

Angela Hynes

From: Pushkar Thakur [REDACTED]
Sent: Monday, 20 January 2025 2:54 PM
To: Richard Murphy
Cc: Neil Kelleher; Sophy Purton
Subject: Re: Response to your comments

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Hi Richard,

Hope you have been well and happy new year to you and family. Our planner on the project, Sophy Purton (copied) and I wanted to discuss the outcome of Gateway Determination with you and wondering if you have a window soon.

Regards,
Pushkar
Sent from my iPhone

On 15 Jun 2023, at 5:53 am, Richard Murphy [REDACTED] wrote:

Hi Pushkar,

Your response states that the risks to life from residents sheltering in place is low. You also suggest a number of mitigation options to further reduce risk to life.

While I have not had a detailed look at your proposal, your approach looks reasonable. The Department will provide formal comments when we receive your proposal from Planning. However, my initial thoughts is that you will need to prepare a Flood Emergency Response Plan (FERP) for the site. The FERP will inform future managers of the site how to manage flood risk. The FERP will need to document:

1. The recommended response to a flood emergency (in this case you are recommending sheltering in place)
2. The flood behaviour during large flood events (e.g. hazard of isolating flood waters, PMF and 1% hydrographs, how fast water will rise and how long it will last, flood extents and depths)
3. The risks of sheltering in place (e.g. disruption of essential services, medical emergency, fire etc.)
4. What warnings are available (e.g. Bureau of Meteorology severe weather warning and severe thunderstorm warnings)

5. How to interpret BOM weather warnings. At this site, the flood-producing weather events most-likely to cause sever flooding are east coast lows and ex-tropical cyclones.
6. Who is responsible for monitoring the flood/weather warnings. (e.g. residents or building management)
7. What mitigation options are required. (e.g. ongoing education to future residents, flood marker, water level gauge etc)
8. What actions are required by residents and management during a flood emergency.
9. Who is responsible for maintaining the recommended mitigation options. And what maintenance is required
10. How often does the FERP need to be reviewed. And who is responsible for doing the review.

You will also need to consider how the FERP will be communicated to all residents and staff so that they are aware of the risks and the procedures that should be followed in the event of a flood emergency.

Hope this helps,

Richard Murphy
Senior Natural Resource Officer

Biodiversity Conservation Division | Department of Planning and Environment



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From: Pushkar Thakur [redacted]
Sent: Wednesday, 14 June 2023 4:38 PM
To: Richard Murphy [redacted]
Cc: 'Anthony Barthelmess' [redacted]
Subject: Response to your comments

Hi Richard,

Thank you for your time on the call earlier today and sharing your point of view around managing risks to the inhabitants during the flood event. I have spent better part of the day discussing this with our flood engineer and have got itemised responses as below. We believe these responses should cover everything we discussed and hopefully allay any further concerns you have.

The overriding theme is that even during PMF we are in a very robust and safe building design. Below general comments apply to our site. This commentary is provided alongside PMF modelling output that we have provided in the report.

“The ‘critical duration’ PMF event is the 45 minute storm. This PMF produces the worst-case inundation around the site, and would isolate people in the building for less than 1 hour. There are longer duration PMF events that would also isolate the site but overall, I would not expect the site to be isolated for more than 3-4 hours in any event. I note that the probability of the PMF occurring in any one year at this location is 1 in 10 million (ARR, 2019).

Further, the whole point of having FFL’s above the PMF (which has been achieved at considerable cost to amenity and construction) is an acknowledgement of refuge on site being the appropriate strategy. We sacrificed significant commercial outcomes to deliver into the Council’s demand of FFL’s above the PMF, which is not the case for any development around us.

The final issue to acknowledge is that the reason refuge on site is proposed is because of the inundation of the public road network. This has nothing to do with the development – in particular as the ‘development’ is a planning proposal which in itself has nothing to do with flooding. For example, if we developed a compliant footprint, we would be dealing with worse flood outcomes. We are going higher and narrower to achieve a better development outcome than what the current zoning permits. There is not a single piece of zoned land in Terrigal that won’t be isolated during this event, because of the inundation of the public roads. We have gone above and beyond of what is legislated and made significant FSR sacrifices to achieve a building that is built only on ~20% of the site, leaving rest of the land to carry waterflow into the creek and is designed in such a way that during 1% aep it allows for a suitable low level of hazard being H1/H2 at the main corner of building “

Keeping the above general comment as a preamble, please allow me to respond to each of the points raised by you:

1. **How often will the residents be isolated? The current analysis looks at the 1%, but we need to know about more frequent floods. (Response)** - According to the report the period of inundation and isolation for occupants will be approximately 1 hour during the 1%AEP event critical storm and no more than 2-3 hours during the non-critical storms. In the Council’s opinion, this duration of isolation is reasonable given that it would largely coincide with the storm itself. PMF durations are similar for critical storm and just 3-4 hours of isolation being recommended. Again, very manageable and most importantly it is the best and safest outcome.
2. **Are the parts of development where people can become trapped? (Response)** **No.** The whole building FFL including the parking crest has been designed to be above pmf at a significant cost and time to us. Not to mention the significant amount of FSR and floor space that was sacrificed to achieve this outcome.
3. **What ongoing education is required to enable residents to manage the isolation risks? (Response)** Given the short duration of critical storm, where most people would not get out anyway due to weather condition, we believe the best course of action is to let the storm pass while people are sheltered in place. Having said that and as discussed with you over the phone, strata will monitor any 1% aep/pmf event warnings and inform residents as and when required. We also expect that we will have fair warning from the emergency services if a weather bomb equivalent to pmf levels is expected. Although I do note that given pmf is rarest of rare situation, we do not expect that happening without plenty warning and news media covering any such upcoming events. With the advanced warning and strata

notices, we believe people would be able to manage their safety or evacuate in advance. Please refer to page 20 of the flood report that covers the TARP response plan. I also note that during 1% aep event, entry and exit at the corner is still low hazard levels being H1/H2.

4. **How will residents get information and warnings during a flood event? (Response)** As mentioned above, strata managers can be tasked with that responsibility. But at end of the day, people are fully connected to the internet and news these days and given that our building is still generally safe (with Terrigal drive/Charles Kay corner being H1/H2 hazard), we do not expect residents will become trapped unless they plan to stay indoors. Also noting that main factor being critical storm duration. Which is at most 1 hour including for pmf events, if any.
5. **Is any warning available: (Response)** We are happy to provide guidelines to follow in event of SES warning of storms which could be permanently notified within the lobby of the building. General guideline would be to stay at home and not leave until the storm recedes. I again note the point that even in 1% aep event, the corner is H1/H2 hazard being low hazard.
6. **How long will the residents be isolated for? (Response)** No more than 1 hour during worst critical storm and in general no more than 4 hours during storm events.
7. **What happens if residents try to get home during a storm event? (Response)** we cannot control events outside of the site. But again, I would note that people would be aware of storm protocols and generally the building corner is low hazard even during 1% aep.

I hope the above response is to your satisfaction and addresses your concerns. I also confirm that the Pmf modelling outputs are in the report alongside 1% aep modelling output.

Regards,
Pushkar

Pushkar Thakur | Managing Director | LoftusLane Capital Partners



W. www.loftuslanecapital.com.au



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From: Richard Murphy [REDACTED]
Sent: Tuesday, 13 June 2023 10:58 AM
To: Pushkar Thakur
Subject: RE: Comments on the report

Hi Pushkar,
I have had a preliminary look at the flood modelling and I have no issues with what is presented. However I will have a closer look when you make your formal submission.
In regards to shelter in place, more analysis is required to better understand the risks. This will include:

1. How often will the residents be isolated? The current analysis looks at the 1%, but we need to know about more frequent floods.
2. Are the parts of the development where people can become trapped?
3. What ongoing education is required to enable residents to manage the isolation risks?
4. How will residents get information and warnings during a flood event?
5. Is any warning available?
6. How long will the residents be isolated for?
7. What happens if residents try to get home during a storm event?

Richard Murphy
Senior Natural Resource Officer

Biodiversity Conservation Division | Department of Planning and Environment

[REDACTED]

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-----Original Message-----

From: Pushkar Thakur [REDACTED]
Sent: Tuesday, 13 June 2023 10:09 AM
To: Richard Murphy [REDACTED]
Subject: Comments on the report

Hi Richard,

Hope you are back after your break. As discussed with you, I have informed the flood engineers that in general you are happy with the modeling and its findings. You also believe that shelter in place appears to be the right strategy for this particular development but you have a few questions that you would like clarification on.

Could you please advise if my understanding above is correct and also would be great if I could please have your clarification questions re shelter in place so we can get those addressed to your satisfaction before progressing the formal submission.

Kind regards,
Pushkar

Pushkar Thakur

[REDACTED]

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