13 March 2025

Contact: Stuart Little
Telephone: 0436 948 347
Our ref: D2025/21321

Ms Kate Wooll
Business Manager Strategic Planning
Goulburn Mulwaree Council
Locked Bag 22
GOULBURN NSW 2580

RE: Request for Advice to Water NSW - Revised Water Quality Technical Assessments, Master Plan- 41 King St, Tarago REZ-0006-2324

Dear Ms Wooll,

I refer to Council's email of 20 February 2025 providing a Concept sketch (revised subdivision layout plan) dated 5 February 2024 [sic] and updated Land Capability Assessment (LCA) (Version 4, 12 February 2025) for 41 King St Tarago, along with supporting email correspondence from Spiire regarding stormwater. The email request from Council follows an on-line meeting held between Stuart Little of WaterNSW, yourself, and representatives of the applicant earlier that day. The request seeks our review of the documents and whether they address our previous concerns in relation to the Proposal.

The issue in contention largely concerns determining an appropriate minimum lot size (MLS) for the site given the limited development opportunities existing at Tarago and the site constraints operating on the property. Given the site is and will remain unsewered, water quality impacts within the Sydney Drinking Water Catchment (SDWC) are a key factor when considering the MLS for this Proposal. The constraints operating on the site are outlined in our letter of 29 October 2024.

We understand that the latest information provided by Council (email dated 20 February 2025) has been prepared by the applicant in response to our correspondence of 29 October 2024 (Our Ref: D2024/122746) and 23 September 2024 (Our Ref: D2024/84009), where we raised concerns regarding a proposed MLS of 2000 m^2 for the site being potentially too small to accommodate dwellings, effluent management areas (EMAs), meet necessary buffer requirements and ensure water quality impacts were retained on-site.

In our correspondence of October 2024, we suggested a variable MLS of 3,000 m^2 to 4,000 m^2 to allow for sufficient buffer distances from watercourses, drainage features, stormwater management measures downslope and in the flowpath of EMAs, and the necessary buffers from EMAs to dwellings and property boundaries. This was to provide greater flexibility for later subdivision and dwellings to respond to site constraints. The applicant has indicated that a 3,000 m^2 MLS would not generate sufficient yield to make the subdivision feasible. A MLS of 2,300 m^2 has been suggested as an alternative. This is predicated on effluent management not relying on irrigation and being based on small footprint systems.

Having reviewed the revised subdivision layout plan and accompanying LCA report, there is still insufficient information to ensure that a 2,300 m^2 MLS is appropriate for the site. We believe that a 2,500 m^2 MLS may be more appropriate as it would deliver wider opportunities and better flexibility for water quality outcomes given soil and slope constraints and potential buffers, although some larger lot sizes may be needed in the more constrained western areas of the site. However, we are willing to further consider the feasibility of a proposed 2,300 m^2 MLS subject to more detailed information being provided on effluent modelling and associated plans depicting indicative dwelling footprints, EMAs, buffer distances and stormwater management measures. Any variations to buffer arrangements would need to be clearly justified. We would also require an indication from Council as to whether the proposed residual lot arrangement for the intended bioretention basin would be acceptable to Council. If not, other additional stormwater management measures may be required attracting additional setback requirements for EMAs. This may further limit the feasibility of a 2,300 m^2 MLS arrangement.

In this instance, there is a fine line between determining the suitability of the site and the capability of the land for the desired MLS outcome at the Planning Proposal stage and the practicality of achieving water quality objectives required at subdivision development application (DA) stage. In order to protect water quality, we do not wish to create situations which risk land being developed beyond its capability or where water quality risks cannot be contained on-site. We will be considering this context when reviewing any additional material provided by the applicant.

Our detailed comments and requirements are provided in Attachment 1. We have underlined the key recommendations for additional information if the 2,300m^2 MLS arrangement is to be further considered. However, the selection of the appropriate MLS is ultimately a matter for Council to determine.

If you have any questions regarding this letter, please contact Stuart Little at stuart.little@waternsw.com.au.

Yours sincerely

ALISON KNIHA
Environmental Planning Assessments & Approvals Manager

ATTACHMENT 1 - DETAIL

There are essentially three elements to considering the appropriateness of an MLS of 2,300 m^2 for water quality outcomes:

1. Subdivision Plan: Whether the new subdivision plan adequately demonstrates that a 2,300 m^2 MLS is feasible will provide reasonable assurance that a neutral or beneficial effect (NorBE) could be achieved at later subdivision stage.
2. Wastewater management: Whether there is a reasonable likelihood of the range of alternative effluent management measures and the smaller footprints being able to deliver a NorBE on water quality at subdivision stage.
3. Stormwater management: Whether the proposed bioretention basin arrangement is acceptable to Council? This has a bearing on the nature and location of stormwater and wastewater management measures proposed.

Please note in assessing the above we have been mindful of the provisions of s.9.1 Ministerial Direction 3.3 Sydney Drinking Water Catchment as this is what informs Planning Proposals for rezoning and changes in MLS. We have also had regard whether the NorBE requirement and provisions of the NorBE Guideline would be potentially met under the requirements of Part 6.5 of State Environmental Planning Policy (Biodiversity and Conservation) 2021 (the B&C SEPP) for later subdivision.

1. Revised Subdivision Layout Plan (Concept Sketch)

The original subdivision plan as presented in the Concept Layout & Masterplan (July 2023; p.10) proposed 28 lots excluding the basin lot. The revised subdivision layout plan (Concept sketch for discussion dated 5 February 2024) proposes delivery of 27 residential lots excluding the basin lot. We have treated the revised subdivision layout plan as being indicative of how the site might be developed under a hypothetical 2,300 m^2 MLS arrangement. We have also looked at the plan in conjunction with Figure 11 of the LCA (Version 4) to better understand the response of the plan to site constraints.

Having regard to the Concept sketch (5 February 2024) and the associated legend, we observe that two (2) lots with a MLS of 4,000 m^2 and two lots (2) with a MLS of 3,000 m^2 could occur in the west, with the remaining lots being presented as having a MLS of 2,300 m^2.

We observe the following:

1. The new Concept sketch shows the areas affected by the 100 m Effluent Management Areas (EMA) buffer distances associated with the off-site watercourses in the north-west and in the south. The design shows how each lot can accommodate at least some land outside the buffers, although there is limited land area outside the 100 m buffer for five lots (Lots 6-8, 27-28). Lot 28 appears particularly constrained.
2. The new Concept sketch does not show the 40 m EMA buffer distance required for the minor drainage depression adjacent to the western boundary, although this is taken into account in Figure 11 of the LCA report.
3. Neither the new Concept sketch nor Figure 11 show:
    a. the lot sizes of the individual lots to demonstrate how the proposed MLS arrangement is being met. There is similarly no table showing this information. This makes it very hard to reconcile whether the 2,300 m^2 lot size is in fact being met. The absence of individual lot size information also makes it difficult to contextualise the Lot/Effluent Disposal Area information presented in Table 1 of the LCA report

b. the indicative location of housing footprints and EMAs as informed by Figures 11 and 12 of the LCA report
c. for surface or sub-surface irrigation only (i.e. Lots 2,3 and 19), the necessary indicative buffer distances from EMAs to dwellings (15 m) and to property boundaries (15 m) and whether the soils on these lots are suitable for such disposal (ie soil depth and soil type)
d. buffer distances between stormwater management measures and EMAs. As indicated in our 29 October 2024 correspondence, if an EMA is located upslope of bioretention basin or other stormwater management asset (e.g. roadside swale) and the asset is in the flow path of runoff, it requires a 40 m buffer distance from the stormwater management measure.
    i. There are two farm dams on the property. The Proposal recommends removing the farm dam in the west to reduce the need for a 40 m buffer. We accept this reasoning. The dam in the east (Lot 5) is intended to be repurposed as a stormwater bioretention basin. This will still require a 40 m buffer distance as EMAs will be draining towards this feature.
    ii. The proposed stormwater roadside drainage swales will require a 40 m buffer in areas where the EMAs drain towards these features.

The above buffers generally constrain land in the west and southeast of the site, although stormwater management buffers may be required in the north with respect of protecting roadside drainage swales.

If the bioretention basin approach is not accepted by Council, additional stormwater management measures would need to be retained on individual lots again raising the issue of buffers in relation to EMA locations. The 2,300 m^2 MLS would operate as a further constraint in delivering water quality outcomes in this circumstance.

In summary:

- We need confirmation regarding the likelihood of the bioretention basin approach being acceptable to Council.
- We require a better subdivision plan showing:
    - the indicative lot sizes including the stated area of each lot
    - indicative house envelopes and EMA areas
    - location of stormwater management assets
    - EMA buffer distances from watercourses and drainage feature, the bioretention basin and the EMA buffer distances applying to the stormwater management assets where EMAs drain towards them. This should also show the EMA buffer distances to indicative housing envelope and lot boundaries.

Figure 11, upon which the Recommendations for the LCA are based (see below), is not currently sufficiently comprehensive in depicting the constraints operating on the site, the land available for effluent management measures, and the overall suitability of the 2,300 m^2 MLS.

2. On Site Wastewater: Land Capability Assessment

Our earlier comments on this Proposal noted the limitations associated with disposal of treated onsite wastewater via irrigation under a 2,000 m^2 MLS arrangement. The updated Land Capability Assessment (LCA) (Version 4) report proposes the following:

- For Lots 2, 3 and 19 – there is >1,500 m^2 of unconstrained land available for standard disposal (i.e. secondary treatment (AWTS) - via surface spray or subsurface irrigation to unmanaged lawn requiring around 730 m^2). This is consistent with the NorBE Tool and takes account of our previous advice), and allows for an equal size reserve effluent disposal area (for nutrient uptake).

Excluding Lot 5, which is for the residual stormwater retention basin, all remaining lots (i.e. 1, 4, 6-18 and 20-28) are recommended for secondary treatment (AWTS) and smaller footprint disposal system (including 441 m^2 surface spray irrigation, 216 m^2 Wisconsin sand mound, 450 m^2 subsurface drip irrigation and fully managed lawn, and alternative small footprint systems such as 40 m^2 ABSORBS™) to be mandated via s 88B instruments. The proposed MLS change would therefore be generating a situation at subdivision whereby 24 of the 28 lots would require s.88B instruments to help ensure containment of water quality impacts on-site and the overall delivery of a NorBE on water quality. With regard to the 2nd dot point above, we make the following comments:

- We generally do not support the 441 m^2 surface spray irrigation, as surface irrigation has limitations because it increases the chance of human contact with the effluent. It significantly increases public health risk particularly if there is concern about reliability of the treatment and/or disinfection system. Surface saturation and runoff of effluent are also more likely with surface irrigation, hence the increased water quality risk on a smaller MLS.
- Please also note that while individual dwelling DAs would likely fall within Module 2 development that can be assessed by Council, assessment of any proposed ABSORBS disposal system may need to be referred to WaterNSW for concurrence given this disposal system is not currently listed in the NorBE Tool as a standard system. This is more a matter for the dwelling DA stage rather than subdivision but is likely to result in delays to the assessment process for dwellings.

In light of the above, under the proposed 2,300 m^2 MLS arrangements, the Proposal is generating a situation where s.88B restrictions will apply to the large majority of lots to ensure NorBE. While delivering a NorBE may be possible under this arrangement, the approach relies heavily on smaller footprint systems including those currently not listed as a standard disposal system in the NorBE Tool. Also, the ability for lots to accommodate appropriately sized and located effluent management systems is likely to be further limited given buffer requirements for site boundary, dwellings, existing drainage depressions/watercourse and road-side swales (40 m buffer) and other stormwater measures proposed (i.e. bioretention basin in proposed lot 5; see above comments).

Considering the EMA buffers to watercourses and drainage features alone, this would specifically limit Lots 6-8, 18-21, and 24-28.

Please note the assessment of any future subdivision will require a detailed Wastewater Effluent Model (WEM) be undertaken for each individual lot to fully determine whether the proposed wastewater load could be successfully treated and disposed within the property boundary. Given the close relationship of the MLS to the desired subdivision layout, if the 2,300 m^2 MLS is to be pursued, then we believe that the WEM should be undertaken now to inform and justify the 2,300 m^2 MLS proposed.

3. Stormwater

We note that there has been no further revision to the stormwater provisions and that the Stormwater Master Plan prepared by Spiire (dated July 2023) still applies.

The ownership and maintenance responsibility for the proposed 600 m^2 bioretention basin would need to be discussed and agreed with Council. Furthermore, to ensure proper functioning of the basin and to prevent sediment loading, sediment forebay or traps are recommended in the final design. If this arrangement is not suitable to Council, then the site area will be further constrained by needing to accommodate additional stormwater management measures within the available proposed R5 land area. This will further operate as a further constraint on development and associated effluent management, particularly under a proposed 2,300 m^2 MLS arrangement.

We also note that the existing dam on Lot 5 should be modelled in the pre-development scenario in the MUSIC model at the time the Subdivision DA is prepared (the model has not been provided, and this is a comment for the future modelling consideration).

Way Forward

Based on Table 1 of the LCA report, all lots other than Lots 2, 3 and 19 have a proposed disposal area of 1,200-1,450 m^2. Of these, eights lots (Lots 13, 15, 16, 20 ,22, 23 and 25 and 27) have areas less than 1,300 m^2 available for effluent management. If the MLS was set at 2,500 m^2 and assuming unconstrained areas would make up the balance of the increase in lot size, then most lots would have 1,500 m^2 or greater for effluent disposal with only around eight lots, having smaller areas and being subject to s.88Bs. This still does not take into account all buffer constraints and the effect that this may have on lot design. However, it would increase the available space for lots to meet buffer and current site constraints. This approach would reduce the overall lot yield but overcome the current deficits in plans and reliance on smaller footprints and disposal systems not currently available in the NorBE Tool as standard systems (e.g. ABSORB).

In light of the above, we see two options available:

1. That Council consider adopting a 2,500 m^2 MLS for the site, although noting that larger lot sizes may be required in the western-most area which is constrained by steep slopes and buffer distances for EMAs associated with the watercourse and drainage feature.
2. Alternatively, if the applicant seeks to have a smaller 2,300 m^2 MLS, we recommend that this be accompanied by a detailed wastewater report (see above) outlining the specific EMA envelopes and buffers to building envelopes and other sensitive receptors including the provision of an appropriate plan. This report should also include wastewater effluent models for each lot to illustrate how effluent can be successfully disposed within the lot boundary to achieve NorBE.