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DESIGN . PLAN . MANAGE

Statement of Enviromental Effects

Client: Tom Williams
Site Address: 47 Buchanan Street
Kandos, NSW 2848

10 May 2023

Our Reference: 41091-PR01_A

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DISCLAIMER

This report has been prepared solely for Tom Williams (the client) 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.

Report Title:	Statement of Environmental Effects
Project Name:	Dwelling and Associated Shed Development Application
Project Location:	47 Buchanan Street, Kandos 2848
Client:	Tom Williams
Project Number:	41091
Report Reference:	41091-PR01_A
Date:	9/05/2023

Prepared by:	Reviewed by:
[redacted]	[redacted]
Seb Minehan **B. Human Geog UOW, U/G Urb. Reg. Plan** U/G Town Planner	**Jim Sarantzouklis** **B. Arts, Grad. Dip. Urb. Reg. Plan, Dip. EH&B Surveying, MAIBS MEHA RPIA** Director

1.0 INTRODUCTION

1.1 Background

Barnson Pty Ltd has been engaged by Tom Williams to prepare information in support of a Development Application (DA) for the demolition of an existing dwelling, and the construction of a single storey dwelling and associated shed at Lot 13 Section 6 DP 8161, commonly known as 47 Buchanan Street, Kandos, NSW, 2848.

The subject site is located on the northern side of Buchanan Street and has an approximate area of 1,012m^2. The site currently consists of an existing dwelling and associated structures. It is bounded by residential land uses.

The site is Zoned RU5: Village under the *Mid-Western Regional Local Environmental Plan 2012*. The proposed development is defined as a dwelling and associated shed, which is permitted with consent in the RU5 Zone.

This application consists of:

- One (1) PDF of this written statement, including plans.

1.2 Proponent

The proponent for the DA is Tom Williams.

1.3 Consultant

Barnson Pty Ltd

Jim Sarantzouklis

Riverview Business Park

Unit 1, 36 Darling Street

Dubbo NSW 2830

2.0 EXISTING ENVIROMENT

2.1 Location and Title

The subject site of this application is Lot 13 Section 6 DP 8161, known as 47 Buchanan Street, Kandos. The site is located on the northern side of Buchanan Street and is approximately 60m from the Buchanan/McDonald Street intersection. Please refer to Figure 1 below.

Source: (NSW Government Spatial Services, 2021)

Figure 1 – Site Location

The site has an overall area of 1,012m^2 (Please refer to Survey in Appendix A). The site consists of an existing dwelling and associated structures and has direct frontage to Buchanan Street. One (1) existing layback is provided. The site is approximately 300m east of the Kandos CBD.

Please refer to Figure 2 and Plates 1-3 for photos of the site and the locality.

Source: (NSW Government Spatial Services, 2021)

Figure 2 – Site Aerial

Plate 1 – View of the existing dwelling to be demolished.

Plate 2 – View of the rear of the site.

Plate 3 – View of the existing layback to Buchanan Street.

2.2 Land Use

The subject site currently contains an existing dwelling and ancillary structures. There is managed gardens and grass, which is not uncommon for a residential setting. The site is surrounded by single storey dwellings and located near the CBD of the Kandos Township.

2.3 Topography

The subject site is slightly sloping.

2.4 Flora and Fauna

The subject site consists of some grasslands, however there are no significant trees or other vegetation in the rear of the site.

Given the lack of significant vegetation and neighbouring land uses, it is unlikely the vegetation on site would provide suitable habitat for protected, vulnerable, or endangered native species.

2.5 Natural Hazards

The subject site is not considered bushfire prone land or within a Flood Planning Area pursuant to the *Mid-Western Regional Local Environmental Plan 2012* (the LEP) and the ePlanning Spatial Viewer.

2.6 Visual Amenity

The character of the Buchanan Street and surrounding locality is defined by single storey dwellings/residential land uses.

2.7 Services

Services including electricity, water, sewer, and telecommunications infrastructure are available to the site.

2.8 Access and Traffic

Access will be gained via Buchanan Street, which bitumen sealed improved with Kerb and gutter.

2.9 Heritage

The subject site has not been listed as containing a heritage item under Schedule 5 of the *Mid-Western Regional Local Environmental Plan 2012* (the LEP).

Following an online search on the *Aboriginal Heritage Information Management System* (AHIMS), it was concluded that there are no Aboriginal items nor places known within a 50m radius of the subject site.

Please refer to Appendix B for the AHIMS Report.

3.0 PROPOSED DEVELOPMENT

The proposed development is for the demolition of an existing dwelling and associated structures, and the construction of a single storey dwelling, and associated shed on Lot 13 Section 6 DP 8161, commonly known as 47 Buchanan Street, Kandos NSW.

The proposed works shall consist of:

Demolition:

- The safe removal of an existing fibro dwelling;
- An existing car port and water tank structure;
- An existing shed;

Dwelling:

- Construction of a single storey dwelling consisting of two (2) bedrooms, ensuite, kitchen/living area, bathroom/laundry, clerestory deck, and single car carport;
- Roofing: BONDOR EPS-FR VJ panels;
- External Cladding: BGC Duragroove wall panelling (natural woodgrain);
- Polished concrete floors (living/kitchen);
- Tiled floors (bathroom and ensuite);
- Carpet (Bedrooms);

Shed:

- Proposed 11m x 9m shed;
- A retaining wall connected to the northern end of the shed (1.8 x 0.6 x 0.6 Solid concrete masonry);
- Toilet and basin;
- Two (2) roller doors – 2.4m(h) x 3.0m(w);
- Two (2) PA doors;
- 14,000l rainwater tank;

Other:

- Rainwater tank overflow discharges to infiltration trench (proposed 2m x 1m);
- Stormwater to be charged to rainwater tank;
- Proposed vehicular crossing proposed to gain access to a new single car garage;
- Existing crossover to be retained to gain access to the rear via permeable paving;
- Existing low water use tree to be pruned down to cover 50m²;
- Permeable turning and manoeuvrable areas (Turfcell); and
- Erosion and sediment control measures are to be implemented during construction to ensure that all sediment is constrained.

Refer to Development Plans in Appendix C, and Civil Plans in Appendix D of this report.

4.0 LAND 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 'dwelling house' which is permissible with consent in the RU5 Zone.

The LEP definition is provided below:

"*…means a building containing only one dwelling.*

Note – Dwelling houses are a type of Residential Accommodation – see the definition of that term in this dictionary".

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.

5.0 PLANNING CONSIDERATION

5.1 Environmental Planning & Assessment Act 1979

5.1.1 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
   iv. 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
   vi. any coastal zone management plan (within the meaning of the Coastal Protection Act 1979), 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.

5.2 Environmental Planning Instruments

5.2.1 State Environmental Planning Policies (SEPP)

While a number of SEPPs apply to the subject land and development thereon, there is unlikely to be any significant implications in terms of the requirements of the SEPPs on the proposed development. The following SEPPs are considered:

5.2.1.2 State Environmental Planning Policy – Building Sustainability Index: BASIX 2004

The proposed development comprises BASIX affected development. BASIX certificates have been prepared and the relevant energy and water saving commitments shown on the DA Plans. Refer to BASIX Details in Appendix E.

5.3 SEPP (Resilience and Hazards) 2021

Clause 4.6(1) of *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 sued for that purpose.

Comment: The subject site does not appear to have been subject to any of the materials 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 large portion of the site is vacant with only minimal vegetation and structures present. There does not appear to have been any contaminating uses carried out on site and is considered that a Preliminary Site Investigation (PSI) is not required at this given time. The proposed demolition works are understood to include asbestos containing material, as such, all demolition is required to adhere to Council's required guidelines and all work must cease if Council are not satisfied the required remediation has been undertaken correctly.

5.4 Mid-Western Regional Local Environmental Plan 2012

5.4.1 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 as follows:

- *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 proposal constitutes a single storey residential dwelling and associated shed which is permissible with consent in the RU5 Zone. The development is providing an upgraded living option in a growing residential area of the Kandos Township. In this manner, the development can be considered consistent with the objectives of the RU5 Zone.

5.4 Draft Environmental Planning Instruments

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

5.5 Development Control Plans

The *Mid-Western Regional Council Development Control Plan 2013* (DCP) applies to the subject application. Relevant provisions of the DCP have been addressed in Table 1 below.

Table 1: Development Control Plan Requirements		
Provision	Requirements	Comment
Section 3.1 Residential Development in Urban Areas (Single Dwellings and Dual-Occupancies)		
Building Setbacks	(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	The proposed development looks to demolish an existing dwelling and provide a replacement dwelling and shed in the rear. The proposed dwelling is to utilise a similar front setback as the existing dwelling. The approximate setback is measured at 4.62m from the Buchanan Street boundary. Further, the front setback is in context with the Buchanan Street locality and does not negatively impact on neighbouring properties. Similarly, the proposed car port is adjacent the dwelling and is 4.62m from the front boundary, however, is not out of context for the site and its surrounds. It allows for a vehicle to safely enter and exit the site while being fully contained in the site's boundaries. Both the side and rear setbacks are considered suitable.
Building Height	Deemed to Satisfy: Single storey building with an FFL of less than 1 metre above Natural Ground Level.	The proposed development is proposed to be a single storey dwelling that will have an FFL less than 1 metre above the natural ground level.
Site Coverage	Deemed to Satisfy: Development is not to exceed 35% site coverage	The proposed dwelling has an approximate floor area of 121m^2, and the shed has an approximate floor area of 99m2. The approximate area of the

		subject is 1,012m^2 (according to the Survey in Appendix A). The following is considered: - Dwelling: 121/1,012 x 100 = 11.956% - Shed: 99/1,012 x 100 = 9.782% Thus, the development has a site coverage of approximately 21.738%, well below the required maximum site coverage.
Solar Access	Deemed to Satisfy: Living areas and private open space areas to be located with a northerly aspect (i.e., on the north or eastern side of the building)	The floor plan of the development depicts that the dining/living area, kitchen, and deck are to have a northerly aspect.
Privacy	(a) Development must ensure that reasonable privacy is achieved for new dwellings and existing adjoining residences and private open space.	The proposed development ensures that the dwelling and existing dwellings in proximity will continue to have adequate privacy in private open spaces. Neighbouring dwellings will not be further impacted to what is already occurring with the existing dwelling.
Parking	Deemed to Satisfy: Two (2) spaces per dwelling.	On the Buchanan Street frontage, the development includes a proposed car port accessed via a concrete driveway. The development is improved with additional car parking areas in the proposed shed, which also includes an area for possible stacked parking, if required. In this manner, the site has more than two (2) parking opportunities.
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.	The proposed development shall utilise existing landscaping afforded to the site, including an existing low water use tree in the central portion of the site to be pruned down to 50m^2 cover.

	(c) Plants with low maintenance and water requirements should be selected.	
Open Space	Deemed to Satisfy: Private Open Space is to be on the northern or eastern side of dwelling with direct access to living areas. Area is to be 80m^2 with a minimum dimension of 5 metres.	As depicted in Appendix C, the proposed development has provided sufficient Private Open Space with dimensions exceeding 5m and 80m^2.
Fencing	(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.	The proposed development shall utilise existing fencing, and where required shall be remediated. Colourbond fencing will not be used on the street frontage.
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.	According to the plans, the proposed development includes an outdoor clothesline located behind the proposed dwelling. In the rear of the site, a 14,000 Litre water tank is proposed. All surface infrastructure shall not be visible from Buchanan Street, as they are behind the building line.
Garages	Outbuildings must not negatively affect the amenity of the streetscape or adjoining properties. The following standards apply for urban areas. Lot size (m^2)/shed size (m^2): • <750/50 • 751-1000/80 • 1001-2000/100 • 2001-3000/120 • 3001 or greater/150	The proposed development site is approximately 1,012m^2 (Please refer to Survey in Appendix A). Based on the lot size, a shed size of 100m^2 is the relevant standard. The proposed shed has an approximate floor area of 99m^2, and thus is compliant with the relevant standard.

Development Near Ridgelines	N/A	N/A
Slopes	(a) Development maximises retention of natural ground levels and contours. (b) Drainage is to avoid erosion of gullies, slopes and drainage lines in the locality (c) Cut and fill, earthworks, retaining walls, unprotected embankments and terraces etc are setback from boundaries such that there is no impact on the privacy or visual amenity of adjoining dwellings and their private open space. (d) Cut and fill, earthworks, retaining walls, unprotected embankments and terraces etc are setback from boundaries such that they do not redirect the flow of surface water onto adjoining properties.	The development proposes to only use minimal cut and fill where required and maximises retention of the natural ground levels. The proposed earthworks and retaining wall for the northern side of the shed are adequately set back from the boundaries to ensure that the privacy and visual amenity of both neighbouring properties and the development site. Surface water will not be directed onto adjoining properties.
Access	All weather vehicle access is required to ensure that emergency services (fire, ambulance, police) are able to access the dwelling at all times.	The subject site fronts Buchanan Street which is sealed.
Design Principals	(a) Design should maximise surveillance with clear sightlines between public and private places, effective lighting of public places and landscaping. (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.	The design allows for a clear understanding of what areas of the site are public and private sections. The site has adequate existing fencing proposed. Clear sightlines are offered throughout the site. The design is in context with other developments in proximity. It will utilise duragroove wall panelling finish with selected colourbond roofing that are both considered non-reflective materials. The floor plan in Appendix C depicts the dwelling has proportionate rooms and are in suitable areas. The shed in the rear of the site shall utilise non-reflective materials and is similar to the others in the surrounding locality. It will be finished with a slate grey and smooth cream paint schedule.

	(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. (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) N/A	The development shall retain existing landscaping which is suitable for a residential setting. The layout of the proposed dwelling allows adequate access to sunlight and offers natural ventilation. The proposal has an adequate BASIX certificate (please refer to Appendix E.

Table 2 - DCP Requirements

5.6 Any Planning Agreement entered into

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

5.7 Any Matters Prescribed by the Regulations

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) specifies the additional matters a consent authority must take into consideration when determining a DA. The following matter is relevant to the site and the development.

5.7.1 Demolition works

Demolition works are likely to be involved, the provisions of AS2601 need to be considered. In this regard, all proposed demolition will be carried out in accordance with Australian Standard AS2601: the Demolition of Structures.

5.8 Any Likely Impacts of the Development

5.8.1 Context & Setting

The subject site is located in an environment which is characterised by existing and emerging single storey residential dwellings. The proposed development is considered to be consistent with the existing streetscape and would not impact on the context or setting in the locality.

5.8.2 Access, Transport & Traffic

Access shall be gained via the northern side of Buchanan Street. The crossover and driveway shall be provided in accordance with Council's requirements and relevant Australian standards.

Traffic manoeuvrability and the proposed parking arrangements are considered suitable for the proposed development and will not impact on existing traffic conditions in the locality.

5.8.3 Utilities

All services including reticulated water supply, sewerage, electricity, stormwater management and telecommunication infrastructure are connected to the site. A 14,000L rainwater tank is also proposed for further onsite stormwater management. The existing and proposed connections can support the proposed use of the site.

5.8.4 Noise

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

5.8.5 Social & Economic Impacts in the Locality

The proposal supports a well-designed residential development on an accessible infill site able to utilise Council's services, including water, sewerage and stormwater management. In this manner, it can be considered a positive social and economic impact.

5.8.6 Other

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

5.9 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.

5.10 The Public Interest

The proposal is unlikely to create any negative impacts on the amenity of the area and is therefore deemed to be positive in terms of the public interest.

6 CONCLUSION

It is recommended that the proposed dwelling and associated shed on Lot 13 Section 6 DP 8161, commonly known as 47 Buchanan Street, be supported on the following grounds:

- The proposal is considered acceptable in terms of 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 its site and its surrounds.

7 REFERENCES

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

- *AHIMS*
- *Mid-Western Regional Development Control Plan 2013*
- *Mid-Western Regional Local Environmental Plan 2012*
- *NSW Government Spatial Services 2021*

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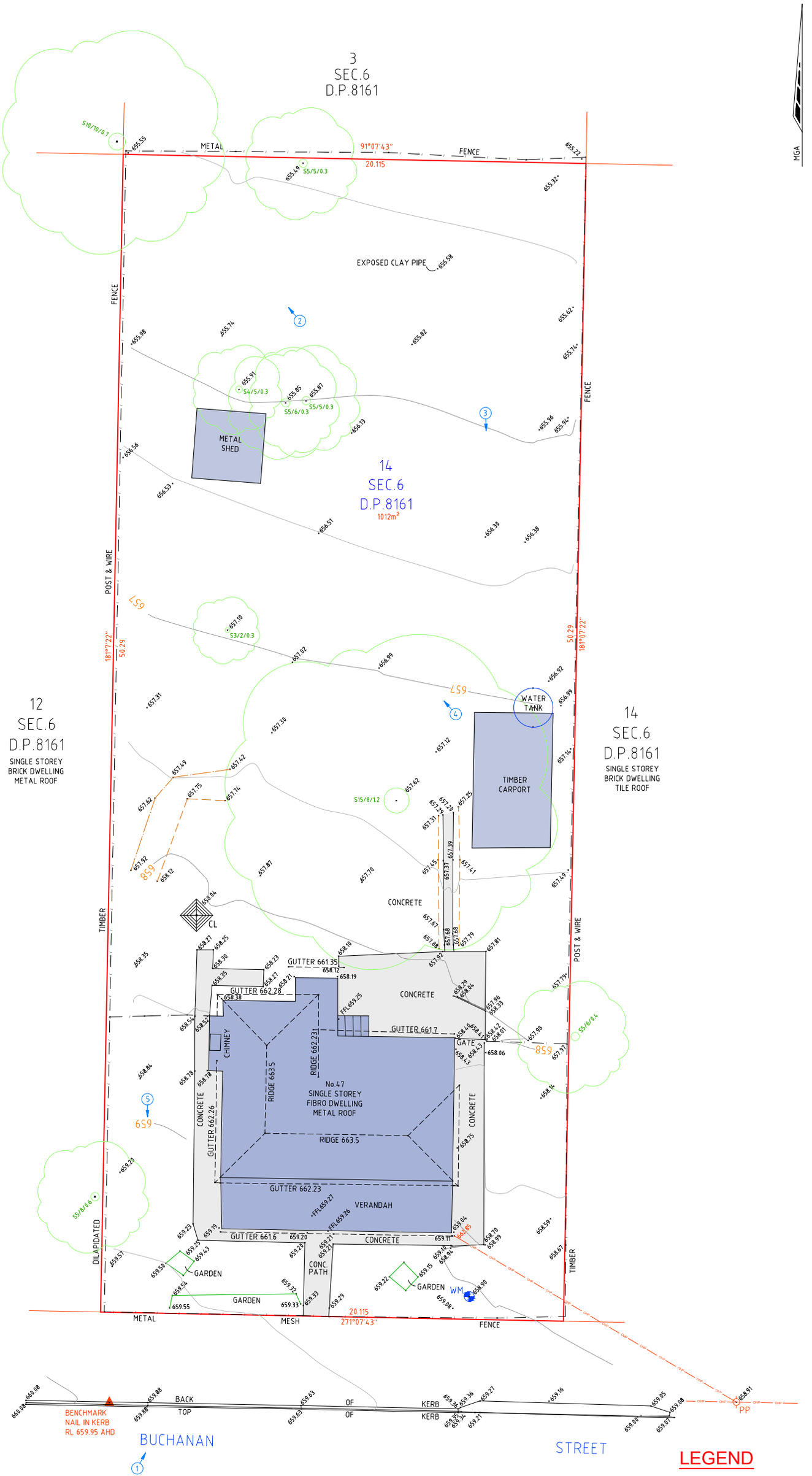
APPENDIX A

Survey


3
SEC.6
D.P.8161
MGA
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METAL
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20.115
FENCE
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655.49
S5/5/0.3
655.32
EXPOSED CLAY PIPE
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FENCE
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655.98
655.82
655.62
655.71
655.91
S4/5/0.3
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S5/5/0.3
S5/6/0.3
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655.94
FENCE
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656.53
14
SEC.6
D.P.8161
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POST & WIRE
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S3/2/0.3
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656.89
657
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657.14
12
SEC.6
D.P.8161
SINGLE STOREY
BRICK DWELLING
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TIMBER CARPORT
14
SEC.6
D.P.8161
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S15/8/1.2
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CONCRETE
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CL
TIMBER
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POST & WIRE
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CONCRETE
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GARDEN
CONC. PATH
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OF
OF
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KERB
KERB
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659.05
659.08
659.08
659.07
658.91
OHP
PP
BENCHMARK
NAIL IN KERB
RL 659.95 AHD
BUCHANAN
STREET
1
LEGEND

barnson.

APPENDIX B

AHIMS

AHIMS Web Services (AWS)
Search Result

Your Ref/PO Number : 16

Client Service ID : 754781

Barnson

Date: 20 February 2023

Unit 1/36 Darling Street
Dubbo New South Wales 2830

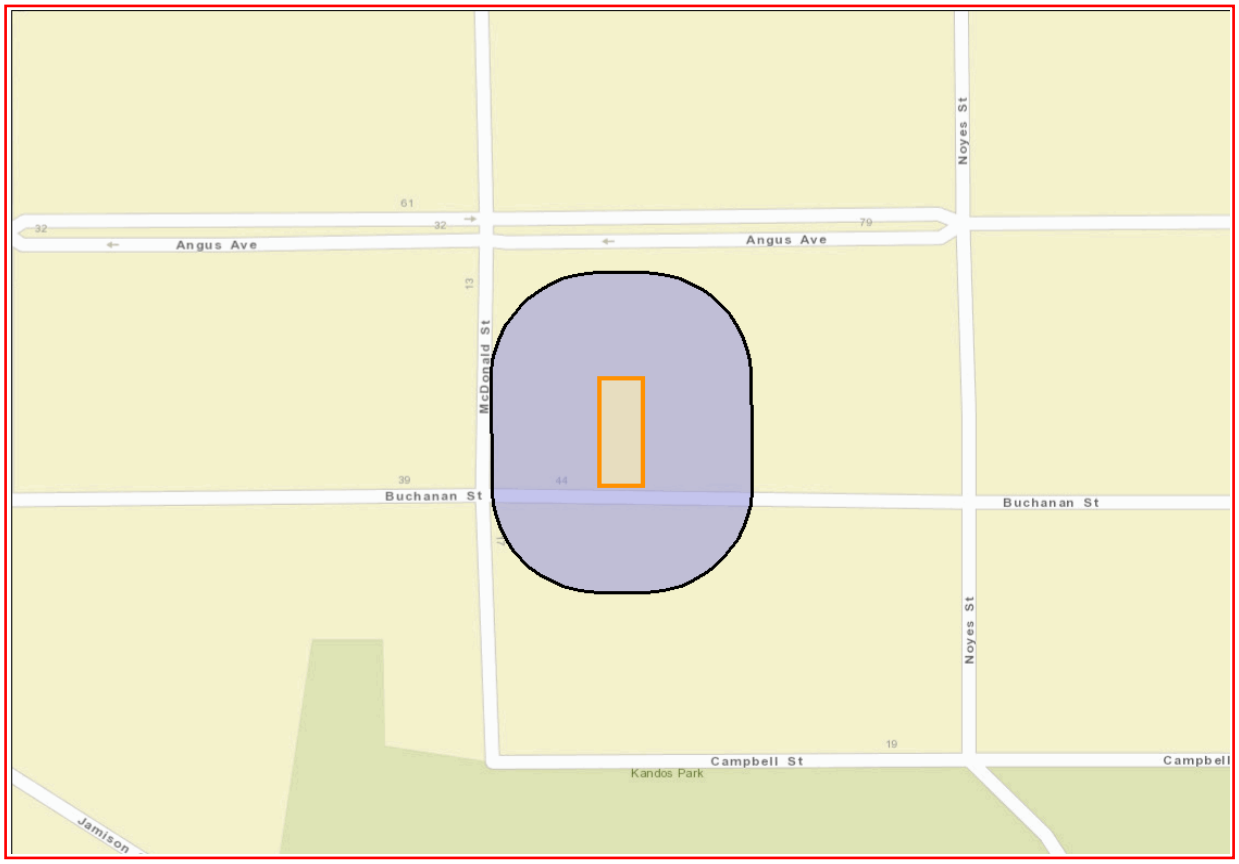
Attention: Sebastian Minehan

Email: sminehan@barnson.com.au

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lot : 13, DP:DP8161, Section : 6 with a Buffer of 50 meters, conducted by Sebastian Minehan on 20 February 2023.

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

barnson.

APPENDIX C

Development Plans

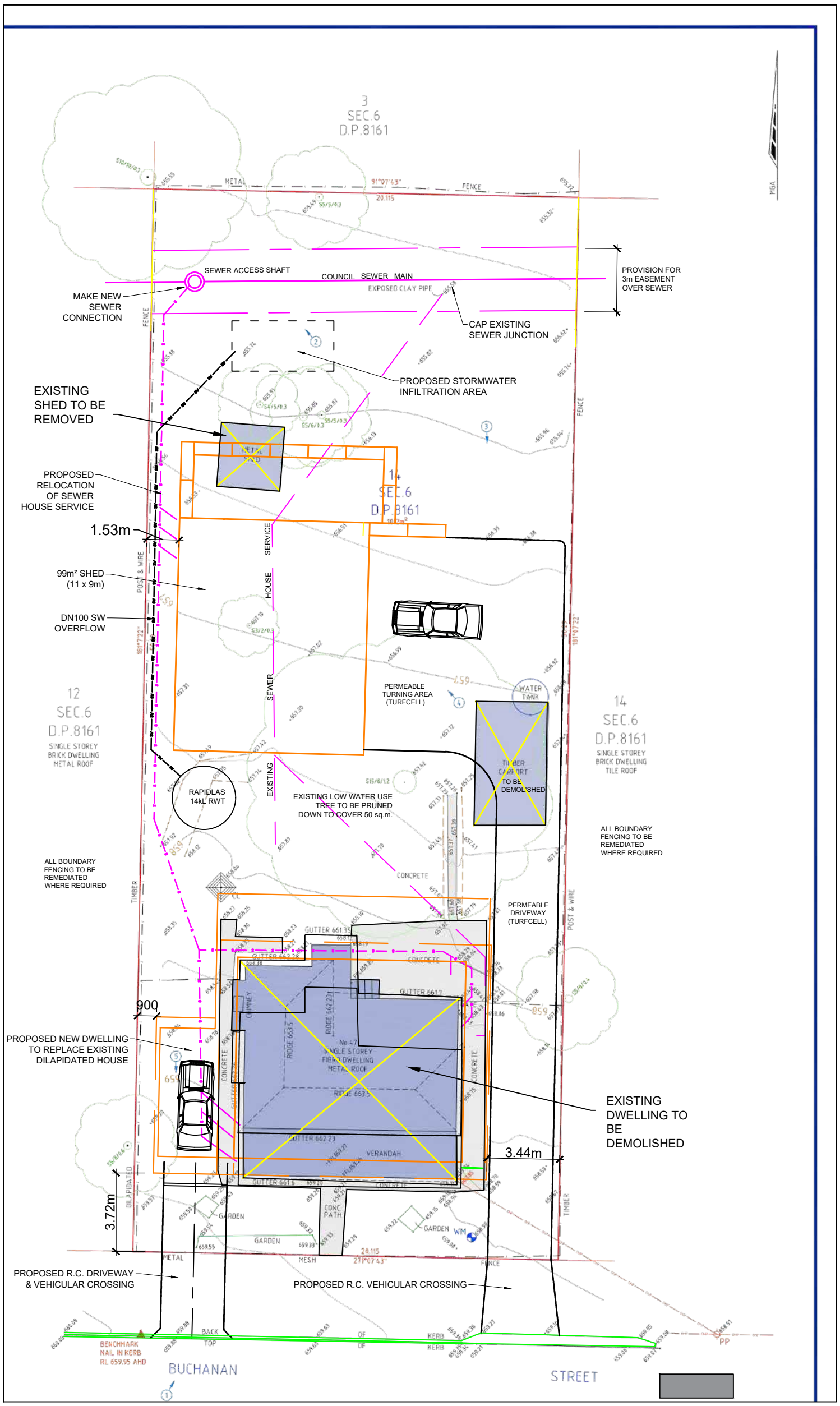
PROPOSED DWELLING AND SHED

47 BUCHANAN STREET, KANDOS NSW

DA DRAWING SET

ISSUE H

CONTENTS



0 1 2 3 4 5 10m

SCALE 1:100 A1
1:200 A3

REVISION	CHKD	OK	DATE
SEWER MAIN & ACCESS SHAFT LOCATION BY SURVEYORS			6 April 2023

SITE PLAN

PROJECT: PROPOSED DWELLING & SHED

47 BUCHANAN ST., KANDOS NSW

CLIENT: T. J. WILLIAMS

DATE: June 2022 | DRAWN: RA

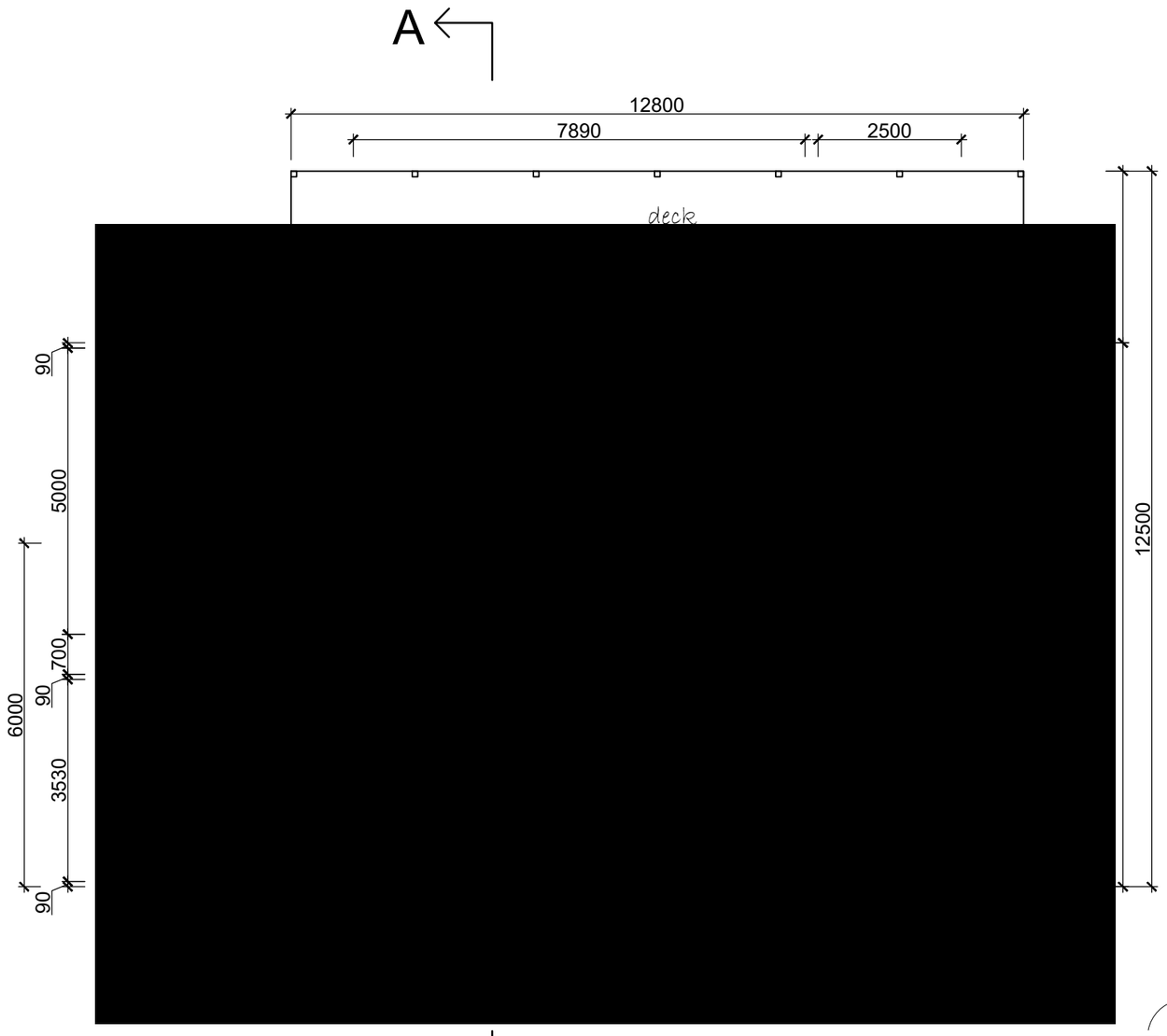
SCALE: As noted | APPD:

DWG No: W 01 | Paper Size A1

H

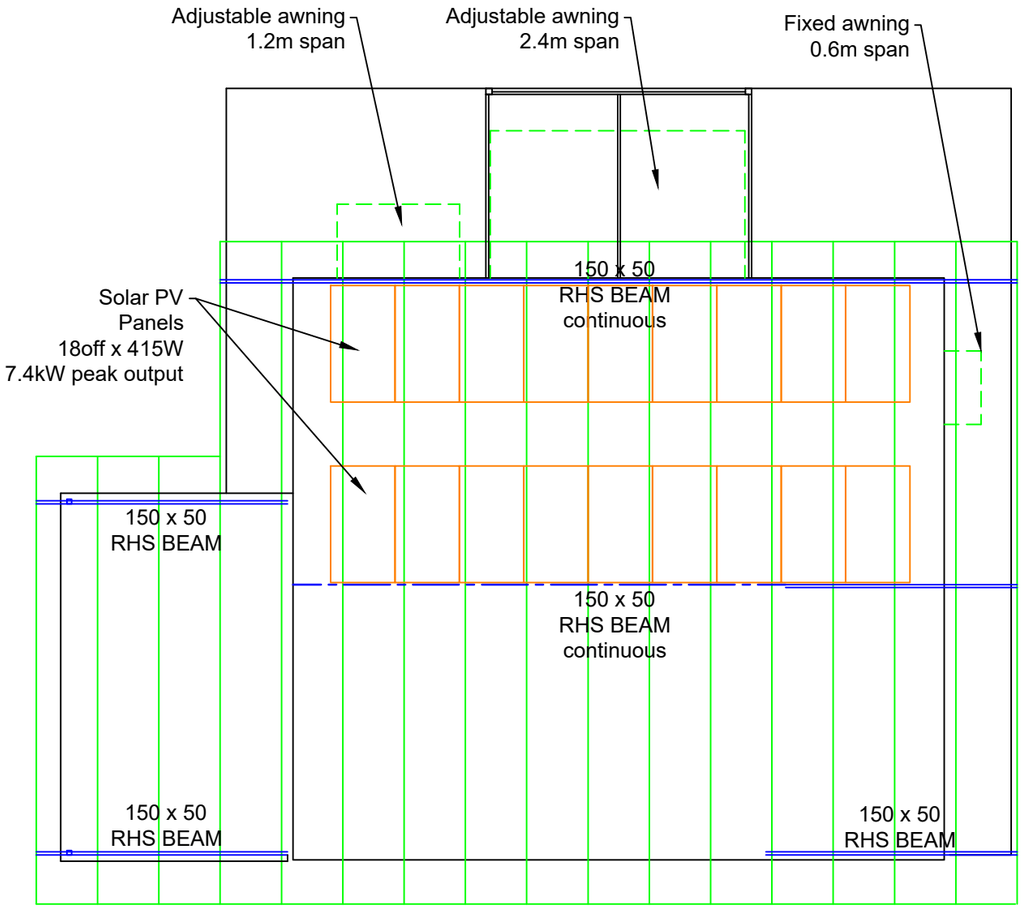
ROB AUNGLE & ASSOCIATES
CONSULTING ENGINEERS
CIVIL & STRUCTURAL
74 BALEMO DRIVE, OCEAN SHORES NSW 2483
0417 858 245
racon@live.com.au

NOTE: Solar PV & HW collectors to be installed on roof to supplier's layout



floor plan

AREAS	
Internal Floor	99 m^2
Decks	51 m^2
Carport	22 m^2
Roof	162 m^2



BONDOR EPS-FR VJ panels
1m Module width 150 thickness
Custom Orb profile top
Colour: Surf Mist
VJ profile bottom

roof plan

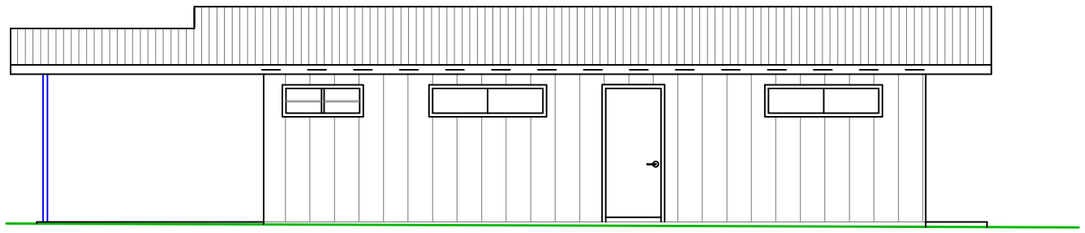
N

0 1 2 3 4 5 10m

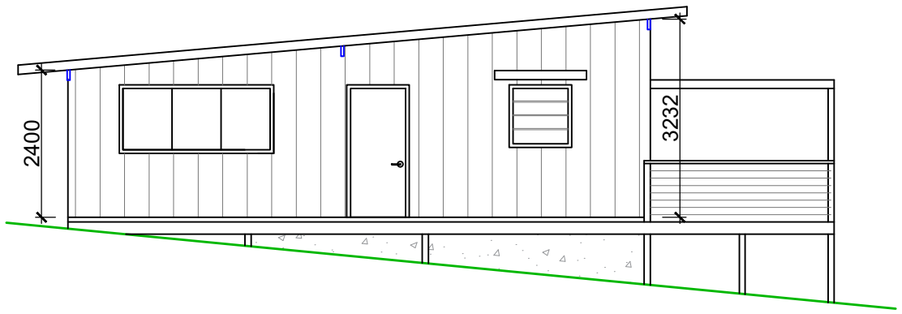
SCALE 1:100

PROPOSED DWELLING
47 BUCHANAN ST., KANDOS
DESIGN TJW
ISSUE H
Drawing W 02

Roof Colour: Surf mist

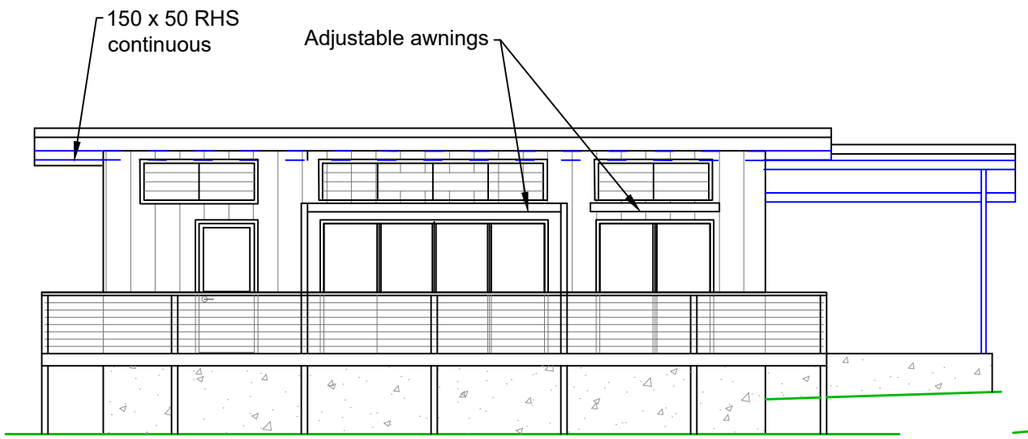


south

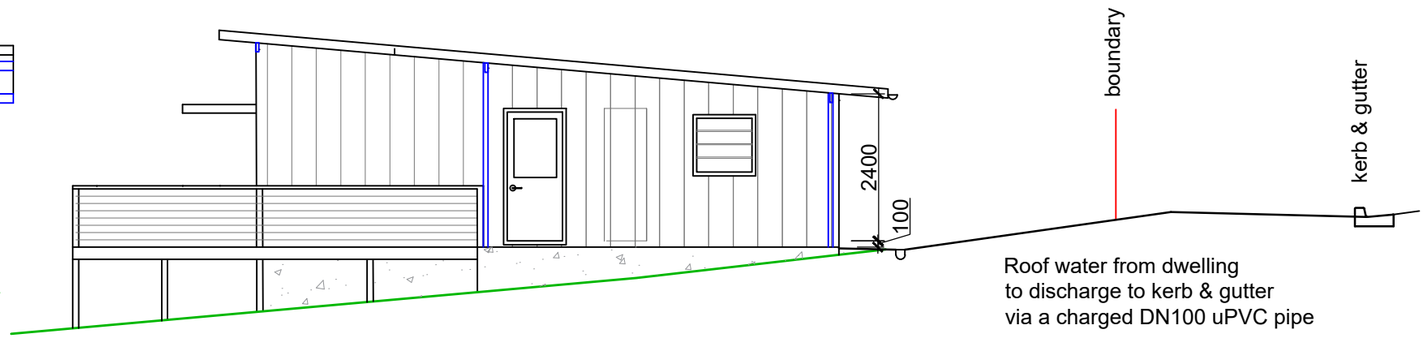


east

BGC Duragroove
wall panelling 9mm
400 VG 1200 wide
Colour: Natural Light Grey Woodgrain



north



west

SCALE 1:100

PROPOSED DWELLING
47 BUCHANAN ST., KANDOS
DESIGN TJW
ISSUE H
Drawing W 03

Roofing:
BONDOR EPS-FR VJ panels
R4 Insulation rating
1m Module width 150 thickness
Custom Orb profile top
VJ profile bottom

Wall framing 90mm wide
Install R2.2 Insulation in external walls

External cladding
BGC Duragroove
wall panelling 9mm
400 VG 1200 wide
Colour: Natural Light Grey Woodgrain

Internal Linings Plasterboard

Polished concrete floors throughout living & kitchen areas
Tiled floors to bathroom & ensuite
Carpet to bedrooms
Composite deck floorboards

cross section AA

1:50

Waffle Slab with deepened edge beams to Barnson Engineering Details - conforming with site specific Geotechnical Report

window & door schedule

North

W01	2118 ASD	Adjustable awning 1.2m wide
W02	2136 ASD	Adjustable awning 2.4m wide
W03	2109 EXD	Half glazed Aluminium
W04	0618 ALV	Aluminium Louvre
W05	0636 ALV	Aluminium Louvre
W06	0618 ALV	Aluminium Louvre

East

W07	0909 ALV	Al. Louvre fixed awning span 0.6m wide
W08	1024 ASW	

South

W09	0418 ASW	
W10	0418 ASW	
W11	0418 ALV	

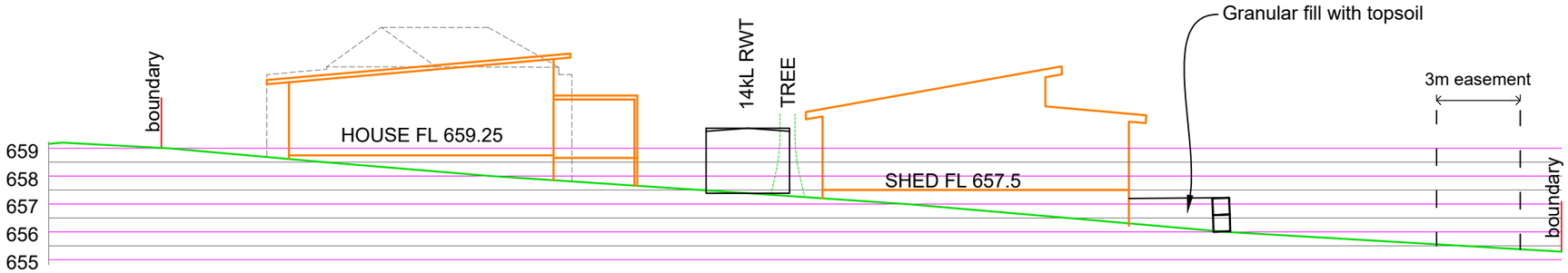
West

W12	0909 ALV	
W13	2109	Solid core timber decorative glaze

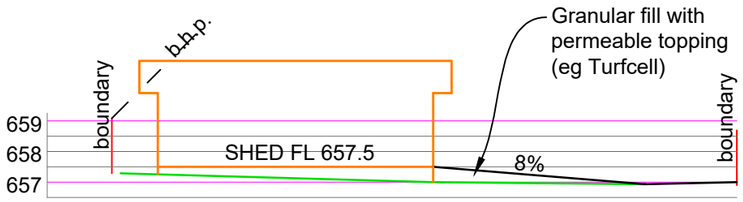
Note: All glazing single clear

PROPOSED DWELLING
47 BUCHANAN ST., KANDOS
DESIGN TJW
ISSUE H
Drawing W 04

DO NOT SCALE
DIMENSIONS IN MILLIMETRES



SOUTH - NORTH LONG SECTION
CENTRE OF DRIVEWAY



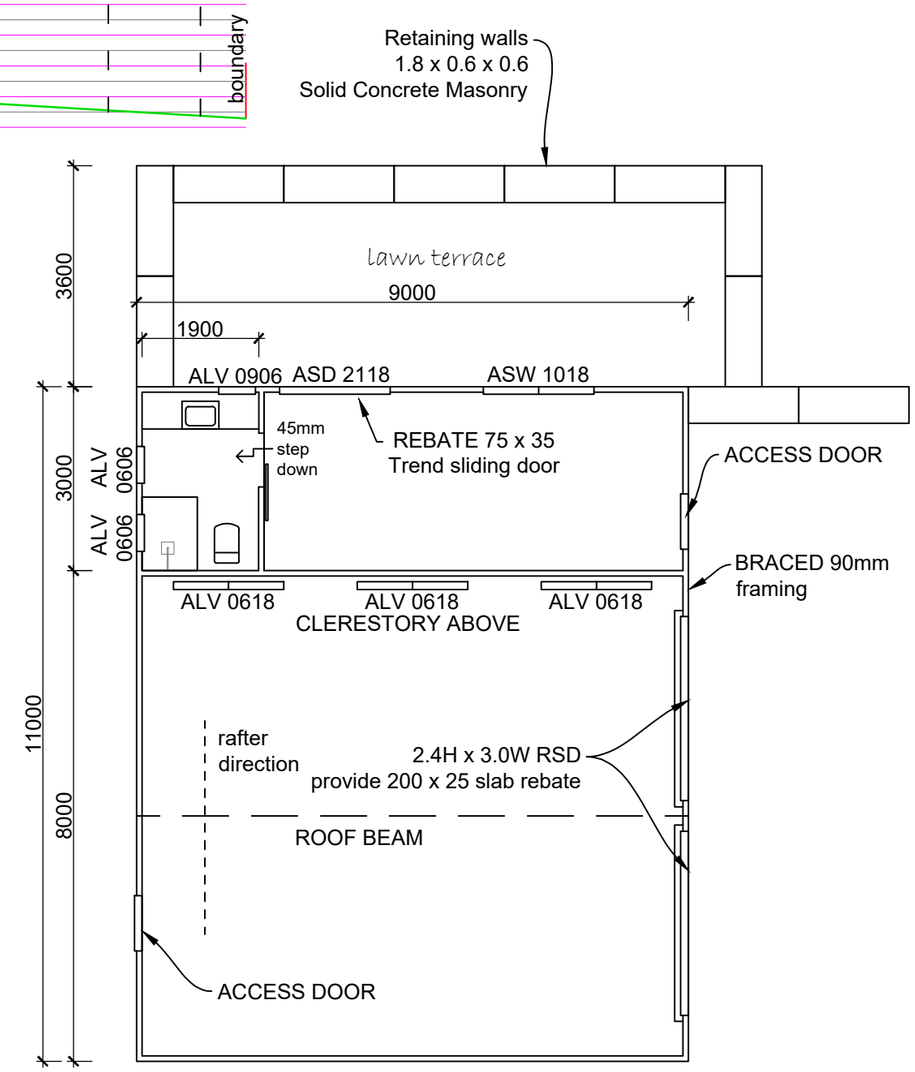
WEST - EAST X-SECTION
CENTRE OF PROPOSED SHED

SCALE 1:200

NOTE: Solar PV & HW collectors to be installed on roof to supplier's layout

AREAS

Internal Floor	95 m^2
Roof	162 m^2



99sq.m. SHED FLOOR PLAN
1:100

REVISION	CHKD	OK	DATE

ROB AUNGLE & ASSOCIATES

CONSULTING ENGINEERS
CIVIL & STRUCTURAL

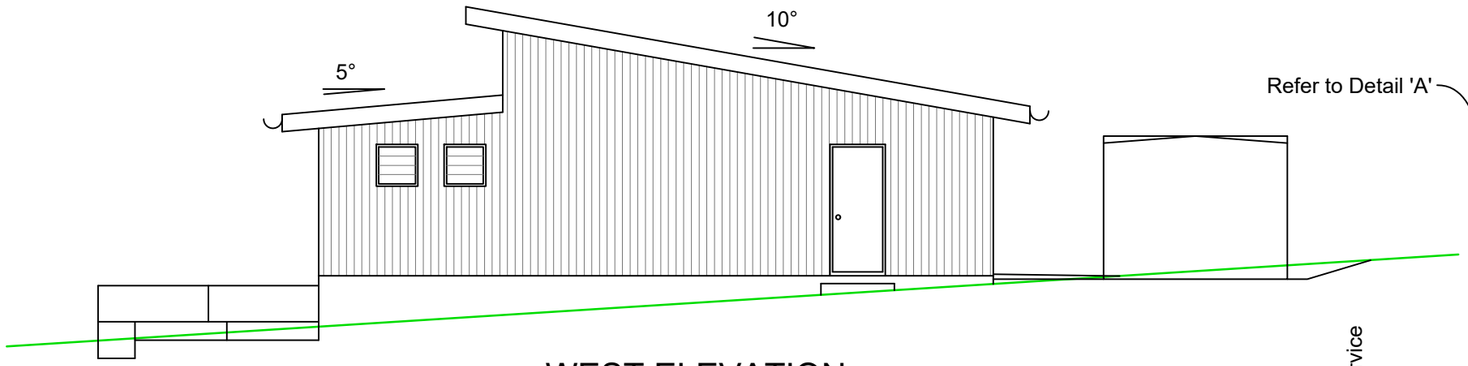
PROPOSED DEVELOPMENT
47 BUCHANAN STREET, KANDOS NSW

PROPOSED SHED
FLOOR PLAN & SECTIONS

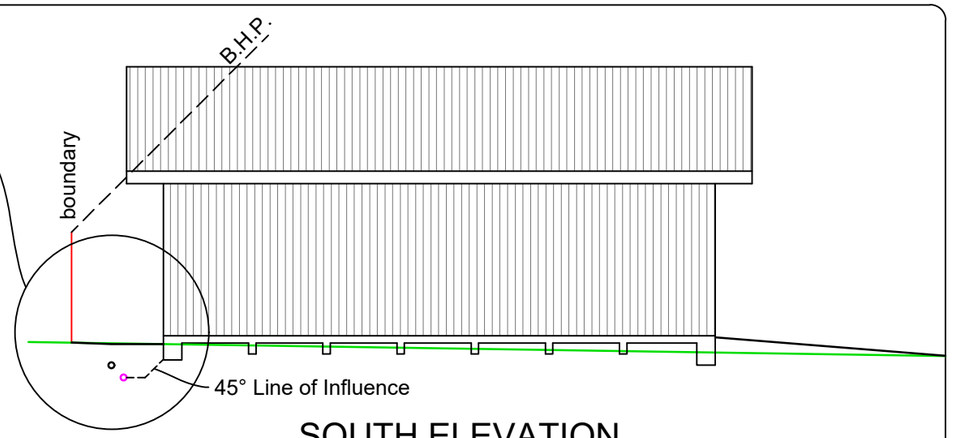
CLIENT: T J WILLIAMS

DATE: June 2022 | DRAWN: RA | ISSUE: H | DWG No W 05

SCALE: 1:200 | APPD:



WEST ELEVATION
1:100

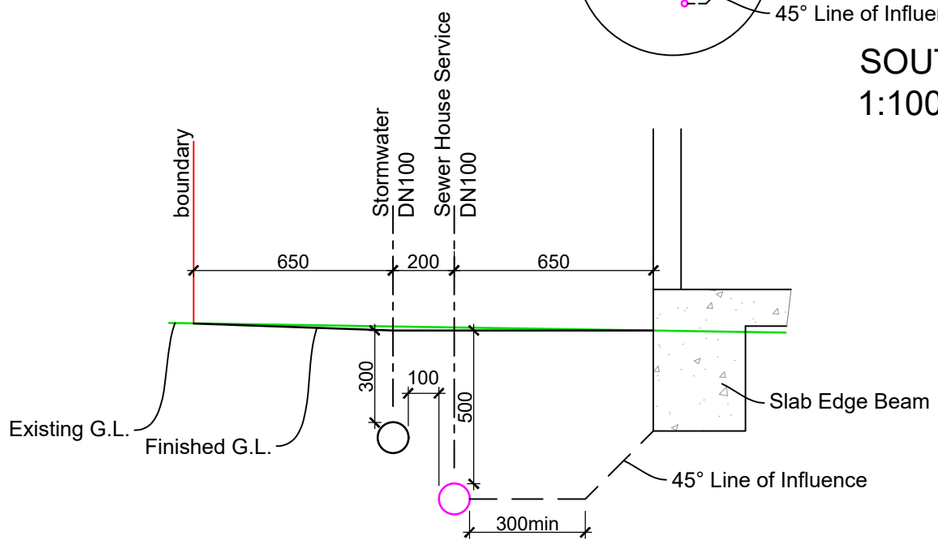


SOUTH ELEVATION
1:100

Roof & Walls Colorbonf Custon Orb

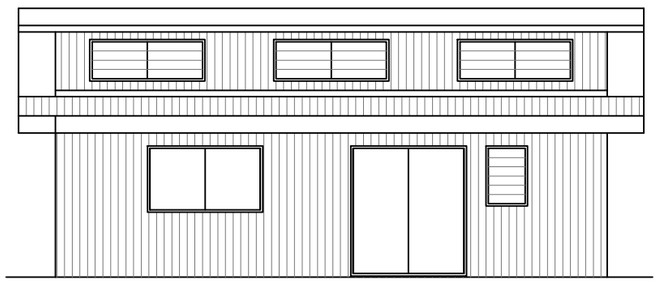
Roof Colour: Surf mist

Wall Colour: Shale Grey

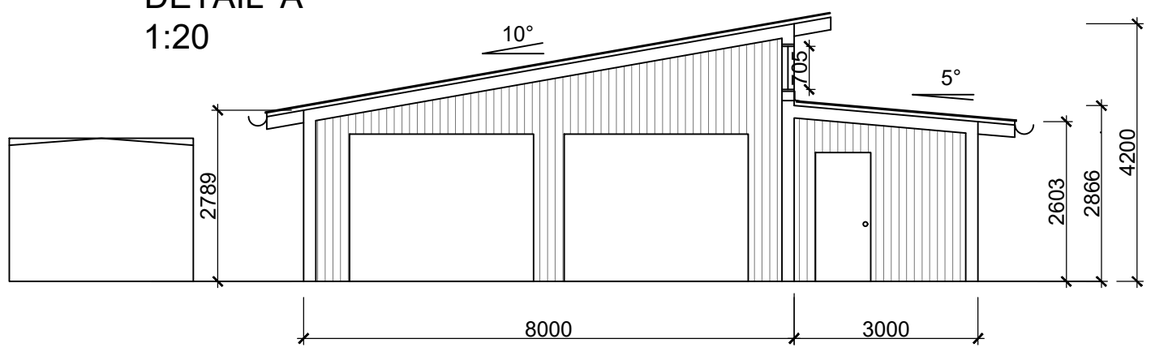


DETAIL 'A'
1:20

Waffle Slab with deepened edge beams to Barnson Engineering Details - conforming with site specific Geotechnical Report



NORTH ELEVATION
1:100



EAST ELEVATION 1:100

DO NOT SCALE
DIMENSIONS IN MILLIMETRES

REVISION	CHKD	OK	DATE

ROB AUNGLE & ASSOCIATES

CONSULTING ENGINEERS
CIVIL & STRUCTURAL

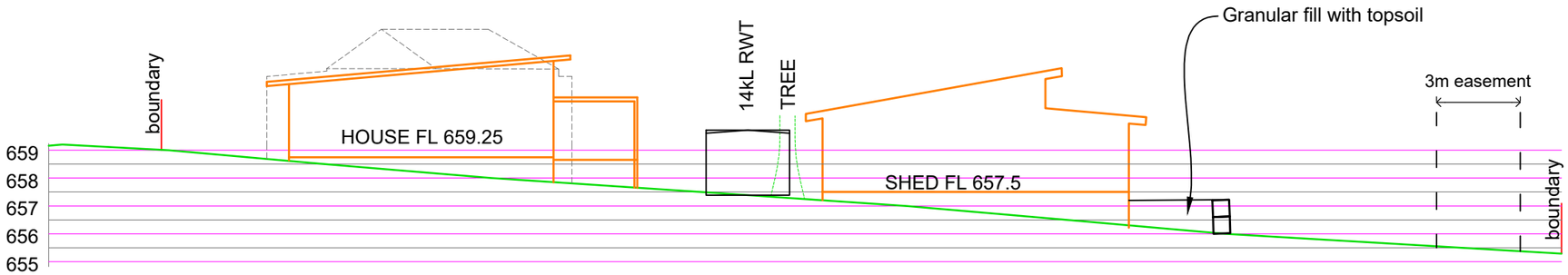
PROPOSED DEVELOPMENT
47 BUCHANAN STREET, KANDOS NSW

PROPOSED SHED
ELEVATIONS & TRENCH DETAIL

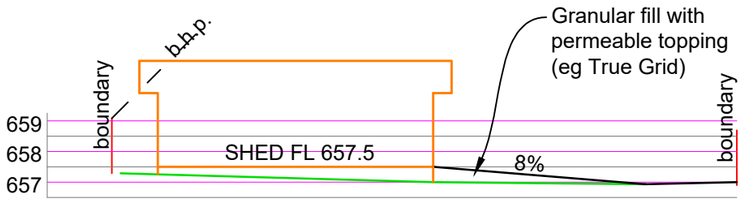
CLIENT: T J WILLIAMS

DATE: June 2022	DRAWN: RA	ISSUE: H	DWG No W 06
SCALE: 1:200	APPD:		

DO NOT SCALE
DIMENSIONS IN MILLIMETRES



SOUTH - NORTH LONG SECTION
CENTRE OF DRIVEWAY



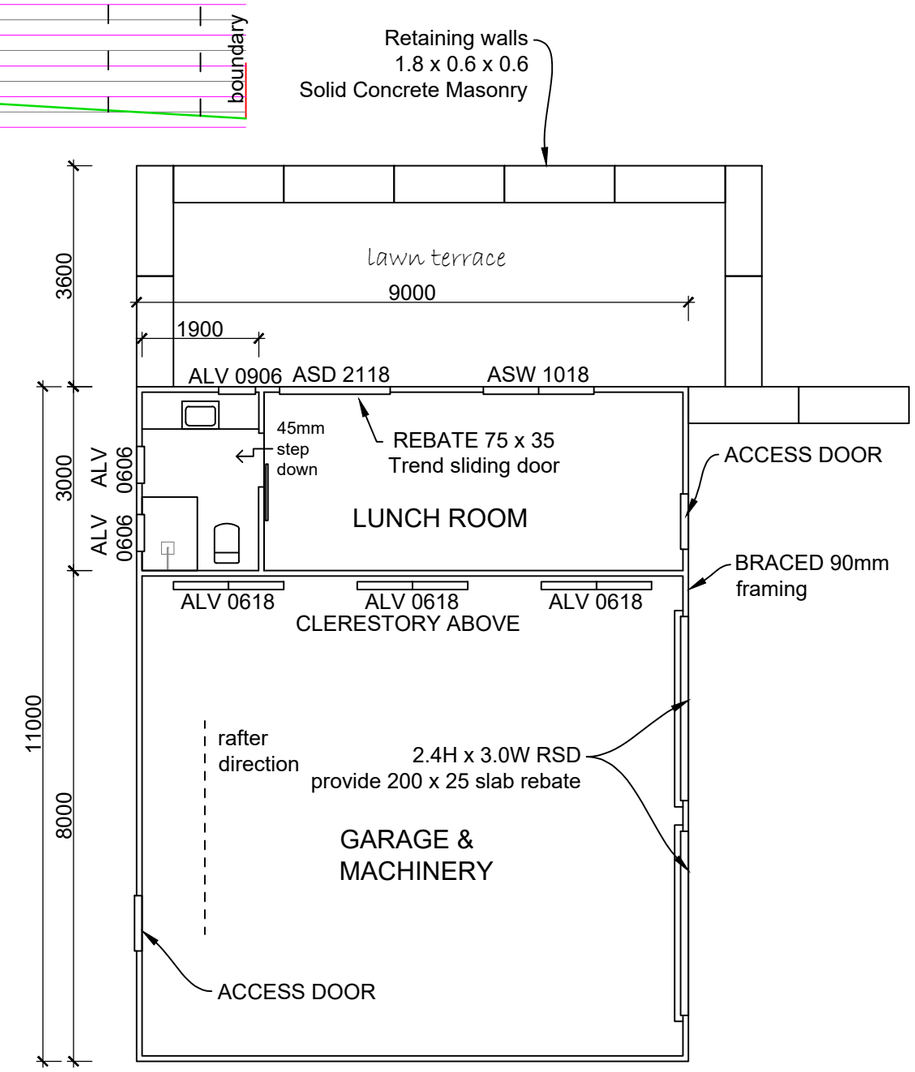
WEST - EAST X-SECTION
CENTRE OF PROPOSED SHED

SCALE 1:200

NOTE: Solar PV & HW collectors to be installed on roof to supplier's layout

AREAS

Internal Floor	95 m^2
Roof	162 m^2



99sq.m. SHED FLOOR PLAN
1:100

REVISION	CHKD	OK	DATE

ROB AUNGLE & ASSOCIATES

CONSULTING ENGINEERS
CIVIL & STRUCTURAL

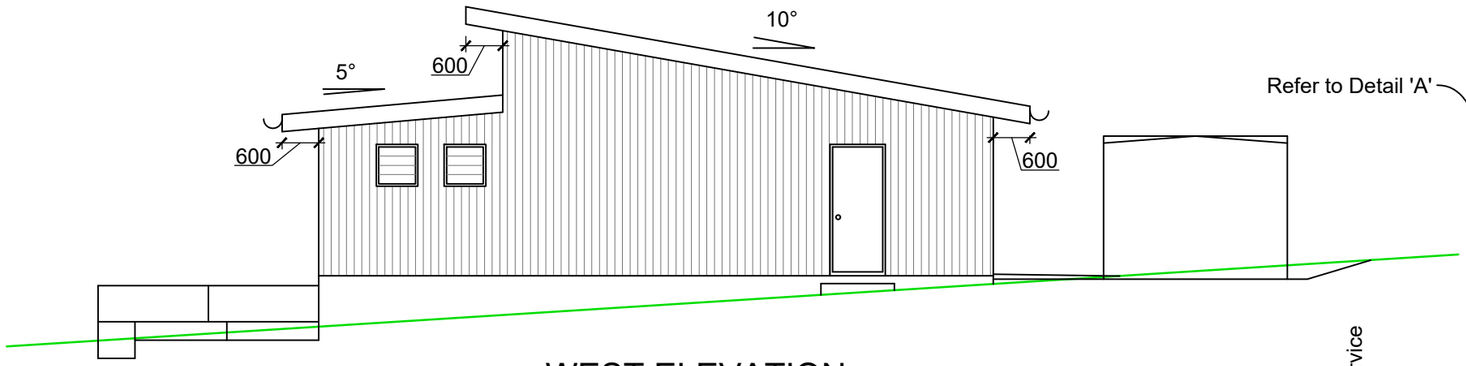
PROPOSED DEVELOPMENT
47 BUCHANAN STREET, KANDOS NSW

PROPOSED SHED
FLOOR PLAN & SECTIONS

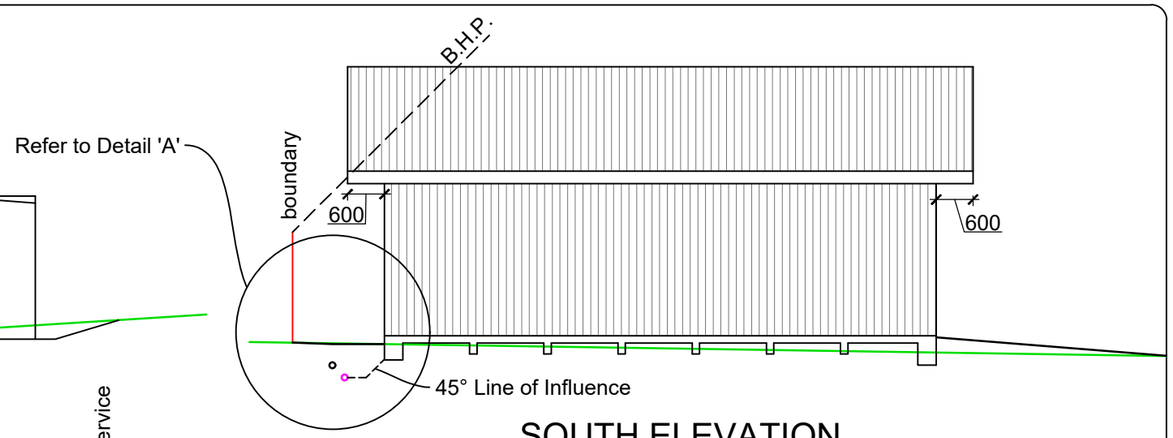
CLIENT: T J WILLIAMS

DATE: June 2022 | DRAWN: RA | ISSUE: J | DWG No W 05

SCALE: 1:200 | APPD:



WEST ELEVATION
1:100



SOUTH ELEVATION
1:100

Roof & Walls Colorbond Custon Orb

Colorbond flashings & vermiin seals

Roof Colour: Surf mist

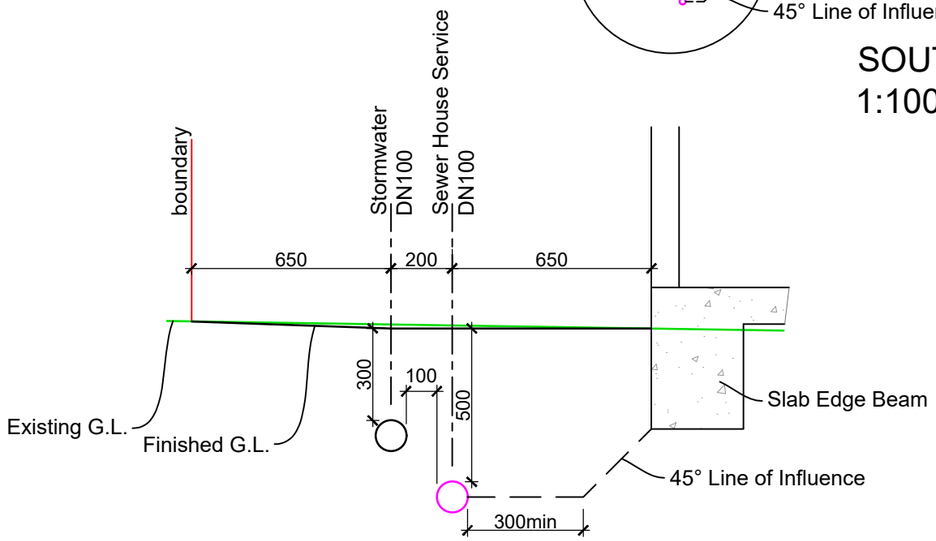
Wall Colour: Shale Grey

Roof gutter 150 half round Surf mist
External brackets

Anticon R1.8 to roof

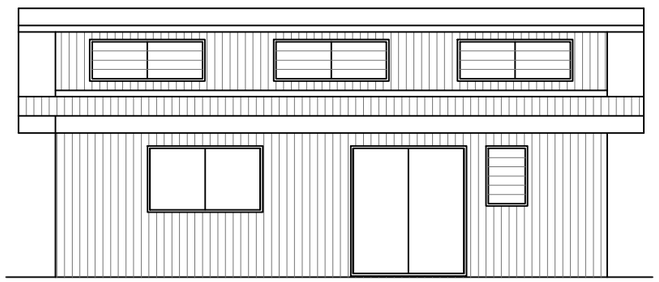
Air Cell Insulbreak 90 Thermal break to walls

Insulation Batts to walls and roof (lunch room only) R2.5

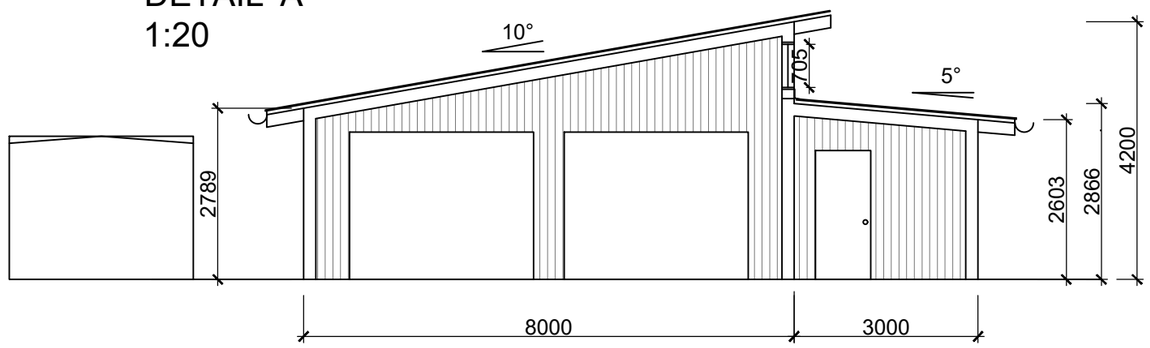


DETAIL 'A'
1:20

Waffle Slab with deepened edge beams to Barnson Engineering Details - conforming with site specific Geotechnical Report



NORTH ELEVATION
1:100



EAST ELEVATION 1:100

DO NOT SCALE
DIMENSIONS IN MILLIMETRES

REVISION	CHKD	OK	DATE

ROB AUNGLE & ASSOCIATES

CONSULTING ENGINEERS
CIVIL & STRUCTURAL

PROPOSED DEVELOPMENT
47 BUCHANAN STREET, KANDOS NSW

PROPOSED SHED
ELEVATIONS & TRENCH DETAIL

CLIENT: T J WILLIAMS

DATE: June 2022	DRAWN: RA	ISSUE: J	DWG No W 06
SCALE: 1:200	APPD:		

DENOTES 450 Ø
MASS CONC. PIER
1.2m MIN. DEPTH

N

REINFORCEMENT

SL92 TOP MESH STD COVER

EB1, EB2 & IB1 3-11TM BTM, 2/N12 TOP

IB2 4-11TM BTM 3/ N12 TOP

TERMITE CONTROL

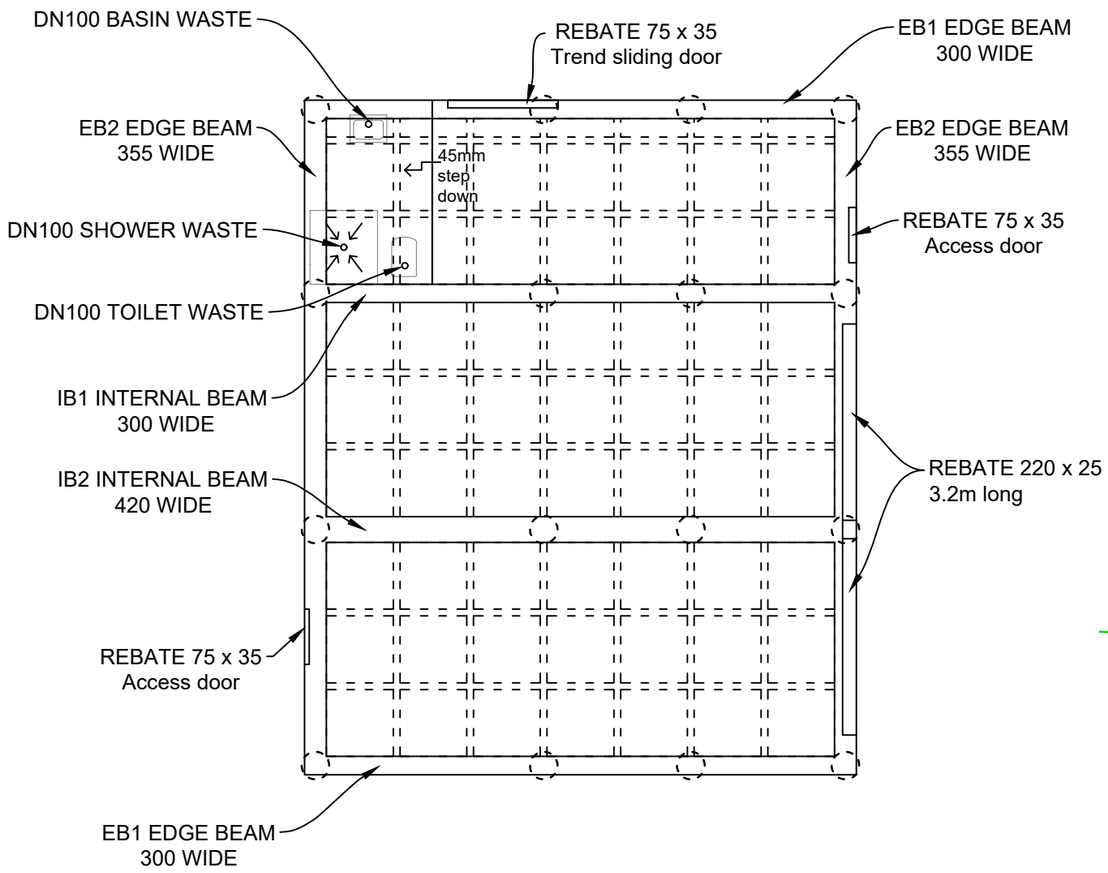
80 VISIBLE SLAB EDGE ALL AROUND

TERMIMESH TO ALL PIPE PENETRATIONS IN THE SLAB

STYROFOAM POD SIZES

1090 X 1090

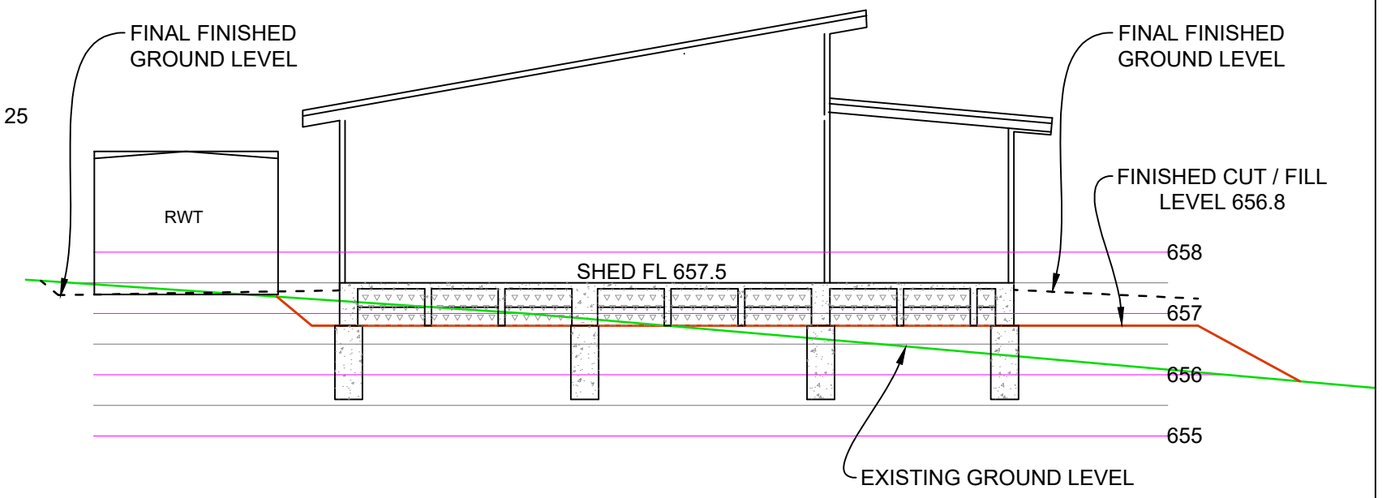
300 THICK - 2 LAYERS REQUIRED
225
150



PROPOSED SHED SLAB LAYOUT
1:100

0 1 2 3 4 5 10m

SCALE 1:100



PROPOSED SHED SLAB
CROSS SECTION S - N
1:100

REVISION	CHKD	OK	DATE

PROPOSED DEVELOPMENT
47 BUCHANAN STREET, KANDOS NSW

PROPOSED SHED FLOOR SLAB
LAYOUT PLAN & SECTION

CLIENT: T J WILLIAMS

DATE: May 2023 | DRAWN: RA

SCALE: 1:100 | APPD:

DWG No
W 07

barnson.

APPENDIX D

Civil Plans

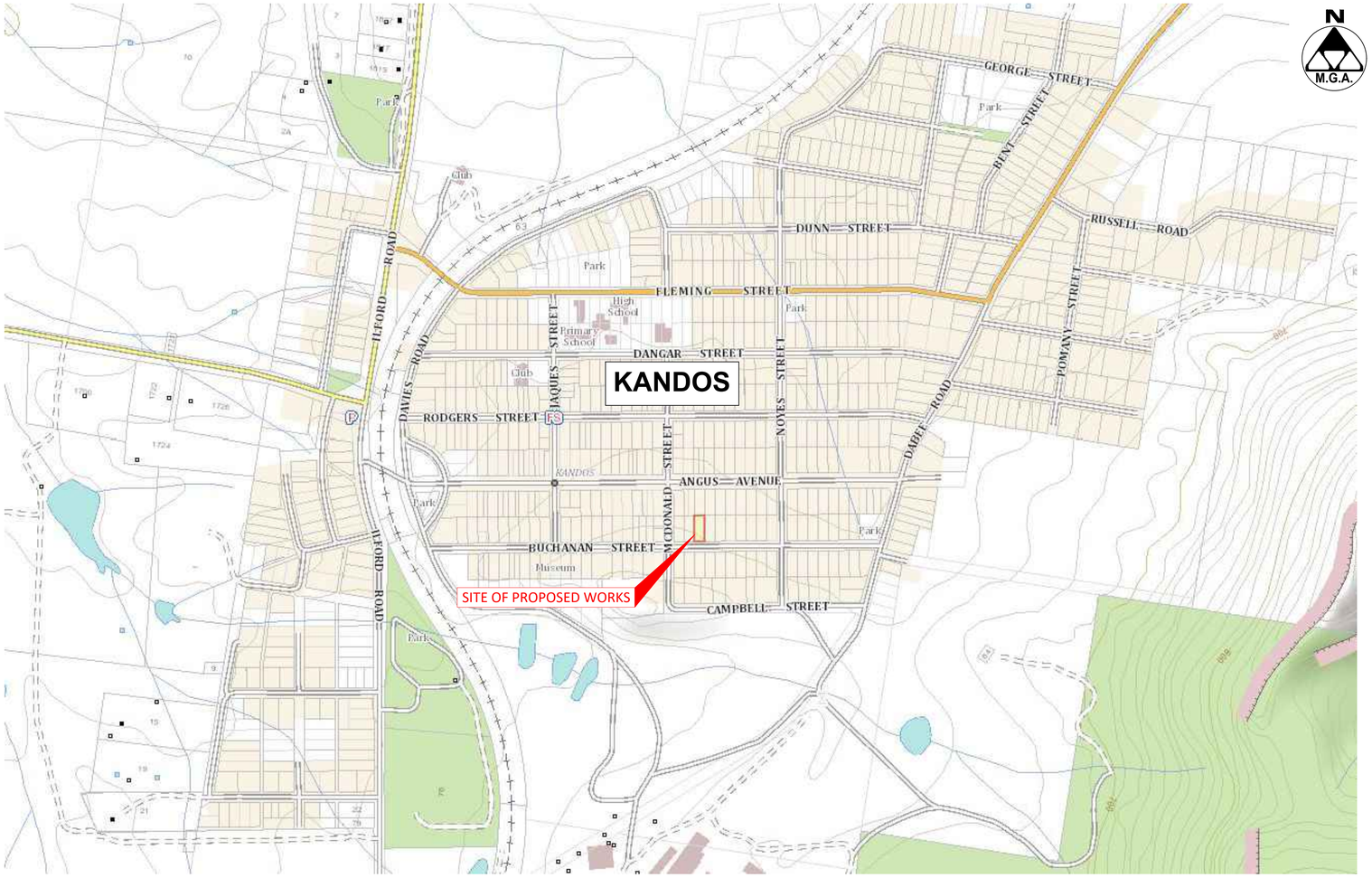
Civil Design Documentation

PROPOSED DWELLING & SHED

Lot 13 Section 6 in DP 8161

KANDOS NSW 2848

DRAWING SCHEDULE	
DWG NUMBER	DESCRIPTION
41091-C00	COVER SHEET AND DRAWING SCHEDULE
41091-C01	EXISTING SITE PLAN
41091-C02	STORMWATER MANAGEMENT PLAN
41091-C03	STORMWATER SPECIFICATIONS



LOCALITY PLAN

REDUCTION RATIO 1:12500 @ A1

SUBMISSION FOR DA

barnson.
DESIGN . PLAN . MANAGE

BARNSON PTY LTD

phone 1300 BARNSON (1300 227 676)
email generalenquiry@barnson.com.au
web barnson.com.au

Rev	Date	Description
0	04.05.2023	SUBMISSION FOR D.A.

Project
CIVIL DESIGN DOCUMENTATION
PROPOSED DWELLING & SHED
Site Address
47 BUCHANAN STREET
KANDOS NSW 2848
Client
TOM WILLIAMS

Drawing Title
COVER SHEET & DRAWING SCHEDULE

Design	EG	Original Sheet Size	A1
Drawn	EG		
Check	LM	Revision	0

Certification

Project No 41091

Drawing No C00

DIAL BEFORE YOU DIG
www.1100.com.au

BUCHANAN STREET

BENCHMARK
NAIL IN KERB
RL 659.95 AHD

LOT 12
SEC 6
DP 8161

DILAPIDATED TIMBER FENCE — 181°7'22" — 50.29 — POST & WIRE FENCE

METAL FENCE

TOP OF KERB

GARDEN

CONCRETE

GUTTER 662.26

CHIMNEY

GUTTER 661.6

GUTTER 662.23

RIDGE 663.5

RIDGE 662.23

SINGLE STOREY FIBRO DWELLING METAL ROOF
No.47

VERANDAH

FFL659.27
FFL659.26
FFL659.25

CONC PATH

CONCRETE

GUTTER 661.35

GUTTER 661.7

GATE

CONCRETE

MESH FENCE

TIMBER FENCE

CONCRETE

TL

METAL SHED

HWS

TIMBER CARPORT

WATER TANK

LOT 13
SEC 6
DP 8161
1012m²

S.I.P.

EXPOSED CLAY PIPE

METAL FENCE

91°07'43" — 20.115 — 271°07'43"

LOT 3
SEC 6
DP 8161

LOT 14
SEC 6
DP 8161

TIMBER — POST & WIRE — 50.29 — 181°0T'22" — FENCE

LEGEND (exisiting)

- EXISTING SUBJECT CADASTRAL BOUNDARIES
- W — W EXISTING UNDERGROUND WATER MAIN - APPROX.
- S — S EXISTING UNDERGROUND SEWER PIPE - APPROX
- OE — OE EXISTING OVERHEAD POWER LINES
- WM EXISTING WATER METER
- SBR EXISTING SEWER BOUNDARY RISER
- SMH EXISTING SEWER MANHOLE
- FH EXISTING FIRE HYDRANT
- EXISTING GRATED INLET PIT

EXISTING SITE PLAN

REDUCTION RATIO 1:75 @ A1
1:150 @ A3

SCALE 1:75(A1)
0 1.5 3 4.5 6 7.5
SCALE 1:150(A3)
0 1.5 3 4.5 6 7.5

M.G.A.

SUBMISSION FOR DA

barnson.
DESIGN . PLAN . MANAGE

BARNSON PTY LTD

phone 1300 BARNSON (1300 227 676)
email generalenquiry@barnson.com.au
web barnson.com.au

Rev	Date	Description
0	04.05.2023	SUBMISSION FOR D.A.

Project
CIVIL DESIGN DOCUMENTATION
PROPOSED DWELLING & SHED
Site Address
47 BUCHANAN STREET
KANDOS NSW 2848
Client
TOM WILLIAMS

Drawing Title
EXISITING SITE PLAN

Design	EG	Original Sheet Size	A1
Drawn	EG		
Check	LM	Revision	0

Certification

Project No 41091
Drawing No C01

DIAL BEFORE YOU DIG
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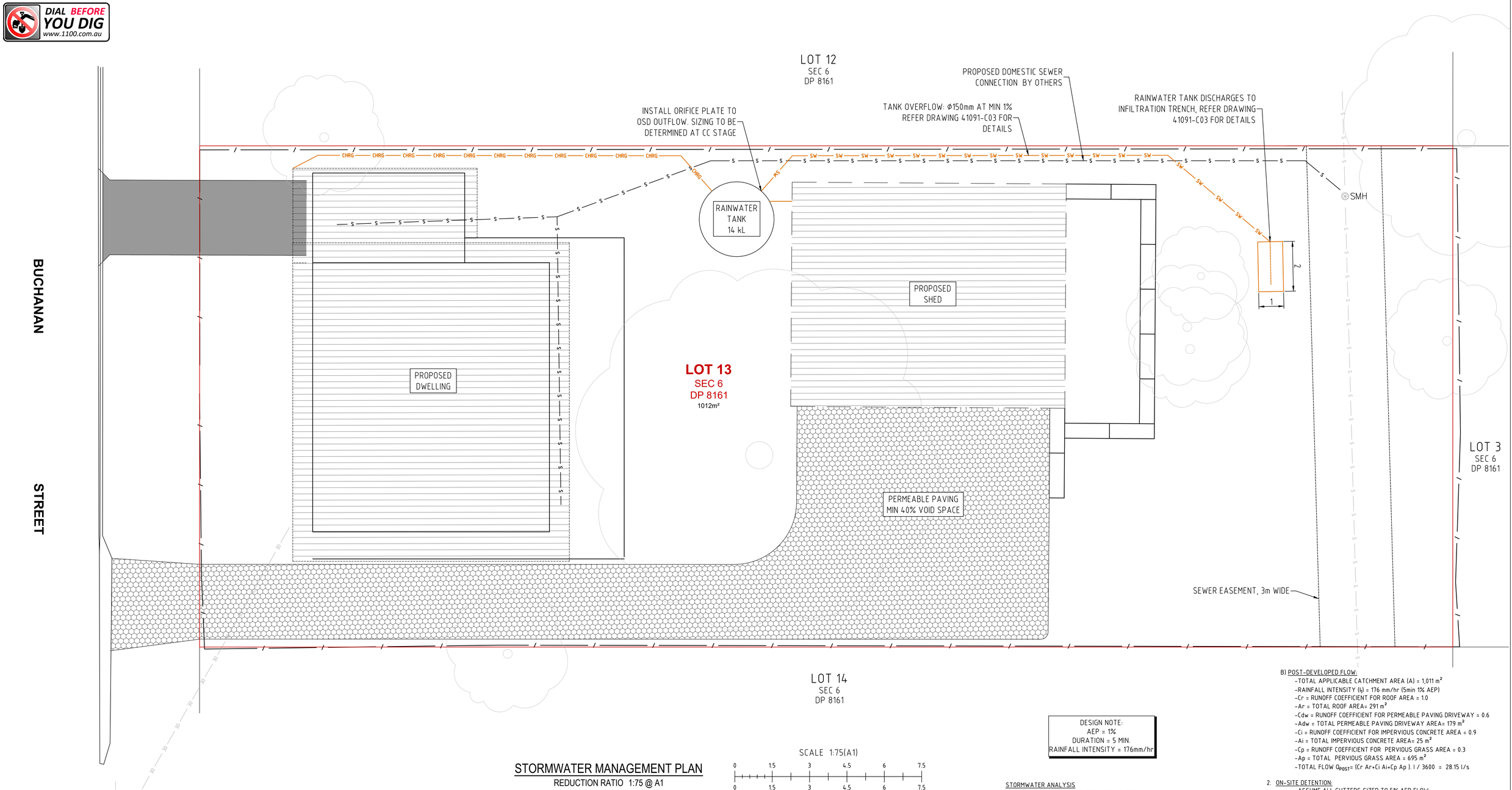


LEGEND (exisiting)

- EXISTING SUBJECT CADASTRAL BOUNDARIES
- EXISTING UNDERGROUND WATER MAIN - APPROX.
- EXISTING UNDERGROUND SEWER PIPE - APPROX
- EXISTING OVERHEAD POWER LINES
- EXISTING WATER METER
- EXISTING SEWER BOUNDARY RISER
- EXISTING SEWER MANHOLE
- EXISTING FIRE HYDRANT
- EXISTING GRATED INLET PIT

LEGEND (proposed)

- EXTENT OF PROPOSED CONCRETE DRIVEWAY
- EXTENT OF PERMEABLE PAVING
- EXTENT OF PROPOSED ROOF
- PROPOSED STORMWATER DRAINAGE PIPE
- PROPOSED CHARGED ROOF LINE
- PROPOSED STORMWATER PIT

STORMWATER MANAGEMENT PLAN

REDUCTION RATIO 1:75 @ A1
1:150 @ A3

SCALE 1:75(A1)
SCALE 1:150(A3)

0 1.5 3 4.5 6 7.5

M.G.A.

DESIGN NOTE:
AEP = 1%
DURATION = 5 MIN.
RAINFALL INTENSITY = 176mm/hr

STORMWATER ANALYSIS
1.DESIGN CALCULATIONS AS PER AS3500.3-2021
2.RAINFALL INTENSITY FOR 5 MINUTES DURATION AND 1% AEP I_5 = 262 mm/hr.

HYDRAULIC ANALYSIS
1. DESIGN CALCULATIONS AS PER AS3500.3-2021
   A) PRE-DEVELOPED:
   - TOTAL APPLICABLE CATCHMENT AREA (A) = 1,011 m²
   - RAINFALL INTENSITY (I_5) = 176 mm/hr (5min 1% AEP)
   - Cr = RUNOFF COEFFICIENT FOR ROOF AREA = 1.0
   - Ar = TOTAL ROOF AREA= 127 m²
   - Ci = RUNOFF COEFFICIENT FOR UNROOFED IMPERVIOUS AREA = 0.9
   - Ai = TOTAL UNROOFED IMPERVIOUS AREA= 57 m²
   - Cp = RUNOFF COEFFICIENT FOR PERVIOUS GRASS AREA = 0.3
   - Ap = TOTAL PERVIOUS GRASS AREA = 827 m²
   - TOTAL FLOW Q_{PRE}= (Cr Ar+Ci Ai+Cp Ap). I / 3600 = 20.9 l/s

   B) POST-DEVELOPED FLOW:
   - TOTAL APPLICABLE CATCHMENT AREA (A) = 1,011 m²
   - RAINFALL INTENSITY (I_5) = 176 mm/hr (5min 1% AEP)
   - Cr = RUNOFF COEFFICIENT FOR ROOF AREA = 1.0
   - Ar = TOTAL ROOF AREA= 291 m²
   - Cdw = RUNOFF COEFFICIENT FOR PERMEABLE PAVING DRIVEWAY = 0.6
   - Adw = TOTAL PERMEABLE PAVING DRIVEWAY AREA= 179 m²
   - Ci = RUNOFF COEFFICIENT FOR IMPERVIOUS CONCRETE AREA = 0.9
   - Ai = TOTAL IMPERVIOUS CONCRETE AREA= 25 m²
   - Cp = RUNOFF COEFFICIENT FOR PERVIOUS GRASS AREA = 0.3
   - Ap = TOTAL PERVIOUS GRASS AREA = 695 m²
   - TOTAL FLOW Q_{POST}= (Cr Ar+Ci Ai+Cp Ap). I / 3600 = 28.15 l/s

2. ON-SITE DETENTION:
   - ASSUME ALL GUTTERS SIZED TO 5% AEP FLOW
   - ROOF RUNOFF (HOUSE + SHED): 10.9 l/s
   - GUTTER OVERFLOW IN 1% AEP EVENT: 3.3 l/s
   - OVERLAND RUNOFF (OSD BYPASS): 13.9 l/s
   - RWT OUTLET DIAMETER: 20mm
   - RWT CONTROLLED OUTFLOW: 1.7 l/s
   - RWT STORAGE VOLUME REQUIRED: (10.9 l/s - 1.7 l/s) × 60 × 5 = 2,774 l
   - PROVIDE 2,800 l STORAGE VOLUME WITHIN PROPOSED 14,000 l TANK
   - TOTAL SITE OUTFLOW: 3.3 l/s + 13.9 l/s + 1.7 l/s = 18.9 l/s < Q_{PRE}

GRAVEL INFILTRATION TRENCH
- INFLOW FOR 5% AEP EVENT: 1.7 l/s × 60 s × 5 min / 1000 l/m³ = 0.51 m³
- REQUIRED TRENCH VOLUME = INFLOW / POROSITY = 0.51 m³ / 0.33 = 1.55 m³
- PROPOSED TRENCH DIMENSIONS: 2.0m × 1.0m × 1.0m = 2.0 m³ > REQUIRED VOLUME

SUBMISSION FOR DA

barnson. DESIGN . PLAN . MANAGE

BARNSON PTY LTD

phone 1300 BARNSON (1300 227 676)
email generalenquiry@barnson.com.au
web barnson.com.au

Rev	Date	Description
0	04.05.2023	SUBMISSION FOR D.A.

Project
CIVIL DESIGN DOCUMENTATION
PROPOSED DWELLING & SHED
Site Address
47 BUCHANAN STREET
KANDOS NSW 2848
Client
TOM WILLIAMS

Drawing Title
PROPOSED SITE PLAN

Design	EG	Original Sheet Size	A1
Drawn	EG		
Check	LM	Revision	0

Certification

Project No 41091
Drawing No C02

SITEWORKS NOTES

1. ORIGIN OF LEVELS :- AHD
2. CONTRACTOR MUST VERIFY ALL DIMENSIONS AND EXISTING LEVELS ON SITE PRIOR TO COMMENCEMENT OF WORK.
3. ALL WORK IS TO BE UNDERTAKEN IN ACCORDANCE WITH THE DETAILS SHOWN ON THE DRAWINGS, THE SPECIFICATIONS AND THE DIRECTIONS OF THE SUPERINTENDENT.
4. EXISTING SERVICES HAVE BEEN OBTAINED FROM SURFACE INSPECTION ONLY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH THE LOCATION AND THE LEVEL OF ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF ANY WORK. ANY DISCREPANCIES SHALL BE REPORTED TO THE SUPERINTENDENT. CLEARANCES SHALL BE OBTAINED FROM THE RELEVANT SERVICE AUTHORITY.
5. WHERE NEW WORKS ABUT EXISTING THE CONTRACTOR SHALL ENSURE THAT A SMOOTH EVEN PROFILE, FREE FROM ABRUPT CHANGES IS OBTAINED.
6. THE CONTRACTOR SHALL ARRANGE ALL SURVEY SETOUT TO BE CARRIED OUT BY A QUALIFIED SURVEYOR.
7. CARE IS TO BE TAKEN WHEN EXCAVATING NEAR EXISTING SERVICES. NO MECHANICAL EXCAVATIONS ARE TO BE UNDERTAKEN OVER TELECOM OR ELECTRICAL SERVICES. HAND EXCAVATE IN THESE AREAS.
8. ON COMPLETION OF CONSTRUCTION, ALL DISTURBED AREAS MUST BE RESTORED TO ORIGINAL, INCLUDING KERBS, FOOTPATHS, CONCRETE AREAS, GRAVEL AND GRASSED AREAS AND ROAD PAVEMENTS.
9. MAKE SMOOTH TRANSITION TO EXISTING AREAS.
10. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY DIVERSION DRAINS AND MOUNDS TO ENSURE THAT AT ALL TIMES EXPOSED SURFACES ARE FREE DRAINING AND WHERE NECESSARY EXCAVATE SUMPS AND PROVIDE PUMPING EQUIPMENT TO DRAIN EXPOSED AREAS. ALL WORK TO BE UNDERTAKEN WITH ADHERENCE TO THE REQUIREMENTS OF THE SOIL AND WATER MANAGEMENT PLAN.
11. THESE PLANS SHALL BE READ IN CONJUNCTION WITH APPROVED ARCHITECTURAL, STRUCTURAL, HYDRAULIC AND MECHANICAL DRAWINGS AND SPECIFICATIONS.

STORMWATER NOTES

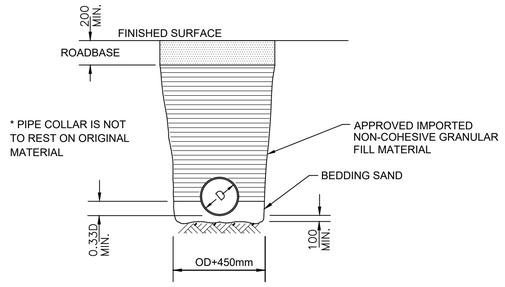
1. ALL DOWNPIPE LINES SHALL BE SEWER GRADE uPVC WITH SOLVENT WELD JOINTS (U.N.O)
2. EQUIVALENT STRENGTH VCP OR FCP PIPES MAY BE USED.
3. MINIMUM GRADE TO STORMWATER LINES TO BE 0.5% MINIMUM (U.N.O)
4. CONTRACTORS TO SUPPLY AND INSTALL ALL FITTINGS AND SPECIALS INCLUDING VARIOUS PIPE ADAPTORS TO ENSURE PROPER CONNECTION BETWEEN DISSIMILAR PIPEWORK.
5. ALL CONNECTIONS TO EXISTING DRAINAGE PITS SHALL BE MADE IN A TRADESMAN-LIKE MANNER AND THE INTERNAL WALL OF THE PIT AT THE POINT OF ENTRY SHALL BE CEMENT RENDERED TO ENSURE A SMOOTH FINISH.
6. APPROVED PRECAST PITS MAY BE USED.
7. WHERE TRENCHES ARE IN ROCK, THE PIPE SHALL BE BEDDED ON A MIN. 50mm CONCRETE BED (75mm THICK BED OF 12mm BLUE METAL) UNDER THE BARREL OF THE PIPE. THE PIPE COLLAR AT NO POINT SHALL BEAR THE ROCK. IN OTHER THAN ROCK, PIPES SHALL BE LAID ON A 75mm THICK SAND BED. IN ALL CASES, BACKFILL THE TRENCH WITH THE SAND TO 200mm ABOVE THE PIPE .WHERE THE PIPE IS UNDER PAVEMENTS, BACKFILL REMAINDER OF TRENCH WITH SAND OR APPROVED GRANULAR BACKFILL COMPACTED IN 150mm LAYERS TO 98% MAX. DRY DENSITY.
8. WHERE STORMWATER LINES PASS UNDER FLOOR SLABS, SEWER GRADE RUBBER RING JOINTS ARE TO BE USED.
9. ALL PIPES IN THE ROADWAY AND FOOTPATH AREAS, WHERE THE DEPTH OF PIPE IS LESS THAN 500mm FROM THE FINISHED SURFACE LEVEL ARE TO BE CONCRETE ENCASED.

PIPE TRENCH - FILL NOTES:

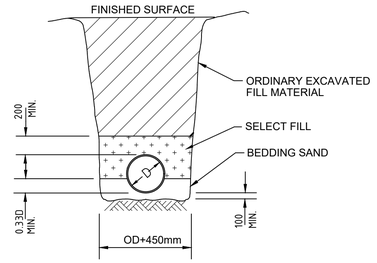
1. BEDDING SAND
   BEDDING SAND SHALL BE GRANULAR MATERIAL HAVING A LOW PERMEABILITY AND HIGH STABILITY WHEN SATURATED, CONFORMING TO THE GRADING LIMITS FOR BEDDING SAND AS INDICATED IN THE CONTRACT DOCUMENTS. BEDDING SAND SHALL BE COMPACTED TO A DENSITY INDEX OF 95% AS DETERMINED IN ACCORDANCE WITH AS1289.

2. APPROVED IMPORTED GRANULAR FILL
   ONLY IMPORTED GRANULAR FILL MATERIAL APPROVED BY THE SUPERINTENDENT SHALL BE USED. THIS FILL MATERIAL SHALL BE COMPACTED IN LAYERS NOT EXCEEDING 300mm THICK TO A DRY DENSITY OF 100% OF THE STANDARD MAXIMUM DRY DENSITY OF THE MATERIAL AND WITH A MOISTURE CONTENT NO MORE THAN 1% ABOVE OPTIMUM MOISTURE CONTENT AS DETERMINED IN ACCORDANCE WITH AS1289.

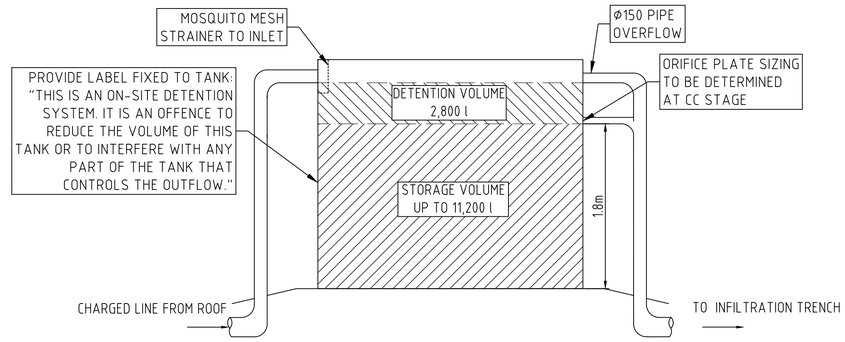
3. ORDINARY EXCAVATED FILL MATERIAL
   ORDINARY EXCAVATED FILL MATERIAL IS EXCAVATED TRENCH MATERIAL THAT IS FREE OF VEGETABLE MATTER, HUMUS, LARGE CLAY LUMPS AND ROCK BOULDERS. THIS FILL MATERIAL SHALL BE COMPACTED IN LAYERS NOT EXCEEDING 300mm THICK, TO A DENSITY OF 95% OF THE STANDARD MAXIMUM DRY DENSITY OF THE MATERIAL WITH A MOISTURE CONTENT OF NOT MORE THAN 1% ABOVE THE OPTIMUM MOISTURE CONTENT AS DETERMINED IN ACCORDANCE WITH AS1289.



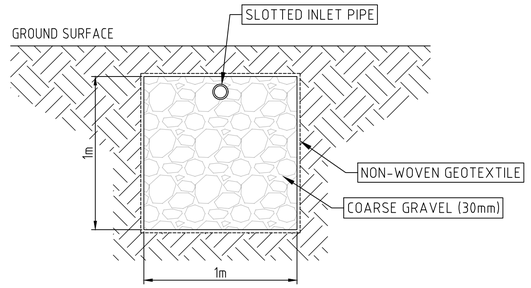
TYPICAL SECTION - TRENCH IN ROADWAY
N.T.S.



TYPICAL SECTION - EARTH FOUNDATION TRENCH
N.T.S.



TYPICAL SECTION - RAINWATER TANK
N.T.S.



TYPICAL SECTION - INFILTRATION TRENCH
N.T.S.

SUBMISSION FOR DA

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DESIGN . PLAN . MANAGE

BARNSON PTY LTD

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web barnson.com.au

Rev	Date	Description
0	04.05.2023	SUBMISSION FOR D.A.

Project
CIVIL DESIGN DOCUMENTATION
PROPOSED DWELLING & SHED
Site Address
47 BUCHANAN STREET
KANDOS NSW 2848
Client
TOM WILLIAMS

Drawing Title
STORMWATER SPECIFICATIONS

Design	EG	Original Sheet Size	A1
Drawn	EG		
Check	LM	Revision	0

Certification

Project No 41091
Drawing No C03

barnson.

APPENDIX E

BASIX

BASIX® Certificate

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

Single Dwelling

Certificate number: 1372123S

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, 14 February 2023
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	Tom Williams house and shed Kandos	
Street address	47 Buchanan Street Kandos 2848	
Local Government Area	Mid-Western Regional Council	
Plan type and plan number	deposited DP8161	
Lot no.	13	
Section no.	6	
Project type	separate dwelling house	
No. of bedrooms	2	
Project score		
Water	✔ 40	Target 40
Thermal Comfort	✔ Pass	Target Pass
Energy	✔ 100	Target 40

Certificate Prepared by
Name / Company Name: Anthony Rose Architect
ABN (if applicable): 11925099811

Description of project

Project address	
Project name	Tom Williams house and shed Kandos
Street address	47 Buchanan Street Kandos 2848
Local Government Area	Mid-Western Regional Council
Plan type and plan number	Deposited Plan DP8161
Lot no.	13
Section no.	6
Project type	
Project type	separate dwelling house
No. of bedrooms	2
Site details	
Site area (m²)	1012
Roof area (m²)	166
Conditioned floor area (m2)	92.75
Unconditioned floor area (m2)	9.25
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	✔ 40	Target 40
Thermal Comfort	✔ Pass	Target Pass
Energy	✔ 100	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
Landscape			
The applicant must plant indigenous or low water use species of vegetation throughout 40 square metres of the site.	✔	✔	
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 5 star in each toilet in the development.		✔	✔
The applicant must install taps with a minimum rating of 5 star in the kitchen in the development.		✔	
The applicant must install basin taps with a minimum rating of 5 star in each bathroom in the development.		✔	
Alternative water			
Rainwater tank			
The applicant must install a rainwater tank of at least 12000 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 265 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: • 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)	
ceiling and roof - flat ceiling / flat roof, framed	ceiling: 4 (up), roof: none	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			
• Pergolas with polycarbonate roof or similar translucent material must have a shading coefficient of less than 0.35.		✔	✔
• Unless they have adjustable shading, pergolas must have fixed battens parallel to the window or glazed door above which they are situated, unless the pergola also shades a perpendicular window. The spacing between battens must not exceed the height of the battens.		✔	✔
• Overshadowing buildings/vegetation must be of the height and distance from the centre and the base of the window and glazed door, as specified in the 'overshadowing' column.	✔	✔	✔

Window/glazed door no.	Maximum height (mm)	Maximum width (mm)	Type	Shading Device (Dimension within 10%)	Overshadowing
North facing					
W01	2100	1800	aluminium, single, clear	awning (adjustable) 1200 mm, 2100 mm above base of window or glazed door	>4 m high, 5-8 m away
W02	2100	3600	aluminium, single, clear	awning (adjustable) 2400 mm, 2100 mm above base of window or glazed door	>4 m high, 5-8 m away
W03	2100	900	aluminium, single, clear	none	>4 m high, 5-8 m away

Window/glazed door no.	Maximum height (mm)	Maximum width (mm)	Type	Shading Device (Dimension within 10%)	Overshadowing
W04	600	1800	aluminium, single, clear	eave 600 mm, 250 mm above head of window or glazed door	>4 m high, 5-8 m away
W05	600	3600	aluminium, single, clear	eave 600 mm, 250 mm above head of window or glazed door	>4 m high, 5-8 m away
W06	600	1800	aluminium, single, clear	eave 600 mm, 250 mm above head of window or glazed door	>4 m high, 5-8 m away
East facing					
W07	900	900	aluminium, single, clear	pergola (fixed battens) 600 mm, 100 mm above head of window or glazed door	>4 m high, 8-12 m away
W08	1000	2400	aluminium, single, clear	eave 1000 mm, 500 mm above head of window or glazed door	not overshadowed
South facing					
W09	400	1800	aluminium, single, clear	eave 1000 mm, 300 mm above head of window or glazed door	not overshadowed
W10	400	1800	aluminium, single, clear	eave 1000 mm, 300 mm above head of window or glazed door	not overshadowed
W11	400	1200	aluminium, single, clear	eave 1000 mm, 300 mm above head of window or glazed door	not overshadowed
West facing					
W12	900	900	aluminium, single, clear	solid overhang 3600 mm, 500 mm above head of window or glazed door	not overshadowed
W13	900	900	timber/UPVC/fibreglass, single, clear	solid overhang 3600 mm, 500 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: electric storage.	✔	✔	✔
Cooling system			
The applicant must install the following cooling system, or a system with a higher energy rating, in at least 1 living area: ceiling fans + 1-phase airconditioning; Energy rating: 4 Star (old label)		✔	✔
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: 4 Star (old label)		✔	✔
The cooling system must provide for day/night zoning between living areas and bedrooms.		✔	✔
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: 4 Star (old label)		✔	✔
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: 4 Star (old label)		✔	✔
The heating system must provide for day/night zoning between living areas and bedrooms.		✔	✔
Ventilation			
The applicant must install the following exhaust systems in the development:			
At least 1 Bathroom: no mechanical ventilation (ie. natural); Operation control: n/a		✔	✔
Kitchen: individual fan, ducted to façade or roof; Operation control: manual switch on/off		✔	✔
Laundry: natural ventilation only, or no laundry; Operation control: n/a		✔	✔
Artificial lighting			
The applicant must ensure that the "primary type of artificial lighting" is fluorescent or light emitting diode (LED) lighting in each of the following rooms, and where the word "dedicated" appears, the fittings for those lights must only be capable of accepting fluorescent or light emitting diode (LED) lamps:			
• at least 2 of the bedrooms / study; dedicated		✔	✔

Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
• at least 1 of the living / dining rooms; dedicated		✔	✔
• the kitchen; dedicated		✔	✔
• all bathrooms/toilets; dedicated		✔	✔
• the laundry; dedicated		✔	✔
• all hallways; dedicated		✔	✔
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.	✔	✔	✔
Alternative energy			
The applicant must install a photovoltaic system with the capacity to generate at least 7 peak kilowatts of electricity as part of the development. The applicant must connect this system to the development's electrical system.	✔	✔	✔
Other			
The applicant must install an induction 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.		✔	

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.