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12 June 2026

ESR Developments

Attention: Mr. Gannon Cuneo
PO Box 4622
SYDNEY NSW 2000

Re: 49 Stephen Road, Banksmeadow, NSW
Response Letter – Bayside Council

Dear Sir,

Further to your request we are pleased to provide our response to the civil items raised by Bayside Council in their Request for Advice letter dated 15 May 2026 (ref: SSD-2025/1) in relation to Development Application SSDA-65924461.

We provide the following response table to the stormwater management and flooding related items in the letter noted above.

CoC No.	Item
	Council Stormwater Pipe
12.	<i>Insufficient information has been submitted for the works required to Councils stormwater pipe that traverses the property along the southern boundary. The following matters need to be addressed:</i> <u>RESPONSE</u> Noted.
a.	<i>The outstanding non-destructive digging survey work identified in the letter from MNG Land Partners must be completed to enable submission of the full drainage survey for Council's assessment. In addition, the pipe highlighted below is to be surveyed by the surveyor.</i>



RESPONSE

ESR to provide MNG Land Partners additional survey work completed.

- b) The CCTV footage and reports shall be provided for the existing Council drainage pipe traversing the site and the stormwater pipes in Stephen Road and Coal Pier Road.

RESPONSE

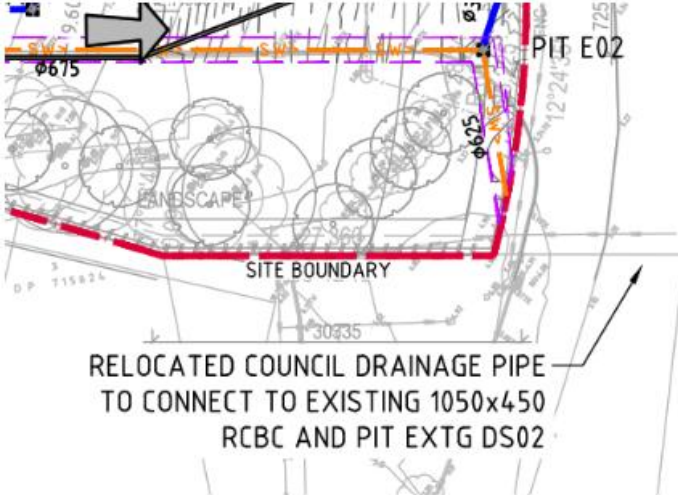
ESR to provide MNG Land Partners CCTV footage.

- c) The HGL analysis of the works to the Council pipe requires the assessment of the existing vs proposed design. The existing Council pipe (assumed to be 375mm through the entire site – TBC in the full drainage survey) shall be modelled for the 5% AEP (20-year ARI). The modelling for the pre and post scenarios of the Council pipe must include HGL analysis of the upstream drainage in Stephen Road and the downstream drainage in Coal Pier Road based on the surveyed data.

RESPONSE

Refer SSDA420 for the pre-development HGL modelling and SSDA421 for the post-development HGL modelling.

The assessment and HGL analysis shows that the proposed design will improve the performance of the Council pipeline significantly and reduce the HGL for the 5% AEP (20-year ARI) along both Stephen Road and Coal Pier Road.

d)	Council raises concerns about the interface of such a large box culvert within the development site interfacing with relatively small stormwater pipes in Coal Pier Road. This connection must be modelled and the likely surcharge in this location shall be addressed. DRAINS modelling for the Council pipe shall be submitted. <u>RESPONSE</u> The connection to Coal Pier Road has been confirmed via survey to be a 525mm diameter pipe. The proposed DRAINS modelling and HGL analysis has been provided with this response.
e)	The submitted civil plans and HGL details there is an "existing" 1050x450 RCBC in Coal Pier Road however the survey submitted only shows 375mm stormwater pipes on the property and exiting the property into Coal Pier Road. If the 1050x450 culvert does exist in Coal Pier Road, it must be surveyed by the surveyor and where it connects to must be surveyed.  <u>RESPONSE</u> Refer to updated survey from MNG which shows a 525mm pipe crossing Coal Pier Road. Refer updated SSDA400 that includes correct downstream drainage per CCTV survey. 
f)	The pit schedule shall be revised to include the pits for Council's stormwater asset and confirm which pits are sealed/grated. <u>RESPONSE</u> Refer SSDA451 for updated pit schedule including Council Pits.
g)	The easement width will need to be revised to be as per Bayside Technical Specification Stormwater Management Section 8.4.1. Given the pipes/box culvert varies across the site, the width of the easement will vary across the site, or the entire

	easement can be set at a single width of 3.05m (based on the easement width requirements for the 1.05m wide box culvert). <u>RESPONSE</u> Proposed 2000mm easement width is appropriate for pipes between 525mm to 825mm and in accordance with Bayside Technical Specifications. No changes are proposed or required. Refer SSDA400 for easement width.
13. Buildings Stormwater Management OSD	
	The following matters need to be addressed in the drainage design for the buildings and OSD:
h)	The plans do not provide any details regarding the stormwater discharge point into Coal Pier Road, which is not acceptable. The site discharge point is indicated as a pit within the driveway; however, no such pit currently exists at that location. The only existing kerb inlet pit is located approximately 30 metres south of the northern boundary on Coal Pier Road. The proposed discharge will therefore require a drainage extension within Coal Pier Road, which must be clearly detailed on the civil plans. <u>RESPONSE</u> The discharge point has been updated based on latest survey information received by MNG surveyors. Refer SSDA400 for updated site discharge.
i)	The HGL (for the internal drainage system and OSD) along with the DRAINS modelling shall be revised to also model the connection point and existing drainage infrastructure in Coal Pier Road. A tailwater condition for the connection point shall be adopted and detailed in the DRAINS modelling as per Section 6.3.3 of Bayside Technical Specification Stormwater Management. <u>RESPONSE</u> Refer Updated drains modelling filename "CO14950.01-DRAINS-Rev4"
j)	Concerns are raised regarding the proposed 600 mm outlet pipe, which, during high-flow discharge events, is likely to cause surcharging when flows interact with the existing 375 mm pipe in Coal Pier Road under the 1% AEP storm event. Such surcharging within Coal Pier Road is not supported, and the OSD design must be revised to eliminate this issue. <u>RESPONSE</u> The OSD has been designed to manage peak flows up to and including the 1% AEP event. The OSD has been designed to ensure the peak flows do not exceed pre-development conditions. The revised design incorporates a surcharge pit (Pit D04) within the site property, so the gap flow is carried overland to the kerb and gutter along Coal Pier Road. Refer SSDA400 and updated DRAINS modelling.
k)	Section 1 of the civil plans (drawing CO14950.01-SSDA460) contain the following errors:
a)	The storm filter chamber is shown to have a full height wall where a weir exists on the OSD tank plan. Another full height wall is shown next to the orifice wall where no such

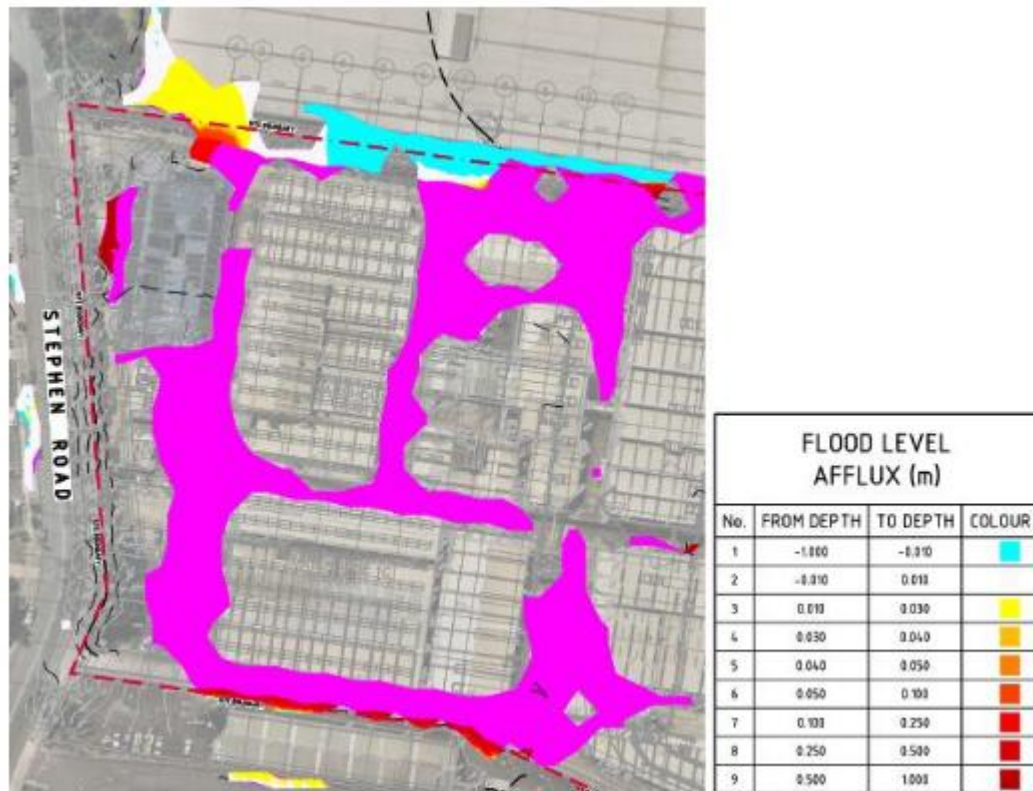
	wall exists on the OSD tank plan. These full height walls shall be replaced with weirs, and the weirs shall be clearly shown. <u>RESPONSE</u> Refer updated OSD plans SSDA460 and SSDA461.
b)	The wall details shown in the background of section 1 are elevational details that do not need to be shown on a section and shall be removed. <u>RESPONSE</u> Refer updated OSD plans SSDA460 and SSDA461.
c)	Section 1 doesn't cut through the energy dissipator and yet it is shown on the section. Remove elements shown on the section that the section does not cut through. <u>RESPONSE</u> Energy dissipator is visible in the beyond view of the section. Refer updated OSD plans SSDA460 and SSDA461.
d)	The oil baffle is shown incorrectly in the outlet as the oil baffle shall be provided in the SF chambers. A copy of Councils standard detail from oceanprotect can be provided for oil baffles. <u>RESPONSE</u> Revised drawings show the oil baffle to the stormfilter chamber weir wall. Refer updated OSD plans SSDA460 and SSDA461
l)	The scale of the OSD tank plan needs to be enlarged so that it covers a whole page. The separate weir levels shall be colour coded separately with the weirs clearly identifiable and drawn separately from full height walls. The pit dimension shall be shown on the OSD Tank plan. The centre access grates shall be provided adjacent to the central walls to facilitate maintenance access. All access pits shall be provided with step irons on the adjacent wall and detailed on the drawings. <u>RESPONSE</u> OSD tank plan drawn at 1:50 scale. Refer updated OSD plans SSDA460 and SSDA461
m)	An additional section shall be provided through following part of the OSD:

	STORMFILTER CHAMBER OVERFLOW WEIR AT RL 6.77 PROVIDE 20x690 NPSORB STORMFILTERS TO BE PLACED IN CHAMBER. MIN AREA = 10.0m² 2m WIDE FLOW DISPERSION BAFFLE WALL. SET WALL 900mm AWAY FROM INLET PIPE AND 150 ABOVE PIPE OBVERT PROPOSED Ø750 INLET PIPE PROPOSED Ø600 OUTLET PIPE
	<u>RESPONSE</u> Refer updated OSD plans SSDA460 and SSDA461 with Section 4.
n)	Emergency overflow shall be detailed in the OSD design. If emergency overflow is provided via the grated pits at the top of the tank, then a separate overland flow path shall path shall be provided from the car park to the street to ensure waters do no enter and building in the event of a blockage. <u>RESPONSE</u> Emergency overflow is shown on the OSD sections. All emergency flow to be conveyed in the lower level carpark and to Coal Pier Road. Refer updated OSD plans SSDA460 and SSDA461.
o)	Manufacturers details of all stormwater quality improvement devices shall be provided in the drawing set. <u>RESPONSE</u> Manufacturers details included on drawing SSDA453.
p)	Two sections with the same number (1, 2 & 3) are included in the civil plans (drawings C014950.01-SSDA460 & C014950.01-SSDA551 & C014950.01-SSDA552). Numbers for sections shall be revised to not be repeated. <u>RESPONSE</u>

	Refer updated OSD plan and finished level plan, SSDA460, 461 and SSDA500.
q)	Section shown on plans SSDA551 & SSDA552 show the retaining walls in the front setback which will prevent the planting of canopy trees, this is not supported. <u>RESPONSE</u> The walls are existing and proposed to be retained along with the existing trees. This is an existing condition and should be accepted by Council.
r)	Section 8 of SSDA554 does not provide compliant driveway gradients for AV truck access. Section 8, 11 and 12 must provide a ground clearance test for AV. A longitudinal driveway profile prepared by a suitably qualified civil engineer shall be submitted. The profile shall start in the centre of the road and be along the critical edge (worst case) of the driveway. Gradients and transitions shall be in accordance with AS/NZS 2890.1. The profile shall include all relevant levels, grades (%), headroom clearances and lengths. The existing and proposed boundary levels shall be clearly shown on the profile. Any change to the existing boundary levels requires approval from Bayside Council. <u>RESPONSE</u> Ground clearance to AS2890.2 has been completed. Refer revised ramp design profile with AV vehicle template per AS2890.2 on SSDA554 and SSDA555.
14.	Floodplain Management
	The submitted flood modelling contains numerous errors and unacceptable flooding outcomes from the development which is not supported. Concerns remain with the entire design of the development and its lack of consideration to flooding impacts. <u>RESPONSE</u> CRC notes that the precinct is affected by pluvial flooding (flooding due to inadequate urban drainage capacity) and flash flooding. The flooding shown on the development from the Springvale and Floodvale flood study is a result of the rain-on-grid modelling approach and the omission of internal drainage results in trapped low points that are unable to drain by conventional means.
	The Appendix H2 of the Civil Engineering Report contains errors and contradictory flood modelling outputs. Furthermore, drawing numbers are repeated in the plans with different information provided in each plan. e.g. the following errors were identified: - Pages 199 and 202 contain the same drawing number and title but different flood model outputs. DRAWING TITLE 1% AEP POST DEVELOPMENT FLOOD VELOCITY AFFLUX PLAN DRAWING No C014950.01-F 531 ISSUE A - Pages 200 and 201 contain the same drawing number but have different titles and flood model outputs.

	DRAWING TITLE PMF POST DEVELOPMENT FLOOD LEVEL AFFLUX PLAN DRAWING No. C014950.01-F530 ISSUE A DRAWING TITLE 1% AEP POST DEVELOPMENT FLOOD LEVEL AFFLUX PLAN DRAWING No. C014950.01-F530 ISSUE A Pages 198 and 200 contain the same drawing number and title but have different flood modelling outputs. DRAWING TITLE 1% AEP POST DEVELOPMENT FLOOD LEVEL AFFLUX PLAN DRAWING No. C014950.01-F530 ISSUE A <u>RESPONSE</u> Duplicate Figures have been updated.
	Some of the post development flood modelling outputs are showing existing buildings and appear to reflect the existing scenario (E.g. drawing C014950.01-F350 page 194). All post development flood outputs need to be revised to clearly show the proposed building footprints and remove the background aerial on the development site. <u>RESPONSE</u> Drawings have been updated.
	The post development flood modelling unexpectedly models flooding on the hardstand between the warehouses in the 1% AEP and PMF which doesn't appear to be logical. It is expected that this elevated hardstand and adjacent warehouses would be set above the flood level and remain flood free in a flood event. The flood modelling in this area needs to be reassessed and confirmed to be accurate or otherwise explained. <u>RESPONSE</u> The inground drainage system has been designed for the 5% AEP. Flood Modelling in the 1% and PMF events will exceed the private drainage capacity and local ponding within the hardstand is expected.
	The post development flood hazard plan (C014950.01-F332 page 193) indicates a high hazard flood area is being created in the front setback of the property and on the hardstands which doesn't appear to be an appropriate outcome for the site. <u>RESPONSE</u> The high hazard conditions within hardstand area are a result of ponding within recessed docks. The hazard shown on the front setback of the property is a modelling anomaly due to the existing retaining wall between Stephen Road and the development site inducing a large level difference. The level difference will be modelled as a slope towards the development site and carry water at higher hazard levels in the modelling.

	<i>It is not clear whether the food modelling considers the existing Council drainage structures and the proposed changes to Council drainage in the post development scenario.</i> <u>RESPONSE</u> The flood modelling considers the existing council drainage structures and the proposed changes to council drainage in the post development scenario.
	<i>No flood planning level assessment was undertaken to confirm floor levels of the buildings have been constructed to the applicable flood planning level required by the Bayside DCP (1% AEP + 500mm freeboard).</i> <u>RESPONSE</u> Flood Planning levels assessment is included in Section 7.6.1 of the report. The highest recorded flood level is RL10.56 and the flood level is at RL11.90 which meet the requirement for FPL.
	<i>It is not clear as to whether the recently completed Goodman development at 9 Coal Pier Road has been correctly included into the pre and post development flood modelling. This development incorporates significant flood modelling and flood mitigation measures that need to be correctly incorporated into the flood model.</i> <u>RESPONSE</u> Adjoining recent developments are not included in the modelling. The modelling is based on the Springvale and Floodvale Drain Flood Study completed in 2014. <i>Although the development at 9 Coal Pier Road incorporates flood modelling and flood mitigation measures, the location of this development is not considered to be within the influence of the flood mitigation measures incorporated on 9 Coal Pier Road. We further note that this development is not impacted by a flood way or flood storage. The flooding noted on this development is a result of the rain-on-grid modelling approach and the omission of internal drainage which results in trapped low points that are unable to drain by conventional means. As such, the downstream flood mitigation measures on 9 Coal Pier Road do not impact this development.</i>
	There is significant increase in flood afflux (changes to flood levels) shown to occur on neighbouring properties in the 1% AEP and PMF flood events which is unacceptable: • The increase in 1% AEP flood levels on neighbouring properties must be less than, or equal to, 10mm. The development proposes an increase in flood levels ranging from 10mm-30mm on neighbouring properties which far exceeds the maximum tolerance. This is not acceptable and results in an unacceptable impact on the floodplain. The development must be revised to reduce 1% AEP flood level increases on neighbouring properties to less than 10mm which shall be confirmed in amended flood modelling.



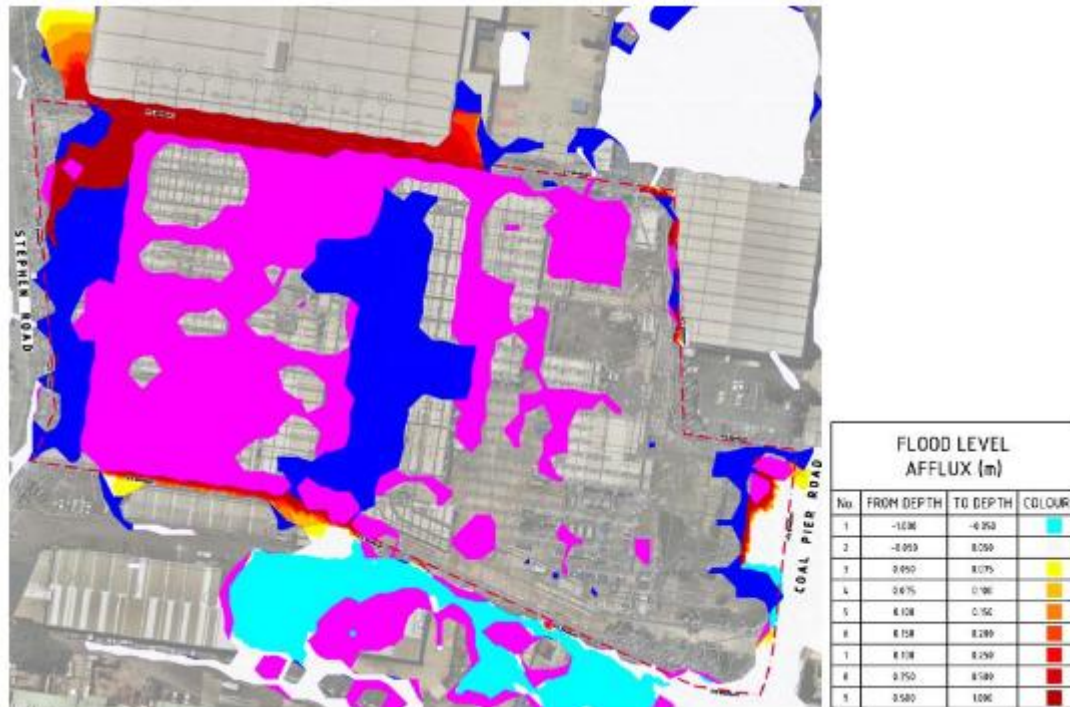
There are also significant changes to 1% AEP flood velocity on neighbouring properties that have not been demonstrated to be appropriate.



	<u>RESPONSE</u> There is minor afflux observed at the site boundaries during the 1% AEP storm event however this is understood to be a modelling anomaly resulting from a trapped low point in the DTM surface that is not located over a drainage pit. There is afflux shown at the boundaries of the site as a result of meshing differences between the detailed survey and council's digital elevation model. The lack of neighbouring drainage data that would eliminate the flooding through the trapped low points adjacent to the buildings. The flood modelling has been based on available information which does not include local drainage networks of neighbouring properties. The detailed survey provides the location of a few neighbouring pits but not the full information which will make a substantial difference in the afflux shown. The Bayside West Floodplain Risk Management Floodplain Risk Management Study and Plan Part 1 notes that shallow depths below 150mm would typically be considered as drainage issues rather than flooding. The majority of the flooding shown would be below 150mm in the 1% AEP, especially so with if the full private drainage network of neighbouring properties were included. Further to our ongoing assessments and finalisation of the RtS response package, we provide the following discussion pertaining to the flood assessments completed for the development, and the comments from Council around those assessment. We reiterate our position that the site, other than the boundary fronting Coal Pier Road and minor overland flow from Stephen Road at the SW corner of the property, is flood free. The site is not influenced by major flow paths such as the Floodvale Drain, nor the Sprinvale Drain. The site is not affected by Botany Bay or oceanic mechanisms. This is noted to be accepted by CPHR as outlined further below. Council have reported in their Request for Advice letter dated 15 May 2026 Item 14 Floodplain Management that: <i>"The submitted flood modelling contains numerous errors and unacceptable flooding outcomes from the development which is not supported. Concerns remain with the entire design of the development and its lack of consideration to flooding impacts."</i> In response, we provide the following discussion items including extracts from the Council Flood Advice Certificate dated 19 September 2024 (Ref: FA-2024/211), obtained by Costin Roe Consulting, for the 1% AEP flood event and that from the modelling completed by our office. Councils flood advice mapping and letter indicates the following: 1. The majority of identified flooding across the site comprises shallow ponding with an H1 flood hazard classification (low hazard/no restrictions). 2. Most of the mapped flooding is categorised as flood fringe. 3. No areas within the site or surrounding land are identified as floodway. 4. Localised areas at Locations 4, 10 and 11 are identified as H3 hazard and flood storage areas. 5. Locations 4, 10 and 11 correspond to existing localised depressions associated with former first flush basins and chemical management basins related to the historical use of the site. These items, being dedicated water storage systems do not form flood affected areas, despite the modelling showing them as such.
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	A detailed review of the flood mapping, local topography and surrounding catchments indicates that a substantial portion of the mapped flooding within the site is likely attributable to modelling noise associated with “rain-on-grid” modelling, undertaken without consideration of existing private drainage infrastructure and in the nature of the digital terrain adopted from a LIDAR survey over an industrial precinct. Importantly, there are no significant upstream contributing catchments affecting the site, other than the local Council overland flow path from Stephen Road. Accordingly, the shallow and low-velocity overland flows identified within the site can be appropriately intercepted and managed via the proposed internal drainage system. The Council flood mapping also identifies deeper and more substantial “flooding” in the eastern portion of the site. This area corresponds with the existing first flush basin and internal chemical management basin referred to above. These features form part of the site’s existing operational drainage infrastructure and are therefore not considered to represent true flood affectation areas. Both systems are proposed to be decommissioned and removed as part of the redevelopment works. In addition to the above, CPHR advice obtained for this development also considers the site is generally classified as H1 consistent with low hazard conditions. <i>CPHR has reviewed Section 7 of the Civil Engineering Report that refers to flood impacts on the proposed development.</i> <i>CPHR notes the subject site is located within a designated Flood Planning Area. It is not identified as a floodway and is only affected by a minor, shallow overland flow path coming from a small upstream catchment near Stephen Road. During a 1% Annual Exceedance Probability (AEP) event, the subject site experiences shallow overland flooding predicted only during the Probable Maximum Flood (PMF) event.</i> <i>CPHR notes that flood hazard mapping indicates the area surrounding the subject site is generally classified as H1, consistent with low hazard conditions. The source and extent of flooding are primarily from the minor upstream catchment, that experiences low hazard conditions. The flood afflux for the 1% AEP event with 30% increase in rainfall intensity and +0.9 m sea level rise is -0.02 m to +0.05 m.</i> Based on the above, we request that Council reconsider its position regarding flood impacts at the site. The proposed drainage infrastructure is considered sufficient to manage the shallow overland flow conditions identified within and adjacent to the site, subject to habitable floor levels being set a minimum of 500 mm above the adopted 1% AEP flood level. We note that any minor water level changes shown in the CRC modelling should not be considered as part of the flood impact conditions as these areas are managed within individual properties via their own site drainage systems.
	<i>The increase in PMF flood levels on neighbouring properties must be less than, or equal to, 50mm. The development proposes an increase in flood levels ranging from 500mm-1000mm on the northern and southern neighbouring properties which far exceeds the maximum tolerance. This is not acceptable and results in an unacceptable impact on the floodplain. The development must be revised to reduce 1% AEP flood level</i>

increases on neighbouring properties to less than 50mm which shall be confirmed in amended flood modelling.



RESPONSE

Refer above response.

The TUFLOW model needs to be updated for the existing (pre-developed) conditions to reflect Councils stormwater network as captured in the survey. Currently, the Council network along Stephen Road and Coal Pier Road is missing. The stormwater network is not being correctly represented in both the pre- and post-development modelling.

RESPONSE

The assessment of the pre-developed conditions with respect to the Council stormwater network has been completed in DRAINS and is provided with this response. The inclusion of the existing Council pipe in the TUFLOW model is not appropriate as this pipe is not considered to be of significant impact to the flood modelling. As shown in the DRAINS model and HGL analysis, the existing council stormwater system does not have sufficient capacity to convey the 5% AEP storm event.

The DRAINS modelling should reflect the accurate Council network downstream (Coal Pier Road) based on the survey conducted.

RESPONSE

Drains model updated and provided with this response.

Please list the changes made between the pre- and post-development modelling within the report, either in a tabular format or on a map.

RESPONSE

	CRC report updated to show the changes made to the flood model in a list format.
	<i>Please include the 1% AEP levels and PMF along with RLs in Table 7.1 citing DCP compliance.</i> <u>RESPONSE</u> 1% AEP levels are already provided. PMF levels have been included.

This letter is provided by Costin Roe Consulting Pty Ltd. Please contact the undersigned if clarification of any of the above items are required.

Yours faithfully,
Costin Roe Consulting Pty Ltd



Xavier Cure
Senior Associate Director