

9 November 2021

2200279

Kiersten Fishburn
Planning Secretary
Department of Planning, Industry and Environment
12 Darcy Street
PARRAMATTA NSW 2150

Attention: Emma Butcher, Senior Planner, Regional Assessments

Dear Emma,

**RE: RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION NO.4 – MOD 14 TO MP_10_0137
HUNTLEE NEW TOWN, BRANXTON**

This letter has been prepared by Ethos Urban on behalf of Huntlee Pty Ltd in response to the request for additional information (RFI) from the Department of Planning, Industry and Environment (DPIE) received 10 June 2021 and 17 September 2021, as well as comments from the Biodiversity and Conservation Division received 18 May 2021, in relation to Modification 14 to MP_10_0137 to modify Stage 1 Project Approval for Huntlee New Town (the site). This letter represents a response to the recent RFI received for this modification. It must be noted that Huntlee currently have approval to develop this part of the site, and that the proposed modification looks to create a more efficient and appropriate subdivision layout.

This response is supported by additional detention modelling prepared by Northrop (**Attachment A**), a response to BCD comments prepared by Northrop (**Attachment B**) and ecological and bushfire responses prepared by MJD Environmental (**Attachment C**). A letter regarding wastewater management by Whitehead & Associates is also attached at **Attachment D**. Updated plans prepared by Daly Smith reflecting the recent Mod 16 approval will be provided once completed, pending a response to this RFI.

1.0 Response to DPIE / Agency Submissions

As mentioned above, there was one submission made by the Biodiversity Conservation Division (BCD), with DPIE requesting clarification to specific matters also.

In relation to several of the comments in relation to flooding and extreme rainfall events, it should be noted that approval currently exists which would allow the creation of 123 residential lots. The proponent has reduced the number of lots to 105 through the assessment process, being a reduction of 18 from the current approval, which would only improve the situation in relation to impacts of flooding and extreme events.

Given the recent approval of Modification 16, the plans are in the process of being amended to reflect this as the new base and will be provided when completed. Additionally, the lot count table has been updated below to reflect.

Table 1 Updated lot count reflecting Modification 16 being approved

Sub-Stage Name	No. of Lots Approved Under MP10_0137	Lots changed under previous approvals	Total approved under Mod 16	Difference (Between Mod 16 and Mod 14)	Total proposed under Mod 14
1	208	+5 (215)	215 6 infrastructure lots	0	215 6 infrastructure lots
2	98	+9 (107)	107	0	107
3	94	+26 (120)	120	0	120
4	91	+37 (128)	128	0	128
5	111	+8 (119)	119	0	119
5 (Large lot)	120	+3 (123)	123	-18	105
6	60	+3 (63)	63	0	63
7	147	-	104	0	104
8	106	+37	133	0	133
9	130	-55	119 1 infrastructure lot	0	119 1 infrastructure lot
10	81	-	152	0	152
11	118	-36	88	0	88
12	109	-	104	0	104
13	1 (superlot)	-	66	0	66
14 (superlot)	1	-	1	0	1
15 (superlot)	1		1	0	1
16 (superlots)	-	-	4	0	4
16 (allotments)	-		17	0	17
'Lot 34'	1	-	1	-	1
Town Centre Superlots	11	-8	3	0	3
Town Centre Lots (inc. superlots)	-	-	65	0	65
Total Resi Lots	1473	-7 (1466)	1,659 (excluding Stage 14, 15 and 16 superlots and infrastructure lots) 1625 (including Stage 14, 15 and 16 superlots)	-18	1,641 (excluding Stage 14, 15 and 16 superlots and infrastructure lots) 1647 (including Stage 14, 15 and 16 superlots)
Total Superlots	14	-	7	0	7
Total Dwellings	2345	2345	2345	-	2345

The BCD provided a list of recommendations which are a summary of the detailed comments provided, and as such, the detailed comments only have been addressed in this instance.

Table 2 Response to Submissions

Submission	Applicant Response
DPIE Comments 10 June 2021	
confirmation from an accredited Bushfire Consultant that the emergency access to the south meets the requirements of Table 5.3b of Planning for Bushfire Protection 2019.	Refer to Attachment C .
details of the community title scheme and how the riparian corridor and drainage infrastructure will be managed to ensure appropriate maintenance.	Consent Condition C17 addresses this in that management plans will be prepared in accordance with C17 and incorporated into the Community Title Scheme which will be developed by Huntlee and be informed through a Management Statement which will include the relevant maintenance provisions applicable to the community land. . This will be developed prior to the issue of a Subdivision Certificate. Costs to cover the required level of maintenance of the riparian corridors on community land will be part of the community title fees payable by all lots, as such ensuring that these works will be funded in perpetuity.
an overlay of the approved layout and proposed layout against the Figure 3-2 of the Huntlee New Town Endangered Ecological Communities from the 2010 Ecological Assessment Report prepared by RPS.	Refer to seven-part test prepared by MJD Environmental at Attachment C .
an overlay of existing asset protection zones and proposed asset protection zones to clarify whether additional encroachment into the conservation area is proposed.	Refer to seven-part test prepared by MJD Environmental at Attachment C .
revised flood modelling to be consistent with earlier models and using the broader Black Creek flood model to determine if on-site detention can be removed from the proposal without causing additional flood impacts	This has been confirmed by Northrop, please refer to Attachment A and B for further details.
a plan showing indicative building areas above the 1% AEP and that free access is provided to all lots for the 1% AEP event	Refer to Figure D1 of Attachment B which outlines the developed scenario of the 1% AEP event, and shows the area of allotments that are unaffected by flood depths, including that flood free access is afforded to all allotments.
details of how evacuation of the subdivision could be facilitated given the existing level of service of Wine Country Drive and the lack of flood warning infrastructure.	It is noted that the proposed DA modification for this site has not increased the risks of flooding or burden on emergency services from any potential evacuation requirements that may or may not be required as a result of an extreme event. In reality, this proposed DA modification reduces the requirements given the number of residential lots being created is being reduced to 105 from the approved 123 allotments. All proposed lots have been sited with developable area above the 1%AEP design storm event, and as such evacuation during the peak of these events should not be required. Additionally, the proposed roads and culvert crossings are sited above the 1%AEP allowing residents to move around the site as required during both a major regional and local flood event. Given the magnitude of a regional PMF event, the subject site is expected to be largely inundated for a short period of time, however it is considered as provided in the Stormwater Management Strategy prepared by Northrop (Revision D, 27 April 2021 as part of the previous RFI submission) that enough notice will be available for residents to evacuate prior to the peak of the event, with this to be addressed in a regional flood emergency plan.
BCD Detailed Comments - 18 May 2021	
Flooding and Flood Risk	
1. The flooding assessment is inadequate	

Submission	Applicant Response
The revised flood model has adjusted loss values in accordance with NSW Specific Guidance for Use of Australian Rainfall and Runoff (ARR) data provided on the ARR data hub. This has resulted in changes in the flood modelling and sensitivity analysis which show that modelling is very sensitive to the loss values used. In the absence of calibration, conservative values should be used to set planning constraint.	Northrop completed a sensitivity analysis on the loss parameter used in the catchment hydrology where they used an extreme value of 0mm loss to determine the largest impact possible so that an adequate assessment can be made and understood. The result of this study yielded generally a 100 to 200mm increase in 1% AEP flood levels across the site which was found to be well within the freeboard of 500mm used to determine FFL's and is concluded, generally, to not present any overall significant impact on planning for flooding. The losses modelled by Northrop adopt the most preferred methodology in the NSW and are therefore considered adequate and accurate. Refer to Attachment B for full Northrop commentary and response.
Hydraulic roughness values used for Black Creek are also much lower than was used in the Cessnock Council's studies and these have not been adjusted or adequately justified in the revised document. The Manning's roughness coefficient assumed for Black Creek appears to be low and this appears to result in faster transference of water downstream than in either the Council study or the previous Worley Parsons Black Creek flood study (ref. 301017-00329). The values used in the current study have not been justified.	This value has been adjusted. No change is observed in the reported flood extent. Refer to Attachment B for full Northrop commentary and response.
BCD has not been provided with a copy of the document titled: "Trunk Stormwater and Flooding Assessment - Stage 1 Project Application prepared by WorleyParsons in 2012" which is noted in the modification documents as being the current approved strategy.	This is available on the DPIE Major Projects Website as part of the preferred project report for the original Huntlee Stage 1 Project Approval, as 2 August 2021 Revision E (at Appendix F of the available folders here).
The model has also assumed a free outlet of water from the local catchment to Black Creek with flood levels at top of bank. A 1% Annual Exceedance Probability (AEP) flood within the local catchment is unlikely to coincide with 1% AEP flood in Black Creek, however; best practice assessment methods assume some flooding in the major waterway would occur concurrently. The Worley Parsons study assumed a 5% AEP flood concurrently for assessing the coincidence of flooding in Black Creek with flooding in the Hunter River. A similar boundary condition should be used for the Mod 14 assessment. In addition, it will be necessary to ensure that the current development area is outside the area of influence of the Hunter River flooding noted in Table 4.3 of the Worley Parsons study.	The flood extents from both the local catchment and Black Creek are reported in Northrop documentation which has included the Black Creek 1% AEP flood elevation as the starting tailwater in their assessment. Northrop note that the modelling completed has adopted a very conservative approach which used a worst-case envelope of the Black Creek Flooding and local flooding. Refer to Attachment B for full Northrop commentary and response.
March 2021 flooding in NSW was characterised by concurrent local and riverine flooding and this highlights the need for consideration of the concurrent flooding in developing flood planning areas. In each case flood planning levels must be based on the worst case of local, Black Creek and Hunter River flooding.	Noted. Previously, flood results were presented as an envelope of the different flood mechanisms. The revised modelling prepared by Northrop does not change this, and the development considers the worst case of local, Black Creek and Hunter River. Refer to Attachment B for full Northrop commentary and response.
Flooding and Flood Risk	
2. On-site stormwater detention will be removed without justification	
The proponent has not justified the removal of on-site detention from its Stormwater Management Strategy. As outlined in point 1, it appears that flood flows have been underestimated and incorrect roughness values have been adopted, therefore the hydrographs provided in support of the proposed modification are not considered to accurately represent stormwater flows.	Attachment B , prepared by Northrop, includes additional assessment undertaken in response to this.
BCD is unable to comment on whether this issue has been adequately addressed until flood modelling is revised as noted in point 1. It is noted that management of erosive discharge to	The Black Creek WBNM was updated by Northrop to reflect an increased impervious fraction across the development and the critical 1% AEP event was run in the TUFLOW model. Even so and given this, it was found that there was a small decrease in peak flow in the WBNM was observed and overall negligible change in the TUFLOW model.

Submission	Applicant Response
the creek lines may still require some detention/retention of flows up to the two-year event.	
Flooding and Flood Risk	
3. The flood prone nature of the site poses significant residual risk to residents in the event of a flood greater than the 1% AEP event.	
The proposed development and access roads are located within the probable maximum flood (PMF) extent established by the Black Creek flood study. This study shows the development area as being a low flood island or trapped perimeter area under State Emergency Service (SES) classification guidelines. PMF floods must be considered when placing additional development in a floodplain which would require assistance by emergency services.	As noted above, this proposed DA modification has not increased the risks of flooding or burden on emergency services from any potential evacuation requirements that may or may not be required as a result of an extreme event. In reality, this proposed DA modification reduces the requirements given the number of residential lots being created is being reduced to 105 from the 123 approved allotments. Given the magnitude of a regional PMF event, the subject site is expected to be inundated, however it is considered as provided in the Stormwater Management Strategy prepared by Northrop (Revision D, 27 April 2021 as part of the previous RFI submission) that enough notice will be available for residents to evacuate prior to the peak of the event, with this to be addressed in a regional flood emergency plan.
The Worley Parsons study provided levels for the 200-year Annual Recurrence Interval (ARI) event in this location which indicates that a flood slightly rarer than that used for setting of floor levels would be 1.5 metres higher than the 1% AEP flood. Extreme floods can happen in very short time frames with limited opportunity for self-evacuation. There is currently no gauging (river or rainfall) in this locality which could inform a regional flood warning system. Cessnock City Council does not currently require a flood warning system in this area because of the limited residential development in the flood plain. This section of the Huntlee development and future stages in the Black Creek flood plain will significantly increase residential use of the floodplain and are likely to result in need for flood warning systems and emergency responses. The proponent's statements that sheltering can be achieved by standing on furniture or that regional government emergency plans would address this risk does not address the remaining risk to this area posed by rare floods	As above, it is considered that sufficient warning would be available for residents to evacuate as required during unseasonably large flood events, noting however that all proposed lots, roads and culvert crossings have been designed to sit above (in terms of developable area) the 1% AEP.
Flooding and Flood Risk	
4. Flood free access is not provided.	
The revised Northrop report indicates that access in the 1% AEP event will be provided to all lots. This includes filling in of a drainage line which currently crosses lots 56 and 57. The flood mapping indicates this will be achieved by collecting offsite flows on the upstream side of Wine Country drive and piping these through the subdivision. Flows in excess of the design flow are shown as diverting towards the south once pit/pipe capacity is exceeded. Insufficient detail is given to assess whether this is an adequate solution or whether flow will continue through the developed lots. It is likely that lots will be developed with limited freeboard to floor levels and overland flow from failure of significant drainage structures should be considered.	Refer to Attachment B for detailed response to this comment, prepared by Northrop.
A previous response from Northrop outlined that flood flows that would be diverted from Lots 56 and 57 to the roadway, however; further information is required to assess if this will impact the level of service of the road.	Northrop advise that the flows in excess of the 1% AEP will impact the level of service of the road in these events, in addition to the regional road network. Refer to Attachment B.

Submission	Applicant Response
Map A1 provided with Mod 14 shows the output of hydrological modelling and this is not matched by hydraulic modelling. No discharge point is shown for the diversion pipe, no modelling of the pipe or the impact of downstream flooding on the action of this pipe has been carried out or shown on the mapping.	Northrop have prepared Map A1 which presents the hydrological model layout which relates to the hydraulic models presented in Figures A2 and A3 through the “1D Inflows” legend item. The sub-catchments at the eastern extent of the catchment have been routed in the hydrological model (i.e C01, C02 and C03) and the total hydrograph applied to the hydraulic model to the east of Wine Country Drive. Further, the diversion pipe in question is shown on Figure A3 which shows it terminating to the west of the C19 notation. Refer to Attachment B for full Northrop commentary and response.
BCD is unable to assess the suitability of the proposed flood mitigation and drainage solutions until such time as flood models are updated and made to be consistent, and further information regarding the piped solutions, works on land not under the control of the developer and the impact of downstream flood levels are assessed. It is also noted that Wine Country Drive does not provide a level of service that ensures safe egress from the development in the absence of an early flood warning system. Shelter in place is not considered to be a viable option in a Black Creek flood event due to the extreme difference between a 1% AEP and a PMF flood event.	It is noted that the proposed DA modification for this site has not increased the risks of flooding or burden on emergency services from any potential evacuation requirements that may or may not be required as a result of an extreme event. In reality, this proposed DA modification reduces the requirements given the number of residential lots being created is being reduced to 105 from the approved 123 residential allotments. Notwithstanding the above, minor changes have been made to the flood model which include. • A revised roughness in Black Creek, • A revised roughness along the riparian corridors, • Representation of coincident flooding in the local catchment and Black Creek. The minor changes to the flood model resulted in observations to the minor increases in the flood extent which were found to be attributed to the higher Manning's roughness within the site riparian corridors. Northrop also found that overland egress is available to flood free land from the proposed development, which is considered a safe and acceptable arrangement.
Flooding and Flood Risk 5. Management of riparian land remains unclear.	
Most of the riparian corridors in the development are proposed to be managed under community title. It is unclear how this will be managed and funded and what degree of riparian vegetation will be retained. Flood modelling has used different roughness in drainage channels and riparian areas, assuming some riparian vegetation remains. Further detail on the landscaping/maintenance regime would be needed to inform assumptions made and future maintenance/replanting guidelines.	As outlined previously, a management plan will be prepared as required in Consent Condition C17 for the riparian corridors and this will be funded through community fees levied on all lots. A roughness coefficient more in keeping with mature vegetation has been adopted in the modelling, refer to Attachment B for detailed response to this comment, prepared by Northrop.
Riparian areas would need to be maintained as grassed corridors to achieve the roughness values used in flood modelling for the proposal. This is not consistent with best practice assessment techniques and Section 3.3.2 of the Stormwater Management Strategy which refers to vegetated riparian areas. If grassed riparian areas must be established and maintained, it is not clear how this would be protected under community title without maintenance guidance.	A roughness coefficient more in keeping with mature vegetation has been adopted in the modelling, refer to Attachment B for detailed response to this comment, prepared by Northrop.

Submission	Applicant Response
In addition, lots 56 and 57 contain a drainage line that will be filled, and flows directed to an underground stormwater pipe. No justification is given to why this is necessary.	This is consistent with the previous approval for the site and is critical for the preferred layout of the development. Northrop advise that the drainage line proposed to be filled is minor and it is not uncommon for this type of depression to be rerouted to suit a new development layout.
Flooding and Flood Risk	
6. The stormwater report provides minimal information on how water quality and quantity is to be managed.	
The proposed modification relies on water treatment devices being established on private property. Adequate stormwater treatment infrastructure should be provided in public parts of the subdivision to minimise the need for homeowners to install and maintain these devices. The use of oversized rainwater tanks may be an appropriate part of the solution, however; requirements for this would need become part of a development control plan (DCP) to ensure that homeowners and development assessors are aware that the site-specific requirements and exceed the minimal BASIX requirements.	These requirements are able to be provided as part of the S88B for each of the lots when they are created. It is noted that requirements of the S88B will need to be compiled with for future development.
Most treatment of stormwater for the subdivision has been modelled as occurring on private property and no DCP or covenant arrangements are in place to ensure they will be established and maintained. No details are given as to how drainage swales would be constructed for public infrastructure/roadways or how and where these would discharge.	End of line treatment of stormwater (GPT's and Biofiltration basins) will be provided on Council land and maintained by Council. Full construction detailed of all infrastructure is to be provided at Construction Certificate level in line with Council DCP, Engineering Guidelines and requirements, and the Conditions of Consent.
DPIE Comments 17 September 2021	
An assessment of the proposal under the former planning provisions, to consider whether there is likely to be a significant impact on threatened species, populations or ecological communities or their habitats in accordance with the now repealed section 5A of the EP&A Act, known as the 7-part test. Depending on the outcome of a 7-part test (which would typically be via a flora and fauna assessment prepared by a suitably qualified person), a species impact statement (SIS) may also be required.	Refer to seven-part test prepared by MJD at Attachment C .

2.0 Conclusion

We trust that the information provided in this response addresses the matters raised by DPIE and the community and allows the planning assessment to proceed. The amendments to the Huntlee development confirm that all major key elements of the proposed development as originally proposed and exhibited have remained mostly unchanged. Further and more importantly, the refined development does not substantially differ from the original publicly exhibited development proposal.

Yours sincerely,



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