

19th June 2023

Ref: SY220254

Anna Matthews
Ranbury
Level 1, 51 Berry St,
North Sydney, NSW, 2060

Dear Anna,

Re: Technical Memorandum – Gunnedah Hospital Redevelopment - Flooding

Northrop Consulting Engineers Pty Ltd (Northrop) have been commissioned to prepare a Technical Memorandum for review by Health Infrastructure NSW for the proposed Gunnedah Hospital Redevelopment. This Technical Memorandum has been provided to inform Health Infrastructure NSW of Flooding Conditions as shown on Gunnedah Shire Council Flood Maps.

Existing Flooding Conditions

According to Gunnedah's Floodplain Management Plan, the Gunnedah Hospital site is located outside of the inundation zone in the 1% AEP storm event as shown in Figure 1.

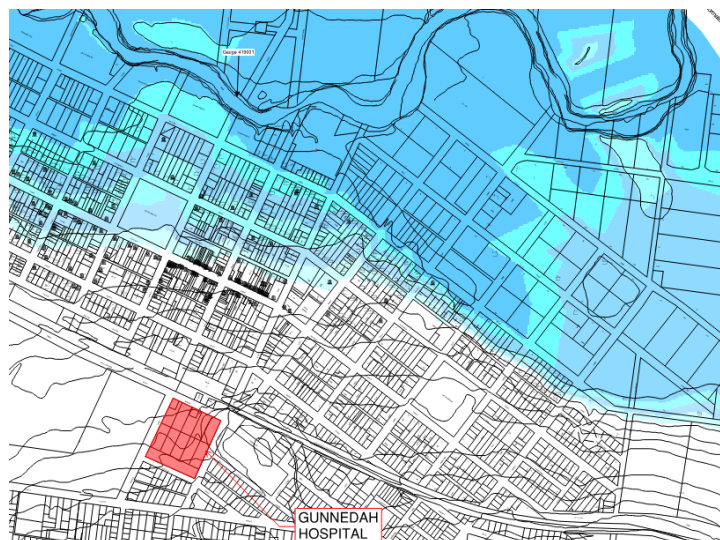


Figure 1: Inundation Map – Gunnedah 1% AEP, Gunnedah Floodplain Management Plan, prepared by SMEC.

Extreme Flood Event

In the Gunnedah Flood Study, the estimation of the Probable Maximum Flood (PMF) was not feasible, and therefore they have adopted an extreme event that was 3 times the record of floods between 1864 and 1955. This was considered the "Extreme Flood Event (3x1% AEP)". See below extract from the "Gunnedah and Carroll Floodprone Land Development Control Plan Flood Study Prepared by SMEC (1999):

“Extreme flood event (3x1% AEP) is the largest flood event considered feasible for use in flood management and setting planning levels for this flood plain management plan. It is possible that a larger event, the probable maximum flood (PMF) could conceivably occur. However in this instance estimation of the PMF was not feasible due to the size and complexity of the catchment upstream.”

Figure 2 shows the inundation map for the 5%, 1% and 3*1% AEP storm events, the Gunnedah hospital is located outside of the inundation zone for these events.

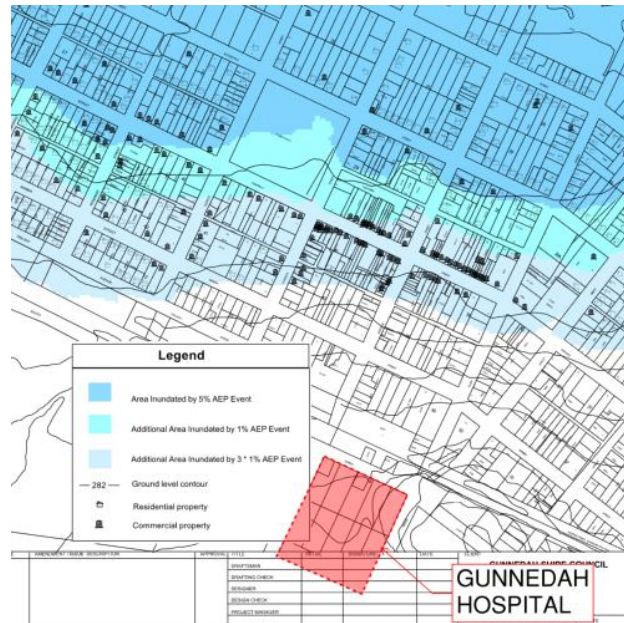


Figure 2: Inundation Map – Gunnedah 5%, 1% and 3*1% AEP, Gunnedah Floodplain Management Plan, prepared by SMEC.

Building Finished Floor Levels

According to the “Gunnedah Development Control Plan”, 2012, chapter 6.1.1, the flood planning level adopted in the Gunnedah LEP should be the level of the 1:100 ARI plus 0.5m of freeboard for sites within the flood affected zone. There are no requirements specified in Gunnedah’s DCP for sites that are not within the 1:100 ARI flood zone. Setdown provisions and measures to ensure stormwater falls away from the building are still required as per NCC requirements.

Flood Emergency Sub Plan

The “Gunnedah Shire Flood Emergency Sub Plan” is available on the SES NSW website, in the link below:

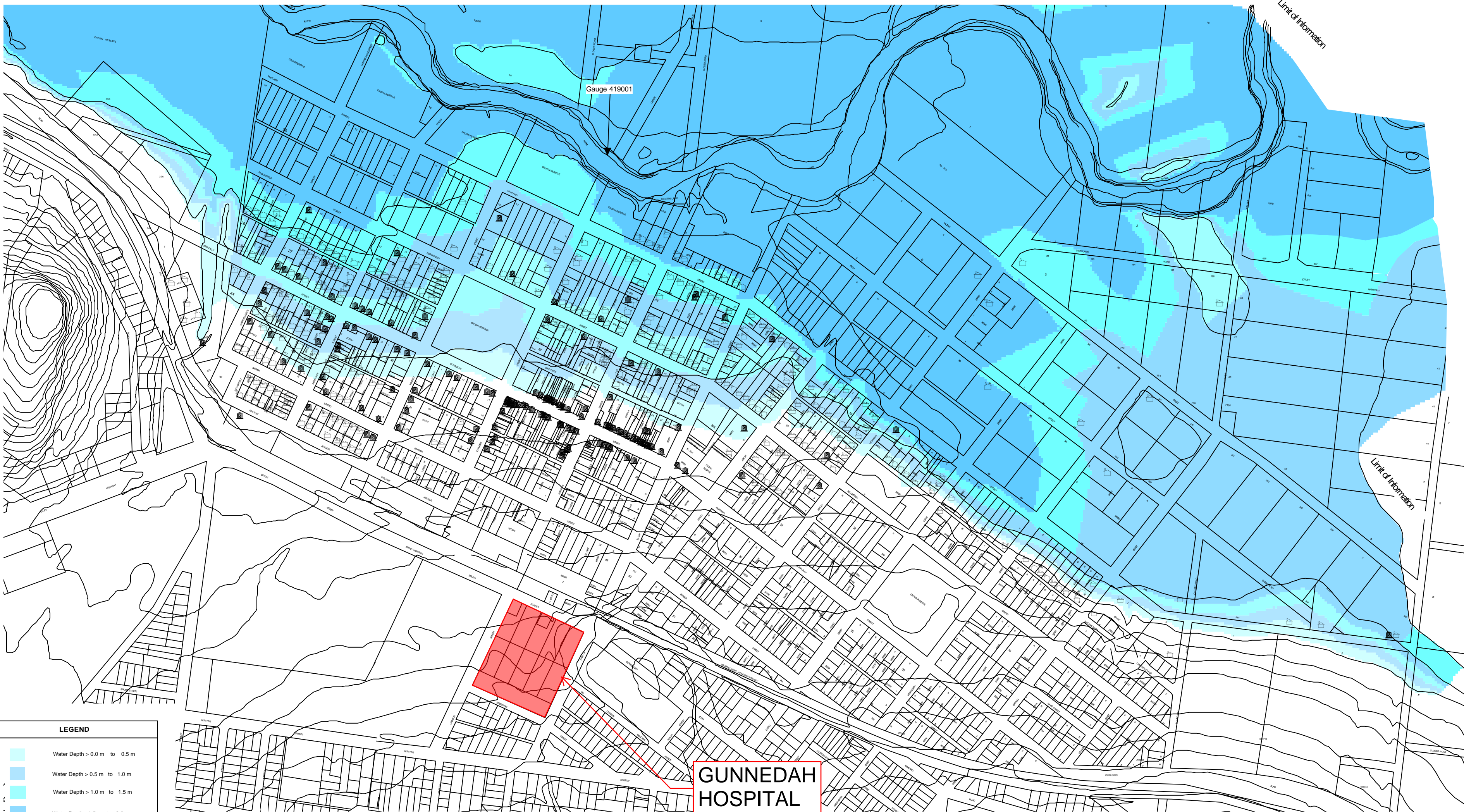
<https://www.ses.nsw.gov.au/media/1680/plan-gunnedah-shire-lfp-apr-2014-endorsed.pdf>

We trust this information is satisfactory to review the design approach for the proposed development with respect to flooding and flood levels. If you have any queries, please feel free to contact me – (02) 9241 4188

Yours faithfully,



Aline Carvalhaes
Civil Engineer
On behalf of **Northrop Consulting Engineers**




LEGEND

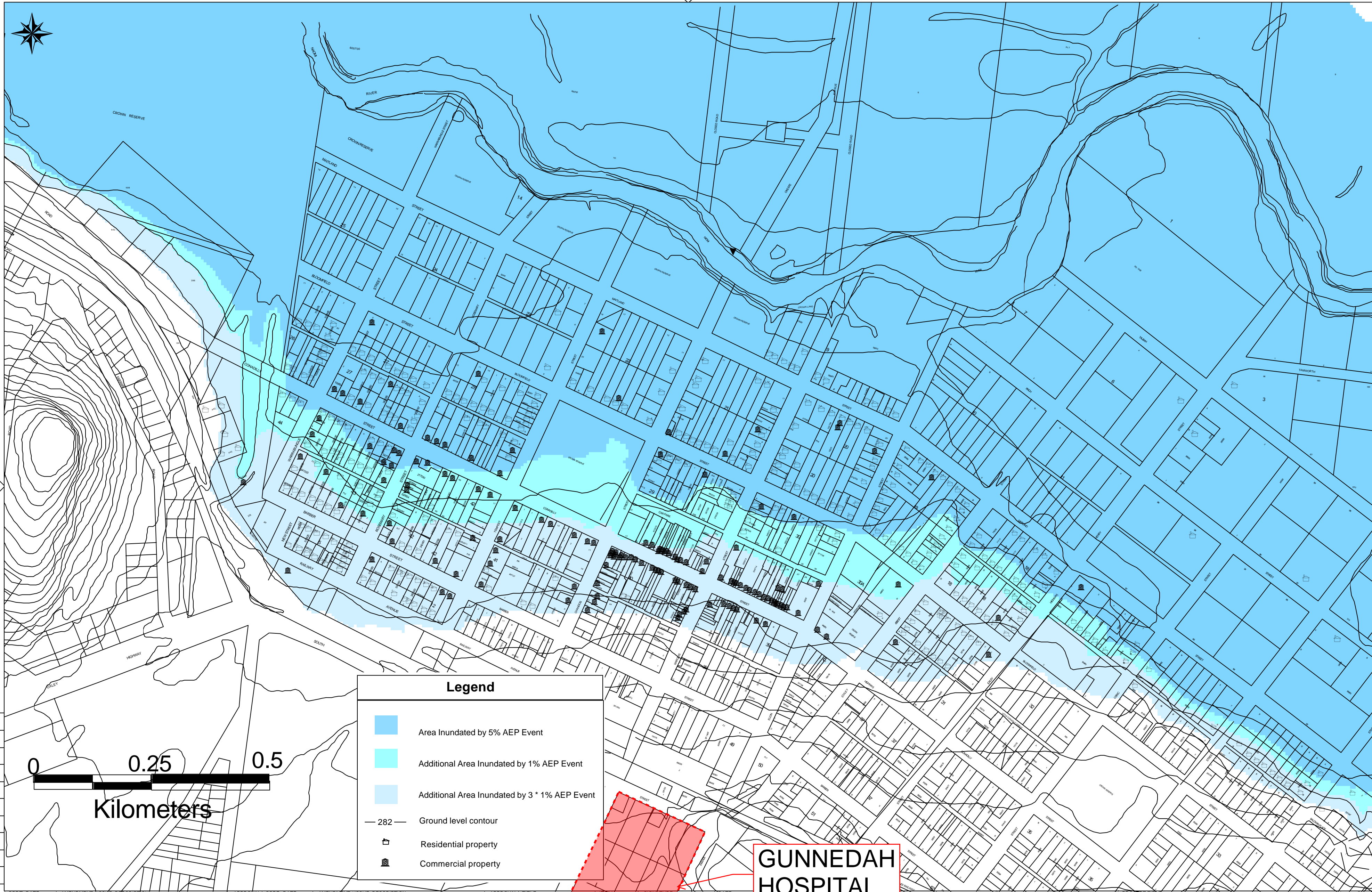
- Water Depth > 0.0 m to 0.5 m
- Water Depth > 0.5 m to 1.0 m
- Water Depth > 1.0 m to 1.5 m
- Water Depth > 1.5 m to 2.0 m
- Water Depth > 2.0 m to 2.5 m
- Water Depth > 2.5 m
- Ground level contour
- Residential property
- Commercial property



150 mm ON ORIGINAL

CODE	DATE	AMENDMENT / ISSUE DESCRIPTION	APPROVAL	CODE	DATE	AMENDMENT / ISSUE DESCRIPTION	APPROVAL	TITLE	INITIAL	SIGNATURE	DATE	CLIENT	PROJECT TITLE				
								DRAFTSMAN				GUNNEDAH SHIRE COUNCIL COUNCIL OFFICE: 63 ELGIN STREET GUNNEDAH NSW 2380 PH (02) 6742 0422 FAX (02) 6742 0523	 SMEC SMEC AUSTRALIA PTY LTD ACN 065 475 149 LEVEL 6, 77 PACIFIC HIGHWAY NORTH SYDNEY NSW, 2060 PH 02 9903-4411 FAX 02 9955-6113	GUNNEDAH FLOODPLAIN MANAGEMENT PLAN Inundation Map - Gunnedah 1% AEP			
							DRAFTING CHECK										
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SMEC
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PROJECT TITLE		SCALE	DRAWING STATUS	PROJECT / DRAWING No.	ISSUE
GUNNEDAH FLOODPLAIN MANAGEMENT PLAN		As Shown	PRELIMINARY	31923-001	01

**GUNNEDAH
HOSPITAL**

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