

AGENDA ORDINARY COUNCIL MEETING

Date: Wednesday, 27 November 2024

Time: 9am

Venue: Simeon Lord Room

Esk Library Building 19 Heap Street

Esk

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PLANNING

SOMERSET REGIONAL COUNCIL - OFFICER'S REPORT

To: Andrew Johnson, Chief Executive Officer

From: Mark Westaway, Senior Planner

Director: Luke Hannan, Director of Planning and Development

Date: 18 November 2024

Subject: Development Application No. 24751 – 51 Overlander Avenue, Travellers

Rest and Overlander Avenue, Woolmar

Development Application for a Development Permit for a Material Change of Use for a Retirement Village (276 units and associated community

facilities)

File No: DA24751 Action Officer: SP-MW

Assessment No: 81416-00000-000

1.0 APPLICATION SUMMARY

Property details

Location: 51 Overlander Avenue, Travellers Rest and Overlander

Avenue, Woolmar

Real property description: Lot 915 SP313141, Lot 501 SP210636, Lots 502 and

503 SP231462

Site area: 20.1336ha

Current land use: House and farmland

Easements/encumbrances: Nil identified

South East Queensland Regional Plan

Land use category: Urban footprint

Planning scheme details

Planning scheme Somerset Region Planning Scheme (Version 4.2)

Zone: Emerging community zone

Precinct: Not applicable Desired settlement pattern: Future residential

Overlavs: OM1 Agricultural land overlay

OM3 Biodiversity overlay OM4 Bushfire hazard overlay

OM5 Catchment management overlay

OM7 Flood hazard overlay

OM8 High impact activities management area overlay

Application details

Proposal: Retirement Village (276 units and associated community

facilities)

Category of assessment: Impact assessment

Applicant details: Ruby Developments Pty Ltd

C/- Innovative Planning Solutions

PO Box 1043

MAROOCHYDORE QLD 4558

Owner details: Roberts Bros No 2 Super Fund Pty Ltd

Date application received: 13 March 2024
Date application properly made: 27 March 2024

Referrals State Assessment and Referral Agency

Public notification Required

Notification period 1 June 2022 to 20 June 2022

Submissions received Three received (One in favour, two opposed)

RECOMMENDED DECISION

Approve the development application subject to the development conditions and requirements contained in the schedules and attachments of this report.



Locality Plan of Lot 915 SP313141, Lot 501 SP210636, Lots 502 and 503 SP231462 Situated at 51 Overlander Avenue, Travellers Rest and Overlander Avenue, Woolmar

2.0 PROPOSAL

This development application seeks approval for a Material Change of Use for a Retirement Village (276 units and associated community facilities), on land at 51 Overlander Avenue, Travellers Rest and Overlander Avenue, Woolmar, formally described as Lot 915 SP313141, Lot 501 SP210636, Lots 502 and 503 SP231462.

The applicant has lodged the application as a retirement facility, reflective of the proposed age profile of the residents, rather than a relocatable home park. The individual product includes two and three bedroom buildings with bathroom and en-suite and full dwelling facilities. Each unit is provided with a double garage.

The buildings are strictly classified as relocatable homes given they are constructed in a manner in which they can potentially be removed from site. More specifically, they are constructed on a steel chassis located on a concrete slab. However, the potential for removal of the building is unlikely because:

- (a) The building effectively functions in the same manner as a slab on ground building;
- (b) The concrete slab, garage and front verandah/patio remains in place, even if the house is to be removed;
- (c) The building is constructed on site rather than prefabricated and manufactured off site and transported to site.

The development includes a range of communal facilities, these include:

- Main communal facility which is intended to contain the following:
 - Dining hall with dance floor and stage
 - o Commercial kitchen and bar
 - o Gymnasium

- o 25m pool
- Lounge areas
- o Consulting rooms, meeting, craft and music rooms
- Cinema
- o Games lounge
- Bowling alley
- Library
- o Sports lounge.
- Secondary communal facility, known as the Summer house, (which will be constructed in an earlier stage) contain the following:
 - Outdoor pool
 - o Club room
 - o Entertaining area
 - o Residential workshop.
- Additional facilities include:
 - A synthetic lawn bowls rink
 - o Tennis court
 - o Pickleball court
 - o RV Parking area.

The subject land is mapped as being subject to flooding and has been subject to a previous Operational works approval (Council Reference DA23506) to facilitate the filling of the development footprint area of the proposed development. This approval has been delivered and the development footprint area has been filled to a 0.2% AEP level to achieve the relevant flood immunity for a *vulnerable land use*, for which the planning scheme considers a retirement facility. Additional filling has also been proposed to maximise the development footprint in the southeast portion of the site. The balance of the site is subject to flooding associated with Sheep Station Creek. The balance land is intended to be utilised for casual recreation activities including walking tracks.

The site has road access to Travellers Rest and Overlander Avenue at two points along the southwestern boundary. Primary access to the site will be via Travellers Rest, which is an Access Street in Council's road hierarchy. Overlander Avenue will provide an emergency access option.

Internal road network

Internal driveways within the facility are generally provided with a 6m pavement width. The main driveway within the site includes a divided driveway with a centre median.

Manager's accommodation

The original application included a manager's office in proximity to the main entrance. As part of the information response this was removed from the application and replaced with three units.

The applicant has proposed to use Unit 14 as a display unit within their development.

Services

The site will be serviced with underground electricity and telecommunications from the existing infrastructure in Travellers Rest. The developer will liaise with Urban Utilities to connect to reticulated water and sewer.

Stormwater is intended to discharge to four individual points. The cut off drain along the western boundary will collect overland flow from the adjoining Lot 914 and will be directed toward the existing stormwater basin to the west of the site. The RV parking area will discharge to the large dam to the north of the units. The northern half of the unit development will drain to a large underground stormwater management system near the Summer house community facility and then piped to the stormwater basin between the development and Hedley Park. The southern half of the unit development will drain to two large underground stormwater

management systems; one near the community facility, and the other near the turning head at the end of Travellers Rest. This will then be directed southwards into the stormwater network between the development and Hedley Park.

Waste

Each individual unit is provided with standard general waste and recycling bins. The unit bins are collected by a standard waste truck from in front of each individual unit. The main communal facility building will be served with a separate commercial bulk bin collection.

3.0 SITE DETAILS

3.1 Description of the land

The site is an irregular shaped site which comprises four existing lots. The northern boundary of the site adjoins rural farming land. The northwest boundary adjoins part of the balance lot associated with the Hedley Park Estate. The southwest boundary predominantly adjoins a stormwater reserve/park associated with the Hedley Park estate. The eastern boundary adjoins Sheep Station Creek and the Kilcoy Racecourse and Showgrounds.

Lot 915 contains an existing house and sheds, the other three lots are vacant.

The lot to the north is within the Rural zone and is vacant. The balance lot to the west is within the General residential zone and while currently vacant, is anticipated to be developed as residential allotments as part of future stages of Hedley Park estate. The lot on the eastern side of Sheep Station Creek is within the Emerging community zone and is vacant. The racecourse and showground to the east and southeast is within the Community facilities zone and contains relevant infrastructure associated with those uses.

3.2 Site approval history

Reference:	Decision date:	Description:
DA23506	11 July 2023 (Council's delegate)	Operational Works associated with
		Earthworks (cut and fill)

3.3 Connection to electricity and telecommunications

The land is within the Emerging community zone, and as such the recommended development conditions require the development to connect to the reticulated electricity and telecommunications networks in line with the planning scheme requirements.

Based on other Gemlife facilities, houses are provided with on-roof solar. Any excess electricity generated is stored on site and reused to provide energy to the overall site.

4.0 PLANNING LEGISLATION

The application will be assessed against the matters set out in section 45 and decided in accordance with section 60 of the *Planning Act 2016*.

Unlike with code assessment, Council is afforded a broad planning discretion in making its decision under the *Planning Act 2016*. The Planning and Environment Court established that there are three requirements to exercising planning discretion, summarised as follows:

- (a) it must be based on the assessment of the application;
- (b) the decision-making function must be performed in a way that advances the purpose of the *Planning Act 2016*; and
- (c) the discretion is subject to any implied limitation arising from the purpose, scope and subject matter of the *Planning Act 2016*.

5.0 ASSESSMENT BENCHMARKS

The proposal requires assessment against the following assessment benchmarks.

5.1 State Planning Policy 2017

The State Planning Policy 2017 (SPP) came into effect on 3 July 2017 and is not identified as being reflected in the Somerset Region Planning Scheme. The application requires an assessment against the assessment benchmarks contained within Part E, and Council must

have regard to each of the State Interests within the SPP, to the extent relevant to the application.

The application has been assessed against the assessment benchmarks and relevant state interests and the proposal is considered to comply (to the extent relevant).

In having regard to the State interests within the State Planning Policy, the following State interest policies are considered relevant to the application and have not been complied with.

State interest – Agriculture

The site is mapped as having class A or B agricultural land classifications through the SPP mapping. The Somerset Region Planning Scheme (Version Four) does not include the land on the OM001 Agricultural land overlay as the overlay does not include land that is within the urban footprint. The SPP mapping only excludes land that is already used for an urban purpose.

Having regard to the SPP interest statements for agriculture, it is considered that the use of the premises for urban purposes is the best use of the premises, given the land's inclusion in the urban footprint, and that it is not practical to protect the land for sustainable agriculture.

5.2 South East Queensland Regional Plan

The site is located within the Urban footprint. The application has been assessed against the provisions of the regional plan and the associated regulatory requirements and was considered to comply.

5.3 Schedule 10 of the *Planning Regulation 2017*

Schedule 10 of the *Planning Regulation 2017* establishes assessment triggers, requirements, and assessment benchmarks. No Council assessment of the development against an assessment benchmark from the Regulation was required. Where a referral agency undertakes an assessment against a matter as required by the Regulation, this is discussed in section 6.0 of this report.

The proposal:

- (a) does not impact on any regulated vegetation:
- (b) does not impact on any koala habitat areas;
- (c) is not located within a koala priority area;
- (d) is not located in proximity to a Queensland heritage place or local heritage place;
- (e) is not on land designated for infrastructure;
- (f) does not involve any environmentally relevant activities.

5.4 Temporary local planning instruments

There are currently no temporary local planning instruments in effect within the Somerset Region.

5.5 Variation approvals

The property is not benefitted by any variation approvals.

5.6 Somerset Region Planning Scheme (Version 4.2)

5.6.1 Relevant assessment benchmarks from the planning scheme

As an impact assessment, the assessment is to be carried out against the entire planning scheme, to the extent relevant. The following are the relevant sections of the planning scheme for the assessment of this application:

- (a) Part 3 Strategic framework:
- (b) 6.2.3 Emerging community zone code;
- (c) 7.2.1 Agricultural land overlay code;
- (d) 7.2.3 Biodiversity overlay code;
- (e) 7.2.4 Bushfire hazard overlay code;
- (f) 7.2.5 Catchment management overlay code;
- (g) 7.2.7 Flood hazard overlay code;
- (h) 7.2.8 High impact activities management area overlay code;
- (i) 8.2.14 Retirement facility and residential care facility code;

- (j) 8.3.2 Filling and excavation code;
- (k) 8.3.5 Services works and infrastructure code; and
- (I) 8.3.6 Transport access and parking code.

The above relevant sections may be supported by additional information contained within the balance of the planning scheme.

The site is mapped within OM003 Biodiversity overlay – Koala conservation. This map, and the provisions of the overlay code, have been superseded by new requirements within the *Planning Regulation 2017*, and as such the planning scheme provisions for koalas are taken to be of no effect.

Additionally, the site is mapped within the OM008 High impact activities management area overlay. As the use is not a high impact activity, as defined in the planning scheme, the overlay code does not apply.

5.6.2 Strategic framework assessment

The development application has been assessed against the strategic framework of the planning scheme and is considered to support Council's strategic intent for the region. The following represents an overview of how the proposal aligns with each of the seven themes that collectively represent the policy intent of the planning scheme.

5.6.2.1 Settlement pattern

The proposal advances the settlement pattern of the region as it provides for a well-placed residential use in the Emerging community zone in an area that is designated as Future residential under the Desired settlement pattern, that does not compromise the role and function of Centre or Industry zoned land.

It is considered that the proposed development is unlikely to compromise further long-term residential growth, as the area to the west and southwest is proposed for further general residential development.

It is considered that the proposal will not compromise the development potential of the surrounding area in either the short or long-term.

5.6.2.2 Natural environment

Part of the site is included on Biodiversity overlay map – Koala habitat areas, however this mapping has been superseded by the State's koala habitat mapping, leaving the overlay with no regulatory effect. The areas of the site that contain Koala habitat are not proposed to be developed as part of the retirement village and the site is not an area of ecological significance or protected estate as shown on the framework maps.

The development is considered to have been appropriately designed to mitigate noise and odour environmental impacts and is not considered to compromise the long-term planning for the area.

5.6.2.3 Natural resources

The proposal does not involve any impact on an identified natural resource, including agricultural land, extractive resources or forestry. The proposal maintains a suitable separation from the watercourse (Sheep Station Creek) to avoid adverse water quality impacts within the Higher-risk catchment area, in excess of the setbacks identified within the relevant overlay codes.

5.6.2.4 Community identity and regional landscape character

The community identity and regional landscape character of the region is not affected by the proposal, as the development does not compromise the existing or planned character of the regions centres, townships or rural living areas, and, subject to the recommended conditions package, is appropriately controlled to maintain the open landscape character of the rural area.

5.6.2.5 Economic development

The proposal does not impact on the continued development of Council's town centre network nor the industrial development areas within each town. The proposal supports a broadening of the housing choices within Kilcoy and Woolmar through the provision of additional housing focusing on an over 50s cohort, while allowing for their previous accommodation to be reused by the broader community.

5.6.2.6 Infrastructure and services

The provision of infrastructure and services at the development site meets the desired standard of service and the standard requirements set out in the development codes and Local Government Infrastructure Plan.

5.6.2.7 Transport

The site is accessed via a collector road, Hedley Drive, which provides a direct link between the development site and the nearest State-controlled road (D'Aguilar Highway) and is at a standard that appropriately services the existing traffic volumes and anticipated development traffic.

5.6.3 Code compliance summary

The assessment below identifies how the development proposal achieves the relevant assessment benchmarks from the planning scheme (other than the strategic framework) and the proposal seeks an alternative outcome:

- (a) to the identified acceptable outcomes satisfying or not satisfying the corresponding performance outcomes; or
- (b) where no acceptable outcome is stated in the code and the proposed outcome does not satisfy the performance outcome.

Relevant code	Compliance with overall outcomes	Performance outcomes
Emerging community zone code	Yes	PO3, PO5
Retirement facility and residential care facility code	Yes	PO1, PO5
Filling and excavation code	Yes	PO2, PO4
Services works and infrastructure code	Yes	No alternative outcomes proposed
Transport access and parking code	Yes	No alternative outcomes proposed
Relevant overlay code	Compliance with overall outcomes	Performance outcomes
Biodiversity overlay code	Yes	PO3, PO13
Bushfire hazard overlay code	Yes	No alternative outcomes proposed
Catchment management overlay code	Yes	PO4
Flood hazard overlay code	Yes	PO13
High impact activities management area overlay code;	Yes	No alternative outcomes proposed

The assessment of the development proposal against the performance outcomes of the applicable code(s) is discussed below.

5.6.4 Performance outcome assessment

Emerging community zone code

Performance outcome	Acceptable outcome	
Building setbacks		
PO3	AO3.2	
Building setbacks:		

Performance outcome	Acceptable outcome
(a) maintain a coherent streetscape; and assist in the protection of the amenity of	Buildings and structures are setback a minimum 10 metres from the side and rear
existing and future residential	boundaries of the site, unless varied by a
development.	development code.

Alternative outcome assessment

The provision associated with the General Residential zone is more relevant to this development given this the proposed use is a Low Density residential use and this area will ultimately become a residential zone and associated character.

The proposal complies providing a 6 metres setback to the Travellers Rest Road reserve and a minimum of 3 metres setback to all side and rear boundaries.

The 10 metre setback is more relevant for development that does not compromise future development of the site. The proposed retirement village is a use that supersedes the Emerging community function of the site by providing a logical development over the site, generally consistent with the Desired Settlement Pattern for Kilcoy.

It is recommended that the alternative outcome be accepted in this instance.

Building scale	
PO5	AO5
Building scale maintains a very low intensity consistent with the residential activities and specific rural uses expected in the zone.	Site cover does not exceed 5 percent.

Alternative outcome assessment

The provision relating to site cover associated with the General Residential zone is more relevant to this development application which specifies a maximum site cover of 50% for residential uses. The proposed development has a total site coverage comprising of homes and community facility buildings of approximately 57,800m², which equates to approximately 29% of the 207,007m² site and significantly less that the 50% normally associated with residential uses.

The development maintains a low rise, low density development aligning with the prevailing residential character that is being delivered in this area.

Planning comments

The 5% site cover reflects a density of development that would not compromise the future development of the land to a more permanent form. The proposed development involves the activation of the site to a final residential form.

The overall outcomes for development for urban purposes in the Emerging community zone code include development in a logical and orderly sequence. This includes achievement of affordable living opportunities, through delivery of a variety of housing types; provision of recreational and open space opportunities; and protection of significant landscape and natural habitat.

It is considered that the description of the development as low density reflects the 276 units proposed across a 20 hectare site, with a density of just under 14 units per hectare, however the residential development is restricted to approximately half of the site. As such the unit layout is more reflective of medium density development. The density of development is however consistent with the density of development proposed within the Retirement facility and residential care facility code.

It is recommended that the alternative outcome be accepted in this instance.

Retirement facility and residential care facility code

Performance outcome	Acceptable outcome
Location and access to services	
PO1	AO1.1
The use is located on land that:	The use is located within 400 metres of
(a) is in close proximity to centre activities	public transport or the Centre zone;

- (a) is in close proximity to *centre activities* and *community activities*; or
- (b) provides on-site convenience services and alternative transport options to centre activities and community activities where public transport is not available.

OR

AO1.2

The use provides one or more of the following on-site services for residents:

- (a) chemist;
- (b) hairdresser:
- (c) convenience shopping;
- (d) postal facility;
- (e) public telephone; or
- (f) basic medical services;

AO1.3

Provides a shuttle bus service to convenience and higher order shopping and medical facilities.

Alternative outcome assessment

The subject land is located about 3km from the Centre zoned land of Kilcoy. The development proposes to include rooms for medical consultation and other services, within the major communal facilities building, however these facilities will not be constructed as a part of the first stages. The proponent is actively seeking to procure medical providers for the development.

A shuttle bus service is proposed to provide access to facilities and shopping. It is proposed to condition the shuttle bus be parked on site as part of the management of the facility.

It is recommended that the alternative outcome be accepted in this instance.

Open Space

PO5

Open space:

- (a) includes clearly designated *private* open space areas that provide privacy for residents;
- (b) includes communal open space areas that are functional and accessible;
- (c) is of a useable size and dimension;
- (d) is of a suitable slope;
- (e) is directly accessible from the main living area for *private open space*;
- (f) is capable of receiving sufficient sunlight;
- (g) is located behind the front building line, and, where above ground, protects the privacy of adjoining and nearby dwellings; and
- (h) provides easy access to communal areas by the elderly and persons with special needs and promotes formal and informal social interaction.

AO5.1

No less than 20 percent of the *site* is provided as open space.

AO5.2

Each *dwelling* provides a designated *private open space* area that is directly accessible from the main living area:

- (a) where independent units:
 - (i) at ground level, a minimum of 25 square metres with a minimum width of 4 metres; or
 - (ii) above *ground level*, a minimum of 10 square metres with a minimum width of 2.5 metres; or
- (b) where semi-independent or dependent units, a minimum of 8 square metres with a minimum width of 2.5 metres.

Alternative outcome assessment

Performance outcome

Acceptable outcome

Each dwelling is provided a minimum 16m² of private open space. Whilst this does not achieve the 25m² per unit specified in this AO for independent living units, it is usable with dimensions of at least 3 metres that is flat usable and accessible from the living area of the home. Living Gems resorts provide extensive communal open space areas and community facilities to residents that are of a quality that significantly exceeds industry standards. Living Gems resorts encourage residents to utilise the provided recreation opportunities which harbour a sense of community and social interaction between residents.

Overall residents are provided with both private and communal open spaces that facilitates a high amenity, active and socially rewarding environment.

Planning comments

Approximately half of the overall site is provided as open space. While this is significantly larger than the 20 per cent figure listed in AO5.1, this is largely due to the floodplain of Sheep Station Creek.

The private open space areas are smaller than the figure in AO5.2, however the development does provide high quality communal facilities, consistent with other Gemlife developments.

The proposed communal facilities for the development include but are not limited to a gymnasium, cinema, two swimming pools, tennis court, pickleball court, synthetic lawn bowls rinks, bowling alley, and other facilities.

It is considered that the extensive communal open space provided as part of the development is sufficient to service the needs of the residents.

It is recommended that the alternative outcome be accepted in this instance.

Filling and excavation code

Performance outcome	Acceptable outcome
Stability and appearance	
PO2	AO2.1
Filling and excavation:	Retaining walls do not exceed 1 metre in
(a) does not create an unreasonable	height.
height difference between adjoining	
premises; or	AO2.3
adversely impact on the visual amenity of	Filling and excavation does not occur within
the locality.	3 metres of the site boundary.

Alternative outcome assessment

As identified in the engineering plan provided as part of the application material, the site seeks to minimise earthworks and incorporates a practical cut / fill balance to minimise the extent of retaining where possible.

The proposed finished development levels are intended to facilitate the residential use of the site.

Planning comments

Retaining walls up to 4m in height are proposed. The largest walls are at the rear of the development, facing Sheep Station Creek at the edge of the fill area and away from adjoining properties.

Earthworks are proposed within 3m of the boundary, primarily to provide a landscaped buffer. The intent of the landscaping is predominantly to provide a 3m buffer between the boundary and the retaining wall. The applicant has provided conceptual landscaping plans that address the type of landscaping treatment within these areas, designed to minimise visual impact of the development.

Performance outcome

Acceptable outcome

It is recommended that that alternative outcome be accepted in this instance.

Environmental impact

PO4

Filling and excavation does not adversely affect the environmental values of the *premises* or *adversely impact on water quality* of receiving environment.

Filling and excavation does not inhibit fish passage through a watercourse (permanent or ephemeral), *wetland*, waterbody or other aquatic habitat.

AO4.3

No filling or excavation occurs in a *buffer* setback of a *watercourse*, *waterbody or wetland as* determined by the applicable overlay code.

OR

AO4.4

Where a watercourse, waterbody or wetland is not mapped, no filling or excavation activities occurs within 100 metres of the top bank of that watercourse, wetland, or waterbody.

Alternative outcome assessment

As previously discussed, an operational works approval has been previously approved to increase the height of the subject land to achieve a suitable flood immunity.

In addition to the approved filling, it is proposed to provide 1% AEP flood immunity to the RV storage yard and lawn bowls area with associated compensatory earthworks proposed to maintain no loss of flood storage as documented on the earthworks plans provided with the application. The sports courts are intended to remain at natural level with the areas not to be occupied during large or prolonged rainfall events.

The previous filling on site was designed to provide a suitable pad for development of the southwest half of the site. The proposed works within 100m of Sheep Station Creek are for recreational uses only and are not proposed to include habitable uses.

Additional filling and excavation work will require a separate Operational works approval.

It is recommended that the alternative outcome be accepted in this instance.

Biodiversity overlay code

Performance outcome

Acceptable outcome

Matters of State Environmental Significance

Where in an *Urban Area* PO3

Management arrangements facilitate the ongoing conservation and protection of nature conservation and biodiversity areas within *Urban Areas*.

Note - A supporting Ecological Site Assessment is prepared in accordance with SC6.1 - Planning Scheme Policy 1 – Ecological Site Assessment Guidelines.

Where in an *Urban Area* AO3.1

Areas that are mapped as containing MSES on **Biodiversity overlay maps OM003a-b** are dedicated as public open space for purposes consistent with the ecological values and functions of the area.

Alternative outcome assessment

The applicant did not provide comment on the Biodiversity overlay code.

The small areas of MSES on the site are remote from any public areas and as such are considered to be better retained as part of the private open space for the development.

It is recommended that the alternative outcome be accepted in this instance.

Performance outcome Acceptable outcome Watercourses PO13 **AO13** Management arrangements facilitate the Watercourses identified on Catchment ongoing conservation and protection of management overlay maps OM005a-b and nature conservation and biodiversity areas associated buffer areas identified in within Urban Areas. accordance with AO10.2 to AO10.4 are: (a) dedicated as public open space for purposes consistent with the ecological values and functions of the area where for Reconfiguring a Lot, or (b) included within a voluntary statutory covenant for purposes consistent with the ecological values and functions of the area where for Material Change of

Alternative outcome assessment

The applicant did not provide comment on the Biodiversity overlay code.

Vegetation will be maintained and augmented in proximity to Sheep Station Creek. It is considered a voluntary statutory covenant is not necessitated in this case.

It is recommended that the alternative outcome be accepted in this instance.

Catchment management overlay code

Performance outcome	Acceptable outcome
Catchment Management Analysis	
PO4 Development in the Higher Risk Catchment Area is undertaken in a sustainable manner that: (a) contributes to maintaining and improving the water quality of the major drinking water storages; and (b) will not have an adverse impact on the environment.	Where within the Higher Risk Catchment Area identified on Catchment management overlay maps OM005a-b AO4.1 For development other than a dwelling house located within the Higher Risk Catchment Area the water quality impacts of the proposal are addressed in a catchment management analysis report undertaken in accordance with Planning Scheme Policy 3 – Catchment Management Analysis Guidelines

Alternative outcome assessment

The applicant provided a stormwater management plan. The majority of the development is serviced by stormwater quality and quantity management infrastructure. The majority of the development discharges to the drainage line to the west of the site rather than Sheep Station Creek itself.

The northwestern boundary of the site proposes a cut-off drain that will direct part of the overland flow from the northwest to the drainage line to the north which ultimately discharges to Sheep Station Creek.

It is recommended that the alternative outcome be accepted in this instance.

Flood hazard overlay code

Performance outcome	Acceptable outcome
Significant flood hazard area, Low flood h	nazard area or Potential flood hazard area
PO13	AO13.3
Development is located and designed to:	Where the defined flood level is known, new
	buildings are:

Perf	formance outcome	Acce	eptable outcome
(a)	maintain hydrological function of the premises; not increase the number of people	(a)	located on the highest part of the site to minimise entrance of floodwaters; and
(0)	calculated to be at risk from flooding;	(b)	provided with pedestrian and vehicle
(c)	minimises the flood impact on adjoining premises;		evacuation access between the building and a road that is above the
(d)	ensure the safety of all persons by ensuring that a proportion of <i>buildings</i> are set above the <i>defined flood level</i> ;		1% AEP flood level.
(e)	reduce the carriage of debris in flood waters;		
(f)	reduce property damage; and		
(g)	provide road access to <i>buildings</i> above the level of the 1% AEP flood level.		

Alternative outcome assessment

As previously discussed, the subject land has been filled to a 0.2 % AEP level to provide acceptable flood immunity for a vulnerable use.

Conditions are intended to be included requiring shelter in place in flood events given that access to Kilcoy can be affected in the event of flooding at Sheep Station Creek.

It is recommended that the alternative outcome be accepted in this instance.

5.6.5 Overall outcome assessment

The proposal is considered to comply with all the relevant performance outcomes. As such, a detailed assessment of the overall outcomes was not required.

The proposal did not involve any alternative outcomes to the performance or acceptable outcomes. As such, an assessment of the overall outcomes was not required.

5.7 Local government infrastructure plan

5.7.1 Priority infrastructure area

The development land is not located within the priority infrastructure area as shown in the Local government infrastructure plan mapping.

5.7.2 Infrastructure charges

The proposed development is for a Retirement facility, which is identified as being an Accommodation (Long term) under *Somerset Regional Council Charges Resolution (No. 1)* 2024. The land is within Charge Area A for determining the relevant adopted charges.

The draft infrastructure charges notice is attached and identifies how the levied charge for the relevant local government networks have been worked out as required by the *Planning Act* 2016.

5.7.3 Trunk infrastructure requirements

5.7.3.1 Drinking water and wastewater networks

The site is located within the connections area for both the drinking water and wastewater networks as shown in Urban Utilities' Netserv Plan. The recommended conditions require the development to connect to both networks to the satisfaction of Urban Utilities.

Infrastructure charges for the drinking water and wastewater networks (where applicable) are managed by Urban Utilities separately from this development application.

5.7.3.2 Stormwater network

Stormwater as a result of the development is not anticipated to result in an adverse impact on Council's trunk stormwater network infrastructure, and no additional trunk infrastructure has been identified as being necessary to deliver the development.

Standard development conditions are recommended to ensure no actionable nuisances occur and discharge to a lawful point of discharge is achieved, as required by the Queensland Urban Drainage Manual (QUDM).

An adopted charge for the stormwater network applies.

5.7.3.3 Public parks and community land network

The proposal is not considered to result in an unreasonable impact on Council's trunk public park and community land network infrastructure, and no trunk infrastructure has been identified as being required to support the development.

An adopted charge for the public parks and community land network applies.

5.7.3.4 Transport network

The proposal is not anticipated to result in an adverse impact on Council's trunk transport network infrastructure, and no additional trunk infrastructure has been identified as being required to deliver the development.

Overlander Avenue forms a second road frontage to the site. Overlander Avenue provides a road frontage to Lot 915, Lot 502 SP231462 and Lot 503 SP231462. The applicant has sought to avoid dealing with the closure of Overlander Avenue between Lot 502 and Lot 503 until after the development is approved due to the time required for assessment of a permanent road closure.

Overlander Avenue has a frontage of 105.21m to Lot 502 and frontage of 97.78m to Lot 503. Overlander Avenue impacts upon the ultimate layout of the site in that units 42-132, 170-183, 234-240 and 255-272 (a total of 130 units) are all required to traverse the internal driveway that directly serves units 133-146 and 241-255 (28 units). The existing layout prevents any alternate access arrangements.

In order to provide a more permeable internal street network, it is proposed to condition that units 127 and 169 be replaced with an internal driveway. This enables residents in the northwestern part of the site to be able to utilise any of the three long internal streets that link to the main driveway on the site.

Council had advised the applicant to address the tenure of Overlander Avenue in that the development effectively renders the northern section of Overlander Avenue obsolete, and impacts upon the ability to provide internal road links connecting between units 169/184 and 170/183 and between units 233 and 234. The retention of Overlander Avenue in its current form also reduces the applicant's unit yield. While a gate is proposed at the end of Overlander Avenue, this is for emergency access only.

Provision of a permanent emergency access into the site from Overlander Avenue would require a realigned driveway between units 41 and 42. The driveway would need to change level between the current level of Overlander Avenue at the southwest edge of Lots 501 and 502 and the first internal street that serves units 41 and 42, in order to address the fill to be brought to site. It is not practical to raise Overlander Avenue where it traverses the stormwater and park as this area is a stormwater drainage line.

An adopted charge for the transport network applies.

6.0 REFERRAL

6.1 Referral agencies

In accordance with the *Planning Regulation 2017*, the application required referral to the State Assessment and Referral Agency (SARA) for matters relating to state-controlled roads. SARA advised that they had no requirements to the approval of the development application, subject to the imposition of development conditions. SARA's referral agency response dated 26 September 2024 will be attached to Council's decision notice and a copy has been attached to this report for Council's reference.

6.2 Third party advice

Council did not seek any third-party advice for this application.

7.0 PUBLIC NOTIFICATION

7.1 Notification requirements

The application was subject to impact assessment, and public notification was required. The application was publicly notified in accordance with the requirements of the *Development Assessment Rules* as follows:

- (a) a notice was published in The Sentinel newspaper on 4 September 2024;
- (b) a notice in the prescribed form was placed on the premises on 4 September 2024 and maintained for the minimum period of 15 business days; and
- (c) a notification was served to all adjoining landowners on 3 September 2024.

The public notification period was from 5 September 2024 to 26 September 2024.

Council received the notice of compliance on 27 September 2024, confirming that public notification had been undertaken in accordance with the statutory requirements.

7.2 Matters raised in submissions

During the public notification period, Council received three properly made submissions about the application. Two of the submissions objected to the application, whilst one supported the proposal.

The matters raised in the submissions are outlined below:

Submission concern – Access and Intersection with D'Aguilar Highway

Submitters raise concern that there is only one entry point to serve this site as well as the existing stages and future stages of the Hedley Park estate.

It is considered to be a dangerous intersection and only a matter of time until there is a fatal accident at this location.

Officer comment

The D'Aguilar Highway and the Esk Kilcoy Road, which make up three of the four legs of this intersection are both State-controlled roads. As a result, the application was referred to the State Assessment and Referral Agency (SARA) due to the development having more than 50 units and therefore exceeding the relevant threshold for referral to the State.

SARA's concurrence agency response did not raise any conditions with respect to upgrades to the intersection.

This matter is not considered to be a reason for refusal.

Submission concern – Vehicle numbers

Submitters raise concern that with another 276 units and maybe 2 vehicles per site, this would be another 552 vehicles that will use the local roads without including vehicles from Hedley Park estate.

Officer comment

The traffic numbers have been considered by Council staff. The existing roundabout at the intersection of Hedley Drive, Travellers Rest and Settlers Rise is considered to have sufficient capacity to accommodate existing and future traffic numbers.

This matter is not considered to be a reason for refusal.

Submission concern – Traffic behaviour

Submitters raise that the speed and numbers of the construction trucks and trade workers that are already traveling in this area is a problem now.

Officer comment

The issue of vehicle speeds within residential areas is a police matter. The issue of the number of commercial vehicles is reflective of the ongoing residential development of Hedley Park estate, including the creation of additional development stages and the construction of houses on individual lots.

Houses have been constructed on the majority of lots in Stage 8 of Hedley Park. Stages 9 and 10 of Hedley Park are under construction, while Stage 11 is being assessed.

This matter is not considered to be a reason for refusal.

Submission concern – Insufficient Infrastructure and commercial facilities

Submitters noted there is insufficient infrastructure in Kilcoy to handle the current population without the increased demand associated with the proposed development.

It is often difficult to get a car park in the existing supermarket car park. Not everyone wants to travel to Woodford to shop there instead.

Officer comment

The development includes provision of a shuttle bus to provide the residents access to shopping and other facilities. The units proposed as a part of this development are less than the number of lots yet to be developed as a part of the Hedley Park estate. The increased population associated with the development will include a mix of existing Kilcoy and surrounding residents as well as other residents from further afield.

From a hierarchical perspective, Kilcoy has a lower commercial status in a retail hierarchy than Woodford or Caboolture or Morayfield. There is some duplication of commercial uses across Kilcoy and Woodford, however it is noted Woodford has a Woolworths supermarket as well as an IGA supermarket. Similar to Kilcoy residents, Woodford residents have to travel to Caboolture or Morayfield for goods or services that are not available in their local catchment.

It is anticipated the development will increase demand for existing commercial services in Kilcoy and potentially reduce the number of vacant tenancies in Kilcoy.

This matter is not considered to be a reason for refusal.

Submission concern – Insufficient infrastructure and employment opportunities.

Submitters noted there is insufficient infrastructure in Kilcoy to handle the current population without the increased demand associated with the proposed development.

The development has a lack of employment opportunities which in theory will create more unemployed people in the local area.

Applicant response

Whilst the submission is acknowledged, a detailed assessment has been provided by Urban Economics and confirms the need for the proposed development. In relation to comments on downsizers, the development supports a diversification of housing typology consistent with the intent of the South East Queensland Regional Plan.

Catchment/study areas are theoretical constructs from which to assess the statistical and demographic data and needs of a community. The defined Study Area acknowledges the housing needs of the broader Somerset community and surrounding region, for which the proposed development would provide housing choice and diversity, as well as a 'tree change' option for older persons from other areas.

Downsizing and rightsizing are recognised and established trends in meeting the housing needs of an ageing community such as the defined Study Area. The Retirement Living Council's *Better Housing for Better Health* report (2023) outlines that ~30% of Australian's aged over 55 years are considering downsizing or rightsizing their housing.

Older persons choosing to rightsize to retirement living do so for an array of reasons including seeking a simpler and low maintenance lifestyle, affordability, security and to access the enhanced amenity provided such as within the proposed development. The proposed development provides this choice and diversity within Kilcoy/Woolmar and the Somerset region, distinct from the detached dwellings that is provided within the nearby Hedley Park estate.

Officer comment

The development is for an over 50s retirement village. As such, the residents are not typically competing for employment in the local area. It is considered the development would generate employment during the construction stage with respect to the development of infrastructure and buildings, with some additional employment after the development commences operating with respect to ongoing staffing and maintenance of the facilities.

Based on the Urban Economics Need report, there is a current shortfall of retirement facility accommodation in the Kilcoy area.

This matter is not considered to be a reason for refusal.

Submission concern - Insufficient infrastructure and medical access

Submitters noted there is insufficient infrastructure in Kilcoy to handle the current population without the increased demand associated with the proposed development.

Medical services are limited. It is very difficult to get into the doctor as a new patient. It is sometimes very hard to get an appointment already.

Based on a recent review of available data there are six rental properties available in Kilcoy, and a current vacancy rate of 0.71 percent and a rental population of 32.8 percent across a population of 1897. It is considered some of the potential residents of the proposed development may include local residents, therefore improving availability of additional housing stock within Kilcoy and Woolmar.

Applicant response

The proposed development would contribute to the economy of scale required to support an enhanced array of health services and facilities within Kilcoy.

Retirement living facilities such as the proposed development increasingly including onsite health and medical facilities. The proposed development includes a consulting room within the Club house building to enable medical professionals to do in house consultations when necessary.

Living Gems value the opportunity they provide for people to age in place and implement practices to support that outcome and avoid residents having to leave the region as they age. Living Gems have strong partnerships with age care service providers such as Uniting Care to provide on site care opportunities for residents when needed.

Given the intended demographic of development (i.e. retiree), concerns on unemployment are unfounded. It could be argued that demand generated by additional people living in the region provides more opportunity for growth in the services able to operate in the area and provide additional employment opportunities. It should also be noted that Living Gems employ locally.

Officer comment

Accessibility to medical practitioners is a broader issue that is not exclusive to Kilcoy and is a reflection of an increasing and aging population.

Access to a GP is currently limited to the existing services in the Kilcoy area, or to telehealth options that are not locationally constrained. Similar to the previous comment about commercial hierarchies, access to medical services is also hierarchical. Access to higher

level medical services generally require travel to more populous area due to the lesser number of specific specialists.

This matter is not considered to be a reason for refusal.

Submission concern – Impacts associated with increased population

Submitters noted there is insufficient infrastructure in Kilcoy to handle the current population without the increased demand associated with the proposed development.

Officer comment

The development is located within the Urban footprint for Kilcoy and Woolmar. The Urban footprint within Woolmar is the main growth front within this area as much of Kilcoy has been developed, and the majority of future growth within Kilcoy is likely to be infill development. The development will be connected to all relevant infrastructure.

This matter is not considered to be a reason for refusal.

Submission concern – Roundabout at Hedley Drive and Travellers Rest Road

Estimates of facility traffic in the DA papers suggest an additional movement of vehicles to and from the facility of 500+ per day, all using the Travellers Rest – Hedley Drive roundabout.

All traffic entering and leaving the Hedley Park estate uses the Travellers Rest – Hedley Drive roundabout as it is the only entry to and exit from the estate. As indicated previously, there are in excess of 20 new homes currently under construction in the estate, and earthworks underway to develop further residential allotments. The papers indicate that two-thirds of these homes will have two or more vehicles, adding substantially to traffic volumes, so a claim that an additional 500+ vehicle movements per day will have little to no impact is very hard to believe.

Applicant response

The traffic engineers TTM have confirmed that the traffic report and its associated traffic analysis adopted a generation rate of 0.4 vehicles per hour (vph) and 2.1 vehicles per day (vpd), consistent with the Roads and Maritime Services (RMS) guidelines for retirement villages.

However, based on recent traffic surveys conducted by TTM, traffic generation for facilities with a composition similar to that proposed, indicates potentially a much lower generation rate than the rate adopted. The recent traffic surveys indicated a potential traffic generation rate of in the order of 0.14vph/dwelling for the AM peak and 0.17vph/dwelling for the PM peak. This suggests that the anticipated vehicle movements could be somewhat overestimated when compared to the rates indicated by recent count data. Moreover, it is important to highlight that the peak traffic hours for retirement villages given the demographic of people typically occur later in the morning (around 9-10 am) and earlier in the afternoon around (2-3 pm), which generally doesn't coincide with traditional road peak traffic periods.

The TTM analysis is also noted to have included traffic generation associated with the lots yet to be constructed within the wider Hedley Drive area. The traffic generation associated with the committed and yet to be realised dwellings within the Hedley Drive development catchment (approximately +106 peak hour vehicle trips) were included within the TTM traffic analysis.

TTM have confirmed that the mention of 500+ additional daily vehicles represents an overall daily estimate of vehicle movements, which would be distributed over the course of an entire day and is within the capacity of the road network in a location that is expected and intended to be developed for low density residential development.

Officer comment

The development is proposed to access the site via Travellers Rest. The development will create additional traffic movements through the roundabout at Hedley Drive, however the

design of the roundabout still enables sufficient capacity within the roundabout to accommodate the proposed development and the current expansion of Hedley Park.

The ongoing development of Hedley Park will ultimately include a new second access at the western end of the development. The second access will connect to the D'Aguilar Highway via Highwood Lane, which will ultimately be realigned to increase the distance between the road intersection and the bridge over Oaky Creek in accordance with DTMR requirements. This will ultimately disperse traffic flows across the two accesses.

This matter is not considered to be a reason for refusal.

Submission concern – Landscape

People who have moved into the area want to live the country lifestyle but the new development will dramatically change the landscape.

Applicant response

This site is intended to accommodate low density residential development to accommodate a need in housing options for growth in the region. It is not rural zoned and is not intended to be retained for open paddocks. Whilst this particular site isn't intended to be protected for retention of rural landscapes under the Somerset Planning Scheme, this development does ensure that a large part of the site is retained for open space with over 9.77 hectares of land proposed as open space. The development prioritises the protection of the ecological values of the site proposing to protect and enhance Sheep Station Creek through rehabilitation. The sites' periphery incorporates 3 metre wide landscape buffers to provide an attractive interface with the surrounding area as articulated in the landscape plan set lodged as part of the application.

Officer comment

The Hedley Park estate is a residential development on the periphery of Kilcoy and in proximity to rural land. As such the existing rural amenity of the surrounding area will be impacted by future stages of the Hedley Park estate as well as the proposed development. Both of these developments are on land that is specified for residential purposes or designated for residential development in the future.

The development proposes a retirement village with 276 units. The existing Hedley Park development currently has 69 residential lots under construction, and another 40 lots under assessment. Based on the balance area of the Hedley Park site, there is sufficient area available for more than 300 lots.

This matter is not considered to be a reason for refusal.

Submission concern – Landscape

The amount of people who walk along the beautiful walking tracks the council has provided would prefer to look at open paddocks or mountain views, not 276 new units right up along the fence line.

Officer comment

Council's planning scheme includes the subject land within the Emerging community zone. The Desired settlement pattern for the Emerging community zone areas around Kilcoy include this site (and the balance of the Hedley Park estate site) within the Future residential area and the Constrained areas designations. The constrained area designation predominantly related to flooding impacts associated with Sheep Station Creek. The flooding impacts have been predominantly addressed by a combination of filling and compensatory earthworks to minimise impacts on upstream and downstream properties.

The existing walking tracks in proximity to the drainage line and dams are a product of the earlier stages of Hedley Park estate.

While the subject site currently functions as farmland, a proportion of the site was proposed to be used for urban uses in the future.

Conditions are proposed to be included with respect to planting out the development adjacent to the park and stormwater reserve.

This matter is not considered to be a reason for refusal.

8.0 OTHER RELEVANT MATTERS

No other relevant matters were considered in the assessment of this application.

9.0 CONCLUSION

The proposed development is for a material change of use for a retirement facility (276 units). The proposal has demonstrated compliance with the relevant assessment benchmarks as outlined in this assessment.

Having undertaken the assessment, and considered the relevant matters identified within the report, the officer's recommendation is to approve the application.

10.0 ATTACHMENT

- 1. Proposal plans
- 2. Site management plan
- 3. Stormwater management plan
- 4. Landscaping plans
- 5. Waste management plan
- 6. Flood impact assessment
- 7. Acoustic report
- 8. Traffic Engineering Report
- 9. State Assessment and Referral Agency referral agency response
- 10. Draft infrastructure charges notice

RECOMMENDATION

THAT Council:

- approve Development Application No. 24751 for a Development Permit for a Material Change of Use for a Retirement Village (276 units and associated community facilities) on land situated at 51 Overlander Avenue and Overlander Avenue, Woolmar, formally described as Lot 915 SP313141, Lot 501 SP210636, Lots 502 and 503 SP231462, subject to the recommended conditions and requirements contained in the schedules and attachments to this report.
- 2. publish the officer's report for this application to Council's website as the statement of reasons in accordance with section 63(5) of the *Planning Act 2016*.

DEVEL	DEVELOPMENT PERMIT FOR MATERIAL CHANGE OF USE	
SCHE	DULE 1 – GENERAL CONDITIONS	
Assess	sment Manager	
No	Condition	Timing
1.1	Carry out the development generally in accordance with the material contained in the development application, supporting documentation, and the plans and documents listed below (including as amended in RED by Council), except where amended by these development conditions.	At all times.
	Architectural Drawings Master Plan, Drawing No BP1419/03.01, Issue R, prepared by Jared Poole Design, dated 20 August 2024.	

Construction Staging Plan, Drawing No BP1419/03.02, Issue E, prepared by Jared Poole Design, dated 12 November 2024. Setback Plan, Drawing No BP1419/03.03, Issue C, prepared by Jared Poole Design, dated 22 August 2024. Carparking Plan, Drawing No BP1419/03.04, Issue C, prepared by Jared Poole Design, dated 22 August 2024. Carparking Details, Drawing No BP1419/03.05, Issue C. prepared by Jared Poole Design, dated 22 August 2024. Refuse Lift Side Details, Drawing No BP1419/04.02, Issue B, prepared by Jared Poole Design, dated 1 March 2024. Clubhouse Perspective, Drawing No BP1419/06.04, prepared by Jared Poole Design, undated. Clubhouse - Ground Floor Plan, Drawing No BP1419/06.05, Issue C, prepared by Jared Poole Design, dated 22 August 2024. Clubhouse – First Floor Plan, Drawing No BP1419/06.06. Issue C, prepared by Jared Poole Design, dated 22 August 2024. Clubhouse – Elevations, Drawing No BP1419/06.07, Issue B, prepared by Jared Poole Design, dated 1 March 2024. Clubhouse – Elevations, Drawing No BP1419/06.08, Issue B, prepared by Jared Poole Design, dated 1 March 2024. Summer House – Floor Plan, Drawing No BP1419/06.09. Issue C, prepared by Jared Poole Design, dated 22 August 2024. Summer House – Elevations, Drawing No BP1419/06.10, Issue B, prepared by Jared Poole Design, dated 1 March 2024. Summer House – Elevations, Drawing No BP1419/06.11, Issue B, prepared by Jared Poole Design, dated 1 March 2024. Artist Impression Typical Streetscape, Drawing No. BP1419/07.01, Issue A, prepared by Jared Poole Design, dated 7 March 2024. Artist Impression Typical Dwelling, Drawing No. BP1419/07.02, Issue A, prepared by Jared Poole Design, dated 7 March 2024. Dwelling Type A, Drawing No BP1419/07.03, Issue C, prepared by Jared Poole Design, dated 22 August 2024. Dwelling Type B, Drawing No BP1419/07.04, Issue C, prepared by Jared Poole Design, dated 22 August 2024. Dwelling Type C, Drawing No BP1419/07.05, Issue C, prepared by Jared Poole Design, dated 22 August 2024. Site Plan – Lot 70, Drawing No BP1419/07.06, Issue A, prepared by Jared Poole Design, dated 22 August 2024. Site Plan - Lot 147, Drawing No BP1419/07.07, Issue A, prepared by Jared Poole Design, dated 22 August 2024. Site Plan - Lot 211, Drawing No BP1419/07.08, Issue A, prepared by Jared Poole Design, dated 22 August 2024. Site Management Plan, Proposed Retirement Facility, Ref S23-163, Revision A, prepared by Westera Partners dated 12 July 2024. Stormwater Management Report – Proposed Retirement Facility, reference S23-163, Revision B, prepared by Westera Partners dated 12 July 2024. Statement of Landscape Intent, Project Reference L23149 Revision E, prepared by Zone Landscape Architecture,

dated 22 August 2024

	Operational Waste Management Plan, prepared by TTM, Revision 3, dated 22 April 2024	
	51 Overlander Avenue Flood Impact Assessment,	
	Reference R30159.001.03, prepared by Water Engineering Partners Pty Ltd, dated 21 August 2024	
	Acoustic Report, prepared by Acoustic Works, Reference	
	2023437 R01F Hedley Drive Woolmar, dated 13 June 2024	
	Traffic Engineering Report, prepared by TTM, Revision 2, dated 6 March 2024.	
1.2	General The development must comply with the relevant previous	At all times
1.2	The development must comply with the relevant provisions of the Somerset Region Planning Scheme (Version 4.2) and Local Laws, to the extent they have not been varied by this Development Approval.	At all times.
1.3	Day to Council any outstanding rates or sharges or synapses	Prior to
1.3	Pay to Council any outstanding rates or charges or expenses that are a charge over the subject land levied by Council, including any charges that are levied but not fully paid over the subject land.	commencement of use.
4.4	All development conditions of this Development Approval	A
1.4	All development conditions of this Development Approval must be complied with at no cost to Council, unless stated otherwise in any specific development condition.	At all times.
4.5		A (11 ('
1.5	Repair any damage to existing infrastructure (e.g. kerb and channel, footpath, or roadway) that may have occurred as part of the development.	At all times.
	Any damage that is deemed to create a hazard to the community must be repaired immediately.	
1.6	A legible copy of this Development Approval, including the	At all times.
1.0	approved plans and documents bearing Council's stamp, must be available on the subject land for inspection.	At all times.
	Nature and Extent of Approved Use	
1.7	The approval is for a Retirement Facility (operated under the <i>Manufactured Homes (Residential Parks) Act 2003</i>) comprising the following:	At all times.
	(a) a maximum of 276 dwellings	
	(b) indoor and outdoor communal facilities as detailed on the approved plans	
	(c) caravan and RV parking/storage.	
4.5		D
1.8	All properties the subject of the development must be amalgamated such that all dwellings/villas and communal facilities remain on one title, except that the applicant may operate the Retirement Facility under the <i>Manufactured Homes (Residential Parks) Act 2003</i> , but must ensure that the homes are occupied by a maximum of 2 residents who meet the development's age criteria (which must be clearly articulated in any sales/lease contract/agreement), other than short term visitors and carers.	Prior to commencement of use and then to be maintain at all times.
4.0	Staging of development	A
1.9	The development may be staged. If staged, the development is to be completed sequentially in the stage order indicated on the Approved Plans provided that:	As part of each stage.
	•	

 Any approved lot to be registered as a balance lot caused by development staging must be included as a lot in the management scheme (or similar requirement in accordance with the <i>Manufactured Homes</i> (<i>Residential Parks</i>) Act 2003) for the approved development. Any filling, retaining walls, landscaping or infrastructure associated with a stage is to be constructed and completed as a part of that stage. Vacant land for future stages must be kept in good order so as not to cause danger or nuisance to residents and must not be utilised for other purposes without further approvals. Sunset Date for Completion of Approved Development Pursuant to s88 of the <i>Planning Act 2016</i>, the uncompleted aspects of this development approval lapse if the whole of the approved use has not happened within 8 years of commencement of the approved use. Temporary Road Construct a temporary 6.0m wide internal driveway link across Units 127 and 169 to provide a vehicular link between the two internal driveways. 		 (e) The summer house community facility must be constructed in conjunction with the development shown as Stage 2; (f) any vehicle and pedestrian access and other infrastructure services required to service the particular stage are constructed with that stage; (g) any internal fencing, internal retaining walls and internal landscaping associated with a particular stage is constructed with that stage. 	
associated with a stage is to be constructed and completed as a part of that stage. 1.12 Vacant land for future stages must be kept in good order so as not to cause danger or nuisance to residents and must not be utilised for other purposes without further approvals. Sunset Date for Completion of Approved Development 1.13 Pursuant to s88 of the Planning Act 2016, the uncompleted aspects of this development approval lapse if the whole of the approved use has not happened within 8 years of commencement of the approved use. Temporary Road 1.14 Construct a temporary 6.0m wide internal driveway link across Units 127 and 169 to provide a vehicular link between	1.10	development staging must be included as a lot in the management scheme (or similar requirement in accordance with the <i>Manufactured Homes (Residential Parks) Act 2003</i>)	As part of each stage.
as not to cause danger or nuisance to residents and must not be utilised for other purposes without further approvals. Sunset Date for Completion of Approved Development 1.13 Pursuant to s88 of the Planning Act 2016, the uncompleted aspects of this development approval lapse if the whole of the approved use has not happened within 8 years of commencement of the approved use. Temporary Road 1.14 Construct a temporary 6.0m wide internal driveway link across Units 127 and 169 to provide a vehicular link between	1.11	associated with a stage is to be constructed and completed	As part of each stage.
1.13 Pursuant to s88 of the <i>Planning Act 2016</i> , the uncompleted aspects of this development approval lapse if the whole of the approved use has not happened within 8 years of commencement of the approved use. Temporary Road 1.14 Construct a temporary 6.0m wide internal driveway link across Units 127 and 169 to provide a vehicular link between	1.12	as not to cause danger or nuisance to residents and must	As part of each stage.
1.13 Pursuant to s88 of the <i>Planning Act 2016</i> , the uncompleted aspects of this development approval lapse if the whole of the approved use has not happened within 8 years of commencement of the approved use. Temporary Road 1.14 Construct a temporary 6.0m wide internal driveway link across Units 127 and 169 to provide a vehicular link between		Sunset Date for Completion of Approved Development	
1.14 Construct a temporary 6.0m wide internal driveway link across Units 127 and 169 to provide a vehicular link between	1.13	Pursuant to s88 of the <i>Planning Act 2016</i> , the uncompleted aspects of this development approval lapse if the whole of the approved use has not happened within 8 years of	At all times.
1.14 Construct a temporary 6.0m wide internal driveway link across Units 127 and 169 to provide a vehicular link between		Temporary Road	
Note: This condition is to provide an interim permeable vehicular access arrangement through the site. Subsequent road closure of Overlander Avenue, and future changes to Overlander Avenue including amalgamation of that section into the site and redevelopment of that section of the site may remove the ongoing need for the internal driveway link. Note: The driveway link provides part of the temporary access to serve the RV parking area up to and including	1.14	Construct a temporary 6.0m wide internal driveway link across Units 127 and 169 to provide a vehicular link between the two internal driveways. Note: This condition is to provide an interim permeable vehicular access arrangement through the site. Subsequent road closure of Overlander Avenue, and future changes to Overlander Avenue including amalgamation of that section into the site and redevelopment of that section of the site may remove the ongoing need for the internal driveway link. Note: The driveway link provides part of the temporary	As part of Stage 1.
		Street Identification	

1.15	The street address of the development must be clearly visible and discernible from Travellers Rest by the provision of at least a street number and the Retirement Facility name.	At all times and to be maintained.
1.16	The entries to the communal facilities and site managers office must be clearly visible and identifiable from Travellers Rest or otherwise provided with signage and lighting at strategic locations to direct people to the building entries.	At all times and to be maintained.
4.47		At all Cases and to be
1.17	The entries and street numbers of all dwelling units must be clearly visible from the internal street network.	At all times and to be maintained.
1.18	Directional signage to units shall be provided at internal	At all times and to be
1.10	intersections to assist emergency services.	maintained.
	Infrastructure	
1.19	Any electrical transformers and boosters must be located behind landscaping or the front entry statement and must not be visible from Travellers Rest or Overlander Avenue.	At all times and to be maintained.
1.20	Details of the proposed site entry feature, gate and fencing must be submitted as part of an Operational Works application for landscaping. That application must include details of the entry statement, intercom (entry access) and pedestrian access points to the site.	As part of an Operational Works application.
1.21	All mechanical equipment and other service infrastructure located on the site must be fully enclosed or screened such that they are not visible from the street frontage/s, other public space, or adjoining properties.	At all times and to be maintained.
1.22	Duilding materials and hard surfaces used in landacens or	At all times and to be
1.22	Building materials and hard surfaces used in landscape or streetscape works are not highly reflective, or likely to create glare, slippery or otherwise hazardous conditions.	At all times and to be maintained.
	Existing Vagatation	
1.23	Existing Vegetation The mature trees identified for retention along Sheep Station	Prior to
1.23	Creek must be retained. Additional riparian vegetation is to be planted generally in accordance with the Statement of Landscape Intent, prepared by Zone Landscape Architecture, Project Reference L23149 Revision E, dated 22 August 2024.	commencement of use and to be maintained at all times.
	Duilding Appearance	
1.24	Building Appearance The development must be designed to incorporate a variety	At all times
1.24	The development must be designed to incorporate a variety in built form for the dwelling units in the following manner: (a) units within each individual stage must incorporate design differences in order to assist residents in wayfinding and to avoid the development having a homogenous appearance within each stage and street. This may be achieved by providing differences in roof pitches and design, differences in colours and materials used in the façade in accordance with the Approved Plans.	At all times.
	(b) no two adjacent units may be identical in external façade appearance.	

1.25	Each approved building must be constructed such that its external appearance achieves a high quality design finish, including the degree of building form articulation, window coverage, clear glazing, openings, roof overhangs, feature cladding materials, finishes, varied building treatments and finishes, lightweight timber elements, glazed balustrades shown on the Approved Plans, with no inclusions or future alterations being made without approval in writing by council.	At all times.
	Private Open Space	
1.26	Each dwelling unit must contain a private open space area having a minimum area of 16m ² and a minimum dimension of 3m at ground level that is directly accessible from the living area of the dwelling unit.	Prior to the occupancy of each dwelling unit.
	Clothes Drying Area	
1.27	Each dwelling unit must be provided with an outdoor non-mechanical (natural) clothes drying facility that is screened from public view by the use of fixed or operable screens incorporated into the building design.	Prior to the occupancy of each dwelling unit.
	Occurred Describes Accessed Deduction	
	Communal Recreation Areas and Pedestrian Connections	
1.28	Common recreation areas and facilities must be provided as shown on the Approved Plans.	As approved.
1.29	The Summer House facility is to be provided as part of Stage 2 at the latest. Note: The facility can be provided earlier at the developer's discretion.	As indicated.
1.30	Construction of the main communal facility is to be commenced at the same time as the start of Stage 4 at the latest.	As indicated.
	Note: The facility can be provided earlier at the developer's discretion.	
	Building Height	
1.31	The maximum height of the development must not exceed 8.5m above natural ground level at any point.	At all times.
1.32	Certification must be submitted to council from a cadastral surveyor which certifies that the buildings do not exceed the maximum height requirement of this development approval.	Prior to commencement of use for each stage.
	Due Comitee	
1.33	An on-demand bus service must be established and maintained for the residents of the development, providing services to higher order shopping, medical and public transport facilities. The bus must be stored onsite at all times when not in use.	At all times and to be maintained.
	Fancing and Walls	
1.34	All acoustic and boundary fencing must be provided in accordance with the Approved Plans, and the following:	As part of the relevant stage and to be maintained at all times.

	(a) All fencing or walls facing external boundaries must be set behind a dense landscaped buffer of the	
	dimensions detailed on the approved plans. (b) Retaining walls must not be provided on boundaries except where not exceeding 1m in height and constructed of decorative stonework or similar	
	decorative material. (c) Retaining walls on boundaries must be minimised as much as possible in favour of densely vegetated batters.	
4.05		A. H.C. L. L.
1.35	The developer/operator must be responsible in perpetuity for the maintenance of the planting in all landscape buffers, including reasonable maintenance as required at any time by any adjoining property owner. A system must be in place at all times, whereby an adjoining owner can contact the developer/site manager for the purpose of arranging maintenance of buffers.	At all times and to be maintained at all times.
	Safety and Security	
1.36	The entrance to the site and individual dwelling/unit numbers must be clearly signed.	At all times and to be maintained.
1.37	Bollard or overhead lighting must be provided along all internal footpaths and internal roads with intensities to satisfy the requirements of AS 1158 – Lighting of Roads and Public Spaces	At all times and to be maintained at all times.
1.38	All pathways and land used for outdoor recreation must have	At all times and to be
1.00	grades of 7% or less, unless otherwise approved under an operational work approval, with all paths having hard, slip resistant surfaces.	maintained at all times.
1.39	Internal paths and ramps within the development, and any hallways within the communal recreation building(s) must be capable of accommodating two wheelchairs side by side at any one time.	At all times and to be maintained at all times.
	Management, Social and Care Facilities	
1.40	The approved use must provide management facilities, and social and recreational facilities in the form of: (a) a sales / manager's office; (b) indoor and outdoor communal social / recreation spaces as shown on the Approved Plans.	At all times.
1.41	Any sales office or display unit is to be removed or decommissioned when Stage 6 has been completed.	At the completion of Stage 6.
	Disaster Positiones	
1.42	Disaster Resilience The retirement facility must have access to a reliable	At all times.
	alternative power supply in the event of prolonged power outage or disconnection from grid supplied electricity.	
1.43	Site evacuation plan(s) must be prepared and implemented in accordance with the conditions of this development approval. Site evacuation plans must be reviewed and updated every	Prior to commencement of use and maintained at all times.
	five (5) years unless required earlier.	

SCHEE	SCHEDULE 2 – ENGINEERING		
	Assessment Manager		
No	Condition	Timing	
2.1	Make an Operational Work application to Council and pay the required fees where an application involves earthworks, erosion and sediment control, roadworks, car parks, landscaping, clearing and stormwater drainage required as stated in the following conditions.	Prior to the commencement of Operational Work.	
2.2	All works are to be designed and constructed in accordance with the requirements of the Somerset Region Planning Scheme.	At all times.	
2.3	Bear the costs of works carried out to Council and utility services infrastructure and assets, including any alterations and repairs resulting from compliance with these development conditions.	At all times.	
2.4	Provide certification of the design and construction of civil components of the Operational Work by a Registered Professional Engineer Queensland (RPEQ), including: • Plans and specifications must be prepared and certified with the Operational Work application. • Certification that the works have been undertaken in accordance with the approved plans, specifications and to Council's requirements.	Prior to Commencement of use.	
2.5	Obtain Council approval for the demolition or removal of any existing buildings on site necessary for the approved development to proceed.	As part of Operational Works.	
	Onen energ / Devis / Landacaning		
2.6	Open space / Park / Landscaping The development site must be landscaped. The works must be undertaken in accordance with an operational works approval.	As part of Operational works for Landscaping Works.	
2.7	All entry statements, fences, batters, retaining walls and buffer/screen plantings must be located entirely within private land and not within the public road reserve.	At all times.	
2.8	The developer is to prepare and landscape the site in accordance with the approved Landscape Plan developed by Zone Landscape Architecture and dated August 2024, or as otherwise approved by Council. Landscaping for each stage is to be carried out as a part of each individual stage.	Prior to commencement of use of each stage.	
	General services		
2.9	Connect the development to a reticulated water supply, sewer infrastructure, underground electricity supply, and telecommunications utilities in accordance with acceptable standards of the relevant regulatory authority.	Prior to commencement of use.	
2.10	The applicant must provide written evidence (e.g. connection certificate) from each particular service provider stating that the development and each dwelling within the	Prior to commencement of use.	

	development has been connected to applicable service, is available at a standard connection, or has a current supply agreement.	
	Duilding above Flood Lovel	
2.11	Building above Flood Level Any filling below the Defined Flood Level (DFL) will be in accordance with an approved flood study.	Prior to the commencement of works.
2.12	Buildings are located to avoid significant flood flows or velocities.	At all times.
2.13	The development does not increase the flood hazard for other properties.	At all times.
2.14	Vehicle Access shall have a maximum depth of 200mm in the Defined Flood Event (DFE).	Prior to commencement of use.
	Where no DFE has been approved, a maximum depth of 200 mm in the highest recorded flood level.	
	It is the applicant's responsibility to provide evidence of flood heights.	
	Earthworks	
2.15	All earthworks to be constructed in accordance with AS3798. Fill material is to be placed, compacted, and tested by a suitably qualified inspection and testing organisation.	At all times.
2.16	Rehabilitation of dam sites, including methods of construction, management and supervision is to ensure that the site will be suitable for the proposed use. Test results as required and a certificate of quality and uniformity is to be provided by a Registered Professional Engineer Queensland (RPEQ).	Prior to commencement of use.
2.17	Contaminated material must not be used as fill on the site. Any filling must be undertaken using inert materials only.	At all times.
2.18	Any fill, cut and other stored material must be contained within properties comprising the development application. Fill cannot be placed on adjacent properties without providing Council with written permission from the respective property owner(s).	At all times.
	Roadworks	
2.19	Install all traffic signs and line markings in accordance with Austroads	Prior to commencement of use.
0.00	All modes on an adjacent to mentioned the	Deion to
2.20	All works on or adjacent to roadways must be adequately signed in accordance with the "Austroads Guide to Temporary Traffic Management". Any Road or lane closure must be applied for in writing to Council, and all conditions of that approval complied with during construction of the works.	Prior to commencement of and during construction of works.
2.21	Provide a sealed vehicle turn around area with a minimum 9m radius at the end of any terminating roads that are to be	Prior to commencement of

	constructed as part of the development.	use for each stage.
2.22	Provide a minimum of one parking space within a garage for each unit. Note: Each garage is proposed with a double garage.	Prior to commencement of use of each stage and to be maintained at all times.
2.23	Provide visitor spaces at a rate of one space per five units, consistent with the number of units approved in each stage. Provide visitor parking spaces within each stage as shown on the plan of development.	Prior to commencement of use of each stage and to be maintained at all times.
2.24	All manoeuvring areas shall enable access to a 12.5-metre heavy rigid design vehicle in accordance with <i>Austroads</i> design manual and Australian Standard AS:2890.	Prior to commencement of use of each stage and to be maintained at all times.
2.25	Provide a safe set down and pick up area for emergency vehicles.	Prior to commencement of use.
2.26	Construct and maintain the internal driveways, vehicle manoeuvring and parking areas of material such as concrete, bitumen or pavers in accordance with Australian Standards.	At all times.
	Visual and general amonity	
2.27	Visual and general amenity Any graffiti within the proposed development must be removed immediately.	At all times.
2.28	All plant and air conditioning is to be visually screened from the street.	At all times.
	Stormwater	
2.29	Ensure Stormwater drainage is delivered to a lawful point of discharge	At all times.
2.30	Stormwater drainage and flows are to have no increase in peak discharge immediately downstream of this development for a selected range of storm durations, and a selected range of AEP's up to the defined flood event.	At all times.
2.31	Stormwater drainage and flows are to have no actionable nuisance effect on adjoining, upstream, or downstream landholders.	At all times.
2.32	Stormwater drainage and flows are to have no increase in flood levels on adjoining land that may damage or adversely effect the value or potential use of the land.	At all times.
2.33	Design and construction of all stormwater drainage works must comply with the relevant section/s of the Queensland Urban Drainage Manual (QUDM) and the Somerset Region Planning Scheme.	As part of Operational Works.
2.34	Stormwater Drainage shall be constructed in general	As part of Operational
	,	

	accordance with Westra Partners, Stormwater Management Report dated 12 July 2024. Ref S23-163	Works.
2.35	Stormwater detention treatment and detailed design to be provided. Stormwater detention to provide a non-worsening in quality and quantity to being removed from site.	As part of Operational Works.
2.36	Stormwater detention treatment and monitoring to be carried out in general accordance with Westra Partners, Stormwater Management Report dated 12 July 2024. Ref S23-163 with each inspection report to be issued to Council for each four monthly inspection and whenever a replacement cartridge is required.	As part of Operational Works.
2.37	Submit permission for the discharge of stormwater drainage to a lawful point of discharge from the owners of properties affected by any stormwater discharge from the site.	As part of Operational Works.
	Note: Such consent may require supporting engineering plans and calculations.	
2.38	Adjoining properties and roadways to the development are to be protected from ponding or nuisance from stormwater as a result of any site works undertaken as part of the approved development.	At all times.
2.39	Containments or contaminated water must not be directly or indirectly released from the Premises to surface water or groundwater at or outside the premises except for:	At all times.
	(a) uncontaminated overland stormwater flow; or(b) uncontaminated stormwater to the stormwater system.	
	Erosion and sediment control	
2.40	Erosion and sedimentation controls shall be implemented in accordance with current IECA best practice, and shall be maintained to Council's satisfaction at all times during the course of the project. Should Council determine that proposed controls are ineffective or a downstream drainage system has become silted, the developer will:	At all times.
	 Be required to install additional measures. Be responsible for the restoration work. 	
	Should the developer fail to complete the works determined by Council within the specified time, the Council will complete the work and recover all costs from the developer associated with the work.	
2.41	Measures shall be applied to prevent site vehicles tracking sediment and other pollutants onto adjoining streets during the course of the project, and to prevent dust nuisance.	At all times.
2.42	Prepare an Erosion and Sediment Control Plan designed by a Registered Professional Engineer Queensland (RPEQ). Implement all relevant sediment and erosion control measures and temporary fencing as identified on the approved engineering drawings as part of the operational works. All sediment control devices and sediment collection	As part of the lodgement of the Operational Works application.

	points shall be regularly monitored, sediment removed as necessary and devices maintained responsibly during construction and maintenance period of the development works.	
2.43	All wastes to be managed in accordance with the relevant legislation and regulations with regulated waste to be disposed of at a licensed facility and general solid waste to be disposed of at approved landfill sites with the contractor covering all costs incurred for the receipt and management of the waste.	At all times.
2.44	Where vegetation is removed, the vegetation waste shall be disposed of by: i) Milling; ii) Chipping and/or mulching iii) Disposal at an approved waste disposal facility. No incineration of vegetation or waste will be permitted at the site. Waste other than vegetation waste, generated as a result of the operations shall be disposed of to an approved disposal facility.	At all times.
2.45	All declared weeds and pests are to be removed from the subject land and kept clear of such nuisance varieties during the course of construction.	At all times.
2.46	Apart from declared weeds and pests, areas with trees, shrubs and landscaping currently existing on the subject land must be retained where possible and action taken to minimise disturbance during construction work.	As part of Operational Works.
	DULE 3 – ENVIRONMENTAL HEALTH ment Manager	
	Condition	Timing
	Nuisance	J
3.1	Light sources must be positioned and shielded, when necessary, to prevent light spillage causing a nuisance to any other premises outside the boundaries of the property to which this development permit relates.	At all times.
3.2	Notwithstanding any other condition of this development permit, this development permit does not authorise any release of contaminants that causes, or is likely to cause, an environmental nuisance to any premises beyond the boundaries of the development site.	At all times.
3.3	Noise generated from the operation of the development must not cause an environmental nuisance at a sensitive place.	At all times.
	Noise	
3.4	Ensure all site road surfaces are regularly maintained and have smooth surfaces free of potholes, loose or poorly fitted grates or manhole covers to minimise noise emissions.	At all times.
3.5	Implement all recommendations contained in the acoustic report titled, <i>Proposed Residential Development Overlander</i>	Prior to commencement of the use and to be

	Avenue and Travellers Rest Road Woolmar, Acoustic Report.	maintained at all times.
3.6	Provide certification from a suitably qualified person that; (a) The recommendations contained in the acoustic report titled, <i>Proposed Residential Development Overlander Avenue and Travellers Rest Road Woolmar, Acoustic Report</i> , have been installed/implemented in accordance with the acoustic report; and (b) The development achieves the noise criteria specified in the approved acoustic report titled, <i>Proposed Residential Development Overlander Avenue and Travellers Rest Road Woolmar, Acoustic Report.</i>	Prior to commencement of the use and to be maintained at all times.
	Water	
3.7	Contaminants or contaminated water must not be directly or indirectly released from the premises or to the ground or groundwater at the premises except for: (a) Uncontaminated overland stormwater flow; (b) Uncontaminated stormwater to the stormwater system; (c) Contaminants lawfully released to sewer; or (d) A release in accordance with a condition of this development approval.	At all times.
	W	
3.8	Waste Waste shall be managed generally in accordance with the Operational Waste Management Plan prepared by TTM, dated 22 April 2024.	At all times.
3.9	Waste and recycling storage facilities must be provided in accordance with the following provisions: (a) Adequate waste containers must be provided to contain the volume and type of waste and recyclable matter generated by the development; (b) A permanent waste storage point for waste containers must be constructed of a solid concrete base or acceptable equivalent; and (c) The permanent waste storage point must be designed and constructed so it can be easily cleaned whilst ensuring that no waste or recyclable matter is released to the stormwater system or any waterway.	At all times.
3.10	Provide waste collection areas in such locations so as to allow a servicing vehicle to enter and manoeuvre, so as to minimise the risk of injury to persons or damage to property, and leave the property in forward gear.	Prior to commencement of use.
3.11	Refuse bin storage areas must be provided on the premises within a building, outbuilding or other enclosed structure so that it is screened from public view with a minimum 1.5 metre high solid fence or wall.	Prior to commencement of use.
3.12	Amend the site plan to show location of bin storage enclosures for the Clubhouse and associated refuse collection vehicle movements.	Prior to the commencement of use.

		•
3.13	All waste generated as part of the operation of the development must be lawfully reused, recycled or removed to a facility that can lawfully accept the waste.	At all times.
3.14	All general waste produced as part of the operation of the development must be disposed of through either: (a) The number of standard waste services as determined by Council; or (b) A private agreement with a licensed waste disposal contractor through an exemption granted by Council.	At all times.
3.15	All reasonable and practicable measures must be taken to ensure the waste storage area is kept to a standard of cleanliness where there is no accumulation of; (a) waste, except in waste containers; (b) recycled matter, except in containers; (c) grease, or (d) other visible matter	At all times.
0.40	No constants to the horizontal and books at our the contribute of all a	A (= II ('
3.16	No waste is to be burned or buried on the subject site.	At all times.
3.17	The hours of operation for the Community facilities are 7am to 10pm, seven days a week.	At all times.
0.40	The Open condition to all the condition the condition the condition to the condition t	A (- II (
3.18	The Community facilities are only for the use of residents and their guests.	At all times.
	Note: The community facilities are not available for the use of the general public.	

SCHEDULE 4 – REFERRAL AGENCIES

State Assessment and Referral Agency

Pursuant to section 62 of the *Planning Act 2016*, the following referral agency responses have been received and are attached to the Decision Notice.

No	Condition	Timing
4.1	Comply with the requirements of the State Assessment and Referral Agency referral agency response 2404-39872 SRA dated 26 September 2024, or as amended.	As indicated in the response.
4.2	Provide certification to Council from a suitably qualified person or the relevant agency demonstrating that the requirements of the referral agency response have been met.	Prior to the commencement of the use.

SCHEDULE 5 – ADVICE

Assessment Manager

This approval has effect in accordance with the provisions of section 71 of the *Planning Act* 2016.

Pursuant to section 85 of the *Planning Act 2016* the approval will lapse if first change of use does not happen within the currency period – being six (6) years starting the day the approval takes effect.

The applicant may make representations (change representations) about a matter in this development application within the applicant's appeal period under the process established in chapter 3, part 5, subdivision 1 of the *Planning Act 2016*.

A person to make a change to this development application outside the applicant's appeal period, following the process outlined in chapter 3, part 5, subdivision 2 of the *Planning Act* 2016.

The applicant has the right of appeal to the Planning and Environment Court regarding the conditions of this approval.

A reference within a development condition to a "Certificate of Occupancy" includes an "Interim Certificate of Occupancy". Where a Certificate of Occupancy is not required, the reference is taken to be a "Final Inspection Certificate" or any other similar document finalising the works.

Where the timing in a development condition requires compliance "prior to the commencement of the use" and a Plan of Subdivision is lodged for approval, the timing in the condition is taken to require compliance "prior to the commencement of the use or approval of the Plan of Subdivision, whichever occurs first".

Parts of the Somerset Region are within Fire Ant Biosecurity Zones.

If you are working with organic materials, you are legally obliged to check the fire ant biosecurity zones and use fire ant-safe practices before moving them to a new location (Biosecurity Regulation 2016).

If you are unable to do so, you must apply for a biosecurity instrument permit.

Penalties can also apply to individuals and businesses that do not use fire ant-safe practices before moving materials.

It is a legal obligation to report any sighting or suspicion of fire ants within 24 hours to Biosecurity Queensland on 13 25 23.

The Fire Ant Biosecurity Zones as well as general information can be viewed on the DAF website www.daf.qld.gov.au/fireants

The *Aboriginal Cultural Heritage Act 2003* establishes a Duty of Care for Indigenous Cultural Heritage. This applies on all land and water, including freehold land. The Cultural Heritage Duty of Care lies with the person or entity conducting an activity.

Penalty provisions apply for failing to fulfil the Cultural Heritage Duty of Care.

Persons proposing an activity that involves additional surface disturbance beyond that which has already occurred at the proposed site need to be mindful of the Cultural Heritage Duty of Care requirement.

Details on how to fulfil the Cultural Heritage Duty of Care are outlined in the Cultural Heritage Duty of Care Duty Guidelines gazetted with the Act.

Council strongly advises that you obtain a copy of the Cultural Heritage Duty of Care Guidelines and seek further information on the responsibilities of proponents under the terms of the current Aboriginal Cultural Heritage Act.

Information about the cultural heritage duty of care is available at qld.gov.au/firstnations/environment-land-use-native-title/cultural-heritage/cultural-heritage-duty-of-care

An Infrastructure Charges Notice accompanies this Development Approval and Levied Charges are applicable. Details of the current value of the Levied Charge, how the Levied Charges were calculated, how the Levied Charge may be escalated, and when payment of the Levied Charge is required can be found on the Infrastructure Charges Notice or the accompanying information notice.

From 1 July 2014, Infrastructure Charges related to the water supply and wastewater network are given by and paid to the South East Queensland Distributor-Retailer Authority, trading as Urban Utilities, and are separate from this Development Approval and the accompanying Infrastructure Charges Notice.

Additional advice about the Infrastructure Charges Notice may be sought from Council's planning section, on (07) 5424 4000 or mail@somerset.qld.gov.au.

Authorisation to connect the approved development to the water supply and wastewater networks and for property service connections require a Water Approval from the South East Queensland Distributor-Retailer Authority, trading as Urban Utilities.

For the approval of a Plan of Subdivision, written evidence from Urban Utilities must be provided to Council to verify that the conditions of any necessary Water Approval have been complied with.

This Development Approval for material change of use does not include an approval for the change of classification or for the commencement of building works under the *Building Act* 1975.

A separate building development approval may be required for change of classification or commencement of building works under the *Building Act 1975*.

Advice should be sought from a Building Certifier (either through a private certification company or through Council's building section) about further development approvals for building works.

This Development Approval does not authorise the installation of advertising devices. Advertising devices (other than billboards or where particular overlays apply) are governed by Council's Local Law No. 1 (Administration) 2011 and Subordinate Local Law No. 1.4 (Installation of Advertising Devices) 2011.

Advertising devices, other than 'permitted advertisements' (as that term is defined in the subordinate local law), require Local Law Approval prior to installation.

Attachments for the Decision Notice include:

- Architectural Drawings Master Plan, Drawing No BP1419/03.01, Issue R, prepared by Jared Poole Design, dated 20 August 2024.
- Construction Staging Plan, Drawing No BP1419/03.02, Issue E, prepared by Jared Poole Design, dated 12 November 2024.
- Setback Plan, Drawing No BP1419/03.03, Issue C, prepared by Jared Poole Design, dated 22 August 2024.
- Carparking Plan, Drawing No BP1419/03.04, Issue C, prepared by Jared Poole Design, dated 22 August 2024.
- Carparking Details, Drawing No BP1419/03.05, Issue C, prepared by Jared Poole Design, dated 22 August 2024.
- Refuse Lift Side Details, Drawing No BP1419/04.02, Issue B, prepared by Jared Poole Design, dated 1 March 2024.
- Clubhouse Perspective, Drawing No BP1419/06.04, prepared by Jared Poole Design, undated.
- Clubhouse Ground Floor Plan, Drawing No BP1419/06.05, Issue C, prepared by Jared Poole Design, dated 22 August 2024.
- Clubhouse First Floor Plan, Drawing No BP1419/06.06, Issue C, prepared by Jared Poole Design, dated 22 August 2024.
- Clubhouse Elevations, Drawing No BP1419/06.07, Issue B, prepared by Jared Poole Design, dated 1 March 2024.

- Clubhouse Elevations, Drawing No BP1419/06.08, Issue B, prepared by Jared Poole Design, dated 1 March 2024.
- Summer House Floor Plan, Drawing No BP1419/06.09, Issue C, prepared by Jared Poole Design, dated 22 August 2024.
- Summer House Elevations, Drawing No BP1419/06.10, Issue B, prepared by Jared Poole Design, dated 1 March 2024.
- Summer House Elevations, Drawing No BP1419/06.11, Issue B, prepared by Jared Poole Design, dated 1 March 2024.
- Artist Impression Typical Streetscape, Drawing No BP1419/07.01, Issue A, prepared by Jared Poole Design, dated 7 March 2024.
- Artist Impression Typical Dwelling, Drawing No BP1419/07.02, Issue A, prepared by Jared Poole Design, dated 7 March 2024.
- Dwelling Type A, Drawing No BP1419/07.03, Issue C, prepared by Jared Poole Design, dated 22 August 2024.
- Dwelling Type B, Drawing No BP1419/07.04, Issue C, prepared by Jared Poole Design, dated 22 August 2024.
- Dwelling Type C, Drawing No BP1419/07.05, Issue C, prepared by Jared Poole Design, dated 22 August 2024.
- Site Plan Lot 70, Drawing No BP1419/07.06, Issue A, prepared by Jared Poole Design, dated 22 August 2024.
- Site Plan Lot 147, Drawing No BP1419/07.07, Issue A, prepared by Jared Poole Design, dated 22 August 2024.
- Site Plan Lot 211, Drawing No BP1419/07.08, Issue A, prepared by Jared Poole Design, dated 22 August 2024.
- Site Management Plan, Proposed Retirement Facility, Ref S23-163, Revision A, prepared by Westera Partners dated 12 July 2024.
- Stormwater Management Report Proposed Retirement Facility, reference S23-163, Revision B, prepared by Westera Partners dated 12 July 2024.
- Statement of Landscape Intent, Project Reference L23149 Revision E, prepared by Zone Landscape Architecture, dated 22 August 2024
- Operational Waste Management Plan, prepared by TTM, Revision 3, dated 22 April 2024
- 51 Overlander Avenue Flood Impact Assessment, Reference R30159.001.03, prepared by Water Engineering Partners Pty Ltd, dated 21 August 2024
- Acoustic Report, prepared by Acoustic Works, Reference 2023437 R01F Hedley Drive Woolmar, dated 13 June 2024
- Traffic Engineering Report, prepared by TTM, Revision 2, dated 6 March 2024.
- State Assessment and Referral Agency referral agency response 2404-39872 SRA dated 26 September 2024

This completes the report for Development Application DA24751.





PO BOX 42. ISLE OF CAPRI, QLD. 4217



Living Gems*

20.08.24 Footpath added 14.08.24 Race course re

4.08.24 Race course remove 4.06.24 Layout updated PROJECT Proposed New Development
Hedley Drive, Woolmar, Kilcoy Qld 4515

CLIENT LivingGems

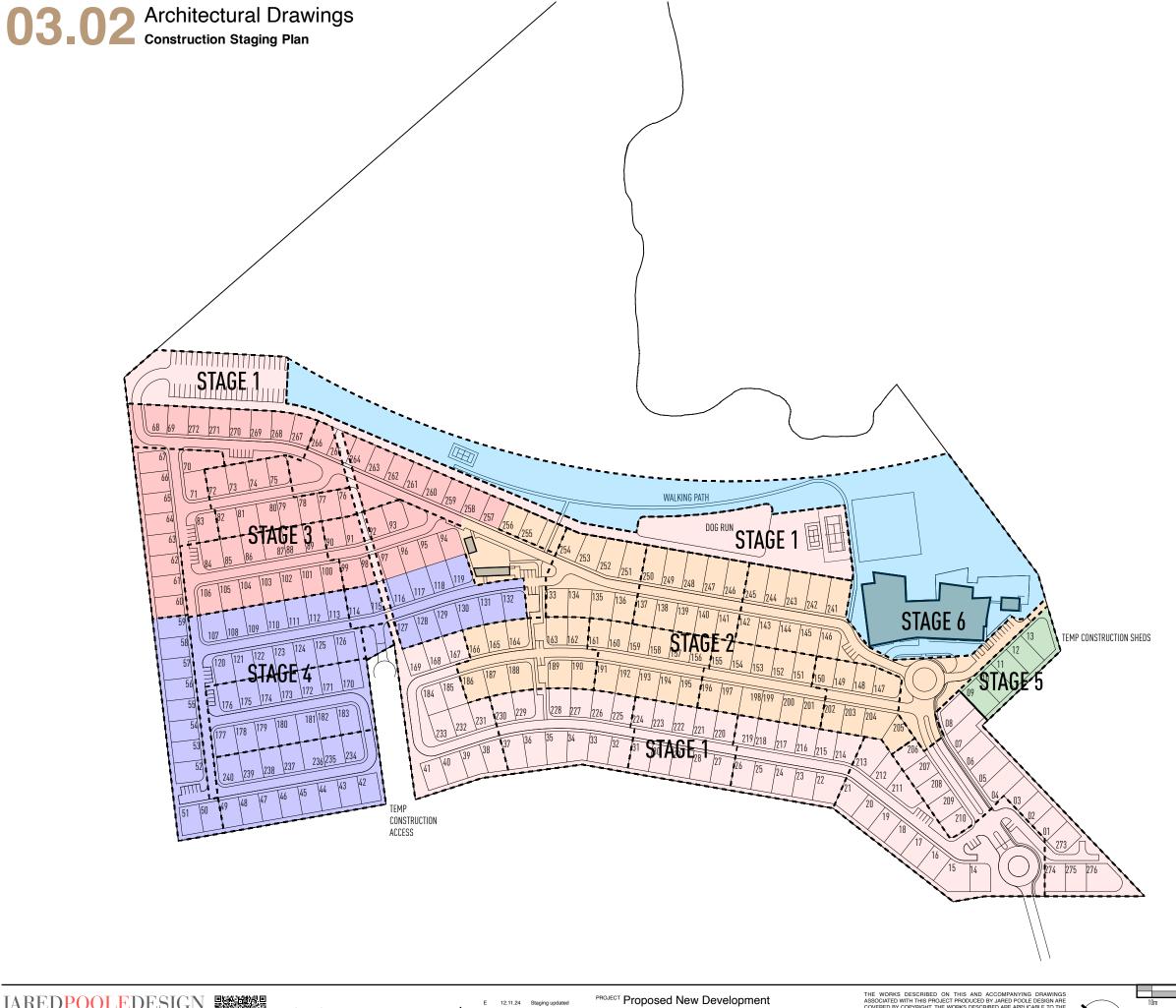
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Om 50m

Master Plan







LEVEL 1 33 ELKHORN AVENUE



Hedley Drive, Woolmar, Kilcoy Qld 4515

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LEGEND

- - SUB STAGING LINE

STAGE 1

STAGE 2

STAGE 4

STAGE 5

STAGE 6

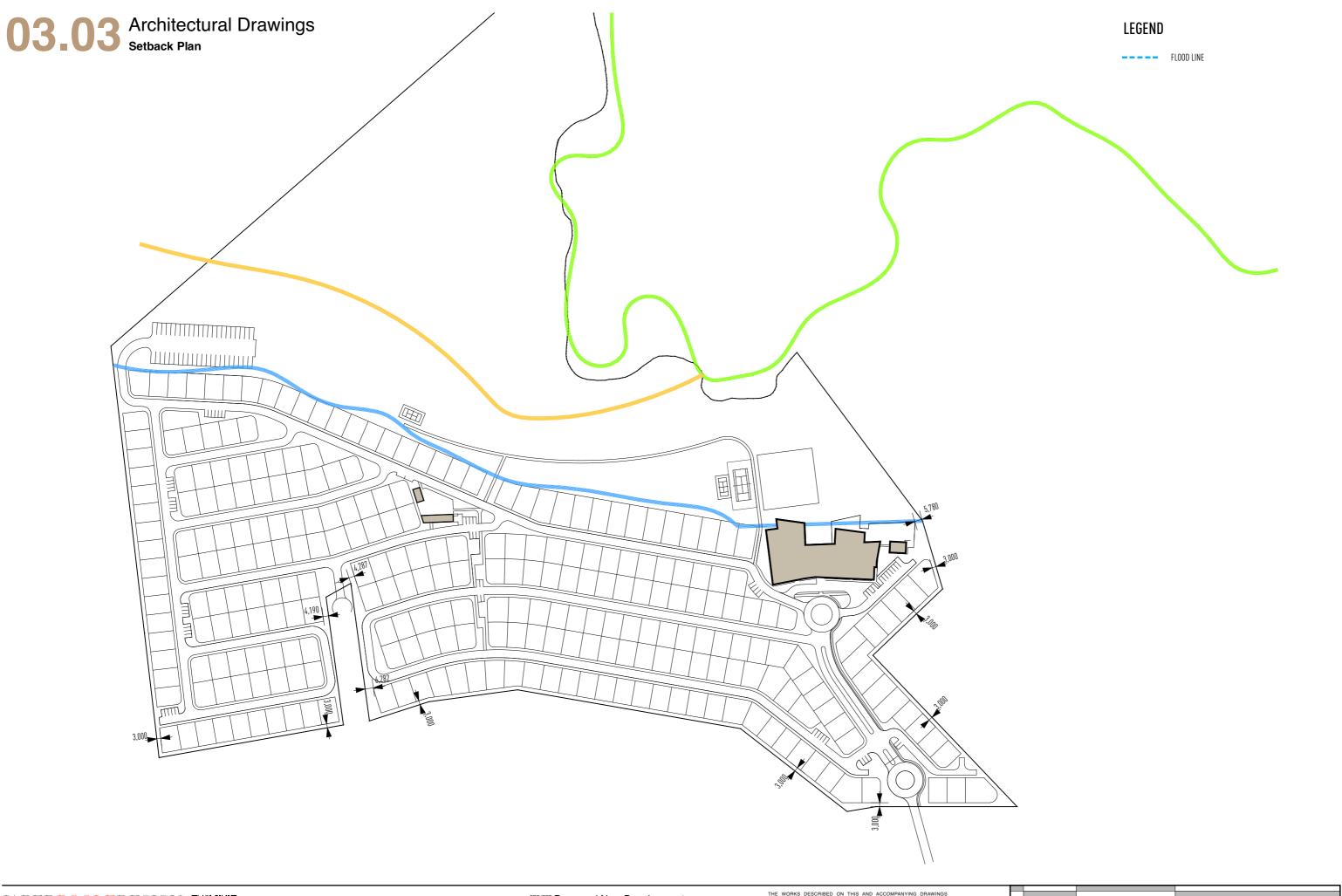
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63 LOTS

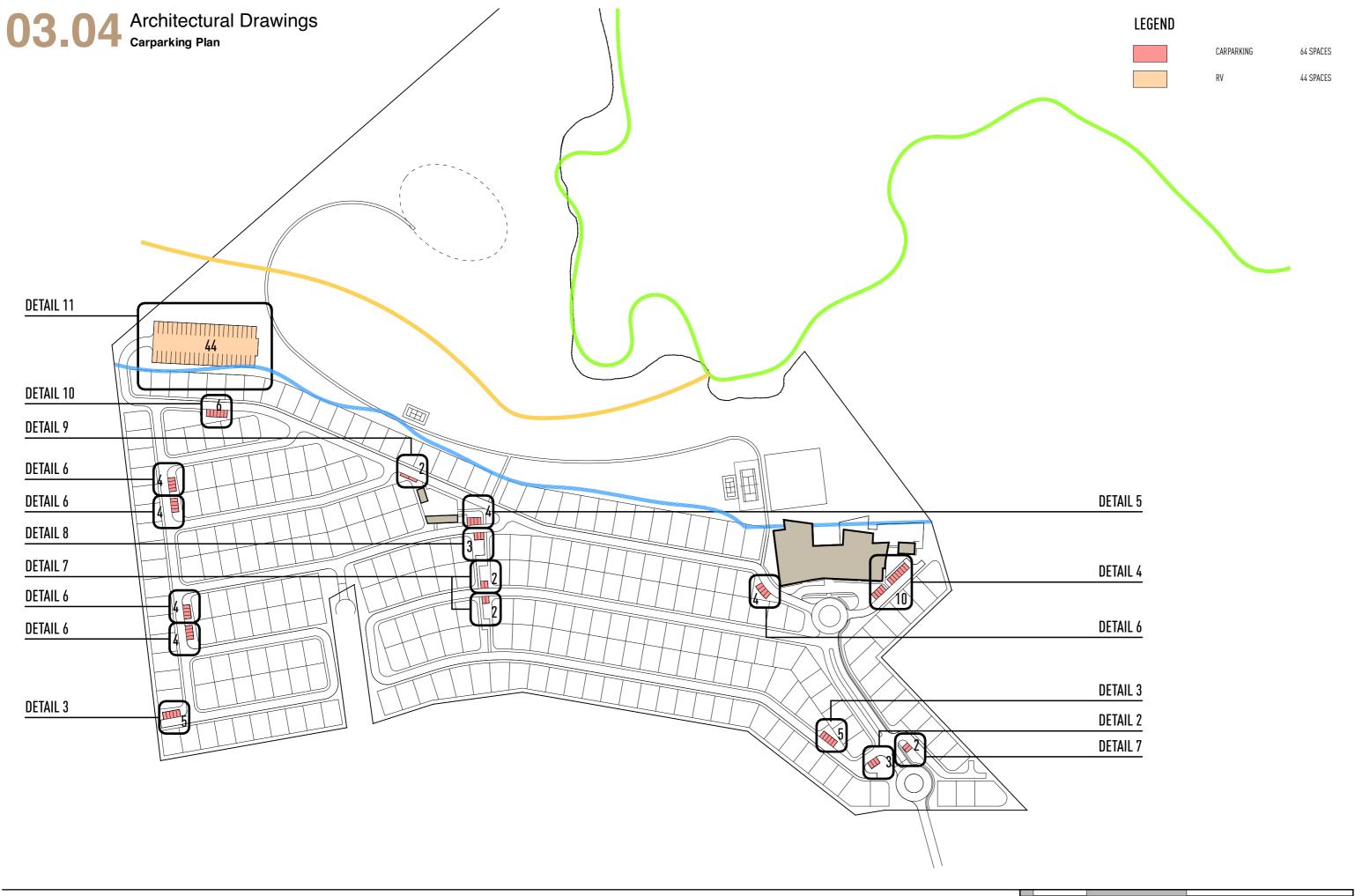
65 LOTS

5 LOTS

O LOTS









PROJECT Proposed New Development Hedley Drive, Woolmar, Kilcoy Qld 4515 **CLIENT** LivingGems

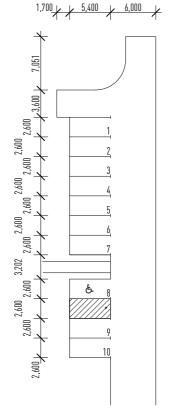
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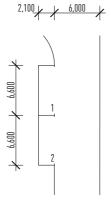




Architectural Drawings Carparking Details



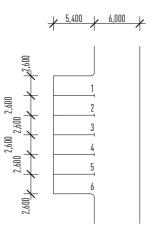
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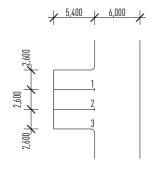


DETAIL 6 - (x5) CARPARK SPACES

¥ 5,400 ¥ 6,000 ¥

DETAIL 9 - (x1) CARPARK SPACES

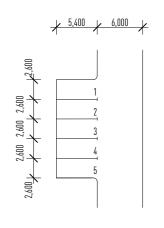


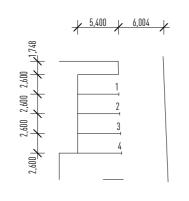


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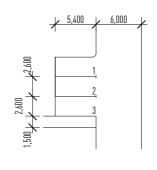
DETAIL 7 - (x2) CARPARK SPACES







DETAIL 4 (x1) CARPARK SPACES



DETAIL 11 - (x1) RV PARK SPACES

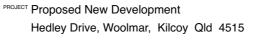
DETAIL 3 - (x2) CARPARK SPACES

DETAIL 5 - (x1) CARPARK SPACES

DETAIL 8 - (x1) CARPARK SPACES









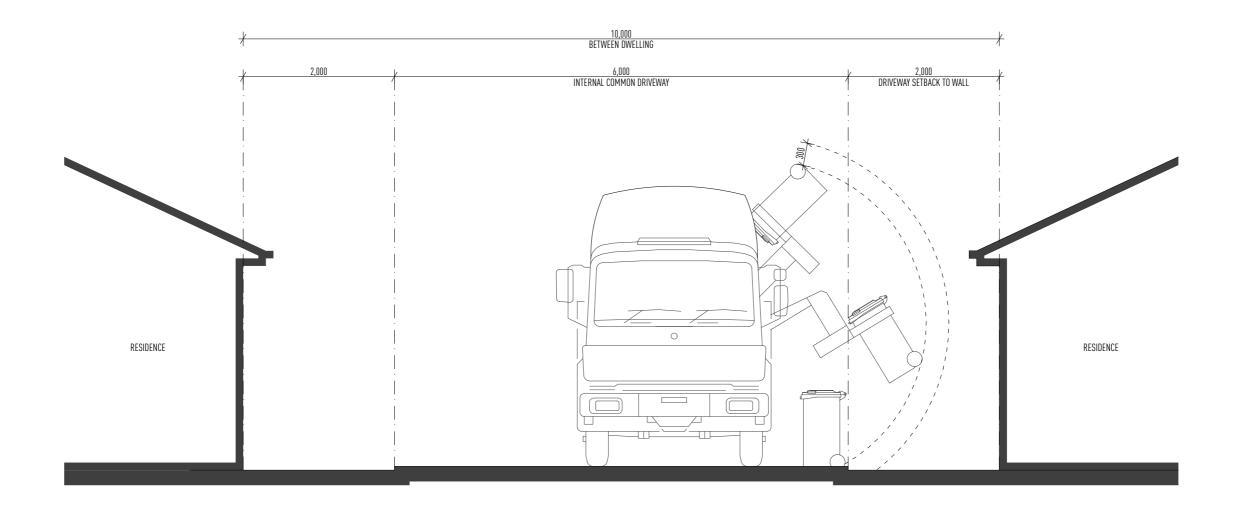
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CLIENT LivingGems

DRAWING TITLE BP1419/03.05

43.500 43.500

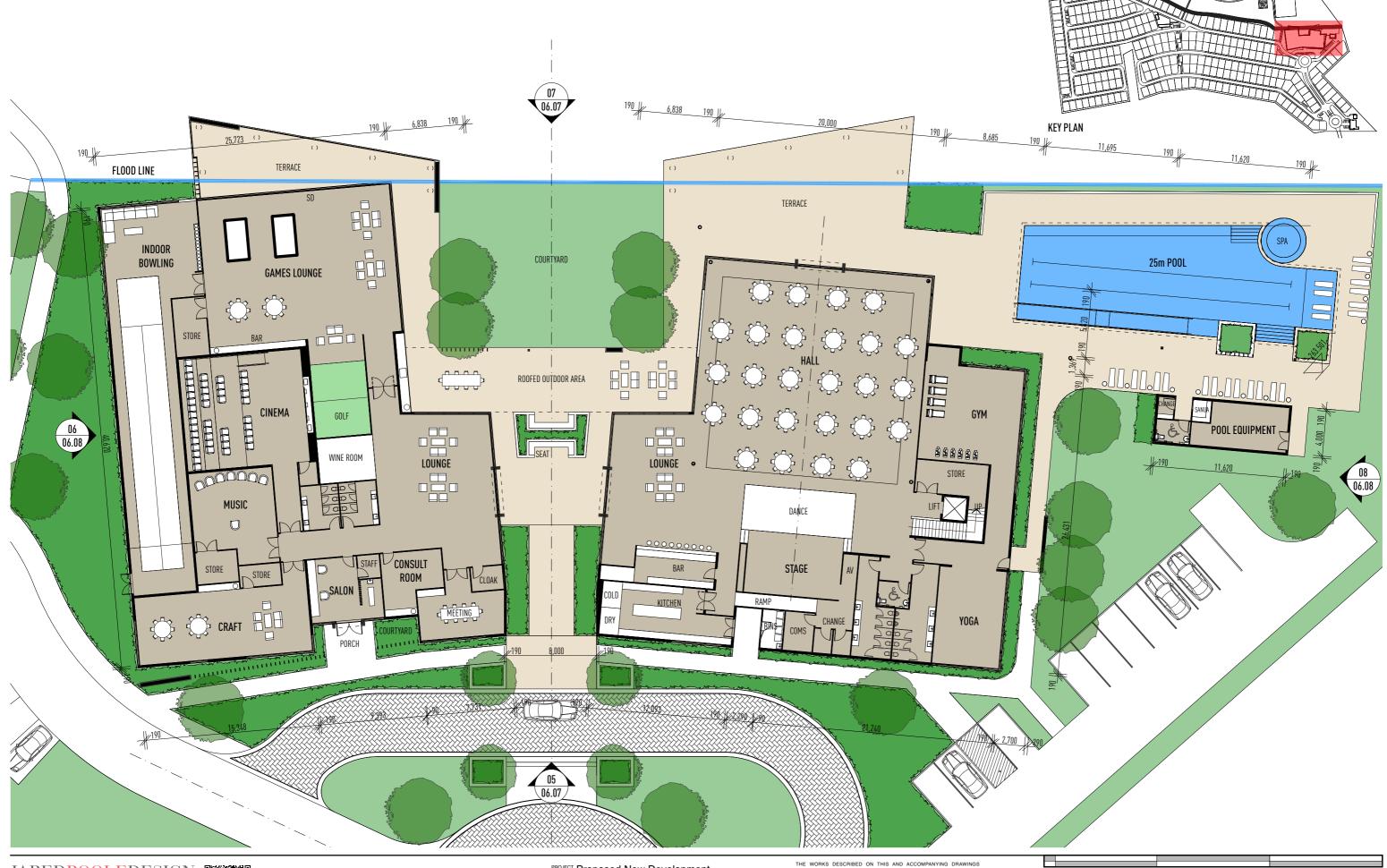
04.02 Architectural Drawings Refuse Vehicle Side Lift Clearance



06.04 Architectural Drawings Clubhouse Perspective



06.05 Architectural Drawings Clubhouse - Ground Floor Plan



JAREDPOOLED
LEVEL 1 33 ELKHORN AVENUE
SURFERS PARADISE, OLD. 4217 AUSTRALIA

EMA

PO BOX 42. ISLE OF CAPRI, QLD. 4217



Living Gems*

Hedley Drive

PROJECT Proposed New Development
Hedley Drive, Woolmar, Kilcoy Qld 4515

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DRAWING TITLE BP1419/06.05



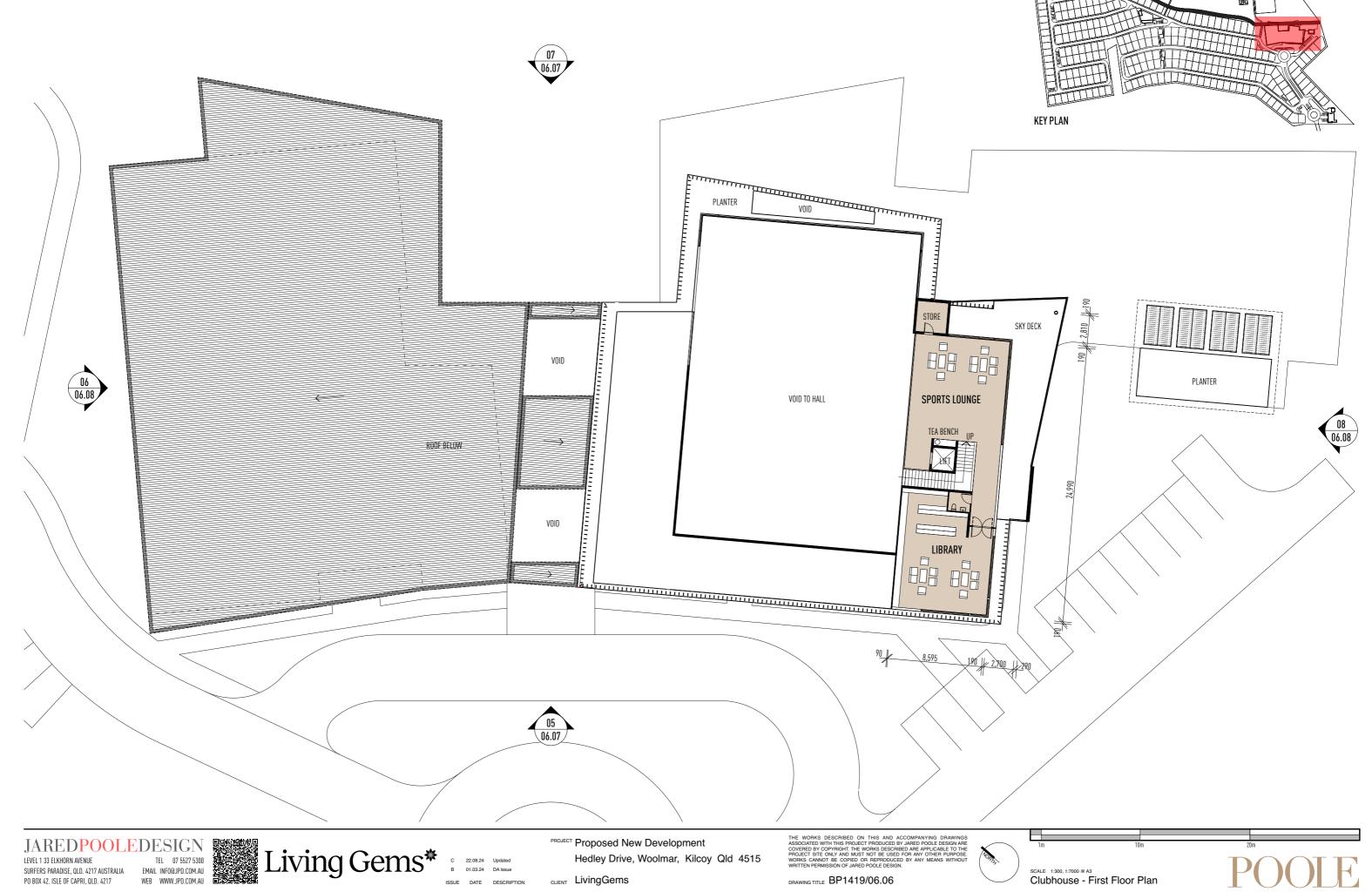
SCALE 1:300, 1:7000 @ A3

Clubhouse - Ground Floor Plan



06.06 Architectural Drawings Clubhouse - First Floor Plan

PO BOX 42. ISLE OF CAPRI, QLD. 4217



DRAWING TITLE BP1419/06.06

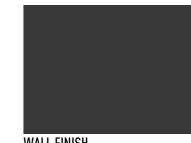
Clubhouse - First Floor Plan



ELEVATION 5



ELEVATION 7



WALL FINISH
RENDERED TEXTURE COATED WITH PAINT FINISH,
COLOUR: RESENE RELIC



ROOF CLADDING STANDING SEAM METAL ROOF SHEETING, RIB HEIGHT 44mm, TRAY WIDTH 445mm. COLOUR: MONUMENT, COLORBOND



WALL CLADDING

JAMES HARDIE AXON CLADDING

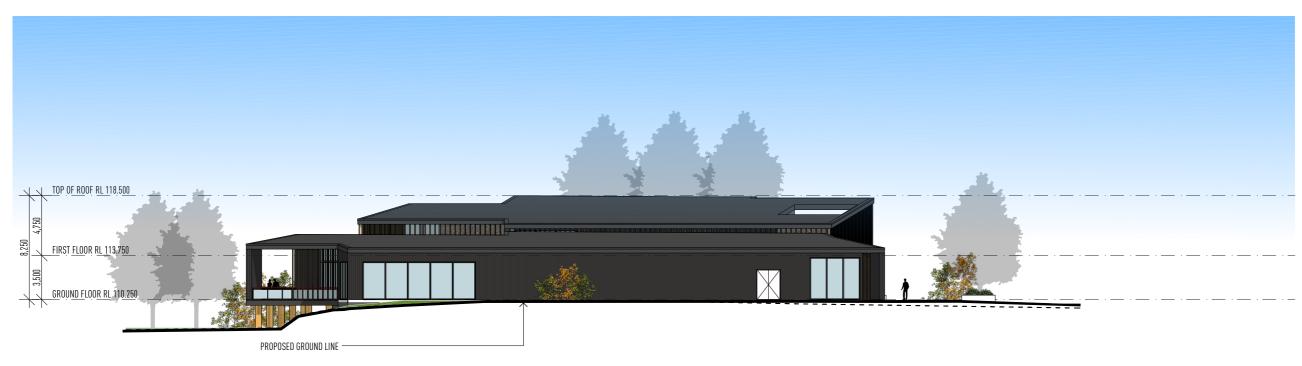
VERTICAL JOINT 133mm SPACING
COLOUR: RESENE QUARTER IRONSAND



ALUMINIUM SCREEN
ALUMINIUM SCREEN BATTEN WITH TIMBER LOOK
COLOUR: KNOTWOOD HINOKI,



WALL CLADDING FEATURE
EXTERIOR STONE VINEER FIXED TO BLOCKWORK WALL
COLOUR: NATURAL WEATHERED EDGE



ELEVATION 6



ELEVATION 8

PO BOX 42. ISLE OF CAPRI, QLD. 4217





sue

PROJECT Proposed New Development

Hedley Drive, Woolmar, Kilcoy Qld 4515

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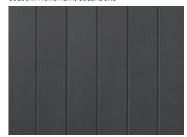




RENDERED TEXTURE COATED WITH PAINT FINISH, COLOUR: RESENE RELIC



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WALL CLADDING

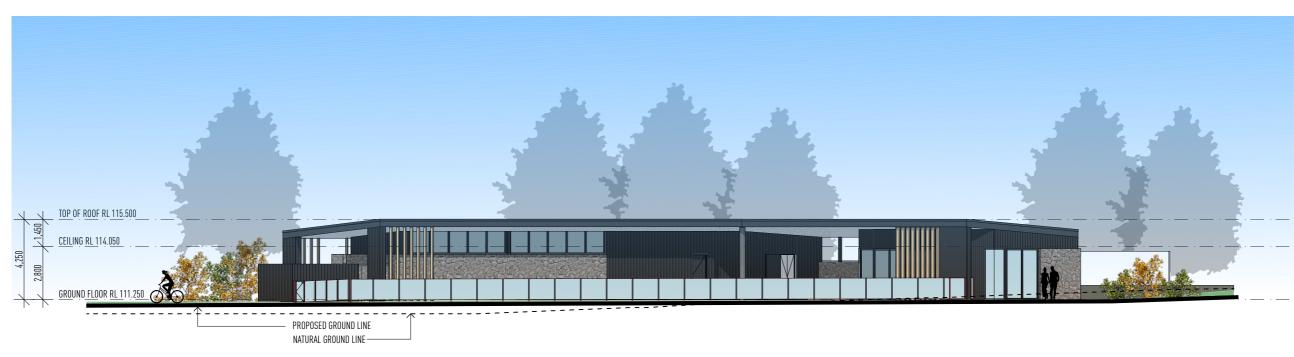
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VERTICAL JOINT 133mm SPACING COLOUR: RESENE QUARTER IRONSAND



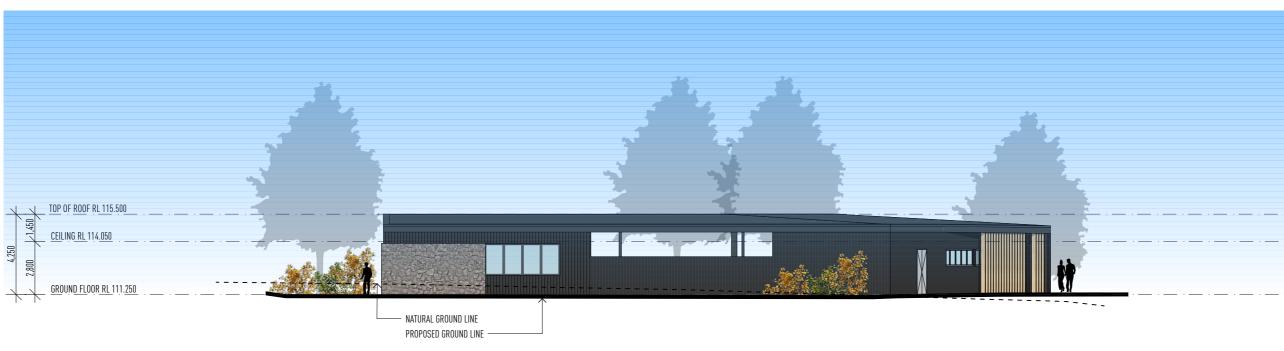
ALUMINIUM SCREEN
ALUMINIUM SCREEN BATTEN WITH TIMBER LOOK COLOUR: KNOTWOOD HINOKI,



WALL CLADDING FEATURE EXTERIOR STONE VINEER FIXED TO BLOCKWORK WALL COLOUR: NATURAL WEATHERED EDGE



ELEVATION 9



ELEVATION 10

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JARED<mark>POOLE</mark>DESIGN TEL 07 5527 5300 EMAIL INFOIGUPD.COM.AU WEB WWW.JPD.COM.AU LEVEL 1 33 ELKHORN AVENUE SURFERS PARADISE, QLD. 4217 AUSTRALIA



PROJECT Proposed New Development Hedley Drive, Woolmar, Kilcoy Qld 4515

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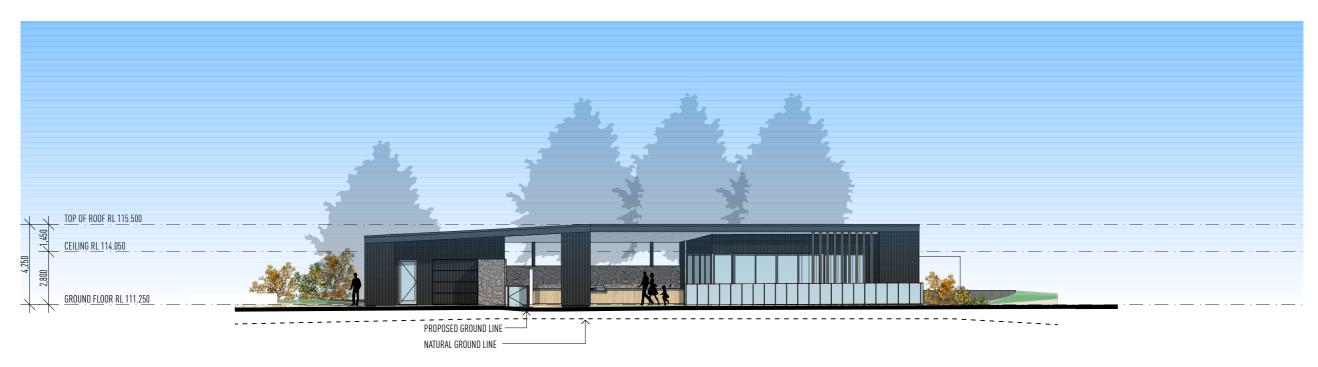
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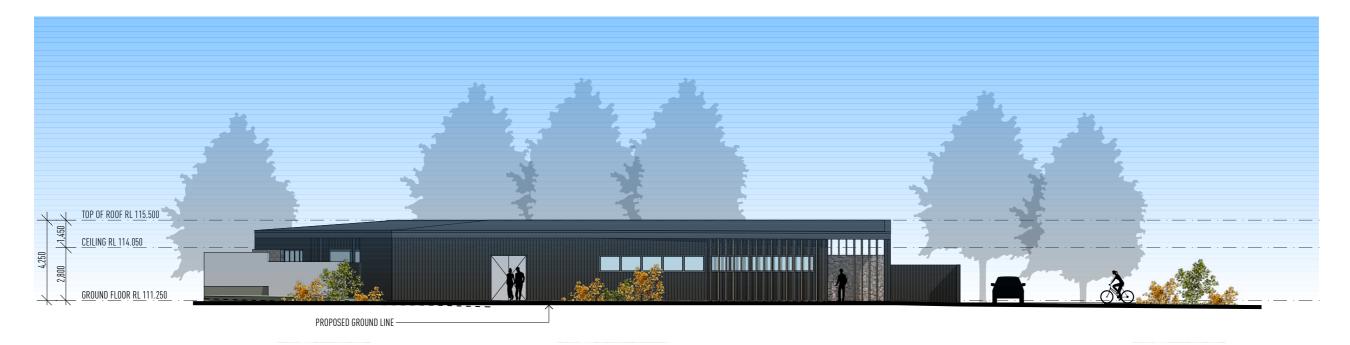
SCALE 1:200 @ A3 Summer House - Elevations



Architectural Drawings Summer House - Elevations

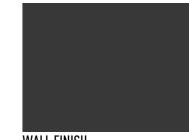


ELEVATION 11



ELEVATION 12

MATERIAL LEGEND



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WALL CLADDING
JAMES HARDIE AXON CLADDING VERTICAL JOINT 133mm SPACING COLOUR: RESENE QUARTER IRONSAND



ALUMINIUM SCREEN ALUMINIUM SCREEN BATTEN WITH TIMBER LOOK COLOUR: KNOTWOOD HINOKI,



WALL CLADDING FEATURE EXTERIOR STONE VINEER FIXED TO BLOCKWORK WALL COLOUR: NATURAL WEATHERED EDGE

Architectural Drawings Artist Impression Typical Streetscape



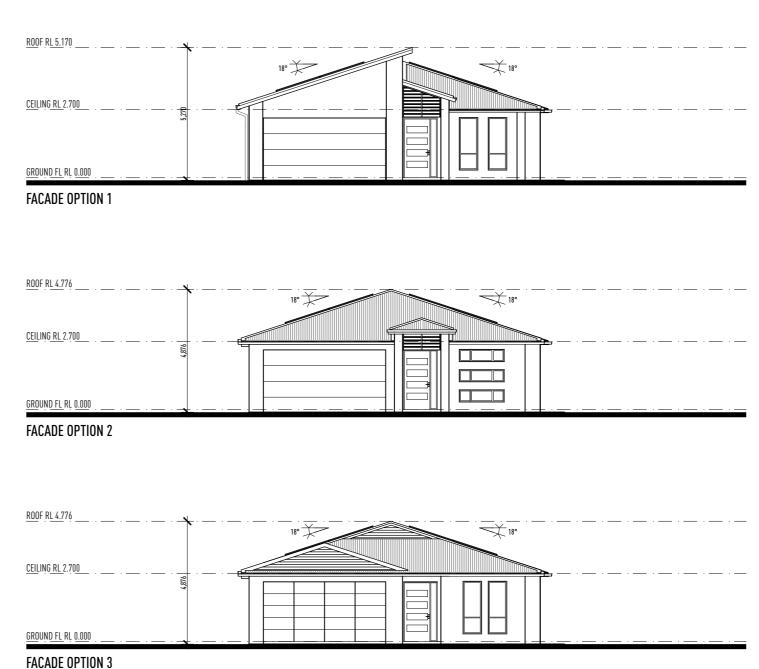


07.02 Architectural Drawings Artist Impression - Typical Dewlling

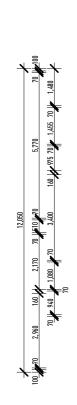


07.03 Architectural Drawings Dwelling Type A



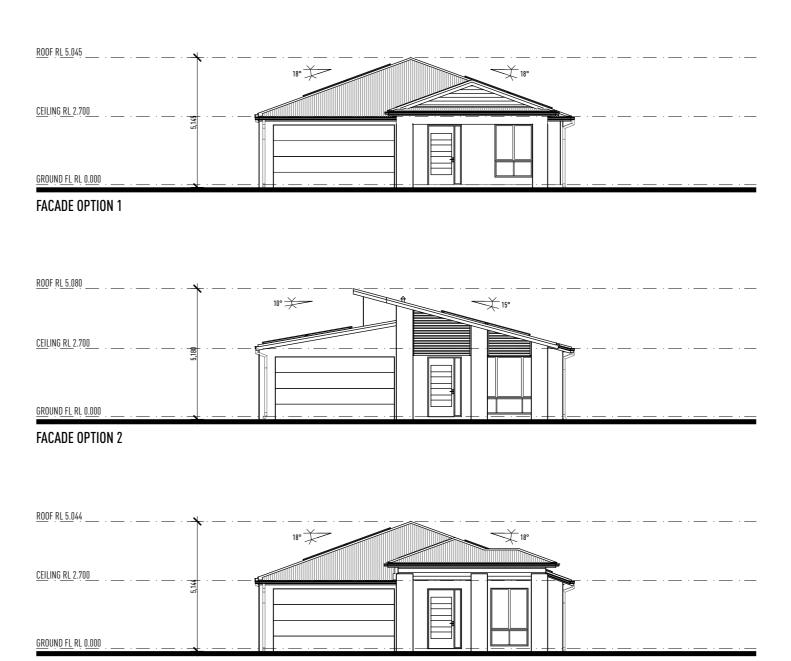








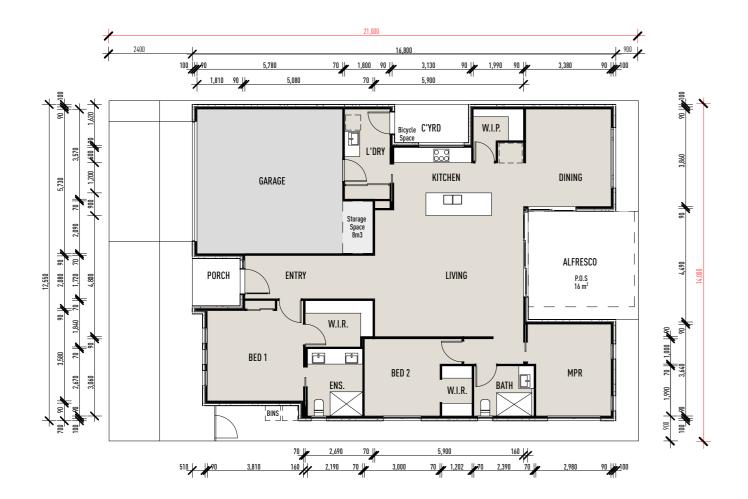




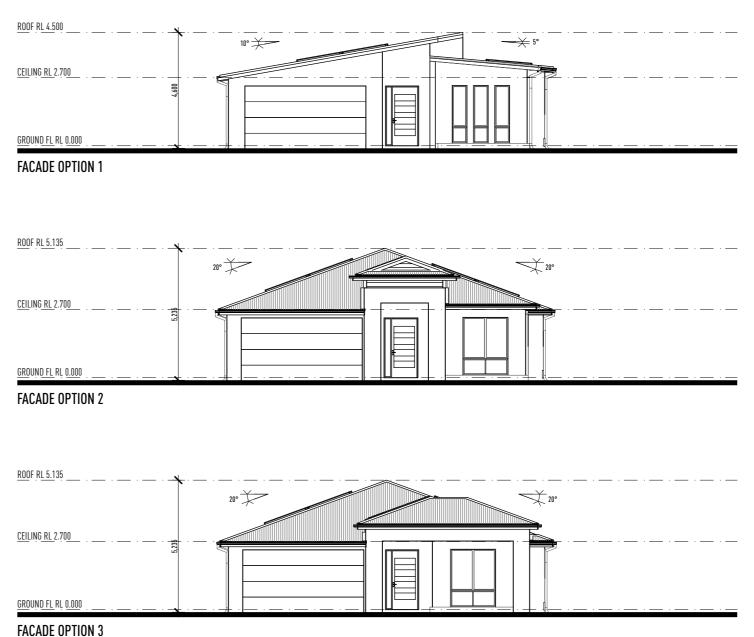
FACADE OPTION 3



07.05 Architectural Drawings Dwelling Type C



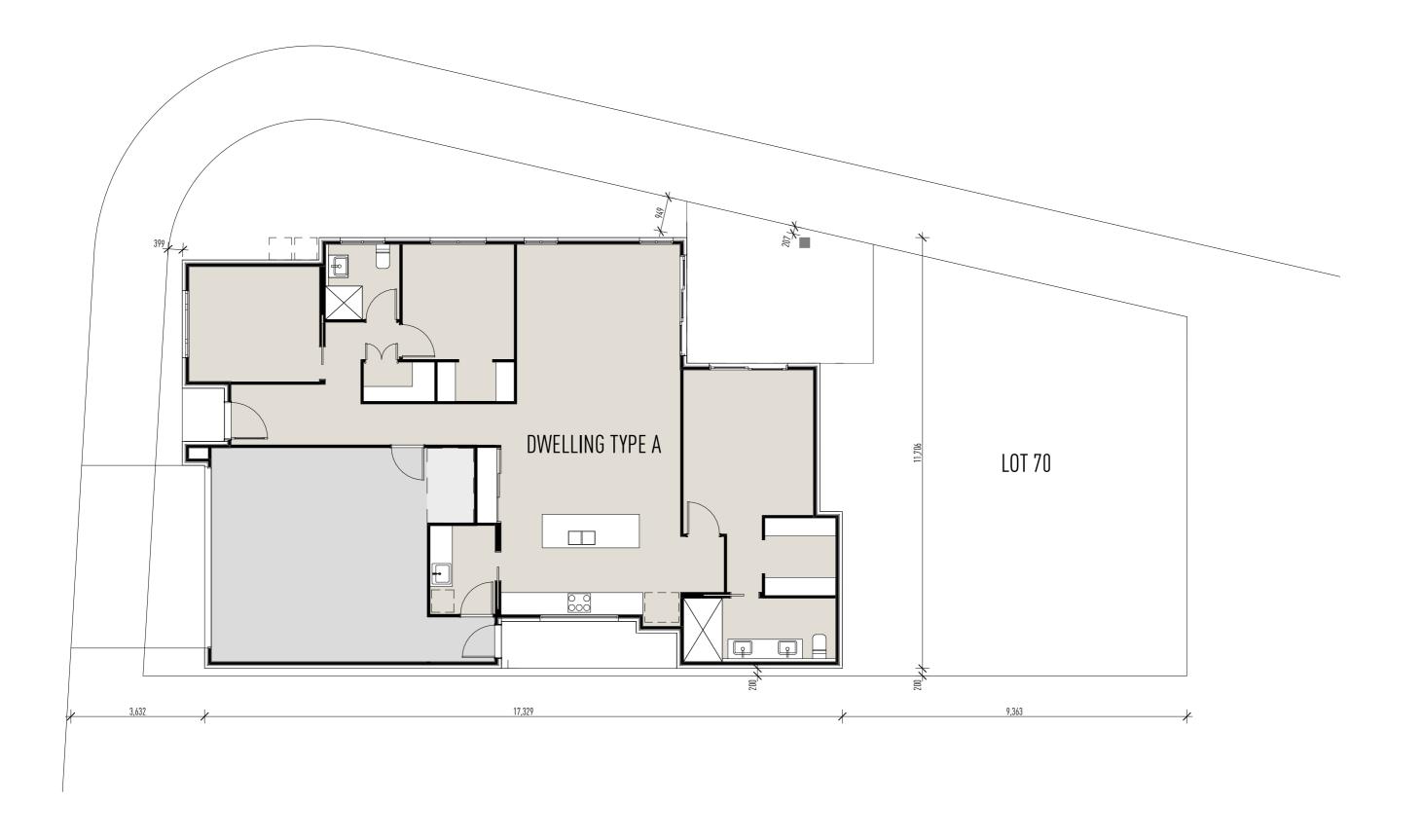




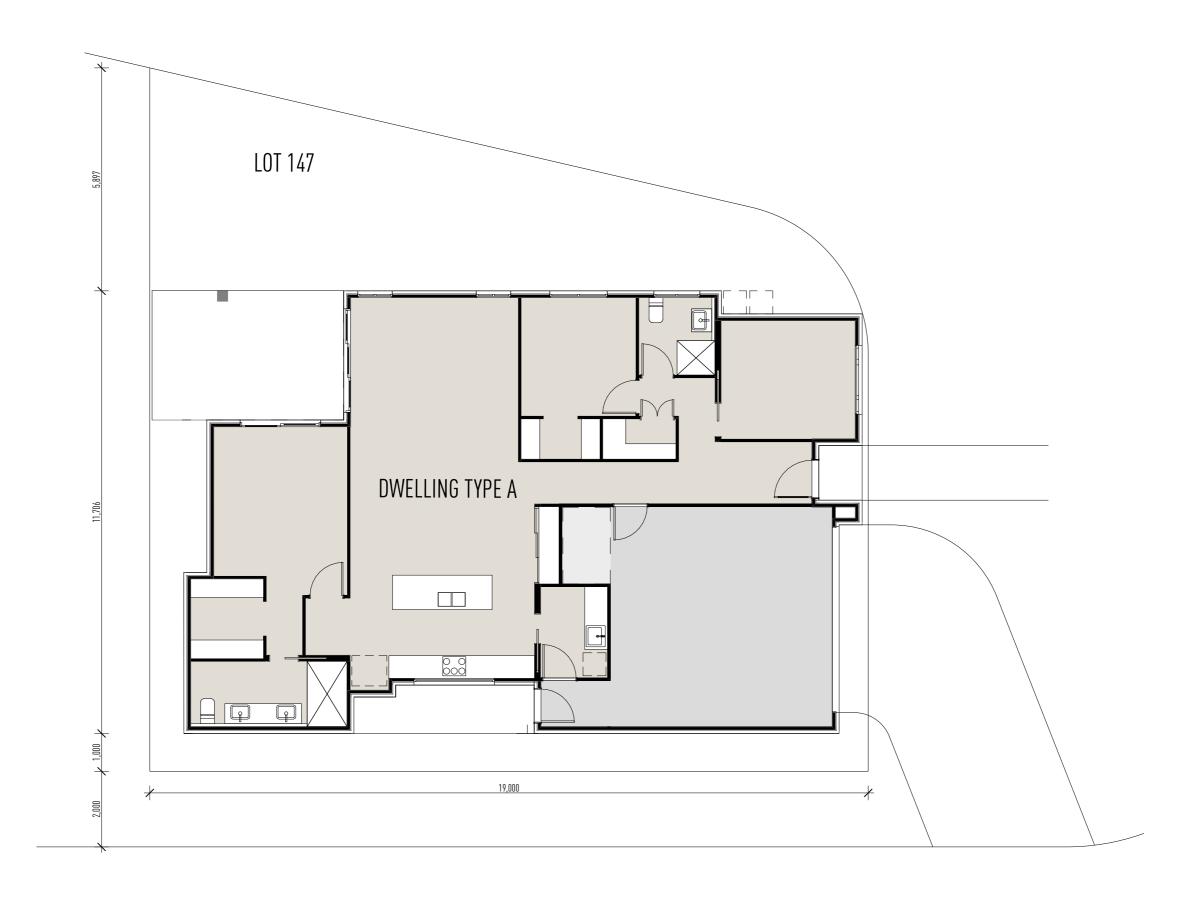


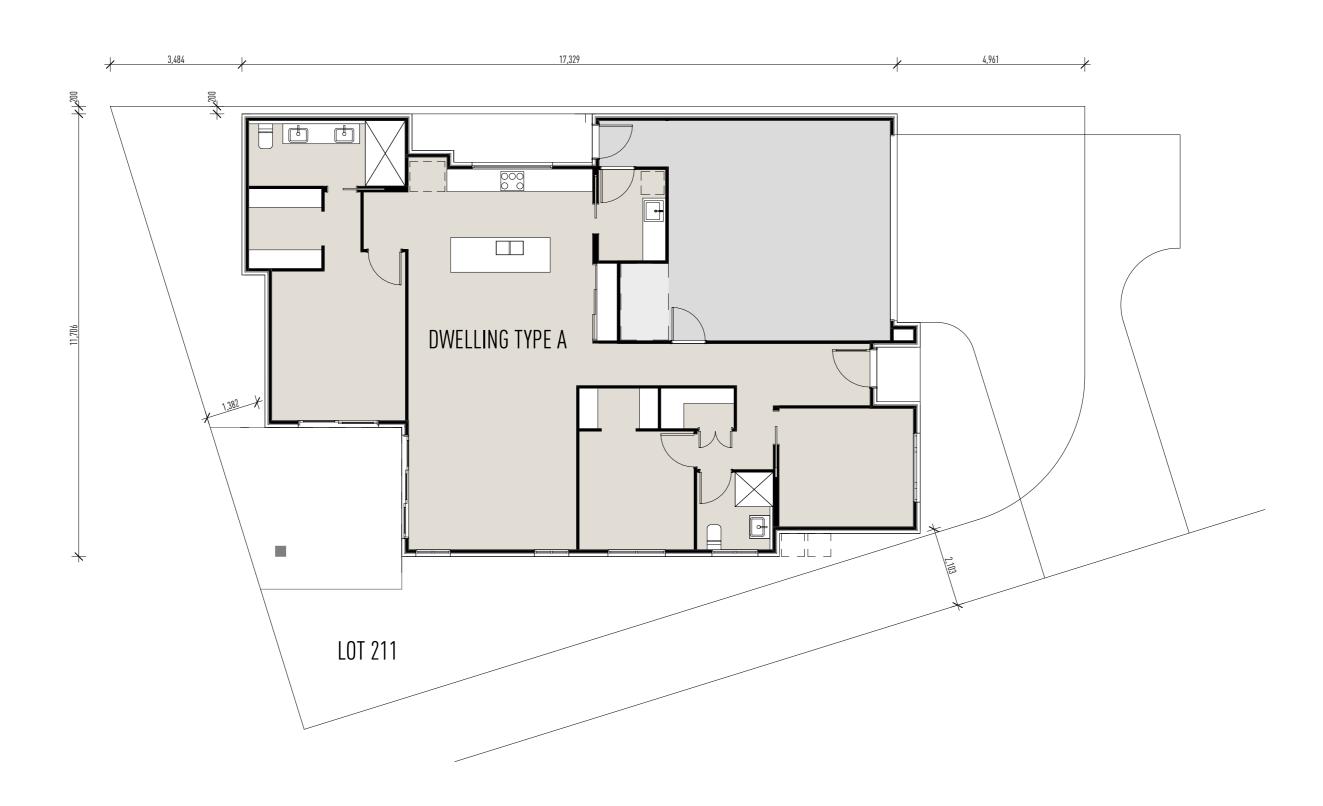


O7.06 Architectural Drawings Site Plan - Lot 70



O7.07 Architectural Drawings Site Plan - Lot 147







Site Management Plan

Proposed Retirement Facility

51 Overlander Avenue Woolmar

For: Ruby Developments Pty Ltd

12 July 2024

Ref: S23-163



CERTIFIED QUALITY ASSURANCE - ISO AS/NZS 9001, 4801 & 14001

SUNSHINE COAST

Suite 2, Norval Corporate Centre 13 Norval Court

Maroochydore QLD 4558

P: 0431 803 337 F: 07 5646 5857

PO Box 2016

Fortitude Valley BC, QLD 4006

E: sunshinecoast@westerapartners.com.au

BRISBANE

Level 2, 33 Longland Street Newstead QLD 4006

P: 07 3852 4333 F: 07 5646 5857

PO Box 2016

Fortitude Valley BC, QLD 4006

E: brisbane@westerapartners.com.au

COLD COAST

Level 3, 17 Welch Street Southport QLD 4215

P: 07 5571 1599 F: 07 5646 5857

PO Box 6138

Southport Mail Centre 9726

E: goldcoast@westerapartners.com.au

NORTHERN NSW

11 Sailfish Way Kingscliff NSW 2487

P: 02 6674 8047 F: 07 5646 5857

PO Box 1131 Kingscliff NSW 2487

E: nsw@westerapartners.com.au



DOCUMENT INFORMATION

Project Name: Proposed Retirement Facility

Westera Partners Ref: \$23-163

Westera Partners Contact:

Jared Hill Phone: 0437 335 403

Email: jaredh@westerapartners.com.au

Certified for Issue by:

Jared Hill RPEQ 19891

12 July 2024

Document Control:

Revision	Author		Checke	ed for Issue	Date
А	J. Hill	RPEQ 19891	J. Hill	RPEQ 19891	12.07.2024

This report has been prepared for Ruby Developments Pty Ltd for the purpose of accompanying a Development Application to Somerset Regional Council. This report must only be used by Ruby Developments Pty Ltd for this purpose and must not be used or relied upon by any other person for any other purpose.

The assessment, conclusions or recommendations in this report are based on conditions encountered and information received at the time of preparing the report and may not be relied upon as site conditions or operations vary over time.



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1 INTRODUCTION

Westera Partners Pty Ltd has been commissioned by Ruby Developments Pty Ltd to prepare an Site Management Plan to accompany a development application for a proposed Retirement Facility Development.

The proposal involves 276 villas including associated internal access roads, carparking and ground level features. The primary access point will be provided from an extension to Travellers Rest.

This report documents how the site will be serviced by the necessary infrastructure in accordance with Somerset Regional Council's (SRC's) requirements.

2 SITE DESCRIPTION

2.1 Location and Land Use

The proposed development site is located at 51 Overlander Avenue, also known as Lots 501 - 503 on SP231462 and Lot 915 on SP313141. The site area is approximately 22.1Ha with the development proposal to occur over the approximately 12.1Ha portion of the site that has been recently filled as part of a separate earthworks OPW application. The site is mostly vacant, cleared rural land with a rural dwelling and ancillary structures over a portion of the site. Following earthworks, the development footprint portion of the site falls at minimal grade to the south-west towards the existing lagoon system.

The site is bound by vacant rural land to the north, east and west and the existing parkland with aforementioned Lagoons to the south-west and the Kilcoy Showgrounds to the south-east. Refer to Figure 1 for an indicative site location and Appendix C for detail site survey information.

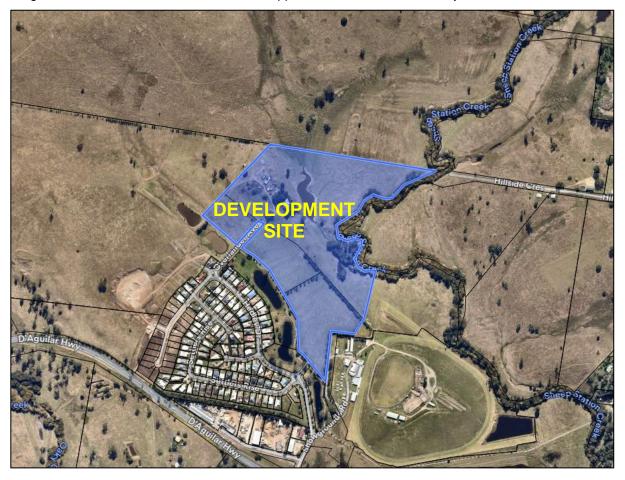


Figure 1 – Indicative site location (Nearmap, 2024)



3 SITE ANALYSIS

Topography

The site has three distinct areas with varying topography. The south portion of the site has been recently filled to achieve flood immunity and is generally flat. The north portion of the site has more slope but is generally not more than 5.0% grade. The east portion of the site along Sheep Station Creek is also generally flat. There are steeper embankments on the site where these regions interface with slopes of between 25% & 35%. Refer to the site detail survey and engineering plans within Appendix C & B respectively.

Drainage

The site generally falls to either the existing waterway to the south-west which is broken into a series of ponds or to the east towards Sheep Station Creek. An existing pond has recently been excavated on site as part of recent fill exercise. Further information on stormwater management & flooding can be found in separate Stormwater Management Report by Westera Partners or separate Flood Reporting by WEP.

Vegetation

The site comprises cleared rural land currently with vegetation generally limited to the Sheep Station Creek bank. Refer to separate Landscape documentation for further information on intended planting activities as part of the proposed development.

Structures

The site is currently occupied by an existing rural dwelling and associated ancillary structures. The development proposal is for 272 retirement villas & associated community facilities. The eastern, low lying portion of the site will generally remain unimproved.

Animals

It is assumed that the site was previously occupied by farm animals though the exact intent is not fully understood. There will not be any ongoing farm activities including keeping of animals on site following development.

Earthworks

The site has recently undergone significant earthworks operations to establish the flood free platform. Further earthworks is anticipated to be undertaken to establish building pads for the villas and minor compensatory earthworks for the proposed site facilities. Refer to the engineering plans within Appendix B for further information.

Wastewater

The site is currently connected (or able to connect) to Urban Utilities sewerage infrastructure. No on site treatment or irrigation is proposed with all sanitary flows to be directed to the existing sewerage infrastructure.



4 SITE MANAGEMENT PLAN

Objectives

This plan has been prepared to provide guidelines for construction works and ongoing use of the site to ensure the water quality objectives that apply as a result of being within a water resource catchment are achieved. As the site is for residential use, there is considered to be minimal risk for the site to adversely impact water quality off site.

Construction Phase

All construction works on site will need to be undertaken in accordance with a CPESC certified erosion and sediment control plan for the specific works. Further information can be found within separate Stormwater Management Report by Westera Partners.

Operational Phase

The site is generally considered in two parts for the purposes of the water quality modelling undertaken as part of the separate Stormwater Management Report by Westera Partners. The development footprint has been assessed in detail through use of MUSIC modelling to ensure that the water resource water quality treatment objectives are achieved. Proprietary treatment devices are proposed within the underground tanks along with filter basket inserts to achieve this along with a small bioretention basin to the RV storage area.

The low lying east portion of the site is generally unchanged as part of the development. It is generally grassed and considered to present little to no risk in terms of water quality impacts off site.

Maintenance

The site operator will be required to enter into a maintenance agreement with the proprietary treatment supplier for the lifetime of the development to ensure that the water quality intent continues to be achieved. The bioretention basin will also require regular maintenance during the life of the development to ensure it continues to function as intended.

Monitoring

As well as the regular ongoing maintenance of water quality treatment assets, the owner should ensure they conduct audits of the stormwater discharging off site and arrange for testing if concerns arise.



5 APPENDICES

Appendix A - Dial Before You Dig Information

To: Jared Hill
Phone: Not Supplied
Fax: Not Supplied

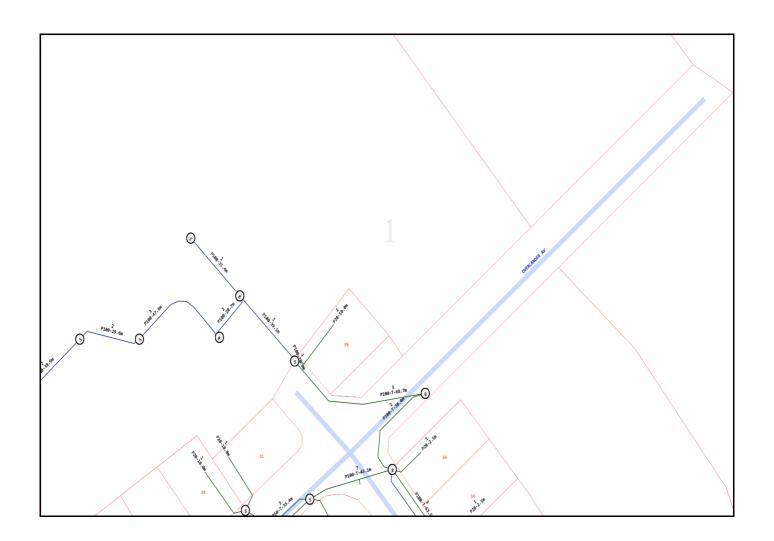
Email: jaredh@westerapartners.com.au

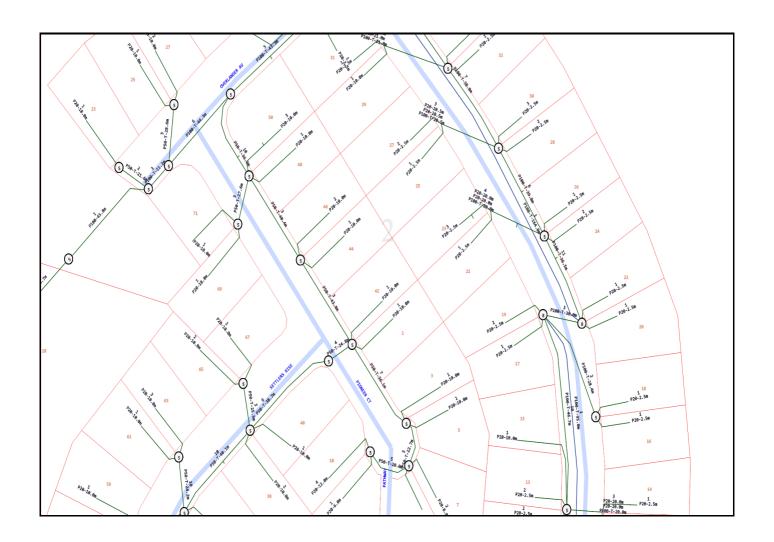
Dial before you dig Job #:	35838950	DIAL BEFORE
Sequence #	234324820	YOU DIG
Issue Date:	19/01/2024	www.1100.com.au
Location:	Lot 902 Hedley Drive , Woolmar , QLD , 4515	

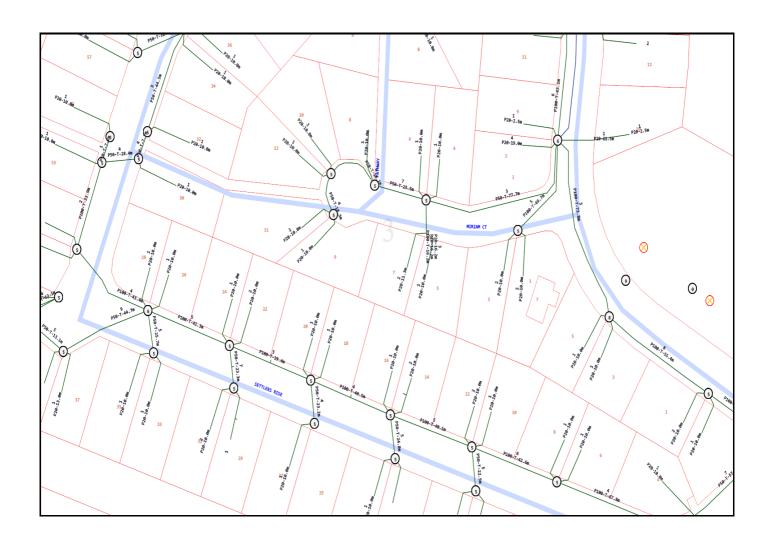
Indicative Plans

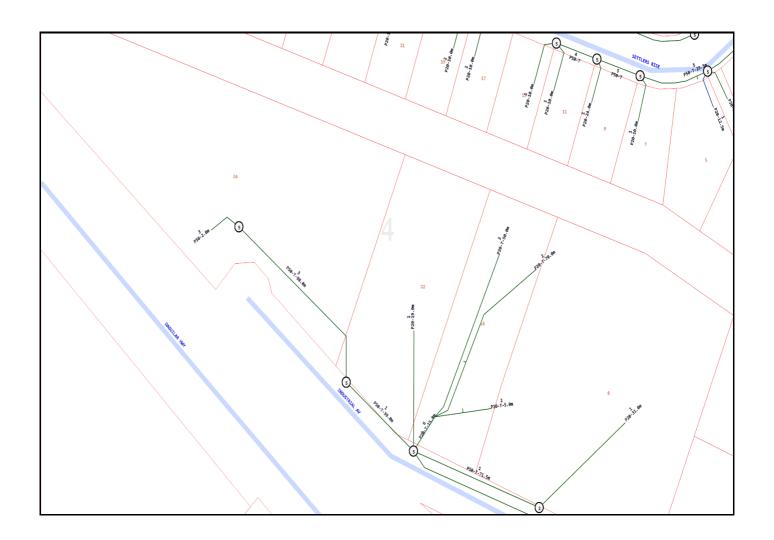
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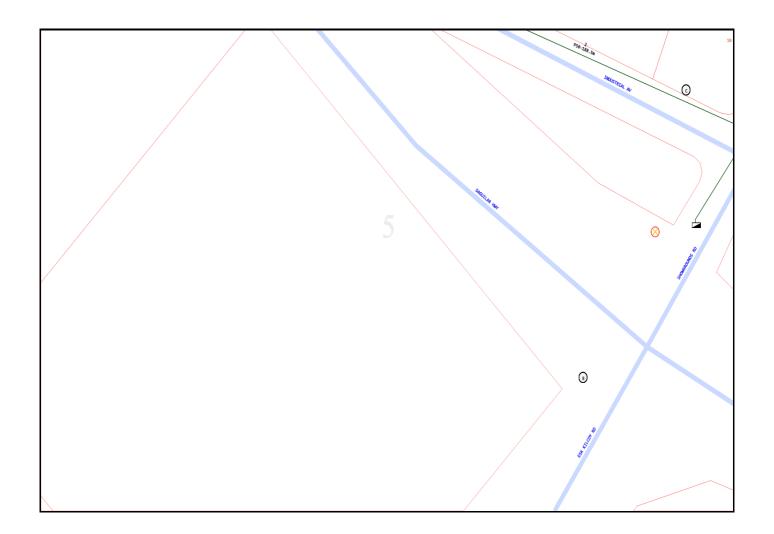
-+-	LEGEND nbn (i)	
34	Parcel and the location	
3	Pit with size "5"	
(2E)	Power Pit with size "2E". Valid PIT Size: e.g. 2E, 5E, 6E, 8E, 9E, E, null.	
	Manhole	
\otimes	Pillar	
PO - T- 25.0m P40 - 20.0m	Cable count of trench is 2. One "Other size" PVC conduit (PO) owned by Telstra (-T-), between pits of sizes, "5" and "9" are 25.0m apart. One 40mm PVC conduit (P40) owned by NBN, between pits of sizes, "5" and "9" are 20.0m apart.	
-3 10.0m 9-	2 Direct buried cables between pits of sizes ,"5" and "9" are 10.0m apart.	
<u>-0</u> ———	Trench containing any INSERVICE/CONSTRUCTED (Copper/RF/Fibre) cables.	
- 9 9	Trench containing only DESIGNED/PLANNED (Copper/RF/Fibre/Power) cables.	
- 9 9-	Trench containing any INSERVICE/CONSTRUCTED (Power) cables.	
BROADWAY ST	Road and the street name "Broadway ST"	
Scale	0 20 40 60 Meters 1:2000 1 cm equals 20 m	

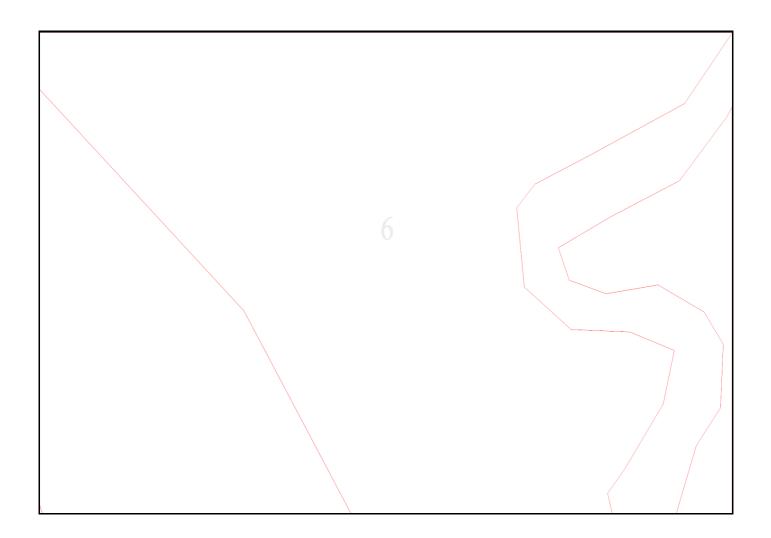


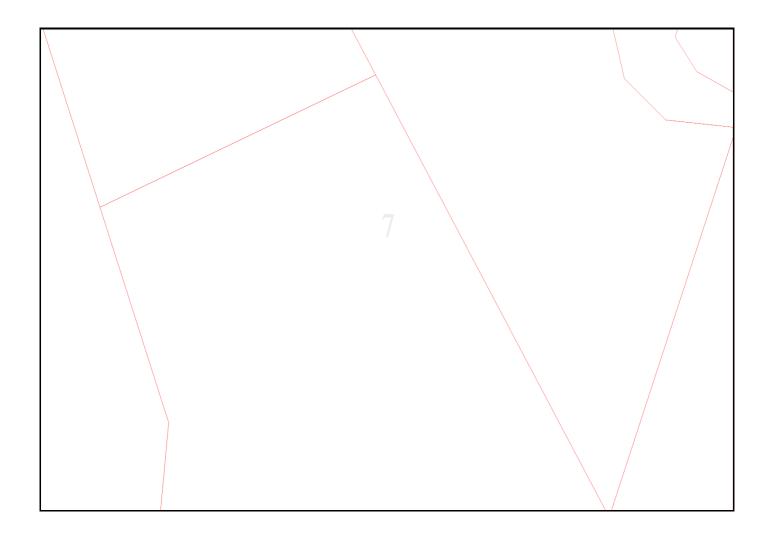


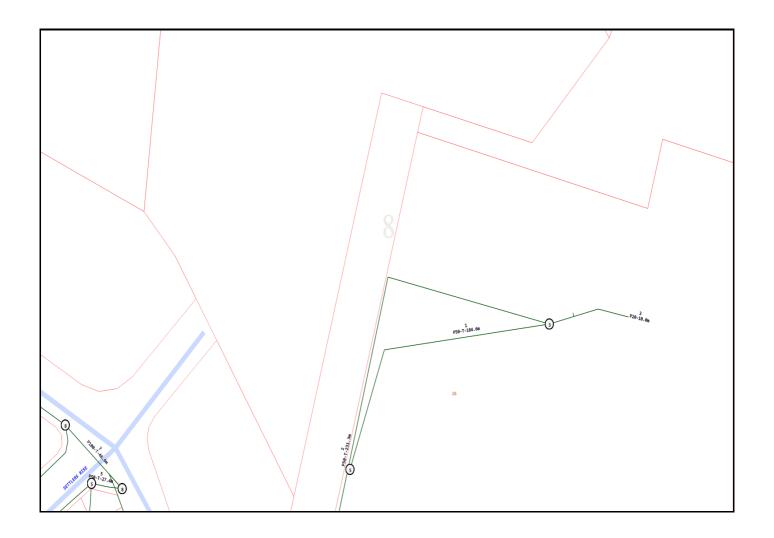




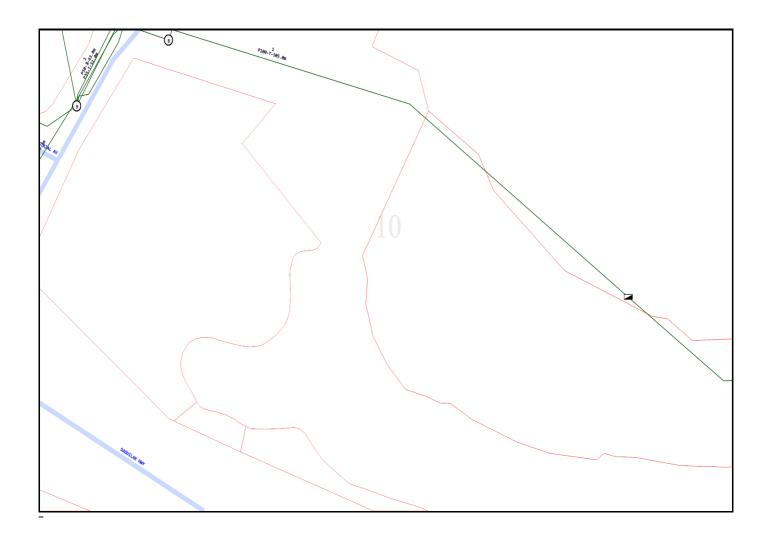






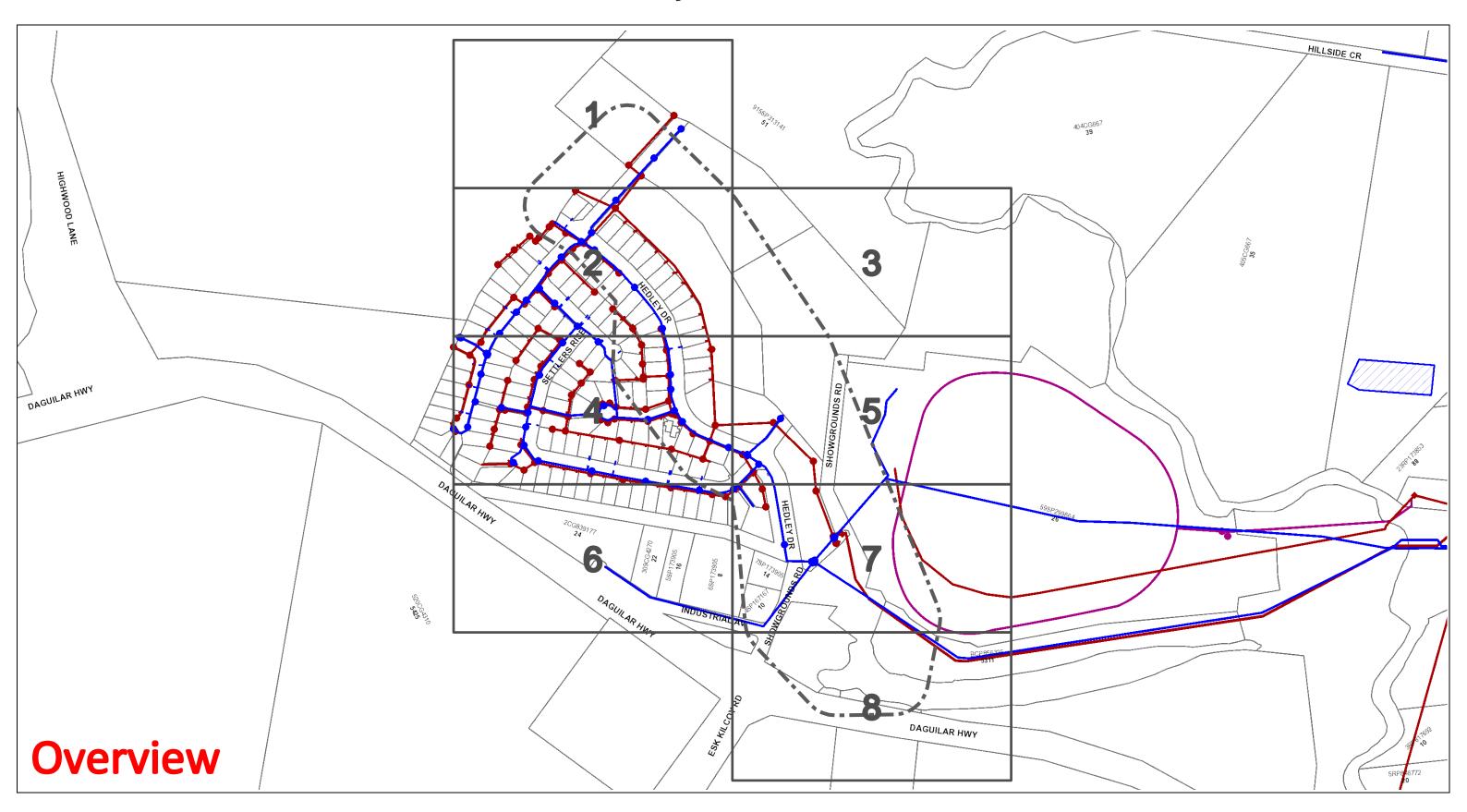






Emergency Contacts

You must immediately report any damage to the ${\bf nbn}^{\,{\rm m}}$ network that you are/become aware of. Notification may be by telephone - 1800 626 329.





Before You Dig Australia - Urban Utilities Water, Recycled Water and Sewer Infrastructure

BYDA Reference No: 234324821

Date BYDA Ref Received: 19/01/2024

Date BYDA Job to Commence: 22/01/2024

Date BYDA Map Produced: 19/01/2024

This Map is valid for 30 days Produced By: Urban Utilities

Sewer

Infrastructure

Major InfrastructureNetwork Pipelines

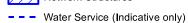


InfrastructureMajor Infrastructure

Network Pipelines

Network Structures

Water





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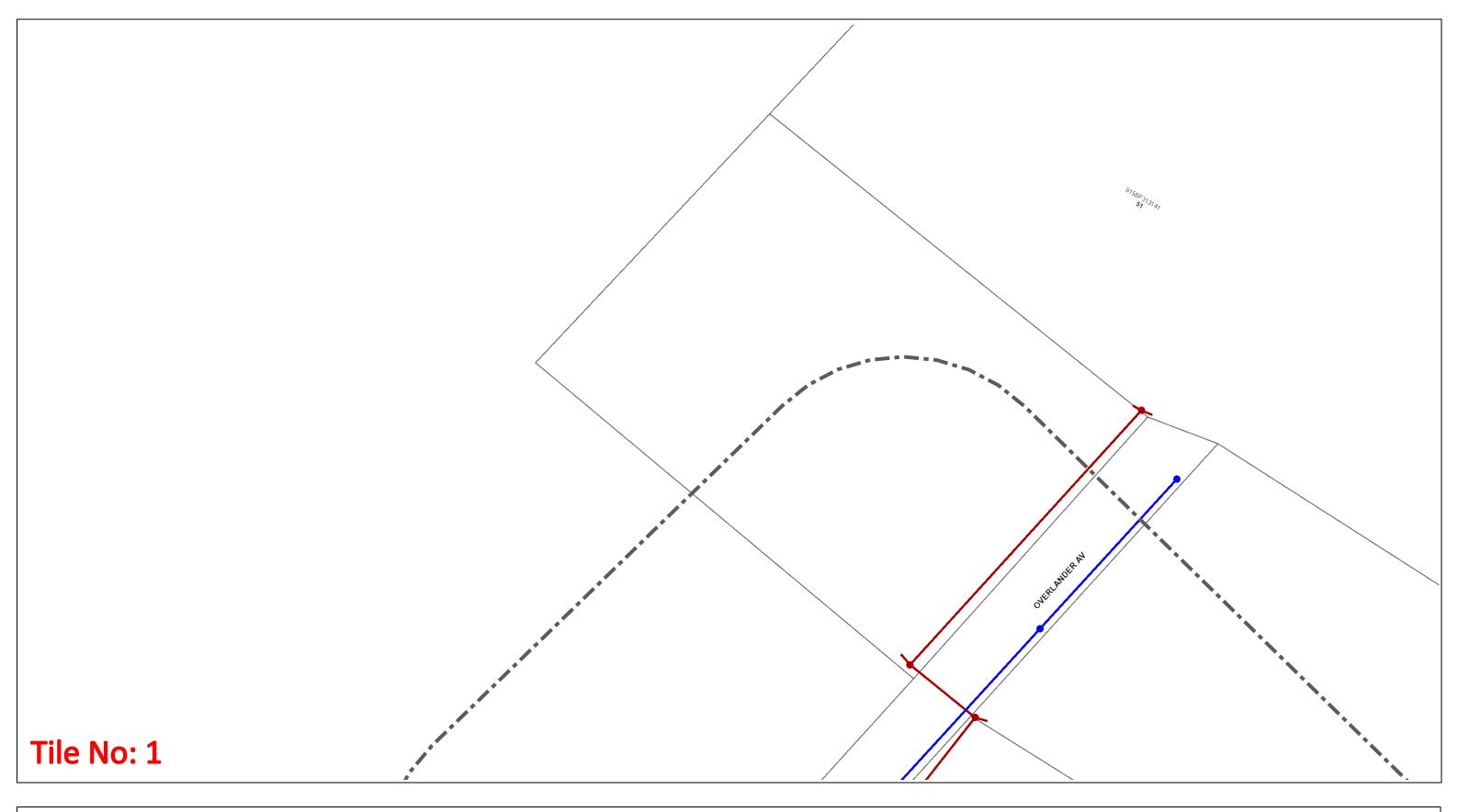
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For further information, please call Urban Utilities on 13 26 57 (8am-6pm weekdays). Faults and emergencies 13 23 64 (24/7).





Before You Dig Australia - Urban Utilities Water, Recycled Water and Sewer Infrastructure

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Sewer

Infrastructure

Major InfrastructureNetwork Pipelines



InfrastructureMajor Infrastructure

Network Pipelines

Network Structures

- - - Water Service (Indicative only)



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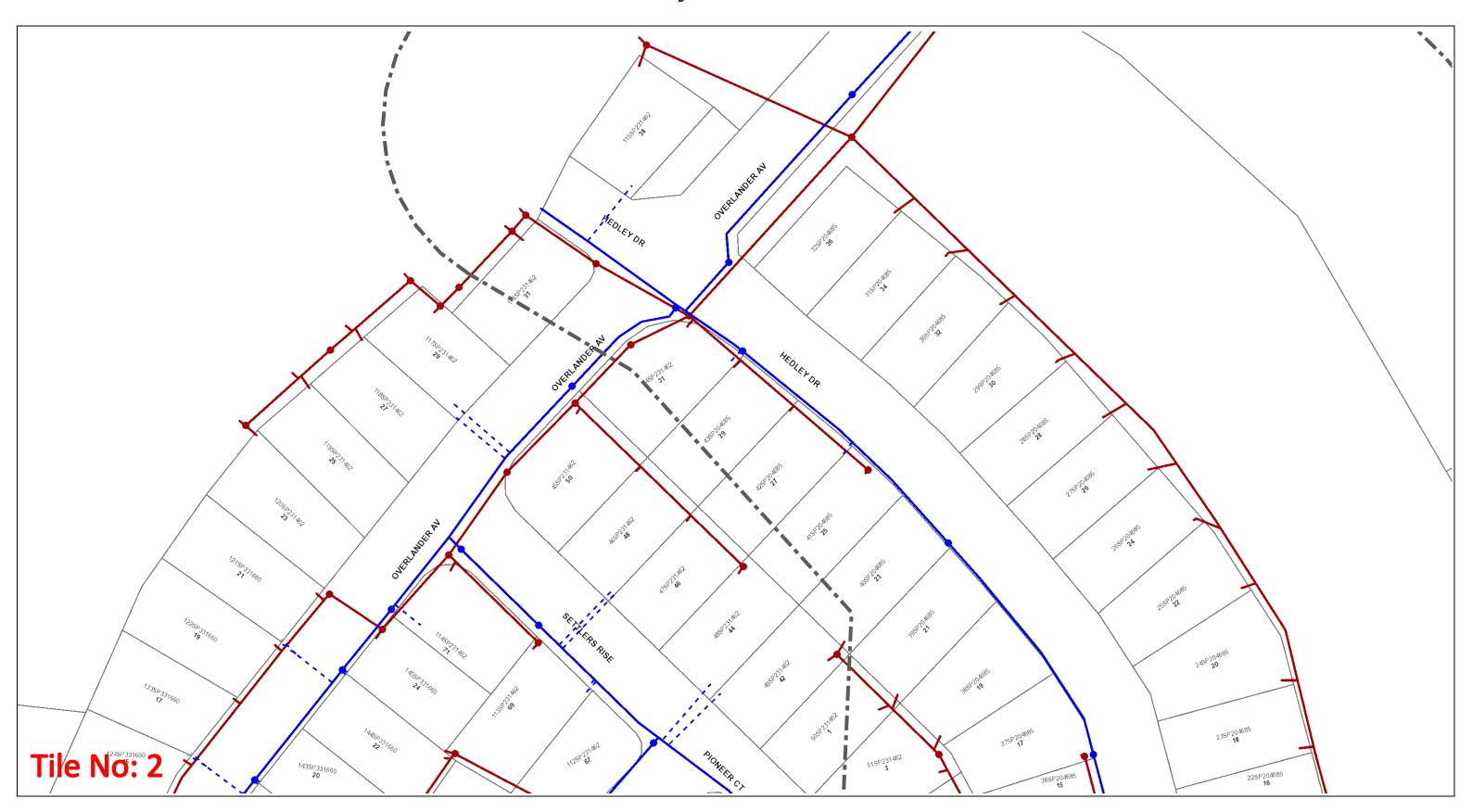
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Before You Dig Australia - Urban Utilities Water, Recycled Water and Sewer Infrastructure

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Sewer

Infrastructure

Major Infrastructure

Network Pipelines

Network Structures

WaterInfrastructure

Major InfrastructureNetwork Pipelines

Network Structures

- - - Water Service (Indicative only)



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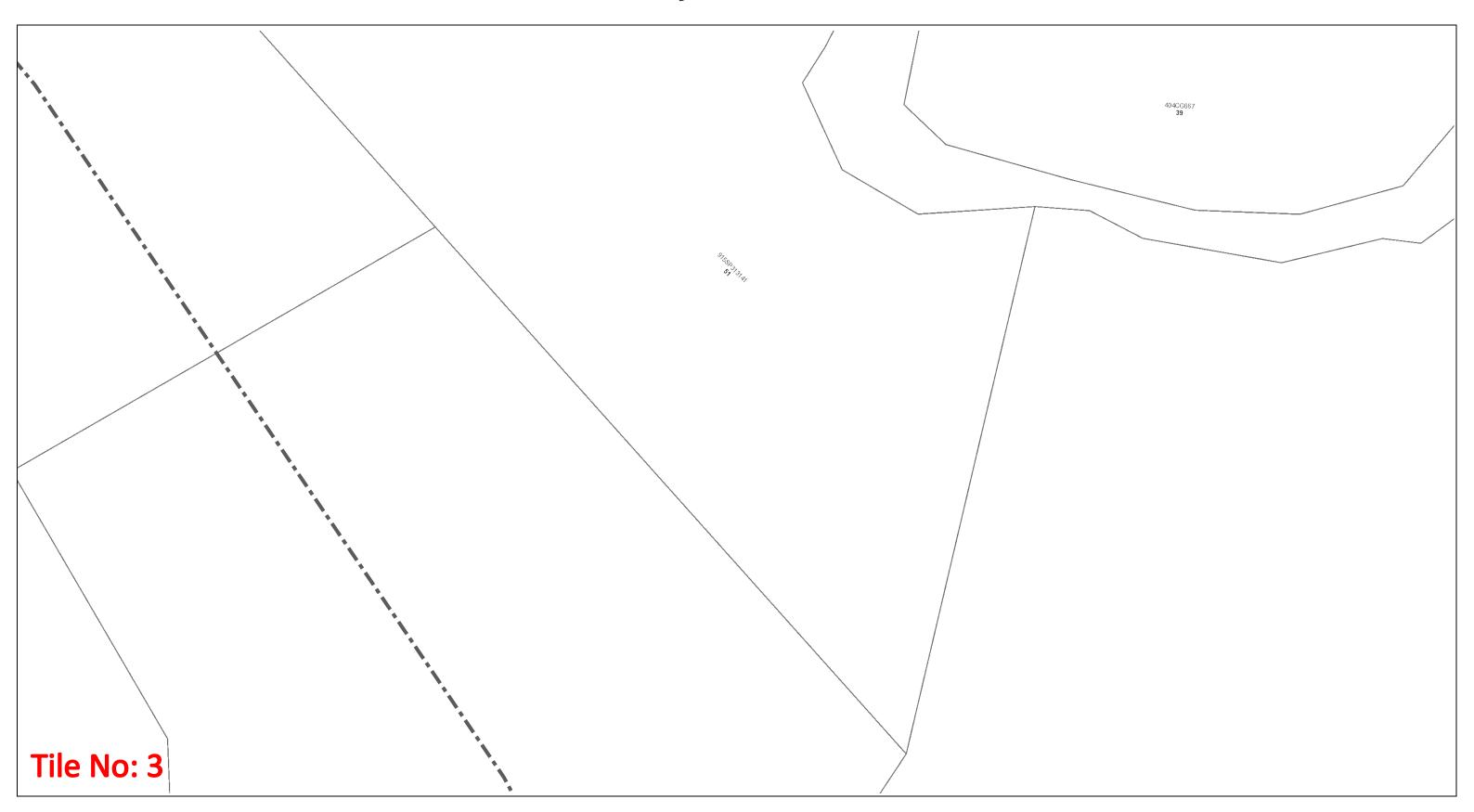
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Before You Dig Australia - Urban Utilities Water, **Recycled Water and Sewer Infrastructure**

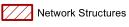
BYDA Reference No: 234324821 Date BYDA Ref Received: 19/01/2024 Date BYDA Job to Commence: 22/01/2024

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Sewer

Infrastructure

Major Infrastructure Network Pipelines



Water

Infrastructure

Major Infrastructure

Network Pipelines Network Structures

- - - Water Service (Indicative only)



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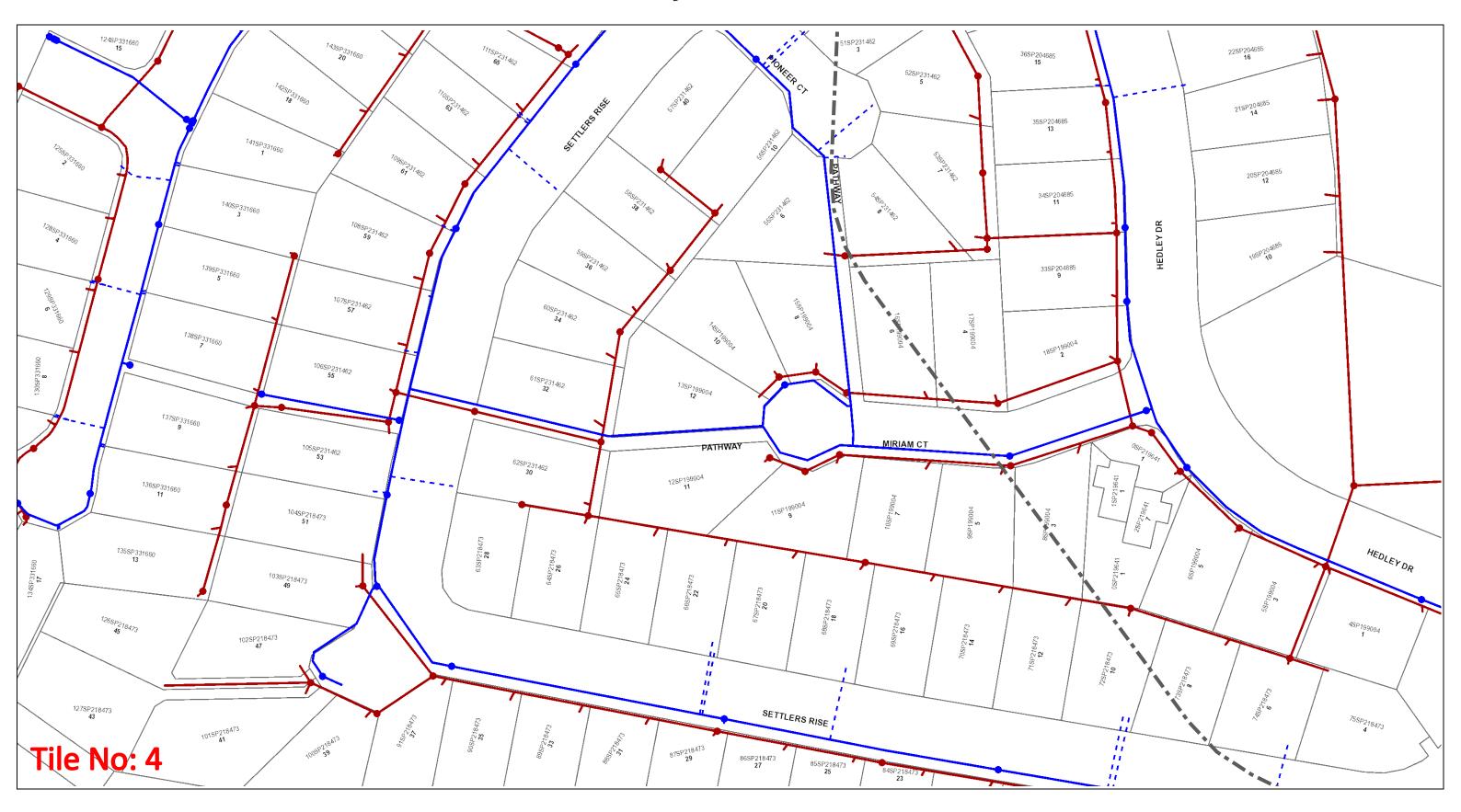
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Before You Dig Australia - Urban Utilities Water, Recycled Water and Sewer Infrastructure

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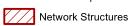
Date BYDA Map Produced: 19/01/2024

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Sewer

Infrastructure

Major InfrastructureNetwork Pipelines



WaterInfrastructure

Major InfrastructureNetwork Pipelines

Network Structures

- - Water Service (Indicative only)



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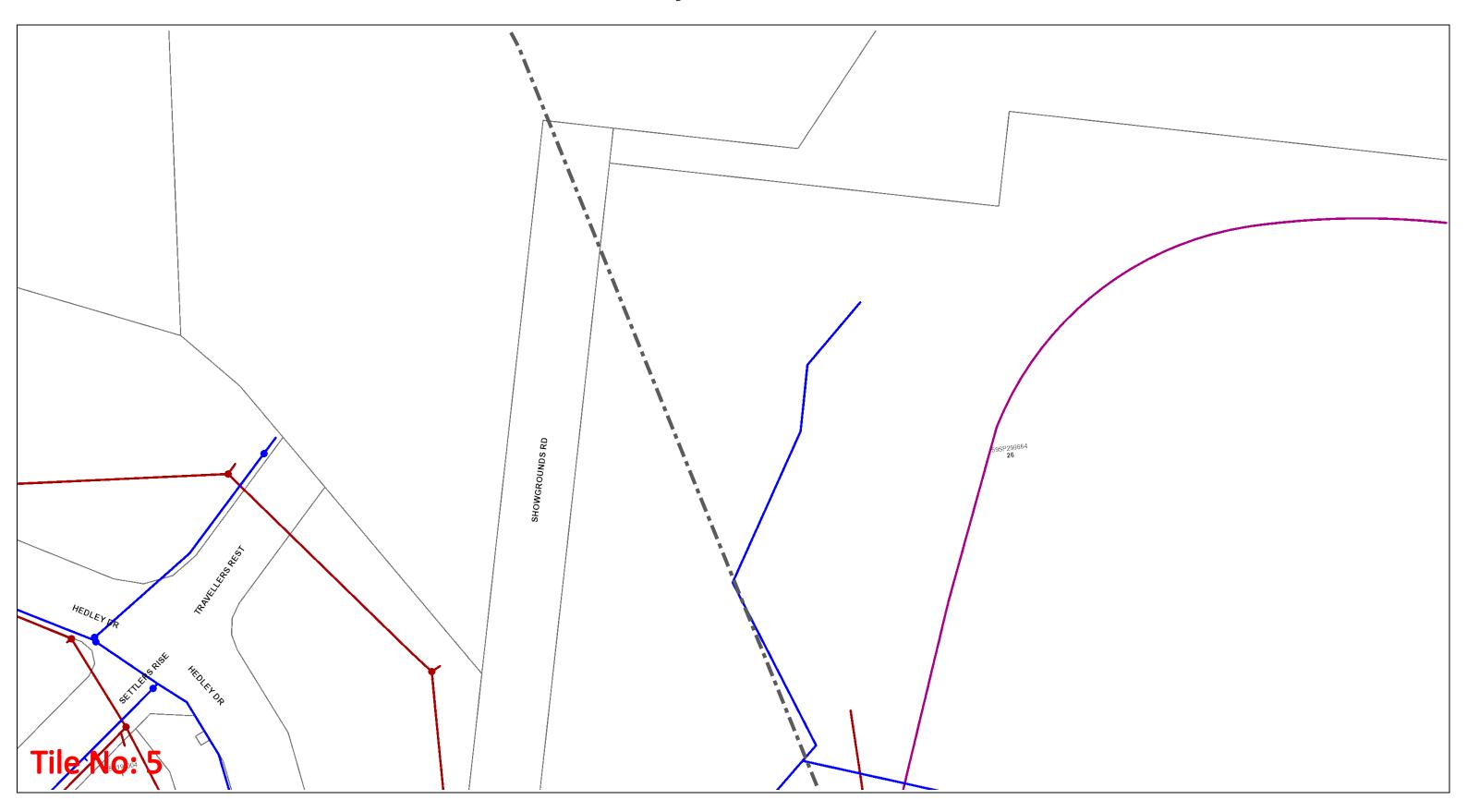
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Before You Dig Australia - Urban Utilities Water, Recycled Water and Sewer Infrastructure

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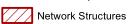
Date BYDA Map Produced: 19/01/2024

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Sewer

Infrastructure

Major InfrastructureNetwork Pipelines



Water

Infrastructure

Major Infrastructure

Network Pipelines

Network Structures

Network Structures

- - - Water Service (Indicative only)



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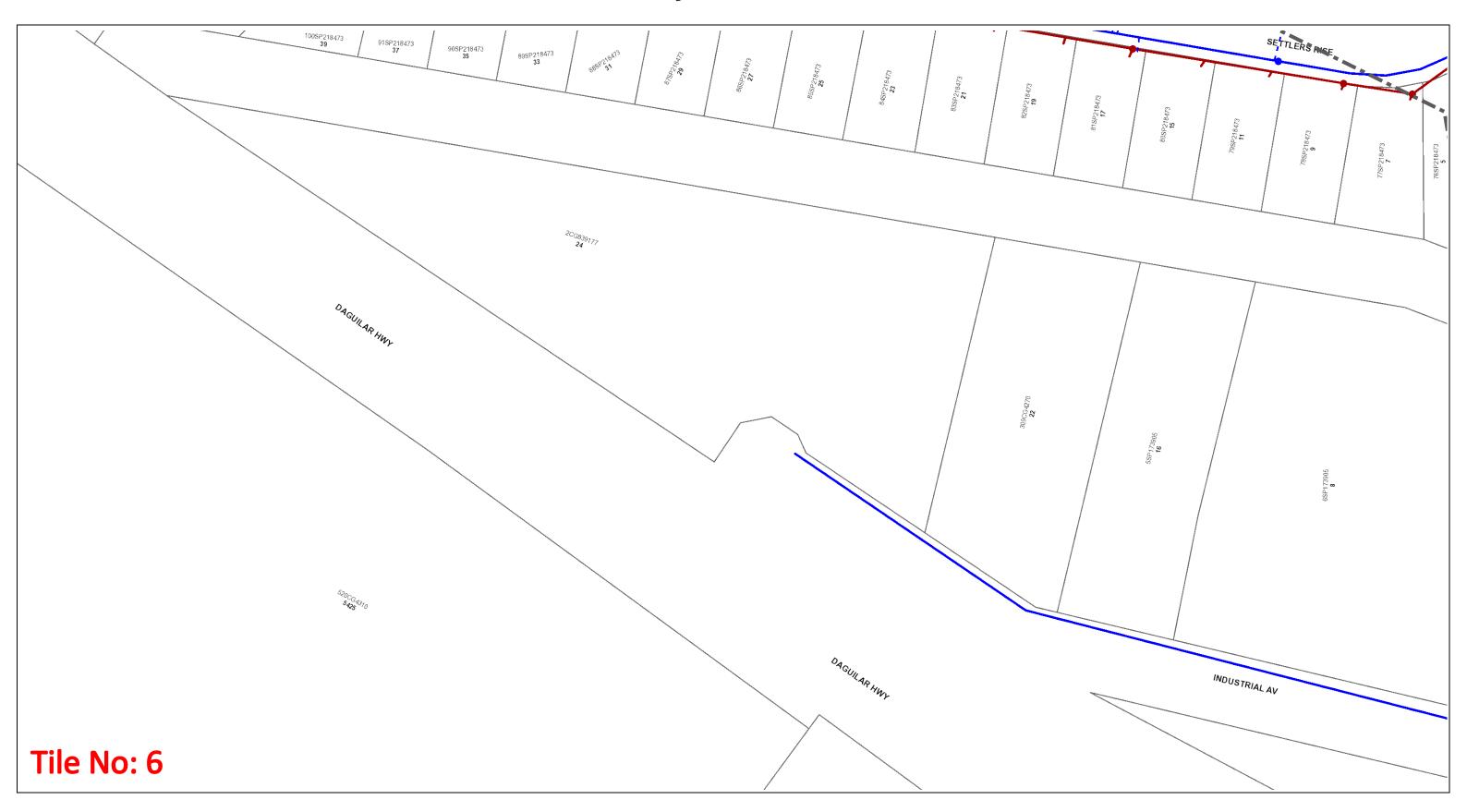
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Before You Dig Australia - Urban Utilities Water, **Recycled Water and Sewer Infrastructure**

BYDA Reference No: 234324821 Date BYDA Ref Received: 19/01/2024 Date BYDA Job to Commence: 22/01/2024 Date BYDA Map Produced: 19/01/2024

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Sewer

Infrastructure

Major Infrastructure Network Pipelines

Water

Infrastructure

Network Structures

Major Infrastructure

Network Pipelines

- - - Water Service (Indicative only)



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Map Scale 1:1000

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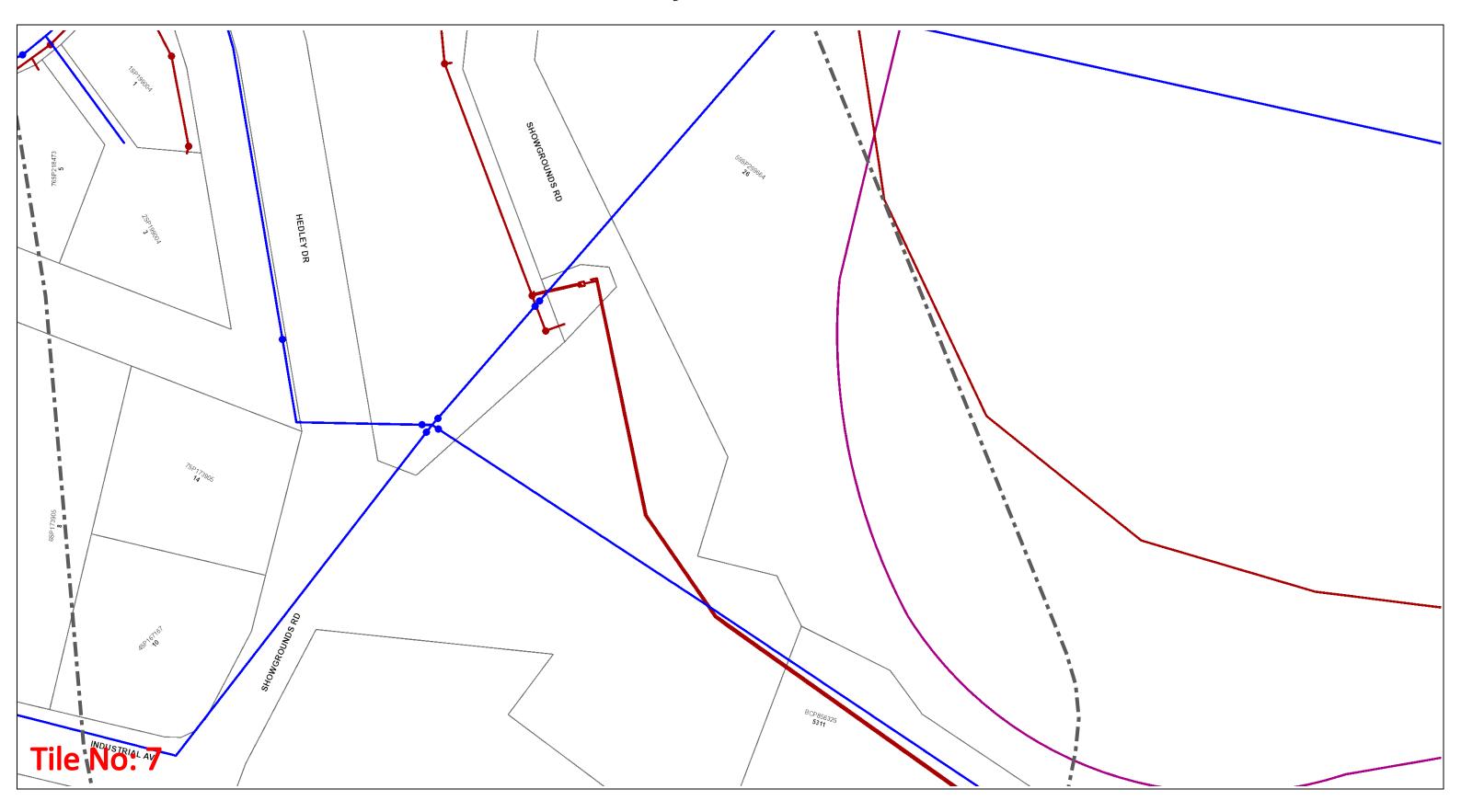
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Before You Dig Australia - Urban Utilities Water, Recycled Water and Sewer Infrastructure

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Sewer

Infrastructure

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Network Structures

Water

Infrastructure

Major Infrastructure

Network Pipelines

Network Structures

- - - Water Service (Indicative only)



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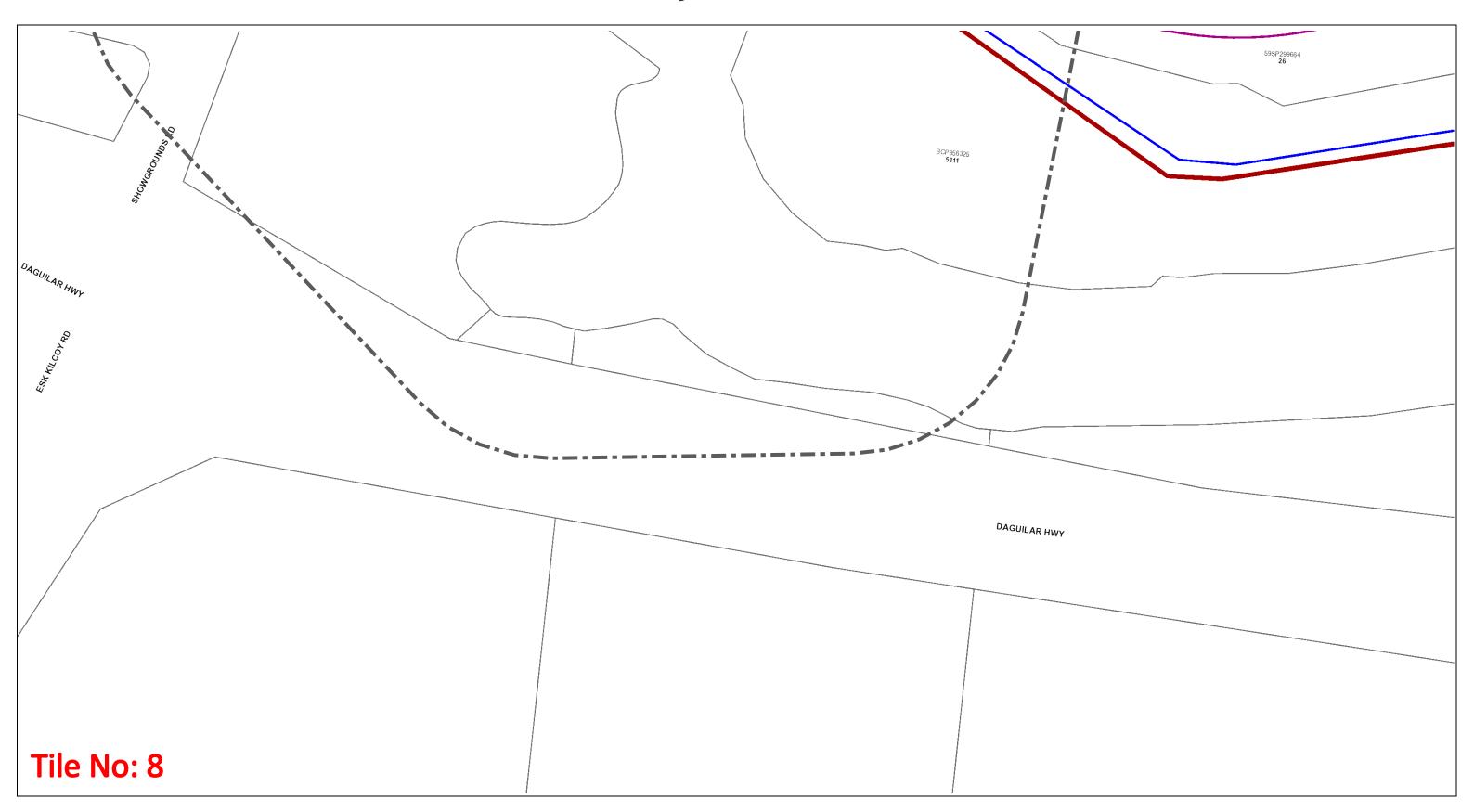
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Water



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Sewer

Infrastructure

Major Infrastructure Network Pipelines

Network Structures

Infrastructure Major Infrastructure **Network Pipelines** Network Structures

- - - Water Service (Indicative only)

Map Scale 1:1000

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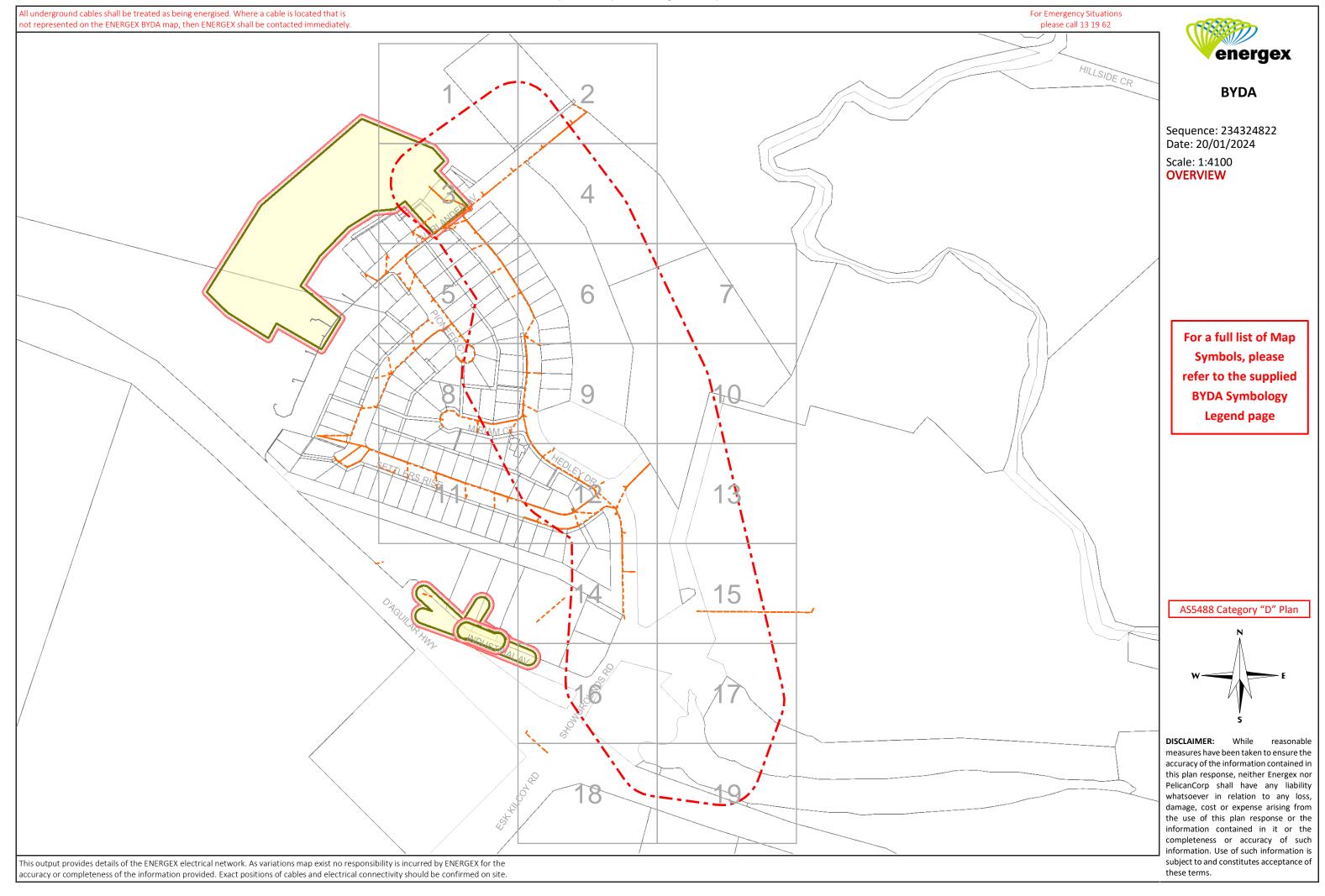
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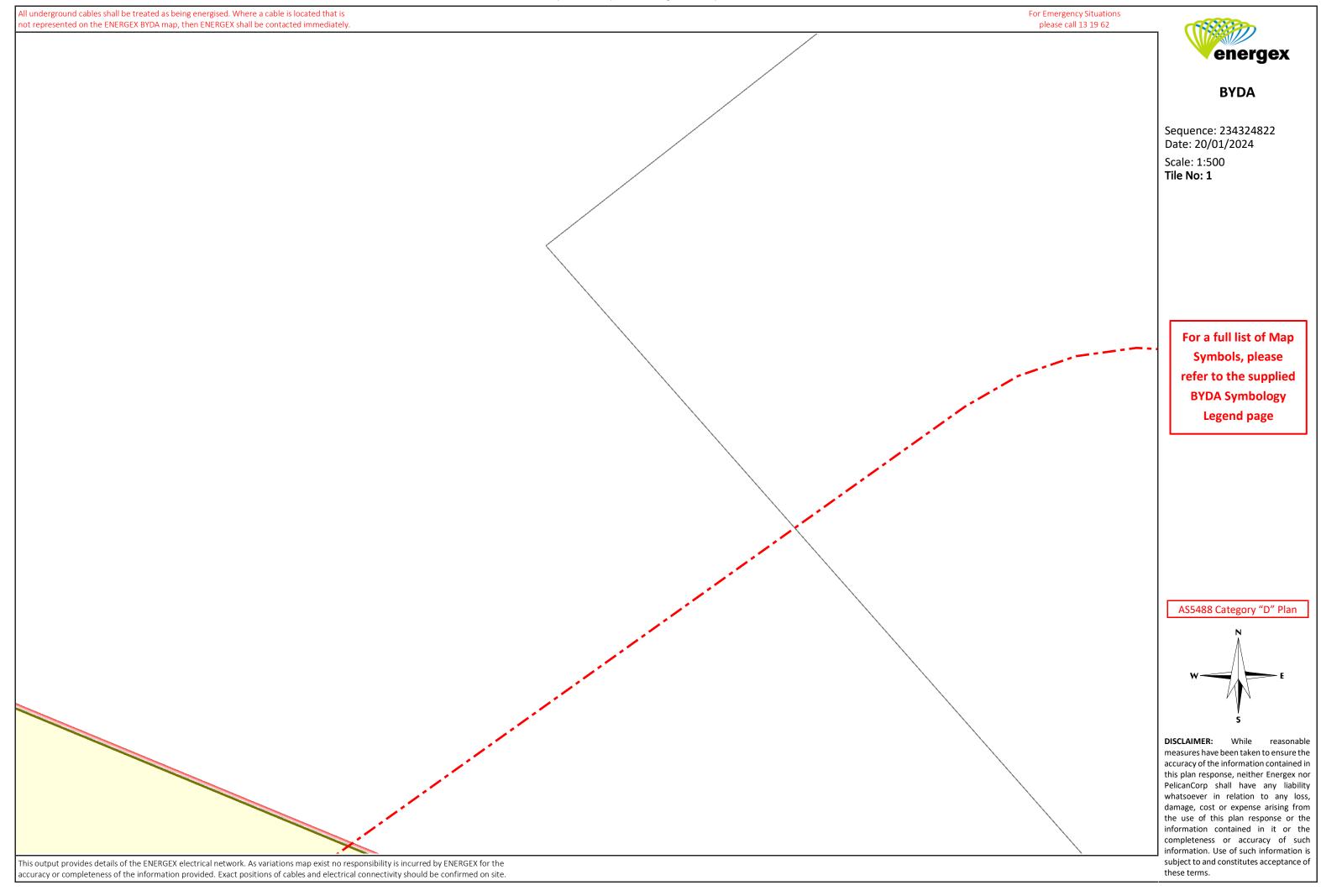
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Paper size A3 Map has been designed to be reproduced in colour All underground cables shall be treated as being energised. Where a cable is located that is For Emergency Situations ot represented on the ENERGEX BYDA map, then ENERGEX shall be contacted immediately. please call 13 19 62 Ju2084347 U2084346 P2084370



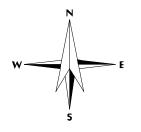
BYDA

Sequence: 234324822 Date: 20/01/2024

Scale: 1:500 Tile No: 2

> For a full list of Map Symbols, please refer to the supplied BYDA Symbology Legend page

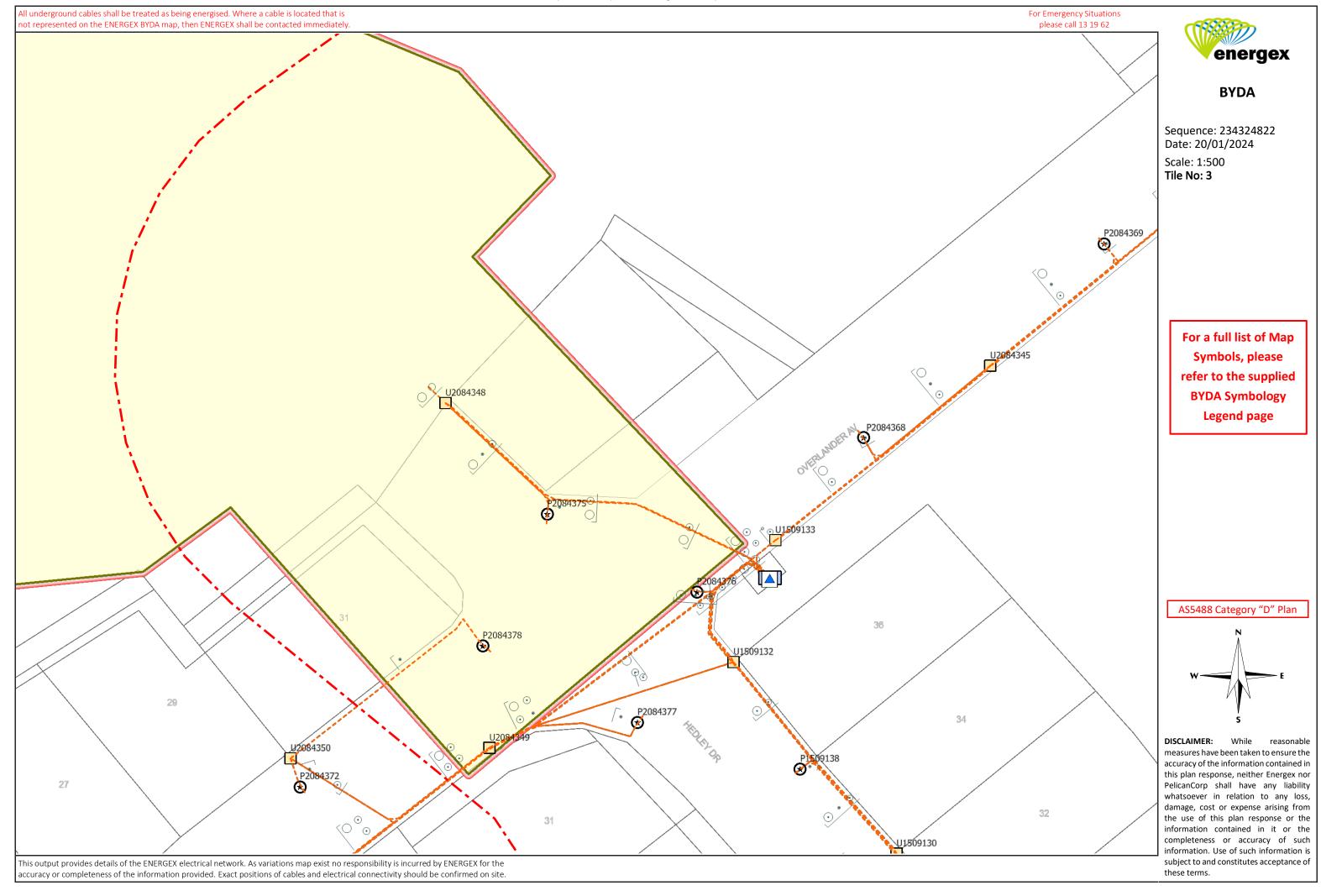
AS5488 Category "D" Plan

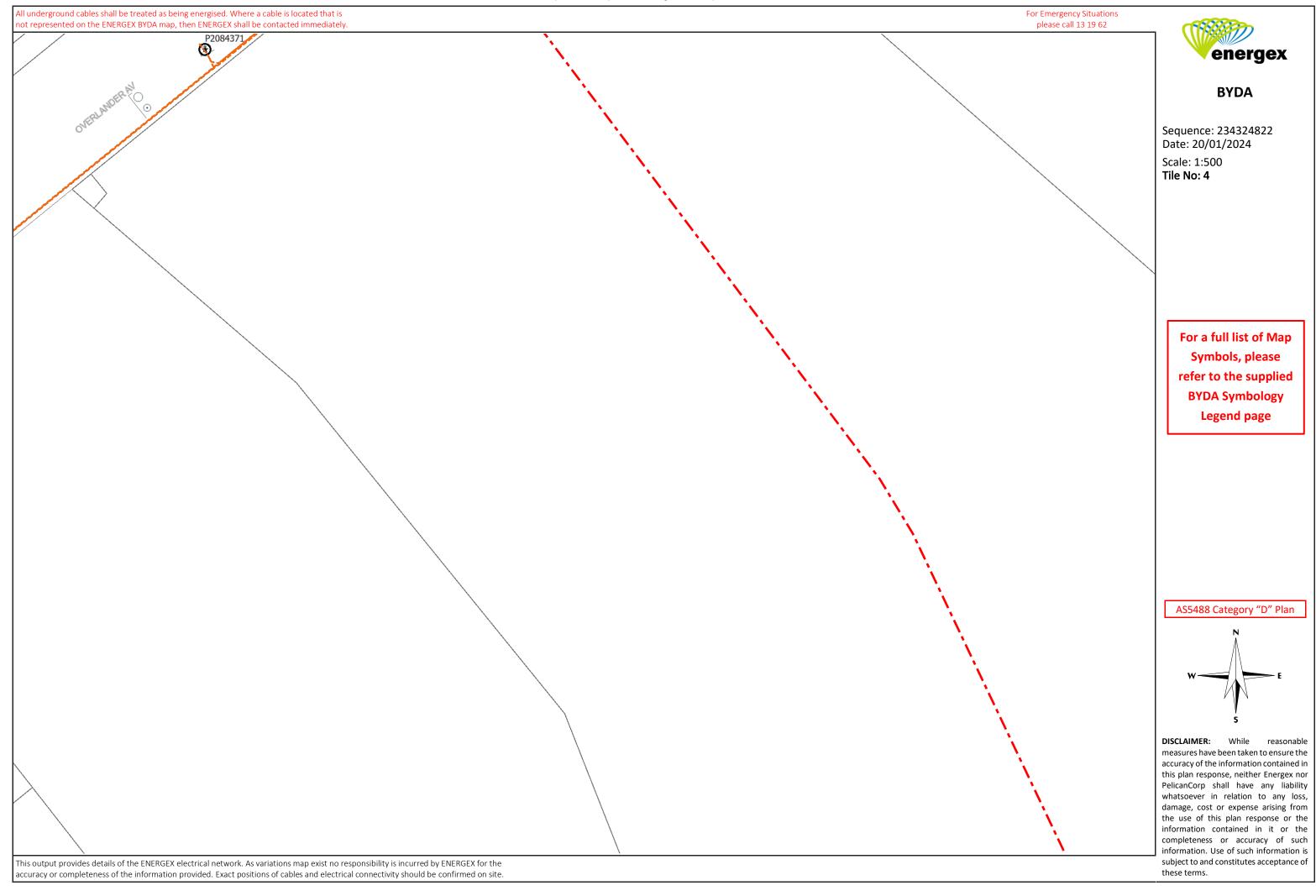


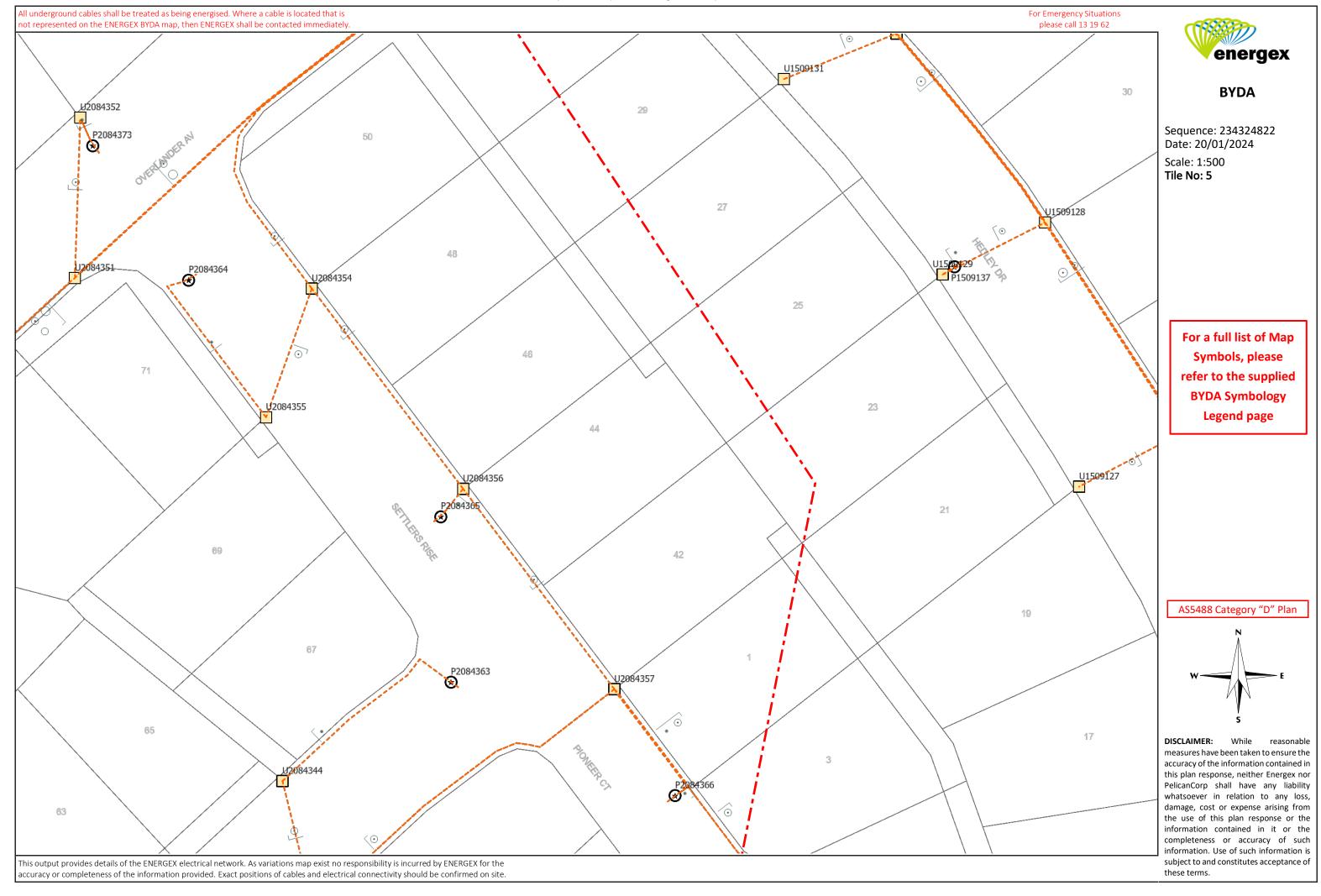
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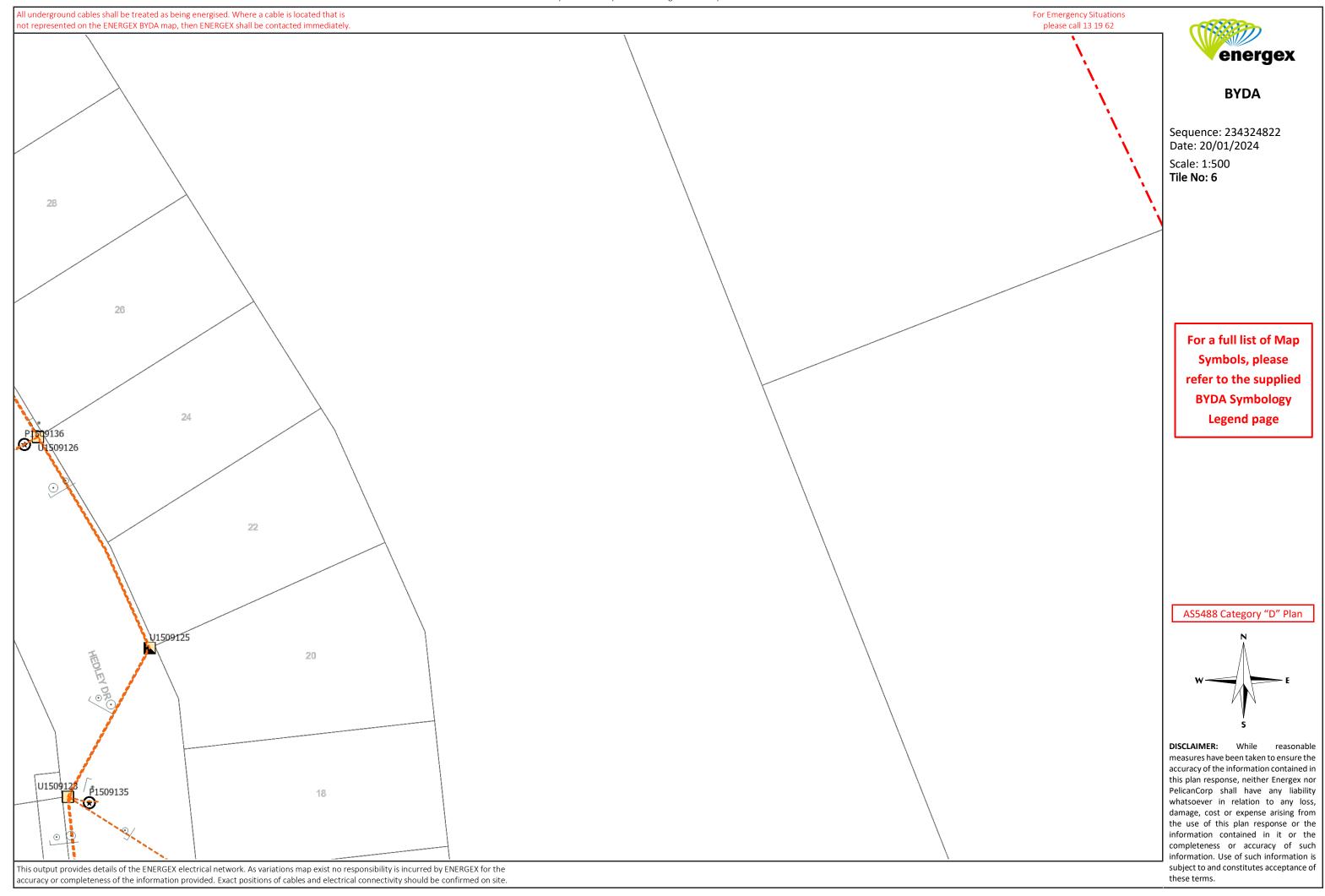
This output provides details of the ENERGEX electrical network. As variations map exist no responsibility is incurred by ENERGEX for the

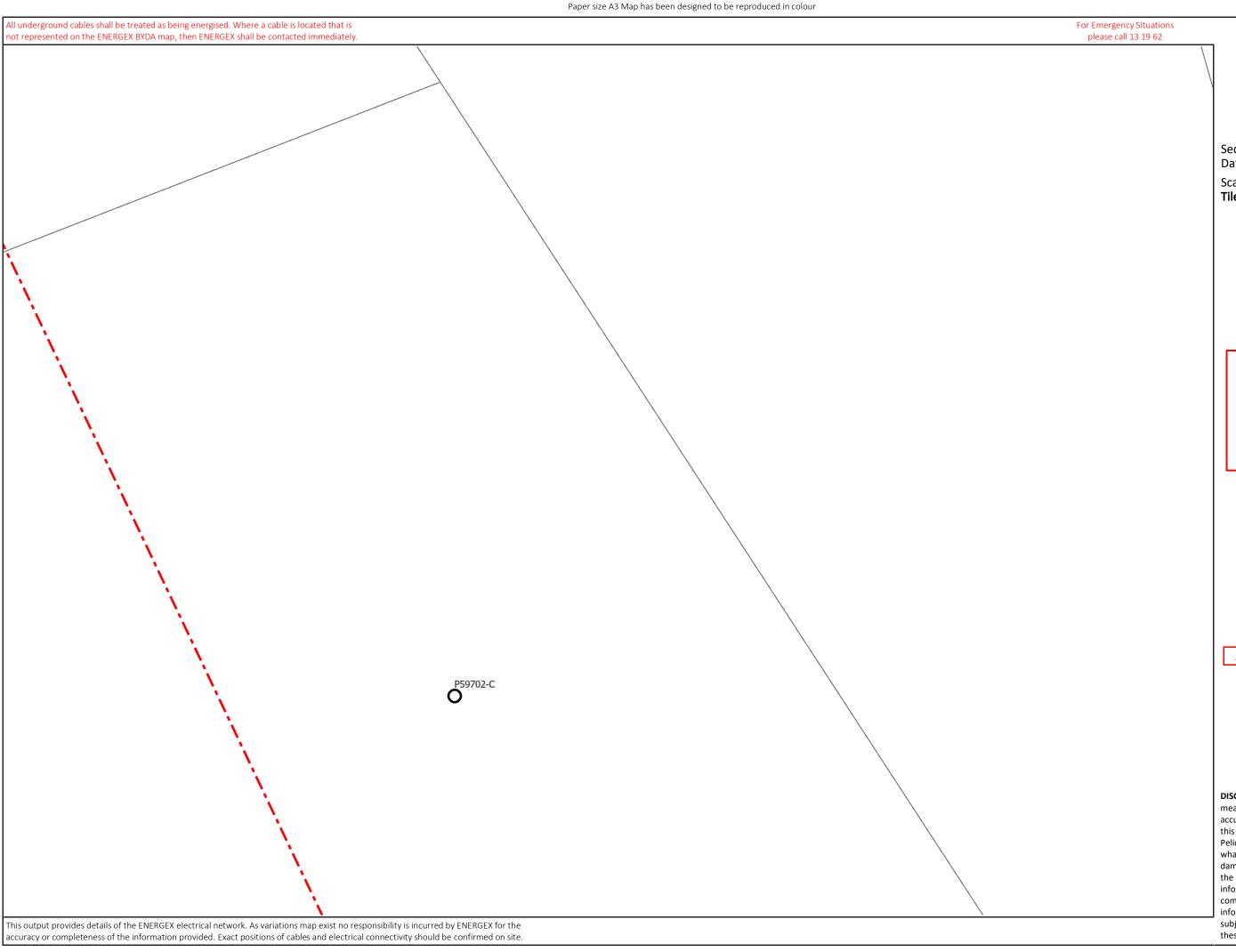
accuracy or completeness of the information provided. Exact positions of cables and electrical connectivity should be confirmed on site.











BYDA

Sequence: 234324822 Date: 20/01/2024

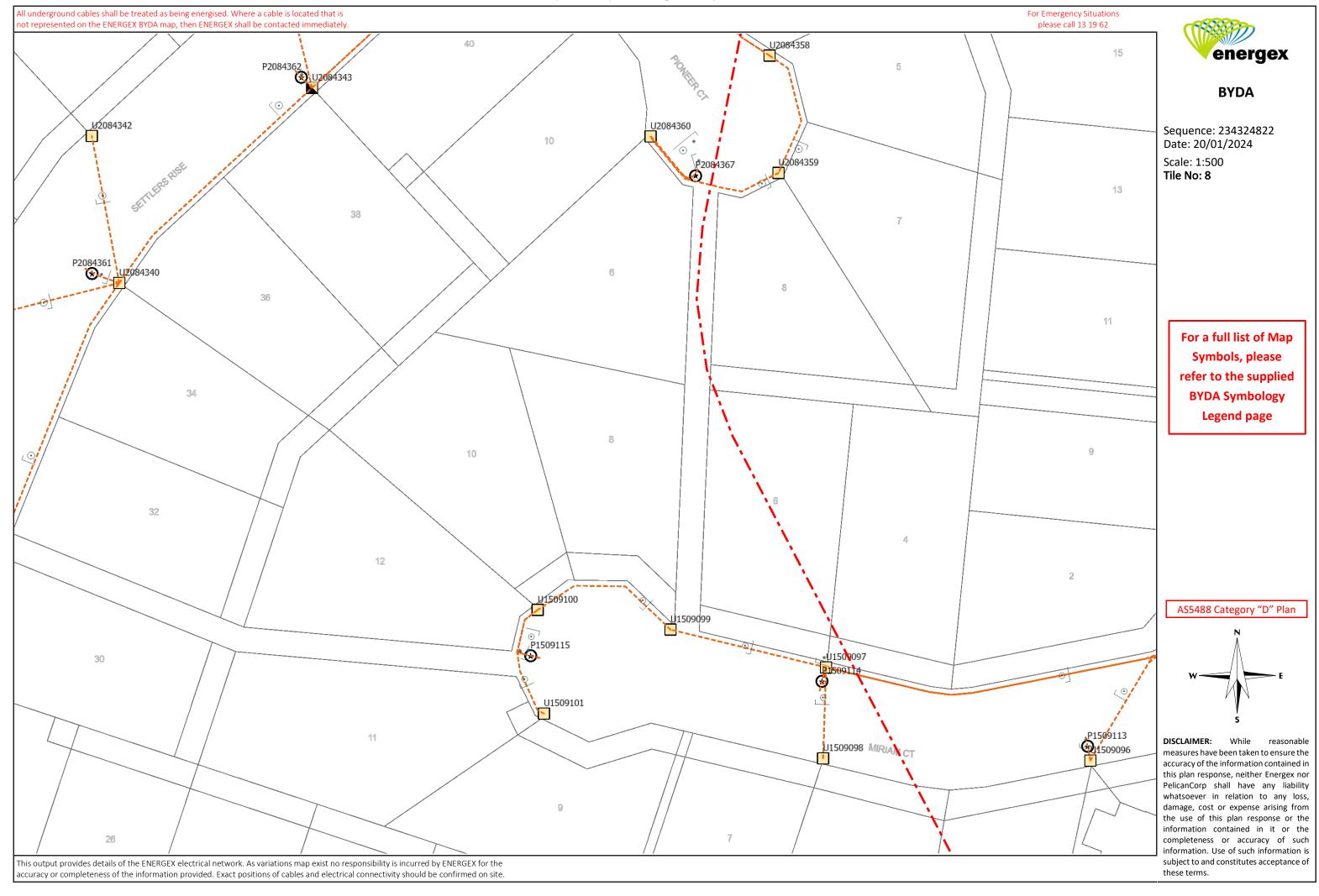
Scale: 1:500 **Tile No: 7**

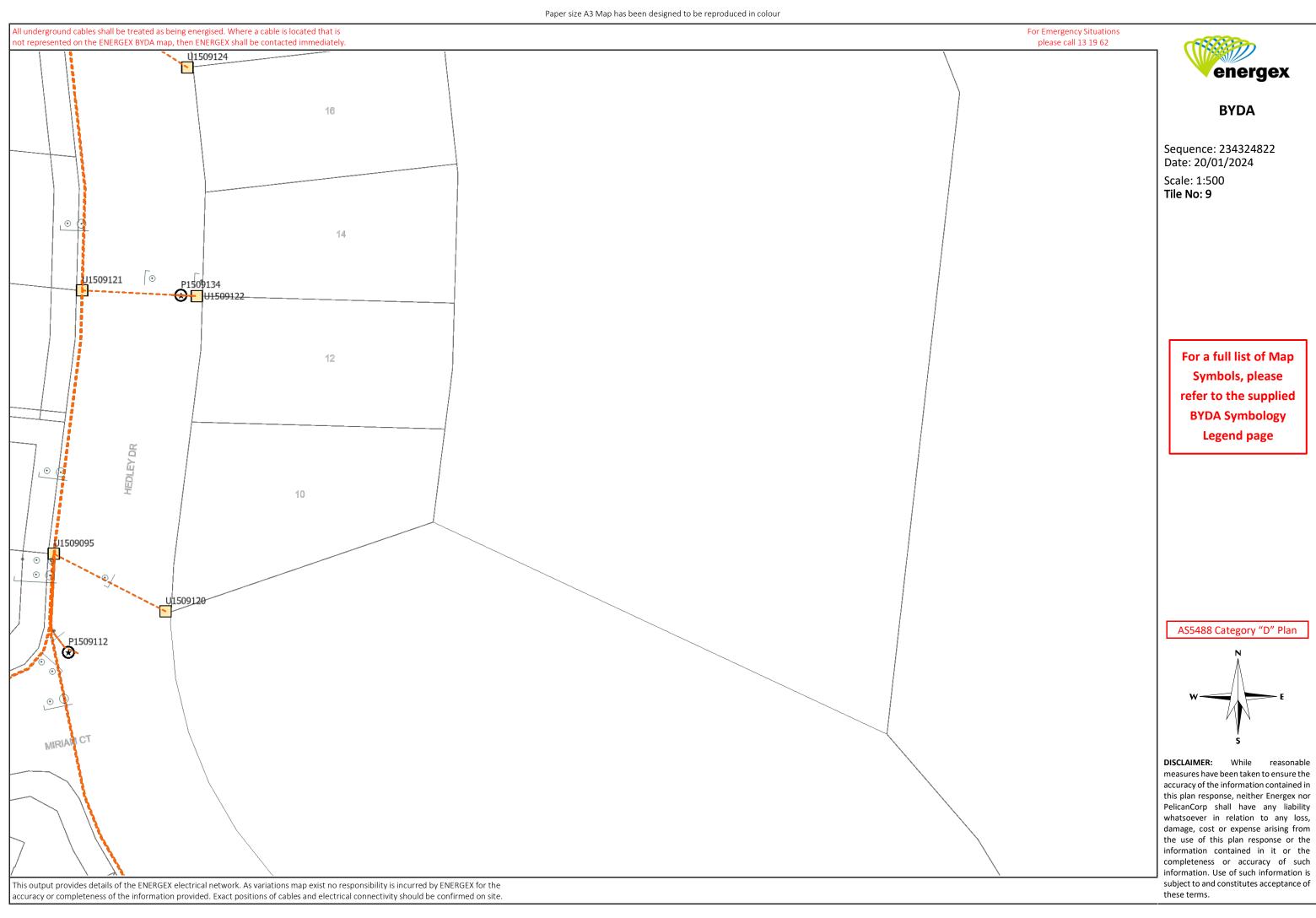
> For a full list of Map Symbols, please refer to the supplied BYDA Symbology Legend page

AS5488 Category "D" Plan



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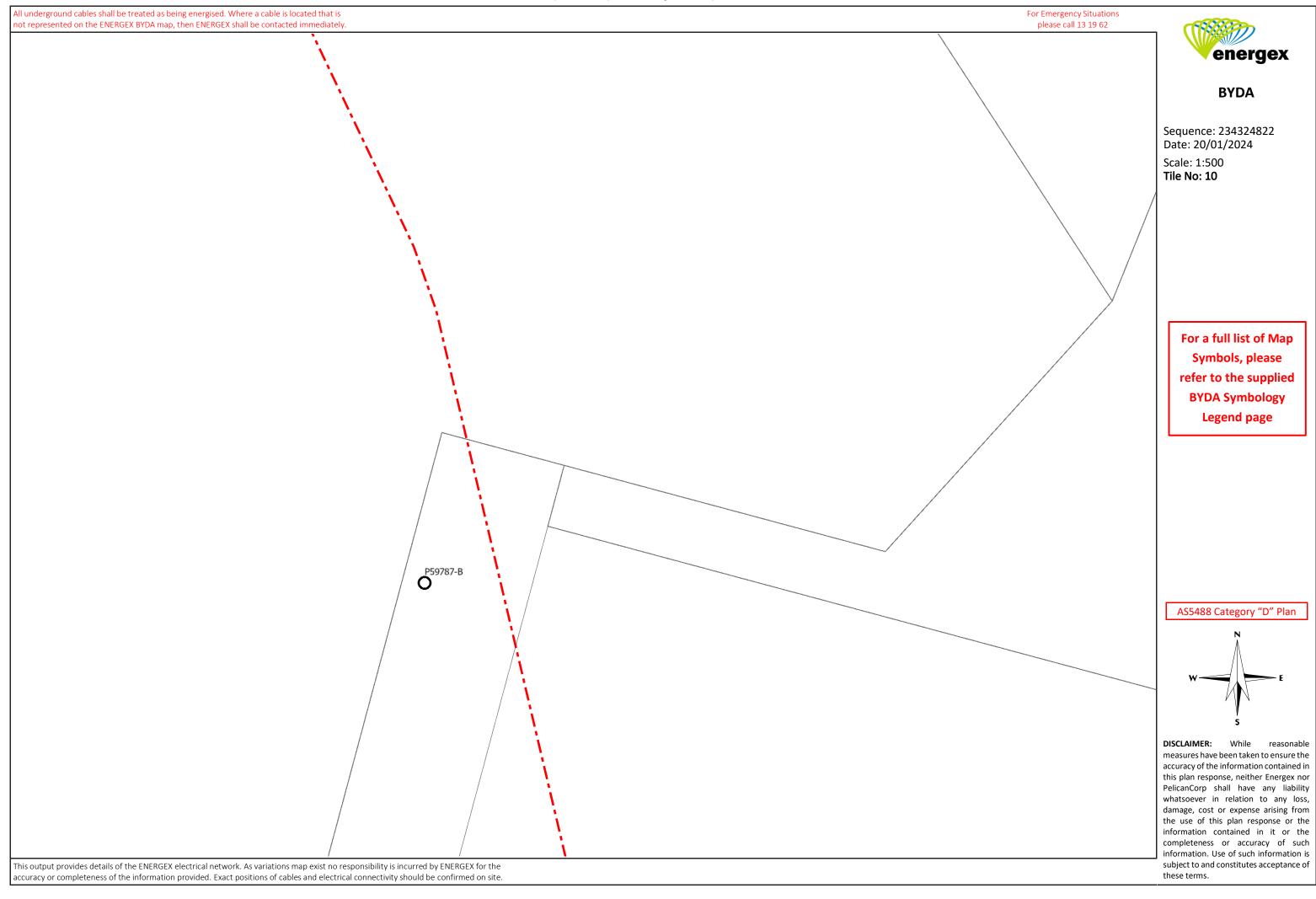


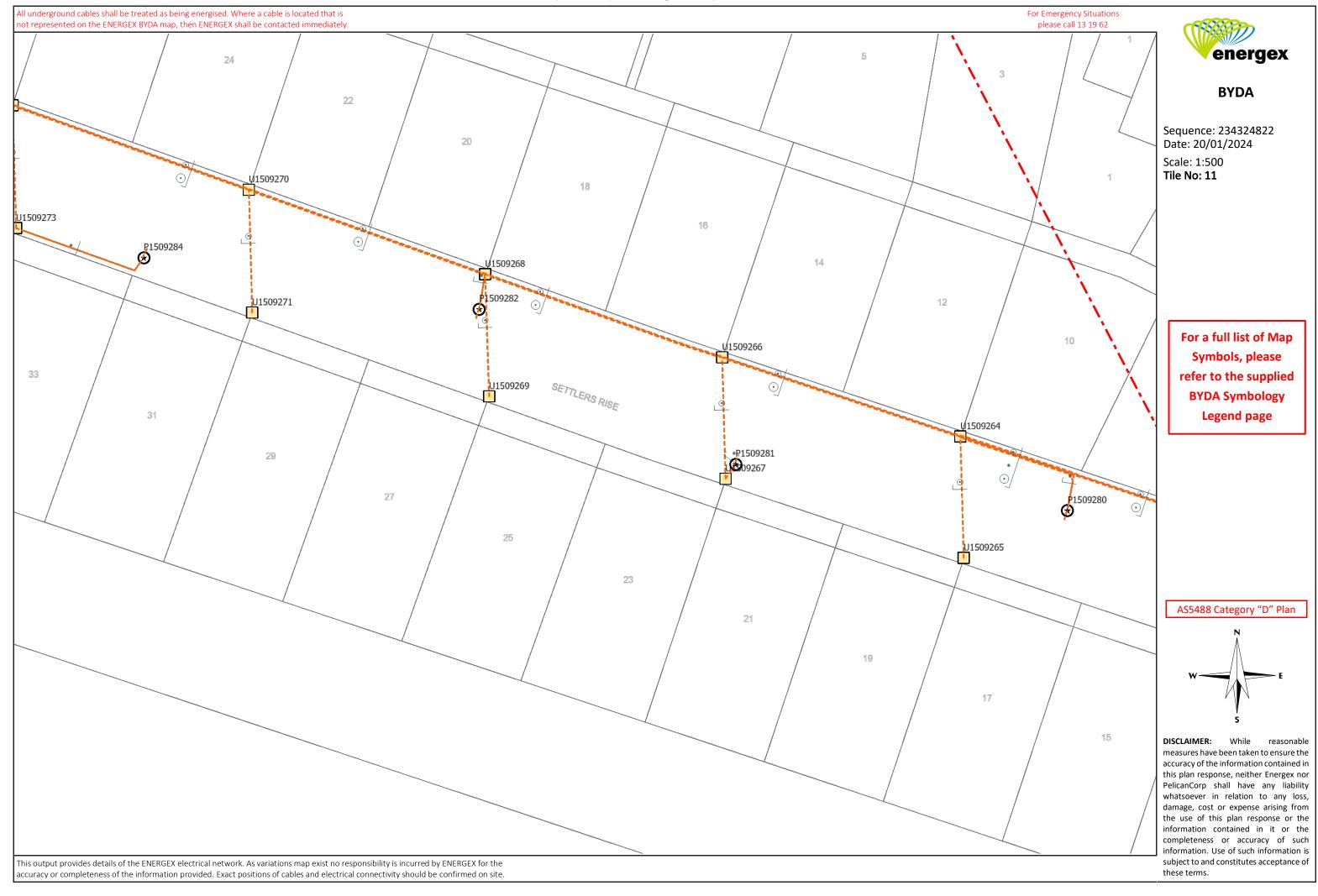
energex

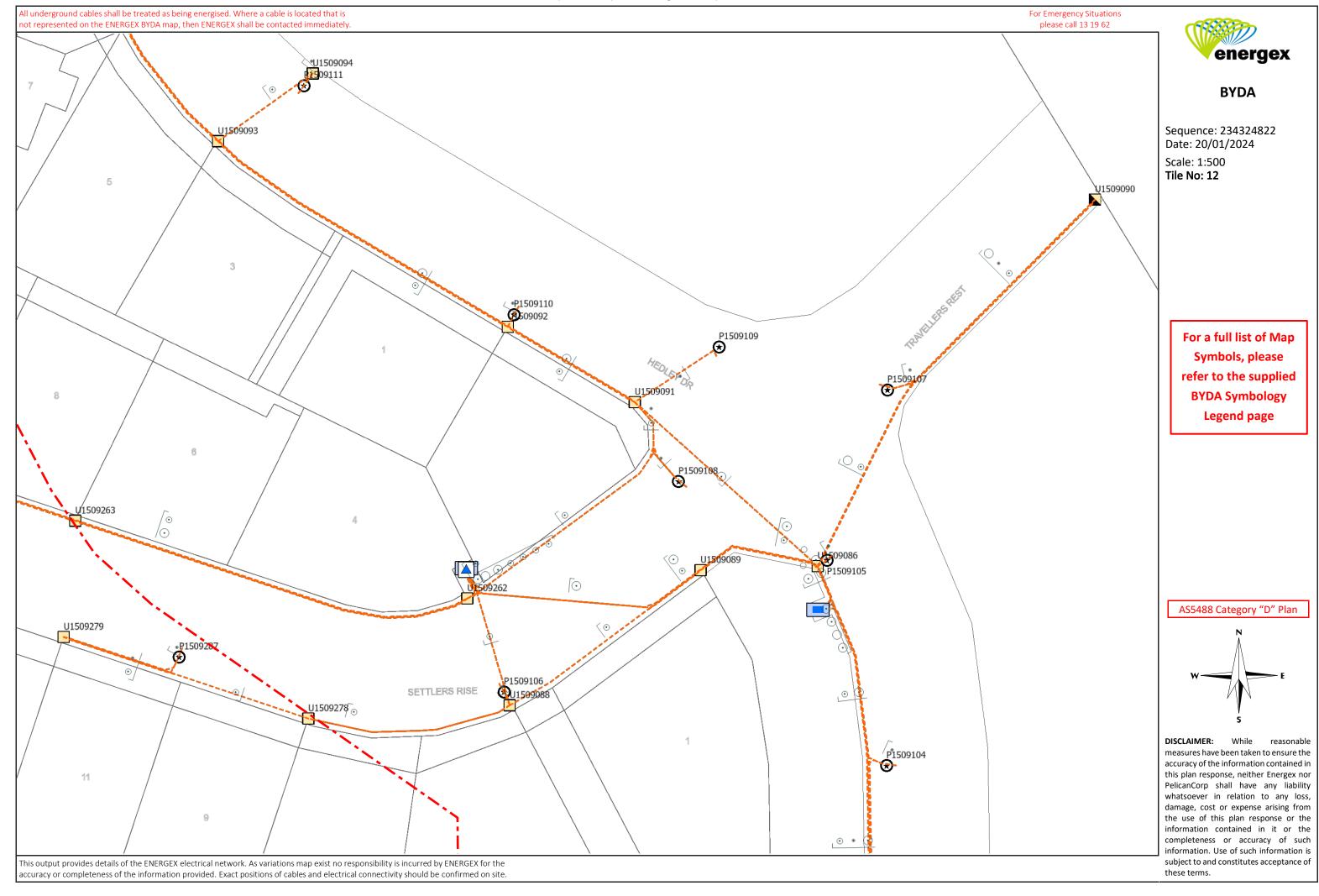
BYDA

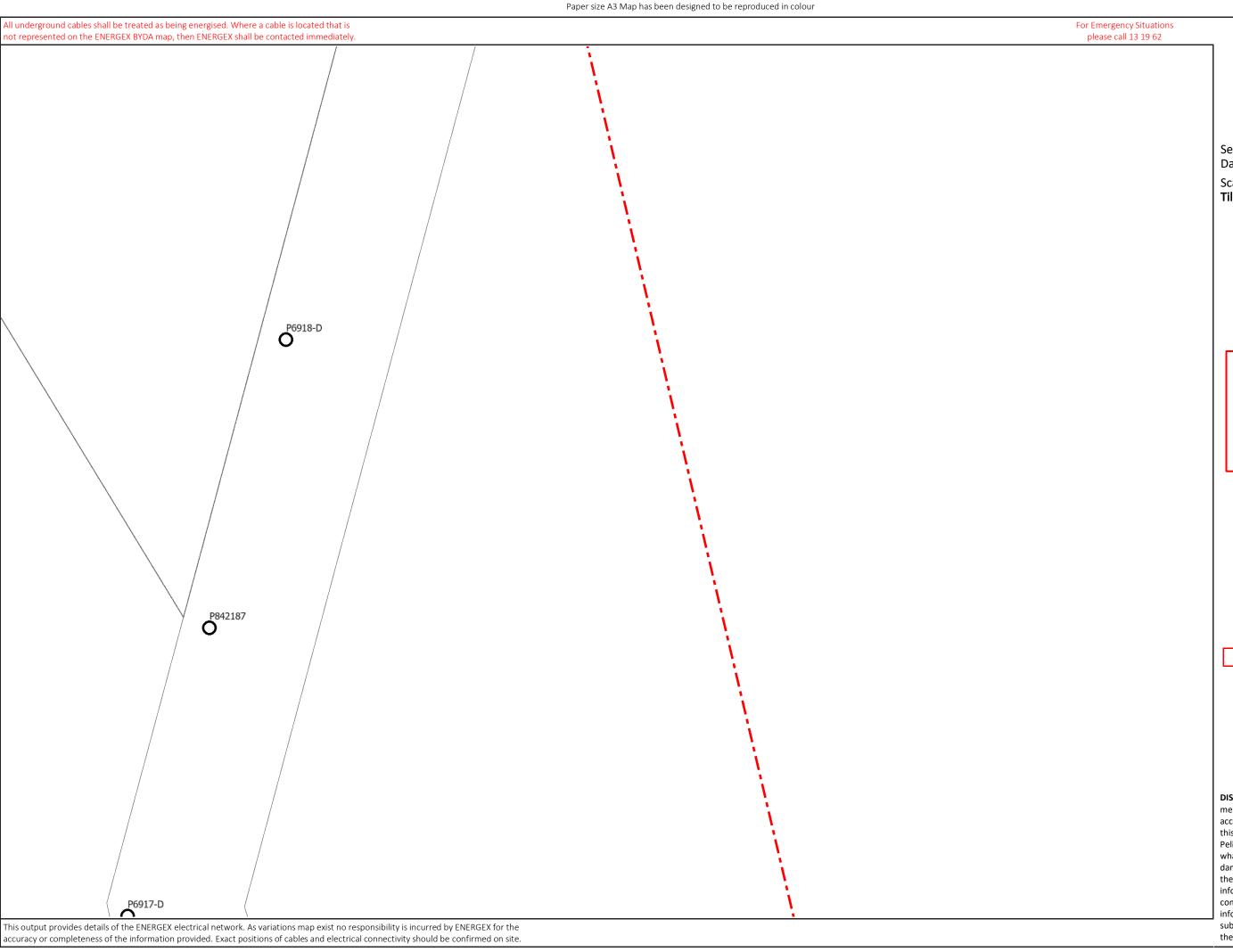
Symbols, please

BYDA Symbology Legend page









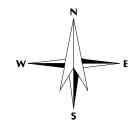
BYDA

Sequence: 234324822 Date: 20/01/2024

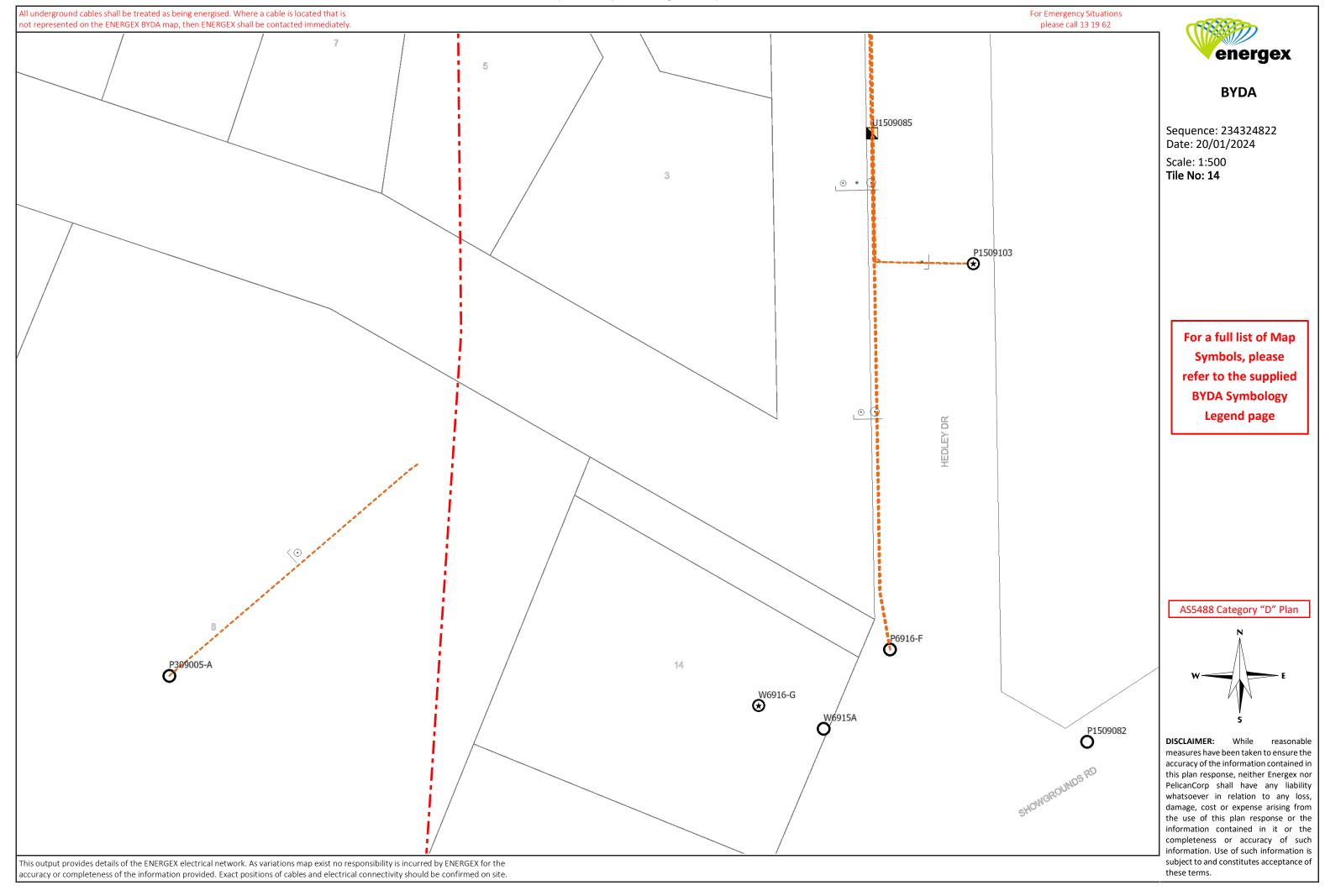
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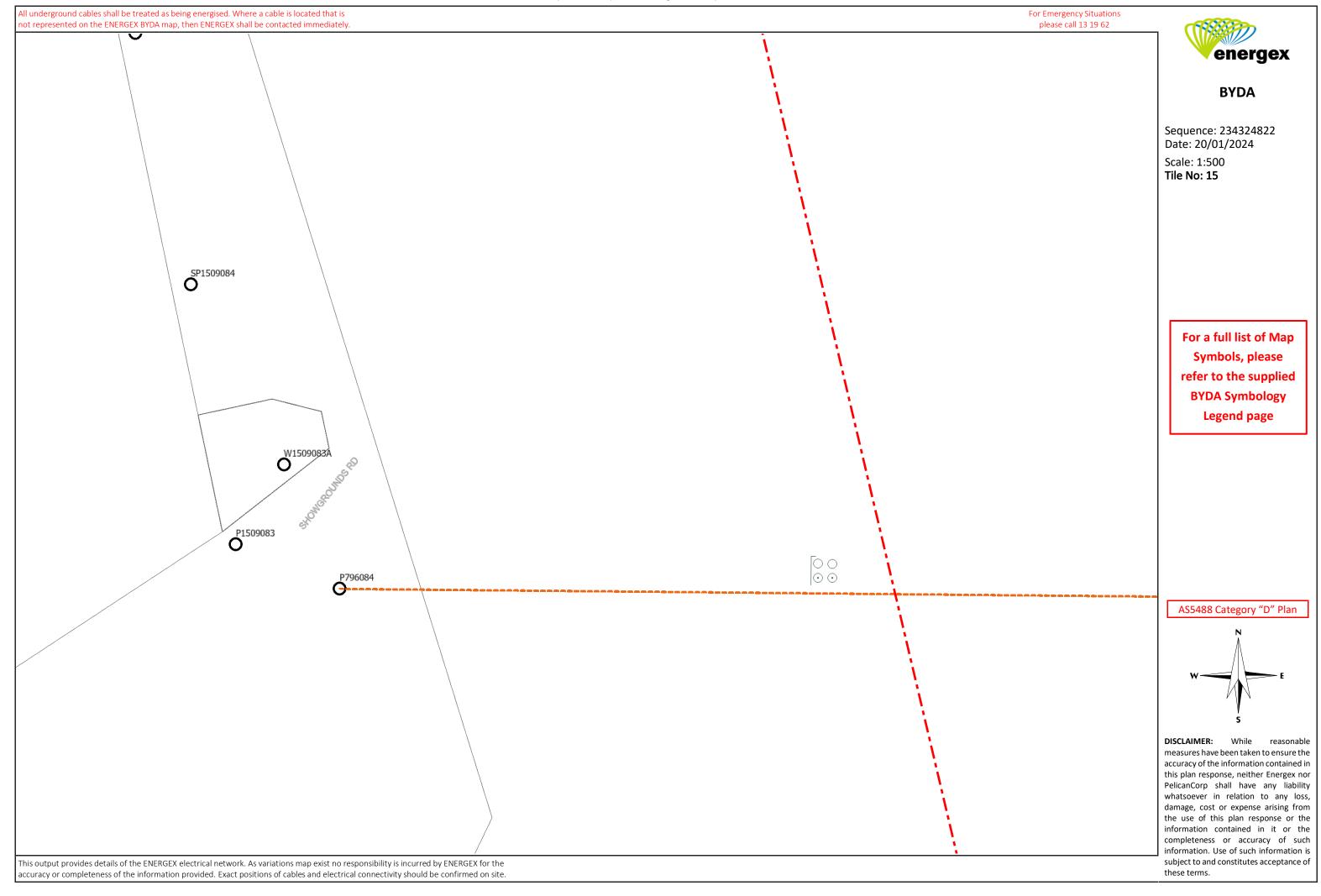
> For a full list of Map Symbols, please refer to the supplied BYDA Symbology Legend page

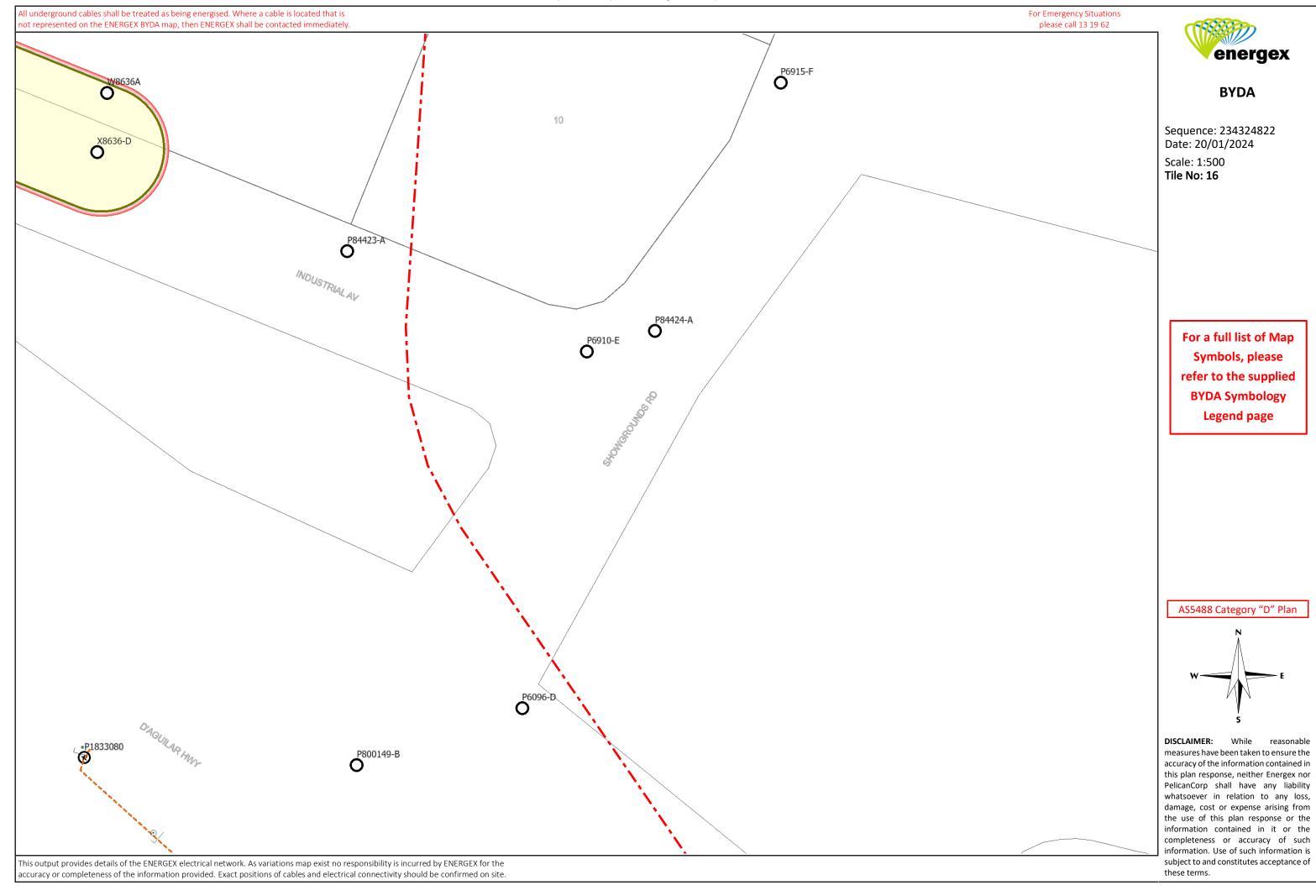
AS5488 Category "D" Plan

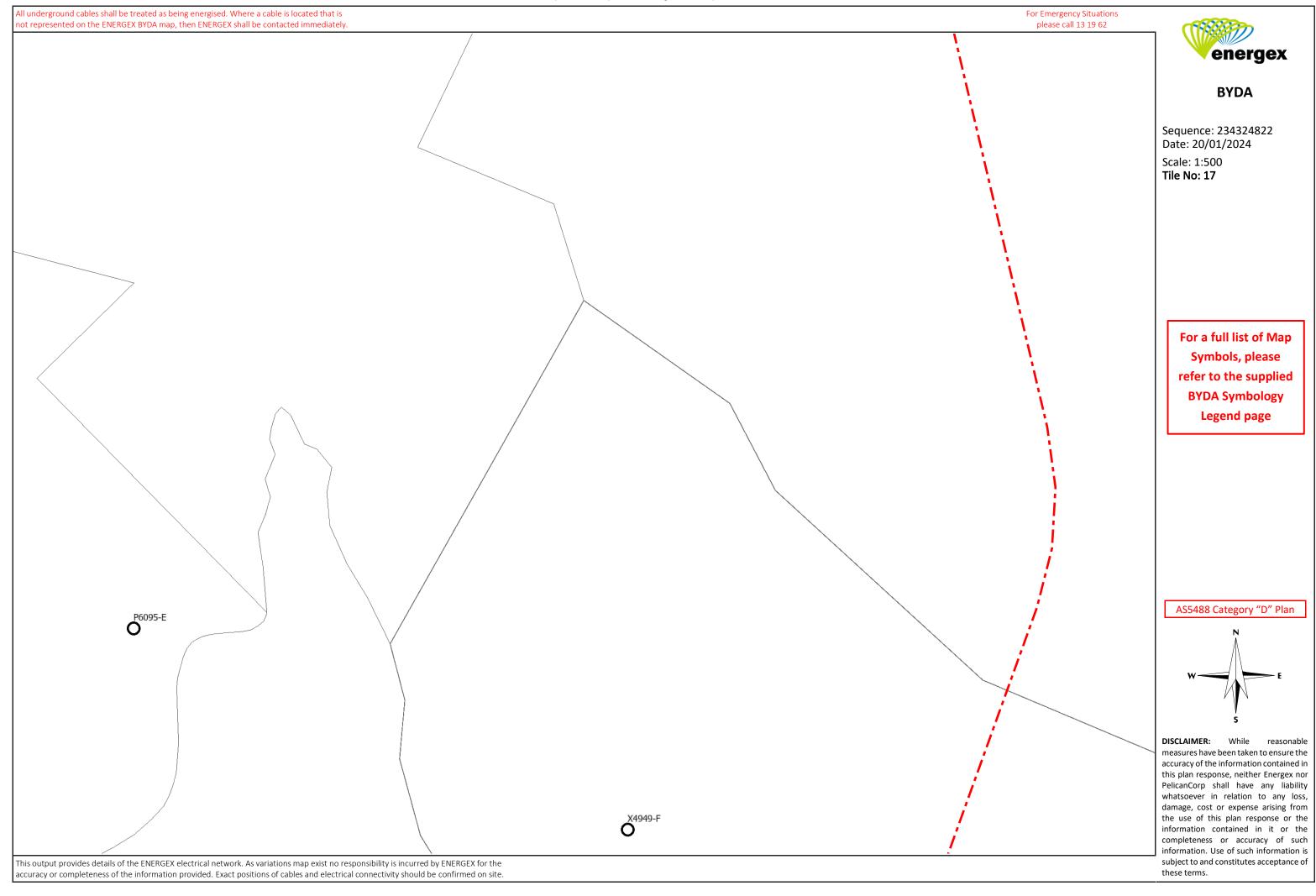


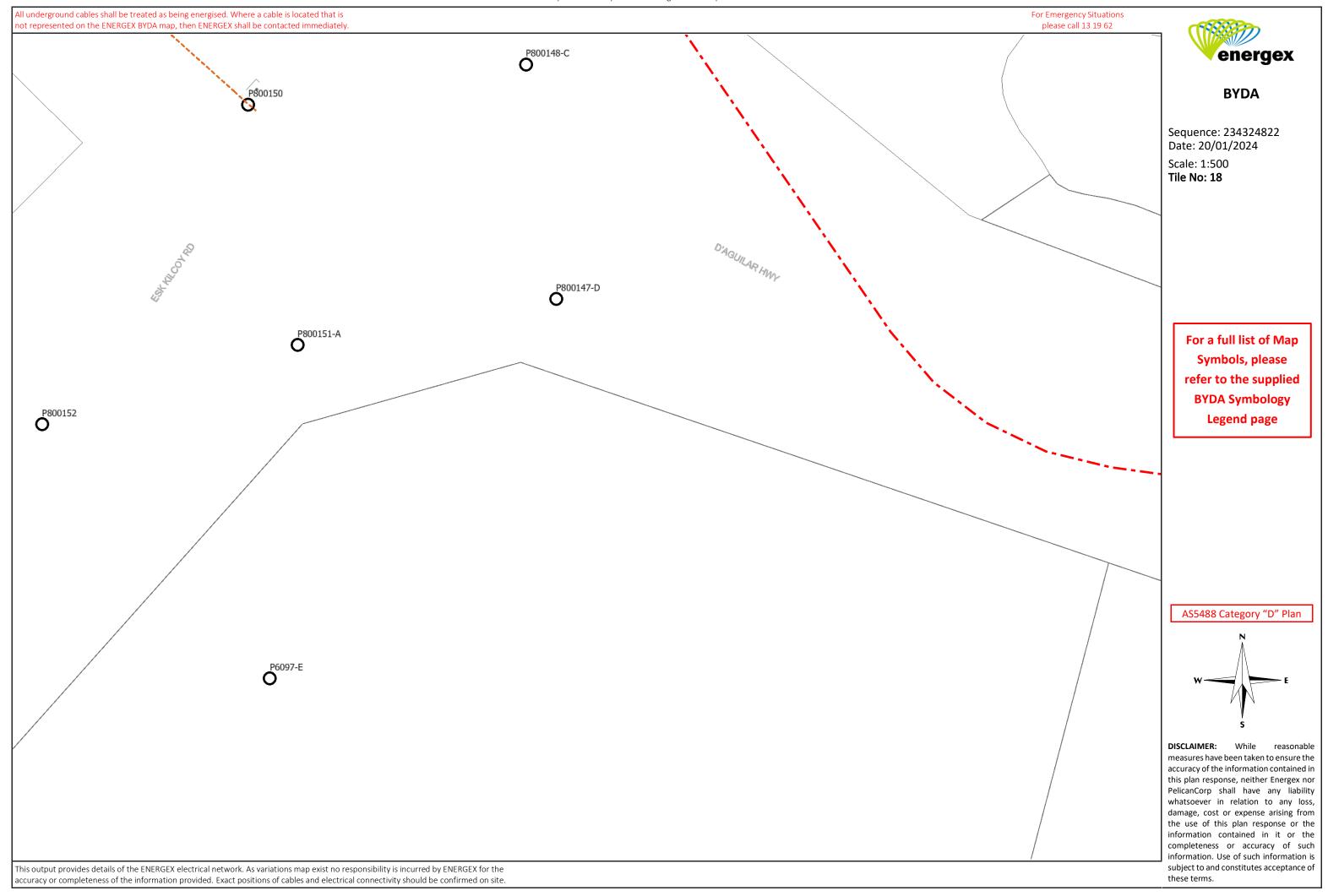
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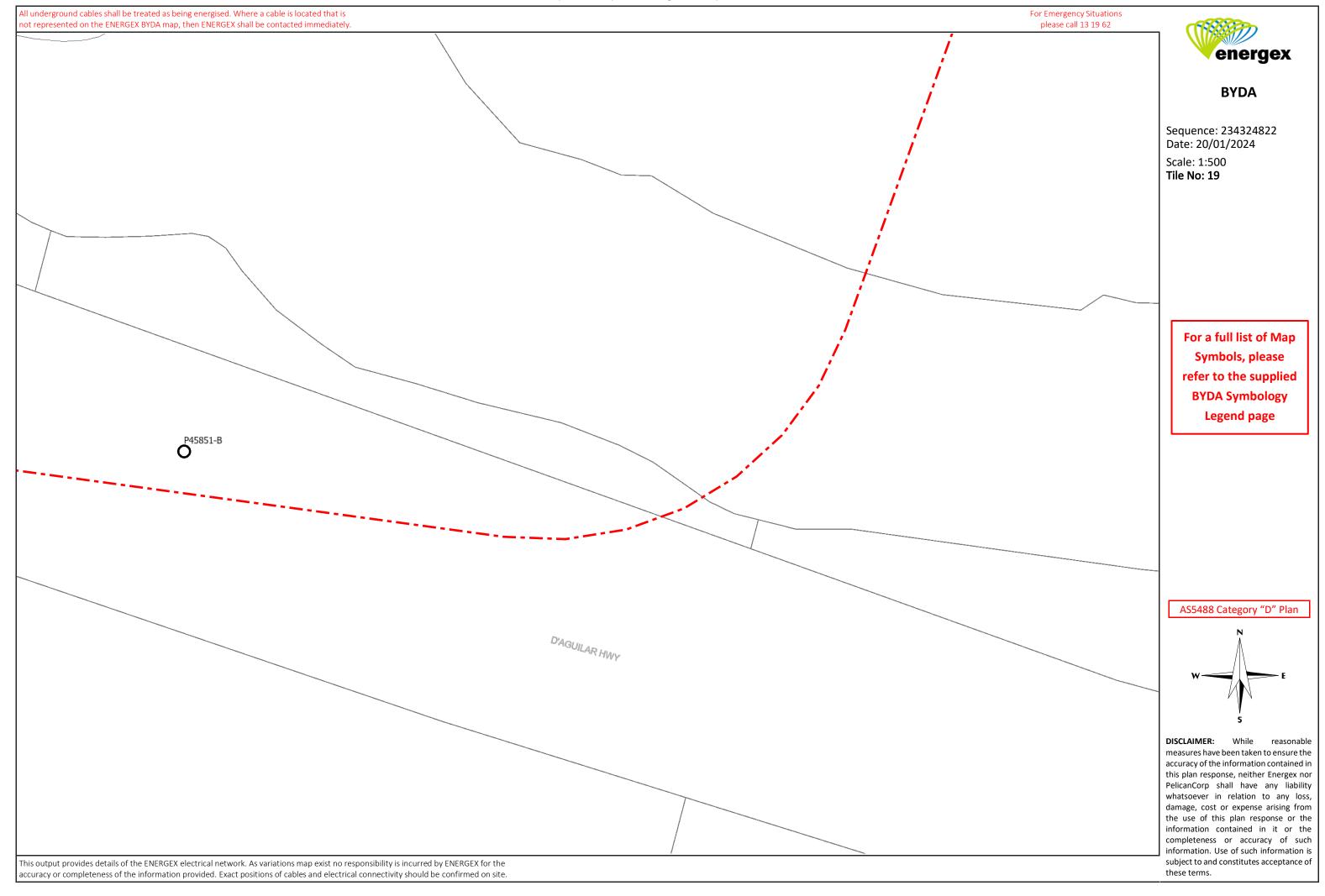














Appendix B - Engineering Plans

PROPOSED RETIREMENT LIVING DEVELOPMENT

51 OVERLANDER AVENUE, WOOLMAR RUBY DEVELOPMENTS PTY LTD

Project Number: S23-163

INDEX OF DRAWINGS

GENERAL DRAWINGS

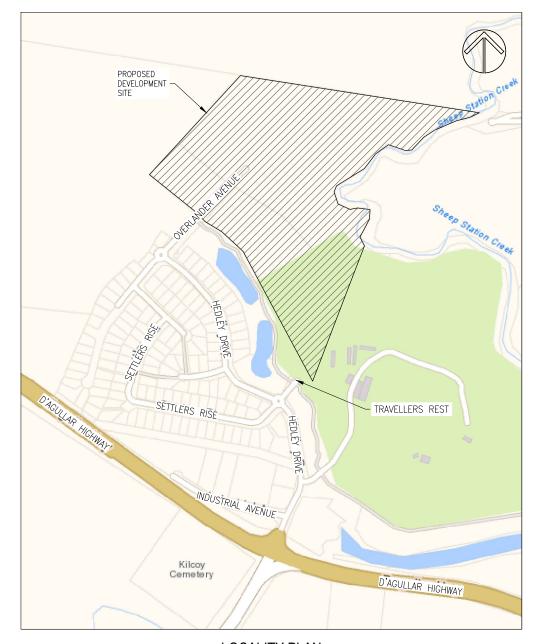
S23-163-PG01 PRELIMINARY COVER SHEET

CIVIL DRAWINGS

S23-163-PC01 PRELIMINARY CIVIL NOTES & LEGEND S23-163-PC02 PRELIMINARY CIVIL WORKS SITE PLAN S23-163-PC03 PRELIMINARY CIVIL WORKS PLAN 1 OF 4 S23-163-PC04 PRELIMINARY CIVIL WORKS PLAN 2 OF 4 S23-163-PC05 PRELIMINARY CIVIL WORKS PLAN 3 OF 4 S23-163-PC06 PRELIMINARY CIVIL WORKS PLAN 4 OF 4 S23-163-PC07 PRELIMINARY STORMWATER DETAILS 1 OF 3 S23-163-PC08 PRELIMINARY STORMWATER DETAILS 2 OF 3 S23-163-PC09 PRELIMINARY STORMWATER DETAILS 3 OF 3 S23-163-PC10 PRELIMINARY CATCHMENT

EARTHWORKS DRAWINGS

S23-163-PE01 PRELIMINARY EARTHWORKS SITE PLAN S23-163-PE02 PRELIMINARY EARTHWORKS PLAN 1 OF 4 S23-163-PE03 PRELIMINARY EARTHWORKS PLAN 2 OF 4 S23-163-PE04 PRELIMINARY EARTHWORKS PLAN 3 OF 4 S23-163-PE05 PRELIMINARY EARTHWORKS PLAN 4 OF 4 S23-163-PE06 PRELIMINARY EARTHWORKS SECTION



LOCALITY PLAN

TITLE

CLIENT

S23-1	S23-163-PG_Pre_Coversheet.dwg							
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Α	09.05.24	DA RESPONSE	S.C.M	S.C.M	J.M.H	J.M.H	DATE FEBRUARY 2024	For and WESTER
							APPROVED J.M.H	
							CHECKED J.M.H	
							DRAWN S.C.M]
							DESIGNED S.C.M	



	BRISBANE E brisbane@westerapartne	T 07 3852 4333 s.com.au	SUF
1	GOLD COAST E goldcoast@westerapartne	T 07 5571 1599 ers.com.au	PHO
S	SUNSHINE COAST E sunshinecoast@westerap		USE
RS	NORTHERN NSW E nsw@westerapartners.co		DRAV AND
5	CENTRAL VICTORIA	T 03 5441 0922	THE

33 99	SURVEYOR MURRAY & ASSOC. SURVEYORS PHONE 07 5495 1478	DATUM A.H.D. P.M. 47963 R.L. 108.852
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PROJECT PROPOSED RETIREMENT LIVING DEVELOPMENT
LOCATION LOT 501 - 503 on SP313414 & LOT 915 on SP313141
51 OVERLANDER AVENUE

PRELIMINARY COVER SHEET	
RUBY DEVELOPMENTS PTY LTD	

DRAWING STATUS	
PRELIMINARY	N.F.C.
DRAWING NUMBER	
S23-163-F	'G01
SHEET NUMBER	REVISION

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GENERAL NOTES

- WESTERA PARTNERS HAS LIMITED CONTROL OR INPUT TO LOCAL GOVERNMENT OR OTHER LEGISLATED APPROVALS UNLESS SPECIFICALLY ENGAGED BY IT'S CLIENT. ANY CHANGES TO APPROVAL REQUIREMENTS (INCLUDING ORDERS FOR SUSPENSION OF WORKS ETC) SHOULD BE COMMUNICATED TO WESTERA PARTHERS AND ALL OTHER RELEVANT DESIGNERS TO ALLOW ASSESSMENT OF POTENTIAL RISKS AND ENSURE DESIGN AND SAFETY COMPLIANCE.
- ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE LOCAL AUTHORITIES STANDARD DRAWINGS & SPECIFICATIONS AND COMPLETED TO THE SATISFACTION OF THE SUPERINTENDENT AND LOCAL AUTHORITY.
- UNI FSS SPECIFIED OTHERWISE ALL MATERIALS AND WORK SHALL COMPLY WITH
- PRIOR TO THE COMMENCEMENT OF CONSTRUCTION THE CONTRACTOR MUST LOCATE G4 ALL EXISTING SERVICES AND PROMPTLY PROVIDE THE LOCATION DATA TO THE DESIGN ENGINEER TO ASSESS IMPACTS ON THE DESIGN.
- ALL CONNECTIONS TO EXISTING SEWERS AND WATER MAINS ARE TO BE G5 CONSTRUCTED BY THE LOCAL AUTHORITY OR AN APPROVED CONTRACTOR. THE CONTRACTOR IS TO ALLOW IN HIS CONTRACT SUM FOR THE COST OF ANY PROPOSED CONNECTIONS
- ALL SEWERS ARE TO BE 150MM DIA LLPVC CLASS SN8 RUBBER RING JOINTED AND PROPERTY CONNECTIONS ARE TO BE 100MM DIA. U.P.V.C CLASS SN6 UNLESS NOTED OTHERWISE.
- THE PAVEMENT DEPTHS SHOWN ARE PRELIMINARY ONLY AND ARE TO BE VERIFIED FOLLOWING SUB-SOIL TESTS OF THE SUB-GRADE MATERIAL
- ALL ROOFWATER CONNECTIONS FROM KERB ADAPTERS ARE TO BE 100MM DIA CLASS SN10 AT A MIN GRADE OF 1.0% UNLESS SHOWN OTHERWISE. ROOFWATER CONNECTIONS FROM FIELD INLETS OR GULLY PITS ARE TO BE 150MM DIA CLASS SN8 AT A MIN GRADE OF 1.0% UNLESS NOTED OTHERWISE.
- ALL U.P.V.C. STORMWATER DRAINAGE PIPES ARE TO BE CLASS SN8 AND ALL R.C. AND F.R.C. PIPES ARE TO BE CLASS 3 RUBBER RING JOINTED UP TO AND INCLUDING 600 DIA. PIPES OVER 600 DIA. ARE TO BE CLASS 3 AND ARE TO HAVE AN EXTERNAL RUBBER BAND JOINT GROUTED INTERNALLY.
- WATER PIPES SHALL BE; P.V.C.-M WATER PIPES ARE TO BE SERIES 2 PN16 SN10 R.R.J. D.I.C.L. WATER PIPES ARE TO BE PN35 WITH ALL FITTINGS TO BE FUSION
 - BONDED POLYMERIC COATED. PE WATER PIPES ARE TO BE PN16 SDR11 PE100. DN25 AND DN32 WATER SERVICES SHALL BE PE80B.
- ALL "AS CONSTRUCTED" INFORMATION IS TO BE RECORDED AS REQUIRED BY THE LOCAL AUTHORITY AND SUBMITTED TO THE SUPERINTENDENT IMMEDIATELY AFTER COMPLETION OF THE WORKS.
- ALL ALLOTMENTS ARE TO BE GRADED AT A MINIMUM GRADE OF 1 IN 200.

CONCRETE NOTES

- ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS3600 CONCRETE STRUCTURES CODE AND THE REFERENCED STANDARDS THEREIN.
- THE CONCRETE STRENGTH GRADE AND THE COVER TO REINFORCEMENT FOR THE VARIOUS CONCRETE ELEMENTS SHALL BE AS LISTED BELOW: - CLIMATE ZONE: TROPICAL TEMPERATE ARID
 - LOCATION: COASTAL NEAR COASTAL INLAND

ECONSTAL MENT CONSTAL MENTE			
ELEMENT	EXPOSURE CLASSIFICATION	STRENGTH GRADE	MINIMUM COVER
MANHOLES	B1	N32	40
MANHULES	C2	S50	65
FIELD INLET PITS	B1	N32	40
FIELD INLET FITS	C2	S50	65
HEADWALLS	B1	N32	40
HEADWALLS	C2	S50	65
INTERNAL ROADS	B1	N40	50
KERB/CHANNEL	B1	N32	-
FOOTPATHS	B1	N32	40
RETAINING WALL PANELS	B1	N32	30*
RETAINING WALL PANELS	C2	S50	60*
DODED DIEDO	B1	N32	40
BORED PIERS	C2	S50	65
*RIGID FORMWORK & INTENSE COMPACTION			

- CONCRETE TO HAVE A MAXIMUM AGGREGATE SIZE OF 20mm WITH 80mm MAXIMUM SLUMP, A WATER/CEMENT RATIO OF NOT GREATER THAN 0.65 AND A MAXIMUM FINAL BASIC DRYING SHRINKAGE STRAIN OF 800 x 10^{-6}_{10} UNLESS APPROVED OTHERWISE.
- NO ADDITIVES SHALL BE ADDED OF APPLIED TO THE CONCRETE MIX WITHOUT THE APPROVAL OF THE ENGINEER.
- THE MAXIMUM PERMISSIBLE TRANSPORT TIME FOR CONCRETE BETWEEN BATCHING AND PLACEMENT ON SITE SHALL BE IN ACCORDANCE WITH THE FOLLOWING TABLE.

AMBIENT AIR	MAX. BATCHING TO
TEMPERATURE	PLACEMENT TIME
10° - 24°C 25° - 27°C 28° - 30°C 31° - 33°C 34° - 36°C 37°C+	120 MINUTES 90 MINUTES 60 MINUTES 45 MINUTES 30 MINUTES NO PLACEMENT OF CONCRETE UNLESS CHILLED WATER OR ICE IN MIX

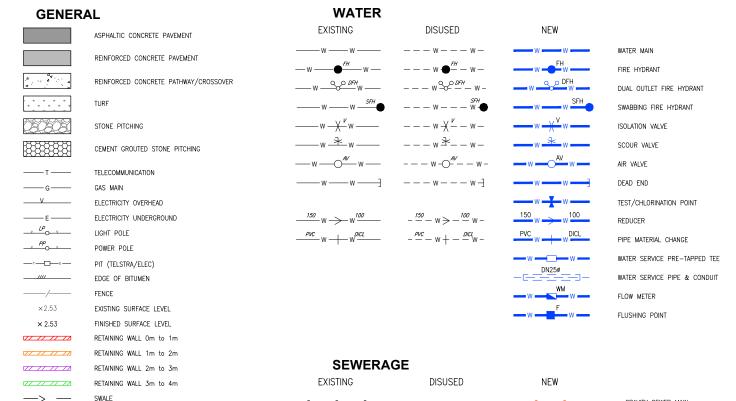
- ALL CONCRETE SHALL BE MECHANICALLY VIBRATED. VIBRATORS SHALL NOT BE USED TO SPREAD CONCRETE.
- ALL CONCRETE SHALL BE SAMPLED AND TESTED IN ACCORDANCE WITH AS1379 ADOPTING THE PROJECT ASSESSMENT METHOD FOR COMPRESSIVE STRENGTH AND SLUMP COMPLIANCE THE RESULTS OF ALL TESTS SHALL BE PROMPTLY SUBMITTED
- WHEN THE AIR TEMPERATURE EXCEEDS 30°C, ALIPHATIC ALCOHOL SHALL BE APPLIED TO THE CONCRETE SURFACE OF SLABS IMMEDIATELY AFTER THE INITIAL SCREED AND AGAIN AFTER BULL FLOATING.
- CURING OF ALL CONCRETE SURFACES SHALL COMMENCE IMMEDIATELY AFTER COMPLETING CONCRETE FINISHING AND SHALL CONTINUE FOR 7 DAYS.
 CONTRACTOR TO CONFIRM METHOD OF CURING WITH ENGINEER PRIOR TO USE
- SIZES OF CONCRETE ELEMENTS DO NOT INCLUDE THICKNESS OF APPLIED FINISHES.
- BEAM DEPTHS ARE WRITTEN FIRST AND INCLUDE SLAB THICKNESS, IF ANY.
- NO HOLES, CHASES OR EMBEDDED ITEMS OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE MADE IN CONCRETE MEMBERS WITHOUT PRIOR APPROVAL OF THE ENGINEER, CONDUITS, PIPES ETC. SHALL NOT BE PLACED IN THE COVER THICKNESS OF THE CONCRETE.
- WHERE SERVICE PIPES PENETRATE CONCRETE ELEMENTS, PROVISION SHOULD BE MADE TO ALLOW FOR MOVEMENT OF THE ELEMENT.
- FORMWORK SHALL BE DESIGNED, CONSTRUCTED AND STRIPPED IN ACCORDANCE C14 WITH AS3610 FORMWORK CODE, UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY AND NOT NECESSARILY SHOWN C15 IN TRUE PROJECTION OR SCALE.
- ALL REINFORCEMENT SHALL BE SECURELY SUPPORTED IN ITS CORRECT POSITION C16 ON PLASTIC BAR CHAIRS, GENERALLY AT NOT GREATER THAN 800mm CENTRES IN BOTH DIRECTIONS.
- WELDING AND HEATING OF REINFORCEMENT SHALL NOT BE PERMITTED WITHOUT APPROVAL OF THE ENGINEER.
- ALL STEEL REINFORCEMENT IN CONCRETE ELEMENTS SHALL BE INSPECTED BY THE ENGINEER AND PASSED PRIOR TO POURING OF ANY CONCRETE.
- LAP REINFORCEMENT ONLY AT LOCATIONS SHOWN ON THE DRAWINGS OR AS APPROVED BY THE ENGINEER.
- SLAB FABRIC SHALL BE LAPPED ONE FULL PANEL OF FABRIC PLUS 50mm SO THAT THE TWO OUTERMOST TRANSVERSE WIRES OF ONE SHEET OVERLAP THE TWO OUTERMOST TRANSVERSE WIRES OF THE SHEET BEING LAPPED BY 50mm
- BAR REINFORCEMENT SHALL BE LAPPED IN ACCORDANCE WITH THE FOLLOWING TABLE.

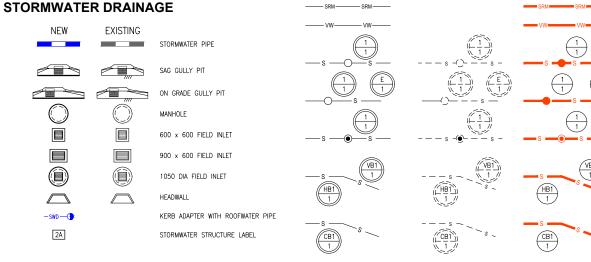
	TYPICAL BAR REINFORCEME	NT LAP LENGTHS
BAR	HORIZONTAL BARS WITH GREATER THAN 300mm OF CONCRETE CAST BELOW THEM	
N12	550	750
N16	800	1100
N20	1100	1400
N24	1250	1600
N28	1400	1800
N32	1600	2100
N36	2000	2500

WHERE LAPS ARE SHOWN ON THE DRAWINGS THE ABOVE LAP LENGTHS SHALL BE ADOPTED UNLESS NOTED OTHERWISE. WHERE BARS OF DIFFERENT DIAMETER ARE SHOWN LAPPED, ADOPT THE LAP LENGTH APPROPRIATE TO THE SMALLER DIAMETER BAR.

A VAPOUR BARRIER OF 0.2mm (200um) MINIMUM THICK POLYTHENE SHEETING SHALL BE PLACED BENEATH SLABS ON GROUND UNLESS NOTED OTHERWISE.

LEGEND





_s __s __s _



WESTERA GOLD COAST

T 07 5571 SUNSHINE COAST T 07 5391 3

SURVEYOR DATUM A.H.D. MURRAY & ASSOC. SURVEYORS P.M. 47963 R.L. 108.852r PHONE 07 5495 1478

SE FIGURED DIMENSIONS ONLY. DO NOT SCALE, IF A DISCREPANCY ARISES CHECK WITH THE PROJECT ENGINEER ANDOR SUPERVISING AUTHORITY. DO WORK FROM REDUCED SCALE DRAWINGS (14.4 SIZE PAPER), COPPRIGHT OF DRAWINGS A WORKS EXECUTED FROM THEM IN VESTED IN WESTERN PARTINE AND USE OF THEER FORE WITHOUT PERMISSION IS STRICTLY PROHIBET THE BULDERS RESPONSIBILITY TO ENSURE ALL WORKS ARE CARRIED OUT WITH THE CONTRACT DOCUMENTS.

PROPOSED RETIREMENT LIVING DEVELOPMENT PROJECT LOT 501 - 503 on SP313414 & LOT 915 on SP313141 LOCATION 51 OVERLANDER AVENUE

DRAWING STATUS PRELIMINARY N.F.C. RAWING NUMBER S23-163-PC01 SHEET NUMBER

01 of 10

GRAVITY SEWER MAIN

SEWER RISING MAIN

SEWER VACUUM MAIN

END OF LINE

MAINTENANCE SHAFT

COMPOUND BEND

RODDING FND

RE

STUB / TEMPORARY END

PROPERTY CONNECTION

ISOLATION VALVE SCOUR VALVE AND CHAMBER GAS RELEASE VALVE FLUSHING POINT

OVERFLOW MAINTENANCE HOLE

DISCHARGE MAINTENANCE HOLE NON-RETURN/REFLUX VALVE VENT POLE / ODOUR CONTROL UNIT

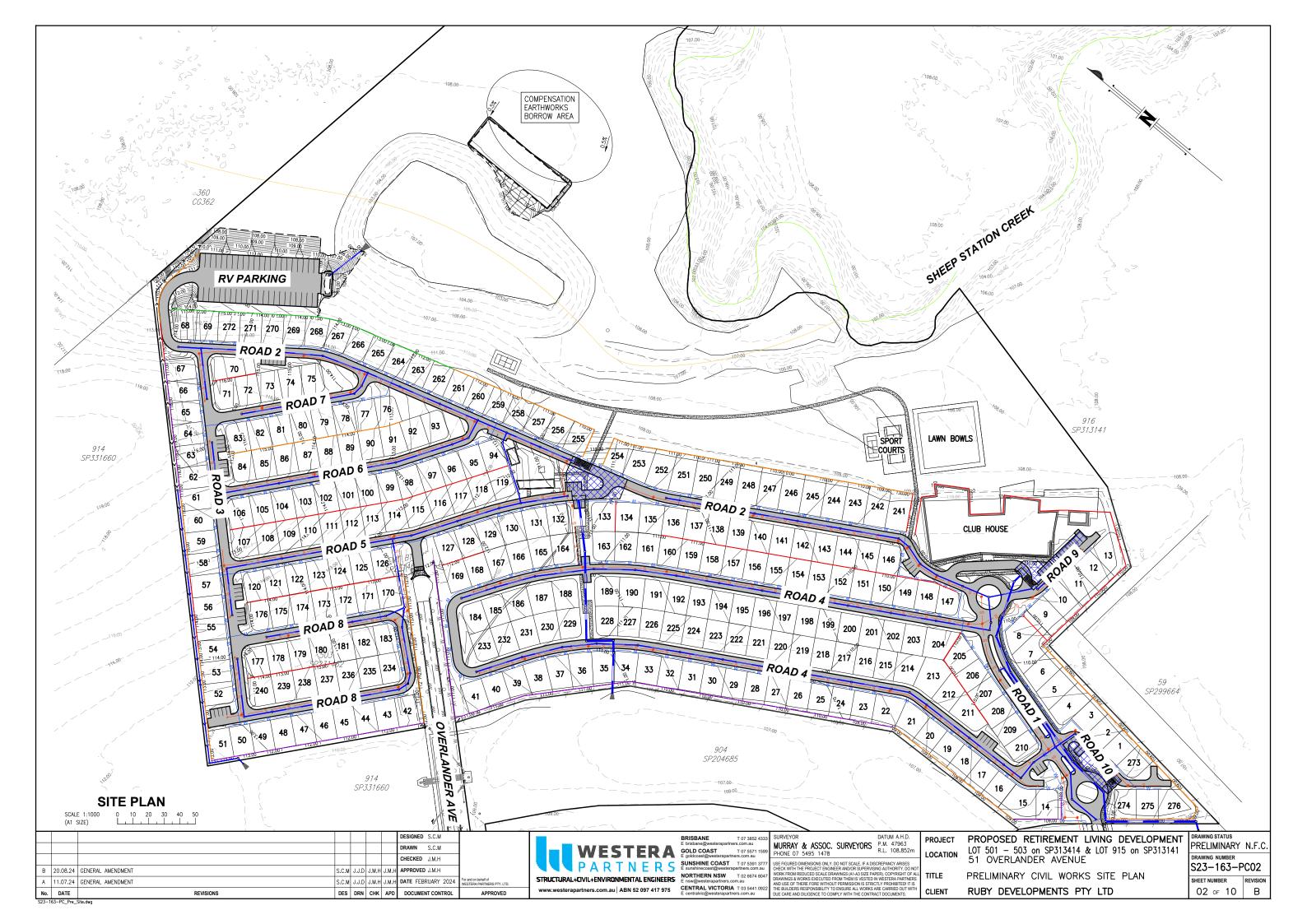
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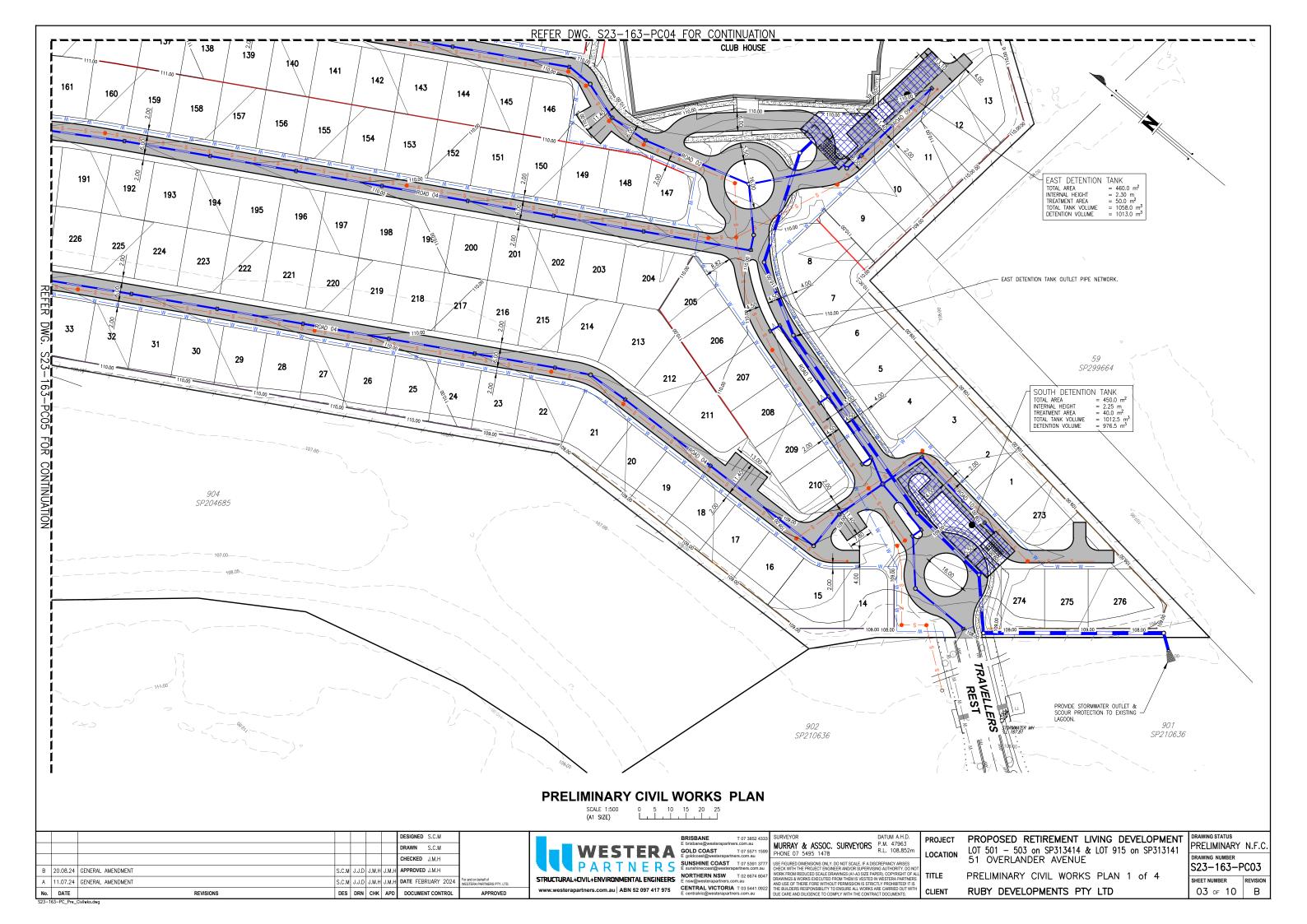
MAINTENANCE HOLE & END OF LINE

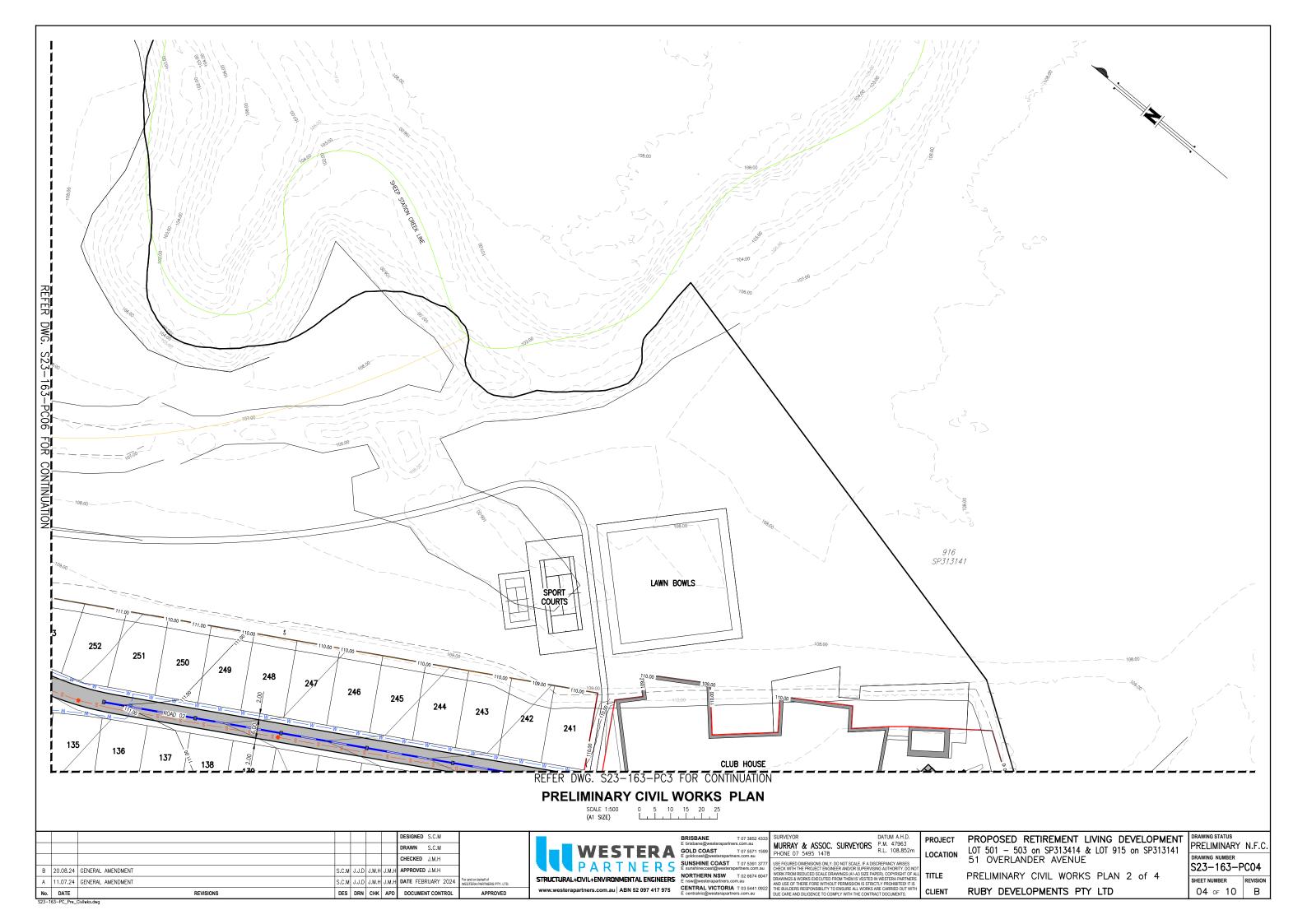
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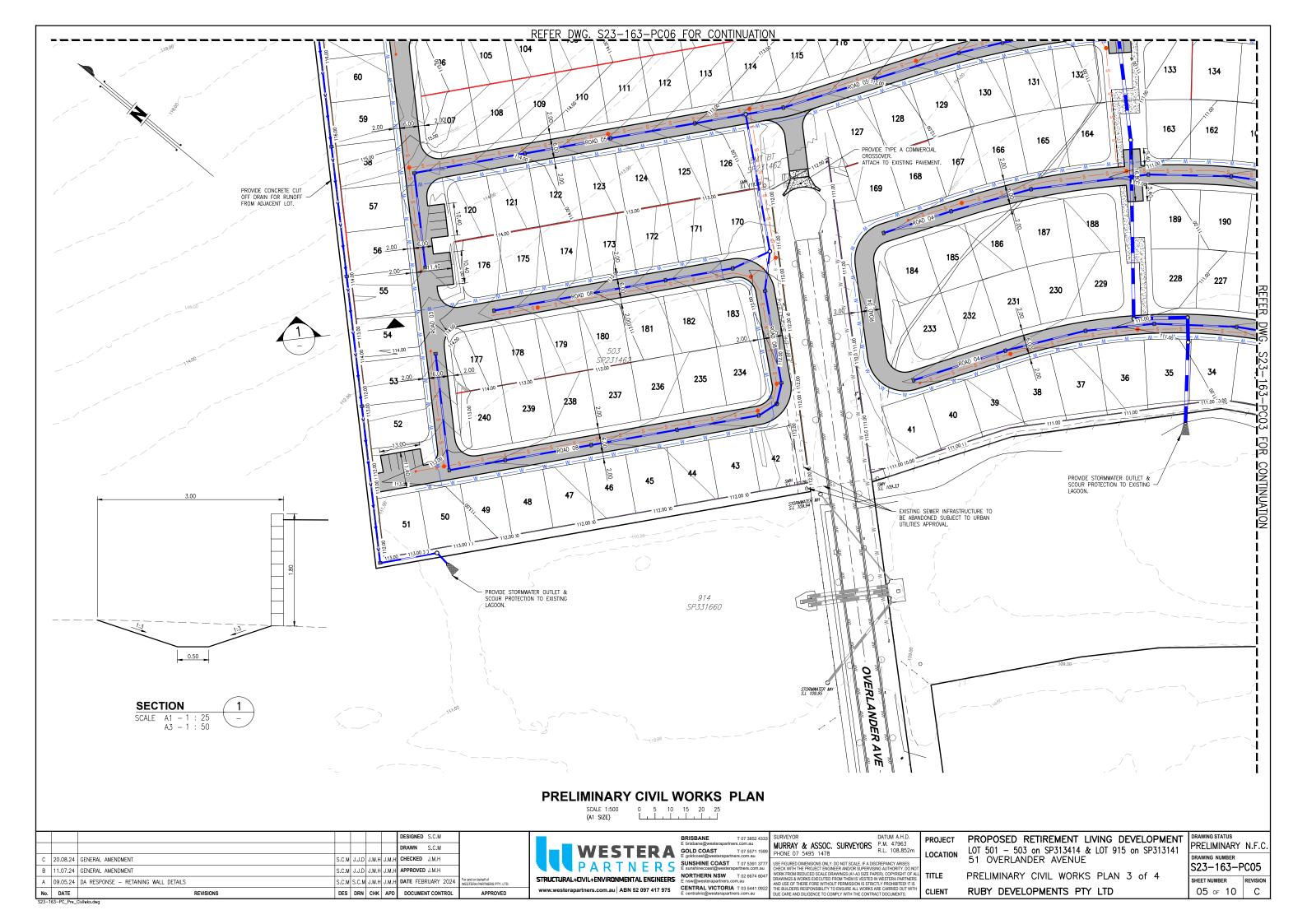
STRUCTURAL+CIVIL+ENVIRONMENTAL ENGINEERS

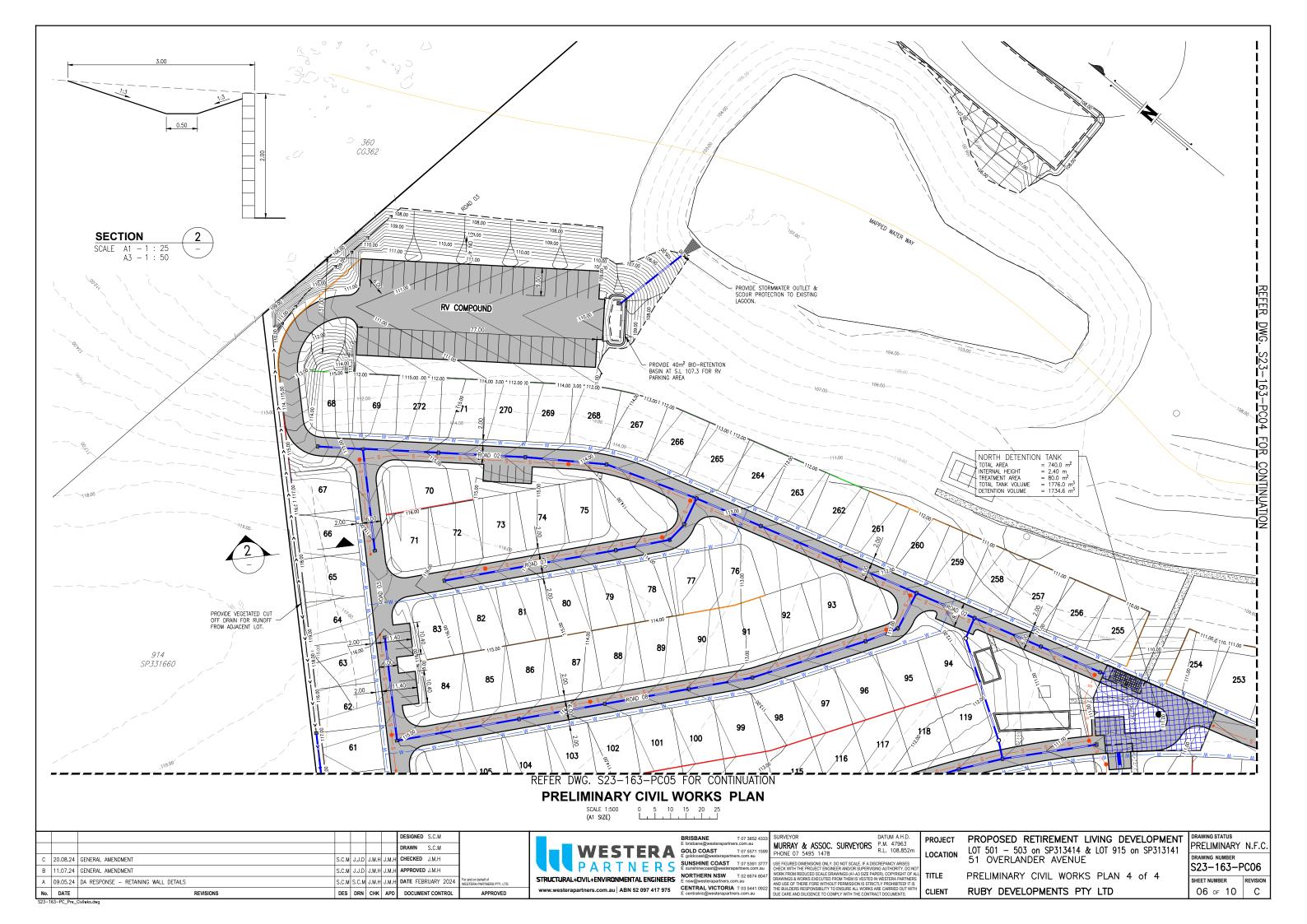
NORTHERN NSW
1 02 6674 8047
E nsw@westerapariners com au

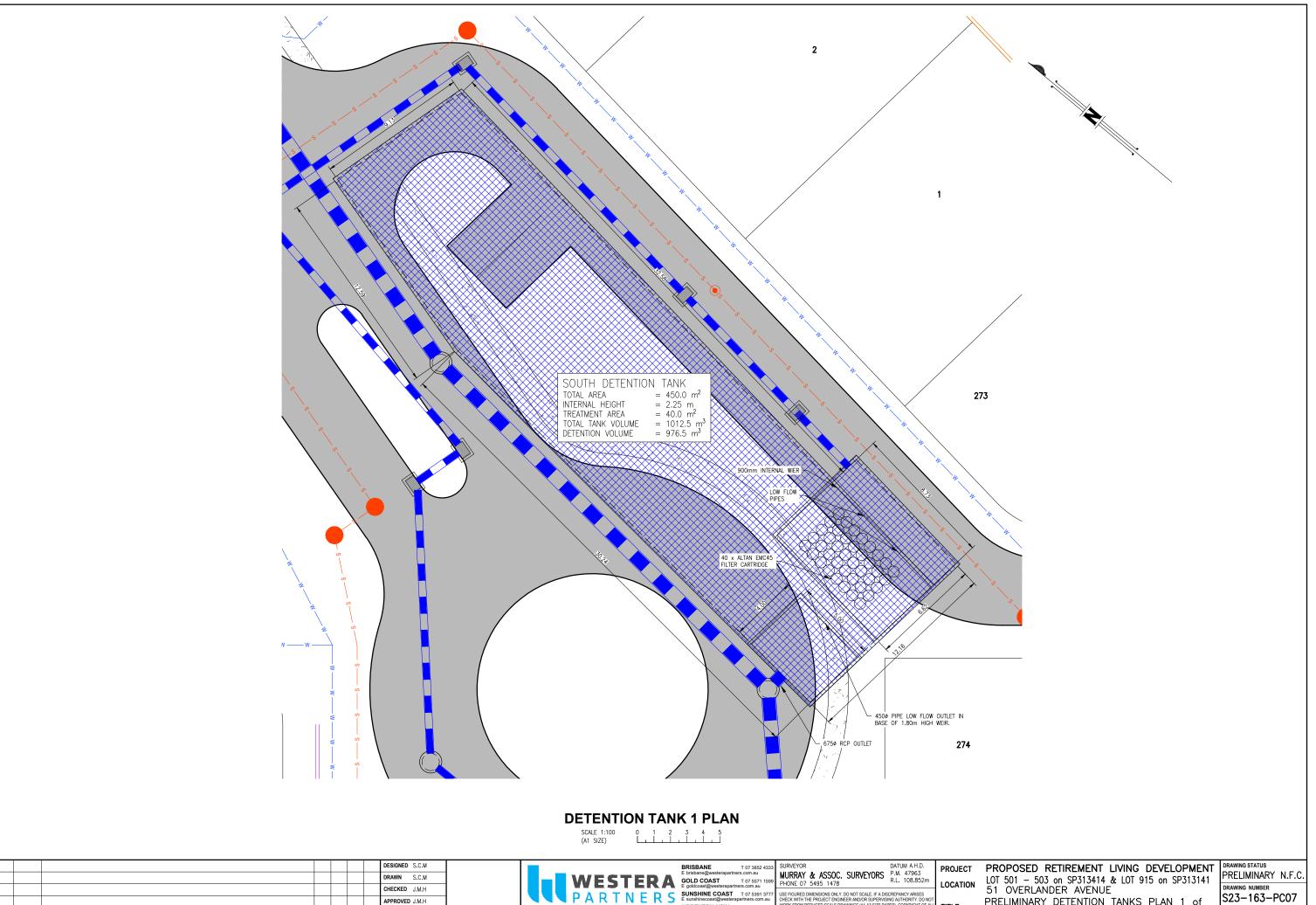












A 11.07.24 GENERAL AMENDMENT No. DATE
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S.C.M J.J.D J.M.H J.M.H DATE FEBRUARY 2024

DES DRN CHK APD DOCUMENT CONTROL

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BRISBANE T 07 3852 43 E brisbane@westerapartners.com.au	33	ľ
GOLD COAST T 07 5571 15 E goldcoast@westerapartners.com.au	99	L
SUNSHINE COAST T 07 5391 37 E sunshinecoast@westerapartners.com.au		0
NORTHERN NSW T 02 6674 80 E nsw@westerapartners.com.au	47	1
CENTRAL VICTORIA T 03 5441 09	22	1

	SURVETUR			DATUM A.F
599	MURRAY & PHONE 07 5		SURVEYORS	P.M. 4796 R.L. 108.8
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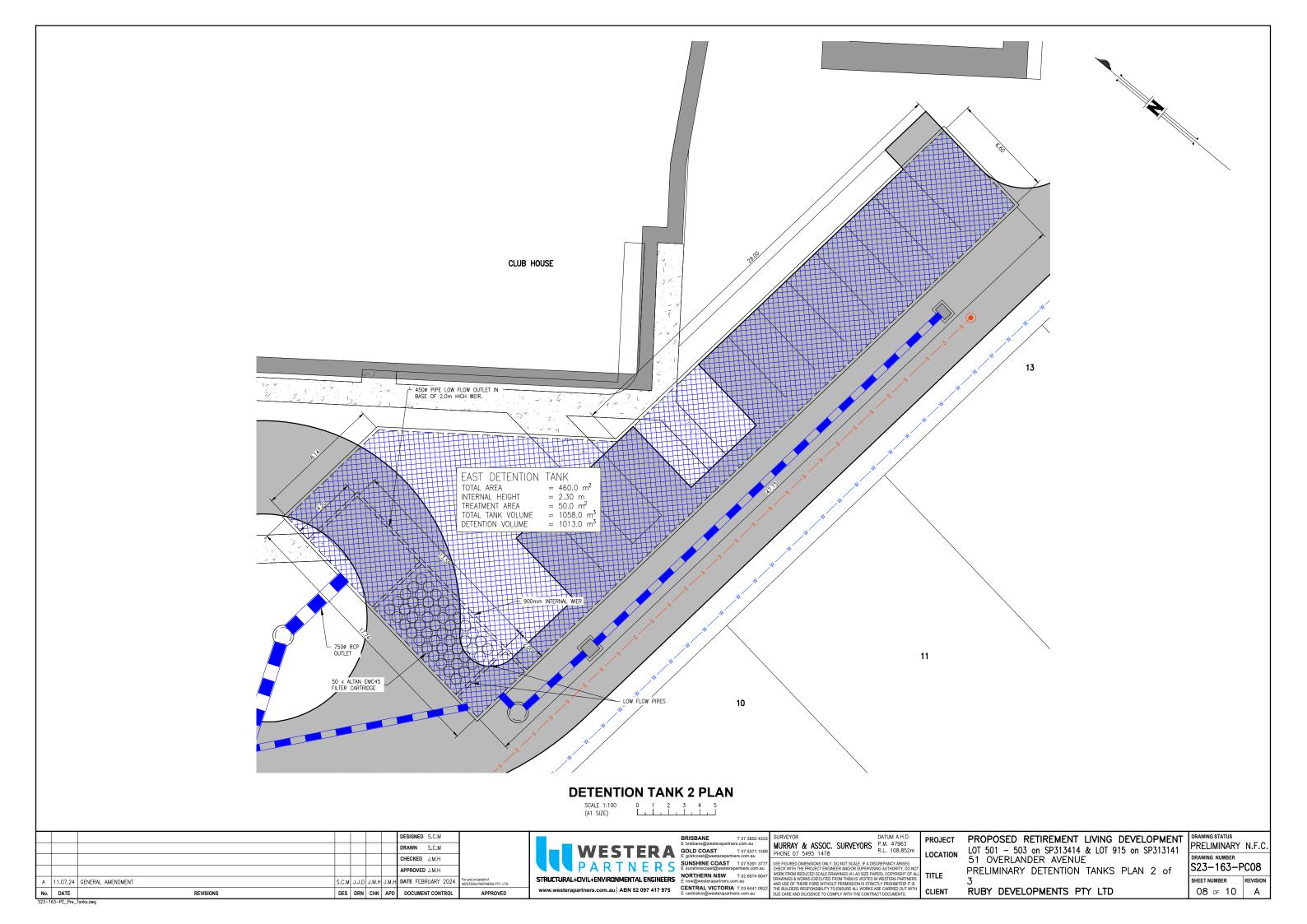
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CLIENT	THE BUILDERS RESPONSIBILITY TO ENSURE ALL WORKS ARE CARRIED OUT WITH DUE CARE AND DILIGENCE TO COMPLY WITH THE CONTRACT DOCUMENTS.

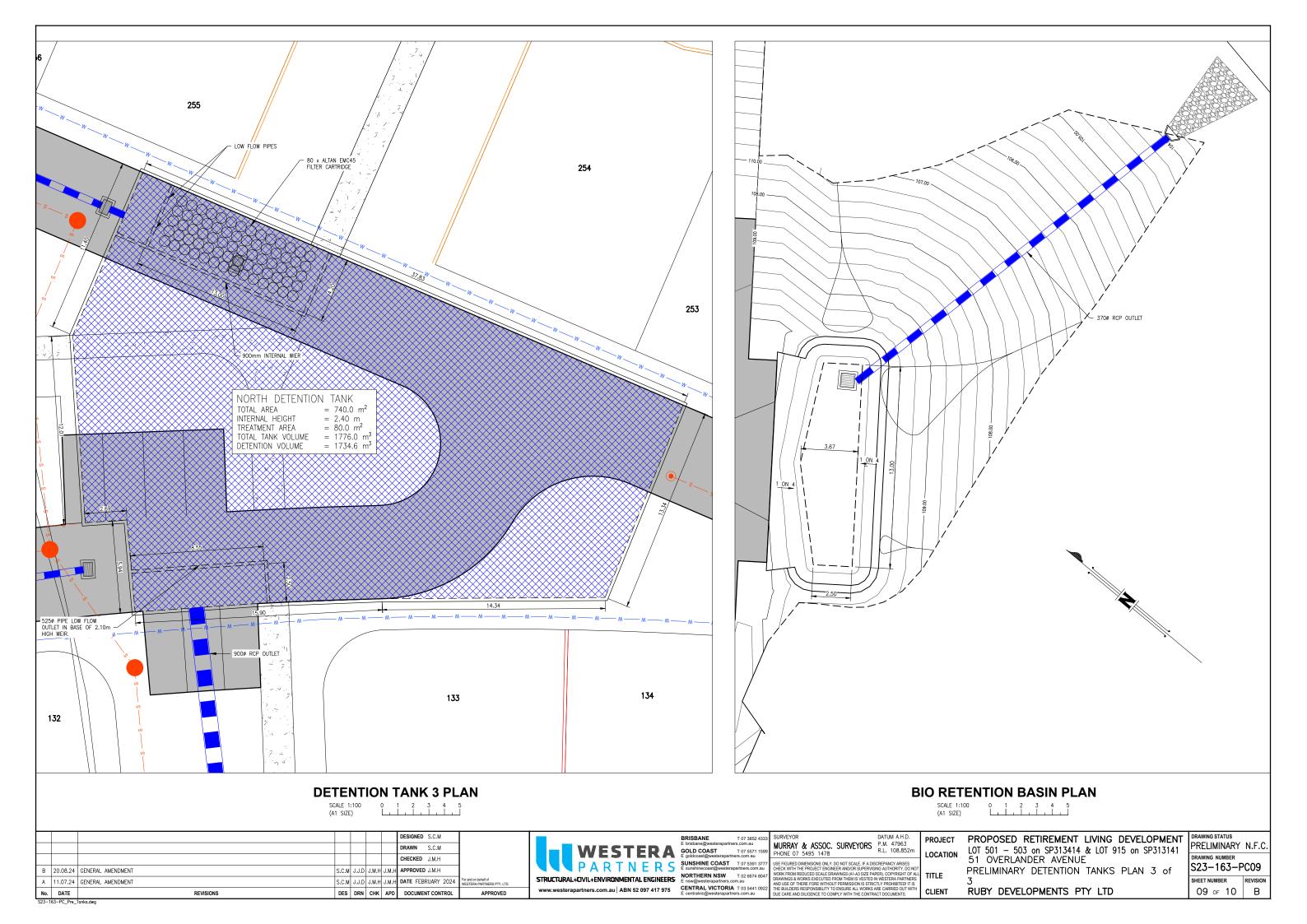
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LOCATION	LOT 501 - 503 on SP313414 & LOT 915 on SP3131 51 OVERLANDER AVENUE
	DDELINANDY DETENTION TANKS DIAM 4

31 OVERLANDER AVENUE						
PRELIMINARY	DETENTION	TANKS	PLAN	1	of	
3						
RUBY DEVEL	OPMENTS P	TY LTD				

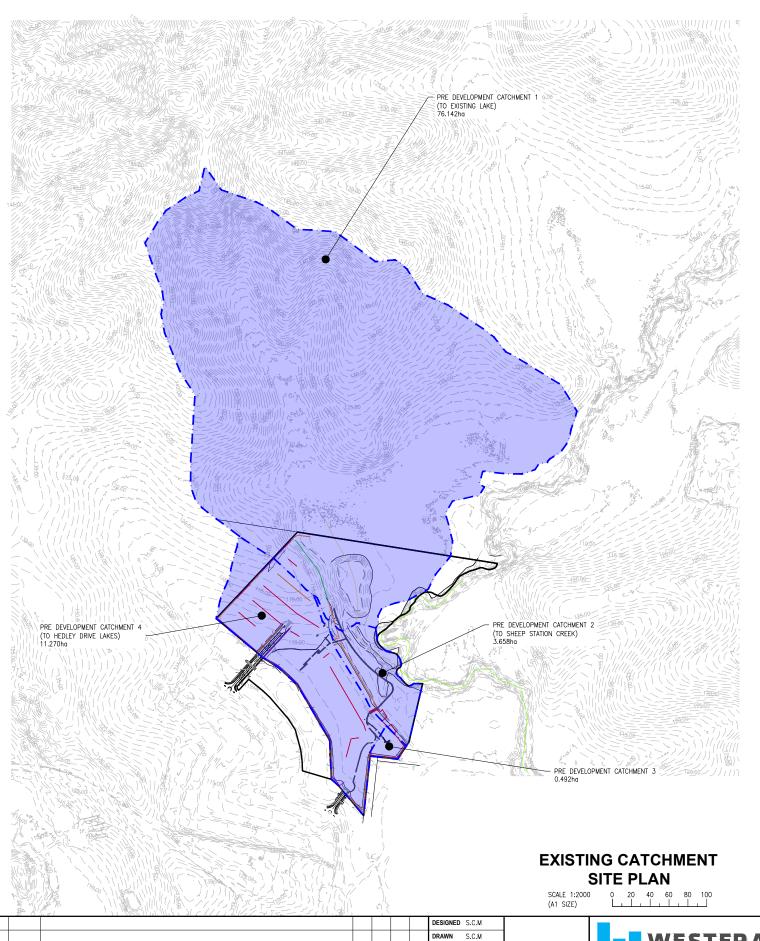
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	DRAWING NUMBER S23-163-P	C07
	SHEET NUMBER	REVISION

07 of 10 A





	OVERLAN	ID FLOW	TO CUT OFF	DRAIN	
CATCHMENT	AREA	AV. SLOPE	TIME OF CONCENTRATION	PEAK	FLOW
	(ha)	(%)	(min)	$Q_{10} (m^3/s)$	Q ₁ (m ³ /s)
Α	1.197	4.91	8	0.29	0.42
В	0.276	13.24	6	0.07	0.11



CHECKED J.M.H

S.C.M J.J.D J.M.H J.M.H APPROVED J.M.H

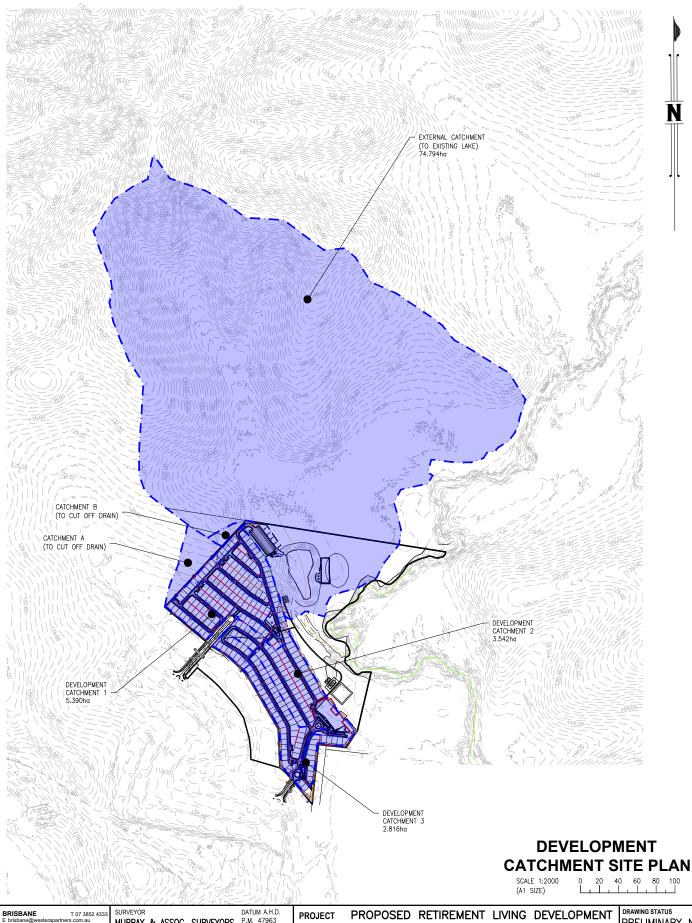
S.C.M S.C.M J.M.H J.M.H DATE FEBRUARY 2024

DES DRN CHK APD DOCUMENT CONTROL

B 11.07.24 GENERAL AMENDMENT

No. DATE

A 09.05.24 DA RESPONSE - CATCHMENT



STRUCTURAL+CIVIL+ENVIRONMENTAL ENGINEERS NORTHERN NSW T 02 6674 804

GOLD COAST

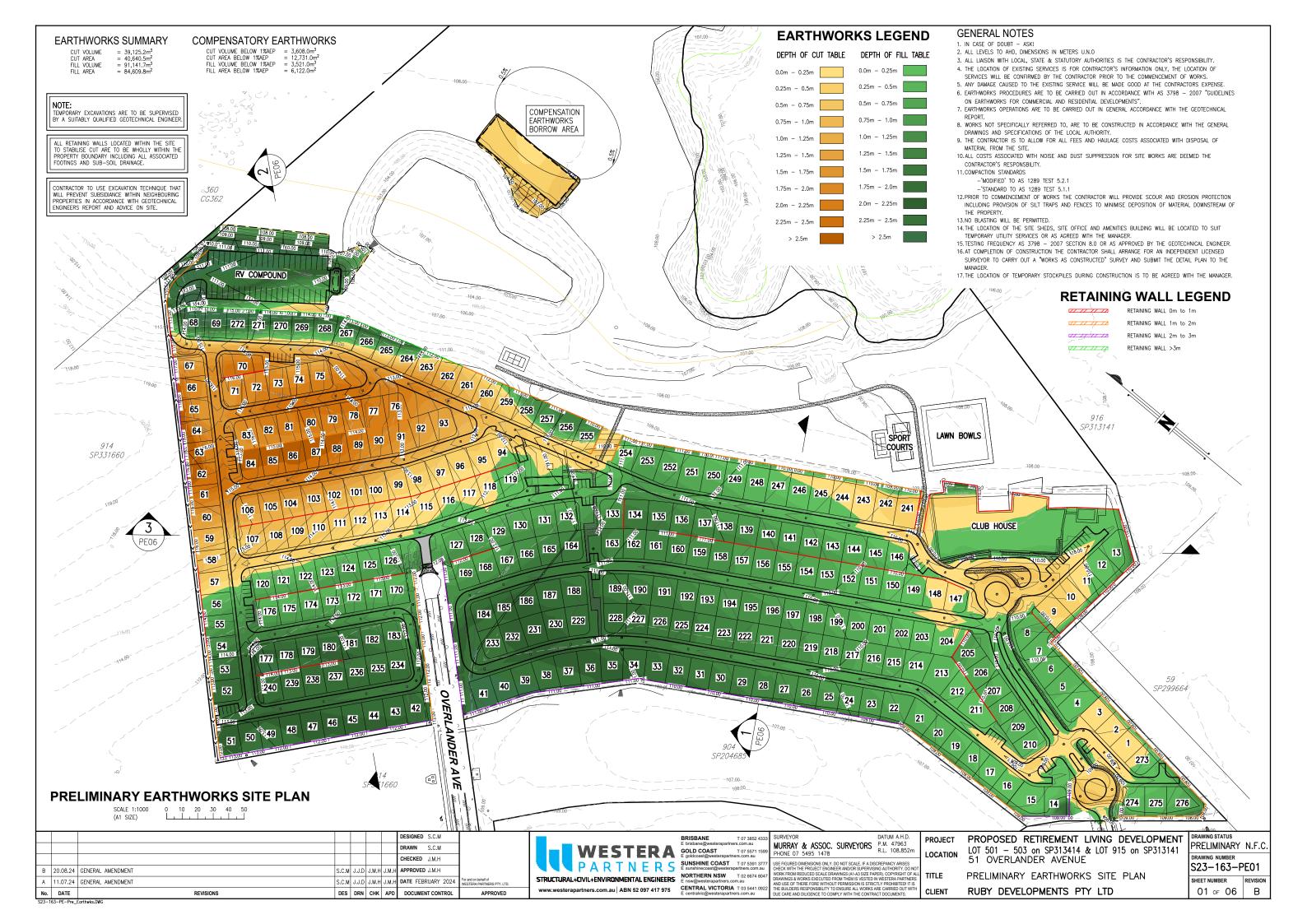
MURRAY & ASSOC. SURVEYORS P.M. 47963 PHONE 07 5495 1478

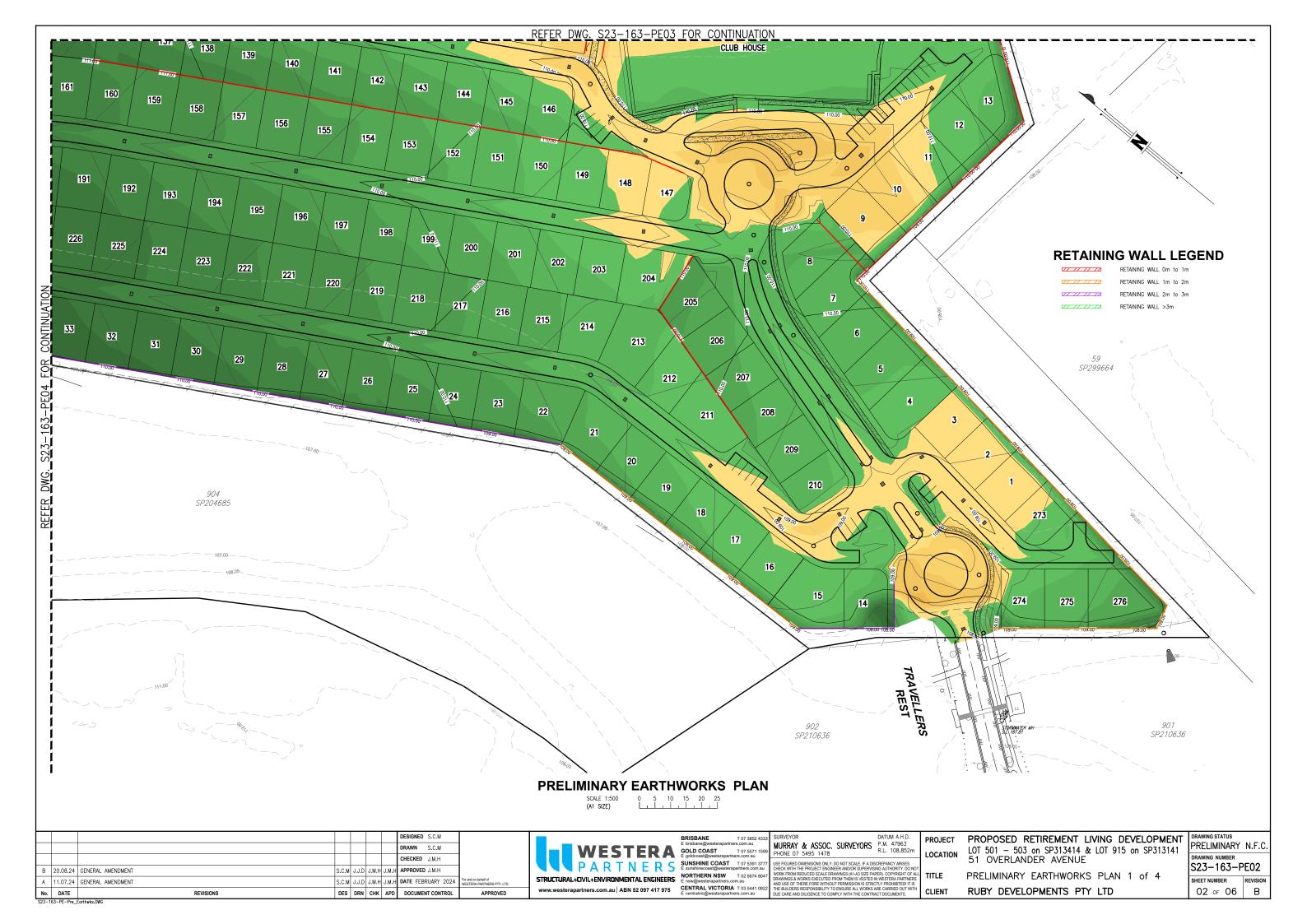
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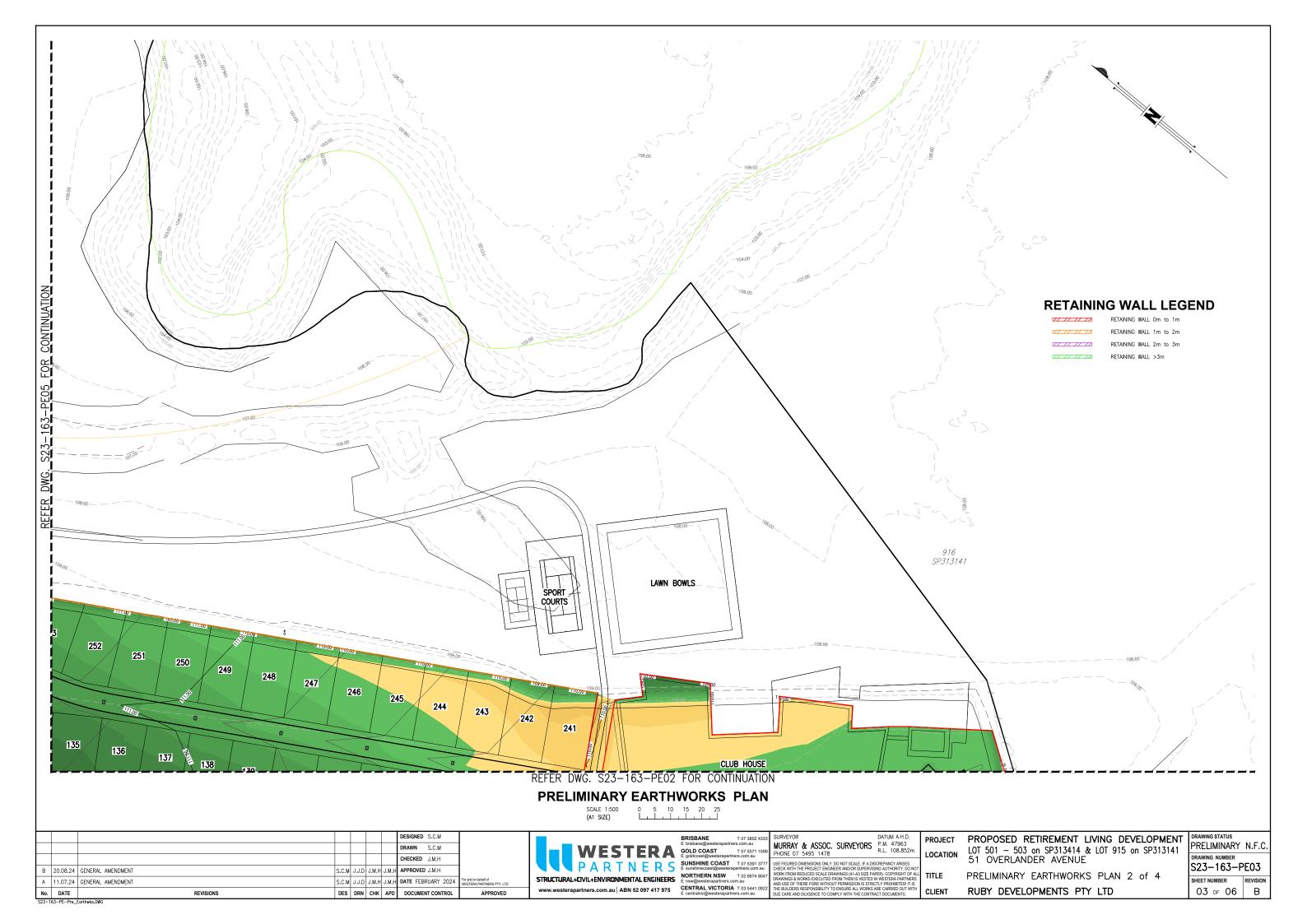
LOT 501 - 503 on SP313414 & LOT 915 on SP313141 51 OVERLANDER AVENUE LOCATION

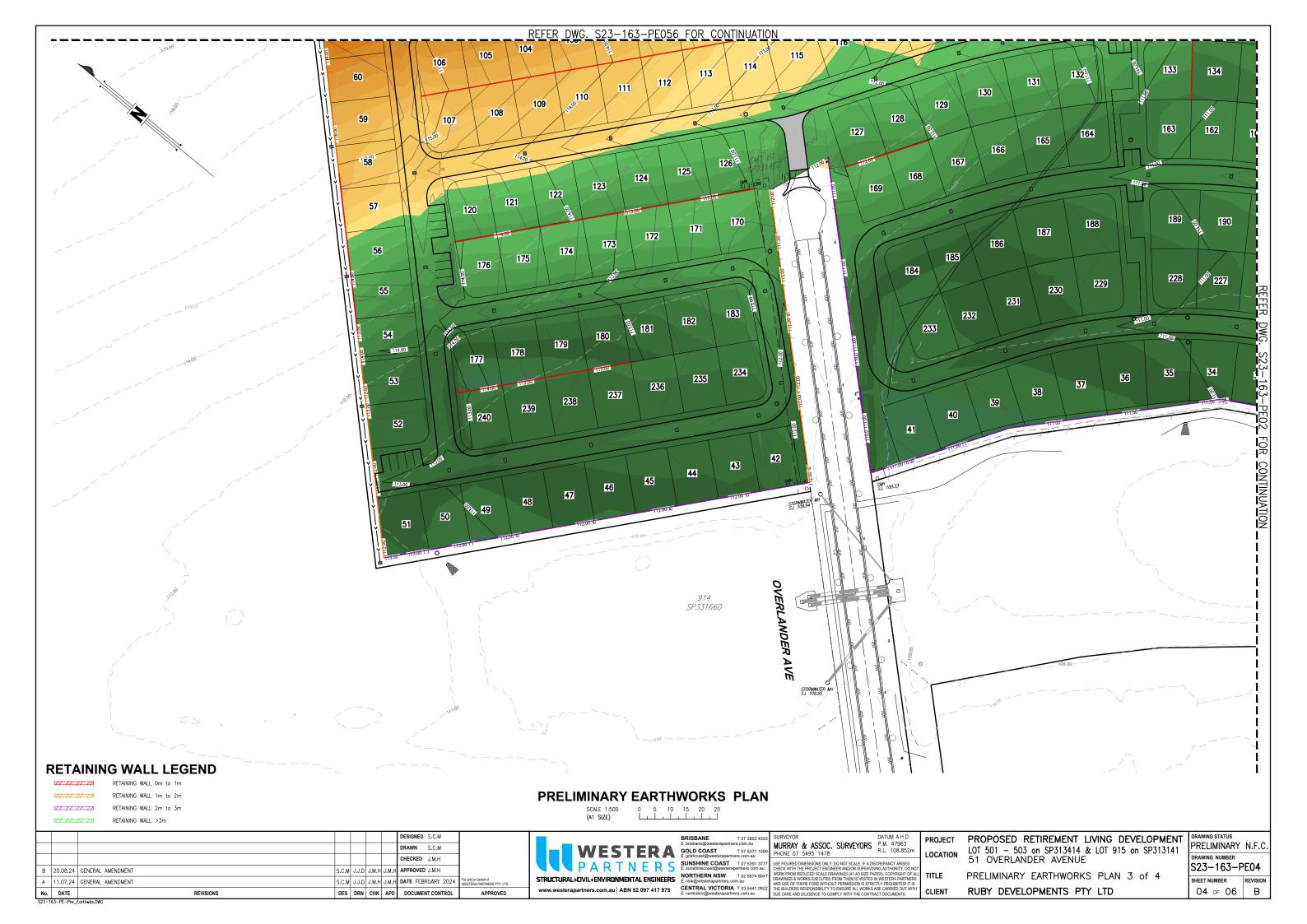
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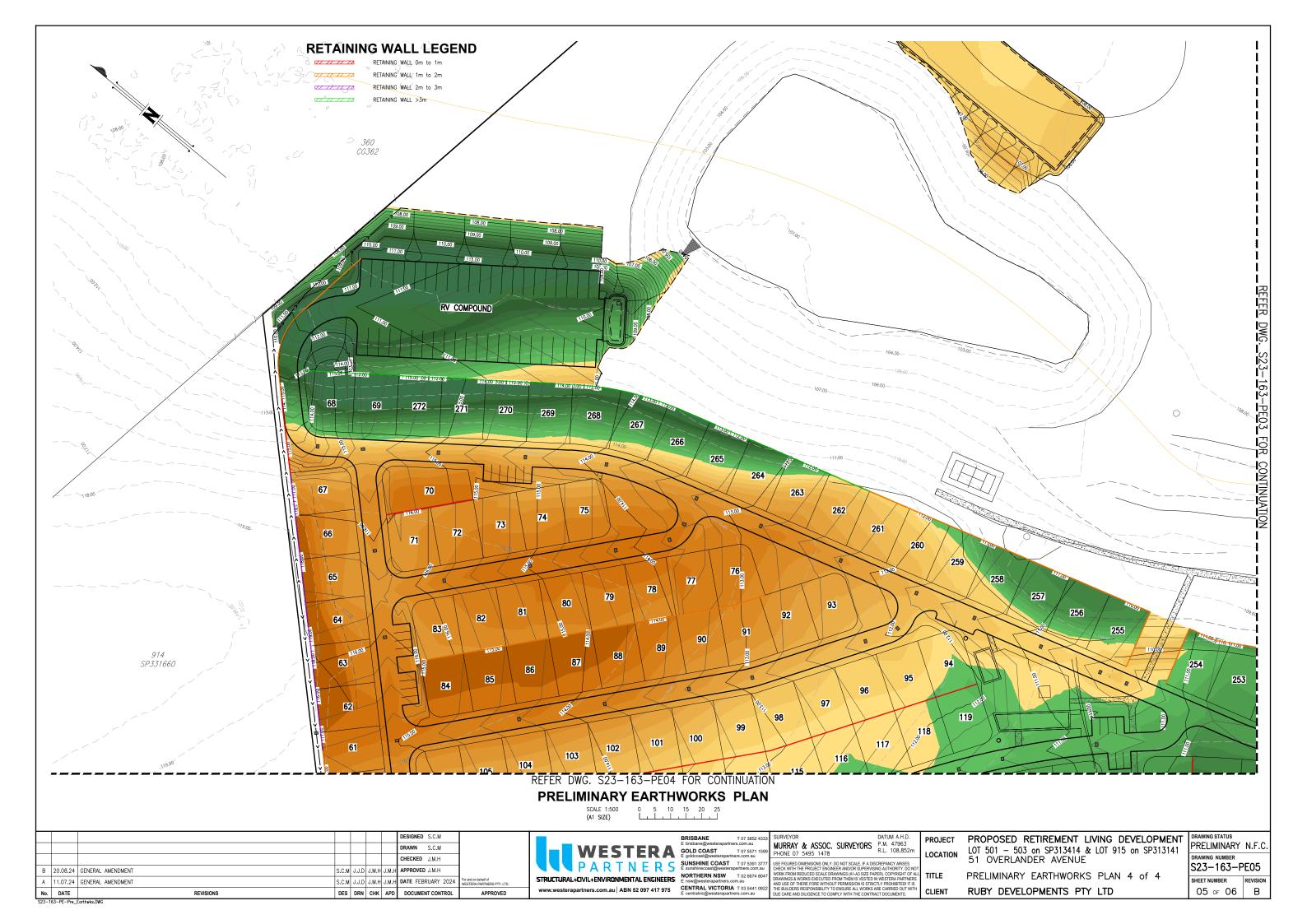
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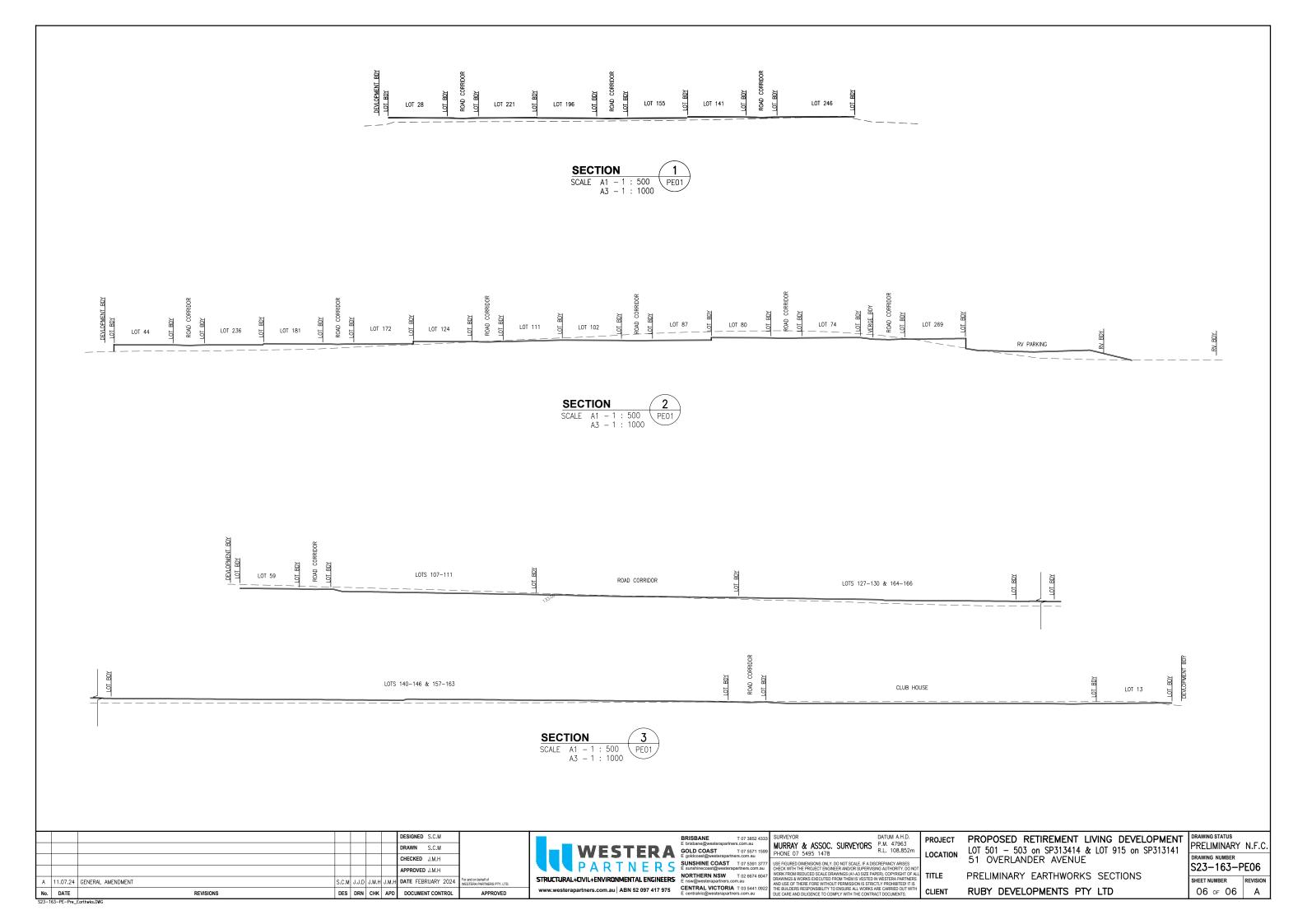






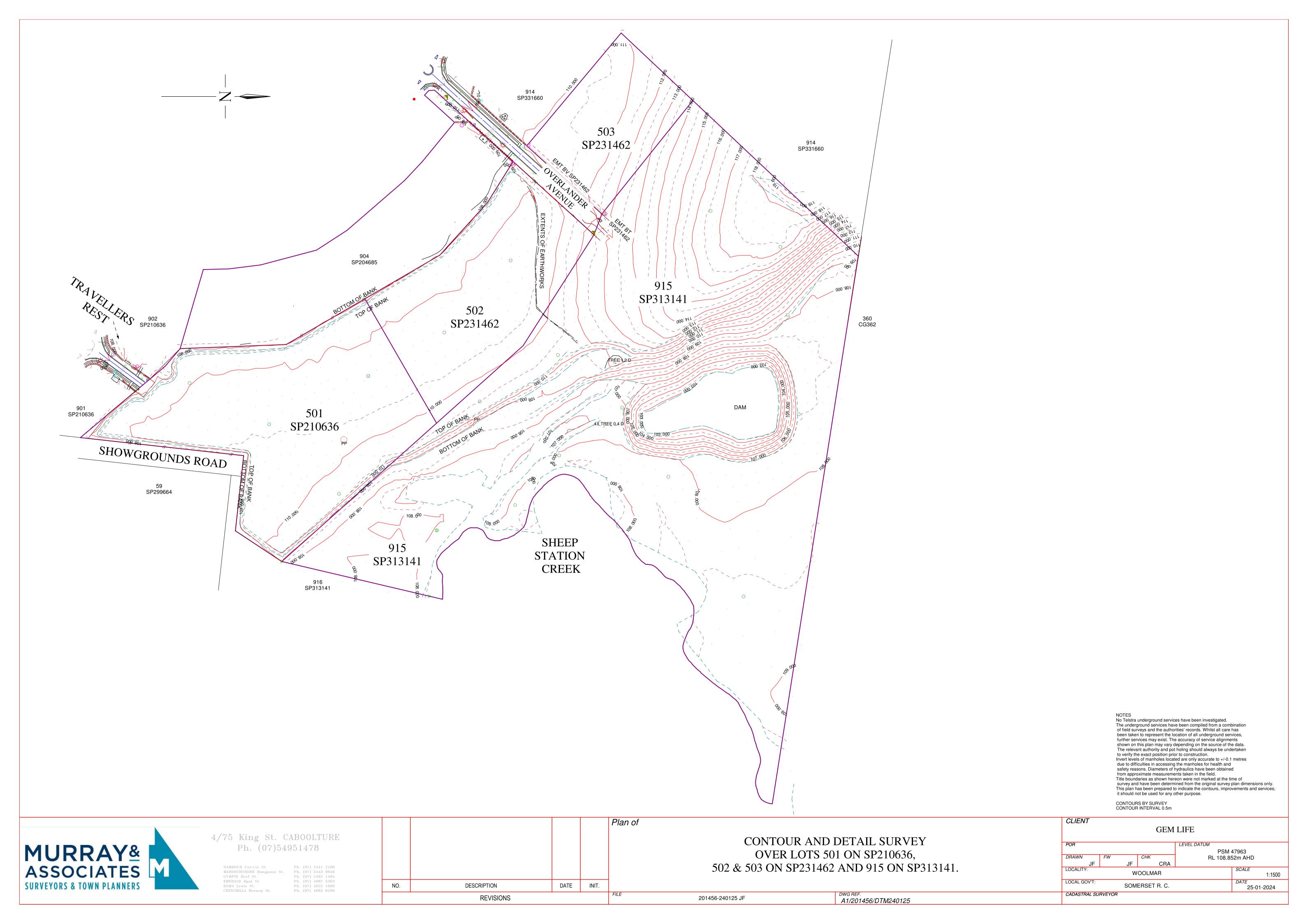








Appendix C - Site Survey & Architectural Drawings





JAREDPOOLEDESIGN
LEVEL 1 33 ELKHORN AVENUE

SURFERS PARADISE, OLD. 4217 AUSTRALIA

EMAIL INFORJPD.COM

PO BOX 42. ISLE OF CAPRI, QLD. 4217



20.08.24 Footpath added 14.08.24 Race course re

PROJECT Proposed New Development
Hedley Drive, Woolmar, Kilcoy Qld 4515

CLIENT LivingGems

THE WORKS DESCRIBED ON THIS AND ACCOMPANYING DRAWINGS ASSOCIATED WITH THIS PROJECT PRODUCED BY JARED POOLE DESIGN ARE COVERED BY COPYRIGHT. THE WORKS DESCRIBED ARE APPLICABLE TO THE PROJECT SITE ONLY AND MUST NOT BE USED FOR ANY OTHER PURPOSE. WORKS CANNOT BE COPIED OR REPRODUCED BY ANY MEANS WITHOUT WRITTEN PERMISSION OF LABERD POOLE DESIGN

DRAWING TITLE BP1419/03.01



Master Plan

10m 50m 129





Stormwater Management Report

Proposed Retirement Facility

51 Overlander Avenue Woolmar

For: Ruby Developments Pty Ltd

12 July 2024

Ref: S23-163



CERTIFIED QUALITY ASSURANCE - ISO AS/NZS 9001, 4801 & 14001

SUNSHINE COAST

Suite 2, Norval Corporate Centre 13 Norval Court Maroochydore QLD 4558

P: 0431 803 337 F: 07 5646 5857

PO Box 2016

Fortitude Valley BC, QLD 4006

E: sunshinecoast@westerapartners.com.au

BRISBANE

Level 2, 33 Longland Street Newstead QLD 4006

P: 07 3852 4333 F: 07 5646 5857

PO Box 2016

Fortitude Valley BC, QLD 4006

E: brisbane@westerapartners.com.au

GOLD COAST

Level 3, 17 Welch Street Southport QLD 4215

P: 07 5571 1599 F: 07 5646 5857

PO Box 6138

Southport Mail Centre 9726

E: goldcoast@westerapartners.com.au

NORTHERN NSW

11 Sailfish Way Kingscliff NSW 2487

P: 02 6674 8047 F: 07 5646 5857

PO Box 1131 Kingscliff NSW 2487

E: nsw@westerapartners.com.au



DOCUMENT INFORMATION

Project Name: Proposed Retirement Facility

Westera Partners Ref: \$23-163

Westera Partners Contact:

Jared Hill Phone: 0437 335 403

Email: jaredh@westerapartners.com.au

Certified for Issue by:

Jared Hill RPEQ 19891

12 July 2024

Document Control:

Revision	Author		Checke	ed for Issue	Date
А	J. Hill	RPEQ 19891	J. Hill	RPEQ 19891	19.02.2024
В	J. Hill	RPEQ 19891	J. Hill	RPEQ 19891	12.07.2024

This report has been prepared for Ruby Developments Pty Ltd for the purpose of accompanying a Development Application to Somerset Regional Council. This report must only be used by Ruby Developments Pty Ltd for this purpose and must not be used or relied upon by any other person for any other purpose.

The assessment, conclusions or recommendations in this report are based on conditions encountered and information received at the time of preparing the report and may not be relied upon as site conditions or operations vary over time.



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INTRODUCTION

Westera Partners Pty Ltd has been commissioned by Ruby Developments Pty Ltd to prepare a Stormwater Management Report to accompany a development application for a proposed Retirement Facility Development.

The proposal involves 276 villas including associated internal access roads, carparking and ground level features. The primary access point will be provided from an extension to Travellers Rest.

This report documents how stormwater runoff will be managed on site in accordance with Somerset Regional Council's (SRC's) requirements.

2 SITE DESCRIPTION

2.1 Location and Land Use

The proposed development site is located at 51 Overlander Avenue, also known as Lots 501 - 503 on SP231462 and Lot 915 on SP313141. The site area is approximately 22.1Ha with the development proposal to occur over the approximately 12.1Ha portion of the site that has been recently filled as part of a separate earthworks OPW application. The site is mostly vacant, cleared rural land with a rural dwelling and ancillary structures over a portion of the site. Following earthworks, the development footprint portion of the site falls at minimal grade to the south-west towards the existing lagoon system.

The site is bound by vacant rural land to the north, east and west and the existing parkland with aforementioned Lagoons to the south-west and the Kilcoy Showgrounds to the south-east. Refer to Figure 1 for an indicative site location and Appendix D for detail site survey information.



Figure 1 - Indicative site location (Nearmap, 2024)



2.2 Lawful Point of Discharge

The development footprint portion of the site that has been recently filled currently discharges stormwater to the south-west towards the existing lagoon system in Council park land. The remainder of the site discharges stormwater towards Sheep Station Creek as per existing conditions.

Stormwater runoff from the relocatable home portion of the site will be collected and discharged to the existing lagoons via two separate proposed stormwater outlets in accordance with the outcomes of the recent filling excavation across the site. Areas of the site such as the proposed RV compound will continue to direct runoff to Sheep Station Creek. Refer to the engineering plans within Appendix C for further information.

2.3 Existing Infrastructure

There is not currently any existing Council infrastructure located within the development site footprint, however site survey information indicates existing cross road culverts underneath Overlander Avenue and Travellers Rest. Stormwater outlet locations have been chosen downstream of these culverts to ensure no adverse impact to the respective roadways as a result of the development.

2.4 Upstream Drainage Connection

There are no upslope properties that would require a piped stormwater drainage connection through the subject site to the achieve a lawful point of discharge.

2.5 Flooding

The development footprint portion of the site is not impacted by Council's flood mapping and the development site is therefore considered to be flood free.

3 STORMWATER QUANTITY MANAGEMENT

The stormwater quantity analysis of the existing and developed site conditions has been undertaken with reference to the requirements and procedure outlined by:

- Queensland Urban Drainage Manual (QUDM)
- Australian Rainfall and Runoff 2019 (ARR2019)

The following section of the report discusses the proposed development's impact on peak stormwater runoff from the site and compares the existing site condition to ensure no adverse impact to downstream properties. Areas of the site adjacent to the waterway corridors that will not be impacted by development works have been excluded from the quantity analysis.

The DRAINS software package has been used for modelling the peak flows off site. ARR2019 rainfall patterns have been adopted in drains utilising an Initial Loss – Continuing Loss (IL-CL) hydrological model with loss parameter input as specified by the ARR2019 data hub for Woolmar.

The following losses have been adopted in the DRAINS hydrological model:

- Effective impervious area initial loss
 1 mm
- Effective impervious area continuing loss 0 mm/hr
- Remaining area initial loss
 17 mm
- Remaining area continuing loss
 2.1 mm/hr

Design ARR2019 storms for Woolmar have been added into DRAINS utilising a rainfall pattern file downloaded from the ARR data hub along with IFD rainfall depth files downloaded from the Bureau of Meteorology (BOM) website.



3.1 Existing Catchment

Catchment Area

The site is mostly vacant, cleared rural land with a rural dwelling and ancillary structures over a portion of the site. The total existing site area is approximately 22.1Ha with the main development to occur over a 12.093Ha portion of the site which has recently been filled to ensure flood immunity. The stormwater quantity calculations for the site have considered the filled portion of the site only as the remaining approximately 10Ha of the site will generally remain untouched other than minor proposed embellishments including RV storage yard and sports courts which will not substantially change the impervious area fraction and all will drain directly to Sheep Station Creek. The existing site catchment details are outlined in Table 1.

Table 1 - Existing Catchment Details

Catchment	Area (Ha)	% Impervious	Time of Concentration (T _c)
Existing	12.093	0%	20mins This comprises: 100m sheet flow 5% slope average grass – 16mins (QUDM figure 4.4) 240m concentrated flow 2%-4% slope at 1.1m/s – 4mins

3.1.1 DRAINS results for existing site

Peak flow rates from the existing site and external catchments have been determined by modelling various storm durations for each AEP storm ensemble. The peak flow rate for the median AEP storm event is given in Table 2.

Table 2 - Existing site peak flow rates

AEP Storm Event	Peak flow rate (m3/s)
1EY	1.14
0.5EY	1.62
0.2EY	2.20
10%	2.78
5%	3.41
2%	4.01
1%	4.42



3.2 Developed Site

Catchment Area

The development involves the construction of a retirement living facility, including community facilities and landscaped areas. The considered development footprint will remain unchanged at approximately 12.093Ha with site balance areas excluded from main calculations. The developed site catchment details are summarised in Table 4:

Table 3 – Developed catchment details including external catchments

Catchment	Area (Ha)	% Impervious	Time of Concentration (T _c)
Development	12.093	82.5%	8mins

3.2.1 DRAINS results for developed site

Peak flow rates from the developed site have been determined by modelling various storm durations for each AEP storm ensemble. The peak flow rate for the median AEP storm event is given in Table 5.

Table 4 - Developed site peak flow rates

AEP Storm Event	Peak flow rate (m3/s)
1EY	2.42
0.5EY	3.07
0.2EY	3.95
10%	4.66
5%	5.41
2%	6.34
1%	7.04

3.2.2 DRAINS results calibration

The DRAINS results for both the existing site and developed site are compared against rational method calculated flow rates in Table 3 below. Rainfall intensities have been obtained from the BOM IFD 2016 tool and other catchment parameters are as provided in Table 5.

Table 5 - Developed flow rate comparison - Rational Method

AEP Storm Event	Existing peak flow rate (m3/s) (DRAINS)	Existing peak flow rate (m3/s) (rational method)	Developed peak flow rate (m3/s) (DRAINS)	Developed peak flow rate (m3/s) (rational method)
1EY	1.14	1.45	2.42	2.12



AEP Storm Event	Existing peak flow rate (m3/s) (DRAINS)	Existing peak flow rate (m3/s) (rational method)	Developed peak flow rate (m3/s) (DRAINS)	Developed peak flow rate (m3/s) (rational method)
0.5EY	1.62	1.93	3.07	2.82
0.2EY	2.20	2.67	3.95	3.91
10%	2.78	3.24	4.66	4.71
5%	3.41	3.84	5.41	5.63
2%	4.01	4.86	6.34	7.12
1%	4.42	5.51	7.04	8.03

As shown in Table 3 above, the existing and developed DRAINS model output is considered to generally achieve a good fit with peak flow rates calculated using the rational method when considering losses are greatly simplified by the rational method.

3.3 Water Quantity Comparison

Table 6 compares the peak flow rates for the median design storm for the existing and developed cases.

Table 6 - Difference in existing vs developed peak flow rates

AEP Storm Event	Existing peak flow rate (m3/s)	Developed peak flow rate (m3/s)	Difference (m3/s)
1EY	1.14	2.42	1.28
0.5EY	1.62	3.07	1.45
0.2EY	2.20	3.95	1.75
10%	2.78	4.66	1.88
5%	3.41	5.41	2.00
2%	4.01	6.34	2.33
1%	4.42	7.04	2.62

As shown in Table 6, the peak flow rate of stormwater runoff has increased for the development as a result of the increase in impervious area. Stormwater detention is therefore required to offset this increase in peak flow rate.

3.4 Stormwater Detention

Stormwater detention for the development is proposed to be provided by three separate combined treatment/detention tanks. Runoff from the development shall be split into three sub-catchments with each directed to a separate tank at the detailed design phase. Further in depth review and optimisation



of the detention tank design and catchments directed to the tanks will be required at the detailed design phase. Refer to Table 7 and Appendix C for further details of the modelled detention tanks.

Table 7 - Detention System Details

Description	Specification	
Assumed total catchment to north detention tank	5.276 Ha (85% impervious)	
Assumed total catchment to east detention tank	3.587 Ha (85% impervious)	
Assumed total catchment to south detention tank	2.805 Ha (85% impervious)	
Assumed catchment bypassing detention	0.433 Ha (15% impervious)	
North detention tank geometry	740m² total area	
	2.40m total depth	
	1,776m³ total volume	
	1,704m³ detention volume (excludes treatment volume)	
East detention tank geometry	460m² total area	
	2.30m total depth	
	1,058m³ total volume	
	1,013m ³ detention volume (excludes treatment volume)	
South detention tank geometry	450m² total area	
	2.25m total depth	
	1,012.5m ³ total volume	
	976.5m³ detention volume (excludes treatment volume)	
North detention tank outlet configuration	525mm dia low flow outlet	
	900mm dia high flow outlet with high flow weir 2.10m above the base	
South detention tank outlet configuration	450mm dia low flow outlet	
	750mm dia high flow outlet with high flow weir 2.00m above the base	
South detention tank outlet configuration	450mm dia low flow outlet	
	675mm dia high flow outlet with high flow weir 1.80m above the base	



Description	Specification
Total detention volume for site	3,693.5m³

Figure 2 illustrates the DRAINS model layout developed for this detention system.

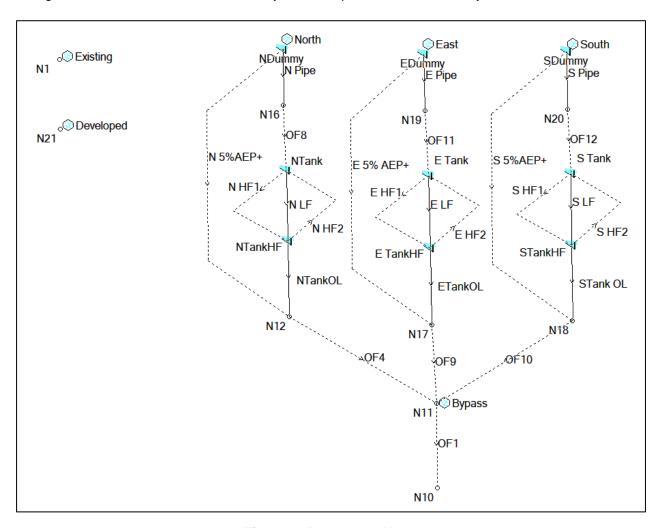


Figure 2 - Drains model layout

A comparison of modelled flow rates determined for the existing, developed, and mitigated cases are outlined in Table 8 below.

Table 8 - Comparison of mitigated peak flow rates

AEP Storm Event	Existing peak flow rate (m³/s)	Developed peak flow rate (m3/s)	Mitigated peak flow rate (m3/s)
1EY	1.14	2.42	0.999 (-0.141)
0.5EY	1.62	3.07	1.26 (-0.32)
0.2EY	2.20	3.95	1.64 (-0.56)
10%	2.78	4.66	2.02 (-0.76)



AEP Storm Event	Existing peak flow rate (m³/s)	Developed peak flow rate (m3/s)	Mitigated peak flow rate (m3/s)
5%	3.41	5.41	2.95 (-0.46)
2%	4.01	6.34	3.81 (-0.20)
1%	4.42	7.04	4.00 (-0.42)

As demonstrated by Tables 8, the proposed detention tanks adequately mitigate the increase in peak flow rate for all design storms up to the 1% AEP. The modelling has been undertaken on the basis of runoff in excess of the 5% AEP (20 year ARI) design storm bypassing the detention tanks to account for runoff in excess of the design event not being entirely captured by underground infrastructure. The proposed detention tanks are therefore considered appropriate but should be refined further at the detailed design phase.

Refer to Figures 3 & 4 for the 10% & 1% AEP DRAINS model runs respectively.

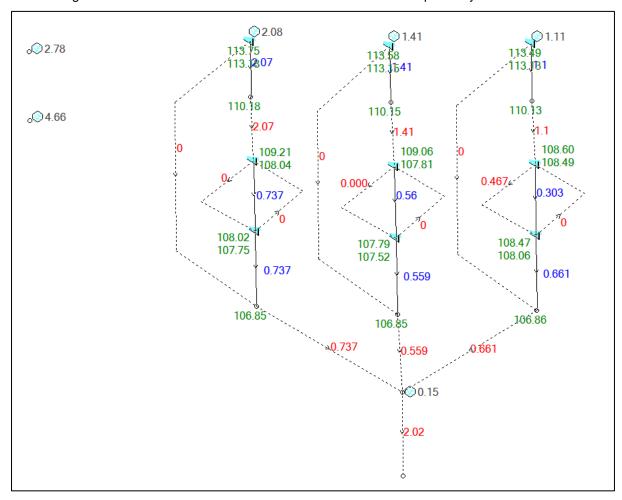


Figure 3 - 10% AEP DRAINS model run



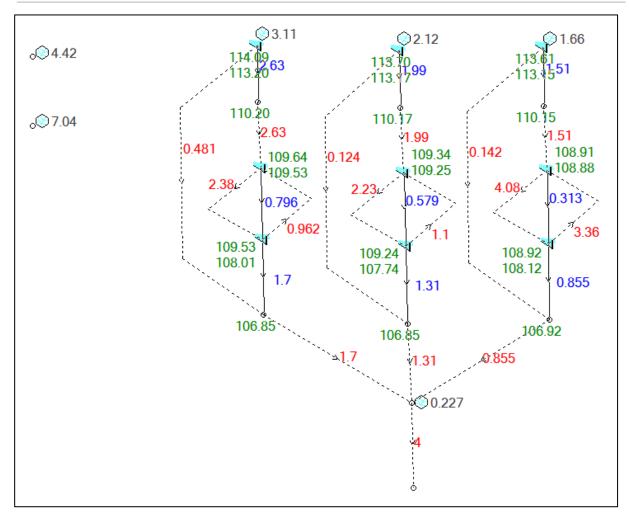


Figure 4 - 1% AEP DRAINS model run

4 WATER QUALITY MANAGEMENT

4.1 Operational Phase

The proposed development must address the State Planning Policy (SPP 2017) as the development site area exceeds 2500m². The development shall ensure that environmental values of receiving waters downstream of the development are maintained or enhanced during the construction and operation of the development in accordance with State Legislation and Local Government requirements. The development site falls would ordinarily be required to meet the SPP requirements for South-East Queensland (SEQ) pollutant load reduction objectives, however as the site falls into a mapped water resource catchment the higher SEQ Water Development Guidelines pollutant load reduction objectives (AO8.3) must be met. The required treatment thresholds are as follows:

- ≥ 85 % reduction in total suspended solids load (TSS)
- ≥ 65 % reduction in total phosphorus load (TP)
- ≥ 45 % reduction in total nitrogen load (TN)
- ≥ 95 % reduction in gross pollutant load

Pollutants typically generated during the operational phase of the development include:

- Litter/gross pollutants;
- Sediment;



- Nutrients (N & P);
- Hydrocarbons (oils and grease); and
- · Heavy metals.

Stormwater treatment measures are shown on the attached stormwater management drawings and include:

- ATLAN Stormsack 200 micron filter baskets gross pollutant filter baskets shall be installed
 within field inlets on site to act as a primary treatment device for the removal of TSS, nutrients
 and hydrocarbons (refer to Appendix B for further info).
- ATLAN EMC45 Filter system to be installed within the two proposed combined treatment/detention tanks within development site for final treatment of stormwater prior to discharging to the stormwater network (refer to Appendix B for further info).
- A bioretention basin is proposed to be constructed to treat stormwater runoff from the RV compound.

Stormwater modelling has been carried out using MUSIC modelling software to determine the required infrastructure needed to meet the Water Quality Objectives (WQO's) above.

4.2 MUSIC Model

MUSIC modelling for this development has been carried out using MUSIC Version 6.3 and rainfall data obtained from the pluviograph tool on the eWATER website for Kilcoy. The developed site catchment and treatment measure details included in the MUSIC model are outlined in Table 9.

As the development proposal is for a retirement living facility, final house designs are not known at this stage and therefore assumptions have had to be made with regards to site roof portion and impervious area fraction. The balance area not part of main development footprint other than the RV compound has been excluded from the model as this area will generally remain unchanged by the proposal other than some sports courts and walking paths which will be well buffered by existing vegetation.

Table 9 – MUSIC model parameters

Description	Specification
Assumed north road catchment to all treatment	0.869 Ha (100% impervious)
Assumed north ground catchment to all treatment	0.798 Ha (40% impervious)
Assumed north lots roof catchment to ATLAN Filters only (assumed to be 80% of lot area)	2.798 Ha (100% impervious)
Assumed north lots ground catchment to ATLAN Filters only (assumed to be 20% of lot area)	0.699 Ha (60% impervious)
Assumed north additional roof catchment to ATLAN Filters only	0.065 Ha (100% impervious)
Number of modelled north ATLAN Stormsacks	37
Number of modelled north ATLAN Filters	72



Description	Specification
Assumed east road catchment to all treatment	0.540 Ha (100% impervious)
Assumed east ground catchment to all treatment	0.597 Ha (40% impervious)
Assumed east lots roof catchment to ATLAN Filters only (assumed to be 80% of lot area)	1.738 Ha (100% impervious)
Assumed east lots ground catchment to ATLAN Filters only (assumed to be 20% of lot area)	0.434 Ha (60% impervious)
Assumed east additional roof catchment to ATLAN Filters only	0.296 Ha (100% impervious)
Number of modelled east ATLAN Stormsacks	30
Number of modelled east ATLAN Filters	50
Assumed south road catchment to all treatment	0.504 Ha (100% impervious)
Assumed south ground catchment to all treatment	0.440 Ha (40% impervious)
Assumed south lots roof catchment to ATLAN Filters only (assumed to be 80% of lot area)	1.473 Ha (100% impervious)
Assumed south lots ground catchment to ATLAN Filters only (assumed to be 20% of lot area)	0.368 Ha (60% impervious)
Assumed south additional roof catchment to ATLAN Filters only	0.038 Ha (100% impervious)
Number of modelled south ATLAN Stormsacks	20
Number of modelled south ATLAN Filters	40
Assumed RV compound hardstand to bio	0.272 Ha (100% impervious)
Assumed ground catchment bypassing treatment	0.433 Ha (0% impervious)

The MUSIC model layout is shown in Figure 5.



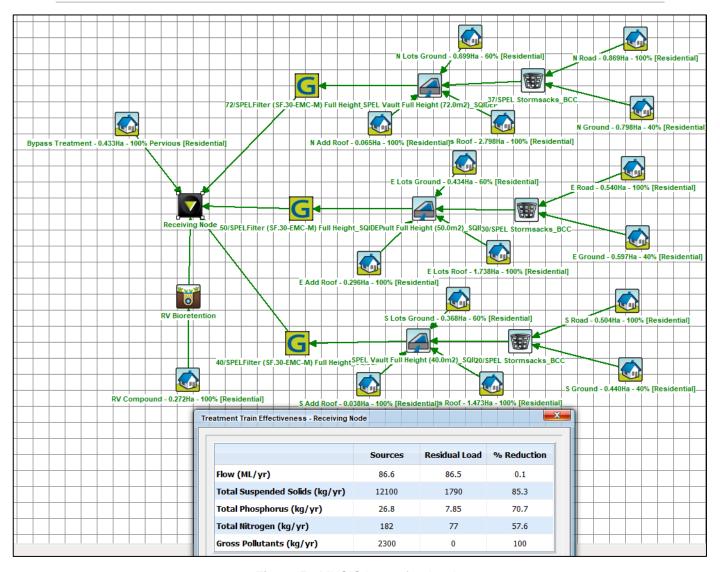


Figure 5 - MUSIC layout for development

The developed site treatment train effectiveness is outlined in Table 10.

Table 10 - Treatment train effectiveness.

Modelled Parameters	Source nodes	Residual load	% Reduction
Flow (ML/yr)	86.6	86.5	0.1
Total Suspended Solids (kg/yr)	12100	1790	85.3
Total Phosphorus (kg/yr)	26.8	7.85	70.7
Total Nitrogen (kg/yr)	182	77	57.6
Gross Pollutants (kg/yr)	2300	0	100

Based on the MUSIC modelling results in Table 10 above, the proposed treatment train achieves the required pollutant load reduction objectives for all pollutants. The proposed proprietary treatment measures are therefore considered adequate for the development. Further review and refinement of the water quality treatment measures should be undertaken at the detailed design phase.



4.3 Construction Phase

Management of stormwater runoff during construction and the implementation of an erosion & sediment control program is necessary to avoid impacts to receiving waters from pollutants typically generated during the construction phase. Typical pollutants are described in Table 11 below:

Table 11 - Pollutants Typically Generated During the Construction Phase

Pollutant	Sources
Litter (Gross Pollutants)	Paper, construction packaging, food packaging, cement bags.
Sediment	Unprotected exposed soils and stockpiles during earthworks and building.
Hydrocarbons	Fuel and oil spills, leaks from construction equipment.
Toxic materials	Cement slurry, asphalt prime, solvents, cleaning agents, wash waters.
pH altering substances	Acid sulphate soils, cement slurry and wash waters.

In addition to the degradation of receiving waters, impacts of inadequate erosion and sediment control downstream from the site include:

- · traffic safety problems;
- blocked drains;
- local flooding problems;
- · aesthetic pollution of drainage paths; and
- damage to local ecosystems.

4.3.1 Design Objectives

Management of stormwater runoff during construction should be undertaken in accordance with Appendix 2 of the SPP (July 2017). The SPP outlines the design objectives for construction phase stormwater management. These are presented in Table 12, Table 13 and Table 14.

Table 12 - SPP Appendix 2: Part 1 Construction Phase - Stormwater Management Design Objectives

Issue	Desired Outcomes
Drainage Control	Manage stormwater flows around or through areas of exposed soil to avoid contamination.
	Manage sheet flows in order to avoid or minimise the generation of rill or gully erosion.
	 Provide stable concentrated flow paths to achieve the construction phase stormwater management design objectives for temporary drainage works (part 2).
	 Provide emergency spillways for sediment basins to achieve the construction phase stormwater management design objectives for emergency spillways on temporary sediment basins (part 3).



Issue	Desired Outcomes
Erosion Control	 Stage clearing and construction works to minimise the area of exposed soil at any one time. Effectively cover or stabilise exposed soils prior to predicted rainfall. Prior to completion of works for the development, and prior to removal of sediment controls, all site surfaces must be effectively stabilised using methods which will achieve effective short-term stabilisation.
Sediment Control	 Direct runoff from exposed site soils to sediment controls that are appropriate to the extent of disturbance and level of erosion risk. All exposed areas greater than 2500 metres must be provided with sediment controls which are designed, implemented and maintained to a standard which would achieve at least 80% of the average annual runoff volume of the contributing catchment treated (i.e. 80% hydrological effectiveness) to 50mg/L Total Suspended Solids (TSS) or less, and pH in the range (6.5–8.5).
Litter, Hydrocarbons and other contaminants	 Remove gross pollutants and litter. Avoid the release of oil or visible sheen to released waters. Dispose of waste containing contaminants at authorised facilities.
Waterway Stability and flood flow management	 Where measures are required to meet post-construction waterway stability objectives, these are either installed prior to land disturbance and are integrated with erosion and sediment controls, or equivalent alternative measures are implemented during construction. Earthworks and the implementation of erosion and sediment controls are undertaken in ways which ensure flooding characteristics (including stormwater quantity characteristics) external to the development site are not worsened during construction for all events up to and including the 1 in 100 year ARI (1% AEP).

Table 13 – SPP Appendix 2: Part 2 Construction Phase – Stormwater Management Design Objectives for Temporary Drainage Works

Temporary Drainage Works	Anticipated Operation Design Life and Minimum Design Storm Event		
	<12 Months	12-24 Months	>24 Months
Drainage Structure	1 in 2 year ARI/39% AEP	1 in 5 year ARI/18% AEP	1 in 10 year ARI/10% AEP



Temporary Drainage Works	Anticipated Operation Design Life and Minimum Design Storm Event		
	<12 Months	12-24 Months	>24 Months
Where located immediately up-slope of an occupied property that would be adversely affected by the failure or overtopping of the structure	1 in 10 year ARI/10% AEP		AEP
Culvert Crossing	1 in 1 year ARI/63% AEP		EP

Table 14 – SPP Appendix 2: Part 3 Construction Phase – Stormwater Management Design Objectives for Emergency Spillways on Temporary Sediment Basins

Drainage Structure	Anticipated Operation Design Life and Minimum Design Storm Event		
	<3 Months	3-12 Months	>12 Months
Emergency spillways on temporary sediment basins	1 in 10 year ARI/10% AEP	1 in 20 year ARI/5% AEP	1 in 50 year ARI/2% AEP

Best practice erosion and sediment controls must be installed to minimise the discharge of sediment laden runoff during construction and to achieve the objectives outlined in Tables 12-14. This is discussed in the following section.

4.3.2 Erosion and Sediment Control

Management of stormwater runoff during construction is necessary to avoid pollution of downstream waterways from sediment and gross pollutant loading. Impacts of inadequate erosion and sediment control downstream from the site include:

- traffic safety problems;
- blocked drains;
- local flooding problems;
- · aesthetic pollution of drainage paths; and
- damage to local ecosystems.

Best practice erosion and sediment controls must be installed to minimise the discharge of sediment laden runoff during construction. Erosion and sediment control plans shall be developed during detailed design phase and must be continually maintained and amended as required to minimise environmental harm.

Erosion and sediment control plans are based on three sets of control measures:

- drainage control;
- · erosion control; and
- sediment control.



These control measures must be maintained in an effective operational condition. Sediment disposal from site is to occur to the satisfaction of Somerset Regional Council. Defects in erosion and sediment control devices, such as sediment fences, are to be inspected and documented. Upon Inspection, the Contractor is to determine whether the device should be replaced or repaired. Documentation is to include how the damage was caused and what measures can be implemented to reduce the possibility of repeat occurrences. Any damage to either permanent or temporary water quality control structures or devices is to be immediately rectified at the contractor's expense.

The effectiveness of the erosion and sediment control devices can be monitored by visual audits. All ESC measures are to be inspected:

- at least daily (when work is occurring on site) or weekly (when work is not occurring on site);
- · within 24 hours of expected rain; and
- within 18 hours of a rainfall event (i.e. an event of sufficient intensity and duration to mobilise sediment on site).

Drainage paths are to be inspected to ensure the sediment fences are not being bypassed as a result of soil erosion.

Sediment laden runoff shall be prevented from entering neighbouring properties. This shall be achieved by landscaping disturbed areas immediately and prior to a rainfall event.

The proposed development has scored a 27 on the IECA erosion hazard assessment with trigger score value exceeded as a result of the development land area (refer Appendix A for details). Further details of proposed on site erosion and sediment control measures will be required at the detailed design phase of the development.

4.3.3 Maintenance and Monitoring Requirements

Periodic maintenance and monitoring of stormwater devices proposed in this report is crucial to ensure effective operation and design life.

Inspect field inlet grates, pits and underground pipes for blockage or damage at least 6 monthly or after significant rainfall event. Any installed filter baskets shall be inspected and maintained preferably by the manufacturer to avoid damage to units and to ensure adequate cleaning and record keeping. For the first 12 months routine inspections of filter baskets shall be carried out monthly with routine clean out at alternate months. Results of the initial 12 months maintenance program shall be used to determine future maintenance intervals. Refer manufactures maintenance and monitoring methodology for specific details. Maintenance of ESC measures must occur in accordance with Table 15.

Table 15 - ESC maintenance requirements.

ESC Measure	Maintenance Trigger	Timeframe for Completion of Maintenance
Sediment basins	When settled sediment exceeds the volume of the sediment storage zone	Within 7 days of the inspection.
Other ESC measures	The capacity of ESC measures falls below 75%.	By the end of the day.

Sediment accumulation on ESC devices is to be removed and disposed of to the satisfaction of Somerset Regional Council.



5 CONCLUSION

This Stormwater Management Report outlines how stormwater runoff from the site will be managed in order to not adversely impact the receiving environment.

Stormwater runoff from the development site shall be directed to the existing lagoons to the south-west of the site through the construction of new on site stormwater infrastructure. Stormwater detention is proposed to be provided by three separate underground combined treatment/detention tanks providing 3,693.5m³ of detention volume.

Stormwater quality treatment is proposed to be managed on site to achieve the water quality objectives through primary treatment from filter basket inserts in the field inlets in driveway and tertiary treatment from ATLAN filter cartridges in the two combined treatment/detention tanks. A small bioretention basin shall be constructed to treat runoff from the RV storage compound. MUSIC modelling has been undertaken to demonstrate runoff from the development site achieves the water quality pollution load reduction targets of both the State Planning Policy and the higher treatment thresholds required by the SEQ Water Development Guidelines.

Further refinement of the proposed stormwater management measures is recommended at the detailed design phase to ensure coordination with final architectural layout.

By implementing the proposed stormwater management system, and providing adequate maintenance, the downstream environment and neighbouring properties will not experience any adverse deterioration of water quality as a result of the proposed development.



6 APPENDICES

Appendix A - Erosion Hazard Assessment

Erosion Hazard Assessment Form

Condition		Score	Trigger value
AVERAGE SLOPE OF DISTURBANCE AREA [1]			
not more than 3% [3% . 33H:1V]			
<u> </u>	0		
<u> </u>	1	1	4
• more than 5% but not more than 10% [10% = 10H:1V]	2		
more than 10% but not more than 15% [15% . 6.7H:1V]	4		
• more than 15%	6		
SOIL CLASSIFICATION GROUP (AS1726) [2]			
• GW, GP, GM, GC	0		
• SW, SP, OL, OH	1	3	
SM, SC, MH, CH	2		
ML, CL, or if <i>imported fill</i> is used, or if soils are untested	3		
EMERSON (DISPERSION) CLASS NUMBER [3]			
• Class 4, 6, 7, or 8	0	_	_
Class 5	2	4	6
Class 3, (default value if soils are untested)	4		
• Class 1 or 2	6		
DURATION OF SOIL DISTURBANCE [4]			
not more than 1 month	0		
more than 1 month but not more than 4 months	2	6	6
more than 4 months but not more than 6 months	4		
more than 6 months	6		
AREA OF DISTURBANCE [5]			
not more than 1000 m ²	0		
more than 1000 m² but not more than 5000 m²	1	•	
more than 5000 m² but not more than 1 ha	2	6	4
more than 1 ha but not more than 4 ha	4		
more than 4 ha	6		
WATERWAY DISTURBANCE [6]			
No disturbance to a watercourse, open drain or channel	0	_	_
Involves disturbance to a constructed open drain or channel		1	2
Involves disturbance to a constructed open drain of channel Involves disturbance to a natural watercourse			
REHABILITATION METHOD [7]	2		
Percentage of area (relative to total disturbance) revegetated by seeding			
without light mulching (i.e. worst-case revegetation method).			
not more than 1%	0	0	
more than 1% but not more than 5%			
 more than 1% but not more than 5% more than 5% but not more than 10% 2 			
more than 10%	4		
RECEIVING WATERS [8]			
Saline waters only	0	2	
Freshwater body (e.g. creek or freshwater lake or river)	2	_	
SUBSOIL EXPOSURE [9]			
No subsoil exposure except of service trenches	0	2	
Subsoils are likely to be exposed	2	_	
EXTERNAL CATCHMENTS [10]	-		
No external catchment	0	_	
External catchment diverted around the soil disturbance	1	1	
External catchment not diverted around the soil disturbance	2		
ROAD CONSTRUCTION [11]			
No road construction	0	0	
Involves road construction works	2		
pH OF SOILS TO BE REVEGETATED [12]			
more than pH 5.5 but less than pH 8	0	1	
other pH values, or if soils are untested	1	•	
Total	Score [13]	27	1

Explanatory notes

Requirements: Specific issues or actions required by the proponent. **Warnings:** Issues that should be considered by the proponent.

Comments: General information relating to the topic.

[1] **REQUIREMENTS**:

For sites with an average slope of proposed land disturbance greater than 10%, a preliminary ESCP must be submitted to the regulatory authority for approval during planning negotiations.

Proponents must demonstrate that adequate erosion and sediment control measures can be implemented on-site to effectively protect downstream environmental values.

If site or financial constraints suggest that it is not reasonable or practicable for the prescribed water quality objectives to be achieved for the proposal, then the proponent must demonstrate that alternative designs or construction techniques (e.g. pole homes, suspended slab) cannot reasonably be implemented on the site.

WARNINGS:

Steep sites usually require more stringent drainage and erosion controls than flatter grade sites.

COMMENTS:

The steeper the land, the greater the need for adequate drainage controls to prevent soil and mulch from being washed from the site.

[2] **REQUIREMENTS**:

If the actual soil K-factor is known from soil testing, then the Score shall be determined from Table 1.

If a preliminary ESCP is required during planning negotiations, then it must be demonstrated that adequate space is available for the construction and operation of any major sediment traps, including the provision for any sediment basins and their associated embankments and spillways. It must also be demonstrated that all reasonable and practicable measures can be taken to divert the maximum quantity of sediment-laden runoff (up to the specified design storm) to these sediment traps throughout the construction phase and until the contributing catchment is adequately stabilised against erosion.

WARNINGS:

The higher the point score, the greater the need to protect the soil from raindrop impact and thus the greater the need for effective erosion control measures. A point score of 2 or greater will require a greater emphasis to be placed on revegetation techniques that do not expose the soil to direct rainfall contact during vegetation establishment, e.g. turfing and *Hydromulching*.

COMMENTS:

Table 2 provides an *indication* of soil conditions likely to be associated with a particular Soil group based on a statistical analysis of soil testing across NSW. This table provides only an initial estimate of the likely soil conditions.

The left-hand-side of the table provides an indication of the type of sediment basin that will be required (Type C, F or D). The right-hand-side of the table provides an indication of the likely erodibility of the soil based on the Revised Universal Soil Loss Equation (RUSLE) K-factor.

Table 3 provides some general comments on the erosion potential of the various soil groups.

Table 1 - Score if soil K-factor is known

	RUSLE soil erodibility K-factor			
	K < 0.02			
Score	0	1	2	3

Table 2 - Statistical analysis of NSW soil data [1]

Unified Soil	Likely sediment basin classification (%)			Probable soil erodibility K-factor (%) [2]			
Class	Dry	Wet		Low	Moderate	High	Very High
System	Type C	Type F	Type D	K < 0.02	0.02 <k<0.04< th=""><th>0.04<k<0.06< th=""><th>K > 0.06</th></k<0.06<></th></k<0.04<>	0.04 <k<0.06< th=""><th>K > 0.06</th></k<0.06<>	K > 0.06
GM	30	58	12	12	51	26	12
GC	42	33	25	13	71	17	0
sw	40	48	12	49	39	12	0
SP	53	32	15	76	18	5	1
SM	21	67	12	26	48	25	1
sc	26	50	24	16	64	18	2
ML	5	63	32	4	35	45	16
CL	9	51	39	12	56	19	13
OL	2	80	18	34	61	5	1
МН	12	41	48	15	19	41	25
СН	5	44	51	39	43	11	7

Notes: [1] Analysis of soil data presented in Landcom (2004).

[2] Soil erodibility based on Revised Universal Soil Loss Equation (RUSLE) K-factor.

Unified Soil Classification System (USCS)

- GW Well graded gravels, gravel-sand mixtures, little or no fines
- GP Poorly graded gravels, gravel-sand mixture, little or no fines
- GM Silty gravels, poorly graded gravel-sand-silt mixtures
- GC Clayey gravels, poorly graded gravel-sand-clay mixtures
- SW Well graded sands, gravelly sands, little or no fines
- SP Poorly graded sands, gravelly sands, little or no fines
- SM Silty sands, poorly graded sand-silt mixtures
- SC Clayey sands, poorly graded sand-clay mixtures
- ML Inorganic silts & very fine sands, rock flour, silty or clayey fine sands with slight plasticity
- CL Inorganic clays, low-medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
- OL Organic silts and organic silt-clays of low plasticity
- MH Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
- CH Inorganic clays of high plasticity, fat clays
- OH Organic clays of medium to high plasticity

Table 3 - Typical properties of various soil groups [1]

Soil Groups	Typical properties [2]	
GW, GP	Low erodibility potential.	
GM, GC	Low to medium erodibility potential.	
	May create turbid runoff if disturbed as a result of the release of silt and clay particles.	
SW, SP	Low to medium erodibility potential.	
SM, SC	Medium erodibility potential.	
	May create turbid runoff if disturbed as a result of the release of silt and clay particles.	
MH, CH	Highly variable (low to high) erodibility potential.	
	Will generally create turbid runoff if disturbed.	
ML, CL	High erodibility potential.	
	Tendency to be dispersive.	
	May create some turbidity in runoff if disturbed.	

Note: [1] After Soil Services & NSW DLWC (1998).

[2] Any soil can represent a high erosion risk if the binding clays or silts are unstable.

Table 4 provides **general** guidelines on the suitability of various soil groups to various engineering applications.

Table 4 - Engineering suitability based on Unified Soil Classification [1]

		Emban	kments			
Unified Soil Class	USC Group	Water retaining	Non water retaining	Fill	Slope stability	Untreated roads
Well graded gravels	GW	Unsuitable	Excellent	Excellent	Excellent	Average
Poorly graded gravel	GP	Unsuitable	Average	Excellent	Average	Unsuitable
Silty gravels	GM	Unsuitable	Average	Good	Average	Average
Clayey gravels	GC	Suitable	Average	Good	Average	Excellent
Well graded sands	SW	Unsuitable	Excellent	Excellent	Excellent	Average
Poorly graded sands	SP	Unsuitable	Average	Good	Average	Unsuitable
Silty sands	SM	Suitable [2]	Average	Average	Average	Poor
Clayey sands	SC	Suitable	Average	Average	Average	Good
Inorganic silts	ML	Unsuitable	Poor	Average	Poor	Unsuitable
Inorganic clays	CL	Suitable [2]	Good	Average	Good	Poor
Organic silts	OL	Unsuitable	Unsuitable	Poor	Unsuitable	Unsuitable
Inorganic silts	МН	Unsuitable	Poor	Poor	Poor	Unsuitable
Inorganic clays	СН	Suitable [2]	Average	Unsuitable	Average	Unsuitable
Organic clays	ОН	Unsuitable	Unsuitable	Unsuitable	Unsuitable	Unsuitable
Highly organic soils	Pt	Unsuitable	Unsuitable	Unsuitable	Unsuitable	Unsuitable

Notes: [1] Modified from Hazelton & Murphy (1992)

[2] Suitable only after modifications to soil such as compaction and/or erosion protection

[3] If the soils have not been tested for Emerson Class, then adopt a score of 4.

REQUIREMENTS:

Works proposed on sites containing Emerson Class 1 or 2 soils have a very high pollution potential and must submit a conceptual ESCP to the regulatory authority for review and/or approval (as required by the authority) during planning negotiations.

WARNINGS:

Class 3 and 5 soils disturbed by cut and fill operations or construction traffic are highly likely to discolour stormwater (i.e. cause turbid runoff). Chemical stabilisation will likely be required if these soils are placed immediately adjacent to a retaining wall. Any disturbed Class 1, 2, 3 and 5 soils that are to be revegetated must be covered with a non-dispersive topsoil as soon as possible (unless otherwise agreed by the regulatory authority).

Class 1 and 2 soils are highly likely to discolour (pollute) stormwater if exposed to rainfall or flowing water. Treatment of these soils with gypsum (or other suitable substance) will most likely be required. These soils should not be placed directly behind a retaining wall unless it has been adequately treated (stabilised) or covered with a non-dispersible soil.

[4] The duration of disturbance refers to the total duration of soil exposure to rainfall up until a time when there is at least 70% coverage of all areas of soil.

REQUIREMENTS:

All land developments with an expected soil disturbance period greater than 6 months must submit a conceptual ESCP to the regulatory authority for review and/or approval (as required by the authority) during planning negotiations.

COMMENTS:

Construction periods greater than 3 months will generally experience at least some significant storm events, independent of the time of year that the construction (soil disturbance) occurs.

[5] **REQUIREMENTS**:

Development proposals with an expected soil disturbance in excess of 1ha must submit a conceptual ESCP to the regulatory authority for review and/or approval (as required by the regulatory authority) during planning negotiations.

The area of disturbance refers to the total area of soil exposed to rainfall or dust-producing winds either as a result of:

- (a) the removal of ground cover vegetation, mulch or sealed surfaces;
- (b) past land management practices;
- (c) natural conditions.

WARNINGS:

A Sediment Basin will usually be required if the disturbed area exceeds 0.25ha (2500m²) within any sub-catchment (i.e. land flowing to one outlet point).

COMMENTS:

For soil disturbances greater than 0.25ha, the revegetation phase should be staged to minimise the duration for which soils are exposed to wind, rain and concentrated runoff.

Erosion Hazard Assessment Form

[6] **REQUIREMENTS**:

All developments that involve earthworks or construction within a natural watercourse (whether that watercourse is in a natural or modified condition) must submit a conceptual ESCP to the regulatory authority for review and/or approval (as required by the regulatory authority) during planning negotiations.

Permits and/or licences may be required from the State Government, including possible submission of the ESCP to the relevant Government department.

[7] **REQUIREMENTS**:

No areas of soil disturbance shall be left exposed to rainfall or dust-producing winds at the end of a development without an adequate degree of protection and/or an appropriate action plan for the establishment of at least 70% cover.

COMMENTS:

Grass seeding without the application of a light mulch cover is considered the least favourable revegetation technique. A light mulch cover is required to protect the soil from raindrop impact, excessive temperature fluctuations, and the loss of essential soil moisture.

[8] **COMMENTS**:

All receiving waters can be adversely affected by unnatural quantities of sediment-laden runoff. Freshwater ecosystems are generally more susceptible to ecological harm resulting from the inflow of fine or dispersible clays than saline water bodies. The further inland a land disturbance is, the greater the potential for the released sediment to cause environmental harm as this sediment travels towards the coast.

For the purpose of this clause it is assumed that all sediment-laden runoff will eventually flow into saline waters. Thus, sediment-laden discharges that flow first into freshwater are likely to adversely affect both fresh and saline water bodies and are therefore considered potentially more damaging to the environment.

This clause does **not** imply that sediment-laden runoff will not cause harm to saline waters.

[9] **COMMENTS**:

This clause refers to subsoils exposed during the construction phase either as a result of past land practices or proposed construction activities. The exposure of subsoils resulting from the excavation of minor service trenches should not be considered.

[10] **WARNINGS**:

The greater the extent of external catchment, the greater the need to divert upslope stormwater runoff around any soil disturbance.

COMMENTS:

The ability to separate "clean" (i.e. external catchment) stormwater runoff from "dirty" site runoff can have a significant effect on the size, efficiency and cost of the temporary drainage, erosion, and sediment control measures.

[11] **REQUIREMENTS**:

Permission must be obtained from the owner of a road reserve before placing any erosion and sediment control measures within the road reserve.

WARNINGS:

Few sediment control techniques work efficiently when placed on a road and/or around roadside stormwater inlets. Great care must be taken if sediment control measures are located on a public roadway, specifically:

- · safety issues relating to road users;
- the risk of causing flooding on the road or within private property.

The construction of roads (whether temporary or permanent) will usually modify the flow path of stormwater runoff. This can affect how "dirty" site runoff is directed to the sediment control measures.

COMMENTS:

"On-road" sediment control devices are at best viewed as secondary or supplementary sediment control measures. Only in special cases and/or on very small projects (e.g. kerb and channel replacement) might these controls be considered as the "primary" sediment control measure.

[12] WARNINGS:

Soils with a pH less than 5.5 or greater than 8 will usually require treatment in order to achieve satisfactory revegetation. Soils with a pH of less than 5 (whether naturally acidic or in acid sulfate soil areas) may also limit the choice of chemical flocculants (e.g. Alum) for use in the flocculation of *Sediment Basins*.

[13] **REQUIREMENTS**:

A preliminary ESCP must be submitted to the local government for approval during the planning phase for any development that obtains a total point score of 17 or greater or when any trigger value is scored or exceeded.

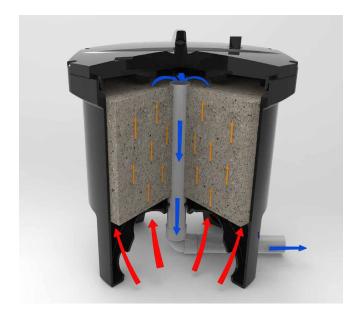


Appendix B - ATLAN Product Info

AtlanFilter

Cartridge filter for tertiary stormwater treatment





AtlanFilter is a cartridge filter system that incorporates an upflow treatment process that maximises surface treatment area. Flow through the filter cartridges utilises a self-regulating siphon which results in low maintenance and high performance stormwater treatment. Automatic backwash technology further lengthens the lifespan of the filter.

Hydraulic pressure forces water through the filter media resulting in a constant velocity throughout the filter area. This ensures consistent media contact time and treatment outcomes.

Optimised to suit your site specific water quality outcomes and local authority requirements, The AtlanFilter has no moving parts and uses a true siphon effect to ensure high-performance pollution removal. These devices maintain excellent removal efficiency whilst maintaining site surface yield.



APPLICATIONS

- Car Parks & Shopping Centres
- Council Depots
- Industrial Estates
- Heavy Vehicle Maintenance
- Airport Aprons & Tarmacs
- Transport Depots & Loading Bays
- Tunnels
- Highways & Transport Corridors
- · Recycling Yards

FEATURES







The media cartridge provides a significantly greater surface contact area to footprint ratio than other filters.

With a flow rate of 3L/s per cartridge and underground installation, the AtlanFilter provides excellent removal efficiency whilst maintaining site surface yield.

- No moving parts, generating a true siphon effect
- Small footprint
- Inorganic filter media (doesn't leach nutrients)
- Can be deployed in various drainage structures such as manholes, OSD tanks, & vaults
- Contains no moving parts

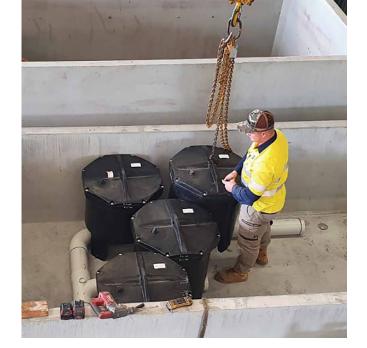
Tested Treatment Efficiencies*

POLLUTANT	EFFICIENCY
Total Suspended Solids (TSS)	85%
Total Phosphorus (TP)	74%
Total Nitrogen (TN)	59%

^{*}Contact Atlan to confirm approved performance for the project LGA



AtlanFilter is SQIDEP approved after passing Stormwater Australia's rigorous testing and performance assessment process.



HOW IT WORKS

The AtlanFilter has an upflow treatment process that maximises surface area. The innovative cartridge filter system provides excellent pollutant removal in a small footprint.

Hydraulic pressure forces water through the filter media, which discharges through the centre tube and out through the outlet collection manifold.

Upon completion of a treatment cycle, each cartridge backwashes and effectively dislodges particulates from the filtration layers. This reestablishes filter media porosity. The dislodged particles accumulate on the vault floor for easy removal during maintenance. AtlanFilter's design has no moving parts and generates a true siphon effect.

AtlanFilters are often installed downstream of nearby devices in a treatment train. For example, a Flowceptor Class 1 upstream greatly increases the life cycle interval of the AtlanFilter. These devices will remove larger gross pollutants, coarse sediments, total suspended solids and hydrocarbons - enabling the AtlanFilter to target fine particulate matter and nutrients.



BENEFITS

PROVEN SAND FILTER PERFORMANCE

The uniform size silica-sand filter media provides higher removal efficiencies than coarser types of media. AtlanFilter media is inorganic – it doesn't leach nitrogen and other nutrients.

Each AtlanFilter automatically backflushes under gravity. The backflush clears most sediment particles from out of the media and back into the vault floor, which allows the hydraulic conductivity from degrading throughout its service life. No moving parts are involved, which increases reliability. The AtlanFilter cartridge design life is in excess of 5 years.



FLEXIBILITY

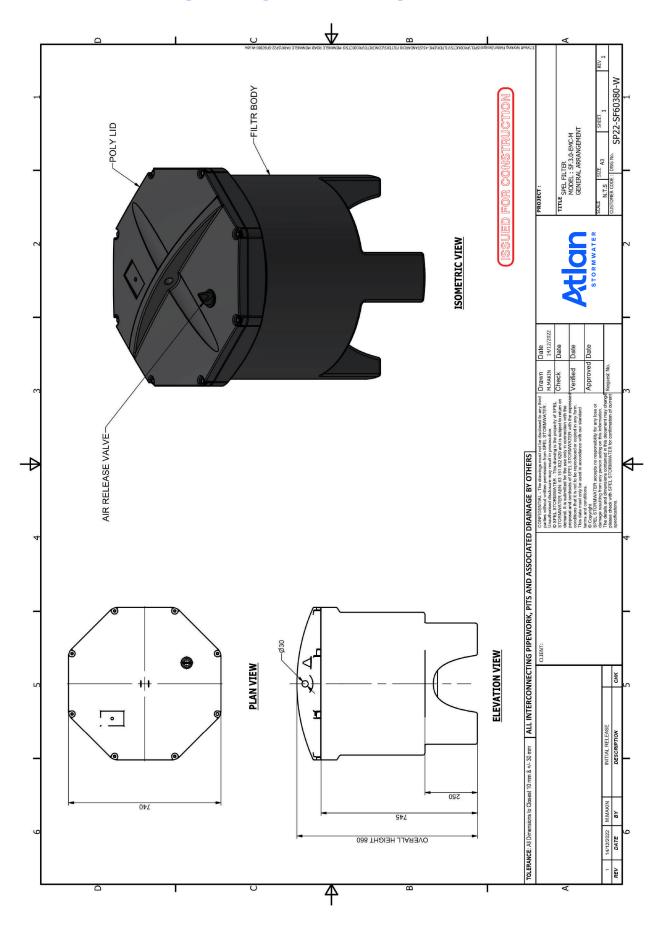
Due to greater surface area and high flow capacity, combined with the modular cartridge design, the AtlanFilter systems can be deployed in a variety of structures including manholes, precast vaults, and cast-in-place structures.

Each system is optimised to suit your specific site and local authority requirements by qualified and experienced professionals.

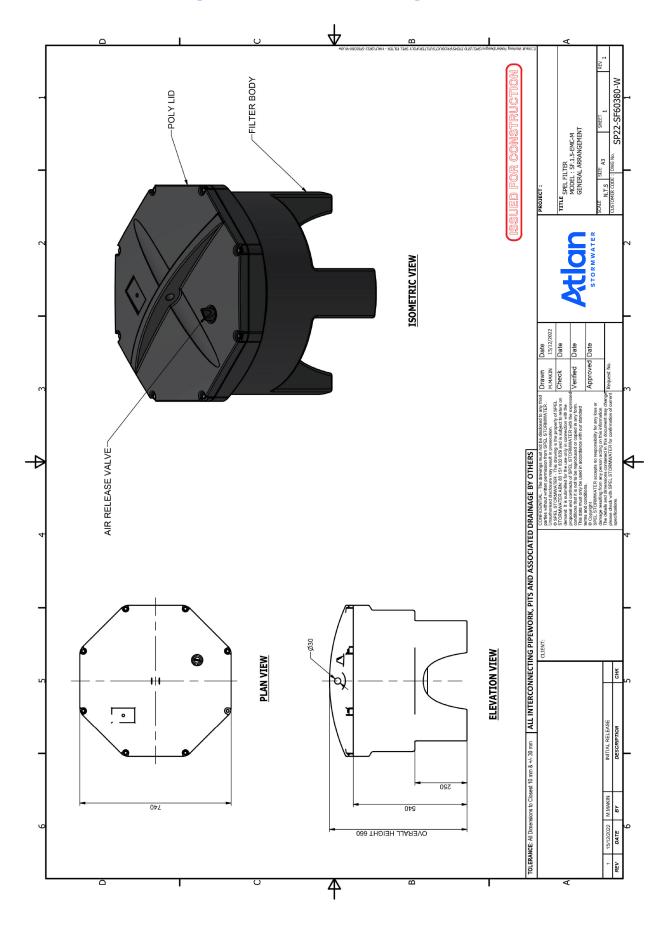
SIZE SPECIFICATIONS

ATLAN FILTER	FULL HEIGHT FIL.30-EMC-M	HALF HEIGHT FIL:15-EMC-M
Total height	860mm	660mm
Diameter	740mm	740mm
Minimum head required	850mm	550mm
Treatment flow rate	3.0L/s	1.5 L/s
Height of inlet ports above vault floor	250mm	250mm
Filtered water collection pipe diameter	50mm	50mm

DRAWING - FULL HEIGHT

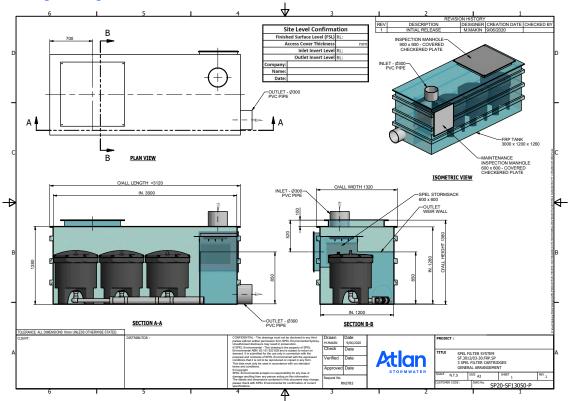


DRAWING - HALF HEIGHT

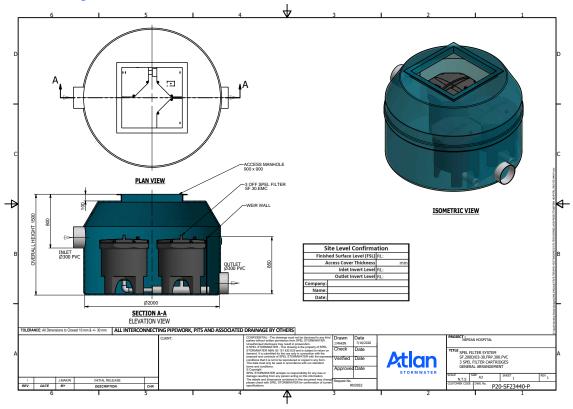


DRAWINGS

Rectangle Fibreglass Installation

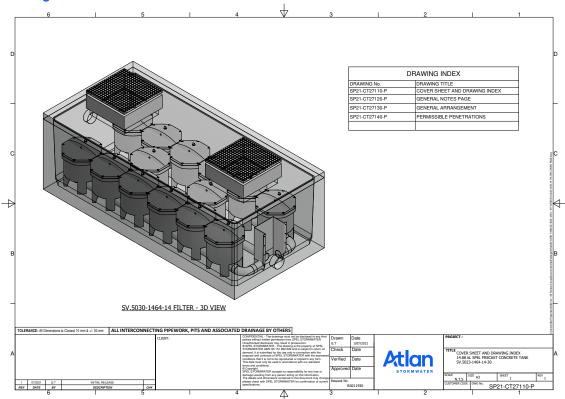


Round Fibreglass Tank Installation

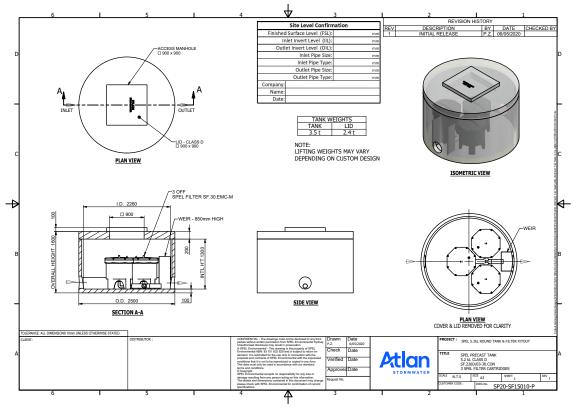


DRAWINGS

Rectangle Concrete Installation

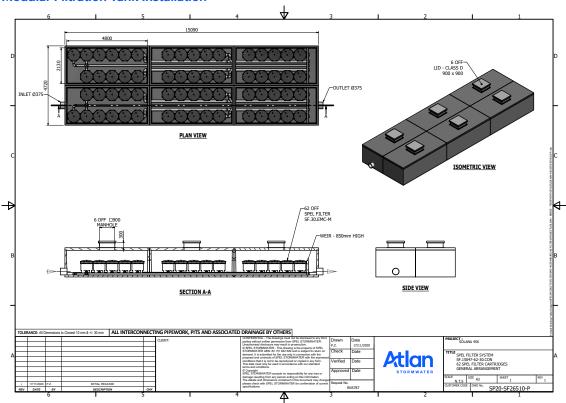


Round Concrete Tank Installation

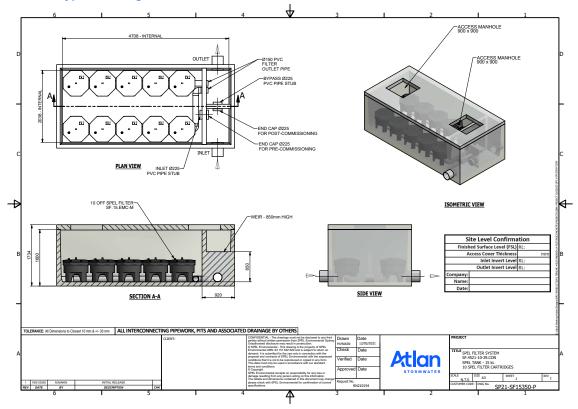


DRAWINGS

Modular Filtration Tank Installation



Internal Bypass Arrangement Tank



AtlanFilter

Cartridge filter for tertiary stormwater treatment



NSW HEAD OFFICE **VIC & TAS OFFICE QLD MAIN OFFICE** 100 Silverwater Rd, Silverwater NSW 2128 PO Box 7138, Silverwater NSW 1811 897 Wellington Rd Rowville VIC 3178 P: +61 3 5274 1336 130 Sandstone PI, Parkinson QLD 4115 P: +61 7 3271 6960 P: +61 2 8705 0255 P: 1300 773 500 nsw.sales@atlan.com.au P: 1300 773 500 d.sales@atlan.com.au P: 1800 810 139 sales@atlan.com.au VIC GEELONG BRANCH 70 Technology Close, Corio VIC QLD SUNSHINE COAST BRANCH 19-27 Fred Chaplin Cct, Bells Creek, QLD 4551 WA OFFICE 2 Modal Cres Canning Vale WA 6155 P: +61 8 9350 1000 P: 1800 335 550 **SA OFFICE** 9 Hampden Road, Mount Barker SA 5251 P: 1300 773 500 P: 1300 773 500 sales@atlan.com.au qld.sales@atlan.com.au sales@atlan.com.au NZ OFFICE WELLINGTON 41 Raiha St Porirua Wellington New Zealand P: +64 4 239 6006 NZ OFFICE AUCKLAND **NZ OFFICE WANGANUI** 100 Montgomerie Road Airport Oaks P: +64 9 276 9045 43 Heads Road Wanganu New Zealand P: +64 6 349 0088 sales@atlan.com.au sales@atlan.com.au sales@atlan.com.au atlan.co.nz atlan.co.nz atlan.co.nz

'We believe clean waterways are a right not a privilege and we work to ensure a joy in water experience for you and future generations.'

Joy in water

Andy Hornbuckle

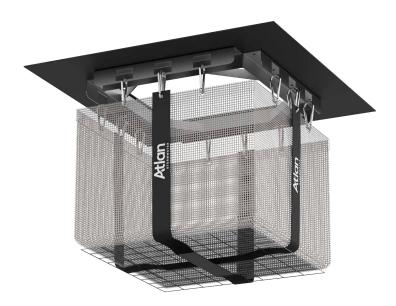


P 02 8705 0255 | sales@atlan.com.au 100 Silverwater Rd, Silverwater NSW 2128 Australia atlan.com.au

StormSack

At-Source Gross Pollutant Trap







The Atlan StormSack is specifically designed for the capture of gross pollutants, sediment, litter, and oil and grease. Ideally suited for storm drain retrofits, the StormSack's unique design allows maintenance to be performed using conventional vacuum suction equipment.

StormSack filtration solutions are highly engineered water quality devices that are deployed directly in the stormwater system to capture contaminants close the surface for ease of maintenance. Easily retrofitted into new or existing structures, StormSack filtration technology is a decentralized approach to stormwater treatment that essentially repurposes traditional site infrastructure and customizes it to meet specific site water quality goals. In this way, it satisfies important objectives of today's LID (Low Impact Development) criteria.

From an operations perspective, catch basins with StormSack filters are also easier and quicker to clean out because pollutants are trapped just under the grate.

APPLICATIONS

- · Council storm drain retrofits
- Commercial / retail / residential
- Litter prone urban areas
- Scrap metal / solid waste / oil storage
- Part of treatment train
- Construction sediment / erosion

BENEFITS





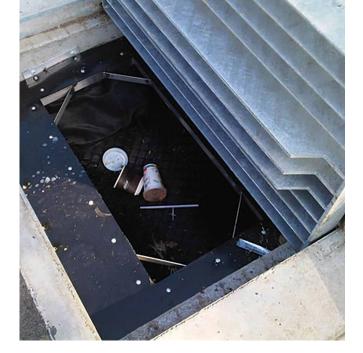


- Can be modelled in MUSIC in conjunction with bio-retention
- Low cost gross pollutant capture
- Quick & easy installation
- Simple maintenance
- At-source capture
- Adjusts to custom pit sizes

The StormSack was introduced to the Australian market in 2012 and field testing is underway at several locations in South-east Queensland. Laboratory testing has shown capture of 99.99% of gross pollutants up to the bypass flow rate. Further results will be provided as they become available.

Recommended minimum clearance from bottom of StormSack to inside bottom of vault is 50mm. Typical frame adjustability range of 127mm in each direction.





FEATURES

POLLUTANT	EFFICIENCY
Gross Pollutants (GP)	100%
Total Suspended Solids (TSS)	61%
Total Phosphorus (TP)	28%
Total Nitrogen (TN)	45%

^{*}Contact Atlan to confirm approved performance for the project LGA

HOW IT WORKS

This technology is a post developed stormwater treatment system. The StormSack provides effective filtration of solid pollutants and debris typical of urban runoff, while utilising existing or new storm drain infrastructure. The StormSack is designed to rest on the flanges of conventional catch basin frames and is engineered for most hydraulic and cold climate conditions.

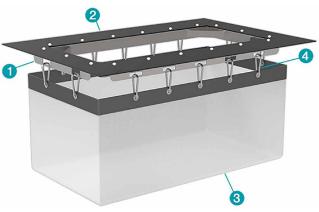
Installation procedures shall include removing the storm grate, cleaning the ledge of debris and solids, measuring catch basin clear opening and adjusting flanges to rest on the grate support ledge. Install StormSack with splash guard under curb opening so the adjustable flanges are resting on the grate support ledge. Install corner filler pieces. Reinstall storm grate directly on support flanges rise shall be no more than 3mm.

MAINTENANCE

Typically the StormSack is serviceable from the street level, and therefore maintenance does not require confined space entry into the catch basin structure. The unit is designed to be maintained in place with a vacuum hose attached to a sweeper or a vactor truck. Use only Atlan replaceable parts.

Application	Regulatory Issue	Target Pollutants	
Council Storm Drain Retrofits	At-source litter capture Sediment, Litter, O&G		
Commercial/Retail/Residential	Stormwater Compliance	Sediment, Litter, O&G	
Litter Prone Urban Areas	Cost effective litter control	Litter ≥ 5 mm	
Scrap Metal/Solid Waste/Oil Storage/Etc	Industrial Multi-Sector General Permit	Gross Pollutants, O&G	
Part of Treatment Train	Council Stormwater Quality Improvement Targets	Sediment, Litter, O&G	
Construction Sediment/Erosion	Sediment Control Plan	Sediment/Erosion Control	

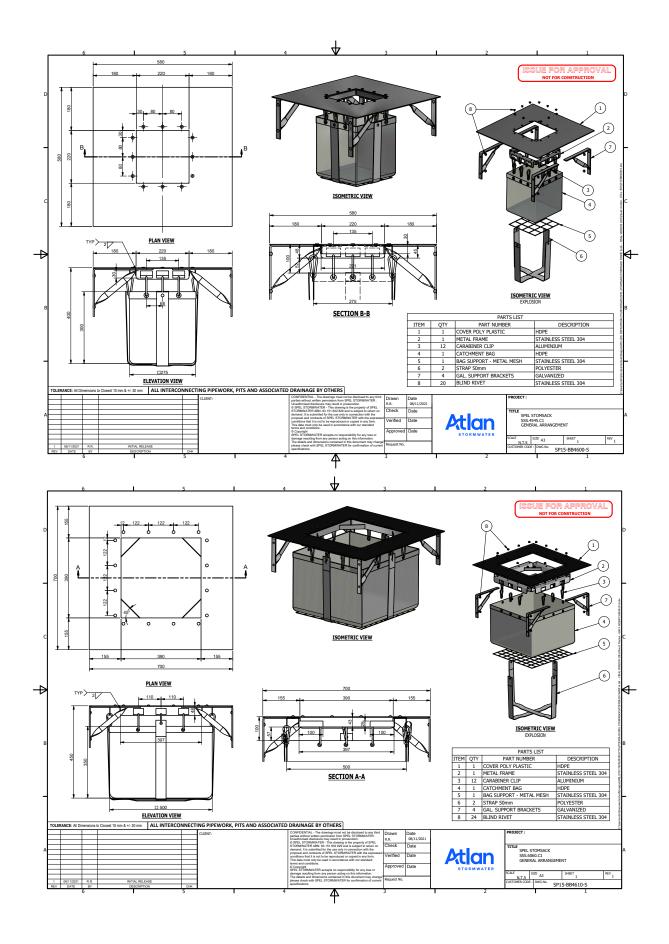
Fea	Features				
1.	1. Ultra-Durable Aluminium Frame • Available in 450x450mm, 600x600mm, 600x900mm and 900x900mm sizes • Custom pit arrangements upon request				
2.	Black Poly Surround riveted to Frame • Can be cut to suit on site				
3.	Reinforced Stormsack Bag Bag has sewed eyelets Square bottom design for even distribution				
4.	Karabiners attach Bag to Frame for easy service & replacement				
5.	5. Aluminium Support Angles & Fixings				



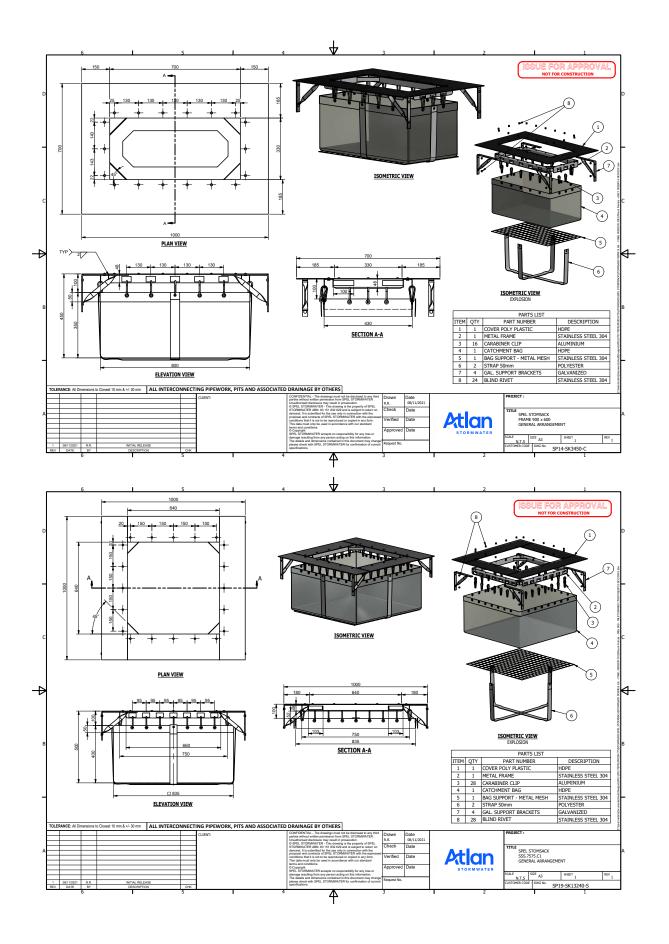
	Standard StormSack to suit Pit Sizes
	450x450mm
	600x600mm
	900x600mm
	900x900mm
L	

Custom sizes (i.e. 1200x900mm) can be manufactured on short lead times

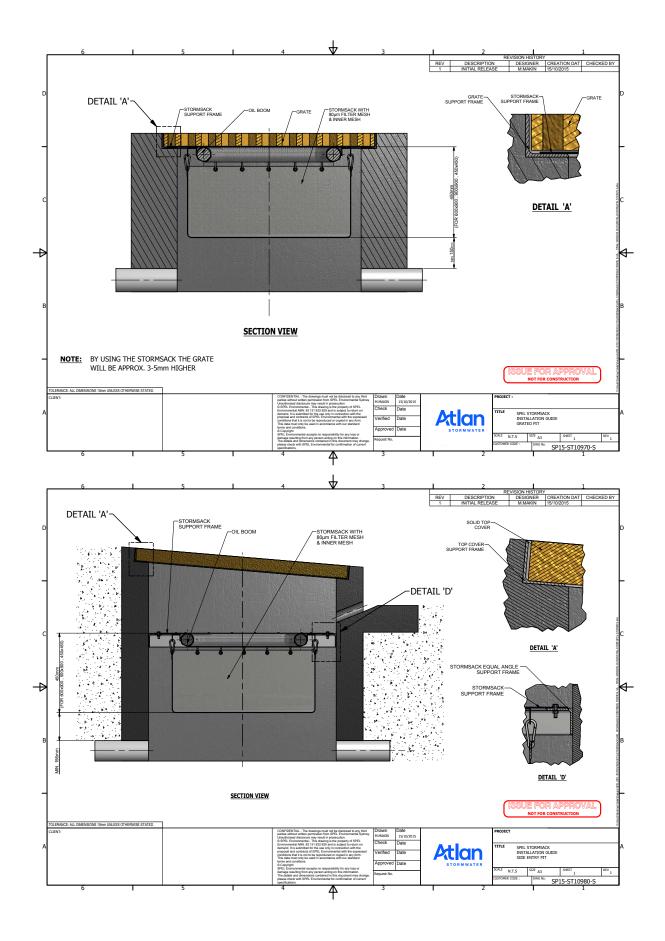
TECHNICAL DRAWINGS



TECHNICAL DRAWINGS



INSTALLATION DETAILS



StormSack

At-Source Gross Pollutant Trap



NSW HEAD OFFICE **VIC & TAS OFFICE QLD MAIN OFFICE** 100 Silverwater Rd, Silverwater NSW 2128 PO Box 7138, Silverwater NSW 1811 P: +61 2 8705 0255 P: 1300 773 500 130 Sandstone Pl, Parkinson QLD 4115 P: +61 7 3271 6960 897 Wellington Rd Rowville VIC 3178 P: +61 3 5274 1336 P: 1800 810 139 P: 1300 773 500 sales@atlan.com.au nsw.sales@atlan.com.au VIC GEELONG BRANCH 70 Technology Close, Corio VIC QLD SUNSHINE COAST BRANCH 19-27 Fred Chaplin Cct, Bells Creek, QLD 4551 **SA OFFICE** 9 Hampden Road, Mount Barker SA 5251 **WA OFFICE** 2 Modal Cres Canning Vale WA 6155 P: +61 8 9350 1000 P: 1800 335 550 P: 1300 773 500 P: 1300 773 500 sales@atlan.com.au qld.sales@atlan.com.au sales@atlan.com.au NZ OFFICE AUCKLAND NZ OFFICE WANGANUI NZ OFFICE WELLINGTON 100 Montgomerie Road Airport Oaks P: +64 9 276 9045 43 Heads Road Wanganu New Zealand P: +64 6 349 0088 41 Raiha St Porirua Wellington New Zealand P: +64 4 239 6006 sales@atlan.com.au sales@atlan.com.au sales@atlan.com.au atlan.co.nz atlan.co.nz atlan.co.nz

'We believe clean waterways are a right not a privilege and we work to ensure a joy in water experience for you and future generations.'

log in water

Andy Hornbuckle



P 02 8705 0255 | sales@atlan.com.au 100 Silverwater Rd, Silverwater NSW 2128 Australia atlan.com.au



Operation & Maintenance Manual

SPELFilter®

Cartridge filter for tertiary stormwater treatment

