

20211126  
5 October, 2021

Anthony Daintith Town Planning  
PO Box 1975  
ORANGE NSW 2800

Attention: Mr Anthony Daintith

Dear Anthony

**RE: Effluent Disposal System Assessment - 433 Ulan Road, Eurunderee NSW 2850**

## **INTRODUCTION**

At your request we have carried out an assessment of the effluent disposal system at the above address. The objectives of this work were to i) assess the existing method of onsite effluent disposal against the standards outlined in the Current Recommended Practice (CRP) documents listed below and if necessary, ii) Recommend necessary changes to be made to the system to ensure compliance with the following CRP documents:

- AS/NZS 1547:2012 On-site Domestic Wastewater Management (Standards Australia 2012)
- On-site Sewage Management for Single Households (Office of Local Government 1998)
- Designing & Installing On-Site Wastewater Systems (Sydney Catchment Authority 2019)
- The New South Wales Feedlot Manual (NSW DPI / Agriculture 1998)
- Septic Tank and Collection Well Accreditation Guideline (NSW Health 2001)

## **LOCATION**

The site is located on a rural residential lot off Ulan Road, Eurunderee. The lot is approximately 21.5ha in size, and the proposed camping site is not near any permanent surface waters.

## **SUBSURFACE CONDITIONS**

One soil-observation pit was dug at the site using an excavator. The site stratigraphy at the proposed disposal site as revealed by the soil pit comprised typically of the following:

0mm-300mm: Light brown, moist, sandy silt with very few fine gravels, moderately structured  
300mm-700mm: Light brown yellow, moist, clayey silt with very few fine gravels, moderately structured  
700mm-1000mm: Light yellow brown, moist, silty clay with very few fine gravels, moderately structured  
EOP 1000mm

Groundwater was not encountered during the fieldwork.

### **Calare Civil Pty Ltd**

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## EXISTING SYSTEM ASSESSMENT

We have assessed the system and determine it is typical of an AWTS system used to dispose of secondary treated effluent.

Our investigation reveals:

- The existing system was designed to service an amenities block for 12 prefabricated tents, with a maximum capacity of 24 persons. The amenities available included a Water Closet, Handbasin and Shower, with a design flow rate of 1416 L/d.
- The prefabricated tents on site are to be replaced by 5 glamping tents, with each containing a Water Closet, Handbasin and Shower. The maximum capacity for the site will be 10 persons. In accordance with the NSW Health Septic Tank and Collection Well Accreditation Guideline, for a Camping Ground, a 59 litre/person/day flow rate shall be adopted. The total design flow will therefore be taken as 590L/d.
- The AWTS tank is approximately 4500 litres;
- The existing disposal method is four subsurface irrigation fields each 200m<sup>2</sup>

We determine the existing system is functioning adequately with no signs of leakage or odour. The existing AWTS tank is of adequate size for the proposed camping facilities with a design flow of 590 L/day. The existing subsurface irrigation fields do not encroach on any of the buffer distances recommended by the CRP documents. For the 590L/d design flow, a 330m<sup>2</sup> subsurface irrigation field is necessary to satisfy nutrient and hydraulic loading criteria. Given the existing field is 800m<sup>2</sup>, it is considered fit for purpose.



Image 1: Existing AWTS tank at proposed development site



Image 2: Irrigation field at proposed development site

## RECOMMENDED WORKS

Due to insufficient fall, it is required that the effluent be pumped from the proposed site to the existing AWTS tank. To facilitate this, a series of collection wells, as detailed on the plans supplied by Anthony Daintith, dated 28/09/2021 (Ref 2021-130DA), shall be installed with a float switch, submersible pump and macerator. Accordingly, the effluent will need to be pumped to the AWTS tank at the specified design flow rate of a maximum 590 L/d.

At the time of inspection the system appeared to be performing adequately. We advise that the system be monitored for any signs of system failure (i.e. surfacing of effluent and saturation of the disposal site) be reported for investigation. In the advent of any possible failure in the future there is adequate space to augment the existing system.

## MAINTENANCE OF DISPOSAL AREAS

### General

To ensure the system functions as designed the disposal area is to be stock and vehicle free.

### Disposal Site Cover

Care should be taken to plant the disposal area with moisture tolerant shrubs or shallow-rooting ground cover that are water tolerant, appropriate for the site conditions and planted at an appropriate density for effective evapotranspiration (plants suitable for growing in wet soils can be recommended by local nurseries)

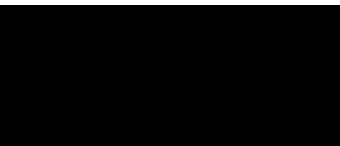
It is recommended that a fescue/fescue blend (Temperate and Mediterranean blend varieties) or similar be planted on the disposal area, which has year-round active growth, enhancing nutrient uptake (Ref. NSW Feedlot Manual 1998, NSW Department of Agriculture). Other recommended species providing similar data include Ryegrass and Lucerne.

### Further Considerations

The implementation of wastewater and nutrient reduction initiatives such as the following will further improve the performance of the system:

- Use of low phosphate/low SAR detergents, and low quantities where practicable.
- Water saving shower heads, taps and appliances.
- Consideration of 3/4.5 litre dual flush toilets.
- Avoid placing fats, oils or food waste into the system.
- Reducing peak hydraulic loading by reducing shower time and washing laundry over several days as opposed to completing multiple cycles in one day

Yours faithfully,  
CALARE CIVIL PTY LTD



Sean Johnson  
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