



Our Ref: DOC20/546742  
Your Ref: MP 07\_0026 MOD 7

Director Regional Assessments  
Planning and Assessment Group  
4 Parramatta Square  
Locked Bag 5022  
Parramatta NSW 2124

Attention: Ms Lillian Charlesworth, Specialist Planning Officer

Dear Mr Witherdin

**RE: Epiq Estate Lennox Head (Pacific Pines Estate) – Response to Submissions and Additional Information (MP 07\_0026 MOD 7)**

Thank you for your e-mail dated 1 July 2020 about the Response to Submissions for the proposed modification for the Epiq Estate residential development at Lennox Head seeking comments from the Biodiversity and Conservation Division (BCD) of the Environment, Energy and Science Group in the NSW Department of Planning, Industry and Environment. I appreciate the opportunity to provide input.

We have reviewed the documents supplied and provide detailed comments in **Attachment 1** to this letter. While the proposed access track addresses some of the issues previously raised by the BCD several issue are still apparent regarding the lack of stormwater treatment before discharge into the Conservation Management Zone (CMZ), how the proposed 2m-wide vegetated strip will be planted and maintained and how the proposed 3m-wide access track will be constructed and whether it will be adequate for maintenance purposes.

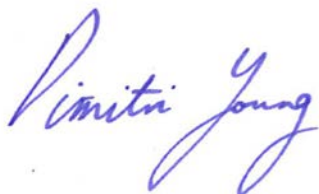
In summary, the BCD recommends that:

1. The consent authority considers whether this modification application can be approved given:
  - a. it is not consistent with a condition of consent that required the implementation of the Environmental Management Plan (EMP) which specified a 20m buffer and the modification application does not involve a change to Condition B10 or the EMP.
  - b. the modification involves a drainage channel that encroaches into the CMZ, which is also not consistent with the EMP.
2. Pending resolution of the issues raised in our recommendation 1 above, the proponent be required to demonstrate that the wetland community vegetation in the CMZ will be sufficiently buffered from the impacts of the development by the proposed arrangement. This would include:
  - a. Requiring a revised ecological assessment report to be prepared that includes a detailed assessment of the indirect and direct impacts of the proposed development on the wetland community and other vegetation communities in the CMZ.

- b. Water quality basins, biofiltration or other treatment measures to reduce contaminants and nutrient loads of surface runoff before the stormwater is discharged into the CMZ.
  - c. Resolution of the inconsistencies in the access track design as shown in the typical sections (Attachments 1 and 2).
  - d. Detail of the landscape design and maintenance requirements for the vegetated strip to meet the bushfire asset protection requirements.
  - e. Consultation with the Ballina Shire Council on its requirements for future management of the CMZ and access track and vegetated zone. Consideration should be given to the construction of the access trail, for example the materials used, fill and batter requirements, specific planting design and maintenance requirements to ensure plants are well maintained, stabilise the soil, prevent weed infestation and do not spread into the CMZ.
  - f. Seeking an assurance from the Rural Fire Service about the adequacy of the bushfire protection measures so that there is no requirement for future clearing of vegetation in the CMZ or a 1.8m high metal fence to the CMZ.
3. The Vegetation Monitoring Reports for 2019 and 2020 be provided to the BCD for review and comment.

If you have any questions about this advice, please do not hesitate to contact Ms Rachel Lonie, Senior Conservation Planning Officer, at [rachel.lonie@environment.nsw.gov.au](mailto:rachel.lonie@environment.nsw.gov.au) or 6650 7130.

Yours sincerely



21 July 2020

**DIMITRI YOUNG**  
**Senior Team Leader Planning, North East Branch**  
**Biodiversity and Conservation**

Enclosure: Attachment 1. Epiq Estate Lennox Head (Pacific Pines Estate) – Response to Submissions and Additional Information (MP 07\_0026 MOD 7)

## **Attachment 1: Detailed BCD Comments – Epiq Estate Lennox Head – Response to Submissions (MP 07\_0026 MOD 7)**

The Biodiversity and Conservation Division (BCD) has reviewed the Response to Submissions (RtS) prepared by Newton Denny Chapelle dated 29 June 2020 for the te proposed modification (MOD 7), which involves Super Lot 5 in the Epiq Estate, Lennox Head residential development. The following comments are provided.

### **1. Perimeter road versus access trail**

Section 6.1.1 of the approved Environmental Management Plan (EMP) required a 20m-wide buffer to be applied to the retained areas of freshwater wetland within the conservation management zone (CMZ) to “*buffer the impacts from adjacent areas to be developed*”.

The BCD previously recommended the proposed layout of Super Lot 5 include a perimeter road to separate residential lots from the CMZ and provide the buffer to areas of freshwater wetland as specified in the EMP. Instead the proponent has proposed a 5-8m-wide access track adjacent to the CMZ comprised of a 3m-wide gravel path and a 2m-wide vegetated strip.

The RtS states the intent of the 20m-wide buffer will be met through the ability to achieve the Epiq Estate stormwater management plan through the building setback and 5-8m-wide reserve area which equates to a minimum 10m-wide buffer. This 10m-wide ‘buffer’ is required to be managed as a bushfire asset protection zone.

While aspects of the proposed layout address some of the previous issues we raised, the RtS has not demonstrated that the wetland community will be sufficiently buffered from the impacts of the development as discussed further below.

### **2. Change to conditions of consent**

As the RtS acknowledges, the proposed layout does not include a 20m-wide buffer and therefore does not comply with the requirements of the approved EMP and Condition B10 of the Concept Approval. However, MOD 7 does not propose a modification to the conditions of consent or the EMP.

The BCD questions how MOD 7 can be approved given this is not consistent with a condition of consent and the modification application does not involve a change to the Condition B10 or the EMP.

### **3. Role of the wetland buffer**

The extent and function of riparian buffers has been widely considered in scientific and other literature (for example as reviewed in Wenger 1999 and in Beesley et al. 2017 and Hansen et al. 2010.) Some of the functions of a buffer are to protect water quality (reducing excess nutrients and contaminants), reduce edge effects (weed invasions, regulation of light and temperature, wind exposure and other disturbances), reduce erosion and the velocity of surface flows and increase infiltration of surface runoff. Beesley et al. suggest that the optimal buffer width to strip nutrients will depend on soil type, vegetation, slope, sediment load, rain intensity and microtopography.

We note the Biodiversity Assessment Method (BAM) established under the *Biodiversity Conservation Act 2016* requires a riparian buffer distance of 20m to a local wetland. Generally, such buffers would consist of a vegetated area.

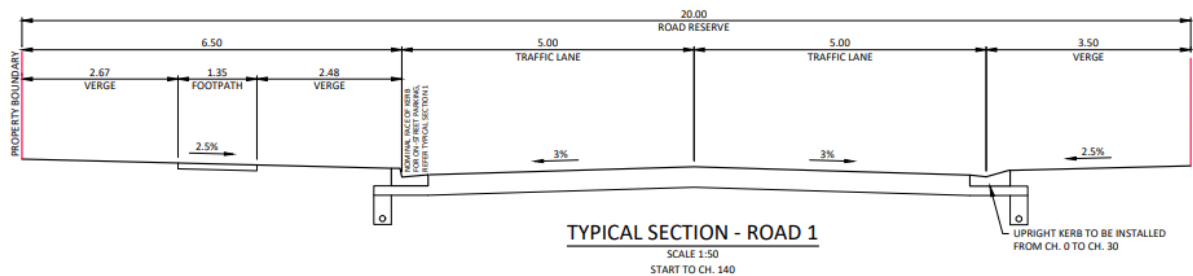
There is no information provided to demonstrate that these buffer functions can be satisfactorily met by the proposed 3m-wide gravel path and 2m-wide vegetated strip. As discussed below the entire area is within an asset protection zone and will be required to have reduced vegetative growth. No details have been provided on how the area will be vegetated and maintained.

Further, while there are energy dissipaters proposed to slow stormwater flows prior to their entry into the CMZ, no water quality basins, biofiltration or other treatment measures have been identified that would reduce contaminants and nutrient loads of surface runoff before the stormwater is discharged into the wetland.

#### 4. Nutrient and pollutant impacts

The response from GeoLINK contains a brief discussion of indirect impacts. This argues that higher nutrient and pollution levels are likely per square metre from an impermeable perimeter road than from the backyards of the 33 proposed residential lots and that a narrower access track with vegetated strip (5m-wide in total) will satisfy the issues regarding elevated nutrient and pollution levels. This conclusion is not justified by any evidence or scientific literature.

The argument that the proposed track will have less nutrient and pollutant levels than a perimeter road does not acknowledge that a road reserve would incorporate grassed swale edges on either side as shown below in a typical section in Figure 1.



**Figure 1. Typical Section 20m Road Reserve (Source: Attachment 4. Engineering Services Report in the EA for MOD 7. Civil Works Longitudinal Section MC01 Drawing No 14351-S5-DA-C1-11 Newton Denny Chapelle).**

#### 5. Ecological assessment

The BCD previously recommended that, in the event the perimeter road was not provided, the ecological assessment report should be revised to include a detailed assessment of potential indirect impacts of the proposed modification on threatened entities known to occur within the CMZ and identify appropriate mitigation strategies and offsets for residual impacts.

No revised ecological assessment report has been prepared or provided. It appears that this may be provided at a later date as the RtS states that *“if the approach is supported, the ecological assessment can be updated to include five-part tests in accordance with section 7.3 of the for HJG, SSSR, Biodiversity Conservation Act 2016 Swamp Oak Floodplain Forest and Freshwater Wetland EEC”*.

This information should form part of the RtS as previously recommended by the BCD. The impacts on the threatened entities would include direct and indirect impacts such as changes to water quality and quantity and edge effects.

#### 6. Stormwater management design

The BCD previously recommended that the stormwater management design be revised to include bio-retention basins and infiltration devices outside of the CMZ to capture and treat stormwater runoff from impervious surfaces within Super Lot 5 prior to discharge into the freshwater wetland. The RtS does not provide this information.

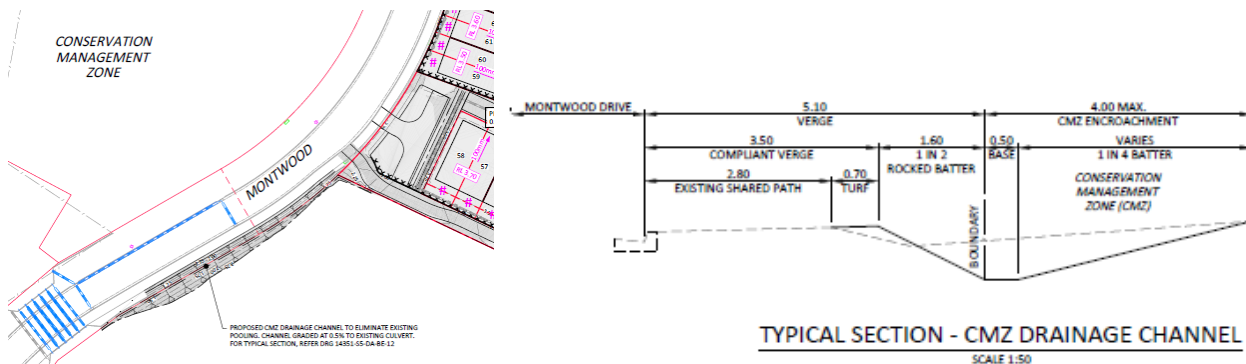
Water generated by the development to the east of Montwood Drive is to be discharged to the CMZ from which it passes through the existing box culverts installed under Montwood Drive. As the proposed treatment levels for the Epiq Estate are considered to satisfy the pollutant reduction targets approved in the greater Epiq Stormwater Management Plan, no additional treatment measures are

proposed for Super Lot 5. This means that untreated stormwater will be discharged directly into the wetland area and not pass through a vegetated buffer.

The concept engineering drawings show discharge points directly into the CMZ with no water quality treatment or gross pollutant traps. The BCD considers that stormwater treatment devices are required to treat the stormwater from Super Lot 5 before it enters the wetland. The proponent must demonstrate that pollutants and nutrients have been captured and treated so that they do not enter the CMZ and impact on the freshwater wetland and other vegetation communities.

## 7. Drainage channel extends into CMZ

The RtS contains an amended Civil Works and Bulk Earthworks Plans. A drainage channel is now described that encroaches into the CMZ by 4m as shown in Drawing No. 14351-S5-DA-BE-12. The RtS states the additional drain is proposed to address the council's concerns regarding the drainage of low-lying areas of the CMZ and the location and configuration of this drain has been developed in consultation with the Ballina Shire Council. However, it appears the encroachment would not be consistent with the conditions of consent that no construction works are to be undertaken within the CMZ. We question whether this can be approved given the impact on the CMZ.



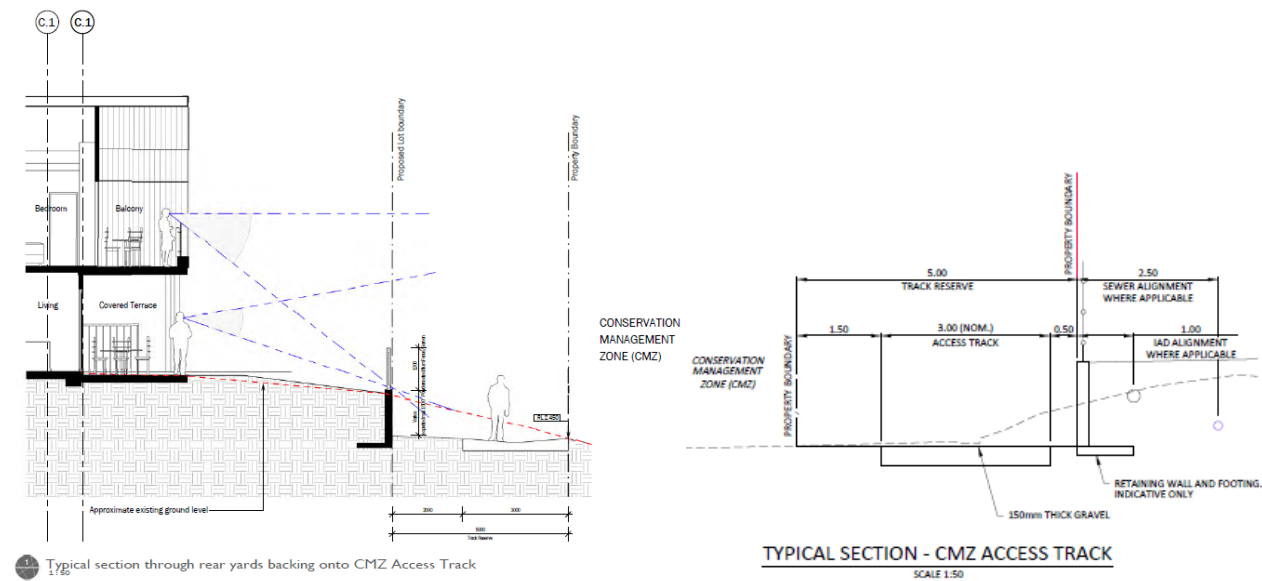
## 8. Design of access track

The proposed arrangement for the access track could provide a demarcation between the backyards of the residential lots and the CMZ through the use of a level change and associated retaining wall and fencing, provided that the fencing is entire and there are no egress points (i.e. back gates and steps) along the boundary. This does address the BCD issues regarding gradual informal expansion and encroachment of residential backyards, informal walking paths emanating from the backyards of proposed adjoining residential lots into the CMZ and the dumping of weeds and other materials.

The RtS states the track will have lockable bollards erected at each end where the track connects to the public road network and an option exists to incorporate a fence and gate at the road frontage to provide further access restrictions if deemed appropriate by the council. The BCD agrees this measure would clearly delineate access and that use of the track is not for public access which would ensure that it was not used for example by dog walkers which could lead to uncontrolled access into the CMZ.

However, there are other aspects of this arrangement that are not satisfactory. For example, there are discrepancies in the design of the access track and vegetated strip in the RtS as shown in the typical cross sections in Figure 2 below. One shows the planted strip adjacent to the retaining wall and the other adjacent to the CMZ. There are no details of how this area will be planted.

We note that the council has written to Newton Denny Chapelle in a letter dated 28 June 2019 in which the council reiterated its preference for the subdivision layout to incorporate a perimeter road between Super Lot 5 and the CMZ. However, the council did not raise an objection to the modification as it considered that reasonable environmental outcomes can still be achieved through the proposed subdivision design.



**Figure 2. Typical section CMZ Access Track as described in RtS Attachment 2 (on left) and Attachment 1 (on right).**

We acknowledge the revised council position but reiterate our previous advice that the proposed removal of the perimeter road would also substantially reduce access to the CMZ for personnel/contractors responsible for implementing weed control, revegetation and rehabilitation requirements as specified in the EMP and Conservation Zone Management Plan (CZMP). Evidence of poor site access impacting on rehabilitation outcomes has already been noted in Section 3.3.1 of the 2018 Vegetation Monitoring Report, which states, “woody weed species have been recorded proliferating in parts of the conservation zone where access is difficult”. The proposed revised layout is likely to exacerbate this situation by significantly reducing accessibility for personnel and machinery to a large portion of the CMZ.

The track is described as being constructed from a 150mm thick bed of gravel. The RtS states this will discourage the use of the access track for skateboards or scooters which may occur with a concrete surface, thereby reducing the attraction for children to utilise the track. Loose gravel may not provide the most stable or long lasting track and would make it less suitable for maintenance vehicles. Also, runoff from gravel surfaces may change pH levels in the wetland and benefit weed species. Although the choice of this material may make it less desirable as a pedestrian or skateboard/scooter track, an important consideration should be the potential for impacts on the CMZ.

As this access track will be managed by the council, we recommend that the best design should be determined in consultation with the council to minimise impacts on the CMZ. Consideration should be given to the construction of the access trail, for example the materials used, fill and batter requirements, specific planting design and maintenance requirements to ensure plants are well maintained, stabilise the soil, prevent weed infestation and do not spread into the CMZ.

It should also be confirmed that the use of the track for maintenance will not need to involve vehicular access, or alternatively if it does require vehicular access that the track width will be adequate for vehicles and that construction and will not for example lead to any disturbance such as vegetation trampling or damage in the CMZ.

## 9. Bushfire asset protection

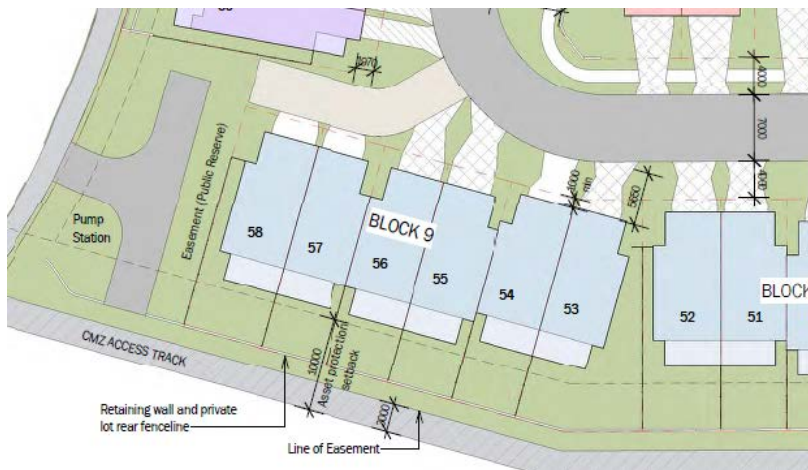
The revised Bush Fire Assessment Report (BFAR) (16 August 2018) by Bushfire Certifiers states that a perimeter road is not required for Super Lot 5 because the bushfire hazard potentially impacting the



proposed subdivision is not considered to be high risk given it is predominantly freshwater wetland and grassland. It states these vegetation types and the limited size of the hazard will not have significantly sustained fire fronts and will unlikely require back burning.

The BFAR references a concurrence received from Mr Alan Bawden NSW RFS on 13 October 2016 in relation to the vegetation classification, removal of perimeter road and s4.1.3(1) PBP2006 requirements. While this is a matter for the RFS and the consent authority to consider, the BCD identifies that the adequacy of the bushfire protection measures should be verified so that there is no requirement for future clearing or hazard reduction management of vegetation in the CMZ.

The backyards of the residential lots and the access track and vegetation zone are all within the required 10m-wide asset protection zone (APZ) (see Figure 3). Such a planted buffer will have to comply with the bushfire protection measures and for example contain no overlapping tree canopies or other continuous vegetation. This appears to conflict with the Landscape Concept Design Report (LCDR) which states that a planted buffer will be provided abutting the conservation zone and be comprised of trees and understorey. The LCDR also contains images such as the one below which would not be possible in an APZ. It is recommended these discrepancies be considered.



**Figure 3. Backyards and access track within the 10m asset protection zone.**



**Figure 4 . Image from the Landscape Concept Design Report describing continuous planting beds.**

Advice from the Bushfire Certifiers in an email dated 12 October 2016 stated that a 1.8m high metal fence is required at the APZ/hazard interface with APZs managed on the subject properties thereby providing a defensible space. We note no permanent fencing is proposed to be erected around the

CMZ during the operational phase of the development. RFS advice confirmed that no perimeter road would be required to the CMZ. We recommend that the consent authority ensure that RFS is satisfied that the CMZ will not require a 1.8m high metal fence.

## **10. Monitoring report**

Under the conditions of consent, annual monitoring reports were required to be prepared and submitted to the council and the former OEH (now BCD) until the handover of individual public areas to BSC. The BCD has only received a Vegetation Monitoring Report dated April 2018. There does not seem to have been a subsequent monitoring report provided to the BCD.

### ***BCD Recommendations***

1. The BCD recommends the consent authority considers whether this modification application can be approved given:
  - a. it is not consistent with a condition of consent that required the implementation of the Environmental Management Plan (EMP) which specified a 20m buffer and the modification application does not involve a change to the Condition B10 or the EMP.
  - b. the modification involves a drainage channel that encroaches into the CMZ which is also not consistent with the EMP.
2. Pending resolution of the issues raised in our recommendation 1 above, the BCD recommends the proponent be required to demonstrate that the wetland community vegetation in the Conservation Management Zone (CMZ) will be sufficiently buffered from the impacts of the development by the proposed arrangement. This would include:
  - a. Requiring a revised ecological assessment report to be prepared that includes a detailed assessment of the indirect and direct impacts of the proposed development on the wetland community and other vegetation communities in the CMZ.
  - b. Water quality basins, biofiltration or other treatment measures to reduce contaminants and nutrient loads of surface runoff before the stormwater is discharged into the CMZ.
  - c. Resolution of the inconsistencies in the access track design as shown in the typical sections (Attachments 1 and 2).
  - d. Detail of the landscape design and maintenance requirements for the vegetated strip to meet the bushfire asset protection requirements.
  - e. Consultation with the Ballina Shire Council on its requirements for future management of the CMZ and access track and vegetated zone. Consideration should be given to the construction of the access trail, for example the materials used, fill and batter requirements, specific planting design and maintenance requirements to ensure plants are well maintained, stabilise the soil, prevent weed infestation and do not spread into the CMZ.
  - f. Seeking an assurance from the Rural Fire Service about the adequacy of the bushfire protection measures so that there is no requirement for future clearing of vegetation in the CMZ or a 1.8m high metal fence to the CMZ.
3. The Vegetation Monitoring Reports for 2019 and 2020 should be provided to the BCD for review and comment.



## References

Beesley LS, Middleton J, Gwinn DC, Pettit N, Quinton B and Davies PM. (2017). *Riparian Design Guidelines to Inform the Ecological Repair of Urban Waterways*, Melbourne, Australia: Cooperative Research Centre for Water Sensitive Cities.

Hansen B., Reich P.P, Lake S. and Cavagnaro T. (2010) *Minimum width requirements for riparian zones to protect flowing waters and to conserve biodiversity: a review and recommendations With application to the State of Victoria* Report to the Office of Water, Department of Sustainability and Environment School of Biological Sciences, Monash University.

Wenger S. (1999) *A review of the scientific literature on riparian buffer width, extent and vegetation* A report prepared for the Office of Public Service & Outreach Institute of Ecology, University of Georgia.