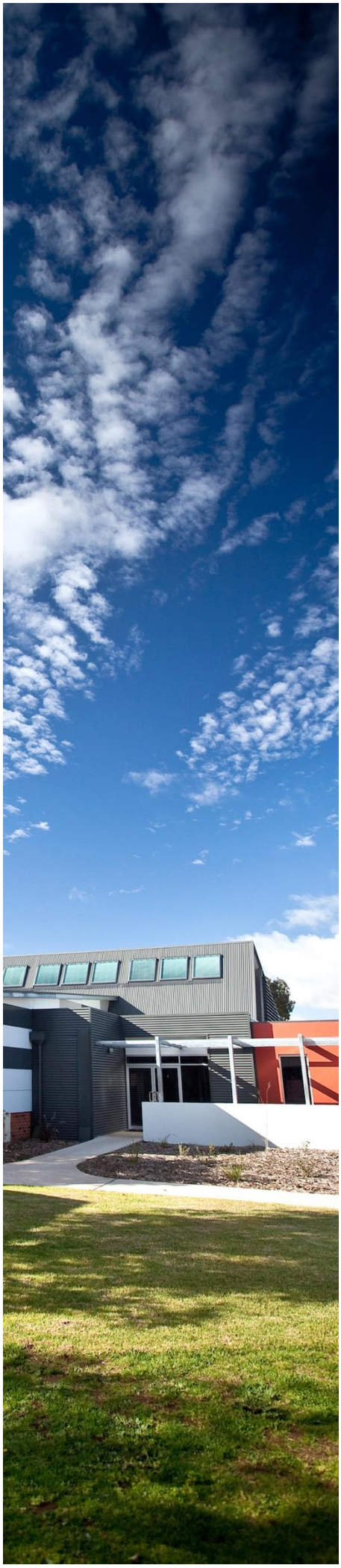

Statement of Environmental Effects

Dual Occupancy (detached)
11 McLachlan Street, Rylstone NSW 2849

(Our Reference: 39082-PR01_A)

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Disclaimer

This report has been prepared solely for Adam Worsley (the client) in accordance with the scope provided by the client and for the purpose(s) as outlined throughout this report.
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Report Title:	Statement of Environmental Effects - Rylstone
Project name:	Dual Occupancy (Detached)
Client:	Adam Worsley
Project No.	39082
Report Reference	39082-PR01_A
Date:	21/11/2022
Revision:	Final

Prepared By:	**Reviewed by:**
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1 INTRODUCTION

1.1 Background

Barnson Pty Ltd has been engaged by Adam Worsley (the Client) to prepare information in support of a Development Application (DA) for a detached dual occupancy on Lot 121 DP 755426, known as 11 McLachlan Street, Rylstone, NSW 2850.

The subject site is located on the western side of McLachlan Street, and the northern side of Calderwood Road. The subject site is currently vacant and has an approximate area of 951.3m^2.

The project involves the construction of two (2) single storey dwellings to form a detached dual occupancy and associated infrastructure including onsite effluent management.

The subject site is zone RU5 Village pursuant to the provisions under the *Mid-Western Regional Local Environmental Plan 2012.* The proposed development is defined as Dual Occupancy 'Detached', which is permissible with consent in the RU5: Village Zone.

This application consists of:

- One (1) PDF copy of this written statement, including plans & supporting documents.

1.2 Proponent

The proponent for the DA is Adam Worsley.

1.3 Consultant

Barnson Pty Ltd

Seb Minehan

'Riverview Business Park'

1/36 Darling Street

Dubbo NSW 2830

2 EXISTING ENVIRONMENT

2.1 Location and Title

The subject site of this application is Lot 121 DP 755426, known as 11 McLachlan Street, Rylstone, NSW 2849. The site is located on the western side of McLachlan Street, and the northern side of Calderwood Road, west of the Rylstone CBD as shown in **Figure 1**.

Figure 1 – Site Location

The site has an overall area of approximately 951.3m^2 (please refer to detail survey in **Appendix A**). The site is currently vacant. Please refer to **Figure 2** and **Plates 1-3** for photos of the existing dwelling and locality.

Figure 2 – Site Aerial

Plate 1 – Photo along Calderwood Road and dwelling opposite

Plate 2 – Photo of subject site

Plate 3 – Photo of the south-western portion of the subject site

2.2 Land Use

The site is currently vacant in a neighbourhood that is large lot residential in nature.

2.3 Topography

The site is relatively flat throughout, falling slightly in a south-easterly direction.

2.4 Flora and Fauna

The site is devoid of any significant vegetation, consisting of general grass cover.

In its current state, there is little chance the locality would have potential to support significant flora or fauna species.

2.5 Natural Hazards

The subject site is not considered Bushfire Prone Land or Flood Prone Land pursuant to the ePlanning Spatial Viewer or the *Mid-Western Regional Local Environmental Plan 2012*.

2.6 Services

Services including water supply, electricity, and telecommunications are available to the site. Stormwater grassed table drains are located within adjoining roads. Reticulated sewer is not available.

2.7 Access and Traffic

The subject site is located on the western side of McLachlan Street, and the northern side of Calderwood Road, both of which are bitumen sealed roads improved with grass table drains.

2.8 Heritage

The subject site is not listed as containing a heritage item under Schedule 5 of the *Mid-Western Regional Local Environmental Plan 2011* (the LEP). There are also no heritage items in close vicinity.

A search of the *Aboriginal Heritage Information Management System* (AHIMS) was undertaken for the site and its immediate surrounds. There is no known Aboriginal culturally significant items or places on or within 200m of the subject site. Please refer to Appendix B for the AHIMS Report.

3 PROPOSED DEVELOPMENT

The proposed development is for two (2) detached dwellings on Lot 121 DP 755426, commonly known as 11 McLachlan Street, Rylstone, NSW 2849.

The subject site is located on the corner of McLachlan Street and Calderwood which supports separate access points to each dwelling.

The proposed dwelling floor areas are as follows:

Dwelling 1	Dwelling 2
165m^2	167m^2

Both dwellings are to consist of a single car garage, three (3) bedrooms, kitchen, dining, living area, bathroom, laundry/bathroom, porch and alfresco.

Further details of the development include the following:

- Concrete slab flooring and steel framing;
- 'Lysaght – trimdek' vertical wall cladding;
- 'Lysaght – trimdek' roof sheeting;
- Proposed 1m of landscaping on the Calderwood Road frontage for Dwelling 1 to ensure the fencing is properly screened from Calderwood Road ;
- Both dwellings shall rely on separate septic systems and absorption beds. The beds shall have a width of approximately 9m x 2.7m, and are to be setback 3m from the dwelling/s;
- It is proposed to service the development site with water by connecting to the water line from the south;
- 3,000L water tank for each unit;
- Drain headwall and invert pipe crossover beneath the proposed unit 2 driveway;
- 1.8m fencing to divide the two dwellings;
- Erosion and sediment control measures are to be implemented during construction to ensure that all sediment is constrained, and to protect stormwater quality; and
- All essential services are to be connected with legal access where necessary.

Please refer to the Development Plans in **Appendix C** and Site and Soil Assessment for Onsite Effluent Management System in **Appendix D** and Basix details in **Appendix E**.

4 LAND USE ZONING

The subject site is zoned RU5: Village pursuant to the provisions under the *Mid-Western Regional Local Environmental Plan 2012* (the LEP). The proposed development is for a 'Dual Occupancy (Detached)', which is permissible with consent in the RU5 Zone.

The LEP definition is provided below:

"*…means 2 detached dwellings on one lot of land but does not include a secondary dwelling"*.

The permissibility of the proposed development is assessed in terms of the heads of consideration in Section 4.15 of the *Environmental Planning and Assessment Act 1979,* which incorporates consideration of the LEP, and the objectives and permissible uses outlined in the RU5 Zone, as outlined in Section 5 of this report.

5 PLANNING CONSIDERATIONS

5.1 Biodiversity Conservation Act 2016

5.1.1 Is the development likely to significantly affect threatened species?

Clause 7.2 of the *Biodiversity Conservation Act 2016* (BC Act) identifies the following circumstances where a development is likely to significantly affect threatened species:

(a) Is it likely to significantly affect threatened species or ecological communities, or their habitats, according to the test in Section 7.3, or

(b) The development exceeds the biodiversity offsets scheme threshold if the biodiversity offset scheme applies to the impacts of the development on biodiversity values, or

(c) It is carried out in a declared area of outstanding biodiversity value.

Each of these is addressed below.

5.1.1.1 Section 7.3 Test

To determine whether a development is likely to significantly affect threatened species or ecological communities, or their habitats, the following is to be taken into account in accordance with Section 7.3 of the BC Act:

(a) In the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the lifecycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,

(b) In the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:

(i) Is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or

(ii) Is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,

(c) In relation to the habitat of a threatened species or ecological community:

(i) The extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and

(ii) Whether an area of habitat is likely to become fragmentated or isolated from other areas of habitat as a result of the proposed development or activity, and

(iii) The importance of the habitat to be removed, modified, or fragmented or isolated to the long-term survival of the species or ecological community in the locality,

(d) Whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly),

(e) Whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.

Comment: The proposed development is unlikely to significantly affect threatened species or ecological communities, or their habitats as the site and immediate locality are heavily disturbed for residential purposes.

5.1.1.2 Section 7.4 Test

Section 7.4 of the BC Act States:

(1) Proposed development exceeds the biodiversity offsets scheme threshold for the purposes of this part if it is development of an extent or kind that the regulations declare to be development that exceeds the threshold.

(2) In determining whether proposed development exceeds the biodiversity offsets threshold for the purposes of this Part, any part of the proposed development that involves the clearing of native vegetation on Category 1-exempt land (within the meaning of Part 5A of the Local Land Services Act 2013) is to be disregarded.

Comment: The development is not occurring on land mapped as having significant biodiversity values on the Biodiversity Values Map. The proposed development would not be expected to exceed the biodiversity offsets threshold for the purposes of this part.

5.1.1.3 Declared Area of Outstanding Biodiversity Value

The site is not identified as being within an area of Outstanding Biodiversity Value.

5.1.2 Biodiversity Development Assessment Report

As outlined in Section 5.1.1, the proposed development is not likely to significantly affect threatened species as defined by Section 7.2 of the BC Act. Therefore, a Biodiversity Development Assessment Report is not required to accompany the application for development consent.

5.2 Local Government Act 1993

5.2.1 Section 68 – What Activities, Generally, Require the Approval of the Council?

To operate a system of sewage management (within the meaning of section 68A) requires approval under Section 68 of the *Local Government Act 1993*. In conjunction with the Development Application, plans and specifications are required to be submitted with the Section 68 Application as referred to in Clause 79 of the *Local Government Regulations 2021*.

Comment: The proposed development includes the utilization of onsite effluent management. A Section 68 Application will be lodged with required plans and documentation to *Mid-Western Regional Council* seeking approval to operate the effluent systems. Please refer to Appendix D for the Effluent Report.

5.3 Environmental Planning & Assessment Act 1979

5.3.1 Application of Biodiversity Conservation Act 2016

Section 1.7 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) identifies that Part 7 of the BC Act relates to the operation of the EP&A Act in relation to the terrestrial environment. This Act is addressed in Section 5.1 of this report, respectively.

5.3.2 Evaluation

Section 4.15 of the EP&A Act (as amended) requires the Council to consider various matters in regard to the determination of the Development Application.

In determining a development application, a consent authority is to take into consideration such of the following matters as are of relevance to the development the subject of the development application:

(a) The provisions of:

(i) any environmental planning instrument, and

(ii) any proposed instrument that is or has been the subject of public consultation under this Act and that has been notified to the consent authority (unless the Secretary has notified the consent authority that the making of the proposed instrument has been deferred indefinitely or has not been approved), and

(iii) any development control plan, and

(iiia) any planning agreement that has been entered into under section 7.4, or any draft planning agreement that a developer has offered to enter into under section 7.4, and

(v) the regulations (to the extent that they prescribe matters for the purposes of this paragraph), and

(v) (Repealed)

that apply to the land to which the development application relates,

(b) The likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality;

(c) The suitability of the site for the development,

(d) Any submissions made in accordance with this act or the regulations,

(e) The public interest.

The proposed development has been designed with consideration to the following matters, as outlined below.

5.4 Environmental Planning Instruments

5.4.1 State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004

The proposed development comprises BASIX affected development. BASIX information has been prepared, please refer to BASIX Certificates for both units in Appendix E.

5.4.2 SEPP (Resilience and Hazards) 2021

Clause 4.6(1) of the *SEPP (Resilience and Hazards) 2021* requires Council to consider the following before granting consent to a DA:

(a) It has considered whether the land is contaminated, and

(b) If the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out, and

(c) If the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose.

Comment: The subject site is vacant and does not appear to have been subject to any of the activities listed in Appendix A of the *Managing Land Contamination: Planning Guidelines SEPP 55 – Remediation of Land* (NSW Department of Urban Affairs and Planning and Environment Protection Authority, 1998). A Preliminary Site Investigation (PSI) is not considered required at this time.

5.4.3 Mid-Western Regional Local Environmental Plan 2012

5.4.3.1 Land Use Table

The subject site is zoned RU5 Village pursuant to the *Mid-Western Regional Local Environmental Plan 2012* (the LEP). The objectives of the RU5 Zone are:

- *To provide for a range of land uses, services and facilities that are associated with a rural village.*
- *To promote development that is sustainable in terms of the capacity of infrastructure within villages.*

Comment: The proposed detached dual occupancy is considered to meet the zone objectives in that it provides an appropriate residential land-use capable of sustainably utilising existing infrastructure.

5.4.3.2 Clause 4.3 Height of Buildings

The objective of this Clause is to establish a maximum height limit to which buildings can be designed in particular locations. The height of a building on any land is not to exceed the maximum height shown for the land on the *Height of Buildings Map.* The subject site permits a maximum building height of 8.5m. The proposed dwellings shall have a maximum height of 4.45 and 4.28m respectively, thus both complying with the required height.

5.4.3.3 Clause 6.3 Earthworks

Clause 6.3 'Earthworks' applies to the subject application as earthworks are included as part of the development works. The site is relatively flat throughout. The proposed dwelling shall be constructed on a concrete slab with a small amount of cut/fill is required to support the buildings. Any introduced fill should be classified as virgin material. There shall be no disruption on existing drainage patterns or soil stability in the area. Appropriate erosion and sediment controls will be undertaken on the site during development works to prevent and reduce and soil erosion that would occur on the site.

5.4.3.4 Clause 6.4 Groundwater Vulnerability

The subject site is mapped as being groundwater vulnerable. Clause 6.4 of the LEP requires Council to consider the following matters prior to determining a DA that is located on groundwater vulnerable land.

(a) The likelihood of groundwater contamination from the development (including from any on-site storage or disposal of solid or liquid waste and chemicals),

(b) Any adverse impacts the development may have on groundwater dependent ecosystems,

(c) *The cumulative impact the development may have on groundwater (including impacts on nearby groundwater extraction for a potable water supply or stock water supply), and*

(d) *Any appropriate measures proposed to avoid, minimise, or mitigate the impacts of the development.*

Comment: The proposed development does not involve any storage of disposal of liquid waste and chemicals and therefore should not affect the function of any groundwater dependent ecosystems, nor would it create any depletion or contamination of vulnerable groundwater resources. Furthermore, there will be no extraction of vulnerable groundwater to service the proposed development.

The subject land is capable of supporting onsite effluent disposal. Refer to Effluent Report in Appendix D.

5.4.3.5 Clause 6.9 Essential services

Clause 6.9 of the LEP states:

Development consent must not be granted to development unless the consent authority is satisfied that any of the following services that are essential for the proposed development are available or that adequate arrangements have been made to make them available when required:

(a) *The supply of water,*

(b) *The supply of electricity,*

(c) *The disposal and management of sewerage,*

(d) *Stormwater drainage or on-site conservation, and*

(e) *Suitable road access.*

Comment: The subject site is supported by reticulated water, electricity, suitable road access, and telecommunication. It is proposed to harvest roof-water through a 3,000L water with any overflow to Council's roadside stormwater system.

The subject land is capable of managing anticipated onsite effluent from the proposed development. Refer to Effluent Report in Appendix D.

5.5 Draft Environmental Planning Instruments

No draft Environmental Planning Instruments are known to be applicable to the subject site or development.

5.6 Mid-Western Regional Council Development Control Plan 2013

The *Mid-Western Regional Council Development Control Plan 2013* (DCP) outlines the standard requirements for development in the LGA. Each of the sections of the DCP relevant to the proposed dual occupancy are addressed in Table 1 below.

Table 1 – DCP Requirements		
Provision	**Requirements**	**Comment**
Section 3.1 RESIDENTIAL DEVELOPMENT IN URBAN AREAS (SINGLE DWELLINGS AND DUAL-OCCUPANCIES)		
Note. *Where a development does not comply with the "Fast-track" criteria, a normal development application may be lodged. In lodging the development application justification must be given to the variation from the fast track criteria by addressing the objectives outlined in the discretionary standards relevant to the particular type of development.* **Comment:** Certain provisions of the fast-tracked DCP cannot be met. For the areas of the DCP that cannot be met, justification will be given to the variation from the fast-track criteria by addressing the objectives outlined in the discretionary standards relevant to the particular type of development. It is understood that the application will therefore not be considered as a fast-track application.		
Building Setbacks **Part 3.1 – Discretionary Development Standards addressed.**	(a) Setbacks must be compatible with the existing and/or future desired streetscape. (b) Side or rear building setbacks are to demonstrate no unreasonable adverse impact on the privacy or solar access of adjoining properties. (c) Garages are to be setback a minimum of 5.5 metres from the front boundary. (d) Side and rear walls within 900mm and eaves within 450mm of boundaries are to comply with the BCA requirements for fire rating.	Unit 1 fronts McLachlan Street and the main building form is setback 7.177m from the street boundary. Unit 2 fronts Calderwood Road and is setback 3.0m from the street boundary. The proposed setbacks are not dissimilar to existing setbacks in the Rylstone area and will not place undue pressure on the McLachlan Street/ Calderwood Road area. Both garages are setback in excess of 6.0m from their respective street fronts to allow ample space for a vehicle to access the garage and allow another to park behind wholly within the boundaries.

		Side & rear setbacks are complaint with the BCA requirements. It is ensured at least a 1.0m setback is available for side and rear setbacks.
Building Height **Deemed to Satisfy**	Single storey (Single storey dwelling is one that has only one storey (as defined by the BCA) and the Finished Floor Level (FFL) is less than 1 metre above natural ground level.	The dwellings comply as they are single storey with the FFL being less than 1m above the natural ground level.
Site Coverage **Deemed to Satisfy**	Maximum site coverage of 35%	Site coverage can be considered as the following: *Unit 1: 165m^2* *Unit 2: 167m^2* *Site coverage: 951.3m^2* Site coverage = 165+167/951.3m^2 x 100 Site Coverage = 34.89% The proposed site coverage is considered compliant.
Solar Access **Deemed to Satisfy**	Living areas and private open space areas are to be located with a northerly aspect (i.e. on the north or eastern side of the building).	The proposed development ensures that living areas for both units are located in the northern aspect of the development. The majority of the P.O.S has a northerly aspect for Unit 1, while Unit 2 boasts P.O.S entirely in the northern portion of the subject site.
Privacy **Deemed to Satisfy**	Dwellings must be single storey and have a finished floor level less than 1,000 mm above the natural ground level.	Both units proposed are one storey in nature and have a finished floor level less than 1,000mm above natural ground level.

Parking **Deemed to Satisfy**	Two (2) spaces per dwelling.	Each unit is proposed to utilise a single car garage. However, the driveway has been designed to allow for an additional car space in a stacked form.
Landscaping	(a) Landscaping must enhance the quality of the built environment. (b) Species selection and location should improve energy efficiency through reducing heat gain through windows and deflecting winter winds. (c) Plants with low maintenance and water requirements should be selected.	According to the plans, sufficient landscaping has been proposed which is in context for the area. In particular, a 1.0m wide garden bed is proposed along the Calderwood boundary to soften the impact of the colorbond fence. The remainder of the site will utilise landscaping that is in context with a residential development.
Open Space **Part 3.1 – Discretionary Development Standards addressed.**	(a) Sufficient open space must be provided for the use and enjoyment of the residents. (b) A plan shall be submitted which demonstrates that the dimension of the open space provides for functional space, including placement of outdoor furniture. (c) Open space areas provided must be suitably located and landscaped to obtain adequate sunlight and protection from prevailing winds. (d) Private open space for dual occupancy development is to be a minimum area of 80m2 and have a minimum dimension of 5 metres (depth and width). (e) Private open space for dual occupancy development is to be located behind the front building line and on the northern, eastern or western side of the dwelling.	As per the proposed development plans, adequate open space has been provided for both units. Each area is suitably located to ensure that fencing and/or landscaping will be able to provide required protection from wind and other weather events and also obtain adequate sunlight. The Open Space for each unit's location and size is as follows: • Unit 1: 100m^2 (dimensions more than 5m) and is located on the western side of the unit. • Unit 2: 85m^2 (dimensions more than 5m) and is located on the northern façade of the unit.
Corner Lots	(a) Development must address both street frontages.	The development has addressed both street frontages. The units are to be of different design and colours of materials

	(b) Utility windows are not permitted on either elevation with frontage to the street unless they are integrated into architectural features of the development.	which benefits both the McLachlan Street and Calderwood Road Street localities. Both facades that front the two streets have adequate windows and architectural features that benefit the amenity of the units.
Fencing **Part 3.1 – Discretionary Development Standards addressed.**	(a) Fencing facing the street or forward of the building line must avoid extensive lengths of 'Colorbond' as it presents a barrier to the street. (b) Solid fencing of a length greater than 30% may be permitted where landscaping is provided to soften the visual impact on the streetscape.	It is proposed that 1.8m colorbond fencing is to be provided in front of the building line on Calderwood Road. It should be considered compliant given the face it has been setback 1.0m into the property to provide a 1.0m wide landscaped garden bed to soften the visual impact on the streetscape. Further, the remainder of the fencing is proposed to be 1.8m however complaint with the DCP requirements.
Infrastructure	(a) Surface infrastructure (e.g. tanks, clotheslines) must not be located within front setback. (b) Surface infrastructure must not be visible from the street. (c) Garbage storage locations must be included in landscape plan and show how they will be screened.	Both unit's water tanks, septic tanks, and clotheslines are not located within the front setback. Further, all infrastructure is not visible from either McLachlan Street or Calderwood Road.
Garages, Out buildings	N/A	N/A – No Garages or outbuildings proposed.
Development Near Ridgelines	(a) A ridgeline is considered an elevated section of land, visible from beyond the individual property boundary. (b) Development shall protect key landscape features, being the dominant ridgelines and slopes and the intermediate ridges forming a visual	N/A – The proposal is not located near any identified ridgelines.

	backdrop to existing and future urban localities and places of special landscape amenity. (c) Development should not be visually intrusive or degrade the environmental value, landscape integrity or visual amenity of land. (d) The dwelling-house and associated buildings must not be visible above the existing skyline or any prominent ridgeline or local hilltop. (e) The dwelling-house and associated buildings will be constructed from low reflectivity building materials and incorporate colours which are visually unobtrusive in relation to the surrounding environment.	
Slopes **Deemed to Satisfy**	(a) Cut is to be limited to 1,000 mm (b) Fill is restricted to 600 mm. It must be clean fill and a geotechnical assessment issued for the fill to demonstrate compaction to the Australian Standard. (c) Any cut and/or fill must be provided with retaining walls, drainage and must be setback a minimum of 300 mm from any boundary. (d) Fill must not direct stormwater onto adjoining properties and drainage pits for overland flow paths are to be provided. (e) Cut and fill is not permitted within water or sewer easements.	There is limited cut and fill proposed, however, please refer to **Appendix C** for the location of the proposed fill. It shall not impact stormwater and will not cause it to go onto neighbouring sites. No easements located onsite.
Access	All weather vehicle access is required to ensure that emergency services (fire, ambulance, police) are able to access the dwelling at all times.	All weather access is provided to both units via a concrete driveway from McLachlan Street and Calderwood Road.
Relocated Dwellings	N/A	Proposed development does not involve relocated or transportable dwellings.

Design Principles	(a) Design should maximise surveillance with clear sightlines between public and private places, effective lighting of public places and landscaping that makes places. (b) Physical and symbolic barriers should be used to attract, channel or restrict the movement of people to minimise opportunities for crime and increase the effort required to commit crime (c) Must be sympathetic with existing adjoining and surrounding developments in relation to bulk and height. (d) Well-proportioned building form that contributes to the streetscape and amenity (e) Density appropriate to the regional context, availability of infrastructure, public transport, community facilities and environmental quality (f) Design must demonstrate efficient use of natural resources, energy and water throughout its full life cycle, including construction. (g) Landscape design should optimise useability, privacy and social opportunity, equitable access and respect for neighbours' amenity, and provide for practical establishment and long-term management. (h) Optimise amenity (e.g. appropriate room dimensions and shapes, access to sunlight, natural ventilation, visual and acoustic privacy, storage, indoor and outdoor space, efficient layouts and service areas, outlook and ease of access for all age groups and degrees of mobility). (i) Optimise safety and security, both internal to the development and for the public domain.	Design of the development will allow for maximum passive surveillance with clear sightlines between the public areas of the street, and private areas including the rear and front areas of the subject site. The design also limits areas that create opportunities of crime, which will help detract potential criminal activities. The development has taken into consideration the surrounding locality in relation to bulk and height, and so, the proposed is not out of character. The proposed units are one storey in height and well within the LEPs requirement for Height of Buildings. The landscape proposed is suitable which helps soften the impact of the built environment on the locality. The layout of both proposed units optimises suitable layouts which ensure that living and dining areas, and open space have adequate sunlight and ventilation. Further, the overall layout and access areas do not discriminate and provide easy access for people of all conditions and ages. The units are not premanufactured or relocated homes.

	(j) Design must demonstrate response to the social context and needs of the local community in terms of lifestyles, affordability, and access to social facilities. (k) Council will not support dual occupancy development where both dwellings are premanufactured or relocatable homes in urban zones.	

5.7 Any Planning Agreement entered into

No Planning Agreements entered into are known to exist in relation to the development or site.

5.8 Any Matters Prescribed by the Regulations

5.8.1 Introduction

For the purposes of Section 4.15(1)(a)(iv) of the EP&A Act, Clause 61 of the *Environmental Planning and Assessment Regulations 2021* (EP&A Regulations) specified the additional matters a consent authority must take into consideration when determining a DA. In this instance there are no matters prescribed by the regulations that are applicable to this application.

5.9 Any Likely Impacts of the Development

A review of other likely impacts associated with the proposed development that have not previously addressed are provided below.

5.9.1 Context & Setting

The subject site is located in an environment which characterised by existing single storey residential dwellings in a semi-rural location on the outskirts of Rylstone. The Cudgegong River is located to the east of the site. The proposed development is considered to be consistent with the existing streetscape and locality.

5.9.2 Access, Transport & Traffic

Access shall be gained via two (2) separate crossovers. One (1) to be located off of McLachlan Street to access proposed unit 1 and one (1) off Calderwood Road to access proposed unit 2. The laybacks and crossover driveways shall be provided in accordance with Council's requirements and relevant Australian Standards. Traffic maneuverability and the proposed parking arrangements are considered suitable for the proposed development and shall not significantly impact on existing traffic conditions in the locality.

5.9.3 Utilities

The site is serviced by water, telecommunications and electricity. Additional connections may be required to be made to service both dwellings. The development also proposes to use onsite stormwater retention and onsite effluent management.

5.9.4 Air and Microclimate

The proposed construction works shall generate some air pollution, primarily from the extra vehicles on the site and dust pollution. The incidence of air pollution can be reduced by using appropriate equipment, employing good work practice, especially in conditions where dust is likely to be a nuisance.

5.9.5 Noise

The proposed construction works shall generate some noise impact. The likelihood of noise becoming offensive can be minimised by adopting good work practice and adhering to normal construction hours.

5.9.6 Social & Economic Impacts in the Locality

The proposal supports a well-designed residential development on an accessible infill site able to utilise existing services, which is considered a positive social and economic impact.

5.9.7 Other

There are no other issues such as flooding, flora/fauna, bushfire, or heritage that would significantly impact upon the development.

5.10 Suitability of the Site for the Proposed Development

The suitability of the site for the proposed development has been addressed in the above sections of this report. There are no prohibitive constraints posed by adjacent developments. There does not appear to be any zoning, planning, or environmental matters that should hinder the proposed development of the site. In this regard, it can be concluded that the proposal fits into the locality and the site attributes are conducive for the development.

5.11 The Public Interest

The proposed development is considered to be in the public interest. As outlined throughout this report the development is consistent with the applicable development standards and is not expected to have any adverse off-site impacts.

6 CONCLUSION

It is recommended that the proposed dual occupancy (detached) on Lot 121 DP 755426, commonly known as 11 McLachlan Street, Rylstone be supported on the following grounds:

- The proposal is considered acceptable in terms of the provisions of Section 4.15 of the *Environmental Planning and Assessment Act 1979;*
- The proposal is permissible with consent and consistent with the relevant development standards and provisions of the *Mid-Western Regional Local Environmental Plan 2012;*
- The proposal complies with the relevant provisions of the *Mid-Western Regional Council Development Control Plan 2013*;
- The proposed development is not anticipated to generate any adverse impacts in the locality; and
- The proposed development is considered suitable for the site and its surrounds.

Appendix A – Detail Survey and Deposited Plan

LOT 1
DP 376610

LOT 128
DP 755426

54.074 (BY TITLE)

19.232 (BY TITLE)

19.376 (BY TITLE)

47.114 (BY TITLE)

No. 11 McLachlan Street

LOT 121
DP 755426
951.3m² (BY TITLE)

M.G.A.

TELECOMMUNICATIONS PIT

POWER POLE

TELECOMMUNICATIONS MARKER POST

DRAIN HEADWALL

INVERT PIPE Ø375mm RL 575.841

INVERT PIPE Ø375mm RL 575.434

INVERT PIT RL 574.464

POWER POLE

MCLACHLAN STREET

CALDERWOOD ROAD

KEY

- EXISTING SUBJECT CADASTRAL BOUNDARIES
- EXISTING FENCE LINE
- EXISTING OVERHEAD ELECTRICITY CABLES
- EXISTING UNDERGROUND WATER MAIN - APPROX.
- EXISTING UNDERGROUND TELECOMMUNICATIONS ASSETS - APPROX.
- TOP OF BANK
- BOTTOM OF BANK

NOTES:

- THE BOUNDARY INFORMATION SHOWN ON THIS PLAN BEEN PLOTTED AS REQUIRED UNDER DIVISION 1, SECTION 9.(1) OF THE "SURVEYING AND SPATIAL INFORMATION REGULATION 2017". IT HAS NOT BEEN DETERMINED BY AN ACCURATE BOUNDARY SURVEY.
- A DETAIL & LEVEL SURVEY IS NOT A "LAND SURVEY" AS DEFINED BY THE SURVEYING AND SPATIAL INFORMATION ACT 2002. IF ANY CONSTRUCTION OR DESIGN WORK WHICH RELIES ON CRITICAL SETBACKS FROM THE STREET OR BOUNDARIES IS PLANNED, IT WOULD BE IMPERATIVE TO CARRY OUT FURTHER SURVEY WORK TO DETERMINE THE BOUNDARY DIMENSIONS.
- THE LOCATIONS AND DEPTHS OF UNDERGROUND SERVICES ARE NOT ASSURED BY BARNSON. SERVICE AUTHORITIES SHOULD BE CONSULTED BEFORE ANY EXCAVATION, DEMOLITION OR CONSTRUCTION COMMENCES.
- THERE MAY BE UNDERGROUND SERVICES THAT HAVE NOT BEEN SHOWN HEREON.
- BARNSON TAKES NO RESPONSIBILITY FOR LOSSES, DAMAGES OR INJURIES TO ANY PERSON OR ORGANISATION THAT MAY OCCUR DUE TO THE RELIANCE ON THIS PLAN FOR THE LOCATION OF UNDERGROUND SERVICES.

DIAL BEFORE YOU DIG www.1100.com.au

DATE OF SURVEY : 17th JUNE 2022
SURVEY BY : R. Boylan

DATUM : AUSTRALIAN HEIGHT DATUM (A.H.D.)
ORIGIN : SSM 7757 RL 583.570m (S.C.I.M.S.)
MAJOR CONTOUR INTERVAL : 1 METRE
MINOR CONTOUR INTERVAL : 0.25 METRES

LEVEL AND DETAIL SURVEY PLAN

REDUCTION RATIO 1:100 @ A1
1:200 @ A3

SCALE 1:100(A1)
SCALE 1:200(A3)

ISSUED TO CLIENT

barnson
DESIGN . PLAN . MANAGE

BARNSON PTY LTD
t 1300 BARNSON (1300 227 676)
e generalenquiry@barnson.com.au
w www.barnson.com.au
Bathurst | Coffs Harbour | Dubbo | Mudgee | Sydney | Tamworth

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Client: Adam Worsley
Project: LEVEL AND DETAIL SURVEY OVER LOT 121 IN DP 755426
11 MCLACHLAN STREET, RYLSTONE, NSW 2849
Drawing Title: LEVEL AND DETAIL SURVEY PLAN

Rev	Date	Amendment
A	23-06-2022	ISSUED TO CLIENT

Survey RB
Drawn JS
Check RB
Certification
Drawing Number 39082_L01
Revision A
Original Sheet Size = A1

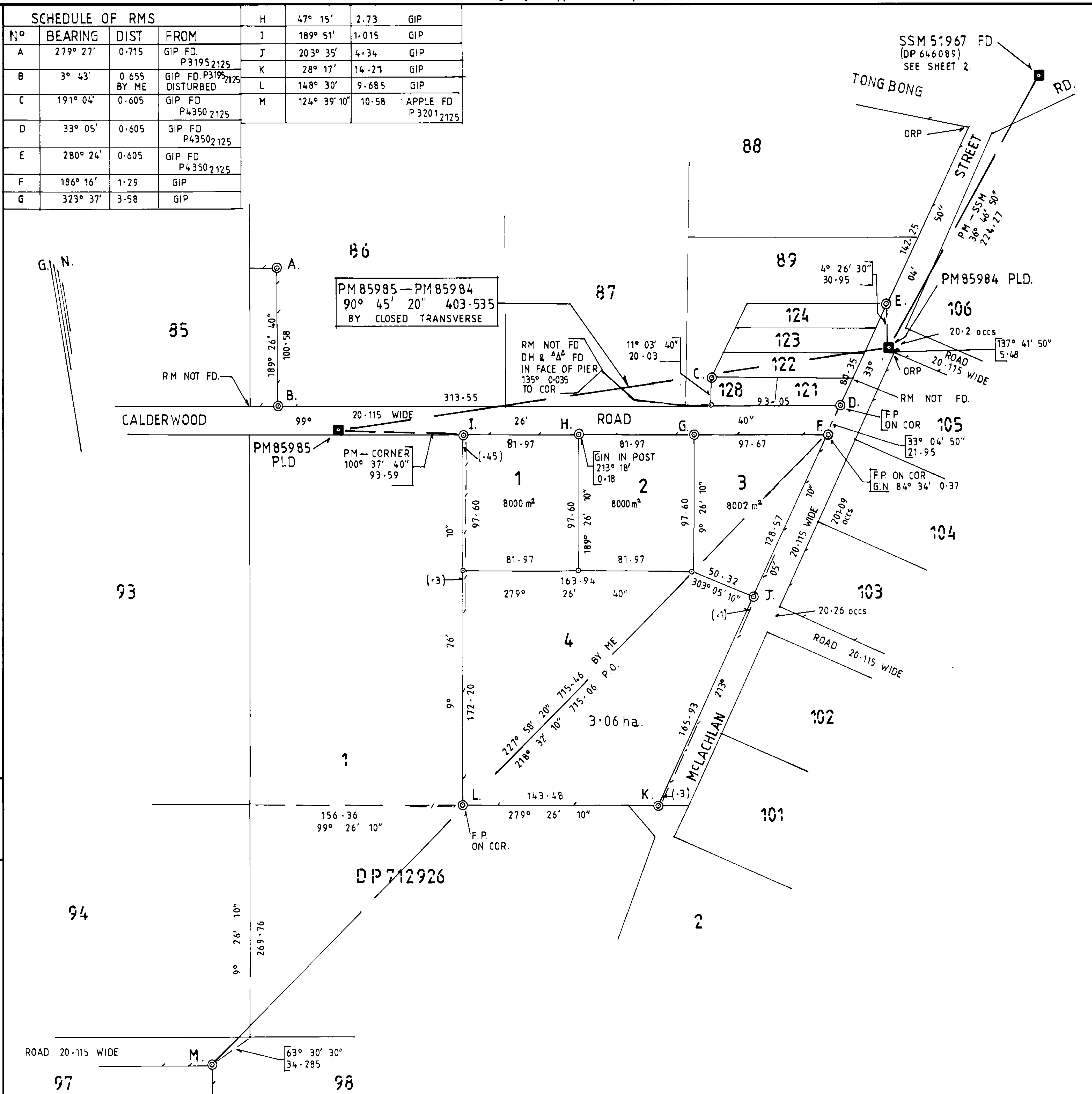
PLAN FORM 2

Plan Drawing only to appear in this space

° OFFICE USE ONLY

SIGNATURE AND SEALS ONLY.

SCHEDULE OF RMS			
N°	BEARING	DIST	FROM
A	279° 27'	0·715	GIP FD. P3195 2125
B	3° 43'	0 655 BY ME	GIP FD. P3195 2125 DISTURBED
C	191° 04'	0·605	GIP FD P4350 2125
D	33° 05'	0·605	GIP FD P4350 2125
E	280° 24'	0·605	GIP FD P4350 2125
F	186° 16'	1·29	GIP
G	323° 37'	3·58	GIP
H	47° 15'	2·73	GIP
I	189° 51'	1·015	GIP
J	203° 35'	4·34	GIP
K	28° 17'	14·27	GIP
L	148° 30'	9·685	GIP
M	124° 39' 10"	10·58	APPLE FD P3201 2125



WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

Crown Lands Office Approval

PLAN APPROVED........................
Authorised Officer
Land District........................
Paper No........................
Field Book....................pages.

Council's Certificate

I hereby certify that –
(a) the requirements of the Local Government Act, 1919 (other than the requirements for the registration of plans), and
* (b) the requirements of †Part 3 Division 2 of the Water Board Act 1987, or †Part 5 division 7 of the Hunter Water Board (Corporatisation) Act 1991
have been complied with by the applicant in relation to the proposed SUBDIVISION
(insert 'new road', 'subdivision' or 'consolidated lot') set out herein
Subdivision No. 1996/107
Date. 9-1-98
(Signature)........................
General Manager/Authorised Person
Council File No. ....
* This part of certificate to be deleted where the application is only for a consolidated lot or the opening of a new road or where the land to be subdivided is wholly outside the areas of operations of the Water Board and the Hunter Water Corporation Ltd.
† Delete if inapplicable.

SURVEYOR'S REFERENCE: SI 96/71

DP 874531

Registered: 6.2.1998

C.A. No. 1995/159 OF 9.1.1998

Title System: TORRENS

Purpose: SUBDIVISION

Ref. Map: PARISH *

Last Plan P3194 2125

PLAN OF SUBDIVISION OF
LOTS 90 & 91
DP 755426

Lengths are in metres. Reduction Ratio 1: 2000

LGA RYLSTONE

Locality: RYLSTONE

Parish: DABEE

County: PHILLIP (16)

This is sheet 1 of my plan in 2 sheets.
(Delete if inapplicable).

I, KEITH RHYNEHART
of 2/117 CHURCH ST MUDGEE
a surveyor registered under the Surveyors Act 1929, hereby certify that the survey represented in this plan is accurate, has been made in accordance with the Survey Practice Regulation 1990 and was completed on 25/11/96
Signature Keith Rhynehart
Surveyor registered under Surveyors Act, 1929.
Datum Line of Azimuth.
PM 6294 — PM 6292

Plans used in preparation of survey/compilation.
P3194 2125 P4374 2125 P3201 2125
P3203 2125 P3195 2125
P3199 2125 P3196 2125
P4350 2125 DP646089
P4412 2125 DP712926

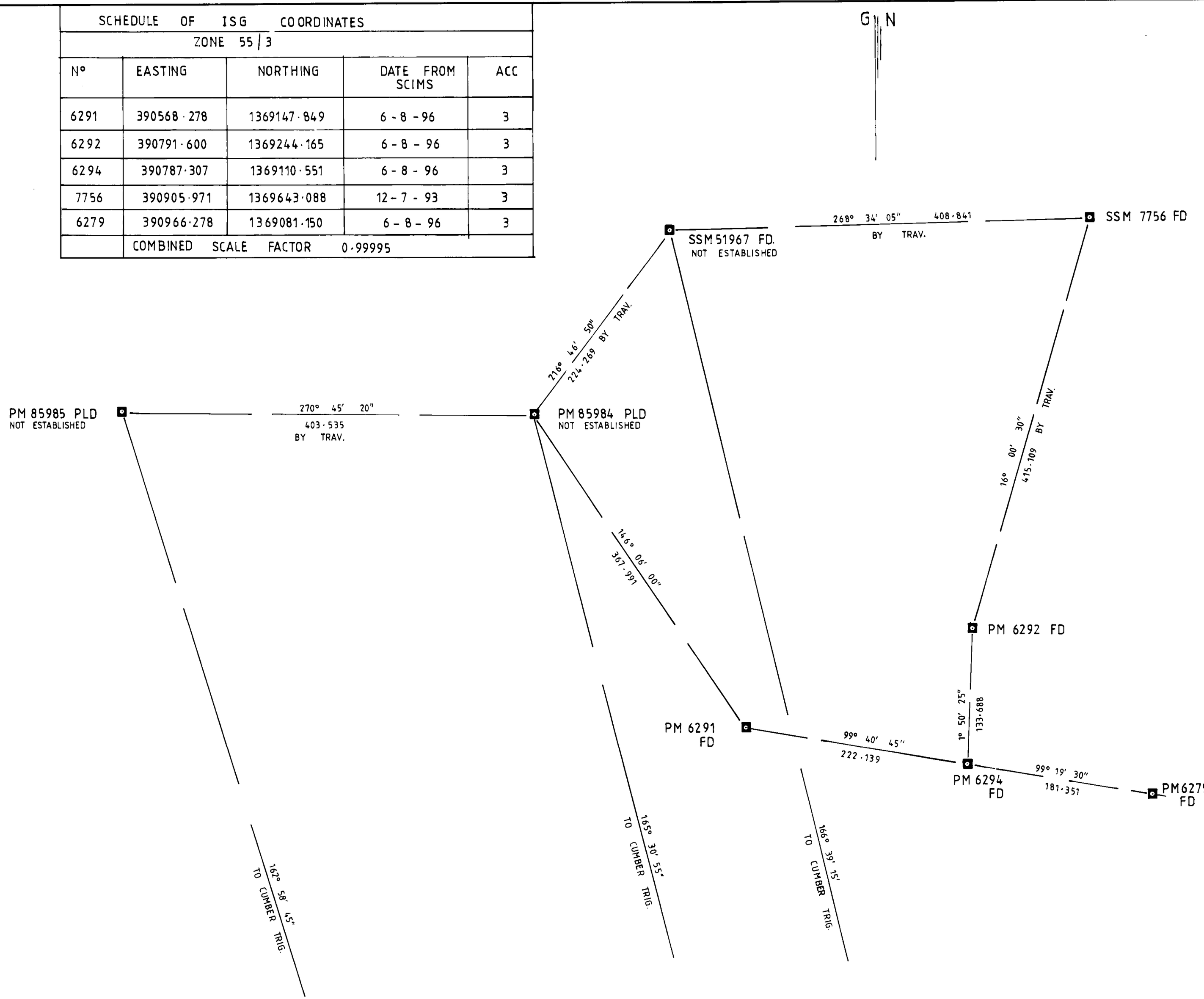
PANEL FOR USE ONLY for statements of intention to dedicate public roads, to create public reserves, drainage reserves, easements, restrictions on the use of land or positive covenants.

OLIN-3N

DP 874531

PLAN FORM 3 — To be used in conjunction with Plan Form 2 — WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION — *OFFICE USE ONLY

SCHEDULE OF ISG COORDINATES				
ZONE 55 / 3				
N°	EASTING	NORTHING	DATE FROM SCIMS	ACC
6291	390568·278	1369147·849	6-8-96	3
6292	390791·600	1369244·165	6-8-96	3
6294	390787·307	1369110·551	6-8-96	3
7756	390905·971	1369643·088	12-7-93	3
6279	390966·278	1369081·150	6-8-96	3
	COMBINED SCALE FACTOR 0·99995			



DP 874531

Registered: 6.2.1998

This is sheet 2 of my plan in 2 sheets dated 25 / 11 / 96

Surveyor registered under Surveyors Act 1929

This is sheet of the plan of sheets covered by my Certificate No. of

General Manager/Authorised Person

For use where space is insufficient in any panel on Plan Form 2.

DP 874531

Reduction Ratio 1: 2500

Plan Drawing only to appear in this space

SURVEYOR'S REFERENCE: SI 96/71

Req:R526106 /Doc:DP 0874531 P /Rev:12-Feb-1998 /Sts:OK.OK /Prt:30-Aug-2006 10:37 /Pgs:ALL /Seq:2 of 2
Ref:BPB /Src:M

Appendix B – AHIMS Search

AHIMS Web Services (AWS)
Search Result

Your Ref/PO Number : 05

Client Service ID : 724879

Barnson

Date: 20 October 2022

Unit 1/36 Darling Street
Dubbo New South Wales 2830

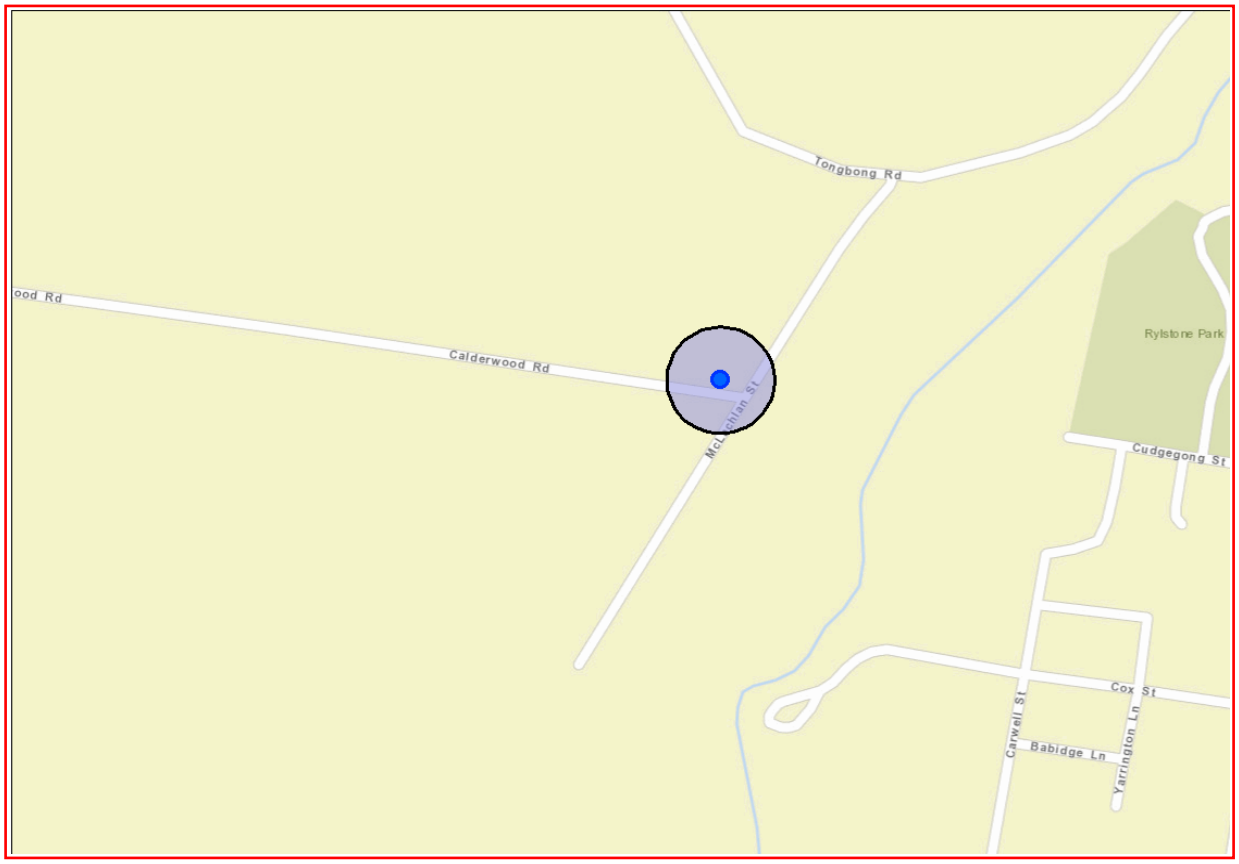
Attention: Sebastian Minehan

Email: sminehan@barnson.com.au

Dear Sir or Madam:

AHIMS Web Service search for the following area at Address : 11 MCLACHLAN STREET RYLSTONE 2849 with a Buffer of 50 meters, conducted by Sebastian Minehan on 20 October 2022.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of Heritage NSW AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

0	**Aboriginal sites are recorded in or near the above location.**
0	**Aboriginal places have been declared in or near the above location. ***

If your search shows Aboriginal sites or places what should you do?

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the NSW Government Gazette (https://www.legislation.nsw.gov.au/gazette) website. Gazettal notices published prior to 2001 can be obtained from Heritage NSW upon request

Important information about your AHIMS search

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Heritage NSW and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date. Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.

Level 6, 10 Valentine Ave, Parramatta 2150
Locked Bag 5020 Parramatta NSW 2124
Tel: (02) 9585 6345

ABN 34 945 244 274
Email: ahims@environment.nsw.gov.au
Web: www.heritage.nsw.gov.au

Appendix C – Development Plans

PROPOSED DUAL OCCUPANCY

11 McLACHLAN STREET RYLSTONE NSW 2849

DRAWING SCHEDULE.

A 00	COVER SHEET	REV F	DATED 15.11.2022
A 01	SITE PLAN	REV F	DATED 15.11.2022
A 02	PROPOSED FLOOR PLAN - UNIT 1	REV F	DATED 15.11.2022
A 03	ELEVATIONS - UNIT 1	REV F	DATED 15.11.2022
A 04	PROPOSED FLOOR PLAN - UNIT 2	REV F	DATED 15.11.2022
A 05	ELEVATIONS - UNIT 2	REV F	DATED 15.11.2022
A 06	SECTIONS	REV B	DATED 15.11.2022

PROJECT DESCRIPTION.

For the purpose of the Building Code of Australia, Vol. 1, 2019, the development may be described as follows:

classification - BCA 'part A6'
The building has been classified as a 'Class 1a' building

rise in stories - BCA 'part C1.2'
The building has a rise in stories of one.

effective height - BCA 'schedule 3 definitions'
The building has an effective height of zero, ie less than 25.0m.

type of construction required - BCA 'part A6, part C1.1 - table C1.1'
Class 1a building - Type 'C' construction. The building has been deemed 'conditioned' excluding the toilets & airlocks.

climate zone - BCA 'schedule 3 definitions'
The building is located within climate zone 6.

GENERAL NOTES.

In addition to the National Construction Code series, Building Code of Australia Vol. 1, 2019, the Plumbing Code of Australia, 2019 & the building regulations applicable to the state of New South Wales, the following applicable Australian Standards & codes of practice are to be adhered to through the documentation & construction works;

AS1668 – Mechanical ventilation & air conditioning in Buildings
AS3000 – Electrical installations; buildings, structures & premises (known as the saa wiring rules) AS1428.1 – General requirements for access – buildings
AS2890.6 – Off-street parking; mandatory requirements
AS1680.0 – Interior lighting - safe movement
Children (Education & Care Services) Regulation 2011

These drawings shall be read in conjunction with all architectural & other consultants drawings & specifications & with such other written instructions as may be issued during the course of the contract. All discrepancies shall be referred to 'Barnson Pty Ltd' for a decision before proceeding with the work.

All dimensions are in millimetres unless stated otherwise & levels are expressed in metres. Figured dimensions are to be taken in preference to scaled dimensions unless otherwise stated. All dimensions are nominal, and those relevant to setting out & off-site work shall be verified by the contractor before construction & fabrication.

LOCALITY PLAN.

11 mclachlan st, rylestone 2849 lot 121, dp755426

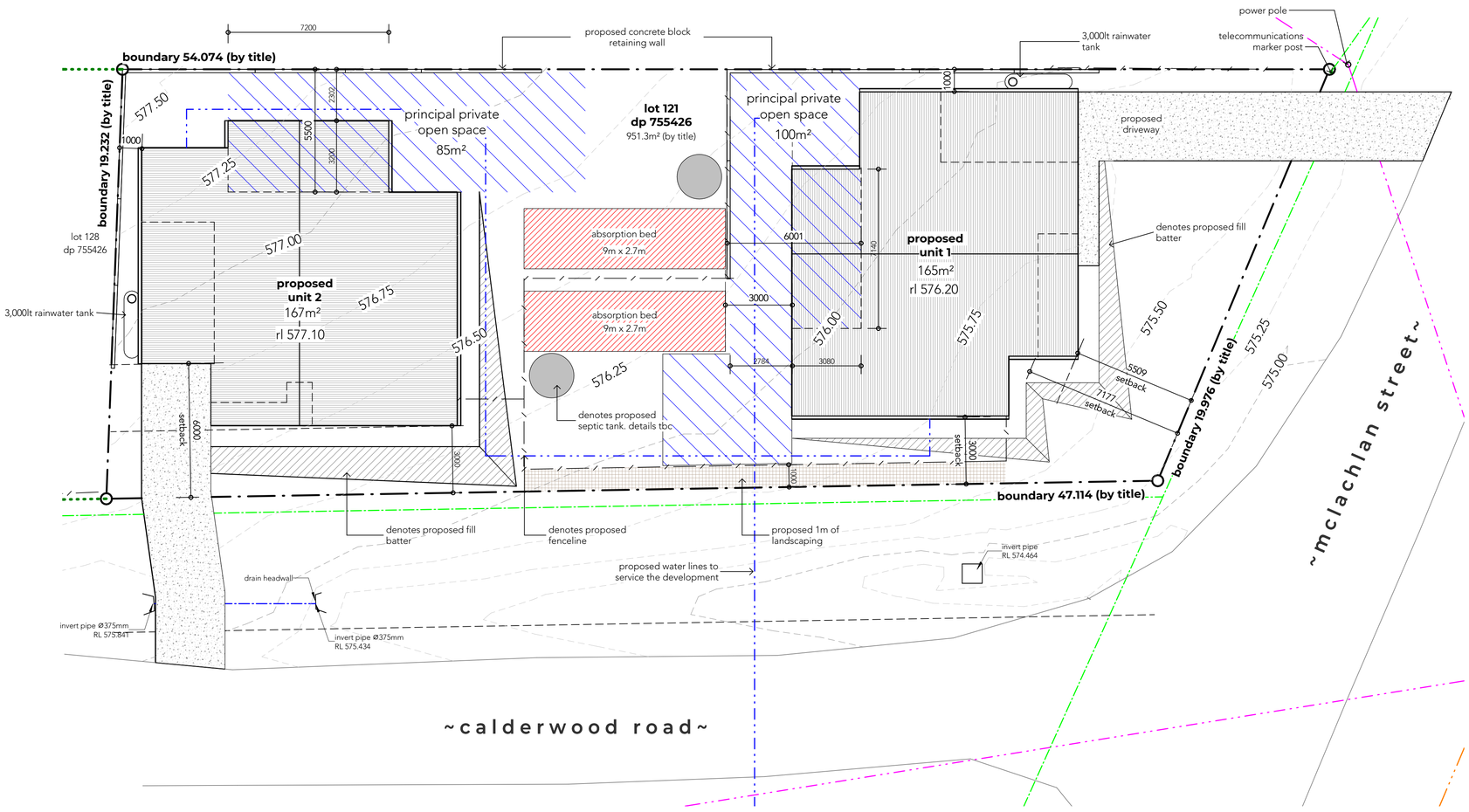
barnson.
DESIGN . PLAN . MANAGE

Project.
PROPOSED DUAL OCCUPANCY
Site Address.
11 McLACHLAN STREET RYLSTONE NSW 2849
Client.
ADAM WORSLEY

Drawing Title.
COVER SHEET

Scale.	As indicated @ A1	Drawn.	CF
Sheet.	01 of 07	Checked.	CF
Project No.	39082	Revision.	F

Drawing No.
39082-A00



01 SITE LAYOUT

Scale 1 : 120 @ A1

0 1000 2000 4000 10000

EXISTING SITE LEGEND

- proposed boundary
- existing boundary
- existing major contours
- existing minor contours
- existing driveways
- underground telecommunications line
- overhead electrical lines

SITE NOTES.

GENERAL

This plan is prepared from a combination of field survey & existing records for the purpose of designing new constructions on the land & should not be used for any other purpose. The title boundaries as shown hereon were not marked at the time of survey & have been determined by plan dimensions only & not by field survey.

Services shown hereon have been located where possible by field survey. If not able to be so located services have been plotted from the records of relevant authorities where available & have been noted accordingly on this plan. Where such records either do not exist or are inadequate a notation has been made hereon.

Contractors must verify all dimensions & existing levels on site prior to commencement of work.

Prior to any demolition, excavation or construction on the site, the relevant authority should be contacted for possible location of further underground services & detailed locations of all services, including;
- notify a.G.L.
- obtain telstra's "duty of care" document regarding working in the vicinity of telstra plant.
- verify co-axial/optic fibre cable location

Subsequent registered or other surveys in this area may affect the boundary definition shown on this plan. Any differences so caused to the boundary definition shown on this plan are beyond the control of Barnson Pty Ltd who can accept no responsibility for such differences.

All work to be undertaken in accordance with the details shown on the drawings, the specifications & the directions of the superintendent. Contractors must verify all dimensions & existing levels on site prior to commencement of work.

Where new works abut existing the contractor shall ensure that a smooth even profile free from abrupt changes is obtained.

The contractor shall arrange all survey setout to be carried out by a registered surveyor.

DRAINAGE

Stormwater shall be prevented from entering doorways & other openings in buildings. Where these are lower than adjacent ground surfaces, grated drains shall be designed & placed across ramps or entrances to intercept any flow, which would otherwise drain into the building in accordance with *AS/NZS 3500.3, P5.3.1.4 - Stormwater drainage*

Site drainage is to be constructed according to *AS/NZS 3500.3 - Stormwater drainage.*

The contractor shall provide all temporary diversion drains & mounds to ensure that at all time exposed surfaces are free draining & where necessary excavate sumps & provide pumping equipment to drain exposed areas.

ISSUED FOR DA

barnson.
DESIGN . PLAN . MANAGE

BARNSON PTY LTD

address. Unit 1, 36 Darling Street
Dubbo NSW 2830
phone. 1300 BARNSON (1300 227 676)
email. generalenquiry@barnson.com.au
web. barnson.com.au

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Rev.	Date.	Amendment.
A	18.08.2022	PRELIMINARY
B	09.09.2022	CONCEPT REVISED
C	13.09.2022	REVISED CONCEPT
D	14.20.2022	REVISED CONCEPT AS PER COUNCIL COMMENTS
E	08.11.2022	PRELIM. DA ISSUE
F	15.11.2022	ISSUED FOR DA

Project.
PROPOSED DUAL OCCUPANCY

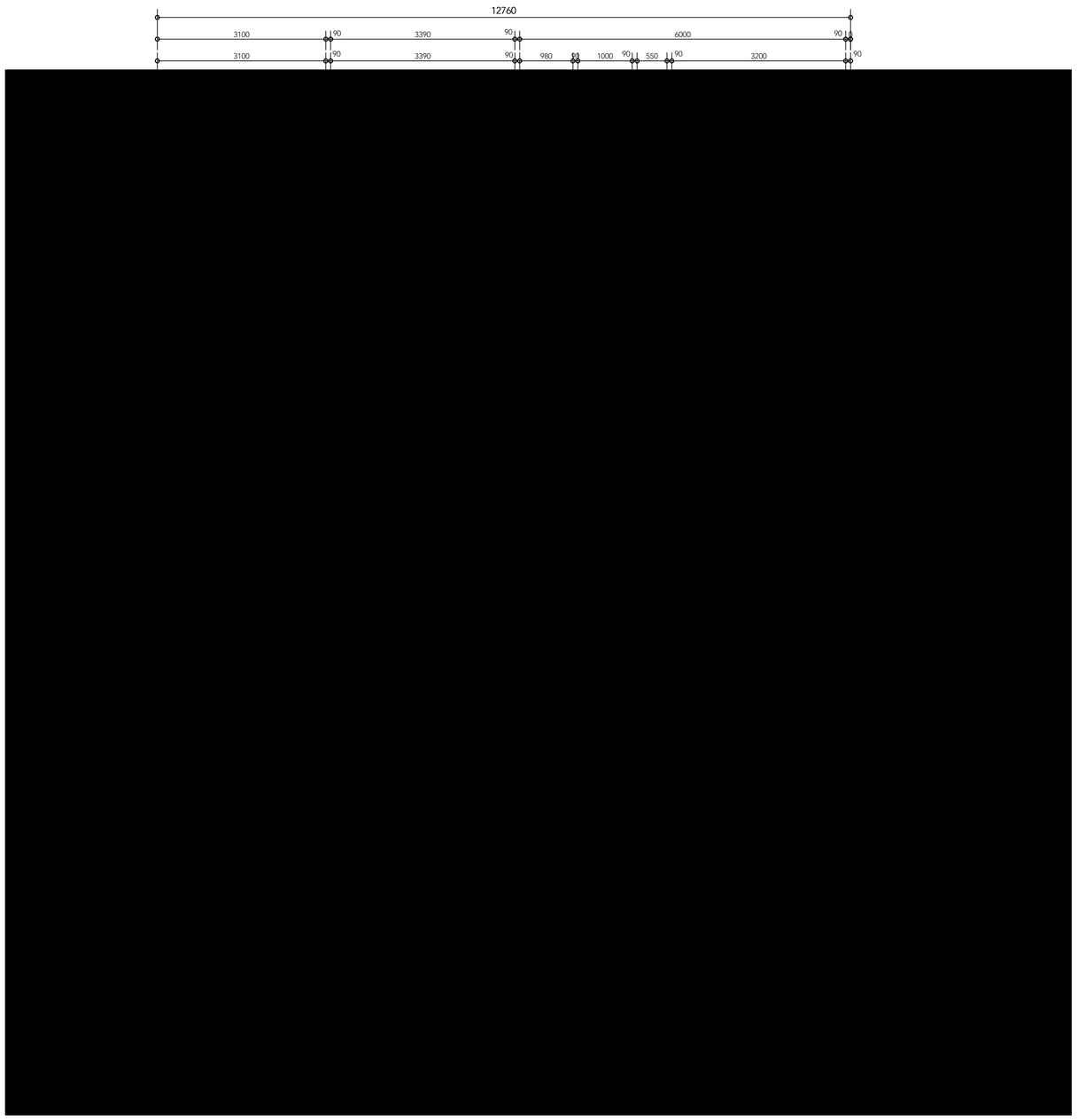
Site Address.
11 McLACHLAN STREET RYLSTONE NSW 2849

Client.
ADAM WORSLEY

Drawing Title.
SITE PLAN

Scale. As indicated @ A1
Sheet. 02 of 07
Project No. 39082
Drawn.
Checked.
Revision. F

Drawing No.
39082-A01



02

UNIT 1 FLOOR PLAN

Scale 1 : 50 @ A1

0 500 1000 2000 5000

floor area - unit 1

porch	10 m²
garage	19 m²
alfresco	22 m²
living	114 m²
OVERALL TOTAL	165 m²

door schedule - unit 1

mark	height	width	type	description
01	2200	2400	2.2 (H) x 2.4 (W) 2	1 / single automatic steel roller door
02	2040	1200	1200 2	steel door frame - 1 / solid core hinged door with select paint finish
03	2040	820	820	timber door frame - 1 / internal hollow core cavity sliding door
04	2040	820	820	timber door frame - 1 / internal hollow core hinged door
05	2040	820	820	timber door frame - 1 / internal hollow core hinged door
06	2040	820	820	timber door frame - 1 / internal hollow core hinged door
07	2040	820	820	timber door frame - 1 / internal hollow core hinged door
08	2040	820	820	timber door frame - 1 / internal hollow core hinged door
09	2090	720	720	timber door frame - 1 / internal hollow core cavity sliding door

window schedule - unit 1

mark	height	width	**head**	type	description
01	1800	1800	2100	AF/F1818	aluminium framed - one fixed section, one awning section & two fixed sections below
02	1800	900	2100	A/F1809	aluminium framed - one awning section, one fixed section below
03	1800	900	2100	A/F1809	aluminium framed - one awning section, one fixed section below
04	1800	900	2100	A/F1809	aluminium framed - one awning section, one fixed section below
05	1800	900	2100	A/F1809	aluminium framed - one awning section, one fixed section below
06	900	1500	2100	F0915	aluminium framed - one fixed section
07	900	1500	2100	F0915	aluminium framed - one fixed section
08	1800	900	2100	A/F1809	aluminium framed - one awning section, one fixed section below
09	1800	900	2100	A/F1809	aluminium framed - one awning section, one fixed section below
10	600	1500	1600	F0615	aluminium framed - one fixed section
11	2100	2700	2100	FXX2127 STACKER	aluminium framed - two stacking door sections, one fixed section
12	1800	1800	2100	AF/F1818	aluminium framed - one fixed section, one awning section & two fixed sections below

ISSUED FOR DA

barnson.
DESIGN . PLAN . MANAGE

BARNSON PTY LTD

address. Unit 1, 36 Darling Street
Dubbo NSW 2830
phone. 1300 BARNSON (1300 227 676)
email. generalenquiry@barnson.com.au
web. barnson.com.au

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C	13.09.2022	REVISED CONCEPT
D	14.20.2022	REVISED CONCEPT AS PER COUNCIL COMMENTS
E	08.11.2022	PRELIM. DA ISSUE
F	15.11.2022	ISSUED FOR DA

Project.
PROPOSED DUAL OCCUPANCY

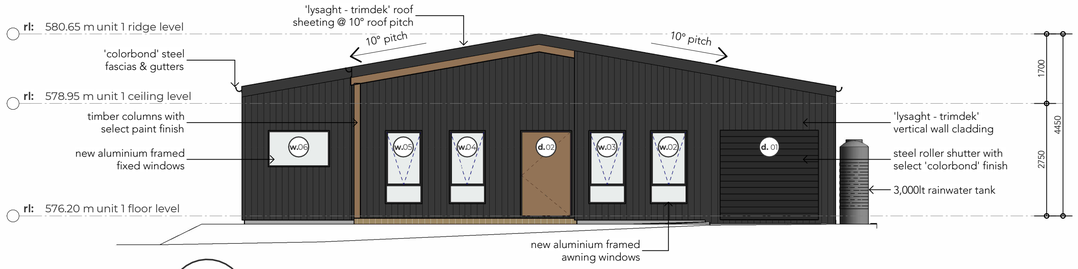
Site Address.
11 McLACHLAN STREET RYLSTONE NSW 2849

Client.
ADAM WORSLEY

Drawing Title.
PROPOSED FLOOR PLAN - UNIT 1

Scale. 1 : 50 @ A1
Sheet. 03 of 07
Project No. 39082
Drawn.
Checked.
Revision. F

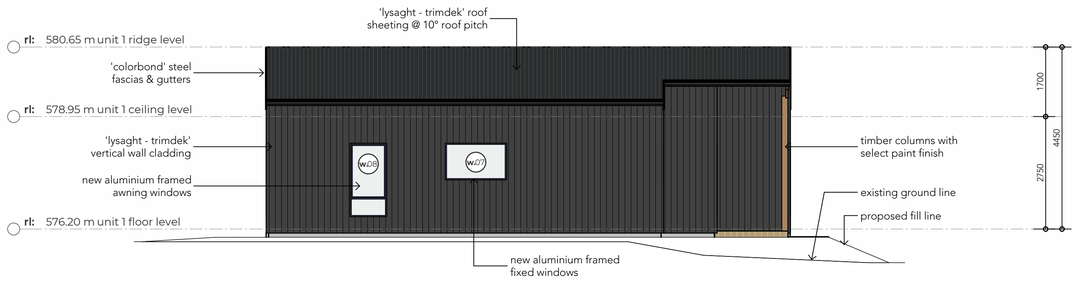
Drawing No.
39082-A02



03 ELEVATION. unit 1 - east

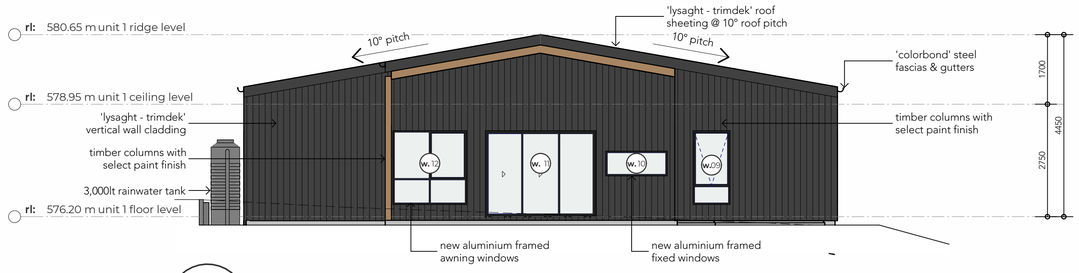
Scale 1 : 75 @ A1

0 750 1500 3000 7500



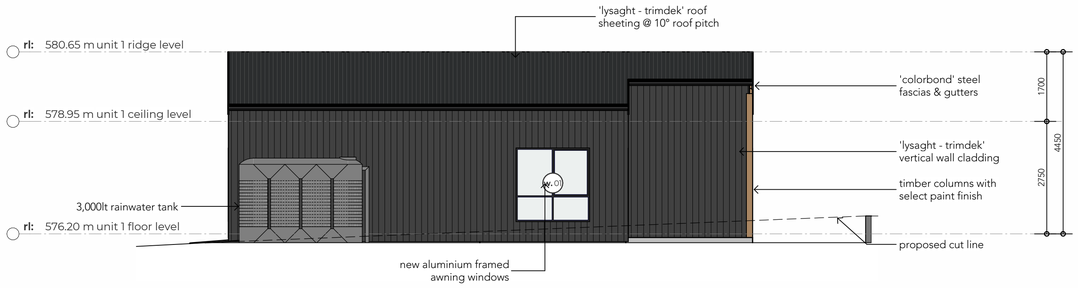
04 ELEVATION. unit 1 - south

Scale 1 : 75 @ A1



05 ELEVATION. unit 1 - west

Scale 1 : 75 @ A1



06 ELEVATION. unit 1 - north

Scale 1 : 75 @ A1

basix certificate commitments:

water commitments

the applicant must comply with the commitments listed below in carrying out the development of the dwelling.

fixtures:
- The applicant must install showerheads with a min. rating of 4 star (>6.0 <=7.5/min plus spray force and/or coverage tests) in all showers in the development
- The applicant must install toilet flushing systems with a min. rating of 4 star in each toilet in the development
- The applicant must install taps with a min. rating of 4 star in the kitchen in the development
- The applicant must install basin taps with a min. rating of 4 star in each bathroom in the development

alternate water source:

The applicant must install a stormwater tank of at least 3,000 litres on the site. This rainwater tank must meet, and be installed in accordance with, the requirements of all applicable regulatory authorities.

The applicant must configure the stormwater tank to collect runoff from:
- at least 170 square metres of roof area of the development (excluding the area of the roof which drains to any rainwater tank or private dam)

The applicant must connect the stormwater tank to:
- the cold water tap that supplies each clothes washer in the development
- at least one outdoor tap in the development (Note: NSW Health does not recommend that rainwater be used for human consumption in areas with potable water supply.)

thermal commitments

the applicant must comply with the commitments listed below in carrying out the developement of the dwelling

general features:
- The dwelling must not have more than 2 storeys.
- The conditioned floor area of the dwelling must not exceed 300 square metres.
- The dwelling must not contain open mezzanine area exceeding 25 square metres.
- The dwelling must not contain third level habitable attic room.

floor, walls and ceiling/roof
- The applicant must construct the floor(s), walls and ceiling/roof of the dwelling in accordance with the specifications listed in the table below.

construction	add. insulation req'd (r-value)	other specifications
floor - concrete slab on ground	nil	
external wall: framed (weatherboard, fibre cement, metal clad)	2.20 (or 2.60 including construction)	
ceiling	ceiling: 4.0 (up), roof: foil/sarking	framed; dark (solar absorptance > 0.70)

glazing requirements

the applicant must comply with the commitments listed below in carrying out the developement of the dwelling

windows & glazed doors:

The applicant must install the windows, glazed doors & shading devices, in accordance with the specifications listed in the table below. Relevant overshadowing specifications must be satisfied for each window & glazed door.

The dwelling may have 1 skylight (<0.7 square metres)

The following requirements must also be satisfied in relation to each window & glazed door:

For the following glass and frame types, the certifier check can be performed by visual inspection.
- Aluminium single clear
- Aluminium double (air) clear
- Timber/uPVC/fibreglass single clear
- Timber/uPVC/fibreglass double (air) clear

windows & glazed doors glazing requirements:

Window no.	Maximum height (mm)	Maximum width (mm)	Type	Shading Device (Dimension within 10%)
North facing				
w01	1800	1800	aluminium, single, clear	none
East facing				
w02	1800	900	aluminium, single, clear	none
w03	1800	900	aluminium, single, clear	none
w04	1800	900	aluminium, single, clear	eave 1790 mm, 1890 mm above head of window or glazed door
w05	1800	900	aluminium, single, clear	eave 1790 mm, 1615 mm above head of window or glazed door
w06	900	1500	aluminium, single, clear	none
South facing				
w07	900	1500	aluminium, single, clear	none
w08	1800	900	aluminium, single, clear	none
West facing				
w09	1800	900	aluminium, single, clear	none
w10	600	1500	aluminium, single, clear	eave 3100 mm, 2285 mm above head of window or glazed door
w11	2100	2700	aluminium, single, clear	eave 3100 mm, 2200 mm above head of window or glazed door
w12	1800	1800	aluminium, single, clear	eave 3100 mm, 1725 mm above head of window or glazed door

energy commintments

the applicant must comply with the commitments listed below in carryinh out the developement of the dwelling

hot water:
- The applicant must install the following hot water system in the development, or a system with a higher energy rating: solar (electric boosted) with a performance of 26 to 30 STCs or better.

cooling system:
- The applicant must install the following cooling system, or a system with a higher energy rating, in at least 1 living area: 1-phase airconditioning; Energy rating: 5 Star (cold zone)
- The applicant must install the following cooling system, or a system with a higher energy rating, in at least 1 bedroom: 1-phase airconditioning; Energy rating: 5 star (cold zone)

heating system:
- The applicant must install the following heating system, or a system with a higher energy rating, in at least 1 living area: 1-phase air conditioning; Energy rating: 7 Star (cold zone)
- The applicant must install the following heating system, or a system with a higher energy rating, in at least 1 bedroom: 1-phase airconditioning; Energy rating: 5 star (cold zone)

ventilation:
- at least 1 bathroom: individual fan, ducted to facade or roof; Operation control: manual switch on/off
- kitchen: individual fan, ducted to facade or roof; Operation control: manual switch on/off
- laundry: individual fan, not ducted; Operation control: manual switch on/off

natural lighting:
- The applicant must install a window and/or skylight in the kitchen of the dwelling for natural lighting
- The applicant must install a window and/or skylight in 1 bathroom(s)/toilet(s) in the development for natural lighting.

other:
- The applicant must install a electric cooktop & electric oven in the kitchen of the dwelling
- The applicant must construct each refrigerator space in the development so that it is "well ventilated", as defined in the BASIX definitions.
- The applicant must install a fixed outdoor clothes drying line as part of the development.

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Project.
PROPOSED DUAL OCCUPANCY

Site Address.
11 McLACHLAN STREET RYLSTONE NSW 2849

Client.
ADAM WORSLEY

Drawing Title.
ELEVATIONS - UNIT 1

Scale. As indicated @ A1

Sheet. 04 of 07

Project No. 39082

Drawn.

Checked.

Revision. F

Drawing No.
39082-A03

07 UNIT 2 FLOOR PLAN

Scale 1 : 50 @ A1

0 500 1000 2000 5000

floor area - unit 2

porch	6 m²
garage	20 m²
Alfresco	23 m²
living	118 m²
OVERALL TOTAL	167 m²

door schedule - unit 2

mark	height	width	type	description
01	2040	1200	1200	timber door frame - 1 / external solid core hinged door
02	2040	820	820	timber door frame - 1 / internal hollow core hinged door
03	2040	820	820	timber door frame - 1 / internal hollow core hinged door
04	2040	820	820	timber door frame - 1 / internal hollow core hinged door
05	2040	820	820	timber door frame - 1 / internal hollow core cavity sliding door
06	2040	820	820	timber door frame - 1 / internal hollow core hinged door
07	2040	820	820	timber door frame - 1 / internal hollow core hinged door
08	2200	2400	2.2 (H) x 2.4 (W)	1 / single automatic steel roller door

window schedule - unit 2

mark	height	width	**head**	type	description
01	1800	900	2100	A/F1809	aluminium framed - one awning section, one fixed section below
02	1800	900	2100	A/F1809	aluminium framed - one awning section, one fixed section below
03	1800	900	2100	A/F1809	aluminium framed - one awning section, one fixed section below
04	1800	900	2100	A/F1809	aluminium framed - one awning section, one fixed section below
05	1800	900	2100	A/F1809	aluminium framed - one awning section, one fixed section below
06	900	1500	2100	F0915	aluminium framed - one fixed section
07	600	1500	1550	F0615	aluminium framed - one fixed section
08	2100	3200	2100	FXX2132 STACKER	aluminium framed - two stacking door sections, one fixed section
09	1800	900	2143	A/F1809	aluminium framed - one awning section, one fixed section below
10	1800	900	2143	A/F1809	aluminium framed - one awning section, one fixed section below
11	1800	900	2100	A/F1809	aluminium framed - one awning section, one fixed section below
12	1800	900	2100	A/F1809	aluminium framed - one awning section, one fixed section below

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PROPOSED DUAL OCCUPANCY

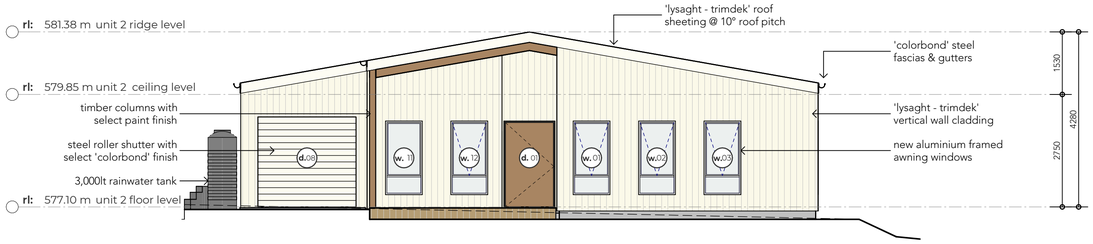
Site Address.
11 McLACHLAN STREET RYLSTONE NSW 2849

Client.
ADAM WORSLEY

Drawing Title.
PROPOSED FLOOR PLAN - UNIT 2

Scale. 1 : 50 @ A1
Sheet. 05 of 07
Project No. 39082
Drawn.
Checked.
Revision. F

Drawing No.
39082-
A04



08 **ELEVATION.** unit 2 - south

Scale 1 : 75 @ A1

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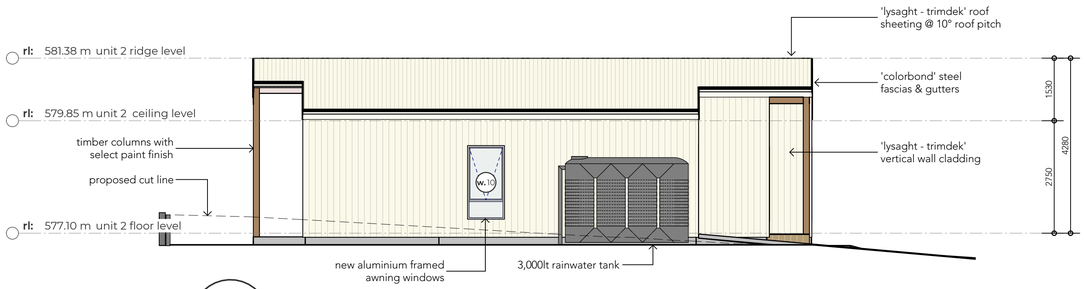

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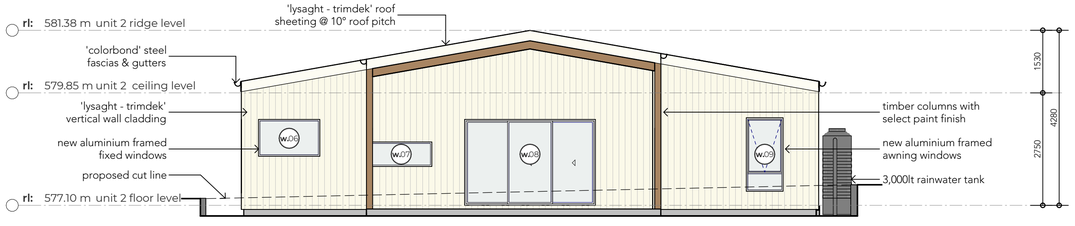

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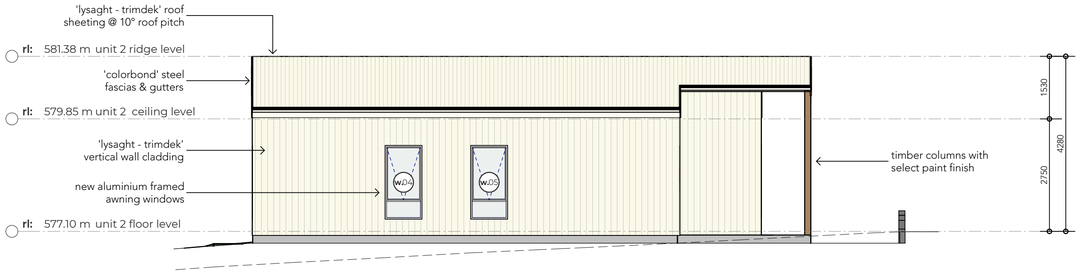

11 **ELEVATION.** unit 2 - east

Scale 1 : 75 @ A1

basix certificate commitments:

water commitments

the applicant must comply with the commitments listed below in carrying out the development of the dwelling.

fixtures:
- The applicant must install showerheads with a min. rating of 4 star (>6.0 <=7.5/min plus spray force and/or coverage tests) in all showers in the development
- The applicant must install toilet flushing systems with a min. rating of 4 star in each toilet in the development
- The applicant must install taps with a min. rating of 4 star in the kitchen in the development
- The applicant must install basin taps with a min. rating of 4 star in each bathroom in the development

alternate water source:
- The applicant must install a stormwater tank of at least 3,000 litres on the site. This rainwater tank must meet, and be installed in accordance with, the requirements of all applicable regulatory authorities.
- The applicant must configure the stormwater tank to collect runoff from:
  - at least 170 square metres of roof area of the development (excluding the area of the roof which drains to any rainwater tank or private dam)
- The applicant must connect the stormwater tank to:
  - the cold water tap that supplies each clothes washer in the development
  - at least one outdoor tap in the development (Note: NSW Health does not recommend that rainwater be used for human consumption in areas with potable water supply.)

thermal commitments

the applicant must comply with the commitments listed below in carryinh out the developement of the dwelling

general features:
- The dwelling must not have more than 2 storeys.
- The conditioned floor area of the dwelling must not exceed 300 square metres.
- The dwelling must not contain open mezzanine area exceeding 25 square metres.
- The dwelling must not contain third level habitable attic room.

floor, walls and ceiling/roof
- The applicant must construct the floor(s), walls and ceiling/roof of the dwelling in accordance with the specifications listed in the table below.

construction	add. insulation req'd (r-value)	other specifications
floor - concrete slab on ground	nil	
external wall: framed (weatherboard, fibre cement, metal clad)	2.20 (or 2.60 including construction)	
ceiling	ceiling: 4.0 (up), roof: foil/sarking	framed; light (solar absorptance < 0.475)

glazing requirements

the applicant must comply with the commitments listed below in carrying out the developement of the dwelling

windows & glazed doors:

The applicant must install the windows, glazed doors & shading devices, in accordance with the specifications listed in the table below. Relevant overshadowing specifications must be satisfied for each window & glazed door.

The dwelling may have 1 skylight (<0.7 square metres)

The following requirements must also be satisfied in relation to each window & glazed door:

For the following glass and frame types, the certifier check can be performed by visual inspection.
- Aluminium single clear
- Aluminium double (air) clear
- Timber/uPVC/fibreglass single clear
- Timber/uPVC/fibreglass double (air) clear

windows & glazed doors glazing requirements:

Window no.	Maximum height (mm)	Maximum width (mm)	Type	Shading Device (Dimension within 10%)
North facing				
w09	1800	900	aluminium, single, clear	none
w08	2100	3200	aluminium, single, clear	eave 3260 mm, 2025 mm above head of window or glazed door
w07	600	1500	aluminium, single, clear	eave 3260 mm, 2020 mm above head of window or glazed door
w06	900	1500	aluminium, single, clear	none
East facing				
w05	1800	900	aluminium, single, clear	none
w04	1800	900	aluminium, single, clear	none
South facing				
w01	1800	900	aluminium, single, clear	none
w02	1800	900	aluminium, single, clear	none
w03	1800	900	aluminium, single, clear	none
w11	1800	900	aluminium, single, clear	eave 1100 mm, 1765 mm above head of window or glazed door
w12	1800	900	aluminium, single, clear	eave 1100 mm, 1480 mm above head of window or glazed door
West facing				
w09	1800	900	aluminium, single, clear	none

energy commintments

the applicant must comply with the commitments listed below in carryinh out the developement of the dwelling

hot water:	· The applicant must install the following hot water system in the development, or a system with a higher energy rating: gas instantaneous with a performance of more than 4.5 stars
cooling system:	· The applicant must install the following cooling system, or a system with a higher energy rating, in at least 1 living area: 1-phase airconditioning; Energy rating: 7 Star (cold zone) · The applicant must install the following cooling system, or a system with a higher energy rating, in at least 1 bedroom: 1-phase airconditioning; Energy rating: 5 star (cold zone)
heating system:	· The applicant must install the following heating system, or a system with a higher energy rating, in at least 1 living area: 1-phase air conditioning; Energy rating: 7 Star (cold zone) · The applicant must install the following heating system, or a system with a higher energy rating, in at least 1 bedroom: 1-phase airconditioning; Energy rating: 5 star (cold zone)
ventilation:	· at least 1 bathroom: individual fan, ducted to facade or roof; Operation control: manual switch on/off · kitchen: individual fan, ducted to facade or roof; Operation control: manual switch on/off · laundry: individual fan, not ducted; Operation control: manual switch on/off
natural lighting:	· The applicant must install a window and/or skylight in the kitchen of the dwelling for natural lighting · The applicant must install a window and/or skylight in 2 bathroom(s)/toilet(s) in the development for natural lighting.
other:	· The applicant must install a electric cooktop & electric oven in the kitchen of the dwelling · The applicant must construct each refrigerator space in the development so that it is "well ventilated", as defined in the BASIX definitions. · The applicant must install a fixed outdoor clothes drying line as part of the development.

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Project.
PROPOSED DUAL OCCUPANCY

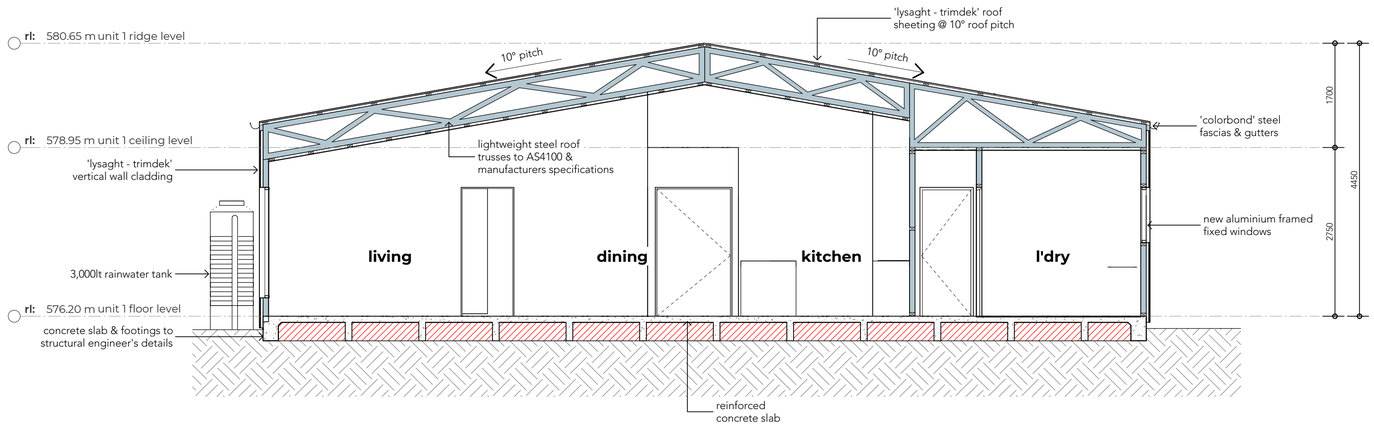
Site Address.
11 McLACHLAN STREET RYLSTONE NSW 2849

Client.
ADAM WORSLEY

Drawing Title.
ELEVATIONS - UNIT 2

Scale. As indicated @ A1
Sheet. 06 of 07
Project No. 39082
Drawn.
Checked.
Revision. F

Drawing No.
39082-
A05



12 **DETAIL SECTION.** typical section

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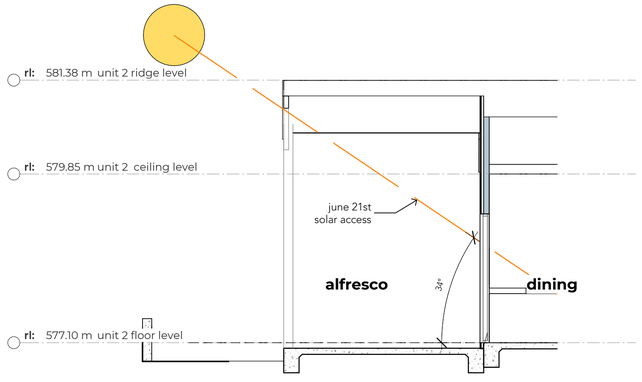

13 **DETAIL SECTION.** unit 2 solar acc

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11 McLACHLAN STREET RYLSTONE NSW 2849

Client.
ADAM WORSLEY

Drawing Title.
SECTIONS

Scale. 1 : 50 @ A1
Sheet. 07 of 07
Project No. 39082
Drawn.
Checked.
Revision. B

Drawing No.
39082-
A06

Appendix D - Effluent Management Reports

Site and Soil Assessment for On-Site Effluent Management System

Assessment Site: 11 Mclachlan Street, Rylstone NSW 2849

Client: Adam Worsely, 21 Windsor Street, Richmond NSW 2830

(Our Reference: 38145-ER01_C)

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APPENDICES

Disclaimer

This report has been prepared solely for Adam Worsely in accordance with the scope provided by the client and for the purpose(s) as outlined throughout this report.

Barnson Pty Ltd accepts no liability or responsibility for or in respect of any use or reliance upon this report and its supporting material by anyone other than the client.

Project Name:	Lot 121 DP755426, 11 Mclachlan Street, Rylstone NSW 2849
Client:	Adam Worsely
Project No.	38145
Report Reference	38145-ER01_C
Date:	22.11.2022
Revision:	Revision C

	Reviewed by:
[redacted]	[redacted]
Jeremy Wiatkowski Geotechnical Technician	Luke Morris B.E. MIEAust CPEng (NPER) Director

1.0 SYSTEM OVERVIEW

The following table provides a summary of the information for a sustainable onsite effluent management system proposed at Lot 121 DP755426, 11 Mclachlan Street, Rylstone NSW 2849. The following sections of this report provide site specific details justifying the section type.

Table 1 : System Overview

Site Assessor	Jeremy Wiatkowski
Client	Adam Worsely
Site Location	"Lot 121 DP755426", 11 Mclachlan Street, Rylstone NSW
No. of Bedrooms	2 x 3 Bedrooms dwellings
Water Source	Rainwater roof collection
Estimated Daily Flow (L/day)	960L/Day based on 8 people by at 120L/person/day (4 people per dwelling)
Tank Recommendation	Aerated Wastewater Treatment System (AWTS)
Tank Capacity	As per section 6.3 the minimum size tank required is >4000L
Sub Soil Assessment Class	Field assessment and subsequent laboratory tests have classed the subsoil as category 4, as shown in section 3.5.
Sub Soil Recommended Hydraulic Loading mm/day (DIR/DLR)	Bed/trench systems in category 4 soils have a design-loading rate of 20mm/day for secondary treated effluent. (Refer to Table 7)
Recommended Effluent Application Type	Due to the category 4 soil (Clay Loams) it is recommended that an absorption bed be utilised to disperse onsite wastewater.
Effluent Design Criteria	*As per section 7.0 the minimum application area was determined by calculating the requirements of hydraulic loading. As shown 2 absorption beds of 9m long x 2.7m wide is required to dispose of the proposed hydraulic load.* *Client to confirm system will fit in site setback constraints*

2.0 INTRODUCTION

2.1 Overview

Barnson Pty Ltd on behalf of Adam Worsely has prepared this report for submission to Mid-Western Regional Council. This report provides direction for sustainable on-site effluent management for a two 3-bedroom residence, on Lot 121 DP755426, at 11 Mclachlan Street, Rylstone NSW (refer **Figure 1).**

2.2 Key References

The following key references were utilised as part of this assessment:

- AS/NZS 1547:2012. *On-site Domestic Wastewater Management;*
- NSW Government 1998. *On site Sewerage Management for Single Households* (The Silver Book/OSMSH);
- NSW Government 2000. *The Easy Septic Tank Guide.* Developed by Social Change Media for the NSW Department of Local Government;
- NSW Health, 2001. 'Septic Tank and Collection Well Accreditation Guidelines";
- Mid-Western Regional Council Local Environment Plan, 2012;
- Mid-Western Local Environment Plan, 2011;
- Murphy B.W. & Lawrie J.W. 1998. Soil Landscapes of the Dubbo 1:250 000 Sheet Report, DLWC.
- Sydney Catchment Management Authority, 2019. *Designing and Installing On-Site Wastewater Systems;*

2.3 Disposal System

Figure 1 illustrates the site location. **Figure 2** illustrates the proposed buffer, setback areas and approved application area.

The wastewater disposal system proposed for this site is an AWTS into a series of absorption beds.

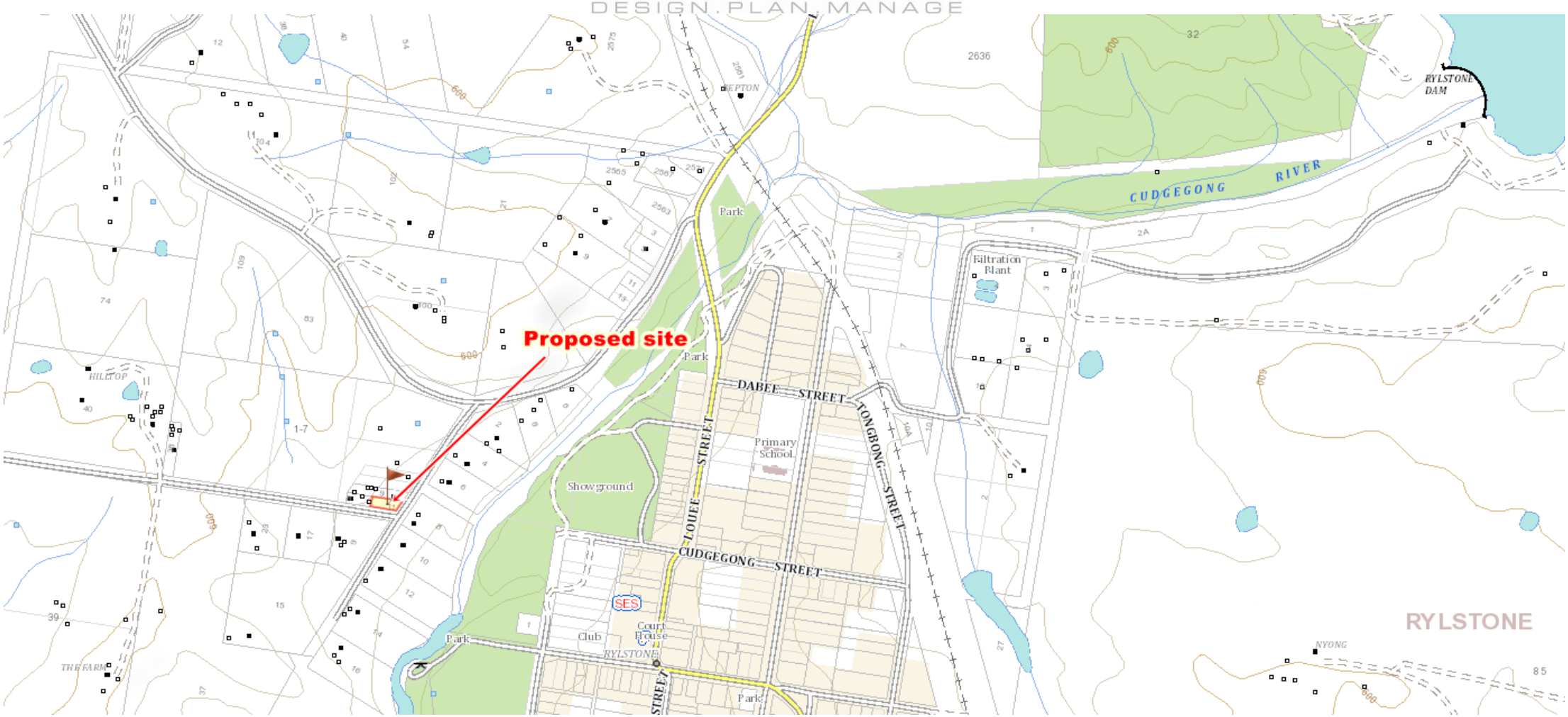

Figure 1 – Site Location Plan

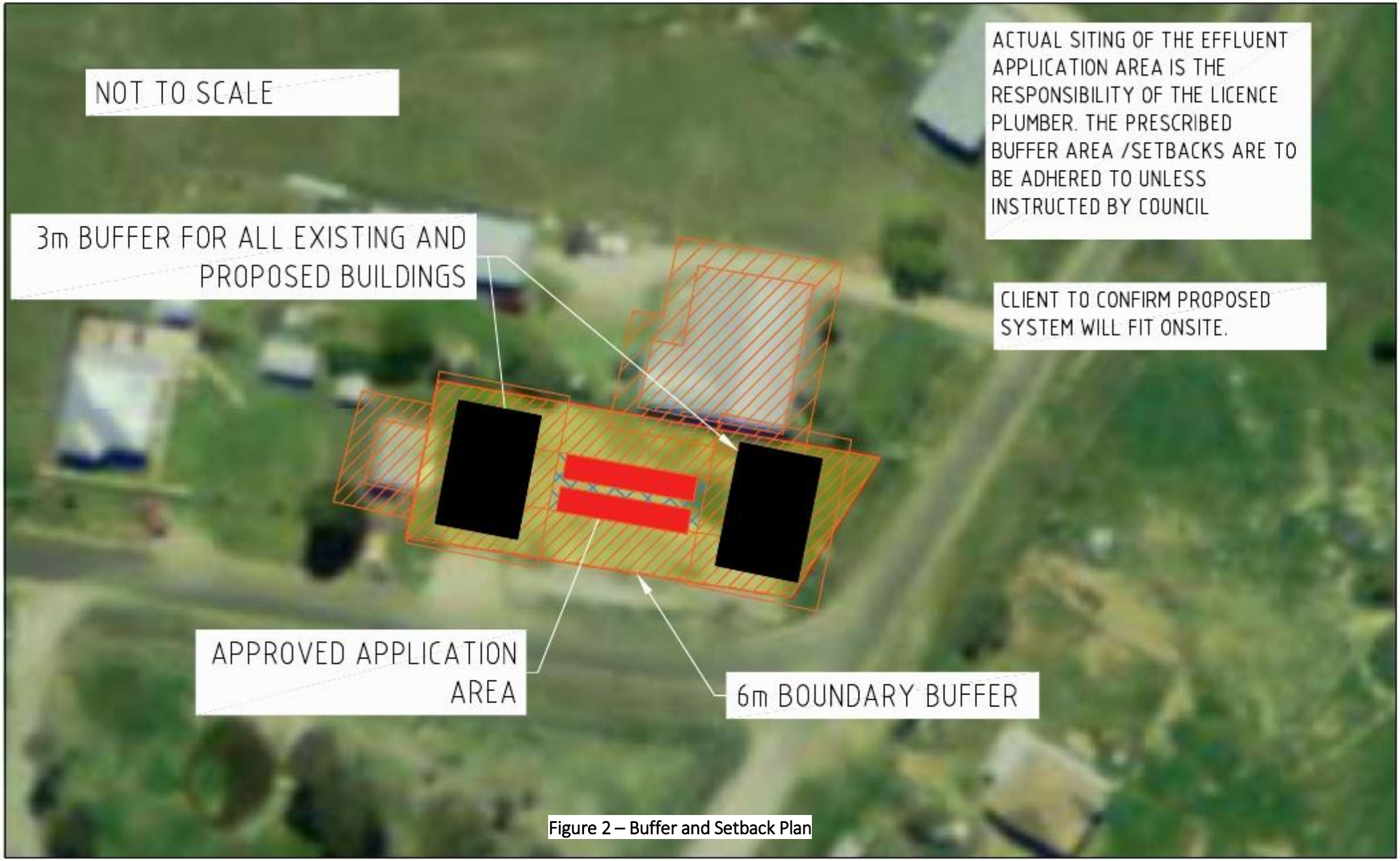

Figure 2 – Buffer and Setback Plan

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Project:	EFFLUENT MANAGEMNT SYSTEM
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Design	JW
Drawn	JW
Check	LM
Original Sheet Size = A4	
Certification	
Drawing Number	38145-GD01
Revision	B

3.0 SITE AND SOIL EVALUATION

3.1 Site Evaluators Details

The following table provides an overview of the evaluator's particulars.

Table 2: Details

Name / Role	Jeremy Wiatkowski
Role/ Qualifications	Geotechnical Technician
Company	Barnson Pty Ltd
Company Address	1/36 Darling Street Dubbo NSW 2830
Contact Details	1300 BARNSON
Date of Assessment	01/12/2021

3.2 Site Information

The following table provides an overview of the site information.

Table 3: Site Particulars

Address/Locality	11 Mclachlan Street, Rylstone NSW Lot 121 DP755426
Local Government Area	Mid-Western Regional Council
Owner	Adam Worsely
Developer/Builder	Owner/Builder
Block Configuration	Approximately 0.12ha
Intended Water Supply	Rainwater roof collection supplied
Intended Power Supply	Supplied
Local Experience	Care needs to be taken to minimise runoff and erosion. Systems commonly malfunction due to lack of ongoing maintenance. The system is to be inspected and maintained regularly in accordance with manufacturer details, Council requirements, and prescriptions identified in this report.

3.3 Desktop Assessment

The following information was obtained via desktop review of the site.

Table 4: Desktop Assessment Details

Climate Overview[1]		Annual Average Rainfall for Rylstone is 669.5mm. Warm summers with large evaporative deficit, cool winters with small evaporative deficit. The mean summer monthly rainfall (January) is 67.7mm. The mean winter rainfall (July) is 52.7mm.
Soil Landscape Reference[2]	Area has been mapped within the 'Rylstone" Landscape Group. Siliceous sands are dominant in the area.	
	Surface Conditions	Hard setting
	Drainage	Rapidly drained
	Available water holding capability	Low
	Water table depth	>100
	Depth to bedrock	>50cm
	Flood hazard	Nil
	Expected Nutrient deficiencies	Nitrogen, Phosphorus, Sulfur
	Soil Salinity	Low
	Erosion Hazard	High
Underlying Geology[3]		*"Sandstone, limestone, conglomerate, dolerite, rhyolite, dacite.".*
Groundwater Review		No water bores were found within 500m of the proposed site, as illustrated in **Figure 3.** The area is mapped as being groundwater vulnerable as per the Mid-Western Regional Council LEP map GRV_005 **Figure 4.**

[1] Bureau of Meteorology online Climate Data website

[2] NSW Soil and Land Information System

[3] New South Wales 1:1000000

3.4 Groundwater Review

Although no groundwater information was available, no water bores were identified as occurring within the general area of the allotment. Information relating to historic groundwater report details on water bearing zones and standing water levels is provided in the table below.

Table 5: Groundwater Review

Groundwater Bore Reference	Total Depth (m)	Water Bearing Zones (m)	Standing Water Level (m)	Yield (L/s)	Salinity Yield
N/a	N/a	N/a	N/a	N/a	N/a

Although no groundwater information was available, no water as encountered during the investigation and is it not expected to pose a risk.

3.5 Surface Water Review

The site drains to Cudgegong River is located approximately 150m to east.

Figure 3 – Groundwater Bore Locations

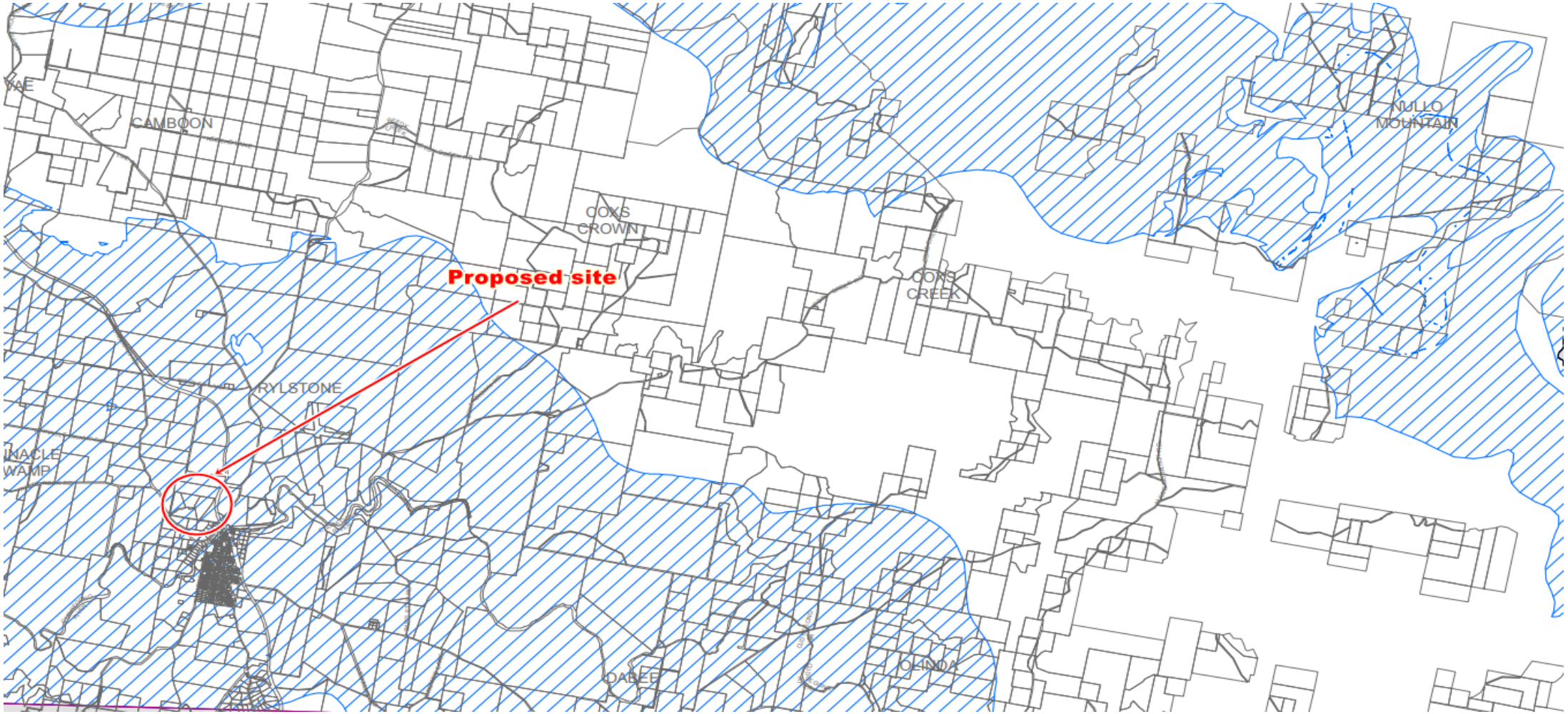


Figure 4 – Groundwater Vulnerability Map GRV_005

3.6 Field Assessment Information

A field inspection was conducted on 01/12/2021. The following table provides detail on the site assessment as well as the field and laboratory results.

Table 6: Site Assessment Details

Water Balance Attached	See *Appendix A*
Exposure	Good exposure.
Slope	The site is sloping slightly to south
Elevation	Approximately 577m.
Run-On	None
Seepage	None
Erosion Potential	Low due to vegetation cover.
Site Drainage	The site drains to Cudgegong River located approximately 170m to east
Fill	None encountered
Surface rock/Outcrops	None encountered

3.7 Soil Assessment

A soil sample was taken and returned to Barnson Pty Ltd for analysis on 01/12/2021. The sample was collected to a depth of 800mm during the site investigation as per AS1289.1.2.1.6.5.3. Laboratory and results are provided at Appendix B. Field assessment parameters were also obtained. The following table provides detail on both field and laboratory assessment results.

Table 7: Soil Assessment Details

Depth to bedrock or hardpan via field assessment		>1.5m
Depth to high soil water table via field assessment		>1.5m
Soil Analysis	pH – subsoil $CaCl_2$ (lab), subsoil	8.5
	Emerson Test Result –subsoils (Lab)	6
	Liquid Limit, Plastic Limit, Plasticity Index, Linear Shrinkage. (%)	LL = 24 PL = 13 PI = 11 LS = 5 See Borelog in **Appendix B**
	Estimated Soil Category–topsoil, subsoil A, subsoil B,	2,3,4
	Structure massive, weak, high, moderate, strong (Field)	High/Moderate Structured
	Soil Profile description	See Borelog in Appendix B
	Sub soil Permeability (from table 5.2 of AS 1547:2012)	0.5-1.5(k_{sat}) (m/d) 20.8-62.5 (mm/hr) (Infiltration is Moderate)
	Recommended Hydraulic Loading for disposal system (from Table 5.2 of AS 1547:2012)	20mm per day (For secondary treated effluent disposal beds/trenches)

4.0 SITE AND SOIL LIMITATION ASSESSMENT

The following two limitation tables are a standardised guide to the site and soil characteristics which may limit the suitability of the site for effluent disposal and which require attention through specific management practises. The tables have been reproduced from the NSW Government endorsed '*On-Site Sewerage Management for Single Households*' (1998), Tables 8 and 9. The highlighted categories represent site and soil conditions of the land covered in this report.

Table 8: Site Limitation Assessment

Site Feature	Relevant System	Minor Limitation	Moderate Limitation	Major Limitation	Restrictive Feature
Flood Potential	All land application systems	> 1 in 20 years		Frequent below 1 in 20 years	Transport in wastewater off site
	All treatment application systems	Components above 1 in 100 years		Components below 1 in 100 years	Transport in wastewater off site system failure
Exposure	All land application systems	High sun and wind exposure		Low sun and wind exposure	Poor evaporation transpiration
Slope %	Surface Irrigation	0-6	6-12	>12	Runoff, erosion potential
	Sub-surface irrigation	0-10	10-20	>20	Runoff, erosion potential
	Absorption	0-10	10-20	>20	Runoff, erosion potential
Landform	All systems	Hillcrests, convex side slopes and plains	Concave side slopes and foot slopes	Drainage plains and incised channels	Groundwater pollution hazard, resurfacing hazard
Run-on and upslope seepage	All land Application Areas	None-low	Moderate	High, diversion not practical	Transport of wastewater off site
Erosion potential	All land application systems	No sign of erosion potential		Indications of erosion e.g. rils, mass failure	Soil degradation and off-site impact
Site drainage	All land application systems	No visible signs of surface dampness		Visible signs of surface dampness, such as moisture-tolerant veg	Groundwater pollution hazard, resurfacing hazard
Fill	All systems	No fill	Fill present		Subsidence
Land area	All systems	Area available	Area not available		Health and pollution risk
Rock and rock outcrop	All land application systems	<10%	10-20%	>20%	Limits system performance
Geology	All land application systems	None		Major geological discontinuities, fractured or highly porous regolith	Groundwater pollution hazard

Table 9: Soil Limitation Assessment

Soil feature	Relevant system	Minor limitation	Moderate limitation	Major limitation	Restrictive feature
Depth to bedrock or hardpan (m)	Surface and sub-surface irrigation	> 1.0	0.5-1.0	< 0.5	Restricts plant growth
	Absorption	> 1.5	1.0-1.5	< 1.0	Groundwater pollution hazard
Depth to seasonal water table (m)	Surface and sub-surface irrigation	> 1.0	0.5-1.0	< 0.5	Groundwater pollution hazard
	Absorption	> 1.5	1.0-1.5	< 1.0	Groundwater pollution hazard
Permeability Category	Surface and sub-surface irrigation	2b, 3 and 4	2a, 5	1 and 6	Excessive runoff and waterlogging
	Absorption	3, 4		1, 2, 5, 6	Percolation
Coarse fragments %	All systems	0-20	20-45	>40	Restricts plant growth, affects trench installation
Bulk density (g/cc) SL L, CL C	All land application systems	 < 1.8 < 1.6 < 1.4	 > 1.8 > 1.6 >1.4		restricts plant growth, indicator of permeability
pH	All land application systems	> 6.0	4.5-6.0	-	Reduces plant growth
Electrical conductivity (dS/m)	All land application systems	<4	4-8	>8	Restricts plant growth
Sodicity (ESP)	Irrigation 0-40cm; absorption 0-1.2mtr	0-5	5-10	> 10	Potential for structural degradation
CEC mequiv/100g	Irrigation systems	> 15	5-15	< 5	Nutrient leaching
P sorption kg/ha	All land application systems	> 6000	2000-6000	< 2000	Capacity to immobilise P
Modified Emerson Aggregate Test – depressiveness	All land application systems	Classes 3-4	Class 2	class1	Potential for Structural degradation.

5.0 SYSTEM REQUIREMENTS

5.1 Mid-Western Regional Council Setback Requirements

The Mid-Western Regional Council 'On-Site Sewage Management Plan' (2008), provides recommended buffer distances. For this design, the following must be taken into consideration..

All Land Application Systems

- 80m to permanent surface waters (e.g. river, streams, lakes, etc.);
- 50m to domestic groundwater well on applicant's property and 200m to any groundwater well located on a neighbouring property;
- 40m to other waters (e.g. farm dams, intermittent waterways and drainage channels, etc.)

Absorption Systems

- 12m if area up-grade and 6m if area down gradient of property boundary;
- 6m if area is up-gradient and 3m if area is down gradient of swimming pools, driveways and building.

Other site setback requirement as per AS/NZS 1547:2012 are provided in Appendix C.

Actual siting of the effluent application area is the responsibility of the licenced plumber. The prescribed buffer areas/setbacks are to be adhered to.

5.2 Design Allowances - AS/NZS1547:2012 Table H1

In accordance with AS/NZS1547:2012 Table H1, the recommended design flow allowance for use in Australia, using on site rainwater roof collection supply is 120L/person/day. Given the proposed residence is two 3 bedrooms in total, the number of persons is calculated at 8 (4 per dwelling).

6.0 SEPTIC TANK SELECTION AND CALCULATION

6.1 Silver Book/ NSW Health Guidelines

The '*On-Site Sewerage Management for Single Households*' (1998) guideline is based on the NSW Health guideline for septic tank capacity. Therefore, the calculation is the same.

Secondary effluent treated will be provided by a NSW Health accredited septic tank. The NSW Health '*Septic Tank and Collection Well Accreditation Guidelines*' (2001), set a sludge allowance of 1550L irrespective of the number of persons or which the septic tank is to be designed. It should be noted that in accordance with this guideline, a septic tank designed for a minimum of 5 persons needs to be de-sludge approximately every 4 years.

The general formula to calculate the minimum septic tank capacity in litres is:

$$S + (DF\ x\ N) = C$$

$$Sludge + (Daily\ Flow\ X\ No.of\ Persons) = Capacity\ of\ the\ tank$$

Residence - When DF = 120L/per person/per day and N =4, therefore DF x N =960L

$$1550L + 960L = 2510L$$

Table 2 in the NSW Health Guidelines provides a minimum of 2300L tank capacity.

6.2 AS/NZS 1547:2012 Requirements

A more conservative approach is outlined in AS/NZS1547:2012, Appendix J. A more conservative figure of 200L per person for all waste tanks is provided, giving a daily flow volume of 1600L for the residence. Therefore, a minimum capacity tank of 4000L is required for a residence with a design flow of 1400-1600L. This conservative rate is to ensure that the unit has capacity to cope with peak discharge rates or for temporary or unusual overloads and includes no allowance for food waste disposal units. This tank design capacity also allows for the storage of sludge and scum at a rate of 80L/person/year. It should be noted that the higher cost of installing a larger septic tank may be offset by a reduced pump out frequency. Too frequent pump out removes microorganisms needed for degradation of wastewater solids. The longer pump out interval has beneficial implications for conservation of resources in that the volume of seepage requiring treatment and disposal can be reduced significantly.

6.3 System Recommendations

The following table provides details on the system selection.

Table 10: System Selection Details

Consideration of connection to centralised sewerage system	Distance to sewer	>10km
	Potential for future connection?	None planned
	Potential for reticulated water?	None planned
Expected Wastewater volume (litres/day)	Residence – two 3-bedroom residence, potential occupancy of 8 people (4 per house). Typical wastewater design flow is 120L/person per day in accordance with Table H3 of AS/NZS1547:2012 for households with full water reduction facilities, supplied by rainwater roof collection supply. Therefore, 8 people at 120L per person per day gives a total load of 960L/day	
Type of Treatment system best suited	Accredited AWTS with a tank capacity of 4000L – as per NSW Health accredited system https://www.health.nsw.gov.au/environment/domesticwastewater/Pages/awts.aspx	

Water conservation measures should be adapted to the greatest extent possible in the proposed residence, particularly in relation to the high water use activities of showering, clothes washing and toilet flushing. AAA rated plumbing appliances and fittings should be used. Measures including use of front loading washing machines, low volume shower roses and dual flush toilets can reduce water usage by 30-40%. Detergents low in phosphorous and sodium should be used as much as possible. Following these measures will ensure the greatest lifespan for this effluent treatment and disposal system.

7.0 EFFLUENT MANAGEMENT

Barnson Pty Ltd has analysed the proposed on site waste management system in accordance with the NSW Government endorsed *'Silver Book'* (1998) and the ANZ Standard 1547:2012 On-site Domestic Wastewater Management', with additional advice sought from the Sydney Catchment Management Authority '*Designing and installing On-site Wastewater Systems'* 2019 guideline. For this site, given the climate and soil constraints, absorption is considered the most appropriate effluent management device.

7.1 Hydraulic Loading Calculation

Given the proposed residence will be connected by rainwater roof collection supply, the daily flow (Q) for the system is calculated as 960L/per day.

The required bed/trench area shall be determined from the following relationship:

$$Length\ of\ Absorption\ Bed\ = (Q)\ /\ (DLR\ x\ W)$$

Proposed Residence

Where Q = 960L, DLR =20 mm/day (Table L1 AS 1577:2012 –Secondary Treated Rate),

W (Width) = 2.7m

$$Length\ of\ Bed = \left(\frac{960}{20\ x\ 2.7m}\right)$$

$$= 17.8m$$

Therefore, from the above calculation, 2 x 9m long, 2.7m wide bed will be required for the proposed 2 x 3 bedroom residences.

7.2 Design Recommendations

Common failures of bed/trenches are often caused by poor installation practices. In addition to specifications outlined in AS/NZS 1547:2012, the following points should also be considered in the trench design/construction which to meet the *minimum* dimensions of ***2 bed, 9m long and 2.7m wide with 1.0m spacing between beds.***

- Site to be measure to confirm if system will fit the proposed site constraints.
- Beds/trenches are to be built along the contour to ensure even distribution and avoid any section being over loaded;
- Avoid cutting beds into weakened ground;
- Construction is to take place during fine weather. If it rains beds are to be completely covered to protect them from rain damage;
- Where the beds/trenches are dug by an excavator in clay soils, the bed walls are to be scarified to remove any smearing caused by the excavator bucket;
- All distribution pipes and arches should be laid in accordance with the manufactures instructions;
- If two beds or more are utilised, ensure effluent is distributed evenly via a splitter box or sequencing valve or other appropriate method;
- All distribution pipes and arches should be laid in accordance with the manufactures instructions;
- Consideration can be given to using a pressure dosed system, which would allow for a better, more even distribution of effluent along the trench, and prolong trench life;
- Inspection ports shall be provided for the beds/trenches system. The inspection port shall be installed so as to facilitate monitoring of the effluent level in each trench;
- Trenches/Beds may be gravity fed or pressure dosed using pumps or dosing siphons;
- Vegetation cover must be well maintained to ensure strong growth for maximum update of transpiration. The surrounding landscape and vegetation must also be maintained to minimise shading and maximise exposure.
- The beds/trenches should be in an enclosed area, with and no exposed to vehicle movement or stock that can cause compaction and premature trench failure;
- The beds/trenches are to be constructed along the contour via laser levelling to ensure the base is exactly level;
- Apply gypsum (min. 1 kg/m2) to all disturbed soil surface areas.
- A diversion berm/bank/drain should be built upslope of the trench. This will reduce run on. A design sketch is provided at Appendix D.

8.0 RECOMMENDATIONS & CONCLUSIONS

As per the '*On-Site Sewerage Management for Single Households'* (1998) publication, stakeholders should be aware that all on site systems and components have a finite life and at some point will require replacement. Septic tanks and AWTS' generally require replacement every 25 years, whereas effluent disposal systems can have an expected life between 5-15 years. The owner is encouraged to obtain a copy of the NSW Government "The Easy Septic Guide" (2000) available from - https://www.olg.nsw.gov.au/wp-content/uploads/Easy-septic-guide.pdf.

The option provided in this report is a AWTS secondary treatment septic fed into an absorption bed. This is to be designed to accept the discharge from the wastewater treatment unit and it convey it securely and evenly to the land application area. The aim is to ensure uniform distribution of the effluent over the design area to help achieve effective aerobic/anaerobic decomposition within the soil. Typical design sketches for an absorption bed system as per AS 1547:2012 and *Design and Installation of On-Site Wastewater Treatment (*2019) are provided at ***Appendix D.***

Installation instructions shall be provided by the manufacturer or designer. Barnson will not be liable for the incorrect installation and/or construction of the system unless when inspected by Barnson the installation and construction of the system holds true to the design featured in this report. Installation should be in accordance with the prescriptions within AS 1547:2012.

Barnson has not verified the accuracy or completeness of this data, except otherwise stated in this report. The recommendations for the proposed system as suggested in this report are based on historical data obtained for the area. Barnson will not be liable in relation to incorrect recommendations should any information provided by the client be incorrect or have been concealed, withheld, misrepresented or otherwise not fully disclosed.

The accuracy of geotechnical engineering advice provided in this report may be limited by unobserved variations in ground conditions across the site in areas between and beyond test locations and by any restrictions in the sampling and testing which was able to be carried out, as well as by the amount of data that could be collected given the project and site constraints.

These factors may lead to the possibility that actual ground conditions and materials behaviour observed at the test locations may differ from those which may be encountered elsewhere on the site.

If the sub-surface conditions are found to differ from those described in this report, we should be informed immediately to evaluate whether recommendations should be reviewed and amended if necessary.

Please do not hesitate to contact the undersigned if you have enquires regarding this report.

[redacted]

Appendix A - Water Balance Calculation

Barnson Job No	38145	
Location :	Rylstone	

Design Wastewater Flow	Q	l/day	960
Design Loading Rate	R	mm/day	20

Climate Zone	3 C	*As per Soil Landscapes of Dubbo 1:250 000* **Dropbox**

1	2	3	4	5	6	7	8	9	
Month	Pan evap E (mm)	Evapo Transpiration Et (ET=0.75E)mm	Rainfall R (mm)	Retained Rainfall Rr (Rr=0.75R) mm	DLR per Month (mm)	Disposal Rate (3-5+6) mm	Effluent applied per month (L)	Size of Area (8/7) m²	Days In Month
Jan	229	171.75	94	70.5	620	721.25	29760	41.26169844	31
Feb	178	133.5	86	64.5	580	649	27840	42.89676425	29
Mar	155	116.25	76	57	620	679.25	29760	43.81302908	31
Apr	104	78	64	48	600	630	28800	45.71428571	30
May	51	38.25	70	52.5	620	605.75	29760	49.1291787	31
Jun	46	34.5	75	56.25	600	578.25	28800	49.80544747	30
Jul	41	30.75	60	45	620	605.75	29760	49.1291787	31
Aug	58	43.5	66	49.5	620	614	29760	48.46905537	31
Sep	89	66.75	60	45	600	621.75	28800	46.32086852	30
Oct	130	97.5	81	60.75	620	656.75	29760	45.31404644	31
Nov	165	123.75	78	58.5	600	665.25	28800	43.29199549	30
Dec	229	171.75	96	72	620	719.75	29760	41.34769017	31
							Mean area	45.5m²	

Month	First trial area	Application rate	Disposal rate	mm	Increase in Depth of Stored Effluent	Depth of Effluent for Month	Increase in Depth of Effluent	Computed	Reset if Et<0	Equiv Storage
Dec	48m²	620	719.75	-99.75	-332.5	0	-332.5	-332.5	0	0
Jan		620	721.25	-101.25	-337.5	0	-337.5	-337.5	0	0
feb		580	649	-69	-230	0	-230	-230	0	0
Mar		620	679.25	-59.25	-197.5	0	-197.5	-197.5	0	0
Apr		600	630	-30	-100	0	-100	-100	0	0
May		620	605.75	14.25	47.5	0	47.5	47.5	47.5	2280
Jun		600	578.25	21.75	72.5	47.5	120	120	120	5760
Jul		620	605.75	14.25	47.5	120	167.5	167.5	167.5	8040
Aug		620	614	6	20	167.5	187.5	187.5	187.5	9000
Sep		600	621.75	-21.75	-72.5	187.5	115	115	115	5520
Oct		620	656.75	-36.75	-122.5	115	-7.5	-7.5	0	0
Nov		600	665.25	-65.25	-217.5	0	-217.5	-217.5	0	0
Dec		620	719.75	-99.75	-332.5	0	-332.5	-332.5	0	0
Jan		620	721.25	-101.25	-337.5	0	-337.5	-337.5	0	0
Feb		580	649	-69	-230	0	-230	-230	0	0
Mar		620	679.25	-59.25	-197.5	0	-197.5	-197.5	0	0
Apr		600	630	-30	-100	0	-100	-100	0	0
May		620	605.75	14.25	47.5	0	47.5	47.5	47.5	2280

Estimated area of effluent drainfield	48m²
Maximum depth of stored effluent (must not exceed 350mm)	187.5mm
Trench dimensions	2700mm
Length of trench required	17.77777778m
<20m lengths of trench	0.888888889

Trench Depth	450	mm

Appendix B - Borehole Logs & Laboratory Testing Results

Barnson Pty Ltd
16L Yarrandale Road
Dubbo NSW 2830
Telephone: 1300 BARNSON

BOREHOLE NUMBER 3

CLIENT Adam Worsley **PROJECT NAME** Septic Design

PROJECT NUMBER 38145 **PROJECT LOCATION** 11 McLachlan Street, Rylstone

DATE STARTED 30/11/21 **COMPLETED** 30/11/21 **R.L. SURFACE** _____ **DATUM** _____

DRILLING CONTRACTOR Barnson **SLOPE** 90° **BEARING** ---

EQUIPMENT Scout 1750 Drill Rig **HOLE LOCATION** Borehole 3

HOLE SIZE 90mm **LOGGED BY** GW **CHECKED BY** NR

NOTES _____

Method	Samples	Depth (m)	Graphic Log	Classification Symbol	Material Description	Dynamic Cone Penetrometer Blows / 100mm (0 4 8 12 16 20 24 28 32)	Additional Observations
Flight Auger & Tungsten Carbide (T.C) Bit		0.1			LOAM: dark brown		TOPSOIL
		0.3		ML	Sandy SILT: pale brown: slightly moist: stiff: low plasticity		ALLUVIAL
	Disturbed Sample LS = 5.0% P.I = 11.0%	0.5		CL	Sandy Silty CLAY: trace gravel: yellow-orange: slightly moist: very stiff to hard: medium plasticity		ALLUVIAL
		1.0					
		1.5			Borehole 3 terminated at 1.5m		
		2.0					
		2.5					
		3.0					

BOREHOLE / TEST PIT WITH DCP 38145-G03A.GPJ GINT STD AUSTRALIA.GDT 21/12/21

Material Test Report

Report Number: 38145-1
Issue Number: 1
Date Issued: 21/12/2021
Client: Adam Worsley
21 Windsor Street, Richmond NSW 2753
Contact: Adam Worsley
Project Number: 38145
Project Name: Site Classification & Septic Design
Project Location: 11 McLachlan Street, Rylstone NSW
Work Request: 5757
Sample Number: D21-5757C
Date Sampled: 01/12/2021
Dates Tested: 01/12/2021 - 07/12/2021
Sampling Method: AS 1289.1.2.1 6.5.3 - Power auger drilling
Sample Location: **Borehole 3, Depth: 800mm**
Material: Orange Sandy CLAY Trace Gravel

Barnson Pty Ltd
Dubbo Laboratory
16 L Yarrandale Road Dubbo NSW 2830
Phone: 1300 BARNSON
Email: jeremy@barnson.com.au

Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Jeremy Wiatkowski
Geotechnical Technician
NATA Accredited Laboratory Number: 9605

Atterberg Limit (AS1289 3.1.2 & 3.2.1 & 3.3.1)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	24		
Plastic Limit (%)	13		
Plasticity Index (%)	**11**		

Linear Shrinkage (AS1289 3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.2		
Linear Shrinkage (%)	5.0		
Cracking Crumbling Curling	None		

Emerson Class Number of a Soil (AS 1289 3.8.1)		Min	Max
Emerson Class	**6**		
Soil Description	Orange Sandy CLAY Trace Gravel		
Nature of Water	Distilled		
Temperature of Water (^{o}C)	20		

This document shall not be reproduced except in full without approval of the laboratory.
Results relate only to the items tested/sampled.

Appendix C – Site Setback Requirements

TABLE R1
GUIDELINES FOR HORIZONTAL AND VERTICAL SETBACK DISTANCES
(to be used in conjunction with Table R2)

Site feature	**Setback distance range** (m) (See Note 1)	**Site constraint items of specific concern** (from Table R2) (see Note 1)
	Horizontal setback distance *(m)*	
Property boundary	1.5 – 50 (see Note 2)	A, D, J
Buildings/houses	2.0 – > 6 (see Note 3)	A, D, J
Surface water (see Note 4)	15 – 100	A, B, D, E, F, G, J
Bore, well (see Notes 5 and 6)	15 – 50	A, C, H, J
Recreational areas (Children's play areas, swimming pools and so on) (see Note 7)	3 – 15 (see Notes 8 and 9)	A, E, J
In-ground water tank	4 – 15 (see Note 10)	A, E, J
Retaining wall and Embankments, escarpments, cuttings (see Note 11)	3.0 m or 45° angle from toe of wall (whichever is greatest)	D, G, H
	Vertical setback distance *(m)*	
Groundwater (see Notes 5, 6, and 12)	0.6 – > 1.5	A, C, F, H, I, J
Hardpan or bedrock	0.5 – ≥ 1.5	A, C, J

NOTES:

1 The overall setback distance should be commensurate with the level of risk to public health and the environment. For example, the maximum setback distance should be adopted where site/system features are on the high end of the constraint scale. The setback distance should be based on an evaluation of the constraint items and corresponding sensitive features in Table R2 and how these interact to provide a pathway or barrier for wastewater movement.

2 Subject to local regulatory rules and design by a suitably qualified and experienced person, the separation of a drip line system from an upslope boundary, for slopes greater than 5%, may be reduced to 0.5 m.

TABLE R1
GUIDELINES FOR HORIZONTAL AND VERTICAL SETBACK DISTANCES
(to be used in conjunction with Table R2) (continued)

3	Setback distances of less than 3 m from houses are appropriate only where a drip irrigation land application system is being used with low design irrigation rates, where shallow subsurface systems are being used with equivalent low areal loading rates, where the risk of reducing the bearing capacity of the foundation or damaging the structure is low, or where an effective barrier (designed by a suitably qualified and experienced person) can be installed. This may require consent from the regulatory authority.
4	Setback distance from surface water is defined as the areal edge of the land application system to the edge of the water. Where land application areas are planned in a water supply catchment, advice on adequate buffer distances should be sought from the relevant water authority and a hydrogeologist. Surface water, in this case, refers to any fresh water or geothermal water in a river, lake, stream, or wetland that may be permanently or intermittently flowing. Surface water also includes water in the coastal marine area and water in man-made drains, channels, and dams unless these are to specifically divert surface water away from the land application area. Surface water excludes any water in a pipe or tank.
5	Highly permeable stony soils and gravel aquifers potentially allow microorganisms to be readily transported up to hundreds of metres down the gradient of an on-site system (see R3, Table 1 in Pang et al. 2005). Maximum setback distances are recommended where site constraints are identified at the high scale for items A, C, and H. For reading and guidance on setback distances in highly permeable soils and coarse-grained aquifers see R3. As microbial removal is not linear with distance, data extrapolation of experiments should not be relied upon unless the data has been verified in the field. Advice on adequate buffer distances should be sought from the relevant water authority and a hydrogeologist.
6	Setback distances from water supply bores should be reviewed on a case-by-case basis. Distances can depend on many factors including soil type, rainfall, depth and casing of bore, direction of groundwater flow, type of microorganisms, existing quality of receiving waters, and resource value of waters.
7	Where effluent is applied to the surface by covered drip or spray irrigation, the maximum value is recommended.
8	In the case of subsurface application of primary treated effluent by LPED irrigation, the upper value is recommended.
9	In the case of surface spray, the setback distances are based on a spray plume with a diameter not exceeding 2 m or a plume height not exceeding 0.5 m above finished surface level. The potential for aerosols being carried by the wind also needs to be taken into account.
10	It is recommended that land application of primary treated effluent be down gradient of in-ground water tanks.
11	When determining minimum distances from retaining walls, embankments, or cut slopes, the type of land application system, soil types, and soil layering should also be taken into account to avoid wastewater collecting in the subsoil drains or seepage through cuts and embankments. Where these situations occur setback clearances may need to be increased. In areas where slope stability is of concern, advice from a suitably qualified and experienced person may be required.
12	Groundwater setback distance (depth) assumes unsaturated flow and is defined as the vertical distance from the base of the land application systems to the highest seasonal water table level. To minimise potential for adverse impacts on groundwater quality, minimum setback distances should ensure unsaturated, aerobic conditions in the soil. These minimum depths will vary depending on the scale of site constraints identified in Table R2. Where groundwater setback is insufficient, the ground level can be raised by importing suitable topsoil and improving effluent treatment. The regulatory authority should make the final decision in this instance. (See also the guidance on soil depth and groundwater clearance in Tables K1 and K2.)

TABLE R2

SITE CONSTRAINT SCALE FOR DEVELOPMENT OF SETBACK DISTANCES

(used as a guide in determining appropriate setback distances from ranges given in Table R1)

Item	Site/system feature	**Constraint scale** (see Note 1) LOWER ⟷ HIGHER **Examples of constraint factors** (see Note 2)		Sensitive features
A	Microbial quality of effluent (see Note 3)	Effluent quality consistently producing ≤ 10 cfu/100 mL *E. coli* (secondary treated effluent with disinfection)	Effluent quality consistently producing ≥ 10^6 cfu/100 mL *E. coli* (for example, primary treated effluent)	Groundwater and surface pollution hazard, public health hazard
B	Surface water (see Note 4)	Category 1 to 3 soils (see Note 5) no surface water down gradient within > 100 m, low rainfall area	Category 4 to 6 soils, permanent surface water <50 m down gradient, high rainfall area, high resource/environmental value (see Note 6)	Surface water pollution hazard for low permeable soils, low lying or poorly draining areas
C	Groundwater	Category 5 and 6 soils, low resource/environmental value	Category 1 and 2 soils, gravel aquifers, high resource/environmental value	Groundwater pollution hazard
D	Slope	0 – 6% (surface effluent application) 0 – 10% (subsurface effluent application)	> 10% (surface effluent application), > 30% subsurface effluent application	Off-site export of effluent, erosion
E	Position of land application area in landscape (see Note 6).	Downgradient of surface water, property boundary, recreational area	Upgradient of surface water, property boundary, recreational area	Surface water pollution hazard, off-site export of effluent
F	Drainage	Category 1 and 2 soils, gently sloping area	Category 6 soils, sites with visible seepage, moisture tolerant vegetation, low lying area	Groundwater pollution hazard
G	Flood potential	Above 1 in 20 year flood contour	Below 1 in 20 year flood contour	Off-site export of effluent, system failure, mechanical faults
H	Geology and soils	Category 3 and 4 soils, low porous regolith, deep, uniform soils	Category 1 and 6 soils, fractured rock, gravel aquifers, highly porous regolith	Groundwater pollution hazard for porous regolith and permeable soils
I	Landform	Hill crests, convex side slopes, and plains	Drainage plains and incise channels	Groundwater pollution hazard, resurfacing hazard
J	Application method	Drip irrigation or subsurface application of effluent	Surface/above ground application of effluent	Off-site export of effluent, surface water pollution

NOTES:

1 Scale shows the level of constraint to siting an on-site system due to the constraints identified by SSE evaluator or regulatory authority. See Figures R1 and R2 for examples of on-site system design boundaries and possible site constraints.

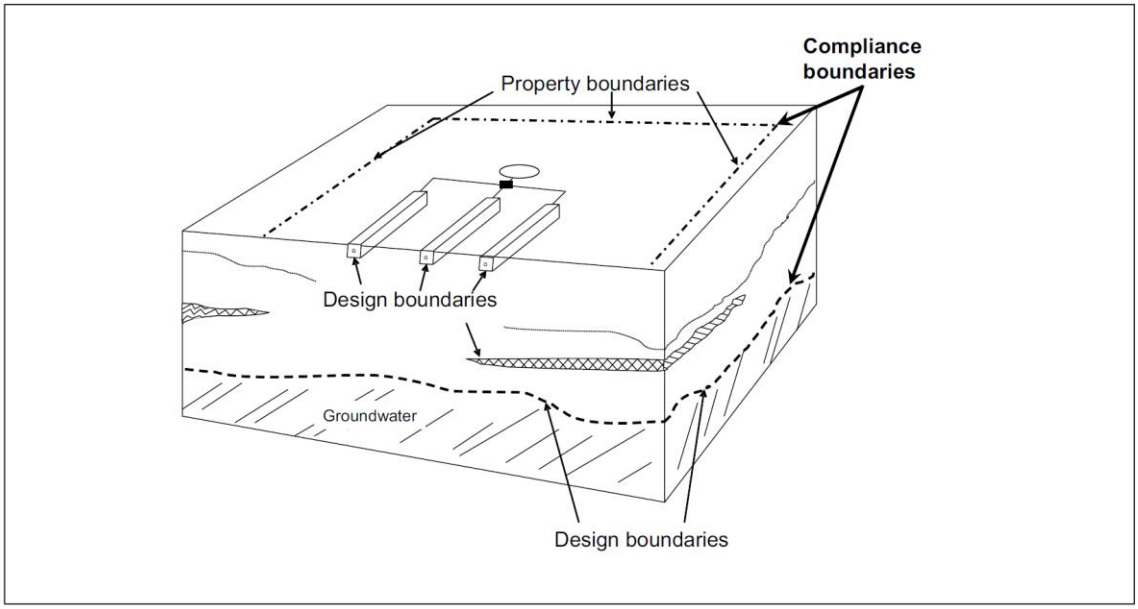
2 Examples of typical siting constraint factors that may be identified either by SSE evaluator or regulatory authority. Site constraints are not limited to this table. Other site constraints may be identified and taken into consideration when determining setback distances.

TABLE R2

SITE CONSTRAINT SCALE FOR DEVELOPMENT OF SETBACK DISTANCES

(used as a guide in determining appropriate setback distances from ranges given in Table R1) (continued)

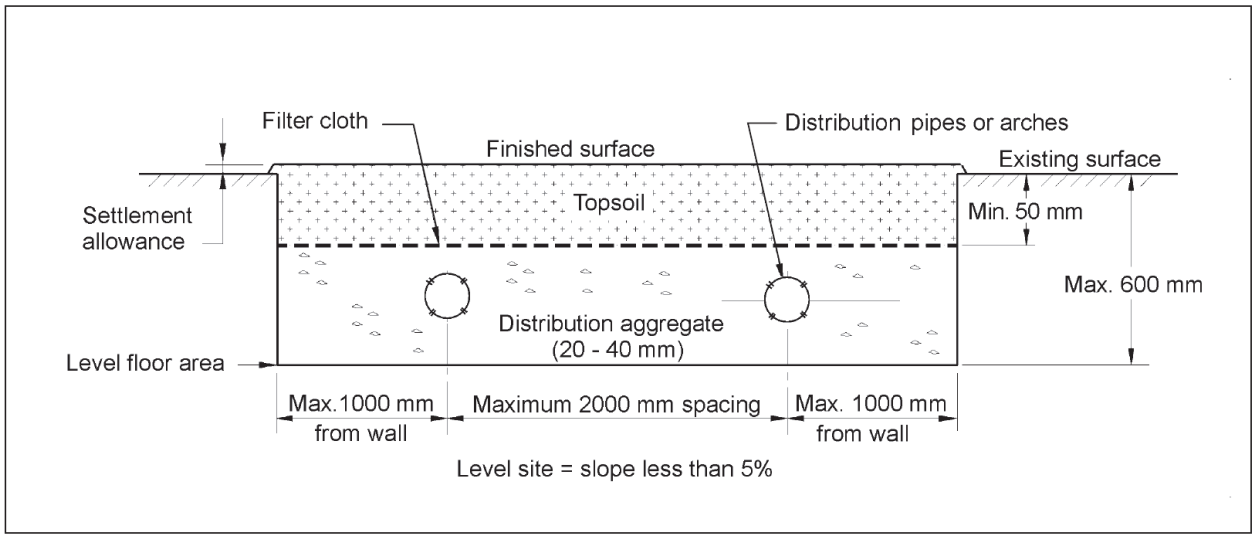
3	The level of microbial removal for any on-site treatment system needs to be determined and it should be assumed that unless disinfection is reliably used then the microbial concentrations will be similar to primary treatment. Low risk microbial quality value is based on the values given in ARC (2004), ANZECC and ARMCANZ (2000), and EPA Victoria *(Guidelines for environmental management: Use of reclaimed water* 2003).
4	Surface water, in this case, refers to any fresh water or geothermal water in a river, lake, stream, or wetland that may be permanently or intermittently flowing. Surface water also includes water in the coastal marine area and water in man-made drains, channels, and dams unless these are to specifically divert surface water away from the land application area. Surface water excludes any water in a pipe or tank.
5	The soil categories 1 to 6 are described in Table 5.1. Surface water or groundwater that has high resource value may include potable (human or animal) water supplies, bores, wells, and water used for recreational purposes. Surface water or groundwater of high environmental value include undisturbed or slightly disturbed aquatic ecosystems as described in ANZECC and ARMCANZ (2000).
6	The regulatory authority may reduce or increase setback distances at their discretion based on the distances of the land application up or downgradient of sensitive receptors.



(Adapted from USEPA 2002)

FIGURE R1 EXAMPLE OF DESIGN AND COMPLIANCE BOUNDARIES FOR APPLICATION OF SETBACK DISTANCES FOR A SOIL ABSORPTION SYSTEM

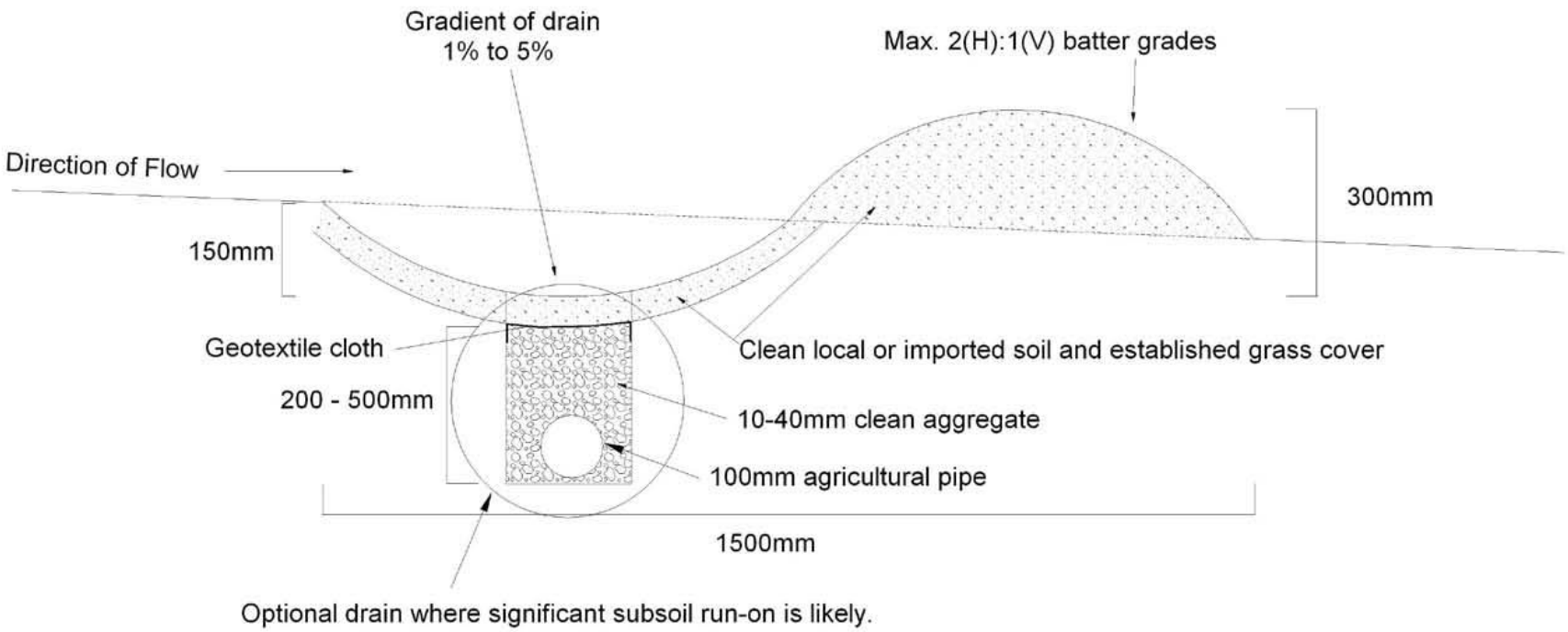
Appendix D –Absorption Bed Concept Plans



NOTE: LPED lines can be used instead of distribution pipes when dose loading effluent into beds.

FIGURE L5 CONVENTIONAL BED

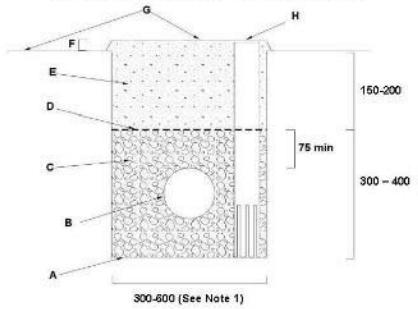
Cross Section: Upslope Diversion Drain



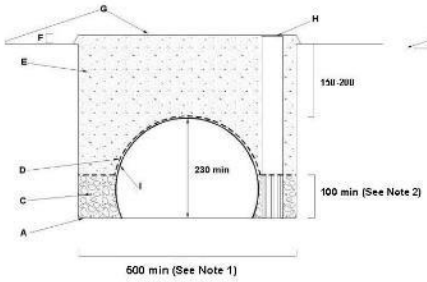
Standard Drawing 10A - Upslope Diversion Drain

(not to scale)

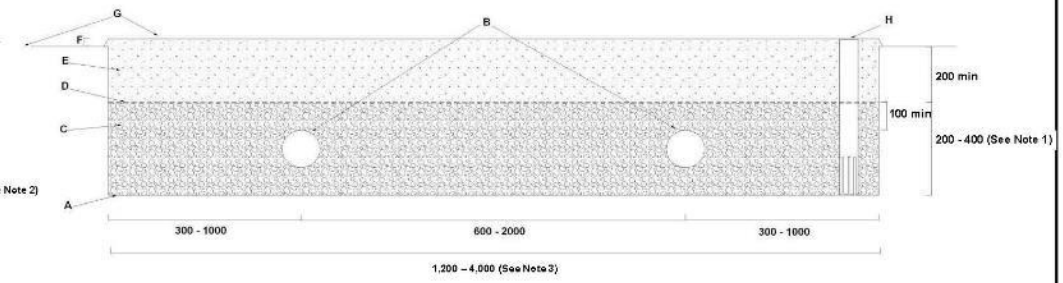
Cross Section: Piped Trench



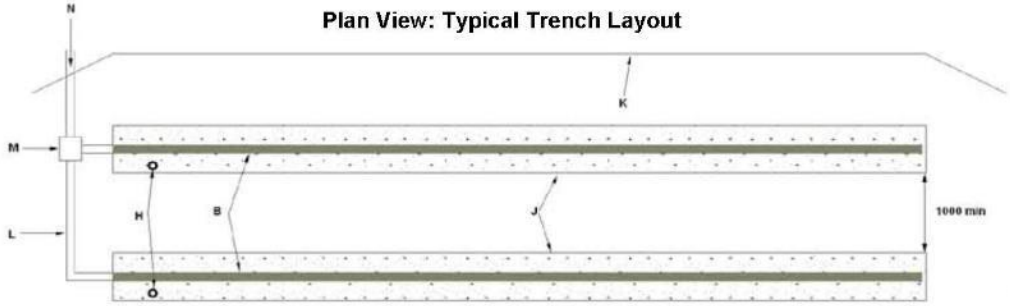
Cross Section: Arch



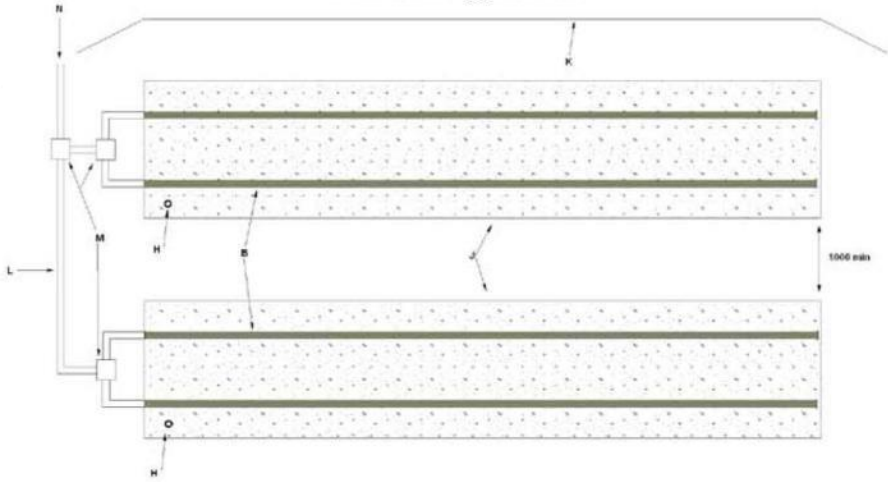
Cross Section: Conventional Piped Bed



Plan View: Typical Trench Layout



Plan View: Typical Bed



Absorption Trench / Bed

A The base of the trench must be level to ensure even distribution of effluent. Base levels should be checked with a dumpy / laser level.

B 90-100 mm slotted PVC pipe.

C 20-40 mm distribution aggregate.

D Geotextile filter cloth.

E Clean local or imported topsoil (sandy loam to clay loam).

F Allowance for settling after backfilling.

G Grass must be established across the construction area as soon as possible. Trench / bed surface must be slightly mounded.

H Inspection port on downhill side of trench / bed. Made from 50 mm PVC pipe with perforations in the aggregate level of the trench / bed.

I Self supporting arch trench that complies with AS/NZS1547:2012.

J Trench / bed dimensions are an example only. The basal area of the land application area must be determined according to the procedures set out in AS/NZS1547:2012 and this document. The location and orientation of the area should be based on a site and soil assessment by a suitably qualified person. The system may comprise a single trench / bed or multiple smaller trenches / beds. It is essential that effluent is distributed evenly to all units on a daily basis.

K Upslope stormwater diversion drain (see Standard Drawing No.9A for design detail). Subsoil drainage may be necessary on particular sites.

L 90-100 mm PVC gravity dosing pipe.

M Gravity splitter box to distribute effluent evenly between two to four separate trenches / beds. Should also be used to evenly dose multiple pipework within a single trench / bed.

N Gravity or pump fed effluent from treatment system.

Notes

1. Trenches should be a maximum of 600 mm (piped trench) or 1,000 mm (arch trench) wide. Optimum width will balance storage requirements against footprint and required trench length.
2. 100 mm of aggregate is the minimum depth. Depth can be increased to provide more storage if required, however, a minimum 150-200 mm of topsoil must exist above the top of the arch trench material. Alternative proprietary void / support materials are available to provide a substitute for both aggregate and arch trench.
3. Consideration should be given to maintaining a level base when determining an appropriate width.

   Gravity-fed beds are generally not suitable for sites with highly permeable soils due to difficulties in maintaining even distribution. Primary-treated effluent should not be dosed; effluent should at least be secondary-treated. Pressure dosing should be used in such soils.

Standard Drawing 10B - Absorption Trench / Bed

(not to scale)

LIST OF PLATES

Plate 1 – Overview of proposed site

Plate 2 – Overview of proposed site

Appendix E – BASIX Certificates

BASIX® Certificate

Building Sustainability Index www.basix.nsw.gov.au

Single Dwelling

Certificate number: 1354513S

This certificate confirms that the proposed development will meet the NSW government's requirements for sustainability, if it is built in accordance with the commitments set out below. Terms used in this certificate, or in the commitments, have the meaning given by the document entitled "BASIX Definitions" dated 10/09/2020 published by the Department. This document is available at www.basix.nsw.gov.au

Secretary
Date of issue: Tuesday, 15 November 2022
To be valid, this certificate must be lodged within 3 months of the date of issue.

NSW GOVERNMENT | Planning, Industry & Environment

Project summary		
Project name	39082 - Unit 2	
Street address	11 McLachlan Street Rylstone 2849	
Local Government Area	Mid-Western Regional Council	
Plan type and plan number	deposited 755426	
Lot no.	121	
Section no.	-	
Project type	separate dwelling house	
No. of bedrooms	3	
Project score		
Water	✔ 42	Target 40
Thermal Comfort	✔ Pass	Target Pass
Energy	✔ 44	Target 40

Certificate Prepared by
Name / Company Name: Barnson Pty Ltd
ABN (if applicable): 43088342625

Description of project

Project address	
Project name	39082 - Unit 2
Street address	11 McLachlan Street Rylstone 2849
Local Government Area	Mid-Western Regional Council
Plan type and plan number	Deposited Plan 755426
Lot no.	121
Section no.	-
Project type	
Project type	separate dwelling house
No. of bedrooms	3
Site details	
Site area (m²)	435
Roof area (m²)	170
Conditioned floor area (m2)	95.0
Unconditioned floor area (m2)	17.0
Total area of garden and lawn (m2)	100

Assessor details and thermal loads		
Assessor number	n/a	
Certificate number	n/a	
Climate zone	n/a	
Area adjusted cooling load (MJ/m².year)	n/a	
Area adjusted heating load (MJ/m².year)	n/a	
Ceiling fan in at least one bedroom	n/a	
Ceiling fan in at least one living room or other conditioned area	n/a	
Project score		
Water	✔ 42	Target 40
Thermal Comfort	✔ Pass	Target Pass
Energy	✔ 44	Target 40

Schedule of BASIX commitments

The commitments set out below regulate how the proposed development is to be carried out. It is a condition of any development consent granted, or complying development certificate issued, for the proposed development, that BASIX commitments be complied with.

Water Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Fixtures			
The applicant must install showerheads with a minimum rating of 4 star (> 6 but <= 7.5 L/min plus spray force and/or coverage tests) in all showers in the development.		✔	✔
The applicant must install a toilet flushing system with a minimum rating of 4 star in each toilet in the development.		✔	✔
The applicant must install taps with a minimum rating of 4 star in the kitchen in the development.		✔	
The applicant must install basin taps with a minimum rating of 4 star in each bathroom in the development.		✔	
Alternative water			
Rainwater tank			
The applicant must install a rainwater tank of at least 3000 litres on the site. This rainwater tank must meet, and be installed in accordance with, the requirements of all applicable regulatory authorities.	✔	✔	✔
The applicant must configure the rainwater tank to collect rain runoff from at least 170 square metres of the roof area of the development (excluding the area of the roof which drains to any stormwater tank or private dam).		✔	✔
The applicant must connect the rainwater tank to: • the cold water tap that supplies each clothes washer in the development		✔	✔
• at least one outdoor tap in the development (Note: NSW Health does not recommend that rainwater be used for human consumption in areas with potable water supply.)		✔	✔

Thermal Comfort Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
General features			
The dwelling must not have more than 2 storeys.	✔	✔	✔
The conditioned floor area of the dwelling must not exceed 300 square metres.	✔	✔	✔
The dwelling must not contain open mezzanine area exceeding 25 square metres.	✔	✔	✔
The dwelling must not contain third level habitable attic room.	✔	✔	✔
Floor, walls and ceiling/roof			
The applicant must construct the floor(s), walls, and ceiling/roof of the dwelling in accordance with the specifications listed in the table below.	✔	✔	✔

Construction	Additional insulation required (R-Value)	Other specifications
floor - concrete slab on ground	nil	
external wall - framed (weatherboard, fibre cement, metal clad)	2.20 (or 2.60 including construction)	
internal wall shared with garage - plasterboard	nil	
ceiling and roof - flat ceiling / flat roof, framed	ceiling: 4 (up), roof: foil/sarking	framed; light (solar absorptance < 0.475)

Note	• Insulation specified in this Certificate must be installed in accordance with Part 3.12.1.1 of the Building Code of Australia.
Note	• In some climate zones, insulation should be installed with due consideration of condensation and associated interaction with adjoining building materials.

Thermal Comfort Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Windows, glazed doors and skylights			
The applicant must install the windows, glazed doors and shading devices described in the table below, in accordance with the specifications listed in the table. Relevant overshadowing specifications must be satisfied for each window and glazed door.	✔	✔	✔
The dwelling may have 1 skylight (<0.7 square metres) which is not listed in the table.	✔	✔	✔
The following requirements must also be satisfied in relation to each window and glazed door: • For the following glass and frame types, the certifier check can be performed by visual inspection. - Aluminium single clear - Aluminium double (air) clear - Timber/uPVC/fibreglass single clear - Timber/uPVC/fibreglass double (air) clear	✔	✔	✔ ✔

Window/glazed door no.	Maximum height (mm)	Maximum width (mm)	Type	Shading Device (Dimension within 10%)	Overshadowing
North facing					
W09	1800	900	aluminium, single, clear	none	not overshadowed
W08	2100	3200	aluminium, single, clear	eave 3260 mm, 2025 mm above head of window or glazed door	not overshadowed
W07	600	1500	aluminium, single, clear	eave 3260 mm, 2020 mm above head of window or glazed door	not overshadowed
W06	900	1500	aluminium, single, clear	none	not overshadowed
East facing					
W05	1800	900	aluminium, single, clear	none	not overshadowed
W04	1800	900	aluminium, single, clear	none	not overshadowed
South facing					
W03	1800	900	aluminium, single, clear	none	not overshadowed

Window/glazed door no.	Maximum height (mm)	Maximum width (mm)	Type	Shading Device (Dimension within 10%)	Overshadowing
W02	1800	900	aluminium, single, clear	none	not overshadowed
W01	1800	900	aluminium, single, clear	none	not overshadowed
W12	1800	900	aluminium, single, clear	eave 1100 mm, 1765 mm above head of window or glazed door	not overshadowed
W11	1800	900	aluminium, single, clear	eave 1100 mm, 1480 mm above head of window or glazed door	not overshadowed
West facing					
W10	1800	900	aluminium, single, clear	none	not overshadowed

Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Hot water			
The applicant must install the following hot water system in the development, or a system with a higher energy rating: solar (electric boosted) with a performance of 26 to 30 STCs or better.	✔	✔	✔
Cooling system			
The applicant must install the following cooling system, or a system with a higher energy rating, in at least 1 living area: 1-phase airconditioning; Energy rating: 5 star (cold zone)		✔	✔
The applicant must install the following cooling system, or a system with a higher energy rating, in at least 1 bedroom: 1-phase airconditioning; Energy rating: 5 star (cold zone)		✔	✔
Heating system			
The applicant must install the following heating system, or a system with a higher energy rating, in at least 1 living area: 1-phase airconditioning; Energy rating: 5 star (cold zone)		✔	✔
The applicant must install the following heating system, or a system with a higher energy rating, in at least 1 bedroom: 1-phase airconditioning; Energy rating: 5 star (cold zone)		✔	✔
Ventilation			
The applicant must install the following exhaust systems in the development:			
At least 1 Bathroom: individual fan, ducted to façade or roof; Operation control: manual switch on/off		✔	✔
Kitchen: individual fan, ducted to façade or roof; Operation control: manual switch on/off		✔	✔
Laundry: individual fan, ducted to façade or roof; Operation control: manual switch on/off		✔	✔
Natural lighting			
The applicant must install a window and/or skylight in the kitchen of the dwelling for natural lighting.	✔	✔	✔
The applicant must install a window and/or skylight in 2 bathroom(s)/toilet(s) in the development for natural lighting.	✔	✔	✔
Other			
The applicant must construct each refrigerator space in the development so that it is "well ventilated", as defined in the BASIX definitions.		✔	

Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
The applicant must install a fixed outdoor clothes drying line as part of the development.		✔	

Legend
In these commitments, "applicant" means the person carrying out the development.
Commitments identified with a ✔ in the "Show on DA plans" column must be shown on the plans accompanying the development application for the proposed development (if a development application is to be lodged for the proposed development).
Commitments identified with a ✔ in the "Show on CC/CDC plans and specs" column must be shown in the plans and specifications accompanying the application for a construction certificate / complying development certificate for the proposed development.
Commitments identified with a ✔ in the "Certifier check" column must be certified by a certifying authority as having been fulfilled, before a final occupation certificate(either interim or final) for the development may be issued.

BASIX® Certificate

Building Sustainability Index www.basix.nsw.gov.au

Single Dwelling

Certificate number: 1354348S

This certificate confirms that the proposed development will meet the NSW government's requirements for sustainability, if it is built in accordance with the commitments set out below. Terms used in this certificate, or in the commitments, have the meaning given by the document entitled "BASIX Definitions" dated 10/09/2020 published by the Department. This document is available at www.basix.nsw.gov.au

Secretary
Date of issue: Tuesday, 15 November 2022
To be valid, this certificate must be lodged within 3 months of the date of issue.

NSW GOVERNMENT | Planning, Industry & Environment

Project summary	
Project name	39082 - Unit 1
Street address	11 Mclachlan Street Rylstone 2849
Local Government Area	Mid-Western Regional Council
Plan type and plan number	deposited 755426
Lot no.	121
Section no.	-
Project type	separate dwelling house
No. of bedrooms	3

Project score		
Water	✔ 42	Target 40
Thermal Comfort	✔ Pass	Target Pass
Energy	✔ 43	Target 40

Certificate Prepared by
Name / Company Name: Barnson Pty Ltd
ABN (if applicable): 43088342625

Description of project

Project address	
Project name	39082 - Unit 1
Street address	11 Mclachlan Street Rylstone 2849
Local Government Area	Mid-Western Regional Council
Plan type and plan number	Deposited Plan 755426
Lot no.	121
Section no.	-
Project type	
Project type	separate dwelling house
No. of bedrooms	3
Site details	
Site area (m²)	516
Roof area (m²)	167
Conditioned floor area (m2)	87.2
Unconditioned floor area (m2)	19.35
Total area of garden and lawn (m2)	100

Assessor details and thermal loads		
Assessor number	n/a	
Certificate number	n/a	
Climate zone	n/a	
Area adjusted cooling load (MJ/m².year)	n/a	
Area adjusted heating load (MJ/m².year)	n/a	
Ceiling fan in at least one bedroom	n/a	
Ceiling fan in at least one living room or other conditioned area	n/a	
Project score		
Water	✔ 42	Target 40
Thermal Comfort	✔ Pass	Target Pass
Energy	✔ 43	Target 40

Schedule of BASIX commitments

The commitments set out below regulate how the proposed development is to be carried out. It is a condition of any development consent granted, or complying development certificate issued, for the proposed development, that BASIX commitments be complied with.

Water Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Fixtures			
The applicant must install showerheads with a minimum rating of 4 star (> 6 but <= 7.5 L/min plus spray force and/or coverage tests) in all showers in the development.		✔	✔
The applicant must install a toilet flushing system with a minimum rating of 4 star in each toilet in the development.		✔	✔
The applicant must install taps with a minimum rating of 4 star in the kitchen in the development.		✔	
The applicant must install basin taps with a minimum rating of 4 star in each bathroom in the development.		✔	
Alternative water			
Rainwater tank			
The applicant must install a rainwater tank of at least 3000 litres on the site. This rainwater tank must meet, and be installed in accordance with, the requirements of all applicable regulatory authorities.	✔	✔	✔
The applicant must configure the rainwater tank to collect rain runoff from at least 167 square metres of the roof area of the development (excluding the area of the roof which drains to any stormwater tank or private dam).		✔	✔
The applicant must connect the rainwater tank to: • the cold water tap that supplies each clothes washer in the development • at least one outdoor tap in the development (Note: NSW Health does not recommend that rainwater be used for human consumption in areas with potable water supply.)		✔ ✔	✔ ✔

Thermal Comfort Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
General features			
The dwelling must not have more than 2 storeys.	✔	✔	✔
The conditioned floor area of the dwelling must not exceed 300 square metres.	✔	✔	✔
The dwelling must not contain open mezzanine area exceeding 25 square metres.	✔	✔	✔
The dwelling must not contain third level habitable attic room.	✔	✔	✔
Floor, walls and ceiling/roof			
The applicant must construct the floor(s), walls, and ceiling/roof of the dwelling in accordance with the specifications listed in the table below.	✔	✔	✔

Construction	Additional insulation required (R-Value)	Other specifications
floor - concrete slab on ground	nil	
external wall - framed (weatherboard, fibre cement, metal clad)	2.20 (or 2.60 including construction)	
internal wall shared with garage - plasterboard	nil	
ceiling and roof - flat ceiling / flat roof, framed	ceiling: 4 (up), roof: foil/sarking	framed; dark (solar absorptance > 0.70)

Note	• Insulation specified in this Certificate must be installed in accordance with Part 3.12.1.1 of the Building Code of Australia.
Note	• In some climate zones, insulation should be installed with due consideration of condensation and associated interaction with adjoining building materials.

Thermal Comfort Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Windows, glazed doors and skylights			
The applicant must install the windows, glazed doors and shading devices described in the table below, in accordance with the specifications listed in the table. Relevant overshadowing specifications must be satisfied for each window and glazed door.	✔	✔	✔
The dwelling may have 1 skylight (<0.7 square metres) which is not listed in the table.	✔	✔	✔
The following requirements must also be satisfied in relation to each window and glazed door: • For the following glass and frame types, the certifier check can be performed by visual inspection. - Aluminium single clear - Aluminium double (air) clear - Timber/uPVC/fibreglass single clear - Timber/uPVC/fibreglass double (air) clear	✔	✔	✔ ✔

Window/glazed door no.	Maximum height (mm)	Maximum width (mm)	Type	Shading Device (Dimension within 10%)	Overshadowing
North facing					
W01	1800	1800	aluminium, single, clear	none	not overshadowed
East facing					
W02	1800	900	aluminium, single, clear	none	not overshadowed
W03	1800	900	aluminium, single, clear	none	not overshadowed
W04	1800	900	aluminium, single, clear	eave 1850 mm, 1890 mm above head of window or glazed door	not overshadowed
W05	1800	900	aluminium, single, clear	eave 1850 mm, 1615 mm above head of window or glazed door	not overshadowed
W06	900	1500	aluminium, single, clear	none	not overshadowed
South facing					
W07	900	1500	aluminium, single, clear	none	not overshadowed

Window/glazed door no.	Maximum height (mm)	Maximum width (mm)	Type	Shading Device (Dimension within 10%)	Overshadowing
W08	1800	900	aluminium, single, clear	none	not overshadowed
West facing					
W09	1800	900	aluminium, single, clear	none	not overshadowed
W10	600	1500	aluminium, single, clear	eave 3100 mm, 2285 mm above head of window or glazed door	not overshadowed
W11	2100	2700	aluminium, single, clear	eave 3100 mm, 2200 mm above head of window or glazed door	not overshadowed
W12	1800	1800	aluminium, single, clear	eave 3100 mm, 1725 mm above head of window or glazed door	not overshadowed

Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Hot water			
The applicant must install the following hot water system in the development, or a system with a higher energy rating: solar (electric boosted) with a performance of 26 to 30 STCs or better.	✔	✔	✔
Cooling system			
The applicant must install the following cooling system, or a system with a higher energy rating, in at least 1 living area: 1-phase airconditioning; Energy rating: 5 star (cold zone)		✔	✔
The applicant must install the following cooling system, or a system with a higher energy rating, in at least 1 bedroom: 1-phase airconditioning; Energy rating: 5 star (cold zone)		✔	✔
Heating system			
The applicant must install the following heating system, or a system with a higher energy rating, in at least 1 living area: 1-phase airconditioning; Energy rating: 5 star (cold zone)		✔	✔
The applicant must install the following heating system, or a system with a higher energy rating, in at least 1 bedroom: 1-phase airconditioning; Energy rating: 5 star (cold zone)		✔	✔
Ventilation			
The applicant must install the following exhaust systems in the development:			
At least 1 Bathroom: individual fan, ducted to façade or roof; Operation control: manual switch on/off		✔	✔
Kitchen: individual fan, ducted to façade or roof; Operation control: manual switch on/off		✔	✔
Laundry: individual fan, ducted to façade or roof; Operation control: manual switch on/off		✔	✔
Natural lighting			
The applicant must install a window and/or skylight in the kitchen of the dwelling for natural lighting.	✔	✔	✔
The applicant must install a window and/or skylight in 1 bathroom(s)/toilet(s) in the development for natural lighting.	✔	✔	✔
Other			
The applicant must construct each refrigerator space in the development so that it is "well ventilated", as defined in the BASIX definitions.		✔	

Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
The applicant must install a fixed outdoor clothes drying line as part of the development.		✔	

Legend
In these commitments, "applicant" means the person carrying out the development.
Commitments identified with a ✔ in the "Show on DA plans" column must be shown on the plans accompanying the development application for the proposed development (if a development application is to be lodged for the proposed development).
Commitments identified with a ✔ in the "Show on CC/CDC plans and specs" column must be shown in the plans and specifications accompanying the application for a construction certificate / complying development certificate for the proposed development.
Commitments identified with a ✔ in the "Certifier check" column must be certified by a certifying authority as having been fulfilled, before a final occupation certificate(either interim or final) for the development may be issued.