



Our ref: DOC21/1004177-7

Your ref: MP 10_0137 MOD14

Ms Emma Butcher

Senior Planning Officer
Industry Key Sites
Department of Planning, Industry and Environment
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Dear Emma

**Mod to Huntlee PA (MP 10_0137 MOD 14) - Large Lot Changes (Cessnock & Singleton LGAs)
– Response to Submissions (Additional Information)**

I refer to your email dated 9 November 2021 in which Planning and Assessments Group (P&A) of the Department of Planning, Industry and Environment (the Department) invited Biodiversity and Conservation Division (BCD) of the Department to comment on response to submissions 9 (further information) report for modification 14 of the Huntlee New Town Residential Subdivision Stage 1 (MP 10_0137 MOD 14), located at Branxton, in the Cessnock and Singleton local government areas.

BCD has reviewed the correspondence from Urban Ethos titled '*Response to request for additional information No. 4 – MOD 14 to MP_10_0137 Huntlee New Town, Branxton*' (dated 9 November 2021), including relevant appendices, annexures and attachments in relation to impacts on biodiversity and flooding.

BCD's recommendations are provided in **Attachment A** and detailed comments are provided in **Attachment B**. If you require any further information regarding this matter, please contact Steven Crick, Senior Team Leader, on 4927 3248 or via email at huntercentralcoast@environment.nsw.gov.au

Yours sincerely

JOE THOMPSON
Director Hunter Central Coast Branch
Biodiversity and Conservation Division

Date: 7/12/21

Enclosures: Attachments A and B

BCD's recommendations

Mod to Huntlee PA (MP 10_0137 MOD 14) - Large Lot Changes 16 RTS – Further Information

Biodiversity

1. MOD 14 should not be considered further until the proponent addresses Recommendations 1 and 2 raised in BCD's letter of 18 May 2021 (DOC21/318853-10).
2. BCD recommends that approval conditions C9(c) and C10 are retained and clearly explained to the proponent, to prevent any adverse incursions.
3. The proponent needs to amend the lot layout figure in either the MJD Environmental (seven-part test) or Whitehead & Associates Environmental Consultants (wastewater) documents to reflect the correct layout.

Flooding and flood risk

4. The MOD 14 flooding assessment should be updated to include the extent of flooding on the subdivision roadways including depth and hazard. Blockage of structures must be included in the provided flood model. Results for the full suite of design floods is to be provided. Resultant mapping is to be provided showing an overlay of flooding against proposed lot and road locations and all data provided to Cessnock City Council for flood planning purposes.
5. No further on-site detention requirements are needed for the Black Creek Catchment as a result of this section of development.
6. Prior to approval of the subdivision the proponent should prepare a floodplain risk management plan in consultation with Cessnock City Council and the Department to show how flood warning and emergency evacuation will be achieved for floods in excess of the 1% annual exceedance probability (AEP) event. The ethos urban report claims that flood risk is reduced because the total number of lots has been reduced from 123 to 105 in this locality. This does not change the substantial risk to life which remains in this area once it is used for residential purposes without any consideration of evacuation routes. Any costs associated with the provision of infrastructure required to protect life in this area should be borne by the developer and not be conferred to Council. The Department of Planning must satisfy itself that allowing this land to be developed for residential development purposes does not pose an unacceptable risk to life or property.
7. The subdivision is to be designed so that flood-free access is provided to all lots for the 1% AEP event. Revised flood maps will be required to demonstrate this. Rising road access is also required to permit evacuation of the area to a place of safety for all events up to and including the PMF event. A flood warning system may also be required to ensure that evacuation can take place before roads become impassable.
8. Riparian areas provide essential functions for flood and stormwater management for the Huntlee Subdivision and the proponent is to demonstrate how these functions will be maintained if riparian areas are transferred from public to private ownership. Inspection and protection of EEC will be difficult when entry to private property for monitoring purposes is required. Private fencing may also make access and surveillance difficult. The proponent has not justified inclusion of protected riparian zones as part of the lot layout.

9. The Huntlee DCP 2013 should be extended to ensure that water sensitive urban design measures are enforced within the new development area. The proponent should also provide detail about how proposed on-site water treatment devices will achieve pollution reduction targets in line with current recommended practice, how they will be maintained and how they will be imposed on privately owned sites. The terms of any proposed covenants would need to be agreed with Cessnock City Council. If any stormwater assets are proposed to be managed by council then the terms of the VPA must be observed with respect to approval of design and inspection of work.

The use of on-site effluent disposal poses an additional water quality risk to the inhabitants of the area and the riparian vegetation and is not supported by BCD.

BCD's detailed comments

Mod to Huntlee PA (MP 10_0137 MOD 14) - Large Lot Changes 16 RTS – Further Information

Biodiversity:

1. The review of MOD 14 against the conservation outcomes appears to have not been undertaken.

BCD's letter of 18 May 2021 titled 'Huntlee PA – Large Lot Changes (MP 10_0137 MOD 14) – Response to Submissions (DOC21/318853-10)' raises issues that have not been addressed, notably the appraisal of how impacts to vegetation not formally conserved are being avoided or mitigated against. BCD provided two recommendations:

- (i) *BCD recommends that the proponent provides a review of MOD 14 against the status of conservation outcomes (i.e. avoidance and mitigation measures) as described in the Huntlee Ecological Assessment Report (2010) and the Flora and Fauna Management Sub-Plan (RPS, 2016). This review must include both direct and indirect impacts resulting from the project. Indirect impacts would include edge effects, weed encroachment, human disturbance and alteration to flow regimes that may result in modification to vegetation structure and composition.*

* NOTE: Based on BCD's flooding advice in this letter, potential water quality impacts should now be assessed as an indirect impact under the seven-part test.

- (i) *BCD recommends that the proponent provides details of the locations and arrangements made to ensure ongoing management of the areas proposed for retention and preservation for their ecological value.*

BCD does not believe that the avoidance and mitigation measures detailed within the Huntlee Ecological Assessment Report (2010) (EAR) are extinguished by the Section 34(A) Order covering the site and must be considered as each development sub-stage is planned and assessed. BCD also believes that the Section 34(A) Order clearly refers to offsets satisfying the 'residual impact' (i.e. after avoidance and mitigation) of the Huntlee Development. As such, the EAR, not the Section 34(A) Order, should be the point of reference when determining what further conservation outcomes require consideration within the Huntlee Development area with respect to Modification applications.

BCD understands that legal advice indicates that the previous assessment methodology of a 'seven-part test of significance' can be used to assess the impacts to threatened entities associated with a development application or modification for Huntlee. It appears that the proponent intended to respond to biodiversity issues raised by BCD previously through the 'Huntlee - MOD 14 (MP10_0137 MOD 14) Advice EEC' letter authored by MJD Environmental (dated 29 October 2021).

BCD does not believe the legal advice or the response from the proponent addresses the issues raised in our previous correspondence, particularly regarding potential impacts to vegetated areas not managed or protected under a formal conservation measure. In order for the modification to conform with the Section 34(A) Order, it must be consistent with the avoidance outcomes in Table 5.3 of the EAR (2010) and this has not been demonstrated.

The EAR (2010) outlines that about 62ha of EEC occurs in the development area, however the actual area to be cleared is likely to be approximately 27ha. There is therefore approximately 35ha of this EEC to be retained within '*open space areas and riparian corridors*'. This 35ha is clearly not a portion of the 37.48ha of EEC within the dedicated conservation reserve given the EAR (2010) states '*approx 2/3rds of occurrence likely to be retained within the Huntlee site, including 38ha within dedicated conservation reserves*'. The EAR (2010) also states that open space and riparian corridors has been '*allocated over large proportions*' of the Central Hunter Riparian Forest EEC '*to see the majority retained and managed for their ecological value*'. The proponent should clearly identify where impacts to the EEC will occur and where the 35ha of EEC 'outside proposed conservation zones' will be situated.

Recommendation 1

MOD 14 should not be considered further until the proponent addresses Recommendations 1 and 2 raised in BCD's letter of 18 May 2021 (DOC21/318853-10).

2. Conditions C9(c) and C10 should be retained

BCD has previously requested that Conditions C9(c) and C10 should be retained as the conditions specifically require the protection of the buffered areas for *Persoonia pauciflora* even if the plants die.

BCD notes that there appears to be a bushfire Asset Protection Zone (APZ) incursion into these buffer lands, as shown in the 'Figure' on page two of the MJD Environmental letter (dated 29 October). BCD would like the figure to be updated and the proponent made aware that such incursions are not permitted under the current Huntlee approval conditions. Additionally, the mechanisms to ensure the in-perpetuity protection of this habitat must be demonstrated.

Recommendation 2

BCD recommends that approval conditions C9(c) and C10 are retained and clearly explained to the proponent, to prevent any adverse incursions.

3. Lot layout for the development appears to be different in the seven-part test compared to the wastewater documents.

BCD note that the lot layout figure on page 2 of the MJD Environmental 'seven-part test' document appears to be different to that shown in Figure 2 of the Wastewater document (authored by Whitehead & Associates Environmental Consultants and dated 26 June 2021).

Consistent lot layout diagrams / figures should be used across documents that relate to the same project.

Recommendation 3

The proponent needs to amend the lot layout figure in either the MJD Environmental (seven-part test) or Whitehead & Associates Environmental Consultants (wastewater) documents to reflect the correct layout.

Flooding and flood risk

4. The local flood assessment has been updated however remaining issues require addressing

Northrop have obtained the Cessnock Council Black Creek Study and updated the information to include ARR2019 review, changes to the catchment to reflect the subdivision and revised

roughness values used. The model has looked at concurrent flooding in Black Creek and the local catchment. A sensitivity review has also been undertaken to determine sensitivity to adopted initial loss calculations. Maps have been provided to show both the local flooding extent and the extent of Black Creek (Regional) flooding for the 1% AEP event and the probable maximum flood event.

These maps are improved however they still contain some inconsistencies and remain inadequate for flood planning purposes. Council does not have a local flood study in this area and the study provided by the developer must be robust enough for Council to ensure that they can satisfy Section 733 planning provisions.

The following updates are required to the provided flood information:

- Flood mapping should be updated to include blockage of existing drainage structures in accordance with the guidelines given in ARR2019.
- Local flood mapping should be revised. At present the provided mapping is for the scenario where the flow under Wine Country drive noted on Figure D2 is piped for the 1% AEP event. No flooding is shown on local roads. The detailed discussion in the provided response indicates that this has now been revised such that the 10%AEP flood will be piped and the remainder travel via overland flow along roadways. Flood maps must reflect the depth of flow and hazard related to this method of stormwater management. If the minor system throughout the subdivision is proposed to be managed in a similar way hazard mapping for each of the streets servicing the development will be required. These maps will allow assessment of the access requirements to be made, flood planning levels to be set and an assessment of whether complying development can be used in the parts of the subdivision.
- Flood mapping should be provided as a minimum for 5% AEP, 1%AEP, 0.5% and 0.2% as proxies for climate change and the PMF.
- Flood models and associated data is to be provided to Cessnock City Council in a form compatible with the Wateride software for Council to be able to issue flood planning certificates. If this is not provided Council will need to rely on the Cessnock City rapid flood assessment which currently prescribes much higher planning levels.

Recommendation 4

The MOD 14 flooding assessment should be updated to include the extent of flooding on the subdivision roadways including depth and hazard. Blockage of structures must be included in provided flood model. Results for the full suite of design floods is to be provided. Resultant mapping is to be provided showing an overlay of flooding against proposed lot and road locations and all data provided to Cessnock City Council for flood planning purposes.

5. Additional detail has been provided to justify removal of on-site stormwater detention.

The report by Northrop has provided sufficient justification for removal of on-site detention.

Recommendation 5

No further on-site detention requirements are needed for the Black Creek Catchment as a result of this section of development.

6. The flood prone nature of the site poses extreme and unmitigated risk to life in the event of a flood greater than the 1% annual exceedance probability event

The MOD 14 flood assessment maps the 1% annual recurrence interval (ARI) and probable maximum flood (PMF) extents for local flooding. Flood mapping has now been provided by Northrop which shows the extent of flooding on the site which occurs in a PMF event from Black Creek Figure D5(A). For flood planning purposes the worst case of the local and regional flooding maps. The PMF map shows a significant portion of the site covered by in excess of 7m of flood water with most of the site subject to in excess of 3m of flood water. The associated flood hazard is H5 and H6 for most of the site. H5 hazard is considered unsafe for vehicles and people. All buildings are vulnerable to structural damage. Some less robust building types vulnerable to failure. H6 hazard is unsafe for vehicles and people. All building types are considered vulnerable to failure.

Full evacuation and extensive damage to private property would occur during a PMF flood. Evacuation of many of the planned residential sites would also be required for more frequent events such as the 200-year and 500-year flood events where flood depths of 1.5m to 3.8m were predicted in the earlier Worley Parsons Study. The 200 and 500 year ARI floods are often used by Councils as a proxy to predict likely flood risk under 2050 and 2100 flood scenarios. Floods in this locality during 2015 were estimated to be rarer than 1 in 200yrs resulting in the loss of a dwelling in Greta.

It is necessary for the proponent to develop a floodplain risk management plan to indicate how flood warning and evacuation would be managed for the proposed development. This is to note that previous flood mapping indicates that Wine Country Drive would be cut in both directions from the access point in large flood events. The Worley Parsons report indicated that a floodplain risk management study and plan should be prepared as part of future subdivision proposals in this area.

The proponent should not rely on local or state agencies to manage flood risks. Cessnock City Council does not have a floodplain risk management plan for the site due to the existing rural nature of the land use.

Recommendation 6

Prior to approval of the subdivision the proponent should prepare a floodplain risk management plan in consultation with Cessnock City Council and the Department to show how flood warning and emergency evacuation will be achieved for floods in excess of the 1% annual exceedance probability (AEP) event. The ethos urban report claims that flood risk is reduced because the total number of lots has been reduced from 123 to 105 in this locality. This does not change the substantial risk to life which remains in this area once it is used for residential purposes without any consideration of evacuation routes. Any costs associated with the provision of infrastructure required to protect life in this area should be borne by the developer and not be conferred to Council. The Department of Planning must satisfy itself that allowing this land to be developed for residential development purposes does not pose an unacceptable risk to life or property.

7. Flood free access is not provided

The degree to which flood free access is provided cannot be determined until the local flood maps are updated to include the change to the Wine Country drive drainage and blockage of drainage infrastructure. The response indicates that the local roads will be used to convey local floodwaters through the subdivision. The proponent must justify how this achieves the requirements of the Cessnock DCP and the NSW floodplain development manual. A combined map showing Black Creek and local flooding is to be produced which includes flood depth and hazard for whichever flood event produces the greatest impact at each location. Cessnock City

Council's Development Control Plan (DCP) requires flood-free access to each allotment in a subdivision. Section L6.8 of the NSW Floodplain Development Manual requires a consent authority to consider effective flood access for events greater than the 1% AEP event.

Recommendation 7

The subdivision is to be designed so that flood-free access is provided to all lots for the 1% AEP event. Revised flood maps will be required to demonstrate this. Rising road access is also required to permit evacuation of the area to a place of safety for all events up to and including the PMF event. A flood warning system may also be required to ensure that evacuation can take place before roads become impassable.

8. The planning proposal will require landholders to maintain riparian areas

The approved lot layout for the Huntlee Subdivision contains three distinct riparian zones and local flooding is generally confined to these areas. MOD 14 proposes to remove these riparian zones, which cover 15.03 ha of public space and return them to private ownership. No consideration has been given to requirements for landholders to maintain these areas so that that flood behaviour is not affected. The response to submissions has indicated that the flood model has been revised to include a higher hydraulic roughness value for the riparian areas however the request for landscaping plans and maintenance details has not been addressed.

Recommendation 8

Riparian areas provide essential functions for flood and stormwater management for the Huntlee Subdivision and the proponent should demonstrate how these functions will be maintained if riparian areas are transferred from public to private ownership. Inspection and protection of EEC will be difficult when entry to private property for monitoring purposes is required. Private fencing may also make access and surveillance difficult. The proponent has not justified inclusion of protected riparian zones as part of the lot layout.

9. The stormwater report provides minimal information on how water quality and quantity is to be managed

The flooding assessment report indicates that stormwater quality will be managed on each individual site within the development. It is not clear how this will be achieved. The Huntlee DCP 2013 provides water quality objectives and guidance for how they are to be achieved but does not cover the MOD 14 area. No details have been provided about on-site water quality management measures. There is no assessment of discharge points to riparian corridors or proposed streambank erosion control measures which may be required. Three bioretention basins are specified, but no details are given of roadside swales or contour banks on development sites. Council does not have any enforcement officers who could monitor on site stormwater treatment systems to ensure that pollution does not impact the waterways.

Previous sections of the Huntlee development have provided stormwater treatment infrastructure within the riparian area with the expectation that these will be maintained by Council in the future. It is understood that Council has not been involved in approval of the design of these structures or inspection during construction. Inspections carried out by BCD indicate that built structures may be very difficult to maintain into the future.

It is also noted that the subdivision is not proposed to be serviced by reticulated sewer. The on-site wastewater management report "Letter_2803_final" by Whitehead and Associates dated 26th June 2021, proposes land application of treated sewage on 104 lots ranging from 2000 sq metres in area to 52,000 square metres. The majority of the lots are closer to 2000 sq metres in size. The report indicates that the provided systems will need to be treated to tertiary level and require disinfection prior to sub surface irrigation. An area of 670 square metres is estimated to be required per dwelling. This has been assessed on a lot by lot basis and the

cumulative impact of this degree of on-site disposal of treated effluent has not been considered.

As a proportion, 670 square metres is more than one third of the total lot size for the smaller lots. The indicative lot plan shown varies slightly from the one used for flooding purposes. It is noted that areas have been suggested as indicative building areas to meet disposal requirements which require homes to be built towards the rear of the lot and access driveways to be built over land required for effluent disposal. On the larger lots there is very limited land available which is outside of the required 20yr flood level and most disposal is proposed to be between the 20yr and 100yr flood impacted area of the sites.

Given the location of this development, the large number of sites and the fact that runoff both as seepage flow and surface flow reports to natural waterways which are required to be protected and preserved, the use of on-site effluent disposal is not supported.

Recommendation 9

The Huntlee DCP 2013 should be extended to ensure that water sensitive urban design measures are enforced within the new development area. The proponent should also provide detail about how proposed on-site water treatment devices will achieve pollution reduction targets in line with current recommended practice, how they will be maintained and how they will be imposed on privately owned sites. The terms of any proposed covenants would need to be agreed with Cessnock City Council. If any stormwater assets are proposed to be managed by council then the terms of the VPA must be observed with respect to approval of design and inspection of work.

The use of on-site effluent disposal poses an additional water quality risk to the inhabitants of the area and the riparian vegetation and is not supported by BCD.