

Precinct Downtown Development Limited
C/- RCP Limited
25 Hargreaves Street
Auckland 1011

Attention: Bianca Hurrell

Dear Bianca

Downtown Carpark Redevelopment - Section 67 request Coastal and flood hazard response

1 Introduction

This letter report has been prepared to address the Item 8 relating to natural hazard matter in the *Section 67 Request for Information: FAST TRACK: Council ref: BUN60460864 – The Downtown Carpark Redevelopment – Te Pūmanawa o Tāmaki (FTAA-2512-1158) dated 26 March 2026 that referred to the Development Engineering Discussion Document dated 23 February 2026 for full matters.*

Responses to the queries raised in the Development Engineering Discussion Document are provided in the following section, with additional information appended to this letter as required.

2 Item 8 responses

Item	AC DE Comment 23/02/2026	Response
1	Receiving environment: The Fanshawe Street retaining wall works (to be lodged by Auckland Transport in early March) <u>may</u> alter the route of overland flow paths, floodplains and levels along Custom Street West. Notably, page 2 to the Downtown Car Park Site Development – Flood hazard and risk assessment, prepared by Tonkin & Taylor indicates current flood hazards and these may be altered.	AT consent application received 10/03/26 and reviewed. There are no floodplains shown in Customs Street West however there is an overland flowpath. The Fanshawe Street retaining wall has some limited potential to increase the overland flowpath (OLFP) that travels along the northern side of Custom Street West. This is because there is currently a flowpath on the southern side of the Custom Street West (travelling east to west) that may shift to the northern side of the road as a result of the recontouring. However, there is no information provided with the application material to suggest that this will affect the subject site. AT has subsequently confirmed (meeting on 27 March 2026) that the OLFP will be managed within the road reserve and that modelling will be carried out to confirm that there will be no change to the overland flowpath that might affect the site

Item	AC DE Comment 23/02/2026	Response
		including identifying measures to avoid effects arising from their development.
2	There appears to be a lack of assessment of coinciding / overlapping hazards (as per item 1 below) for the 1.5m sea level rise coastal inundation event coinciding with flooding. Up to 1m sea level rise appears to have been assessed in the risk assessments. Please can this be assessed with respect of a 1.5m sea level rise?	A conservative assessment of the coincidence of storm surge, sea level rise and catchment flooding was carried out. We assessed flood impacts with a 1%AEP rainfall with climate change allowance in combination with a 1%AEP storm surge and 1 m of sea level rise. The sea level boundary condition equated to 3.04 mRL, or around 1.74 m above present day MHWS and 0.24 m above the 1.5 m sea level rise level. By combining both 1%AEP conditions the resulting condition would be less frequent than a 1%AEP event.
3	A Flood (and Coastal Inundation) Management Plan (FMP) including operation and maintenance plan for the proposed flood barriers is required as part of the application. This is in accordance with the Tonkin and Taylor recommendations (page 15 of the Flood hazard risk assessment) and in accordance with objectives and policies under Chapter E36 for both the AUP(OP) and PC120 and the NPS-Natural Hazards. This must include primary and secondary mitigation proposals including those to avoid residual risk from primary mitigation (flood barrier) failure. Risk is to be managed to be as low as possible with respect of flood and coastal hazard risk.	For the reason that the identified risks occur in the future and the magnitude of them and nature of the responses will not be known until then, it is not appropriate to prepare an FMP. A consent condition and any associated management plan may be proposed as may be appropriate following further discussions on the barrier design and wider flood management matters.
4	The above FMP should also consider the Wastewater storage option (Infrastructure Concept Plan) and ensure that is resilient to up to 1.2m depth of coastal inundation levels filtering to the level 04 basement.	A consent condition and any specific measures relating to wastewater storage (if that option is pursued) may be proposed following further discussions on the barrier design and wider flood management matters.
5	No assessment against the objectives and policies of Chapter E36 of PC120 has	An assessment of objectives and policies of Chapter E36 will provided following further discussion on the barrier design and wider flood management matters .
6	Lack of assessment against the National Planning Policy Statement on Natural Hazards. Please can this be provided? B10	We note that the NPS-NH was notified after our submission. However, an assessment against the NPS-NH will be provided following further discussion on the barrier design and wider flood management matters.
Request for further information / clarification (Development Engineer):		
7	Please provide the risk assessment template completed with the proposed mitigatory measures adopted in detail under E36.9 (template attached).	A completed risk assessment is provided with this response.

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8	Proposed flood barriers with flood management plan needs to be provided in the risk assessment and it needs to be reflected on the plans and details of proposed flood barriers and operation and maintenance of the proposed flood barriers needs to be included in the documentation.	A consent condition and any associated management plan may be proposed as may be appropriate following further discussions on the barrier design and wider flood management matters.
9	Recommended flood barriers for both flood and coastal inundation of the basement levels and adopted operating level of these mitigatory measures needs to be clearly indicated on the risk assessment and within a Flood Management Plan.	The coastal hazard risks have been assessed with and without the flood barrier (refer risk table in Appendix B of the Coastal Hazard Report). Refer to comments above regarding a consent condition and any associated management plan.
Planning:		
10	PC120 policy E36.3(3)(aa)(i) can you confirm that an assessment relating to compounding, coinciding and/or cascading hazards has been carried out. The risk assessment refers to up to 1m sea level rise for coastal inundation being considered alongside flooding effects. Please clarify why a 1.5m sea level rise has not been assessed coinciding with flood hazards. Please provide that assessment .	A conservative assessment of the coincidence of storm surge, sea level rise and catchment flooding was carried out. We assessed flood impacts with a 1%AEP rainfall with climate change allowance in combination with a 1%AEP storm surge and 1 m of sea level rise. The sea level boundary condition equated to 3.04 mRL, or around 1.74 m above present day MHWS and 0.24 m above the 1.5 m sea level rise level. By combining both 1%AEP conditions the resulting condition would be less frequent than a 1%AEP event.
11	There appears to be considerable overlap of hazards along Quay Street that could affect the service lane, basement and design requirements for a flood barrier (and secondary mitigation measures) within the 100-year timeframe.	The coastal hazard assessment (Figure 2.1) shows the coastal hazard from Quay Street affecting the site when sea level rise is greater than 1 m. Depending on the actual trajectory of sea level rise, this may occur within 100 year period. The flood barrier and secondary mitigation measures may be included in a management plan considering and addressing primary and secondary mitigation measures.
12	Within the basement level B01 - there are end of trip (EOT) facilities for the office and hotel uses. There is a kitchen and other staffed areas associated with the hotel operations and loading areas that would also be staffed regularly for a development of this scale. I would consider these to be part of the 'activities potentially sensitive' and 'activities sensitive to natural hazards' and not to solely be regarded as a car parking area. The Flood Management Plan (FMP) should provide details of egress from these areas, demonstrate how water entering the basement will be designed	In section 3 of the coastal hazard report we identify the back of house facilities as sensitive activities and this facility, along with the building power plant (critical infrastructure) resulted in us considering Basement 01 to be sensitive activities in our risk assessment. Refer to comments above regarding a consent condition and any associated management plan.

Item	AC DE Comment 23/02/2026	Response
	towards a sump and how walls and doors at this level would be water proofed, with electrical items lifted above floor level with flood prevention at this level ensuring safe egress to upper floors and out at Custom Street West. This is to demonstrate risk is management to be as low as possible in accordance with the PC120 provisions.	
13	The FMP should provide for a draft emergency protocol procedures as per risk assessment recommendations.	Refer to comments above regarding a consent condition and any associated management plan.
14	Regarding flood barrier failure scenario, residual risk is concluded to be very high to building infrastructure and hazardous substance storage. The secondary mitigation measures / residual risks need to be addressed within a Flood Management Plan and a Basement Flood Mitigation and Egress Plan to demonstrate compliance with PC120 E36 objectives and policies and the NPS- Natural Hazards. As part of this response. Please can the wastewater storage option also be considered?	Refer to comments above regarding a consent condition and any associated management plan, which will include consideration of primary and secondary mitigation measures (including the wastewater storage) and emergency management protocols including building evacuation procedures.
15	Please consider proposing legal mechanisms (consent notices) to ensure Flood Management Plan details are clear to building occupiers .	Refer to comments above regarding a consent condition and any associated management plan.
16	E36.3(5A) the flood barrier (for coastal hazard mitigation) is proposed to provide mitigation within a 100-year timeframe. This policy seeks to avoid such development unless the proposed development is to (a) provide significant regional or national benefit or conforms to a Council approved strategic plan to manage or adapt to natural hazard risk. I note that the draft 'Shoreline adaptation plan' for the location refers to 'hold the line' and therefore the proposal appears to align with policy E36.3(5A)(e), and potentially (a) depending on the decision of the Panel.	Reclaimed areas are deemed permanent under the Marine and Coastal Area (Takutai Moana) Act 2011. The draft 'Shoreline adaptation plan' for the location refers to 'hold the line' and therefore the proposal appears to align with policy E36.3(5A).
17	An option for on-site sewerage storage is provided for at basement level 4. This should be suitably wet proofed including electricity at all levels of the basement . The coastal risk assessment refers to up to 1.2m of potential flood depth reaching the lowest basement level (B4). This should be considered in the FMP and	PC120 E36.8.1 (2A)(f) requires consideration of any exacerbation of an existing coastal hazard, or creation of a new coastal hazard as a result of the proposed activity or development and possible effects on public safety and other property. Refer to comments above regarding a consent condition and any associated management plan, which will include consideration of primary and secondary mitigation measures

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	matters of discretion E36.8.1(2F) be considered.	(including the wastewater storage) and emergency management protocols including building evacuation procedures.
18	Reference in the coastal inundation risk assessment is made to removing assets (vehicles) before a flood event to manage risk. Further details on this should be provided within a Flood Management Plan and how potential occupants would be warned of the risk to vehicles in such an event. How could removal of these assets realistically be communicated and managed? Noting that the risk assessment refers to up to 1.2m depth flood waters potentially collecting in basement level 4 this would damage a significant number of vehicles. Please provide more details of mitigation to manage effects to as low as possible as per policy E36.3(5E). Please also consider policy E36.8.1(2C)(e) and (f).	PC120 E36.8(2C) is for below ground parking in coastal inundation hazard areas 2 and 3, requiring consideration of: a) the effects of the location and design of below ground parking; b) the structural integrity of the below ground parking building or structure; c) the location of the vehicle entry and exit points in relation to the coastal inundation hazard area; d) the potential effects of vehicles being mobilised by inundation waters; e) actions necessary to protect people in an inundation event; and f) the design of containment structures. The basements are constructed from durable materials. Refer to comments above regarding a consent condition and any associated management plan, which will include consideration of primary (flood barrier) and secondary mitigation measures including backup systems and redundancies and a specific vehicle management strategy that would outline pre-event vehicle removal procedures, occupant warning systems and communication, and alternative parking arrangements.
19	The Coastal risk assessment refers to structural components could be designed to be salt water resilient. Further detail on this should be provided in response to policy E36.3(5D) and matters of discretion E36.8.1(2G)(c) of PC120 including flood-proof utility connections to increase resilience to damage from inundation.	Refer to comments above regarding a consent condition and any associated management plan, which will include specifications for salt water resilient structural components and materials as part of the primary mitigation measures to be considered during detailed design.

3 Applicability

This report has been prepared for the exclusive use of our client Precinct Downtown Development Limited, with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose, or by any person other than our client, without our prior written agreement.

We understand and agree that our client will submit this report as part of an application under the Fast-track Approvals Act 2024 and that an Expert Panel as the consenting authority will use this report for the purpose of assessing that application. We understand and agree that this report will be used by the Expert Panel in undertaking its regulatory functions.

Compliance with the Environment Court Practice Note 2023

We confirm that, in our capacity as authors of this report, we have read and abided by the Environment Court of New Zealand's Code of Conduct for Expert Witnesses contained in the Practice Note 2023

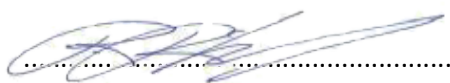
Richard Reinen-Hamill: I am a Technical Director: Coastal Engineering at Tonkin & Taylor Ltd (T+T). I specialise in coastal hazard risk assessments. I have worked at T+T since 1994. I have more than 35 years' experience in coastal engineering. I am a Member of Engineering New Zealand (Fellow). I hold the following qualifications – BE (hons), ME.

Jon Rix: I confirm that, in my capacity as reviewer of this report, I have read and abided by the Environment Court of New Zealand's Code of Conduct for Expert Witnesses contained in the Practice Note 2023. I am a Water Resources Engineer at Tonkin & Taylor Ltd (T+T), where I specialise in flood hazard, flood risk and adaptation. I have worked at T+T since 2006. I have 24 years' experience in flood modelling, catchment planning and natural hazard risk assessment. I hold the following qualifications – MSc Geoenvironmental Engineering; BSc (hons) Marine Geography.

Tonkin & Taylor Ltd

Report prepared by:

Authorised for Tonkin & Taylor Ltd by:



Richard Reinen-Hamill
Technical Director: Coastal Engineering



Peter Millar
Project Director

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Principal Flood Risk & Adaptation Consultant

7-Apr-26

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Attachments

A Risk assessment template for E36.9

Appendix A Risk assessment template for E36.9

AUP Chapter E36.9 Flood Hazard Risk Assessment Report

Prepared by (company name)

Tonkin + Taylor

Site Address:

2 Lower Hobson Street, Auckland CBD

Application No:

PRR00043070-FTAA-Downtown Car Park

Select level of assessed risk from drop down list attached to each cell below

(a) The frequency, duration and scale of the flooding hazard;

State if the site being developed will be impacted by flooding in more frequent events than 1 % AEP. If assessment is for overland flow, determine trigger event as well as 1% AEP scenario. An assessment of the duration of the flooding hazard for the 1 % AEP event should be made supported with a study of the hydrology of the contributing sub catchments that is appropriate for the scale of the risk. Describe extent of flooding on site along with discharge rates, depths and velocities at critical points on the developed site.*

Coastal and catchment flood hazard reporting has been completed including 1%AEP events and potential climate change impacts all the matters outlined in Policies E36.3(3), E36.3(4A) and E36.3(4B), including climate scenarios in Auckland Council Guideline Document 15: Climate change scenarios (GD15) November 2024. Without treatment exposure for coastal hazards are very low over the next 100 years apart from the basement car park where risks are very high at 2130. With primary and secondary mitigation treatments risks are low.

low

(b) the type of activity being undertaken and its vulnerability to flooding events;

Identify the activity or activities incorporated in the proposed development as listed in table E36.4.1. Describe the vulnerability (exposure) of the activity or activities to the flood events determined by the investigation into the flooding hazards impacting the site described in E36.9(a). This should include whether the building footprint, any vehicle parking area and means of egress are within the flooding extent

Refer the coastal (Section 3) and catchment flood hazard reports (Section 4.2) for details. There are potentially sensitive activities on the ground floor and some sensitive activities in the basement levels including the power plant and back of house facilities on B0, and the fuel storage area at the lowest basement level. These levels are protected from the low likelihood coastal inundation and catchment flooding that might impact the car park entrance with sea levels over 1 m as well as for possible over design events in the shorter term by a flood gate and secondary mitigation approaches.

low

(c) the consequences of a flooding event in relation to the proposed activity and the people likely to be involved in that activity;

Identify the impacts on the proposed activity during a flood event e.g. if the building footprint is fully or partially within the flooded area what level will the flooding reach in respect to the living areas and other components of the dwelling. If egress from the building will be flooded . . . to what depth and for what period of time. Identify any potential for damage to, or deterioration of, the structural and functional integrity of the building resulting from the intensity and or frequency of flooding.

Refer the coastal (section 4.4) and catchment flood hazard (Section 4.2) reports for details. There are no increases in flood hazards caused by the development. The development changes the natural hazard risk profile for the area because of changes in use. The property design incorporates measures that fully mitigate the flood consequences to nonhabitable floor levels up to the 1% AEP flood scenario with allowance for the 3.8 degrees of warming high emission future climate scenario. All units at floor Level 00 (set at 4.18 mRL) and above are situated above the predicted flood levels (3.63 mRL in Lower Hobson Street) and allow a minimum freeboard of 500 mm, or are located outside the floodplain. The ground floor level is also above the coastal inundation level with freeboard (3.9 mRL) for 2130 and above the 1% AEP level with 1.5 m RSLR scenario. This designed ground level also allows 0.32 m freeboard above the MfE (2024) stress test scenario based on the SSP5-8.5 p83 pathway with VLM. Building materials particularly within the ground floor and basement areas will be constructed from durable materials.

low

(d) the potential effects on public safety and on other property;

Describe effects on public safety if the activity will include public use. Identify any potential flooding of upstream or downstream properties that may be affected by the proposed activity

Refer the coastal (Section 4.3 and 4.5) and catchment flood hazard (Section 4.2) reports for detail. There will be an increase in the patronage of the area as a result of the two podium buildings between 7 and 9 levels, two towers between 45 and 54 levels, public spaces and new laneways to provide connection across the city. Changes in modelled flood level and flood depth were all less than 0.02 m and located along the public roads to the south (Customs Street West) and west (Lower Hobson Street). There were no flood increases observed along Quay Street, which is due to the small influence that the Service Lane flood volumes can have on the large floodplain that exists along Quay Street. The up-to 0.02 m increase in flood levels does not alter the flood hazard on the road network. Therefore, the effects of the development on the road network for public users and emergency service vehicles remains unchanged. There are no changes to the overland flow entry and exit points. Overland flow entry and exit points through the Service Lane will remain unchanged between the pre- and post-development scenarios. However, when flood barriers are up, flow will be prevented from passing through. As discussed above, there are no adverse flooding effects resulting from the operation of the flood barriers. We consider there to be no accelerating, exacerbating or creating of either coastal or flood effects on other properties. Access to and from the building via Customs Street West will not be disrupted by coastal inundation for the 1% AEP + 1.5 m RSLR test. The elevation of Customs Street West is sufficient to allow emergency access during a coastal inundation event for pedestrians and vehicles. Given the low flood depths along Custom Street West (which are approximately 0.1 m at their deepest) we also consider that there will be safe egress routes from the area. We consider the risks to people on the property and on egress and access matters to be acceptable.

low

(e) Any exacerbation of an existing flooding hazard risks or creation of a new flooding hazard risk;		
<i>Describe results of investigation into any potential effects on other property if the activity results in diversion of flood flow or overland flow. Identify any new activity that results in an increase to the number of people exposed to an existing flood risk.</i>	Refer the coastal and catchment flood hazard reports for detail. To confirm that the changes in property footprint do not cause adverse effects the flood model was used to compare pre-development and post development flood levels and flood depths. Changes in modelled flood level and flood depth were all less than 0.02 m and located along the public roads to the south (Customs Street West) and west (Lower Hobson Street). There were no flood increases observed along Quay Street, which is due to the small influence that the Service Lane flood volumes can have on the large floodplain that exists along Quay Street. The up-to 0.02 m increase in flood levels does not alter the flood hazard on the road network. Therefore, the effects of the development on the road network for public users and emergency service vehicles remains unchanged. There are no changes to the overland flow entry and exit points. Overland flow entry and exit points through the Service Lane will remain unchanged between the pre- and post-development scenarios. However, when flood barriers are up, flow will be prevented from passing through. There are no adverse flooding effects resulting from the operation of the flood barriers. We consider there to be no accelerating, exacerbating or creating of either coastal or flood effects on other properties.	low
(h) the design and construction of buildings and structures to mitigate the effects of flooding		
<i>Describe how the potential flooding effects identified above, determined by investigation and described in detail in a flooding report, will be mitigated by the design and materials of the building.</i>	The effects of flooding are mitigated by having a ground floor level above predicted flood and coastal inundation levels over the next 100 years. The basement carpark is built using flood resilient materials where required and the low likelihood of inundation over the next 100 years is mitigated by the provision of a flood barrier. Secondary mitigation measures including management responses are proposed in an FMP for residual risk management.	low
(j) site layout and management to avoid or mitigate the adverse effects of flooding hazard, including access and exit during a flooding event;		
<i>Describe how the potential flooding effects identified above, including any effects on upstream and downstream properties, determined by investigation and described in detail in a flooding report, will be mitigated by the design form of any structures and site works. Describe measures proposed to provide safe egress from property</i>	No significant effects on the adverse effects of flooding were identified in our assessment. The proposal enables both safe egress and safe refuge during significant events and the proposal avoids creating or exacerbating coastal inundation risk on other properties, infrastructure and the environment.	low
(l) any measures and/ or plans proposed to mitigate the flooding hazard or the effects of the flooding hazard.		
<i>Describe any other measures to mitigate the flooding hazard which can include information about future works planned by Auckland Council in the wider catchment that will reduce the flooding risk. Include any other measures to mitigate effects that are not described above.</i>	The proposed design mitigates significant coastal inundation risk through the design elements of floor level elevation for the ground floor and a flood barrier to the Service Lane and basement car parking area, with the resultant risks being low to negligible for at least the next 100 years.	low