Response:

Council sent survey questionnaires to all the owners of the land which were identified within the focus area. Council's staff are currently working to send the questionnaires to the sporting and recreation groups.

Record of Voting

For the Motion: Chair Smerdely, Ms Shelly Stingmore, Mr Erin Sellers, Mr Sadeq Zaman, Mr Aaron Biffin

On being PUT to the meeting, voting on this Motion was UNANIMOUS. The Motion was CARRIED.

FRMCC003-24 Update on Former Hurstville Overland Flow Floodplain Risk Management Study and Plan
(Report by Senior Assets Engineer - Stormwater)

RECOMMENDATION: Mr Erin Sellers, Mr Sadeq Zaman

That the Floodplain Risk Management Committee receive and note the current progress of the Former Hurstville Overland Flow Floodplain Risk Management Study and Plan.

Record of Voting

For the Motion: Chair Smerdely, Ms Shelly Stingmore, Mr Erin Sellers, Mr Sadeq Zaman, Mr Aaron Biffin

On being PUT to the meeting, voting on this Motion was UNANIMOUS. The Motion was CARRIED.

FRMCC004-24 Update from the Department of Climate Change, Energy, the Environment and Water
(Report by Senior Assets Engineer - Stormwater)

RECOMMENDATION: Mr Erin Sellers, Ms Shelly Stingmore

That the Floodplain Risk Management Committee receive and note the updates from the Department of Climate Change, Energy, the Environment and Water.

Record of Voting

For the Motion: Chair Smerdely, Ms Shelly Stingmore, Mr Erin Sellers, Mr Sadeq Zaman, Mr Aaron Biffin

On being PUT to the meeting, voting on this Motion was UNANIMOUS. The Motion was CARRIED.

GENERAL BUSINESS

Nil.

COMMITTEE REPORTS

Item: **FRMCC006-24 Update on Blakehurst and Kogarah Bay Wards Flood Study**

Author: Senior Assets Engineer - Stormwater

Directorate: Assets and Infrastructure

Matter Type: Committee Reports

RECOMMENDATION:

(a) That the Floodplain Risk Management Committee receive and note the verbal presentation from Kellogg Brown & Root Pty Ltd on the current progress of the Blakehurst and Kogarah Bay Ward Flood Study.

(b) That the Floodplain Risk Management Committee receive and note the attached Stage 1 Report and Stage 2 Report prepared by Kellogg Brown & Root Pty Ltd for the Blakehurst and Kogarah Bay Ward Flood Study.

EXECUTIVE SUMMARY

1. Historical studies and past flood events have highlighted the susceptibility of the Blakehurst and Kogarah Bay Wards to overland flooding as well as riverine flooding from the Georges River. The Flood Study for these wards aims to improve understanding of flood behaviour under current and future conditions influenced by climate change and development, facilitating improved flood risk management in the future.
2. The Stage 1 Report outlines the adopted flood modelling methodologies that are consistent with industry standards and the 2019 Australian Rainfall and Runoff (ARR) Guidelines. The report also details the review of the available existing data and the community consultation process that was undertaken.
3. The Stage 2 Report provides details on the hydrological and hydraulic model calibration and validation to refine flood level predictions, ensuring accuracy and reliability of the data. The initial results show strong convergence between observed and simulated data.
4. The hydrological and hydraulic model is currently undergoing independent review to ensure the models accuracy and support robust design event modelling in subsequent phases of the Flood Study.

BACKGROUND

5. In September 2023, Georges River Council engaged Kellogg Brown & Root (KBR) to undertake a comprehensive Flood Study for the former Kogarah Local Government Area (LGA), i.e. the Georges River Council Blakehurst and Kogarah Bay Wards, in accordance with the NSW Government's Flood Risk Management Manual.
6. The Blakehurst and Kogarah Bay Wards (the study area) have been subject to various floodplain management related studies over the past 20 years, undertaken by the former Kogarah City Council. These studies, along with historical flood events in the catchment, have shown the area is prone to overland flooding, as well as riverine flooding emanating from the Georges River along the southern boundary.
7. The Blakehurst and Kogarah Bay Wards Flood Study aims to define the nature of flooding across the study area to provide an improved understanding of flood behaviour and associated flood risk under historical and existing floodplain conditions, while addressing

possible future variations in flood behaviour due to climate change and development. An improved understanding of flood behaviour then enables effective management of flood risk in the study area.

8. The following table gives a breakdown of each stage of the Flood Study, including the associated deliverables and expected completion date.

Table 1 - Blakehurst and Kogarah Bay Wards Flood Study Project Stages

Stage	Description	Deliverables	Completion Date
1	Data Collection and Community Consultation	Data provision and review, site inspection, and Stage 1 of Community Consultation	March 2024
2	Hydrological and Hydraulic Model Development and Validation	Development and validation of hydrologic/hydraulic model(s), preparation of draft Flood Study Report (Hydraulic and Hydrologic Model Development and Validation section)	July 2024
3	Design event modelling, model simulations and mapping	Simulation of design events, preparation of draft Flood Study Report (Design Event Modelling section)	Expected October 2024
4	Draft Flood Study Report	Draft Flood Study Report	Expected November 2024
5	Final Flood Study Report	Final Flood Study Report	Expected June 2025
6	Handover of relevant materials	Handover of relevant materials	Expected June 2025

9. Stage 1 of the Flood Study involved data collection and community consultation. A comprehensive review of available data was undertaken including previous studies undertaken by the former Kogarah City Council, GIS data, existing hydrological and hydraulic models, rainfall data and historical flood data.

10. The Stage 1 community consultation process was undertaken between 18 January 2024 and 7 March 2024. The consultation process involved the distribution of a questionnaire to all landowners, residents and businesses within the study area. The aim was to gather relevant flood information from the community including photographs, observed flood depths, and descriptions of flood behaviour within the catchment.

11. A total of 9737 letters were delivered to landowners, residents and businesses within the study area. A total of 746 responses were received that contributed valuable flood information, including data on significant historical rainfall events.

12. The total responses received represented a response rate of 7.7%, that is aligned with industry expectations. KBR indicated that typical response rates are generally between 5% and 10% for consultation regarding flood studies.

13. Sporting and community groups that utilise various Council facilities were also invited to participate in the consultation, however no flooding-related information was received from these user groups.

14. The historical flood information data collected from the consultation process was compiled into a GIS database to analyse the results and to provide a spatial representation of

the\data. Of the 746 responses, 611 identified that their properties had not been affected by flooding, whilst 135 identified that their properties had been affected by flooding.

15. Where flooding was identified, residents were asked to separately report on the type of flooding observed. Of the 135 responses where flooding was identified, a total of 70 respondents specified the specific nature of flooding. A breakdown of this information is identified in Figure 1.

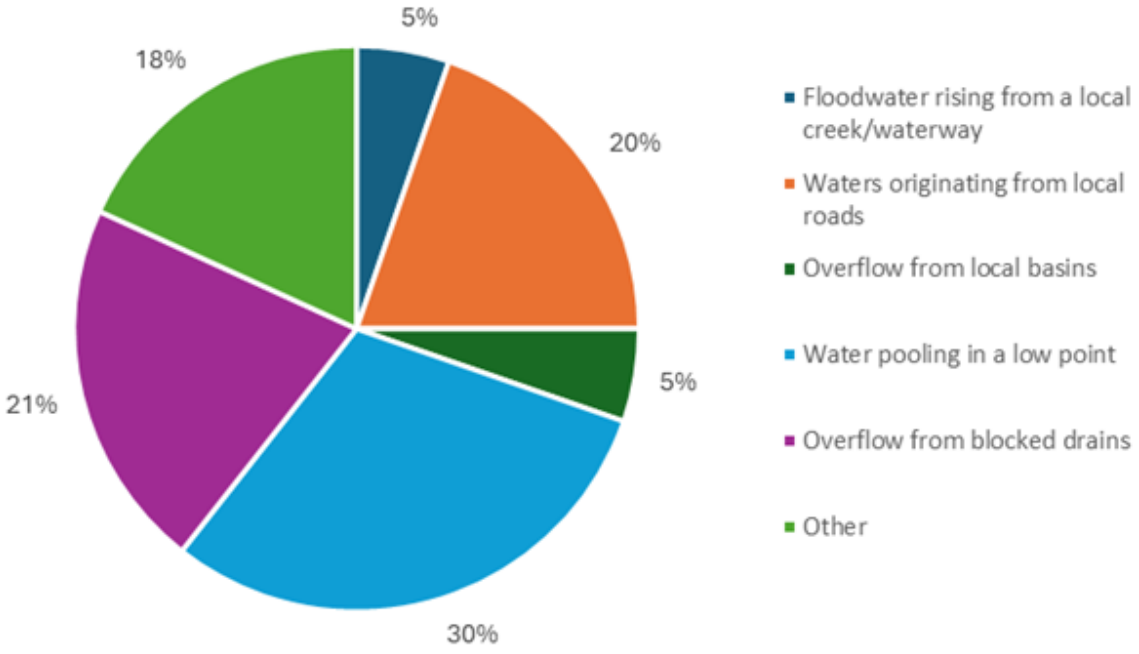

Figure 1 - Percentage Breakdown for different flooding scenarios

16. Data pertaining to flood behaviour collected from the responses were used for comparison against simulated historical flood events. Responses that provided estimated flood heights, corresponding to a specific storm, were used to calibrate the model in the absence of more accurate information.

17. Stage 2 of the Flood Study involved the development of a hydrologic and hydraulic model and subsequent calibration. As part of this process, a new catchment-wide hydrologic and hydraulic TUFLOW Rainfall-on-Grid model was developed to delineate flood behaviour across the former Kogarah LGA.

18. Based on the availability of suitable rainfall and historical flood level data, and noting the absence of a stream gauge within the catchment, three historical events were selected for calibration of the model; April 2015, March 2022 and February 2023. The selected events represent the largest recorded events in the catchment in recent history These rain events were the basis of the questionnaire distributed during the community consultation process.

19. Calibration to observed peak flood level estimates, provided as part of the community consultation responses, was undertaken by iteratively adjusting model parameters and hydraulic control enforcements until the model results provided a reasonable match to the historical data.

20. A summary of the preliminary model calibration results has been presented in Table 2 below, which presents the difference between the modelled and observed peak flood levels.

21.

Table 2 - Preliminary Calibration Results between Modelled and Observed Peak Flood Levels

Event	Number of Observations (%)				Total
	> 0.3 (m)	0.2 – 0.3 (m)	0.1 – 0.2 (m)	≤ 0.1 (m)	
April 2015	8 (5%)	2 (1%)	21 (14%)	119 (80%)	150
March 2022	4 (2%)	6 (3%)	15 (8%)	166 (87%)	191
February 2023	2 (1%)	3 (2%)	13 (8%)	149 (89%)	169
Total	14 (3%)	11 (2%)	49 (10%)	434 (85%)	510

As shown in Table 2, despite the uncertainty associated with the collated data, the modelling has indicated a strong convergence in simulated peak flood depths across the three historical events.

22. The hydrological and hydraulic model that has been developed is currently undergoing an independent review process to ensure high quality deliverables are achieved.

23. Following completion of the independent review process and finalisation of the model, KBR will commence Stage 3 of the Flood Study that involves design event modelling, model simulations and mapping. Completion of this stage, and delivery of the associated report, is expected in October 2024.

FINANCIAL IMPLICATIONS

24. Council has allocated the required budget to complete the remaining stages of the Flood Study in the 2024/25 financial year. The Flood Study is partially grant funded by the Department of Climate Change, Energy, the Environment and Water.

COMMUNITY ENGAGEMENT

25. Stage 1 of community consultation was undertaken between 18 January 2024 and 7 March 2024 and is now complete. Council has sent approximately 9,500 letters to all landowners, residents and business within the study area to gather relevant historical flood information.

26. Stage 2 of community consultation will be exhibition of the Final Flood Study Report, including all associated mapping of flood affected properties. This is expected to commence in March 2025.

FILE REFERENCE

D24/195284

ATTACHMENTS

Attachment 1 Stage 1 Report - Blakehurst and Kogarah Bay Wards Flood Study (Confidential)

Attachment 2 Stage 2 Report - Blakehurst and Kogarah Bay Wards Flood Study (Confidential)