2. Site Description

2.1 Site context

A 4-lot subdivision is being undertaken at 274 Perth Mill Road, Perth. The subdivision will be undertaken in one stage. The site consists of one generally regular shaped title, which have a total area of approximately 2.2ha. The land is located on the eastern side of Perth, within a rural residential area consisting of similar sized lots.

The site currently contains a single dwelling and associated outbuildings. There is a managed section around the existing dwelling, while the balance of the land is made up of two fenced paddocks. Access to the site is via an existing crossover onto Perth Mill Road.

The site adjoins residential land on all sides, with the residential lots to the north separated by the TasRail rail network.

The site has a moderate fall to the south. The high point of the lots is in the north eastern corner, which sits at 170m AHD. The low point of the land sits at approximately 158m AHD, resulting in a fall across the site of approximately 9°.



Figure 1 - Aerial view of the subject site and its surrounding area (source: The LISTMap)

The subject site will be serviced by a reticulated water supply maintained by TasWater which runs within the Perth Mill Road reservation. It is understood that there are pressure constraints associated with the infrastructure, and subsequently the line does not provide any for any fire hydrants.

2.2 Planning controls

The site is within the municipal area of the Northern Midlands Council. Therefore, the planning instrument is the *Northern Midlands Interim Planning Scheme 2013* (The Scheme).

The subject site is currently within the Low-Density Residential Zone. The subject site adjoins the Low-Density Residential Zone on the eastern and western sides. The Utilities zone adjoins the northern boundary, while the Rural Resource Zone is located to the south.

The subject site entirely falls within the Bushfire-Prone Areas Overlay, and is partially within a scenic management area.

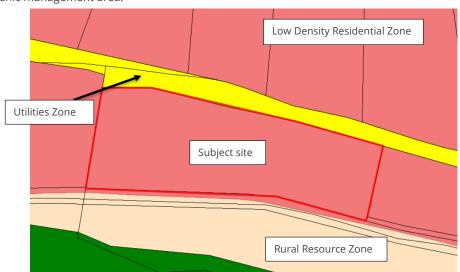


Figure 2 - Zoning Map (source: The LIST Map)

3. The Proposal

It is proposed to subdivide the subject site into 4 residential lots. The lots are intended for residential development. Lots will have direct access onto Perth Mill Road.

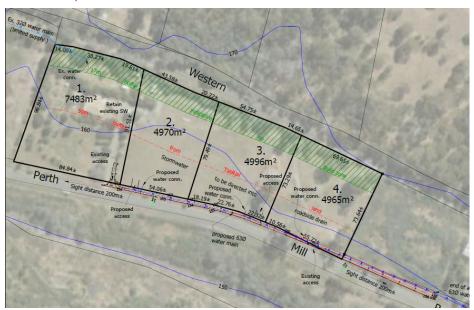


Figure 3 - Proposal Plan of subdivision development.

4. Bushfire Site Assessment

4.1 Vegetation Analysis

4.1.1 TasVeg Mapping

The TasVeg map 4.0 provides general information indicating potential bushfire prone vegetation in the area.

The mapping shows the vegetation community across the subject site as generally agricultural land. DAM, being a dry eucalyptus forest and woodland is located on the northern side of the TasRail railway line. Land to the east and west resembles the subject site, containing established dwellings with unmanaged grassland across the balance. Land identified is GPL was unmanaged native grass which adjoined the South Esk River.

No other vegetation has been identified in proximity of the subject site.

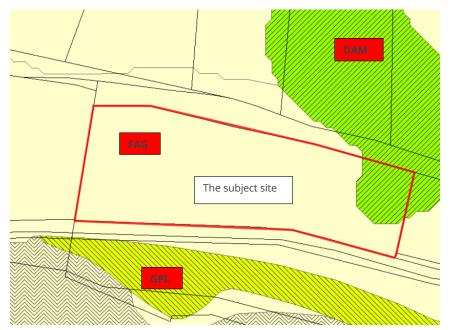


Figure 4 - TasVeg 4.0 map (source: The LISTMap)

4.1.2 Vegetation Type and Separation

A site visit was conducted on the 30th of June 2022. An analysis of the land and bushfire prone vegetation within 120m from the subject site is provided below.

Direction	Analysis
North Land to the north is zoned Utilities Zone. This area contains the Tasrail vegetation between the subject site and the rail tracks has recently bee completely cleared. The aerial imagery does not show this clearing. Lan north of the tracks is considered forest, being upslope from the development.	
South	Perth Mill road provides a buffer between the subject site and the grassland along the South Esk River. The scrub changes in character as the land falls to the south. There was a section of Woodland to the south east of the site.
East Land to the east was a mixture of grassland and woodland. The site was grassland for approximately 13m, before transitioning to a large section of woodland. The woodland wasn't managed. There was a dwelling and mana area further east of this woodland.	
West	Land to the west at 282 Perth Mill Road was considered managed. There was an established single dwelling and dam. The property was approximately 1ha and was maintained in a low fuel condition.



Figure 5 - Vegetation analysis within 100m of subject site.

4.2 Effective slope Analysis

Figure 6 below shows the effective slope which is the slope of land under the classified vegetation **in relation to** the subject site.

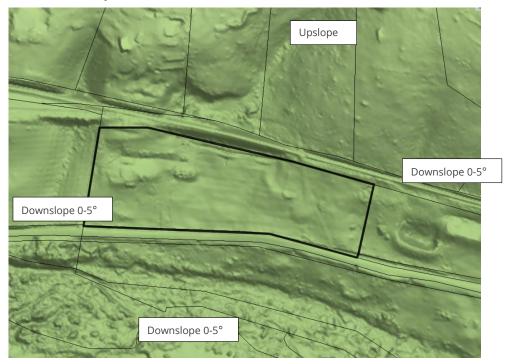


Figure 6 – Effective slope of site and surrounding bushfire prone vegetation.

4.3 Photos



Figure 7 – Looking south at Scrub on southern side of Perth Mill Road.



Figure 8 – Looking north, at grassland and woodland on property to the east of subject site.



Figure 9 – Looking north over subject site. Land being subdivided.



Figure 10 – Looking west over adjoining property. Classified as managed land.



Figure 11 – Land to the north. Vegetation adjoining tracks has been cleared. Forest in background.



Figure 12 – Looking south over subject site. Land being subdivided.

5. Bushfire Protection Measures

5.1 BAL Rating and Risk Assessment

The purpose of the BAL assessment is to identify the minimum separation between the bushfire prone vegetation and a building area within each proposed lot. The assessment aims to achieve the minimum requirements of **BAL 19**.

The definition of BAL 19 and 12.5, are highlighted as follows:

Bushfire attack level (BAL)	Predicted bushfire attack and exposure level
BAL-LOW	Insufficient risk to warrant specific construction requirements
BAL-12.5	Ember attack, radiant heat below 12.5kW/m ²
BAL-19	Increasing ember attack and burning debris ignited by windborne embers together with increasing heat flux between 12.5-19kW/m ²
BAL-29	Increasing ember attack and burning debris ignited by windborne embers together with increasing heat flux between 19-29kW/m ²
BAL-40	Increasing ember attack and burning debris ignited by windborne embers together with increasing heat flux between 29-40kW/m ²
BAL-FZ	Direct exposure to flames radian heat and embers from the fire front.

The distances from each lot to the classified vegetation is presented below, along with the slope and type of vegetation. To better demonstrate the required separation as hazard management areas, a $10m \times 15m$ building area is shown on each lot. As per the analysis in Section 4.1, the primary vegetation around the subject site is forest, while there are some areas of grassland.

Lot 1 (Dwelling)	North	East	South	West
Vegetation within 100m of site	0m-10m Managed 10m-23m Managed (rail corridor) 23m-100m+ Forest	0m-100m+ Managed	0m-8m Managed 8m—24m Managed (Road) 24m-100m+ Scrub	0m-100m+ Managed
Slope (degrees, over 100m)	Upslope	NA	Downslope 0-5°	NA
BAL 19 Setbacks	10m	NA	8m	NA
BAL 12.5 Setbacks	19m	NA	17m	NA

Lot 2	North	East	South	West
Vegetation within 100m of site	0m-10m Managed 10m-23m Managed (rail corridor) 23m-100m+ Forest	0m-100m+ Managed	0m-8m Managed 8m—24m Managed (Road) 24m-100m+ Scrub	0m-100m+ Managed
Slope (degrees, over 100m)	Upslope	NA	Downslope 0-5°	NA
BAL 19 Setbacks	10m	NA	8m	NA
BAL 12.5 Setbacks	19m	NA	17m	NA

Lot 3	North	East	South	West
Vegetation within 100m of site	0m-10m Managed 10m-23m Managed (rail corridor) 23m-100m+ Forest	0m-70m Managed 70m-100m+ Grassland	0m-4m Managed 4m—24m Managed (Road) 24m-100m+ Woodland	0m-100m+ Managed
Slope (degrees, over 100m)	Upslope	Flat	Downslope 0-5°	NA
BAL 19 Setbacks	10m	NA	4m	NA
BAL 12.5 Setbacks	19m	NA	12m	NA

Lot 4	North	East	South	West
Vegetation within 100m of site	0m-10m Managed 10m-23m Managed (rail corridor) 23m-100m+ Forest	0m-10m Managed 10m-40m Grassland 40m-90m Woodland 90m-100m+ Managed	(D = = =l)	0m-100m+ Managed
Slope (degrees, over 100m)	Upslope	Flat	Downslope 0-5°	NA
BAL 19 Setbacks	10m	10m	4m	NA
BAL 12.5 Setbacks	19m	14m	12m	NA

5.2 Hazard Management Areas

As outlined in the *Planning Directive 5.1 – Bushfire-Prone Areas Code*, a Bushfire Hazard Management Area (BHMA) will be managed in accordance with the provided plan. Existing vegetation needs to be strategically modified and then maintained within this area in accordance with the BHMP to achieve the following outcomes:

- to reduce the quantity of windborne sparks and embers reaching buildings;
- to reduce radiant heat at the building; and
- to halt or check direct flame attack.

The BHMA will be developed within and up to the property boundaries to provide access to a fire front for firefighting, which is maintained in a minimal fuel condition and in which there are no other hazards present that will significantly contribute to the spread of a bushfire.

The BHMA will be achieved by adoption of the following strategies:

Maintenance of Fuel Management Areas

It is the responsibility of the property owner to maintain and manage the landscaping in accordance with the Bushfire Hazard Management Plan and the current Guidelines for Development in Bushfire-Prone Areas of Tasmania.

This area is to be regularly managed and maintained. Landscaping in this area will be minimised:

- Grass maintained to a maximum height of 100mm, with fuel loads kept to less than 2 tonnes per hectare which will be maintained at this level.
- Trees and any undergrowth will be clear of (BCA) class 1 9 buildings on all sides.
- All undergrowth and understorey of trees (up to 2m) will be removed within the bushfire hazard management area.
- Select larger trees can be retained within the BHMA, ensuring a minimum 5m canopy separation is provided between each established tree.
- Pathways to 1 metre surrounding the buildings and landscaping material, will be noncombustible (stone, pebbles etc.).
- The total shrub cover will be a maximum of 20% of the available area.
- There will be a clear space from the buildings of at least four (4) times the mature height of any shrubs planted.
- Shrubs will not be planted in clumps, this is to avoid build-up of debris and dead vegetation
 materials.

Landscaping

- vegetation along the pathways to comprise non-flammable style succulent ground cover
 or plants (avoid plants that produce fine fuel which is easily ignited, plants that produce a
 lot of debris, trees and shrubs which retain dead material in branches or which shed long
 strips of bark, rough fibrous bark or drop large quantities of leaves in the spring and
 summer, vines on walls or tree canopies which overhang roofs)
- timber woodchip and flammable mulches cannot be used and brush and timber fencing should be avoided where possible

5.3 Access

Private access roads must be constructed as per the following table:

Ele	ement	Requirement	
A.	Property access length is less than 30m; or access is not required for a fire appliance to access a fire fighting water point.	There are no specified design and construction requirements.	
В.	Property access length is 30m or greater; or access is required for a fire appliance to a fire fighting water point.	The following design and construction requirements apply to property access: (a) all-weather construction; (b) load capacity of at least 20t, including for bridges and culverts; (c) minimum carriageway width of 4m; (d) minimum vertical clearance of 4m; (e) minimum horizontal clearance of 0.5m from the edge of the carriageway; (f) cross falls of less than 3 degrees (1:20 or 5%); (g) dips less than 7 degrees (1:8 or 12.5%) entry and exit angle; (h) curves with a minimum inner radius of 10m; (i) maximum gradient of 15 degrees (1:3.5 or 28%) for sealed roads, and 10 degrees (1:5.5 or 18%) for unsealed roads; and (j) terminate with a turning area for fire appliances provided by one of the following: (i) a turning circle with a minimum outer radius of 10m; or (ii) a property access encircling the building; or a hammerhead "T" or "Y" turning head 4m wide and 8m long.	
С		The following design and construction requirements apply to property access: a) the requirements for B above; and b) passing bays of 2m additional carriageway width and 20m length provided every 200m.	
D.		The following design and construction requirements apply to property access: a) complies with requirements for B above; and b) passing bays of 2m additional carriageway width and 20m length must be provided every 100m.	

5.4 Fire Fighting Water Supply

Table E5 Static water supply for fire fighting.

Ele	ement	Requirement
A.	Distance between building area to be protected and water supply	 The following requirements apply: (a) The building area to be protected must be located within 90 metres of the firefighting water point of a static water supply; and (b) The distance must be measured as a hose lay, between the firefighting water point and the furthest part of the building area.
В.	A static water supply:	 a) May have a remotely located offtake connected to the static water supply; b) May be a supply for combined use (fire fighting and other uses) but the specified minimum quantity of fire fighting water must be available at all times; c) Must be a minimum of 10,000 litres per building area to be protected. This volume of water must not be used for any other purpose including fire fighting sprinkler or spray systems; d) Must be metal, concrete or lagged by non-combustible materials if above ground; and e) If a tank can be located so it is shielded in all directions in compliance with Section 3.5 of AS 3959-2009, the tank may be constructed of any material provided that the lowest 400 mm of the tank exterior is protected by: (i) metal; (ii) non-combustible material; or (a) fibre-cement a minimum of 6 mm thickness
С		Fittings and pipework associated with a fire fighting water point for a static water supply must: a) Have a minimum nominal internal diameter of 50mm; b) Be fitted with a valve with a minimum nominal internal diameter of 50mm; c) Be metal or lagged by non-combustible materials if above ground; d) Where buried, have a minimum depth of 300mm; e) Provide a DIN or NEN standard forged Storz 65 mm coupling fitted with a suction washer for connection to fire fighting equipment;

connection at all times; g) Ensure the coupling is fitted with a blank cap a chain (minimum 220 mm length); h) Ensure underground tanks have either an ope top of not less than 250 mm diameter or a coucompliant with this Table; and i) Where a remote offtake is installed, ensure the a position that is (i) Visible; (ii) Accessible to allow connection by fire equipment; (iii) At a working height of 450 – 600mm ground level; and Protected from possible damage, including damage by Signage for Static Water The firefighting water point for a static water suppose the content of the content		connection at all times; g) Ensure the coupling is fitted with a blank cap and securing chain (minimum 220 mm length); h) Ensure underground tanks have either an opening at the top of not less than 250 mm diameter or a coupling compliant with this Table; and i) Where a remote offtake is installed, ensure the offtake is in a position that is (i) Visible; (ii) Accessible to allow connection by firefighting equipment; (iii) At a working height of 450 – 600mm above
		a) Comply with tank signage requirements within AS2304:2019; or Comply with the Tasmanian Fire Service Water Supply Signage Guidelines published by the Tasmania Fire Service.
Е	Hardstand	A hardstand area for fire appliances must be: (a) no more than 3m from the firefighting water point, measured as a hose lay (including the minimum water level in dams, swimming pools and the like) (b) no closer than 6m from the building area to be protected; (c) a minimum width of 3m constructed to the same standard as the carriageway; and (d) connected to the property access by a carriageway equivalent to the standard of the property access.

6. Bushfire-Prone Areas Code Assessment

An assessment of E1.0 Bushfire-Prone Areas Code under the Scheme is provided as follows.

E1.6 Development Standards

E1.6.1 Subdivision: Provision of hazard management areas

Objective

Subdivision provides for hazard management areas that:

- (a) facilitate an integrated approach between subdivision and subsequent building on a lot;
- (b) provide for sufficient separation of building areas from bushfire-prone vegetation to reduce the radiant heat levels, direct flame attack and ember attack at the building area; and
- (c) provide protection for lots at any stage of a staged subdivision.

Acc	ceptable solutions	Proposed solutions	
A1		A1a)	Not applicable.
(a)	TFS or an accredited person certifies that there is an insufficient increase in	A1b)	The acceptable solution is achieved. The BHMP:
	risk from bushfire to warrant the provision of hazard management areas as part of a subdivision; or	i)	shows all lots within the bushfire prone area.
(b)	The proposed plan of subdivision:		The subdivision will be done in one stage
	(i) shows all lots that are within or partly within a bushfire-prone area,	ii)	shows a 10m \times 15m building area on all lots.
	including those developed at each stage of a staged subdivision;	iii)	shows a HMA associated with each building area demonstrating the
	i) shows the building area for each lot;		separation distances. All lots can achieve BAL 19 rating.
	(iii) shows hazard management areas between bushfire-prone vegetation and each building area that have dimensions equal to, or greater than, the separation distances required for BAL 19 in Table 2.4.4 of Australian	iv)	The application provides a bushfire hazard management plan which is prepared by a certified bushfire hazard practitioner.
	Standard AS 3959 – 2009 Construction of buildings in bushfire-prone areas; and	A1c)	Part 5 agreement is not required.
	(iv)is accompanied by a bushfire hazard management plan for each individual lot, certified by the TFS or accredited person, showing hazard management areas equal to, or		

greater than, the separation distances required for BAL 19 in Table 2.4.4 of Australian Standard AS 3959 – 2009 Construction of buildings in bushfire-prone areas; and

(c) If hazard management areas are to be located on land external to the proposed subdivision the application is accompanied by the written consent of the owner of that land to enter into an agreement under section 71 of the Act that will be registered on the title of the neighbouring property providing for the affected land to be managed in accordance with the bushfire hazard management plan.

E1.6.2 Subdivision: Public and firefighting access

Objective

Access roads to, and the layout of roads, tracks and trails, in a subdivision:

- a) allow safe access and egress for residents, fire fighters and emergency service personnel;
- (b) provide access to the bushfire-prone vegetation that enables both property to be defended when under bushfire attack and for hazard management works to be undertaken;
- (c) are designed and constructed to allow for fire appliances to be manoeuvred;
- (d) provide access to water supplies for fire appliances; and
- (e) are designed to allow connectivity, and where needed, offering multiple evacuation points.

Acc	eptable solutions	Proposed solutions
(a)	TFS or an accredited person certifies that there is an insufficient increase in risk from bushfire to warrant specific measures for public access in the subdivision for the purposes of fire fighting; or	 a) Not applicable b) Proposal complies. The plan of subdivision provides for private access. Each lot can provide a compliant access.
(b)	A proposed plan of subdivision showing the layout of roads, fire trails and the location of property access to building areas is included in a bushfire hazard management plan that: (i) demonstrates proposed roads will comply with Table E1, proposed	

private accesses will comply with Table E2 and proposed fire trails will comply with Table E3; and is certified by the TFS or accredited person.

E1.6.3 Subdivision: Provision of water supply for firefighting purposes

Objective

Adequate, accessible and reliable water supply for the purposes of fire fighting can be demonstrated at the subdivision stage and allow for the protection of life and property associated with the subsequent use and development of bushfire-prone areas.

Acc	ceptable solutions	Proposed solutions
A1	In areas serviced with reticulated water by the water corporation:	A1 Not applicable
(a)	TFS or an accredited person certifies that there is an insufficient increase in risk from bushfire to warrant the provision of a water supply for fire fighting purposes;	
(b)	A proposed plan of subdivision showing the layout of fire hydrants, and building areas, is included in a bushfire hazard management plan approved by the TFS or accredited person as being compliant with Table E4; or	
(c)	A bushfire hazard management plan certified by the TFS or an accredited person demonstrates that the provision of water supply for fire fighting purposes is sufficient to manage the risks to property and lives in the event of a bushfire.	
A2	In areas that are not serviced by reticulated water by the water corporation:	A2 Acceptable solution achieved. The BHMP shows location of future static water supply and provides recommendations.
(a)	The TFS or an accredited person certifies that there is an insufficient increase in risk from bushfire to warrant provision of a water supply for fire fighting purposes;	
(b)	The TFS or an accredited person certifies that a proposed plan of	

	subdivision demonstrates that a static water supply, dedicated to fire fighting, will be provided and located compliant with Table E5; or
(c)	A bushfire hazard management plan certified by the TFS or an accredited person demonstrates that the provision of water supply for fire fighting purposes is sufficient to manage the risks to property and lives in the event of a bushfire.

7. Conclusions and Recommendations

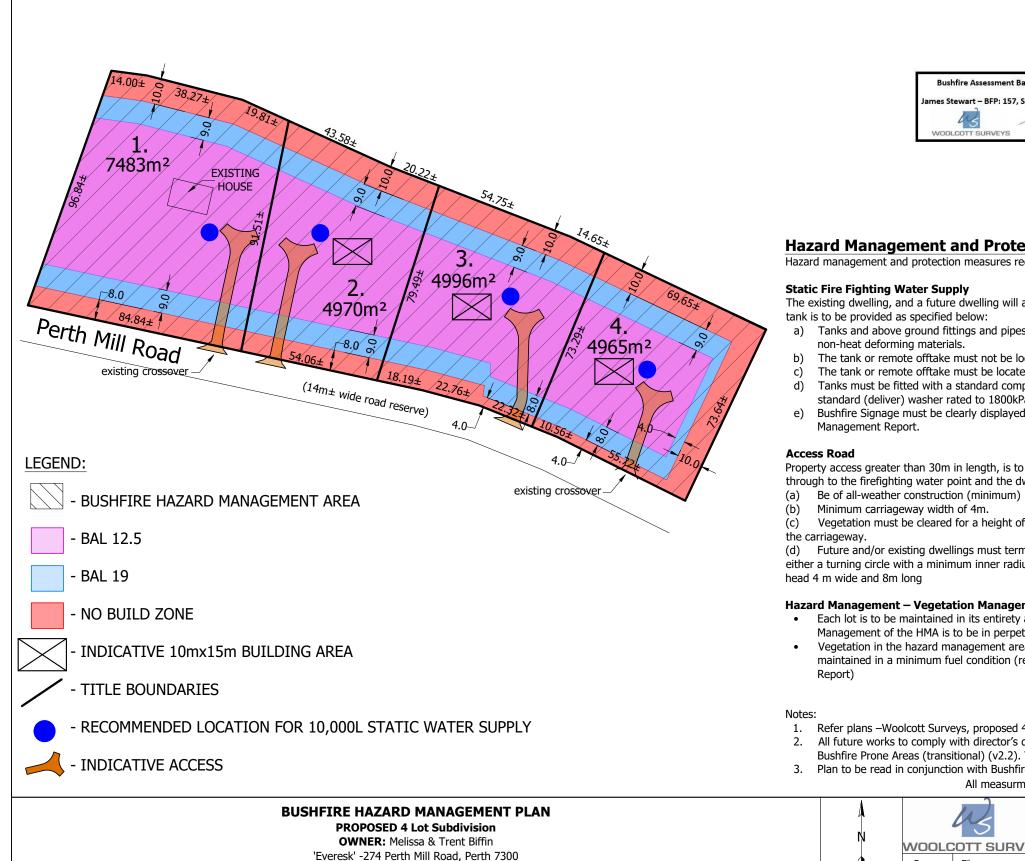
The proposal seeks planning approval for a 4-lot subdivision at 274 Perth Mill Road, Perth.

All of the lots have demonstrated that a building area can be provided in an area meeting the requirements of BAL 19. Access requirements can be achieved for each lot. Future dwellings will be required to provide a compliant static water supply.

The following recommendations and conclusions are made:

- a) Hazard management areas meeting the requirements of BAL 19 can be achieved for lots 1, 2, 3, 4.
- b) A future dwelling on lots 2 4 must maintain Hazard Management Areas and follow recommendations as outlined in Bushfire Hazard Management Plan and section 5.2 of this report. Maintenance of these hazard management areas is to be maintained in perpetuity.
- c) Prior to the sealing of the final plan, the bushfire hazard management area for lot 1 must continue to be implemented. This area is to be maintained in perpetuity.
- d) The existing dwelling on lot 1, and future dwellings on lots 2 4 must establish a dedicated firefighting onsite water supply of 10,000L, ensuring tank and fittings are compliant with standards for building in a bushfire prone area. A static water supply must comply with section 5.4 of this report.
- e) The existing dwelling on lot 1, and future dwellings on lots 2 4 must provide a compliant vehicular access in accordance with section 5.3 of this report.

Annexure 1 – Bushfire Hazard Management Plan



C.T.15829/1, PID 6394944

Bushfire Assessment Based on Stamped Plans ames Stewart – BFP: 157, Scope of Work: 1, 2, 3B, 3C

Hazard Management and Protection Area Requirements:

Hazard management and protection measures requires:

The existing dwelling, and a future dwelling will a 10,000 Litre dedicated firefighting water supply

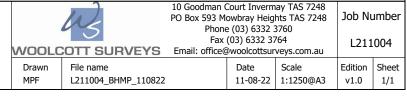
- a) Tanks and above ground fittings and pipes must be made of non-rusting, non-combustible,
- The tank or remote offtake must not be located within 6m of the dwelling.
- The tank or remote offtake must be located within 3m of a hardstand area.
- Tanks must be fitted with a standard compliance forged Storz 65mm adapter fitted with a standard (deliver) washer rated to 1800kPa working pressure and 2400kPa burst pressure.
- Bushfire Signage must be clearly displayed in accordance with section 5.4 of the Hazard

Property access greater than 30m in length, is to be maintained/upgraded from the Road crossover through to the firefighting water point and the dwelling. Property access must:

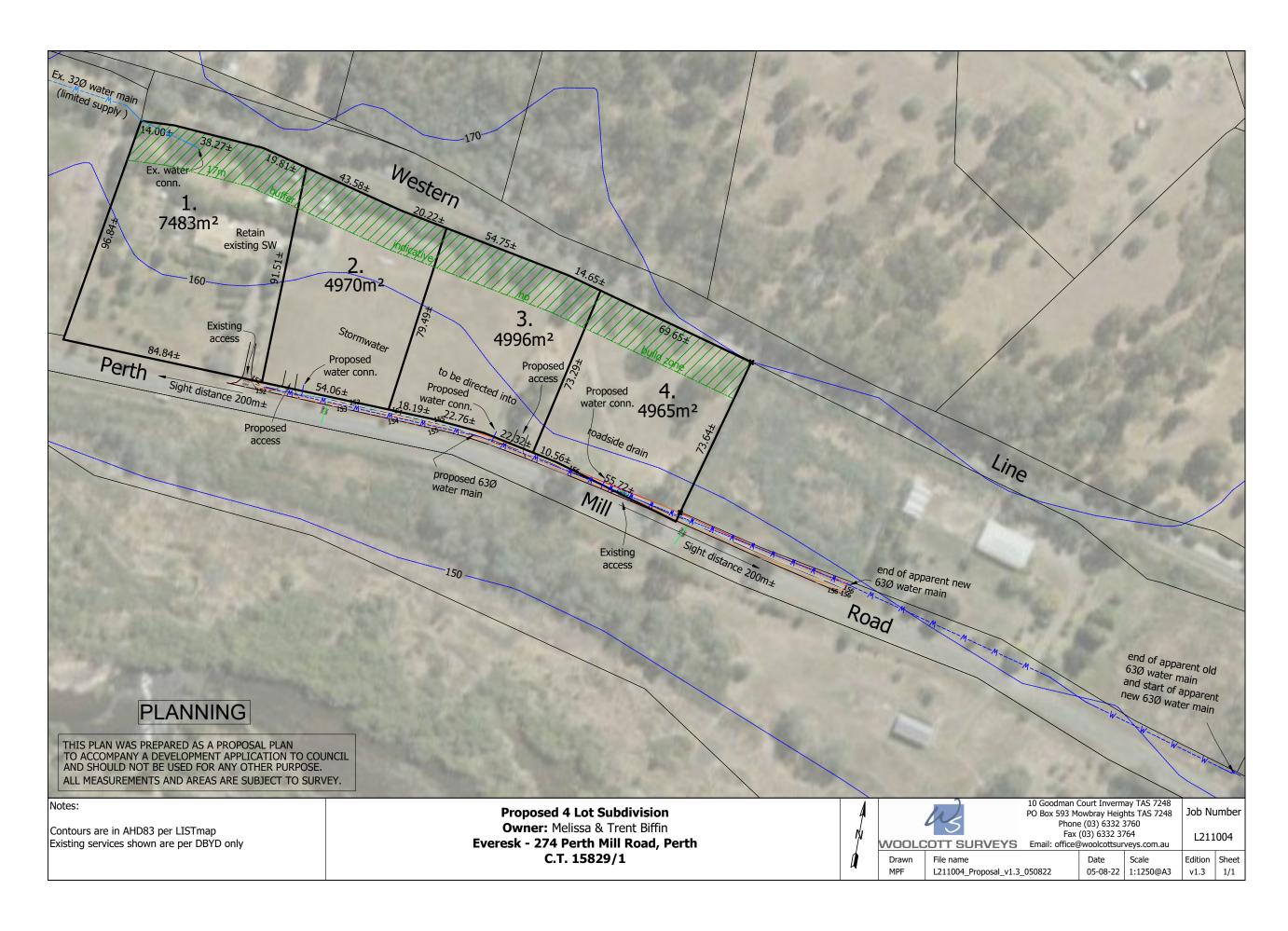
- Vegetation must be cleared for a height of 4m above the carriageway and 0.5m each side of
- (d) Future and/or existing dwellings must terminate with a turning area for fire appliances of either a turning circle with a minimum inner radius of 10m, or a hammerhead "T" or "Y" turning

Hazard Management - Vegetation Management

- Each lot is to be maintained in its entirety as a bushfire hazard management area. Management of the HMA is to be in perpetuity.
- Vegetation in the hazard management area (as dimensioned and shown) is to managed and maintained in a minimum fuel condition (refer to section 5.2 of Bushfire Hazard Management
- 1. Refer plans –Woolcott Surveys, proposed 4 lot Subdivision, dated 12/07/2022, L211004, V1.2.
- All future works to comply with director's determination Requirements for building in Bushfire Prone Areas (transitional) (v2.2). Table 4.1, 4.2, 4.3 and 4.4.
- 3. Plan to be read in conjunction with Bushfire Hazard Management Report dated 01/08/2022 All measurments in metres



Annexure 2 – Subdivision Proposal Plan



Annexure 3 - Planning Certificate

BUSHFIRE-PRONE AREAS CODE

CERTIFICATE¹ UNDER S51(2)(d) LAND USE PLANNING AND APPROVALS ACT 1993

1. Land to which certificate applies

The subject site includes property that is proposed for use and development and includes all properties upon which works are proposed for bushfire protection purposes.

Street address: 274 Perth Mill Road, Perth

Certificate of Title / PID: CT15829/1, PID6394944

2. Proposed Use or Development

Description of proposed Use and Development:

4 Lot Subdivision.

Applicable Planning Scheme:

Northern Midlands Interim Planning Scheme 2013

3. Documents relied upon

This certificate relates to the following documents:

Title	Author	Date	Version
Bushfire Hazard Report	Woolcott Surveys	01/08/2022	1
4 Lot Subdivision Proposal Plan	Woolcott Surveys	05/08/2022	1.3
Bushfire Hazard Management Plan	Woolcott Surveys	11/08/2022	1

¹ This document is the approved form of certification for this purpose and must not be altered from its original form.

	4. Nature of Certificate					
The	The following requirements are applicable to the proposed use and development:					
	E1.4 / C13.4 – Use or development exempt from this Code					
	Compliance test	Compliance Requirement				
	E1.4(a) / C13.4.1(a)	Insufficient increase in risk.				
	I =					
Ш	E1.5.1 / C13.5.1 – Vulnerable Use					
	Acceptable Solution	Compliance Requirement				
	E1.5.1 P1 / C13.5.1 P1	Planning authority discretion required. A proposal cannot be certified as compliant with P1.				
	E1.5.1 A2 / C13.5.1 A2	Emergency management strategy				
	E1.5.1 A3 / C13.5.1 A2	Bushfire hazard management plan				
	E1.5.2 / C13.5.2 – Hazardous Uses					
	Acceptable Solution	Compliance Requirement				
	E1.5.2 P1 / C13.5.2 P1	Planning authority discretion required. A proposal cannot be certified as compliant with P1.				
	E1.5.2 A2 / C13.5.2 A2	Emergency management strategy				
	E1.5.2 A3 / C13.5.2 A3	Bushfire hazard management plan				
	9					
	Acceptable Solution	Compliance Requirement				
	E1.6.1 P1 / C13.6.1 P1	Planning authority discretion required. A proposal cannot be certified as compliant with P1.				
	E1.6.1 A1 (a) / C13.6.1 A1(a)	Insufficient increase in risk.				

Provides BAL-19 for all lots

Consent for Part 5 Agreement

Planning Certificate from a Bushfire Hazard Practitioner v5.0

E1.6.1 A1 (b) / C13.6.1 A1(b)

E1.6.1 A1(c) / C13.6.1 A1(c)

\boxtimes	E1.6.2 / C13.6.2 Subdivision: Public and fire fighting access			
	Acceptable Solution	Compliance Requirement		
	E1.6.2 P1 / C13.6.2 P1	Planning authority discretion required. A proposal cannot be certified as compliant with P1.		
	E1.6.2 A1 (a) / C13.6.2 A1 (a)	Insufficient increase in risk.		
	E1.6.2 A1 (b) / C13.6.2 A1 (b)	Access complies with relevant Tables		

\boxtimes	E1.6.3 / C13.1.6.3 Subdivision: Provision of water supply for fire fighting purposes			
	Acceptable Solution Compliance Requirement			
	E1.6.3 A1 (a) / C13.6.3 A1 (a)	Insufficient increase in risk.		
	E1.6.3 A1 (b) / C13.6.3 A1 (b)	Reticulated water supply complies with relevant Table		
	E1.6.3 A1 (c) / C13.6.3 A1 (c)	Water supply consistent with the objective		
	E1.6.3 A2 (a) / C13.6.3 A2 (a)	Insufficient increase in risk.		
\boxtimes	E1.6.3 A2 (b) / C13.6.3 A2 (b)	Static water supply complies with relevant Table		
	E1.6.3 A2 (c) / C13.6.3 A2 (c)	Static water supply consistent with the objective		

5. Bushfire Hazard Practitioner					
Name:	James Stewart	Pho	one No:	0467 676 721	
Postal Address:	PO BOX 593, Mowbray, Tas, 7248 Addr	mail ess:	james@	®woolcottsurveys.com.au	
Accreditati	on No: BFP – 157	Scope:		1, 2, 3B, 3C	
6. Ce	rtification				
	at in accordance with the authority given und the proposed use and development:	er Pa	urt 4A of	the Fire Service Act	
	Is exempt from the requirement Bushfire-Prone Areas Code because, having regard to the objective of all applicable standards in the Code, there is considered to be an insufficient increase in risk to the use or development from bushfire to warrant any specific bushfire protection measures, or				
	The Bushfire Hazard Management Plan/s identified in Section 3 of this certificate is/are in accordance with the Chief Officer's requirements and compliant with the relevant Acceptable Solutions identified in Section 4 of this Certificate.				
Signed: certifier					
Name:	James Stewart Da	ate:	16/08/202	22	
	Certific Numb		WS-89		

(for Practitioner Use only)

CLIENT: **BIFFIN**

PROJECT: **4 LOT SUBDIVISION**

ADDRESS:

274 PERTH MILL RD, PERTH

PROJECT No: **231005**

STATUS:

CONTROLLED DOCUMENT

ISSUED FOR / DESCRIPTION: **DEVELOPMENT APPLICATION**

DRAWINGS:

COV - COVER SHEET
C000 - CIVIL NOTES
C401 - CIVIL WORKS PLAN
C501 - DRAINAGE PLAN
C601 - WATER RETICULATION PLAN
C701 - SECTIONS & DETAILS

STATUS: DESIGN BY: KL
CONTROLLED DOCUMENT
DESIGN CHK: JWS
DO NOT SCALE - IF IN DOUBT, ASK
THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSE FOR WHICH IT
WAS PREPARED. © RARE INNOVATION PTVLTD. ABN 51 619 599 257 PROJECT: A LOT SUBDIVISION
REV: ISSUED FOR / DESCRIPTION:
BY: DATE:

STATUS:
DESIGN BY: KL
CONTROLLED DOCUMENT
DESIGN CHK: JWS
DRAWN BY: KL
DRAWN BY: KL
DRAWN BY: KL
DRAFT CHK: JWS
DATE: 4 LOT SUBDIVISION
SCALE: - SHEET SIZE: A1 DWGs IN SET: PROJECT NO: 231005 DWG No: COV REV: 0

Attachment 15.8.9 Annexure 6 - Civil Design (Water Mains) - rare engineering

GENERAL

1. NOTICE TO TENDERER

THE CONTRACTOR / TENDERER IS TO MAKE THEMSELVES AWARE OF THE LOCAL COUNCIL AND THE DEPARTMENT OF STATE GROWTH (D.S.G.) STANDARDS FOR CIVIL WORKS. CONSTRUCTION IS TO BE CARRIED OUT TO THESE STANDARDS. TENDERER IS TO ALLOW FOR THESE STANDARDS DURING PRICING. COPIES OF THE STANDARDS ARE AVAILABLE FOR INSPECTION UPON REQUEST FROM THE LOCAL COUNCIL OR D.S.G.'s

2. NOTIFICATION

THE CONTRACTOR IS TO NOTIFY ALL RELEVANT STATUTORY AUTHORITIES PRIOR TO COMMENCING ANY WORK FOR THE POSSIBLE LOCATION OF ANY EXISTING SERVICES NOT SHOWN ON THESE PLANS, AND IS TO NOTIFY THE SUPERINTENDENT OF THE SAME. ALL EXISTING SERVICES ARE TO BE PROTECTED DURING CONSTRUCTION. ANY DAMAGE TO EXISTING SERVICES IS TO BE MADE GOOD AT THE CONTRACTOR'S EXPENSE.

3. DRAWINGS AND SPECIFICATIONS

THESE DRAWINGS AND SPECIFICATIONS HAVE BEEN PREPARED FOR THE PURPOSE OF OBTAINING COUNCIL APPROVAL AND CALLING OF TENDERS. THEY ARE NOT TO BE USED FOR CONSTRUCTION. A CONSTRUCTION SET OF DRAWINGS STAMPED "CONSTRUCTION SET" WILL BE ISSUED PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

WHERE ANY COMMON TRENCHING IS REQUIRED, THE FOLLOWING CLEARANCE DISTANCES (BARREL TO BARREL) MUST BE MAINTAINED FROM EXISTING OR PROPOSED SERVICES:

HORIZONTALLY: - 300mm ALONG A LENGTH GREATER THAN 2 METRES. - 500mm MINIMUM FROM ANY MAIN GREATER THAN 200mm DIA. - 150mm MINIMUM ALONG A LENGTH LESS THAN 2 METRES.

VERTICALLY: - 300mm MINIMUM FROM ANY MAIN GREATER THAN 200mm DIA ELECTRICAL CABLES SHOULD BE LOCATED ON THE OPOSITE SIDE OF THE STREET. WHERE THIS IS NOT POSSIBLE A 400mm MINIMUM DISTANCE MUST BE OBSERVED OF WHICH 300mm SHOULD BE IN NATURAL AND

5. TASNETWORKS TRENCHING

UNDISTURBED MATERIAL.

THE CONTRACTOR IS TO ALLOW FOR EXCAVATION AND BACKFILLING OF ALL TRENCHES FOR THE INSTALLATION OF TASNETWORKS CABLES. CONTRACTOR IS TO LIAISE WITH THE TASNETWORKS FOR THE EXTENT OF CABLE TRENCHING, CONDUITS & PITS.

6. COMMUNICATION TRENCHING

THE CONTRACTOR IS TO ALLOW FOR EXCAVATION AND BACKFILLING OF ALL TRENCHES FOR THE INSTALLATION OF COMMUNICATIONS CABLES. CONTRACTOR IS TO LIAISE WITH COMMUNICATION AUTHORITY FOR THE EXTENT OF CABLE TRENCHING.

7. EXISTING SERVICES

LOCATE EXISTING SERVICES PRIOR TO COMMENCING DEMOLITION AND SITE WORKS. THE CONTRACTOR IS TO ARRANGE AND PAY FOR THE ON SITE MARKING AND CONFIRMATION OF DEPTH OF SERVICE LOCATIONS FOR ALL UNDERGROUND SERVICES INCLUDING COMMUNICATIONS, TASNETWORKS, TASWATER (WATER & SEWER) AND COUNCIL SERVICES (ie: STORMWATER) IN THE AREA OF NEW WORKS, LOCATION TO BE CONFIRMED USING CABLE LOCATORS AND HAND DIGGING METHODS. PRIOR TO ANY WORKS ON SITE, ANY CLASHES WITH DESIGNED SERVICES ON FOLLOWING DRAWINGS ARE TO BE REPORTED TO DESIGN ENGINEER FOR DIRECTION.

8. COUNCIL & AUTHORITIES APPROVALS ALL WORKS ARE TO BE IN ACCORDANCE WITH THE FOLLOWING APPROVALS:

9. SIGNAGE

ALL SIGN WORKS AND INSTALLATION TO BE IN ACCORDANCE WITH CURRENT VERSION OF MUTCD & AUSTROADS FOR SIGNAGE DETAILS.

THE SCOPE OF WORKS ARE SHOWN IN THESE DOCUMENTS AND THE SPECIFICATION. IT IS EXPECTED THE CONTRACTOR WILL RESOLVE ALL ISSUES UNCOVERED ON SITE THAT ARE NOT DETAILED IN CONJUNCTION WITH THE SUPERINTENDENT.

GENERAL CONT.

11. LINE TYPE LEGEND

DN100 AGG PIPE OR MEGAFLOW DRAIN AS NOTED @ 1:100 FALL TO STORM WATER SYSTEM DENOTES EXISTING STORM WATER MAIN (CONFIRM EXACT LOCATION) (CONFIRM EXACT LOCATION)

——— s ——— DENOTES PROPOSED SEWER MAIN DENOTES EXISTING WATER MAIN (CONFIRM EXACT LOCATION) DENOTES PROPOSED WATER MAIN (CONFIRM EXACT LOCATION) DENOTES PROPOSED GAS MAIN DENOTES EXISTING UNDERGROUND TELECOM

DEMOLITION 12. SITE WORKS SYMBOLS LEGEND

PEDESTRIAN RAMP TYPE BK BARRIER KERB TYPE KC KERB AND CHANNEL TYPE KCS KERB AND CHANNEL - SMALL TYPE KCM MOUNTABLE KERB AND CHANNEL TYPE KCV VEHICULAR CROSSING BOLLARD, REFER DETAIL HUDSON CIVIL PRECAST CONCRETE WHEEL STOP (2000 LONG x 100 HIGH)

13. BUILDING SERVICES SYMBOLS LEGEND TELECOMMUNICATION PIT

14. SURVEY SYMBOLS LEGEND

SPOT LEVEL WITH DESCRIPTION +44.330 EXISTING SPOT LEVEL

15. DRAINAGE SYMBOLS LEGEND

MHx-SW STORMWATER MANHOLE MHx-S SEWER MANHOLE GPx-SW GRATED/GULLY PIT - STORM WATER GDx-SW **GRATED DRAIN - STORM WATER** SEPx-SW SIDE ENTRY PIT - STORM WATER uPVC UNPLASTICIZED POLYVINYL CHLORIDE REINFORCED CONCRETE PIPE (OR FCR) CLASS 4 (Z) NOMINAL DIAMETER COVER LEVEL INVERT LEVEL DOWN PIPE INSPECTION OPENING INSPECTION OPENING TO SURFACE **GRATED PIT**

16. WATER RETICULATION SYMBOLS LEGEND

M	DN100 METER
M	METER
CM	CHECK METER
FP	FIRE PLUG
\bowtie	ISOLATION VALVE
Z	CHECK VALVE
\forall	STRAINER
M ⋉	MONITORED VALVE
\mathbb{M}	BALANCE VALVE
SV	STOP VALVE
SV	DN100 LOCKABLE STOP VALVE
\sim	DN100 REFLUX VALVE
BFPD ▶	BACK FLOW PREVENTION DEVICE
A/B kPa	PRESSURE REDUCING VALVE
€►► HBC	HOSE BIB COCK
•	FIRE HYDRANT
↔	DUAL HEAD FIRE HYDRANT
FUD	

FIRE HOSE REEL

EARTHWORKS

GENERAL EARTHWORKS, MATERIAL AND WORKMANSHIP SHALL COMPLY WITH THIS SPECIFICATION AND THE CURRENT EDITION OF THE S.A.A. CODE FOR EARTHWORKS AS 3798 TOGETHER WITH ANY CODES, STANDARDS OR REGULATIONS REFEREED TO THEREIN.

CERTIFICATION OF THESE ELEMENTS IS TO BE PROVIDED PRIOR TO

C. PLACE FILL AS SPECIFIED AND COMPACT WITHIN 2% OF OPTIMUM

2. INSPECTIONS THE CONTRACTOR IS TO ENGAGE AN APPROVED GEOTECHNICAL

ENGINEER TO CARRY OUT LEVEL 2 TESTING OF ALL EARTH WORKS TO AS 3798, INCLUDING SUBGRADE - PAVEMENTS

3. AREAS OF FILL

- BACKFILLING OF SERVICE TRENCHES

A. REMOVE TOP SOIL AND ORGANIC MATERIAL B. PROOF ROLL SUBGRADE IN ACCORDANCE WITH AS1289 TO: - 98% STANDARD DRY DENSITY UNDER BUILDING - 98% STANDARD DRY DENSITY UNDER ROADS AND CARPARKS REMOVE ANY SOFT SPOTS AND COMPACT WITH 2% OF OPTIMUM MOISTURE CONTENT TO STANDARD DRY DENSITY AS STATED ABOVE

MOISTURE CONTENT TO STANDARD DRY DENSITY AS STATED ABOVE 4. AREAS OF CUT

A. REMOVE TOP SOIL AND ORGANIC MATERIAL B. PROOF ROLL SUBGRADE IN ACCORDANCE WITH AS1289 TO: - 98% STANDARD DRY DENSITY UNDER BUILDINGS - 98% STANDARD DRY DENSITY UNDER ROADS AND CAR PARKS - REMOVE ANY SOFT SPOTS AND COMPACT WITH 2% OF OPTIMUM

MOISTURE CONTENT TO STANDARD DRY DENSITY AS STATED ABOVE

SOIL & WATER MANAGEMENT

ALL WORKS ARE TO BE CARRIED OUT IN ACCORDANCE WITH 'SOIL & WATER MANAGEMENT ON BUILDING & CONSTRUCTION SITES' GUIDELINES AVAILABLE FROM NORTHERN RESOURCE

2. SOIL EROSION CONTROL

SOIL EROSION CONTROL IN ACCORDANCE WITH NRM GUIDELINES.

CONTRACTOR TO ALLOW TO: LIMIT DISTURBANCE WHEN EXACTING BY PRESERVING

VEGETATED AREA'S AS MUCH AS POSSIBLE DIVERT UP-SLOPE WATER WHERE PRACTICAL INSTALL SEDIMENT FENCES DOWN SLOPE OF ALL DISTURBED LANDS TO FILTER LARGE PARTICLES PRIOR TO STORM WATER SYSTEM WASH EQUIPMENT IN DESIGNATED AREA THAT DOES NOT

UP-SLOPE FROM SEDIMENT FENCES LEAVE & MAINTAIN VEGETATED FOOT PATH STORE ALL HARD WASTE & LITTER IN A DESIGNATED AREA THAT WILL PREVENT IT FROM BEING BLOWN AWAY &

WASHED INTO THE STORM WATER SYSTEM

PLACE STOCK PILES AWAY FROM ON-SITE DRAINAGE &

RESTRICT VEHICLE MOVEMENT TO A STABILISED ACCESS 3. NRM GUIDELINES

CONTRACTOR TO COMPLETE ALL WORKS IN ACCORDANCE WITH CONSTRUCTION SITE LISING THE FACT SHEETS: FACT SHEET 1: SOIL & WATER MANAGEMENT ON LARGE **BUILDING & CONSTRUCTION SITES** FACT SHEET 2: SOIL & WATER MANAGEMENT ON STANDARD BUILDING & CONSTRUCTION SITES • FACT SHEET 3: SOIL & WATER MANAGEMENT PLANS

FACT SHEET 4: DISPERSIVE SOILS - HIGH RISK OF TUNNEL FACT SHEET 5: MINIMISE SOIL DISTURBANCE FACT SHEET 7: DIVERT UP-SLOPE WATER

FACT SHEET 8: EROSION CONTROL MATS & BLANKETS

 FACT SHEET 9: PROTECT SERVICE TRENCHES & STOCKPILES FACT SHEET 11: SCOUR PROTECTION - STORM WATER PIPE **OUTFALLS & CHECK DAMS** FACT SHEET 12: STABILISED SITE ACCESS FACT SHEET 13: WHEEL WASH • FACT SHEET 14: SEDIMENT FENCES & FIBRE ROLLS FACT SHEET 15: PROTECTION OF STORM WATER PITS

FACT SHEET 16: MANAGE CONCRETE, BRICK & TILE CUTTING

FACT SHEET 17: SEDIMENT BASINS

FACT SHEET 19: SITE RE-VEGETATION

ROAD WORKS

ALL WORKS ARE TO BE CARRIED OUT TO THE LOCAL COUNCIL AND D.S.G. STANDARDS. ANY DEPARTURES FROM THESE STANDARDS. REQUIRES THE PRIOR APPROVAL OF THE SUPERINTENDENT AND THE LOCAL COUNCIL WORKS SUPERVISOR.

2. INSPECTIONS THE CONTRACTOR IS RESPONSIBLE FOR ORGANISING THE FOLLOWING

INSPECTIONS WITH THE SUPERINTENDENT. 48 HOURS NOTICE IS REQUIRED TO BE GIVEN TO THE SUPERINTENDENT PRIOR TO THE INSPECTION. - SUBGRADE PREPARATION

- SUB-BASE FOR ROADS, CARPARKS AND KERBS

- FINAL TRIM PRIOR TO PLACING KERBS - FINAL TRIM PRIOR TO SEALING

- BASE COURSE

3. TESTING THE CONTRACTOR IS TO BE RESPONSIBLE FOR ORGANISING AND PAYING ALL COSTS ASSOCIATED WITH TESTING IN ACCORDANCE WITH D.S.G. SPEC SECTION 173-EXAMINATION AND TESTING OF MATERIALS AND WORK (ROADWORKS).

4. HOTMIX

ALL HOTMIX IS TO BE BLACK IN COLOUR AND IS TO MEET AND BE PLACED IN ACCORDANCE WITH D.S.G. SPEC SECTION 407-HOT MIX

5. KERBS

ACCORDANCE WITH IPWEA LGAT STANDARD DRAWINGS. 6. ROAD RESERVE WORKS

ALL KERBS ARE TO BE AS SHOWN ON THE DRAWINGS AND BE IN

ALL WORKS IN (OR REQUIRING OCCUPATION) IN THE ROAD RESERVE MUST BE UNDERTAKEN BY CONTRACTOR REGISTERED WITH COUNCIL'S (REGISTERED CONTRACTOR).

7. FOOTPATHS

CONSTRUCT FOOTPATHS INCLUDING EXPANSION / CONTROL / WEAKENED PLANE JOINTS IN ACCORDANCE WITH IPWEA STD DWG TSD-R11-v3

8. LANDSCAPE / STREET FURNITURE

 BOLLARDS, REFER DETAILS / SUPERINTENDENTS SPEC LANDSCAPING & STREET FURNITURE BY CONTRACTOR - U.N.O

STORMWATER

ALL WORKS ARE TO BE CARRIED OUT TO THE LOCAL COUNCIL AND DSG STANDARDS ANY DEPARTURES FROM THESE STANDARDS REQUIRES THE PRIOR APPROVAL OF THE SUPERINTENDENT AND THE LOCAL COUNCIL WORKS SUPERVISOR. ALL STORM WATER PLUMBING & DRAINAGE TO COMPLY WITH A.S 3500.3:2003 STORM WATER DRAINAGE.

ALL DRAINAGE WORKS SHALL BE SUBJECT TO THE TESTS PRESCRIBED BY THE AUTHORITIES HAVING JURISDICTION OVER THE VARIOUS SERVICES. ANY SECTION FAILING SUCH TESTS SHALL BE REMOVED AND PROPERLY INSTALLED AT THE CONTRACTOR'S EXPENSE.

MANHOLES ARE TO BE 1050 I.D. U.N.O PRECAST CONCRETE INSTALLED TO LOCAL COUNCIL STANDARDS. ALL MANHOLES IN TRAFFICED AREAS

3. MANHOLES

ARE TO BE FITTED WITH HEAVY DUTY GATIC COVERS AND SURROUNDS ALL MANHOLES ARE TO HAVE A 5 METRE LENGTH OF 75mm AG-PIPE CONNECTED TO THEM AND LAID IN THE UPSTREAM PIPE TRENCH IMMEDIATELY ADJACENT TO AND AT THE INVERT OF THE LOWEST

4. SIDE ENTRY PIT (SEP)

- BENCH OUT IN A NEAT AND TIDY MANNER TO ENGINEERS APPROVAL. - GRATED PIT - GULLY HINGED OR OTHER TYPE APPROVED - CONCRETE KERB LINTEL - STEEL KERB LINTEL AND 1200 LONG GALV BAR

5. TRENCHING AND BACKFILL ALL TRENCHES ARE TO BE EXCAVATED AND BACKFILLED IN

- PIT INVERT DEPTHS VARY, REFER SITE PLAN.

ACCORDANCE WITH THE DRAWINGS AND THE LOCAL COUNCIL

6. INSPECTIONS

THE CONTRACTOR IS RESPONSIBLE FOR ORGANISING THE FOLLOWING INSPECTIONS WITH THE SUPERINTENDENT. 48 HOURS NOTICE IS REQUIRED TO BE GIVEN TO THE SUPERINTENDENT PRIOR TO THE INSPECTION. - PIPEWORK BEDDING

- INSTALLED PIPE PRIOR TO BACKFILLING - BACKFILLING

7. AS CONSTRUCTED DRAWINGS THE CONTRACTOR WILL BE RESPONSIBLE FOR PRODUCING "AS CONSTRUCTED" DRAWINGS TO THE STANDARD REQUIRED BY THE LOCAL COUNCIL. THE DRAWINGS SHALL BE CERTIFIED AS BEING CORRECT BY EITHER A CHARTERED CIVIL ENGINEER OR A REGISTERED SURVEYOR. RARE CAN PROVIDE THIS SERVICE, HOWEVER THE

CONTRACTOR WILL BE CHARGED FOR THIS SERVICE AND SHOULD BE

AWARE OF THIS WHEN PRICING.

CONTRACTOR SHALL CAMERA TEST ALL PIPES AND SUBMIT FOOTAGE TO LOCAL COUNCIL FOR APPROVAL.

9. REDUNDANT PIPE WORK FILL REDUNDANT SECTION OF PIPEWORK WITH 'LIQUIFILL (GRADE PC.1 - 0.5-2.0 MPa)

SEWERAGE

1. GENERAL

ALL SEWER WORKS TO BE IN ACCORDANCE WITH THE WSA SEWER CODE (WSA 02-2014-3.1 MRWA) AND AS AMENDED BY THE TASWATER SUPPLEMENT. TASWATER APPROVED PRODUCTS ARE CONTAINED ON THE CITY WEST WATER WEBSITE HTTP://WWW.MRWA.COM.AU/PAGES/PRODUCTS.ASPX ANY DEPARTURES FROM THESE STANDARDS REQUIRES THE PRIOR APPROVAL OF THE SUPERINTENDENT AND TASWATER FIELD SERVICES

2. TESTING

ALL DRAINAGE WORKS SHALL BE SUBJECT TO THE TESTS PRESCRIBED BY THE AUTHORITIES HAVING JURISDICTION OVER THE VARIOUS SERVICES. ANY SECTION FAILING SUCH TESTS SHALL BE REMOVED AND PROPERLY INSTALLED AT THE CONTRACTOR'S EXPENSE.

3. SEWER MAIN CONNECTIONS

ALL NEW 'LIVE' CONNECTIONS TO EXISTING TASWATER SEWER INFRASTRUCTURE INCLUDING BUT NOT LIMITED TO SEWER MAINS / MANHOLES TO BE COMPLETED BY TASWATER (UNLESS PRIOR WRITTEN APPROVAL INSTALL PROPERTY SEWER CONNECTIONS (STANDARD OR SLOPED) WITH SURFACE I.O. NOMINALLY 1.0m WITHIN EACH NEW LOT IN ACCORDANCE WITH SECTION 5 OF WSA

4. MANHOLES MANHOLES ARE TO BE 1050 I.D. PRECAST CONCRETE INSTALLED TO WSA STANDARDS CONSTRUCT ALL MANHOLES (MH) AND MANHOLE COVERS IN ACCORDANCE WITH THE SEWERAGE CODE OF AUSTRALIA - MELBOURNE RETAIL WATER AGENCIES INTEGRATED CODE - WSA 02-2014-3.1 MRWA VERSION 2.0 AND TASWATER'S SUPPLEMENT TO THIS CODE..ALL MANHOLES IN TRAFFICABLE AREAS ARE TO BE FITTED WITH HEAVY DUTY CLASS D GATIC COVERS AND SURROUNDS. ALL MANHOLES IN NON-TRAFFICABLE AREAS ARE TO BE FITTED WITH

BENCHING TO BE FULL DEPTH OF PIPE DIAMETER AS PER DETAILS IN WSA 02-2014-3.1

5. TRENCHING AND BACKFILL ALL TRENCHES ARE TO BE EXCAVATED AND BACKFILLED IN ACCORDANCE WITH THE DRAWINGS AND TASWATER STANDARDS INCLUDING ELECTROMAGNETIC METAL

MEDIUM DUTY CLASS B GATIC COVERS AND SURBOUNDS

IMPREGNATED TAPE IN ALL NON METALLIC PIPE TRENCHES CEMENT STABILISED EMBEDMENT

FOR SEWER MAINS THE FOLLOWING CHANGES SHOULD BE APPLIED TO THE MRWA SEWERAGE STANDARDS DRAWINGS MRWA-S-202 AND MRWA-S-205 MRWA-S-202 THE REQUIREMENT IDENTIFIED IN THE THIRD DOT POINT FOR TYPE B IN THE NOTES REGARDING TABLE 202-A SHALL BE AMENDED TO READ "WHERE SEWER AT GRADE > 1

MRWA-S-205 NOTE C REMAINS VALID "WHEN SOCKETED MAINS ARE LAID AT >1 IN 20 SLOPE IN AREAS THAT ARE LIKELY TO HAVE HIGH GROUND WATER, CEMENT STABILIZED EMBEDMENT SHALL BE USED AS PER MRWA-S-202"

6. INSPECTIONS

THE CONTRACTOR IS RESPONSIBLE FOR ORGANISING THE FOLLOWING INSPECTIONS WITH THE SUPERINTENDENT (LIAS WITH TASWATER). 48 HOURS NOTICE IS REQUIRED TO BE GIVEN TO THE SUPERINTENDENT

- PIPEWORK REDDING - INSTALLED PIPE PRIOR TO BACKFILLING - BACKFILLING

7. AS CONSTRUCTED DRAWINGS

THE CONTRACTOR WILL BE RESPONSIBLE FOR PRODUCING "AS INSTALLED" DRAWINGS TO THE STANDARD REQUIRED BY TASWATER. THE DRAWINGS SHALL BE CERTIFIED AS BEING CORRECT BY EITHER A CHARTERED CIVIL ENGINEER OR A REGISTERED SURVEYOR. RARE CAN PROVIDE THIS SERVICE, HOWEVER THE CONTRACTOR WILL BE CHARGED FOR THIS SERVICE AND SHOULD BE AWARE OF THIS WHEN PRICING.

8. TESTING

CONTRACTOR SHALL CCTV ALL PIPES AND SUBMIT FOOTAGE TO TASWATER FOR APPROVAL.

9. REDUNDANT PIPE WORK

FILL REDUNDANT SECTION OF PIPEWORK WITH 'LIQUIFILL (GRADE PC.1 - 0.5-2.0 MPa)

WATER RETICULATION

- ALL WATER SUPPLY CONSTRUCTION TO: WATER SUPPLY CODE OF AUSTRALIA (WSA 03-2011-3.1 VERSION MRWA FDITION V2 0) - PART 2: CONSTRUCTION
- WATER SERVICES ASSOCIATION OF AUSTRALIA TASWATER
- TASWATER'S STANDARD DRAWINGS TWS-W-0002 SERIES
 WATER METERING POLICY/METERING GUIDELINES • TASWATER'S STANDARD DRAWINGS TWS-W-0003 - FOR PROPERTY
- SERVICE CONNECTIONS CAGE FOR WATER METER ASSEMBLY BOUNDARY BACKFLOW CONTAINMENT REQUIREMENTS AND
- AS3500.1:2003. ANY DEPARTURES FROM THESE STANDARDS REQUIRES THE PRIOR APPROVAL OF THE SUPERINTENDENT AND THE LOCAL WATER **AUTHORITY WORKS SUPERVISOR**

SURVEY

SURVEYOR:

1. SURVEY DETAILS

SURVEY REF. NO.

SURVEY DATE:

SITE LOCATION:

LEVEL DATUM:

SERVICE MARKER:

1. SETOUT RESPONSIBILITY

2. SETOUT

FOLLOWING ARE SURVEY DETAILS USED AS BASIS FOR DESIGN:

COORDINATE SYSTEM: GDA20 MGA55

CONTRACTOR TO ARRANGE AND PAY FOR

L211004

REGISTERED SURVEYOR TO SETOUT THE PROJECT.

RARE WILL PROVIDE CAD FILES TO ASSIST.

WOOLCOTT SURVEYS

274 PERTH MILL ROAD, PERTH

2. TESTING ALL WATER RETICULATION WORKS SHALL BE SUBJECT TO THE TESTS PRESCRIBED BY THE AUTHORITIES HAVING JURISDICTION OVER THE VARIOUS SERVICES. ANY SECTION FAILING SUCH TESTS SHALL BE REMOVED

AND PROPERLY INSTALLED AT THE CONTRACTOR'S EXPENSE. 3. FIRE HYDRANTS

FIRE HYDRANTS ARE TO BE AS SHOWN ON THE DRAWINGS. THE CONTRACTOR IS TO ALLOW TO PLACE STANDARD MARKERS AS

REQUIRED BY THE LOCAL AUTHORITY.

THRUST AND ANCHOR BLOCKS ARE TO BE PROVIDED AT BENDS, VALVES, HYDRANTS AND LINE ENDS IN ACCORDANCE WITH TASWATER

5. TRENCHING AND BACKFILL

ALL TRENCHES ARE TO BE EXCAVATED AND BACKFILLED IN ACCORDANCE WITH THE DRAWINGS AND TASWATER STANDARDS INCLUDING ELECTROMAGNETIC METAL IMPREGNATED TAPE IN ALL NON METALLIC PIPE TRENCHES.

CEMENT STABILISED EMBEDMENT:

THE LATEST VERSION OF DRAWING MRWA-W-208 (REV 3) INCLUDES TABLE 208_A WITH NOTE G INDICATING THAT WHEN TRENCHSTOPS OR BUILKHEADS ARE USED (GRADES GREATER THAN 5%) CEMENT STABILISED EMBEDMENT MUST BE USED. THIS IS NOT TASWATER'S PREFERRED FOR PIPES UP TO 10% GRADE TASWATER WILL ACCEPT THE PREVIOUS REVISION OF MRWA (REV 2). IE. PIPES UP TO 10% GRADE DO NOT REQUIRE CEMENT STABILISED EMBEDMENT UNLESS THE CONDITIONS OF NOTE H APPLY. "WHEN SOCKETED MAINS ARE LAID AT >5% SLOPE IN AREAS THAT ARE LIKELY TO HAVE HIGH GROUND WATER, CEMENT STABILISED EMBEDMENT SHALL BE USED... FOR PIPES AT GRADE GREATER THAN 10% MRWA-W-208 REV 3 REMAINS

THE LATEST VERSION OF MRWA-W-203 (REV 2) EMBEDMENT SHALL BE ADOPTED NOTING THAT THE REQUIREMENT IDENTIFIED IN THE THIRD DOT POINT FOR TYPE B IN THE NOTES REGARDING TABLE 203-A SHALL BE AMENDED TO READ "WHERE WATER MAIN GRADE >10%".

FURTHER TO THIS IT SHOULD BE NOTED THAT MOST WATER MAINS ARE LIKELY TO REQUIRE A TYPE A EMBEDMENT SYSTEM. THE VARIOUS MATERIALS AVAILABLE FOR THIS SYSTEM ARE IDENTIFIED IN TABLE 203-B

6. INSPECTIONS

THE CONTRACTOR IS RESPONSIBLE FOR ORGANISING THE FOLLOWING INSPECTIONS WITH THE SUPERINTENDENT. 48 HOURS NOTICE IS REQUIRED TO BE GIVEN TO THE SUPERINTENDENT PRIOR TO THE - PIPEWORK BEDDING

- INSTALLED PIPE PRIOR TO BACKFILLING - BACKFILLING 7. PIPE CLEANING - 'DISINFECTION'

THE CONTRACTOR IS TO ALLOW TO CLEANSE WATER MAINS BY FLUSHING WITH SODIUM HYPOCHLORIDE AS DIRECTED BY THE LOCAL

8. AS CONSTRUCTED DRAWINGS THE CONTRACTOR WILL BE RESPONSIBLE FOR PRODUCING "AS

INSTALLED" DRAWINGS TO THE STANDARD REQUIRED BY TASWATER. THE DRAWINGS SHALL BE CERTIFIED AS BEING CORRECT BY IVIL ENGINEER OR A REGISTERED SURVE RARE CAN PROVIDE THIS SERVICE, HOWEVER THE CONTRACTOR WILL BE CHARGED FOR THIS SERVICE AND SHOULD BE AWARE OF THIS WHEN PRICING.

9. PROPERTY WATER CONNECTIONS

ALL PROPERTY CONNECTIONS SHALL BE CONSTRUCTED IN ACCORDANCE WITH MRWA-W-110 AND MRWA-W-111 AND TASWATER STANDARD TW-W-0002 SERIES. THEY SHALL BE DN25(I.D.20) HDPE (PE100) SDR 11 PN16 PIPE. WHERE UNDER ROADS PIPES SHALL BE SLEEVED IN DN100

SN4 PIPE FITTED WITH TRACE AND TIGHT FITTING RUBBER WRAPS AT 2M

CENTRES TO PREVENT WATER HAMMER 10. WATER MAINS CONNECTIONS

INFRASTRUCTURE TO BE COMPLETED BY TASWATER AT OWNERS COST. MINIMUM COVER FOR WATER LINES ARE TO BE:

ALL NEW 'LIVE' CONNECTIONS TO EXISTING TASWATER WATER

11. MINIMUM COVER

 UNDER ROAD WAYS (EXCLUDING MAJOR ROADS) AND VEHICULAR CROSS OVERS - 750mm RESIDENTIAL LAND - 450mr

NON-RESIDENTIAL LAND - 600mm

IMPORTANT NOTE:

THESE CAN BE READ IN BLACK AND WHITE, HOWEVER THESE DRAWINGS ARE BEST PRINTED IN FULL COLOUR FOR OPTIMUM CLARITY OF NEW AND EXISTING

A COLOUR COPY SHOULD BE RETAINED ON SITE AT ALL TIMES FOR

STATUS CONTROLLED DOCUMENT DESIGN CHK: JWS DO NOT SCALE - IF IN DOUBT, ASK DRAWN BY: KI HIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSE FOR WHICH IT DRAFT CHK: JWS WAS PREPARED. © RARE INNOVATION PTY LTD. ABN 51 619 598 257 0 DEVELOPMENT APPLICATION APPROVED: R. JESSON ACRED. No: **CC4858I** DATE: **26-07-22** REV: ISSUED FOR / DESCRIPTION: BY: DATE:

CONTRACTORS COMPLETING WORKS.

22-24 Paterson Street

aunceston TAS 7250

rarein.com.au **P.**03 6388 92

ADDRESS: 274 PERTH MILL ROAD, PERTH

PROJECT: 4 LOT SUBDIVISION

CLIENT: BIFFIN TITLE: CIVIL NOTES

SHEET SIZE: A1 DWGs IN SET: SCALE: -PROJECT No: **231005** DWG No: **C000** REV:

Attachment 15.8.9 Annexure 6 - Civil Design (Water Mains) - rare engineering

Page 829



0 DEVELOPMENT APPLICATION

REV: ISSUED FOR / DESCRIPTION:

DO NOT SCALE - IF IN DOUBT, ASK
THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSE FOR WHICH IT
WAS PREPARED. © RARE INNOVATION PTY LTD. ABN 51 619 598 257

DRAFT CHK: JWS

 KL
 26-07-22

 BY:
 DATE:

 APPROVED:
 R. JESSON

 ACRED. No:
 CC4858I

 DATE:
 26-07-22

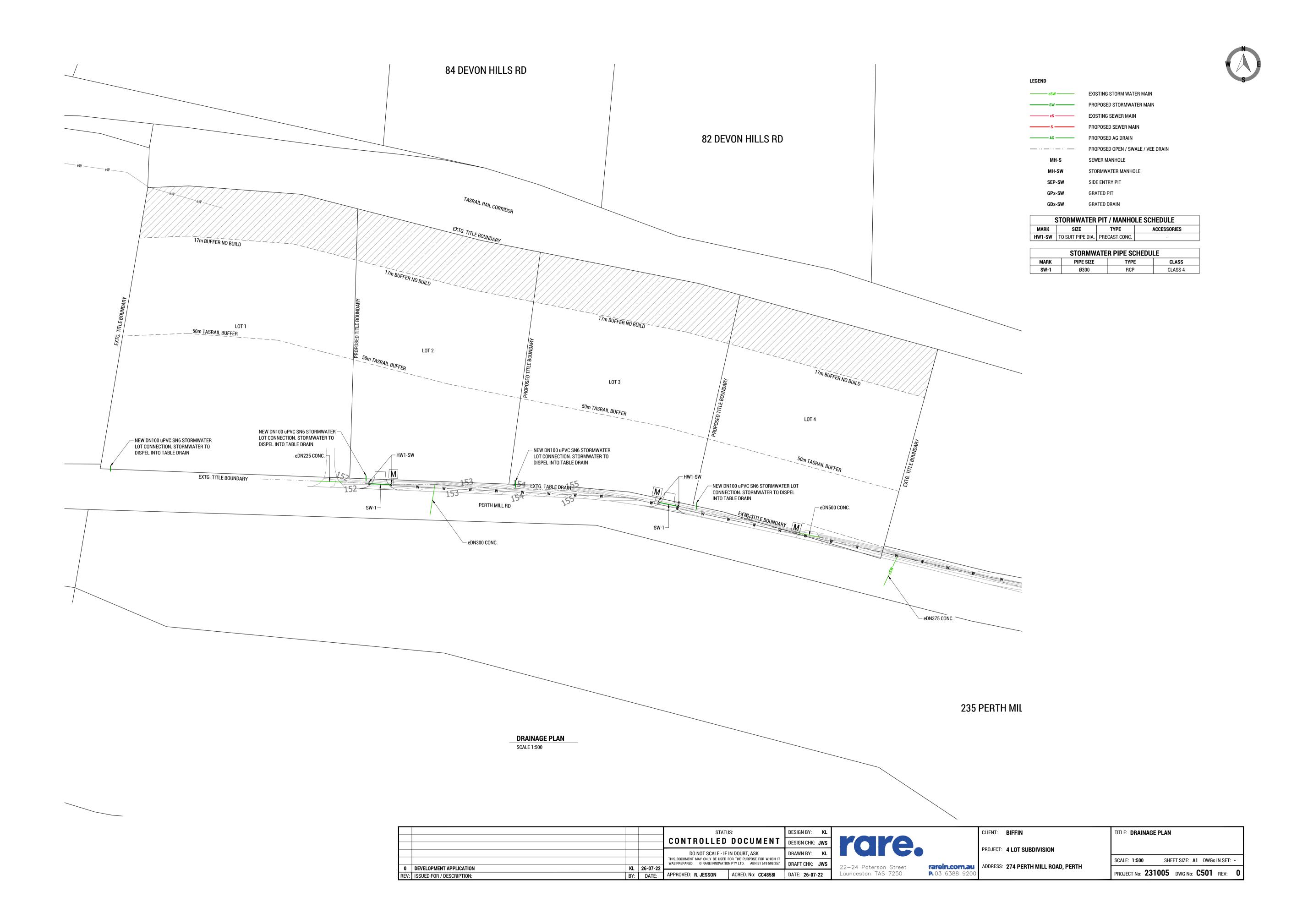
22—24 Paterson Street Launceston TAS 7250

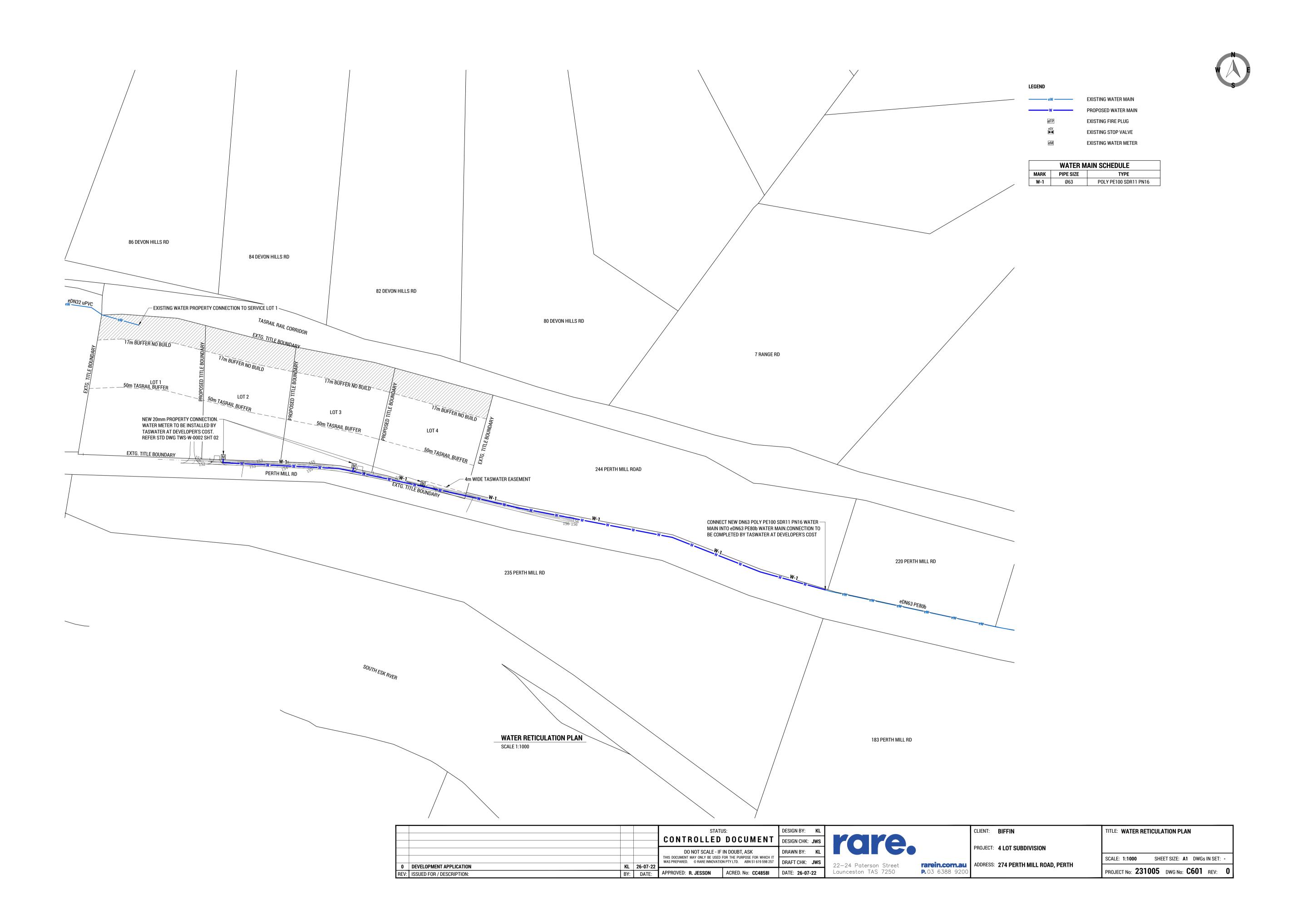


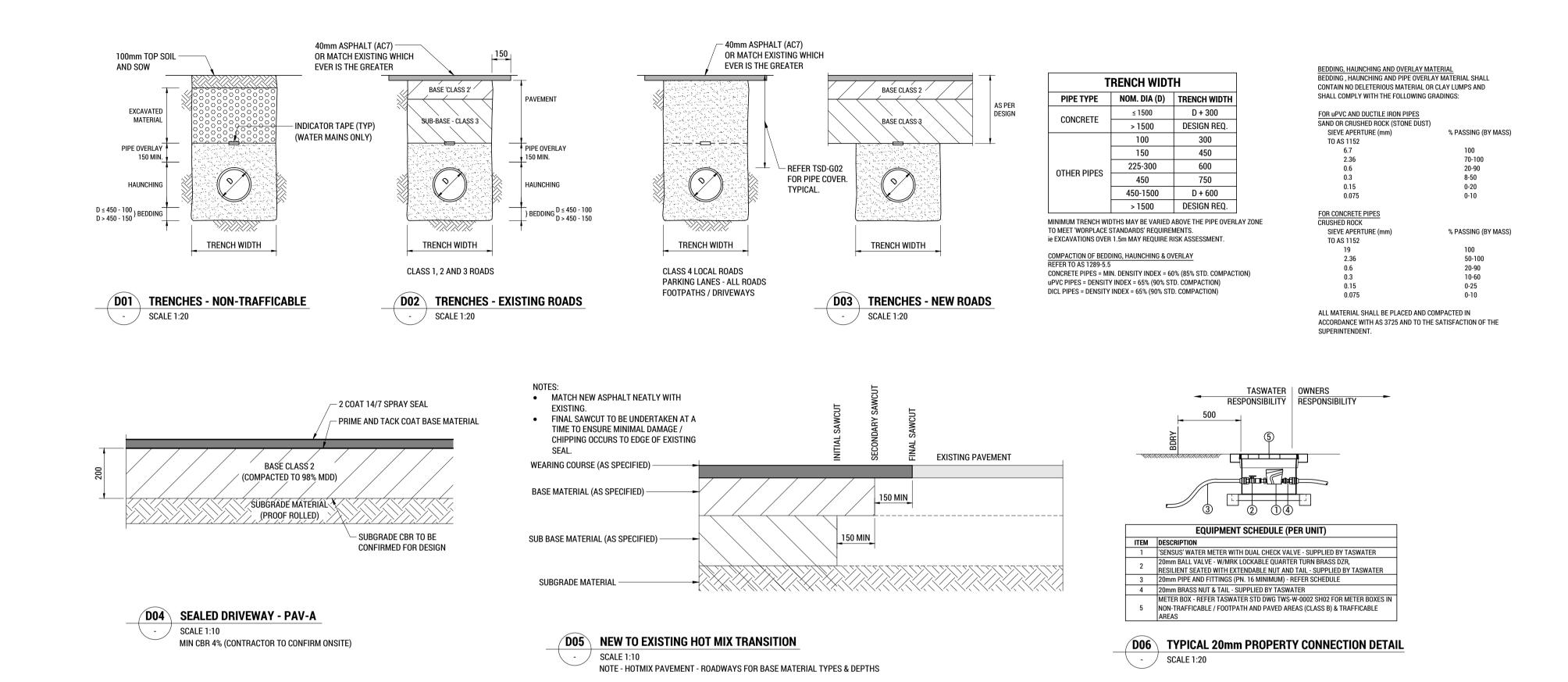
ASPHALT SEAL - TRAFFICABLE REFER DETAILS SAW CUT MATCH EXISTING

TITLE: CIVIL WORKS PLAN

PROJECT: 4 LOT SUBDIVISION SCALE: 1:500 SHEET SIZE: A1 DWGs IN SET: rarein.com.au P. 03 6388 9200 ADDRESS: 274 PERTH MILL ROAD, PERTH PROJECT No: 231005 DWG No: C401 REV: 0











Our ref: PLN-22-0188

30 August 2022

Woolcott Surveys PO Box 593 MOWBRAY TAS 7248

By email: admin@woolcottsurveys.com.au

Additional Information Required for Planning Application PLN-22-0188 4 Lot Subdivision at 274 Perth Mill Road, Perth

I refer to the abovementioned application.

Section 85 (d) (viii) of the Local Government (Building and Miscellaneous Provisions) Act 1993 states that the council may refuse to approve a plan of subdivision if it is of the opinion that the layout should be altered to include provision for widening ways on or adjoining land comprised in the subdivision.

Council's Works Manager and General Manager have advised that road widening of 9m from the centreline of Perth Mill Road is required.

As an alternative to refusing the plan of subdivision, revised plans showing the provision of road widening 9m from the centreline of Perth Mill Road (centre of the road reserve excluding the land taken for road widening on the southern side) are requested in accordance with section 54(1) of the Land Use Planning and Approvals Act 1993.

In accordance with Section 54(2) of the Land Use Planning and Approvals Act 1993, the statutory period for processing the application will not recommence until the requested information has been satisfactorily supplied.

Please send any emails to planning@nmc.tas.gov.au with the reference **PLN-22-0188**. If you have any queries, please contact Council's Planning Section on 6397 7301, or e-mail planning@nmc.tas.gov.au

Yours sincerely

Paul Godier Senior Planner

Copy: Trent & Melissa Biffin, trent.biffin@outlook.com



Request for Additional Information

For Planning Authority Notice

Council Planning Permit No.	PLN-22-0188		Application date	2/09/2022			
TasWater details	TasWater details						
TasWater Reference No.	TWDA 2022/01450-NMC		Date of response	09/09/2022			
TasWater Contact	Elio Ross Phone No.		0467 874 330				
Response issued to							
Council name	NORTHERN MIDLANDS COUN	NCIL					
Contact details	Planning@nmc.tas.gov.au						
Development deta	velopment details						
Address	274 PERTH MILL RD, PERTH		Property ID (PID)	6394944			
Description of development	4 Lot Subdivision		Stage No.				

Additional information required

Additional information is required to process your request. To enable assessment to continue please submit the following:

- On the proposed concept plans by Woolcott Surveys shows a section on DN63 water main in front of 244 PERTH MILL RD and it is unclear if this is proposed or existing. Please clarify and provide details. Advice: It is noted that no nearby developments have reached Practical Completion and therefore TasWater has not accepted ownership of these assets. Neighbouring developments will need to be completed, finalised and accepted before any connections can be made.
- 2. The existing DN63 main on PERTH MILL RD has reached its design capacity and the following will need to be required;
 - a. Plans that show an upgrade of the existing DN63 to DN100 approx 380M from the existing DN100 main further down Perth Mill Rd past the last existing connection.
 This is to ensure adequate supply to this development and no detriment to any existing connections. Or;
 - b. Provide a compliant water model TasWaters satisfaction demonstrating adequate minimum supply to all lots on the existing (including pre-approved yet to be installed) & proposed connection. DN63 line. (see modelling advice below).
- 3. All new proposed water mains shall not be located on private property. Please amend the design to meet this requirement.
- 4. It is **advised** that the existing DN32 water connection that currently services the property be disconnected and the line capped and sealed. As it is a limited connection to a bulk transfer main and should be connected to any new infrastructure is possible to do so.

Page 1 of 2 Version No: 0.2



Advice

Modelling Advice

- 5. To allow TasWater to determine potential hydraulic service capacity limitations, please provide the following:
 - a. A water model for the subdivision proposal must be submitted by the developer in accordance with TasWater's supplement to the Water Supply Code of Australia WSA 03 -2011-3.1 MRWA Edition V2.0.

NOTE: While this may be done using any hydraulic modelling software, it must be able to be exported into EPANET. The engineer preparing the model will need to consult with TasWater to obtain appropriate boundary conditions for the pressure zone.

The engineering design calculations must comply with AS/NZS 3500.0:2003 Plumbing and Drainage and the Sewerage and Water Codes of Australia - Melbourne Retail Water Agencies Integrated Code version(s) published by the Water Services Association of Australia, and as amended by TasWater's Supplements.

Service Locations

Please note that the developer is responsible for arranging to locate the existing TasWater infrastructure and clearly showing it on the drawings. Existing TasWater infrastructure may be located by a surveyor and/or a private contractor engaged at the developers cost to locate the infrastructure.

- A permit is required to work within TasWater's easements or in the vicinity of its infrastructure. Further information can be obtained from TasWater
- TasWater has listed a number of service providers who can provide asset detection and location services should you require it. Visit www.taswater.com.au/Development/Service-location for a list of companies
- TasWater will locate residential water stop taps free of charge
- Sewer drainage plans or Inspection Openings (IO) for residential properties are available from your local council.

To view our assets, all you need to do is follow these steps:

- 1) Open up webpage http://maps.thelist.tas.gov.au/listmap/app/list/map
- 2) Click 'Layers'
- 3) Click 'Add Layer'
- 4) Scroll down to 'Infrastructure and Utilities' in the Manage Layers window, then add the appropriate layers.
- 5) Search for property
- 6) Click on the asset to reveal its properties

TASWATER CONTACT DETAILS					
Email	development@taswater.com.au	Web	www.taswater.com.au		
Mail	GPO Box 1393 Hobart TAS 7001				

Page 2 of 2 Version No: 0.2 CLIENT: **BIFFIN**

PROJECT: **4 LOT SUBDIVISION**

ADDRESS:

274 PERTH MILL RD, PERTH

PROJECT No: **231005**

STATUS:

CONTROLLED DOCUMENT

ISSUED FOR / DESCRIPTION: **DEVELOPMENT APPLICATION**

DRAWINGS:

COV - COVER SHEET
CO00 - CIVIL NOTES
C401 - CIVIL WORKS PLAN
C501 - DRAINAGE PLAN
C601 - WATER RETICULATION PLAN
C701 - SECTIONS & DETAILS

Received 03.10.2022



GENERAL

1. NOTICE TO TENDERER

THE CONTRACTOR / TENDERER IS TO MAKE THEMSELVES AWARE OF THE LOCAL COUNCIL AND THE DEPARTMENT OF STATE GROWTH (D.S.G.) STANDARDS FOR CIVIL WORKS. CONSTRUCTION IS TO BE CARRIED OUT TO THESE STANDARDS. TENDERER IS TO ALLOW FOR THESE STANDARDS DURING PRICING. COPIES OF THE STANDARDS ARE AVAILABLE FOR INSPECTION UPON REQUEST FROM THE LOCAL COUNCIL OR D.S.G.'s

2. NOTIFICATION

THE CONTRACTOR IS TO NOTIFY ALL RELEVANT STATUTORY AUTHORITIES PRIOR TO COMMENCING ANY WORK FOR THE POSSIBLE LOCATION OF ANY EXISTING SERVICES NOT SHOWN ON THESE PLANS, AND IS TO NOTIFY THE SUPERINTENDENT OF THE SAME. ALL EXISTING SERVICES ARE TO BE PROTECTED DURING CONSTRUCTION. ANY DAMAGE TO EXISTING SERVICES IS TO BE MADE GOOD AT THE CONTRACTOR'S EXPENSE.

3. DRAWINGS AND SPECIFICATIONS

THESE DRAWINGS AND SPECIFICATIONS HAVE BEEN PREPARED FOR THE PURPOSE OF OBTAINING COUNCIL APPROVAL AND CALLING OF TENDERS. THEY ARE NOT TO BE USED FOR CONSTRUCTION. A CONSTRUCTION SET OF DRAWINGS STAMPED "CONSTRUCTION SET" WILL BE ISSUED PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

WHERE ANY COMMON TRENCHING IS REQUIRED, THE FOLLOWING CLEARANCE DISTANCES (BARREL TO BARREL) MUST BE MAINTAINED FROM EXISTING OR PROPOSED SERVICES: HORIZONTALLY:

- 300mm ALONG A LENGTH GREATER THAN 2 METRES. - 500mm MINIMUM FROM ANY MAIN GREATER THAN 200mm DIA. - 150mm MINIMUM ALONG A LENGTH LESS THAN 2 METRES. VERTICALLY:

- 300mm MINIMUM FROM ANY MAIN GREATER THAN 200mm DIA ELECTRICAL CABLES SHOULD BE LOCATED ON THE OPOSITE SIDE OF THE STREET. WHERE THIS IS NOT POSSIBLE A 400mm MINIMUM DISTANCE MUST BE OBSERVED OF WHICH 300mm SHOULD BE IN NATURAL AND UNDISTURBED MATERIAL.

5. TASNETWORKS TRENCHING

THE CONTRACTOR IS TO ALLOW FOR EXCAVATION AND BACKFILLING OF ALL TRENCHES FOR THE INSTALLATION OF TASNETWORKS CABLES. CONTRACTOR IS TO LIAISE WITH THE TASNETWORKS FOR THE EXTENT OF CABLE TRENCHING, CONDUITS & PITS.

6. COMMUNICATION TRENCHING

THE CONTRACTOR IS TO ALLOW FOR EXCAVATION AND BACKFILLING OF ALL TRENCHES FOR THE INSTALLATION OF COMMUNICATIONS CABLES CONTRACTOR IS TO LIAISE WITH COMMUNICATION AUTHORITY FOR THE EXTENT OF CABLE TRENCHING.

7. EXISTING SERVICES

LOCATE EXISTING SERVICES PRIOR TO COMMENCING DEMOLITION AND SITE WORKS. THE CONTRACTOR IS TO ARRANGE AND PAY FOR THE ON SITE MARKING AND CONFIRMATION OF DEPTH OF SERVICE LOCATIONS FOR ALL UNDERGROUND SERVICES INCLUDING COMMUNICATIONS, TASNETWORKS, TASWATER (WATER & SEWER) AND COUNCIL SERVICES (ie: STORMWATER) IN THE AREA OF NEW WORKS, LOCATION TO BE CONFIRMED USING CABLE LOCATORS AND HAND DIGGING METHODS. PRIOR TO ANY WORKS ON SITE, ANY CLASHES WITH DESIGNED SERVICES ON FOLLOWING DRAWINGS ARE TO BE REPORTED TO DESIGN ENGINEER FOR DIRECTION.

8. COUNCIL & AUTHORITIES APPROVALS ALL WORKS ARE TO BE IN ACCORDANCE WITH THE FOLLOWING APPROVALS:

9. SIGNAGE ALL SIGN WORKS AND INSTALLATION TO BE IN ACCORDANCE WITH CURRENT

VERSION OF MUTCD & AUSTROADS FOR SIGNAGE DETAILS.

THAT ARE NOT DETAILED IN CONJUNCTION WITH THE SUPERINTENDENT.

THE SCOPE OF WORKS ARE SHOWN IN THESE DOCUMENTS AND THE SPECIFICATION.

IT IS EXPECTED THE CONTRACTOR WILL RESOLVE ALL ISSUES UNCOVERED ON SITE

GENERAL CONT.

11. LINE TYPE LEGEND

DN100 AGG PIPE OR MEGAFLOW DRAIN AS NOTED @ 1:100 FALL TO STORM WATER SYSTEM DENOTES EXISTING STORM WATER MAIN (CONFIRM EXACT LOCATION) DENOTES PROPOSED STORM WATER MAIN _____ SW _____

DENOTES EXISTING UNDERGROUND TELECOM

(CONFIRM EXACT LOCATION) ____s ___ DENOTES PROPOSED SEWER MAIN DENOTES EXISTING WATER MAIN (CONFIRM EXACT LOCATION) DENOTES PROPOSED WATER MAIN (CONFIRM EXACT LOCATION) DENOTES PROPOSED GAS MAIN

DEMOLITION 12. SITE WORKS SYMBOLS LEGEND

PEDESTRIAN RAMP TYPE BK BARRIER KERB TYPE KC KERB AND CHANNEL TYPE KCS KERB AND CHANNEL - SMALL TYPE KCM MOUNTABLE KERB AND CHANNEL TYPE KCV VEHICULAR CROSSING BOLLARD, REFER DETAIL HUDSON CIVIL PRECAST CONCRETE WHEEL STOP (2000 LONG x 100 HIGH)

13. BUILDING SERVICES SYMBOLS LEGEND TELECOMMUNICATION PIT

14. SURVEY SYMBOLS LEGEND

SPOT LEVEL WITH DESCRIPTION +44.330 EXISTING SPOT LEVEL

15. DRAINAGE SYMBOLS LEGEND

MHx-SW STORMWATER MANHOLE MHx-S GPx-SW GRATED/GULLY PIT - STORM WATER GDx-SW **GRATED DRAIN - STORM WATER** SEPx-SW SIDE ENTRY PIT - STORM WATER uPVC UNPLASTICIZED POLYVINYL CHLORIDE REINFORCED CONCRETE PIPE (OR FCR) CLASS 4 (Z) NOMINAL DIAMETER COVER LEVEL INVERT LEVEL DOWN PIPE INSPECTION OPENING INSPECTION OPENING TO SURFACE

GRATED PIT

16. WATER RETICULATION SYMBOLS LEGEND

DN100 METER CHECK METER ISOLATION VALVE CHECK VALVE STRAINER MONITORED VALVE BALANCE VALVE STOP VALVE DN100 LOCKABLE STOP VALVE DN100 REFLUX VALVE BACK FLOW PREVENTION DEVICE PRESSURE REDUCING VALVE ●►► HBC HOSE BIB COCK FIRE HYDRANT DUAL HEAD FIRE HYDRANT FIRE HOSE REEL

EARTHWORKS

GENERAL EARTHWORKS, MATERIAL AND WORKMANSHIP SHALL COMPLY WITH THIS SPECIFICATION AND THE CURRENT EDITION OF THE S.A.A. CODE FOR EARTHWORKS AS 3798 TOGETHER WITH ANY CODES, STANDARDS OR REGULATIONS REFEREED TO THEREIN.

2. INSPECTIONS THE CONTRACTOR IS TO ENGAGE AN APPROVED GEOTECHNICAL ENGINEER TO CARRY OUT LEVEL 2 TESTING OF ALL EARTH WORKS

 SUBGRADE - PAVEMENTS - BACKFILLING OF SERVICE TRENCHES

CERTIFICATION OF THESE ELEMENTS IS TO BE PROVIDED PRIOR TO

3. AREAS OF FILL

TO AS 3798, INCLUDING

A. REMOVE TOP SOIL AND ORGANIC MATERIAL B. PROOF ROLL SUBGRADE IN ACCORDANCE WITH AS1289 TO: - 98% STANDARD DRY DENSITY UNDER BUILDING - 98% STANDARD DRY DENSITY UNDER ROADS AND CARPARKS REMOVE ANY SOFT SPOTS AND COMPACT WITH 2% OF OPTIMUM MOISTURE CONTENT TO STANDARD DRY DENSITY AS STATED ABOVE C. PLACE FILL AS SPECIFIED AND COMPACT WITHIN 2% OF OPTIMUM

MOISTURE CONTENT TO STANDARD DRY DENSITY AS STATED ABOVE 4. AREAS OF CUT

A. REMOVE TOP SOIL AND ORGANIC MATERIAL B. PROOF ROLL SUBGRADE IN ACCORDANCE WITH AS1289 TO: - 98% STANDARD DRY DENSITY UNDER BUILDINGS - 98% STANDARD DRY DENSITY UNDER ROADS AND CAR PARKS - REMOVE ANY SOFT SPOTS AND COMPACT WITH 2% OF OPTIMUM

MOISTURE CONTENT TO STANDARD DRY DENSITY AS STATED ABOVE

SOIL & WATER MANAGEMENT

ALL WORKS ARE TO BE CARRIED OUT IN ACCORDANCE WITH 'SOIL & WATER MANAGEMENT ON BUILDING & CONSTRUCTION SITES' GUIDELINES AVAILABLE FROM NORTHERN RESOURCE

2. SOIL EROSION CONTROL

SOIL EROSION CONTROL IN ACCORDANCE WITH NRM GUIDELINES. CONTRACTOR TO ALLOW TO: LIMIT DISTURBANCE WHEN EXACTING BY PRESERVING

VEGETATED AREA'S AS MUCH AS POSSIBLE DIVERT UP-SLOPE WATER WHERE PRACTICAL INSTALL SEDIMENT FENCES DOWN SLOPE OF ALL DISTURBED

LEAVE & MAINTAIN VEGETATED FOOT PATH

WASHED INTO THE STORM WATER SYSTEM

LANDS TO FILTER LARGE PARTICLES PRIOR TO STORM WATER SYSTEM WASH EQUIPMENT IN DESIGNATED AREA THAT DOES NOT PLACE STOCK PILES AWAY FROM ON-SITE DRAINAGE & UP-SLOPE FROM SEDIMENT FENCES

STORE ALL HARD WASTE & LITTER IN A DESIGNATED AREA

THAT WILL PREVENT IT FROM BEING BLOWN AWAY &

RESTRICT VEHICLE MOVEMENT TO A STABILISED ACCESS

3. NRM GUIDELINES CONTRACTOR TO COMPLETE ALL WORKS IN ACCORDANCE WITH CONSTRUCTION SITE LISING THE FACT SHEETS: FACT SHEET 1: SOIL & WATER MANAGEMENT ON LARGE **BUILDING & CONSTRUCTION SITES**

FACT SHEET 2: SOIL & WATER MANAGEMENT ON STANDARD BUILDING & CONSTRUCTION SITES • FACT SHEET 3: SOIL & WATER MANAGEMENT PLANS FACT SHEET 4: DISPERSIVE SOILS - HIGH RISK OF TUNNEL

 FACT SHEET 5: MINIMISE SOIL DISTURBANCE FACT SHEET 7: DIVERT UP-SLOPE WATER FACT SHEET 8: EROSION CONTROL MATS & BLANKETS FACT SHEET 9: PROTECT SERVICE TRENCHES & STOCKPILES FACT SHEET 11: SCOUR PROTECTION - STORM WATER PIPE **OUTFALLS & CHECK DAMS** FACT SHEET 12: STABILISED SITE ACCESS FACT SHEET 13: WHEEL WASH

FACT SHEET 15: PROTECTION OF STORM WATER PITS FACT SHEET 16: MANAGE CONCRETE, BRICK & TILE CUTTING FACT SHEET 17: SEDIMENT BASINS

• FACT SHEET 14: SEDIMENT FENCES & FIBRE ROLLS

DEVELOPMENT APPLICATION

REV: ISSUED FOR / DESCRIPTION:

FACT SHEET 19: SITE RE-VEGETATION

ROAD WORKS

ALL WORKS ARE TO BE CARRIED OUT TO THE LOCAL COUNCIL AND D.S.G. STANDARDS. ANY DEPARTURES FROM THESE STANDARDS. REQUIRES THE PRIOR APPROVAL OF THE SUPERINTENDENT AND THE LOCAL COUNCIL WORKS SUPERVISOR.

2. INSPECTIONS

THE CONTRACTOR IS RESPONSIBLE FOR ORGANISING THE FOLLOWING INSPECTIONS WITH THE SUPERINTENDENT. 48 HOURS NOTICE IS REQUIRED TO BE GIVEN TO THE SUPERINTENDENT PRIOR TO THE INSPECTION.

- SUB-BASE FOR ROADS, CARPARKS AND KERBS

- BASE COURSE - FINAL TRIM PRIOR TO PLACING KERBS - FINAL TRIM PRIOR TO SEALING

- SUBGRADE PREPARATION

3. TESTING THE CONTRACTOR IS TO BE RESPONSIBLE FOR ORGANISING AND PAYING ALL COSTS ASSOCIATED WITH TESTING IN ACCORDANCE WITH D.S.G. SPEC SECTION 173-EXAMINATION AND TESTING OF MATERIALS AND WORK (ROADWORKS).

ALL HOTMIX IS TO BE BLACK IN COLOUR AND IS TO MEET AND BE PLACED IN ACCORDANCE WITH D.S.G. SPEC SECTION 407-HOT MIX

5. KERBS ALL KERBS ARE TO BE AS SHOWN ON THE DRAWINGS AND BE IN

ACCORDANCE WITH IPWEA LGAT STANDARD DRAWINGS. 6. ROAD RESERVE WORKS

ALL WORKS IN (OR REQUIRING OCCUPATION) IN THE ROAD RESERVE

MUST BE UNDERTAKEN BY CONTRACTOR REGISTERED WITH COUNCIL'S (REGISTERED CONTRACTOR).

7. FOOTPATHS

CONSTRUCT FOOTPATHS INCLUDING EXPANSION / CONTROL / WEAKENED PLANE JOINTS IN ACCORDANCE WITH IPWEA STD DWG TSD-R11-v3

8. LANDSCAPE / STREET FURNITURE

 BOLLARDS, REFER DETAILS / SUPERINTENDENTS SPEC LANDSCAPING & STREET FURNITURE BY CONTRACTOR - U.N.O

STORMWATER

ALL WORKS ARE TO BE CARRIED OUT TO THE LOCAL COUNCIL AND DSG STANDARDS ANY DEPARTURES FROM THESE STANDARDS REQUIRES THE PRIOR APPROVAL OF THE SUPERINTENDENT AND THE LOCAL COUNCIL WORKS SUPERVISOR. ALL STORM WATER PLUMBING & DRAINAGE TO COMPLY WITH A.S 3500.3:2003 STORM WATER DRAINAGE.

ALL DRAINAGE WORKS SHALL BE SUBJECT TO THE TESTS PRESCRIBED

MANHOLES ARE TO BE 1050 I.D. U.N.O PRECAST CONCRETE INSTALLED TO

LOCAL COUNCIL STANDARDS. ALL MANHOLES IN TRAFFICED AREAS

ARE TO BE FITTED WITH HEAVY DUTY GATIC COVERS AND SURROUNDS

BY THE AUTHORITIES HAVING JURISDICTION OVER THE VARIOUS SERVICES. ANY SECTION FAILING SUCH TESTS SHALL BE REMOVED AND PROPERLY INSTALLED AT THE CONTRACTOR'S EXPENSE.

ALL MANHOLES ARE TO HAVE A 5 METRE LENGTH OF 75mm AG-PIPE CONNECTED TO THEM AND LAID IN THE UPSTREAM PIPE TRENCH

IMMEDIATELY ADJACENT TO AND AT THE INVERT OF THE LOWEST 4. SIDE ENTRY PIT (SEP) - PIT INVERT DEPTHS VARY, REFER SITE PLAN.

- BENCH OUT IN A NEAT AND TIDY MANNER TO ENGINEERS APPROVAL. - GRATED PIT - GULLY HINGED OR OTHER TYPE APPROVED - CONCRETE KERB LINTEL - STEEL KERB LINTEL AND 1200 LONG GALV BAR 5. TRENCHING AND BACKFILL

ALL TRENCHES ARE TO BE EXCAVATED AND BACKFILLED IN

ACCORDANCE WITH THE DRAWINGS AND THE LOCAL COUNCIL

6. INSPECTIONS

THE CONTRACTOR IS RESPONSIBLE FOR ORGANISING THE FOLLOWING INSPECTIONS WITH THE SUPERINTENDENT. 48 HOURS NOTICE IS REQUIRED TO BE GIVEN TO THE SUPERINTENDENT PRIOR TO THE INSPECTION. - PIPEWORK BEDDING - INSTALLED PIPE PRIOR TO BACKFILLING

- BACKFILLING

7. AS CONSTRUCTED DRAWINGS THE CONTRACTOR WILL BE RESPONSIBLE FOR PRODUCING "AS CONSTRUCTED" DRAWINGS TO THE STANDARD REQUIRED BY THE LOCAL COUNCIL. THE DRAWINGS SHALL BE CERTIFIED AS BEING CORRECT BY EITHER A CHARTERED CIVIL ENGINEER OR A REGISTERED SURVEYOR. RARE CAN PROVIDE THIS SERVICE, HOWEVER THE

CONTRACTOR WILL BE CHARGED FOR THIS SERVICE AND SHOULD BE

AWARE OF THIS WHEN PRICING.

CONTRACTOR SHALL CAMERA TEST ALL PIPES AND SUBMIT FOOTAGE TO LOCAL COUNCIL FOR APPROVAL.

9. REDUNDANT PIPE WORK FILL REDUNDANT SECTION OF PIPEWORK WITH 'LIQUIFILL (GRADE PC.1 - 0.5-2.0 MPa)

SEWERAGE

ALL SEWER WORKS TO BE IN ACCORDANCE WITH THE WSA SEWER CODE (WSA 02-2014-3 1 MRWA) AND AS AMENDED BY THE TASWATER SUPPLEMENT. TASWATER APPROVED PRODUCTS ARE CONTAINED ON THE CITY WEST WATER WEBSITE HTTP://WWW.MRWA.COM.AU/PAGES/PRODUCTS.ASPX ANY DEPARTURES FROM THESE STANDARDS REQUIRES THE PRIOR APPROVAL OF THE SUPERINTENDENT AND TASWATER FIELD SERVICES

2. TESTING

ALL DRAINAGE WORKS SHALL BE SUBJECT TO THE TESTS PRESCRIBED BY THE AUTHORITIES HAVING JURISDICTION OVER THE VARIOUS SERVICES. ANY SECTION FAILING SUCH TESTS SHALL BE REMOVED AND PROPERLY INSTALLED AT THE CONTRACTOR'S EXPENSE.

3. SEWER MAIN CONNECTIONS ALL NEW 'LIVE' CONNECTIONS TO EXISTING TASWATER SEWER

INFRASTRUCTURE INCLUDING BUT NOT LIMITED TO SEWER MAINS / MANHOLES TO BE COMPLETED BY TASWATER (UNLESS PRIOR WRITTEN APPROVAL INSTALL PROPERTY SEWER CONNECTIONS (STANDARD OR SLOPED) WITH SURFACE I.O. NOMINALLY 1.0m WITHIN EACH NEW LOT IN ACCORDANCE WITH SECTION 5 OF WSA

4. MANHOLES MANHOLES ARE TO BE 1050 I.D. PRECAST CONCRETE INSTALLED TO WSA STANDARDS CONSTRUCT ALL MANHOLES (MH) AND MANHOLE COVERS IN ACCORDANCE WITH THE SEWERAGE CODE OF AUSTRALIA - MELBOURNE RETAIL WATER AGENCIES INTEGRATED CODE - WSA 02-2014-3.1 MRWA VERSION 2.0 AND TASWATER'S SUPPLEMENT TO THIS CODE..ALL MANHOLES IN TRAFFICABLE AREAS ARE TO BE FITTED WITH HEAVY DUTY CLASS D GATIC COVERS AND SURROUNDS. ALL MANHOLES IN NON-TRAFFICABLE AREAS ARE TO BE FITTED WITH

BENCHING TO BE FULL DEPTH OF PIPE DIAMETER AS PER DETAILS IN WSA 02-2014-3.1

5. TRENCHING AND BACKFILL ALL TRENCHES ARE TO BE EXCAVATED AND BACKFILLED IN ACCORDANCE WITH THE DRAWINGS AND TASWATER STANDARDS INCLUDING ELECTROMAGNETIC METAL

IMPREGNATED TAPE IN ALL NON METALLIC PIPE TRENCHES

MEDIUM DUTY CLASS B GATIC COVERS AND SURBOUNDS

CEMENT STABILISED EMBEDMENT

FOR SEWER MAINS THE FOLLOWING CHANGES SHOULD BE APPLIED TO THE MRWA SEWERAGE STANDARDS DRAWINGS MRWA-S-202 AND MRWA-S-205 THE REQUIREMENT IDENTIFIED IN THE THIRD DOT POINT FOR TYPE B IN THE NOTES REGARDING TABLE 202-A SHALL BE AMENDED TO READ "WHERE SEWER AT GRADE > 1

MRWA-S-205 NOTE C REMAINS VALID "WHEN SOCKETED MAINS ARE LAID AT >1 IN 20 SLOPE IN AREAS THAT ARE LIKELY TO HAVE HIGH GROUND WATER, CEMENT STABILIZED EMBEDMENT SHALL BE USED AS PER MRWA-S-202"

6. INSPECTIONS

THE CONTRACTOR IS RESPONSIBLE FOR ORGANISING THE FOLLOWING INSPECTIONS WITH THE SUPERINTENDENT (LIAS WITH TASWATER). 48 HOURS NOTICE IS REQUIRED TO BE GIVEN TO THE SUPERINTENDENT - PIPEWORK REDDING

- INSTALLED PIPE PRIOR TO BACKFILLING - BACKFILLING

7. AS CONSTRUCTED DRAWINGS THE CONTRACTOR WILL BE RESPONSIBLE FOR PRODUCING "AS INSTALLED" DRAWINGS TO THE STANDARD REQUIRED BY TASWATER. THE DRAWINGS SHALL BE CERTIFIED AS BEING CORRECT BY EITHER A CHARTERED CIVIL ENGINEER OR A REGISTERED SURVEYOR. RARE CAN PROVIDE THIS SERVICE, HOWEVER THE CONTRACTOR WILL BE CHARGED FOR THIS SERVICE AND SHOULD BE AWARE OF THIS WHEN PRICING.

8. TESTING

CONTRACTOR SHALL CCTV ALL PIPES AND SUBMIT FOOTAGE TO TASWATER FOR APPROVAL.

FILL REDUNDANT SECTION OF PIPEWORK WITH 'LIQUIFILL

9. REDUNDANT PIPE WORK

(GRADE PC.1 - 0.5-2.0 MPa)

WATER RETICULATION

- ALL WATER SUPPLY CONSTRUCTION TO: WATER SUPPLY CODE OF AUSTRALIA (WSA 03-2011-3.1 VERSION MRWA EDITION V2.0) - PART 2: CONSTRUCTION
- WATER SERVICES ASSOCIATION OF AUSTRALIA TASWATER
- TASWATER'S STANDARD DRAWINGS TWS-W-0002 SERIES
 WATER METERING POLICY/METERING GUIDELINES • TASWATER'S STANDARD DRAWINGS TWS-W-0003 - FOR PROPERTY
- SERVICE CONNECTIONS CAGE FOR WATER METER ASSEMBLY BOUNDARY BACKFLOW CONTAINMENT REQUIREMENTS AND

AS3500.1:2003. 1. SETOUT RESPONSIBILITY ANY DEPARTURES FROM THESE STANDARDS REQUIRES THE PRIOR APPROVAL OF THE SUPERINTENDENT AND THE LOCAL WATER

SURVEY

SURVEYOR:

1. SURVEY DETAILS

SURVEY REF. NO.

SURVEY DATE:

SITE LOCATION:

LEVEL DATUM:

SERVICE MARKER:

2. SETOUT

FOLLOWING ARE SURVEY DETAILS USED AS BASIS FOR DESIGN:

COORDINATE SYSTEM: GDA20 MGA55

CONTRACTOR TO ARRANGE AND PAY FOR

L211004

REGISTERED SURVEYOR TO SETOUT THE PROJECT.

RARE WILL PROVIDE CAD FILES TO ASSIST.

WOOLCOTT SURVEYS

274 PERTH MILL ROAD, PERTH

AUTHORITY WORKS SUPERVISOR 2. TESTING ALL WATER RETICULATION WORKS SHALL BE SUBJECT TO THE TESTS PRESCRIBED BY THE AUTHORITIES HAVING JURISDICTION OVER THE VARIOUS

SERVICES. ANY SECTION FAILING SUCH TESTS SHALL BE REMOVED AND PROPERLY INSTALLED AT THE CONTRACTOR'S EXPENSE. 3. FIRE HYDRANTS

FIRE HYDRANTS ARE TO BE AS SHOWN ON THE DRAWINGS. THE CONTRACTOR IS TO ALLOW TO PLACE STANDARD MARKERS AS

REQUIRED BY THE LOCAL AUTHORITY.

THRUST AND ANCHOR BLOCKS ARE TO BE PROVIDED AT BENDS, VALVES, HYDRANTS AND LINE ENDS IN ACCORDANCE WITH TASWATER

5. TRENCHING AND BACKFILL

ALL TRENCHES ARE TO BE EXCAVATED AND BACKFILLED IN ACCORDANCE WITH THE DRAWINGS AND TASWATER STANDARDS INCLUDING ELECTROMAGNETIC METAL IMPREGNATED TAPE IN ALL NON METALLIC PIPE TRENCHES.

CEMENT STABILISED EMBEDMENT:

THE LATEST VERSION OF DRAWING MRWA-W-208 (REV 3) INCLUDES TABLE 208_A WITH NOTE G INDICATING THAT WHEN TRENCHSTOPS OR BUILKHEADS ARE USED (GRADES GREATER THAN 5%) CEMENT STABILISED EMBEDMENT MUST BE USED. THIS IS NOT TASWATER'S PREFERRED FOR PIPES UP TO 10% GRADE TASWATER WILL ACCEPT THE PREVIOUS REVISION OF MRWA (REV 2). IE. PIPES UP TO 10% GRADE DO NOT REQUIRE CEMENT STABILISED EMBEDMENT UNLESS THE CONDITIONS OF NOTE H APPLY. "WHEN SOCKETED MAINS ARE LAID AT >5% SLOPE IN AREAS THAT ARE LIKELY TO HAVE HIGH GROUND WATER, CEMENT STABILISED EMBEDMENT SHALL BE USED... FOR PIPES AT GRADE GREATER THAN 10% MRWA-W-208 REV 3 REMAINS

ADOPTED NOTING THAT THE REQUIREMENT IDENTIFIED IN THE THIRD DOT POINT FOR TYPE B IN THE NOTES REGARDING TABLE 203-A SHALL BE AMENDED TO READ "WHERE WATER MAIN GRADE >10%". FURTHER TO THIS IT SHOULD BE NOTED THAT MOST WATER MAINS ARE

THE LATEST VERSION OF MRWA-W-203 (REV 2) EMBEDMENT SHALL BE

LIKELY TO REQUIRE A TYPE A EMBEDMENT SYSTEM. THE VARIOUS MATERIALS AVAILABLE FOR THIS SYSTEM ARE IDENTIFIED IN TABLE 203-B

6. INSPECTIONS THE CONTRACTOR IS RESPONSIBLE FOR ORGANISING THE FOLLOWING INSPECTIONS WITH THE SUPERINTENDENT. 48 HOURS NOTICE IS REQUIRED TO BE GIVEN TO THE SUPERINTENDENT PRIOR TO THE

- PIPEWORK BEDDING - INSTALLED PIPE PRIOR TO BACKFILLING - BACKFILLING

7. PIPE CLEANING - 'DISINFECTION' THE CONTRACTOR IS TO ALLOW TO CLEANSE WATER MAINS BY FLUSHING WITH SODIUM HYPOCHLORIDE AS DIRECTED BY THE LOCAL

THE CONTRACTOR WILL BE RESPONSIBLE FOR PRODUCING "AS

INSTALLED" DRAWINGS TO THE STANDARD REQUIRED BY TASWATER.

THE DRAWINGS SHALL BE CERTIFIED AS BEING CORRECT BY IVIL ENGINEER OR A REGISTERED SURVE RARE CAN PROVIDE THIS SERVICE, HOWEVER THE

8. AS CONSTRUCTED DRAWINGS

CONTRACTOR WILL BE CHARGED FOR THIS SERVICE AND SHOULD BE AWARE OF THIS WHEN PRICING. 9. PROPERTY WATER CONNECTIONS ALL PROPERTY CONNECTIONS SHALL BE CONSTRUCTED IN ACCORDANCE WITH MRWA-W-110 AND MRWA-W-111 AND TASWATER STANDARD

SN4 PIPE FITTED WITH TRACE AND TIGHT FITTING RUBBER WRAPS AT 2M CENTRES TO PREVENT WATER HAMMER

10. WATER MAINS CONNECTIONS

ALL NEW 'LIVE' CONNECTIONS TO EXISTING TASWATER WATER INFRASTRUCTURE TO BE COMPLETED BY TASWATER AT OWNERS COST.

TW-W-0002 SERIES. THEY SHALL BE DN25(I.D.20) HDPE (PE100) SDR 11

PN16 PIPE. WHERE UNDER ROADS PIPES SHALL BE SLEEVED IN DN100

11. MINIMUM COVER

CROSS OVERS - 750mm RESIDENTIAL LAND - 450mr NON-RESIDENTIAL LAND - 600mm

MINIMUM COVER FOR WATER LINES ARE TO BE: UNDER ROAD WAYS (EXCLUDING MAJOR ROADS) AND VEHICULAR

IMPORTANT NOTE: THESE CAN BE READ IN BLACK AND WHITE, HOWEVER THESE DRAWINGS ARE BEST PRINTED IN FULL COLOUR FOR OPTIMUM CLARITY OF NEW AND EXISTING

STATUS:

DO NOT SCALE - IF IN DOUBT, ASK

APPROVED: R. JESSON

ACRED. No: CC4858I

A COLOUR COPY SHOULD BE RETAINED ON SITE AT ALL TIMES FOR

BY: DATE:

CONTRACTORS COMPLETING WORKS.

CONTROLLED DOCUMENT DESIGN CHK: JWS DRAWN BY: KL HIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSE FOR WHICH IT DRAFT CHK: JWS WAS PREPARED. © RARE INNOVATION PTY LTD. ABN 51 619 598 257

DATE: **26-07-22**

22-24 Paterson Street aunceston TAS 7250

rarein.com.au **P.**03 6388 92

PROJECT: 4 LOT SUBDIVISION

TITLE: CIVIL NOTES

PROJECT No: **231005** DWG No: **C000** REV:

Received 03.10.2022

Attachment 15.8.12 231005- C TW SPAN RAI Response

Page 838

CLIENT: BIFFIN

SCALE: -ADDRESS: 274 PERTH MILL ROAD, PERTH

SHEET SIZE: A1 DWGs IN SET:



ASPHALT SEAL - TRAFFICABLE REFER DETAILS

SAW CUT MATCH EXISTING



Received 03.10.2022

				STATU CONTROLLED		DESIGN BY: DESIGN CHK:	KL JWS	
				DO NOT SCALE - IF	•	DRAWN BY:	KL	
1 0	TASWATER RAI SPAN RESPONSE DEVELOPMENT APPLICATION	KL KL	03-10-22 26-07-22	THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSE FOR WHICH IT WAS PREPARED. © RARE INNOVATION PTY LTD. ABN 51 619 598 257		DRAFT CHK:	JWS	
<u> </u>	ISSUED FOR / DESCRIPTION:	BY:	DATE:	APPROVED: R. JESSON	ACRED. No: CC4858I	DATE: 26-07 -	-22	l

VS
AL

22-24 Paterson Street
Launceston TAS 7250

PROJECT: 4 LOT SUBDIVISION

rarein.com.au
P. 03 6388 9200

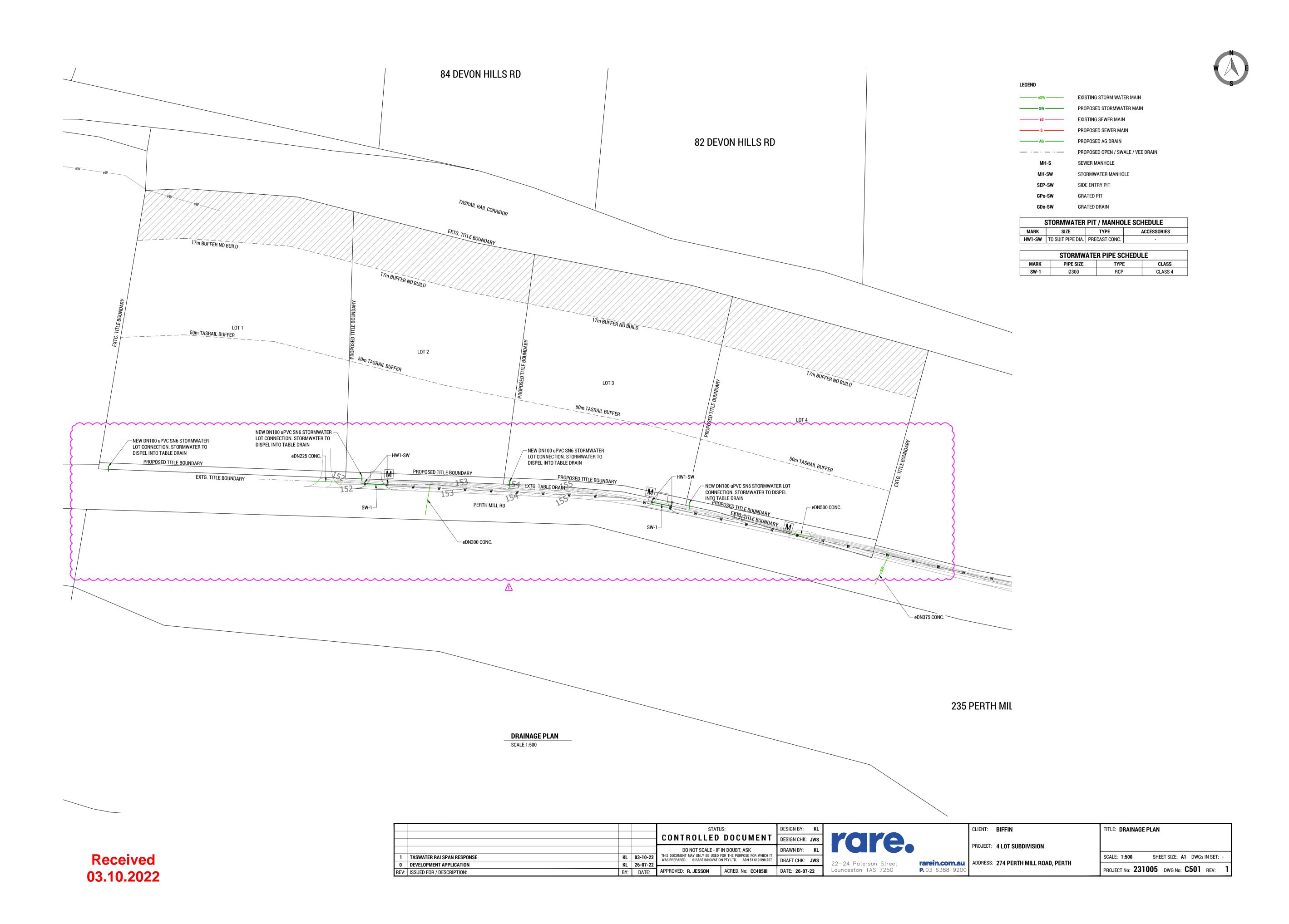
ADDRESS: 274 PERTH MILL ROAD, PERTH

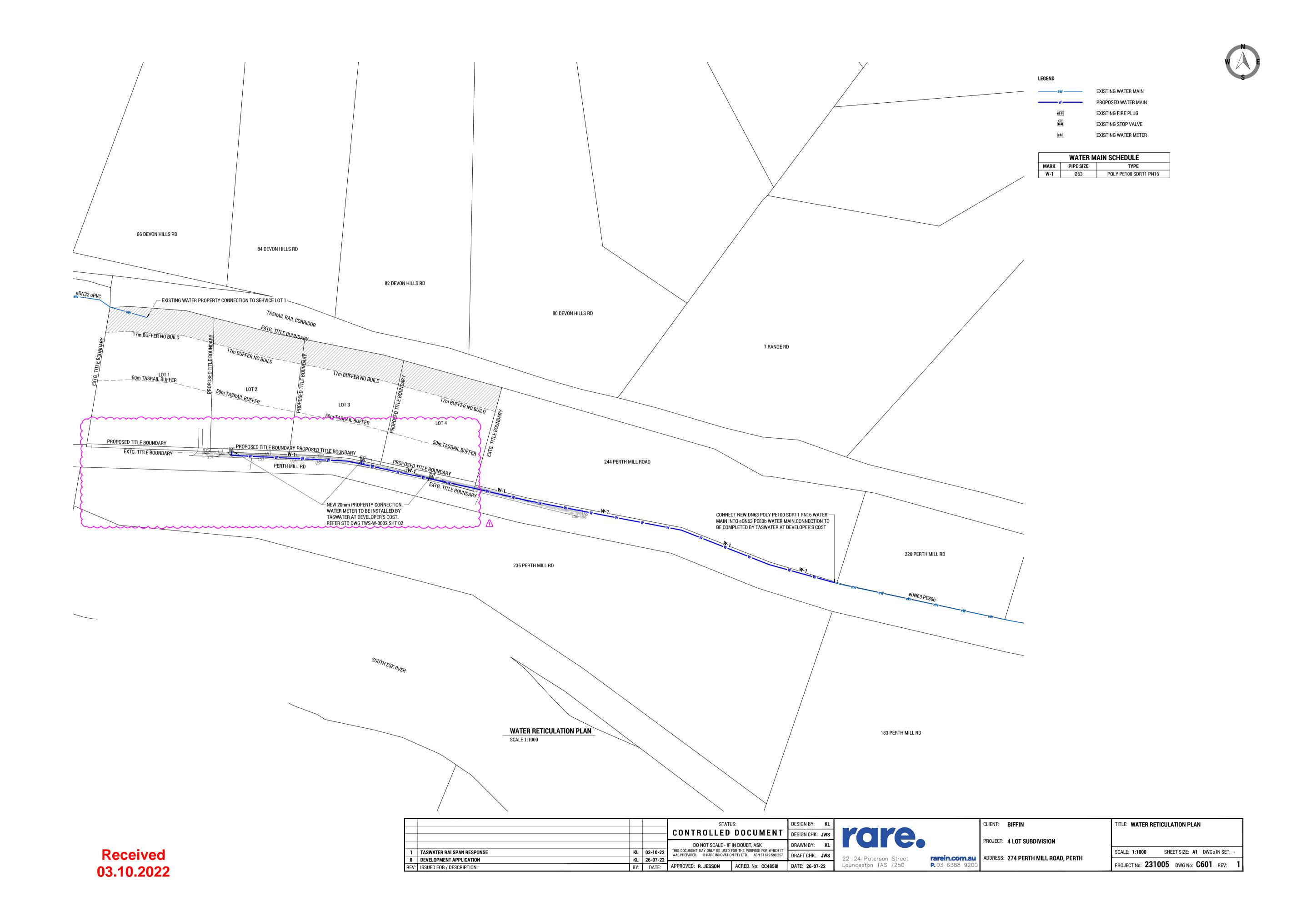
CLIENT: BIFFIN

TITLE: CIVIL WORKS PLAN

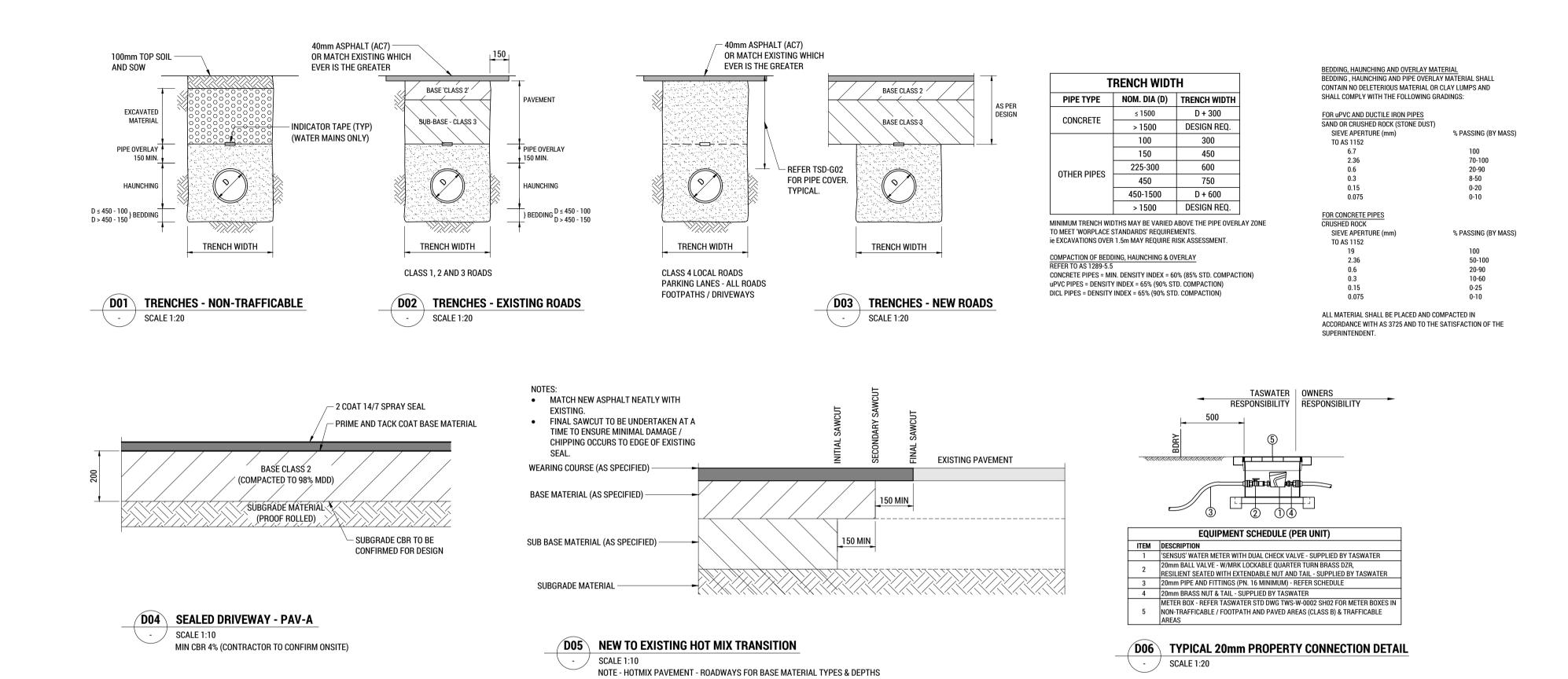
SCALE: 1:500 SHEET SIZE: A1

SCALE: 1:500 SHEET SIZE: A1 DWGs IN SET: PROJECT No: 231005 DWG No: C401 REV: 1





Attachment 15.8.12 231005- C TW SPAN RAI Response



CLIENT: BIFFIN TITLE: SECTIONS & DETAILS CONTROLLED DOCUMENT DESIGN CHK: JWS PROJECT: 4 LOT SUBDIVISION DRAWN BY: KL DO NOT SCALE - IF IN DOUBT, ASK THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSE FOR WHICH IT WAS PREPARED. © RARE INNOVATION PTY LTD. ABN 51 619 598 257 SCALE: 1:10, 1:20 SHEET SIZE: A1 DWGs IN SET: -DRAFT CHK: JWS ADDRESS: 274 PERTH MILL ROAD, PERTH 22—24 Paterson Street Launceston TAS 7250 rarein.com.au 0 DEVELOPMENT APPLICATION PROJECT No: **231005** DWG No: **C701** REV: **0** BY: DATE: APPROVED: R. JESSON ACRED. No: CC48581 DATE: 26-07-22 REV: ISSUED FOR / DESCRIPTION:

Received 03.10.2022



Submission to Planning Authority Notice

Council Planning Permit No.	PLN-22-0188		Council notice date	2/09/2022		
TasWater details	TasWater details					
TasWater Reference No.	TWDA 2022/01450-NMC		Date of response	10/10/2022		
TasWater Contact	Elio Ross Phone No.		0467 874 330			
Response issued to						
Council name	NORTHERN MIDLANDS COUNCIL					
Contact details	Planning@nmc.tas.gov.au					
Development details						
Address	274 PERTH MILL RD, PERTH		Property ID (PID)	6394944		
Description of development	4 Lot Subdivision					

Schedule of drawings/documents			
Prepared by	Drawing/document No.	Revision No.	Date of Issue
Rare	Project: 231005 Sheets: C401, C501, C601, C701	1	03/10/2022

Conditions

Pursuant to the *Water and Sewerage Industry Act* 2008 (TAS) Section 56P(1) TasWater imposes the following conditions on the permit for this application:

CONNECTIONS, METERING & BACKFLOW

- A suitably sized water supply with metered connections to each lot of the development must be
 designed and constructed to TasWater's satisfaction and be in accordance with any other conditions
 in this permit.
- 2. Any removal/supply and installation of water meters and/or the removal of redundant and/or installation of new and modified property service connections must be carried out by TasWater at the developer's cost.
- 3. Prior to commencing construction of the subdivision/use of the development, any water connection utilised for construction/the development must have a backflow prevention device and water meter installed, to the satisfaction of TasWater.

ASSET CREATION & INFRASTRUCTURE WORKS

- 4. Plans submitted with the application for Engineering Design Approval must, to the satisfaction of TasWater show, all existing, redundant and/or proposed property services and mains.
- 5. Prior to applying for a Permit to Construct to construct new infrastructure the developer must obtain from TasWater Engineering Design Approval for new TasWater infrastructure. The application for Engineering Design Approval must include engineering design plans prepared by a suitably qualified person showing the hydraulic servicing requirements for water to TasWater's satisfaction.
- 6. Prior to works commencing, a Permit to Construct must be applied for and issued by TasWater. All infrastructure works must be inspected by TasWater and be to TasWater's satisfaction.
- 7. In addition to any other conditions in this permit, all works must be constructed under the supervision of a suitably qualified person in accordance with TasWater's requirements.

Page 1 of 3 Version No: 0.2



- 8. Prior to the issue of a Consent to Register a Legal Document all additions, extensions, alterations or upgrades to TasWater's water and sewerage infrastructure required to service the development, are to be completed generally as shown on, and in accordance with, the plans listed in the schedule of drawings, are to be constructed at the expense of the developer to the satisfaction of TasWater, with live connections performed by TasWater.
- 9. After testing/disinfection, to TasWater's requirements, of newly created works, the developer must apply to TasWater for connection of these works to existing TasWater infrastructure, at the developer's cost.
- 10. At practical completion of the water and sewerage works and prior to TasWater issuing a Consent to a Register Legal Document the developer must obtain a Certificate of Practical Completion from TasWater for the works that will be transferred to TasWater. To obtain a Certificate of Practical Completion:
 - a. Written confirmation from the supervising suitably qualified person certifying that the works have been constructed in accordance with the TasWater approved plans and specifications and that the appropriate level of workmanship has been achieved.
 - b. A request for a joint on-site inspection with TasWater's authorised representative must be made.
 - c. Security for the twelve (12) month defects liability period to the value of 10% of the works must be lodged with TasWater. This security must be in the form of a bank guarantee.
 - d. Work As Constructed drawings and documentation must be prepared by a suitably qualified person to TasWater's satisfaction and forwarded to TasWater.

Upon TasWater issuing a Certificate of Practical Completion, the newly constructed infrastructure is deemed to have transferred to TasWater.

- 11. After the Certificate of Practical Completion has been issued, a 12-month defects liability period applies to this infrastructure. During this period all defects must be rectified at the developer's cost and to the satisfaction of TasWater. A further 12-month defects liability period may be applied to defects after rectification. TasWater may, at its discretion, undertake rectification of any defects at the developer's cost. Upon completion, of the defects liability period the developer must request TasWater to issue a "Certificate of Final Acceptance". TasWater will release any security held for the defect's liability period.
- 12. The developer must take all precautions to protect existing TasWater infrastructure. Any damage caused to existing TasWater infrastructure during the construction period must be promptly reported to TasWater and repaired by TasWater at the developer's cost.
- 13. Ground levels over the TasWater assets and/or easements must not be altered without the written approval of TasWater.
- 14. A construction management plan must be submitted with the application for TasWater Engineering Design Approval. The construction management plan must detail how the new TasWater infrastructure will be constructed while maintaining current levels of services provided by TasWater to the community. The construction plan must also include a risk assessment and contingency plans covering major risks to TasWater during any works. The construction plan must be to the satisfaction of TasWater prior to TasWater's Engineering Design Approval being issued.

Page 2 of 3 Version No: 0.2

Uncontrolled when printed



FINAL PLANS, EASEMENTS & ENDORSEMENTS

15. Prior to the Sealing of the Final Plan of Survey, a Consent to Register a Legal Document must be obtained from TasWater as evidence of compliance with these conditions when application for sealing is made.

<u>Advice:</u> Council will refer the Final Plan of Survey to TasWater requesting Consent to Register a Legal Document be issued directly to them on behalf of the applicant.

DEVELOPMENT ASSESSMENT FEES

- 16. The applicant or landowner as the case may be, must pay a development assessment fee of \$376.68, and a Consent to Register a Legal Document fee of \$239.90 to TasWater, as approved by the Economic Regulator and the fees will be indexed, until the date paid to TasWater.
 - The payment is required within 30 days of the issue of an invoice by TasWater.
- 17. In the event Council approves a staging plan, a Consent to Register a Legal Document fee for each stage, must be paid commensurate with the number of Equivalent Tenements in each stage, as approved by Council.

Advice

It is advised that the existing DN32 water connection that currently services the property be disconnected and the line capped and sealed. As it is a limited connection to a bulk transfer main and should be connected to any new infrastructure is possible to do so.

General

For information on TasWater development standards, please visit https://www.taswater.com.au/building-and-development/technical-standards

For application forms please visit https://www.taswater.com.au/building-and-development/development-application-form

Service Locations

Please note that the developer is responsible for arranging to locate the existing TasWater infrastructure and clearly showing it on the drawings. Existing TasWater infrastructure may be located by a surveyor and/or a private contractor engaged at the developers cost to locate the infrastructure.

- (a) A permit is required to work within TasWater's easements or in the vicinity of its infrastructure. Further information can be obtained from TasWater.
- (b) TasWater has listed a number of service providers who can provide asset detection and location services should you require it. Visit www.taswater.com.au/Development/Service-location for a list of companies.
- (c) Sewer drainage plans or Inspection Openings (IO) for residential properties are available from your local council.

Declaration

The drawings/documents and conditions stated above constitute TasWater's Submission to Planning Authority Notice.

TasWater Co	asWater Contact Details			
Phone	13 6992	Email	development@taswater.com.au	
Mail	GPO Box 1393 Hobart TAS 7001	Web	www.taswater.com.au	

Page 3 of 3 Version No: 0.2

Paul Godier

From:

Jonathan Galbraith

Sent:

Monday, 5 September 2022 8:43 AM

To:

Paul Godier

Subject:

RE: Adequacy of TIA - 274 Perth Mill Road

Paul,

I confirm that the TIA is adequate.

Regards,

Jonathan Galbraith



Guibrain

Engineering Officer | Northern Midlands Council Council Office, 13 Smith Street (PO Box 156), Longford Tasmania 7301 T: (03) 6397 7303 | M: 0400 935 642 | F: (03) 6397 7331

E: jonathan.galbraith@nmc.tas.gov.au | W: www.northernmidlands.tas.gov.au

Tasmania's Historic Heart

employer of choice

MIDLANDS

From: Paul Godier <paul.godier@nmc.tas.gov.au>

Sent: Friday, 2 September 2022 3:33 PM

To: Jonathan Galbraith < jonathan.galbraith@nmc.tas.gov.au>

Subject: Adequacy of TIA - 274 Perth Mill Road

Jonathan,

Can you please advise if the attached TIA is adequate for the purpose of clause E4.5.3 of the planning scheme which

A TIA must be accompanied by the written advice as to the adequacy of the TIA from the road authority.

Thanks,

Paul Godier



NORTHERN MIDLANDS COUNCIL Senior Planner | Northern Midlands Council Council Office, 13 Smith Street (PO Box 156), Longford Tasmania 7301 T: (03) 6397 7303 | F: (03) 6397 7331

E: paul.godier@nmc.tas.gov.au | W: www.northernmidlands.tas.gov.au

Tasmanla's Historic Heart

employer of choice

REFERRAL OF DEVELOPMENT APPLICATION PLN-22-0188 TO WORKS & INFRASTRUCTURE **DEPARTMENT**

Property/Subdivision No: 203800.07 Date: 2 September 2022 Applicant: Woolcott Surveys

Proposal: 4 Lot Subdivision, crossovers and stormwater main (Vary lot sizes, Bushfire Prone

Areas Code, Road & Railway Assets Code)

Location: 274 Perth Mill Road and Perth Mill Road road reserve, Perth

W&I referral PLN-22-0188, 274 Perth Mill Road and Perth Mill Road road reserve, Perth

Planning admin: W&I fees paid.

Jonathan - if you require further information, advise planning section as soon as possible - there are only 14 days from receipt of permitted applications and 21 days from receipt of discretionary applications to stop the clock.

Please inspect the property and advise regarding stormwater/drainage, access, traffic, and any other engineering concerns.

engineering contection	
Is there is a house on one of the lots?	Yes
Is it connected to all Council services?	Yes
Are any changes / works required to the house lot?	No
Are the discharge points for stormwater, infrastructure that is maintained by Council?	Yes
(This requires a check to ensure the downstream infrastructure is entirely owned, maintained, operated by Council and have been	
taken over as Council assets.)	

Stormwater:	
Does the physical location of stormwater services match the	Yes
location shown on the plan? (Requires an on-site inspection)	
Is the property connected to Council's stormwater services?	Yes
If so, where is the current connection/s?	Falls towards road
Can all lots access stormwater services?	Yes
If so, are any works required?	No
Is stormwater detention required	No
Has a stormwater detention design been submitted	N/A
If so, is it designed for 20- year ARI with overland flow path to road	N/A
or any other low risk Council approved place of discharge.	
If no to above , has the design for 100 – year ARI been done.	N/A
If yes to any of the above, does it comply with Councils stormwater	N/A
policy	
Is the design approved by works & infrastructure	N/A
Please quote drawing numbers and any other relate	#:
documentation (email etc.)	
Additional Comments/information	N/A
Stormwater works required:	
Works to be in accordance with Standard Drawing TSD-SW25 – a 100	Omm stormwater connection.
Is there kerb and gutter at the front of the property?	No
Are any kerb-and-gutter works required?	No

Road Access:

Does the property have access to a made road?	Yes
If so, is the existing access suitable?	Yes
Does the new lot/s have access to a made road?	Yes
If so, are any works required?	Yes, see below

Is off-street parking available/provided?	Yes
Road / access works required:	
standard rural access (TSD-R03)	
Is an application for vehicular crossing form required?	Yes
Is a footpath required?	No
Extra information required regarding driveway approach and departure angles	No
Are any road works required?	No
Are street trees required?	No
Additional Comments:	An Engineer's design is not required.

Engineer's comment:

STANDARD CONDITIONS FOR SMALL SUBDIVISIONS

W.1 Stormwater

Stormwater from each lot shall be directed to the roadside drain to the satisfaction of Council's Works & Infrastructure Department.

W.2 Access (Rural)

- a) A driveway crossover and hotmix sealed apron must be constructed from the edge of the Road to the property boundary of each Lotin accordance with Council standards.
- b) Access works must not commence until an application for vehicular crossing has been approved by Council.

W.3 As constructed information

As Constructed Plans and Asset Management Information must be provided in accordance with Council's standard requirements.

W.4 Municipal standards & certification of works

Unless otherwise specified within a condition, all works must comply with the Municipal Standards including specifications and standard drawings. Any design must be completed in accordance with Council's subdivision design guidelines to the satisfaction of the Works & Infrastructure Department. Any construction, including maintenance periods, must also be completed to the approval of the Works & Infrastructure Department.

W.5 Works in Council road reserve

- a) Works must not be undertaken within the public road reserve, including crossovers, driveways or kerb and guttering, without prior approval for the works by the Works Manager.
- b) Twenty-four (24) hours notice must be given to the Works & Infrastructure Department to inspect works within road reserve, and before placement of concrete or seal. Failure to do so may result in rejection of the vehicular access or other works and its reconstruction.

W.6 Separation of stormwater services

- a) All existing stormwater pipes and connections must be located.
- b) Where required, pipes are to be rerouted to provide an independent system for each lot.
- Certification must be provided that stormwater services have been separated between the lots.

W.7 Easements to be created

Easements must be created over all Council owned services in favour of the Northern Midlands Council. Such easements must be created on the final plan to the satisfaction of the General Manager.

W.8 Pollutants

- a) The developer/property owner must ensure that pollutants such as mud, silt or chemicals are not released from the site.
- b) Prior to the commencement of the development authorised by this permit the developer/property owner must install all necessary silt fences and cut-off drains to prevent soil, gravel and other debris from escaping the site. Material or debris must not be transported onto the road reserve (including the nature strip, footpath and road pavement). Any material that is deposited on the road reserve must be removed by the developer/property owner.

Should Council be required to clean or carry out works on any of their infrastructure as a result of pollutants being released from the site the cost of these works may be charged to the developer/property owner.

W.9 Nature strips

Any new nature strips, or areas of nature strip that are disturbed during construction, must be topped with 100mm of good quality topsoil and sown with grass. Grass must be established and free of weeds prior to Council accepting the development.

Jonathan Galbraith (Engineering Officer) Date: 13/9/22

Paul Godier

From: Jennifer Jarvis < Jennifer.Jarvis@tasrail.com.au>

Sent: Friday, 9 September 2022 4:47 PM

To: NMC Planning

Subject: (ECM:1259918) Attention Planning Department

Attachments: V052022 - OPERATIONAL Lines.docx

Follow Up Flag: Follow up Flag Status: Completed

Your Reference PLN-22-0188 - 274 Perth Mill Road and Perth Mill Road Reserve - 4 Lot Subdivision

Thank you for notifying TasRail of the above planning application.

TasRail has reviewed the available documentation and notes the proposed 17m setback/buffer zone across each of the proposed 4 lots which is supported.

TasRail notes stormwater is to be directed into the roadside drain (rather than connection into an authorised system) but as the water drains away from the rail corridor, TasRail will not object.

TasRail acknowledges a noise and vibration study has been completed but referenced a 2007 document that predates TasRail's new locomotive and wagon fleet. The study also does not appear to have measured train horn noise levels.

To ensure future purchasers of the subdivided lots are aware of likely exposure to train noise – particularly train horn noise, TasRail requests that a Part V Agreement be included on each title to acknowledge freight rail services operate 24/7 including late at night/early hours with the train horn recognised as a safety device to be sounded twice per level crossing and at any time the train driver perceives risk.

TasRail also requests a copy of the TasRail Standard Notes be provided to the applicant to inform them of matters relevant to developing land adjoining an operational rail corridor.

Kind regards

Jennifer Jarvis



Group Property and Compliance Manager | Property Phone: 03 6335 2603 | Mobile: 0428 139 238 11 Techno Park Drive, Kings Meadows, Tasmania, 7249 Jennifer.Jarvis@tasrail.com.au

'Tasmania's trusted provider of safe and dependable rail logistics solutions'



Attachment 15.8.16 Tas Rail Page 850

2022-10-24 ORDINARY MEETING OF COUNCIL - OPEN COUNCIL ATTACHMENTS - Agenda



This e-mail and any attachments may contain confidential and privileged information. If you are not the intended recipient, please notify the sender immediately by return e-mail, delete this e-mail and destroy any copies. Any dissemination or use of this information by a person other than the intended recipient is unauthorised and may be illegal. Opinions, conclusions, views and other information in this message that do not relate to the official business of the Tasmanian Railway Pty Ltd are the views of the individual sender and shall be understood as neither given nor endorsed by Tasmanian Railway Pty Ltd.

Attachment 15.8.16 Tas Rail Page 851

2022-10-24 ORDINARY MEETING OF COUNCIL - OPEN COUNCIL ATTACHMENTS - Agenda

From: "Tony Peters"

Sent: Thu, 22 Sep 2022 13:00:34 +1000

To: "NMC Planning" <planning@nmc.tas.gov.au>

Subject: Reference No: PLN-22-0188

Attachments: 274 Perth Mill Road - Council submission.pdf

To whom it may concern,

Please find attached our written submission in reference to Planning Application PLN-22-0188 - 274 Perth Mill Road, Perth.

We appreciate your consideration of our submission and subsequent response.

Should you require any further information please contact Bev on

or Tony on

Kind regards, Tony and Bev Peters 235 Perth Mill Road

Document Set ID: 1261926 Version: 1, Version Date: 23/09/2022 Reference: PLN-22-0188 - 274 Perth Mill Road and Perth Mill Road road reserve, Perth: (CT 15829/1) - 4 Lot Subdivision, crossovers and stormwater main (Vary lot sizes, Bushfire Prone Areas Code, Road & Railway Assets Code)

To whom it may concern,

We have viewed the above planning application and would like some clarification on the following points, which we would also like considered in the final submission by Council in the determination of the permit for the building application.

P4 There is no reticulated stormwater infrastructure in the area. It is proposed to direct stormwater to the roadside open drain on Perth Mill Road.

With the additional dwellings can the roadside open drain manage the stormwater runoff, or will the overflow affect our property which is directly opposite the proposed subdivisions.

With the subdivision of 244 Perth Mill Road stormwater is directed into an existing culvert drain which runs through to the South Esk River. Currently with works commencing on Lot 2, we have noticed an increase in the flow of water through our property.

Our property is subject to annual power line inspections with vehicles accessing our property and travelling through to manage the power poles and power lines. Last year one of the vehicles was bogged, with the runoff from the 274 property this will increase the risk of further inaccessibility for maintenance of these infrastructures.

This may also influence soil erosion during heavy rain periods and runoffs from these new subdivisions.

Consideration should be made for the runoff onto our property with the construction of stormwater out fall pipes through to the boundary of the river therefore stopping the soil erosion.

Road widening 9m from Perth Mill Road centreline.

When will the road widening occur and will it encroach on our property?

Will this occur prior, during or post subdivision?

When will the final survey be completed as referenced in the planning application?

As per traffic impacts as reported by Midson Traffic Pty Ltd.

The total traffic generation of the proposed subdivision is therefore 32 vehicles per day with a peak of 4 vehicles per hour. This is an increase of 24 vehicles per day, with a peak increase of 3 vehicles per hour compared to the existing use of the site.

In addition to the proposed subdivision the adjoining property 244 Perth Mill Road (PLN-20-0008 dated 20th April 2020) has also recently been subdivided. The 2 existing properties (244 and 274) are proposed to become 7 residences, based on the calculations provided in the planning application the total trip generation of the 2 subdivisions will increase to 42 vehicles per day with a peak increase of 5 vehicles per hour.

Document Set ID: 1261926 Version: 1, Version Date: 23/09/2022 Perth Mill Road has a speed limit from Evandale Road to the driveway entrance of 274 Perth Mill Road at 100klms, then reducing to 70 klms up to 50klms at Clarence Street. There has also been an increase in truck tonnage weight to 12 tonne since April 2020.

As a permanent resident, each day sees pedestrians, joggers and bicycle riders. On Sunday's large groups of bicycle riders are frequent. There is no footpath or bicycle lanes on the stretch of road between Evandale Road at Western Junction and Arthur Street/ Clarence Street in Perth.

As per traffic growth reported by Planning Permit PLN-20-0008 dated 20 April 2020.

The rate of background traffic growth on Perth Mill Road for projection purposes is taken to be 2%, as per ABS supplied trend analysis of population growth data.

The traffic generation impacts for this planning permit PLN-22-0188 states.

The Acceptable Solution A3 of E4.6.1 of the Planning Scheme states that "For roads with a speed limit of more than 60km/h the use must not increase the annual average daily traffic (AADT) movements at the existing access or junction by more than 10%".

The traffic generation of the subdivision will increase by more than 10%, therefore the Acceptable Solution A3 of Clause E4.6.1 of the Planning Scheme is not met.

As there will be a substantial increase in traffic growth are there any proposals to widen Perth Mill Road to provide shared pathways for the safety of residents and road users in the near future?

Document Set ID: 1261926 Version: 1, Version Date: 23/09/2022